GA-8I915G Pro

Intel® Pentium® 4 LGA775 Processor Motherboard

User's Manual

Rev. 2002
12ME-8I915GP-2002

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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.

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

Table of Contents

GA-8I915G Pro Motherboard Layout

Block Diagram

LGA775 Processor

CPUCLK+/-(200/133MHz)

VGA

Host Interface

PCI-ECLK (100MHz)

3 PCI Expressx 1 Ports

PCI-ECLK (100MHz)

PCI Express x16

Intel 915G GMCH

DDR400/333MHz DIMM

Dual Channel Memory

GMCHCLK(200/133MHz)

66MHz
33MHz
14.318MHz
48MHz

PCI Express x1 Bus

PCI Bus

Intel ICH6

Dual BIOS

4 Serial ATA

ATA33/66/100 IDE Channels

Marvell 8001

TSB43AB23

IT 8712

Floppy

LPT Port

COM Port

RJ45

3 IEEE1394

CODEC

PS/2 KB/Mouse

24MHz

2 PCI

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

8 USB Ports

33MHz

PCICLK (33MHz)

IT8212 IDE RAID

IDE2/IDE3

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 you 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	◆ Supports the latest Intel® Pentium® 4 LGA775 CPU
	◆ Supports 800/533MHz FSB
	◆ L2 cache varies with CPU
Chipset	◆ Northbridge: Intel® 915G Express Chipset
	◆ Southbridge: Intel® ICH6
Memory	◆ 4 DDR DIMM memory slots (supports up to 4GB memory) (Note 1)
	◆ Supports dual channel DDR400/333 DIMM
	◆ Supports 2.5V DDR DIMM
Slots	◆ 1 PCI Express x 16 slot
	◆ 3 PCI Express x 1 slots
	◆ 2 PCI slots
IDE Connections	◆ 1 IDE connection (UDMA 33/ATA 66/ATA 100), allows connection of 2 IDE devices
FDD Connections	◆ 1 FDD connection, allows connection of 2 FDD devices
Onboard SATA	◆ 4 Serial ATA connections
Peripherals	◆ 1 parallel port supporting Normal/EPP/ECP mode
	◆ 1 VGA port, onboard COMA connection
	◆ 8 USB 2.0/1.1 ports (rear x 4, front x 4 via cable)
	◆ 3 IEEE1394 ports (requires cable)
	◆ 1 front audio connector
	◆ 1 IR connector
	◆ 1 PS/2 keyboard port
	◆ 1 PS/2 mouse port
Onboard LAN	◆ Onboard Marvell 8001 chip (10/100/1000 Mbit)
	◆ 1 RJ 45 port
Onboard Audio	◆ C-Media 9880 CODEC (UAJ)
	◆ Supports Jack Sensing function
	◆ Supports 2 / 4 / 5.1 / 7.1 channel audio
	◆ Supports Line In ; Line Out ; MIC ; Back Surround Speaker Out ; Center/Subwoofer Speaker Out ; Surround Speaker Out connection
	◆ Supports SPDIF In/Out connection
	◆ CD In

(Note 1) Due to standard PC architecture, a certain amount of memory is reserved for system usage and therefore the actual memory size is less than the stated amount.
For example, 4 GB of memory size will instead be shown as 3.xxGB memory during system startup.

On-Board IDE RAID (IDE2, IDE3)	◆	Onboard GigaRAID IT8212 chipset
	◆	Supports disk striping (RAID 0) or disk mirroring (RAID 1) or striping + mirroring (RAID 0 + RAID 1)
	◆	Supports JBOD function
	◆	Supports concurrent dual ATA133 IDE controller operation
	◆	Supports ATAPI mode for HDD
	◆	Supports IDE bus master operation
	◆	Supports ATA133/RAID mode switch by BIOS
	◆	Displays status and error checking messages during boot-up
	◆	Mirroring supports automatic background rebuilds
	◆	Features LBA and Extended Interrupt 13 drive translation in controller onboard BIOS
I/O Control	◆	IT8712
Hardware Monitor	◆	CPU / System / Power fan speed detection
	◆	CPU temperature detection
	◆	System voltage detection
	◆	CPU / System / Power fan failure warning
	◆	CPU Smart FAN Control
BIOS	◆	Use of licensed AWARD BIOS
	◆	Supports Dual BIOS/Q-Flash
Additional Features	◆	Supports @BIOS
	◆	Supports EasyTune
Overclocking	◆	Over Voltage via BIOS (CPU/DDR/PCI-E)
	◆	Over Clock via BIOS (CPU/DDR)
Form Factor	◆	ATX form factor; 30.5cm x 24.4cm

1-3 Installation of the CPU and Heatsink

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 sink paste between the CPU and heatsink.
4. Please make sure the heatsink is installed on the CPU prior to system use, otherwise overheating and permanent damage of the CPU may occur.
5. Please set the CPU host frequency in accordance with the processor specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the required standards for the peripherals. If you wish to set the frequency beyond the proper specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.

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 Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology

1-3-1 Installation of the CPU
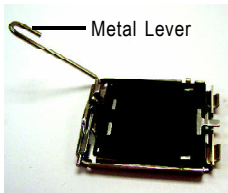
Metal Lever

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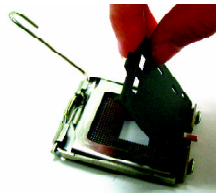
Fig. 2
Remove the plastic covering on the CPU socket.
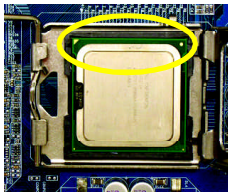
Fig. 3
Notice the small gold colored triangle located on the edge of the CPU socket. Align the

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

indented corner of the 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 Heatsink

Fig.1
Please apply an even layer of heatsink paste on the surface of the installed CPU.

Male Push Pin

The top of Female Push Pin
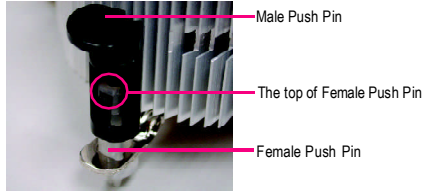
Female Push Pin

Fig. 2
(Turning the push pin along the direction of arrow is to remove the heatsink, 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)
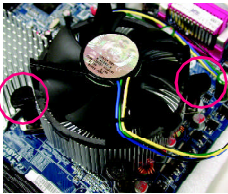
Fig. 3
Place the heatsink atop the CPU and make sure the push pins aim to the pin hole on the motherboard.Pressing down the push pins diagonally.
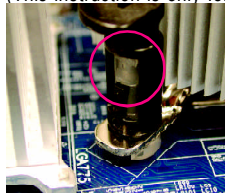
Fig. 4
Please make sure the Male and Female push pin are joined closely. (for detailed installation instructions, please refer to the heatsink installation section of the user manual)
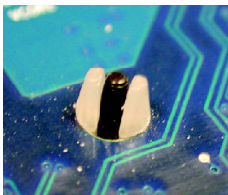
Fig. 5
Please check the back of motherboard after installing. If the push pin is inserted as the picture, the installation is complete.
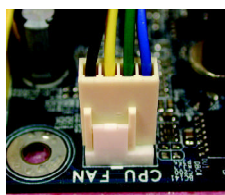
Fig. 6
Finally, please attach the power connector of the heatsink to the CPU fan header located on the motherboard.

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

1-4   Installation of Memory

Before installing the memory modules, please comply with the following conditions:

CAUTION

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 has 4 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM socket. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.

Notch

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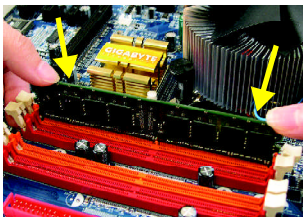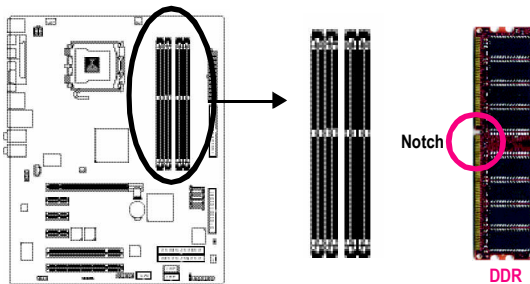
Fig.1
The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.
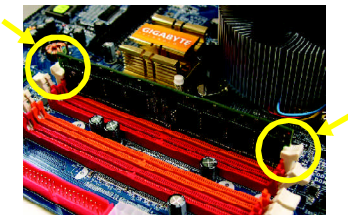
Fig.2
Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
Reverse the installation steps when you wish to remove the DIMM module.

Dual Channel DDR

GA-8I915G Pro supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will add double up to 6.4GB/s.

GA-8I915G Pro includes 4 DIMM sockets, and each Channel has two DIMM sockets as following:

⯈ Channel A : DDR 1, DDR 2

⯈ Channel B : DDR 3, DDR 4

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

1. One/three DDR memory module is installed: The Dual Channel Technology can't operate when only one DDR memory module is installed.

2. Two DDR memory modules are installed (the same memory size and type): The Dual Channel Technology will operate when two memory modules are inserted individually into Channel A and B. If you install two memory modules in the same channel, the Dual Channel Technology will not operate.

3. Four DDR memory modules are installed: If you install four memory modules at the same time, the Dual Channel Technology will operate only when those modules have the same memory size and type.

We'll strongly recommend our user to slot two DDR memory modules into the DIMMs with the same color in order for Dual Channel Technology to work.

The following table is for Dual Channel Technology combination:

● Dual Channel Technology (DS: Double Side, SS: Single Side)

	DDR1	DDR 2	DDR3	DDR4
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

1-5   Install 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 x 16 expansion card:

⚠
CAUTION
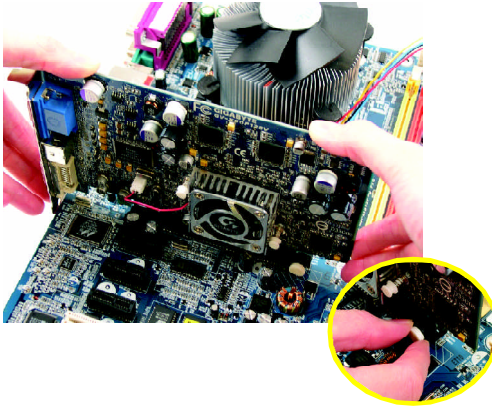
Please carefully pull out the small white-drawable bar at the end of the PCI Express x 16 slot when you try to install/ Uninstall the VGA card. Please align the VGA card to the onboard PCI Express x 16 slot and press firmly down on the slot .Make sure your VGA card is locked by the small white-drawable bar.

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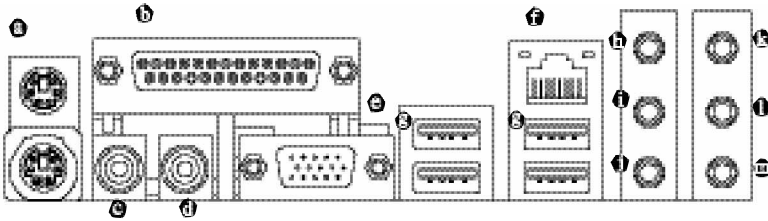
PS/2 Keyboard and PS/2 Mouse Connector

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

Parallel Port

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

SPDIF_O (SPDIF Out)

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

SPDIF_I (SPDIF In)

Use SPDIF In feature only when your device has digital output function.

VGA Port

Monitor can be connected to VGA port.

LAN Port

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

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 ven dor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

Line In

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

Line Out (Front Speaker Out)

Connect the stereo speakers, earphone or front surround channels to this connector.

MIC In

Microphone can be connected to MIC In jack.

Back Surround Speaker Out

Connect the back surround channels to this connector.

Center/Subwoofer Speaker Out

Connect the Center/Subwoofer channels to this connector.

Surround Speaker Out

Connect the surround channels to this connector.

NOTE You can use audio software to configure 2-/4-/5.1-/7.1-channel audio functioning.

1-7   Connectors Introduction
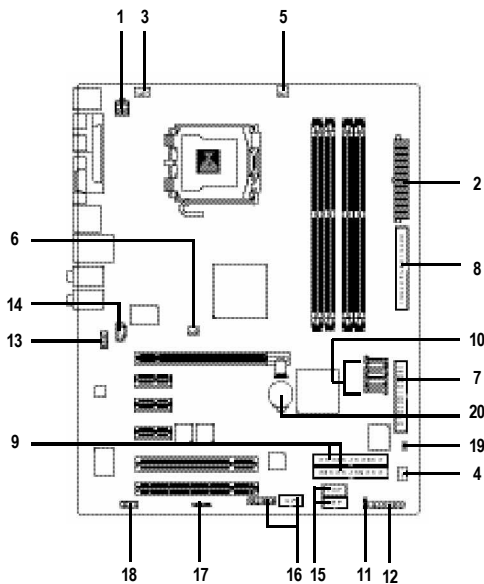
1)	ATX_12V	11)	PWR_LED
2)	ATX (Power Connector)	12)	F_PANEL
3)	CPU_FAN	13)	AZALIA_FP
4)	SYS_FAN	14)	CD_IN
5)	PWR_FAN	15)	F_USB1 / F_USB2
6)	NB_FAN	16)	F1_1394 / F2_1394
7)	FDD	17)	IR
8)	IDE	18)	COMA
9)	IDE2/IDE3	19)	CLR_CMOS
10)	S_ATA0/S_ATA1/S_ATA2/S_ATA3	20)	BAT

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.

