GA-8I945GMMFY-RH

Intel[®] Core[™] Duo Processor Motherboard

User's Manual

Rev. 1003 12ME-945GMMFY-1003R



* 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 : 11mmy Huang		(dume)
		May DE 2008	2
Date: May 05, 2006	Signature: Finnny Huang	Manufacturer/Importer	
Signature: $Eric Lu$	General and Safety requirements for uninterruptible power systems (UPS)	Safety of household and similar Electrical appliances	EN 60335 Safet electr
Representative Person's Name: ERIC LU	Satety for information technology equipment including electrical business equipment	Satery requirements for mains operated LI EN 60950 electronic and related apparatus for household and similar general use	EN 60065 Seret electr house
including that may cause undesired operation.	re mentioned product to with LVD 73/23 EEC	es the c y stand	
subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accent any inference received	(EC conformity marking)		☑ CE marking
This device complies with part 15 of the FCC Rules. Operation is		part 10 for receiving and/or distribution from part 12 sound and television signals	part 10 for re- part 12 sound part 12
Supplementary Information:		Cabled distribution systems: Equipment	DIN VDE 0855 Cable
(a),Class B Digital Device		Limits and methods of measurement of radio disturbance characteristics of	EN 55022 Limits of rad
FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109	power systems (UPS)		
Conforms to the following specifications:	EMC requirements for uninterruptible	Immunity from radio interference of	EN 55020 Immu
Model Number: GA-81945GMMFY-RH	Immunity requirements for household appliances tools and similar apparatus	Limits and methods of measurement EN 55014-2 of radio disturbance characteristics of fluorescent lamps and luminances	EN 55015 Limits of rad fluore
Product Name: Motherboard	Generic immunity standard Part 2: Industrial environment	portable tools and similar electrical EN 50082-2 apparatus	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 hor exhold electrical anotherces	EN 55014-1 Limits of rad house
Phone/Fax No: (818) 854-9338/ (818) 854-9339	characteristics-Limits and methods of measurement	broadcast receivers and associated	broadcast equipment
City of Industry, CA 91748	Information Technology equipment-Inmunity	Limits and methods of measurement S EN 55024 of radio disturbance characteristics of	EN 55013 Limits of rad
Address: 17358 Railroad Street	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"	industrial, scientific and medical (ISM) If EN 61000-3-3 high frequency equipment	indus high f
Responsible Party Name: G.B.T. INC. (U.S.A.)	Disturbances in supply systems caused	Limits and methods of measurement III EN 61000-3-2 of radio disturbance characteristics of	EN 55011 Limits of rad
(1	ective	Is in contormly with (reference to the specification under which conformity is declared in accordance with 89/336 EEC-EMC Directive	
5		Motherboard GA-8I945GMMFY-RH	
	> which it refers)	declare that the product (description of the apparatus, system, installation to which it refers)	
Per FCC Part 2 Section 2.1077(a)	l Germany	G.B.T. Technology Trading GMbH Ausschlager Weg 41, 1F 20537 Hamburg, Germany	
DECLARATION OF CONFORMITY	ity	We, Manufacturer/Importer	

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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 "User's 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 visit Gigabyte's website at www.gigabyte.com.tw

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Item Checklist

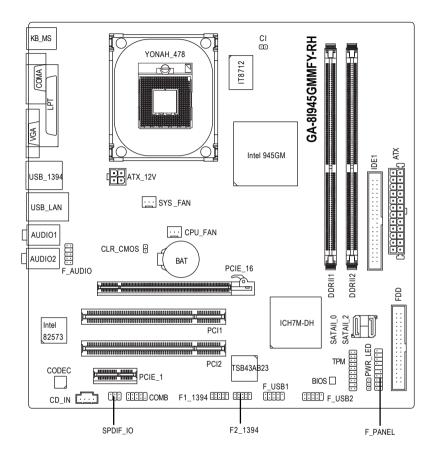
- ✓ FDD Cable x 1
- ☑ IDE Cable x 1
- ☑ Serial ATA Cable x 1
- ☑ I/O Shield
- ☑ CPU Cooler

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

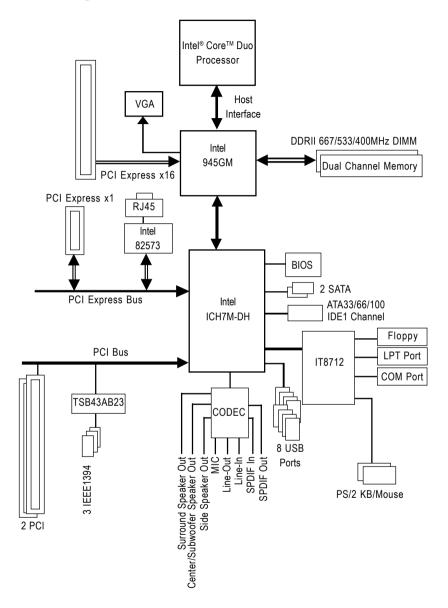
Optional Accessories

- 2 Ports USB2.0 Cable (Part Number: 12CR1-1UB030-51)
- COM Port Cable (Part Number: 12CF1-1CM001-31/-31R)

GA-8I945GMMFY-RH Motherboard Layout



Block Diagram



Chapter 1 Hardware Installation

1-1 Considerations Prior to Installation

Preparing Your Computer

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

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

Installation Notices

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

Instances of Non-Warranty

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

1-2 Feature Summary

CPU	 Supports Intel[®] Core[™] Duo Processor 	
	 L2 cache varies with CPU 	
Front Side Bus	Supports 667/533MHz FSB	
Chipset	Northbridge:Intel® 945GM	
	Southbridge: Intel [®] ICH7M-DH	
LAN	Onboard Intel 82573 chip(10/100/1000Mbit)	
Audio	Onboard ALC880 chip	
	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 CD In connection	
	Supports SPDIF In/Out connection	
IEEE 1394	Onboard Ti TSB43AB23 chip	
	3 IEEE1394 ports	
Storage	Intel [®] ICH7M-DH Southbrigde	
0	- 1 FDD connector, allowing connection of 2 FDD devices	
	- 1 IDE connector (IDE1) with UDMA 33/ATA 66/ATA 100 support,	
	allowing connection of 2 IDE devices	
	- 2 SATA connectors (SATAII_0/SATAII_2), allowing connection	
	of 2 SATA devices	
	- Supports data striping (RAID 0), mirroring (RAID 1) for Serial ATA	
O.S Support	Microsoft Windows 2000/XP	
Memory	 2 DDRII DIMM memory slots (supports up to 4GB memory) (Note 1) 	
·	Supports dual channel DDRII 667/533/400 DIMM	
	Supports 1.8V DDRII DIMMs	
Expanstion Slots	1 PCI Express x 16 slot	
	1 PCI Express x 1 slot	
	2 PCI slots	
Internal Connectors	1 24-pin ATX power connector	
	 1 4-pin ATX 12V power connector 	
	1 floppy connector	
	1 IDE connector	
	2 SATA connectors	
	1 CPU fan connector	
	 1 system fan connector 	
	1 front panel connector	

Internal Connectors	1 front audio connector
	1 COMB connector
	1 CD In connector
	1 SPDIF IO connector
	1 power LED connector
	 2 USB 2.0/1.1 connectors for additional 4 ports by cables
	1 TPM connector
	2 1394 connectors
Rear Panel I/O	1 PS/2 keyboard port
	 1 PS/2 mouse port
	1 parallel port
	 1 serial port (COMA)
	1 VGA port
	• 4 USB 2.0/1.1 ports
	• 1 1394 port
	• 1 RJ-45 port
	6 audio jacks (Line In / Line Out / MIC In/Surround Speaker Out (Rear
	Speaker Out)/Center/Subwoofer Speaker Out/Side Speaker Out)
I/O Control	• IT8712 chip
Hardware Monitor	System voltage detection
	CPU / System temperature detection
	CPU / System fan speed detection
	CPU / System warning temperature
	CPU / System fan failure warning
	CPU smart fan control
BIOS	1 4Mbit flash ROM
	Use of licensed AWARD BIOS
Additional Features	Supports @BIOS
	Supports Download Center
	Supports Q-Flash
	 Supports EasyTune (only supports Hardware Monitor function)^(Note 2)
	Supports Xpress Install
	Supports Xpress Recovery2
	Supports Xpress BIOS Rescue
Bundle Software	Norton Internet Security (OEM version)
Form Factor	Micro ATX form factor; 24.4cm x 24.4cm

- (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.
- (Note 2) EasyTune functions may vary depending on different motherboards.

