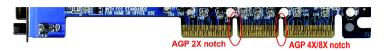**When you are installing AGP card, please make sure the following notice is fully understood and practiced. If your AGP card has "AGP 4X/8X (1.5V) notch"(show below), please make sure your AGP card is AGP 4X/8X (1.5V).**

AGP 2X notch   AGP 4X/8X notch

Caution: AGP 2X card is not supported by Intel® 845(GE/PE) / 845(E/ G) / 850(E) / E7205 / 865(G/PE/P) / 875P. You might experience system unable to boot up normally. Please insert an AGP 4X/8X card.

Example 1: Diamond Vipper V770 golden finger is compatible with 2X/4X mode AGP slot. It can be switched between AGP 2X(3.3V) or 4X(1.5V) mode by adjusting the jumper. The factory default for this card is 2X(3.3V). The GA-8I865PE-TW (or any AGP 4X/8X only) motherboards might not function properly, if you install this card without switching the jumper to 4X(1.5V) mode in it.

Example 2: Some ATi Rage 128 Pro graphics cards made by "Power Color", the graphics card manufacturer & some SiS 305 cards, their golden finger is compatible with 2X(3.3V)/4X(1.5V) mode AGP slot, but they support 2X (3.3V) only. The GA-8I865PE-TW (or any AGP 4X/8X only) motherboards might not function properly, If you install this card in it.

Note : Although Gigabyte's AG32S(G) graphics card is based on ATi Rage 128 Pro chip, the design of AG32S(G) is compliance with AGP 4X(1.5V) specification. Therefore, AG32S(G) will work fine with Intel® 845(GE/PE) / 845(E/G) / 850(E) / E7205 / 865(G/PE/P) / 875P based motherboards.

💣 **The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.**

💣 **Third-party brands and names are the property of their respective owners.**

💣 **Please do not remove any labels on motherboard, this may void the warranty of this motherboard.**

💣 **Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.**

WARNING: Never run the processor without the heatsink properly and firmly attached. PERMANENT DAMAGE WILL RESULT!

Mise en garde : Ne faites jamais tourner le processeur sans que le dissipateur de chaleur soit fix correctement et fermement. UN DOMMAGE PERMANENT EN RÉSULTERA !

Achtung: Der Prozessor darf nur in Betrieb genommen werden, wenn der Wärmeableiter ordnungsgemäß und fest angebracht ist. DIES HAT EINEN PERMANENTEN SCHADEN ZUR FOLGE!

Advertencia: Nunca haga funcionar el procesador sin el disipador de calor instalado correcta y firmemente. ¡SE PRODUCIRÁ UN DAÑO PERMANENTE!

Aviso: Nunca execute o processador sem o dissipador de calor estar adequado e firmemente conectado. O RESULTADO SERÁ UM DANO PERMANENTE!

警告： 将散热板牢固地安装到处理器上之前，不要运行处理器。过热将永远损坏处理器!

警告: 將散熱器牢固地安裝到處理器上之前，不要運行處理器。過熱將永遠損壞處理器!

경고: 히트싱크를 제대로 또 단단히 부착시키지 않은 채 프로세서를 구동시키지 마십시오. 영구적 고장이 발생합니다!

警告: 永久的な損傷を防ぐため、ヒートシンクを正しくしっかりと取り付けるまでは、プロセッサを動作させないようにしてください。

Declaration of Conformity

We, Manufacturer/Importer
(full address)

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

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

Mother Board

GA-8I865PE-TW

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment	☒ **EN 61000-3-2**	Disturbances in supply systems caused
		☒ **EN 61000-3-3**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☒ **EN 55024**	Information Technology equipment-Immunity characteristics-Limits and methods of measurement
☐ **EN 55014-1**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☐ **EN 50082-1**	Generic immunity standard Part 1: Residual, commercial and light industry
		☐ **EN 50082-2**	Generic immunity standard Part 2: Industrial environment
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55014-2**	Immunity requirements for household appliances tools and similar apparatus
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 50091- 2**	EMC requirements for uninterruptible power systems (UPS)
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment		
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or distribution from sound and television signals		

☒ **CE marking**

CE

(EC conformity marking)

The manufacturer also declares the conformity of above mentioned product
with the actual required safety standards in accordance with LVD 73/23 EEC

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electrical business equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

Signature : *Timmy Huang*

(Stamp)

Date : May 31, 2004

Name : Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

FC

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-8I865PE-TW

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: May 31, 2004

GA-8I865PE-TW

P4 Titan Series Motherboard

USER'S MANUAL

Table of Contents

Warning

CAUTION

Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis…

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

Chapter 1 Introduction

Features Summary

CPU	• Socket 478 for Intel® Pentium® 4 (Northwood, Prescott) with HT Technology
	• Intel Pentium®4 400/533/800(Note 1)MHz FSB
	• L2 cache varies with CPU
Chipset	• Northbridge: Intel® 865PE MCH
	• Southbridge: Intel® ICH5
Memory	• 4 DDR DIMM memory slots (supports up to 4GB memory) (Note 2)
	• Supports dual channel DDR400(Note 3)/333/266 DIMM
Slots	• 1 AGP slot, supports AGP 8X/4X(1.5V) mode
	• 5 PCI slots
On-Board IDE	• 2 IDE connection (UDMA 33/ATA 66/ATA 100), allows connection of 4 IDE devices
On-Board Floppy	• 1 FDD connection, allows connection of 2 FDD devices
On-Board SATA	• 2 Serial ATA connections
On-Board Peripherals	• 1 parallel port supporting Normal/EPP/ECP mode
	• 2 serial port (COMA, COMB)
	• 8 USB 2.0/1.1 ports (rear x 4, front x 4 via cable)
	• 1 front audio connector
	• 1 IR/CIR connector
	• 1 PS/2 keyboard port
	• 1 PS/2 mouse port
On-Board LAN	• Onboard Realtek 8110S (10/100/1000 Mbit)
	• 1 RJ45 port

to be continued...
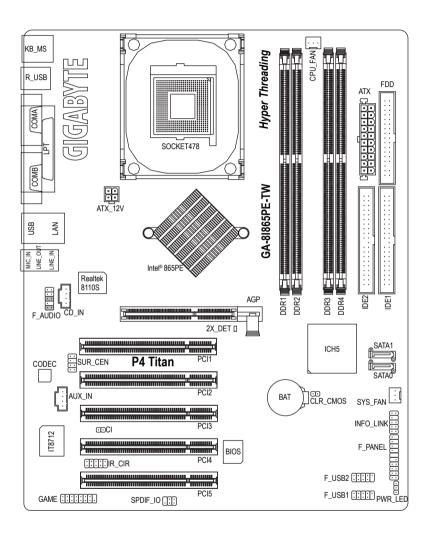
⚠ CAUTION Due to chipset (Intel 875P/865G/865PE) architecture limitation, a FSB 800 Pentium 4 processor will support DDR400/DDR333/DDR266 memory module. A FSB 533 Pentium 4 processor will support DDR333 and DDR266 memory module. A FSB 400 Pentium 4 processor will only support DDR 266 memory module.
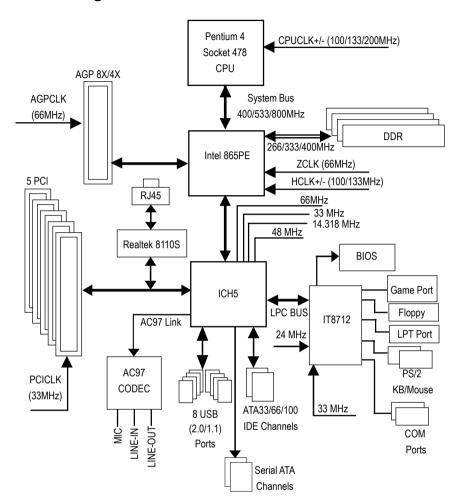
(Note 1) An FSB800 CPU can be supported through overclocking in BIOS.

(Note 2) Due to standard PC architecture, a certain amount of memory is reserved for system usage and therefore the actual memory size is less than the stated amount. For example, 4 GB of memory size will instead be shown as 3.xxGB memory during system startup.

(Note 3) When FSB800 is selected as CPU frequency, memory will automatically adjust to DDR400.

On-Board Sound	• ALC850 CODEC (UAJ)
	• Supports Jack Sensing function
	• Supports 2 / 4 / 6 / 8 channel audio
	• Supports Line In / Line Out / MIC connection
	• Surround Back Speaker (use of Surround-Kit to select)
	• SPDIF In / Out
	• CD In / Game connector
I/O Control	• IT8712
Hardware Monitor	• CPU / System fan speed detection
	• CPU / System fan failure warning
	• CPU temperature detection
	• CPU warning temperature
	• System voltage detection
BIOS	• Use of licensed AWARD BIOS
	• Supports Q-Flash
Additional Features	• Supports @BIOS
	• Supports EasyTune
Overclocking	• Over Voltage via BIOS (CPU/DDR/AGP)
	• Over Clock via BIOS (CPU/DDR/AGP/PCI)
Form Factor	• ATX size form factor, 30.5cm x 23.0cm

GA-8I865PE-TW Motherboard Layout
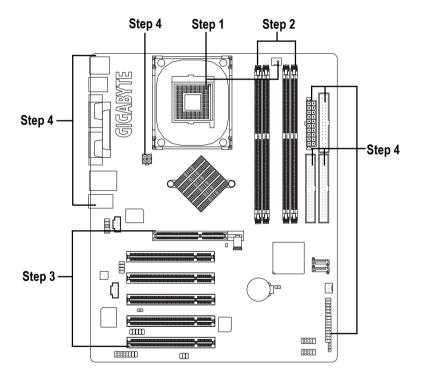
Block Diagram

Chapter 2 Hardware Installation Process

To set up your computer, you must complete the following steps:

      Step 1- Install the Central Processing Unit (CPU)

      Step 2- Install memory modules

      Step 3- Install expansion cards

      Step 4- Install I/O Peripherals Cables

Congratulations you have accomplished the hardware installation!
Turn on the power supply or connect the power cable to the power outlet. Continue with
the BIOS/software installation.

