GA-81865GVME

Intel® Pentium® 4 Processor Motherboard

User's Manual

Rev. 1003

12ME-865GVME-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.

Declaration of Conformity We, Manufacturer/Importer (full address)

G.B.T. Technology Trading GMbH Ausschlager Weg 41, 1F 20537 Hamburg, Germany

declare that the product (description of the apparatus, system, installation to which it refers)

Motherboard

Motherboard GA-81865GVME

is in conformity with cification under which conformity noe with 89/336 EEC-EMC Direct RI EN 61000-3-2	Limits and methods of measurement IEEN 61000-3-2 Disturbances in supply systems caused frain disturbance characteristics of	industrial, scientific and medical (ISM) industrial, scientific and medical (ISM) ingh frequency equipment ingh frequency equipment ingh frequency equipment ingh frequency equipment	Limits and methods of measurement III EN 55024 Information Technology of radio disturbance characteristics of equipment-immunity thoractest receivers and associated equipment Immunity characteristics. Limits equipment I	ment □ EN 50082-1 tics of	portable tools and similar electrical EN 50082-2 Generic immunity stan apparatus	ent □ EN 55014-2 cs of	
with with conformity is declared) EC-EMC Directive Figure 2		61000-3-3 Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"		50082-1 Generic immunity standard Part 1: Residual, commercial and light industry		appliances tools and sim	

⊠ CE marking

□ DIN VDE 0855 Cabled distribution systems; Equipment
□ part 10 for receiving and/or distribution from
□ part 12 sound and television signals

(Stamp)		□ EN 60335	□ EN 60065	
Date :Jul. 18. 2005	Manuf	Safety of household and similar electrical appliances	Safety requirements for mains operated electronic and related apparatus for household and similar general use	The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC
8. 2005	Manufacturer/Importer	□ EN 50091-1	□ EN 60950	he conformity of abov andards in accordanc
Name : Timmy Huang	Signature : Timmy Huang	General and Safety requirements for uninterruptible power systems (UPS)	Safety for information technology equipment including electrical business equipment	e mentioned product e with LVD 73/23 EEC

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-8I865GVME

Conforms to the following specifications:

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

(a), Class B Digital Device

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Jul. 18, 2005

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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.

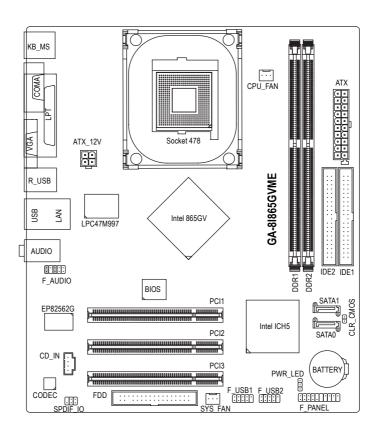
For more product details, please click onto Gigabyte's website at www.gigabyte.com.tw

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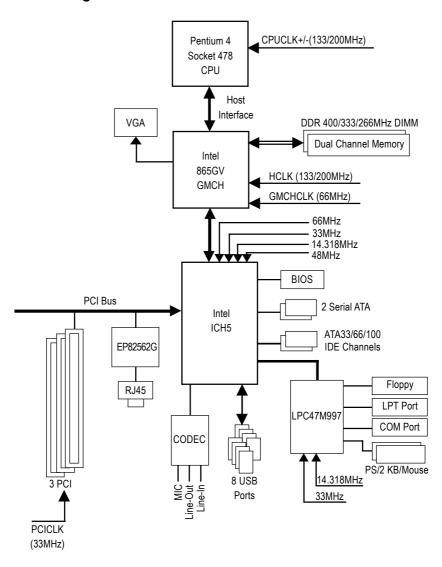
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GA-8I865GVME Motherboard Layout



Block Diagram



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Chapter 1 Hardware Installation

1-1 Considerations Prior to Installation

Preparing Your Computer

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

- 1. Please turn off the computer and unplug its power cord.
- 2. When handling the motherboard, avoid touching any metal leads or connectors.
- It is best to wear an electrostatic discharge (ESD) cuff when handling electronic components (CPU, RAM).
- 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

