GA-965QM-DS2 (rev. 2.0)

Intel® Core™ 2 Extreme quad-core / Core™ 2 Quad /
Intel® Core™ 2 Extreme dual-core / Core™ 2 Duo /
Intel® Pentium® Processor Extreme Edition /
Intel® Pentium® D / Pentium® 4 LGA775 Processor Motherboard

User's Manual

Rev. 2002
12ME-965QMDS2-2002R

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Trading GmbH
Ausschlager Weg 41, 1F 20537 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

Motherboard
GA-965QM-DS2

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

☐ EN 55011	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment
☐ EN 55013	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment
☐ EN 55014-1	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus
☐ EN 55015	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries
☐ EN 55020	Immunity from radio interference of broadcast receivers and associated equipment
☒ EN 55022	Limits and methods of measurement of radio disturbance characteristics of information technology equipment
☐ DIN VDE 0855 ☐ part 10 ☐ part 12	Cabled distribution systems; Equipment for receiving and/or distribution from sound and television signals
☒ CE marking	

☒ EN 61000-3-2	Disturbances in supply systems caused
☒ EN 61000-3-3	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☒ EN 55024	Information Technology equipment-Immunity characteristics-Limits and methods of measurement
☒ EN 50082-1	Generic immunity standard Part 1: Residual, commercial and light industry
☒ EN 50082-2	Generic immunity standard Part 2: Industrial environment
☒ EN 55014-2	Immunity requirements for household appliances tools and similar apparatus
☒ EN 50091-2	EMC requirements for uninterruptible power systems (UPS)

The manufacturer also declares the conformity of above mentioned product
with the actual required safety standards in accordance with LVD 73/23 EEC

☐ EN 60065	Safety requirements for mains operated electronic and related apparatus for household and similar general use
☐ EN 60335	Safety of household and similar electrical appliances

☐ EN 60950	Safety for information technology equipment including electrical business equipment
☐ EN 50091-1	General and Safety requirements for uninterruptible power systems (UPS)

(EC conformity marking)

CE

Manufacturer/Importer

Signature : *Timmy Huang*

Name : Timmy Huang

Date : Jan. 9, 2007

(Stamp)

DECLARATION OF CONFORMITY
Per FCC Part 2 Section 2.1077(a)

FCC

Responsible Party Name:G.B.T. INC. (U.S.A.)

Address: 17358 Railroad Street

City of Industry, CA 91748

Phone/Fax No:(818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: Motherboard

Model Number: GA-965QM-DS2

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109
(a).Class B Digital Device

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 and (2) this device must accept any inference received,
including that may cause undesired operation.

Representative Person's Name: ERIC LU

Signature: *Eric Lu*

Date: Jan. 9, 2007

Copyright

Notice

Product Manual Classification

In order to assist in the use of this product, Gigabyte has categorized the user manual in the following:

- ■ For detailed product information and specifications, please carefully read the "Product User Manual".

- ■ For detailed information related to Gigabyte's unique features, please go to "Technology Guide" section on Gigabyte's website to read or download the information you need.

For more product details, please click onto Gigabyte's website at www.gigabyte.com.tw

Table of Contents

Item Checklist

☑ IDE Cable x 1, FDD Cable x 1

☑ SATA 3Gb/s Cable x 2

☑ I/O Shield

* The items listed above are for reference only, and are subject to change without notice.

Optional Accessories

◆ 2 Ports USB 2.0 Cable (Part Number: 12CR1-1UB030-51/R)

◆ 4 Ports USB 2.0 Cable (Part Number: 12CR1-1UB030-21/R)

◆ S/PDIF In and Out Cable (Part Number: 12CR1-1SPINO-11/R)

◆ COM Port Cable (Part Number: 12CF1-1CM001-31/12CF1-1CM001-12R)

◆ e-SATA Cable (Part Number: 12CF1-3SATPW-11R)

GA-965QM-DS2 (rev. 2.0) Motherboard Layout
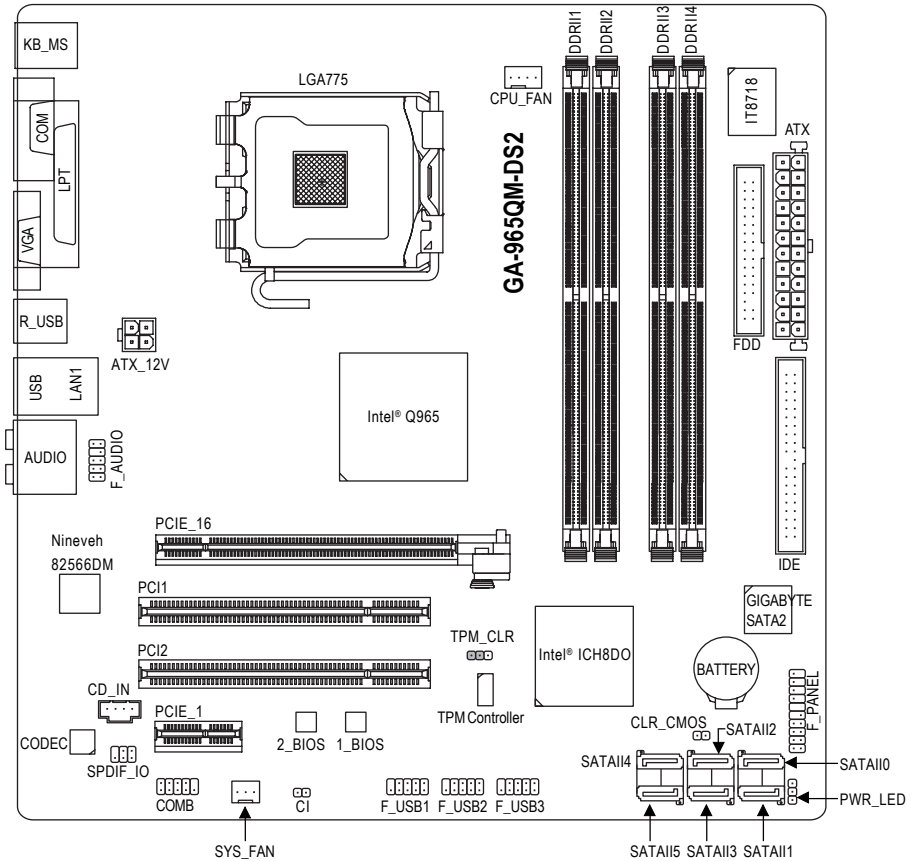
Block Diagram
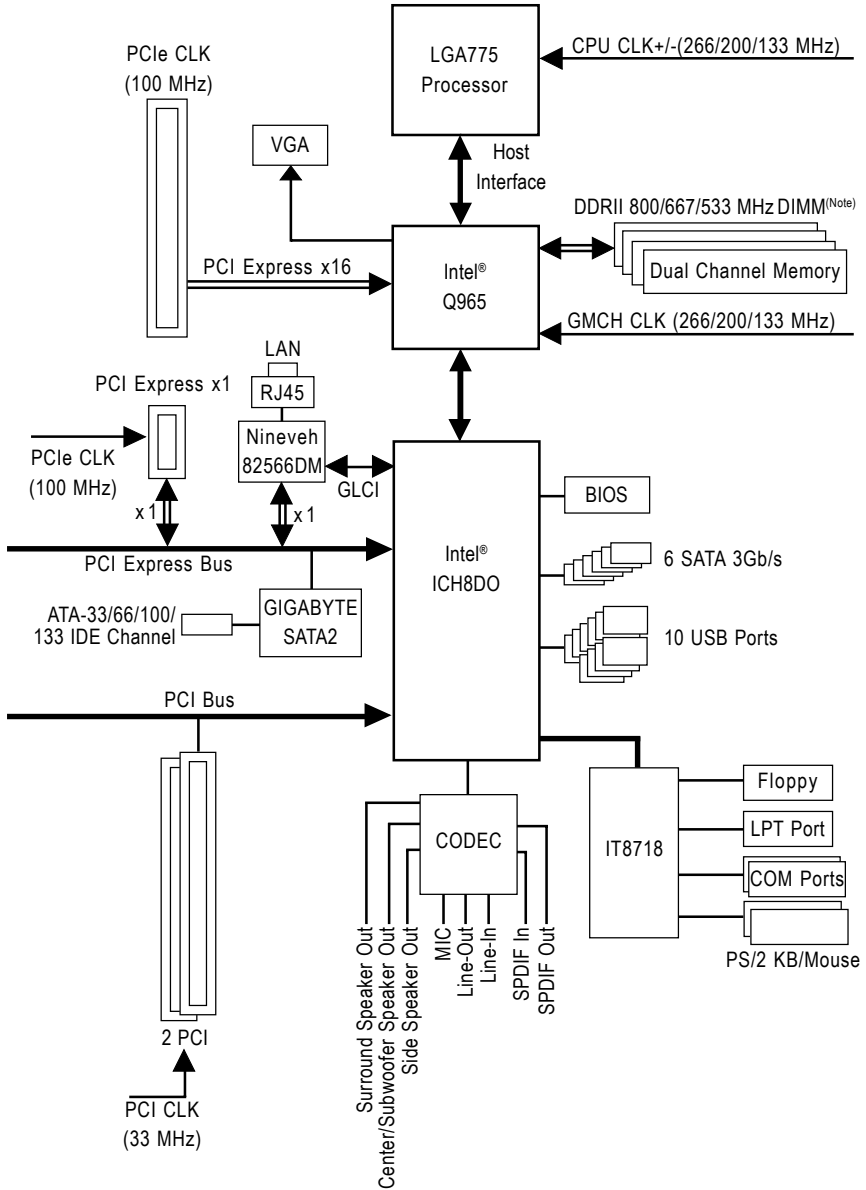
(Note) To use a DDRII 800/667 memory module on the motherboard, you must install a 1066/800 MHz FSB processor.

Chapter 1 Hardware Installation

1-1   Considerations Prior to Installation

Preparing Your Computer

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Thus, prior to installation, please follow the instructions below:

1.   Please turn off the computer and unplug its power cord.
2.   When handling the motherboard, avoid touching any metal leads or connectors.
3.   It is best to wear an electrostatic discharge (ESD) cuff when handling electronic components (CPU, RAM).
4.   Prior to installing the electronic components, please have these items on top of an antistatic pad or within a electrostatic shielding container.
5.   Please verify that the power supply is switched off before unplugging the power supply connector from the motherboard.

Installation Notices

1.   Prior to installation, please do not remove the stickers on the motherboard. These stickers are required for warranty validation.
2.   Prior to the installation of the motherboard or any hardware, please first carefully read the information in the provided manual.
3.   Before using the product, please verify that all cables and power connectors are connected.
4.   To prevent damage to the motherboard, please do not allow screws to come in contact with the motherboard circuit or its components.
5.   Please make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
6.   Please do not place the computer system on an uneven surface.
7.   Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
8.   If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

Instances of Non-Warranty

1.   Damage due to natural disaster, accident or human cause.
2.   Damage as a result of violating the conditions recommended in the user manual.
3.   Damage due to improper installation.
4.   Damage due to use of uncertified components.
5.   Damage due to use exceeding the permitted parameters.
6.   Product determined to be an unofficial Gigabyte product.

1-2 Feature Summary

CPU	◆ LGA775 for Intel® Core™ 2 Extreme quad-core / Core™ 2 Extreme dual-core / Core™ 2 Quad / Core™ 2 Duo / Pentium® processor Extreme Edition / Pentium® D / Pentium® 4 / Celeron® D
	◆ L2 cache varies with CPU
Front Side Bus	◆ Supports 1066/800/533 MHz FSB
Chipset	◆ Northbridge: Intel® Q965 Express Chipset
	◆ Southbridge: Intel® ICH8DO
LAN	◆ Onboard Nineveh 82566DM chip (10/100/1000 Mbit)
Audio	◆ Onboard Realtek ALC888 CODEC chip
	◆ Supports High Definition Audio
	◆ Supports 2 / 4 / 6 / 8 channel audio
	◆ Supports S/PDIF In/Out connection
	◆ Supports CD In connection
Storage	◆ ICH8DO Southbrigde
	- 1 FDD connector, allowing connection of 1 FDD device
	- 6 SATA 3Gb/s connectors, allowing connection of 6 SATA 3Gb/s devices
	- Supports RAID 0, RAID 1, RAID 5, and RAID 10 for Serial ATA
	◆ GIGABYTE SATA2 Controller
	- 1 IDE connector with ATA-33/66/100/133 support, allowing connection of 2 IDE devices
O.S Support	◆ Microsoft Windows 2000/XP
Memory	◆ 4 DDRII DIMM memory slots (supports up to 8 GB memory)
	◆ Supports dual channel DDRII 800/667/533 unbuffered DIMMs (Note 1)
	◆ Supports 1.8V DDRII DIMMs
Expanstion Slots	◆ 1 PCI Express x16 slot
	◆ 1 PCI Express x1 slot
	◆ 2 PCI slots
Internal Connectors	◆ 1 24-pin ATX power connector
	◆ 1 4-pin ATX 12V power connector
	◆ 1 floppy connector
	◆ 1 IDE connector
	◆ 6 SATA 3Gb/s connectors
	◆ 1 CPU fan connector
	◆ 1 system fan connector
	◆ 1 front panel connector
	◆ 1 front audio connector
	◆ 1 CD In connector
	◆ 1 S/PDIF In/Out connector
	◆ 3 USB 2.0/1.1 connectors for additional 6 ports by cables
	◆ 1 COMB connector
	◆ 1 TPM_CLR connector
	◆ 1 Chassis Intrusion connector
	◆ 1 power LED connector

Rear Panel I/O	◆ 1 PS/2 keyboard port
	◆ 1 PS/2 mouse port
	◆ 1 parallel port
	◆ 1 serial port
	◆ 1 VGA port
	◆ 4 USB 2.0/1.1 ports
	◆ 1 RJ-45 port
	◆ 6 audio jacks (Line In / Line Out / MIC In/Surround Speaker Out (Rear Speaker Out)/Center/Subwoofer Speaker Out/Side Speaker Out)
I/O Control	◆ IT8718 chip
Hardware Monitor	◆ System voltage detection
	◆ CPU / System temperature detection
	◆ CPU / System fan speed detection
	◆ CPU warning temperature
	◆ CPU / System fan failure warning
	◆ CPU smart fan control
BIOS	◆ 1 4 Mbit flash ROM
	◆ Use of licensed AWARD BIOS
Additional Features	◆ Supports @BIOS
	◆ Supports Download Center
	◆ Supports Q-Flash
	◆ Supports EasyTune (only supports Hardware Monitor function) (Note 2)
	◆ Supports Xpress Install
	◆ Supports Xpress Recovery2
	◆ Supports Virtual Dual BIOS
Bundle Software	◆ Norton Internet Security (OEM revision)
Form Factor	◆ Micro ATX form factor; 24.4cm x 24.4cm

(Note 1) To use a DDRII 800/667 memory module on the motherboard, you must install a 1066/800 MHz FSB processor.
(Note 2) EasyTune functions may vary depending on different motherboards.

1-3 Installation of the CPU and CPU Cooler

Before installing the CPU, please comply with the following conditions:

1. Please make sure that the motherboard supports the CPU.
2. Please take note of the one indented corner of the CPU. If you install the CPU in the wrong direction, the CPU will not insert properly. If this occurs, please change the insert direction of the CPU.
3. Please add an even layer of heat sink paste between the CPU and CPU cooler.
4. Please make sure the CPU cooler is installed on the CPU prior to system use, otherwise overheating and permanent damage of the CPU may occur.
5. Please set the CPU host frequency in accordance with the processor specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the required standards for the peripherals. If you wish to set the frequency beyond the proper specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.

HT functionality requirement content :
Enabling the functionality of Hyper-Threading Technology for your computer system requires all of the following platform components:
- CPU: An Intel® Pentium 4 Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology

1-3-1 Installation of the CPU
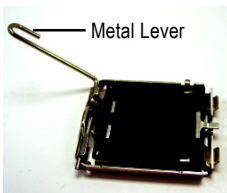
Metal Lever

Fig. 1
Gently lift the metal lever located on the CPU socket to the upright position.
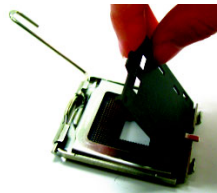
Fig. 2
Remove the plastic covering on the CPU socket.
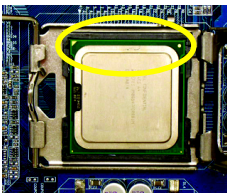
Fig. 3
Notice the small gold colored triangle located on the edge of the CPU socket. Align the indented corner of the

Fig. 4
Once the CPU is properly inserted, please replace the load plate and push the metal lever back into its original position.

