When you 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/PL/P) / 875P / 848P. 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-8I845PE Pro (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-8I845PE Pro (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/PL/P) / 875P / 848P 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✹ **Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.**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 ordnungsgcm β 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-8I845PE Pro

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		

$C \in$

☒ **CE marking**   (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 : Apr. 23, 2004   Name :   Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

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

Address: 17358 Railroad Street

City of Industry, CA 91748

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

hereby declares that the product

Product Name: Motherboard

Model Number: GA-8I845PE Pro

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: <u>ERIC LU</u>

Signature: *Eric Lu*

Date: <u>Apr. 23, 2004</u>

GA-8I845PE Pro

P4 Titan Series Motherboard

USER'S MANUAL

Table of Content

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
	• 2nd cache depends on CPU
Chipset	• North Bridge: Intel® 865P
	• South Bridge: Intel® ICH5
Memory	• 3 184-pin DDR DIMM sockets
	• Supports DDR400(Note 2)/DDR333/DDR266 DIMM
	• Supports 128MB/256MB/512MB/1GB unbuffered Non-ECC DRAM
	• Supports 128-Mb, 256-Mb, 512-Mb technologies implemented as x8/x16 devices
	• Supports up to 3GB DRAM (Max)
Slots	• 1 AGP slot supports 8X/4X(1.5V) mode
	• 5 PCI slots support
On-Board IDE	• 2 IDE bus master (UDMA33/ATA66/ATA100) IDE ports for up to 4 ATAPI devices
	• Can connect up to 4 IDE devices
On-Board Floppy	• 1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes
On-Board Peripherals	• 1 Parallel port supports Normal/EPP/ECP mode
	• 2 Serial ports (COMA & COMB)
	• 8 USB 2.0/1.1 ports (4 x Rear, 4 x Front by cable)
	• 1 IrDA connector for IR
	• 1 Front Audio connector
On-Board LAN	• Build in Marvell 8001 Chipset (10/100/1000 Mbit)
	• 1 RJ45 port

to be continued......

⚠ **CAUTION** Due to chipset (Intel 865P) architecture limitation, 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) When FSB800 is selected as CPU frequency, memory will automatically adjust to DDR400.

On-Board Sound	• Realtek ALC850 UAJ CODEC
	• Support Jack-Sensing
	• Line Out / 2 front speaker
	• Line In / 2 rear speaker(by s/w switch)
	• Mic In / center & subwoofer(by s/w switch)
	• SPDIF Out /SPDIF In
	• CD_In / Game Connector
	• Surround Back speaker (by optional Surround-Kit)
Serial ATA	• 2 Serial ATA connectors (SATA0/SATA1)
	• Controlled by ICH5
Hardware Monitor	• CPU/System Fan Revolution detect
	• CPU/System Fan Fail Warning
	• CPU Temperature
	• System Voltage Detect
I/O Control	• ITE8712
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	• Licensed AWARD BIOS
	• Supports Q-Flash
Additional Features	• PS/2 Keyboard power on by password
	• PS/2 Mouse power on
	• STR(Suspend-To-RAM)
	• AC Recovery
	• USB KB/Mouse wake up from S3
	• Supports EasyTune
	• Supports @BIOS
Overclocking	• Over Voltage (CPU/DDR/AGP) by BIOS
	• Over Clock (CPU/DDR/AGP/PCI) by BIOS
Form Factor	• 30.5cm x 20.5cm ATX size form factor

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

Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Chipsets, Memory, Cards….etc.

GA-8I845PE Pro Motherboard Layout

Block Diagram

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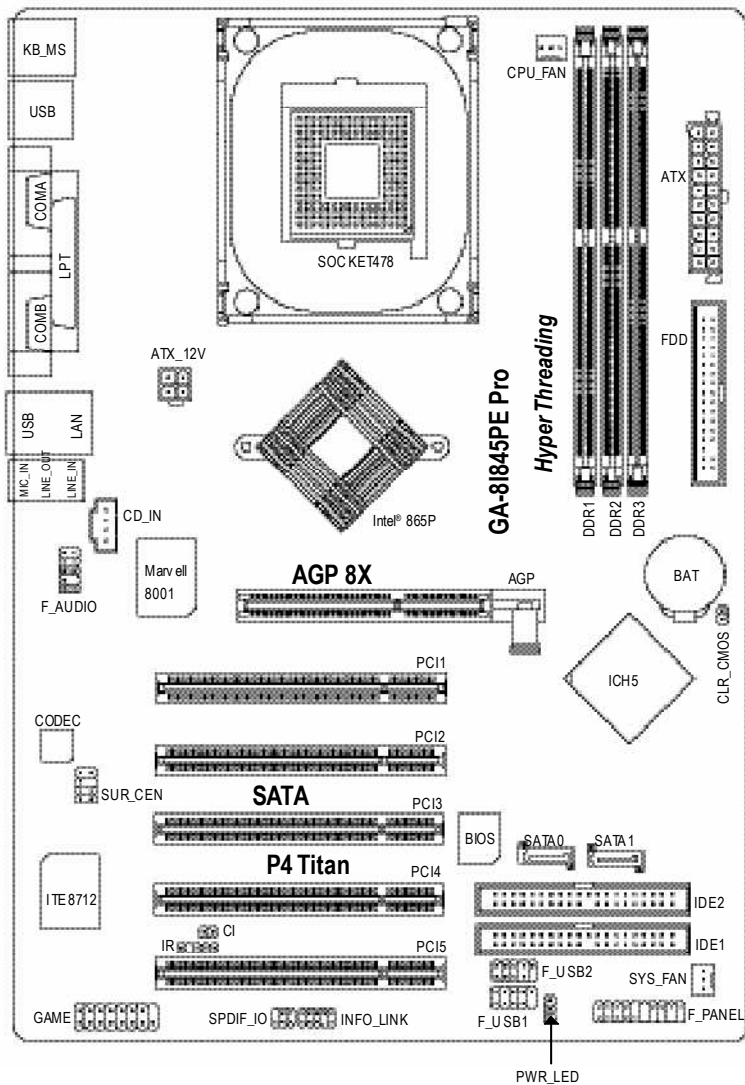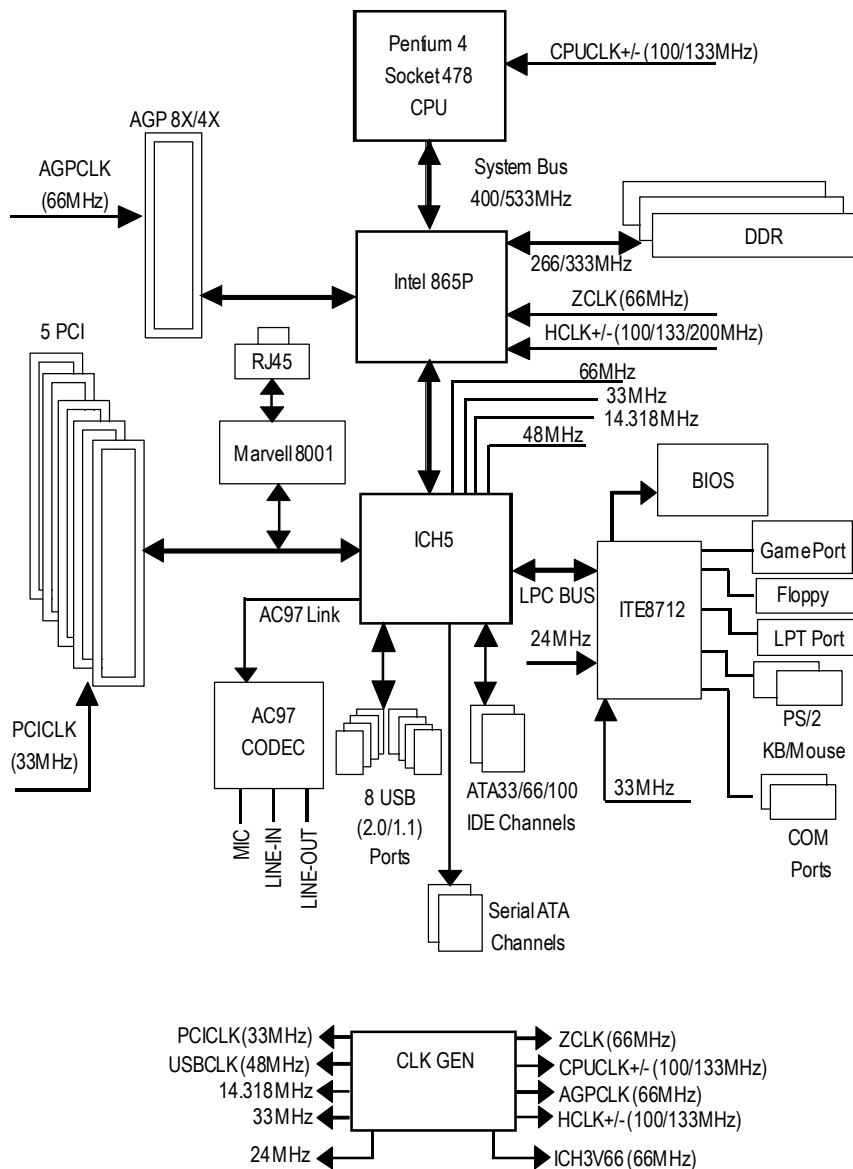
Chapter 2 Hardware Installation Process

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
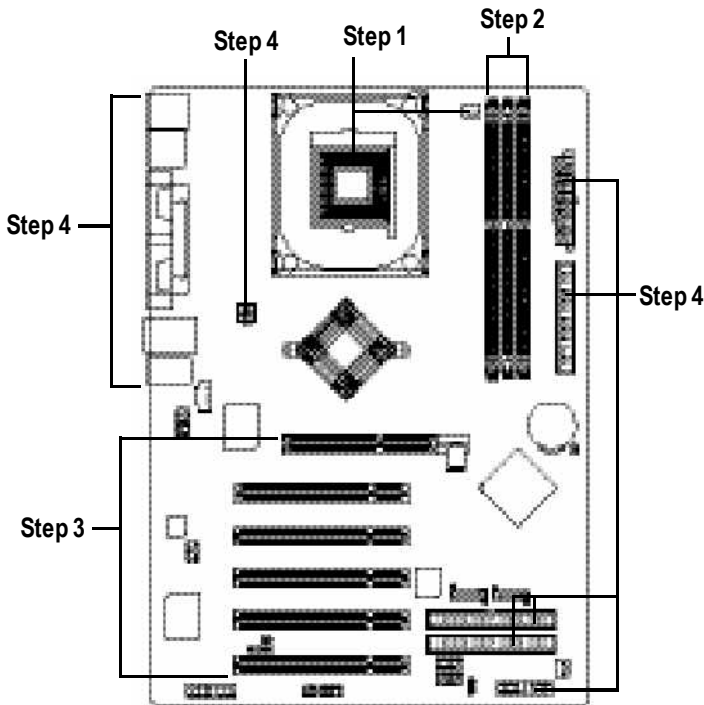
Congratulations you have accomplished the hardware installation!