- Prior to installation, please do not remove the stickers on the motherboard. These stickers are required for warranty validation.
- 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.
- 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.
- 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	Socket 478 for Intel® Pentium® 4 (Northwood, Prescott) with HT Technology
	 Supports 800/533/400MHz FSB
	L2 cache varies with CPU
Chipset	Northbridge: Intel® 865GV Chipset
	Southbridge: Intel® ICH5
Memory	2 DDR DIMM memory slots (supports up to 2GB memory)
	 Supports dual channel DDR 400/333/266 DIMM
	Supports 2.5V DDR DIMM
Slots	3 PCI slots
IDE Connections	2 IDE connection (UDMA 33/ATA 66/ATA 100), allows connection of
	4 IDE devices
FDD Connections	1 FDD connection, allows connection of 2 FDD devices
Onboard SATA	2 Serial ATA ports from ICH5 (SATA0, SATA1)
Peripherals	1 parallel port supporting Normal/EPP/ECP mode
	 1 VGA port, 1 serial port (COMA)
	8 USB 2.0/1.1 ports (rear x 4, front x 4 via cable)
	1 front audio connector
	 1 PS/2 keyboard port
	1 PS/2 mouse port
Onboard VGA	Built-in Intel® 865GV Chipset
Onboard LAN	Onboard EP82562G chip (10/100 Mbit)
	• 1 RJ 45 port
Onboard Audio	ALC655 CODEC
	Supports Jack Sensing function
	 Supports 2 / 4 / 6 channel audio
	 Supports Line In (Rear Speaker Out); Line Out (Front Speaker Out);
	MIC (Center/Subwoofer Speaker Out)
	SPDIF In/Out connection
	CD In connection
I/O Control	SMSC LPC47M997-NR
Hardware Monitor	System voltage detection
	CPU / System temperature detection
	CPU / System fan speed detection
BIOS	Use of licensed AWARD BIOS
	Supports Q-Flash
Additional Features	Supports @BIOS
	Supports EasyTune 5 (Note)
Overclocking	Over clock via BIOS (CPU/ AGP/ DDR/ PCI)
Form Factor	Micro ATX form factor; 24.4cm x 21.0cm
	•

(Note) EasyTune 5 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.
- 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.
- 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

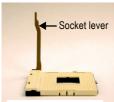


Fig. 1
Position lever at a 90 degree angle.



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 it 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

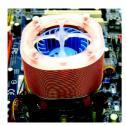


Fig.1
Before installing the heat sink, please first add an even layer of heat sink paste on the surface of the CPU. Install all the heat sink components (Please refer to the heat sink manual for detailed installation instructions).



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.



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:

- 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.
- 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 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.

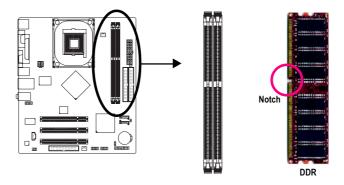




Fig.1
The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.



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 DDR

GA-8I865GVME supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will add double up to 6.4GB/s(DDR400) or 5.3GB/s(DDR333).

GA-8I865GVME 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.
- If two DDR memory modules are installed, please use memory of the same storage capacity in order to use dual channel memory and for BIOS to detect all the DDR memory modules.

The following table is for Dual Channel Technology combination: (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:

- 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.

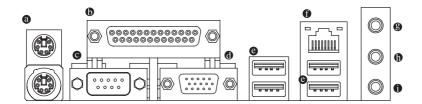
Installing a AGP VGA card:





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



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.

COMA (Serial Port)

Connects to serial-based mouse or data processing devices.

VGA Port

Monitor can be connected to VGA port.

USB port

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

LAN Port

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

Line In

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

D Line Out

Connect the stereo speakers or earphone to this connector.

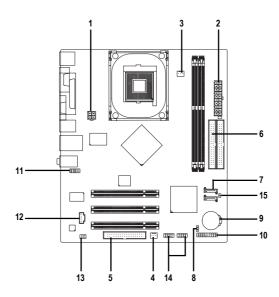
MIC In

Microphone can be connected to MIC In iack.



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

1-7 Connectors Introduction



1) ATX_12V	9) BATTERY
2) ATX (Power Connector)	10) F_PANEL
3) CPU_FAN	11) F_AUDIO
4) SYS_FAN	12) CD_IN
5) FDD	13) SPDIF_IO
6) IDE1 / IDE2	14) F_USB1 / F_USB2
7) SATA0 / SATA1	15) CLR_CMOS
8) PWR_LED	

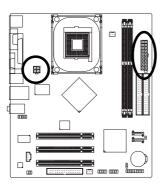
1/2) ATX_12V/ATX (Power Connector)

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.

