GA-965P-DS3/S3

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 / Celeron® D LGA775 Processor Motherboard

User's Manual

Rev. 3301
12ME-I65PDS3-3301R

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-965P-DS3

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 61000-3-2 ☒ EN 61000-3-3	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ EN 55013	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☒ EN 55024	Information Technology equipment-Immunity characteristics-Limits and methods of measurement
☐ EN 55014-1	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☐ EN 50082-1	Generic immunity standard Part 1: Residual, commercial and light industry
		☐ EN 50082-2	Generic immunity standard Part 2 Industrial environment
☐ EN 55015	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☒ EN 55014-2	Immunity requirements for household appliances tools and similar apparatus
☐ EN 55020	Immunity from radio interference of broadcast receivers and associated equipment	☐ EN 50091-2	EMC requirements for uninterruptible power systems (UPS)
☒ 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			(EC conformity marking)

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 60950	Safety for information technology equipment including electrical business equipment
☐ EN 60335	Safety of household and similar electrical appliances	☐ EN 50091-1	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

(Stamp)   Date : Oct. 20, 2006   Signature : *Timmy Huang*

Name : Timmy Huang

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

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-965P-DS3

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: Oct. 20, 2006

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-965P-S3

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 61000-3-2	Disturbances in supply systems caused
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☒ CE marking			(EC conformity marking)

CE

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☐ EN 60335	Safety of household and similar electrical appliances	☐ EN 50091-1	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

Signature: *Timmy Huang*

Name: Timmy Huang

(Stamp)　　　　Date: Jan. 18, 2007

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

FC

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

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(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. 18, 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 quick installation, please refer to the "Hardware Installation Guide" included with the product.

- 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 and FDD Cable x 1

☑   SATA 3Gb/s Cable x 4 (GA-965P-DS3 only)

☑   SATA 3Gb/s Cable x 2 (GA-965P-S3 only)

☑   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 Cable (Part Number: 12CR1-1SPDIN-01R)

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

GA-965P-DS3/S3 Motherboard Layout

Block Diagram

PCIe CLK
(100 MHz)

LGA775
Processor

CPU CLK+/-(333(Note 1)/266/200/133 MHz)

Host
Interface

PCI Express x16

DDRII 800/667/533 MHz DIMM(Note 2)

Intel®
P965

Dual Channel Memory

MCH CLK (266/200/133 MHz)

2 SATA 3Gb/s

LAN

RJ45

ATA 33/66/100/133
IDE Channel

GIGABYTE
SATA2

Marvell
88E8056

PCI Express Bus

x 1

x 1

x 1

x 1

x 1

BIOS

PCIe CLK
(100 MHz)

Intel®
ICH8

4 SATA 3Gb/s

3 PCI Express x1

PCI Bus

10 USB Ports

LPT Port

Floppy

IT8718

COM Port

CODEC

PS/2 KB/Mouse

Center/Subwoofer
Speaker Out
Surround Speaker Out
Side Speaker Out
MIC
Line-Out
Line-In
SPDIF In
SPDIF Out

3 PCI

PCICLK (33 MHz)

(Note 1) Applies only when the GA-965P-DS3/S3 motherboard (rev. 3.3) is installed with a 1333 MHz
FSB processor. The system will automatically adjust BIOS to support 1333 MHz FSB by
overclocking when a 1333 MHz FSB processor is installed. In such a configuration, the actual
operating memory frequency will be 667 MHz or 833 MHz, depending on the memory being
installed.

(Note 2) To use a DDRII 800/667 memory module on the motherboard, you must install a 1333/1066/
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 1333(Note 1)/1066/800/533 MHz FSB
Chipset	◆ Northbridge: Intel® P965 Express Chipset
	◆ Southbridge: Intel® ICH8
LAN	◆ Onboard Marvell 88E8056 phy (10/100/1000 Mbit)
Audio	◆ Onboard Realtek ALC888 chip
	◆ Supports High Definition Audio
	◆ Supports 2 / 4 / 6 / 8 channel audio
	◆ Supports S/PDIF In/Out connection
	◆ Supports CD In connection
Storage	◆ ICH8 Southbrigde
	- 1 FDD connector, allowing connection of 1 FDD device
	- 4 SATA 3Gb/s connectors (SATAII0,1, 2, 3), allowing connection of 4 SATA 3Gb/s devices
	◆ Onboard GIGABYTE SATA2 chip
	- 1 IDE connector (UDMA 33/ATA 66/ATA 100/ATA 133), allowing connection of 2 IDE devices
	- 2 SATA 3Gb/s connectors (GSATAII0,1), allowing connection of 2 SATA 3Gb/s devices
	- Supports RAID 0, RAID 1, and JBOD for Serial ATA
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 2)
	◆ Supports 1.8V DDRII DIMMs
Expanstion Slots	◆ 1 PCI Express x16 slot
	◆ 3 PCI Express x1 slots
	◆ 3 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 power fan connector
	◆ 1 northbridge fan connector
	◆ 1 front panel connector
	◆ 1 front audio connector
	◆ 1 CD In connector

"*"   Only the GA-965P-DS3 adopts All-Solid Capacitor design.

Internal Connectors	◆ 3 USB 2.0/1.1 connectors for additional 6 ports by cables
	◆ 1 S/PDIF In connector
	◆ 1 power LED connector
	◆ 1 Chassis Intrusion connector
Rear Panel I/O	◆ 1 PS/2 keyboard port
	◆ 1 PS/2 mouse port
	◆ 1 S/PDIF Out connection (coaxial+optical)
	◆ 1 parallel port
	◆ 1 serial 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/Power fan speed detection
	◆ CPU warning temperature
	◆ CPU/System/Power fan failure warning
	◆ CPU Smart Fan Control
BIOS	◆ 1 8 Mbit flash ROM
	◆ Use of licensed AWARD BIOS
	◆ PnP 1.0a, DMI 2.0, SM BIOS 2.3, ACPI 1.0b
Additional Features	◆ Supports @BIOS
	◆ Supports Download Center
	◆ Supports Q-Flash
	◆ Supports EasyTune (Note 3)
	◆ Supports Xpress Install
	◆ Supports Xpress Recovery2
	◆ Supports Xpress BIOS Rescue
Bundle Software	◆ Norton Internet Security (OEM revision)
Form Factor	◆ ATX form factor; 30.5cm x 21.0cm

(Note 1) Applies only when the GA-965P-DS3/S3 motherboard (rev. 3.3) is installed with a 1333 MHz FSB processor. The system will automatically adjust BIOS to support 1333 MHz FSB by overclocking when a 1333 MHz FSB processor is installed. In such a configuration, the actual operating memory frequency will be 667 MHz or 833 MHz, depending on the memory being installed.

(Note 2) To use a DDRII 800/667 memory module on the motherboard, you must install a 1333/1066/800 MHz FSB processor.

(Note 3) EasyTune functions may vary depending on different motherboards.

1-3 Installation of the CPU and CPU Cooler

CAUTION

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 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 CPU 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.

NOTE

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 CPU 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
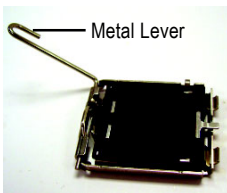
Metal Lever

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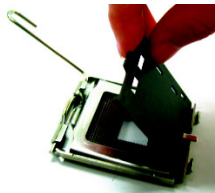
Fig. 2
Remove the plastic covering on the CPU socket.
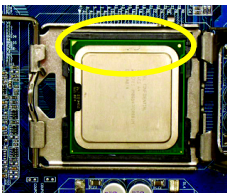
Fig. 3
Notice the small gold colored triangle located on the edge of the CPU socket. Align the indented corner of the

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 heat paste on the surface of the installed CPU.

Male Push Pin

The top of Female Push Pin
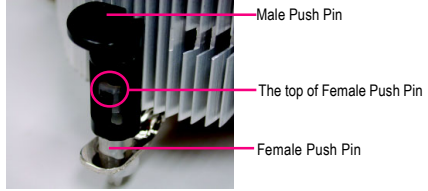
Female Push Pin

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)
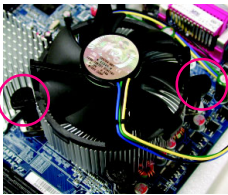
Fig. 3
Place the CPU cooler atop the CPU and make sure the push pins aim to the pin hole on the motherboard.Pressing down the push pins diagonally.
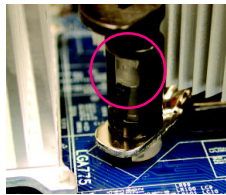
Fig. 4
Please make sure the Male and Female push pin are joined closely. (for detailed installation instructions, please refer to the CPU cooler instal-lation section of the user manual)
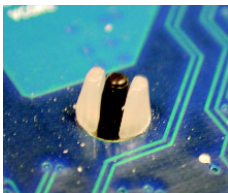
Fig. 5
Please check the back of motherboard after installing. If the push pin is inserted as the picture, the installation is complete.
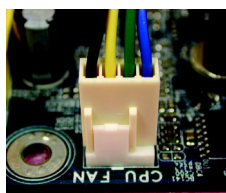
Fig. 6
Finally, please attach the power connector of the CPU cooler to the CPU fan header located on the motherboard.

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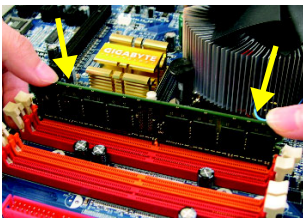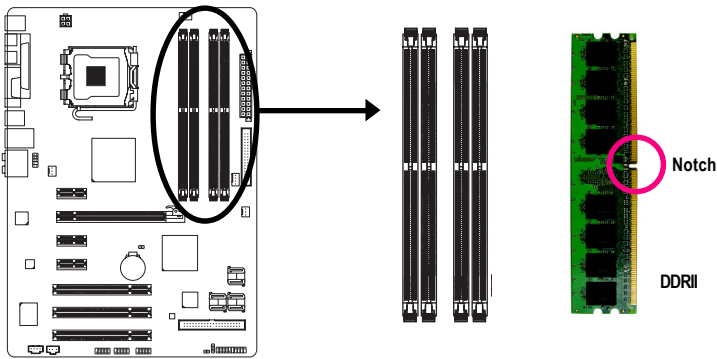
Fig.1
The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.
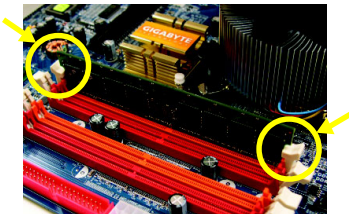
Fig.2
Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
Reverse the installation steps when you wish to remove the DIMM module.

Dual Channel Memory Configuration

The GA-965P-DS3/S3 supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of memory bus will double. The GA-965P-DS3/S3 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, X:Empty)

	DDR II 1	DDR II 2	DDR II 3	DDR II 4
2 memory modules	DS/SS	X	DS/SS	X
	X	DS/SS	X	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.

1-5   Installation of Expansion Cards

You can install your expansion card by following the steps outlined below:
1.   Read the related expansion card's instruction document before install the expansion card into the computer.
2.   Remove your computer's chassis cover, screws and slot bracket from the computer.
3.   Press the expansion card firmly into expansion slot in motherboard.
4.   Be sure the metal contacts on the card are indeed 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, setup BIOS utility of expansion card from BIOS.
8.   Install related driver from the operating system.