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 **If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation. Please make sure the CPU type is supported by the motherboard.**

Step 1-1: CPU Installation

Angling the rod to 65⁰
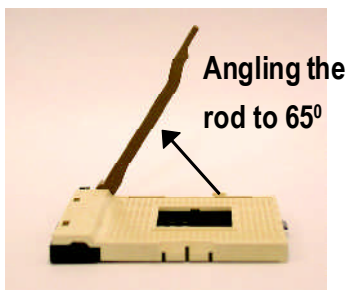
1. Angling the rod to 65-degree maybe feel a kind of tight , and then continue pull the rod to 90-degree when a "click" noise is heard.

Socket Actuation Lever
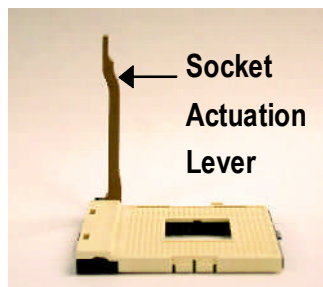
2. Pull the rod to the 90-degree directly.

Pin1 indicator

3. CPU Top View

Pin1 indicator
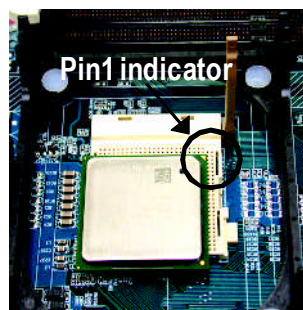
4. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

Step 1-2 : CPU Cooling Fan Installation

Before installing the CPU Cooling Fan , adhere to the following warning:

CAUTION

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.
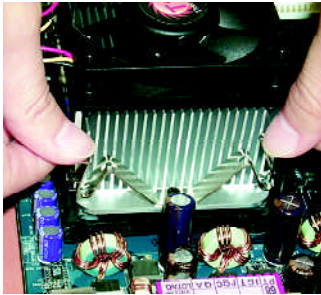
1. Fasten the cooling fan supporting-base onto the CPU socket on the mainboard.
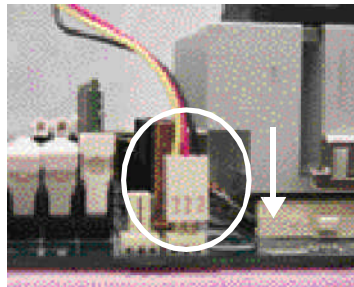
2. Make sure the CPU fan is plugged to the CPU fan connector, than install complete.

Step 2: Install memory modules

Before installing the processor and heatsink, adhere to the following warning:
Please note that the DIMM module can only fit in one direction due to the one notches.
Wrong orientation will cause improper installation. Please change the insert orientation.

The motherboard has 3 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM socket. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.

Notch

DDR
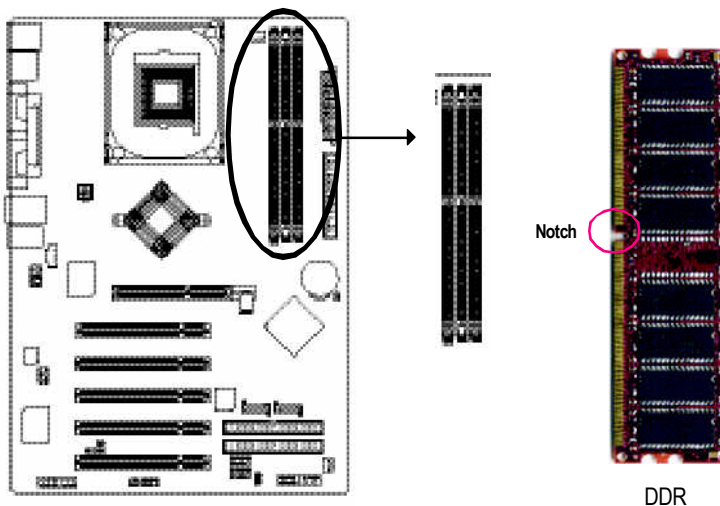
DDR1	DDR2	DDR3
S	S	S
D	S	S
D	D	X
D	X	D
S	D	X
S	X	D

D:Double Sided DIMM S:Single Sided DIMM
X:Not Use

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 bottle-neck 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.
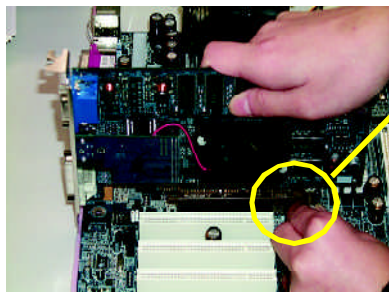
AGP Card

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.

Step 4: Install I/O Peripherals Cables

Step 4-1: I/O Back Panel Introduction
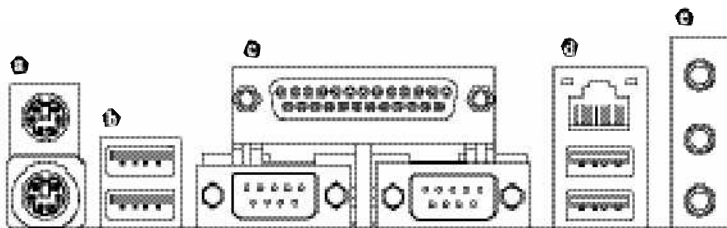
PS/2 Keyboard and PS/2 Mouse Connector

PS/2 Mouse Connector
(6 pin Female)

PS/2 Keyboard Connector
(6 pin Female)

➢ This connector supports standard PS/2 keyboard and PS/2 mouse.

USB / LAN Connector
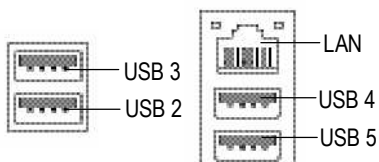
USB 3
USB 2
LAN
USB 4
USB 5

➢ 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.

➢ LAN connector is fast Ethernet with 10/100/ 1000 Mbps speed.

@ **Parallel Port and Serial Ports (COMA/COMB)**

Parallel Port
(25 pin Female)

COMA   COMB

Serial Port (9 pin Male)
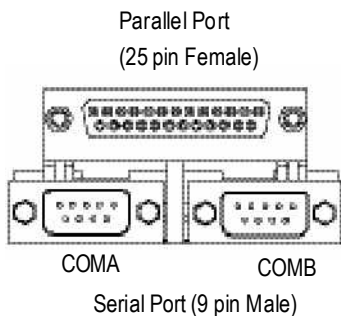
➢ This connector supports 2 standard
   COM ports and 1 Parallel port. Device like
   printer can be connected to Parallel port;
   mouse and modem etc can be connected to
   Serial ports.

@ **Audio Connectors**

Line In
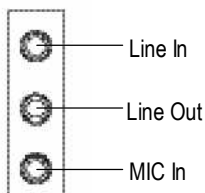
Line Out

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 are able to use 2-/4-/6-/8-channel audio
   feature by S/W selection.
   If you want to enable 8-channel function you
   can refer to page 25, and contact your
   nearest dealer for optional SUR_CEN cable.

**If you want the detail information for 2-/ 4-/ 6-/ 8-channel audio setup
installation, please refer to page 64.**

Step 4-2: Connectors & Jumper Setting Introduction
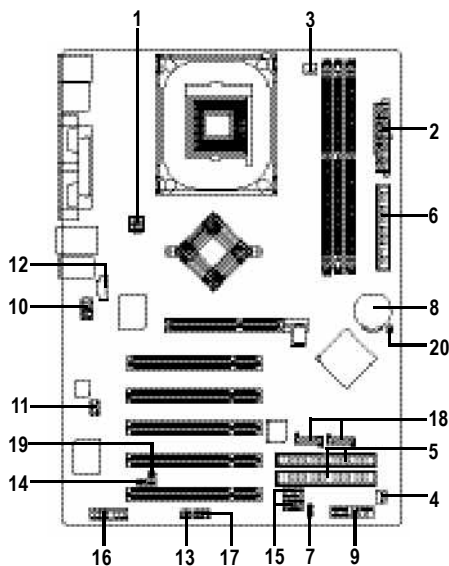
1) ATX_12V	**11) SUR_CEN**
2) ATX	**12) CD_IN**
3) CPU_FAN	**13) SPDIF_IO**
4) SYS_FAN	**14) IR**
5) IDE1/IDE2	**15) F_USB1/F_USB2**
6) FDD	**16) GAME**
7) PWR_LED	**17) INFO_LINK**
8) BAT	**18) SATA0/SATA1**
9) F_PANEL	**19) CI**
10) F_AUDIO	**20) CLR_CMOS**

1) ATX_12V (+12V Power Connector)

This connector (ATX_12V) supplies the CPU operation voltage (Vcore). If this "ATX_12V connector" is not connected, system cannot boot.
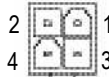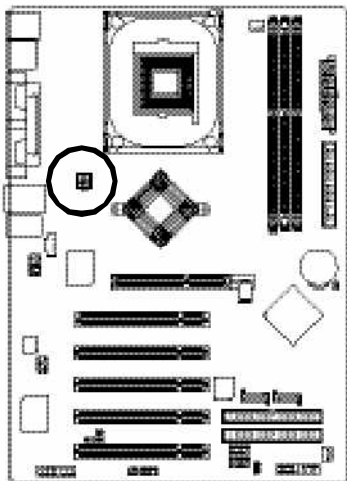
Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

2
4
1
3

2) ATX (ATX Power)

AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.
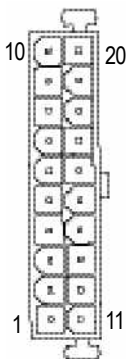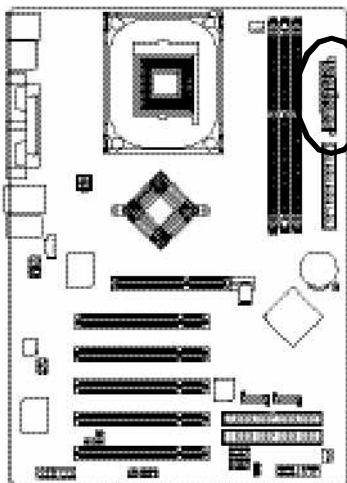
Pin No.	Definition
1	3.3V
2	3.3V
3	GND
4	VCC
5	GND
6	VCC
7	GND
8	Power Good
9	5V SB(stand by +5V)
10	+12V
11	3.3V
12	-12V
13	GND
14	PS_ON(softOn/Off)
15	GND
16	GND
17	GND
18	-5V
19	VCC
20	VCC

10
20
1
11

3) CPU_FAN (CPU FAN Connector)

Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600 mA.