1-3 Installation of the CPU and CPU Cooler



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

- 1. Ensure that the motherboard supports the CPU.
- When inserting the CPU, carefully align the CPU pin one marking with pin one (the indented corner) on the CPU socket. The CPU will not fit if inserted incorrectly.
 - 3. Please add an even thin layer of heat paste between the CPU and CPU cooler.
 - 4. Ensure that the CPU cooler is installed on the CPU prior to system use, otherwise overheating and permanent damage of the CPU may occur.
 - 5. Set the CPU host frequency in accordance with the CPU specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the required standards for the peripherals. If you wish to set the frequency beyond the proper specifications, please do so according to your hard ware specifications including the CPU, graphics card, memory, hard drive, etc.

1-3-1 Installation of the CPU

Check the CPU pins to see that none are bent. Use a flathead screwdriver to turn the screw on the CPU socket to the unlocked position (**f**) (Figure 1). Align the CPU pin one marking (the gold triangle marking) with the pin one (the indented corner) on the CPU socket. Gently insert the CPU into the socket and ensure that all pins are properly inserted (Figure 2). Note: If you install the CPU in the wrong direction, the CPU will not insert properly. If this occurs, rather than applying force, change the insert direction of the CPU. Finally, make sure to turn the socket screw to the locked position (**A**) to secure the CPU (Figure 3).

The instructions on installing the CPU below are for reference only. CPU socket design may slightly differ depending on CPU socket supplier. For example, on some CPU sockets, is to release the CPU and is to lock the CPU in place. Installation of the CPU is dependent on the design of the CPU socket on your motherboard.

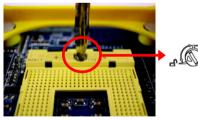


Figure 1. Turn the screw to the unlocked position (\mathbf{G}).





Align the CPU pin one marking (the gold triangle marking) with pin one on the CPU socket. Carefully and gently insert the CPU into the socket.

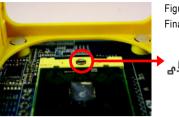


Figure 3 Finally, turn the screw to the locked position ($\ensuremath{\textbf{A}}$)





- 2. It may take a little force to turn the screw to the unlocked () and locked () positions. Turn the screw to the locked position after ensuring that the CPU is properly and correctly placed into the CPU socket.

1-3-2 Installation of the CPU Cooler



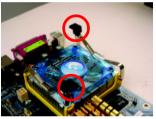
Figure 1.

Place the CPU cooler onto the CPU. Align the clip latches to the retention mechanism hooks and place the clips on the CPU cooler.



Figure 3.

Press down on the clip levers at the same time till the clips are secured to the retention mechanism hooks.





To prevent applying force unevenly and thus damage to the CPU, we suggest that you install the second clip in the reverse orientation of the first one.





Attach the CPU cooler fan connector to the CPU_FAN header on the motherboard to prevent overheating or damage of the CPU.



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

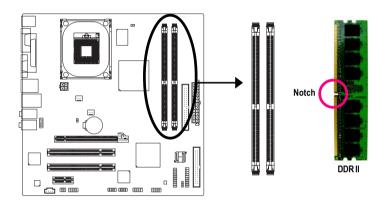
1-4 Installation of Memory

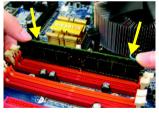


Before installing the memory modules, please comply with the following conditions:

- 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.
 - Memory modules have a foolproof insertion design. A memory module can be installed in only one direction. If you are unable to insert the module, please switch the direction.

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





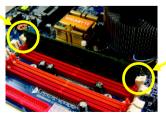


Fig.1

The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.

Fig.2

Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.

Reverse the installation steps when you wish to remove the DIMM module.

1-5 Installation of Expansion Cards

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

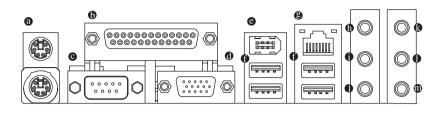
- 1. Read the related expansion card's instruction document before installing the expansion card into the computer.
- 2. Remove your computer's chassis cover, screws and slot bracket from the computer.
- 3. Press the expansion card firmly into expansion slot in motherboard.
- 4. Be sure the metal contacts 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 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 latch at the end of the PCI Express x 16 slot. When you try uninstall the VGA card, please press the latch as the picture to the left shows to release the card.

1-6 I/O Back Panel Introduction



PS/2 Keyboard and PS/2 Mouse Connector

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

Parallel Port

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

Serial Port (COMA)

Devices like mouses, modems, and etc. can be connected to Serial port.

Ø VGA Port

Monitor can be connected to VGA port.

IEEE 1394 port

Connects to IEEE 1394 devices.

USB port

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

LAN Port

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

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.

Center/Subwoofer Speaker Out

Connect the Center/Subwoofer speakers to this connector.

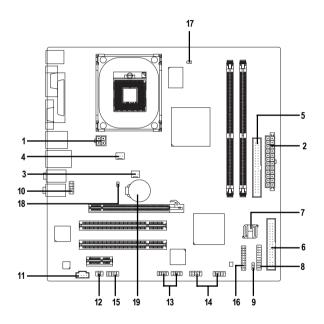
Side Speaker Out

Connect the side surround speakers to this connector.



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

1-7 Connectors Introduction



1)	ATX_12V	11)	CD_IN
2)	ATX (Power Connector)	12)	SPDIF_IO
3)	CPU_FAN	13)	F1_1394 / F2_1394
4)	SYS_FAN	14)	F_USB1 / F_USB2
5)	IDE1	15)	СОМВ
6)	FDD	16)	ТРМ
7)	SATAII_0 / SATAII_2	17)	CI
8)	F_PANEL	18)	CLR_CMOS
9)	PWR_LED	19)	BAT
10)	F_AUDIO	1	

1/2) ATX_12V/ATX (Power Connector)

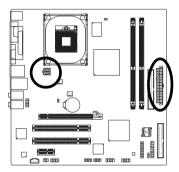
With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard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

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

Caution!

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

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



4 2	Pin No.	
	1	Ī
	2	Ī
3 1	3	Ī
5 1	4	

Definition GND H12V +12V

		5)
12	•		24
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	•	•	
1	•	·	13
)

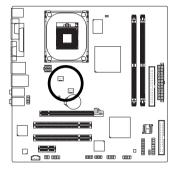
Pin No.	Definition	Pin No.	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON(soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	-5V
9	5V SB(stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V(Only for 24-pin ATX)	23	+5V (Only for 24-pin ATX)
12	3.3V(Only for 24-pin ATX)	24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

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

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

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

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

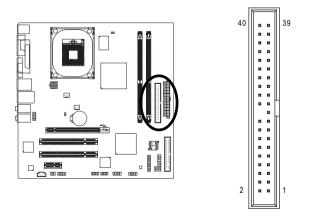




Pin No.	Definition
1	GND
2	+12V
3	Sense

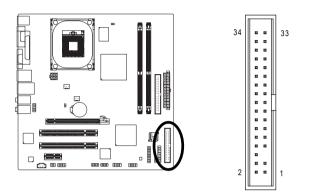
5) IDE1 (IDE Connector)

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



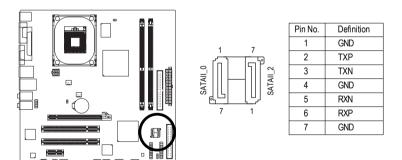
6) FDD (FDD Connector)

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



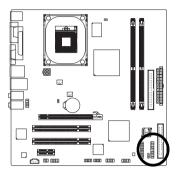
7) SATAII 0/SATAII 2 (Serial ATA Connector,)

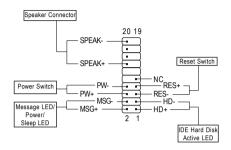
SATA can provide up to 150MB/s transfer rate. Please refer to the BIOS setting for the Serial ATA and install the proper driver in order to work properly.



8) F_PANEL (Front Panel Connector)

Please connect the power LED, PC speaker, reset switch and power switch etc. of your chassis front panel to the F_PANEL connector according to the pin assignments below.

