GA-8I915G-MF GA-8I915GM GA-8I915GM-G

Intel® Pentium® 4 LGA775 Processor Motherboard

User's Manual

Rev. 2203 12ME-8I915GMF-2203



The WEEE marking on the product indicates this product must not be disposed of with user's other household waste and must be handed over to a designated collection point for the recycling of waste electrical and electronic equipment!! The WEEE marking applies only in European Union's member states.

	Name : Timmy Huang	Date :Jun. 11, 2004	(Stamp)	(Sta
Date: Jun. 11, 2004	Signature: Timmy Huang	Manufacturer/Importer		
Signature: <u>Eric Lu</u>	General and Safety requirements for uninterruptible power systems (UPS)	Safety of household and similar electrical appliances		□ EN 60335
Representative Person's Name: ERIC LU	Salety for information technology equipment including electrical business equipment	Safety requirements for mains operated electronic and related apparatus for household and similar general use		□ EN 60065
including that may cause undesired operation.	ce with LVD 73/23 EEC	The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC		
subject to the following two conditions: (1) This device may not	(EC conformity marking)		ĝ	⊠ CE marking
This device complies with part 15 of the FCC Rules. Operation is		DIN VDE 0855 Cabled distribution systems; Equipment part 10 for receiving and/or distribution from part 12 sound and television signals	0855 Cabled distrit for receiving a sound and tel	DIN VDE (part 10 part 12
(a),Class B Digital Device		Limits and methods of measurement of radio disturbance characteristics of information technology equipment	 Limits and me of radio disturinformation te 	⊠ EN 55022
FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109	EMC requirements for uninterruptible power systems (UPS)	Immunity from radio interference of EN 50091- 2 broadcast receivers and associated equipment	-	□ EN 55020
Model Number: GA-81915G-MF Conforms to the following specifications:	Immunity requirements for household appliances tools and similar apparatus	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries		🗆 EN 55015
Product Name: Motherboard	Generic immunity standard Part 2: Industrial environment	apparatus and similar electrical EN 50082-2	portable tools apparatus	
hereby declares that the product	Generic immunity standard Part 1: Residual, commercial and light industry	Limits and methods of measurement of radio disturbance characteristics of horeschuld electrical ancliances		EN 55014-1
City of Industry, CA 91748 Phone/Fax No: (818) 854-9338/ (818) 854-9339	Information Technology equipmert-immunity charadensities-Limits and methods of measurement	Limits and methods of measurement III EN 55024 of radio Gisturbance characteristics of broadcast receivers and associated equipment		□ EN 55013
Address: 17358 Railroad Street	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"	industrial, scientific and medical (ISM) industrial, scientific and medical (ISM) high frequency equipment	industrial, scientific and m high frequency equipment	
Responsible Party Name: G.B.T. INC. (U.S.A.)	Disturbances in supply systems caused	Limits and methods of measurement I I EN 61000-3-2 of radio disturbance characteristics of		🗆 EN 55011
	nity is declared) rective	GA-81915CMF (reference to the specification under which conformity is declared) in accordance with 89/336 EEC-EMC Directive		
ר	o which it refers)	(description of the apparatus, system, installation to which it refers) Motherboard		
Per FCC Part 2 Section 2.1077(a)	4 Germany	G.B.T. Technology Trading GMbH Ausschlager Weg 41, 1F 20537 Hamburg, Germany		
DECLARATION OF CONFORMITY	nity	Declaration of Conformity We, Manufacturer/Importer (full address)		

Copyright

(c) 2004 GIGA-BYTE TECHNOLOGY CO., LTD. All rights reserved. The trademarks mentioned in the manual are legally registered to their respective companies.

Notice

The written content provided with this product is the property of Gigabyte.

No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without Gigabyte's prior written permission. Specifications and features are subject to change without prior notice.

Product Manual Classification

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

- For detailed product information and specifications, please carefully read the "Product User Manual".
- For detailed information related to Gigabyte's unique features, please go to the "Technology Guide" section on Gigabyte's website to read or download the information you need.

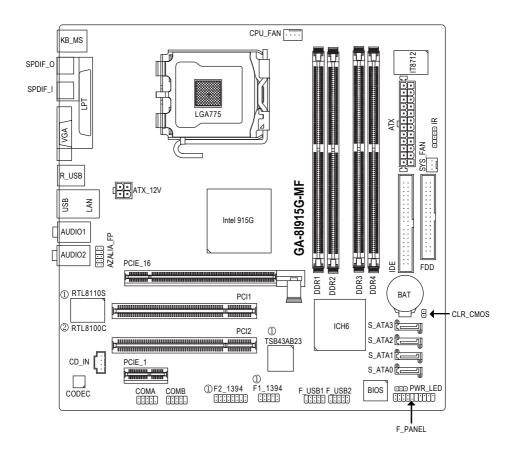
For more product details, please click onto Gigabyte's website at www.gigabyte.com.tw

Table of Content

GA-8l9150	G-MF	Motherboard Layout	. 6
Block Diag	ram		. 7
Chapter 1	Hardw	vare Installation	. 9
	1-1	Considerations Prior to Installation	. 9
	1-2	Feature Summary	10
	1-3	Installation of the CPU and Heatsink	12
	1-3	3-1 Installation of the CPU	12
	1-3	3-2 Installation of the Heatsink	
	1-4	Installation of Memory	14
	1-5	Install expansion cards	16
	1-6	I/O Back Panel Introduction	17
	1-7	Connectors Introduction	18
Chapter 2	BIOS	S Setup	29
Chapter 2		•	
Chapter 2		S Setup Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features	30
Chapter 2	The N	lain Menu (For example: BIOS Ver. : F2)	30 32
Chapter 2	The M 2-1	Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features	30 32 34
Chapter 2	The M 2-1 2-2	Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features	30 32 34 36
Chapter 2	The M 2-1 2-2 2-3	Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features Integrated Peripherals	30 32 34 36 39
Chapter 2	The M 2-1 2-2 2-3 2-4	Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup	30 32 34 36 39 41
Chapter 2	The M 2-1 2-2 2-3 2-4 2-5	Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PnP/PCI Configurations	30 32 34 36 39 41 42
Chapter 2	The M 2-1 2-2 2-3 2-4 2-5 2-6	Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PnP/PCI Configurations PC Health Status	30 32 34 36 39 41 42 43
Chapter 2	The M 2-1 2-2 2-3 2-4 2-5 2-6 2-7	Iain Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PnP/PCI Configurations PC Health Status MB Intelligent Tweaker(M.I.T.)	30 32 34 36 39 41 42 43 44
Chapter 2	The M 2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8	Main Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PnP/PCI Configurations PC Health Status MB Intelligent Tweaker(M.I.T.) Load Fail-Safe Defaults	30 32 34 36 39 41 42 43 44 44
Chapter 2	The M 2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8 2-9	tain Menu (For example: BIOS Ver. : F2) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PnP/PCI Configurations PC Health Status MB Intelligent Tweaker(M.I.T.) Load Fail-Safe Defaults Load Optimized Defaults	30 32 34 36 39 41 42 43 44 44 45