Step 1: Install the Central Processing Unit (CPU)

Before installing the processor, adhere to the following warning:

CAUTION

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

NOTE
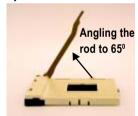
HT functionality requirement content :
Enabling the functionality of Hyper-Threading Technology for your computer system requires all of the following platform components:
- CPU: An Intel® Pentium® 4 Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology
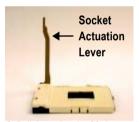
Step 1-1: CPU Installation

Angling the rod to 65⁰

1. Angling the rod to 65-degree maybe feel a kind of tight, and then continue pull the rod to 90-degree when "click" noise is heard.

Socket Actuation Lever

2. Pull the rod to the 90-degree directly.

Pin1 indicator

3. CPU Top View

Pin1 indicator

4. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

Step 1-2 : CPU Cooling Fan Installation

⚠️
CAUTION
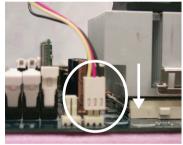
Before installing the CPU cooling fan, adhere to the following warning:

1. Please use Intel approved cooling fan.

2. We recommend you to apply the thermal tape to provide better heat conduction between your CPU and cooling fan.

    (The CPU cooling fan might stick to the CPU due to the hardening of the thermal paste. During this condition if you try to remove the cooling fan, you might pull the processor out of the CPU socket alone with the cooling fan, and might damage the processor. To avoid this from happening, we suggest you to either use thermal tape instead of thermal paste, or remove the cooling fan with extreme caution.)

3. Make sure the CPU fan power cable is plugged in to the CPU fan connector, this completes the installation.

    Please refer to CPU cooling fan user's manual for more detail installation procedure.

1. Fasten the cooling fan supporting-base onto the CPU socket on the motherboard.

2. Make sure the CPU fan is plugged to the CPU fan connector, than install completely.
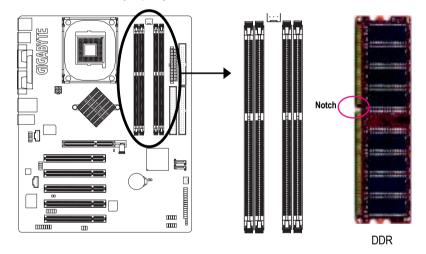
Step 2: Install memory modules

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.

Notch

DDR

GA-8I865PE-TW supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will add double up to 6.4GB/s.

GA-8I865PE-TW includes 4 DIMM sockets, and each Channel has two DIMM sockets as following:

▷▷   Channel A : DDR 1, DDR 2

▷▷   Channel B : DDR 3, DDR 4

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

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

GA-8I865PE-TW Motherboard   - 12 -

3. Three DDR memory modules are installed: Please note that The Dual Channel Technology will not operate when three DDR memory modules are installed; part of them will not be detected.

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

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

The following tables include all memory-installed combination types:

(Please note that those types not in the tables will not boot up.)

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

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

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

	DDR 1	DDR 2	DDR 3	DDR 4
1 memory module	DS/SS	X	X	X
	X	DS/SS	X	X
	X	X	DS/SS	X
	X	X	X	DS/SS
2 memory modules	DS/SS	DS/SS	X	X
	X	X	DS/SS	DS/SS
3 memory modules	DS/SS	DS/SS	DS/SS	X
	DS/SS	DS/SS	X	DS/SS
	DS/SS	X	DS/SS	DS/SS
	X	DS/SS	DS/SS	DS/SS

English

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

2. Insert the DIMM memory module vertically into
   the DIMM slot. Then push it down.

3. Close the plastic clip at both edges of the DIMM
   slots to lock the DIMM module.
   Reverse the installation steps when you wish
   to remove the DIMM module.
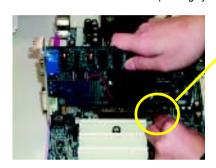
DDR Introduction

   Established on the existing SDRAM infrastructure, DDR (Double Data Rate) memory is a high
performance and cost-effective solution that allows easy adoption for memory vendors, OEMs,
and system integrators.

   DDR memory is a great evolutionary solution for the PC industry that builds on the existing
SDRAM architecture, yet make the awesome advances in solving the system performance
bottleneck by doubling the memory bandwidth. Nowadays, with the highest bandwidth of 3.2GB/
s of DDR400 memory and complete line of DDR400/333/266/200 memory solutions, DDR memory
is the best choice for building high performance and low latency DRAM subsystem that are
suitable for servers, workstations, and full range of desktop PCs.

Step 3: Install expansion cards

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, necessary 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.

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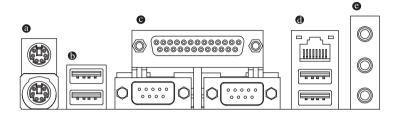
Please carefully pull out the small white- drawable bar at the end of the AGP slot when you try to install/ Uninstall the AGP card. Please align the AGP card to the onboard AGP slot and press firmly down on the slot .Make sure your AGP card is locked by the small white-drawable bar.

CAUTION When an AGP 2x (3.3V) card is installed the 2X_DET will light up, indicating a non-supported graphics card is inserted. Informing users that system might not boot up normally due to AGP 2x (3.3V) is not supported by the chipset.

Step 4: Install I/O Peripherals Cables

Step 4-1: I/O Back Panel Introduction

ⓐ PS/2 Keyboard and PS/2 Mouse Connector
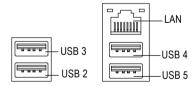
PS/2 Mouse Connector
(6 pin Female)

PS/2 Keyboard Connector
(6 pin Female)
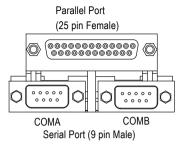
➢ To install a PS/2 port keyboard and mouse, plug the mouse to the upper port (green) and the keyboard to the lower port (purple).

ⓑ / ⓓ USB/LAN Connector

LAN

USB 3
USB 2

USB 4
USB 5
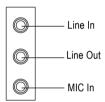
➢ Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker... etc. have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

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

◉ **Parallel Port, Serial Ports (COMA / COMB)**

Parallel Port
(25 pin Female)

COMA   COMB
Serial Port (9 pin Male)

➢ According to your motherboard, please see the following descriptions for the devices. The parallel port allows connection of a printer, scanner and other peripheral devices. Mouse and modem etc. can be connected to Serial ports.

◉ **Audio Connectors**

Line In

Line Out

MIC In

➢ After install onboard audio driver, you may connect speaker to Line Out jack, microphone to MIC In jack. Devices like CD-ROM, walkman etc. can be connected to Line In jack.
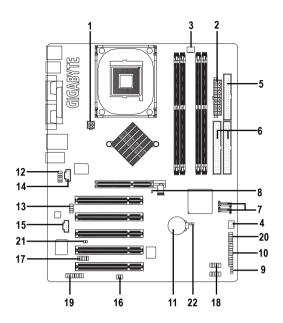
Please note:

You can use audio software to configure 2-/4-/6-/8-channel audio functioning. If you wish to use 8 channel audio, a SUR_CEN cable is required (select desired setup) along with proper software configuration. Please contact your nearest dealer for purchase of a SUR_CEN cable.

> **NOTE** **If you want the detailed information for 2-/4-/6-/8-channel audio setup installation, please refer to page 61.**

Step 4-2: Connectors & Jumper Setting Introduction

1) ATX_12V	12) F_AUDIO
2) ATX (Power Connector)	13) SUR_CEN
3) CPU_FAN	14) CD_IN
4) SYS_FAN	15) AUX_IN
5) FDD	16) SPDIF_IO
6) IDE1 / IDE2	17) IR_CIR
7) SATA0 / SATA1	18) F_USB1 / F_USB2
8) 2X_DET	19) GAME
9) PWR_LED	20) INFO_LINK
10) F_PANEL	21) CI
11) BAT	22) CLR_CMOS
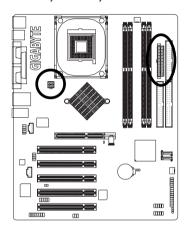
1/2) ATX_12V/ATX (Power Connector)

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	VCC
5	GND
6	VCC
7	GND
8	Power Good
9	5V SB(stand by +5V)
10	+12V
11	3.3V
12	-12V
13	GND
14	PS_ON(softOn/Off)
15	GND
16	GND
17	GND
18	-5V
19	VCC
20	VCC
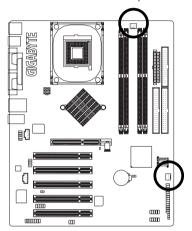
3/4) CPU_FAN / SYS_FAN (Cooler Fan Power Connector)

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

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

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

Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.
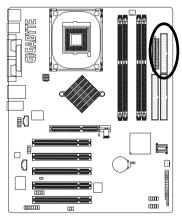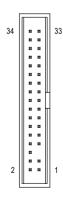
Pin No.	Definition
1	GND
2	+12V
3	Sense

5) FDD (FDD Connector)
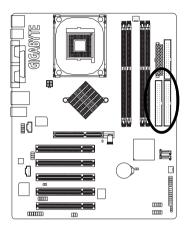
The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB. Please connect the red power connector wire to the pin1 position.
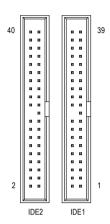
6) IDE1/ IDE2 (IDE1/IDE2 Connector)
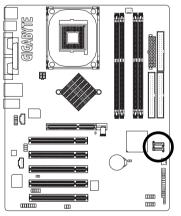
Please connect first hard disk to IDE1 and connect CDROM to IDE2. The red stripe of the ribbon cable must be the same side with the Pin1.


```
40   ::   ::   39
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
     ::   ::
 2   ::   ::   1

IDE2      IDE1
```

7) SATA0/SATA1 (Serial ATA Connector)

You can connect the Serial ATA device to this connector.
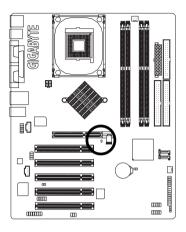
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND
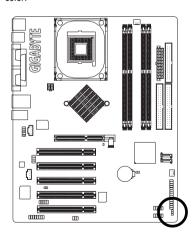
- 21 -   Hardware Installation Process

8) 2X_DET

When an AGP 2X (3.3V) card is installed the 2X_DET will light up, indicating a nonsupported graphics card is inserted. Informing users that system might not boot up normally due to AGP 2X (3.3V) is not supported by the chipset.