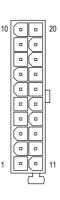
The ATX_12V power connector mainly supplies power to the CPU. If the ATX_12V power connector is not connected, the system will not start.

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

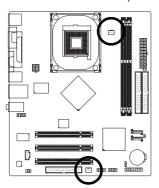
3/4) CPU_FAN / SYS_FAN (Cooler Fan Power Connector)

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 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.

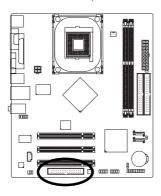


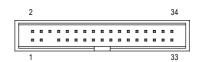


Pin No.	Definition
1	GND
2	+12V
3	Sense

5) FDD (FDD Connector)

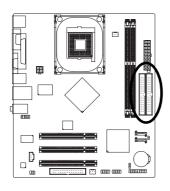
The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB. Please connect the red power connector wire to the pin1 position.

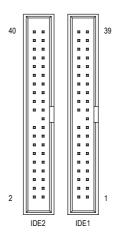




6) IDE1 / IDE2 (IDE Connector)

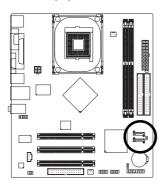
An IDE device connects to the computer via an IDE connector. One IDE connector can connect to one IDE cable, and the single IDE cable can then connect to two IDE devices (hard drive or optical drive). If you wish to connect two IDE devices, please set the jumper on one IDE device as Master and the other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





7) 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.

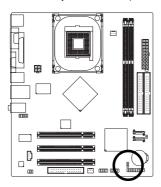




Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

8) PWR_LED

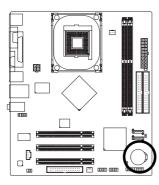
PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.





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

9) BATTERY





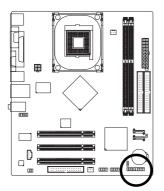
- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

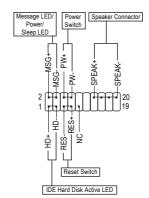
If you want to erase CMOS...

- 1. Turn off the computer and unplug the power cord.
- 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 make them short for one minute).
- 3. Re-install the battery.
- 4. Plug the power cord and turn on the computer.

10) 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.



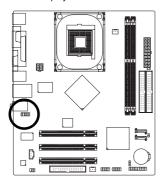


MSG (Message LED/Power/Sleep LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(-)
PW (Power Switch)	Open: Normal Operation
	Close: Power On/Off
SPEAK (Speaker Connector)	Pin 1: VCC(+)
	Pin 2- Pin 3: NC
	Pin 4: Data(-)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(-)
RES (Reset Switch)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

11) 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.

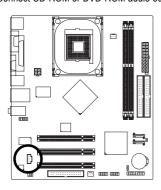




Pin No.	Definition
1	MIC
2	GND
3	MIC_BIAS
4	Power
5	Front Audio(R)
6	Rear Audio(R)/Return R
7	NC
8	No Pin
9	Front Audio(L)
10	Rear Audio(L)/Return L

12) CD_IN (CD In Connector)

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

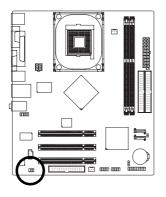




Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

13) SPDIF_IO (SPDIF In / Out Connector)

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. 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_IO cable, please contact your local dealer.

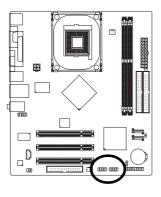


2		6
	F	n
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1		5

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

14) F_ USB1 / F_USB2 (Front USB Connector)

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

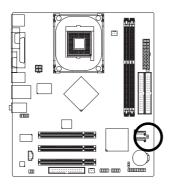




Pin No.	Definition
1	Power
2	Power
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

15) CLR_CMOS (Clear CMOS)

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



- Open: Normal
- Short: Clear CMOS

-		

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></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 fail-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	

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

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



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

The Main Menu (For example: BIOS Ver. : E5)

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) 1984-2005 Award Software		
\	Standard CMOS Features	Load Fail-Safe Defaults	
∥ → .	Advanced BIOS Features	Load Optimized Defaults	
	Integrated Peripherals	Set Supervisor Password	
	Power Management Setup	Set User Password	
	PnP/PCI Configurations	Save & Exit Setup	
	PC Health Status	Exit Without Saving	
	Frequency/Voltage Control		
ESC:	Quit	↑↓→←: Select Item	
F8: Q-	-Flash	F10: Save & Exit Setup	
Time, Date, Hard Disk Type			



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

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.