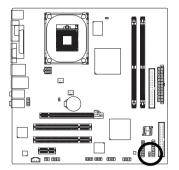




HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(-)
SPEAK (Speaker Connector)	Pin 1: Power
	Pin 2- Pin 3: NC
	Pin 4: Data(-)
RES (Reset Switch)	Open: Normal
	Close: Reset Hardware System
PW (Power Switch)	Open: Normal
	Close: Power On/Off
MSG(Message LED/Power/Sleep LED)	Pin 1: LED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

9) PWR_LED

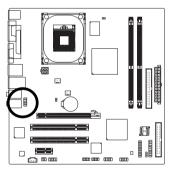
The PWR_LED connector is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.



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

10) F_AUDIO (Front Audio Panel Connector)

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





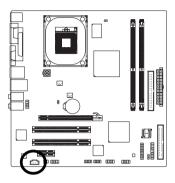
HD Audio:	: AC'97 Audio:		
Pin No.	Definition	Pin No.	Definition
1	MIC2_L	1	MIC
2	GND	2	GND
3	MIC2_R	3	MIC Power
4	-ACZ_DET	4	NC
5	Line2_R	5	Line Out (R)
6	FSENSE1	6	NC
7	FAUDIO_JD	7	NC
8	No Pin	8	No Pin
9	LINE2_L	9	Line Out (L)
10	FSENSE2	10	NC



By default, the audio driver is configured to support HD Audio. To connect an AC97 front panel audio module to this connector, please refer to the instructions on Page 74 about the software settings.

11) CD_IN (CD IN Connector)

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

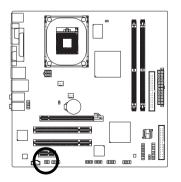


	Pin No.	Definition
	1	CD-L
• 1	2	GND
	3	GND
	4	CD-R

12) SPDIF_IO (SPDIF In/ Out)

The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Use SPDIF IN feature only when your device has digital output function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF cable. Incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.

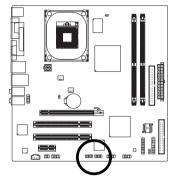
[



Pin No.	Definition
1	Power
2	No Pin
3	SPDIF
4	SPDIFI
5	GND
6	GND

13) F1_1394/F2_1394 (IEEE 1394 Connector)

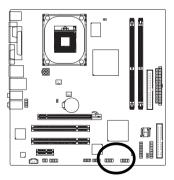
Serial interface standard set by Institute of Electrical and Electronics Engineers, which has features like high speed, highbandwidth and hot plug. Be careful with the polarity of the IEEE1394 connector. Check the pin assignment carefully while you connect the IEEE1394 cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional IEEE1394 cable, please contact your local dealer.



Pin No.	Definition
1	TPA+
2	TPA-
3	GND
4	GND
5	TPB+
6	TPB-
7	Power (12V)
8	Power (12V)
9	No Pin
10	GND

14) F_USB1 / F_USB2 (Front USB Connectors)

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.

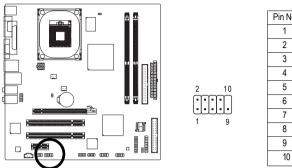


2	_	_	_	10
\mathbf{P}	•	•	•	•
Ŀ	•	•	•	\cup
1				9

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

15) COMB (COMB Connector)

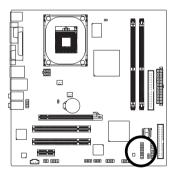
Be careful with the polarity of the COMB connector. Check the pin assignments while you connect the COMB cable. Please contact your nearest dealer for optional COMB cable.



Pin No.	Definition
1	NDCDB-
2	NSINB
3	NSOUTB
4	NDTRB-
5	GND
6	NDSRB-
7	NRTSB-
8	NCTSB-
9	NRIB-
10	No Pin

16) TPM Connector

Please contact your nearest dealer for optional TPM cable.

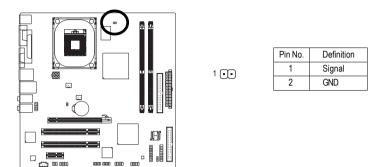




Pin No.	Definition	Pin No.	Definition
1	LCLK	11	LAD0
2	GND	12	GND
3	LFRAME	13	RSVO
4	No Pin	14	RSV1
5	LRESET	15	SB3V
6	VCC5	16	SERIRQ
7	LAD3	17	GND
8	LAD2	18	CLKRUN
9	VCC3	19	LPCPD
10	LAD1	20	RSV2

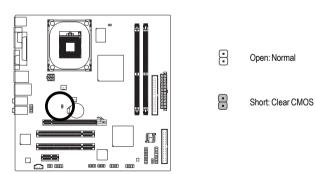
17) CI (Chassis Intrusion, Case Open)

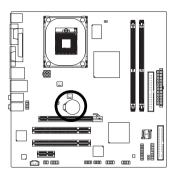
This 2-pin connector allows your system to detect if the chassis cover is removed. You can check the "Case Opened" status in BIOS Setup.

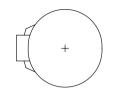


18) CLR_CMOS (Clear CMOS)

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







- 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.
- Take out the battery gently and put it aside for about 1 minute (Or you can use a metal object to connect the positive and negative pins in the battery holder to make them short for 5 seconds).
- 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, press 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". 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.

$\overline{<\!\!\uparrow\!\!>\!\!<\!\!\downarrow\!\!>\!\!<\!\!\leftrightarrow\!\!>\!\!<\!\!\rightarrow\!\!>}$	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>.



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

<F12> : For Boot Menu

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



Use < \uparrow > or < \downarrow > to select a device, then press enter to accept . Press <ESC> to exit this menu.

Boot Menu	
== Select a Boot First device ==	
Floppy	
LS120	
Hard Disk	
CDROM	
ZIP	
USB-FDD	
USB-ZIP	
USB-CDROM	
USB-HDD	
LAN	
↑↓:Move Enter :Accept ESC:Exit	

The Main Menu (For example: BIOS Ver. : D1)

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

 CMOS Setup Utility-Copyright (C) 1984-2006 Award Software			
•	Standard CMOS Features	Load Fail-Safe Defaults	
►	Advanced BIOS Features	Load Optimized Defaults	
•	Integrated Peripherals	Set Supervisor Password	
►	Power Management Setup	Set User Password	
•	PC Health Status	Save & Exit Setup	
►	Frequency/Voltage Control	Exit Without Saving	
ESC	2: 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.

The BIOS Setup menus described in this chapter are for reference only and may differ from the exact settings for your motherboard.

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.

PC Health Status

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

Frequency/Voltage Control

This setup page is control CPU clock and frequency ratio.

Load Fail-Safe Defaults

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

Load Optimized Defaults

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

Set Supervisor Password

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

Set User Password

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

Save & Exit Setup

Save CMOS value settings to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

2-1 Standard CMOS Features

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software Standard CMOS Features						
Date (mn	:dd:vv)	Wed, Apr 12 2006	Item Help			
Time (hh:		14:31:24	Menu Level▶			
 IDE Channel 0 Master IDE Channel 0 Slave 		[None] [None]	Change the day, month, year			
 IDE Channel 2 Master IDE Channel 2 Slave 		[None] [None]	<week> Sun. to Sat.</week>			
Drive A Drive B		[1.44M, 3.5"] [None]	<month></month>			
Floppy 3 Mode Support		[Disabled]	Jan. to Dec.			
Halt On		[All, But Keyboard]	<day> 1 to 31 (or maximum</day>			
Base Memory		640K	allowed in the month)			
Extended Memory		239M				
Total Mer			<year> 1999 to 2098</year>			
↑↓→←: Move F5: Previ	Enter: Select ous Values	+/-/PU/PD: Value F10: Save F6: Fail-Safe Default	ESC: Exit F1: General Help F7: Optimized Defaults			

つ Date

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

- >> Week The week, from Sun to Sat, determined by the BIOS and is display only
- ✤ Month The month, Jan. Through Dec.
- Day The day, from 1 to 31 (or the maximum allowed in the month)
- ං 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 devices setup. You can use one of three methods:
 - Auto Allows BIOS to automatically detect IDE devices during POST. (Default value)
 - None Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
 - Manual User can manually input the correct settings.
- ➤ Access Mode Use this to set the access mode for the hard drive. The four options are: CHS/LBA/Large/Auto(default:Auto)
- ➤ Capacity Capacity of currectly installed hard drive.