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. If you use dual color LED, power LED will turn to another color.
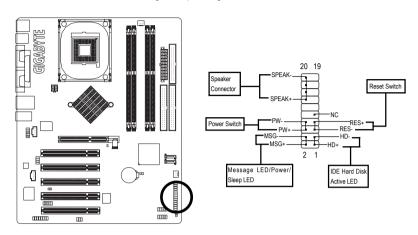
Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-
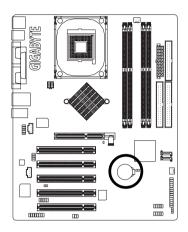
10) F_PANEL (2x10 pins connector)
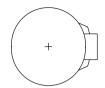
Please connect the power LED, PC peaker, reset switch and power switch etc. of your chassis front panel to the F_PANEL connector according to the pin assignment below.

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

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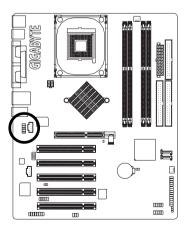
❖ Danger of explosion if battery is incorrectly replaced.

❖ Replace only with the same or equivalent type recommended by the manufacturer.

❖ Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...

1. Please turn off the computer and unplug the power.
2. Remove the battery, wait for 30 second.
3. Re-install the battery.
4. Plug the power cord and turn on the computer.

12) F_AUDIO (Front Audio 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 assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio 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.
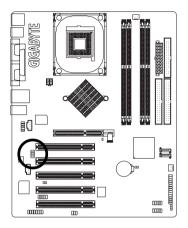
Pin No.	Definition
1	MIC
2	GND
3	MIC_BIAS
4	Power
5	Front Audio (R)
6	Rear Audio (R)
7	Reserved
8	No Pin
9	Front Audio (L)
10	Rear Audio (L)

13) SUR_CEN (Surround Center Connector)

Please contact your nearest dealer for optional SUR_CEN cable.
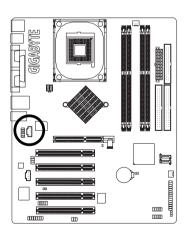
1 2

7 8

Pin No.	Definition
1	SUR OUTL
2	SUR OUTR
3	GND
4	No Pin
5	CENTER_OUT
6	BASS_OUT
7	AUX_L
8	AUX_R

14) CD_IN (CD In Connector)

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

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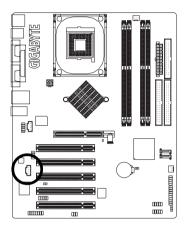
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

- 25 -   Hardware Installation Process

15) AUX_IN (AUX In Connector)

Connect other device (such as PCI TV Tunner audio out) to the connector.
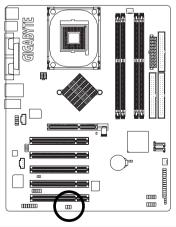
Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX-R

16) 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/ output function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.
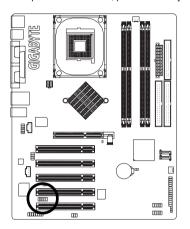
Pin No.	Definition
1	VCC
2	No Pin
3	SPDIF
4	SPDIFI
5	GND
6	GND

17) IR_CIR

To enable the IR/CIR function on the board, you are required to purchase an option IR/CIR module. To use IR function only, please connect IR module to Pin1 to Pin5. Be careful with the polarity of the IR/CIR connector. Check the pin assignment carefully while you connect the IR/CIR cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional IR/CIR cable, please contact your local dealer.

6 ⬚⬚⬚⬚⬚ 10
1 ⬚⬚⬚⬚⬚ 5
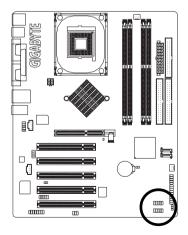
Pin No.	Definition
1	VCC
2	NC
3	IRRX
4	GND
5	IRTX
6	NC
7	CIRRX
8	+5VSB
9	CIRTX
10	NC

18) 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.

2 ⬚⬚⬚⬚⬚ 10
1 ⬚⬚⬚⬚⬚ 9
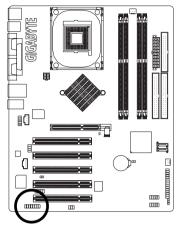
Pin No.	Definition
1	Power
2	Power
3	USB0 DX-/USB6 DX-
4	USB1 Dy-/USB7 Dy-
5	USB0 DX+/USB6 DX+
6	USB1 Dy+/USB7 Dy+
7	GND
8	GND
9	No Pin
10	NC

19) GAME (GAME Connector)

This connector supports joystick, MIDI keyboard and other relate audio devices.

2   16

1   15
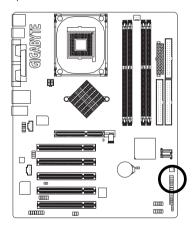
Pin No.	Definition
1	VCC
2	GRX1_R
3	GND
4	GPSA2
5	VCC
6	GPX2_R
7	GPY2_R
8	MSI_R
9	GPSA1
10	GND
11	GPY1_R
12	VCC
13	GPSB1
14	MSO_R
15	GPSB2
16	No Pin

20) INFO_LINK

This connector allows you to connect some external devices to provide you extra function. Check the pin assignment while you connect the external device cable. Please contact your nearest dealer for optional external device cable.

10 9
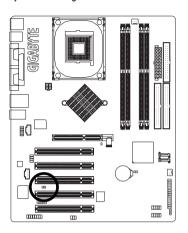
2 1

Pin No.	Definition
1	SMBCLK
2	VCC
3	SMBDATA
4	GPIO
5	GND
6	GND
7	No Pin
8	NC
9	+12V
10	+12V

21) CI (Chassis Intrusion, Case Open)
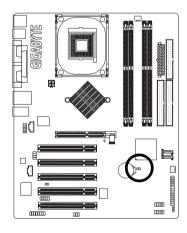
This 2-pin connector allows your system to enable or disable the "case open" item in BIOS if the system case begin remove.

1

Pin No.	Definition
1	Signal
2	GND

22) CLR_CMOS (Clear CMOS)

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

1 Open: Normal

1 Close: Clear CMOS

Chapter 3 BIOS Setup

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

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

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

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

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

Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system.

@BIOS is a Windows-based utility that does not require users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

CONTROL KEYS

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

Main Menu

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

Status Page Setup Menu / Option Page Setup Menu

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

The Main Menu (For example: BIOS Ver. : E3)

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

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software	
▶ Standard CMOS Features	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management Setup	Set User Password
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
▶ 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.
> NOTE

■ **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.

Standard CMOS Features

```
CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                    Standard CMOS Features
┌─────────────────────────────────────────────────────────────────────────────┐
│  Date (mm:dd:yy)              Mon, Apr  26 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>                 │
│                                                      │ Sun. to Sat.           │
│                                                      │                        │
│  Drive A                      [1.44M, 3.5"]          │ <Month>                │
│  Drive B                      [None]                 │ Jan. to Dec.           │
│  Floppy 3 Mode Suport         [Disabled]             │                        │
│                                                      │ <Day>                  │
│  Holt On                      [All, But Keyboard]    │ 1 to 31 (or maximum    │
│                                                      │ allowed in the month)  │
│  Base Memory                  640K                   │                        │
│  Extended Memory              127M                   │ <Year>                 │
│  Total Memory                 128M                   │ 1999 to 2098           │
├─────────────────────────────────────────────────────────────────────────────┤
│ ↑↓→←: Move   Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1: General Help │
│      F5: Previous Values     F6: Fail-Save Default          F7: Optimized Defaults       │
└─────────────────────────────────────────────────────────────────────────────┘
```

  Date

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

- ▶ Week   The week, from Sun to Sat, determined by the BIOS and is display only
- ▶ Month   The month, Jan. Through Dec.
- ▶ Day   The day, from 1 to 31 (or the maximum allowed in the month)
- ▶ Year   The year, from 1999 through 2098

  Time

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

  IDE Channel 0 Master, Slave / IDE Channel 1 Master, Slave

- ▶ IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.
- ▶ IDE Primary Master(Slave) / IDE Secondary Master(Slave) IDE Device Setup. You can use one of three methods:
  - Auto   Allows BIOS to automatically detect IDE devices during POST(default)
  - None   Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
  - Manual   User can manually input the correct settings
- ▶ Access Mode Use this to set the access mode for the hard drive. The four options are: CHS/LBA/Large/Auto(default:Auto)

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

- ▶ Cylinder   Number of cylinders
- ▶ Head   Number of heads
- ▶ Precomp   Write precomp
- ▶ Landing Zone Landing zone
- ▶ Sector   Number of sectors

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

☞ **Drive A / Drive B**

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

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

☞ **Floppy 3 Mode Support (for Japan Area)**

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

☞ **Halt on**

The category determines whether the computer will stop if an error is detected during power up.

- ▸ No Errors   The system boot will not stop for any error that may be detected and you
                will be prompted.
- ▸ All Errors   Whenever the BIOS detects a non-fatal error the system will be stopped.
- ▸ All, But Keyboard The system boot will not stop for a keyboard error; it will stop for all other
                errors. (Default value)
- ▸ All, But Diskette The system boot will not stop for a disk error; it will stop for all other errors.
- ▸ All, But Disk/Key The system boot will not stop for a keyboard or disk error; it will stop for all
                other errors.

