

GA-8I865GME

Intel® Pentium® 4 Processor Motherboard

User's Manual

Rev. 1001

12ME-865GME-1001R



* 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.

Declaration of Conformity

G.B.T. Technology, Inc.
The Manufacturer/Importer
(for access)
Ausechsler Weg 41, P.O. 20327 Hamburg, Germany

(description of the apparatus, system, installation to which it refers)
I declare that the product
Motherboard
GA-81865GME
is in conformity with
(reference to the specification with which conformity is declared)
the specifications set forth in
the standards with 901338 EMC Directive

- | | | | |
|--|---|--|---|
| <input type="checkbox"/> EN 55011 | Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment | <input checked="" type="checkbox"/> EN 61000-3-2 | Disturbances in supply systems caused by household appliances and similar electrical equipment. Voltage fluctuations* |
| <input type="checkbox"/> EN 55013 | Limits and methods of measurement of radio disturbance characteristics of equipment | <input checked="" type="checkbox"/> EN 55024 | Information Technology equipment/Immunity requirements |
| <input type="checkbox"/> EN 55014-1 | Limits and methods of measurement of radio disturbance characteristics of portable tools and similar electrical apparatus | <input type="checkbox"/> EN 55082-1 | Generic immunity standard Part 1: Residential, commercial and light industry |
| <input type="checkbox"/> EN 55015 | Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaires | <input type="checkbox"/> EN 55082-2 | Generic immunity standard Part 2: Industrial environment |
| <input type="checkbox"/> EN 55020 | Immunity from radio interference of equipment | <input type="checkbox"/> EN 55014-2 | Immunity requirements for household appliances tools and similar apparatus |
| <input checked="" type="checkbox"/> EN 55022 | Limits and methods of measurement of radio disturbance characteristics of information technology equipment | <input type="checkbox"/> EN 50091-2 | EMC requirements for uninterruptible power systems (UPS) |
| <input type="checkbox"/> EN VDE 0855 | Cabled distribution systems. Equipment | | |
| <input type="checkbox"/> EN 50174 | Power supply systems for television sound and television signals | | |
| <input type="checkbox"/> EN 50175 | Power supply systems for television sound and television signals | | |
| <input type="checkbox"/> EN 60085 | Safety requirements for mains operated household and similar general use electrical appliances | <input type="checkbox"/> EN 60950 | Safety for information technology equipment including electrical business equipment |
| <input type="checkbox"/> EN 60335 | Safety of household and similar electrical appliances | <input type="checkbox"/> EN 50091-1 | General and Safety requirements for uninterruptible power systems (UPS) |



(EC conformity marking)

The manufacturer/Importer declares the conformity of above standard product with the actual required safety standards in accordance with LVD 7323 EEC

(Stamp)

Date: Apr. 26, 2006

Signature: Timmy Huang
Name: Timmy Huang

Manufacturer/Importer

DECLARATION OF CONFORMITY

Per FCC Part 2, Section 2.1077(a)



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

Address: 17358 Railroad Street

City of Industry, CA 91748

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

hereby declares that the product

Product Name: **Motherboard**

Model Number: GA-81865GME

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109

(a), Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any interference received, including that may cause undesired operation.

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Apr. 26, 2006

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

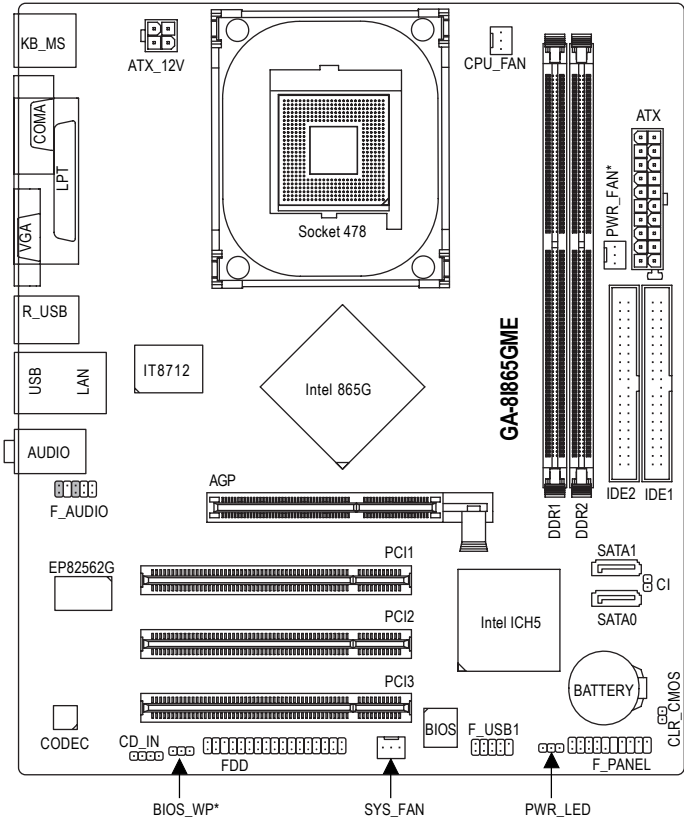
For more product details, please click onto Gigabyte's website at www.gigabyte.com.tw

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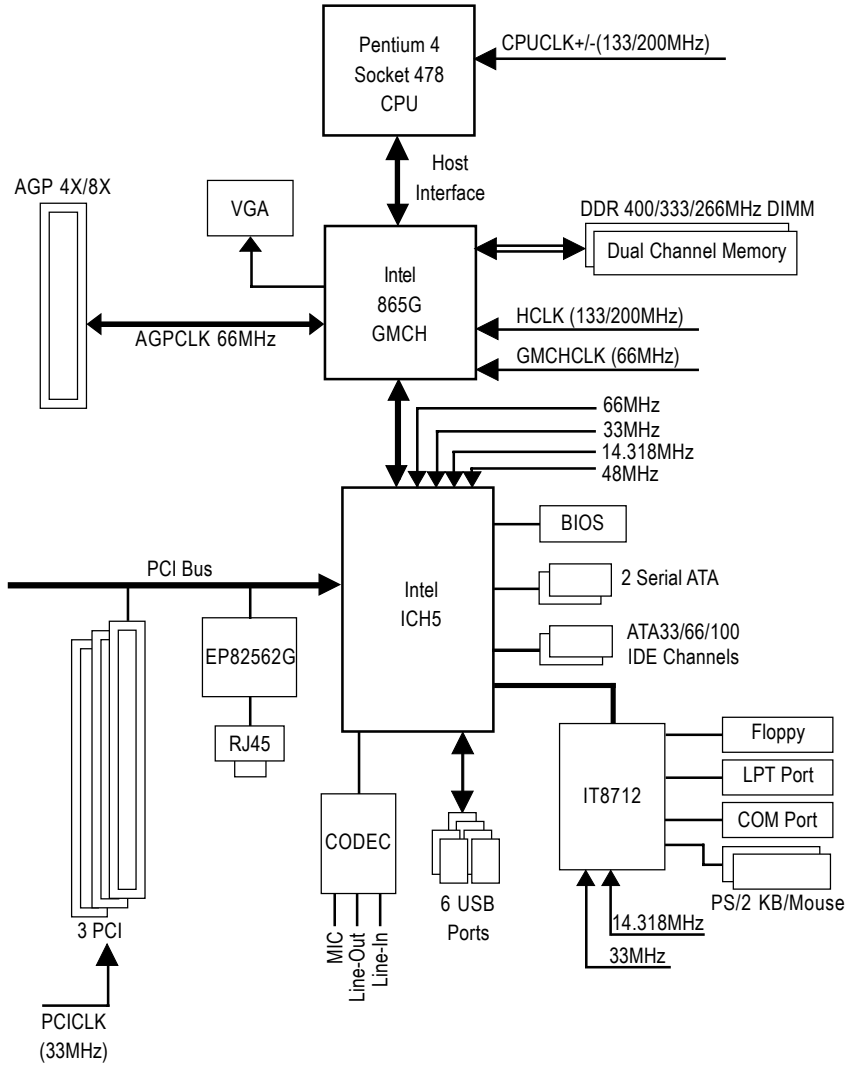
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GA-81865GME Motherboard Layout



* Only for DB customer.

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.
5. Please verify that the power supply is switched off before unplugging the power supply connector from the motherboard.