CPU with the triangle and gently insert the CPU into position. (Grasping the CPU firmly between your thumb and forefinger, carefully place it into the socket in a straight and downwards motion. Avoid twisting or bending motions that might cause damage to the CPU during installation.)

1-3-2 Installation of the CPU Cooler
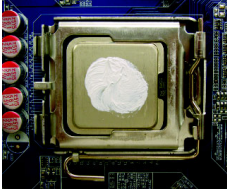
Fig.1
Please apply an even layer of CPU cooler paste on the surface of the installed CPU.

Male Push Pin

The top of Female Push Pin
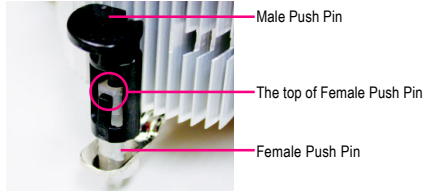
Female Push Pin

Fig. 2
(Turning the push pin along the direction of arrow is to remove the CPU cooler, on the contrary, is to install.) Please note the direction of arrow sign on the male push pin doesn't face inwards before installation. (This instruction is only for Intel boxed fan)
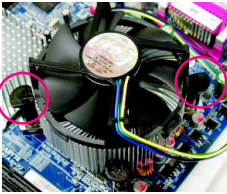
Fig. 3
Place the CPU cooler atop the CPU and make sure the push pins aim to the pin hole on the motherboard.Pressing down the push pins diagonally.
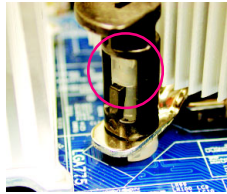
Fig. 4
Please make sure the Male and Female push pin are joined closely. (for detailed installation instructions, please refer to the CPU cooler instal-lation section of the user manual)
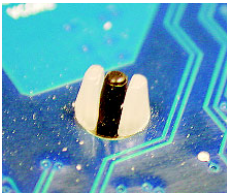
Fig. 5
Please check the back of motherboard after installing. If the push pin is inserted as the picture, the installation is complete.
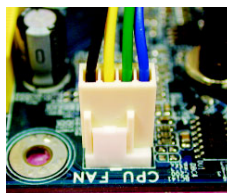
Fig. 6
Finally, please attach the power connector of the CPU cooler to the CPU fan header located on the motherboard.

NOTE
The CPU cooler may adhere to the CPU as a result of hardening of the heat paste. To prevent such an occurrence, it is suggested that either thermal tape rather than heat paste be used for heat dissipation or using extreme care when removing the CPU cooler.

1-4   Installation of Memory

⚠ CAUTION

Before installing the memory modules, please comply with the following conditions:
1.   Please make sure that the memory used is supported by the motherboard. It is recommended that memory of similar capacity, specifications and brand be used.
2.   Before installing or removing memory modules, please make sure that the computer power is switched off to prevent hardware damage.
3.   Memory modules have a foolproof insertion design. A memory module can be installed in only one direction. If you are unable to insert the module, please switch the direction.

The motherboard supports DDRII memory modules, whereby BIOS will automatically detect memory capacity and specifications. Memory modules are designed so that they can be inserted only in one direction. The memory capacity used can differ with each slot.

Notch

DDRII
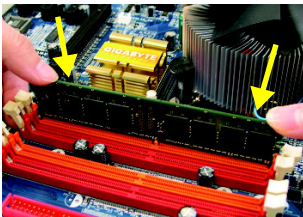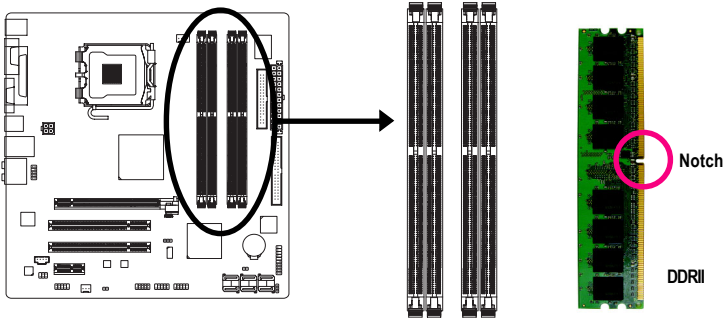
Fig.1
The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.
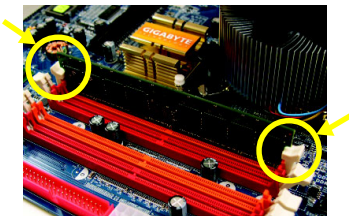
Fig.2
Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
Reverse the installation steps when you wish to remove the DIMM module.

Dual Channel Memory Configuration

The GA-965QM-DS2 supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of memory bus will double.

The GA-965QM-DS2 includes 4 DIMM sockets, and each Channel has two DIMM sockets as following:
▸ Channel 0 : DDRII1, DDRII2
▸ Channel 1 : DDRII3, DDRII4

If you want to operate the Dual Channel Technology, please note the following explanations due to the limitation of Intel chipset specifications.

1. Dual Channel mode will not be enabled if only one DDRII memory module is installed.
2. To enable Dual Channel mode with two or four memory modules (it is recommended to use memory modules of identical brand, size, chips, and speed), you must install them into DIMM sockets of the same color.

The following is a Dual Channel Memory configuration table:
(DS: Double Side, SS: Single Side, "--": Empty)

	DDRII1	DDRII2	DDRII3	DDRII4
2 memory modules	DS/SS	--	DS/SS	--
	--	DS/SS	--	DS/SS
4 memory modules	DS/SS	DS/SS	DS/SS	DS/SS

(Note) When memory modules of different size and chips are installed, a message which indicates that memory is configured to Flex memory mode operation will appear during POST.
Intel® Flex Memory Technology offers easier upgrades by allowing different memory sizes to be populated and remain in dual-channel mode.

English

1-5   Installation of Expansion Cards

To install your expansion card, follow the steps below.
1.   Disconnect your system from its power source and read the expansion card's installation manual before installing the expansion card in the computer.
2.   Remove your computer's chassis cover, screws and slot bracket from the computer. Ground yourself to prevent damage to your computer resulting from Electrostatic discharge (ESD).
3.   Press the expansion card firmly into the expansion slot in the motherboard.
4.   Make sure the metal contacts on the card are fully seated in the slot.
5.   Replace the screw to secure the slot bracket of the expansion card.
6.   Replace your computer's chassis cover.
7.   Power on the computer, if necessary, configure required settings for the expansion card in system BIOS Setup.
8.   Install related driver in the operating system.

For example: Installing a PCI Express x16 VGA card:
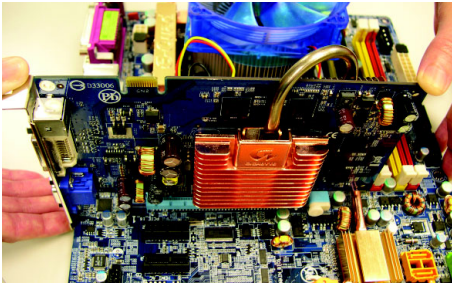
To install the VGA card:
Please align the VGA card with the PCI Express x16 slot and press down on the card. Make sure the VGA card is locked by the small white drawable bar.
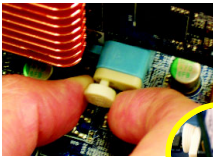
To remove the VGA card:
Please carefully pull out the small white-drawable bar at the end of the PCI Express x16 slot when you try to uninstall the VGA card.

Or you can also press the latch on the opposite side of the drawable bar as the picture to the left shows.

1-6   I/O Back Panel Introduction
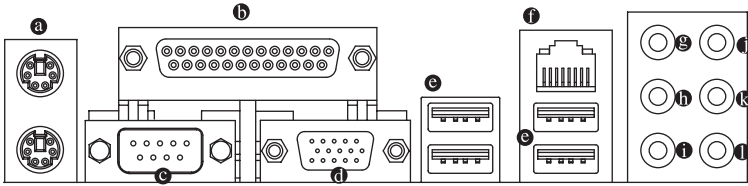
ⓐ **PS/2 Keyboard and PS/2 Mouse Connector**

To install a PS/2 port keyboard and mouse, plug the mouse to the upper port (green) and the keyboard to the lower port (purple).

ⓑ **Parallel Port**

The parallel port allows connection of a printer, scanner and other peripheral devices.

ⓒ **Serial Port**

Connects to serial-based mouse or data processing devices.

ⓓ **VGA Port**

Monitor can be connected to VGA port.

ⓔ **USB Port**

Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker...etc. have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

ⓕ **LAN Port**

The provided Internet connection is Gigabit Ethernet , providing data transfer speeds of 10/100/ 1000 Mbps.

ⓖ **Center/Subwoofer Speaker Out**

The default Center/Subwoofer Speaker Out jack. Center/Subwoofer speakers can be connected to Center/Subwoofer Speaker Out jack.

ⓗ **Surround Speaker Out (Rear Speaker Out)**

The default Surround Speaker Out (Rear Speaker Out) jack. Rear surround speakers can be connected to Surround Speaker Out (Rear Speaker Out) jack.

ⓘ **Side Speaker Out**

The default Side Speaker Out jack. Surround side speakers can be connected to Side Speaker Out jack.

ⓙ **Line In**

The default Line In jack. Devices like CD-ROM, walkman etc. can be connected to Line In jack.

ⓚ **Line Out (Front Speaker Out)**

The default Line Out (Front Speaker Out) jack. Stereo speakers, earphone or front surround speakers can be connected to Line Out (Front Speaker Out) jack.

❶ MIC In

The default MIC In jack. Microphone must be connected to MIC In jack.

> **NOTE**
> In addition to the default speakers settings, the ❾ ~ ❶ audio jacks can be reconfigured to perform different functions via the audio software. Only microphones still MUST be connected to the default Mic In jack (❶). Please refer to the 2-/4-/6-/8- channel audio setup steps for detailed software configuration information.

1-7 Connectors Introduction
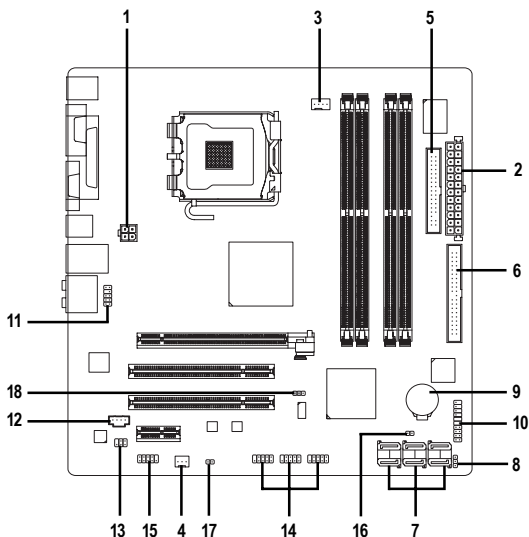
1)	**ATX_12V**	10)	**F_PANEL**
2)	**ATX (Power Connector)**	11)	**F_AUDIO**
3)	**CPU_FAN**	12)	**CD_IN**
4)	**SYS_FAN**	13)	**SPDIF_IO**
5)	**FDD**	14)	**F_USB1 / F_USB2 / F_USB3**
6)	**IDE**	15)	**COMB**
7)	**SATAII0 / 1 / 2 / 3 / 4 / 5**	16)	**CLR_CMOS**
8)	**PWR_LED**	17)	**CI**
9)	**BATTERY**	18)	**TPM_CLR**

1/2) ATX_12V / ATX (Power Connector)

With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard and connect tightly.

The ATX_12V power connector mainly supplies power to the CPU. If the ATX_12V power connector is not connected, the system will not start.

Caution! Please use a power supply that is able to handle the system voltage requirements. It is recommended that a power supply that can withstand high power consumption be used (300W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable system or a system that is unable to start. If you use a power supply that provides a 24-pin ATX power connector, please remove the small cover on the power connector on the motherboard before plugging in the power cord ; otherwise, please do not remove it.
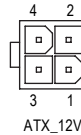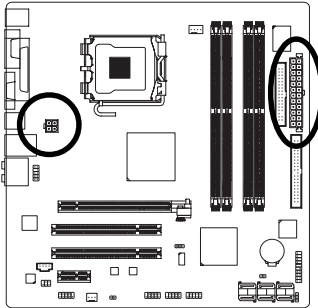
Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

ATX_12V
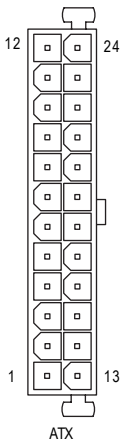
Pin No.	Definition	Pin No.	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON(soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	-5V
9	5V SB(stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V(Only for 24-pin ATX)	23	+5V (Only for 24-pin ATX)
12	3.3V(Only for 24-pin ATX)	24	GND(Only for 24-pin ATX)

ATX

3/4) CPU_FAN / SYS_FAN (Cooler Fan Power Connector)

The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin(CPU_FAN) power connector and possesses a foolproof connection design.

Most coolers are designed with color-coded power connector wires. A red power connector wire indicates a positive connection and requires a +12V power voltage. The black connector wire is the ground wire (GND).

Remember to connect the CPU/system/power fan cable to the CPU_FAN/SYS_FAN connector to prevent CPU damage or system hanging caused by overheating.
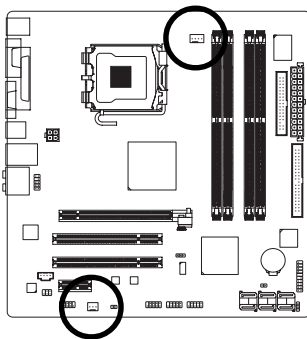
CPU_FAN

SYS_FAN

CPU_FAN :

Pin No.	Definition
1	GND
2	+12V / Speed Control
3	Sense
4	Speed Control

SYS_FAN :

Pin No.	Definition
1	GND
2	+12V
3	Sense

5) FDD (Floppy Connector)

The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360 KB, 720 KB, 1.2 MB, 1.44 MB and 2.88 MB. Before attaching the FDD cable, please take note of the foolproof groove in the FDD connector.

34 33

2 1
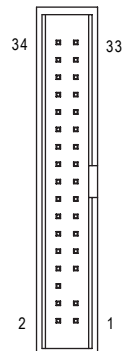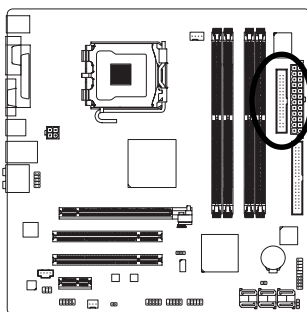
6) IDE (IDE Connector)

An IDE device connects to the computer via an IDE connector. One IDE connector can connect to one IDE cable, and the single IDE cable can then connect to two IDE devices (hard drive or optical drive). If you wish to connect two IDE devices, please set the jumper on one IDE device as Master and the other as Slave (for information on settings, please refer to the instructions located on the IDE device). Before attaching the IDE cable, please take note of the foolproof groove in the IDE connector.
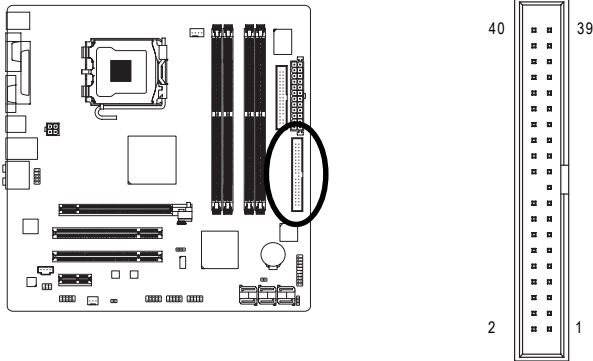
7) SATAII0 / 1 / 2 / 3 / 4 / 5 (SATA 3Gb/s Connector, Controlled by ICH8DO)

SATA 3Gb/s can provide up to 300 MB/s transfer rate. Please refer to the BIOS setting for the SATA 3Gb/s and install the proper driver in order to work properly.
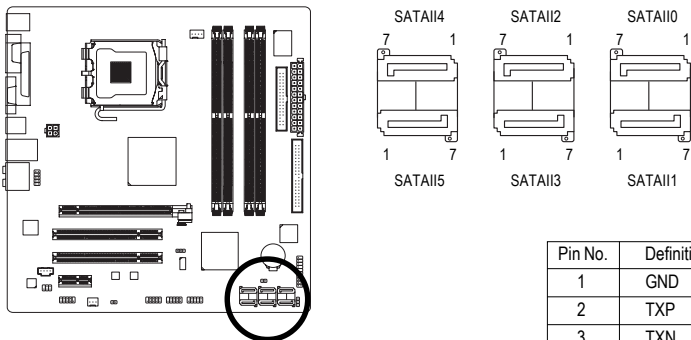
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

8) PWR_LED

The PWR_LED connector is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode(S1).
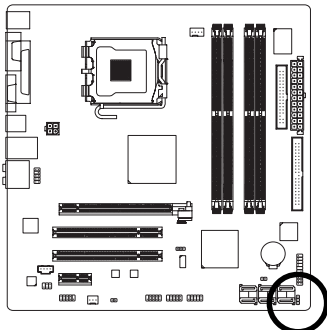
Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

9) BATTERY
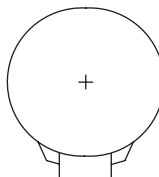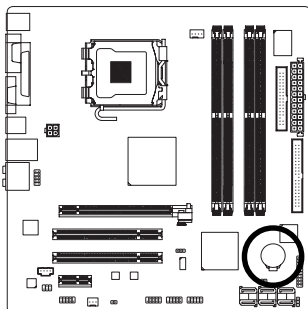
❖ Danger of explosion if battery is incorrectly replaced.