☞ **Memory**

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

▸ **Base Memory**

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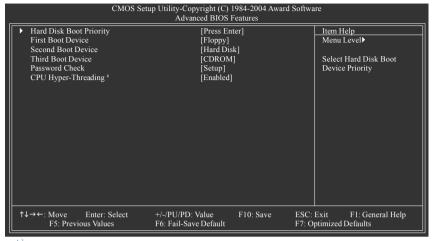
The value of the base memory is typically 512K for systems with 512K memory installed on
the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

▸ **Extended Memory**

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

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

Advanced BIOS Features

```
                         CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                        Advanced BIOS Features
 ▶   Hard Disk Boot Priority                [Press Enter]             Item Help
     First Boot Device                      [Floppy]                  Menu Level▶
     Second Boot Device                     [Hard Disk]
     Third Boot Device                      [CDROM]                   Select Hard Disk Boot
     Password Check                         [Setup]                   Device Priority
     CPU Hyper-Threading #                  [Enabled]




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

" # " System will detect automatically and show up when you install the Intel® Pentium® 4 processor
NOTE 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.
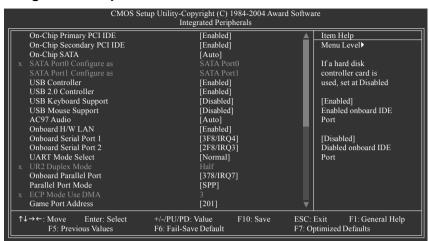
☞ **CPU Hyper-Threading**
  ▶ Enabled   Enables CPU Hyper Threading Feature. Please note that this feature is only
                    working for operating system with multi processors mode supported. (Default value)
  ▶ Disabled   Disables CPU Hyper Threading.
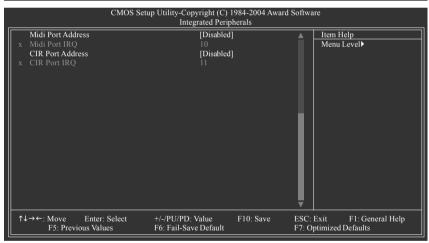
Integrated Peripherals

```
                    CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                   Integrated Peripherals
      On-Chip Primary PCI IDE              [Enabled]              ▲ | Item Help
      On-Chip Secondary PCI IDE            [Enabled]                | Menu Level▶
      On-Chip SATA                         [Auto]                   |
    x SATA Port0 Configure as              SATA Port0               | If a hard disk
      SATA Port1 Configure as              SATA Port1               | controller card is
      USB Controller                       [Enabled]                | used, set at Disabled
      USB 2.0 Controller                   [Enabled]                |
      USB Keyboard Support                 [Disabled]               | [Enabled]
      USB Mouse Support                    [Disabled]               | Enabled onboard IDE
      AC97 Audio                           [Auto]                   | Port
      Onboard H/W LAN                      [Enabled]                |
      Onboard Serial Port 1                [3F8/IRQ4]               | [Disabled]
      Onboard Serial Port 2                [2F8/IRQ3]               | Diabled onboard IDE
      UART Mode Select                     [Normal]                 | Port
    x UR2 Duplex Mode                      Half                     |
      Onboard Parallel Port                [378/IRQ7]               |
      Parallel Port Mode                   [SPP]                    |
    x ECP Mode Use DMA                     3                        |
      Game Port Address                    [201]                  ▼ |
    ↑↓→←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
        F5: Previous Values       F6: Fail-Save Default            F7: Optimized Defaults
```

```
                    CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                   Integrated Peripherals
      Midi Port Address                    [Disabled]             ▲ | Item Help
    x Midi Port IRQ                        10                       | Menu Level▶
      CIR Port Address                     [Disabled]               |
    x CIR Port IRQ                         11                       |
                                                                  ▼ |
    ↑↓→←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
        F5: Previous Values       F6: Fail-Save Default            F7: Optimized Defaults
```

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

○ **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 SATA controller.
  ▸ Auto   When no device is plugged in IDE1 or IDE2, SATA controller will remap to IDE
                   controller. (Default value)
  ▸ Manual   Set SATA Mode manually.

⚭ **SATA Port0 Configure as**
- ⚯ IDE Pri. Master   Remap SATA Port 0 to IDE primary Master.
- ⚯ IDE Pri. Slave   Remap SATA Port 0 to IDE primary Slave.
- ⚯ IDE Sec. Master   Remap SATA Port 0 to IDE secondary Master.
- ⚯ IDE Sec. Slave   Remap SATA Port 0 to IDE secondary Slave.
- ⚯ SATA Port0   SATA controller set to SATA port0. As this mode, it support by WinXP or later OS only. (Default value)
- ⚯ SATA Port1   SATA controller set to SATA port1. As this mode, it support by WinXP or later OS only.

⚭ **SATA Port1 Configure as**
- ⚯ The values depend on SATA Port0.

⚭ **USB Controller**
- ⚯ Enabled   Enable USB Controller. (Default value)
- ⚯ Disabled   Disable USB Controller.

⚭ **USB 2.0 Controller**

Disable this function if you are not using onboard USB 2.0 feature.
- ⚯ Enabled   Enable USB 2.0 controller. (Default value)
- ⚯ Disabled   Disable USB 2.0 controller.

⚭ **USB Keyboard Support**
- ⚯ Enabled   Enable USB keyboard support.
- ⚯ Disabled   Disable USB keyboard support. (Default value)

⚭ **USB Mouse Support**
- ⚯ Enabled   Enable USB mouse support.
- ⚯ Disabled   Disable USB mouse support. (Default value)

⚭ **AC97 Audio**
- ⚯ Auto   Enable onboard AC'97 audio function automatically. (Default value)
- ⚯ Disabled   Disable this function.

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

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

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

 UART Mode Select

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

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

 UR2 Duplex Mode

This feature allows you to seclect IR mode.

This function will available when "UART Mode Select" doesn't set at Normal.

- ▶ Half   IR Function Duplex Half. (Default value)
- ▶ Full   IR Function Duplex Full.

 Onboard Parallel port

- ▶ Disabled   Disable onboard LPT port.
- ▶ 378/IRQ7   Enable onboard LPT port and address is 378/IRQ7. (Default value)
- ▶ 278/IRQ5   Enable onboard LPT port and address is 278/IRQ5.
- ▶ 3BC/IRQ7   Enable onboard LPT port and address is 3BC/IRQ7.

 Parallel Port Mode

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

 ECP Mode Use DMA

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

 Game Port Address

- ▶ 201   Set Game Port Address to 201. (Default value)
- ▶ 209   Set Game Port Address to 209.
- ▶ Disabled   Disable this function.

 Midi Port Address

- ▶ 300   Set Midi Port Address to 300.
- ▶ 330   Set Midi Port Address to 330.
- ▶ Disabled   Disable this function. (Default value)

 Midi Port IRQ

- ▶ 5   Set Midi Port IRQ to 5.
- ▶ 10   Set Midi Port IRQ to 10. (Default value)

 CIR Port Address
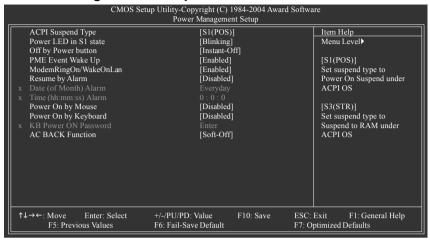
- ▶ 310   Set CIR Port Address to 310.
- ▶ 320   Set CIR Port Address to 320.
- ▶ Disabled   Disable this function. (Default value)

 CIR Port IRQ

- ▶ 5   Set CIR Port IRQ to 5.
- ▶ 11   Set CIR Port IRQ to 11. (Default value)

Power Management Setup

```
                    CMOS Setup Utility-Copyright (C) 1984-2004 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]             [S1(POS)]
   ModemRingOn/WakeOnLan                [Enabled]             Set suspend type to
   Resume by Alarm                      [Disabled]            Power On Suspend under
 x Date (of Month) Alarm                Everyday              ACPI OS
 x Time (hh:mm:ss) Alarm                0 : 0 : 0
   Power On by Mouse                    [Disabled]            [S3(STR)]
   Power On by Keyboard                 [Disabled]            Set suspend type to
 x KB Power ON Password                 Enter                 Suspend to RAM under
   AC BACK Function                     [Soft-Off]            ACPI OS




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

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

☞ **Power LED in S1 state**
> ▶ Blinking   In standby mode(S1), power 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 seconds to power off. Enter suspend if button is pressed
>   less than 4 seconds.

☞ **PME Event Wake Up**
> ▶ Disabled   Disable this function.
> ▶ Enabled   Enable PME Event Wake up. (Default value)

☞ **ModemRingOn/WakeOnLan**
> ▶ Disabled   Disable Modem Ring on/wake on Lan function.
> ▶ Enabled   Enable Modem Ring on/wake on Lan. (Default value)

☞ **Resume by Alarm**
You can set "Resume by Alarm" item to enabled and key in Data/time to power on system.
> ▶ Disabled   Disable this function. (Default value)
> ▶ Enabled   Enable alarm function to POWER ON system.
If RTC Alarm Lead To Power On is Enabled.
> ▶ Date (of Month) Alarm :   Everyday, 1~31
> ▶ Time (hh: mm: ss) Alarm :   (0~23) : (0~59) : (0~59)

☞ **Power On by Mouse**
- ▸ Disabled   Disabled this function. (Default value)
- ▸ Double Click   Double click on PS/2 mouse left button to power on the system.