Installation Notices

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

Instances of Non-Warranty

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

1-2 Feature Summary

CPU	<ul style="list-style-type: none"> ◆ Socket 478 for Intel® Pentium® 4 (Northwood, Prescott) with HT Technology ◆ L2 cache varies with CPU
Front Side Bus	<ul style="list-style-type: none"> ◆ Supports 800/533/400MHz FSB
Chipset	<ul style="list-style-type: none"> ◆ Northbridge: Intel® 865G Chipset ◆ Southbridge: Intel® ICH5
LAN	<ul style="list-style-type: none"> ◆ Onboard EP82562G chip (10/100 Mbit)
Audio	<ul style="list-style-type: none"> ◆ Onboard Realtek ALC653 chip ◆ Supports 2 / 4 / 6 channel audio
Storage	<ul style="list-style-type: none"> ◆ ICH5 Southbridge <ul style="list-style-type: none"> - 1 FDD connector, allowing connection of 2 FDD devices - 2 IDE connectors (IDE1, IDE2) with UDMA 33/ATA 66/ATA 100 support, allowing connection of 4 IDE devices - 2 SATA connectors (SATA0, SATA1), allowing connection of 2 SATA devices
O.S Support	<ul style="list-style-type: none"> ◆ Microsoft Windows 2000/XP
Memory	<ul style="list-style-type: none"> ◆ 2 DDR DIMM memory slots (supports up to 2GB memory) ◆ Supports dual channel DDR 400/333/266 DIMM ◆ Supports 2.5V DDR DIMMs
Expansion Slots	<ul style="list-style-type: none"> ◆ 1 AGP slot supports 8X/4X(1.5V) mode ◆ 3 PCI slots
Internal Connectors	<ul style="list-style-type: none"> ◆ 1 20-pin ATX power connector ◆ 1 4-pin ATX 12V power connector ◆ 1 floppy connector ◆ 2 IDE connectors ◆ 2 SATA connectors ◆ 1 CPU fan connector ◆ 1 system fan connector ◆ 1 power fan connector* ◆ 1 front panel connector ◆ 1 front audio connector ◆ 1 CD In connector ◆ 1 USB 2.0/1.1 connectors for additional 2 USB 2.0/1.1 ports by cables ◆ 1 power LED connector

* Only for DB customer.

Rear Panel I/O	<ul style="list-style-type: none"> ◆ 1 PS/2 keyboard port ◆ 1 PS/2 mouse port ◆ 1 parallel port ◆ 1 VGA port ◆ 1 COMA port ◆ 4 USB 2.0/1.1 ports ◆ 1 RJ-45 port ◆ 3 audio jacks (Line In / Line Out / MIC In)
I/O Control	<ul style="list-style-type: none"> ◆ IT8712 chip
Hardware Monitor	<ul style="list-style-type: none"> ◆ System voltage detection ◆ CPU temperature detection ◆ CPU / System fan speed detection ◆ CPU warning temperature ◆ CPU / System fan failure warning
BIOS	<ul style="list-style-type: none"> ◆ 1 3Mbit flash ROM ◆ Use of licensed AWARD BIOS
Additional Features	<ul style="list-style-type: none"> ◆ Supports @BIOS ◆ Supports Download Center ◆ Supports Q-Flash ◆ Supports EasyTune ^(Note) ◆ Supports Xpress Install ◆ Supports Xpress Recovery2 ◆ Supports Xpress Rescue
Bundle Software	<ul style="list-style-type: none"> ◆ Norton Internet Security (OEM version)
Form Factor	<ul style="list-style-type: none"> ◆ Micro ATX form factor; 24.4cm x 21.0cm

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

1-3 Installation of the CPU and Heatsink



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

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



HT functionality requirement content :

Enabling the functionality of Hyper-Threading Technology for your computer system requires all of the following platform components:

- CPU: An Intel® Pentium 4 Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology

1-3-1 Installation of the CPU

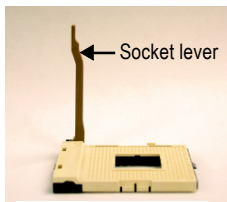


Fig. 1
Position lever at a 90 degree angle.

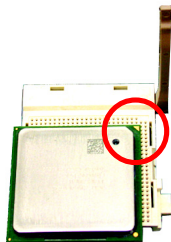


Fig. 2
A gold-colored triangle is marked one edge of the CPU. Please align this edge with the socket edge closest to the CPU lever. Gently place the CPU into position making sure that the CPU pins fit perfectly into their holes. Once the CPU is positioned into its socket, place one finger down on the middle of the CPU and gently press the metal lever back into its original position.



Please use extra care when installing the CPU. The CPU will not fit if positioned incorrectly. Rather than applying force, please change the positioning of the CPU.

1-3-2 Installation of the Heatsink

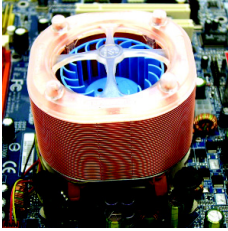


Fig.1

Before installing the heat sink, please first add an even layer of heat sink paste on the surface of the CPU. Install all the heat sink components (Please refer to the heat sink manual for detailed installation instructions).

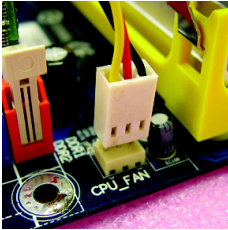


Fig.2

Please connect the heat sink power connector to the CPU_FAN connector located on the motherboard so that the heat sink can properly function to prevent CPU overheating.



NOTE

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

1-4 Installation of Memory



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

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

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

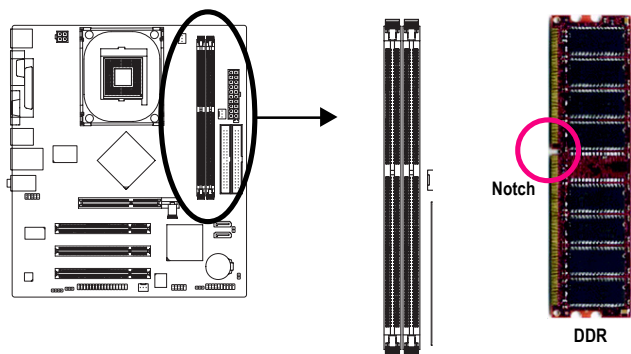


Fig.1

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



Fig.2

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

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

Dual Channel Memory Configuration

The GA-8I865GME supports the Dual Channel Technology. When the Dual Channel Technology is activated, the bandwidth of memory bus will be double the original one.

The GA-8I865GME includes 2 DIMM sockets, and each Channel has one DIMM socket as following:

▶▶ Channel A : DDR 1

▶▶ Channel B : DDR 2

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

1. Dual channel memory cannot be used if one DDR memory modules are installed.
2. To enable Dual Channel mode with 2 memory modules, it is recommended to use memory modules of identical brand, size, chips, and speed.

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

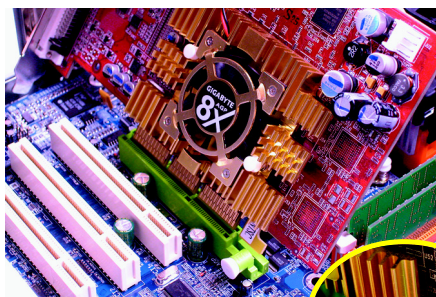
	DDR 1	DDR 2
2 memory modules	DS/SS	DS/SS

1-5 Installation of Expansion Cards

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

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the card are indeed seated in the slot.
5. Replace the screw to secure the slot bracket of the expansion card.
6. Replace your computer's chassis cover.
7. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
8. Install related driver from the operating system.

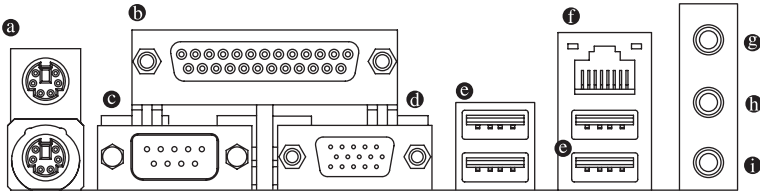
Installing a AGP VGA card:



CAUTION

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

1-6 I/O Back Panel Introduction



a 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).

b Parallel Port

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

c COMA (Serial Port)

Connects to serial-based mouse or data processing devices.

d VGA Port

Monitor can be connected to VGA port.

e 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.

f LAN Port

The provided Internet connection provides data transfer speeds of 10/100Mbps.

g Line In

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

h Line Out

Connect the stereo speakers or earphone to this connector.

i MIC In

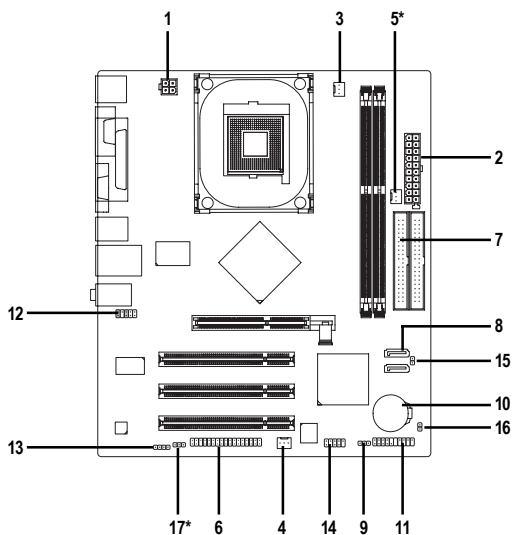
Microphone can be connected to MIC In jack.