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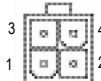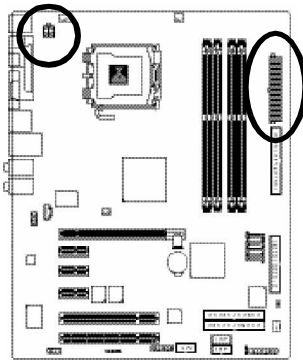
Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V
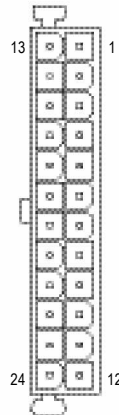
Pin No.	Definition
1	3.3V
2	3.3V
3	GND
4	VCC
5	GND
6	VCC
7	GND
8	Power Good
9	5V SB(stand by +5V)
10	+12V
11	+12V
12	3.3V(Only for 24pins ATX)
13	3.3V
14	-12V
15	GND
16	PS_ON(soft On/Off)
17	GND
18	GND
19	GND
20	-5V
21	VCC
22	VCC
23	VCC
24	GND

Hardware Installation

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) power connector and possesses a ful-proof 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 power to the cooler to prevent system overheating and failure.

Caution! Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.
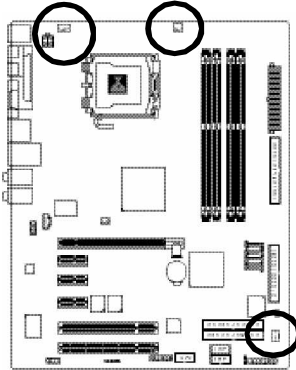
1 CPU_FAN

1 PWR_FAN

1 SYS_FAN

Pin No.	Definition
1	GND
2	+12V
3	Sense
4	Speed Control (Only for CPU_FAN)

6)   NB_FAN (Chip Fan Connector)

If you installed wrong direction, the chip fan will not work. Sometimes will damage the chip fan. (Usually black cable is GND)

1
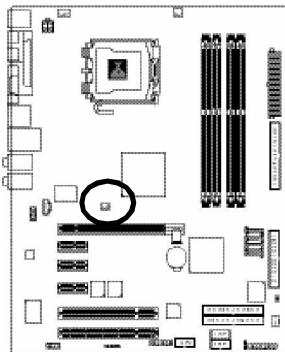
Pin No.	Definition
1	+12V
2	GND

7) FDD (FDD 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:360KB, 720KB, 1.2MB, 1.44MB and 2.88MB. Please connect the red power connector wire to the pin1 position.
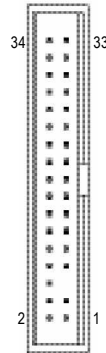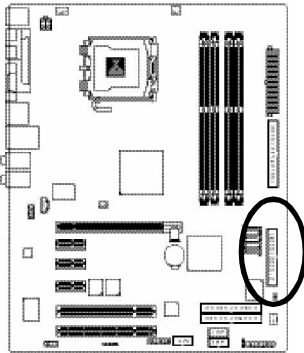
8/9) IDE1/IDE2/IDE3 (IDE Connector)

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).
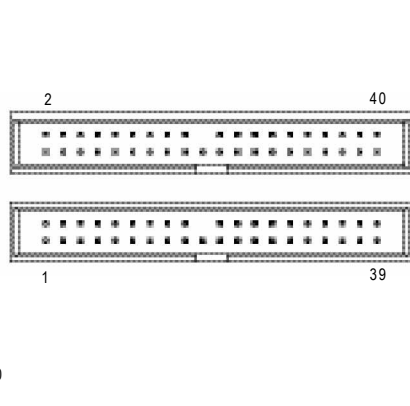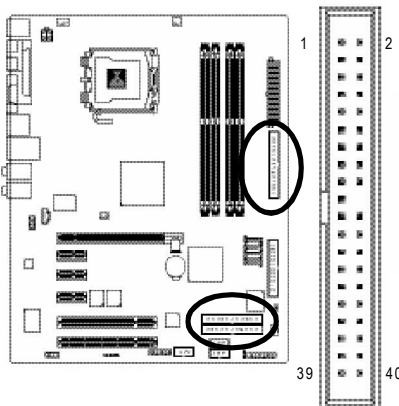
10) S_ATA0/S_ATA1/S_ATA2/S_ATA3(Serial ATA Connector, Controlled by ICH6)

Serial ATA can provide 150MB/s transfer rate. Please refer to the BIOS setting for the Serial ATA and install the proper driver in order to work properly.

S_ATA
(Control by ICH6)
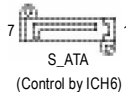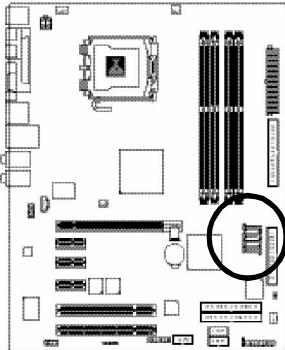
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

11) PWR_LED

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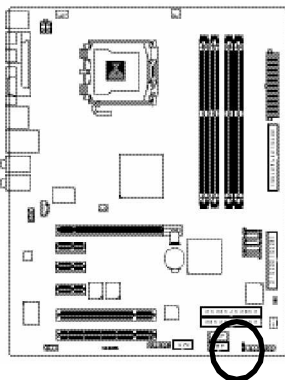
Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

12) F_PANEL (Front Panel Jumper)

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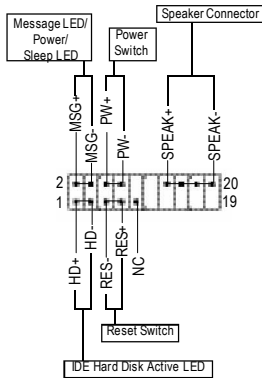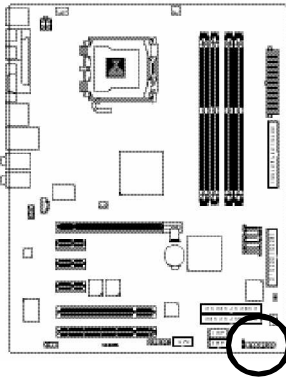
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
(Blue)	Pin 2: LED cathode(-)
SPEAK (Speaker Connector)	Pin 1: VCC(+)
(Amber)	Pin 2- Pin 3: NC
	Pin 4: Data(-)
RES (Reset Switch)	Open: Normal Operation
(Green)	Close: Reset Hardware System
PW (Power Switch)	Open: Normal Operation
(Red)	Close: Power On/Off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

13) AZALIA_FP (Front Audio Panel Connector)

Please make sure the pin assigment on the cable is the same as the pin assigment on the MB header.
To find out if the chassis you are buying support front audio panel connector, please contact your dealer.
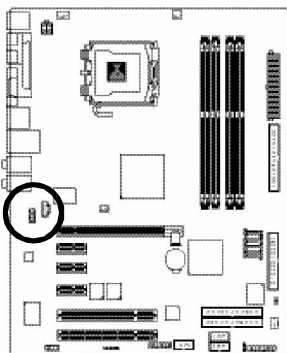
Pin No.	Definition
1	MIC2_L
2	GND
3	MIC2_R
4	-ACZ_DET
5	Line2_R
6	FSENSE1
7	FAUOIO_JD
8	No Pin
9	LINE2_L
10	FSENSE2

14) CD_IN (CD IN, Black)

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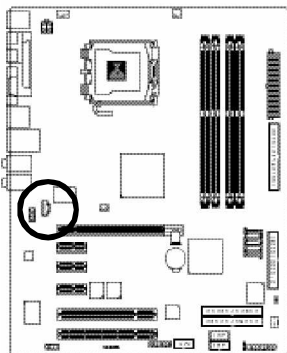
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

15) F1_USB / F2_USB (Front USB Connector, Yellow)

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.

The "USB Device Wake up From S3" is only supported by rear USB ports.
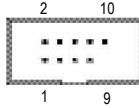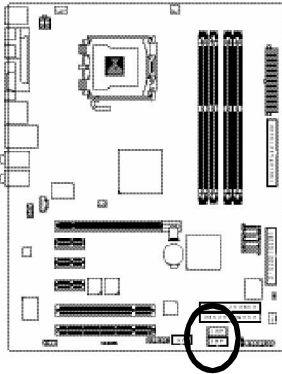
Pin No.	Definition
1	Power
2	Power
3	USB0DX-
4	USB1 Dy-
5	USB0DX+
6	USB1 Dy+
7	GND
8	GND
9	No Pin
10	NC

16) F1_1394/F2_1394 (IEEE1394 Connector)

Serial interface standard set by Institute of Electrical and Electronics Engineers, which has features like high speed, high bandwidth and hot plug.

Be careful with the polarity of the IEEE1394 connector. Check the pin assignment carefully while you connect the IEEE1394 cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional IEEE1394 cable, please contact your local dealer.

F2_1394

F1_1394
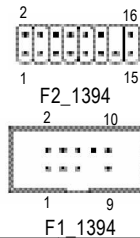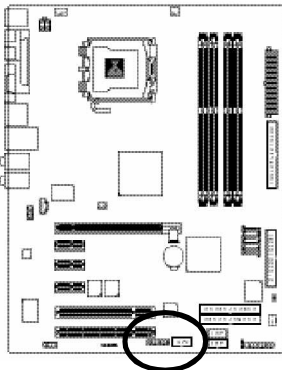
Pin No.	Definition
1	TPA2+
2	TPA2-
3	GND
4	GND
5	TPB2+
6	TPB2-
7	No Pin
8	Power
9	Power
10	GND

Pin No.	Definition
1	Power
2	Power
3	TPA0+
4	TPA0-
5	GND
6	GND
7	TPB0+
8	TPB0-
9	Power
10	Power
11	TPA1+
12	TPA1-
13	GND
14	No Pin
15	TPB1+
16	TPB1-

17) IR

Be careful with the polarity of the IR connector while you connect the IR. Please contact you nearest dealer for optional IR device.

1 [□ □ □ □]
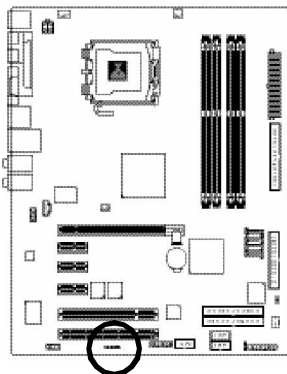
Pin No.	Definition
1	VCC
2	No Pin
3	IR RX
4	GND
5	IR TX

18) COMA (COM A Connector)

Be careful with the polarity of the COMA connector. Check the pin assignment while you connect the COMA cable. Please contact your nearest dealer for optional COMA cable.

2   10

1   9
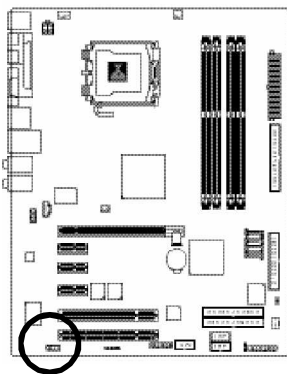
Pin No.	Definition
1	NDCDA-
2	NSINA
3	NSOUTA
4	NDTRA-
5	GND
6	NDSRA-
7	NRTSA-
8	NCTSA-
9	NRIA-
10	No Pin

19) CLR_CMOS (Clear CMOS)

You may clear the CMOS data to its default values by this jumper. To clear CMOS, temporarily short 1-2 pin. Default doesn't include the "Shunter" to prevent from improper use this jumper.
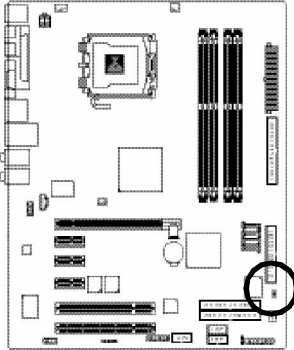
1 **Open: Normal**

1 Short: Clear CMOS

20) BAT(Battery)
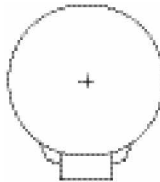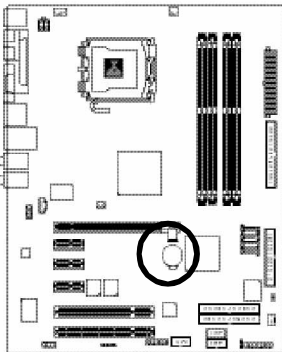
❖ Danger of explosion if battery is incorrectly replaced.

❖ 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.Remove the battery, wait for 30 second.

3.Re-install the battery.

4.Plug the power cord 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".

When setting up BIOS for the first time, it is recommended that you save the current BIOS to a disk in the event that BIOS needs to be reset to its original settings. 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 file-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Dual BIOS/Q-Flash utility
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu

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>.

The Main Menu (For example: BIOS Ver. : F3)

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) 1984-2004 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/PCIConfigurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
▶ MB Intelligent Tweaker(M.I.T.)	
ESC: Quit	↑↓→←:Select Item
F8:Dual BIOS/Q-Flash	F10: Save & Exit Setup
Time, Date, Hard DiskType...	