2-1 Standard CMOS Features

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Standard CMOS Features		
Date (mm:dd:yy)	Thu, Aug 5 2004	Item Help
Time (hh:mm:ss)	22:31:24	Menu Level▶
▶ IDE Channel 0 Master	[None]	Change the day, month,
▶ IDE Channel 0 Slave	[None]	year
▶ IDE Channel 1 Master	[None]	
▶ IDE Channel 1 Slave	[None]	<week></week>
▶ IDE Channel 2 Master	[None]	Sun. to Sat.
▶ IDE Channel 3 Master	[None]	
		<month></month>
Drive A	[1.44M, 3.5"]	Jan. to Dec.
Drive B	[None]	
Floppy 3 Mode Support	[Disabled]	<day></day>
		1 to 31 (or maximum
Halt On	[All, But Keyboard]	allowed in the month)
Base Memory	640K	<year></year>
Extended Memory	239M	1999 to 2098
Total Memory	240M	1777 to 2070
Total Mellory	24011	
↑↓→←: Move Enter: Select	+/-/PU/PD: Value F10: Save F	ESC: Exit F1: General Help
F5: Previous Values	F6: Fail-Safe Defaults F	7: Optimized Defaults
		1

→ Date

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

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

➤ Month The month, Jan. Through Dec.

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

Year The year, from 1999 through 2098

→ Time

The times format in <nour> <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 Channel 1 Master, Slave

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

▶ IDE Channel 0/1 Master/Slave IDE Device 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)

→ IDE Channel 2/3 Master

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

▶ Extended IDE Drive

SATA IDE devices setup. You can use one of two methods:

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

None Select this if no SATA 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 currectly installed hard drive.

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

Cylinder
 Head
 Precomp
 Landing Zone
 Sector
 Number of cylinders
 Number of heads
 Write precomp
 Landing zone
 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"
→ 1.44M, 3.5"
→ 2.88M, 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

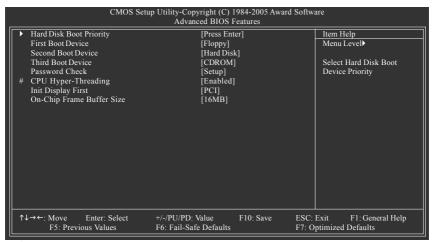
The BIOS determines how much extended memory is present during the POST.

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.

Advanced BIOS Features 2-2





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

Hard Disk Boot Priority

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

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

First / Second / Third Boot Device

▶ Floppy	Select your boot device priority by Floppy.
→ LS120	Select your boot device priority by LS120.
→ Hard Disk	Select your boot device priority by Hard Disk.
▶ CDROM	Select your boot device priority by CDROM.
₩ 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
 Sy The system will not boot and will not access to Setup page if the correct

password is not entered at the prompt.

CPU Hyper-Threading

▶ Enabled Enables CPU Hyper-Threading Feature. Please note that this feature is only

working for operating system with multi processors mode supported. (Default

value)

▶ Disabled Disables CPU Hyper-Threading.

→ 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 Set Init display first to onboard VGA.

On-Chip Frame Buffer Size

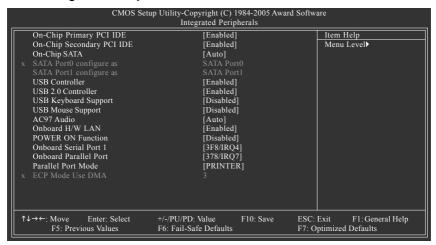
Pre-allocated system memory for onboard VGA frame buffer.

→ 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.

2-3 Integrated Peripherals



On-Chip Primary PCI IDE

► Enabled Enable onboard 1st channel IDE port. (Default value)

▶ Disabled Disable onboard 1st channel IDE port.

On-Chip Secondary PCI IDE

▶ Enabled Enable onboard 2nd channel IDE port. (Default value)

▶ Disabled Disable onboard 2nd channel IDE port.

On-Chip SATA

▶ Disabled Disable onboard Seria ATA function.