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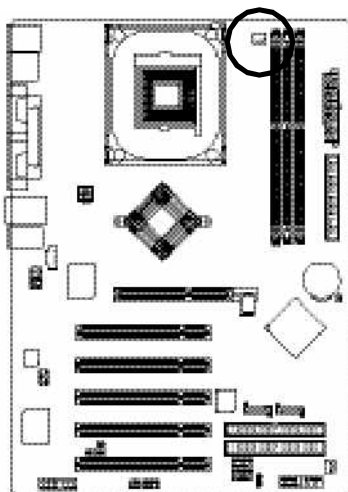
Pin No.	Definition
1	GND
2	+12V
3	Sense

4) SYS_FAN (System FAN Connector)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.

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

- 21 -   Hardware Installation Process
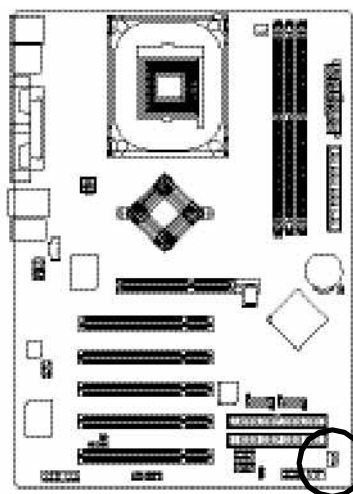
5) IDE1/ IDE2 (IDE1/IDE2 Connector)

Please connect first harddisk to IDE1 and connect CDROM to IDE2. The red stripe of the ribbon cable must be the same side with the Pin1.


```
39                                    1
[· · · · · · · · · · · · · · · · · · · ·]  IDE2
[· · · · · · · · · · · · · · · · · · · ·]  IDE1
40                                    2
```
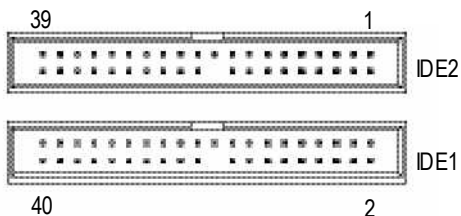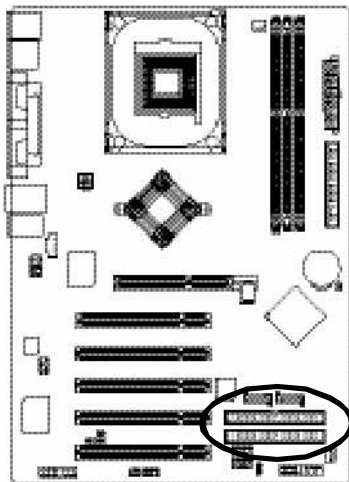
6) FDD (Floppy Connector)

Please connect the floppy drive ribbon cables to FDD. It supports 360K,720K,1.2M,1.44M and 2.88Mbytes floppy disk types. The red stripe of the ribbon cable must be the same side with the Pin1.


```
34        33



 2        1
```
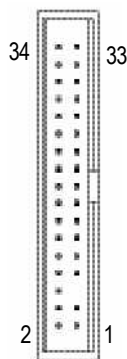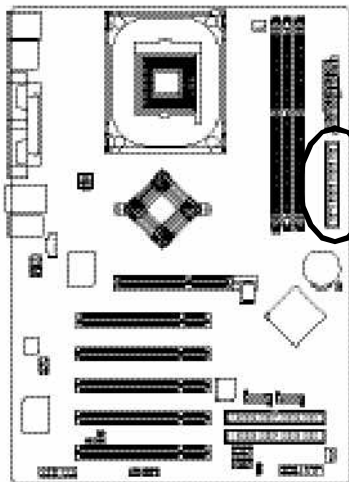
7) PWR_LED

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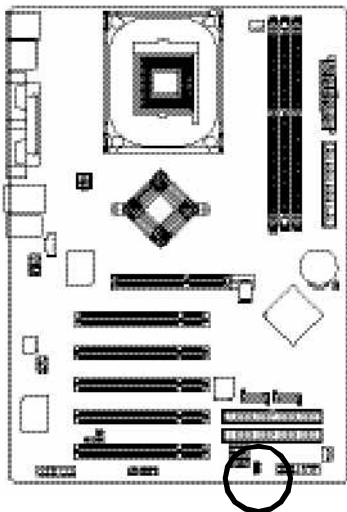
Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

8) BAT (Battery)
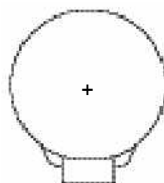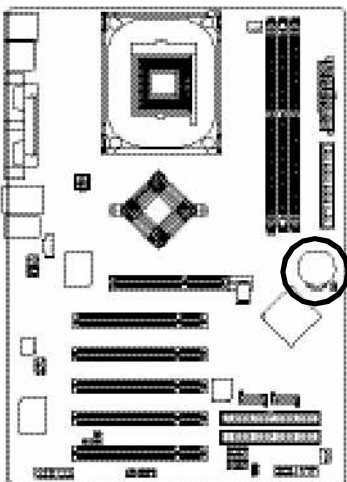
CAUTION

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

If you want to erase CMOS...
1.Turn OFF the computer and unplug the power cord.
2.Remove the battery, wait for 30 second.
3.Re-install the battery.
4.Plug the power cord and turn ON the computer.

9) 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.
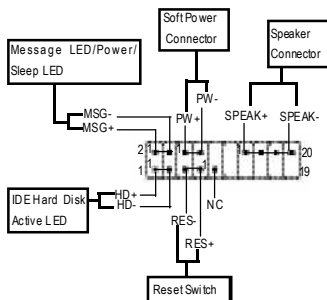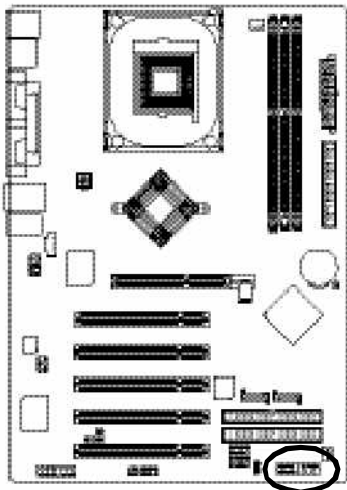
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
(Blue)	Pin 2: LED cathode(-)
SPEAK (Speaker Connector)	Pin 1: VCC(+)
(Amber)	Pin 2- Pin 3: NC
	Pin 4: Data(-)
RES (Reset Switch)	Open: Normal Operation
(Green)	Close: Reset Hardware System
PW (Soft Power Connector)	Open: Normal Operation
(Red)	Close: Power On/Off
MSG (Message LED/Power/	Pin 1: LED anode(+)
Sleep LED)(Yellow)	Pin 2: LED cathode(-)
NC (Purple)	NC

10) F_AUDIO (F_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.
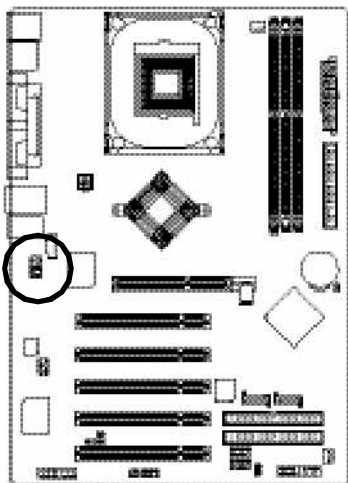
Pin No.	Definition
1	MIC
2	GND
3	REF
4	POWER
5	FrontAudio(R)
6	RearAudio(R)
7	Reserved
8	NoPin
9	FrontAudio(L)
10	RearAudio(L)

11) SUR_CEN

Please contact your nearest dealer for optional SUR_CEN cable.
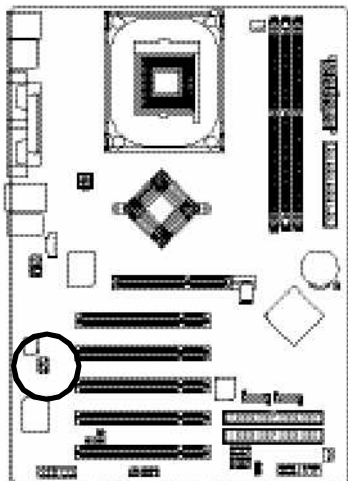
Pin No.	Definition
1	SUROUTL
2	SUROUTR
3	GND
4	NoPin
5	CENTER_OUT
6	BASS_OUT
7	AUX_L
8	AUX_R

12) CD_IN (CD IN, Black)

Connect CD-ROM or DVD-ROM audio out to the connector.
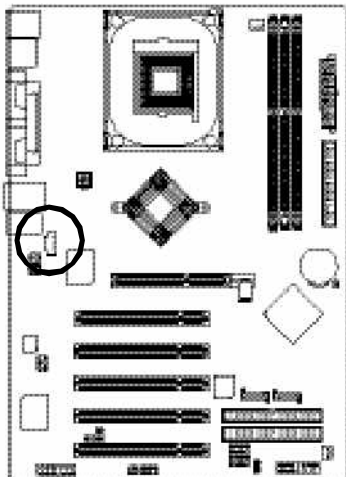
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD_R

13) SPDIF_IO (SPDIF In/Out)

The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Use SPDIF IN feature only when your device has digital output function.