NOTE

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

1-7 Connectors Introduction



1) ATX_12V	10) BATTERY
2) ATX (Power Connector)	11) F_PANEL
3) CPU_FAN	12) F_AUDIO
4) SYS_FAN	13) CD_IN
5) PWR_FAN*	14) F_USB1
6) FDD	15) CI
7) IDE1 / IDE2	16) CLR_CMOS
8) SATA0 / SATA1	17) BIOS_WP*
9) PWR_LED	

* Only for DB customer.

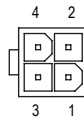
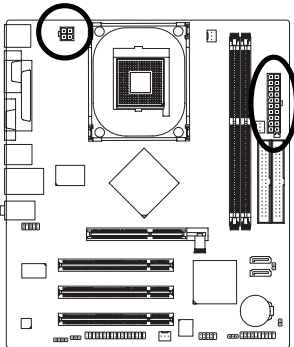
1/2) ATX_12V/ATX (Power Connector)

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.

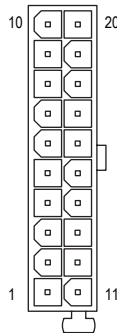
The ATX_12V power connector mainly supplies power to the CPU. If the ATX_12V power connector is not connected, the system will not start.

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.



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



Pin No.	Definition
1	3.3V
2	3.3V
3	GND
4	+5V
5	GND
6	+5V
7	GND
8	Power Good
9	5V SB (stand by +5V)
10	+12V
11	3.3V
12	-12V
13	GND
14	PS_ON(soft on/off)
15	GND
16	GND
17	GND
18	-5V
19	+5V
20	+5V

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

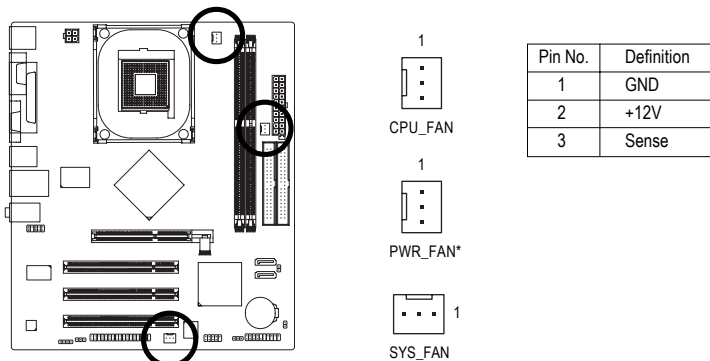
The cooler fan power connector supplies a +12V power voltage via a 3-pin power connector and possesses a foolproof connection design.

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

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

Caution!

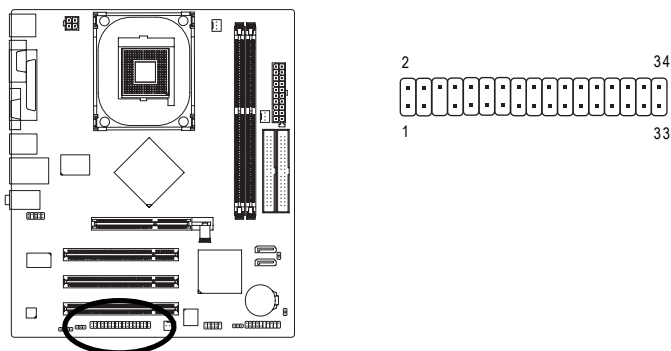
Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.



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.

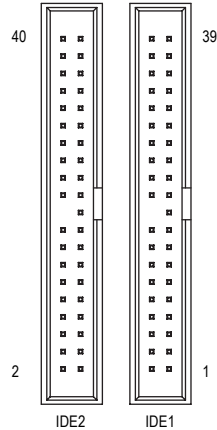
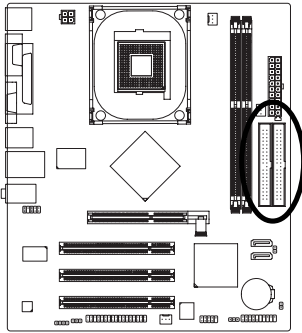
Please connect the red power connector wire to the pin1 position.



* Only for DB customer.

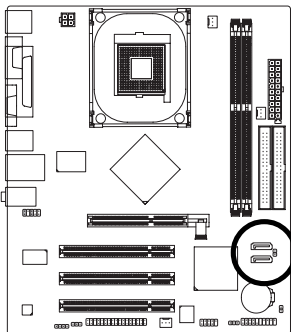
7) IDE1 / IDE2 (IDE Connector)

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).



8) SATA0 / SATA1 (Serial ATA Connector)

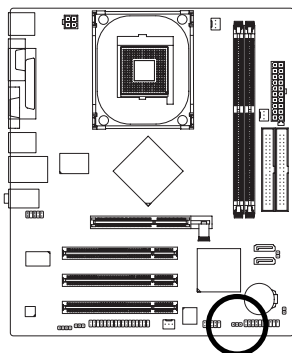
Serial ATA can provide up to 150MB/s transfer rate. Please refer to the BIOS setting for the Serial ATA and install the proper driver in order to work properly.



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

9) PWR_LED

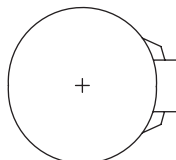
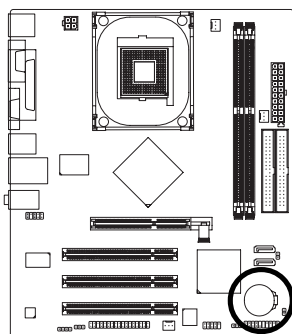
PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.



1 

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

10) BATTERY



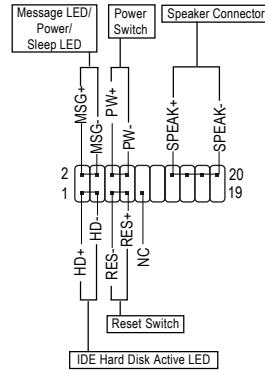
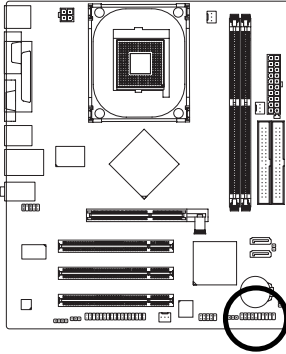
- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...

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

11) F_PANEL (Front Panel Jumper)

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

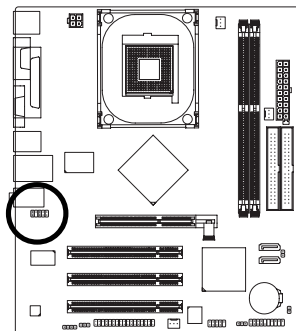


MSG (Message LED/Power/Sleep LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
PW (Power Switch)	Open: Normal Operation Close: Power On/Off
SPEAK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
RES (Reset Switch)	Open: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

12) F_AUDIO (Front Audio Panel Connector)

If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper.

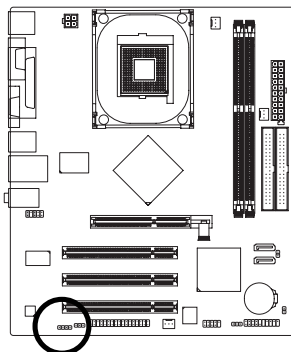
In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignments for the cable are the same as the pin assignments for the front audio header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.



Pin No.	Definition
1	MIC
2	GND
3	MIC_BIAS
4	Power
5	Front Audio(R)
6	Rear Audio(R)/Return R
7	NC
8	No Pin
9	Front Audio(L)
10	Rear Audio(L)/Return L

13) CD_IN (CD In Connector)

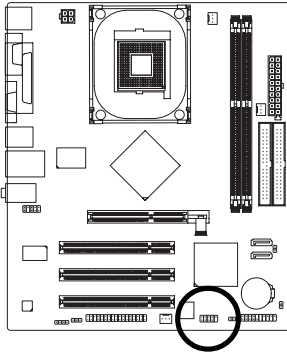
Connect CD-ROM or DVD-ROM audio out to the connector.



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

14) F_ USB1 (Front USB Connector)

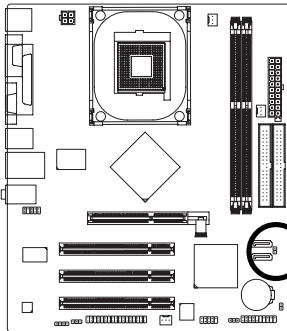
Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.