➤ Auto When there is no device to be plugged in IDE1 or IDE2, SATA controller will

remap to IDE controller. (Default value)

▶ Manual Set SATA mode manually from "SATA Port0 configure as" item.

SATA Port0 configure as

▶ IDE Pri. Master Set SATA controller to compatible mode. This mode will remap SATA Port 0 to

IDE Primary Master.

▶ IDE Pri. Slave Set SATA controller to compatible mode. This mode will remap SATA Port 0 to

IDE Primary Slave.

▶ IDE Sec. Master Set SATA controller to compatible mode. This mode will remap SATA Port 0 to

IDE Secondary Master.

▶ IDE Sec. Slave Set SATA controller to compatible mode. This mode will remap SATA Port 0 to

IDE Secondary Slave.

▶ SATA Port0 Set SATA controller to native mode(Serial ATA mode - SATA Port 0). This mode

is only supported by Windows XP or later. (Default value)

➤ SATA Port1 Set SATA controller to native mode(Serial ATA mode - SATA Port 1). This mode

is only supported by Windows XP or later.

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)

→ 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.

→ POWER ON Function

Disabled Disable this function. (Default value)Any KEY Press any key to power on the system.

➤ Mouse Double click on mouse left button to power on the system.

▶ Mouse/Any KEY Press any key or double click on mouse left button to power on the system.

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.

▶ EPP1.9+SPP Using Parallel port as Enhanced Parallel Port 1.9 and SPP mode.

▶ ECP Using Parallel port as Extended Capabilities Port.

▶ EPP1.9+ECP Using Parallel port as Enhanced Parallel Port 1.9 and ECP mode.

▶ PRINTER Using Parallel port as printer port. (Default value)

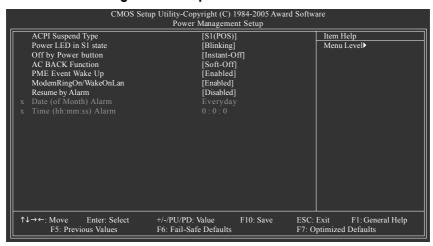
▶ EPP1.7+SPP Using Parallel port as Enhanced Parallel Port 1.7 and SPP mode.
 ▶ EPP1.7+ECP Using Parallel port as Enhanced Parallel Port 1.7 and ECP mode.

☐ 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



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.

→ 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.

→ 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.

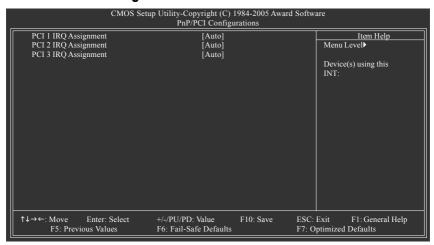
▶ Disabled Disable this function. (Default value)

➤ 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)

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.

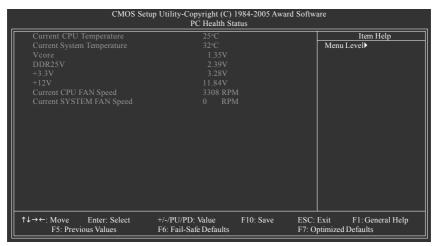
PCI 2 IRQ Assignment

➤ 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

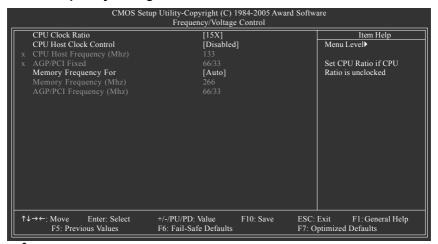
➤ Auto Auto assign IRQ to PCI 3. (Default value)
 ➤ 3,4,5,7,9,10,11,12,14,15
 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 3.

2-6 PC Health Status



- Current CPU/System Temperature
 - ▶ Detect CPU/System temperature automatically.
- Current Voltage(V) Vcore / DDR25V / +3.3V / +12V
 - >> Detect system's voltage status automatically.
- Current CPU/SYSTEM FAN Speed (RPM)
 - ▶ Detect CPU/SYSTEM Fan speed status automatically.

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.

☐ CPU Host Clock Control

▶ Disabled Disable CPU host clock control. (Default value)

▶ Enabled Enable CPU host clock control.

→ CPU Host Frequency(Mhz)

This item will be available when CPU Host Clock Control is set to Enabled.