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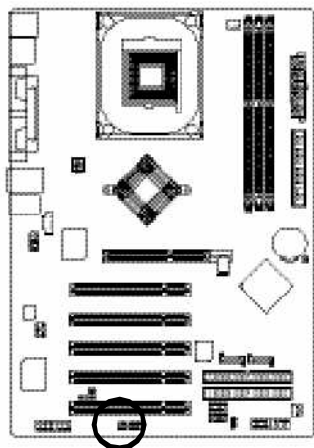
Pin No.	Definition
1	VCC
2	No Pin
3	SPDIF
4	SPDIFI
5	GND
6	GND

14) IR

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

1 ▢▢▢▢▢
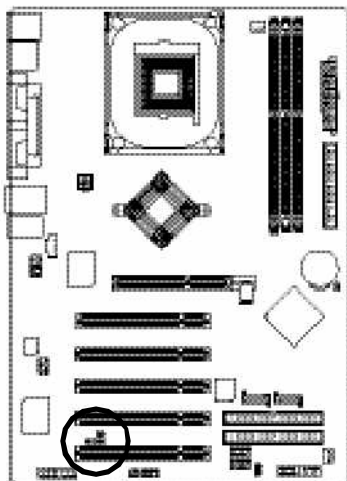
Pin No.	Definition
1	VCC
2	No Pin
3	IR Data Input
4	GND
5	IR Data Output

15) F_ USB1 / F_USB2(Front USB Connector, Yellow)

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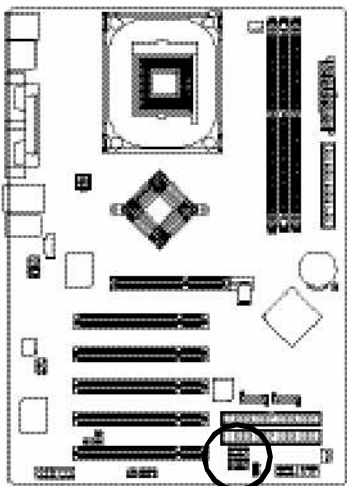
Pin No.	Definition
1	Power
2	Power
3	USB0 DX-/USB6 DX-
4	USB1 Dy-/USB7 Dy-
5	USB0 DX+/USB6 DX+
6	USB1 Dy+/USB7 Dy+
7	GND
8	GND
9	No Pin
10	NC

16) GAME (GAME Connector)

This connector supports joystick, MIDI keyboard and other relate audio devices.
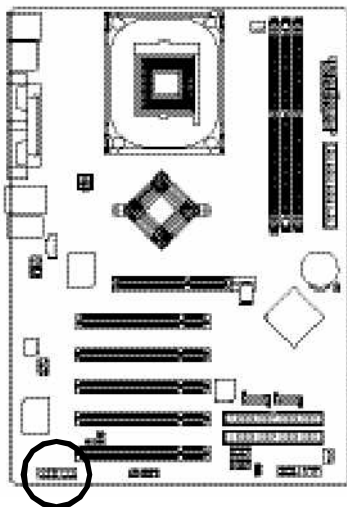
Pin No.	Definition
1	VCC
2	GRX1_R
3	GND
4	GPSA2
5	VCC
6	GPX2_R
7	GPY2_R
8	MSI_R
9	GPSA1
10	GND
11	GPY1_R
12	VCC
13	GPSB1
14	MSO_R
15	GPSB2
16	No Pin

17) INFO_LINK

This connector allows you to connect some external devices to provide you extra function.
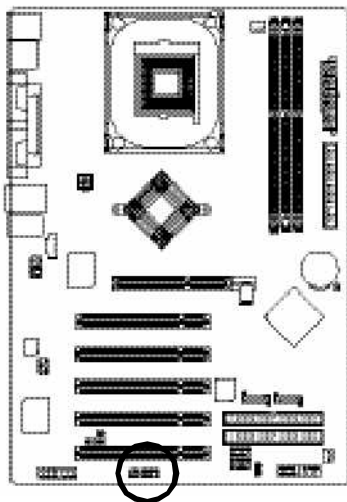
Pin No.	Definition
1	SMBCLK
2	VCC
3	SMBDATA
4	GPIO
5	GND
6	GND
7	No Pin
8	NC
9	+12V
10	+12V

18) SATA0/SATA1 (Serial ATA Connector)

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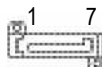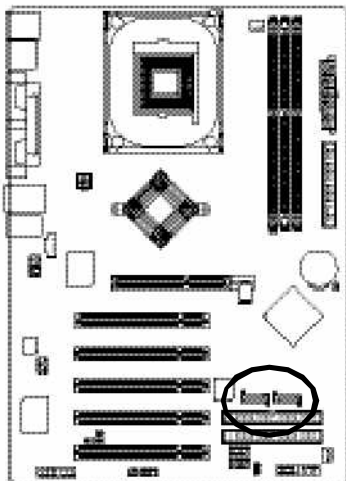
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

1   7

19) CI (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
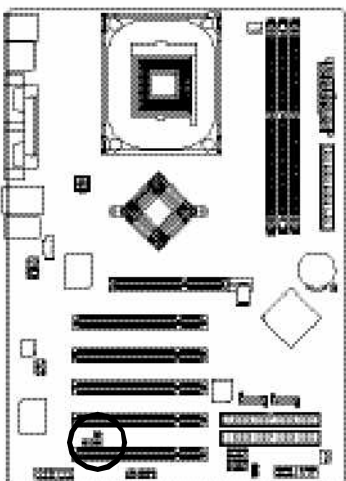
Pin No.	Definition
1	Signal
2	GND

20) CLR_CMOS (Clear CMOS)

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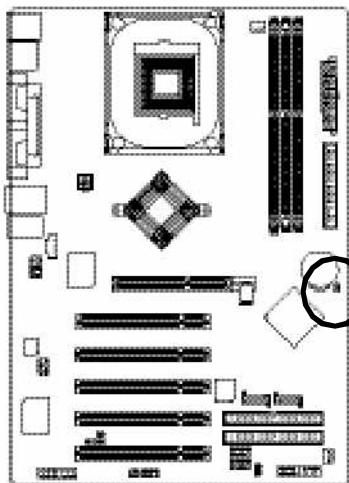
1 Open: Normal

1 Short: Clear CMOS

Chapter 3   BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Powering ON the computer and pressing <Del> immediately will allow you to enter Setup. If you require more advanced BIOS settings, please go to "Advanced BIOS" setting menu. To enter Advanced BIOS setting menu, press "Ctrl+F1" key on the BIOS screen.

CONTROL KEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
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
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F3>	Reserved
<F4>	Reserved
<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 function
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu

GETTING HELP

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. : F1a)

Once you enter Award BIOS CMOS Setup Utility, the Main Menu 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 widden.

● **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 Configurations**

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's 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)            Tue, Jan 27 2004        Item Help
 Time (hh:mm:ss)            22:31:24           Menu Level▶
                                              Change the day, month,
 ▶ IDE Channel 0 Master      [None]            year
 ▶ IDE Channel 0 Slave       [None]
 ▶ IDE Channel 1 Master      [None]            <Week>
 ▶ IDE Channel 1 Slave       [None]            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

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and manual type. Manual type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

- ▶ CYLS.   Number of cylinders
- ▶ HEADS   Number of heads
- ▶ PRECOMP   Write precomp
- ▶ LANDZONE   Landing zone
- ▶ SECTORS   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 boot will be stopped.
- ▸ All, But Keyboard The system boot will not stop for all errors except a keyboard error. (Default value)
- ▸ All, But Diskette The system boot will not stop for all errors except a disk error.
- ▸ All, But Disk/Key The system boot will not stop for all errors except keyboard and disk 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 512 K for systems with 512K memory installed on the motherboard, or 640 K for systems with 640 K 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 1MB 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 with HT Technology.

Hard Disk Boot Priority

　▸ Press Enter　　　Select Hard Disk Boot Device priority.

First / Second / Third Boot Device

　☀ This feature allows you to select the boot device priority.

　▸ 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]
    USB Mouse Support                [Disabled]            [Enabled]
    AC97 Audio                       [Auto]                Enable on-chip IDE
    Onboard H/W LAN                  [Enabled]             Port
    Onboard Serial Port 1            [3F8/IRQ4]
    Onboard Serial Port 2            [2F8/IRQ3]            [Disabled]
    UART Mode Select                 [Normal]              Disable on-chip IDE
  x UR2 Duplex Mode                  Half                  Port
    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▶











                                                       ▼
  ↑↓→←: 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 there is no device to be plugged in IDE1 or IDE2, SATA controller

                               will remap to IDE controller. (Default value)

    ▶ Manual   Set SATA Mode manually.

❖ **SATA Port0 Configure as**

    ▶ IDE Pri. Master   Remap SATA Port 0 to IDE Pri. Master.

    ▶ IDE Pri. Slave   Remap SATA Port 0 to IDE Pri. Slave.

    ▶ IDE Sec. Master   Remap SATA Port 0 to IDE Sec. Master.

    ▶ IDE Sec. Slave   Remap SATA Port 0 to IDE Sec. 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 v alue)

AC97 Audio

- Auto   Auto detect AC'97 audio function. (Default v alue)
- Disabled   Disable AC'97 audio function.

Onboard H/W LAN

- Enabled   Enable Onboard H/W LAN function. (Default v alue)
- 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 v alue)
- 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 v alue)
- 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 v alue)
- Full   IR Function Duplex Full.

❏ **Onboard Parallel port**

This feature allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.

- ❥ 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**

This feature allows you to connect with an advanced printer via the port mode it supports.

- ❥ 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**

This feature allows you to select Direct Memory Access (DMA) channel if the ECP mode selected.

This function will available when "Parallel Port Mode" set at ECP or ECP+EPP.

- ❥ 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)

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]                │
 │  ModemRingOn/Wake OnLan            [Enabled]  │ Set suspend type to │
 │  Resume by  Alarm                  [Disabled] │ Power On Suspend under│
 │ x Date ( of Month) Alarm           Every day  │ ACPI OS             │
 │ x Time (hh:mm:ss) Alarm            0 : 0 : 0  │                     │
 │  Power On by Mouse                 [Disabled] │ [S3]                │
 │  Power On by Key board             [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. (Default value)

- ➡ S3(STR)   Set ACPI suspend type to S3.