Chapter 3	Insta	II Drivers	47
	3-1	Install Chipset Drivers	47
	3-2	Software Applications	48
	3-3	Driver CD Information	48
	3-4	Hardware Information	49
	3-5	Contact Us	49
Chapter 4	Appe	ndix	51
	4-1	Unique Software Utilities	51
	4-1	-1 Xpress Recovery Introduction	52
	4-1	-2 Flash BIOS Method Introduction	55
	4-1	-3 2- / 4- / 6- / 8- Channel Audio Function Introduction	64
	4-2	Troubleshooting	69

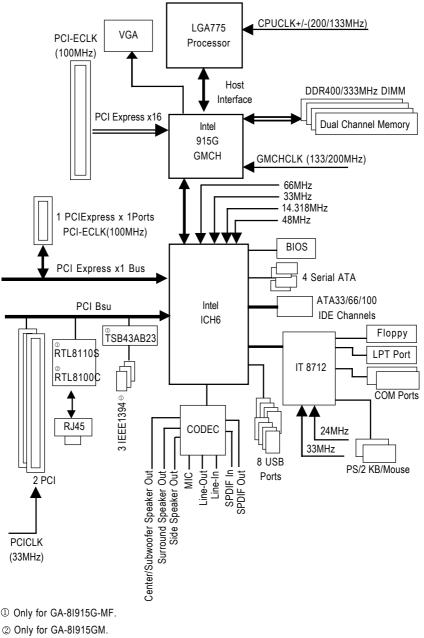
GA-8I915G-MF/GA-8I915GM Motherboard Layout



 $\ensuremath{\textcircled{}}$ 0 nly for GA-8l915G-MF.

② Only for GA-8I915GM.

Block Diagram



Only for GA-8l915GM-G

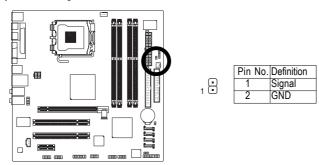
1-2 Feature Summary

Onboard LAN

Onboard Realtek 8110S chip (10/100/1000 Mbit)

CI (Chassis Intrusion, Case Open)

This 2-pin connector allows your system to enable or disable the "Case Open" item in BIOS, if the system case begin remove.



2-6 PC Health Status

(For example: BIOS Ver. : F5)

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software PC Health Status					
Reset Case Open Status Case Opened Vcore DDR25V	[Disabled] Yes OK OK	Item Help Menu Level			
↑↓→←: Move Enter: Select F5: Previous Values	+/-/PU/PD: Value F10: Save F6: Fail-Save Default	ESC: Exit F1: General Help F7: Optimized Defaults			

☞ Reset Case Open Status

∽ Case Opened

If the case is closed, "Case Opened" will show "No". If the case have been opened, "Case Opened" will show "Yes". If you want to reset "Case Opened" value, set "Reset Case Open Status" to "Enabled" and save CMOS, your computer will restart.

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.
- 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
	1 PCI Express x 1 slot
	2 PCI slots
IDE Connections	• 1 IDE connection (UDMA 33/ATA 66/ATA 100), allows connection of 2 IIDE
	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/COMB connection
	 8 USB 2.0/1.1 ports (rear x 4, front x 4 via cable)
	 3 IEEE1394 ports (requires cable) 0
	1 front audio connector
	1 IR connector
	 1 PS/2 keyboard port
	 1 PS/2 mouse port
Onboard LAN	 Onboard Realtek 8110S chip (10/100/1000 Mbit) •
	 Onboard Realtek 8100C chip (10/100 Mbit) ©
	 1 RJ 45 port ⊕ ∅
Onboard Audio	ALC880 CODEC
	High Definition Audio
	 Supports 2 / 4 / 6 / 8 channel audio
	 Supports Line In ; Line Out (Front Speaker Out) ; MIC ;
	Surround Speaker Out (Rear Speaker Out) ; Center/Subwoofer Speaker Out
	;Side Speaker Out connection
	Supports SPDIF In/Out connection
	CD In
I/O Control	 IT8712

- (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.
- ① Only for GA-8I915G-MF.
- O Only for GA-8l915GM.

Hardware Monitor	System voltage detection
	CPU temperature detection
	CPU / System fan speed detection
	CPU warning temperature
	CPU / System fan failure warning
	CPU smart fan control
BIOS	Use of licensed AWARD BIOS
	Supports Q-Flash
Additional Features	Supports @BIOS
	 Supports EasyTune5 (only supports Hardware Monitor function)
Overclocking	Over Clock via BIOS (DDR)
Form Factor	Micro ATX form factor; 24.4 cm x 24.4 cm
-	

1-3 Installation of the CPU and Heatsink



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

- 1. Please make sure that the motherboard supports the CPU.
- 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.



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

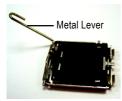


Fig. 1 Gently lift the metal lever located on the CPU socket to the upright position.



Fig. 2 Remove the plastic covering on the CPU socket.



Fig. 3 Notice the small gold colored triangle located on the edge of the CPU socket. Align the

indented corner of the

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.)



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

1-3-2 Installation of the Heatsink



Fig.1

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

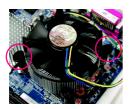


Fig. 3

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.

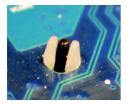


Fig. 5

Please check the back of motherboard after installing. If the push pin is inserted as the picture, the installation is complete.



-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. 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. 6

Finally, please attach the power connector of the heatsink to the CPU fan header located on the motherboard.



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.

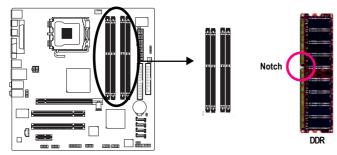
1-4 Installation of Memory



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

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

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



1. The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.

- 2. Insert the DIMM memory module vertically into the DIMM slot. Then push it down.
- Close the plastic clip at both edges of the DIMM slots to lock the DIMM module. Reverse the installation steps when you wish to remove the DIMM module.







GA-8I915G-MF/GA-8I915GM supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will double.