❖ Replace only with the same or equivalent type recommended by the manufacturer.

❖ Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...

1. Turn off the computer and unplug the power cord.
2. Gently take out the battery and put it aside for about one minute. (Or you can use a metal object to connect the positive and negative pins in the battery holder to make them short for five seconds.)
3. Re-install the battery.
4. Plug the power cord in and turn on the computer.

10) F_PANEL (Front Panel Jumper)

Please connect the power LED, PC speaker, reset switch and power switch etc. of your chassis front panel to the F_PANEL connector according to the pin assignment below.
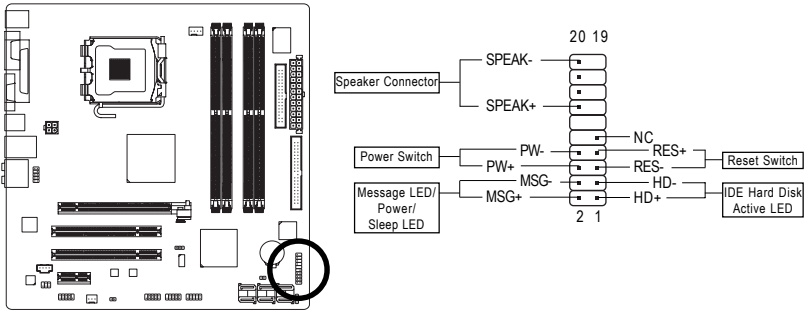
MSG (Message LED/Power/Sleep LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(-)
PW (Power Switch)	Open: Normal
	Close: Power On/Off
SPEAK (Speaker Connector)	Pin 1: Power
	Pin 2- Pin 3: NC
	Pin 4: Data(-)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(-)
RES (Reset Switch)	Open: Normal
	Close: Reset Hardware System
NC	NC

11) F_AUDIO (Front Audio Connector)

This connector supports either HD (High Definition) or AC97 front panel audio module. If you wish to use the front audio function, connect the front panel audio module to this connector. Check the pin assignments carefully while you connect the front panel audio module. Incorrect connection between the module and connector will make the audio device unable to work or even damage it. For optional front panel audio module, please contact your chassis manufacturer.
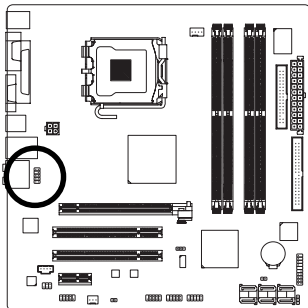
HD Audio:

Pin No.	Definition
1	MIC2_L
2	GND
3	MIC2_R
4	-ACZ_DET
5	LINE2_R
6	FSENSE1
7	FAUDIO_JD
8	No Pin
9	LINE2_L
10	FSENSE2

AC'97 Audio:

Pin No.	Definition
1	MIC
2	GND
3	MIC Power
4	NC
5	Line Out (R)
6	NC
7	NC
8	No Pin
9	Line Out (L)
10	NC

NOTE

By default, the audio driver is configured to support HD Audio. To connect an AC97 front panel audio module to this connector, please refer to the instructions on page 75 about the software settings.

12) CD_IN (CD In Connector)

Connect CD-ROM or DVD-ROM audio out to the connector.
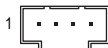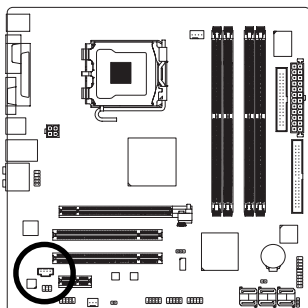
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

13) SPDIF_IO (S/PDIF In/Out Connector)

The S/PDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Use S/PDIF IN feature only when your device has digital output function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the S/PDIF cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional S/PDIF cable, please contact your local dealer.
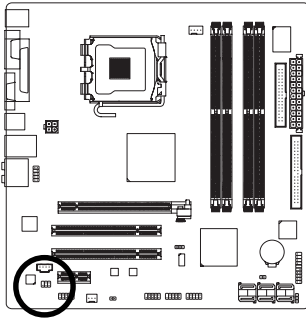
Pin No.	Definition
1	Power
2	No Pin
3	SPDIF
4	SPDIFI
5	GND
6	GND

14) F_ USB1 / F_USB2 / F_USB3 (Front USB Connector)

Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.
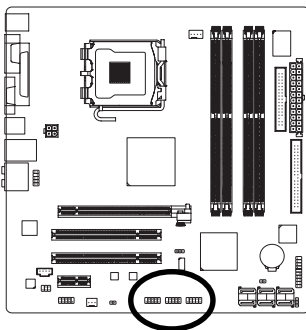
Pin No.	Definition
1	Power (5V)
2	Power (5V)
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

15) COMB (COMB Connector)

Be careful with the polarity of the COMB connector. Check the pin assignments while you connect the COMB cable. Please contact your nearest dealer for optional COMB cable.
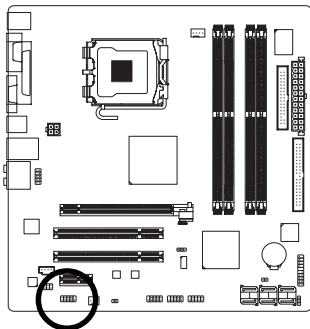
Pin No.	Definition
1	NDCDB-
2	NSINB
3	NSOUTB
4	NDTRB-
5	GND
6	NDSRB-
7	NRTSB-
8	NCTSB-
9	NRIB-
10	No Pin

16) CLR_CMOS (Clear CMOS)

You may clear the CMOS data to its default values by this header. To clear CMOS, temporarily short the two pins. Default doesn't include the jumper to avoid improper use of this header.
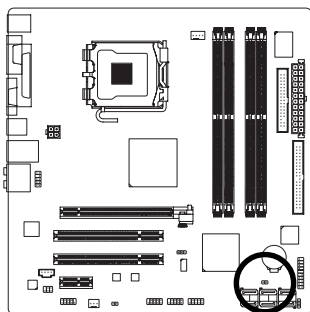
Open: Normal

Short: Clear CMOS

17) CI (Chassis Intrusion, Case Open)

This 2-pin connector allows your system to detect if the chassis cover is removed. You can check the "Case Opened" status in BIOS Setup.

[] 1
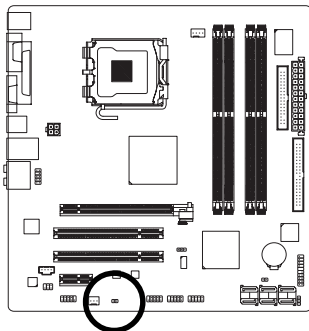
Pin No.	Definition
1	Signal
2	GND

18) TPM_CLR (TPM_PHYSICAL_PRESENCE)

1 []
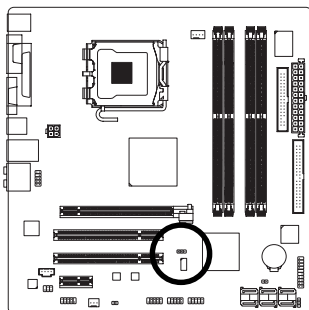
Pin No.	Definition
1	GND
2	TPM_PP
3	VCC3

TPM_CLR	Force_Clear command
1-2 short	Support Hardware/Software physical presence function. (Default)
2-3 short	Support Hardware physical presence function.

English

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Chapter 2 BIOS Setup

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required settings or to activate certain system features.

The CMOS SETUP saves the configuration in the CMOS SRAM of the motherboard.

When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS SRAM.

When the power is turned on, pressing the <Del> button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen. You can enter the BIOS setup screen by pressing "Ctrl + F1".

If you wish to upgrade to a new BIOS, either Gigabyte's Q-Flash or @BIOS utility can be used.

Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system.

@BIOS is a Windows-based utility that does not require users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

CONTROL KEYS

<↑><↓><←><→>	Move to select item
<Enter>	Select Item
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<Page Up>	Increase the numeric value or make changes
<Page Down>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the fail-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Q-Flash utility
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu
<F11>	Save CMOS to BIOS - CMOS Profiles
<F12>	Load CMOS from BIOS - CMOS Profiles

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press <F1> to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

⚠️ CAUTION

Because BIOS flashing is potentially risky, please do it with caution and avoid inadequate operation that may result in system malfunction.

<F12> : Boot Menu

Select boot sequence for onboard (or add-on cards) device.

```
Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2006, Award Software, Inc.

Intel Q965 BIOS for 965QM-DS2 D11
.
.
.
.
<DEL>: BIOS Setup/Q-Flash  <F9>: XpressRecovery2  <F12>: Boot Menu  <End>: Qflash
12/19/2006-Q965-ICH8-6A79LG0OC-00
```

Press **F12**

```
             Boot Menu
== Select a Boot First device ==
           Floppy
           LS120
           Hard Disk
           CDROM
           ZIP
           USB-FDD
           USB-ZIP
           USB-CDROM
           USB-HDD
           Legacy LAN
   ↑↓:Move  Enter:Accept  ESC:Exit
```
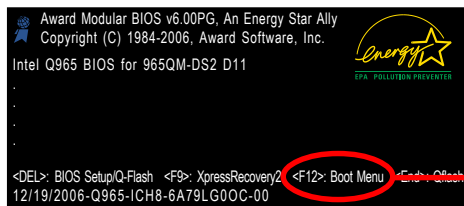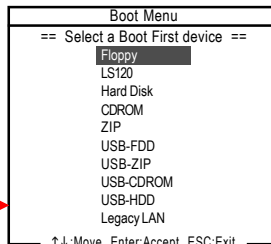
Press <F12> to enter the Boot Menu and use < ↑ > or < ↓ > to select a device, then press enter to accept.
Press <ESC> to exit this menu.

The Main Menu (For example: BIOS Ver. : D11)

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (as figure below) will appear on the
screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
         CMOS Setup Utility-Copyright (C) 1984-2006 Award Software

   ▸   Standard CMOS Features            ▸  Security Chip Configuration
   ▸   Advanced BIOS Features               Load Fail-Safe Defaults
   ▸   Integrated Peripherals               Load Optimized Defaults
   ▸   Power Management Setup               Set Supervisor Password
   ▸   PnP/PCI Configurations               Set User Password
   ▸   PC Health Status                     Save & Exit Setup
   ▸   Frequency/Voltage Control            Exit Without Saving

   Esc: Quit              ↑↓→←: Select Item          F11: Save CMOS to BIOS
   F8: Q-Flash            F10: Save & Exit Setup     F12: Load CMOS from BIOS
                    Time, Date, Hard Disk Type...
```

> **NOTE**
> 1. If you don't find the settings you want, press "Ctrl+F1" to access advanced options.
> 2. Select the **Load Optimized Defaults** item in the BIOS Setup when somehow the system
>   is not stable as usual. This action makes the system reset to the default settings for stability.
> 3. The BIOS Setup menus described in this chapter are for reference only and may differ from
>   the exact settings for your motherboard.

BIOS Setting Recovery

  ▸ F11 : Save CMOS to BIOS

  This function allows you to make a record of the current CMOS settings as a profile.

  You can create up to 8 profiles (Profile 1-8) and give each of them a name.

  ▸ F12 : Load CMOS from BIOS

  If your system becomes unstable and you load the default BIOS settings, you can use this function
  to reload the CMOS settings with a CMOS settings profile created before, without the hassles of
  resetting the CMOS configurations.

■ **Standard CMOS Features**

This setup page includes all the items in standard compatible BIOS.

■ **Advanced BIOS Features**

This setup page includes all the items of Award special enhanced features.

■ **Integrated Peripherals**

This setup page includes all onboard peripherals.

■ **Power Management Setup**

This setup page includes all the items of Green function features.

■ **PnP/PCI Configuration**

This setup page includes all the configurations of PCI & PnP ISA resources.

■ **PC Health Status**

This setup page is the System auto detect Temperature, voltage, fan, speed.

■ **Frequency/Voltage Control**

This setup page is control CPU clock and frequency ratio.

■ **Security Chip Configuration**

For TPM module function setting.

■ **Load Fail-Safe Defaults**

Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.

■ **Load Optimized Defaults**

Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.

■ **Set Supervisor Password**

Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

■ **Set User Password**

Change, set, or disable password. It allows you to limit access to the system.

■ **Save & Exit Setup**

Save CMOS value settings to CMOS and exit setup.

■ **Exit Without Saving**

Abandon all CMOS value changes and exit setup.

2-1 Standard CMOS Features

```
                 CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                                Standard CMOS Features

    Date (mm:dd:yy)                  Tue, Dec  26  2006       Item Help
    Time (hh:mm:ss)                  22:31:24                 Menu Level▶

  ▶ IDE Channel 0 Master             [None]
  ▶ IDE Channel 0 Slave              [None]
  ▶ IDE Channel 1 Master             [None]
  ▶ IDE Channel 1 Slave              [None]
  ▶ IDE Channel 2 Master             [None]
  ▶ IDE Channel 3 Master             [None]
  ▶ IDE Channel 4 Master             [None]
  ▶ IDE Channel 4 Slave              [None]
  ▶ IDE Channel 6 Master             [None]
  ▶ IDE Channel 6 Slave              [None]

    Drive A                          [1.44M, 3.5"]
    Floppy 3 Mode Support            [Disabled]

    Halt On                          [All, But Keyboard]

    Base Memory                      1664K
    Extended Memory                  511M
    Total Memory                     512M

  ↑↓→←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save      ESC: Exit    F1: General Help
        F5: Previous Values       F6: Fail-Safe Defaults            F7: Optimized Defaults
```

☞ **Date**

The date format is <week>, <month>, <day>, <year>.

▸ Week   The week, from Sun to Sat, determined by the BIOS and is display-only

▸ Month   The month, Jan. Through Dec.

▸ Day   The day, from 1 to 31 (or the maximum allowed in the month)

▸ Year   The year, from 1999 through 2098

☞ **Time**

The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

☞ **IDE Channel 0/1 Master, Slave**

▸ IDE HDD Auto-Detection

Press "Enter" to select this option for automatic device detection.

▸ IDE Device Setup. You can use one of three methods:

• Auto   Allows BIOS to automatically detect IDE/SATA devices during POST(default)

• None   Select this if no IDE/SATA devices are used and the system will skip the automatic detection step and allow for faster system start up.

• Manual   User can manually input the correct settings.

▸ Access Mode Use this to set the access mode for the hard drive. The four options are: CHS/LBA/Large/Auto(default:Auto)

☞ **IDE Channel 2/3 Master / IDE Channel 4/6 Master, Slave**

▸ IDE HDD Auto-Detection

Press "Enter" to select this option for automatic device detection.

▸ Extended IDE Drive.   You can use one of two methods:

• Auto   Allows BIOS to automatically detect IDE/SATA devices during POST(default)

• None   Select this if no IDE/SATA devices are used and the system will skip the automatic detection step and allow for faster system start up.

  ▸ Access Mode   Use this to set the access mode for the hard drive. The two options are:
                                         Large/Auto(default:Auto)
  ▸ Capacity   Capacity of currently installed hard drive.
  ▸ Cylinder   Number of cylinders
  ▸ Head   Number of heads
  ▸ Precomp   Write precomp
  ▸ Landing Zone   Landing zone
  ▸ Sector   Number of sectors

☞ **Drive A**

The category identifies the types of floppy disk drive A that has been installed in the computer.

  ▸ None   No floppy drive installed.
  ▸ 360K, 5.25"   5.25 inch PC-type standard drive; 360 KB capacity.
  ▸ 1.2M, 5.25"   5.25 inch AT-type high-density drive; 1.2 MB capacity.
                         (3.5 inch when 3 Mode is Enabled).
  ▸ 720K, 3.5"   3.5 inch double-sided drive; 720 KB capacity.
  ▸ 1.44M, 3.5"   3.5 inch double-sided drive; 1.44 MB capacity.
  ▸ 2.88M, 3.5"   3.5 inch double-sided drive; 2.88 MB capacity.

☞ **Floppy 3 Mode Support (for Japan Area)**

  ▸ Disabled   Normal Floppy Drive. (Default value)
  ▸ Drive A   Drive A is 3 mode Floppy Drive.

☞ **Halt on**

The category determines whether the computer will stop if an error is detected during power up.

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

☞ **Memory**

The category is display-only which is 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.

The value of the base memory is typically 512 K for systems with 512 K memory installed on the motherboard, or 640 K for systems with 640 K or more memory installed on the motherboard.

▸ **Extended Memory**

The BIOS determines how much extended memory is present during the POST.

This is the amount of memory located above 1 MB in the CPU's memory address map.

▸ **Total Memory**

This item displays the memory size that used.

2-2 Advanced BIOS Features