If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option hidden.

Please Load Optimized Defaults in the BIOS when somehow the system works not stable as usual. This action makes the system reset to the default for stability.

■ **Standard CMOS Features**

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

■ **Advanced BIOS Features**

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

■ **Integrated Peripherals**

This setup page includes all onboard peripherals.

■ **Power Management Setup**

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

■ **PnP/PCI Configuration**

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

■ **PC Health Status**

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

■ **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) 1984-2004 Award Software
                    Standard CMOS Features
  Date(mm:dd:yy)                 Thu, Apr 29 2004      Item Help
  Time(hh:mm:ss)                 22:31:24              Menu Level▶

▶ IDE Channel 0 Master          [None]                Change the day, month,
▶ IDE Channel 0 Slave           [None]                year

  Drive A                        [1.44M, 3.5"]         <Week>
  Drive B                        [None]                Sun. to Sat.
  Floppy 3 Mode Suport           [Disabled]
                                                       <Month>
  Halt On                        [All, But Keyboard]   Jan. to Dec.

  BaseMemory                     640K                  <Day>
  ExtendedMemory                 127M                  1 to 31 (or maximum
  TotalMemory                    128M                  allowed in the month)

                                                       <Year>
                                                       1999 to 2098

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

↪ **Date**

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

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

▶ Month   The month, Jan. Through Dec.

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

▶ Year   The year, from 1999 through 2098

↪ **Time**

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

↪ **IDE Channel 0 Master, Slave**

▶ IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

▶ IDE Channel 0 Master(Slave) IDE Device Setup. You can use one of three methods:

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

    None   Select this if no IDE 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)

Hard drive information should be labeled on the outside drive casing. Enter the appropriate option based on this information.

▶ Cylinder   Number of cylinders

▶ Head   Number of heads

▶ Precomp   Write precomp

▶ Landing Zone   Landing zone

▶ Sector   Number of sectors

If a hard disk has not been installed, select NONE and press <Enter>.

❧ **Drive A / Drive B**

The category identifies the types of floppy disk drive A or drive B 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.
- ► Drive B   Drive B is 3 mode Floppy Drive.
- ► Both   Drive A & B are 3 mode Floppy Drives.

❧ **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) 1984-2004 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
 # CPU Hyper-Threading                    [Enabled]
   Limit CPUID Max. to 3                  [Enabled]
   On-Chip Frame Buffer Size              [8MB]




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

> "#" System will detect automatically and show up when you install the Intel® Pentium® 4
> processor with HT Technology.

↻ **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   Select your boot device priority by Disabled.

↻ **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.

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

CF **Limit CPUID Max. to 3**
- ▶ Enabled   Limit CPUID Maximum value to 3 when use older OS like NT4. (Default value)
- ▶ Disabled   Disables CPUID Limit for windows XP.

CF **On-Chip Frame Buffer Size**
- ▶ 1MB   Set On-chip frame buffer size to 1MB.
- ▶ 4MB   Set On-chip frame buffer size to 4MB.
- ▶ 8MB   Set On-chip frame buffer size to 8MB. (Default value)
- ▶ 16MB   Set On-chip frame buffer size to 16MB.
- ▶ 32MB   Set On-chip frame buffer size to 32MB.

2-3 Integrated Peripherals

```
                  CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                 Integrated Peripherals
      On-Chip Primary PCI IDE            [Enabled]              ▲  │ Item Help
      On-Chip SATA Mode                  [Auto]                    │ Menu Level▶
    x PATA IDE Set to                    Ch.1 Master/Slave
      SATA Port 0/2 Set to               Ch.2 Master/Slave
      SATA Port 1/3 Set to               Ch.3 Master/Slave
      USB Controller                     [Enabled]
      USB 2.0 Controller                 [Enabled]
      USB Keyboard Support               [Disabled]
      USB Mouse Support                  [Disabled]
      Azalia Codec                       [Auto]
      Onboard H/W 1394                   [Enabled]
      Onboard H/W GigaRAID               [Enabled]
      GigaRAID Function                  [RAID]
      Onboard H/W LAN                    [Enabled]
      Onboard LAN Boot ROM               [Disabled]
      Onboard Serial Port 1              [3F8/IRQ4]
      Onboard IrDA Port                  [2F8/IRQ3]
      UART Mode Select                   [IrDA]
      UR2 Duplex Mode                    Half                  ▼
   ↑↓→←: Move      Enter: Select      +/-/PU/PD: Value      F10: Save      ESC: Exit      F1: General Help
        F5: Previous Values            F6: Fail-Safe Default              F7: Optimized Defaults
```

```
                  CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                 Integrated Peripherals
      Onboard Parallel Port             [378/IRQ7]             ▲  │ Item Help
      Parallel Port Mode                [SPP]                     │ Menu Level▶
    x ECP Mode Use DMA                  3




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

✎ **On-Chip Primary PCI IDE**
  ➤ Enabled   Enable onboard 1st channel IDE port. (Default value)
  ➤ Disabled   Disable onboard 1st channel IDE port.

_{C⁻} **On-Chip SATA Mode**
- ► Disabled   Disable this function.
- ► Auto   BIOS will auto detect. (Default value)
- ► Combined   Set On-Chip SATA mode to Combined, you can use up to 4 HDDs on
                the motherboard; 2 for SATA and the other for PATA IDE.
- ► Enhanced   Set On-Chip SATA mode to Enhanced, the motherboard allows up to 6
                HDDs to use.
- ► Non-Combined   Set On-Chip SATA mode to Non-Combined, SATA will be simulated to
                PATA mode.

_{C⁻} **PATA IDE Set to**
- ► Ch.1 Master/Slave   Set PATA IDE to Ch. 1 Master/Slave. (Default value)
- ► Ch.0 Master/Slave   Set PATA IDE to Ch. 0 Master/Slave.

_{C⁻} **SATA Port 0/2 Set to**
- ► This value will auto make by the setting "On-Chip SATA Mode" and "PATA IDE Set to".
  If PATA IDE were set to Ch. 1 Master/Slave, this function will auto set to Ch. 0 Master/Slave.

_{C⁻} **SATA Port 1/3 Set to**
- ► This value will auto make by the setting "On-Chip SATA Mode" and "PATA IDE Set to".
  If PATA IDE were set to Ch. 0 Master/Slave, this function will auto set to Ch. 1 Master/Slave.

_{C⁻} **USB Controller**
- ► Enabled   Enable USB Controller. (Default value)
- ► Disabled   Disable USB Controller.

_{C⁻} **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.

_{C⁻} **USB Keyboard Support**
- ► Enabled   Enable USB Keyboard Support.
- ► Disabled   Disable USB Keyboard Support. (Default value)

_{C⁻} **USB Mouse Support**
- ► Enabled   Enable USB Mouse Support.
- ► Disabled   Disable USB Mouse Support. (Default value)

_{C⁻} **Azalia Codec**
- ► Auto   Auto detect Azalia audio function. (Default value)
- ► Disabled   Disable Azalia audio function.

_{C⁻} **Onboard H/W 1394**
- ► Enabled   Enable onboard IEEE 1394 function.(Default value)
- ► Disabled   Disable this function.

_{C⁻} **Onboard H/W GigaRAID**
- ► Enabled   Enable Onboard H/W GigaRAID function. (Default value)
- ► Disabled   Disable this function.

_{C⁻} **GigaRAID Function**
- ► RAID   Select onboard GigaRAID chip function as RAID. (Default value)
- ► ATA   Select onboard GigaRAID chip function as a ATA.

☞ **Onboard H/W LAN**
- ▶ Enabled   Enable Onboard H/W LAN function. (Default v alue)
- ▶ Disabled   Disable this function.

☞ **Onboard LAN Boot ROM**
This function decide whether to invoke the boot ROM of the onboard LAN chip.
- ▶ Enabled   Enable this function.
- ▶ Disabled   Disable this function. (Default v alue)

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

☞ **Onboard IrDA Port**
- ▶ Auto   BIOS will automatically setup the IrDA port address.
- ▶ 3F8/IRQ4   Enable onboard IrDA port and address is 3F8/IRQ4.
- ▶ 2F8/IRQ3   Enable onboard IrDA port and address is 2F8/IRQ3. (Default v alue)
- ▶ 3E8/IRQ4   Enable onboard IrDA port and address is 3E8/IRQ4.
- ▶ 2E8/IRQ3   Enable onboard IrDA port and address is 2E8/IRQ3.
- ▶ Disabled   Disable onboard IrDA port .

☞ **UART Mode Select**
This item allows you to determine which Infra Red(IR) function of Onboard I/O chip.
- ▶ ASKIR   Set onboard I/O chip UART to ASKIR Mode.
- ▶ IrDA   Set onboard I/O chip UART to IrDA Mode. (Default v alue)

☞ **UR2 Duplex Mode**
This feature allows you to seclect IR mode.
This function will available when "UART Mode Select" doesn't set at Normal.
- ▶ Half   IR Function Duplex Half. (Default v alue)
- ▶ Full   IR Function Duplex Full.

☞ **Onboard Parallel port**
- ▶ Disabled   Disable onboard LPT port.
- ▶ 378/IRQ7   Enable onboard LPT port and address is 378/IRQ7. (Default v alue)
- ▶ 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 v alue)
- ▶ 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.

☞ **ECP Mode Use DMA**
- ▶ 3   Set ECP Mode Use DMA to 3. (Default v alue)
- ▶ 1   Set ECP Mode Use DMA to 1.

2-4 Power Management Setup

```
CMOS Setup Utility-Copyright (C) 1984-2004 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
Power On By Mouse                    [Disabled]
Power On By Keyboard                 [Disabled]
x  KBPower 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 Default               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**
- ▶ 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 RTC Alarm Lead To Power On is Enabled.
- ▶ Date (of Month) Alarm :   Everyday,1~31
- ▶ Time (hh: mm: ss) Alarm :   (0~23) : (0~59) : (0~59)

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

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

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

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

2-5 PnP/PCI Configurations

```
                 CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                  PnP/PCIConfigurations
   PCI 1 IRQ Assignment                       [Auto]                     Item Help
   PCI 2 IRQ Assignment                       [Auto]            Menu Level▶




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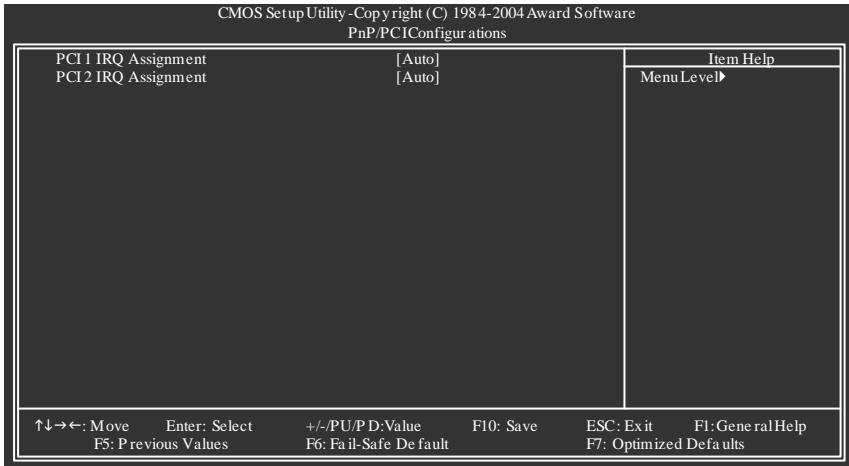
  ↪ **PCI 1 IRQ Assignment**
      ➧ Auto   Auto assign IRQ to PCI 1. (Default value)
      ➧ 3,4,5,7,9,10,11,12,14,15   Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

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

2-6 PC Health Status

```
CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                         PCHealth Status
 Vcore                              OK                    Item Help
 DDR25V                             OK            Menu Level▶
 +3.3V                              OK
 +12V                               OK
 Current CPU Temperature            33ºC
 Current CPU FAN Speed              4687 RPM
 Current POWER FAN Speed            0    RPM
 Current SYSTEM FAN Speed           0    RPM
 CPU Warning Temperature            [Disabled]
 CPU FAN Fail Warning               [Disabled]
 POWER FAN Fail Warning             [Disabled]
 SYSTEM FAN Fail Warning            [Disabled]
 CPU Smart FAN Control              [Enabled]
 CPU FAN PIN Type                   [3 PIN]



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

☞ **Current Voltage(V) Vcore / DDR25V / +3.3V / +12V**
  ▶ Detect system's voltage status automatically.

☞ **Current CPU Temperature**
  ▶ Detect CPU temperature automatically.

☞ **Current CPU/POWER/SYSTEM FAN Speed (RPM)**
  ▶ Detect CPU/POWER/SYSTEM Fan speed status automatically.

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

☞ **CPU/POWER/SYSTEM FAN Fail Warning**
  ▶ Disabled   Fan warning function disable. (Default value)
  ▶ Enabled   Fan warning function enable.