GA-8I915G-MF/GA-8I915GM 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. Only one DDR memory module is installed: The Dual Channel Technology can't operate when only one DDR memory module is installed.
- 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.
- Three DDR memory modules are installed: Please note that The Dual Channel Technology will not operate when three DDR memory modules are installed; part of them will not be detected.
- 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 tables include all memory-installed combination types:

	DDR 1	DDR 2	DDR 3	DDR 4	
2 memory modules	DS/SS	Х	DS/SS	Х	
	Х	DS/SS	Х	DS/SS	
4 memory modules	DS/SS	DS/SS	DS/SS	DS/SS	

• Figure 1: Dual Channel Technology (DS: Double Side, SS: Single Side)

• Figure 2: Don't operate Dual Channel Technology (DS: Double Side, SS: Single Side)

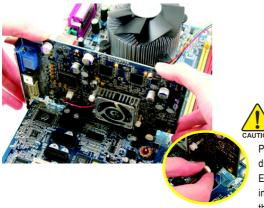
0	•	0, (0 /
	DDR 1	DDR 2	DDR 3	DDR 4
1 memory module	DS/SS	Х	Х	Х
	Х	DS/SS	Х	Х
	Х	Х	DS/SS	Х
	Х	Х	Х	DS/SS
2 memory modules	DS/SS	DS/SS	Х	Х
	Х	Х	DS/SS	DS/SS
3 memory modules	DS/SS	DS/SS	DS/SS	Х
	DS/SS	DS/SS	Х	DS/SS
	DS/SS	Х	DS/SS	DS/SS
	Х	DS/SS	DS/SS	DS/SS

1-5 Install expansion cards

You can install your expansion card by following the steps outlined below:

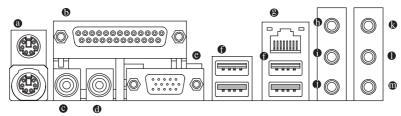
- 1. Read the related expansion card's instruction document before install the expansion card into the computer.
- 2. Remove your computer's chassis cover, screws and slot bracket from the computer.
- 3. Press the expansion card firmly into expansion slot in motherboard.
- 4. Be sure the metal contacts 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:



Please carefully pull out the small whitedrawable 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 o 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.

Ø VGA Port

Monitor can be connected to VGA port.

USB port

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

LAN Port

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

⁽²⁾ The provided Internet connection is fast Ethernet, providing data transfer speeds of 10/100Mbps.

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 speakers to this connector.

MIC In

Microphone can be connected to MIC In jack.

Rear Speaker Out

Connect the rear surround speakers to this connector.

- ① Only for GA-8I915G-MF.
- ② Only for GA-8I915GM.

Center/Subwoofer Speaker Out

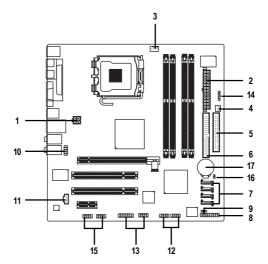
Connect the Center/Subwoofer speakers to this connector.

Side Speaker Out

Connect the side surround speakers to this connector.

You can use audio software to configure 2-/4-/6-/8-channel audio functioning.

1-7 Connectors Introduction



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

① Only for GA-8I915G-MF.

1/2) ATX_12V/ATX (Power Connector)

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

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

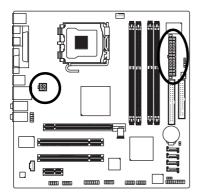
Caution!

Please use a power supply that is able to handle the system voltage requirements. It is recommended that a power supply that can withstand high power consumption be used (300W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable system or a system that is unable to start.

If you use a 24-pin ATX power supply, please remove the small cover on the power connector on the motherboard before plugging in the power cord ; Otherwise, please do not remove it.

13

24



2	Pin No.	Definition
	1	GND
▣	2	GND
1	3	+12V
	4	+12V

7			Pin No.	Definition
-		1	1	3.3V
	╗		2	3.3V
_	╣		3	GND
			4	VCC
⊰ł	_		5	GND
믜	믝		6	VCC
-			7	GND
_	_		8	Power Good
및	•		9	5V SB(stand by +5V)
<u> </u>	•		10	+12V
-			11	+12V
•	_)		12	3.3V(Only for 24pins ATX)
▫)	•	12	13	3.3V
5		1	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

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

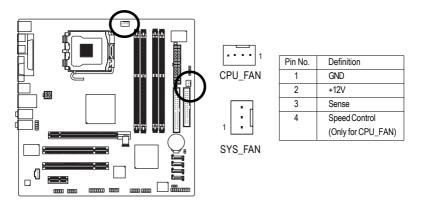
The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin (only for CPU_FAN) power connector and possesses a foolproof connection design.

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

Please remember to connect the power to the cooler to prevent system overheating and failure.

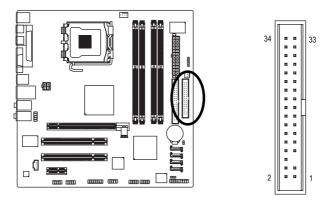
Caution!

Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.



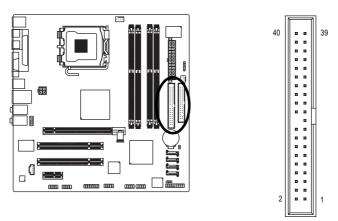
5) FDD (Floppy Connector)

The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB. Please connect the red power connector wire to the pin1 position.



6) IDE (IDE Connector)

An IDE device connects to the computer via an IDE connector. One IDE connector can connect to one IDE cable, and the single IDE cable can then connect to two IDE devices (hard drive or optical drive). If you wish to connect two IDE devices, please set the jumper on one IDE device as Master and the other as Slave (for information on settings, please refer to the instructions located on the IDE device).



7) 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.

	Pin No.	Definition
	1	GND
	2	TXP
	3	TXN
	4	GND
	5	RXN
	6	RXP
	7	GND
-i /		,

8) 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.

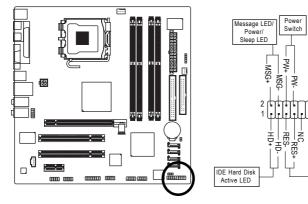
Speaker Connector

r¶ 20

Reset Switch

19

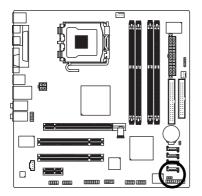
SPEAK-



HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(-)
SPEAK (Speaker Connector)	Pin 1: VCC(+)
	Pin 2- Pin 3: NC
	Pin 4: Data(-)
RES (Reset Switch)	Open: Normal Operation
	Close: Reset Hardware System
PW (Power Switch)	Open: Normal Operation
	Close: Power On/Off
MSG(Message LED/Power/Sleep LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(-)
NC	NC

9) 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

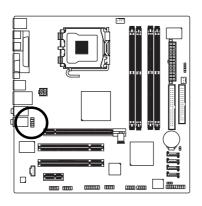
 1
 MPD+

 2
 MPD

 3
 MPD

10) AZALIA_FP (Front Audio Connector)

This connector is supported to connect HD(High Definition) Audio and AC'97 Audio. Check the pin assignment carefully while you connect the audio panel cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional audio panel cable, please contact your local dealer.