```
                      CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                                      Advanced BIOS Features
  ▶  Hard Disk Boot Priority              [Press Enter]              Item Help
     First Boot Device                    [Floppy]                   Menu Level▶
     Second Boot Device                   [Hard Disk]
     Third Boot Device                    [CDROM]
     Password Check                       [Setup]
     HDD S.M.A.R.T. Capability            [Disabled]
     CPU Hyper-Threading (Note)           [Enabled]
     Limit CPUID Max. to 3 (Note)         [Disabled]
     No-Execute Memory Protect (Note)     [Enabled]
     CPU Enhanced Halt (C1E) (Note)       [Enabled]
     CPU Thermal Monitor 2(TM2) (Note)    [Enabled]
     CPU EIST Function (Note)             [Enabled]
     Virtualization Technology (Note)     [Enabled]
     Console Redirection                  Disabled
  x  Baud Rate                            19200
     Agent after boot                     Enabled
     ASF support                          [Enabled]
     Init Display First                   [PCI]
     Onboard VGA                          [Enable If No Ext PEG]
     On-Chip Frame Buffer Size            [8MB]


  ↑↓→←: Move     Enter: Select      +/-/PU/PD: Value    F10: Save      ESC: Exit     F1: General Help
        F5: Previous Values          F6: Fail-Safe Defaults            F7: Optimized Defaults
```

☞ Hard Disk Boot Priority

Select boot sequence for onboard(or add-on cards) SCSI, RAID, etc.

Use <↑> or <↓> to select a device, then press<+> to move it up, or <-> to move it down the list.

Press <ESC> to exit this menu.

☞ First / Second / Third Boot Device

▶▶ Floppy	Select your boot device priority by Floppy.
▶▶ LS120	Select your boot device priority by LS120.
▶▶ Hard Disk	Select your boot device priority by Hard Disk.
▶▶ CDROM	Select your boot device priority by CDROM.
▶▶ ZIP	Select your boot device priority by ZIP.
▶▶ USB-FDD	Select your boot device priority by USB-FDD.
▶▶ USB-ZIP	Select your boot device priority by USB-ZIP.
▶▶ USB-CDROM	Select your boot device priority by USB-CDROM.
▶▶ USB-HDD	Select your boot device priority by USB-HDD.
▶▶ LAN	Select your boot device priority by LAN.
▶▶ Disabled	Disable this function.

☞ Password Check

▶▶ Setup	The system will boot but will not access to Setup page if the correct password is not entered at the prompt. (Default value)
▶▶ System	The system will not boot and will not access to Setup page if the correct password is not entered at the prompt.

(Note) This item will show up when you install a processor that supports this function.

☞ **HDD S.M.A.R.T. Capability**

This feature allows your hard disk to report read/write errors and to issue warnings when third-party hardware monitor utility is installed.

▶▶ Enabled   Enable HDD S.M.A.R.T. capability.
▶▶ Disabled   Disable HDD S.M.A.R.T. capability. (Default value)

☞ **CPU Hyper-Threading (Note)**

▶▶ Enabled   Enable CPU Hyper Threading Feature. Please note that this feature is only working for operating system with multi processors mode supported. (Default value)
▶▶ Disabled   Disable CPU Hyper Threading.

☞ **Limit CPUID Max. to 3 (Note)**

▶▶ Enabled   Limit CPUID Maximum value to 3 when use older OS like NT4.
▶▶ Disabled   Disable CPUID Limit for windows XP. (Default value)

☞ **No-Execute Memory Protect (Note)**

▶▶ Enabled   Enable No-Execute Memory Protect function. (Default value)
▶▶ Disabled   Disable No-Execute Memory Protect function.

☞ **CPU Enhanced Halt (C1E) (Note)**

▶▶ Enabled   Enable CPU Enhanced Halt (C1E) function. (Default value)
▶▶ Disabled   Disable CPU Enhanced Halt (C1E) function.

☞ **CPU Thermal Monitor 2 (TM2) (Note)**

▶▶ Enabled   Enable CPU Thermal Monitor 2 (TM2) function. (Default value)
▶▶ Disabled   Disable CPU Thermal Monitor 2 (TM2) function.

☞ **CPU EIST Function (Note)**

▶▶ Enabled   Enable CPU EIST function. (Default value)
▶▶ Disabled   Disable CPU EIST function.

☞ **Virtualization Technology (Note)**

▶▶ Enabled   Enable Virtualization Technology function. (Default value)
▶▶ Disabled   Disable Virtualization Technology function.

☞ **Console Redirection**

Allows your computer to send contents displayed in POST or MS-DOS to another computer.

▶▶ Enabled   Enable this function.
▶▶ Disabled   Disable this function. (Default value)

☞ **Baud Rate**

▶▶ Displays the speed at which the contents are sent.

☞ **Agent after boot**

Enabled allows your computer to send contents to another computer after the operating system has booted.

▶▶ Enabled   Keeps sending the contents to another computer after the operating sytem has booted. (Default value)
▶▶ Disabled   Sends contents in POST or MS-DOS only.

(Note)   This item will show up when you install a processor that supports this function.

☞ **ASF support**

Enabled allows another computer to control power-on/off or carry out remote control of your computer.

▸ Enabled   Enable this function. (Default value)

▸ Disabled   Disable this function.

☞ **Init Display First**

This feature allows you to select the first initiation of the monitor display from which card when you install a PCI card and a PCI Express VGA card on the motherboard.

▸ PCI   Set Init Display First to PCI VGA card. (Default value)

▸ Onboard   Set Init Display First to onboard VGA.

▸ PEG   Set Init Display First to PCI Express VGA card.

☞ **Onboard VGA**

This item allows the user to decide when to activate the onboard VGA function.

▸ Enable If No Ext PEG

Activate the onboard VGA first only when no PCI Express VGA card is installed. (Default value)

▸ Always Enable

Always activate the onboard VGA first, whether or not a PCI Express card is installed. If you wish to set up a dual view configuration, set this item to **Always Enable**.

☞ **On-Chip Frame Buffer Size**

▸ 1MB   Set on-chip frame buffer size to 1 MB.

▸ 8MB   Set on-chip frame buffer size to 8 MB. (Default value)

2-3 Integrated Peripherals

```
                CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                                Integrated Peripherals
      SATA RAID/AHCI Mode               [Disabled]              Item Help
      SATA Port0-3 Native Mode          [Disabled]              Menu Level▶
      USB Controller                    [Enabled]
      USB 2.0 Controller                [Enabled]
      USB Keyboard Support              [Disabled]
      USB Mouse Support                 [Disabled]
      Legacy USB storage detect         [Enabled]
      Azalia Codec                      [Auto]
      Onboard LAN Function              [Enabled]
      OnBoard LAN Boot ROM              [Disabled]
      Onboard IDE Controller            [Enabled]
      Onboard Serial Port 1             [3F8/IRQ4]
      Onboard Serial Port 2             [2F8/IRQ3]
      Onboard Parallel Port             [378/IRQ7]
      Parallel Port Mode                [SPP]




    ↑↓→←: Move     Enter: Select     +/-/PU/PD: Value    F10: Save     ESC: Exit     F1: General Help
        F5: Previous Values           F6: Fail-Safe Defaults           F7: Optimized Defaults
```

☞ **SATA RAID / AHCI Mode**

   ▶ RAID   Set the onboard SATA controller to RAID mode.

   ▶ AHCI   Set the onboard SATA controller to AHCI mode. Advanced Host Controller Interface (AHCI) is an interface specification that allows the storage driver to enable advanced Serial ATA features such as Native Command Queuing and hot plug. For more details about AHCI, please visit Intel's website.

   ▶ Disabled   Set the onboard SATA controller to IDE mode. (Default value)

☞ **SATA Port0-3 Native Mode**

   ▶ Enabled   Set SATA Port0~3 to operate at Native IDE mode.

   ▶ Disabled   Set SATA Port0~3 to operate at Legacy IDE mode. (Default value)

☞ **USB Controller**

   ▶ Enabled   Enable USB controller. (Default value)

   ▶ Disabled   Disable USB controller.

☞ **USB 2.0 Controller**

   Disable this function if you are not using onboard USB 2.0 feature.

   ▶ Enabled   Enable USB 2.0 controller. (Default value)

   ▶ Disabled   Disable USB 2.0 controller.

☞ **USB Keyboard Support**

   ▶ Enabled   Enable USB keyboard support.

   ▶ Disabled   Disable USB keyboard support. (Default value)

☞ **USB Mouse Support**

   ▶ Enabled   Enable USB mouse support.

   ▶ Disabled   Disable USB mouse support. (Default value)

Legacy USB storage detect

This option allows users to decide whether to detect USB storage devices, including USB flash drives and USB hard drives during POST.

- ▶ Enabled   BIOS will scan all USB storage devices. (Default value)
- ▶ Disabled   Disable this function.

Azalia Codec

- ▶ Auto   Auto detect Azalia audio function. (Default value)
- ▶ Disabled   Disable Azalia audio function.

Onboard LAN Function

- ▶ Enabled   Enable onboard LAN function. (Default value)
- ▶ Disabled   Disable this function.

OnBoard LAN Boot ROM

This function decide whether to invoke the boot ROM of the onboard LAN chip.

- ▶ Enabled   Enable this function.
- ▶ Disabled   Disable this function. (Default value)

Onboard IDE Controller

- ▶ Enabled   Enable onboard IDE controller. (Default value)
- ▶ Disabled   Disable this function.

Onboard Serial Port 1

- ▶ Auto   BIOS will automatically setup the port 1 address.
- ▶ 3F8/IRQ4   Enable onboard Serial port 1 and address is 3F8/IRQ4. (Default value)
- ▶ 2F8/IRQ3   Enable onboard Serial port 1 and address is 2F8/IRQ3.
- ▶ 3E8/IRQ4   Enable onboard Serial port 1 and address is 3E8/IRQ4.
- ▶ 2E8/IRQ3   Enable onboard Serial port 1 and address is 2E8/IRQ3.
- ▶ Disabled   Disable onboard Serial port 1.

Onboard Serial Port 2

- ▶ Auto   BIOS will automatically setup the port 2 address.
- ▶ 3F8/IRQ4   Enable onboard Serial port 2 and address is 3F8/IRQ4.
- ▶ 2F8/IRQ3   Enable onboard Serial port 2 and address is 2F8/IRQ3. (Default value)
- ▶ 3E8/IRQ4   Enable onboard Serial port 2 and address is 3E8/IRQ4.
- ▶ 2E8/IRQ3   Enable onboard Serial port 2 and address is 2E8/IRQ3.
- ▶ Disabled   Disable onboard Serial port 2.

Onboard Parallel Port

- ▶ Disabled   Disable onboard LPT port.
- ▶ 378/IRQ7   Enable onboard LPT port and address is 378/IRQ7. (Default value)
- ▶ 278/IRQ5   Enable onboard LPT port and address is 278/IRQ5.
- ▶ 3BC/IRQ7   Enable onboard LPT port and address is 3BC/IRQ7.

Parallel Port Mode

- ▶ SPP   Using Parallel port as Standard Parallel Port. (Default value)
- ▶ EPP   Using Parallel port as Enhanced Parallel Port.
- ▶ ECP   Using Parallel port as Extended Capabilities Port.
- ▶ ECP+EPP   Using Parallel port as ECP & EPP mode.

2-4 Power Management Setup

```
CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                    Power Management Setup

  ACPI Suspend Type                  [S1(POS)]              Item Help
  Soft-Off by PWR-BTTN               [Instant-Off]         Menu Level▶
  PME Event Wake Up                  [Enabled]
  Power On by Ring                   [Enabled]
  Resume by Alarm                    [Disabled]
x Date (of Month) Alarm              Everyday
x Time (hh:mm:ss) Alarm              0 : 0 : 0
  HPET Support (Note)                [Enabled]
  HPET Mode (Note)                   [32-bit mode]
  Power On By Mouse                  [Disabled]
  Power On By Keyboard               [Disabled]
x KB Power ON Password               Enter
  AC Back Function                   [Soft-Off]




↑↓→←: Move      Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
    F5: Previous Values           F6: Fail-Safe Defaults           F7: Optimized Defaults
```

○ **ACPI Suspend Type**
  ▶▶ S1(POS)   Set ACPI suspend type to S1/POS(Power On Suspend). (Default value)
  ▶▶ S3(STR)   Set ACPI suspend type to S3/STR(Suspend To RAM).

○ **Soft-Off by PWR-BTTN**
  ▶▶ Instant-Off   Press power button then Power off instantly. (Default value)
  ▶▶ Delay 4 Sec. Press power button 4 seconds to Power off. Enter suspend if button is pressed
                  less than 4 seconds.

○ **PME Event Wake Up**
  ▶▶ Disabled   Disable this function.
  ▶▶ Enabled   Enable PME Event Wake up. (Default value)

○ **Power On by Ring**
  ▶▶ Disabled   Disable Power on by Ring function.
  ▶▶ Enabled   Enable Power on by Ring function. (Default value)

○ **Resume by Alarm**
  You can set "Resume by Alarm" item to Enabled and key in Date/Time to power on system.
  ▶▶ Disabled   Disable this function. (Default value)
  ▶▶ Enabled   Enable alarm function to POWER ON system.
  If Resume by Alarm is Enabled.
  ▶▶ Date (of Month) Alarm :   Everyday, 1~31
  ▶▶ Time (hh: mm: ss) Alarm :   (0~23) : (0~59) : (0~59)

○ **HPET Support (Note)**
  ▶▶ Disabled   Disable this function.
  ▶▶ Enabled   Enable support for High Precision Event Timer (HPET) funtion. (Default value)

(Note)   Supported on Vista operating system only.

☞ **HPET Mode (Note)**
    ▶ 32-bit mode   Select 32-bit mode for 32-bit Vista operating system. (Default value)
    ▶ 64-bit mode   Select 64-bit mode for 64-bit Vista operating system.

☞ **Power On By Mouse**
    ▶ Disabled   Disable this function. (Default value)
    ▶ Double Click   Double click on PS/2 mouse left button to power on the system.

☞ **Power On By Keyboard**
    ▶ Password   Enter from 1 to 5 characters to set the Keyboard Power On Password.
    ▶ Disabled   Disable this function. (Default value)
    ▶ Keyboard 98   If your keyboard have "POWER Key" button, you can press the key to power
                     on the system.

☞ **KB Power ON Password**
    When "Power On by Keyboard" set at Password, you can set the password here.
    ▶ Enter   Input password (from 1 to 5 characters) and press Enter to set the Keyboard
             Power On password.

☞ **AC Back Function**
    ▶ Soft-Off   When AC-power back to the system, the system will be in "Off" state.
             (Default value)
    ▶ Full-On   When AC-power back to the system, the system always in "On" state.
    ▶ Memory   When AC-power back to the system, the system will return to the Last state
             before AC-power off.

(Note)   Supported on Vista operating system only.

2-5 PnP/PCI Configurations

```
              CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                            PnP/PCI Configurations
   PCI 1 IRQ Assignment              [Auto]                      Item Help
   PCI 2 IRQ Assignment              [Auto]               Menu Level▶




   ↑↓→←: Move    Enter: Select    +/-/PU/PD: Value   F10: Save    ESC: Exit    F1: General Help
      F5: Previous Values          F6: Fail-Safe Defaults         F7: Optimized Defaults
```
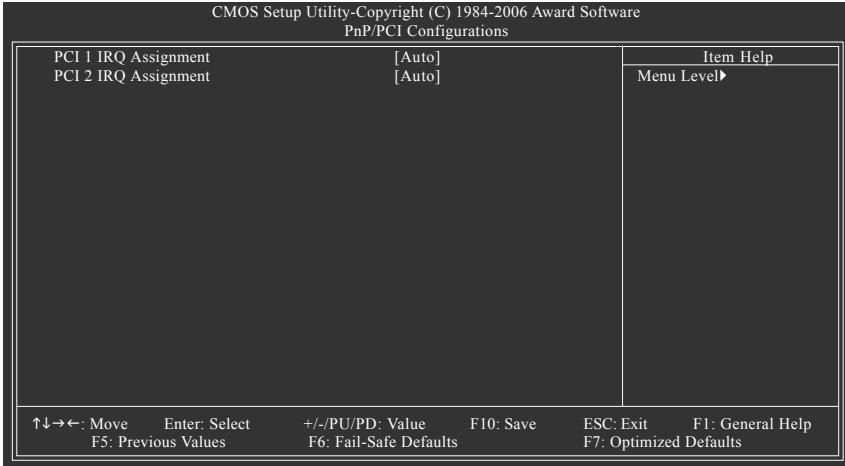
☞ **PCI 1 IRQ Assignment**
  ▶ Auto   Auto assign IRQ to PCI 1. (Default value)
  ▶ 3,4,5,7,9,10,11,12,14,15   Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

☞ **PCI 2 IRQ Assignment**
  ▶ Auto   Auto assign IRQ to PCI 2. (Default value)
  ▶ 3,4,5,7,9,10,11,12,14,15   Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 2.

2-6 PC Health Status