Installing a PCI Express x16 expansion card:

CAUTION
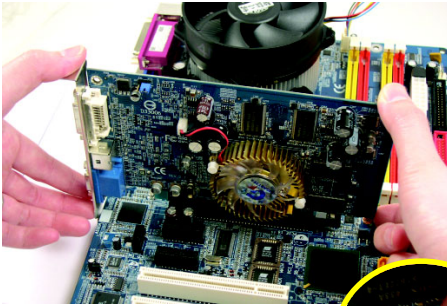
Please align the VGA card to the onboard PCI Express x16 slot and press firmly down on the slot. Make sure your VGA card is locked by the latch at the end of the PCI Express x16 slot. When you try uninstall the VGA card, please gently press the latch as the picture to the left shows to release the card.

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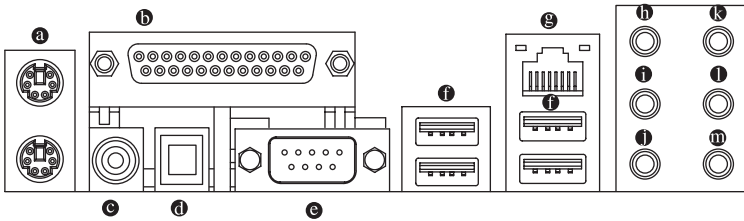
ⓐ PS/2 Keyboard and PS/2 Mouse Connector

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).

ⓑ LPT (Parallel Port)

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

ⓒ COAXIAL (S/PDIF Out)

The SPDIF coaxial output port is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder via a coaxial cable.

ⓓ OPTICAL (S/PDIF Out)

The SPDIF optical output port is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder via an optical cable.

ⓔ Serial Port

Connects to serial-based mouse or data processing devices.

ⓕ 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 10/100/1000Mbps.

ⓗ 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.

➊ 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.

➓ MIC In

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

> **NOTE** In addition to the default speakers settings, the ➊ ~ ➓ 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 (➓) . Please refer to the 2-/4-/6-/8- channel audio setup steps for detailed software configuration information.

1-7 Connectors Introduction
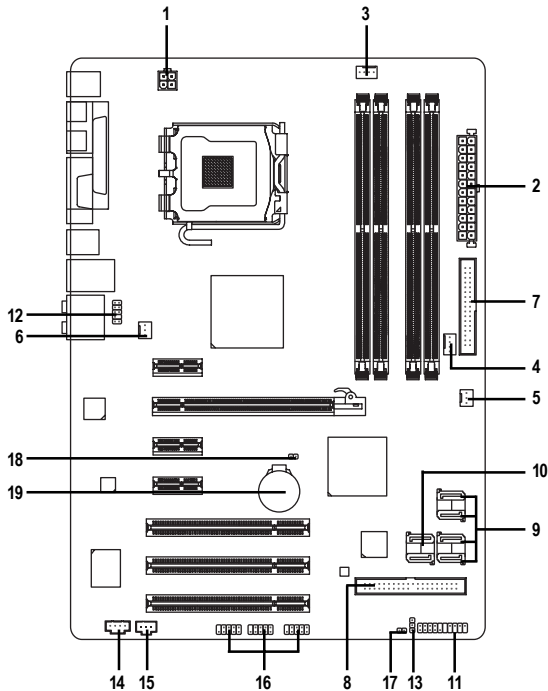
1)	**ATX_12V**	**11)**	**F_PANEL**
2)	**ATX (Power Connector)**	**12)**	**F_AUDIO**
3)	**CPU_FAN**	**13)**	**PWR_LED**
4)	**SYS_FAN**	**14)**	**CD_IN**
5)	**PWR_FAN**	**15)**	**SPDIF_I**
6)	**NB_FAN**	**16)**	**F_USB1/F_USB2/F_USB3**
7)	**FDD**	**17)**	**CI**
8)	**IDE1**	**18)**	**CLR_CMOS**
9)	**SATAII0/1/2/3**	**19)**	**BATTERY**
10)	**GSATAII0/1**		

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 24-pin ATX power supply, please remove the small cover on the power connector on the motherboard before plugging in the power cord ; Otherwise, please do not remove it.
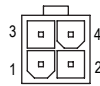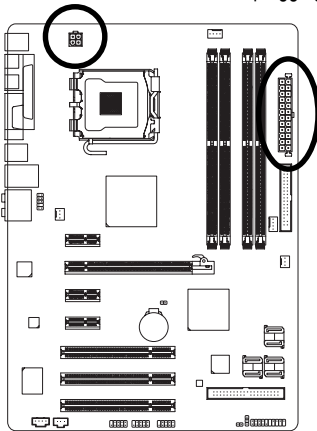
Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V
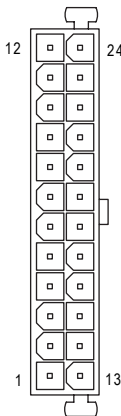
Pin No.	Definition	Pin No.	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON(soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	-5V
9	5V SB(stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V(Only for 24-pin ATX)	23	+5V (Only for 24-pin ATX)
12	3.3V(Only for 24-pin ATX)	24	GND(Only for 24-pin ATX)

3/4/5) CPU_FAN / SYS_FAN / PWR_FAN (Cooler Fan Power Connector)

The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin (only for CPU_FAN/SYS_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).

Please remember to connect the CPU/system fan cable to the CPU_FAN/SYS_FAN connector to prevent the CPU/system from overheating and failure.
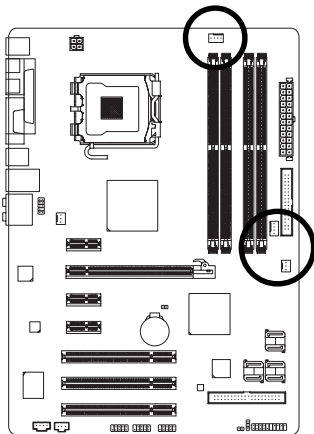
CPU_FAN

SYS_FAN

PWR_FAN

CPU_FAN/SYS_FAN:

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

PWR_FAN:

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

6) NB_FAN (Chip Fan Power Connector)

The chip fan will not work if you install it in the wrong direction and sometimes the chip fan will be damaged.
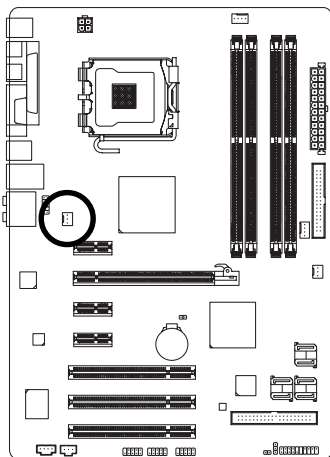
Pin No.	Definition
1	GND
2	+12V
3	NC

7) 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.
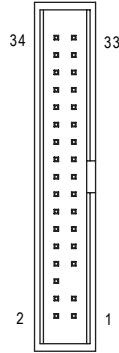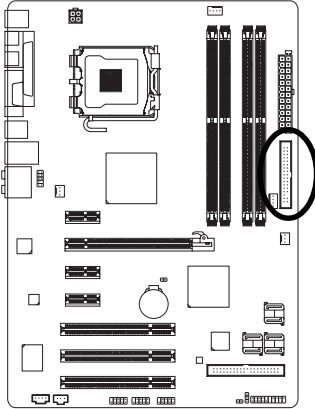
8) IDE1 (IDE Connector)

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.
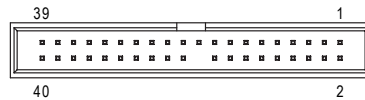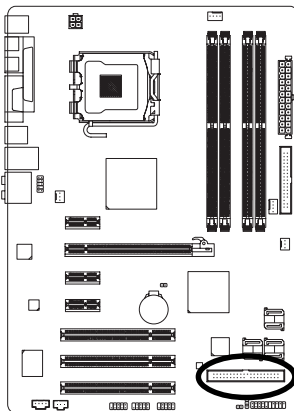
9) SATAII0/1/2/3 (SATA 3Gb/s Connector, Controlled by Intel ICH8)

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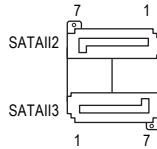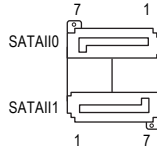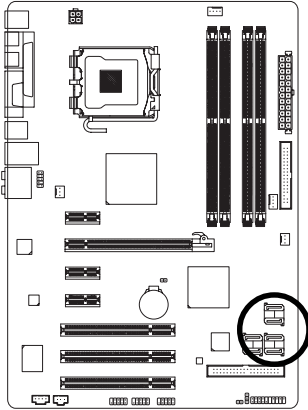
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

10) GSATAII0/1 (SATA 3Gb/s Connector, Controlled by GIGABYTE SATA2)

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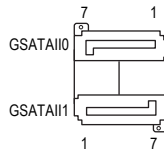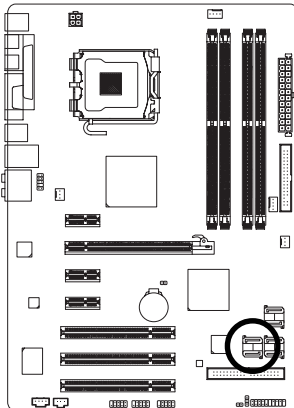
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

11) 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.
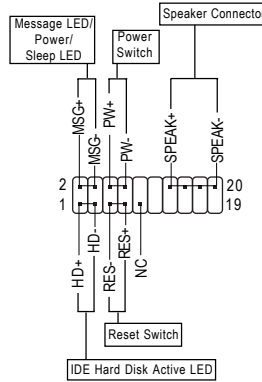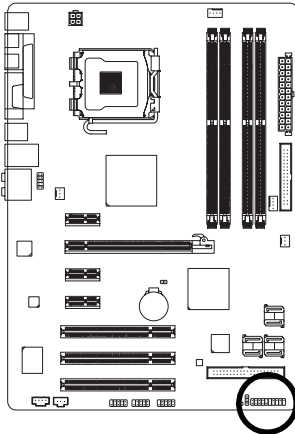
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
(Blue)	Pin 2: LED cathode(-)
SPEAK (Speaker Connector)	Pin 1: Power
(Amber)	Pin 2- Pin 3: NC
	Pin 4: Data(-)
RES (Reset Switch)	Open: Normal
(Green)	Close: Reset Hardware System
PW (Power Switch)	Open: Normal
(Red)	Close: Power On/Off
MSG (Message LED/Power/Sleep LED)	Pin 1: LED anode(+)
(Yellow)	Pin 2: LED cathode(-)
NC (Purple)	NC

12) 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.
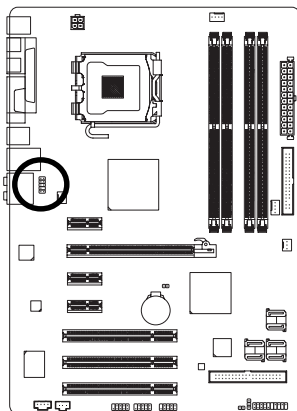
HD Audio:

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

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 81 about the software settings.