		_	
10	•	•	9
	\square	-)	
	F	-)	
	Ē	•	
2	Œ	•	1

AC'97 Audio:

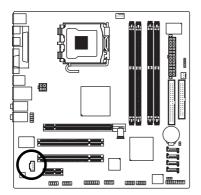
HD Auulo.	ulo. AC 97 Audio.		0.
Pin No.	Definition	Pin No.	Definition
1	MIC2_L	1	MIC
2	GND	2	GND
3	MIC2_R	3	MIC Power
4	-ACZ_DET	4	N/A
5	Line2_R	5	Line Out (R)
6	FSENSE1	6	N/A
7	FAUOIO_JD	7	N/A
8	No Pin	8	No Pin
9	LINE2_L	9	N/A
10	FSENSE2	10	Line Out (L)



HD Audio is the default setting for this connector. To enable AC'97 Audio, from BIOS settings, set **Front Panel Type** under **Integrated Peripherals** to **AC97**.

11) CD_IN (CD IN)

Connect CD-ROM or DVD-ROM audio out to the connector.



1	Pin No.	Definition
	1	CD-L
	2	GND
	3	GND
	4	CD-R

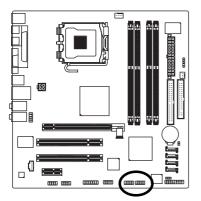
12) F_USB1 / F_USB2 (Front USB Connector)

Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer. The "USB Device Wake up From S3" is only supported by rear USB ports.

9 1

10

2

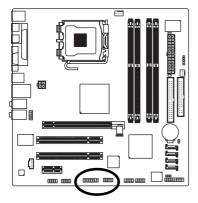


Pin No.	Definition
1	Power
2	Power
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

13) F1_1394/F2_1394 (IEEE 1394 Connector) ①

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.

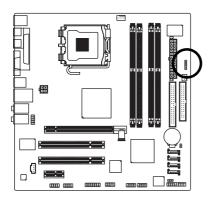


$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		
Pin No.	Definition	
1	TPA2+	
2	TPA2-	
3	GND	
4	GND	
5	TPB2+	
6	TPB2-	
7	No Pin	
8	Power	
9	Power	
10	GND	

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-

14) IR

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

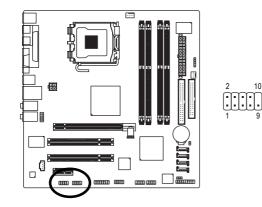


① Only for GA-8I915G-MF.

	Pin No.	Definition
_	1	VCC
	2	No Pin
8	3	IRRX
1 🖸	4	GND
	5	IRTX

15) COMA/COMB (Serial Port Connector)

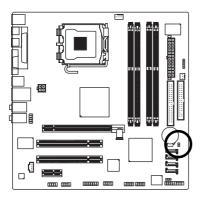
Be careful with the polarity of the COM connector. Check the pin assignment carefully while you connect the COM cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional COM cable, please contact your local dealer.



Pin No.	Definition
1	NDCD A/B-
2	NSIN A/B
3	NSOUT A/B
4	NDTR A/B-
5	GND
6	NDSR A/B-
7	NRTS A/B-
8	NCTS A/B-
9	NRI A/B-
10	No Pin

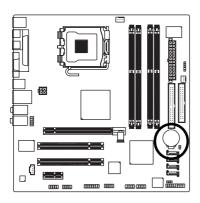
16) CLR_CMOS (Clear CMOS)

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

17) 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 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.

$<\!\!\uparrow\!\!>\!\!<\!\!\downarrow\!\!>\!\!<\!\!\leftrightarrow\!\!>\!\!<\!\!\rightarrow\!\!>$	Move to select item
<enter></enter>	Select Item
<esc></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=""></page>	Increase the numeric value or make changes
<page down=""></page>	Decrease the numeric value or make changes
<f1></f1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<f2></f2>	Item Help
<f5></f5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<f6></f6>	Load the file-safe default CMOS value from BIOS default table
<f7></f7>	Load the Optimized Defaults
<f8></f8>	Q-Flash utility
<f9></f9>	System Information
<f10></f10>	Save all the CMOS changes, only for Main Menu

CONTROL KEYS

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. : F5)

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/PCI Configurations 	Save & Exit Setup	
 PC Health Status 	Exit Without Saving	
MB Intelligent Tweaker(M.I.T.)		
ESC: Quit	↑↓→←: Select Item	
F8: Q-Flash	F10: Save & Exit Setup	
Time, Date, Hard Disk Type		



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)	Pate (mm:dd:yy) Thu, Apr 29 2004			
	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></week>		
	Drive B	[None]	Sun. to Sat.		
	Floppy 3 Mode Suport	[Disabled]			
			<month></month>		
	Holt On	[All, But Keyboard]	Jan. to Dec.		
			<day></day>		
	Extended Memory 127M		1 to 31 (or maximum		
	Total Memory				
			<year></year>		
			1999 to 2098		
↑	↓→←: Move Enter: Select F5: Previous Values	+/-/PU/PD: Value F10: Save F6: Fail-Save Default	ESC: Exit F1: General Help F7: Optimized Defaults		

· Date

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

- ✤ Month The month, Jan. Through Dec.
- Day The day, from 1 to 31 (or the maximum allowed in the month)
- ං 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.
M1	Line and the second sec

- 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.

つ 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.

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.

2-2 Advanced BIOS Features

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software Advanced BIOS Features						
#	Hard Disk Boot Priority First Boot Device Second Boot Device Third Boot Device Password Check CPU Hyper-Threading Limit CPUID Max. to 3 On-Chip Frame Buffer Size No-Execute Memory Protect ^(Note) CPU Enhanced Halt (C1E) ^(Note) CPU Thermal Monitor 2(TM2) ^(Note)	[Press Ente [Floppy] [Hard Disk [CDROM] [Setup] [Enabled] [Enabled] [MBB] [Disabled] [Disabled] [Disabled]		Select	leip Level> Hard Disk Boot Priority	
1	F↓→←: Move Enter: Select F5: Previous Values	+/-/PU/PD: Value F6: Fail-Save Default	F10: Save	ESC: Exit F7: Optimized	F1: General Help 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 $<\uparrow>$ or $<\downarrow>$ 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. ▶ 7IP 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.

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

Password Check

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

☞ 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.

∽ 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.

∽ 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.