☞ IDE Channel 2 Master/Slave

- ▶ IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.
- ▶ Extended IDE Drive You can use one of the two methods:
 - Auto Allows BIOS to automatically detect IDE 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.
- Access Mode Use this to set the access mode for the hard drive. The two options are: Large/Auto(default:Auto)

➤ Capacity Capacity of currently installed hard drive.

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

∽ Drive A / Drive B

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

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

∽ Floppy 3 Mode Support (for Japan Area)

- Disabled Normal Floppy Drive. (Default value)
- Drive A Drive A is 3 mode Floppy Drive.
- ➡ Drive B Drive B is 3 mode Floppy Drive.
- ➡ Both Drive A & B are 3 mode Floppy Drives.

Halt on

The category determines whether the computer will stop if an error is detected during power up. No Errors The system boot will not stop for any error that may be detected and you

	will be prompted.
All Errors	Whenever the BIOS detects a non-fatal error the system will be stopped.
➡ All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors. (Default value)
➡ All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
► All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

∽ Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

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

Extended Memory

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

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

➡ Total Memory

This item displays the memory size that used.

2-2 Advanced BIOS Features

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software Advanced BIOS Features						
Hard Disk Boot Priority First Boot Device Second Boot Device Third Boot Device Password Check Limit CPUID Max. to 3 No-Execute Memory Protect ^(Note) CPU Enhanced Halt (C1E) ^(Note) CPU Fination (C1E) ^(Note) CPU Finatio	[Press Enter] [Floppy] [Hard Disk] [CDROM] [Setup] [Disabled] [Enabled] [Enabled] [Enabled] [Enabled] [Enabled] [Babled] [8MB]	Item Help Menu Level> Select Hard Disk Boot Device Priority				
	+/-/PU/PD: Value F10: Save F6: Fail-Safe Defaults	ESC: Exit F1: General Help F7: Optimized Defaults				

☞ 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.
- ➡ ZIP Select your boot device priority by ZIP.
- ▶ USB-FDD Select your boot device priority by USB-FDD.
- ➤ USB-ZIP Select your boot device priority by USB-ZIP.
- ▶ USB-CDROM Select your boot device priority by USB-CDROM.
- ➡ USB-HDD Select your boot device priority by USB-HDD.
- ► LAN Select your boot device priority by LAN.
- Disabled Disable this function.

Password Check

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

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

∽ Limit CPUID Max. to 3

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

∽ No-Execute Memory Protect ^(Note)

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

∽ CPU Enhanced Halt (C1E)^(Note)

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

∽ CPU Thermal Monitor 2 (TM2) ^(Note)

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

→ CPU EIST Function (Note)

- ➡ Enabled Enable CPU EIST function. (Default value)
- ✤ Disabled Disable EIST function.

Virtualization Technology

- >> Enabled Enable Virtualization technology function. (Default value)
- ✤ Disabled Disable this function.

○ On-Chip Frame Buffer Size

- ▶ 1MB Set on-chip frame buffer size to 1MB.
- ▶ 8MB Set on-chip frame buffer size to 8MB. (Default value)

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

2-3 Integrated Peripherals

	CMOS Setup Utility-Copyright (C) 1984-2006 Award Software Integrated Peripherals						
	On-Chip Primary PCI IDE	[Enabled]	Item Help				
	SATA RAID/AHCI Mode	[Disabled]	Menu Level▶				
	On-Chip SATA Mode	[Auto]					
х	PATA IDE Set to	Ch.0 Master/Slave					
	SATA Port 0/2 Set to	Ch.2 Master/Slave					
	USB Controller	[Enabled]					
	USB 2.0 Controller	[Enabled]					
USB Keyboard Support		[Disabled]					
USB Mouse Support		[Disabled]					
Legacy USB storage detect		[Enabled]					
Azalia Codec		[Auto]					
Onboard H/W 1394		[Enabled]					
Onboard H/W LAN		[Enabled]					
Onboard LAN Boot ROM		[Disabled]					
Onboard Serial Port 1		[3F8/IRQ4]					
Onboard Serial Port 2		[2F8/IRQ3]					
Onboard Parallel Port		[378/IRQ7]					
Parallel Port Mode		[SPP]					
х	ECP Mode Use DMA	3					
↑ \	↓→←: Move Enter: Select F5: Previous Values	+/-/PU/PD: Value F10: Save F6: Fail-Safe Defaults	ESC: Exit F1: General Help F7: Optimized Defaults				

∽ On-Chip Primary PCI IDE

- ➡ Enabled Enable onboard 1st channel IDE port. (Default value)
- Disabled Disable onboard 1st channel IDE port.

∽ SATA RAID / AHCI Mode

➡ RAID Set the onboard SATA controller to RAID mode.

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

∽ On-Chip SATA Mode

✤ Disabled Disable this function.

➡ Auto BIOS will auto detect. (Default value)

- ✤ Combined Set On-Chip SATA mode to Combined, you can use up to 4 HDDs on the motherboard; 2 for SATA and the other for PATA.
- Enhanced Set On-Chip SATA mode to Enhanced, the motherboard allows up to 4 HDDs to use; 2 for SATA and the other for PATA.
- Non-Combined Set On-Chip SATA mode to Non-Combined, SATA will be simulated to PATA mode. Support a maximum of 2 SATA devices. PATA devices will be ignored.

☞ PATA IDE Set to

▶ Ch.0 Master/Slave Set PATA IDE to Ch. 0 Master/Slave. (Default value)

▶ Ch.1 Master/Slave Set PATA IDE to Ch. 1 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.

☞ USB Controller

- ➡ Enabled Enable USB controller. (Default value)
- Disabled Disable USB controller.

☞ USB 2.0 Controller

- You can 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)

Contract Legacy USB storage detect

Enabled Enable USB storage device boot. (Default value)
 Disabled Disable this function

☞ Azalia Codec

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

○ Onboard H/W 1394

- ➡ Enabled Enable onboard IEEE1394 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 1 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.

∽ 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 Setu	D Utility-Copyright (C) 1984-2006 Award So Power Management Setup	ftware
ACPI Suspend Type Soft-Off by PWR-BTTN Quick Resume Technology PME Event Wake Up Power On by Ring Resume by Alarm X Date (of Month) Alarm X Time (hh:mm:ss) Alarm Power On by Mouse Power On by Keyboard X KB Power ON Password AC Back Function	[S1(POS)] [Instant-Off] [Disabled] [Enabled] [Disabled] Everyday 0:0:0 [Disabled] [Disabled] [Disabled] Enter [Soft-Off]	Item Help Menu Level≯
↑↓→←: Move Enter: Select F5: Previous Values		SC: Exit F1: General Help 7: 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.

Quick Resume Technology

- Disabled
 Disable Quick Resume Technology function. (Default value)
- Enabled Enable Quick Resume Technology function.

☞ PME Event Wake Up

- This feature requires an ATX power supply that provides at least 1A on the 5VSB lead.
- ✤ Disabled Disable this function.
- Enabled Enable PME as wake up event. (Default value)

☞ Power On by Ring

- Disabled Disable Power on by Ring function.
- Enabled Enable Power on by Ring function. (Default value)

→ Resume by Alarm

You can set "Resume by Alarm" item to enabled and key in Date/Time to power on system.

- Disabled Disable this function. (Default value)
- ✤ Enabled Enable alarm function to POWER ON system.
- If Resume by Alarm is Enabled.
- Date (of Month) Alarm : Everyday, 1~31
- ➡ Time (hh: mm: ss) Alarm : (0~23) : (0~59) : (0~59)

☞ Power On By Mouse

- Disabled Disabled this function. (Default value)
- >> Double Click Double click on PS/2 mouse left button to power on the system.

Power On By Keyboard

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

∽ KB Power ON Password

When "Power On by Keyboard" set at Password, you can set the password here.

▶ Enter Input password(from 1 to 5 characters) and press Enter to set the 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 PC Health Status

CMOS Setu	p Utility-Copyright (C) 1984-2006 Award Soft PC Health Status	ware
Reset Case Open Status	[Disabled]	Item Help
Case Opened		Menu Level
Vcore	OK	i
DDR18V	OK	i
+3.3V	OK	i
+12V	OK	i
Current System Temperature		i
Current CPU Temperature		i
Current CPU FAN Speed	2880 RPM	i
Current SYSTEM FAN Speed	0 RPM	i
System Warning Temperature	[Disabled]	i
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
System FAN Fail Warning	[Disabled]	i
CPU Smart FAN Control	[Enabled]	i
		i
↑↓→←: Move Enter: Select F5: Previous Values		C: Exit F1: General Help Optimized Defaults

Constant Case Open Status

- Disabled Don't reset case open status. (Default value)
- ➡ Enabled Clear case open status at next boot.