`⇨` **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 sec. to Power off. Enter suspend if button is pressed less than 4 sec.

`⇨` **PME Event Wake Up**

- ➡ Disabled   Disable this function.

- ➡ Enabled   Enable PME Event Wake up. (Default value)

⊡ **ModemRingOn/WakeOnLAN**

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

➭ Disabled   Disable Modem Ring on/wake on Lan function.

➭ Enabled   Enable Modem Ring on/wake on Lan. (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)

➭ Mouse Click Double click on PS/2 mouse left button to power on the system.

⊡ **Power On By Keyboard**

This feature allows you to set the method for powering-on the system.

The option "Password" allows you to set up to 5 alphanumeric characters to power-on the system.

The option "Keyboard 98" allows you to use the standard keyboard 98 to power on the system.

➭ 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.

PnP/PCI Configurations

```
                      CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                                    PnP/PCI Configurations
   PCI 1/PCI 5 IRQ Assignment              [Auto]                       Item  Help
   PCI 2 IRQ Assignment                    [Auto]                   Menu Level▶
   PCI 3 IRQ Assignment                    [Auto]
   PCI 4 IRQ Assignment                    [Auto]


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

ぺ **PCI 1/PCI 5 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.

ぺ **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.

ぺ **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.

ぺ **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 monitor
  +5V                                    OK               current fan speed
  +12V                                   OK
  Current CPU Temperature                33ºC             [Enabled]
  Current CPU FAN Speed                  4687 RPM         Clear case open status
  Current SYSTEM FAN Speed               0    RPM         and set to be Disabled
  CPU Warning Temperature                [Disabled]       at next boot
  CPU FAN Fail Warning                   [Disabled]
  SYSTEM FAN Fail Warning                [Disabled]




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

ᴄᴈ **Reset Case Open Status**

ᴄᴈ **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.

ᴄᴈ **Current Voltage (V) Vcore / DDR25V / +3.3V / +5V / +12V**

   ➤ Detect system's voltage status automatically.

ᴄᴈ **Current CPU Temperature**

   ➤ Detect CPU Temp. automatically.

ᴄᴈ **Current CPU/SYSTEM FAN Speed (RPM)**

   ➤ Detect CPU/SYSTEM Fan speed status automatically.

ᴄᴈ **CPU Warning Temperature**

   ➤ 60ºC / 140ºF   Monitor CPU Temp. at 60ºC / 140ºF.

   ➤ 70ºC / 158ºF   Monitor CPU Temp. at 70ºC / 158ºF.

   ➤ 80ºC / 176ºF   Monitor CPU Temp. at 80ºC / 176ºF.

   ➤ 90ºC / 194ºF   Monitor CPU Temp. at 90ºC / 194ºF.

   ➤ Disabled   Disable this function. (Default value)

ᴖ **CPU FAN Fail Warning**

  ᴗ Disabled   Fan Warning Function Disable. (Default value)

  ᴗ Enabled   Fan Warning Function Enable.

ᴖ **SYSTEM FAN Fail Warning**

  ᴗ Disabled   Fan Warning Function Disable. (Default value)

  ᴗ 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▶
  ✕ CPU Host Frequency (Mhz)                100
  ✕ AGP/PCI/SRC Fixed                       66/33/100
    Memory Frequency For                    [Auto]
    Memory Frequency (Mhz)                  266
    AGP/PCI/SRC Frequency (Mhz)             66/33/100
    DIMM OverVoltage Control                [Normal]
    AGP OverVoltage Control                 [Normal]
    CPU Voltage Control                     [Normal]




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

※ Those items will be available when "CPU Host Clock Control" is set to Enabled.

ᴖ **CPU Clock 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**

　　❿ Disabled　　　Disable CPU Host Clock Control. (Default v alue)

　　❿ Enabled　　　Enable CPU Host Clock Control.

✑ **CPU Host Frequency (Mhz)**

　　❿ 100MHz ~ 355MHz　　　Set CPU Host Clock from 100MHz to 355MHz.

　　If you use FSB400 Pentium 4 processor, please set "CPU Clock" to 100MHz.If you use FSB533

　　Pentium 4 processor, please set "CPU Clock" to 133MHz.

　　Incorrect using it may cause your system broken. For power End-User use only!

✑ **AGP/PCI/SRC Fixed**

　　Serial ATA device is very sensitive to SRC clock. SRC over clock may make Serial ATA device

　　function can't work properly.

　　❿ Adjust AGP/PCI/SRC clock asychrohous with CPU.

✑ **Memory Frequency For**

　　for FSB(Front Side Bus) frequency=400MHz,

　　❿ 2.66　　　　　Memory Frequency = Host clock X 2.66.

　　❿ Auto　　　　Set Memory frequency by DRAM SPD data. (Default v alue)

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

　　❿ 2.0　　　　　Memory Frequency = Host clock X 2.0.

　　❿ 2.5　　　　　Memory Frequency = Host clock X 2.5.

　　❿ Auto　　　　Set Memory frequency by DRAM SPD data. (Default v alue)

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

　　❿ 2.0　　　　　Memory Frequency = Host clock X 2.0.

　　❿ 1.6　　　　　Memory Frequency = Host clock X 1.6.

　　❿ 1.33　　　　　Memory Frequency = Host clock X 1.33.

　　❿ Auto　　　　Set Memory frequency by DRAM SPD data. (Default v alue)

✑ **Memory Frequency (Mhz)**

　　❿ The v alues depend on CPU Host Frequency (Mhz).

✑ **AGP/PCI/SRC Frequency (Mhz)**

　　❿ The v alues depend on Fix ed AGP/PCI/SRC Frequency.

⮑ DIMM OverVoltage Control

- ► Normal　　　Set DIMM OverVoltage Control to Normal. (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.

♠ Incorrect using it may cause your system broken. For power End-User use only!

⮑ AGP OverVoltage Control

- ► Normal　　　Set AGP OverVoltage Control to Normal. (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.

♠ Incorrect using it may cause your system broken. For power End-User use only!

⮑ CPU OverVoltage Control

- ► Normal　　　Set CPU OverVoltage Control to Normal. (Default value)
- ► +5.0%　　　Set CPU OverVoltage Control to +5.0%.
- ► +7.5%　　　Set CPU OverVoltage Control to +7.5%.
- ► +10.0%　　　Set CPU OverVoltage Control to +10.0%.

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 ┌─────────────────────────────────────────────────┐             │
   │  ▶  PnP/PC │        Load Fail-Safe Defaults (Y/N)? N        │             │
   │  ▶  PC Health Status                    Exit Without Saving                │
   │  ▶  Frequency/Voltage Control                                              │
   ├──────────────────────────────────────────────────────────────────────────┤
   │  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                │
   │  ▶  Frequency/Voltage Control                                             │
   ├──────────────────────────────────────────────────────────────────────────┤
   │  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 Ma            ┌───────────────────────────┐                  │
│  ▶  PnP/PCI C           │  Enter Password:          │                  │
│  ▶  PC Health Status    └───────────────────────────┘  g               │
│  ▶  Frequency/Voltage Control                                          │
├──────────────────────────────────────────────────────────────────────┤
│  ESC: Quit                           ↑↓→←: Select Item                 │
│  F8:Q-Flash                          F10: Save & Exit Setup            │
├──────────────────────────────────────────────────────────────────────┤
│                    Change/Set/Disable Password                         │
└──────────────────────────────────────────────────────────────────────┘
```
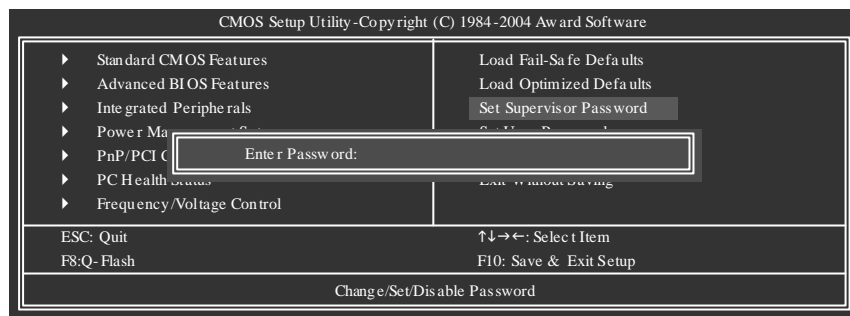
When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

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

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

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

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

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

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

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 Ma	
▶ PnP/PCI C	Save to CMOS and EXIT (Y/N)? Y
▶ PC Health Status	Exit Without Saving
▶ Frequency/Voltage Control	
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Save & Exit Setup	
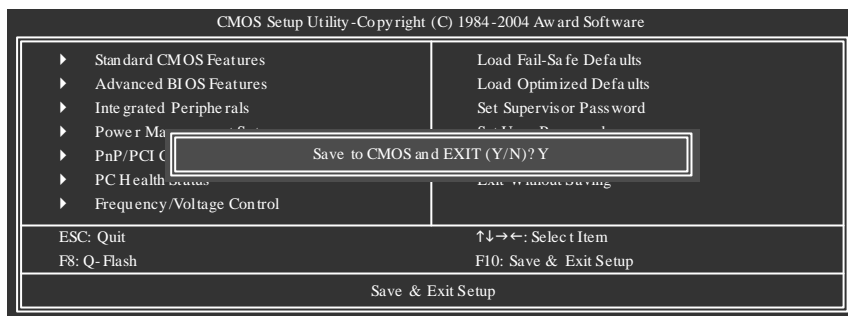
Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.