13) 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).
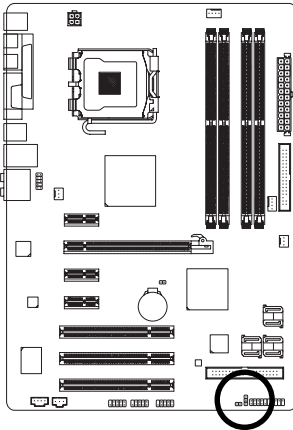
Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

14) CD_IN (CD IN)

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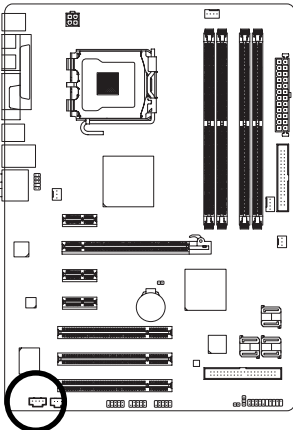
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

15) SPDIF_I (S/PDIF In Connector)

Use S/PDIF IN feature only when your device has digital output function. Be careful with the polarity of the SPDIF_I 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.
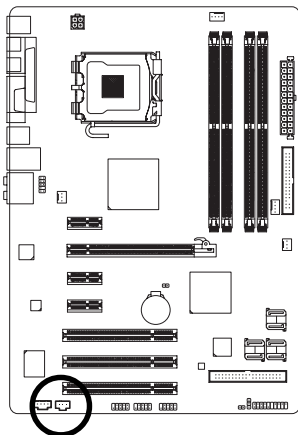
Pin No.	Definition
1	Power
2	SPDIFI
3	GND

16) 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.
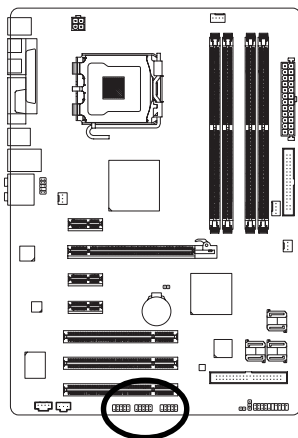
Pin No.	Definition
1	Power(5V)
2	Power(5V)
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

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 ⊡⊡
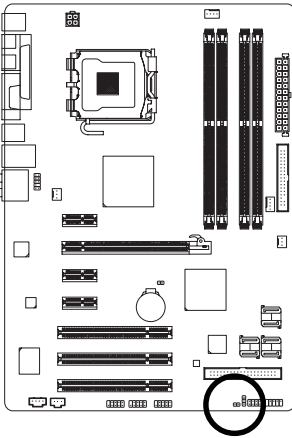
Pin No.	Definition
1	Signal
2	GND

18) 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.
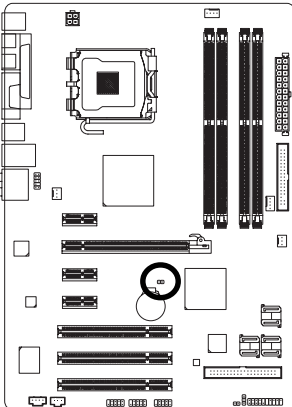
⊡⊡ Open: Normal

▣▣ Short: Clear CMOS

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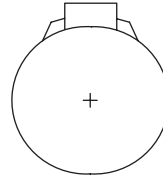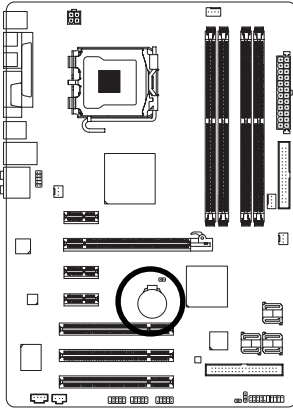
❖ Danger of explosion if battery is incorrectly replaced.

❖ 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 makethem short for five seconds.)

3. Re-install the battery.

4. Plug the power cord in and turn on the computer.

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, pushing 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.

Startup Screen:

<TAB>: POST Screen <DEL>: BIOS Setup/Q-Flash <F9>: XpressRecovery2 <F12>: Boot Menu
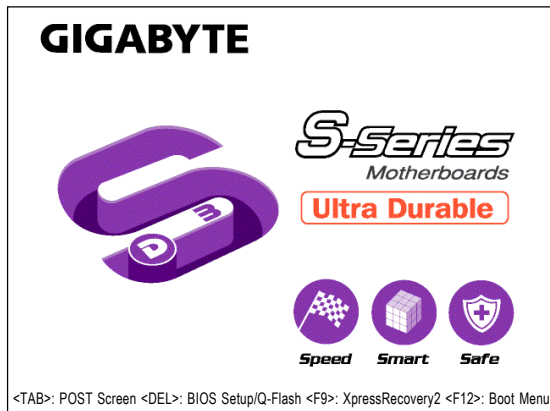
<TAB> : POST Screen

Press the **TAB** key to see BIOS POST screen.

(To show the BIOS POST screen at system startup, refer to the instructions on the Full Screen LOGO Show item on page 37.)

<DEL> : BIOS Setup/Q-Flash

Press the **DELETE** key to enter BIOS Setup program.

<F9> : Xpress Recovery2

Press the **F9** key to enter the Xpress Recovery2 screen.

<F12> : Boot Menu

Press the **F12** key to enter Boot Menu to select the first boot device.

The Main Menu (Example BIOS Ver.: GA-965P-DS3, F10a)

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	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management Setup	Set User Password
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
▶ MB Intelligent Tweaker(M.I.T.)	
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.

GA-965P-DS3/S3 Motherboard　　　　- 32 -

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 Configurations**

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.

■ **MB Intelligent Tweaker(M.I.T.)**

This setup page is control CPU clock and frequency ratio.

■ **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)                      Fri, Mar 18 2007      │ Item Help       │
 │  Time (hh:mm:ss)                      18:25:04             │ Menu Level▶      │
 │                                                            │                 │
 │ ▶ IDE Channel 0 Master                [None]              │                 │
 │ ▶ IDE Channel 1 Master                [None]              │                 │
 │ ▶ IDE Channel 2 Master                [None]              │                 │
 │ ▶ IDE Channel 3 Master                [None]              │                 │
 │ ▶ IDE Channel 4 Master                [None]              │                 │
 │ ▶ IDE Channel 4 Slave                 [None]              │                 │
 │ ▶ IDE Channel 5 Master                [None]              │                 │
 │ ▶ IDE Channel 5 Slave                 [None]              │                 │
 │                                                            │                 │
 │  Drive A                              [1.44M, 3.5"]       │                 │
 │  Floppy 3 Mode Support                [Disabled]          │                 │
 │                                                            │                 │
 │  Halt On                              [All, But Keyboard] │                 │
 │                                                            │                 │
 │  Base Memory                          640K               │                 │
 │  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 2099

☞ **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 13:0:0.

☞ **IDE Channel 0/1 Master**

▶ IDE HDD Auto-Detection

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

- ▶ IDE Channel 0/1 Master   IDE/SATA 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 4/5 Master/Slave**

▶ IDE Auto-Detection

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

- ▶ Extended IDE Drive. You can use one of the 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 disk.	
⯈ 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; 360K byte capacity.
- ⯈ 1.2M, 5.25" — 5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
- ⯈ 720K, 3.5" — 3.5 inch double-sided drive; 720K byte capacity
- ⯈ 1.44M, 3.5" — 3.5 inch double-sided drive; 1.44M byte capacity.
- ⯈ 2.88M, 3.5" — 3.5 inch double-sided drive; 2.88M byte 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 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K 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]                Select Hard Disk Boot
     Password Check                          [Setup]                Device Priority
     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]
     Full Screen LOGO Show                   [Enabled]
     Init Display First                      [PCI]



  ↑↓→←: 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.

If you want to cancel the setting of password, please just press ENTER to make [SETUP] empty.

(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 EIST function.

☞ **Virtualization Technology** (Note)

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

☞ **Full Screen LOGO Show**

▸ Enabled   Show full screen logo at system startup. (Default value)
▸ Disabled   Disable this function. If you wish to see BIOS POST screen, set this item to "Disabled".

☞ **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.

▸ PEG   Set Init display first to PCI Express VGA card.
▸ PCI   Set Init display first to PCI. (Default value)

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

2-3 Integrated Peripherals

```
              CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                              Integrated Peripherals
    SATA 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 H/W LAN                   [Enabled]
  ▶ SMART LAN                         [Press Enter]
    Onboard LAN Boot ROM              [Disabled]
    Onboard SATA/IDE Device           [Enabled]
    Onboard SATA/IDE Ctrl Mode        [IDE]
    Onboard Serial Port 1             [3F8/IRQ4]
    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 AHCI Mode**
  ‣ Disabled   Set the SATA ports (controlled by ICH8) to IDE mode. (Default value)
  ‣ AHCI   Set the SATA ports (controlled by ICH8) to AHCI mode.

○ **SATA Port0-3 Native Mode**
  ‣ Disabled   Set SATA Port0~3 to operate at Legacy IDE mode. (Default value)
  ‣ Enabled   Set SATA Port0~3 to operate at Native IDE mode.

○ **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**
  ‣ Disabled   Disable USB Keyboard Support. (Default value)
  ‣ Enabled   Enable USB Keyboard Support.

○ **USB Mouse Support**
  ‣ Disabled   Disable USB Mouse Support. (Default value)
  ‣ Enabled   Enable USB Mouse Support.

○ **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.

GA-965P-DS3/S3 Motherboard   - 38 -

Onboard H/W LAN
  - Enabled   Enable Onboard H/W LAN function. (Default value)
  - Disabled   Disable this function.

SMART LAN (LAN Cable Diagnostic Function)

```
              CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                                    SMART LAN
    Start detecting at Port.....                                    Item Help
    Pair1-2 Status =   Normal    / Length   =     N/A              Menu Level▶
    Pair3-6 Status =   Normal    / Length   =     N/A
    Pair4-5 Status =   Normal    / Length   =     N/A
    Pair7-8 Status =   Normal    / Length   =     N/A