∽ Case Opened

If the case is closed, "Case Opened" will show "No".

If the case have been opened, "Case Opened" will show "Yes".

If you want to reset "Case Opened" value, set "Reset Case Open Status" to "Enabled" and save CMOS, your computer will restart.

∽ Current Voltage(V) Vcore / DDR18V / +3.3V / +12V

▶ Detect system's voltage status automatically.

∽ Current System/CPU Temperature

➡ Detect System/CPU temperature automatically.

∽ Current CPU/SYSTEM FAN Speed (RPM)

▶ Detect CPU/System fan speed status automatically.

∽ CPU/System Warning Temperature

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

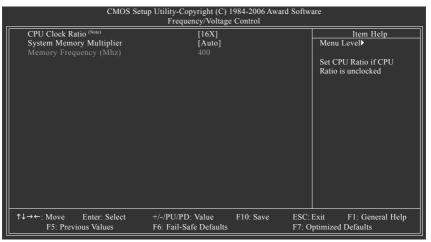
∽ CPU/System FAN Fail Warning

- Disabled Disable fan warning function. (Default value)
- Enabled Enable fan warning function.

□ CPU Smart FAN Control

- ▶ Disabled Disable this function.
- Enabled When this function is enabled, CPU fan will run at different speed depending on CPU temperature. Users can adjust the fan speed with Easy Tune based on their requirements. (Default value)

2-6 Frequency/Voltage Control





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

☞ CPU Clock Ratio (Note)

This setup option will automatically assign by CPU detection.

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

System Memory Multiplier

Wrong frequency may make system can't boot, clear CMOS to overcome wrong frequency issue. for FSB(Front Side Bus) frequency=667MHz,

- ▶ 2.40 Memory Frequency = Host clock x 2.40.
- ➡ 3.20 Memory Frequency = Host clock x 3.20.
- ➡ 4.00 Memory Frequency = Host clock x 4.00.
- ✤ Auto Set Memory frequency by DRAM SPD data. (Default value)

Memory Frequency (Mhz)

The values depend on "System Memory Multiplier" item.

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

2-7 Load Fail-Safe Defaults

CMOS Setup Utility-Copyrig	ht (C) 1984-2006 Award Software
 Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Ma PC Health Frequency, romage connect 	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password
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.

2-8 Load Optimized Defaults

CMOS Setu	Utility-Copyright (C) 1984-2006 Award Software
Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Ma PC Health Frequency, ronage control	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Control Defaults (Y/N)? N
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup Load Optimized Defaults

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

2-9 Set Supervisor/User Password

	CMOS Setup Utility-Copyright	(C) 1984-2006 Award Software
Standard CM Advanced BI Integrated P Power Ma PC Health Frequency	OS Features	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set House Decommend
ESC: Quit F8: Q-Flash	Change/Set/Di	↑↓→←: Select Item F10: Save & Exit Setup sable Password

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

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

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

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

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

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

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

2-10 Save & Exit Setup

_		CMOS Setup Utility-Copyright	(C) 1984-2006 Award Software
$\left \right $	•	Standard CMOS Features	Load Fail-Safe Defaults
	►	Advanced BIOS Features	Load Optimized Defaults
	•	Integrated Peripherals	Set Supervisor Password
	►	Power Management Setup	Set User Password
	•	PC Health	0
	►	Frequency Save to CMOS an	d EXIT (Y/N)? Y
	ESC	2: Quit	↑↓→←: Select Item
	F8:	Q-Flash	F10: Save & Exit Setup
		Save Data	to CMOS

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

2-11 Exit Without Saving

 CMOS Setup Utility-Copyright (C) 1984-2006 Award Software			
 Standard CMOS Features Advanced BIOS Features 	Load Fail-Safe Defaults Load Optimized Defaults		
 Integrated Peripherals 	Set Supervisor Password		
Power Ma			
PC Health Quit Without	Saving (Y/N)? N		
Frequency/vonage control	EAR WILDUR Saving		
ESC: Quit	↑↓→←: Select Item		
F8: Q-Flash	F10: Save & Exit Setup		
Abando	on 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.

stall hipset Driver oftware oplications	Install Chipset Drivers And following once, listed below are recommended to default the drivers are three ked to be installed, untherk XPress Install	t be installed fo the selected o	r your motherboard. Please click on the "Xpress Install" to install all drivers automatics rivers will not be installed.			
river CD	Vahoo! Toolbar		Install			
rormation	Size 686.1KB	Version	1.0			
formation	Yahool Toolbar Utility					
iormation	Intel quick resume technology		Install			
ontact Us	Size 3.3MB	Version	1.0			
	Intel quick resume technology					
	🗾 INF Update Utility		Install			
	Size 986.8KB	Version	7.2.1.1006			
	This utility installs INF files that inform the ope USB interface.	rating system i	now to properly configure the chipset for specific functionality such as PCI-Express or			
	Mintel®Graphics Media Accelerator Driver		Install			
	Size 15.5MB	Version	14.19.50.4497			
	Installs drivers for the integrated graphics controller of Intel®chipsets. This is not to be used if the system has a third party graphics card.					
	Intel 825XX Series LAN Driver		Install			
	Size 67.3MB	Version	7.2.19.0			
	For Intel Series					
	Microsoft UAA Bus driver for High Definition Audi	•	Install			
	Size 69.0MB	Version	5.10.0.5010			
	The Microsoft UAA (Universal Audio Architectu the following versions of Windows: 1 Microsoft Windows Server 2003 2 Microsoft Windows 200 Service Pack 1 (SP1) 3 Microsoft Windows 2000 Service Pack 4 (SP		rovides support for High Definition Audio (Azalia). This driver is designed to work with			



The "Intel quick resume technology" driver can be installed only when the Quick Resume Technology under the Power Management Setup menu is set to Enabled.

Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.

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



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

3-2 Software Applications

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

GIGAB		
Install Chipset Drivers	Software Applications Please dick on the following applications listed below to install	
Software Applications		
Driver CD Information	Norton Internet Security(WIS) Spe. 102.3MB	Install
Hardware Information	Notion Internet Becurity 2005 provides essential protection from viruses hackers and privacy tireats. It includes: Notion Ant/Ana Notion Personal Fermal	_
Contact Us	Norther Pressoral in Fernival Note Prince/Control Note Ant/Span Note Ant/Span Note Ant/Span	
	Acrobat Reader	Install
	Size 15.9MB Utility for viewing or printing Adobe Portable Document Format (PDF) files.	
	GKGABYTE C.O.M. (Corporate Online Manager)	Install
	Size 8.4MB	
	A web-based system management tool that allows client system hardware information such as CPU and memory and graphics card and be monitored or controlled via a host.	I much more b
	EasyTune 5	Install
	Size 4.8MB An easy-to-use Windows-based system enhancement utility allowing quick acress to a variety of performance features.	
	DMI Viewer	Install
	Stee 1.0MB DMI Viewer provides a management tool for viewing motherboard hardware information.	
	Dat viewer provides a management oor for viewing momenous o haroware information.	Install
	value-added software developed by Glasbyte and its worldwide partners.	>

3-3 Driver CD Information

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

Install Chipset Drivers	Driver CD information The following information sho	ws the detail contents stored in this Driver CD.	
Software Applications			
Driver CD	ChipsetMA		
Information	Directory Name	Description	
Hardware Information	• INFUpdate	Intel® chipes software installation utility for Vindows XP Intel® chipes software installation utility for Vindows 2000 Intel® chipes software installation utility for Vindows ME Intel® chipes software installation utility for Vindows 88	
Contact Us	• IAA	Intel® application accelerator for Windows XP Intel® application accelerator for Windows 2000	
	• VGA	-Win2k_XP -Intel® Graphics Media Accelerator Driver for Windows XP -Win2k_XP -Intel® Graphics Media Accelerator Driver for Windows 2000	
	 EnableUSBS3%p 	Enable USB device back form S3 mode	
	Mudio		
	Directory Name	Description	
	 cmedia 	cmedia AC'97 Audio Driver	
	Realtek	Reattek AC'97 Audio Driver	
	Network		
	Directory Name	Description	
	 Ftt8139 	LAN Driver for RealTek 8139/8100/8110s	
	 Marvell 	Marvell 10/100/1000 Base LAN driver	
	 BroadCom 	BroadCom PCI/E LAN driver	
	Other		
	Directory Name	Description	
	c antents of softwares and drivers in the software state of software stat		3