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

15) CI (Chassis Intrusion, Case Open)

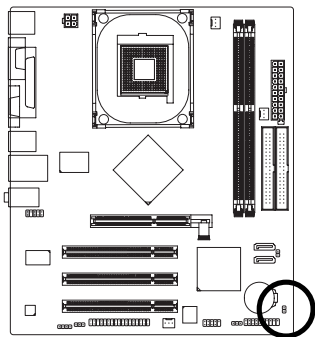
This 2-pin connector allows your system to detect if the chassis cover is removed. You can check the "Case Opened" status in BIOS Setup.





Pin No.	Definition
1	Signal
2	GND

16) CLR_CMOS (Clear CMOS)

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

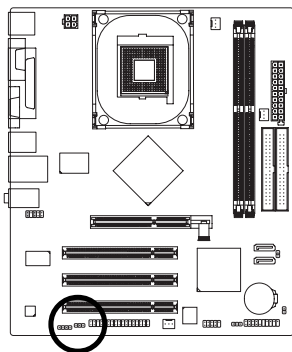



 Open: Normal


 Short: Clear CMOS

17) BIOS_WP (BIOS Write Protection)*

This header can protect the CMOS data against unauthorized access. Short pins 2-3 if you wish to update the system BIOS.



1  1-2 Short: Write Protect

1  2-3 Short: Normal

* Only for DB customer.

Chapter 2 BIOS Setup

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

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

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

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

When setting up BIOS for the first time, it is recommended that you save the current BIOS to a disk in the event that BIOS needs to be reset to its original settings. If you wish to upgrade to a new BIOS, either Gigabyte's Q-Flash or @BIOS utility can be used.

Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system. @BIOS is a Windows-based utility that does not require users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

CONTROL KEYS

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

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

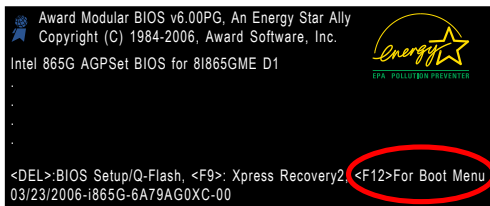
Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.



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

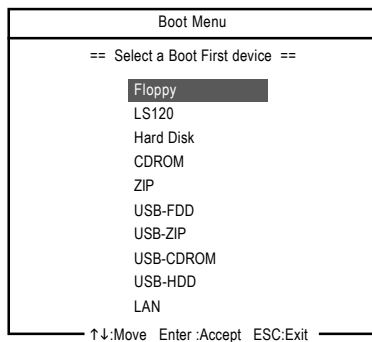
<F12> : For Boot Menu

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



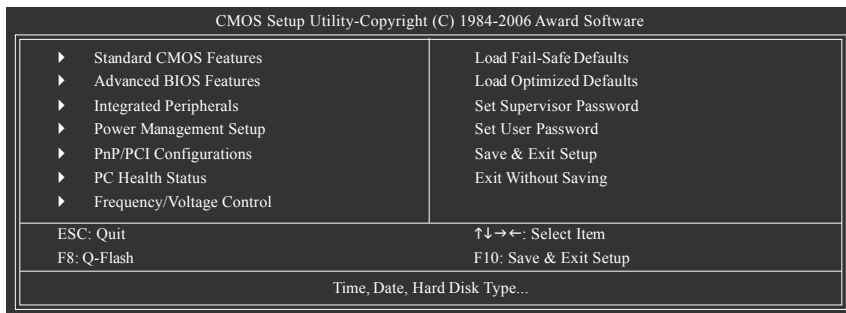
<F12> For Boot Menu

Use <↑> or <↓> to select a device, then press enter to accept . Press <ESC> to exit this menu.



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.



NOTE 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.

■ PnP/PCI Configuration

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

■ PC Health Status

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

■ Frequency/Voltage Control

This setup page is control CPU clock and frequency ratio.

■ 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.

» 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.

» Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

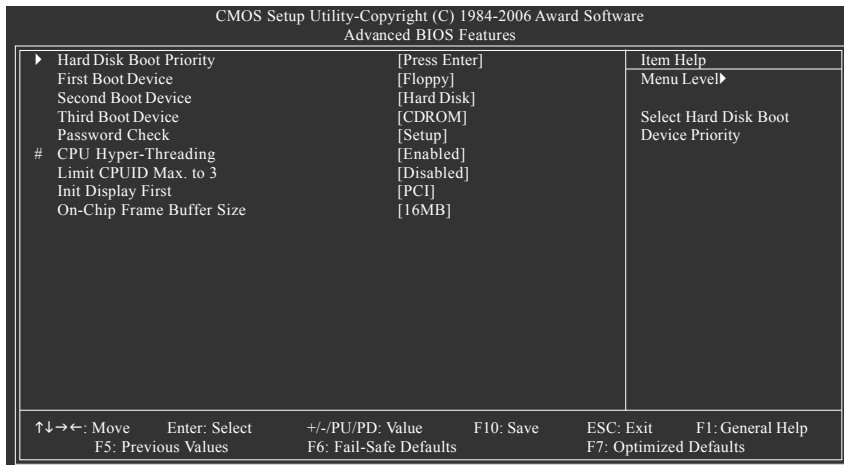
» Extended Memory


The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1 MB in the CPU's memory address map.

» Total Memory

This item displays the memory size that used.

2-2 Advanced BIOS Features



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

☞ Hard Disk Boot Priority

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

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

☞ First / Second / Third Boot Device

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

☞ Password Check

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

☞ CPU Hyper-Threading

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

☞ Limit CPUID Max. to 3

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

☞ Init Display First

This feature allows you to select the first initiation of the monitor display from a PCI VGA card or onboard VGA.

- ▶▶ PCI Set Init display first to PCI. (Default value)
- ▶▶ Onboard/AGP Set Init display first to onboard VGA.

☞ On-Chip Frame Buffer Size

Pre-allocated system memory for onboard VGA frame buffer.

- ▶▶ 1MB Set on-chip frame buffer size to 1MB.
- ▶▶ 4MB Set on-chip frame buffer size to 4MB.
- ▶▶ 8MB Set on-chip frame buffer size to 8MB.
- ▶▶ 16MB Set on-chip frame buffer size to 16MB. (Default value)
- ▶▶ 32MB Set on-chip frame buffer size to 32MB.

☞ **SATA Port1 configure as**

‣ The setting depends on "SATA Port0 configure as" item setting. (Default: SATA Port1)

☞ **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)

☞ **Legacy USB storage detect**

‣ Enabled Enable USB storage detect function. (Default value)

‣ Disabled Disable this function.

☞ **AC97 Audio**

‣ Auto Auto detect AC97 audio function. (Default value)

‣ Disabled Disable AC97 audio 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/IRQ4. (Default value)

‣ 2F8/IRQ3 Enable onboard Serial port 1 and address is 2F8/IRQ3.

‣ 3E8/IRQ4 Enable onboard Serial port 1 and address is 3E8/IRQ4.

‣ 2E8/IRQ3 Enable onboard Serial port 1 and address is 2E8/IRQ3.

‣ Disabled Disable onboard Serial port 1.

☞ **Onboard 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 and EPP mode.

ECP Mode Use DMA

- » 3 Set ECP Mode Use DMA to 3. (Default value)
- » 1 Set ECP Mode Use DMA to 1.

2-4 Power Management Setup

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

ACPI Suspend Type	[S1(POS)]	Item Help
Power LED in S1 state	[Blinking]	Menu Level▶
Off by Power button	[Instant-Off]	
PME Event Wake Up	[Enabled]	
ModemRingOn/WakeOnLan	[Enabled]	
Resume by Alarm	[Disabled]	
x Date (of Month) Alarm	Everyday	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
Power On By Mouse	[Disabled]	
Power On By Keyboard	[Disabled]	
x KB Power ON Password	Enter	
AC BACK Function	[Soft-Off]	

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

☞ ACPI Suspend Type

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

☞ Power LED in S1 state

- ▶▶ Blinking In standby mode(S1), poer LED will blink. (Default value)
- ▶▶ Dual/OFF In standby mode(S1):
 - a. If use single color LED, power LED will turn off.
 - b. If use dual color LED, power LED will turn to another color.

☞ Off by Power button

- ▶▶ 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 seconds.

☞ 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)

☞ ModemRingOn/WakeOnLan

An incoming call via modem can awake the system from any suspend state or an input signal comes from the other client server on the LAN can awake the system from any suspend state.

- ▶▶ Disabled Disable Modem Ring On / Wake On LAN function.
- ▶▶ Enabled Enable Modem Ring On / Wake On LAN 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.