```
CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
PC Health Status
```

Reset Case Open Status	[Disabled]	Item Help
Case Opened	No	Menu Level▶
Vcore	OK	
DDR18V	OK	
+3.3V	OK	
+12V	OK	
Current System Temperature	33ºC	
Current CPU Temperature	60ºC	
Current CPU FAN Speed	2657 RPM	
Current SYSTEM FAN Speed	0 RPM	
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	
Smart FAN Speed Control Method	[Auto]	
Smart FAN Speed Control Mode	[Auto]	

```
↑↓→←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
      F5: Previous Values      F6: Fail-Safe Defaults                F7: Optimized Defaults
```

☞ **Reset Case Open Status**
  ▸ Disabled   Don't reset case open status. (Default value)
  ▸ Enabled   Clear case open status at next boot.

☞ **Case Opened**
  If the case is closed, "Case Opened" will show "No". If the case has been opened, "Case Opened" will show "Yes". If you want to reset "Case Opened" value, set "Reset Case Open Status" to **Enabled** then save BIOS setup and restart your system.

☞ **Current Voltage(V) Vcore / DDR18V / +3.3V / +12V**
  ▸ Detect system's voltage status automatically.

☞ **Current System/CPU Temperature**
  ▸ Detect system/CPU temperature automatically.

☞ **Current CPU/SYSTEM FAN Speed (RPM)**
  ▸ Detect CPU/system fan speed status automatically.

☞ **CPU Warning Temperature**
  ▸ 60ºC / 140ºF   Monitor CPU temperature at 60ºC / 140ºF.
  ▸ 70ºC / 158ºF   Monitor CPU temperature at 70ºC / 158ºF.
  ▸ 80ºC / 176ºF   Monitor CPU temperature at 80ºC / 176ºF.
  ▸ 90ºC / 194ºF   Monitor CPU temperature at 90ºC / 194ºF.
  ▸ Disabled   Disable this function. (Default value)

☞ **CPU/SYSTEM FAN Fail Warning**
  ▸ Disabled   Disable the fan fail warning function. (Default value)
  ▸ Enabled   Enable the fan fail warning function.

☞ **Smart FAN Speed Control Method (Note)**
- ➤ Auto BIOS sets the optimal fan speed automatically. (Default value)
- ➤ Intel(R) QST Control the fan speed with Intel® QST (Intel® Quiet System Technology).
- ➤ Legacy CPU fan runs at different speed depending on CPU temperature.
- ➤ Disable CPU fan runs at full speed.

☞ **Smart FAN Speed Control Mode**
- ➤ Auto BIOS autodetects the type of CPU fan you installed and sets the optimal fan speed control mode for it. (Default value)
- ➤ Voltage Set to Voltage when you use a CPU fan with a 3-pin fan power cable.
- ➤ PWM Set to PWM when you use a CPU fan with a 4-pin fan power cable.

Note: In fact, the Voltage option can be used for CPU fans with 3-pin or 4-pin power cables. However, some 4-pin CPU fan power cables are not designed following Intel 4-Wire fans PWM control specifications. With such CPU fans, selecting PWM will not effectively reduce the fan speed.

(Note) Before setting this item to **Intel(R) QST**, make sure at least DDRII1 or DDRII2 socket in Channel 0 is populated. A small portion of system memory will be shared when Intel® QST is enabled.

2-7 Frequency/Voltage Control

```
                   CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                                   Frequency/Voltage Control
  CPU Clock Ratio (Note)                       [16X]                    Item Help
  System Memory Multiplier  (SPD)              [Auto]          Menu Level▶
  Memory Frequency (Mhz)   533                 533



















  ↑↓→←: Move      Enter: Select      +/-/PU/PD: Value     F10: Save     ESC: Exit     F1: General Help
       F5: Previous Values           F6: Fail-Safe Defaults             F7: Optimized Defaults
```
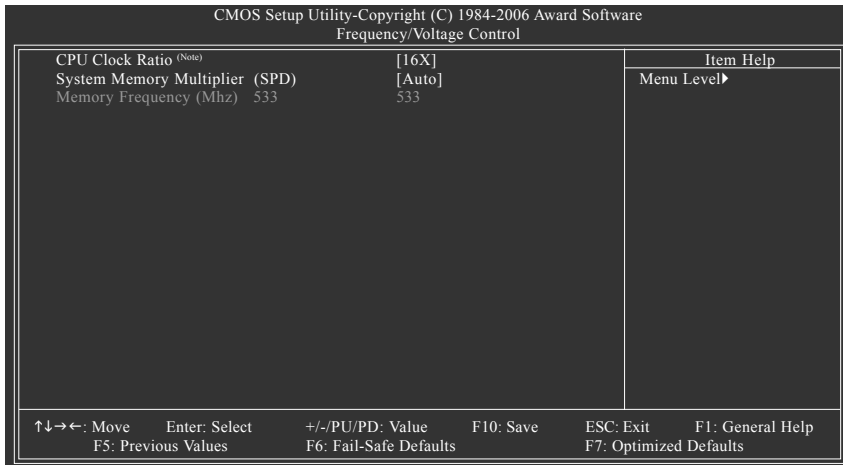
⚠️ CAUTION

Incorrectly using these features may result in system instability or corruption.
Doing a overclock or overvoltage on CPU, chipsets and memory modules may result in damages or shortened life expectancy to these components. Please be aware that the menu items are for power users only.

☞ **CPU Clock Ratio** (Note)

This setup option will automatically assign by CPU detection.

The option will display "Locked" and read only if the CPU ratio is not changeable.

☞ **System Memory Multiplier**

The adjustable range will vary based on the CPU FSB. Default value: Auto (set memory frequency by DRAM SPD data). Wrong frequency settings may cause system unable to boot. Clear CMOS to overcome wrong frequency issue. If you wish to adjust the item manually, set "System Voltage Control" to "Auto" to optimize the system voltage settings.

☞ **Memory Frequency (Mhz)**

▸ The values depend on **System Memory Multiplier** setting.

(Note)   This item will show up when you install a processor that supports this function.

2-8 Security Chip Configuration

```
                    CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                              Security Chip Configuration
┌──────────────────────────────────────────────────────────────────────────────┐
│  TPM Control                        [No change]                    Item Help   │
│                                                               Menu Level▶       │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│ ↑↓→←: Move     Enter: Select    +/-/PU/PD: Value   F10: Save   ESC: Exit   F1: General Help │
│      F5: Previous Values        F6: Fail-Safe Defaults        F7: Optimized Defaults │
└──────────────────────────────────────────────────────────────────────────────┘
```
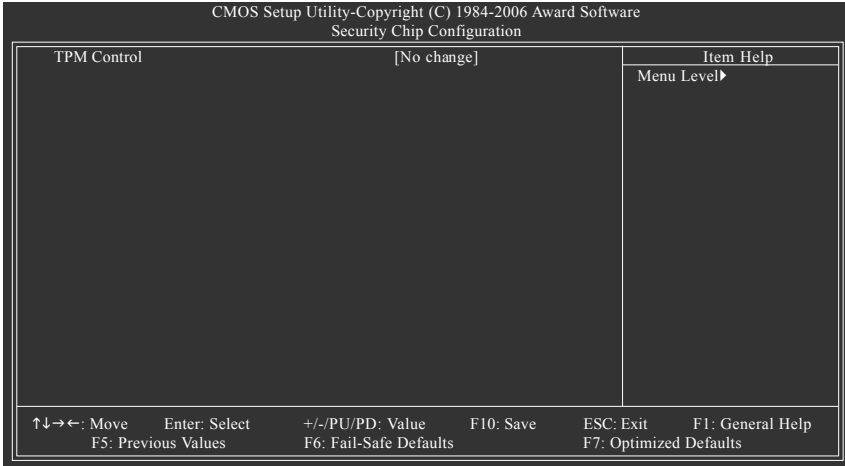
) **TPM Control (Trusted Platform Module Control)**

- ▶ No change   No changes will be made. (Default value)
- ▶ Enabled   Enable the TPM control function.
- ▶ Disabled   Disable the TPM control function.
- ▶ Enabled+Clear Owner   Clear TPM internal policy, and enable the TPM control function.

2-9   Load Fail-Safe Defaults

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software	
▶ Standard CMOS Features	▶ Security Chip Configuration
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Ma~~nagement Setup~~	~~Set Supervisor Password~~
▶ PnP/PCI C	Load Fail-Safe Defaults (Y/N)? N
▶ PC Health ~~Status~~	~~Save & Exit Setup~~
▶ Frequency/Voltage Control	Exit Without Saving
Esc: Quit ↑↓→←: Select Item	F11: Save CMOS to BIOS
F8: Q-Flash F10: Save & Exit Setup	F12: Load CMOS from BIOS
Load Fail-Safe Defaults	

Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

2-10   Load Optimized Defaults

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software	
▶ Standard CMOS Features	▶ Security Chip Configuration
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Ma~~nagement Setup~~	~~Set Supervisor Password~~
▶ PnP/PCI C	Load Optimized Defaults (Y/N)? N
▶ PC Health ~~Status~~	~~Save & Exit Setup~~
▶ Frequency/Voltage Control	Exit Without Saving
Esc: Quit ↑↓→←: Select Item	F11: Save CMOS to BIOS
F8: Q-Flash F10: Save & Exit Setup	F12: Load CMOS from BIOS
Load Optimized Defaults	

Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

2-11   Set Supervisor/User Password

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software	
▶ Standard CMOS Features	▶ Security Chip Configuration
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Management Setup	Set Supervisor Password
▶ PnP/PCI C Enter Password:	
▶ PC Health Status	Save to CMOS Setup
▶ Frequency/Voltage Control	Exit Without Saving

Esc: Quit	↑↓→←: Select Item	F11: Save CMOS to BIOS
F8: Q-Flash	F10: Save & Exit Setup	F12: Load CMOS from BIOS
Change/Set/Disable Password		

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to eight characters, and press <Enter>. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

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

The BIOS Setup program allows you to specify two separate passwords:

SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Password Check" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.

If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

2-12 Save & Exit Setup

```
┌─────────────────────────────────────────────────────────────────────────────┐
│           CMOS Setup Utility-Copyright (C) 1984-2006 Award Software            │
├─────────────────────────────────────────────────────────────────────────────┤
│   ▶  Standard CMOS Features              ▶  Security Chip Configuration        │
│   ▶  Advanced BIOS Features                 Load Fail-Safe Defaults            │
│   ▶  Integrated Peripherals                 Load Optimized Defaults            │
│   ▶  Power Ma──────────────────────────────────────────────────               │
│   ▶  PnP/PCI C       Save to CMOS and EXIT (Y/N)? Y                            │
│   ▶  PC Health Status                       Save & Exit Setup                  │
│   ▶  Frequency/Voltage Control              Exit Without Saving                │
├─────────────────────────────────────────────────────────────────────────────┤
│   Esc: Quit              ↑↓→←: Select Item            F11: Save CMOS to BIOS    │
│   F8: Q-Flash            F10: Save & Exit Setup       F12: Load CMOS from BIOS  │
├─────────────────────────────────────────────────────────────────────────────┤
│                           Save Data to CMOS                                    │
└─────────────────────────────────────────────────────────────────────────────┘
```

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.
Type "N" will return to Setup Utility.

2-13 Exit Without Saving