3-4 Hardware Information

This page lists all device you have for this motherboard.

nstall	Hardware information
hipset Drivers	The following information shows the detail hardware information of your motherboard.
oftware pplications	
river CD formation	System Info • BIOS Mrfc/Intel IB45 BIOS for 819450MMFV:RH D1
lardware of ormation	CPUIntecCPU: Intel (GenuineIntel) Memory InfoC515,564 KB RAM
ontact Us	1231 Device Description;Texas Instruments OHCI Compliant IEEE 1334 Host Controller Device Drive Provider altransot Device Drive Provider altransot
	Durtical - Device Deverytheouthel(D) (2001 PC) (bitgs - 2448 - Device Deverytheouthel(D) (2001 PC) (bitgs - Device Deverytheouthel (c) standard CPU bitgs - Device Device Device Device Missionst
	Device Description:PCt standard ISA bridge Devict DriverPrevider:Microsoft
	Device Description:PCI standard PCi-to-PCI bridge Devicel DriverProvider:httcrosot
	Device Description:PCI standard PCHo-PCI bridge Devicit DriverProvider34crosot

3-5 Contact Us

Please see the last page for details.



Chapter 4 Appendix

4-1 Unique Software Utilities

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

4-1-1 EasyTune 5 Introduction

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

User Interface Overview



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

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

4-1-2 Xpress Recovery2 Introduction



Xpress Recovery2 is designed to provide quick backup and restoration of hard disk data. Supporting Microsoft operating systems including Windows XP/2000/NT/98/Me and DOS, and file systems including FAT16, FAT32, and NTFS, Xpress Recovery2 is able to back up data

on hard disks on PATA and SATA IDE controllers. After Xpress Recovery2 is executed from CD-ROM for the first time, it will stay permanent in your hard disk. If you wish to run Xpress Recovery2 later, you can simply press F9 during system bootup to enter Xpress Recovery2 without the CD-ROM.

System requirements:

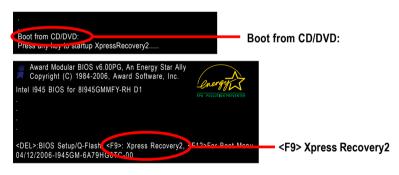
- 1. Intel x86 platforms
- 2. At least 64M bytes of system memory
- 3. VESA-supported VGA cards

How to use the Xpress Recovery2

Initial access by booting from CD-ROM and subsequent access by pressing the F9 key:

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

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





- If you have already entered Xpress Recovery2 by booting from the CD-ROM, you can enter Xpress Recovery2 by pressing the <F9> key in the future.
- 2. System storage capacity and the reading/writing speed of the hard disk will affect the data backup speed.
- 3. It is recommended that Xpress Recovery2 be immediately installed once you complete installations of OS and all required drivers as well as software.

The Main Screen of Xpress Recovery2



1. RESTORE:

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

2. BACKUP:

Back up data from hard disk.

3. REMOVE:

Remove previously-created backup files to release disk space.

(This button will not appear if there is no backup file.)

4. REBOOT:

Exit the main screen and restart the system.

Limitations:

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

Hard disks detection sequence is as follows:

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

Precautions:

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

4-1-3 Flash BIOS Method Introduction



Method 1 : Q-Flash™ 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.

The BIOS file is Fa3 before updating



Entering the Q-Flash[™] utility:

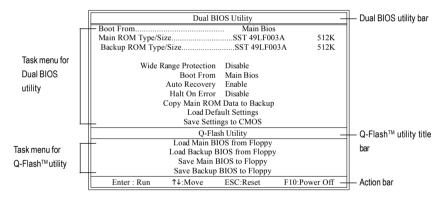
Step1: To use Q-Flash utility, you must press Del in the boot screen to enter BIOS menu.

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

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

Exploring the Q-Flash[™] / Dual BIOS utility screen

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



Task menu for Dual BIOS utility:

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

Task menu for Q-Flash utility:

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

Action bar:

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

Using the Q-Flash[™] utility:

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

Steps:

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

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



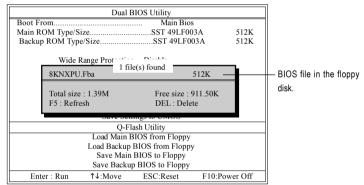
If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.

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

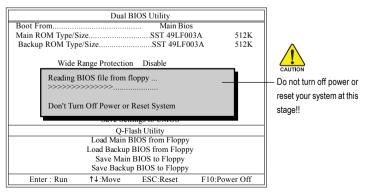
In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.



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.



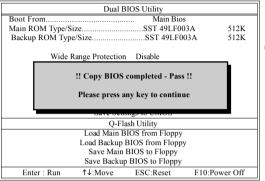
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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.

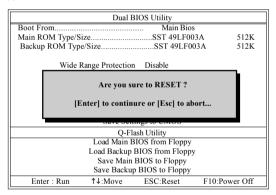
Please do not take out the floppy disk when it begins flashing BIOS.

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.



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

The BIOS file becomes Fab after updating.	Award Modular BIOS v6 00PG, An Energy Star Ally Copyright (C) 1984-2003, Award Software, Inc. Intel 1875P ACPest BIOS v6 (KKNXP Ultra Fko- Check System Health OK, VCwez 15250 Main Processor : Intel Pentium(R) 4 1.6GHz (133x12) <cpuid: 0027="" 0027-<br="" id:="" patch="">Memory Testing: 131072X OK Memory Frequency 266 MHz in Single Channel Primary Master : FUJITSOK Memory Frequency 266 MHz in Single Channel Primary Master : FUJITSOK</cpuid:>	
	Press DEL to enter SETUP / Dual BIOS / Q-Flash / F9 For Xpress Recovery 09/23/2003-1875P-6A79BG03C-00	

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

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

Press Y on your keyboard to save and exit.

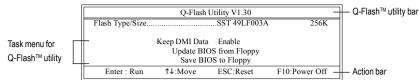
Part Two:

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.

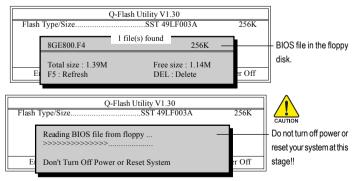


If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floppy" item.

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.

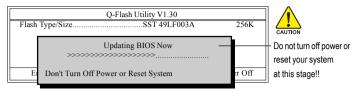
Please confirm again you have the correct BIOS file for your motherboard.



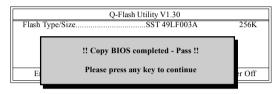
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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

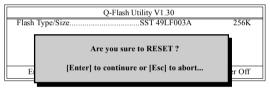
Press Y button on your keyboard after you are sure to update BIOS. 3. Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.



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



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 @BIOSTM sever
 - d. Select the exact model name on your motherboard
 - e. System will automatically download and update the BIOS.
- II. Update BIOS NOT through Internet:
 - a. Do not click "Internet Update" icon
 - b. Click "Update New BIOS"
 - c. Please select "All Files" in dialog box while opening the old file.
 - Please search for BIOS unzip file, downloading from internet or any other methods (such as: 8I945GMMFY-RH.F1).
 - 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.
- V. Do not use @BIOS and C.O.M. (Corporate Online Management) at the same time.

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

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

- (1) Install SATA hard drive(s) in your system.
- (2) Configure SATA controller mode and boot sequence in BIOS Setup.
- (3)* Configure RAID set in RAID BIOS.
- (4) Make a floppy disk containing the SATA controller driver.
- (5) Install the SATA controller driver during OS installation.

Before you begin

Please prepare:

- (a) Two SATA hard drives (to ensure optimal performance, it is recommended that you use two hard drives with identical model and capacity). If you do not want to create RAID with the SATA controller, you may prepare only one hard drive.
- (b) An empty formatted floppy disk.
- (c) Windows XP/2000 setup disk.
- (d) Driver CD for your motherboard.