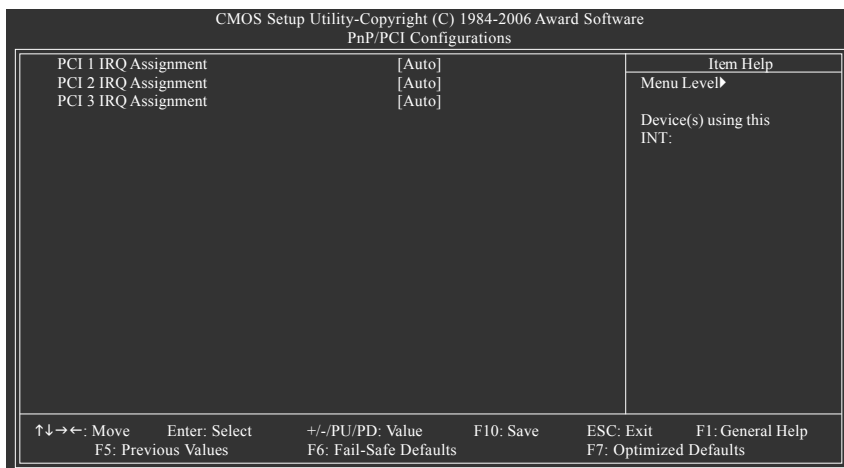
- ▶▶ Date (of Month) Alarm : Everyday, 1-31
- ▶▶ Time (hh: mm: ss) Alarm : (0~23) : (0~59) : (0~59)

- ☞ **Power On By Mouse**
 - ▶ Disabled Disabled this function. (Default value)
 - ▶ Enable 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" is set to Password, you can set the password here.

 - ▶ Enter Input password (from 1 to 5 characters) and press Enter to set the Keyboard Power On password.
- ☞ **AC BACK Function**
 - ▶ Soft-Off When AC-power back to the system, the system will be in "Off" state. (Default value)
 - ▶ Full-On When AC-power back to the system, the system always in "On" state.
 - ▶ Memory When AC-power back to the system, the system will return to the Last state before AC-power off.

2-5 PnP/PCI Configurations



- ☞ **PCI 1 IRQ Assignment**
 - ▶ Auto Auto assign IRQ to PCI 1. (Default value)
 - ▶ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.
- ☞ **PCI 2 IRQ Assignment**
 - ▶ Auto Auto assign IRQ to PCI 2. (Default value)
 - ▶ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 2.
- ☞ **PCI 3 IRQ Assignment**
 - ▶ Auto Auto assign IRQ to PCI 3. (Default value)
 - ▶ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 3.

2-6 PC Health Status

CMOS Setup Utility-Copyright (C) 1984-2006 Award Software		Item Help
PC Health Status		
Reset Case Open Status	[Disabled]	
Case Opened	Yes	Menu Level▶
VCORE	OK	
DDR25V	OK	
+3.3V	OK	
+12V	OK	
Current CPU Temperature	20°C	
Current CPU FAN Speed	4326 RPM	
Current SYSTEM FAN Speed	0 RPM	
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	

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

Reset Case Open Status

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

Case Opened

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

Current Voltage(V) VCORE / DDR25V / +3.3V / +12V

- ▶▶ Detect system's voltage status automatically.

Current CPU Temperature

- ▶▶ Detect CPU temperature automatically.

Current CPU/SYSTEM FAN Speed (RPM)

- ▶▶ Detect CPU/SYSTEM fan speed status automatically.

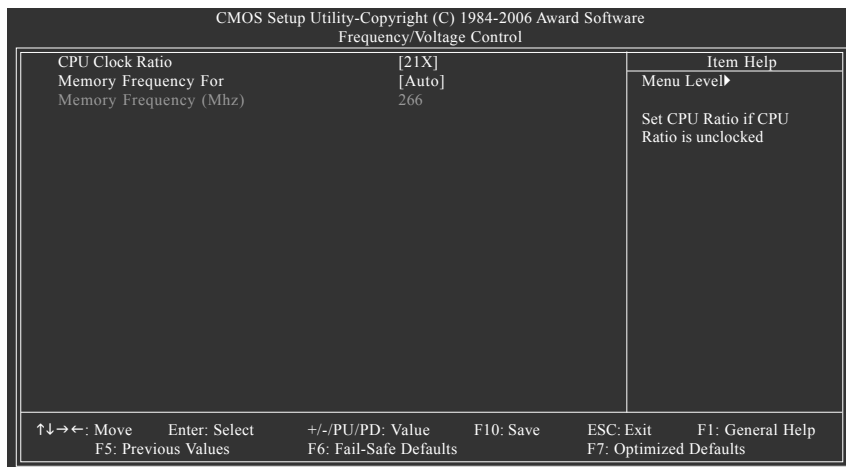
CPU Warning Temperature

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

CPU/SYSTEM FAN Fail Warning

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

2-7 Frequency/Voltage Control



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

☞ CPU Clock Ratio

This setup option will automatically assign by CPU detection.

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

☞ Memory Frequency For

Wrong frequency may make system can't boot, clear CMOS to overcome wrong frequency issue.
for FSB(Front Side Bus) frequency =400Mhz,

▶▶ 2.66 Memory Frequency = Host clock x 2.66.

▶▶ Auto Set Memory frequency by DRAM SPD data. (Default value)

for FSB(Front Side Bus) frequency=533Mhz,

▶▶ 2.0 Memory Frequency = Host clock x 2.

▶▶ 2.5 Memory Frequency = Host clock x 2.5.

▶▶ Auto Set Memory frequency by DRAM SPD data. (Default value)

for FSB(Front Side Bus) frequency=800Mhz,

▶▶ 1.33 Memory Frequency = Host clock x 1.33.

▶▶ 1.6 Memory Frequency = Host clock x 1.6.

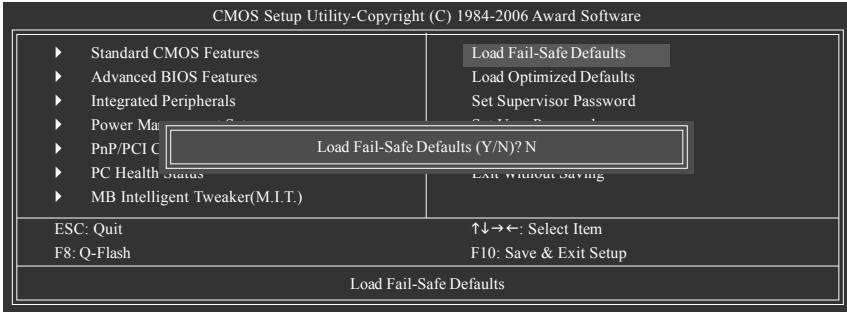
▶▶ 2.0 Memory Frequency = Host clock x 2.

▶▶ Auto Set Memory frequency by DRAM SPD data. (Default value)

☞ Memory Frequency (Mhz)

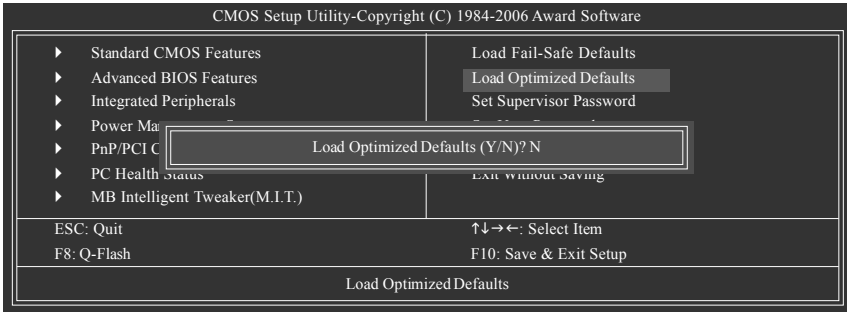
▶▶ The values depend on **CPU Host Frequency(Mhz)** and **Memory Frequency For**.

2-8 Load Fail-Safe Defaults



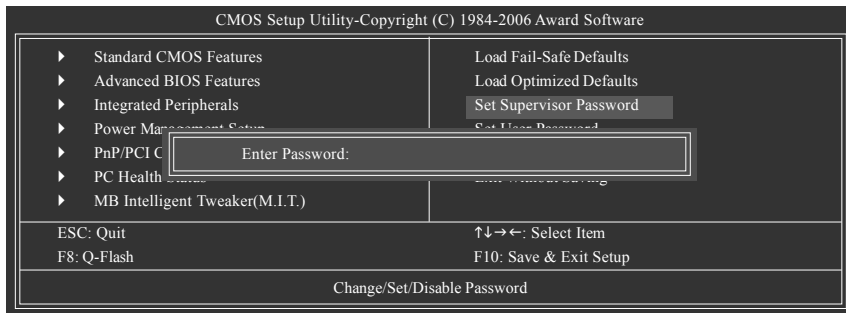
Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