∽ No-Execute Memory Protect^(Note)

- ➡ Enabled Enables No-Execute Memory Protect function.
- Disabled Disables No-Execute Memory Protect function. (Default value)

∽ CPU Enhanced Halt (C1E)^(Note)

- ➡ Enabled Enables CPU Enhanced Halt (C1E) function.
- ✤ Disabled Disables CPU Enhanced Halt (C1E) function. (Default value)

∽ CPU Thermal Monitor 2 (TM2) (Note)

- ➡ Enabled Enable CPU Thermal Monitor 2 (TM2) function.
- ✤ Disabled Disable CPU Thermal Monitor 2 (TM2) function. (Default value)

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

2-3 Integrated Peripherals

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software Integrated Peripherals					
On-Chip Primary PCI IDE	[Enabled]	▲ Item Help Menu Level▶			
On-Chip SATA Mode	[Auto] Ch 0 Master/Slave	Menu Level			
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]				
Front Panel Type	[HD Audio]				
Onboard H/W 1394 ①	[Enabled]				
Onboard H/W LAN	[Enabled]				
Onboard LAN Boot ROM	[Disabled]				
Onboard Serial Port 1	[JISabled] [3F8/IRQ4]				
Onboard Serial Port 2	[3F8/IRQ4] [2F8/IRQ3]				
UART Mode Select	[Normal]				
x UR2 Duplex Mode	[Half]				
x UK2 Duplex Mode		· •			
↑↓→←: Move Enter: Select F5: Previous Values	+/-/PU/PD: Value F10: Save F6: Fail-Save Default	ESC: Exit F1: General Help F7: Optimized Defaults			

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software Integrated Peripherals					
Onboard Parallel Port Parallel Port Mode x ECP Mode Use DMA	[378/IRQ7] [SPP] 3		Item Help Menu Level		
↑↓→←: Move Enter: Select F5: Previous Values	: +/-/PU/PD: Value F10: Save F6: Fail-Save Default	ESC: F F7: Op	Exit F1: General Help timized Defaults		
∽ On-Chip Primary PCI	∽ On-Chip Primary PCI IDE				
➡ Enabled	 Enabled Enable onboard 1st channel IDE port. (Default value) Disabled Disable onboard 1st channel IDE port. 				
Disabled					
ా On-Chip SATA Mode	∽ On-Chip SATA Mode ▶ Disabled Disable this function.				
Disabled					
► Auto	BIOS will auto detect. (Default value)				
Combined	Set On-Chip SATA mode to Combined, you can use up to 4 HDDs on				

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.

☞ 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.

☞ 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.

☞ 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.

□ USB Controller

••

➡ Enabled	Enable USB Controller. (Default value)
Disabled	Disable USB Controller.

→ USB 2.0 Controller

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

Enabled	Enable USB 2.0 Controller.	(Default value)
---------	----------------------------	-----------------

✤ Disabled Disable USB 2.0 Controller.

USB Keyboard Support

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

☞ USB Mouse Support

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

Azalia Codec

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

☞ Front Panel Type

If you connect HD Audio Panel to the AZALIA_FP connector, set this item to **HD Audio**. If you connect AC97 Audio Panel to the AZALIA_FP connector, set this item to **AC97**.

- ► AC97 Set front audio panel type to AC97.
- HD Audio Set front audio panel type to HD Audio. (Default value)

∽ Onboard H/W 1394 ①

➡ Enabled	Enable onboard IEEE 1394 function.(Default value)
➡ Disabled	Disable this function.

∽ Onboard H/W LAN

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

○ Onboard LAN Boot ROM

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

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

∽ Onboard Serial Port 1

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

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

☞ UART Mode Select

This item allows you to determine which Infra Red(IR) function of Onboard I/O chip.

- ✤ Normal Set onboard I/O chip UART to Normal Mode. (Default Value)
- ➤ ASKIR Set onboard I/O chip UART to ASKIR Mode.
- ▶ IrDA Set onboard I/O chip UART to IrDA Mode.

☞ 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 value)
- ➡ 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 value)
- ▶ 278/IRQ5 Enable onboard LPT port and address is 278/IRQ5.
- ➡ 3BC/IRQ7 Enable onboard LPT port and address is 3BC/IRQ7.

☞ Parallel Port Mode

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

☞ ECP Mode Use DMA

- ➡ 3 Set ECP Mode Use DMA to 3. (Default value)
- ▶ 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 Soft-Off by PWR-BTTN PME Event Wake Up Power On by Ring Resume by Alarm > Date (of Month) Alarm > Time (hi:mm:ss) Alarm Power On By Mouse Power On By Keyboard X KB Power ON Password AC Back Function	[S1(POS)] [Instant-off] [Enabled] [Disabled] Everyday 0:0:0 [Disabled] [Disabled] Enter [Soft-Off]	Item Help Menu Level▶	
↑↓→←: Move Enter: Select F5: Previous Values		C: Exit F1: General Help : 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 Data/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.

C 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/PCI Configurations			
PCI 1 IRQ Assignment	[Auto]		Item Help
PCI 2 IRQ Assignment	[Auto]		Menu Level
↑↓→←: Move Enter: 5	elect +/-/PU/PD: Value	F10: Save ESC:	Exit F1: General Help
F5: Previous Value			ptimized Defaults

☞ PCI 1 IRQ Assignment

▶ Auto▶ 3,4,5,7,9,10,11,12,14,15

Auto assign IRQ to PCI 1. (Default value) Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

☞ PCI 2 IRQ Assignment

▶ Auto▶ 3,4,5,7,9,10,11,12,14,15

Auto assign IRQ to PCI 2. (Default value) 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 PC Health Status			
Veore DDR25V +3.3V +12V Current CPU Temperature Current CPU FAN Speed Current SYSTEM FAN Speed CPU Warning Temperature CPU FAN Fail Warning SYSTEM FAN Fail Warning CPU Smart FAN Control CPU Smart FAN Mode	PC Health Status OK OK OK OK 33°C 4687 RPM 0 RPM [Disabled] [Disabled] [Disabled] [Enabled] [Enabled] [Auto]	Item Help Menu Level≯	
↑↓→←: Move Enter: Select F5: Previous Values		ESC: Exit F1: General Help 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/SYSTEM FAN Speed (RPM)

>> Detect CPU/SYSTEM Fan speed status automatically.

∽ CPU Warning Temperature

- ▶ 60°C / 140°F Monitor CPU temperature at 60°C / 140°F.
- ▶ 70°C / 158°F Monitor CPU temperature at 70°C / 158°F.
- ▶ 80°C / 176°F Monitor CPU temperature at 80°C / 176°F.
- ▶ 90°C / 194°F Monitor CPU temperature at 90°C / 194°F.
- Disabled Disable this function. (Default value)

CPU/SYSEM 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 the CPU Smart FAN Control function. (Default value)
 - a. When the CPU temperature is higher than 65 degrees Celsius, CPU fan will operate at full speed.
 - b. When the CPU temperature is between 20 and 65 degrees Celsius, the CPU fan speed will change depending on the actual CPU temperature.
 - c. When the CPU temperature is lower than 20 degrees Celsius, CPU fan will stop spinning.