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

Attach one end of the SATA signal cable to the rear of the SATA hard drive and the other end to available SATA port(s) on the motherboard. If there are more than one SATA controller on your motherboard, you may refer to the motherboard user's manual to identify the SATA controller for the connector. Then connect the power connector from your power supply to the hard drive.

[&]quot;*" Skip this step if you do not want to create RAID array on the SATA controller.

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

You have to make sure whether the SATA controller is configured correctly in system BIOS Setup and set BIOS boot sequence for the SATA hard drive(s).

Step 1:

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

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software Integrated Peripherals			
On-Chip Primary PCI IDE	[Enabled]	Item Help	
SATA RAID/AHCI Mode	[RAID]	Menu Level	
On-Chip SATA Mode	[Auto]		
x PALL IDE Set to	Ch 0 Mester/Slave		
SATA Port 0/2 Set to	Ch.2 Master/Slave		
USB Controller	[Enabled]		
USB 2.0 Controller	[Enabled]		
USB Keyboard Support	[Disabled]		
USB Mouse Support	[Disabled]		
Legacy USB storage detect	[Enabled]		
Azalia Codec	[Auto]		
Onboard H/W 1394	[Enabled]		
Onboard H/W LAN	[Enabled]		
Onboard LAN Boot ROM	[Disabled]		
Onboard Serial Port 1	[3F8/IRQ4]		
Onboard Serial Port 2	[2F8/IRQ3]		
Onboard Parallel Port	[378/IRQ7]		
Parallel Port Mode	[SPP]		
x ECP Mode Use DMA	3		
$\uparrow \downarrow \rightarrow \leftarrow$: Move Enter: Select	+/-/PU/PD: Value F10: Save	ESC: Exit F1: General Help	
F5: Previous Values	F6: Fail-Safe Defaults	F7: Optimized Defaults	

Figure '	1
----------	---

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

Step 2:

Later, select **Hard Disk Boot Priority** under the **Advanced BIOS Features** menu. In the **Hard Disk Boot Priority** submenu, select the model of the SATA hard drive onto which you intent to install Microsoft Windows 2000/XP (Figure 2).

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Hand Diele Poot Priority			
1. SCSI-0 : 2. Boonable Add in Cards	Intel Volume0	Item Help Menu Level →→ Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press <esc> to exit this menu.</esc>	
↑↓: Move PU/PD/+/-: Change Pric	rity F10: Save	ESC: Exit	

Figure 2

Step 3:

Set **First Boot Device** under the **Advanced BIOS Features** menu to **CD-ROM** to boot from CD-ROM after system restarts (Figure 3).

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software Advanced BIOS Features			
Anard Disk Boot Priority First Boot Device Second Boot Device Password Check Limit CPUID Max. to 3 No-Execute Memory Protect ^(Note) CPU Enhanced Halt (CIE) ^(Note) CPU Thermal Monitor 2(TM2) ^(Note) CPU EIST Function ^(Note) Virtualization Technology On-Chip Frame Buffer Size	Advanced BIOS Features [Press Enter; [CD-ROM] [Uned Disk] [CDROM] [Setup] [Disabled] [Enabled] [Enabled] [Enabled] [Enabled] [Enabled] [Enabled] [Babled]	Item Help Menu Level > Select Hard Disk Boot Device Priority	
		ESC: Exit F1: General Help F7: Optimized Defaults	

Figure 3

Step 4: Save and exit BIOS Setup.

(3) Configuring RAID set in RAID BIOS

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

Step 1:

After the POST memory test begins and before the operating system boot begins, look for a message which says "Press <Ctrl-I> to enter Configuration utility" (Figure 4). Press CTRL+ I to enter the RAID BIOS setup utility.

	Intel(R) Matrix Storage Manager option ROM v5.7.0.1007 ICH7MR Copyright(C) 2003-05 Intel Corporation. All Rights Reversed.					
	RAID Volumes : None Defined.					
Physic	al Disks :					
Port	Port Driver Model Serial # Size Type/Status(Vol ID)					
0	ST3120026AS	3JT354CP	111.8GB	Non-RAID Disk		
1	1 ST3120026AS 3JT329JX 111.8GB Non-RAID Disk					
Press	Press < <u>CTRL - I></u> to enter Configuration Utility					

Figure 4

Step 2:

After you press CTRL+ I, the Create RAID Volume screen will appear (Figure 5).

Create RAID Volume:

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

		x Storage Manager option C) 2003-05 Intel Corpora [MAIN MEN] I. Create RAID Vo 2. Delete RAID Vo 3. Reset Disks to No 4. Exit	tion. All Rights Re U] Iume lume	
0	efined.	E DISK/VOLUME INFC Serial # 3JT329JX 3JT354CP	Size 111.8GB	Type/Status(Vol ID) Non-RAID Disk Non-RAID Disk
	[↑↓]-Select	[ESC]-Exit Figure 5		[ENTER]-Select Menu

Figure 5

Step 3:

After entering the Create Volume Menu screen, name the disk array with 1~16 letters (letters cannot be special characters) under the Name item. When finished, press ENTER to select a RAID level (Figure 6). There are four RAID levels: RAID0, RAID1. Select a RAID level and press ENTER.

	ge Manager option ROM v5.7.0.1007 ICH7MR 8-04 Intel Corporation. All Rights Reversed.
[CR	REATE VOLUME MENU]
Name :	RAID Volume0
RAID Level :	
	Select Disks
Strip Size :	128KB
Capacity :	223.6 GB
	Create Volume
	[HELP]
Choose the RAI	ID level best suited to your usage model.
RAID0- Data striped ad	cross multiple physical drives for performance.
RAID1- Data mirrored	across multiple physical drives for redundancy.
[↑↓]-Change [TAB]-Ne	ext [ESC]-Previous Menu [ENTER]-Select

Figure 6

Step 4:

Set the stripe block size (Figure 7). The *KB* is the standard unit of stripe block size. The stripe block size can be set from 4KB to 128KB. After the setting, press ENTER to set array capacity.

	e Manager option ROM v5.7.0.1007 ICH7MR -05 Intel Corporation. All Rights Reversed.
[CR	EATE VOLUME MENU]
Name	RAID Volume0
	RAID0(Stripe)
	Select Disks
Strip Size :	128KB
Capacity :	
1 2	Create Volume
	[HELP]
The	following are typical values:
	RAID 0 - 128KB
[↑↓]-Change [TAB]-Ne:	xt [ESC]-Previous Menu [ENTER]-Select

Figure 7

Step 5:

After setting all the items above, select Create Volume and press ENTER (Figure 8) to begin the creation of the RAID array.

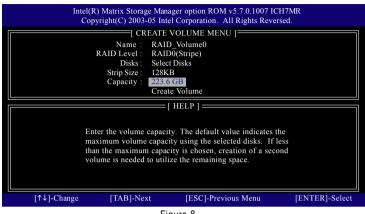


Figure 8

Step 6:

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

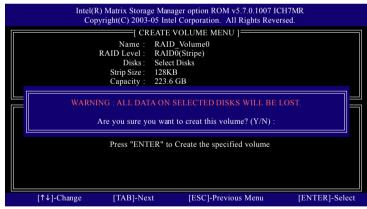


Figure 9

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

[MAIN MENU] I: Create RAID Volume 2: Delete RAID Volume 3: Reset Disks to Non-RAID 4: Exit [DISK/VOLUME INFORMATION] [RAID Volumes : [ID Name Level Strip Size Status Bootable 0 Volume0 RAID(Stripe) 128KB Physical Disks : Port Port Driver Model Serial # ST3120026AS 3JT329JX 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP IESC]-Exit	Intel(R) Matrix Storage Manager option ROM v5.7.0.1007 ICH7MR Copyright(C) 2003-05 Intel Corporation. All Rights Reversed.						
[DISK/VOLUME INFORMATION] RAID Volumes : ID Name Level Strip Size Status Bootable 0 Volume0 RAID(Stripe) 128KB 223.6GB Normal Yes Physical Disks : Port Driver Model Serial # Size Type/Status(Vol ID) 0 ST3120026AS 3JT329JX 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)		[MAIN MENU] [. Create RAID Volume 2. Delete RAID Volume					
RAID Volumes : ID Name Level Strip Size Status Bootable 0 Volume0 RAID(Stripe) 128KB 223.6GB Normal Yes Physical Disks : Port Driver Model Serial # Size Type/Status(Vol 1D) 0 ST3120026AS 3JT329JX 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)			4. Exit				
ID Name Level Strip Size Status Bootable 0 Volume0 RAID(Stripe) 128KB 223.6GB Normal Yes Physical Disks : Port Driver Model Serial # Size Type/Status(Vol ID) 0 ST3120026AS 3JT329JX 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)			E DISK/VOLUM	E INFORMA	TION]		
0 Volume0 RAID(Stripe) 128KB 223.6GB Normal Yes Physical Disks :	RAID	Volumes :					
Physical Disks : Port Driver Model Serial # Size Type/Status(Vol ID) 0 ST3120026AS 3JT329JX 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)	ID						Bootable
Port Driver Model Serial # Size Type/Status(Vol ID) 0 ST3120026AS 3JT329JX 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)	0	Volume0	RAID(Stripe)	128KB	223.6GB	Normal	Yes
0 ST3120026AS 3JT329JX 111.8GB Member Disk(0) 2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)	Physic	Physical Disks :					
2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)	Port	Driver Model	Serial #		Size	Type/Stat	us(Vol ID)
	0	0 ST3120026AS 3JT329JX 111.8GB Member Disk(0)					
[↑↓]-Select [ESC]-Exit [ENTER]-Select Menu	2	2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)					
[↑↓]-Select [ESC]-Exit [ENTER]-Select Menu							
		[↑↓]-Select [ESC]-Exit [ENTER]-Select Menu					



Delete RAID Volume

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

		atrix Storage Manage ht(C) 2003-05 Intel 0				
		[MAI	n menu 1 =			
		1. Create RA	AID Volume			
		2. Delete RA	AID Volume			
		3. Reset Dis	ks to Non-RA	ID		
		4. Exit				
		[DISK/VOLUM	E INFORMA	TION 1		
RAID	Volumes :					
ID	Name	Level	Strip	Size	Status	Bootable
0	Volume0	RAID(Stripe)	128KB	223.6GB	Normal	Yes
Physic	cal Disks :					
Port	Driver Model	Serial #		Size	Type/Stat	us(Vol ID)
0 ST3120026AS 3JT329JX 111.8GB Member Disk(0)						
2 ST3120026AS 3JT354CP 111.8GB Member Disk(0)						
[↑↓]-Select [ESC]-Exit [ENTER]-Select Menu						
		Fig	ure 11			

Figure 11

To exit the ICH7M-DH RAID BIOS utility, press ESC in Main Menu.

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

(4) Making a SATA Driver Disk

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

Step 1: Insert the prepared startup disk and motherboard driver CD-ROM in your system. Boot from the startup disk. Once at the A:\> prompt, change to the CD-ROM drive (example: D:\>). At the D:\> prompt, type the following two commands. Press ENTER after each command (Figure 12):

cd bootdrv menu

Step 2: When the controller menu (Figure 13) appears, remove the startup disk and insert the blank formatted disk. Select the controller driver by pressing the corresponding letter from the menu. For example, from the menu in Figure 13, press 7 to select 7) Intel Matrix Storage Manager 32 bit if you wish to install Windows XP. Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.









(Note 1) For users without a startup disk:

Use an alternative system and insert the GIGABYTE motherboard driver CD-ROM. From the CD-ROM drive folder, double click the **MENU.exe** file in the **BootDrv** folder (Figure 14). A command prompt window will open similar to that in Figure 13.



Figure 14

(5) Installing SATA controller driver during OS installation

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

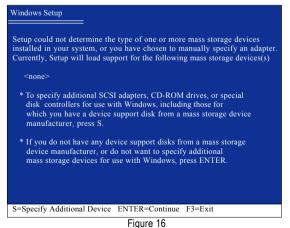
Step 1: Restart your system to boot from the Windows 2000/XP Setup disk and press F6 as soon as you see the "Press F6 if you need to install a 3rd party SCSI or RAID driver" message (Figure 15). After pressing F6, there will be a few moments of some files being loaded before you see the next screen.

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

Figure 15

Step 2:

When a screen similar to that below appears, insert the floppy disk containing the SATA driver and press S (Figure 16).



Step 3:

If Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 17 below will appear. Use the ARROW keys to select Intel(R) 82801GHM SATA RAID Controller (Mobile ICH7MR/DH) and press ENTER. Then it will begin to load the SATA driver from the floppy disk.

Windows Setup
You have chosen to configure a SCSI Adapter for use with Windows, using a device support disk provided by an adapter manufacturer.
Select the SCSI Adapter you want from the following list, or press ESC to return to the previous screen.
Intel(R) ESB2 SATA RAID Controller (Server ESB2) Intel(R) ESB2 SATA AHCI Controller (Server ESB2) Intel(R) 82801GHM SATA RAID Controller (Mobile ICH7MR/DH) Intel(R) 82801GR/GH SATA RAID Controller (Desktop ICH7R/DH)
ENTER=Select F3=Exit

Figure 17



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

Step 4:

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

Windows Setup
Setup will load support for the following mass storage device(s):
Intel(R) 82801GR/GH SATA RAID Controller (Desktop ICH7R/DH)
* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.
* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.
S=Specify Additional Device Enter=Continue F3=Exit
Figure 18

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

WindowsXP Professional	Setup			
Welcome to Setup. This port of the Setup j Windows (R) XP to ru				
To set up Window	s XP now, j	press ENTER.		
To repair a Windo Recovery Console		allation using		
To quit Setup without installing Windows XP, press F3.				
Enter= Continue R=1	Repair	F3=Exit		
	··· r ····			

Figure 19



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

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

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



Please follow the steps to install the function. (Following pictures are in Windows XP)

Note that if you wish to connect a microphone, you MUST connect it to the default Mic In jack

HD Audio

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

Stereo Speakers Connection and Settings:

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

STEP 1 :

After installation of the audio driver, you should find

an Audio Manager 🗿 icon in your system tray (you can also find the icon in Control Panel). Doubleclick the icon to open the Audio Control Panel.



STEP 2:

In the Audio Control Panel, click the **Audio I/O** tab. In the upper left list, click **2CH Speaker**.



STEP 3:

After a speaker or headphone is plugged into the rear Line Out jack, a small window will pop up and ask you what type of equipment is connected. Choose **Headphone** or **Line Out** depending on the device connected and click **OK**. The 2-channel audio setup is completed.



4 Channel Audio Setup

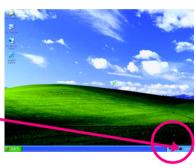
STEP 1:

After installation of the audio driver, you should find an Audio Manager **1** icon in your system tray (you can also find the icon in Control Panel). Doubleclick the icon to open the Audio Control Panel.



STEP 2:

In the Audio Control Panel, click the Audio I/O tab. In the upper left list, click **4CH Speaker**.





STEP 3:

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



6 Channel Audio Setup

STEP 1:

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



STEP 2:

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





N 88

STEP 3:

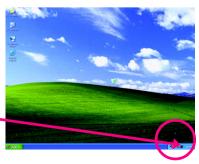
After plugging in 6-channel speakers to the rear speaker jacks, a small window will pop up and ask you what type of equipment is connected. Choose a device depending on the type of speaker connected (6-channel audio consists of Front Speaker Out (Line Out), Rear Speaker Out, and Center/Subwoofer Speaker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



STEP 1:

After installation of the audio driver, you should find an Audio Manager **3** icon in your system tray (you can also find the icon in Control Panel). Doubleclick the icon to open the Audio Control Panel.





STEP 2:

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



STEP 3:

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

Sourd Effect Mare Audo VO Montphore 3D Audo Demo

Sound Effect Configuration:

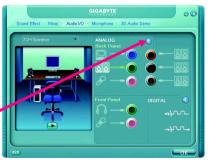
At the **Sound Effect** menu, users can adjust sound option settings as desired.



AC'97 Audio Configuration:

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





4-2 Troubleshooting

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to 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 1 minute (Or you can use a metal object to connect the positive and negative pins in the battery holder to makethem short for 5 seconds).
- 4. Re-insert the battery to the battery holder.
- 5. Connect power cord to MB again and turn on power.
- 6. Press Del to enter BIOS and load Fail-Safe Defaults(or load Optimized Defaults).
- 7. Save changes and reboot the system.

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

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

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

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



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