```
┌─────────────────────────────────────────────────────────────────────────────┐
│           CMOS Setup Utility-Copyright (C) 1984-2006 Award Software            │
├─────────────────────────────────────────────────────────────────────────────┤
│   ▶  Standard CMOS Features              ▶  Security Chip Configuration        │
│   ▶  Advanced BIOS Features                 Load Fail-Safe Defaults            │
│   ▶  Integrated Peripherals                 Load Optimized Defaults            │
│   ▶  Power Ma──────────────────────────────────────────                        │
│   ▶  PnP/PCI C       Quit Without Saving (Y/N)? N                              │
│   ▶  PC Health Status                       Save & Exit Setup                  │
│   ▶  Frequency/Voltage Control              Exit Without Saving                │
├─────────────────────────────────────────────────────────────────────────────┤
│   Esc: Quit              ↑↓→←: Select Item            F11: Save CMOS to BIOS    │
│   F8: Q-Flash            F10: Save & Exit Setup       F12: Load CMOS from BIOS  │
├─────────────────────────────────────────────────────────────────────────────┤
│                           Abandon all Data                                     │
└─────────────────────────────────────────────────────────────────────────────┘
```

Type "Y" will quit the Setup Utility without saving to RTC CMOS.
Type "N" will return to Setup Utility.

Chapter 3 Drivers Installation

Pictures below are shown in Windows XP.

Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the Run.exe.

3-1 Install Chipset Drivers

"Xpress Install " is now analyizing your computer...99%

After insert the driver CD, "Xpress Install" will scan automatically the system and then list all the drivers that recommended to install. Please pick the item that you want and press "install" followed the item; or you can press "Xpress Install" to install all items defaulted.
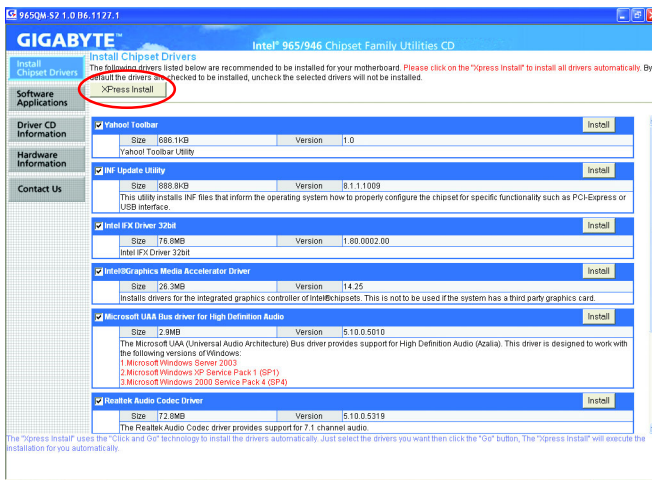
Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.

System will reboot automatically after install the drivers, afterward you can install others application.

For USB2.0 driver support under Windows XP operating system, please use Windows Service Pack. After install Windows Service Pack, it will show a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the question mark and restart the system (System will auto-detect the right USB2.0 driver).

3-2　Software Applications

This page displays all the tools that Gigabyte developed and some free software, you can choose anyone you want and press "install" to install them.
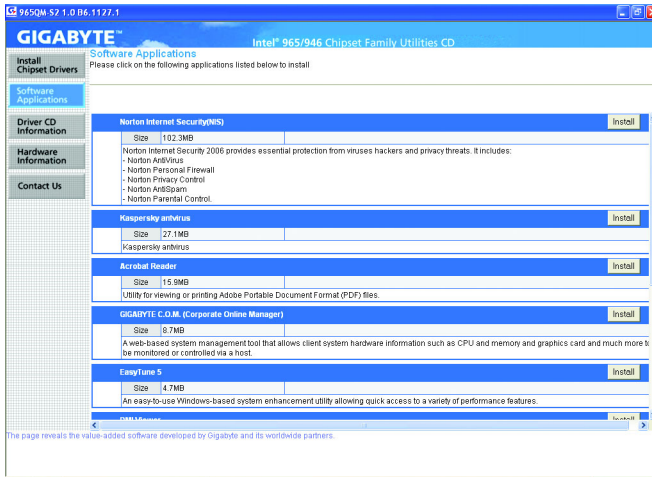
3-3　Driver CD Information

This page lists the contents of software and drivers in this CD-title.
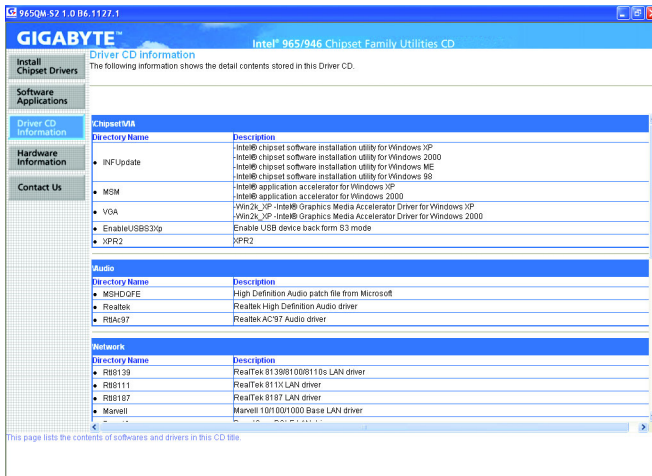
3-4 Hardware Information

This page lists all device you have for this motherboard.
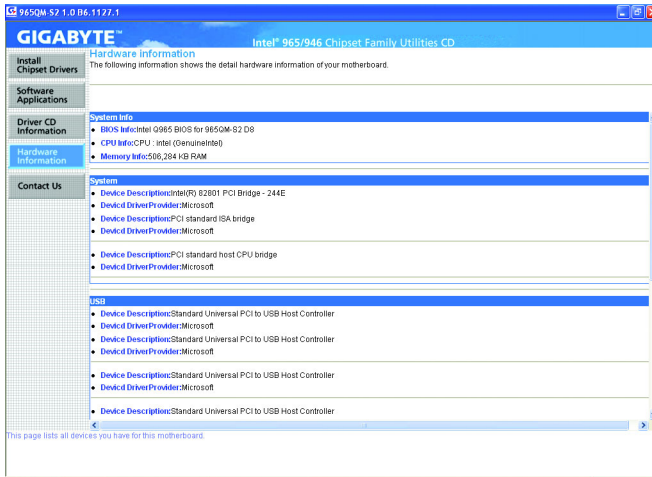
3-5 Contact Us

Please see the last page for details.

Chapter 4 Appendix

4-1 Unique Software Utilities

(Not all model support these Unique Software Utilities, please check your MB features.)

4-1-1 EasyTune 5 Introduction

EasyTune 5 presents the most convenient Windows based system performance enhancement and manageability utility. Featuring several powerful yet easy to use tools such as 1) Overclocking for enhancing system performance, 2) C.I.A. and M.I.B. for special enhancement for CPU and Memory, 3) Smart-Fan control for managing fan speed control of both CPU cooling fan and North-Bridge Chipset cooling fan, 4) PC health for monitoring system status.(Note)

User Interface Overview

	Button / Display	Description
1.	Overclocking	Enters the Overclocking setting page
2.	C.I.A. and M.I.B.	Enters the C.I.A. and M.I.B. setting page
3.	Smart-Fan	Enters the Smart-Fan setting page
4.	PC Health	Enters the PC Health setting page
5.	GO	Confirmation and Execution button
6.	"Easy Mode" & "Advance Mode"	Toggles between Easy and Advance Mode
7.	Display screen	Display panel of CPU frequency
8.	Function display LEDs	Shows the current functions status
9.	GIGABYTE Logo	Log on to GIGABYTE website
10.	Help button	Display EasyTune™ 5 Help file
11.	Exit or Minimize button	Quit or Minimize EasyTune™ 5 software

(Note)   EasyTune 5 functions may vary depending on different motherboards.

4-1-2   Xpress Recovery2 Introduction

Xpress Recovery2 is designed to provide quick backup and restoration of hard disk data. Supporting Microsoft operating systems including Windows XP/2000/NT/98/Me and DOS, and file systems including FAT16, FAT32, and NTFS, Xpress Recovery2 is able to back up data on hard disks on PATA and SATA IDE controllers. After Xpress Recovery2 is executed from CD-ROM for the first time, it will stay permanent in your hard disk. If you wish to run Xpress Recovery2 later, you can simply press F9 during system bootup to enter Xpress Recovery2 without the CD-ROM.

System requirements:
1. Intel x86 platforms
2. At least 64 MB of system memory
3. VESA-supported VGA cards

How to use the Xpress Recovery2
Initial access by booting from CD-ROM and subsequent access by pressing the F9 key:

Steps: After entering BIOS Setup, go to **Advanced BIOS Feature** and set to boot from CD-ROM. Save the settings and exit the BIOS Setup. Insert the provided driver CD into your CD-ROM drive. Upon system restart, the message which says "Boot from CD/DVD:" will appear in the bottom left corner of the screen. Press any key to enter Xpress Recovery2.

After the steps above are completed, subsequent access to Xpress Recovery2 can be made by simply pressing the <F9> key during system power-on.

Boot from CD/DVD:
Press any key to startup XpressRecovery2.....   **Boot from CD/DVD:**

Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2006, Award Software, Inc.

Intel Q965 BIOS for 965QM-DS2 D11

<DEL>: BIOS Setup/Q-Flash <F9>: XpressRecovery2 <F12>: Boot Menu <End>: Qflash   **<F9> : Xpress Recovery2**
12/19/2006-Q965-ICH8-6A79LG0QC-00
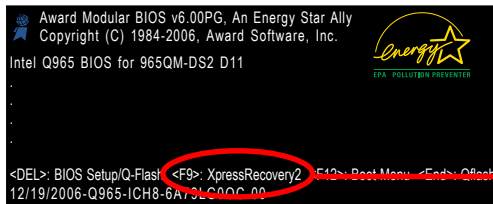
NOTE
1. If you have already entered Xpress Recovery2 by booting from the CD-ROM, you can enter Xpress Recovery2 by pressing the <F9> key in the future.
2. System storage capacity and the reading/writing speed of the hard disk will affect the data backup speed.
3. It is recommended that Xpress Recovery2 be immediately installed once you complete installations of OS and all required drivers as well as software.

The Main Screen of Xpress Recovery2

1. RESTORE:

Restore the backed-up data to your hard disk.
(This button will not appear if there is no backup file.)

2. BACKUP:

Back up data from hard disk.

3. REMOVE:

Remove previously-created backup files to release disk space.
(This button will not appear if there is no backup file.)

4. REBOOT:

Exit the main screen and restart the system.

Limitations:

1. Not compatible to Xpress Recovery.
2. For the use of Xpress Recovery2, a primary partition must be reserved.
3. Xpress Recovery2 will store the backup file at the end of the hard disk, so free space available on the hard disk for the backup file must be allocated in advance. (A minimum 4GB is recommended but the actual space is dependent on the size of the data to be backed up)
4. Capable of backing up hard disks installed with Windows operating systems including DOS and Windows XP/2000/NT/9x/Me.
5. USB hard disks are currently not supported.
6. Does not support RAID/AHCI (class code 0104/0106) hard disks.
7. Capable of backing up and restoring only the first physical hard disk.

Hard disks detection sequence is as follows:

a. PATA IDE primary channel
b. PATA IDE secondary channel
c. SATA IDE channel 1
d. SATA IDE channel 2
e. SATA IDE channel 3
f. SATA IDE channel 4

Precautions:

1. When using hard disks with more than 128 GB under Windows 2000, be sure to execute the EnableBigLba.*exe* program from the driver CD before data backup.
2. It is normal that data backup takes longer time than data restoration.
3. Xpress Recovery2 is compliant with the GPL regulations.
4. On a few motherboards based on Nvidia chipsets, BIOS update is required for Xpress Recovery2 to correctly identify RAID and SATA IDE mode. Please contact your motherboard manufacturer.

4-1-3 Flash BIOS Method Introduction

Method 1 : Q-Flash™

Q-Flash™ is a BIOS update tool that allows the user to update BIOS without entering operating systems like MS-DOS or Windows. Embedded in the BIOS, the Q-Flash™ tool frees you from the hassles of going through complicated BIOS flashing process.

Before Use:

Follow the steps below before using Q-Flash to update BIOS:

1. From GIGABYTE's website, download the latest compressed BIOS update file that matches your motherboard model

2. Extract the downloaded BIOS files and save the new BIOS file (e.g. 965QMDS2.F1) to your floppy disk or hard disk. Note: Q-Flash only supports hard disks or flash drives using FAT32/16/12 file system.

3. Restart the system. During BIOS POST, press the End key to enter Q-Flash. NOTE: Press the End key to enter Q-Flash if you wish to use hard drives in RAID/AHCI mode or hard drives attached to the independent IDE/SATA controller.
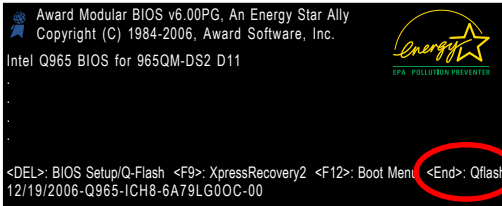
```
Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2006, Award Software, Inc.

Intel Q965 BIOS for 965QM-DS2 D11
.
.
.

<DEL>: BIOS Setup/Q-Flash  <F9>: XpressRecovery2  <F12>: Boot Menu  <End>: Qflash
12/19/2006-Q965-ICH8-6A79LG0OC-00
```

<End> : Qflash

⚠️ **CAUTION** Because BIOS flashing is potentially risky, please do it with caution and avoid inadequate operation that may result in system malfunction.

Updating the BIOS

Step 1:

a. In the Q-Flash menu, use the UP or DOWN ARROW key to select **Update BIOS from Drive** and press ENTER.

😊 **NOTE** If you wish to back up the current BIOS file, use the **Save BIOS to Drive** function.

b. Select the floppy drive or hard drive where the BIOS file is saved, such as "Floppy A" and press ENTER.

```
                    Q-Flash Utility v2.02
Flash Type/Size.................................Winbond  25X80          1M

                    Keep DMI Data    Enable
                        Update BIOS from Drive
                          0 file(s) found
   En    Floppy A                              <Drive>        er Off
         HDD 0-0                               <Drive>




         Total size : 0              Free size : 0
         F5 : Refresh       DEL : Delete
```
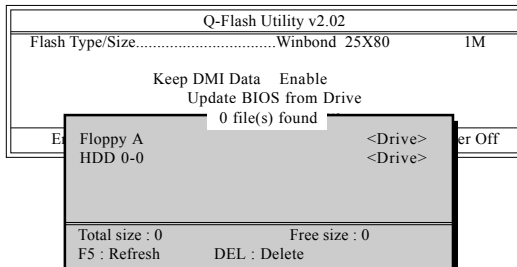
c. Select the BIOS file and press ENTER.

⚠️ CAUTION Make sure again the BIOS file matches your motherboard model.

Step 2: The process of system reading the BIOS file from the floppy disk is displayed on the screen. When the message "Are you sure to update BIOS?" appears, press ENTER. The BIOS update will begin and the current process will be displayed.

⚠️ CAUTION 1. Do not turn off or restart the system when the system is reading/updating the BIOS.
2. Do not remove the floppy disk or hard drive/USB drive when the system is updating the BIOS.

Step 3: When the update process is complete, press any key to return to the Q-Flash main menu.

Q-Flash Utility v2.02		
Flash Type/Size................................Winbond 25X80		1M
!! Copy BIOS completed - Pass !!		
Please press any key to continue		
En		er Off
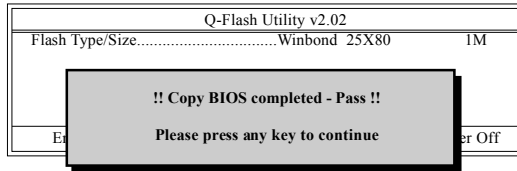
Step 4: Press ESC and then DELETE to exit Q-Flash and the system will restart. As the system reboots, you will see the new BIOS version during POST.

Step 5: As the system reboots, press DELETE to enter BIOS Setup. Select **Load Optimized Defaults** and press ENTER to load BIOS defaults. System will re-detect all peripherals devices after BIOS update, so we recommend that you reload BIOS defaults.

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software	
▶ Standard CMOS Features	▶ Security Chip Configuration
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Ma_____	_____
▶ PnP/PCI C Load Optimized Defaults (Y/N)? N	
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Esc: Quit ↑↓→←: Select Item	F11: Save CMOS to BIOS
F8: Q-Flash F10: Save & Exit Setup	F12: Load CMOS from BIOS
Load Optimized Defaults	

Press Y to load BIOS defaults

Step 6: Select **Save & Exit Setup** and then press **Y** to save settings to CMOS and exit BIOS Setup. When the system restarts, the whole update process is complete.

Method 2 : @BIOS™ Utility

If you do not have a DOS startup disk, we recommend that you use the new @BIOS utility. @BIOS allows users to update their BIOS under Windows. Just select the desired @BIOS server to download the latest version of BIOS.

Fig 1. Installing the @BIOS utility

Select **@BIOS** item than click Install
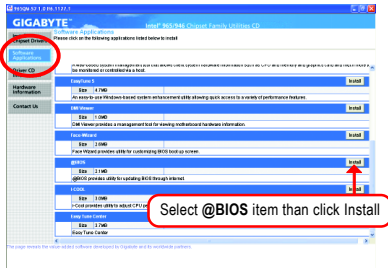
Fig 2. Installation Complete and Run @BIOS

Click Start/ Programs/ Gigabyte/ BIOS/ @BIOS

Fig 3. The @BIOS Utility
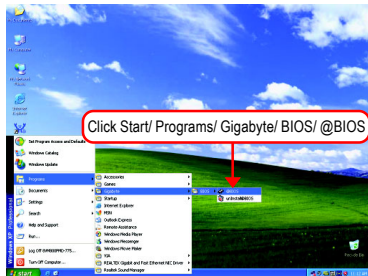
Click "✓"   Click "Update New BIOS"
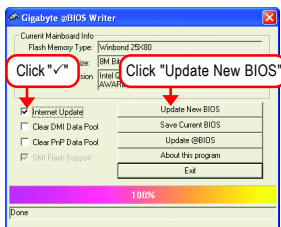
Fig 4. Select the desired @BIOS server
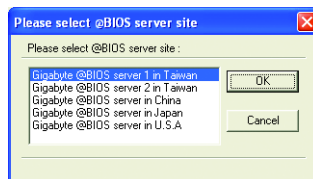
1. Methods and steps:

I. Update BIOS through Internet

a.   Click "Internet Update" icon

b.   Click "Update New BIOS" icon

c.   Select @BIOS™ sever

d.   Select the exact model name on your motherboard

e.   System will automatically download and update the BIOS.

II. Update BIOS NOT through Internet:

a.   Do not click "Internet Update" icon

b.   Click "Update New BIOS"

c.   Please select "All Files" in dialog box while opening the old file.

d.   Please search for BIOS unzip file, downloading from internet or any other methods (such as: 965QMDS2.F1).

e.   Complete update process following the instruction.

III. Save BIOS

In the very beginning, there is "Save Current BIOS" icon shown in dialog box. It means to save the current BIOS version.

IV. Check out supported motherboard and Flash ROM:

In the very beginning, there is "About this program" icon shown in dialog box. It can help you check out which kind of motherboard and which brand of Flash ROM are supported.

2. Note:

I.   In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.

II. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.

III. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigabyte's web site for downloading and updating it according to method II.

IV. Please note that any interruption during updating will cause system unbooted.

V. Do not use @BIOS and C.O.M. (Corporate Online Management) at the same time.

4-1-4   Configuring SATA Hard Drive(s)

To configure SATA hard drive(s), follow the steps below:

(1) Install SATA hard drive(s) in your system.

(2) Configure SATA controller mode and boot sequence in BIOS Setup.

(3) Configure RAID set in RAID BIOS. (Note 1)

(4) Make a floppy disk containing the SATA controller driver. (Note 2)

(5) Install the SATA controller driver during OS installation. (Note 2)

Before you begin

Please prepare:

(a) At least two SATA hard drives (to ensure optimal performance, it is recommended that you use two
     hard drives with identical model and capacity). If you do not want to create RAID, you may prepare
     only one hard drive.

(b) An empty formatted floppy disk.

(c) Windows XP/2000 setup disk.

(d) Driver CD for your motherboard.

(1) Installing SATA hard drive(s) in your computer

Attach one end of the SATA signal cable to the rear of the SATA hard drive and the other end to available
SATA port(s) on the motherboard. Then connect the power connector from your power supply to the
hard drive.

(Note 1) Skip this step if you do not want to create RAID array on the SATA controller.

(Note 2) Required when the SATA controller is set to AHCI or RAID Mode.

(2) Configuring SATA controller mode and boot sequence in BIOS Setup

Make sure to configure the SATA controller mode correctly in system BIOS Setup and set the first boot device.

Step 1:

Turn on your computer and press Del to enter BIOS Setup during POST (Power-On Self Test). If you want to create RAID, set **SATA RAID/AHCI Mode** under the **Integrated Peripherals** menu to **RAID** (**Disabled** by default).