☞ **CPU Smart FAN Control**
  ▶ Disabled   Disable this function.
  ▶ Enabled   Enable CPU Smart Fan control function. (Default value)
                       a. When the CPU temperature is higher than 65 degrees Celsius, CPU fan
                           will run at full speed.
                       b. The speed of CPU fan will increase linearly depand on the temperature if
                           the temperature is more than 41 degree and less than 65 degree.
                       c. When the CPU temperature is lower than 40 degrees Celsius, CPU fan will
                           be disable.

◖ **CPU FAN PIN Type**

In order to make "CPU SmartFAN Control" function work properly, please set the pin number according to the CPU FAN that you used.

▸▸ 3 PIN   Set CPU FAN PIN Type to 3 pin. (Default value)

▸▸ 4 PIN   Set CPU FAN PIN Type to 4 pin.

2-7   MB Intelligent Tweaker(M.I.T.)

```
            CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                     MB Intelligent Tweaker(M.I.T.)

    CPU Clock Ratio                   [15X]                    Item Help
    C.I.A.2                           [Disabled]        Menu Level▶
    CPU Host Clock Control            [Disabled]
  ✕ CPU Host Frequency (Mhz)          200                 Set CPU Ratio if CPU
    Memory Frequency For              [Auto]              Ratio is unclocked
    Memory Frequency (Mhz)            533
    DIMM OverVoltage Control          [Normal]
    PCI-E OverVoltage Control         [Normal]
    CPU Voltage Control               [Normal]
    Normal CPU Vcore                  1.4000V




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

⚠ CAUTION   Incorrect using these features may cause your system broken. For power end-user use only.

◖ **CPU Clock Ratio**

This setup option will automatically assign by CPU detection.

The option will display "Locked" and read only if the CPU ratio is notchangeable.

◖ **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.

▸▸ Disabled   Disable this function. (Default value)

▸▸ Cruise   Set C.I.A.2 to Cruise. (Automatically increase CPU frequency (3%,5%,7%) by CPU loading.

▸▸ Sports   Set C.I.A.2 to Sports. (Automatically increase CPU frequency (5%,7%,9%) by CPU loading.

▸▸ Racing   Set C.I.A.2 to Racing. (Automatically increase CPU frequency (7%,9%, 11%) by CPU loading.

▸▸ Turbo   Set C.I.A.2 to Turbo. (Automatically increase CPU frequency (13,15%,17%) by CPU loading.

▸▸ Full Thrust   Set C.I.A.2 to Full Thrust. (Automatically increase CPU frequency (15%, 17%, 19%) by CPU loading.

Warning: Stability is highly dependent on system components.

CPU Host Clock Control

Please note that if your system is overclocked and cannot restart, please wait 20secs.
for automatic system restart or clear the CMOS setup data and perform a safe restart.
- ▶ Disabled   Disable CPU Host Clock Control. (Default value)
- ▶ Enabled   Enable CPU Host Clock Control.

CPU Host Frequency (Mhz)

This item will be available when "CPU Host Clock Control" is set to Enabled.
- ▶ 100MHz ~ 355MHz   Set CPU Host Clock from 100MHz to 355MHz.
If you use FSB800 Pentium 4 processor, please set "CPU Host Frequency" to 200MHz.
Incorrect using it may cause your system broken. For power End-User use only!

Memory Frequency For

Wrong frequency may make system can't boot, clear CMOS to overcome wrong frequency issue.
for FSB(Front Side Bus) frequency=533MHz,
- ▶ 2.5   Memory Frequency = Host clock x 2.5.
- ▶ 3   Memory Frequency = Host clock x 3.
- ▶ 4   Memory Frequency = Host clock x 4.
- ▶ Auto   Set Memory frequency by DRAM SPD data. (Default value)
for FSB(Front Side Bus) frequency=800MHz,
- ▶ 1.66   Memory Frequency = Host clock X 1.66
- ▶ 2.0   Memory Frequency = Host clock X 2.0.
- ▶ 2.66   Memory Frequency = Host clock X 2.66.
- ▶ Auto   Set Memory frequency by DRAM SPD data. (Default value)

Memory Frequency (Mhz)

The values depend on "Memory Frequency For" item.

DIMM OverVoltage Control

Please note that by overclocking your system through the increase of the DIMM voltage, damage to the
memory may occur.
- ▶ Normal   Set DIMM OverVoltage Control to Normal. (Default value)
- ▶ +0.1V   Set DIMM OverVoltage Control to +0.1V.
- ▶ +0.2V   Set DIMM OverVoltage Control to +0.2V.
- ▶ +0.3V   Set DIMM OverVoltage Control to +0.3V.
Incorrect using it may cause your system broken. For power End-User use only!

PCI-E OverVoltage Control

- ▶ Normal   Set PCI-E OverVoltage Control to Normal. (Default value)
- ▶ +0.1V   Set PCI-E OverVoltage Control to +0.1V.
- ▶ +0.2V   Set PCI-E OverVoltage Control to +0.2V.
- ▶ +0.3V   Set PCI-E OverVoltage Control to +0.3V.

CPU Voltage Control

- ▶ Supports adjustable CPU Vcore from 0.8375V to 1.6000V. (Default value: Normal)
Warning: CPU may be damaged or reduce CPU life-cycle when CPU is over-voltage.

Normal CPU Vcore

Display your CPU Vcore Voltage.

GA-8I915G Pro Motherboard   - 44 -

2-8   Load Fail-Safe Defaults

```
CMOS Setup Utility -Copy right (C) 1984-2004 Award Software
   ▶   Standard CMOS Features               Load Fail-Safe Defaults
   ▶   Advanced BIOS Features               Load Optimized Defaults
   ▶   Integrated Peripherals               Set Supervisor Password
   ▶   Power Mar-----------                 ------ -------------
   ▶   PnP/PCIC            Load Fail-Safe D efaults (Y/N)?N
   ▶   PC Health Status                     Exit Without Saving
   ▶   MB Intelligent Tweaker(M.I.T.)

   ESC: Quit                                ↑↓→←:Selec t Item
   F8: Q- Flash                             F10: Save &  Exit Setup
                      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
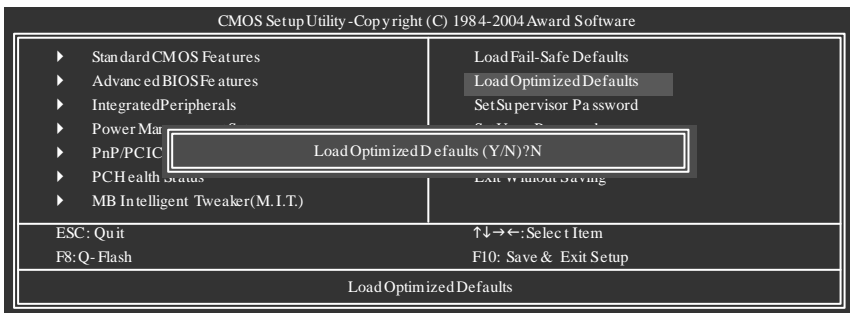
```
CMOS Setup Utility -Copy right (C) 1984-2004 Award Software
   ▶   Standard CMOS Features               Load Fail-Safe Defaults
   ▶   Advanced BIOS Features               Load Optimized Defaults
   ▶   Integrated Peripherals               Set Supervisor Password
   ▶   Power Mar-----------                 ------ -------------
   ▶   PnP/PCIC           Load Optimized D efaults (Y/N)?N
   ▶   PC Health Status                     Exit Without Saving
   ▶   MB Intelligent Tweaker(M.I.T.)

   ESC: Quit                                ↑↓→←:Selec t Item
   F8: Q- Flash                             F10: Save &  Exit Setup
                      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
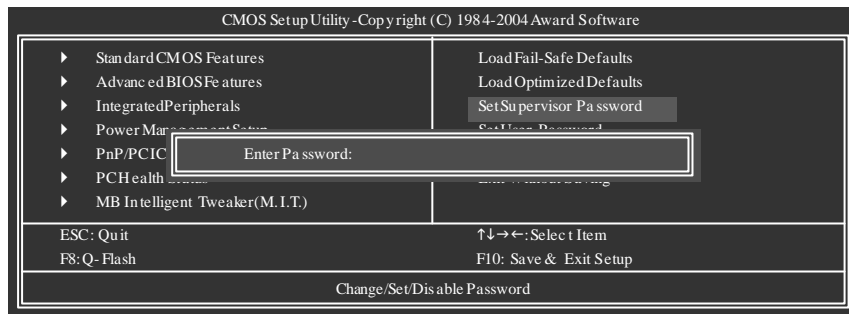
```
CMOS Setup Utility -Copy right (C) 1984-2004 Award Software
```

▶ 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/PCIC	Enter Password:
▶ PCH ealth	
▶ MB Intelligent Tweaker(M.I.T.)	

ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup

```
Change/Set/Disable Password
```

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

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) 1984-2004 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/PCIC ~~figuration~~	~~Save & Exit Setup~~
▶ PCHealth	Save to CMOS and EXIT (Y/N)? Y
▶ MB Intelligent Tweaker(M.I.T.)	
ESC: Quit	↑↓→←:Select Item
F8: Q-Flash	F10: Save & Exit Setup
Save & Exit Setup	

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) 1984-2004 Award Software	
▶ Standard CMOS Features	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Mar~~ ~~	~~Set User Password~~
▶ PnP/PCIC	Quit Without Saving (Y/N)? N
▶ PCHealth Status	~~Exit Without Saving~~
▶ MB Intelligent Tweaker(M.I.T.)	
ESC: Quit	↑↓→←:Select Item
F8: Q-Flash	F10: Save & Exit Setup
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 Drivers Installation

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

3-1 Install Chipset Drivers

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

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

Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.
System will reboot automatically after install the drivers, afterward you can install others application.
For USB2.0 driver support under Windows XP operating system, please use Windows Service Pack. After install Windows Service Pack, it will show a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the question mark and restart the system (System will auto-detect the right USB2.0 driver).

3-2   Software Applications

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

3-3   Driver CD Information

This page lists the contents of software and drivers in this CD-title.

3-4 Hardware Information

This page lists all device you have for this motherboard.

3-5 Contact Us

Please see the last page for details.

Chapter 4 Appendix

4-1   Unique Software Utilities

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

U-PLUS D.P.S. (Universal Plus Dual Power System)

The U-Plus Dual Power System (U-Plus DPS) is a revolutionary eight-phase power circuit built for ultimate system protection. Designed to withstand varying current levels and changes, the U-Plus D.P.S. provides an immensely durable and stable power circuit to the CPU for solid system stability. These characteristics make it the ideal companion with the latest LGA775 Intel® Pentium® 4 Processor as well as future Intel® processors. As well, 4 blue LED's are mounted on the U-Plus D.P.S. for intelligent indication of system loading.

M.I.T. (Motherboard Intelligent Tweaker)

Motherboard Intelligent Tweaker (M.I.T.) allows user to access and change BIOS feature settings with relative speed and ease. Through GIGABYTE M.I.T. feature the user is no longer required to switch into different modes within BIOS setup in order to change system settings such as the CPU system bus, memory timings or to enabled Gigabyte's unique C.I.A. 2 and M.I.B. 2 features. M.I.T.'s integration of all platform performance settings into a single mode now gives any user the ability to control and enhance their computer system to the desired level.

C.I.A.2 (CPU Intelligent Accelerator 2)

GIGABYTE CPU Intelligent Accelerator 2(C.I.A. 2) is designed to automatically adjust CPU computing power to maximize system performance. When enabled, the program detects the current CPU loading and automatically accelerates the CPU computing performance to allow for a faster and smoother execution of programs. When the function is disabled, the CPU is returned to its initial status.

M.I.B.2 (Memory Intelligent Booster 2)

Built on the original M.I.B., the new Memory Intelligent Booster 2 (M.I.B. 2) is designed espe-cially to maximize memory performance and boost memory bandwidth up to 10%. With added branded memory module information, users are able to optimize memory performance by selecting from a recommended memory module list.

S.O.S. (System Overclock Saver)

System Overclock Saver (S.O.S.) is a unique feature that eliminates system boot-up errors resulting from system over-enhancement by the user. With GIGABYTE's proprietary S.O.S. feature, users no longer need to open up the PC chassis and short-circuit the "Clear CMOS" pins or the battery on the motherboard to reset the system back to factory default settings. Instead, S.O.S. automatically resets the overclocked system settings back to their factory defaults to provide a more user-friendly and reliable platform for users.

Download Center

Download Center allows users to quickly download and update their BIOS as well as the latest drivers for their system. Download Center automatically runs a system check of the user PC and provides the user with the current system information as well as displaying a detailed list of all new drivers with the option for download.

C.O.M. (Corporate Online Management)

A web-based system management tool that allows system hardware information such as CPU, memory, graphics card, etc. to be monitored and controlled via the Internet, C.O.M. allows corporate MIS engineers to easily maintain corporate computers such as providing the most up-to-date drivers and BIOS.

4-1-1   Xpress Recovery Introduction

What is Xpress Recovery ?

Xpress Recovery is a utility used to back up and restore an OS partition. If the hard drive is not working properly, the user can restore the drive to its original state.

CAUTION

1. Supports FAT16, FAT32, and NTFS formats
2. Must be connected to the IDE1 Master
3. Allows installation of only one OS
4. Must be used with an IDE hard disk supporting HPA
5. The first partition must be set as the boot partition. When the boot partition is backed up, please do not alter its size.
6. Xpress Recovery is recommended when using Ghost to return boot manager to NTFS format.

How to use the Xpress Recovery

1. Boot from CD-ROM (BMP Mode)

   Enter the BIOS menu, select "Advanced BIOS Feature" and set to boot from CD-ROM. Insert the provided driver CD into your CD drive, then save and exit the BIOS menu. Once the computer has restarted, the phrase "Boot from CD:" will appear at the bottom left-hand corner of the screen. When "Boot from CD:" appears, press any key to enter Xpress Recovery.

   Once you have completed this step, subsequent access to Xpress Recovery can also function by pressing the F9 key during computer power on.

Boot from CD:

Xpress Recovery V1.0 (C) Copy Right 2003. GIGABYTE Technology CO.', Ltd.

1. Execute Backup Utility
2. Execute Restore Utility
3. Remove Backup Image
4. Set Password
5. Exit and Restart

Build 2011

2. Press F9 during powering on the computer. (Text Mode)
    Press F9 during powering on the computer .

F9 For Xpress Recovery

Xpress Recovery V1.0 (C) Copy Right 2003. GIGABYTE Technology CO. , Ltd.

1. Execute Backup Utility
2. Execute Restore Utility
3. Remove Backup Image
4. Set Password
5. Exit and Restart
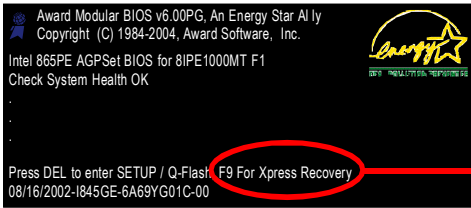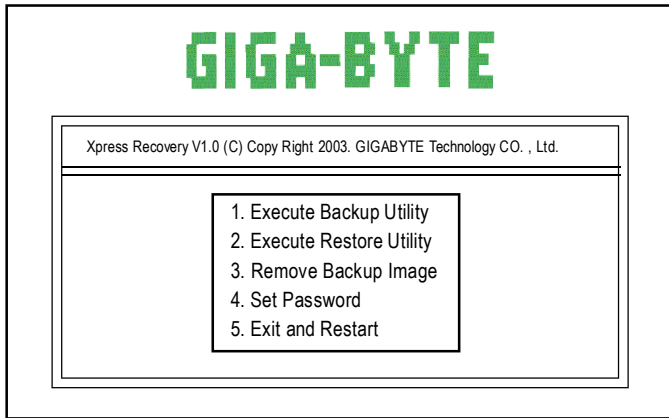
1. If you have already entered Xpress Recovery by booting from the CD-ROM, you can enter Xpress Recovery in the future by pressing the F9 key.
2. System storage capacity as well as drive reading/writing speed will affect backup speed.
3. It is recommended that Xpress Recovery be immediately installed after OS and all required driver and software installations are complete.

1. Execute Backup Utility:

✎ **Press B to Backup your System or Esc to Exit**

The backup utility will automatically scan your system and back up data as a backup image in your hard drive.

⚠ **CAUTION** Not all systems support access to Xpress Recovery by pressing the F9 key during computer power on. If this is the case, please use the boot from CD-ROM method to enter Xpress Recovery.

2. Execute Restore Utility:

✎ **This program will recover your system to factory default.**

Press R to restore your system back to factory default or press Esc to exit

Restores backup image to original state.

3. Remove Backup Image:

✎ **Remove backup image. Are you sure? (Y/N)**

Remove the backup image.

4. Set Password:

✎ **Please input a 4-16 character long password (a-z or 0-9) or press Esc to exit**

You can set a password to enter Xpress Recovery to protect your hard disk data. Once this is done, password input will be required to enter Xpress Recovery during the next as well as subsequent system restarts. If you wish to remove the need for password entry, please select "Set Password" and under "New Password/Confirm Password", make sure there is no entry and then press "Enter" to remove password requirement.

5. Exit and Restart:

Exit and restart your computer.

4-1-2   Flash BIOS Method Introduction

A.   What is Dual BIOS Technology?

Dual BIOS means that there are two system BIOS (ROM) on the motherboard, one is the Main BIOS and the other is Backup BIOS.

Under the normal circumstances, the system works on the Main BIOS. If the Main BIOS is corrupted or damaged, the Backup BIOS can take over while the system is powered on. This means that your PC will still be able to run stably as if nothing has happened in your BIOS.

B.   How to use Dual BIOS and Q-Flash Utility?

a. After power on the computer, pressing <Del> immediately during POST (Power On Self Test) it will allow you to enter Award BIOS CMOS SETUP, then press <F8> to enter Flash utility.

CMOS Setup Utility-Copyright (C) 1984-2004 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
F8: Dual BIOS/Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

b.   Dual BIOS / Q-Flash Programming Utility

Dual BIOS Utility V1.33	
Boot From...	Main Bios
Main ROM Type/Size..............................	SST 49LF004A 512K
Backup ROM Type/Size...........................	SST 49LF004A 512K
Wide Range Protection	Disable
Boot From	Main Bios
Auto Recovery	Enable
Halt On Error	Disable
Keep DMI Data	Enable
Copy Main ROM Data to Backup	
Load Default Settings	
Save Settings to CMOS	
Q-Flash Utility	
Update Main BIOS from Floppy	
Update Backup BIOS from Floppy	
Save Main BIOS to Floppy	
Save Backup BIOS to Floppy	
PgDn/PgUp: Modify ↑↓: Move ESC: Reset F10: Power Off	

c. Dual BIOS Item explanation:

Wide Range Protection: Disable(Default), Enable

Status 1:

If any failure (ex. Update ESCD failure, checksum error or reset? occurs in the Main BIOS, just before the Operating System is loaded and after the power is on, and that the Wide Range Protection is set to "Enable", the PC will boot from Backup BIOS automatically.

Status 2:

If the ROM BIOS on peripherals cards(ex. SCSI Cards, LAN Cards,..) emits signals torequest restart of the system after the user make any alteration on it, the boot up BIOS will not be changed to the Backup BIOS.

Boot From : Main BIOS(Default), Backup BIOS

Status 1:

The user can set to boot from main BIOS or Backup BIOS.

Status 2:

If one of the main BIOS or the Backup BIOS fails, this item "Boot From : Main BIOS(Default)" will become gray and will not be changed by user.

Auto Recovery : Enable(Default), Disable

When one of the Main BIOS or Backup BIOS occurs checksum failure, the working BIOS will automatically recover the BIOS of checksum failure.

(In the Power Management Setup of the BIOS Setting, if ACPI Suspend Type is set to Suspend to RAM, the Auto Recovery will be set to Enable automatically.)

(If you want to enter the BIOS setting, please press "Del" key when the boot screen appears.)

Halt On Error : Disable(Default), Enable

If the BIOS occurs a checksum error or the Main BIOS occurs a WIDE RANGE PROTECTION error and Halt On Error set to Enable, the PC will show messages on the boot screen, and the system will pause and wait for the user's instruction.

If Auto Recovery :Disable, it will show <or the other key to continue.>

If Auto Recovery :Enable, it will show <or the other key to Auto Recover.>

Keep DMI Data : Enable(Default), Disable

Enable: The DMI data won't be replaced by flashing new BIOS.(recommend)

Disable: The DMI data will be replaced by flashing new BIOS.

Copy Main ROM Data to Backup

(If you boot from Backup ROM, this item will change to Copy Backup ROM Data to Main)

Auto recovery message:

BIOS Recovery: Main to Backup

The means that the Main BIOS works normally and could automatically recover the Backup BIOS.

BIOS Recovery: Backup to Main

The means that the Backup BIOS works normally and could automatically recover the Main BIOS.

(This auto recovery utility is set by system automatically and can't be changed by user.)

Load Default Settings

Load dual BIOS default value.

Save Settings to CMOS

Save revised setting.

Method 1 : Q-Flash™ Utility

Q-Flash™ is a BIOS flash utility embedded in Flash ROM. With this utility, users only have to stay in the BIOS menu when they want to update BIOS. Q-Flash?allows users to flash BIOS without any utility in DOS or Windows. Using Q-Flash™ indicating no more fooling around with any complicated instructions and operating system since it is in the BIOS menu.

CAUTION

Please note that because updating BIOS has potential risk, please do it with caution!! We are sorry that Gigabyte Technology Co., Ltd is not responsible for damages of system because of incorrect manipulation of updating BIOS to avoid any claims from end-users.

Before You Begin:

Before you start updating BIOS with the Q-Flash™ utility, please follow the steps below first.

1. Download the latest BIOS for your motherboard from Gigabyte's website.
2. Extract the BIOS file downloaded and save the BIOS file (the one with model name.Fxx. For example, 8KNXPU.Fba) to a floppy disk.
3. Reboot your PC and press **Del** to enter BIOS menu.

The BIOS upgrading guides below are separated into two parts.
If your motherboard has dual-BIOS, please refer to **Part One**.
If your motherboard has single-BIOS, please refer to **Part Two**.

Part One:

Updating BIOS with Q-Flash™ Utility on Dual BIOS Motherboards.

Some of Gigabyte motherboards are equipped with dual BIOS. In the BIOS menu of the motherboards supporting Q-Flash and Dual BIOS, the Q-Flash utility and Dual BIOS utility are combined in the same screen. This section only deals with how to use Q-Flash utility.
In the following sections, we take GA-8KNXP Ultra as the example to guide you how to flash BIOS from an older version to the latest version. For example, from Fa3 to Fba.

The BIOS file is Fa3
before updating

```
Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2003, Award Software, Inc.

Intel i875P AGPset BIOS for 8KNXP Ultra Fa3
Check System Health OK , Voltage = 1.5250
Main Processor : Intel Pentium(R) 4  1.6GHz (133x12)
<CPUID : 0F27 Patch ID : 0027>
Memory Testing  : 131072K OK

Memory Frequency 266 MHz in Single Channel
Primary Master : FUJITSU MPE3170AT ED-03-08
Primary Slave : None
Secondary Master : CREATIVEDVD-RM DVD1242E BC101
Secondary Slave : None

Press DEL to enter SETUP / Dual BIOS / Q-Flash / F9 For
Xpress Recovery
08/07/2003-i875P-6A79BG03C-00
```

Entering the Q-Flash™ utility:

Step1: To use Q-Flash utility, you must press **Del** in the boot screen to enter BIOS menu.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software	
▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Management Setup	Set Supervisor Password
▶ PnP/PCI Configurations	Set User Password
▶ PC Health Status	Save & Exit Setup
▶ MB Intelligent Tweaker(M.I.T.)	Exit Without Saving
ESC: Quit	F3: Change Language
F8: Dual BIOS/Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

Step 2: Press **F8** button on your keyboard and then **Y** button to enter the Dual BIOS/Q-Flash utility.

Exploring the Q-Flash™ / Dual BIOS utility screen

The Q-Flash / Dual BIOS utility screen consists of the following key components.

Dual BIOS utility bar

```
                          Dual BIOS Utility
  Boot From...........................................     Main Bios
  Main ROM Type/Size.............................SST 49LF004A        512K
   Backup ROM Type/Size.........................SST 49LF004A        512K