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

☞ **KB Power ON Password**

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

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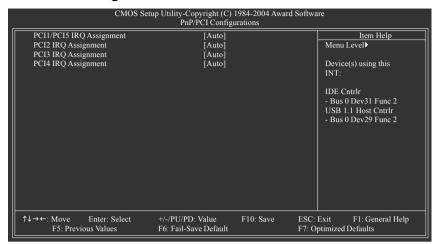
English

PnP/PCI Configurations

```
                CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                 PnP/PCI Configurations
   PCI1/PCI5 IRQ Assignment           [Auto]                      Item Help
   PCI2 IRQ Assignment                [Auto]            Menu Level▶
   PCI3 IRQ Assignment                [Auto]
   PCI4 IRQ Assignment                [Auto]            Device(s) using this
                                                        INT:

                                                        IDE Cntrlr
                                                        - Bus 0 Dev31 Func 2
                                                        USB 1.1 Host Cntrlr
                                                        - Bus 0 Dev29 Func 2




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

   PCI1/PCI5 IRQ Assignment
- Auto   Auto assign IRQ to PCI 1 / PCI 5. (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 5.

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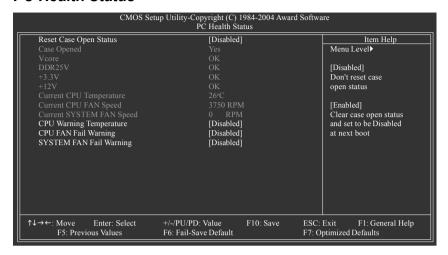
   PCI 3 IRQ Assignment
- Auto   Auto assign IRQ to PCI 3. (Default value)
- 3,4,5,7,9,10,11,12,14,15   Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 3.

   PCI 4 IRQ Assignment
- Auto   Auto assign IRQ to PCI 4. (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 4.

PC Health Status

```
                          CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                           PC Health Status
┌──────────────────────────────────────────────────────────┬──────────────────────────┐
│ Reset Case Open Status               [Disabled]           │       Item Help          │
│ Case Opened                          Yes                  │ Menu Level▶              │
│ Vcore                                OK                    │                          │
│ DDR25V                               OK                    │ [Disabled]               │
│ +3.3V                                OK                    │ Don't reset case         │
│ +12V                                 OK                    │ open status              │
│ Current CPU Temperature              26ºC                  │                          │
│ Current CPU FAN Speed                3750 RPM              │ [Enabled]                │
│ Current SYSTEM FAN Speed             0    RPM             │ Clear case open status   │
│ CPU Warning Temperature              [Disabled]           │ and set to be Disabled   │
│ CPU FAN Fail Warning                 [Disabled]           │ at next boot             │
│ SYSTEM FAN Fail Warning              [Disabled]           │                          │
│                                                           │                          │
│                                                           │                          │
│                                                           │                          │
│                                                           │                          │
├──────────────────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→←: Move    Enter: Select     +/-/PU/PD: Value     F10: Save    ESC: Exit    F1: General Help│
│     F5: Previous Values         F6: Fail-Save Default            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 have been opened, "Case Opened" will show "Yes".

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

◯ **Current Voltage(V) Vcore / 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**
- ▶▶ 60ºC / 140ºF   Monitor CPU temperature at 60ºC / 140ºF.
- ▶▶ 70ºC / 158ºF   Monitor CPU temperature at 70ºC / 158ºF.
- ▶▶ 80ºC / 176ºF   Monitor CPU temperature at 80ºC / 176ºF.
- ▶▶ 90ºC / 194ºF   Monitor CPU temperature at 90ºC / 194ºF.
- ▶▶ Disabled   Disable this function. (Default value)
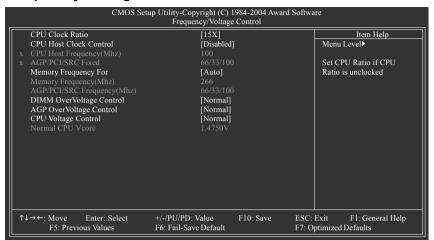
◯ **CPU/SYSEM FAN Fail Warning**
- ▶▶ Disabled   Fan warning function disable. (Default value)
- ▶▶ Enabled   Fan warning function enable.

Frequency/Voltage Control

```
                    CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                  Frequency/Voltage Control
    CPU Clock Ratio                         [15X]                          Item Help
    CPU Host Clock Control                  [Disabled]             Menu Level▶
  x CPU Host Frequency(Mhz)                 100
  x AGP/PCI/SRC Fixed                       66/33/100              Set CPU Ratio if CPU
    Memory Frequency For                    [Auto]                 Ratio is unclocked
    Memory Frequency(Mhz)                   266
    AGP/PCI/SRC Frequency(Mhz)              66/33/100
    DIMM OverVoltage Control                [Normal]
    AGP OverVoltage Control                 [Normal]
    CPU Voltage Control                     [Normal]
    Normal CPU Vcore                        1.4750V




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

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

☞ **CPU Clock Ratio**

This option will not be shown or not be available if you are using a CPU with the locked ratio.

This setup option will automatically assign by CPU detection.

- ▶ For Willamette CPU: 8X~23X default: 14X
- ▶ For C-Stepping P4:   8X,10X~24X default: 15X
- ▶ For Northwood CPU: 12X~24X default: 16X

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

☞ **CPU Host Clock Control**

Please note that if your system is overclocked and cannot restart, please wait 20secs.

for automatic system restart or clear the CMOS setup data and perform a safe restart.

- ▶ Disabled   Disable CPU Host Clock Control. (Default value)
- ▶ Enabled   Enable CPU Host Clock Control.

☞ **CPU Host Frequency(Mhz)**

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

- ▶ 100MHz ~ 355MHz   Set CPU Host Clock from 100MHz to 355MHz.

If you use a FSB800 Pentium 4 processor, please set "CPU Host Frequency" to 200MHz. If you use a FSB533 Pentium 4 processor, please set "CPU Host Frequency" to 133MHz. If you use a FSB400 Pentium 4 processor, please set "CPU Host Frequency" to 100MHz.

☞ **AGP/PCI/SRC Fixed**

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

Serial ATA device is very sensitive to SRC clock. SRC over clock may make Serial ATA device function can't work properly.

- ▶ Adjust AGP/PCI/SRC clock asychrohous 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 2.0.

➠ 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,

➠ 2.0 Memory Frequency = Host clock X 2.0.

➠ 1.6 Memory Frequency = Host clock X 1.6.

➠ 1.33 Memory Frequency = Host clock X 1.33.

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

) **Memory Frequency (Mhz)**

The values depend on "CPU Host Frequency(Mhz)".

) **AGP/PCI/SRC Frequency(Mhz)**

The values depend on "AGP/PCI/SRC Fixed".

) **DIMM OverVoltage Control**

Please note that by overclocking your system through the increase of the DIMM voltage, damage to the memory may occur.

➠ Normal Set DIMM OverVoltage Control to Normal(2.5V). (Default value)

➠ +0.1V Set DIMM OverVoltage Control to +0.1V.

➠ +0.2V Set DIMM OverVoltage Control to +0.2V.

➠ +0.3V Set DIMM OverVoltage Control to +0.3V.

) **AGP OverVoltage Control**

Please note that by overclocking your system through the increase of the AGP voltage, system instability or damage to the AGP card may occur.

➠ Normal Set AGP OverVoltage Control to Normal(1.5V). (Default value)

➠ +0.1V Set AGP OverVoltage Control to +0.1V.

➠ +0.2V Set AGP OverVoltage Control to +0.2V.

➠ +0.3V Set AGP OverVoltage Control to +0.3V.

) **CPU Voltage Control**

Increase CPU voltage may get stable for overclock. But it may damage to CPU when enable this feature.

➠ Supports adjustable CPU Vcore from 0.8375V to 1.7600V. (Default value: Normal)

) **Normal CPU Vcore**
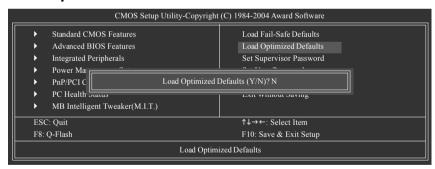
Display your CPU Vcore voltage.

Load Fail-Safe Defaults

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

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

Load Optimized Defaults

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

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

Set Supervisor/User Password

```
                    CMOS Setup Utility-Copyright (C) 1984-2004 Award Software

       ▶   Standard CMOS Features                    Load Fail-Safe Defaults
       ▶   Advanced BIOS Features                     Load Optimized Defaults
       ▶   Integrated Peripherals                     Set Supervisor Password
       ▶   Power Management Setup                      Set User Password
       ▶   PnP/PCI C           Enter Password:
       ▶   PC Health
       ▶   MB Intelligent Tweaker(M.I.T.)