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 Ma	
▶ PnP/PCI C	Quit Without Saving (Y/N)? N
▶ PC Health Status	Exit Without Saving
▶ Frequency/Voltage Control	
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Abandon all Data	
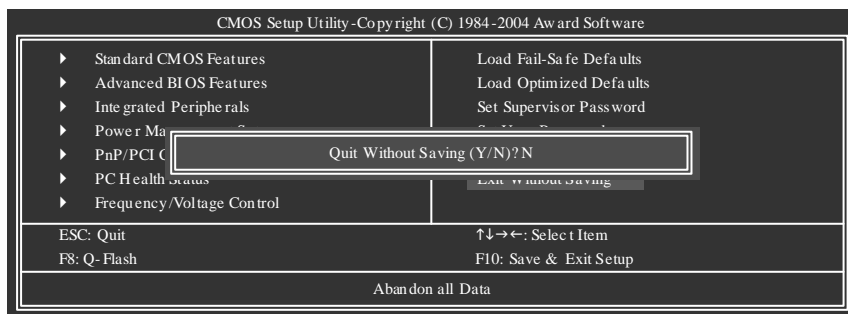
Type "Y" will quit the Setup Utility without saving to RTC CMOS.

Type "N" will return to Setup Utility.

English

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Chapter 4   Technical Reference

Flash BIOS Method Introduction

Method 1 : Q-Flash™ Utility

Q-Flash™ is a BIOS flash utility embedded in Flash ROM. With this utility, users only have to stay in the BIOS menu when they want to update BIOS. Q-Flash™ allows users to flash BIOS without any utility in DOS or Windows. Using Q-Flash™ indicating no more fooling around with any complicated instructions and operating system since it is in the BIOS menu.

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

Before You Begin:

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

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

The BIOS upgrading guides below are separated into two parts.
If your motherboard has dual-BIOS, please refer to **Part One**.
If your motherboard has single-BIOS, please refer to **Part Two**.

Part One:

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

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

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

The BIOS file is Fa3 before updating

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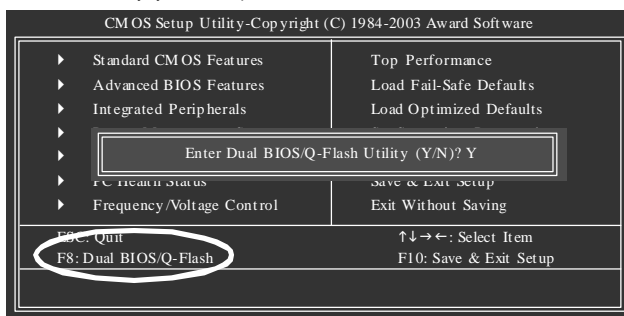
Step 2: Press **F8** button on your keyboard and then **Y** button to enter the Dual BIOS/Q-Flash utility.

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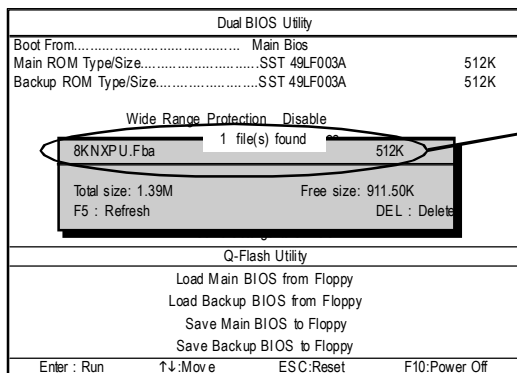
> If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.

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

In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.
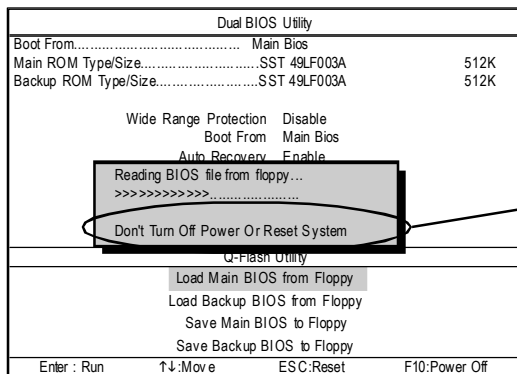
⚠️ Please confirm again you have the correct BIOS file for your motherboard.

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
1 file(s) found
8KNXPU.Fba   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

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

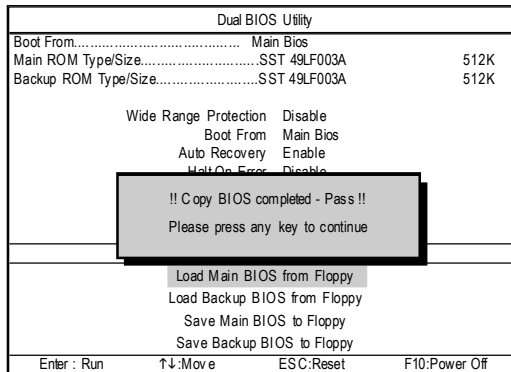After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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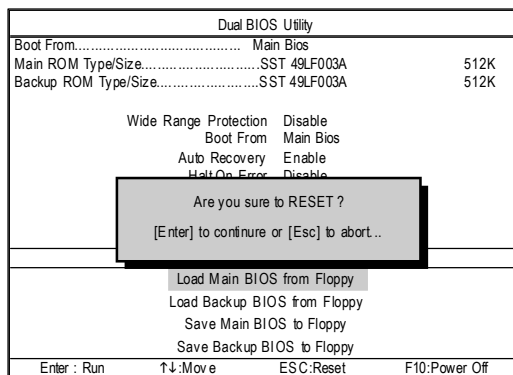
⚠️ Please do not take out the floppy disk when it begins flashing BIOS.

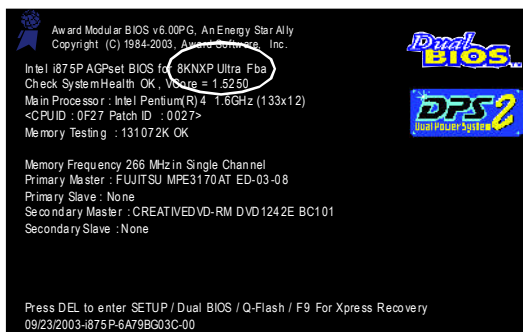4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.

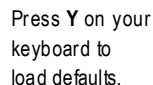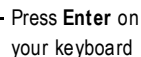| Dual BIOS Utility		
Boot From…….….……..…..…....……. Main Bios		
Main ROM Type/Size.……..……….……SST 49LF003A		512K
Backup ROM Type/Size...……….…..……SST 49LF003A		512K
Wide Range Protection Disable		
Boot From Main Bios		
Auto Recovery Enable		
Halt On Error Disable		
!! Copy BIOS completed - Pass !!		
Please 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.
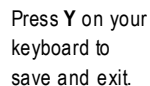
Dual BIOS Utility		
Boot From…….….……..…..…....……. Main Bios		
Main ROM Type/Size.……..……….……SST 49LF003A		512K
Backup ROM Type/Size...……….…..……SST 49LF003A		512K
Wide Range Protection Disable		
Boot From Main Bios		
Auto Recovery Enable		
Halt On Error Disable		
Are you sure to RESET ?		
[Enter] to continure 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
    ▶  PC Health Status                Save & Exit Setup               load 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
    ▶  PC Health Status                Save & Exit Setup               save 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
▶  PC Health Status                Save & Exit Setup
▶  Frequency/Voltage Control       Exit Without Saving

ESC: Quit                          ↑↓→←: Select Item
F8: Q-Flash                        F10: Save & Exit Setup
```
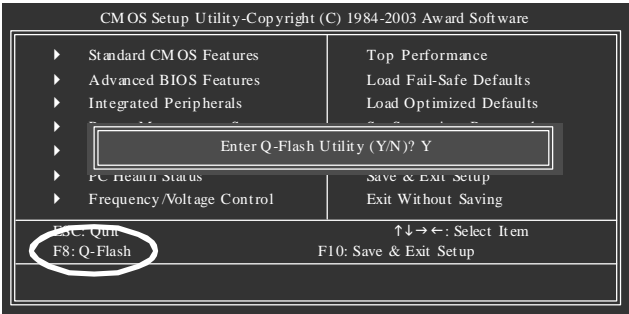
Step 2: Press **F8** button on your keyboard and then **Y** button to enter the Q-Flash utility.

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
```
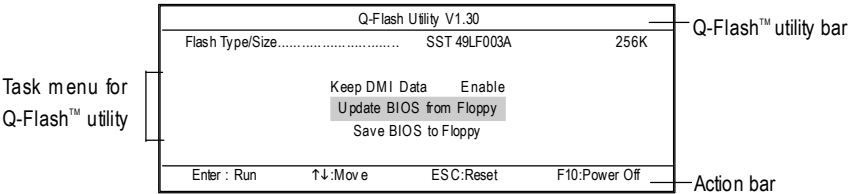
Task menu for Q-Flash utility:

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

Action bar:

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

Using the Q-Flash™ utility:

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

Steps:

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

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

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

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

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

   Please confirm again you have the correct BIOS file for your motherboard.
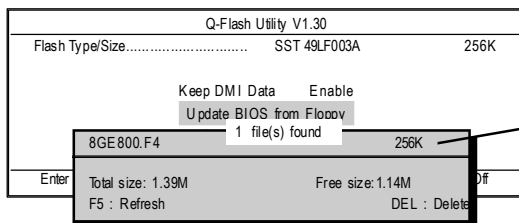
```
                    Q-Flash Utility V1.30
Flash Type/Size...........................  SST 49LF003A          256K

              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        Off
         F5 :  Refresh                       DEL : Delete
```

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

              Keep DMI Data     Enable
   Reading BIOS file from floppy…
   >>>>>>>>>>>………………………
                                              → Do not truning off power or
   Don't Turn Off Power Or Reset System          reset your system at this
 Enter : Run                          0:Power Off   stage!!
```
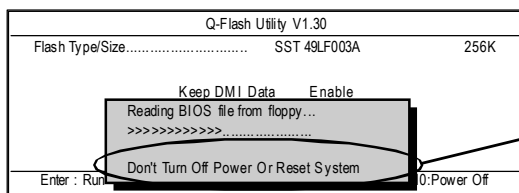
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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

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

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