2-9 Load Optimized Defaults



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

2-10 Set Supervisor/User Password



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

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

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

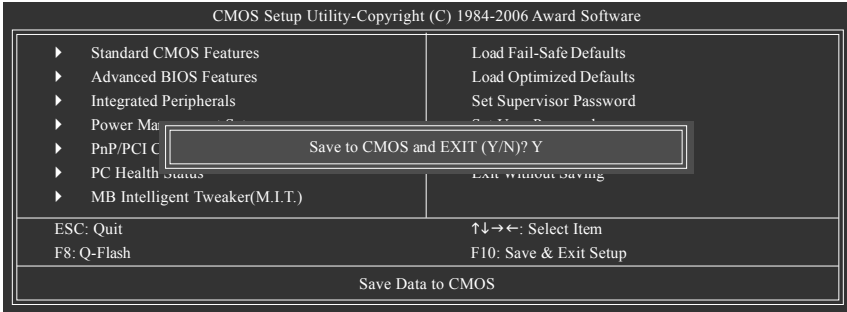
The BIOS Setup program allows you to specify two separate passwords:

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

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

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

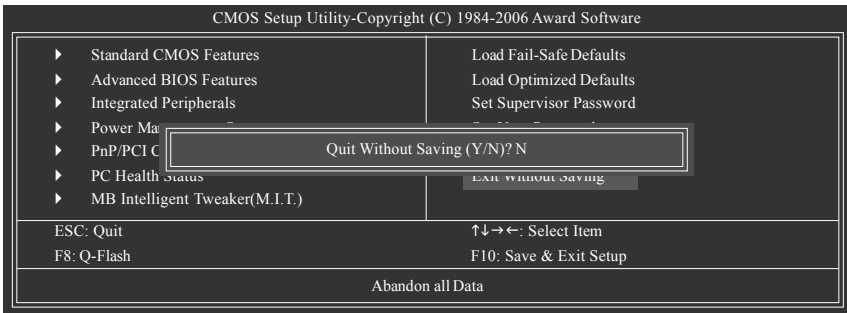
2-11 Save & Exit Setup



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

Type "N" will return to Setup Utility.

2-12 Exit Without Saving



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

Type "N" will return to Setup Utility.

Chapter 3 Drivers Installation

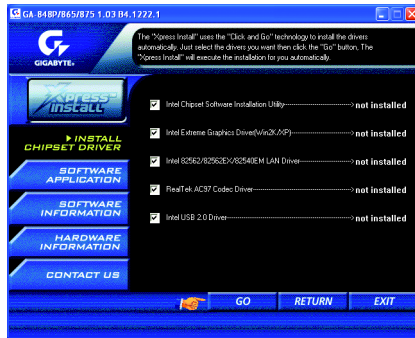


Pictures below are shown in Windows XP.

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

3-1 Install Chipset Drivers

After insert the driver CD, "Xpress Install" will scan automatically the system and then list all the drivers that recommended to install. The "Xpress Install" uses the "Click and Go" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The "Xpress Install" will execute the installation for you automatically.



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

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



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

3-4 Hardware Information

This page lists all device you have for this motherboard.



3-5 Contact Us

Please see the last page for details.



Chapter 4 Appendix

4-1 Unique Software Utilities

4-1-1 EasyTune 5 Introduction

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

User Interface Overview



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

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

4-1-2 Xpress Recovery2 Introduction



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

System requirements:

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

How to use the Xpress Recovery2

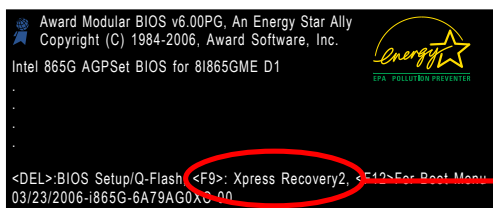
Initial access by booting from CD-ROM and subsequent access by pressing the F9 key:

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

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



Boot from CD/DVD:



<F9> Xpress Recovery2



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

The Main Screen of Xpress Recovery2



1. RESTORE:

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

2. BACKUP:

Back up data from hard disk.

3. REMOVE:

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

4. REBOOT:

Limitations:

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

Hard disks detection sequence is as follows:

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

Precautions:

1. When using hard disks with more than 128G under Windows 2000, be sure to execute the EnableBigLba.exe program from the driver CD before data backup.
2. It is normal that data backup takes longer time than data restoration.
3. Xpress Recovery2 is compliant with the GPL regulations.
4. On a few motherboards based on Nvidia chipsets, BIOS update is required for Xpress Recovery2 to correctly identify RAID and SATA IDE mode. Please contact your motherboard manufacturer.
5. Xpress Recovery2 supports only PATA hard disks and not SATA hard disks on the following motherboards (As this is a BIOS-related issue, it can be solved by BIOS update)

GA-K8U	GA-K8NXP-9	GA-8N-SLI Royal
GA-K8U-9	GA-K8N Ultra-9	GA-8N-SLI Pro
GA-K8NXP-SLI	GA-K8NF-9 (PCB Ver. 1.0)	GA-8N-SLI
GA-K8N Ultra-SLI	GA-K8NE (PCB Ver. 1.0)	
GA-K8N Pro-SLI	GA-K8NMF-9	

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.
2. Extract the BIOS file downloaded and save the BIOS file (the one with model name.Fxx. For example, 8KNXPU.Fba) to a floppy disk.
3. Reboot your PC and press **Del** to enter BIOS menu.

The BIOS upgrading guides below are separated into two parts.

If your motherboard has dual-BIOS, please refer to **Part One**.

If your motherboard has single-BIOS, please refer to **Part Two**.

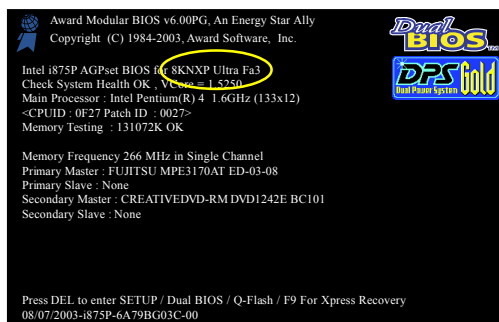
Part One:

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

Some of Gigabyte motherboards are equipped with dual BIOS. In the BIOS menu of the motherboards supporting Q-Flash and Dual BIOS, the Q-Flash utility and Dual BIOS utility are combined in the same screen. This section only deals with how to use Q-Flash utility.

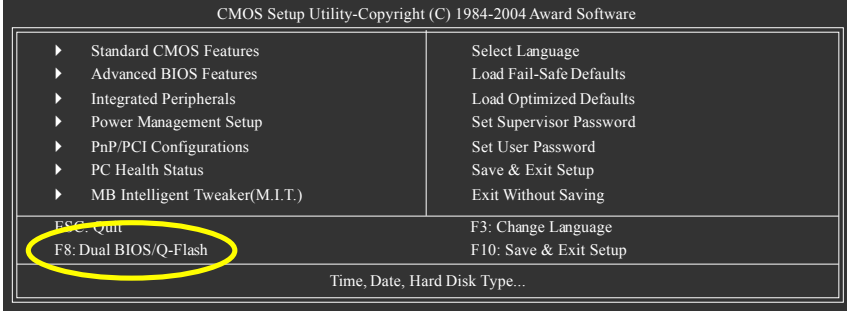
In the following sections, we take GA-8KNXP Ultra as the example to guide you how to flash BIOS from an older version to the latest version. For example, from Fa3 to Fba.

The BIOS file is Fa3 before updating



Entering the Q-Flash™ utility:

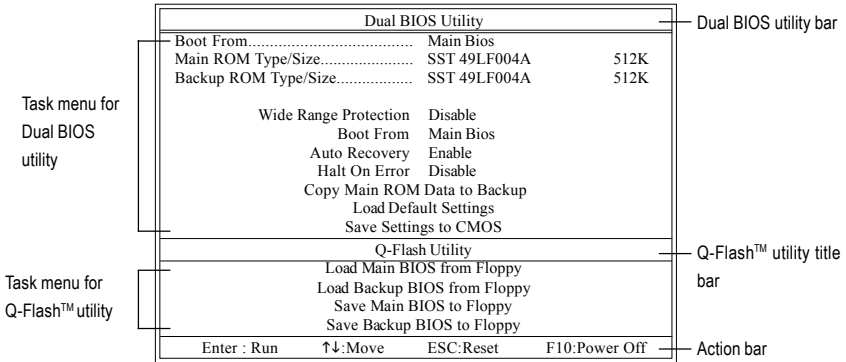
Step1: To use Q-Flash utility, you must press **Del** in the boot screen to enter BIOS menu.



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:

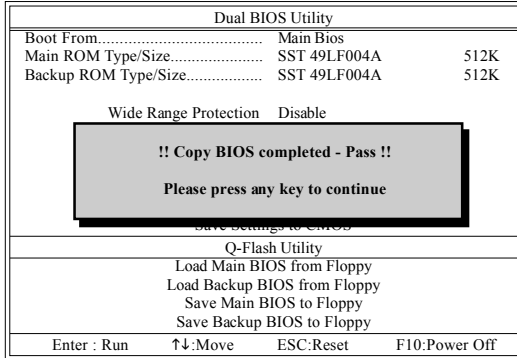
Contains the names of four actions needed to operate the Q-Flash/Dual BIOS utility. Pressing the buttons mentioned on your keyboards to perform these actions.