       ESC: Quit                                      ↑↓→←: Select Item
       F8: Q-Flash                                    F10: Save & Exit Setup
                              Change/Set/Disable Password
```

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

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

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

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.
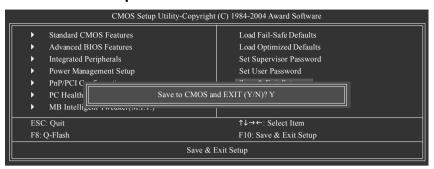
The BIOS Setup program allows you to specify two separate passwords:

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

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

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

Save & Exit Setup

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software	
▶ Standard CMOS Features	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management Setup	Set User Password
▶ PnP/PCI Configuration	Save & Exit Setup
	Save to CMOS and EXIT (Y/N)? Y
▶ PC Health	
▶ MB Intelligent Tweaker(M.I.T.)	
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Save & Exit Setup	

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

Exit Without Saving

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software	
▶ Standard CMOS Features	Load Fail-Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management Setup	Set User Password
▶ PnP/PCI Configuration	Quit Without Saving (Y/N)? N
▶ PC Health Status	Exit Without Saving
▶ MB Intelligent Tweaker(M.I.T.)	
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Abandon all Data	

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

Chapter 4 Technical Reference

@BIOS™ Introduction

Gigabyte announces @BIOS
Windows BIOS Live Update Utility

Have you ever updated BIOS by yourself? Or like many other people, you just know what BIOS is, but always hesitate to update it? Because you think updating newest BIOS is unnecessary and actually you don't know how to update it.

Maybe not like others, you are very experienced in BIOS updating and spend quite a lot of time to do it. But of course you don't like to do it too much. First, download different BIOS from website and then switch the operating system to DOS mode. Secondly, use different flash utility to update BIOS. The above process is not a interesting job. Besides, always be carefully to store the BIOS source code correctly in your disks as if you update the wrong BIOS, it will be a nightmare.

Certainly, you wonder why motherboard vendors could not just do something right to save your time and effort and save you from the lousy BIOS updating work? Here it comes! Now Gigabyte announces @BIOS - - the first Windows BIOS live update utility. This is a smart BIOS update software. It could help you to download the BIOS from internetand update it. Not like the other BIOS update software, it's a Windows utility. With the help of "@BIOS", BIOS updating is no more than a click.

Besides, no matter which mainboard you are using, if it's a Gigabyte's product, @BIOS help you to maintain the BIOS. This utility could detect your correct mainboard model and help you to choose the BIOS accordingly. It then downloads the BIOS from the nearest Gigabyte ftp site automatically. There are several different choices; you could use "Internet Update" to download and update your BIOS directly. Or you may want to keep a backup for your current BIOS, just choose "Save Current BIOS" to save it first. You make a wise choice to use Gigabyte, and @BIOS update your BIOS smartly. You are now worry free from updating wrong BIOS, and capable to maintain and manage your BIOS easily. Again, Gigabyte's innovative product erects a milestone in motherboard industries.

For such a wonderful software, how much it costs? Impossible! It's free! Now, if you buy a Gigabyte's motherboard, you could find this amazing software in the attached driver CD. But please remember, connected to internet at first, then you could have a internet BIOS update from your Gigabyte @BIOS.

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.

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

Before You Begin:

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

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

The BIOS upgrading guides below are separated into two parts.

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

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

Part One:

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

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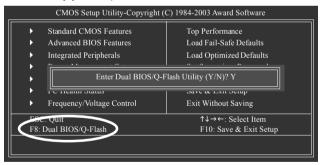
In the following sections, we take GA-8KNXP Ultra as the example to guide you how to flash BIOS from an older version to the latest version. For example, from Fa3 to Fba.

The BIOS file is Fa3
before updating

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

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

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




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

Entering the Q-Flash™ utility:

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

```
CMOS Setup Utility-Copyright (C) 1984-2003 Award Software

 ▶  Standard CMOS Features        Top Performance
 ▶  Advanced BIOS Features         Load Fail-Safe Defaults
 ▶  Integrated Peripherals         Load Optimized Defaults
 ▶                        Enter Dual BIOS/Q-Flash Utility (Y/N)? Y
 ▶
 ▶  PC Health Status              Save & Exit Setup
 ▶  Frequency/Voltage Control      Exit Without Saving

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

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

Exploring the Q-Flash™ / Dual BIOS utility screen

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

| | Dual BIOS Utility | | — Dual BIOS utility bar |

```
                    Dual BIOS Utility                       ──── Dual BIOS utility bar
 Boot From.......................................   Main Bios
 Main ROM Type/Size.............................   SST 49LF003A        512K
 Backup ROM Type/Size.........................    SST 49LF003A        512K

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

Task menu for Dual BIOS utility

Task menu for Q-Flash™ utility

Task menu for Dual BIOS utility:

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

Task menu for Q-Flash utility:

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

Action bar:

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

Using the Q-Flash™ utility:

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

Steps:

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

Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.
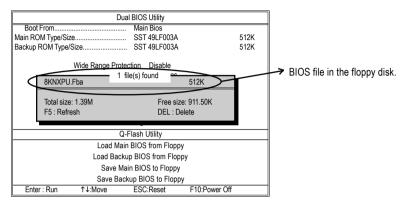
> If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.
> NOTE

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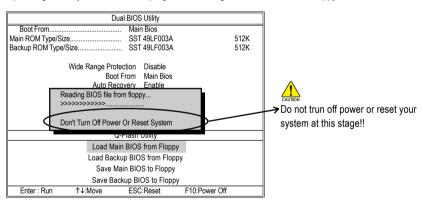
In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.

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

Dual BIOS Utility		
Boot From..	Main Bios	
Main ROM Type/Size............................	SST 49LF003A	512K
Backup ROM Type/Size........................	SST 49LF003A	512K
Wide Range Protection Disable		
8KNXPU.Fba	1 file(s) found	512K
Total size: 1.39M	Free size: 911.50K	
F5 : Refresh	DEL : Delete	
Q-Flash Utility		
Load Main BIOS from Floppy		
Load Backup BIOS from Floppy		
Save Main BIOS to Floppy		
Save Backup BIOS to Floppy		
Enter : Run ↑↓:Move ESC:Reset F10:Power Off		

→ BIOS file in the floppy disk.

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

Dual BIOS Utility		
Boot From..	Main Bios	
Main ROM Type/Size............................	SST 49LF003A	512K
Backup ROM Type/Size........................	SST 49LF003A	512K
Wide Range Protection Disable		
Boot From Main Bios		
Auto Recovery Enable		
Reading BIOS file from floppy...		
>>>>>>>>>>>>......................		
Don't Turn Off Power Or Reset System		
Q-Flash Utility		
Load Main BIOS from Floppy		
Load Backup BIOS from Floppy		
Save Main BIOS to Floppy		
Save Backup BIOS to Floppy		
Enter : Run ↑↓:Move ESC:Reset F10:Power Off		

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

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

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

Then it will begin to update BIOS. The progress of updating BIOS will be displayed.
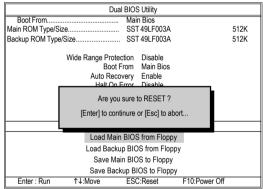
⚠ CAUTION Please do not take out the floppy disk when it begins flashing BIOS.

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

Dual BIOS Utility		
Boot From..	Main Bios	
Main ROM Type/Size...........................	SST 49LF003A	512K
Backup ROM Type/Size........................	SST 49LF003A	512K
	Wide Range Protection Disable	
	Boot From Main Bios	
	Auto Recovery Enable	
	Halt On Error Disable	
!! Copy BIOS completed - Pass !!		
Please press any key to continue		
	Load Main BIOS from Floppy	
	Load Backup BIOS from Floppy	
	Save Main BIOS to Floppy	
	Save Backup BIOS to Floppy	
Enter : Run ↑↓:Move ESC:Reset F10:Power Off		

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

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

Dual BIOS Utility		
Boot From..	Main Bios	
Main ROM Type/Size...........................	SST 49LF003A	512K
Backup ROM Type/Size........................	SST 49LF003A	512K
	Wide Range Protection Disable	
	Boot From Main Bios	
	Auto Recovery Enable	
	Halt On Error Disable	
Are you sure to RESET ?		
[Enter] to continure or [Esc] to abort...		
	Load Main BIOS from Floppy	
	Load Backup BIOS from Floppy	
	Save Main BIOS to Floppy	
	Save Backup BIOS to Floppy	
Enter : Run ↑↓:Move ESC:Reset F10:Power Off		

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

The BIOS file becomes
Fab after updating

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

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

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

Press DEL to enter SETUP / Dual BIOS / Q-Flash / F9 For Xpress Recovery
09/23/2003-i875P-6A79BG03C-00

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

```
CMOS Setup Utility-Copyright (C) 1984-2003 Award Software

 ▶  Standard CMOS Features           Top Performance
 ▶  Advanced BIOS Features           Load Fail-Safe Defaults          ──── Press Enter on
 ▶  Integrated Peripherals           Load Optimized Defaults               your keyboard
 ▶  Power Management Setup           Set Supervisor Password
 ▶  PnP/PCI Configurations           Set User Password
 ▶  PC Health Status                 Save & Exit Setup
 ▶  Frequency/Voltage Control        Exit Without Saving

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

```
CMOS Setup Utility-Copyright (C) 1984-2003 Award Software

 ▶  Standard CMOS Features           Top Performance
 ▶  Advanced BIOS Features           Load Fail-Safe Defaults
 ▶  Integrated Peripherals           Load Optimized Defaults
 ▶
 ▶         Load Fail-Safe Defaults (Y/N)? Y                            Press Y on your
 ▶                                                                     keyboard to load
 ▶  PC Health Status                 Save & Exit Setup                 defaults.
 ▶  Frequency/Voltage Control        Exit Without Saving

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

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

```
CMOS Setup Utility-Copyright (C) 1984-2003 Award Software

 ▶  Standard CMOS Features           Top Performance
 ▶  Advanced BIOS Features           Load Fail-Safe Defaults
 ▶  Integrated Peripherals           Load Optimized Defaults
 ▶
 ▶         Save to CMOS and EXIT (Y/N)? Y                              Press Y on your
 ▶                                                                     keyboard to save
 ▶  PC Health Status                 Save & Exit Setup                 and exit.
 ▶  Frequency/Voltage Control        Exit Without Saving

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

Part Two:

Updating BIOS with Q-Flash™ Utility on Single-BIOS Motherboards.
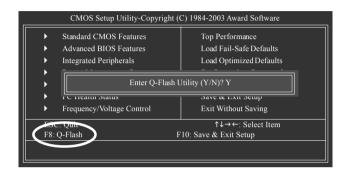
This part guides users of single-BIOS motherboards how to update BIOS using the Q-Flash™ utility.
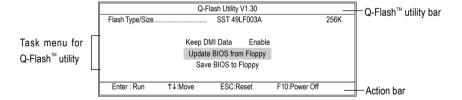
Entering the Q-Flash™ utility:

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

```
CMOS Setup Utility-Copyright (C) 1984-2003 Award Software

  ▸   Standard CMOS Features              Top Performance
  ▸   Advanced BIOS Features              Load Fail-Safe Defaults
  ▸   Integrated Peripherals              Load Optimized Defaults
  ▸   ┌─────────────────────────────────────────────────────┐
  ▸   │          Enter Q-Flash Utility (Y/N)? Y             │
  ▸   │FC Health Status               Save & Exit Setup    │
  ▸   Frequency/Voltage Control            Exit Without Saving

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

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

Exploring the Q-Flash™ utility screen

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