```
                    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                                              0:Power Off
```
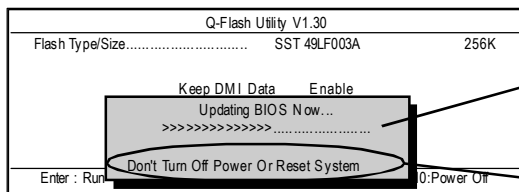
The porcess of updating BIOS

Do not trun off power or reset 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                                              0:Power 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                                              0: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 845GE AGPSet BIOS for 8GE800 F4
Check System Health OK
Main Processor : Intel Pentium(R) 4 1.7GHz (100 x 17.0)
<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!!

Method 2: @ BIOS Utility

If you don't have DOS boot disk, we recommend that you used Gigabyte @BIOS™ program to flash BIOS.

Press here.

1.Click "@BIOS"

(1)

2.Click"Start"-"Programs"-"GIGABYTE"-"@BIOS"

(2)

3.Click "✓".   4.Click here.

(3)

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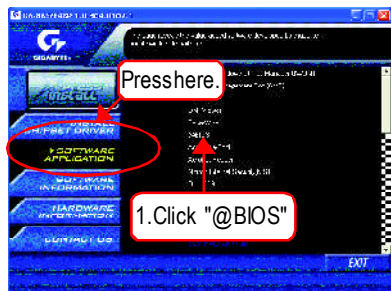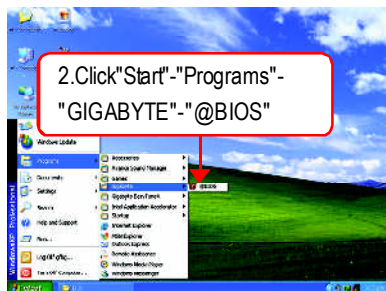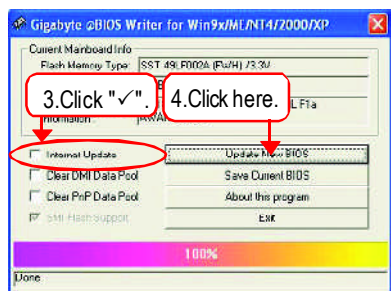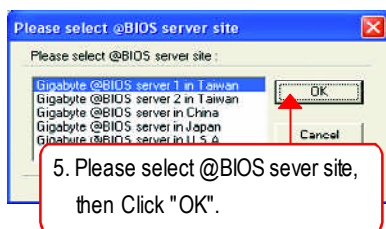
(4)

Methods and steps:

I. Update BIOS through Internet

a. Click "Internet Update" icon

b. Click "Update New BIOS" icon

c. Select @BIOS™ sever

d. Select the exact model name on your motherboard

e. System will automatically download and update the BIOS.

II. Update BIOS NOT through Internet:

  a. Do not click "Internet Update" icon

  b. Click "Update New BIOS"

  c. Please select "All Files" in dialog box while opening the old file.

  d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: 8I845PEPro.F1).

  e. Complete update process following the instruction.

III. Save BIOS

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

IV. Check out supported motherboard and Flash ROM:

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

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 acqiire 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.
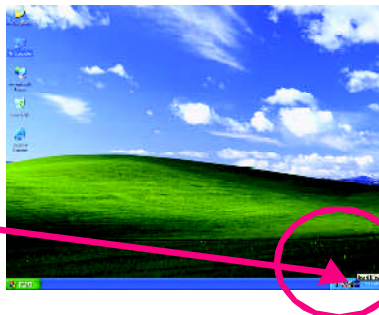
STEP 3:

Click "Speaker Configuration" then click on the left selection bar and select "2CH Speaker" to complete 2 channel audio configuration.
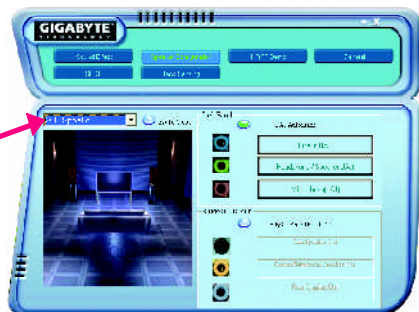
4 Channel Analog Audio Output Mode

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] icon on the lower right hand taskbar.   Click the icon to select the function.

Sound Effect
10:41 AM
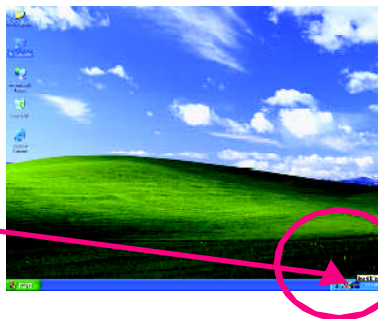
STEP 3 :

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

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

GIGABYTE
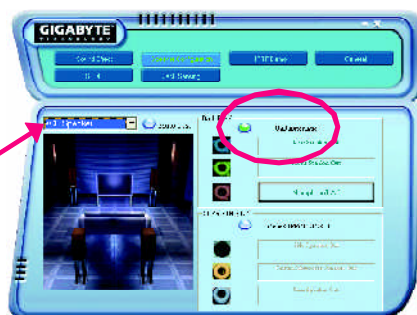
Basic 6 Channel Analog Audio Output Mode

Use the back audio panel to connect the audio out-
put 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".
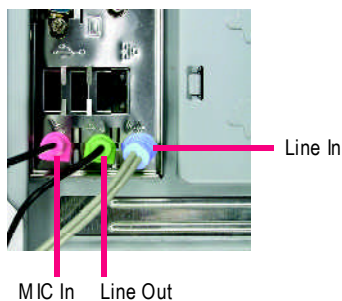
Line In

MIC In   Line Out

STEP 2 :

Following installation of the audio driver, you find a
icon a Sound Effect icon on the lower right hand
taskbar. Click the icon to select the function.
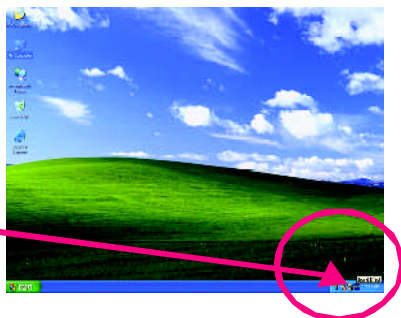
STEP 3 :

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

6CH Speaker
Headphore
2CH Speaker
4CH Speaker
6CH Speaker
8CH Speaker
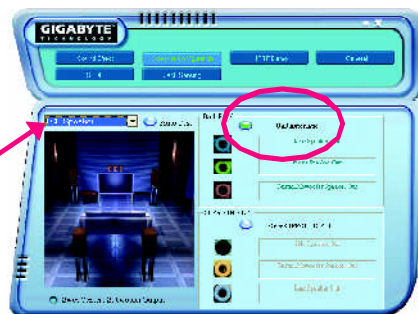
8 Channel Audio Setup (using Audio Combo Kit, Optional Device):

(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.
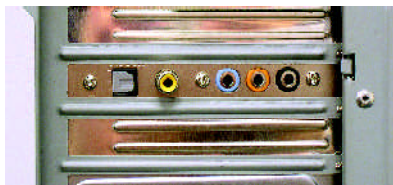
STEP 2 :
Connect the Surround-Kit to the SUR_CEN connector located on the motherboard.
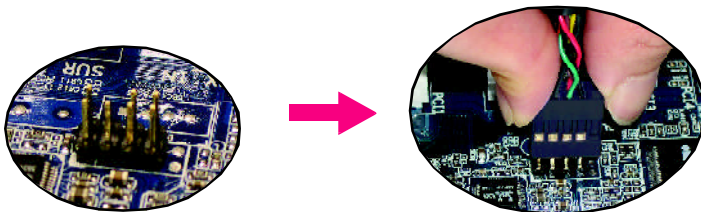
STEP 3 :
There are two methods of 8 channel audio configuration:
Method 1:
Connect the front channels to the "LINE OUT" port located on the audio panel and the rear channels to the Surround-Kit "REAR R/L" port. Connect the center/subwoofer channels to the Surround-Kit "SUB CENTER" and the R/L channels to the Surround-Kit "SUR BACK" port.
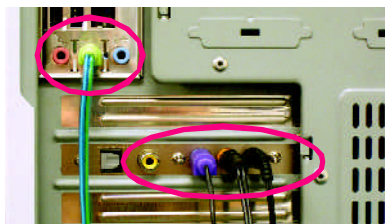
Method 2:

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)
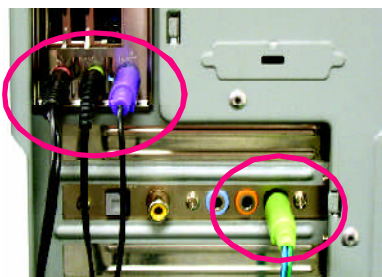
STEP 4 :

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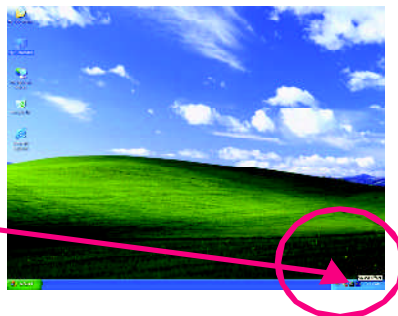
Sound Effect

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.

8CH Speaker
Headphone
2CH Speaker
4CH Speaker
6CH Speaker
8CH Speaker
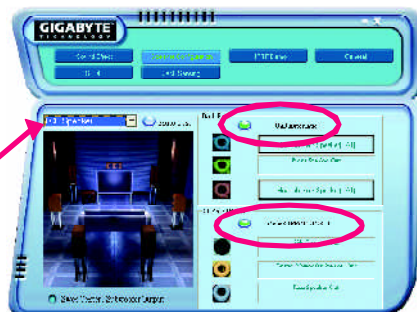
Sound Effect Configuration:

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

GA-8I845PE Pro Motherboard   - 68 -

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.
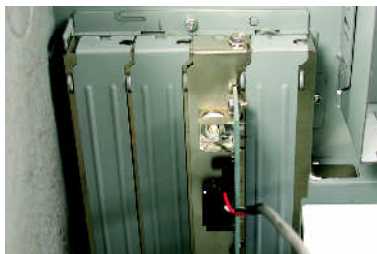
2. Connect SPDIF device to the motherboard.
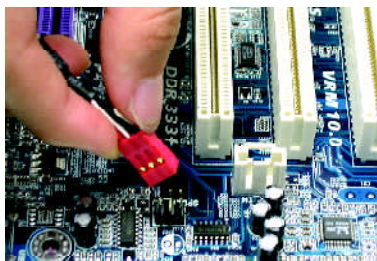
3. Connect SPDIF to the SPDIF decoder.

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 microphone to MIC In jack.

Auto-detecting:

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

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

English

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.

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Xpress Recovery Introduction

What is Xpress Recovery ?

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

1. Supports FAT16, FAT32, and NTFS formats
2. Must be connected to the IDE1 Master
3. Allows installation of only one OS
4. Must be used with an IDE hard disk supporting HPA
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
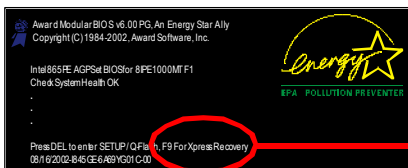
1. Boot from CD-ROM (BMP Mode)

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.
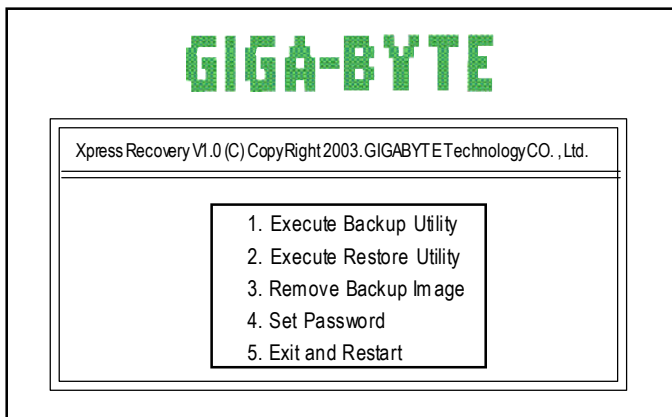

Boot from CD:

Xpress Recovery V1.0 (C) CopyRight 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 v6.00 PG, An Energy Star Ally
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
08/16/2002-845GE-6A69YG01C-00   **F9 For Xpress Recovery**

GIGA-BYTE

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

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