    ↑↓→←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
        F5: Previous Values        F6: Fail-Safe Defaults        F7: Optimized Defaults
```
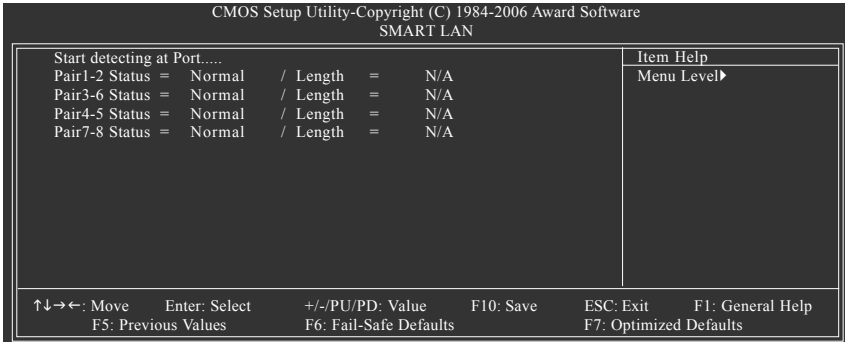
This motherboard incorporates cable diagnostic feature designed to detect the status of the attached LAN cable. This feature will detect cabling issue and report the approximate distance to the fault or short. Refer to the following information for diagnosing your LAN cable:

When LAN Cable Is Functioning Normally...
  1. If no cable problem is detected on the LAN cable connected to a Gigabit hub, the **Status** fields of Pair 1-2, Pair 3-6, Pair 4-5, and Pair 7-8 will show **Normal** and the **Length** fields will show **N/A**, as shown in the figure above.
  2. If no cable problem is detected on the LAN cable connected to a 10/100 Mbps hub, the **Status** fields of Pair 1-2 and Pair 3-6 will show **Normal** and the **Length** fields will show **N/A**. However, because Pair 4-5 and Pair 7-8 are not used in a 10/100 Mbps environment, their **Status** fields will show **Short** or **Open**, and the length shown is the approximate length of the attached LAN cable.

When a Cable Problem Occurs...
If a cable problem occurs on a specified pair of wires, the **Status** field will show **Short** or **Open** and the length shown will be the approximate distance to the fault or short.
For example, if it shows Pair1-2 Status = Short / Length = 1.6m, it means that a fault or short might occur at about 1.6m on Pair 1-2.

When No LAN Cable Is Attached...
If no LAN cable is attached to the motherboard, the **Status** fields of all four pairs of wires will show **Open** and the **Length** fields show **0.0m**.

○ **Onboard LAN Boot ROM**

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

▸ Disabled   Disable this function. (Default value)

▸ Enabled   Enable this function.

○ **Onboard SATA/IDE Device**

This function allows users to enable or disable the SATA/IDE ports controlled by the GIGABYTE SATA2 controller.

▸ Enabled   Enable this function. (Default value)

▸ Disabled   Disable this function.

○ **Onboard SATA/IDE Ctrl Mode**

This function allows users to decide the operating mode of the SATA ports controlled by the GIGABYTE SATA2 controller.

▸ IDE   Set the SATA channel to IDE mode.(Default value)

▸ AHCI   Set the SATA channel 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.

▸ RAID/IDE   Set the SATA channel to RAID mode and IDE channel to IDE mode.

○ **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.

○ **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 sec. to Power off. Enter suspend if button is pressed less than 4 sec.

☞ **PME Event Wake Up**
  This feature requires an ATX power supply that provides at least 1A on the 5VSB lead.
  - ▶ 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 the left button on the PS/2 mouse to power on the system.

☞ **Power On By Keyboard**
  ▶▶ Disabled   Disable this function. (Default value)
  ▶▶ Password   Enter from 1 to 5 characters to set the Keyboard Power On Password.
  ▶▶ 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
   PCI1 IRQ Assignment                        [Auto]                         Item Help
   PCI2 IRQ Assignment                        [Auto]                    Menu Level▶
   PCI3 IRQ Assignment                        [Auto]




   ↑↓→←: Move     Enter: Select     +/-/PU/PD: Value     F10: Save     ESC: Exit    F1: General Help
        F5: Previous Values          F6: Fail-Safe Defaults              F7: Optimized Defaults
```
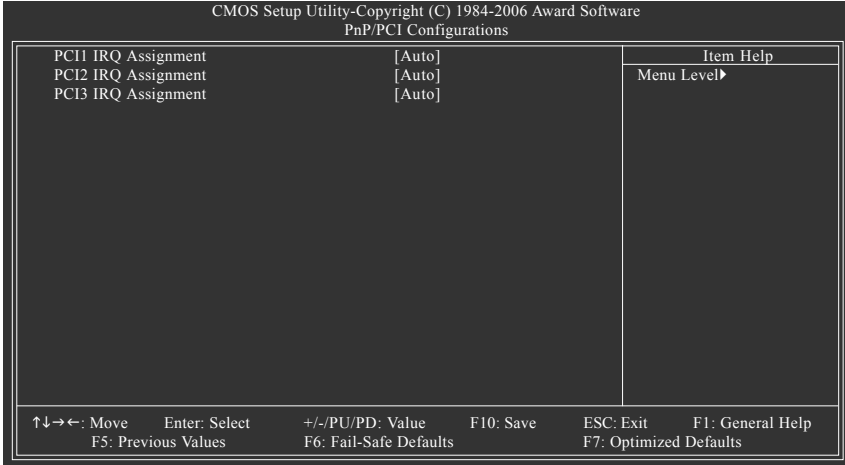
  PCI1 IRQ Assignment
    ▶ Auto   Auto assign IRQ to PCI 1. (Default value)
    ▶ 3,4,5,7,9,10,11,12,14,15   Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

  PCI2 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.

  PCI3 IRQ Assignment
    ▶ Auto   Auto assign IRQ to PCI 3. (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 3.

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           40ºC
 Current CPU Temperature              47ºC
 Current CPU FAN Speed                3375 RPM
 Current SYSTEM FAN Speed             0    RPM
 Current POWER FAN Speed              0    RPM
 CPU Warning Temperature              [Disabled]
 CPU FAN Fail Warning                 [Disabled]
 SYSTEM FAN Fail Warning              [Disabled]
 POWER FAN Fail Warning               [Disabled]
 Smart FAN Control Method             [Auto]
 Smart FAN 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 have been opened, "Case Opened" will show "Yes".
   If you want to reset "Case Opened" value, set "Reset Case Open Status" to "Enabled" and save
   CMOS, your computer will restart.

☞ **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/POWER FAN Speed (RPM)**
   ▸ Detect CPU/system/power fan speed 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/POWER FAN Fail Warning**
   ▸ Disabled   Disable the fan fail warning function. (Default value)
   ▸ Enabled   Enable the fan fail warning function.

☞ **Smart FAN Control Method** [(Note)]
  - ▶ Auto BIOS sets the optimal CPU 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 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 MB Intelligent Tweaker(M.I.T.)

```
                    CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
                                MB Intelligent Tweaker(M.I.T.)
    Robust Graphics Booster              [Auto]                       Item Help
    CPU Clock Ratio (Note 1)             [16X]                     Menu Level▶
    CPU Host Clock Control               [Disabled]
 x  CPU Host Frequency (Mhz)             200
    PCI Express Frequency (Mhz)          Auto
    C.I.A. 2                             [Disabled]
    System Memory Multiplier (SPD)       [Auto]
    Memory Frequency (Mhz) 533           533
    High Speed DRAM DLL Settings         [Option 1]
 ********   System Voltage Optimized   ********
    System Voltage Control               [Manual]
    DDR2 OverVoltage Control             [Normal]
    PCI-E OverVoltage Control            [Normal]
    FSB OverVoltage Control              [Normal]
    (G)MCH OverVoltage Control           [Normal]
    CPU Voltage Control                  [Normal]
    Normal CPU Vcore                     1.3875V


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

<table>
<tr><td>⚠
CAUTION</td><td>1. 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 M.I.T. menu items are for power users only.</td></tr>
</table>

2. When the "System Voltage Optimized" item blinks in red, it is recommended that you set the "System Voltage Control" item to "Auto" to optimize the system voltage settings.

⌕ **Robust Graphics Booster**

Select the options can enhance the VGA graphics card bandwidth to get higher performance.

- ▶ Auto   Set Robust Graphics Booster to Auto. (Default value)
- ▶ Fast   Set Robust Graphics Booster to Fast.
- ▶ Turbo   Set Robust Graphics Booster to Turbo.

⌕ **CPU Clock Ratio (Note 1)**

This setup option will automatically assign by CPU detection.

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

⌕ **CPU Host Clock Control**

Please note that if your system is overclocked and cannot restart, please wait 20 secs.

for automatic system restart or clear the CMOS setup data and perform a safe restart. When this item is set to "Enabled", set "System Voltage Control" to "Auto" to optimize the system voltage settings.

- ▶ Disabled   Disable CPU Host Clock Control. (Default value)
- ▶ Enabled   Enable CPU Host Clock Control.

(Note 1) This item will show up when you install a processor which supports this function.

 CPU Host Frequency (Mhz)

‣ 100 MHz ~ 700 MHz   Set CPU Host Frequency from 100 MHz to 700 MHz.

If you use a 533 MHz FSB processor, set "CPU Host Frequency" to 133 MHz.

If you use an 800 MHz FSB processor, set "CPU Host Frequency" to 200 MHz.

If you use a 1066 MHz FSB processor, set "CPU Host Frequency" to 266 MHz.

If you use a 1333 MHz FSB processor, set "CPU Host Frequency" to 333 MHz. (Note 2)

Incorrect using it may cause your system broken. For power End-User use only!

 PCI Express Frequency (Mhz)

‣ Auto   Set PCI Express frequency automatically. (Default value)

‣ 90~150   Set PCI Express frequency from 90 MHz to 150 MHz.

 C.I.A.2

C.I.A.2 (CPU Intelligent Acelerator 2) is designed to detect CPU loading during software program executing, and automatically adjust CPU computing power to maximize system performance.

If you wish to adjust the item manually, set "System Voltage Control" to "Auto" to optimize the system voltage settings.

‣ Disabled   Disable this function. (Default value)

‣ Cruise   Set C.I.A.2 to Cruise. (Automatically increase CPU frequency(5%,7%) by CPU loading.

‣ Sports   Set C.I.A.2 to Sports. (Automatically increase CPU frequency(7%,9%) by CPU loading.

‣ Racing   Set C.I.A.2 to Racing. (Automatically increase CPU frequency(9%,11%) by CPU loading.

‣ Turbo   Set C.I.A.2 to Turbo. (Automatically increase CPU frequency(15%,17%) by CPU loading.

‣ Full Thrust   Set C.I.A.2 to Full Thrust. (Automatically increase CPU frequency(17%, 19%) by CPU loading.

Warning: Stability is highly dependent on system components.

 System Memory Multiplier (SPD)

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 first memory frequency value is the normal frequency of the memory being used; the second is the memory frequency automatically adjusted according to the **CPU Host Frequency (Mhz)** and **System Memory Multiplier** settings.

 High Speed DRAM DLL Settings

Provides two different DRAM Timing configurations. If your system becomes unstable after you overclock the DDR2 memory, select Option 1 or Option 2 to help make your system more stable.

‣ Option 1   DRAM Timing Configuration 1. (Default value)

‣ Option 2   DRAM Timing Configuration 2.

(Note 2) Applies only when the GA-965P-DS3/S3 motherboard (rev. 3.3) is installed with a 1333 MHz FSB processor. The system will automatically adjust BIOS to support 1333 MHz FSB by overclocking when a 1333 MHz FSB processor is installed. In such a configuration, the actual operating memory frequency will be 667 MHz or 833 MHz, depending on the memory being installed.

☞ **System Voltage Control**

This item allows the users to decide whether to configure system voltage settings by their requirements.

▸ Auto   Lets the BIOS configure all system voltage settings.

▸ Manual   Manually configure the system voltage settings. (Default value)

☞ **DDR2 OverVoltage Control**

Please note that by overclocking your system through the increase of the DIMM voltage, damage to the memory may occur.

▸ Normal   Supply DIMM voltage as DIMM required. (Default value)

▸ +0.1V ~ +0.7V   Increase DIMM voltage by 0.1V ~0.7V.

☞ **PCI-E OverVoltage Control**

▸ Normal   Supply PCIe voltage as PCIe required. (Default value)

▸ +0.1V ~ +0.3V   Increase PCIe voltage by 0.1V ~0.3V.

☞ **FSB OverVoltage Control**

▸ Normal   Supply FSB voltage as FSB required. (Default value)

▸ +0.1V ~ +0.3V   Increase FSB voltage by 0.1V ~0.3V.

☞ **(G) MCH OverVoltage Control**

▸ Normal   Supply (G)MCH voltage as (G)MCH required. (Default value)

▸ +0.1V ~ +0.3V   Increase (G)MCH voltage by 0.1V ~0.3V.

Incorrect using it may cause your system broken. For power End-User use only!

☞ **CPU Voltage Control**

▸ Supports adjustable CPU Vcore. The adjustable range is dependent on CPUs. (Default value: Normal)

Please note that by overclocking your system through the increase of the CPU voltage, damage to the CPU or decrease in the CPU life expectancy may occur.

☞ **Normal CPU Vcore**

Display your CPU vcore voltage.

2-8   Load Fail-Safe Defaults