- 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.



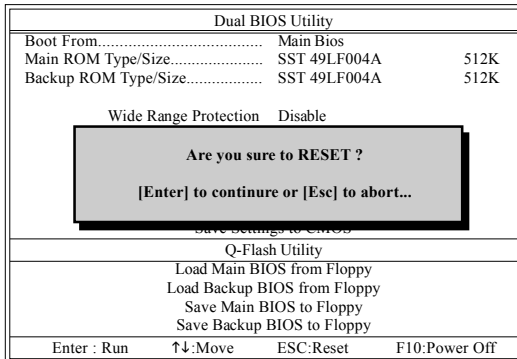
Please do not take out the floppy disk when it begins flashing BIOS.

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



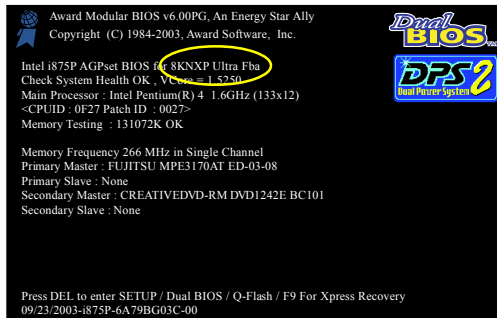
You can repeat Step 1 to 4 to flash the backup BIOS, too.

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

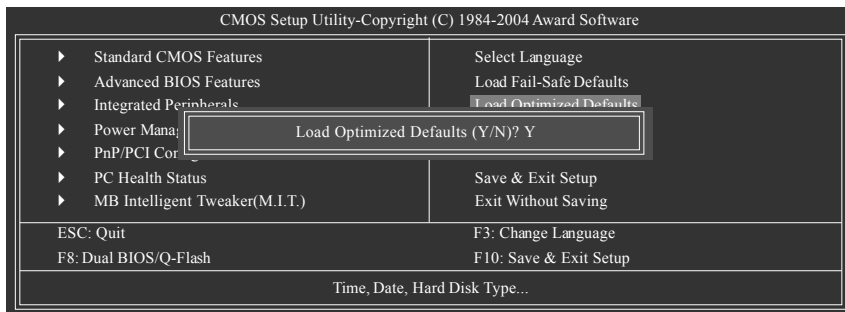


After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

The BIOS file becomes Fba after updating.

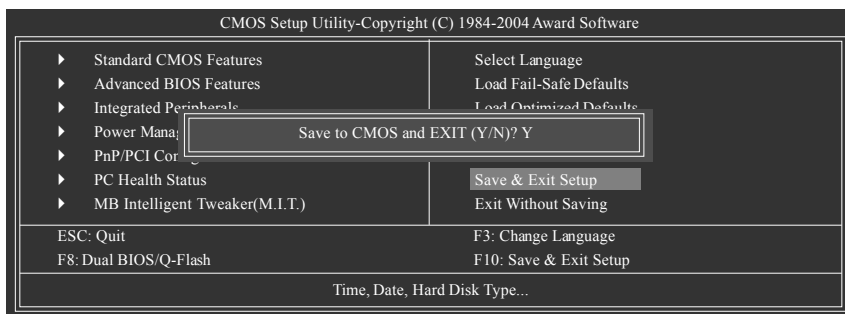


6. Press **Del** to enter BIOS menu after system reboots. When you are in BIOS menu, move to **Load Optimized Defaults** item and press **Enter** to load BIOS Fail-Safe Defaults. Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS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



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

7. Select **Save & Exit Setup** item to save the settings to CMOS and exit the BIOS menu. System will reboot after you exit the BIOS menu. The procedure is completed.

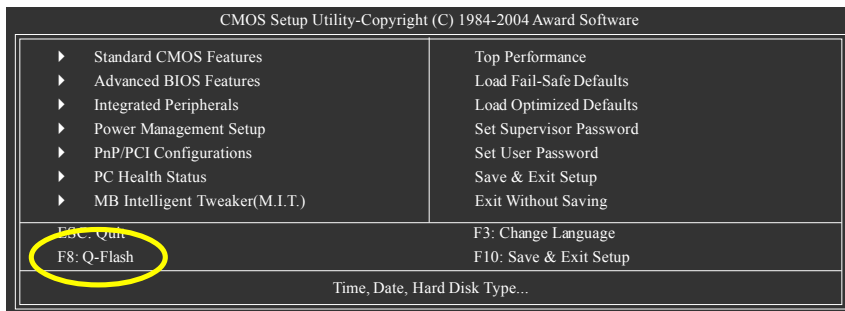


Press **Y** on your keyboard to save and exit.

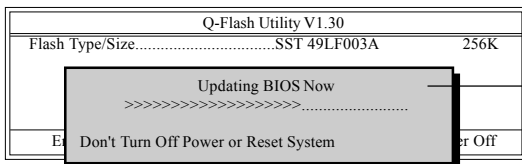
Part Two:

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.

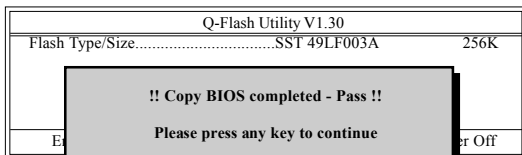


- Press Y button on your keyboard after you are sure to update BIOS.
Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.

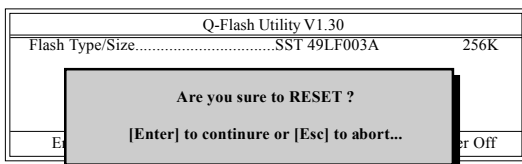


Do not turn off power or reset your system at this stage!!

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

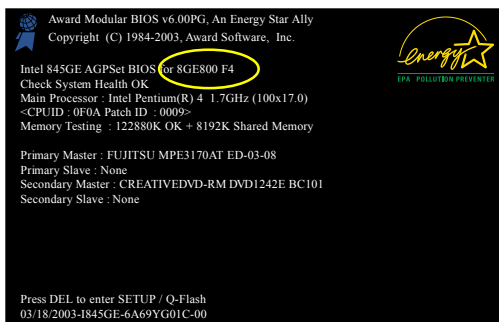


- Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.



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

The BIOS file becomes F4 after updating



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

Congratulation!! You have updated BIOS successfully!!

Method 2 : @BIOS™ Utility

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

Fig 1. Installing the @BIOS utility

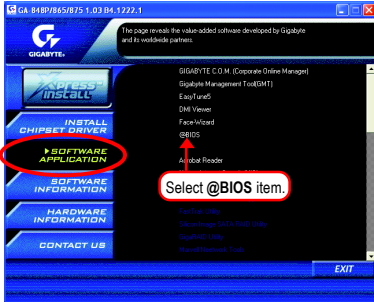


Fig 2. Installation complete and run @BIOS

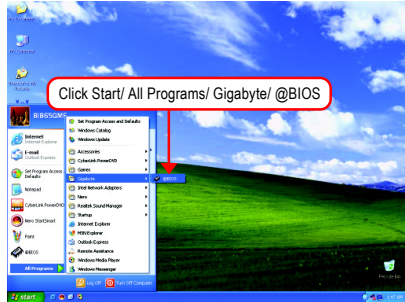


Fig 3. The @BIOS utility

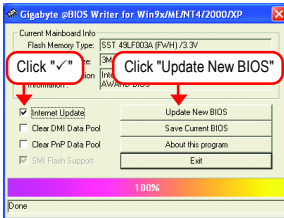
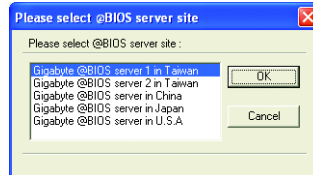


Fig 4. Select the desired @BIOS server



1. Methods and steps:

I. Update BIOS through Internet:

- a. Click "Internet Update" icon.
- b. Click "Update New BIOS" icon.
- c. Select @BIOS™ sever.
- d. Select the exact model name on your motherboard.
- e. System will automatically download and update the BIOS.

II. Update BIOS NOT through Internet:

- a. Do not click "Internet Update" icon.
- b. Click "Update New BIOS".
- c. Please select "All Files" in dialog box while opening the old file.
- d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: 8I865GME.D1).
- e. Complete update process following the instruction.