○ CPU Smart FAN Mode

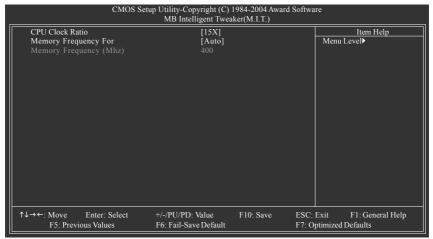
This option is available only when CPU Smart FAN Control is enabled.

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



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

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





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 not changeable.

∽ Memory Frequency For

Wrong frequency may make system can't boot, clear CMOS to overcome wrong frequency issue. for FSB(Front Side Bus) frequency=800MHz,

- ▶ 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.

2-8 Load Fail-Safe Defaults

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software		
Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Ma PnP/PCIC	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password	
 PC Health Junus MB Intelligent Tweaker(M.I.T.) 		
ESC: Quit F8: Q-Flash	↑↓→←: Select Item 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-Copyright (C) 1984-2004 Award Software		
Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Mat PnP/PCI Load Optim PC Health stanus MB Intelligent Tweaker(M.I.T.)	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password ized Defaults (Y/N)? N	
ESC: Quit F8: O-Flash	↑↓→←: Select Item 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-Copyright (C) 1984-2004 Award Software		
Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Contemport PnP/PCI C Enter Password: PC Health MB Intelligent Tweaker(M.I.T.)	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password	
ESC: Quit F8: Q-Flash Change/Set/Di	↑↓→←: Select Item F10: Save & Exit Setup sable 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/PCI C	0 0. P	
•	PC Health Save to CMOS an	d EXIT (Y/N)? Y	
•	MB Intelligen		
ESC	C: 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 Advanced BIOS Features Integrated Peripherals	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password	
Power Mar PnP/PCI C PC Health status MB Intelligent Tweaker(M.I.T.)	uit Without Saving (Y/N)? N	
ESC: Quit F8: Q-Flash	↑↓→←: Select Item 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.

Chapter 3 Install Drivers



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.

Install Chipset Drivers 3-1

"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.

GIGAB		1º 975¥ / 9	15 Chipset Family Utilities CD	
	Install Chipset Drivers	nstalled for your mo	herboard. Please cick on the "Koress Instal" to install all drivers automatically. B	y default the driv
Driver CD	📰 INF Update Utility			Install
Information	Size 2.948	Version	6.1.0.1008	
Hardware	This utility installs INF files that inform the operating	system how to pr	openly configure the chipset for specific functionality such as PCI-Express or USE	3 interface.
Information	Intel® Graphics Media Accelerator Driver(Win2	KXP)		Install
	Size 16.0MB	Version	14.5.0.3865	
Contact Us	Installs drivers for the integrated graphics control	er of intel® chipset:	. This is not to be used if the system has a third party graphics card.	
	Microsoft@UAA Bus driver for Intel@High Defin	ition Audio		Install
	Size 30.8MB	Version	1.0	
	The Microsoft® UAA (Universal Audio Architectur following versions of Windows: 1 Microsoft Windows Verser 2003 2 Microsoft Windows VP Service Pack 1 (SP1) 3 Microsoft Windows 2000 Service Pack 4 (SP4)	e) Bus driver provis	les support for Intel® High Definition Audio (Azalia). This driver is designed to wo	rk with the
	😰 Realtek Audio Codec Driver			Install
	Size 26.0MB	Version	5.10.0.5031	
	The Reatek Audio Codec driver provides support	for 7.1 channel auc	lo.	
	😰 RealTek Gigabit LAN Driver			Install
	Size 6.6MB	Version	5 397 823 2001	



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 AUTION a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the guestion 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.

GIGABYTE	Intel® 925X / 915 Chipset Family Utilities CD	
Install Chipset Drivers	Software Applications Please click on the following applications listed below to install Tota	applications = 16
Software Applications		
Driver CD Information	GIGABYTE Windows Utilities Manager (GWUM) Size 1 2MD	Install
Hardware Information	This utility provides a manager tool for managing GIGABYTE propriety applications.	Install
Contact Us	Size 14.8MB An easy-to-use Windows-based system enhancement utility allowing quick access to a variety of performance	eatures.
	DMI Viswer	Install
	Size 1012.8KB DMI Viewer provides a management tool for viewing motherboard hardware information.	
	Face Wizard	Install
	Size 1.9MB Face Wizard provides utility for customizing BIOS boot up screen.	
	@BIOS	Install

3-3 Driver CD Information

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

Install Chipset Drivers	Driver CD infor The following information shows	mation the detail contents stored in this Driver CD,
Software Applications		
Driver CD Information	File list for t	the included support software for Intel® Series motherbo
Hardware Information	File Name 	Description
Contact Us	-Realtek -CMedia	-Realtek audio function driver for Windows 2K/XP -C-Media audio driver for Windows 2K/XP
	Chipset -INFUpdate	-Intel® chipset software installation utility f -Intel® chipset software installation utility for Win -Intel® chipset software installation utility for Win -Intel® chipset software installation utility for Win
	-IAA	-Intel® application accelerator for Windows XP -Intel® application accelerator for Windows 2000

3-4 Hardware Information

This page lists all device you have for this motherboard.

Install Chipset Drivers	Hardware information The following information shows the detail hardware information of your motherboard.	
Software Applications		
Driver CD Information	BIOS Info Intel 915G BIOS for 80915GMF F5 CPU Info CPU intel (Generationel) Memory Info 253402 0K B AAM	
Hardware Information	Device Description Texas Instruments OHCI Compliant IEEE 1394 Host Controller	
Contact Us	Devicd DreverDate7-1-2001 Devicd DreverVers1.2333.0 Devicd DreverProvider Microsoft Devicd TwickDeviceLD 0x0000100 Devicd SubSystemID 0x00000000 Devicd SubSystemID 0x00000000 Devicd SubSystemID 0x0000000	
i page lists all devices you	Device Description Realteck RTL8169/8110 Family Gigabit Ethernet NIC Devicd DriverDate 1-12-2004 Deviced DriverQuer 5 (11 1)231 2003 and britter DriverBedged	

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.



505





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 especially 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 EasyTune 5 Introduction

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

User Interface Overview



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

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

4-1-2 Xpress 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.

- 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
 - The first partition must be set as the boot partition. When the boot partition is backed up, please do not alter its size.
 - 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.

Verifying DMI Pool Data Boot from CD:
G. GABYTE
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 .



	SIGA-BYTE	
Xpress Recovery V	1.0 (C) Copy Right 2003. GIGABYTE Technology CO.	, Ltd.
	 Execute Backup Utility Execute Restore Utility Remove Backup Image Set Password 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.



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.

4-1-3 Flash BIOS Method Introduction



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.



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.
- 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.