```
                        CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
    ┌──────────────────────────────────────────────────────────────────────────────────┐
    │  ▶  Standard CMOS Features                     Load Fail-Safe Defaults             │
    │  ▶  Advanced BIOS Features                     Load Optimized Defaults             │
    │  ▶  Integrated Peripherals                     Set Supervisor Password             │
    │  ▶  Power Ma─────────────────────────────────────────────────────────────────     │
    │  ▶  PnP/PCI C            Load Fail-Safe Defaults (Y/N)? N                          │
    │  ▶  PC Health Status                           Exit Without Saving                │
    │  ▶  MB Intelligent Tweaker(M.I.T.)                                                 │
    │                                                                                    │
    │  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.

2-9   Load Optimized Defaults

```
                        CMOS Setup Utility-Copyright (C) 1984-2006 Award Software
    ┌──────────────────────────────────────────────────────────────────────────────────┐
    │  ▶  Standard CMOS Features                     Load Fail-Safe Defaults             │
    │  ▶  Advanced BIOS Features                     Load Optimized Defaults             │
    │  ▶  Integrated Peripherals                     Set Supervisor Password             │
    │  ▶  Power Ma─────────────────────────────────────────────────────────────────     │
    │  ▶  PnP/PCI C            Load Optimized Defaults (Y/N)? N                          │
    │  ▶  PC Health Status                           Exit Without Saving                │
    │  ▶  MB Intelligent Tweaker(M.I.T.)                                                 │
    │                                                                                    │
    │  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.

2-10 Set Supervisor/User Password

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software	
▶ Standard CMOS Features	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management Setup	Set User Password
▶ PnP/PCI C	Enter Password:	
▶ PC Health Status	Exit Without Saving
▶ MB Intelligent Tweaker(M.I.T.)	
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.

2-11 Save & Exit Setup

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software	
▶ Standard CMOS Features	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrate	
▶ Power M	Save to CMOS and EXIT (Y/N)? Y
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
▶ MB Intelligent Tweaker(M.I.T.)	
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.

2-12 Exit Without Saving

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software	
▶ Standard CMOS Features	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrated Peripherals	
▶ Power Man	Quit Without Saving (Y/N)? N
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
▶ MB Intelligent Tweaker(M.I.T.)	
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.

English

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Chapter 3 Install Drivers

NOTE

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.

NOTE
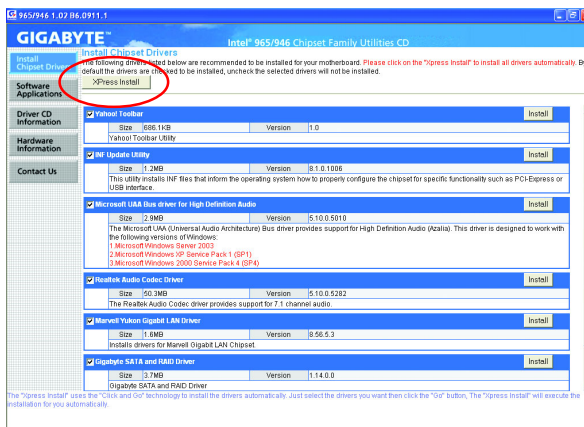
Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.
System will reboot automatically after install the drivers, afterward you can install others application.

CAUTION

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.
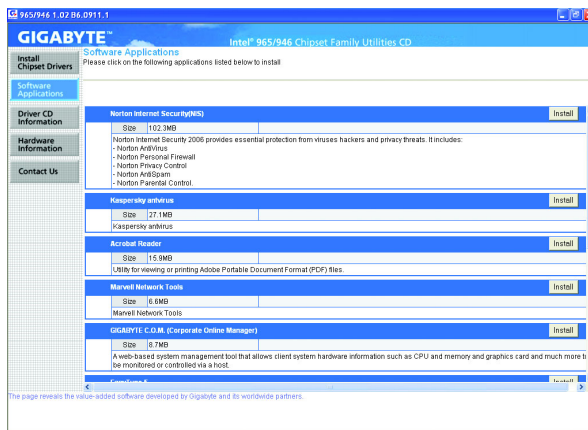
3-3   Driver CD Information

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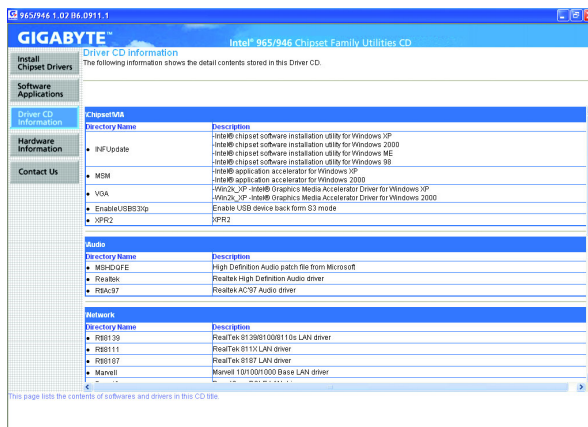
3-4　Hardware Information

This page lists all device you have for this motherboard.

3-5　Contact Us

Please see the last page for details.

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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./C.I.A.2 and M.I.B./M.I.B.2	Enters the C.I.A./2 and M.I.B./2 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 64M bytes 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:                                           Boot from CD/DVD:
Press any key to startup XpressRecovery2.....
```

```
   Award Modular BIOS v6.00PG, An Energy Star Ally
   Copyright (C) 1984-2006, Award Software, Inc.
Intel P965 BIOS for 965P-DS3 F10a
.
.
.
.
<DEL>:BIOS Setup/Q-Flash  <F9>: Xpress Recovery2  <F12>: Boot Menu  <End>: Qflash      <F9> : Xpress Recovery2
01/12/2007-P965-ICH8-6A79LG0DC-00
```
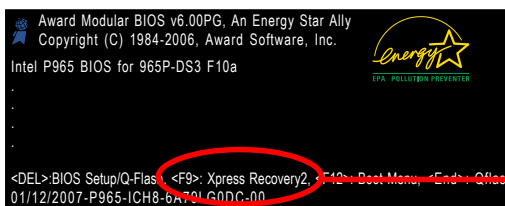
1. If you have already entered Xpress Recovery2 by booting from the CD-ROM, you can enter Xpress Recovery2 by pressing the <F9> key in the future.
2. System storage capacity and the reading/writing speed of the hard disk will affect the data backup speed.
3. It is recommended that Xpress Recovery2 be 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 128G 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 file and save the new BIOS file (e.g. 965PDS3.F1) to your floppy disk, USB flash drive, or hard disk. Note: The USB flash drive or hard disk must use FAT32/16/12 file system.
3. Restart the system. During POST, press the End key to enter Q-Flash. Note: You can access Q-Flash by either pressing the End key during POST or the F8 key in BIOS Setup. However, if the BIOS update file is saved to a hard drive in RAID/AHCI mode or a hard drive attached to an independent IDE/SATA controller, use the End key during POST to access Q-Flash.

```
Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2006, Award Software, Inc.
Intel P965 BIOS for 965P-DS3 F10a
.
.
.
<DEL>:BIOS Setup/Q-Flash, <F9>: Xpress Recovery2, <F12>: Boot Menu <End>: Qflash
01/12/2007-P965-ICH8-6A79LG0DC-00
```
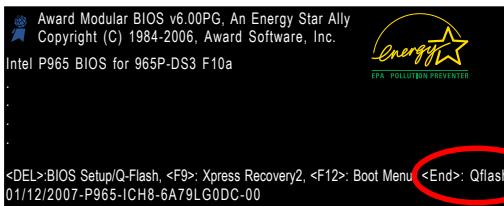
<End> : Qflash

Because BIOS flashing is potentially risky, please do it with caution. Inadequate BIOS flashing 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 v2.04
Flash Type/Size................................SST 25VF080B      512K

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



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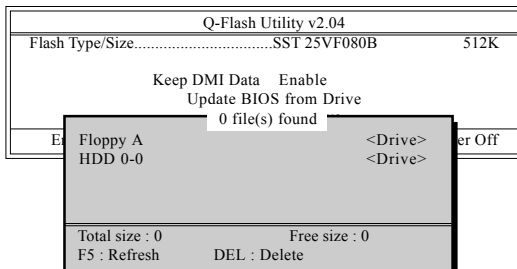
c. Select the BIOS file and press ENTER.

⚠ 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 v2.04
   Flash Type/Size.................................SST 25VF080B

            !! Copy BIOS completed - Pass !!