III. Save BIOS:

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

IV. Check out supported motherboard and Flash ROM:

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

2. Note:

- I. In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.
- II. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.
- III. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigabyte's website 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 2- / 4- / 6- Channel Audio Function Introduction

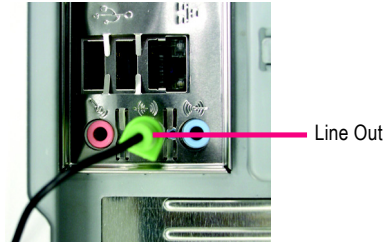
The installation of audio software for Windows 2000/ XP is very simple. Please follow the steps to install the function. (Following pictures are in Windows XP)

Stereo Speakers Connection and Settings:

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

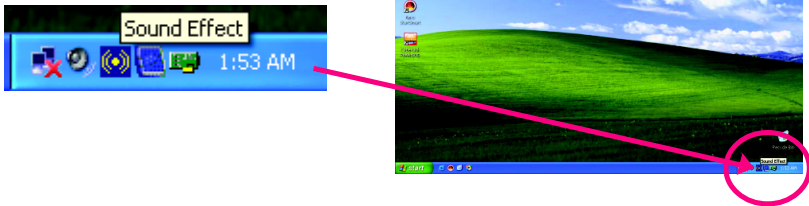
STEP 1:

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



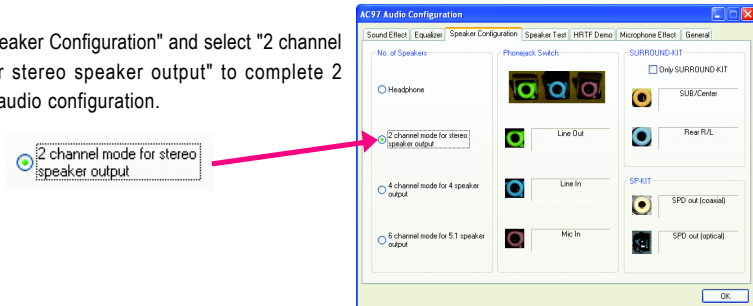
STEP 2:

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



STEP 3:

Click "Speaker Configuration" and select "2 channel mode for stereo speaker output" to complete 2 channel audio configuration.



4 Channel Audio Setup

STEP 1:

Connect the Front Speakers to "Line Out", the Rear Speakers to "Line In".



Line In (Rear Speaker Out)
Line Out (Front Speaker Out)

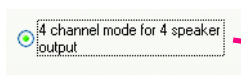
STEP 2:

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



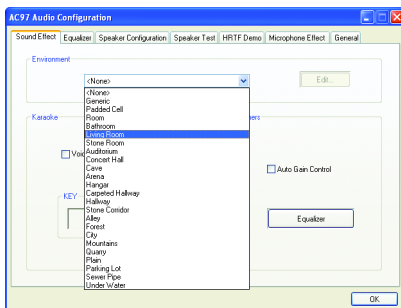
STEP 3:

Click "Speaker Configuration" and select "4 channel mode for 4 speaker output" to complete 4 channel audio configuration.



Note:

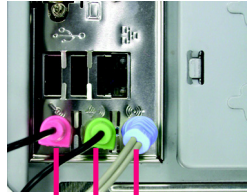
When the "Environment" setting is "None", the sound would be performed as stereo mode (2 channels output). Please select the other settings for 4 channels output.



6 Channel Audio Setup

STEP 1:

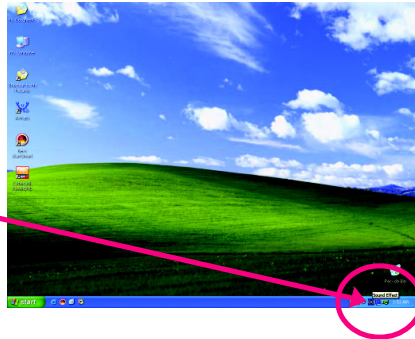
Connect the Front Speakers to "Line Out", the Rear Speakers to "Line In", and the Center/Subwoofer Speakers to "MIC In".



Line In (Rear Speaker Out)
Line Out (Front Speaker Out)
Mic In (Center/Subwoofer Speaker Out)

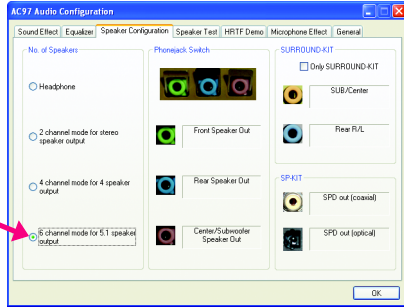
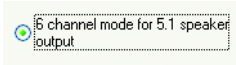
STEP 2:

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



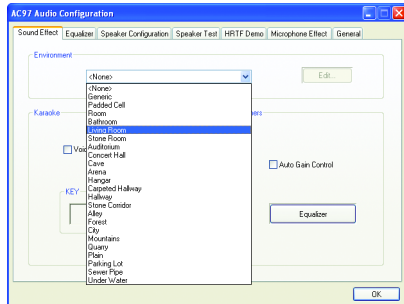
STEP 3:

Click "Speaker Configuration" and select "6 channel mode for 5.1 speaker output" to complete 6 channel audio configuration.



Note:

When the "Environment" setting is "None", the sound would be performed as stereo mode (2 channels output). Please select the other settings for 6 channels output.



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.
3. Take out the battery gently and put it aside for about 10 minutes (Or you can use a metal object to connect the positive and negative pins in the battery holder to makethem short for one minute).
4. Re-insert the battery to the battery holder.
5. Connect power cord to MB again and turn on power.
6. Press Del to enter BIOS and load Fail-Safe Defaults(or load Optimized Defaults).
7. Save changes and reboot the system.

Question 4: Why do I still get a weak sound after turning up the speaker to the maximum volume?

Answer: Please make sure the speaker you are using is equipped with an internal amplifier. If not, please change another speaker with power/amplifier and try again later.

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

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

→ AMI BIOS Beep Codes

*Computer gives 1 short beep when system boots successfully.

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

- 1 beep Refresh failure
- 2 beeps Parity error
- 3 beeps Base 64K memory failure
- 4 beeps Timer not operational
- 5 beeps Processor error
- 6 beeps 8042 - gate A20 failure
- 7 beeps Processor exception interrupt error
- 8 beeps Display memory read/write failure
- 9 beeps ROM checksum error
- 10 beeps CMOS shutdown register read/write error
- 11 beeps Cache memory bad

→ AWARD BIOS Beep Codes

1 short: System boots successfully

2 short: CMOS setting error

1 long 1 short: DRAM or M/B error

1 long 2 short: Monitor or display card error

1 long 3 short: Keyboard error

1 long 9 short: BIOS ROM error

Continuous long beeps: DRAM error

Continuous short beeps: Power error



Contact Us

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Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

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

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

WEB address (Chinese) : <http://www.gigabyte.tw>

- **U.S.A.**

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TEL: +1-626-854-9338

FAX: +1-626-854-9339

Tech. Support:

<http://rma.gigabyte-usa.com>

Web Address: <http://www.gigabyte.us>

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G.B.T Inc (USA)

Tel: +1-626-854-9338 x 215 (Soporte de habla hispano)

FAX: +1-626-854-9339

Correo: soporte@gigabyte-usa.com

Tech. Support:

<http://rma.gigabyte-usa.com>

Web Address: <http://www.gigabyte-latam.com>

- **Germany**

G.B.T. TECHNOLOGY TRADING GMBH

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

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

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

- **Japan**

NIPPON GIGA-BYTE CORPORATION

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

- **Singapore**

GIGA-BYTE SINGAPORE PTE. LTD.

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

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

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

- **U.K.**

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

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

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

WEB address : <http://uk.giga-byte.com>

- **The Netherlands**

GIGA-BYTE TECHNOLOGY B.V.

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

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

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

- **China**

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

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

WEB address : <http://www.gigabyte.com.cn>

Shanghai

TEL: +86-021-63410999

FAX: +86-021-63410100

Beijing

TEL: +86-10-62102838

FAX: +86-10-62102848

Wuhan

TEL: +86-27-87851061

FAX: +86-27-87851330

GuangZhou

TEL: +86-20-87586074

FAX: +86-20-85517843

Chengdu

TEL: +86-28-85236930

FAX: +86-28-85256822

Xian

TEL: +86-29-85531943

FAX: +86-29-85539821

Shenyang

TEL: +86-24-23960918

FAX: +86-24-23960918-809

- **Australia**

GIGABYTE TECHNOLOGY PTY. LTD.

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

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

- **France**

GIGABYTE TECHNOLOGY FRANCE S.A.R.L.

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

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

- **Russia**

Moscow Representative Office Of GIGA-BYTE Technology Co., Ltd.

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

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

- **Poland**

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

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

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

- **Serbia & Montenegro**

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

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

WEB address: <http://www.gigabyte.co.yu>

- **Czech Republic**

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

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

WEB address: <http://www.gigabyte.cz>

- **Romania**

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

Tech. Support :

<http://www.gigabyte.com.tw/Support/ServiceCenter.aspx>

Non-Tech. Support(Sales/Marketing) :

<http://gts.gigabyte.com.tw/nontech.asp>

WEB address: <http://www.gigabyte.com.ro>