Entering the Q-Flash[™] utility:

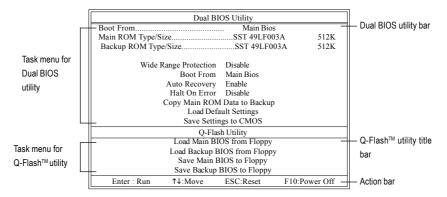
Step1: To use Q-Flash utility, you must press Del in the boot screen to enter BIOS menu.

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



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:

Press arrow buttons on your keyboard to move the light bar to "Load Main BIOS from Floppy" item in 1. 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.



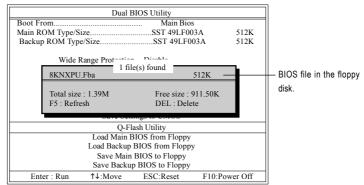
If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.

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

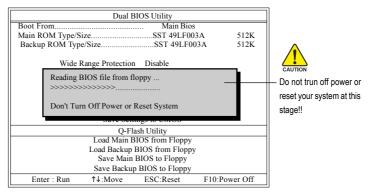
In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.



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



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



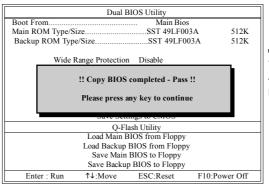
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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.

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



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

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

	Dual I	BIOS Utility	
Boot From			
Main ROM Type/S		SST 49LF00	
Backup ROM Typ	e/Size	SST 49LF00	3A 512K
Wide	Range Protection	n Disable	
Are you sure to RESET ? [Enter] to continure or [Esc] to abort			
	Save Ser		
	Q-Fl	ash Utility	
		BIOS from Floppy	
	Load Backup	BIOS from Floppy	
	Save Main BIOS to Floppy		
	Save Backu	p 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.

	Award Modular BIOS v6.00PG, An Energy Star Ally Copyright (C) 1984-2003, Award Software, Inc.
The BIOS file becomes Fab after	Intel i875P AGPset BIOS for 8KNXP Ultra Fba Check System Health OK, Yewe 1 2350 Main Processor : Intel Pentium(R) 4 1 IG6Hz (13x12)
updating.	<pre><cpuid: 0027="" 0f27="" :="" id="" patch=""> Memory Testing : 131072K OK</cpuid:></pre>
	Memory Frequency 266 MHz in Single Channel Primary Master : FUITSU 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 09/23/2003-875P-6A79BG03C-00

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 Advanced BIOS Features Integrated Perinhorale Power Mana; Load Fail-Safe Def PnP/PCI Co	Select Language Load Fail-Safe Defaults Load Ontimized Defaults faults (Y/N)? Y		
 PC Health Status MB Intelligent Tweaker(M.I.T.) 	Save & Exit Setup 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.

 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 Advanced BIOS Features	Select Language Load Fail-Safe Defaults Load Ontimized Defaults		
Integrated Peripharale Power Mana; Save to CMOS and Pn/PCI Cor			
PC Health Status MB Intelligent Tweaker(M.I.T.)	Save & Exit Setup 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.

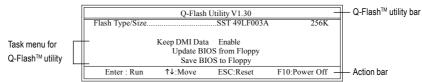
Part Two:

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	
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.

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.

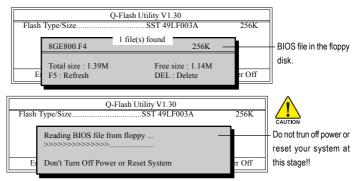


If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floppy" item.

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.

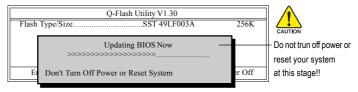
Please confirm again you have the correct BIOS file for your motherboard.



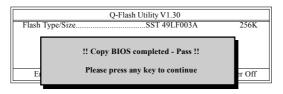
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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

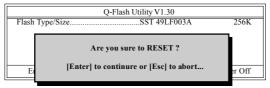
3. Press Y button on your keyboard after you are sure to update BIOS. Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.



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



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



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



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!!

updating



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

Grantidale 3.0 H4.0514.2		
File EOR Hew Perceites To		4
🔇 kas. + 🔘 - 💌 😫	🐔 🔎 Seach 👷 Fanaltas 😵 Mada 🤣 🔗 😓 🗔	
address 💽 Drifframe Men	V 🖸 🗛 🗤	
GIGABYTE	Intel* 925X / 915 Chipset Family Utilities CD	
Install	Software Applications Pieces risk on the bitwey applications failed below to install	
Part Direct	Total applications = 19	•
Software Applications		
Driver CD	DVI Viewsr Botal	^
Information	See 10128-8 ONI Views provide a management tool for viewing motherbaard hardware information.	
Hardware	CM New process a nanogener test or vewig here eauly harves and harves instruction	
Information	Sos 1949	
Contact Us	Face Wizard provides utility for cuntomizing BOS boot up screen.	
contact us	earce and a series	
	Ster 1.940	
	@BOS provides utility for updating BOS through internet.	
	After Acuter Reader	
	Select @BIOS item than click Install	
	Nerkon Externel Secon	
	Size 74.0MD	~
I ne page reveals the value added	settware developed by Digitizet and its worldwide partners.	
🛃 start 🔰 0 🔨 🔍	2 Seekeiska 1016.05.	211

Fig 3. The @BIOS Utility



1. Methods and steps:

- I. Update BIOS through Internet
 - a. Click "Internet Update" icon
 - b. Click "Update New BIOS" icon
 - c. Select @BIOS™ sever
 - d. Select the exact model name on your motherboard
 - e. System will automatically download and update the BIOS.
- II. Update BIOS NOT through Internet:
 - a. Do not click "Internet Update" icon
 - b. Click "Update New BIOS"
 - c. Please select "All Files" in dialog box while opening the old file.
 - Please search for BIOS unzip file, downloading from internet or any other methods (such as: 8I915GMF.F5).
 - e. Complete update process following the instruction.

Fig 2. Installation Complete and Run @BIOS



Fig 4. Select the desired @BIOS server



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:

- In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.
- II. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.
- III. In method I, if the BIOS file you need cannot be found in @BIOS[™] server, please go onto Gigabyte's web site for downloading and updating it according to method II.
- IV. Please note that any interruption during updating will cause system unbooted



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

This motherboard provide 6 audio connector. You are able to use 2-/ 4-/6-/8-channnels audio feature by audio software selection.

Line Out

Introduction of audio connectors:

You may connect CD-ROM/DVD-ROM, walkman or

others audio input to Line In.

The front channels or earphone can be connected to

Line Out (Front Speaker Out).

Connect microphone to Mic In.

Connect the rear channels to Rear Speaker Out.

Connect the Center/Subwoofer channels to Center/ Subwoofer Speaker Out.

Connect the side channels to Side Speaker Out.