            Please press any key to continue

   En                                                er Off
```
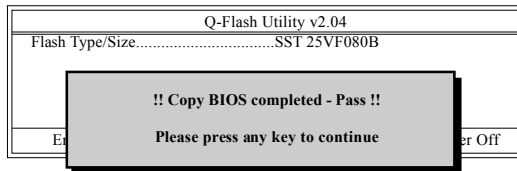
Step 4: Press ESC and then ENTER to exit Q-Flash and the system will restart. As the system reboots, you will see the new BIOS version during POST.

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              Load Fail-Safe Defaults
   ▶ Advanced BIOS Features              Load Optimized Defaults
   ▶ Integrated Peripherals              Set Supervisor Password
   ▶ Power Ma                            Se
   ▶ PnP/PCI O          Load Optimized Defaults (Y/N)? N
   ▶ PC Health Status                    Exit Without Saving
   ▶ MB Intelligent Tweaker(M.I.T.)

   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
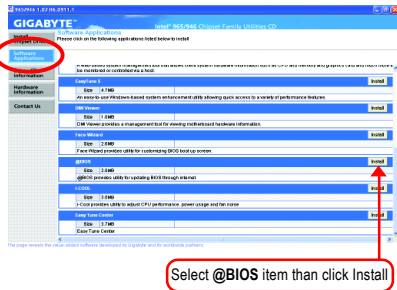
Fig 2. Installation Complete and Run @BIOS

Click Start/ Programs/ Gigabyte/ BIOS/ @BIOS

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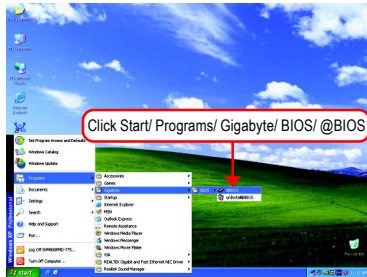
Click "✓"   Click "Update New BIOS"
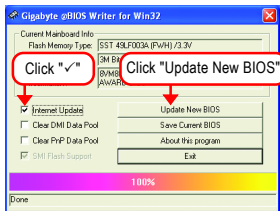
Fig 4. Select the desired @BIOS server
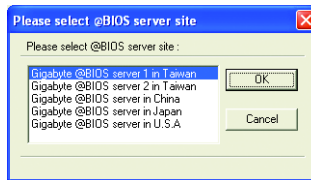
1. Methods and steps:

　 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: 965PDS3.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) (Controller: GIGABYTE SATA2)

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 array 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. If your motherboard has more than one SATA controller, refer to the connectors introduction section of the user's manual to identify the SATA controller for the connector. For example, on the GA-965P-DS3/S3 motherboard, the GSATAII0 and GSATAII1 connectors are supported by the GSATA2 controller. 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). In BIOS Setup, go to **Integrated Periperals,** ensure that the **Onboard SATA/IDE Device** is enabled. Then set **Onboard SATA/IDE Ctrl Mode** to **RAID/IDE** before configuring RAID. If you do not want to create RAID, set this item to **IDE** or **AHCI**, depending on your need (Figure 1).

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

      SATA 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 H/W LAN                       [Enabled]
   ▶  SMART LAN                             [Press Enter]
      Onboard LAN Boot ROM                  [Disabled]
      Onboard SATA/IDE Device               [Enabled]
      Onboard SATA/IDE Ctrl Mode            [RAID]
      Onboard Serial Port 1                 [3F8/IRQ4]
      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

> 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:

To boot from Windows installation CD-ROM disk, set **First Boot Device** under the **Advanced BIOS Features** menu to **CDROM** (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]            │ Select Hard Disk Boot
     Password Check                       [Setup]            │ Device Priority
     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]          │
     Full Screen LOGO Show                [Enabled]          │
     Init Display First                   [PCI]              │
                                                             │
                                                             │
                                                             │
  ↑↓→←: 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.

GA-965P-DS3/S3 Motherboard   - 66 -

(3) Configuring RAID array in RAID BIOS

Enter the RAID BIOS setup utility to configure a RAID array. Skip this step 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-G> to enter RAID Setup Utility" (Figure 3). Press CTRL+ G to enter the GIGABYTE RAID BIOS setup utility.

```
GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
Copyright (C) 2005 GIGABYTE Technology.            http://www.gigabyte.com

HDD0  :    ST3120026AS                          120 GB   Non-RAID
HDD1  :    ST3120026AS                          120 GB   Non-RAID

Press <Ctrl-G> to enter RAID Setup Utility ...
```

Figure 3

In the main screen of the GIGABYTE RAID BIOS utility (Figure 4), use the UP or DOWN ARROW key to highlight through choices. Highlight the item that you wish to execute and press ENTER.

```
              GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
    ═ [ Main Menu ] ═══════        ═ [ Hard Disk Drive List ] ═══

     Create RAID Disk Drive                    Model Name          Capacity Type/Status
     Delete RAID Disk Drive           HDD0:  ST3120026AS           120 GB  Non-RAID
     Revert HDD to Non-RAID           HDD1:  ST3120026AS           120 GB  Non-RAID
     Solve Mirror Conflict
     Rebuild Mirror Drive
     Save And Exit Setup
     Exit Without Saving

    ═ [ RAID Disk Drive List ] ═══════════

     [←→TAB]-Switch Window      [↑↓]-Select ITEM       [ENTER]-Action      [ESC]-Exit
```

Figure 4

Note: In the main screen, you can select a hard disk in the **Hard Disk Drive List** block and press ENTER. This allows you to check detailed information about the selected hard disk.

A. Create Array:

In the main screen, press ENTER on the **Create RAID Disk Drive** item. Then the RAID creation screen appears (Figure 5).

```
        GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
══[ Create New RAID ]═════════════     ══ [ Hard Disk Drive List ] ══════════════

  Name:  GRAID                                 Model Name          Available Type/Status
  Level:  0-Stripe                    HDD0:  ST3120026AS         120 GB  Non-RAID
  Disks:   Select Disk                HDD1:  ST3120026AS         120 GB  Non-RAID
  Block:  128 KB
  Size:    240 GB

    Confirm Creation

══   [ RAID Disk Drive List ]  ═══      ═══ [ Help ] ══════════════════════════════
                                                     Enter RAID Name

                                          Enter a string between 1 to 16 characters
                                          in length for the created RAID drive to be
                                          identified by system BIOS or OS.



   [←→]-Move Cursor      [DEL,BS]-Delete Character    [ENTER]-Next      [ESC]-Abort
```

Figure 5

In the RAID creation screen, the **Create New RAID** block displays all the items that need to be set for creating an array (Figure 5). The following procedure uses RAID 0 creation as an example.

Steps:
1. **Enter Array Name:** Under the **Name** item, enter an array name with 1~16 letters (letters cannot be special characters) and press ENTER.
2. **Select RAID Mode:** Under the **Level** item, use UP or DOWN ARROW key to select RAID 0 (Stripe), RAID 1 (Mirror), or JBOD (Figure 6). Then press ENTER to move onto the next step.

```
        GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
══[ Create New RAID ]═════════════     ══ [ Hard Disk Drive List ] ══════════════

  Name:  GRAID                                 Model Name          Available Type/Status
  Level:  0-Stripe                    HDD0:  ST3120026AS         120 GB  Non-RAID
  Disks:   Select Disk                HDD1:  ST3120026AS         120 GB  Non-RAID
  Block:  128 KB
  Size:    240 GB

    Confirm Creation

══   [ RAID Disk Drive List ]  ═══      ═══ [ Help ] ══════════════════════════════
                                                     Select RAID Level

                                          RAID 0    -    Data striped for performance
                                          RAID 1    -    Data mirrored for redundancy
                                          JBOD      -    Data concatenated for huge
                                                         temporarily disk required



           [↑↓]-Switch RAID Level            [ENTER]-Next      [ESC]-Abort
```
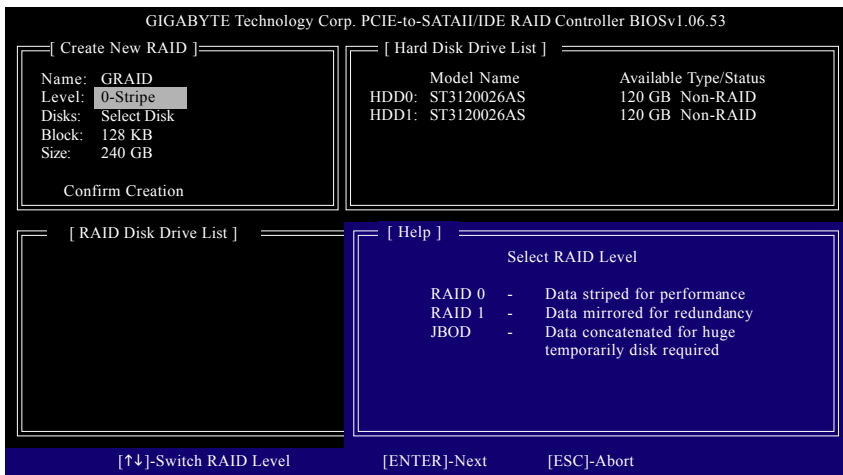
Figure 6

3. Assign Array Disks: After RAID mode is selected, RAID BIOS automatically assigns the two hard disks installed as the RAID disks.

4. Set Block Size (only for RAID 0): Under the **Block** item, use the UP or DOWN ARROW key to select the block size (Figure 7), ranging from 4K to 128K. Press ENTER when finished.

```
            GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
   [ Create New RAID ]                       [ Hard Disk Drive List ]
                                                      Model Name          Available Type/Status
   Name:   GRAID                           ▶  HDD0:   ST3120026AS         120 GB  Non-RAID
   Level:  0-Stripe                        ▶  HDD1:   ST3120026AS         120 GB  Non-RAID
   Disks:  Select Disk
   Block:  128 KB
   Size:   240 GB

      Confirm Creation


   [ RAID Disk Drive List ]                  [ Help ]
                                                       Setting Stripe Block

                                             Select a stripe size which will be used to
                                             divide data from/to seperate RAID members.
                                             The following are typical values:

                                                       RAID 0-128KB



         [↑↓]-Switch RAID Block Size          [ENTER]-Next          [ESC]-Abort
```

Figure 7

5. Set Array Size: Under the **Size** item, type the size of the array (Figure 8), and press ENTER.

```
            GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
   [ Create New RAID ]                       [ Hard Disk Drive List ]
                                                      Model Name          Available Type/Status
   Name:   GRAID                           ▶  HDD0:   ST3120026AS         120 GB  Non-RAID
   Level:  0-Stripe                        ▶  HDD1:   ST3120026AS         120 GB  Non-RAID
   Disks:  Select Disk
   Block:  128 KB
   Size:   240 GB

      Confirm Creation


   [ RAID Disk Drive List ]                  [ Help ]
                                                       Setting RAID Capacity

                                             Enter the RAID capacity. The default value
                                             indicates the maximum capacity determined
                                             by the selected members. If less than the
                                             maximum capacity is chosen, the remaining
                                             capacity would be no used.