▶ 100Mhz ~ 355Mhz Set CPU Host Clock from 100Mhz to 355Mhz.

If you use a 400Mhz FSB processor, please set CPU Host Frequency to 100Mhz.

If you use a 533Mhz FSB processor, please set CPU Host Frequency to 133Mhz.

If you use an 800Mhz FSB processor, please set CPU Host Frequency to 200Mhz.

→ AGP/PCI Fixed

▶ Adjust AGP/PCI clock asynchronous with CPU.

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.

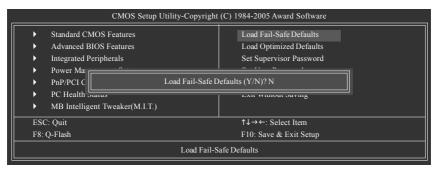
➤ Auto Set Memory frequency by DRAM SPD data. (Default value)

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

→ AGP/PCI/SRC Frequency (Mhz)

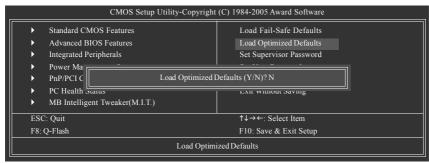
>> The values depend on AGP/PCI/SRC Fixed item.

2-8 Load Fail-Safe Defaults



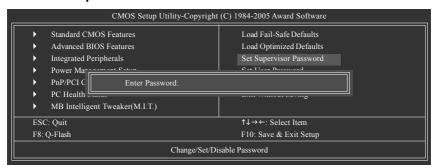
Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

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.

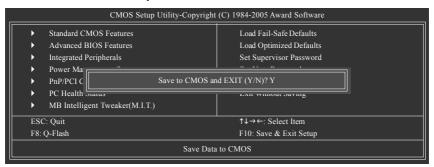
The BIOS Setup program allows you to specify two separate passwords:

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.

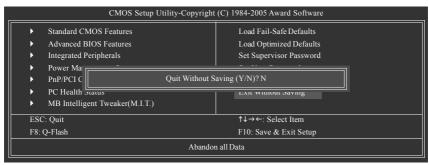
2-11 Save & Exit Setup



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).

3-2 Software Application

This page displays all the tools that GIGABYTE developed and some free software. You can click an item to install it.



3-3 Software Information

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



3-4 Hardware Information

This page lists all device you have for this motherboard.



3-5 Contact Us

Please see the last page for details.



Chapter 4 Appendix

4-1 Unique Software Utilities

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.





- 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.
- System storage capacity and the reading/writing speed of the hard disk will affect the data backup speed.
- 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. RFBOOT:

Limitations:

- 1. Not compatible to Xpress Recovery.
- 2. For the use of Xpress Recovery2, a primary partition must be reserved.
- 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 IDF channel 3
- f SATA IDF channel 4

Precautions:

- 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.
- 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.
- 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-SLL 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.
- Extract the BIOS file downloaded and save the BIOS file (the one with model name.Fxx. For example, 8KNXPU.Fba) to a floopy 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.

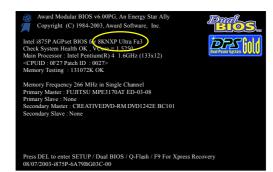
Part One:

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.

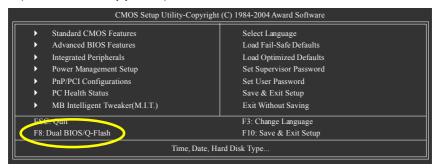
In the following sections, we take GA-8KNXP Ultra as the example to guide you how to flash BIOS from an older version to the latest version. For example, from Fa3 to Fba.

The BIOS file is Fa3 before updating



Entering the Q-Flash™ utility:

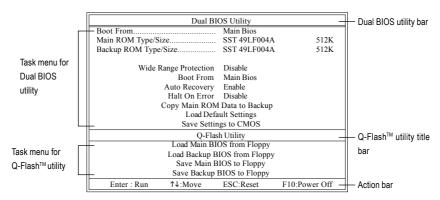
Step1: To use Q-Flash utility, you must press **Del** in the boot screen to enter BIOS menu.



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.

Using the Q-Flash™ utility:

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

Steps:

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



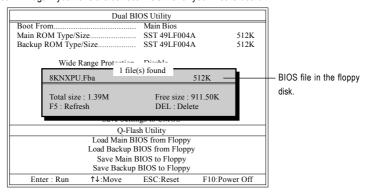
If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.