1. If you have already entered Xpress Recovery by booting from the CD-ROM, you can enter Xpress Recovery in the future by pressing the F9 key.
2. System storage capacity as well as drive reading/writing speed will affect backup speed.
3. It is recommended that Xpress Recovery be immediately installed after OS and all required driver and software installations are complete.

1. Execute Backup Utility:

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

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

⚠ Not all systems support access to Xpress Recovery by pressing the F9 key during computer
CAUTION 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.

Chapter 5 Appendix
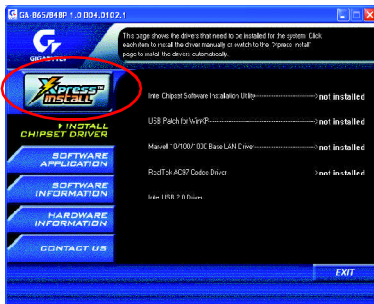
Install Drivers

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.
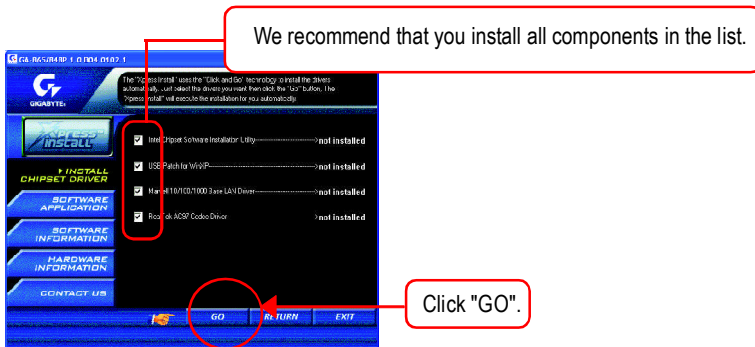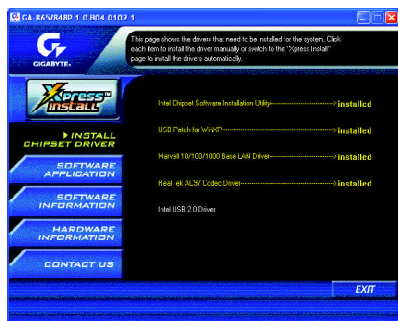
INSTALL CHIPSET DRIVER

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.

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

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 by itself.

We recommend that you install all components in the list.

Click "GO".

Driver install 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.

■ Marvell 10/100/1000 Base LAN Driver

For Marvell 10/100/1000 LAN chip use.

■ RealTek AC97 Codec Driver

For Intel(R) ICH/ICH2/ICH4/ICH5 AC97 audio.

■ 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.
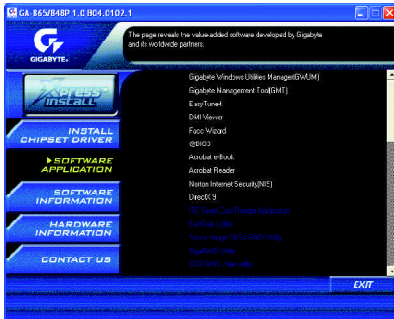
■ Gigabyte Windows Utilities Manager(GWUM)

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.

■ EasyTune4

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, ad control, etc

■ DirectX 9

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

■ Marvell VCT Utility

Utility for Marvell chips. [VCT(Virtual Cable Tester) Technology for Gigabit Networks]
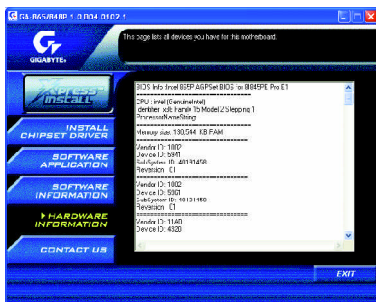
SOFTWARE INFORMATION

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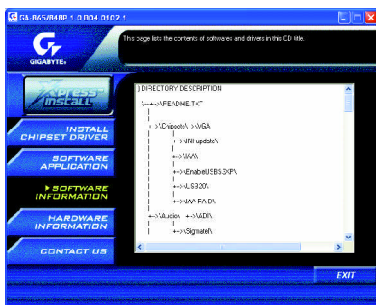
HARDWARE INFORMATION

This page lists all device you have for this motherboard.

CONTACT US

Please see the last page for details.

<u>FAQ</u>

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: How to set in the BIOS in order to bootup from SATA HDDs 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 Serial ATA: "enable"
Then it depends on the SATA mode that you need to set "RAID" to RAID mode or "BASE" to normal ATA mode in the item named Serial ATA function.

Question 12: 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 13: 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

Is memory LED on and CPU fan running? — No → The problem could be caused by power supply, CPU, memory or CPU/memory socket itself.

Yes

Failure has been excluded.

Check if there is display. — No → Perhaps your VGA 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.

Check if keyboard is working properly. — No → It is possible that your keyboard or 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. Check if the system can reboot successfully. — No → The problem was 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.

<u>Technical Support/RMA Sheet</u>

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

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

Memo

English

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Memo

CONTACT US

Contact us via the information in this page all over the world.

- **Taiwan**
Gigabyte Technology Co., Ltd.
Address: No.6, Bau Chiang Road, Hsin-Tien, Taipei Hsien,
Taiwan, R.O.C.
Tel: 886 (2) 8912-4888
Fax: 886 (2) 8912-4003
Tech. Support:
http://tw.giga-byte.com/TechSupport/ServiceCenter.htm
Non-Tech. Support (Sales/Marketing issues):
http://ggts.gigabyte.com.tw/nontech.asp
Website: http://www.gigabyte.com.tw

- **USA**
G.B.T. INC.
Address: 17358 Railroad St, City of Industry, CA 91748.
Tel: 1 (626) 854-9338
Fax: 1 (626) 854-9339
Tech. Support:
http://www.giga-byte.com/TechSupport/ServiceCenter.htm
Non-Tech. Support (Sales/Marketing issues):
http://ggts.gigabyte.com.tw/nontech.asp
Website: http://www.giga-byte.com

- **Germany**
G.B.T. Technology Trading GmbH
Tel: 49-40-2533040
      49-01803-428468 (Tech.)
Fax: 49-40-25492343 (Sales)
       49-01803-428329 (Tech.)
Tech. Support:
http://de.giga-byte.com/TechSupport/ServiceCenter.htm
Non-Tech. Support (Sales/Marketing issues):
http://ggts.gigabyte.com.tw/nontech.asp
Website: http://www.gigabyte.de

- **Japan**
Nippon Giga-Byte Corporation
Website: http://www.gigabyte.co.jp

- **U.K**
G.B.T. TECH. CO. LTD.
Tel: 44-1908-362700
Fax: 44-1908-362709
Tech. Support:
http://uk.giga-byte.com/TechSupport/ServiceCenter.htm
Non-Tech. Support (Sales/Marketing issues):
http://ggts.gigabyte.com.tw/nontech.asp
Website: http://uk.giga-byte.com

- **The Netherlands**
Giga-Byte Technology B.V.
Address: Verdunplein 8 5627 SZ, Eindhoven, The Netherlands
Tel: +31 40 290 2088
NL Tech.Support : 0900-GIGABYTE (0900-44422983, €0.2/M)
BE Tech.Support : 0900-84034 (€0.4/M)
Fax: +31 40 290 2089
Tech. Support:
http://nz.giga-byte.com/TechSupport/ServiceCenter.htm
Non-Tech. Support (Sales/Marketing issues):
http://ggts.gigabyte.com.tw/nontech.asp
Website: http://www.giga-byte.nl

- **China**
NINGBO G.B.T. Tech. Trading CO., Ltd.
Tech. Support:
http://cn.giga-byte.com/TechSupport/ServiceCenter.htm
Non-Tech. Support (Sales/Marketing issues):
http://ggts.gigabyte.com.tw/nontech.asp
Website: http://www.gigabyte.com.cn
Beijing
Tel: 86-10-82856054, 86-10-82856064, 86-10-82856094
Fax: 86-10-82856575
Chengdu
Tel: 86-28-85236930
Fax: 86-28-85256822
GuangZhou
Tel: 86-20-87586273
Fax: 86-20-87544306
Shanghai
Tel: 86-21-64737410
Fax: 86-21-64453227
Shenyang
Tel: 86-24-23960918, 86-24-23960893
Wuhan
Tel: 86-27-87854385, 86-27-87854802
Fax: 86-27-87854031
Xian
Tel: 86-29-5531943
Fax: 86-29-5539821