```
CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                      Integrated Peripherals
   SATA RAID/AHCI Mode              [RAID]                Item Help
   SATA Port0-3 Native Mode         [Disabled]            Menu Level▶
   USB Controller                   [Enabled]
   USB 2.0 Controller               [Enabled]
   USB Keyboard Support             [Disabled]
   USB Mouse Support                [Disabled]
   Legacy USB storage detect        [Enabled]
   Azalia Codec                     [Auto]
   Onboard LAN Function             [Enabled]
   OnBoard LAN Boot ROM             [Disabled]
   Onboard IDE Controller           [Enabled]
   Onboard Serial Port 1            [3F8/IRQ4]
   Onboard Serial Port 2            [2F8/IRQ3]
   Onboard Parallel Port            [378/IRQ7]
   Parallel Port Mode               [SPP]



↑↓→←: Move     Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
    F5: Previous Values          F6: Fail-Safe Defaults            F7: Optimized Defaults
```

Figure 1

NOTE

The BIOS Setup menus described in this section may not show the exact settings for your motherboard. The actual BIOS Setup menu options you will see shall depend on the motherboard you have and the BIOS version.

Step 2:
Set **First Boot Device** under the **Advanced BIOS Features** menu to **CDROM** to boot from CD-ROM after system restarts (Figure 2).

```
             CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                            Advanced BIOS Features
 ▶ Hard Disk Boot Priority:              [Press Enter]      ┌─ Item Help ──
   First Boot Device                     [CDROM]            │ Menu Level▶
   Second Boot Device                    [Hard Disk]
   Third Boot Device                     [CDROM]
   Password Check                        [Setup]
   HDD S.M.A.R.T. Capability             [Disabled]
   CPU Hyper-Threading                   [Enabled]
   Limit CPUID Max. to 3                 [Disabled]
   No-Execute Memory Protect             [Enabled]
   CPU Enhanced Halt (C1E)               [Enabled]
   CPU Thermal Monitor 2(TM2)            [Enabled]
   CPU EIST Function                     [Enabled]
   Virtualization Technology             [Enabled]
   Console Redirection                   Disabled
 x Baud Rate                             19200
   Agent after boot                      Enabled
   ASF support                           [Enabled]
   Init Display First                    [PCI]
   Onboard VGA                           [Enable If No Ext PEG]
   On-Chip Frame Buffer Size             [8MB]

 ↑↓→←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
      F5: Previous Values        F6: Fail-Safe Defaults        F7: Optimized Defaults
```

Figure 2

Step 3:
Save and exit BIOS Setup.

(3) Configuring RAID set in RAID BIOS

Enter the RAID BIOS setup utility to configure a RAID array. Skip this step and proceed to Section 4 if you do not want to create RAID.

Step 1:

After the POST memory test begins and before the operating system boot begins, look for a message which says "Press <Ctrl-I> to enter Configuration utility" (Figure 3). Press CTRL+ I to enter the RAID BIOS setup utility.

```
Intel(R) Matrix Storage Manager option ROM V6.0.0.1022 ICH8R wRAID5
Copyright(C) 2003-06 Intel Corporation.  All Rights Reversed.

RAID Volumes :
None Defined.

Physical Disks :
Port   Driver Model      Serial #                    Size       Type/Status(Vol ID)
0      ST3120026AS       3JT354CP                    111.7GB    Non-RAID Disk
1      ST3120026AS       3JT329JX                    111.7GB    Non-RAID Disk

Press  <CTRL - I>  to enter Configuration Utility
```
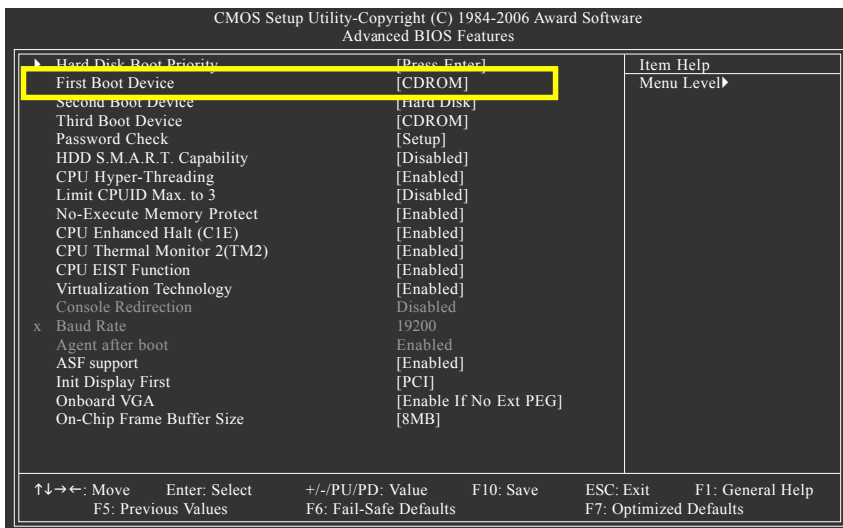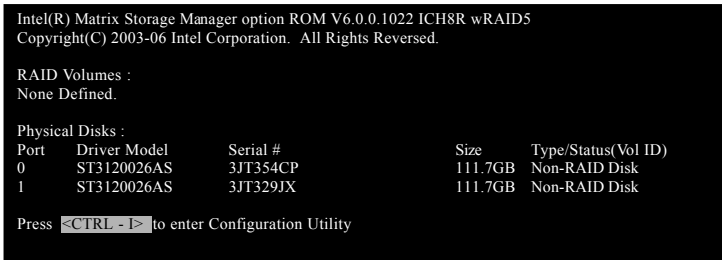
Figure 3

Step 2:

After you press CTRL+ I, the **Create RAID Volume** screen will appear (Figure 4).

Create RAID Volume

If you want to create RAID array, select **Create RAID Volume** in Main Menu and press ENTER.

```
                Intel(R) Matrix Storage Manager option ROM V6.0.0.1022 ICH8R wRAID5
                       Copyright(C) 2003-06 Intel Corporation.  All Rights Reversed.
================================[ MAIN MENU ]================================
                              1.Create RAID Volume
                              2. Delete RAID Volume
                              3. Reset Disks to Non-RAID
                              4. Exit

=========================[ DISK/VOLUME INFORMATION ]=========================
    RAID Volumes :
    None Defined.

    Physical Disks :
    Port   Driver Model      Serial #                    Size       Type/Status(Vol ID)
    0      ST3120026AS       3JT354CP                    111.7GB    Non-RAID Disk
    1      ST3120026AS       3JT329JX                    111.7GB    Non-RAID Disk


         [↑↓]-Select                 [ESC]-Exit                 [ENTER]-Select Menu
```
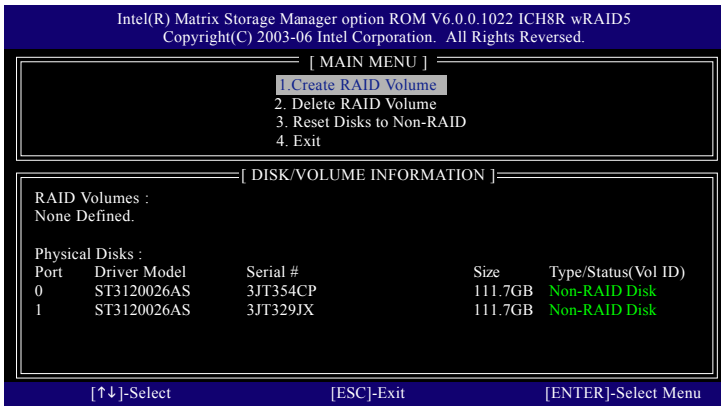
Figure 4

Step 3:

After entering the Create Volume Menu screen, name the disk array with 1~16 letters (letters cannot be special characters) under the Name item. When finished, press ENTER to select a RAID level (Figure 5). There are four RAID levels: RAID0, RAID1, RAID10 and RAID5. Select a RAID level and press ENTER.
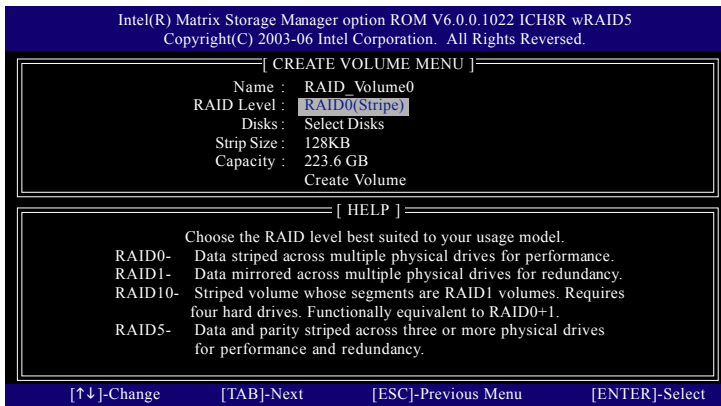

Figure 5

Step 4:

Set the stripe block size (Figure 6). The *KB* is the standard unit of stripe block size. The stripe block size can be set from 4 KB to 128 KB. After the setting, press ENTER to set array capacity.
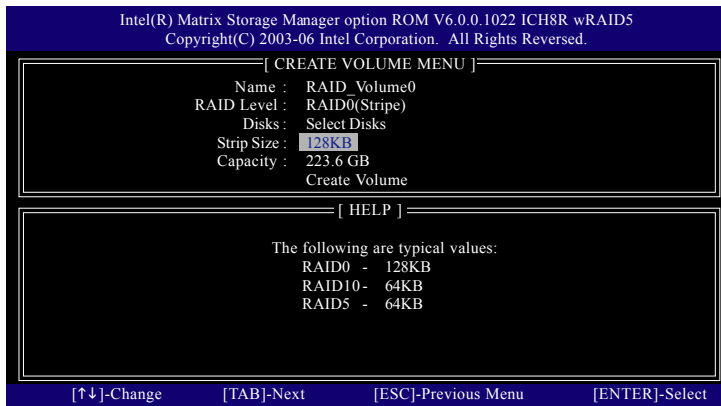

Figure 6

Step 5:

After setting all the items above, select Create Volume and press ENTER (Figure 7) to begin the creation of the RAID array.
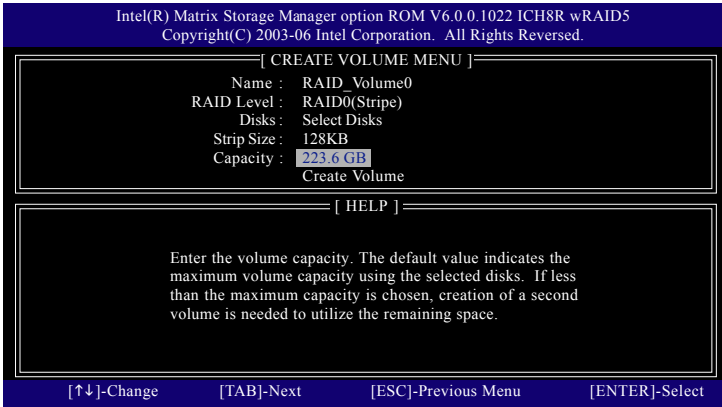
```
Intel(R) Matrix Storage Manager option ROM V6.0.0.1022 ICH8R wRAID5
        Copyright(C) 2003-06 Intel Corporation.  All Rights Reversed.
════════════════════[ CREATE VOLUME MENU ]════════════════════
               Name :   RAID_Volume0
         RAID Level :   RAID0(Stripe)
              Disks :   Select Disks
          Strip Size :   128KB
           Capacity :   223.6 GB
                       Create Volume
═══════════════════════════[ HELP ]═══════════════════════════

          Enter the volume capacity. The default value indicates the
          maximum volume capacity using the selected disks.  If less
          than the maximum capacity is chosen, creation of a second
          volume is needed to utilize the remaining space.


    [↑↓]-Change        [TAB]-Next        [ESC]-Previous Menu        [ENTER]-Select
```

Figure 7

Step 6:

When prompted to confirm whether to create this volume, press Y to create or N to cancel.

```
Intel(R) Matrix Storage Manager option ROM V6.0.0.1022 ICH8R wRAID5
        Copyright(C) 2003-06 Intel Corporation.  All Rights Reversed.
════════════════════[ CREATE VOLUME MENU ]════════════════════
               Name :   RAID_Volume0
         RAID Level :   RAID0(Stripe)
              Disks :   Select Disks
          Strip Size :   128KB
           Capacity :   223.6 GB

    WARNING : ALL DATA ON SELECTED DISKS WILL BE LOST.

    Are you sure you want to creat this volume? (Y/N) :

          Press "ENTER" to Create the specified volume


    [↑↓]-Change        [TAB]-Next        [ESC]-Previous Menu        [ENTER]-Select
```
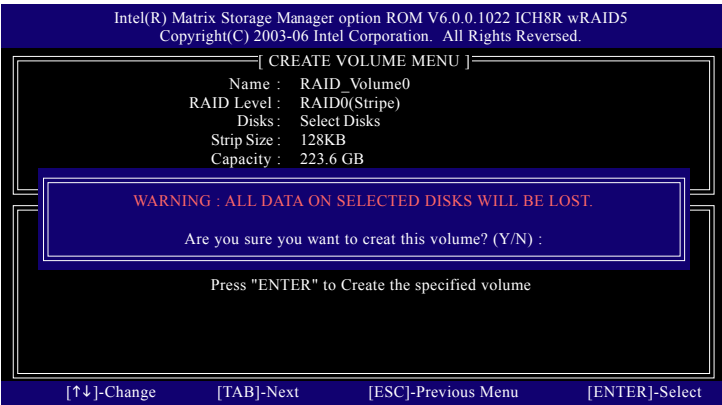
Figure 8

After the creation is completed, you can see detailed information about the RAID Array in the DISK/ VOLUME INFORMATION section, including RAID mode, disk block size, disk name, and disk capacity, etc.
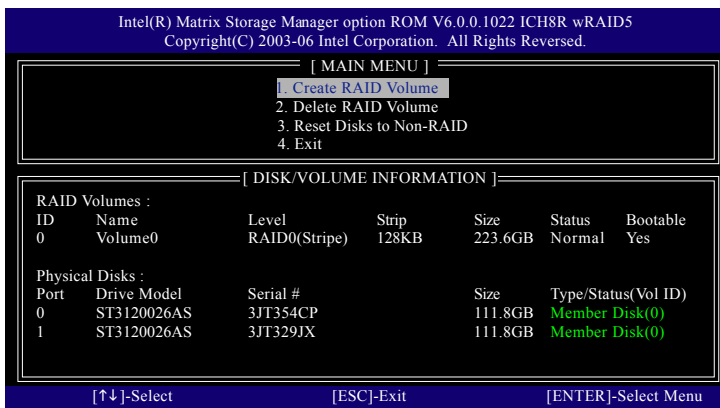

Figure 9

Delete RAID Volume

If you want to delete a RAID volume, select the Delete RAID Volume option in Main Menu. Press ENTER and follow on-screen instructions.
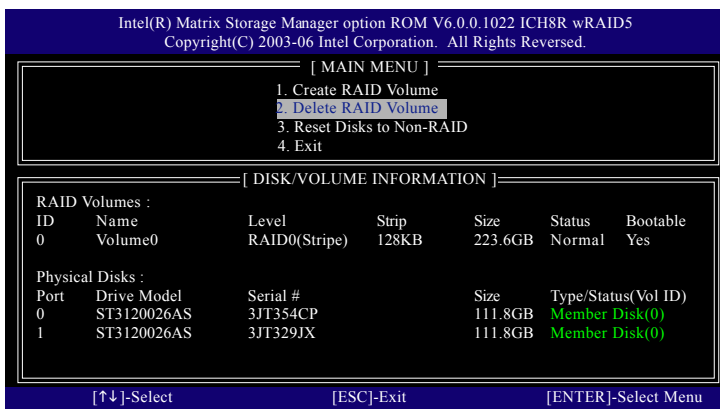

Figure 10

To exit the ICH8R RAID BIOS utility, press ESC in Main Menu.

Now, you can proceed to the installation of the SATA driver and operating system.

GA-965QM-DS2 (rev. 2.0) Motherboard   - 66 -

(4) Making a SATA Driver Disk (Required for AHCI and RAID Mode)

To install operating system onto a serial ATA hard disk successfully, you need to install the SATA controller driver during OS installation. Without the driver, the hard disk may not be recognized during the Windows setup process. First of all, copy the driver for the SATA controller from the motherboard driver CD-ROM to a floppy disk. See the instructions below about how to copy the driver in MS-DOS mode[(Note1)]. Prepare a startup disk that has CD-ROM support and a blank formatted floppy disk.

Step 1: Insert the prepared startup disk and motherboard driver CD-ROM in your system. Boot from the startup disk. Once at the A:\> prompt, change to the CD-ROM drive (example: D:\>). At the D:\> prompt, type the following two commands. Press ENTER after each command (Figure 11):