```
                    Q-Flash Utility V1.30                      ─── Q-Flash™ utility bar
  Flash Type/Size.............................  SST 49LF003A      256K

Task menu for              Keep DMI Data        Enable
Q-Flash™ utility           Update BIOS from Floppy
                           Save BIOS to Floppy

  Enter : Run    ↑↓:Move      ESC:Reset      F10:Power Off     ─── Action bar
```

Task menu for Q-Flash utility:

Contains the names of three tasks. Blocking a task and pressing **Enter** key on your keyboard to enable execu-
tion of the task.

Action bar:

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

Using the Q-Flash™ utility:

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

Steps:

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

Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.
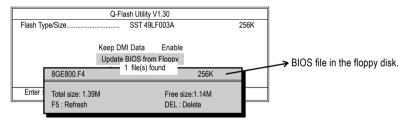
> **NOTE** If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floppy" item.
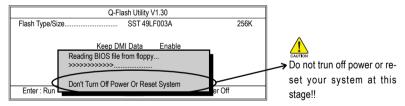
2. Move to the BIOS file you want to flash and press **Enter**.

   In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8GE800.F4, is listed.

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

Q-Flash Utility V1.30		
Flash Type/Size.............................. SST 49LF003A	256K	
Keep DMI Data Enable		
Update BIOS from Floppy		
1 file(s) found		
8GE800.F4	256K	→ BIOS file in the floppy disk.
Enter :		
Total size: 1.39M Free size:1.14M		
F5 : Refresh DEL : Delete		

Q-Flash Utility V1.30	
Flash Type/Size.............................. SST 49LF003A	256K
Keep DMI Data Enable	
Reading BIOS file from floppy...	
>>>>>>>>>>>.......................	
Don't Turn Off Power Or Reset System	
Enter : Run er Off	

⚠ **CAUTION** → Do not trun off power or re-set your system at this stage!!
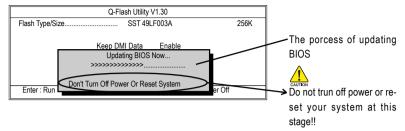
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"
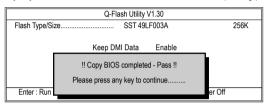
⚠ **CAUTION** Please do not take out the floppy disk when it begins flashing BIOS.

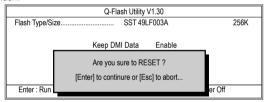3. Press **Y** button on your keyboard after you are sure to update BIOS.

Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.

```
                    Q-Flash Utility V1.30
Flash Type/Size.............................  SST 49LF003A         256K

                    Keep DMI Data    Enable
                      Updating BIOS Now...
                  >>>>>>>>>>>>>>.....................
              Don't Turn Off Power Or Reset System
Enter : Run                                          er Off
```

The porcess of updating BIOS

⚠ CAUTION

Do not trun off power or re-set your system at this stage!!

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

```
                    Q-Flash Utility V1.30
Flash Type/Size.............................  SST 49LF003A         256K

                    Keep DMI Data    Enable
              !! Copy BIOS completed - Pass !!
              Please press any key to continue..........
Enter : Run                                          er Off
```

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

```
                    Q-Flash Utility V1.30
Flash Type/Size.............................  SST 49LF003A         256K

                    Keep DMI Data    Enable
                  Are you sure to RESET ?
              [Enter] to continue or [Esc] to abort...
Enter : Run                                          er Off
```

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

The BIOS file becomes Fab after updating

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

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

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

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

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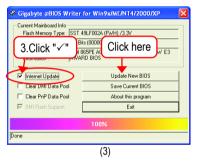
Congratulation!! You have updated BIOS successfully!!

GA-8I865PE-TW Motherboard   - 58 -

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.

Press here.

1. Click "@BIOS" item.

(1)

2. Click Start/ Programs/ GIGABYTE/ @BIOS.

(2)

3.Click "✓"

Click here

Internet Update

(3)

4. Please select @BIOS sever site, then Click "OK".

(4)

Methods and steps:

1. 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.

2. 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: 8I865PETW.E3).
   e. Complete update process following the instruction.

3. Save BIOS

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

4. 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.

Note:

a. 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.

b. 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.

c. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigabyte's web site for downloading and updating it according to method II.

d. Please note that any interruption during updating will cause system unbooted.

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

The installation of windows 98SE/2K/ME/XP is very simple. Please follow next step to install the function!

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.

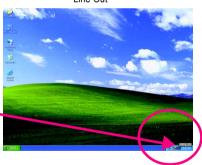STEP 1:

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

Line Out

STEP 2 :

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

STEP 3:

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

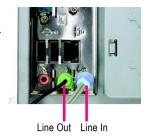2CH Speaker
Headphone
2CH Speaker
4CH Speaker
6CH Speaker
8CH Speaker

4 Channel Analog Audio Output Mode

STEP 1 :

Connect the front channels to "Line Out", the rear channels to "Line In".

Line Out   Line In

STEP 2 :

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

STEP 3 :

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

4CH Speaker
Headphone
2CH Speaker
4CH Speaker
6CH Speaker
8CH Speaker
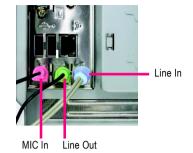
6 Channel Analog Audio Output Mode

Use the back audio panel to connect the audio output without any additional module.

STEP 1 :

Connect the front channels to "Line Out",the rear channels to "Line In", and the Center/Subwoofer channels to "MIC In".

Line In

MIC In   Line Out

STEP 2 :

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

Sound Effect

10:41 AM

STEP 3 :

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

6CH Speaker
Headphone
2CH Speaker
4CH Speaker
6CH Speaker
8CH Speaker

8 Channel Audio Setup (using Audio Combo Kit, Optional Device):

Audio Combo Kit offers SPDIF output, an optical and coaxial cable and a Surround-Kit. The Surround-Kit offers R/L surround, center/subwoofer output and rear surround.
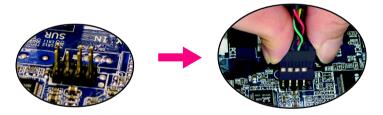
STEP 1 :

Secure the Audio Combo Kit at the panel on the back of the case.

STEP 2 :

Connect the Surround-Kit to the SUR_CEN connector located on the motherboard.
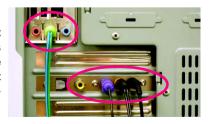
STEP 3 :

There are two methods of 8 channel audio configuration:
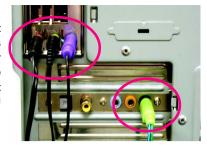
Method 1:

Connect the front channels to the "LINE OUT" port located on the audio panel and the rear channels to the Surround-Kit "REAR R/L" port. Connect the center/subwoofer channels to the Surround-Kit "SUB CENTER" and the R/L channels to the Sur-round-Kit "SUR BACK" port.

Method 2:

Connect the front channels to the "LINE OUT" port located on the audio panel and the rear channels to the "LINE IN" port. Connect the center/subwoofer channels to the "MIC IN" port located on the audio panel and the R/L channels to the Surround-Kit "SUR BACK" port. (This method requires UAJ function)

STEP 4 :

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

STEP 5 :

Click "Speaker Configuration" and select both the "UAJ Function" and "Only Surround-Kit". Then click on the left selection bar and select "8CH Speaker" to complete 8 channel audio configuration.

Sound Effect Configuration:

At the sound effect menu, users can adjust sound option settings as desired.

SPDIF Output Device (Optional Device)

A "SPDIF output" device is available on the motherboard. Cable with rear bracket is provided and 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 and UAJ Introduction

Jack-Sensing provides audio connectors error-detection function.

⚠ **CAUTION** Install Microsoft DirectX8.1 or later version before to enable Jack-Sensing support for Windows 98/ 98SE/2000/ME.

Jack-Sensing includes 2 parts: AUTO and MANUAL. Following is an example for 2 channels (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 micro-phone 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.

UAJ Introduction

UAJ (Universal Audio Jack) has a very smart feature: It will switch signal automatically when user plugs his audio device to the wrong jack (Line-in/ Line-out). That means users do not need to worry the audio device should be plug in Line-in or Line-out jack, the device will work perfectly after UAJ is activated.

Enable UAJ function:

You can click "UAJ Automatic" button to enable UAJ function.

Xpress Recovery Introduction

What is Xpress Recovery ?

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

<div style="border:1px solid #000">⚠
CAUTION</div>

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

How to use the Xpress Recovery

1. Boot from CD-ROM (BMP Mode)

Enter the BIOS menu, select "Advanced BIOS Feature" and set to boot from CD-ROM. Insert the provided driver CD into your CD drive, then save and exit the BIOS menu. Once the computer has restarted, the phrase "Boot from CD:" will appear at the bottom left-hand corner of the screen. When "Boot from CD:" appears, press any key to enter Xpress Recovery. Once you have completed this step, subsequent access to Xpress Recovery can also function by pressing the F9 key during computer power on.

Verifying DMI Pool Data
Boot from CD: **←――――――――――――――――――― Boot from CD:**

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

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

Build 2011
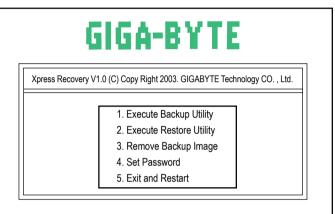
2. Press F9 during powering on the computer. (Text Mode)

Press F9 during powering on the computer.

Award Modular BIOS v6.00PG, An Energy Star Al ly
Copyright (C) 1984-2002, Award Software, Inc.

Intel 865PE AGPSet BIOS for 8IPE1000MT F1
Check System Health OK
.
.
Press DEL to enter SETUP / Q-Flash, F9 For Xpress Recovery ——— **F9 For Xpress Recovery**
08/16/2002-i845GE-6A69YG01C-00

GIGA-BYTE

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

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

NOTE

1. If you have already entered Xpress Recovery by booting from the CD-ROM, you can enter Xpress Recovery in the future by pressing the F9 key.

2. System storage capacity as well as drive reading/writing speed will affect backup speed.

3. It is recommended that Xpress Recovery be immediately installed after OS and all required driver and software installations are complete.

1. Execute Backup Utility:

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

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

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

2. Execute Restore Utility:

✎ **This program will recover your system to factory default.**
Press R to restore your system back to factory default or press Esc to exit
Restores backup image to original state.

3. Remove Backup Image:

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

4. Set Password:

✎ **Please input a 4-16 character long password (a-z or 0-9) or press Esc to exit**
You can set a password to enter Xpress Recovery to protect your hard disk data. Once this is done, password input will be required to enter Xpress Recovery during the next as well as subsequent system restarts. If you wish to remove the need for password entry, please select "Set Password" and under "New Password/Confirm Password", make sure there is no entry and then press "Enter" to remove password requirement.

5. Exit and Restart:

Exit and restart your computer.

English

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Chapter 5 Appendix

Install Drivers

NOTE

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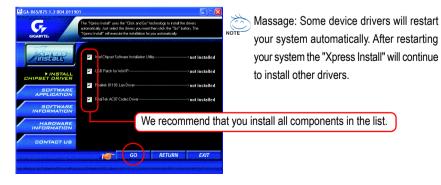
Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

INSTALL CHIPSET DRIVER
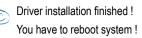
This page shows the drivers that need to be installed for the system. Click each item to install the driver manually or switch to the [Xpress install] to install the drivers automatically.

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.

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

We recommend that you install all components in the list.

NOTE Driver installation finished !
You have to reboot system !

Item Description

■ Intel Chipset Software Installation Utility

Tell the operating system how the chipset components will be configured.

■ USB Patch for WinXP

This patch driver can help you to resolve the USB device wake up S3 hang up issue in XP.

■ Realtek 8110S Lan Driver

For Realtek Giga Lan driver.

■ RealTek AC97 Codec Driver

Audio driver for Realtek AC97 codec chipset

■ Intel USB 2.0 Driver

It is recommended that you use the Microsoft Windows update for the most updated driver for XP/2K

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).

SOFTWARE APPLICATION

This page reveals the value-added software developed by Gigabyte and its worldwide partners.

- ■ Gigabyte Windows Utilities Manager (GWUM)

    This utility can integrate the Gigabyte's applications in the system tray

- ■ Gigabyte Management Tool (GMT)

    A useful tool which can manage the computer via the network

- ■ EasyTune 4

    Powerful utility that integrates the overclocking and hardware monitoring functions

- ■ DMI Viewer

    Windows based utility which is used to browse the DMI/SMBIOS information of the system

- ■ Face-Wizard

    New utility for adding BIOS logo

- ■ @BIOS

    Gigabyte windows flash BIOS utility

- ■ Acrobat e-Book

    Useful utility from Adobe

- ■ Acrobat Reader

    Popular utility from Adobe for reading .PDF file format documents

- ■ Norton Internet Security (NIS)

    Integrated utility which includes anti-virus, ads, etc.

- ■ DirectX 9.0

    Install Microsoft DirectX 9 to enable 3D hardware acceleration that support for operating system to achieve better 3D performence.

SOFTWARE INFORMATION

This page list the contects of softwares and drivers in this CD title.

HARDWARE INFORMATION

This page lists all device you have for this motherboard.

CONTACT US

Please see the last page for details.

FAQ

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

Question 1: I cannot see some options that were included in previous BIOS after updating BIOS. Why?

Answer: Some advanced options are hidden in new BIOS version. Please press Ctrl and F1 keys after entering BIOS menu and you will be able to see these options.

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

Question 3: Why cannot I use all functions in EasyTune™ 4?

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

Question 4: Why do I fail to install RAID and ATA drivers under Win 2000 and XP on boards that support RAID function after I connect the boot HDD to IDE3 or IDE4 ?

Answer: First of all, you need to save some files in the CD-ROM to a floppy disk before installing drivers. You also need to go through some rather different steps in the installation process. Therefore, we suggest that you refer to the installation steps in the RAID manual at our website.

(Please download it at http://tw.giga-byte.com/support/user_pdf/raid_manual.pdf)

Question 5: How do I clear CMOS?

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

Steps:

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

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

Question 7: Why do I still get a weak sound after turning up the speaker to the maximum volume?
Answer: Please make sure the speaker you are using is equipped with an internal amplifier. If not, please change another speaker with power/amplifier and try again later.

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

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

Question 10: Sometimes I hear different continuous beeps from computer after system boots up. What do these beeps usually stand for?
Answer: The beep codes below may help you identify the possible computer problems. However, they are only for reference purposes. The situations might differ from case to case.

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

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

Question 11: For the M/B which have RAID function, how to set in the BIOS in order to bootup from IDE3, 4 by either RAID or ATA mode?

Answer: Please set in the BIOS as follow:

   1. Advanced BIOS features-->(SATA)/RAID/SCSI boot order: "SATA"

   2. Advanced BIOS features--> First boot device: "SCSI"

   3. Integrated Peripherals--> Onboard H/W ATA/RAID: "enable"

Then it depends on the RAID mode that you need to set "RAID" to RAID mode or "ATA" to normal ATA mode in the item named RAID controller function.

Question 12: How to set in the BIOS to bootup from the IDE/ SCSI/ RAID card ?

Answer: Please set in the BIOS as follow:

   1. Advanced BIOS features-->(SATA)/RAID/SCSI boot order: "SCSI"

   2. Advanced BIOS features--> First boot device: "SCSI"

Then it depends on the mode(RAID or ATA) that you need to set in RAID/ SCSI BIOS.

Troubleshooting

If you encounter any trouble during boot up, please follow the troubleshooting procedures.

START

Turn off the power and unplug the AC power cable, then remove all of the add-on cards and cables from motherboard.

Please make sure motherboard & chassis are not short ? — Yes → Please isolate the short pin.

No

Failure has been excluded.

Please make sure all jumper settings (such as CPU system bus speed, frequency ratio, voltage and etc) are set properly. — No → Make sure the jumper setting are correct.

Yes

Failure has been excluded.

Check if the CPU cooling fan attached to CPU properly. Is CPU cooling fan power connected to CPU_FAN properly? — No → Plug the CPU cooling fan power in the CPU fan connector. Plug in the AC power connector.

Yes

Failure has been excluded.

Check if the memory install properly into the DIMM slot. — No → Insert and push the memory module vertically into the DIMM slot.

Yes

Failure has been excluded.

Insert the VGA card. Then plug in ATX power cable and turn on the system.

A