The installation of audio software for Windows 2000 / XP is very simple. Please follow the steps to install the function.(Following pictures are in Windows XP)



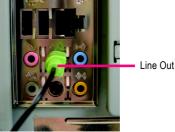
If you set the **Front Panel Type** option to **HD Audio** in BIOS, make sure to connect your audio front panel cable(optional for different models) connector to the motherboard before system start-up or you'll not be able to see the front panel options from the **Sound Effect** application.

Stereo Speakers Connection and Settings:

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

STEP 1:

Connect the stereo speakers or earphone to "Line Out".



STEP 2 :

Following installation of the audio driver, you find a

Sound Effect Original icon on the lower right hand taskbar. Click the icon to select the function.





STEP 3:

Click "Speaker Configuration" then click on the left selection bar and select "2CH Speaker" to complete 2 channel audio configuration.





4 Channel Audio Setup

STEP 1 :

Connect the front channels to "Front Speaker Out", the rear channels to "Rear Speaker Out".



Front Speaker Out

Rear Speaker Out

STEP 2 :

Following installation of the audio driver, you find a Sound Effect icon on the lower right hand taskbar. Click the icon to select the function.





STEP 3:

Click "Speaker Configuration" then click on the left selection bar and select "4CH Speaker" to complete 4 channel audio configuration.

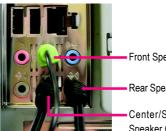
ſ	4CH Speaker 🗾	
	Headphone 2CH Speaker	
	4CH Speaker • 6CH Speaker	
	8CH Speaker	



6 Channel Audio Setup

STEP 1:

Connect the front channels to "Front Speaker Out", the rear channels to "Rear Speaker Out", and the Center/Subwoofer channels to "Center/Subwoofer Speaker Out".



Front Speaker Out

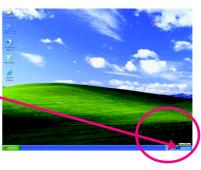
Rear Speaker Out

Center/Subwoofer Speaker Out

STEP 2:

Following installation of the audio driver, you find a Sound Effect () icon on the lower right hand taskbar. Click the icon to select the function.





STEP 3:

Click "Speaker Configuration" then click on the left selection bar and select "6CH Speaker" to complete 6 channel audio configuration.

6CH Speaker	•
Headphone 2CH Speaker 4CH Speaker	
6CH Speaker 8CH Speaker	1



8 Channel Audio Setup

STEP 1 :

Connect the front channels to "Front Speaker Out", the rear channels to "Rear Speaker Out", the Center/ Subwoofer channels to "Center/Subwoofer Speaker Out", and the side channels to "Side Speaker Out".



Front Speaker Out

Rear Speaker Out

Center/Subwoofer Speaker Out Side Speaker Out

STEP 2 :

Following installation of the audio driver, you find a Sound Effect icon icon on the lower right hand taskbar. Click the icon to select the function.



STEP 3:

Click "Speaker Configuration" then click on the left selection bar and select "8CH Speaker" to complete 8 channel audio configuration.





Sound Effect Configuration: At the sound effect menu, users can adjust sound option settings as desired.



- 68 -

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://www.gigabyte.com.tw

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

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

Question 3: How do I clear CMOS?

Answer: If your board has a Clear CMOS jumper, please refer to the Clear CMOS steps in the manual. If your board doesn't have such jumper, you can take off the on-board battery to leak voltage to clear CMOS. Please refer to the steps below:

Steps:

- 1. Turn off power.
- 2. Disconnect the power cord from MB.
- 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(or load Optimized Defaults).
- 7. Save changes and reboot the system.

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

Question 5: Sometimes I hear different continuous beeps from computer after system boots up. What do these beeps usually stand for?

Answer: The beep codes below may help you identify the possible computer problems. However, they are only for reference purposes. The situations might differ from case to case.

→ AMI BIOS Beep Codes

*Computer gives 1 short beep when system boots successfully.

*Except for beep code 8, these codes are always fatal.

 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 end 	
	0 1
11 beeps Cache memory bad	Continuous short beeps: Power error

	- 73 -	Appendix

	_



Taiwan (Headquarters) GIGA-BYTE TECHNOLOGY CO., LTD. Address: No.6. Bau Chiang Road, Hsin-Tien, Taipei 231. Taiwan TEL: +886-2-8912-4888 FAX: +886-2-8912-4003 Tech. Support : 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 TEL +1-626-854-9338 FAX: +1-626-854-9339 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.giga-byte.com Germany • G.B.T. TECHNOLOGY TRADING GMBH TEL: +49-40-2533040 (Sales) +49-1803-428468 (Tech.) FAX: +49-40-25492343 (Sales) +49-1803-428329 (Tech.) 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.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 Non-Tech. Support(Sales/Marketing) : http://ggts.gigabyte.com.tw/nontech.asp

WEB address: http://www.gigabyte.com.sg

• U.K.

G.B.T. TECH. 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://uk.giga-byte.com

The Netherlands

GIGA-BYTE TECHNOLOGY B.V. TEL: +31-40-290-2088 NL Tech.Support: 0900-GIGABYTE (0900-44422983) BE Tech.Support: 0900-84034 FAX: +31-40-290-2089 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.giga-byte.nl

China -NINGBO G.B.T. TECH. TRADING CO., LTD. Tech. Support : http://tw.giga-byte.com/TechSupport/ServiceCenter.htm Non-Tech. Support(Sales/Marketing): http://ggts.gjgabyte.com.tw/nontech.asp WEB address : http://www.gigabyte.com.cn Shanghai TEL:+86-021-63410999 FAX: +86-021-63410100 Beiiina TEL:+86-10-62102838 FAX: +86-10-62102848 Wuhan TEL:+86-27-87851061 FAX: +86-27-87851330 GuangZhou TEL:+86-20-87586074 FAX: +86-20-85517843 Chenadu TEL:+86-28-85236930 FAX: +86-28-85256822 Xian TEL +86-29-85531943 FAX: +86-29-85539821 Shenvang TEL:+86-24-23960918 FAX:+86-24-23960918-809 Australia GIGABYTE TECHNOLOGY PTY I TD 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.giga-byte.com.au

France

GIGABYTE TECHNOLOGY FRANCE 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) :

Non-Tech. Support(Sales/Marketing):

http://ggts.gigabyte.com.tw/nontech.asp WEB address : http://www.gigabyte.ru

Poland

Office of GIGA-BYTE TECHNOLOGY Co., Ltd. in POLAND 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.pl

Serbia & Montenegro

Representative Office Of GIGA-BYTE Technology Co., Ltd. in SERBIA & MONTENEGRO

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.co.yu

Czech Republic

Representative Office Of GIGA-BYTE Technology Co., Ltd. in CZECH REPUBLIC

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.cz

Romania

Representative Office Of GIGA-BYTE Technology Co., Ltd. in Romania

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.com.ro