```
cd bootdrv
menu
```

Step 2: When the controller menu (Figure 12) appears, remove the startup disk and insert the blank formatted disk. Select the controller driver by pressing the corresponding letter from the menu. For example, from the menu in Figure 12, press 7 to select **Intel Matrix Storage Manager 32 bit** for Windows operating system[(Note 2)]. Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.

Figure 11   Figure 12

(Note 1) For users without a startup disk:

Use an alternative system and insert the GIGABYTE motherboard driver CD-ROM. From the CD-ROM drive folder, double click the **MENU.exe** file in the **BootDrv** folder (Figure 13). A command prompt window will open similar to that in Figure 12.

Figure 13

(Note 2) For 64-bit Windows Operating System, please select **Intel Matrix Storage Manager 64 bit.**

(5) Installing SATA controller driver during OS installation
(Required for AHCI and RAID Mode)

Now that you have prepared the SATA driver disk and configured BIOS settings, you are ready to install Windows 2000/XP onto your SATA hard drive with the SATA driver. The following is an example of Windows XP installation.

Step 1: Restart your system to boot from the Windows 2000/XP Setup disk and press F6 as soon as you see the "Press F6 if you need to install a 3rd party SCSI or RAID driver" message (Figure 14). After pressing F6, there will be a few moments of some files being loaded before you see the next screen.

Windows Setup

Press F6 if you need to install a third party SCSI or RAID driver.
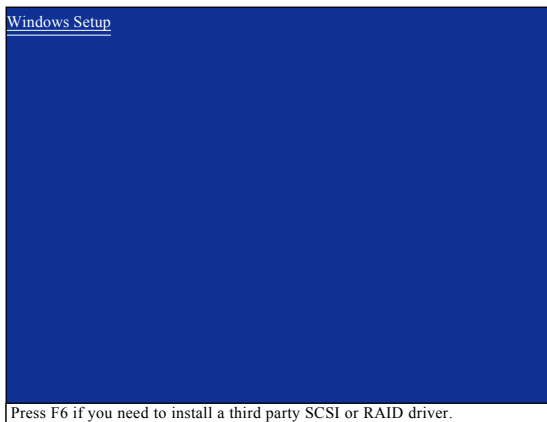
Figure 14

Step 2:
When a screen similar to that below appears, insert the floppy disk containing the SATA driver and press S (Figure 15).

Windows Setup

Setup could not determine the type of one or more mass storage devices installed in your system, or you have chosen to manually specify an adapter. Currently, Setup will load support for the following mass storage devices(s)

   <none>

  * To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.

  * If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.

S=Specify Additional Device   ENTER=Continue   F3=Exit

Figure 15

Step 3:

Use the ARROW keys on your keyboard to select **Intel(R) ICH8R/DO/DH SATA RAID Controller (Desktop ICH8R)** (Note) (Figure 16) and press ENTER. Then the system will load the SATA driver from the floppy disk.

Windows Setup

You have chosen to configure a SCSI Adapter for use with Windows, using a device support disk provided by an adapter manufacturer.

Select the SCSI Adapter you want from the following list, or press ESC to return to the previous screen.

Intel(R) ICH8R/DO/DH SATA RAID Controller (Desktop ICH8R)
Intel(R) ICH8R/DO/DH SATA AHCI Controller (Desktop ICH8R)
Intel(R) 631xESB/632xESB SATA RAID Controller (Server/Workstation ESB2)
Intel(R) 631xESB/632xESB SATA AHCI Controller (Server/Workstation ESB2)

ENTER=Select   F3=Exit

Figure 16

⚠ If a message appears saying one or some file(s) cannot be found, please check the floppy disk or copy the correct SATA driver again from the motherboard driver CD.

Step 4:

When the screen as shown below appears, press ENTER to continue the SATA driver installation from the floppy disk. The driver installation will be finished in about one minute.

Windows Setup

Setup will load support for the following mass storage device(s):

Intel(R) ICH8R/DO/DH SATA RAID Controller (Desktop ICH8R)

  * To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.

  * If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.

S=Specify Additional Device   ENTER=Continue   F3=Exit

Figure 17

(Note)   If you set the **SATA RAID/AHCI Mode** item in BIOS Setup to AHCI mode, please select **Intel(R) ICH8R/DO/DH SATA AHCI Controller (Desktop ICH8R)**.

After the SATA controller driver installation is completed, you should see a screen as below. It indicates that you have installed the SATA controller driver successfully. You can proceed with the Windows 2000/XP installation.

```
WindowsXP Professional Setup

 Welcome to Setup.
 This port of the Setup program prepares Microsoft(R)
 Windows (R) XP  to run on your computer.

      To set up Windows XP now, press ENTER.

      To repair a Windows XP installation using
      Recovery Console, press R.

      To quit Setup without installing Windows XP, press F3.




 Enter= Continue     R=Repair        F3=Exit
```
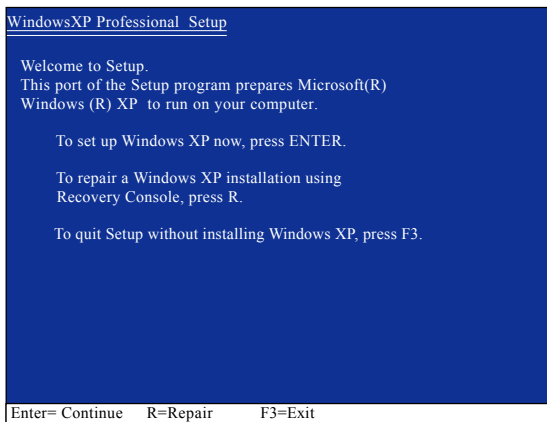
Figure 18

(Note: Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.)

4-1-5 2- / 4- / 6- / 8- Channel Audio Function Introduction

The default speaker settings for the 6 audio jacks are as shown in the picture to the right. The jack retasking capability supported by HD Audio allows users to change the function for each audio jack by the audio software provided. For example, if a rear speaker is plugged into the center/subwoofer speaker out jack, you can change the center/subwoofer speaker out jack to fucntion as a rear speaker out jack via the audio software.Please follow the steps to install the function. (Following pictures are in Windows XP)

Center/Subwoofer Speaker Out

Rear Speaker Out

Side Speaker Out

Line In

Line Out (Front Speaker Out)

Mic In

⚠ **CAUTION** Note that if you wish to connect a microphone, you MUST connect it to the default Mic In jack for the microphone to work correctly.

HD Audio

With multiple built-in high quality digital-to-analog converters (DACs) that support audio output at up to 192 kHz/24-bit quality and multi-streaming applications, HD Audio is able to handle multiple audio streams (in and out) simultaneously. Multi-channel audio experiences have become a reality so you can, for instance, listen to MP3 music, have an Internet chat, make a telephone call over the Internet, and etc. all at the same time.

Stereo Speakers Connection and Settings:

We recommend that you use the speaker with amplifier to acquire the best sound effect if the stereo output is applied.

STEP 1 :

After installation of the audio driver, you should find an Audio Manager 🔊 icon in your system tray (you can also find the icon in Control Panel). Double-click the icon to open the Audio Control Panel.

1:59 PM
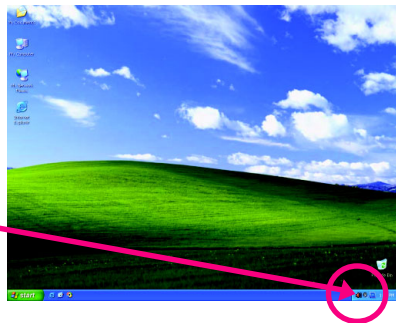
STEP 2:
In the Audio Control Panel, click the **Audio I/O** tab.
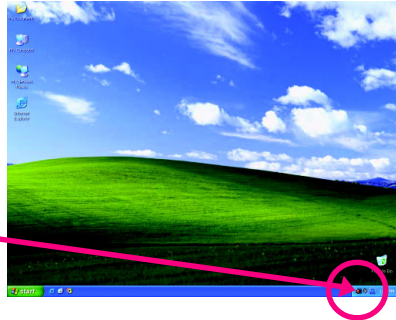In the upper left list, click **2CH Speaker**.
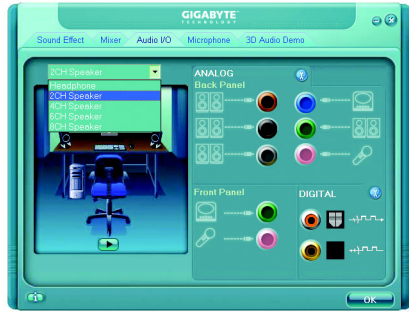
STEP 3:
After a speaker or headphone is plugged into the rear Line Out jack, a small window will pop up and ask you what type of equipment is connected. Choose **Headphone** or **Line Out** depending on the device connected and click **OK**. The 2-channel audio setup is completed.

4 Channel Audio Setup

STEP 1 :
After installation of the audio driver, you should find an Audio Manager 🔊 icon in your system tray (you can also find the icon in Control Panel). Double-click the icon to open the Audio Control Panel.
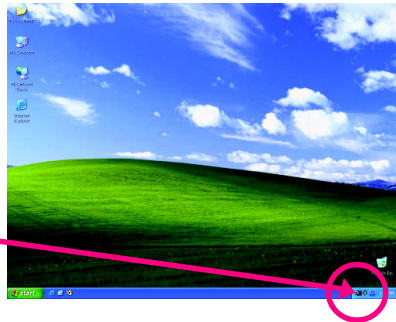
STEP 2:
In the Audio Control Panel, click the **Audio I/O** tab.
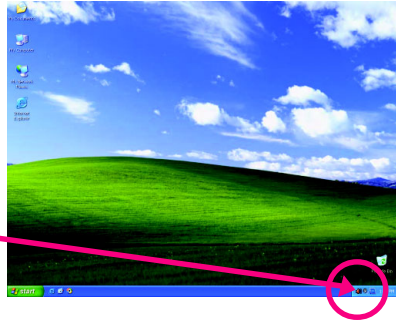In the upper left list, click **4CH Speaker**.
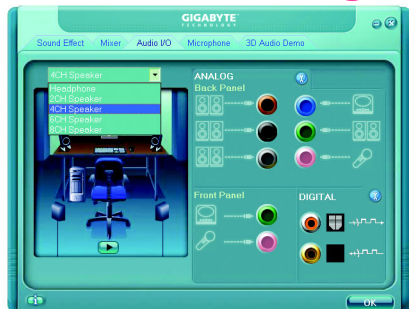
STEP 3:

After plugging in 4-channel speakers to the rear speaker jacks, a small window will pop up and ask you what type of equipment is connected. Choose a device depending on the type of speaker connected (4-channel audio consists of Front Speaker Out (Line Out) and Rear Speaker Out) and then click **OK**. The 4-channel audio setup is completed.
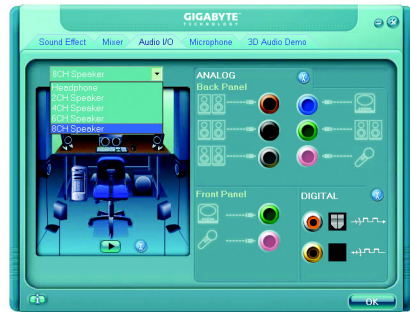

6 Channel Audio Setup

STEP 1 :

After installation of the audio driver, you should find an Audio Manager icon in your system tray (you can also find the icon in Control Panel). Double-click the icon to open the Audio Control Panel.

STEP 2:

In the Audio Control Panel, click the **Audio I/O** tab. In the upper left list, click **6CH Speaker**.

STEP 3:

After plugging in 6-channel speakers to the rear speaker jacks, a small window will pop up and ask you what type of equipment is connected. Choose a device depending on the type of speaker connected (6-channel audio consists of Front Speaker Out (Line Out), Rear Speaker Out, and Center/Subwoofer Speaker Out) then click **OK**. The 6-channel audio setup is completed.

8 Channel Audio Setup

STEP 1 :

After installation of the audio driver, you should find an Audio Manager 🔊 icon in your system tray (you can also find the icon in Control Panel). Double-click the icon to open the Audio Control Panel.

STEP 2:

In the Audio Control Panel, click the **Audio I/O** tab. In the upper left list, click **8CH Speaker**.

STEP 3:

After plugging in 8-channel speakers to the rear speaker jacks, a small window will pop up and ask you what type of equipment is connected. Choose a device depending on the type of speaker connected (8-channel audio consists of Front Speaker Out (Line Out), Rear Speaker Out, Center/Subwoofer Speaker Out, and Side Speaker Out) then click **OK**. The 8-channel audio setup is completed.

Sound Effect Configuration:

At the **Sound Effect** menu, users can adjust sound option settings as desired.

AC'97 Audio Configuration:

To enable the front panel audio connector to support AC97 Audio mode, go to the Audio Control Panel and click the **Audio I/O** tab. In the **ANALOG** area, click the **Tool** icon and then select the **Disable front panel jack detection** check box. This action completes the AC'97 Audio configuration.
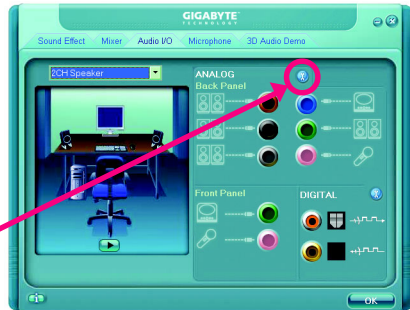
4-2   Troubleshooting

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to GIGABYTE's website.

Question 1: I cannot see some options that were included in previous BIOS after updating BIOS. Why?
Answer: Some advanced options are hidden in new BIOS version. Please press Ctrl and F1 keys after entering BIOS menu and you will be able to see these options.

Questions 2: Why is the light of my keyboard/optical mouse still on after computer shuts down?
Answer: In some boards, a small amount of electricity is kept on standby after computer shuts down and that's why the light is still on.

Question 3: How do I clear CMOS?
Answer: If your board has a Clear CMOS jumper, please refer to the Clear CMOS steps in the manual. If your board doesn't have such jumper, you can take off the on-board battery to leak voltage to clear CMOS. Please refer to the steps below:
   Steps:
   1.   Turn off power.
   2.   Disconnect the power cord from MB.
   3.   Take out the battery gently and put it aside for about 1 minute (Or you can use a metal object to connect the positive and negative pins in the battery holder to makethem short for 5 seconds).
   4.   Re-insert the battery to the battery holder.
   5.   Connect power cord to MB again and turn on power.
   6.   Press Del to enter BIOS and load Fail-Safe Defaults (or load Optimized Defaults).
   7.   Save changes and reboot the system.

Question 4: Why do I still get a weak sound after turning up the speaker to the maximum volume?
Answer: Please make sure the speaker you are using is equipped with an internal amplifier. If not, please change another speaker with power/amplifier and try again later.

Question 5: Sometimes I hear different continuous beeps from computer after system boots up. What do these beeps usually stand for?
Answer: The beep codes below may help you identify the possible computer problems. However, they are only for reference purposes. The situations might differ from case to case.

→   AWARD BIOS Beep Codes
   1 short: System boots successfully
   2 short: CMOS setting error
   1 long 1 short: DRAM or M/B error
   1 long 2 short: Monitor or display card error
   1 long 3 short: Keyboard error
   1 long 9 short: BIOS ROM error
   Continuous long beeps: DRAM error
   Continuous short beeps: Power error

Appendix

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- **GIGABYTE Global Service System**

To submit a technical or non-technical (Sales/
Marketing) question, please link to :
http://ggts.gigabyte.com.tw
Then select your language to enter the system.

关于符合中国《电子信息产品污染控制管理办法》的声明

Management Methods on Control of Pollution from Electronic Information Products

(China RoHS Declaration)

产品中有毒有害物质或元素的名称及含量

Hazardous Substances Table

部件名称(Parts)	有毒有害物质或元素(Hazardous Substances)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB板 PCB	○	○	○	○	○	○
结构件及风扇 Mechanical parts and Fan	×	○	○	○	○	○
芯片及其他主动零件 Chip and other Active components	×	○	○	○	○	○
连接器 Connectors	×	○	○	○	○	○
被动电子元器件 Passive Components	×	○	○	○	○	○
线材 Cables	○	○	○	○	○	○
焊接金属 Soldering metal	○	○	○	○	○	○
助焊剂，散热膏，标签及其他耗材 Flux,Solder Paste,Label and other Consumable Materials	○	○	○	○	○	○

○:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。
Indicates that this hazardous substance contained in all homogenous materials of this part is below the limit requirement SJ/T 11363-2006

×:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。
Indicates that this hazardous substance contained in at least one of the homogenous materials of this part is above the limit requirement in SJ/T 11363-2006

对销售之日的所受售产品，本表显示我公司供应链的电子信息产品可能包含这些物质。注意：在所售产品中可能会也可能不会含有所有所列的部件。
This table shows where these substances may be found in the supply chain of our electronic information products, as of the date of the sale of the enclosed products, Note that some of the component types listed above may or may not be a part of the enclosed product.