                  Wide Range Protection    Disable
                          Boot From    Main Bios
                  Auto Recovery    Enable
                  Halt On Error    Disable
               Copy Main ROM Data to Backup
                   Load Default Settings
                    Save Settings to CMOS
                          Q-Flash Utility
                    Load Main BIOS from Floppy
                   Load Backup BIOS from Floppy
                    Save Main BIOS to Floppy
                   Save Backup BIOS to Floppy
     Enter : Run        ↑↓:Move        ESC:Reset      F10:Power Off
```

Task menu for Dual BIOS utility

Task menu for Q-Flash™ utility

Q-Flash™ utility title bar

Action bar

Task menu for Dual BIOS utility:

Contains the names of eight tasks and two item showing information about the BIOS ROM type. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

Task menu for Q-Flash utility:

Contains the names of four tasks. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

Action bar:

Contains the names of four actions needed to operate the Q-Flash/Dual BIOS utility. Pressing the buttons mentioned on your keyboards to perform these actions.

Using the Q-Flash™ utility:

This section tells you how to update BIOS using the Q-Flash utility. As described in the "Before you begin" section above, you must prepare a floppy disk having the BIOS file for your motherboard and insert it to your computer. If you have already put the floppy disk into your system and have entered the Q-Flash utility, please follow the steps below to flash BIOS.

Steps:

1. Press arrow buttons on your keyboard to move the light bar to "Load Main BIOS from Floppy" item in the Q-Flash menu and press Enter button.

    Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.

    If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main
    NOTE   BIOS to Floppy" item.

2. Move to the BIOS file you want to flash and press **Enter**.

   In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.

CAUTION   Please confirm again you have the correct BIOS file for your motherboard.

Dual BIOS Utility		
Boot From... Main Bios		
Main ROM Type/Size.............................SST 49LF004A	512K	
Backup ROM Type/Size.........................SST 49LF004A	512K	
Wide Range Protection Disable		
1 file(s) found		
8KNXPU.Fba	512K	
Total size : 1.39M	Free size : 911.50K	
F5 : Refresh	DEL : Delete	
Save Settings to CMOS		
Q-Flash Utility		
Load Main BIOS from Floppy		
Load Backup BIOS from Floppy		
Save Main BIOS to Floppy		
Save Backup BIOS to Floppy		
Enter : Run ↑↓:Move ESC:Reset F10:Power Off		
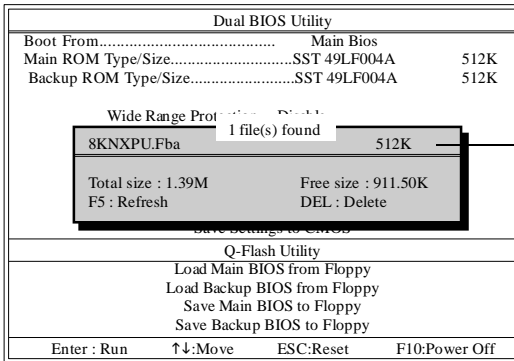
BIOS file in the floppy disk.

After pressing **Enter**, you'll then see the progress of reading the BIOS file from the floppy disk.

Dual BIOS Utility		
Boot From... Main Bios		
Main ROM Type/Size.............................SST 49LF004A	512K	
Backup ROM Type/Size.........................SST 49LF004A	512K	
Wide Range Protection Disable		
Reading BIOS file from floppy ...		
>>>>>>>>>>>>>>.....................		
Don't Turn Off Power or Reset System		
Save Settings to CMOS		
Q-Flash Utility		
Load Main BIOS from Floppy		
Load Backup BIOS from Floppy		
Save Main BIOS to Floppy		
Save Backup BIOS to Floppy		
Enter : Run ↑↓:Move ESC:Reset F10:Power Off		
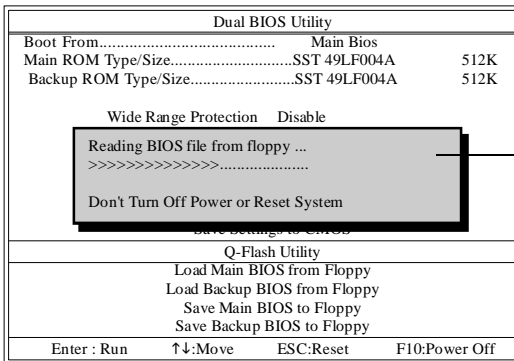
CAUTION   Do not trun off power or reset your system at this stage!!

After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

3. Press Y button on your keyboard after you are sure to update BIOS.

Then it will begin to update BIOS. The progress of updating BIOS will be displayed.

⚠ Please do not take out the floppy disk when it begins flashing BIOS.
CAUTION

4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.

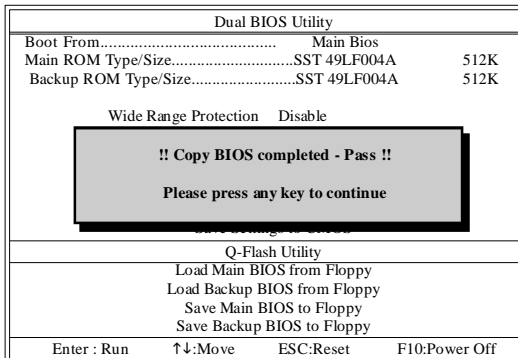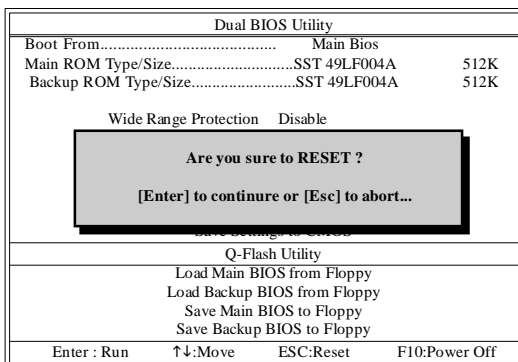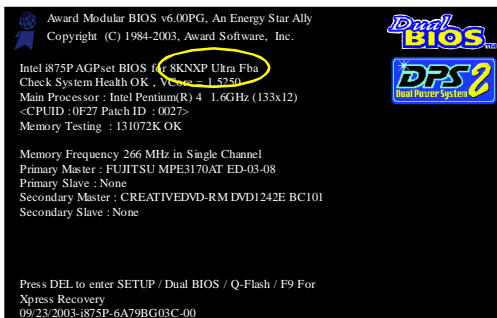| Dual BIOS Utility		
Boot From..	Main Bios	
Main ROM Type/Size............................SST 49LF004A		512K
Backup ROM Type/Size........................SST 49LF004A		512K
Wide Range Protection Disable		
!! Copy BIOS completed - Pass !!		
Please press any key to continue		
Save Settings to CMOS		
Q-Flash Utility		
Load Main BIOS from Floppy		
Load Backup BIOS from Floppy		
Save Main BIOS to Floppy		
Save Backup BIOS to Floppy		
Enter : Run	↑↓:Move ESC:Reset	F10:Power Off

📓 NOTE
You can repeat Step 1 to 4 to flash the backup BIOS, too.

5. Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.
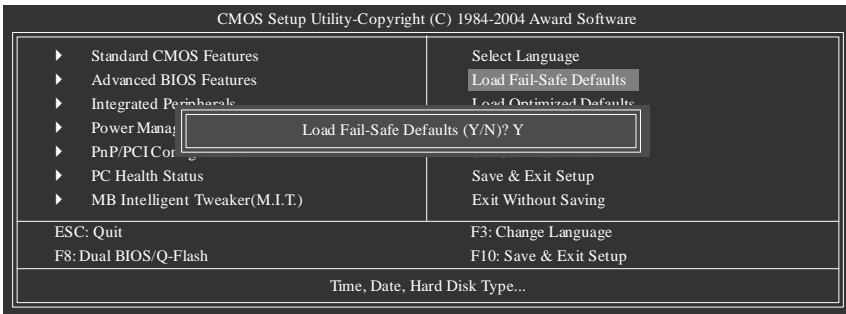
Dual BIOS Utility		
Boot From..	Main Bios	
Main ROM Type/Size............................SST 49LF004A		512K
Backup ROM Type/Size........................SST 49LF004A		512K
Wide Range Protection Disable		
Are you sure to RESET ?		
[Enter] to continure or [Esc] to abort...		
Save Settings to CMOS		
Q-Flash Utility		
Load Main BIOS from Floppy		
Load Backup BIOS from Floppy		
Save Main BIOS to Floppy		
Save Backup BIOS to Floppy		
Enter : Run	↑↓:Move ESC:Reset	F10:Power Off

After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

The BIOS file becomes Fab after updating.

```
Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2003, Award Software,  Inc.

Intel i875P AGPset BIOS for 8KNXP Ultra Fba
Check System Health OK , VCore = 1.5250
Main Processor : Intel Pentium(R) 4   1.6GHz (133x12)
<CPUID :0F27 Patch ID : 0027>
Memory Testing  : 131072K OK

Memory Frequency 266 MHz in Single Channel
Primary Master : FUJITSU MPE3170AT ED-03-08
Primary Slave : None
Secondary Master : CREATIVEDVD-RM DVD1242E BC101
Secondary Slave : None



Press DEL to enter SETUP / Dual BIOS / Q-Flash / F9 For
Xpress Recovery
09/23/2003-i875P-6A79BG03C-00
```
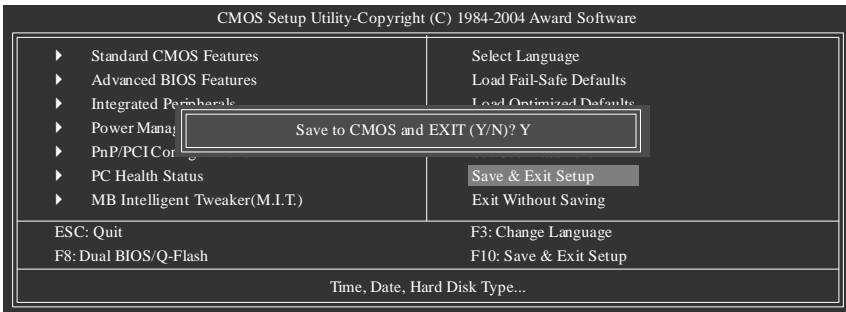
GA-8I915G Pro Motherboard   - 62 -

6. Press **Del** to enter BIOS menu after system reboots. When you are in BIOS menu, move to **Load Fail-Safe Defaults** item and press **Enter** to load BIOS Fail-Safe Defaults. Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS defaults after BIOS has been upgraded.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software	
▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Manag Load Fail-Safe Defaults (Y/N)? Y	
▶ PnP/PCI Con	
▶ PC Health Status	Save & Exit Setup
▶ MB Intelligent Tweaker(M.I.T.)	Exit Without Saving
ESC: Quit	F3: Change Language
F8: Dual BIOS/Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

Press **Y** on your keyboard to load defaults.

7. Select **Save & Exit Setup** item to save the settings to CMOS and exit the BIOS menu. System will reboot after you exit the BIOS menu. The procedure is completed.
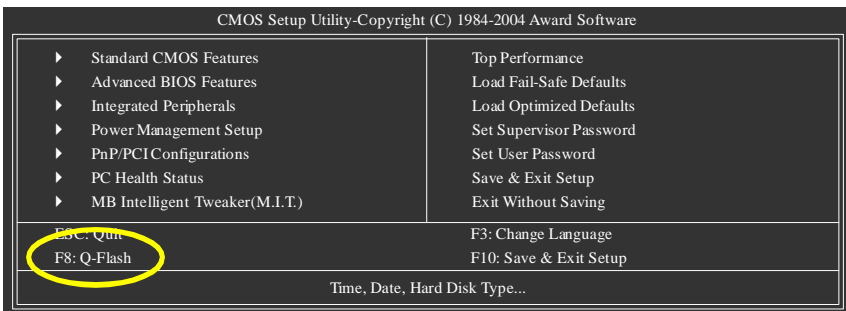
CMOS Setup Utility-Copyright (C) 1984-2004 Award Software	
▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Manag Save to CMOS and EXIT (Y/N)? Y	
▶ PnP/PCI Con	
▶ PC Health Status	Save & Exit Setup
▶ MB Intelligent Tweaker(M.I.T.)	Exit Without Saving
ESC: Quit	F3: Change Language
F8: Dual BIOS/Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

Press **Y** on your keyboard to save and exit.
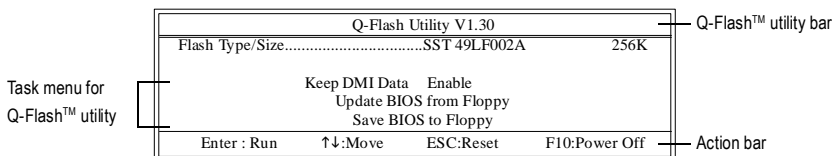
Part Two:

Updating BIOS with Q-Flash™ Utility on Single-BIOS Motherboards.

This part guides users of single-BIOS motherboards how to update BIOS using the Q-Flash™ utility.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software	
▶ Standard CMOS Features	Top Performance
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Management Setup	Set Supervisor Password
▶ PnP/PCI Configurations	Set User Password
▶ PC Health Status	Save & Exit Setup
▶ MB Intelligent Tweaker(M.I.T.)	Exit Without Saving
ESC: Quit	F3: Change Language
F8: Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

Exploring the Q-Flash™ utility screen

The Q-FlashBIOS utility screen consists of the following key components.

```
                        Q-Flash Utility V1.30                          ——— Q-Flash™ utility bar
       Flash Type/Size..................................SST 49LF002A           256K

                        Keep DMI Data    Enable
                        Update BIOS from Floppy
                        Save BIOS to Floppy
       Enter : Run        ↑↓:Move        ESC:Reset        F10:Power Off   ——— Action bar
```

Task menu for Q-Flash™ utility

Task menu for Q-Flash utility:

Contains the names of three tasks. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

Action bar:

Contains the names of four actions needed to operate the Q-Flash utility. Pressing the buttons mentioned on your keyboards to perform these actions.

Using the Q-Flash™ utility:

This section tells you how to update BIOS using the Q-Flash utility. As described in the "Before you begin" section above, you must prepare a floppy disk having the BIOS file for your motherboard and insert it to your computer. If you have already put the floppy disk into your system and have entered the Q-Flash utility, please follow the steps below to flash BIOS.

Steps:

1.   Press arrow buttons on your keyboard to move the light bar to "Update BIOS from Floppy" item in the Q-Flash menu and press Enter button.
     Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.
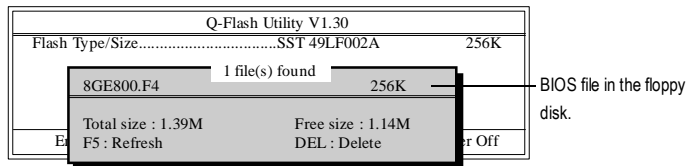
> **NOTE** If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floppy" item.

2.   Move to the BIOS file you want to flash and press Enter.
     In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8GE800.F4, is listed.

> **CAUTION** Please confirm again you have the correct BIOS file for your motherboard.