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

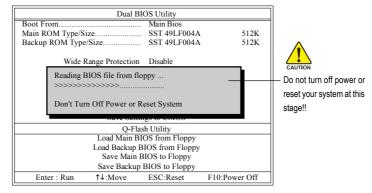
In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.



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.



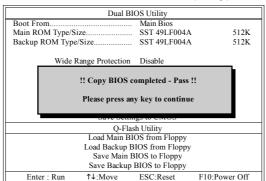
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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.

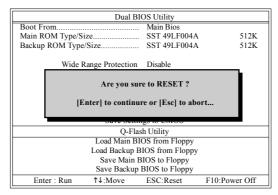
4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.





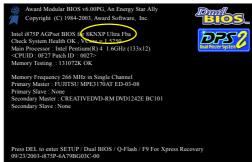
You can repeat Step 1 to 4 to flash the backup BIOS, too.

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

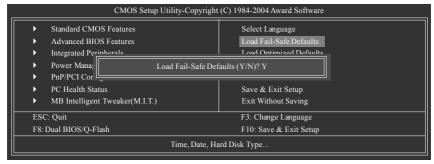


After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

The BIOS file becomes Fba after updating.

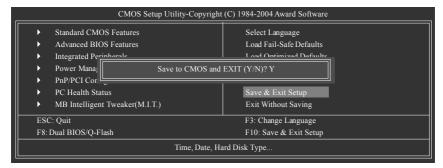


6. Press Del to enter BIOS menu after system reboots. When you are in BIOS menu, move to Load Fail-Safe Defaults item and press Enter to load BIOS Fail-Safe Defaults. Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS defaults after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



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.

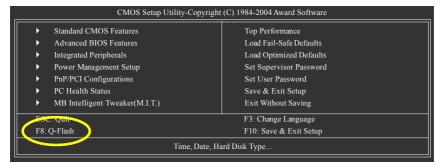


Press Y on your keyboard to save and exit.

Part Two:

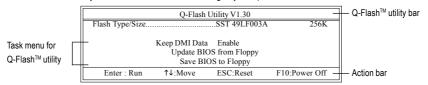
Updating BIOS with Q-Flash™ Utility on Single-BIOS Motherboards.

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



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:

 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.



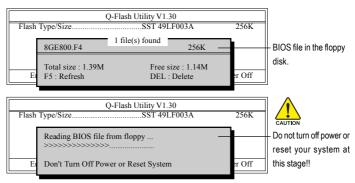
If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floopy" item.

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?"

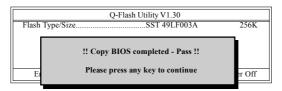


Please do not take out the floppy disk when it begins flashing BIOS.

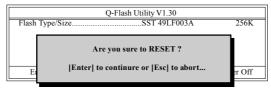
Press Y button on your keyboard after you are sure to update BIOS.
 Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.



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



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.





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 3. The @BIOS utility



Fig 2. Installation complete and run @BIOS



Fig 4. Select the desired @BIOS server



1. Methods and steps:

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

II. Update BIOS NOT through Internet:

- a. Do not click "Internet Update" icon.
- b. Click "Update New BIOS".
- c. Please select "All Files" in dialog box while opening the old file.
- Please search for BIOS unzip file, downloading from internet or any other methods (such as: 865GVME.E5).
- 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:

- 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

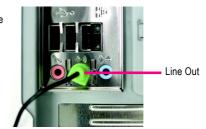
The installation of audio software for Windows 2000/ XP is very simple. Please follow the steps to install the function. (Following pictures are in Windows XP)

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".



STFP 2

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



STFP 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".

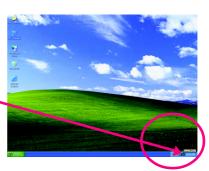


Line In (Rear Speaker Out)
Line Out (Front Speaker Out)

STEP 2:

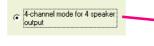
Following installation of the audio driver, you'll find a Sound Effect icon on the lower right hand taskbar. Click the icon to select the function.





STFP 3:

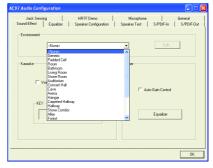
Click "Speaker Configuration" and select "4-channel mode for 4 speaker output" to complete 4 channel audio configuration.