   [↑↓]-Switch Unit        [DEL,BS]-Delete Number          [ENTER]-Next      [ESC]-Abort
```

Figure 8

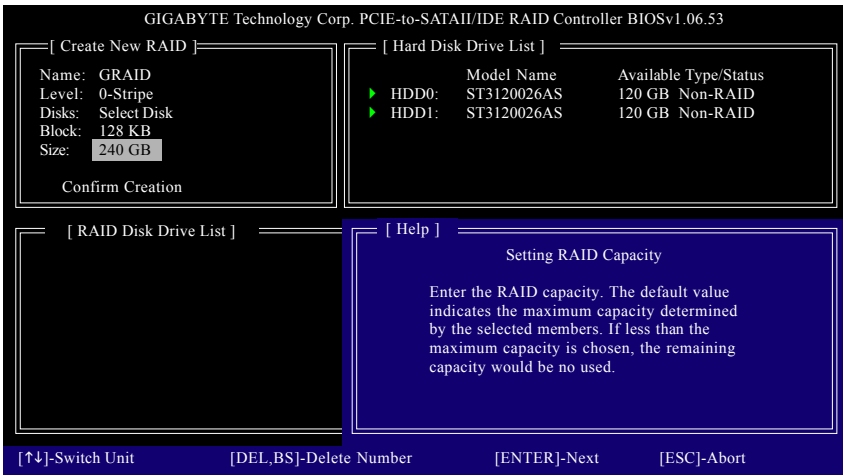**6. Confirm Creation:** After all of the items are configured, the selection bar automatically jumps to the **Confirm Creation** item. When prompted to confirm your selections (Figure 9), press Y to confirm or N to abort.
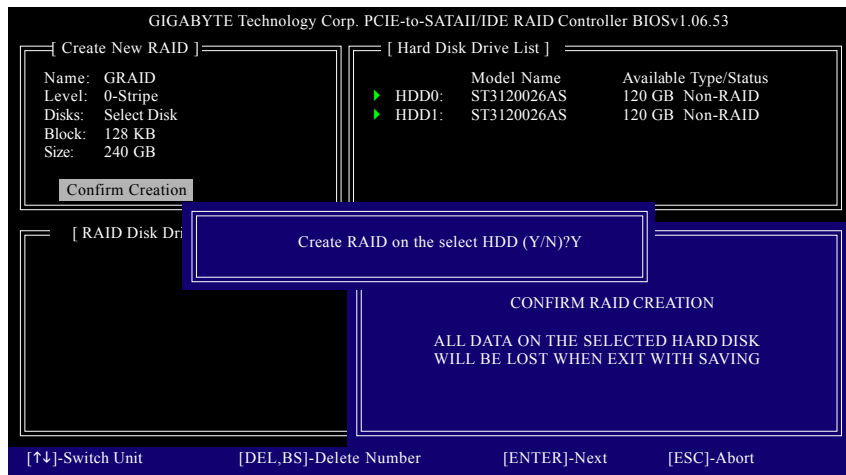

Figure 9

When finished, the new RAID array will be displayed in the **RAID Disk Drive List** block (Figure 10).
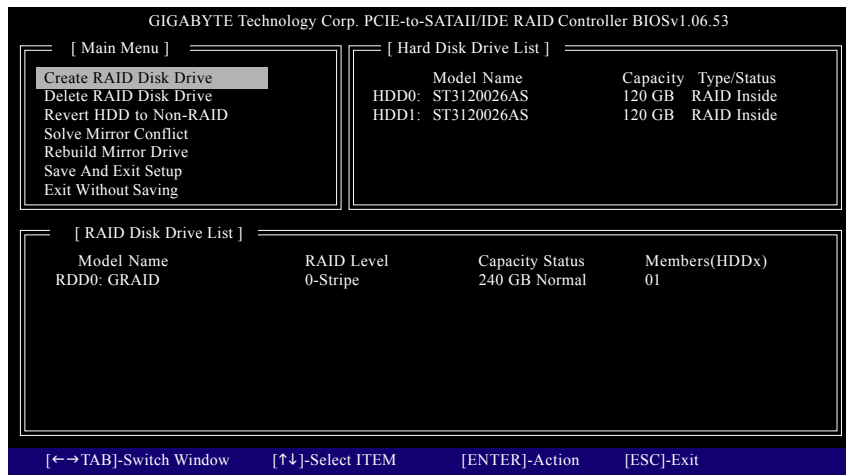

Figure 10

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To check more detailed information about the array, use the TAB key while in the **Main Menu** block to move the selection bar to the **RAID Disk Drive List** block. Select the array and press ENTER. A small window displaying the array information will appear in the center of the screen (Figure 11).

```
          GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
  ═══ [ Main Menu ] ═══                    ═══ [ Hard Disk Drive List ] ═══
     Create RAID Disk Drive                         Model Name          Capacity  Type/Status
     Delete RAID Disk Drive             HDD0:  ST3120026AS              120 GB    RAID Inside
     Revert HDD to Non-RAID             HDD1:  ST3120026AS              120 GB    RAID Inside
     Solve Mirror Conflict            ═══ [ RAID Information ] ═══
     Rebuild Mirror Drive                  Name: GRAID
     Save And Exit Setup                   Level: 0-Stripe
     Exit Without Saving                   Block: 128KB
                                           Capacity: 240 GB
  ═══ [ RAID Disk Drive List ] ═══
     Model Name                          Members: HDD 01          us        Members(HDDx)
     RDD0: GRAID                          Status: Normal          al        01



  [←→TAB]-Switch Window        [↑↓]-Select RAID        [ENTER]-Detail       [ESC]-Exit
```
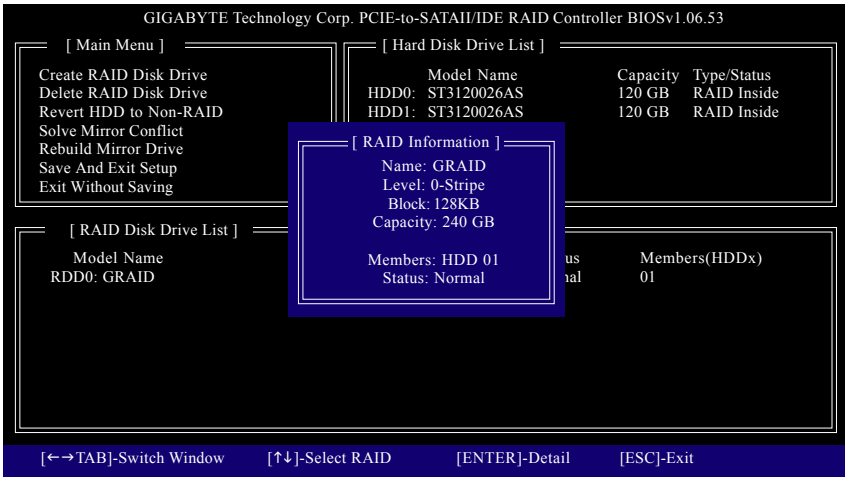
Figure 11

After configuring the RAID array, select the **Save And Exit Setup** item in the main screen to save your settings if you wish to exit the RAID BIOS utility, then press Y (Figure 12).
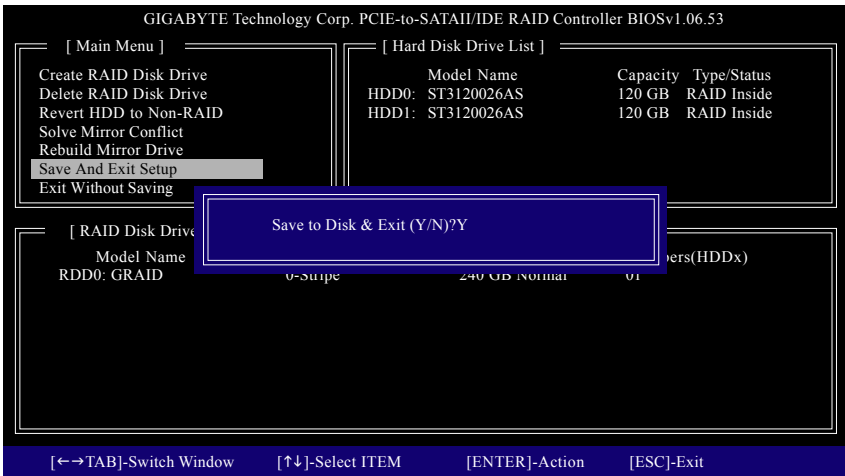
```
          GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
  ═══ [ Main Menu ] ═══                    ═══ [ Hard Disk Drive List ] ═══
     Create RAID Disk Drive                         Model Name          Capacity  Type/Status
     Delete RAID Disk Drive             HDD0:  ST3120026AS              120 GB    RAID Inside
     Revert HDD to Non-RAID             HDD1:  ST3120026AS              120 GB    RAID Inside
     Solve Mirror Conflict
     Rebuild Mirror Drive
     Save And Exit Setup
     Exit Without Saving
                              Save to Disk & Exit (Y/N)?Y
  ═══ [ RAID Disk Drive                                              bers(HDDx)
     Model Name                                                        01
     RDD0: GRAID              0-Stripe        240 GB Normal      01



  [←→TAB]-Switch Window        [↑↓]-Select ITEM        [ENTER]-Action       [ESC]-Exit
```

Figure 12

B. Delete Array:

To delete the array, select **Delete RAID Disk Drive** in the main menu and press ENTER. The selection bar will move to the **RAID Disk Drive List** block. Press the SPACEBAR on the array to be deleted; a small triangle will appear to mark the selected array (Figure 13). Press Del.
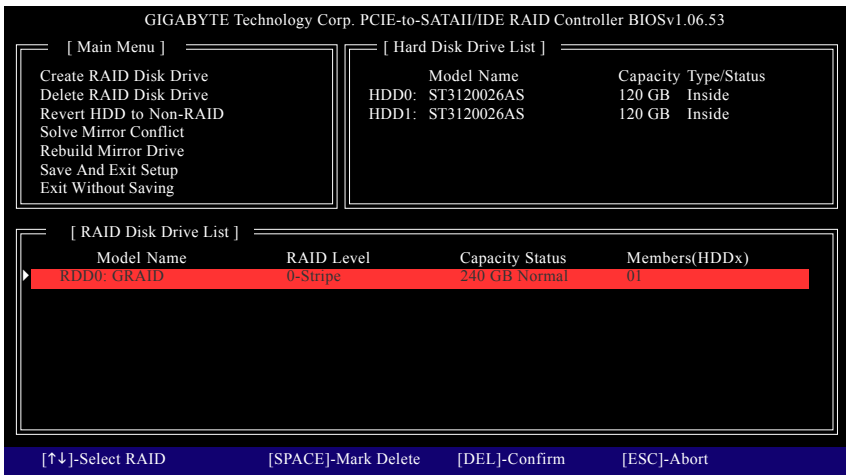
```
        GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
    [ Main Menu ]                     [ Hard Disk Drive List ]
    Create RAID Disk Drive                    Model Name          Capacity Type/Status
    Delete RAID Disk Drive           HDD0:  ST3120026AS           120 GB   Inside
    Revert HDD to Non-RAID           HDD1:  ST3120026AS           120 GB   Inside
    Solve Mirror Conflict
    Rebuild Mirror Drive
    Save And Exit Setup
    Exit Without Saving

    [ RAID Disk Drive List ]
       Model Name               RAID Level        Capacity Status     Members(HDDx)
►      RDD0: GRAID              0-Stripe          240 GB Normal       01

    [↑↓]-Select RAID        [SPACE]-Mark Delete    [DEL]-Confirm      [ESC]-Abort
```

Figure 13

Press Y to confirm yes to the following message (Figure 14) or N to cancel.