```
                        Q-Flash Utility V1.30
       Flash Type/Size..................................SST 49LF002A           256K
       ┌─────────────────── 1 file(s) found ───────────────────┐
       │ 8GE800.F4                              256K            │          ——— BIOS file in the floppy
       │                                                        │              disk.
       │ Total size : 1.39M             Free size : 1.14M       │
       │ F5 : Refresh                   DEL : Delete            │  er Off
       └────────────────────────────────────────────────────────┘
```

```
                        Q-Flash Utility V1.30                                    ⚠ CAUTION
       Flash Type/Size..................................SST 49LF002A           256K
       ┌────────────────────────────────────────────────────────┐   Do not trun off power or
       │ Reading BIOS file from floppy ...                       │   reset your system at
       │ >>>>>>>>>>>>>.....................                      │   this stage!!
       │ Don't Turn Off Power or Reset System                   │  er Off
       └────────────────────────────────────────────────────────┘
```
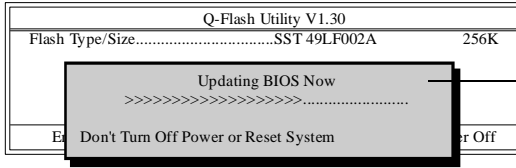
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

> **CAUTION** Please do not take out the floppy disk when it begins flashing BIOS.

GA-8I915G Pro Motherboard   - 64 -
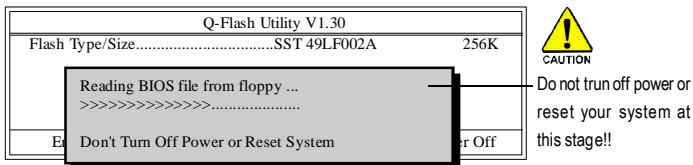
3. Press Y button on your keyboard after you are sure to update BIOS.
   Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.
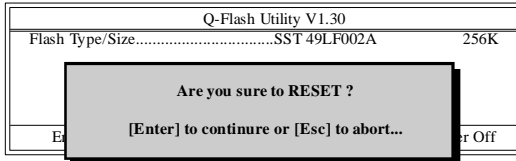


```
                    Q-Flash Utility V1.30
Flash Type/Size................................SST 49LF002A        256K
                      Updating BIOS Now
       >>>>>>>>>>>>>>>>>>..........................
   En    Don't Turn Off Power or Reset System            er Off
```

⚠ CAUTION

Do not trun off power or reset your system at this stage!!

4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.

```
                    Q-Flash Utility V1.30
Flash Type/Size................................SST 49LF002A        256K

               !! Copy BIOS completed - Pass !!

              Please press any key to continue
   En                                                    er Off
```

5. Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.

```
                    Q-Flash Utility V1.30
Flash Type/Size................................SST 49LF002A        256K

                  Are you sure to RESET ?

           [Enter] to continure or [Esc] to abort...
   En                                                    er Off
```
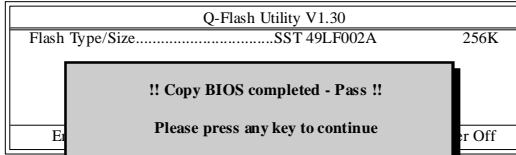
After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

The BIOS file becomes F4 after updating

```
Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2003, Award Software,  Inc.

Intel 845GE AGPSet BIOS  for 8GE800 F4
Check System Health OK
Main Processor : Intel Pentium(R) 4  1.7GHz (100x17.0)
<CPUID : 0F0A Patch ID : 0009>
Memory Testing : 122880K OK + 8192K Shared Memory

Primary Master : FUJITSU MPE3170AT ED-03-08
Primary Slave : None
Secondary Master : CREATIVEDVD-RM DVD1242E BC101
Secondary Slave : None