Note:

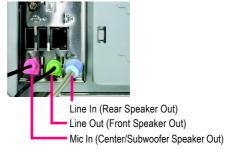
When the "Environment" setting is "None", the sound would be performed as stereo mode (2 channels output). Please select the other settings for 4 channels output.



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".



STFP 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:

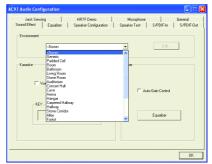
Click "Speaker Configuration" and select "6-channel mode for 5.1 speaker output" to complete 6 channel audio configuration.





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.



SPDIF Output Device (Optional Device)

A "SPDIF output" connector is available on the motherboard. Cable with rear bracket could link to the "SPDIF output" connector (As picture.) For the further linkage to decoder, rear bracket provides coaxial cable and Fiber connecting port.



1. Connect the SPDIF output device to the rear bracket of PC, and fix it with screw.



2. Connect SPDIF device to the motherboard.



3. Connect SPDIF to the SPDIF decoder.



Jack-Sensing Introduction

Jack-Sensing provides audio connectors error-detection function.



Install Microsoft DirectX8.1 or later version before to enable Jack-Sensing support for Windows 2000

Jack-Sensing includes 2 parts: AUTO and MANUAL. (Following pictures are in Windows XP):

Introduction of audio connectors

You may connect CDROM, Walkman or others audio input devices to Line In jack, speakers, earphone or others output devices to Line Out jack, and microphone to MIC In jack.



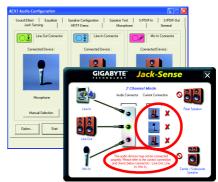
Auto-detecting:

Please connect the devices to the right jacks as above. A window will appear as right picture if you setup the devices properly.

Please note that 3D audio function will only appear when 3D audio inputs.



If you set wrong with the connectors, the warning message will come out as right picture.



Manual setting:

If the device picture shows different from what you set, please press "Manual Selection" to set.



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

 ${}^{\star}\text{Computer gives 1 short beep when system boots successfully.}$

*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



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Tech. Support:

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

 $Non-Tech.\ Support(Sales/Marketing):$

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

WEB address (English): http://www.gigabyte.com.tw WEB address (Chinese): http://chinese.giga-byte.com

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Tech. Support:

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Non-Tech. Support(Sales/Marketing):

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Germany

G.B.T. TECHNOLOGY TRADING GMBH

Tech. Support:

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

Non-Tech. Support(Sales/Marketing): http://ggts.gigabyte.com.tw/nontech.asp WEB address: http://www.gigabyte.de

Japan

NIPPON GIGA-BYTE CORPORATION

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

Singapore

GIGA-BYTE SINGAPORE PTE. LTD.

Tech. Support:

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

Non-Tech. Support(Sales/Marketing): http://ggts.gigabyte.com.tw/nontech.asp

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

U.K.

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

Tech. Support:

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

Non-Tech. Support(Sales/Marketing): http://ggts.gigabyte.com.tw/nontech.asp

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

The Netherlands

GIGA-BYTE TECHNOLOGY B.V.

Tech. Support:

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

Non-Tech. Support(Sales/Marketing): http://ggts.gigabyte.com.tw/nontech.asp WEB address: http://www.giga-byte.nl

China

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

Tech. Support:

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

Non-Tech. Support(Sales/Marketing): http://gats.gigabyte.com.tw/nontech.asp

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

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FAX: +86-27-87851330

GuangZhou

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Chengdu

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Xiar

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://tw.giga-byte.com/TechSupport/ServiceCenter.htm Non-Tech. Support(Sales/Marketing):

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

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

France

GIGABYTE TECHNOLOGY FRANCE S.A.R.L.

Tech. Support:

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

Non-Tech. Support(Sales/Marketing):

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

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

Russia

Moscow Representative Office Of GIGA-BYTE Technology Co., I td

Tech. Support:

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

Non-Tech. Support(Sales/Marketing):

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

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

Poland

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

Tech. Support:

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

Non-Tech. Support(Sales/Marketing):

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

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

Serbia & Montenegro

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

Tech. Support:

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

Non-Tech. Support(Sales/Marketing):

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

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

Czech Republic

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

Tech. Support:

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

Non-Tech. Support(Sales/Marketing):

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

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

Romania

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

Tech. Support:

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

Non-Tech. Support(Sales/Marketing):

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

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