```
                              ( A )
                                │
                                ▼
                                                              ┌──────────────┐
                                                              │The problem could│
                                                              │be caused by   │
                                                              │power supply,  │
         ◇ Is memory LED on and CPU fan running? ◇───No────▶│CPU, memory or │
                                                              │CPU/memory     │
                                                              │socket itself. │
                                │                             └──────────────┘
                               Yes          ◀────────────────────────┘
                                │         Failure has been excluded.
                                ▼
                                                              ┌──────────────┐
                                                              │Perhaps your VGA│
         ◇      Check if there is display.      ◇───No────▶│card / VGA slot or│
                                                              │monitor is defective│
                                │                             └──────────────┘
                               Yes          ◀────────────────────────┘
                                │         Failure has been excluded.
                                ▼
     ┌────────────────────────────────────────────┐
     │Turn off the system.  Reboot after keyboard and mouse│
     │have been plugged in.                         │
     └────────────────────────────────────────────┘
                                │
                                ▼
                                                              ┌──────────────┐
                                                              │It is possible that│
                                                              │your keyboard or│
         ◇  Check if keyboard is working properly. ◇──No──▶│keyboard connector│
                                                              │is defective.  │
                                │                             └──────────────┘
                               Yes
                                ▼
     ┌────────────────────────────────────────────┐
     │Press <Del> to enter BIOS setup. Choose "Load│◀───────────────┘
     │Optimized Defaults" and save then exit setup. │  Failure has been excluded.
     └────────────────────────────────────────────┘
                                │
                                ▼
                                                              ┌──────────────┐
     ◇Turn off the system and re-connect the IDE cable.◇─No─▶│The problem was│
     ◇Check if the system can reboot successfully.    ◇      │probably caused by│
                                                              │the IDE device /│
                                │                             │connector or cable.│
                               Yes                            └──────────────┘
                                ▼
     ┌────────────────────────────────────────────┐
     │Reinstall Windows OS, and reinstall add-on cards and│◀──────────┘
     │cables.  Then try to reboot the system.       │  Failure has been excluded.
     └────────────────────────────────────────────┘
                                │
                                ▼
                             ( END )
```

If the above procedure unable to solve your problem, please contact with your local retailer or national distributor for help. Or, you could submit your question to the service mail via Gigabyte website technical support zone (http://www.gigabyte.com.tw). The appropriate response will be provided ASAP.

Technical Support/RMA Sheet

Customer/Country:		Company:	Phone No.:
Contact Person:	E-mail Add. :		

Model name/Lot Number:		PCB revision:
BIOS version:	O.S./A.S.:	

Hardware Configuration	Mfs.	Model name	Size:	Driver/Utility:
CPU				
Memory Brand				
Video Card				
Audio Card				
HDD				
CD-ROM / DVD-ROM				
Modem				
Network				
AMR / CNR				
Keyboard				
Mouse				
Power supply				
Other Device				

Problem Description:

_____

_____

Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communications Riser
BIOS	Basic Input / Output System
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRM	Dual Retention Mechanism
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCD	Extended System Configuration Data
ECC	Error Checking and Correcting
EMC	Electromagnetic Compatibility
EPP	Enhanced Parallel Port
ESD	Electrostatic Discharge
FDD	Floppy Disk Device
FSB	Front Side Bus
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request

to be continued......

Acronyms	Meaning
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network
I/O	Input / Output
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory

English

English

Appendix

English

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English

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