Press DEL to enter SETUP / Q-Flash
03/18/2003-I845GE-6A69YG01C-00
```

6. Press Del to enter BIOS menu after system reboots and "Load BIOS Fail-Safe Defaults". See how to Load BIOS Fail-Safe Defaults, please kindly refer to Step 6 to 7 in **Part One**.

Congratulation!! You have updated BIOS successfully!!

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
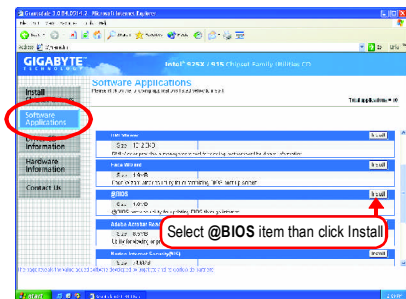
Fig 2. Installation complete and run @BIOS

Select **@BIOS** item than click Install

Click Sart/ Programs/ GIGABYTE/@BIOS
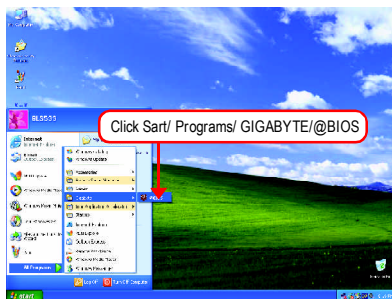
Fig 3. The @BIOS utility

Fig 4. Select the desired @BIOS server
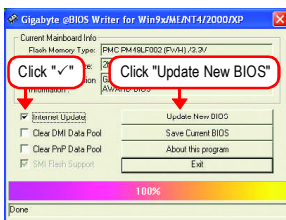
Click " ✓ "   Click "Update New BIOS"

1. Methods and steps:

I. Update BIOS through Internet
   a. Click "Internet Update" icon
   b. Click "Update New BIOS" icon
   c. Select @BIOSTM 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: 8I915G Pro.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 @BIOSTM 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

4-1-4   2 / 4 / 5.1 / 7.1 Channel Audio Function Introduction
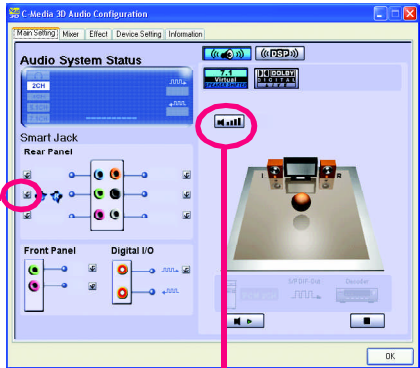
After installation of the audio driver, you'll find an [icon] icon in the system area. Double click the icon to se-lect the function.
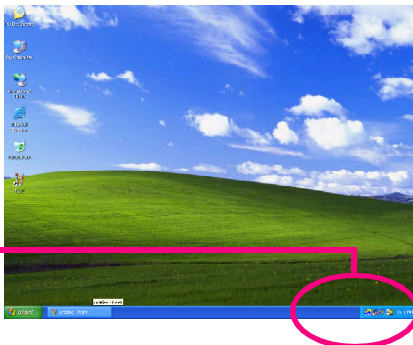
If the icon can not be found, go to the control panel from the system menu and double click the C-Media CPL icon. Open "CMI Audio Config" and then go to "Information" tab. Make sure "Show the audio configuration icon in the system tray" is checked.
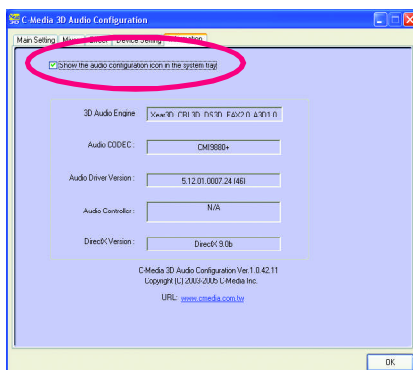
There are 5 kinds of output mode: Earphone Output Mode, 2 / 4 / 5.1 / 7.1 Channel Output Mode.

    Earphone Output Mode --   Only earphone output is configured on the system.
    2 Channel Output Mode --   Front speakers are configured on the system.
    4 Channel Output Mode --   Front speakers and surround speakers are configured on the system.
    5.1 Channel Output Mode -- Front speakers, surround speakers and center/subwoofer speakers are
                               configured on the system.
    7.1 Channel Output Mode -- Front speakers, surround speakers, center/subwoofer speakers and
                               back surround speakers are configured on the system.
The output mode is decided by the sequence with high priority in the front: back surround speakers, center/subwoofer speakers, surround speakers, front speakers and earphone. (e.g. if back surround speakers are configured, then the system will be in 7.1 channel output mode no matter what other output devices are configured.)

2 Channel Audio Setup:

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

STEP 1:
Connect the stereo speakers or earphone to "Line Out".
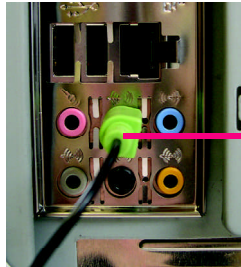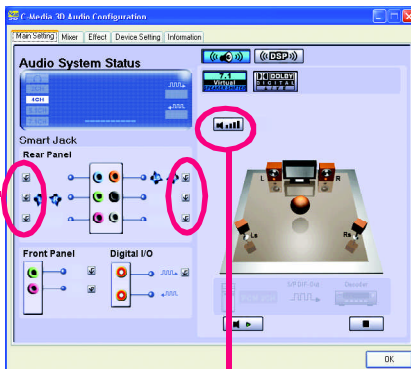
Line Out

STEP 2:
After installation of the audio driver, you'll find an icon in the system area. Double click the icon to select the function.
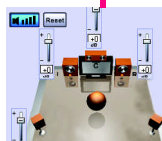
3:41 PM
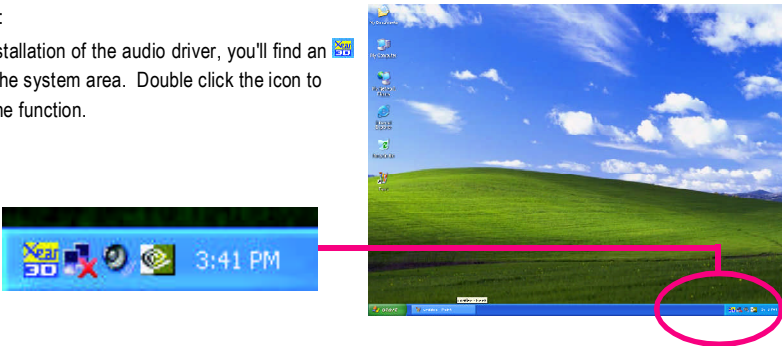
STEP 3:
Click "C-Media 3D Audio Configuration" and then select "Main Setting". The current audio mode is displayed in "Audio System Status". "Smart Jack" would auto-detect the speaker type you connect and gives you the functions to manually modify the speaker settings.

The function to manually modify speaker settings.

Front Speakers(L/R)
Surround Speakers(Ls/Rs)
Center/Subwoofer Speakers(C/Sub)
Back Surround Speakers(Lb/Rb)
Earphone/Headset
Line Input Audio Device
Microphone
No Function

The function to adjust speaker volume.

4 Channel Audio Setup

STEP 1 :

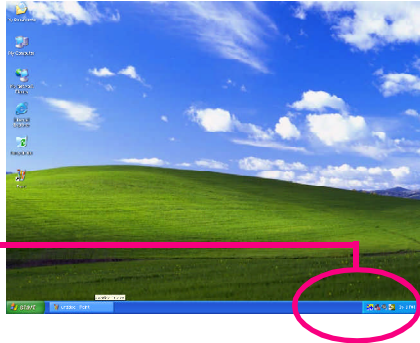Connect the front speaker to "Front Speaker Out" and the surround speaker to "Surround speaker out".
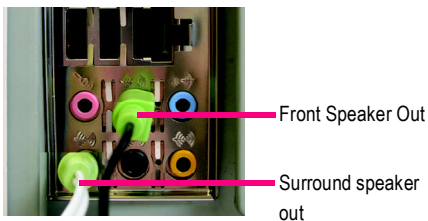
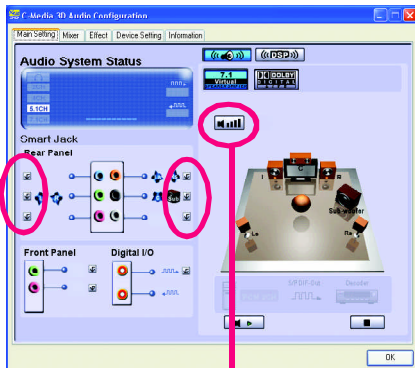Front Speaker Out

Surround speaker out

STEP 2:

After installation of the audio driver, you'll find an icon in the system area. Double click the icon to select the function.
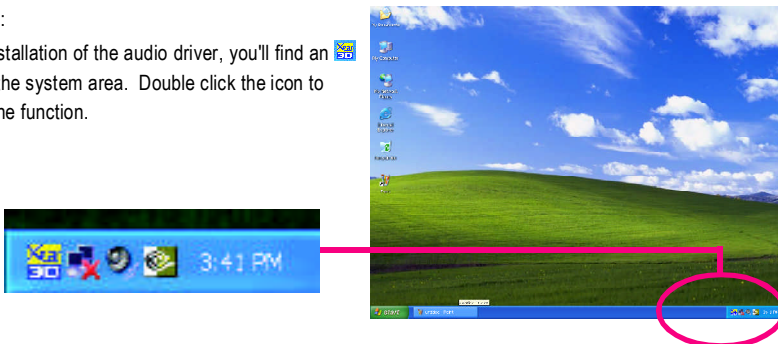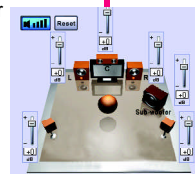

STEP 3:

Click "C-Media 3D Audio Configuration" and then select "Main Setting". The current audio mode is display in "Audio System Status". "Smart Jack" would auto-detect the speaker type you connect and gives you the functions to manually modify speaker the settings.
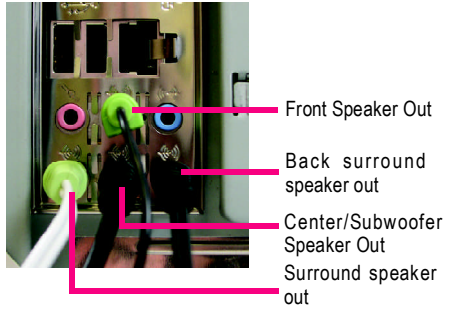
The function to manually modify speaker setting.

The function to adjust speaker volume.
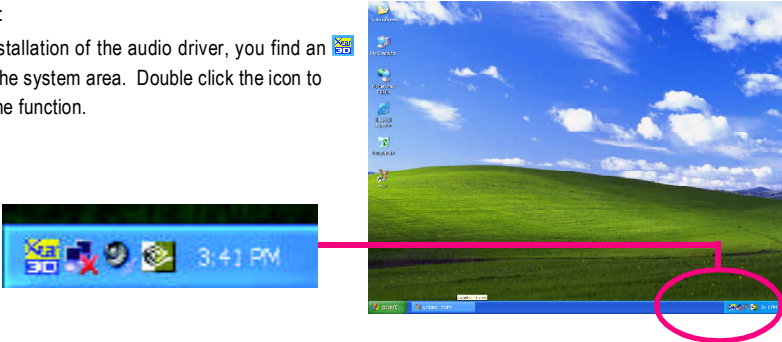
5.1 Channel Audio Setup

STEP 1 :
Connect the front speaker to "Front Speaker Out", the surround speaker to "Surround speaker out", and the center/subwoofer speaker to "Center/Subwoofer Speaker Out".
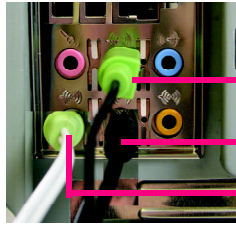
Front Speaker Out

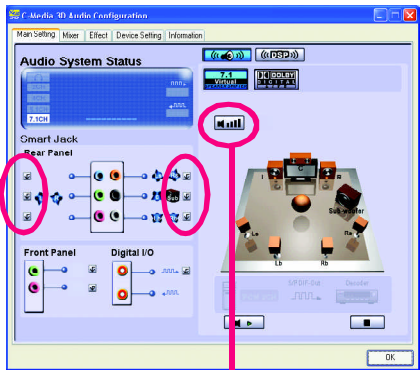Center/Subwoofer Speaker Out

Surround speaker out

STEP 2:
After installation of the audio driver, you find an icon in the system area. Double click the icon to select the function.

STEP 3:
Click "C-Media 3D Audio Configuration" and then select "Main Setting". The current audio mode is display in "Audio System Status". "Smart Jack" would auto-detect the speaker type you connect and gives you the functions to manually modify speaker the settings.

The function to manually modify speaker setting.

The function to adjust speaker volume.

7.1 Channel Audio Setup

STEP 1 :

Connect the front speaker to "Front Speaker Out", the surround speaker to "Surround speaker out", and the center/subwoofer speaker to "Center/Subwoofer Speaker Out", and the back surround speaker to "Back surround speaker out".

Front Speaker Out

Back surround speaker out

Center/Subwoofer Speaker Out

Surround speaker out

STEP 2:

After installation of the audio driver, you find an icon in the system area. Double click the icon to select the function.
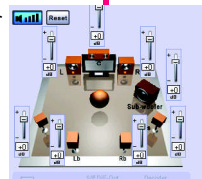
STEP 3:

Click "C-Media 3D Audio Configuration" and then select "Main Setting". The current audio mode is display in "Audio System Status". "Smart Jack" would auto-detect the speaker type you connect and gives you the functions to manually modify speaker the settings.

The function to manually modify speaker setting.

Front Speakers(L/R)
Surround Speakers(Ls/Rs)
Center/Subwoofer Speakers(C/Sub)
Back Surround Speakers(Lb/Rb)
Earphone/Headset
Line Input Audio Device
Microphone
No Function

The function to adjust speaker volume.

GA-8I915G Pro Motherboard   - 72 -

Digital I/O Status:

Digital Output Status--

(1) For stereo PCM output: sampling rate is shown here.

(2) For Dolby Digital Live! output: AC3 is shown here.

Digital Input Status--

(1) For stereo PCM input: sampling rate is shown here.
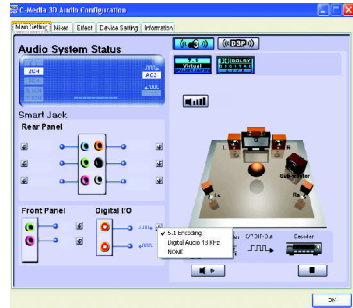
Mixer

The build-in mixer allows users to control volume and monitor sound recording.

For example, with a microphone as the recording device, you can enable **Monitoring** and the recording source item as shown in the right figure if you want to hear the audio input from the microphone in real time.
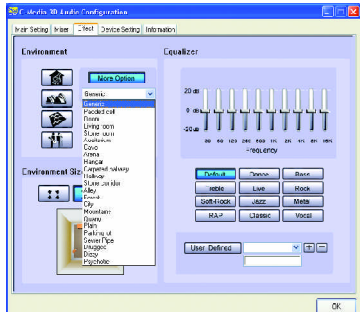
Recording source

Monitoring
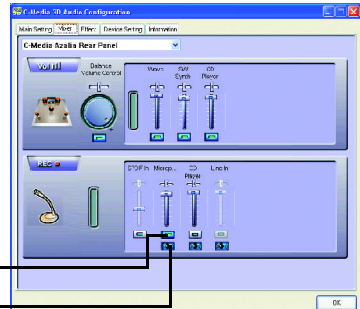
Effect

Users can control Environment emulation, Environ-ment size, and parameters of Equalizer here.

Device Setting

Check "Enable Multiple Streaming" and restart the system to enable support for multiple audio output function.

Defaults:

The defaults for both "Sound Playback "and"Sound Recording " are "C-Media Azalia Rear Panel". After you check the "Enable Multiple Steaming" item and restart the system, another "C-Media Azalia Front Panel" option will show up for you to use the multiple audio output function.

Note:The function can be used only when you connect the audio device to front panel.
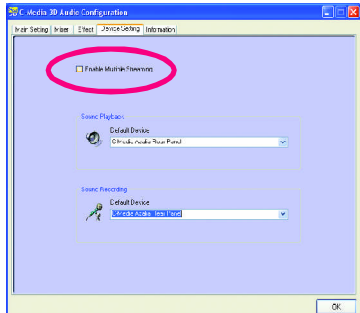
4-2　Troubleshooting

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to http://tw.giga-byte.com/faq/faq.htm

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: Why cannot I use all functions in EasyTune 4?
Answer: The availability of the listed functions in EasyTune 4 depends on the MB chipset. If the chipset doesn't support certain functions in EasyTune 4, these functions will be locked automatically and you will not be able to use them.

Question 4: Why do I fail to install RAID and ATA drivers under Win 2000 and XP on boards that support RAID function after I connect the boot HDD to IDE3 or IDE4 ?
Answer: First of all, you need to save some files in the CD-ROM to a floppy disk before installing drivers. You also need to go through some rather different steps in the installation process. Therefore, we suggest that you refer to the installation steps in the RAID manual at our website.
(Please download it at http://tw.giga-byte.com/support/user_pdf/raid_manual.pdf)

Question 5: 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 10 minutes (Or you can use a metal object to connect the positive and negative pins in the battery holder to makethem short for one minute).
> 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.
> 7.　Save changes and reboot the system.

Question 6: Why does system seem unstable after updating BIOS?
Answer: Please remember to load Fail-Safe Defaults (Or Load BIOS Defaults) after flashing BIOS. However, if the system instability still remains, please clear CMOS to solve the problem.

Question 7: 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 8: How do I disable onboard VGA card in order to add an external VGA card?
Answer: Gigabyte motherboards will auto-detect the external VGA card after it is plugged in, so you don't need to change any setting manually to disable the onboard VGA.

Question 9: Why cannot I use the IDE 2?
Answer: Please refer to the user manual and check whether you have connected any cable that is not provided with the motherboard package to the USB Over Current pin in the Front USB Panel. If the cable is your own cable, please remove it from this pin and do not connect any of your own cables to it.

Question 10: 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.

→AMI BIOS Beep Codes
*Computer gives 1 short beep when system boots successfully.
*Except for beep code 8, these codes are always fatal.
    1 beep Refresh failure
    2 beeps Parity error
    3 beeps Base 64K memory failure
    4 beeps Timer not operational
    5 beeps Processor error
    6 beeps 8042 - gate A20 failure
    7 beeps Processor exception interrupt error
    8 beeps Display memory read/write failure
    9 beeps ROM checksum error
    10 beeps CMOS shutdown register read/write error
    11 beeps Cache memory bad

→ 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

Question 11:For the M/B which have RAID function, how to set in the BIOS in order to bootup from IDE3, 4 by either RAID or ATA mode?
Answer:Please set in the BIOS as follow:
    1. Advanced BIOS features-->(SATA)/RAID/SCSI boot order: "SATA"
    2. Advanced BIOS features--> First boot device: "SCSI"
    3. Integrated Peripherals--> Onboard H/W ATA/RAID: "enable"
Then it depends on the RAID mode that you need to set "RAID" to RAID mode or "ATA" to normal ATA mode in the item named RAID controller function.

Question 12:How to set in the BIOS to bootup from the IDE/ SCSI/ RAID card ?
Answer:Please set in the BIOS as follow:
    1. Advanced BIOS features-->(SATA)/RAID/SCSI boot order: "SCSI"
    2. Advanced BIOS features--> First boot device: "SCSI"
Then it depends on the mode(RAID or ATA) that you need to set in RAID/ SCSI BIOS.

English

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GA-8I915G Pro Motherboard   - 76 -

Appendix

English

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- **Taiwan (Headquarters)**

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FAX: +886 (2) 8912-4003

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http://tw.giga-byte.com/TechSupport/ServiceCenter.htm

Non-Tech. Support(Sales/Marketing) :

http://ggts.gigabyte.com.tw/nontech.asp

WEB address (English): http://www.gigabyte.com.tw

WEB address (Chinese): http://chinese.giga-byte.com

- **U.S.A.**

G.B.T. INC.

Address: 17358 Railroad St, City of Industry, CA 91748.

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FAX: +1 (626) 854-9339

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WEB address : http://www.giga-byte.com

- **Germany**

G.B.T. TECHNOLOGY TRADING GMBH

Address: Friedrich-Ebert-Damm 112 22047 Hamburg

TEL: +49-40-2533040 (Sales)

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TEL: +49-40-25492343 (Sales)

　　　+49-1803-428329 (Tech.)

Tech. Support :

http://de.giga-byte.com/TechSupport/ServiceCenter.htm

Non-Tech. Support(Sales/Marketing) :

http://ggts.gigabyte.com.tw/nontech.asp

WEB address : http://www.gigabyte.de

- **Japan**

NIPPON GIGA-BYTE CORPORATION

WEB address : http://www.gigabyte.co.jp

- **Singapore**

GIGA-BYTE SINGAPORE PTE. LTD.

Tech. Support :

http://tw.giga-byte.com/TechSupport/ServiceCenter.htm

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- **The Netherlands**

GIGA-BYTE TECHNOLOGY B.V.

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http://nz.giga-byte.com/TechSupport/ServiceCenter.htm

Non-Tech. Support(Sales/Marketing) :

http://ggts.gigabyte.com.tw/nontech.asp

WEB address : http://www.giga-byte.nl

- **China**

NINGBO G.B.T. TECH. TRADING CO., LTD.

Tech. Support :

http://cn.giga-byte.com/TechSupport/ServiceCenter.htm

Non-Tech. Support(Sales/Marketing) :

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Non-Tech. Support(Sales/Marketing) :

http://ggts.gigabyte.com.tw/nontech.asp

WEB address : http://www.giga-byte.com.au

- **France**

GIGABYTE TECHNOLOGY FRANCES S.A.R.L.

Tech. Support :

http://tw.giga-byte.com/TechSupport/ServiceCenter.htm

Non-Tech. Support(Sales/Marketing) :

http://ggts.gigabyte.com.tw/nontech.asp

WEB address : http://www.gigabyte.fr

- **Russia**

Moscow Representative Office Of Giga-Byte Technology Co., Ltd.

Tech. Support :

http://tw.giga-byte.com/TechSupport/ServiceCenter.htm

Non-Tech. Support(Sales/Marketing) :

http://ggts.gigabyte.com.tw/nontech.asp

WEB address : http://www.gigabyte.ru

- **Poland**

Representative Office Of Giga-Byte Technology Co., Ltd. POLAND

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http://tw.giga-byte.com/TechSupport/ServiceCenter.htm

Non-Tech. Support(Sales/Marketing) :

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WEB address : http://www.gigabyte.pl