```
        GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOSv1.06.53
    [ Main Menu ]                     [ Hard Disk Drive List ]
    Create RAID Disk Drive                    Model Name          Capacity Type/Status
    Delete RAID Disk Drive           HDD0:  ST3120026AS           120 GB   RAID Inside
    Revert HDD to Non-RAID           HDD1:  ST3120026AS           120 GB   RAID Inside
    Solve Mirror Conflict
    Rebuild Mirror Drive
    Save And Exit Setup
    Exit Without Saving
                            ALL DATA ON THE RAID WILL LOST!!
    [ RAID Disk Drive List   ARE YOU SURE TO DELETE (Y/N)? N
       Model Name                                              Members(HDDx)
►      RDD0: GRAID                                             01

    [↑↓]-Select RAID        [SPACE]-Mark Delete    [DEL]-Confirm      [ESC]-Abort
```
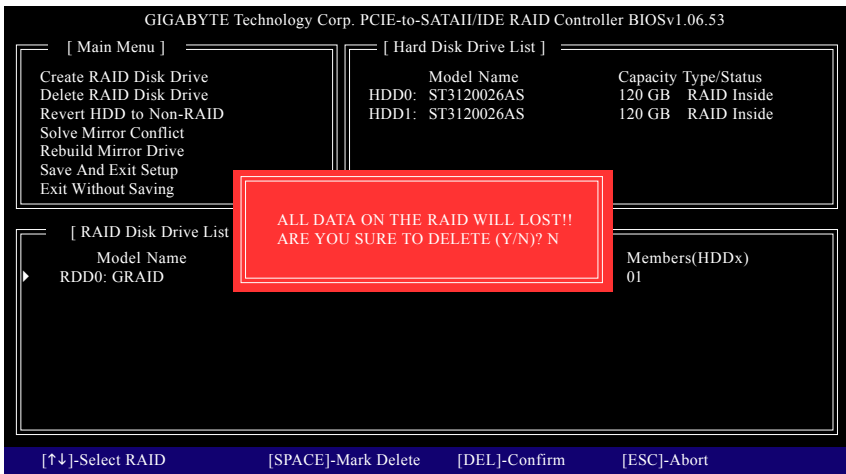
Figure 14

(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(Note 1). 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 15):

```
cd bootdrv
menu
```

Step 2: When the controller menu (Figure 16) 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 16, press E to select **(E) GIGABYTE SATA-RAID Driver 32Bit** if you wish to install Windows XP (32-bit) (Note 2). Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.

Figure 15

Figure 16

(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 17). A command prompt window will open similar to that in Figure 16.
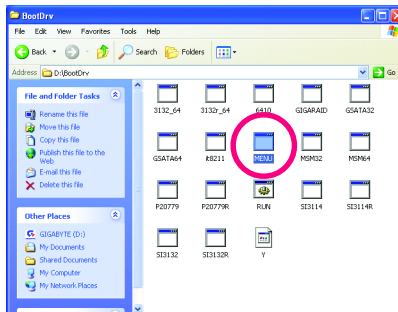

Figure 17

(Note 2) For 64-bit Windows Operating System, please select **(F)GIGABYTE SATA-RAID Driver 64Bit.**

(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 18). After pressing F6, there will be a few moments of some files being loaded before you see the next screen.
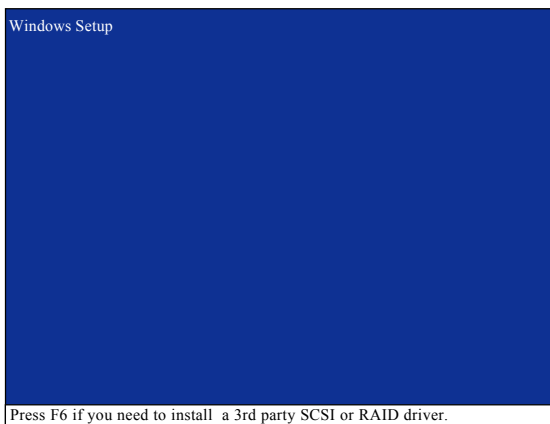
Windows Setup

Press F6 if you need to install a 3rd party SCSI or RAID driver.

Figure 18

Step 2:
When a screen similar to that below appears, insert the floppy disk containing the SATA driver and press S (Figure 19).

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.

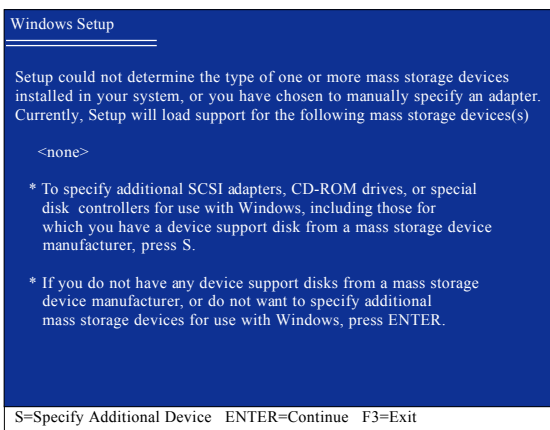S=Specify Additional Device   ENTER=Continue   F3=Exit

Figure 19

Step 3:

When Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 20 below will appear. Use the ARROW keys to select one of the items displayed depending on the operating system to be installed. For example, select **GIGABYTE GBB363 RAID Controller (Windows 2K/XP/2003)*** if you wish to install Windows XP. Then press ENTER.
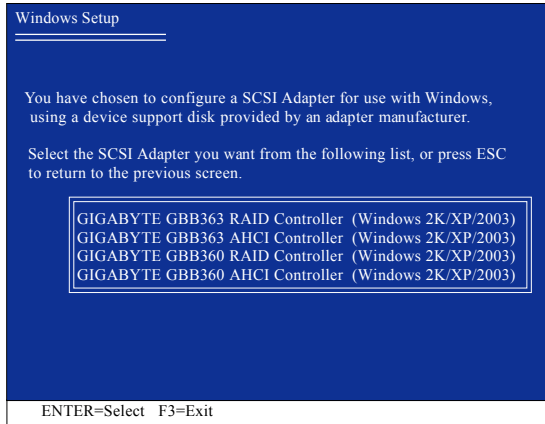
```
Windows Setup
─────────────

  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.

      ┌─────────────────────────────────────────────────────────┐
      │ GIGABYTE GBB363 RAID Controller  (Windows 2K/XP/2003)    │
      │ GIGABYTE GBB363 AHCI Controller  (Windows 2K/XP/2003)    │
      │ GIGABYTE GBB360 RAID Controller  (Windows 2K/XP/2003)    │
      │ GIGABYTE GBB360 AHCI Controller  (Windows 2K/XP/2003)    │
      └─────────────────────────────────────────────────────────┘




  ENTER=Select   F3=Exit
```
Figure 20

⚠ 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 next screen (Figure 21) appears, press ENTER to continue the SATA driver installation from the floppy disk.
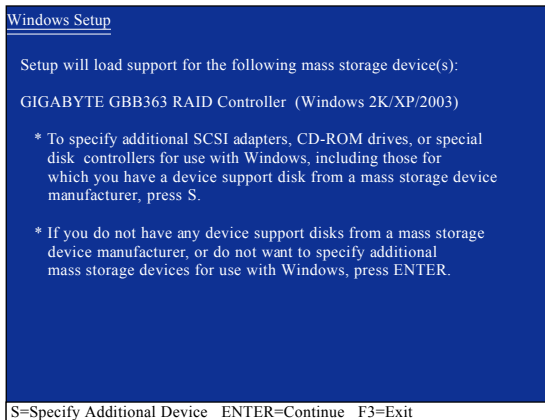
```
Windows Setup
─────────────
  Setup will load support for the following mass storage device(s):

  GIGABYTE GBB363 RAID Controller  (Windows 2K/XP/2003)

    * 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 21

"*" If you set the **Onboard SATA/IDE Ctrl Mode** item in BIOS Setup to AHCI mode, please select **GIGABYTE GBB363 AHCI Controller (Windows 2K/XP/2003)**.

After the SATA controller driver installation is completed, you can proceed with the Windows 2000/XP installation.
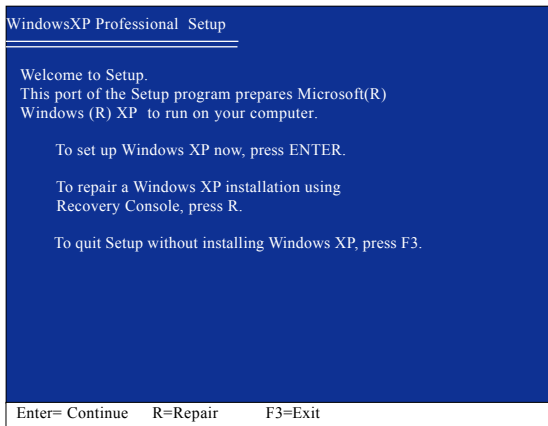
```
WindowsXP Professional  Setup

 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 22

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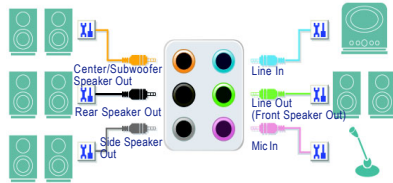
Note that if you wish to connect a microphone, you MUST connect it to the default Mic In jack for the microphone to work correctly.

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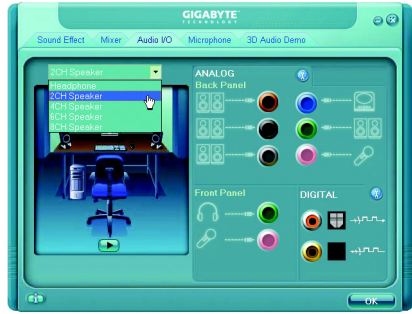
STEP 1 :
After installation of the audio driver, you should find an Audio Manager icon in your system tray (you can also find the icon in Control Panel). Double-click the icon to open the Audio Control Panel.
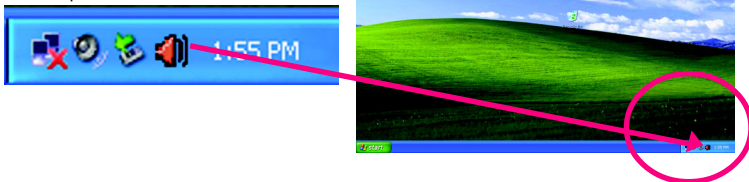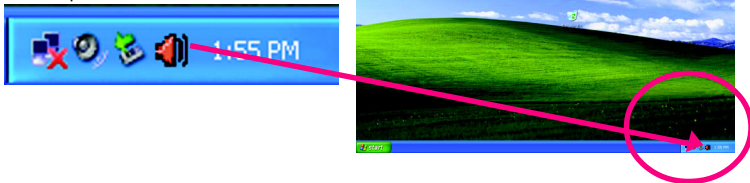
STEP 2:
In the Audio Control Panel, click the **Audio I/O** tab.
In the upper left list, click **2CH Speaker**.

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-chan-
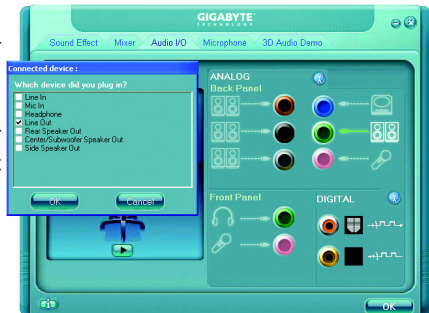nel audio setup is completed.

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**.

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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**.
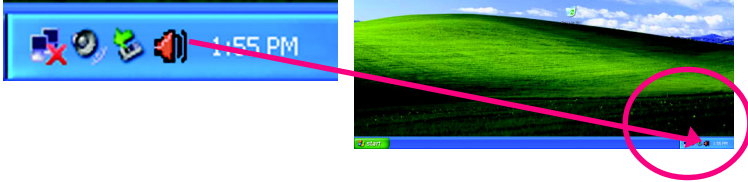
STEP 3:

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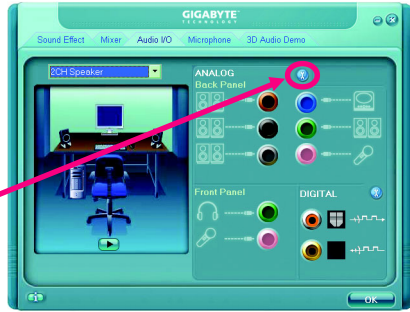
4-2   Troubleshooting

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**

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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	×	○	○	○	○	○
芯片及其他出动零件 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.