GA-MA69VM-S2

AMD Athlon™ 64 FX / Athlon™ 64 X2 Dual-Core /
AMD Athlon™ 64 / Sempron™ AM2 Processor Motherboard

User's Manual

Rev. 1001

12ME-MA69VMS2-1001R

* The WEEE marking on the product indicates this product must not be disposed of with user's other household waste and must be handed over to a designated collection point for the recycling of waste electrical and electronic equipment!!
* The WEEE marking applies only in European Union's member states.

Declaration of Conformity

We, Manufacturer/Importer
(full address)

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

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

Motherboard
GA-MA69VM-S2
is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

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

☒ **CE marking** (EC conformity marking)

The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 2006/95/EC

☐ **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 : Mar. 12, 2007 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-MA69VM-S2

Conforms to the following specifications:

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

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Mar. 12, 2007

Copyright

© 2007 GIGA-BYTE TECHNOLOGY CO., LTD. All rights reserved.
The trademarks mentioned in the manual are legally registered to their respective companies.

Notice

The written content provided with this product is the property of Gigabyte.
No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without Gigabyte's prior written permission. Specifications and features are subject to change without prior notice.

Product Manual Classification

In order to assist in the use of this product, Gigabyte has categorized the user manual in the following:

- For detailed product information and specifications, please carefully read the "Product User Manual".

- For detailed information related to Gigabyte's unique features, please go to "Technology Guide" section on Gigabyte's website to read or download the information you need.

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

Table of Contents

Item Checklist 6
Optional Accessories 6
GA-MA69VM-S2 Motherboard Layout 7
Block Diagram 8

Chapter 1 Hardware Installation 9
1-1 Considerations Prior to Installation 9
1-2 Feature Summary 10
1-3 Installation of the CPU and CPU Cooler 12
1-3-1 Installation of the CPU 12
1-3-2 Installation of the CPU cooler 13
1-4 Installation of Memory 14
1-5 Installation of Expansion Cards 16
1-6 I/O Back Panel Introduction 17
1-7 Connectors Introduction 18

Chapter 2 BIOS Setup 29
The Main Menu (For example: BIOS Ver. : D11) 30
2-1 Standard CMOS Features 32
2-2 Advanced BIOS Features 34
2-3 Integrated Peripherals 36
2-4 Power Management Setup 39
2-5 PnP/PCI Configurations 41
2-6 PC Health Status 42
2-7 Load Fail-Safe Defaults 44
2-8 Load Optimized Defaults 44
2-9 Set Supervisor/User Password 45
2-10 Save & Exit Setup 46
2-11 Exit Without Saving 46

Chapter 3 Drivers Installation 47
3-1 Install Chipset Drivers 47
3-2 Software Application 48
3-3 Software Information 48
3-4 Hardware Information 49
3-5 Contact Us 49

Chapter 4 Appendix 51
4-1 Unique Software Utilities 51
4-1-1 EasyTune 5 Introduction 51
4-1-2 Xpress Recovery2 Introduction 52
4-1-3 Flash BIOS Method Introduction 54
4-1-4 Configuring SATA Hard Drive(s) 58
4-1-5 Installation of TV Output Cable (Optional Device) 69
4-1-6 2- / 4- / 6- / 8- Channel Audio Function Introduction 73
4-2 Troubleshooting 78

Item Checklist

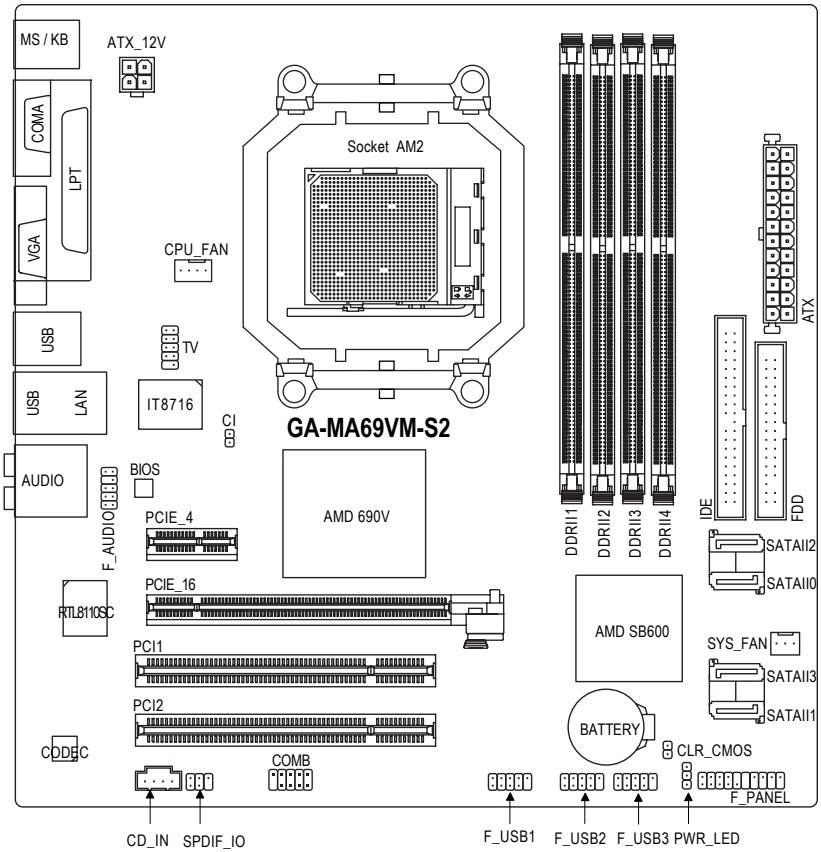
- ☑ IDE Cable x 1 & FDD Cable x 1
- ☑ Serial ATAII Cable x 2
- ☑ I/O Shield

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

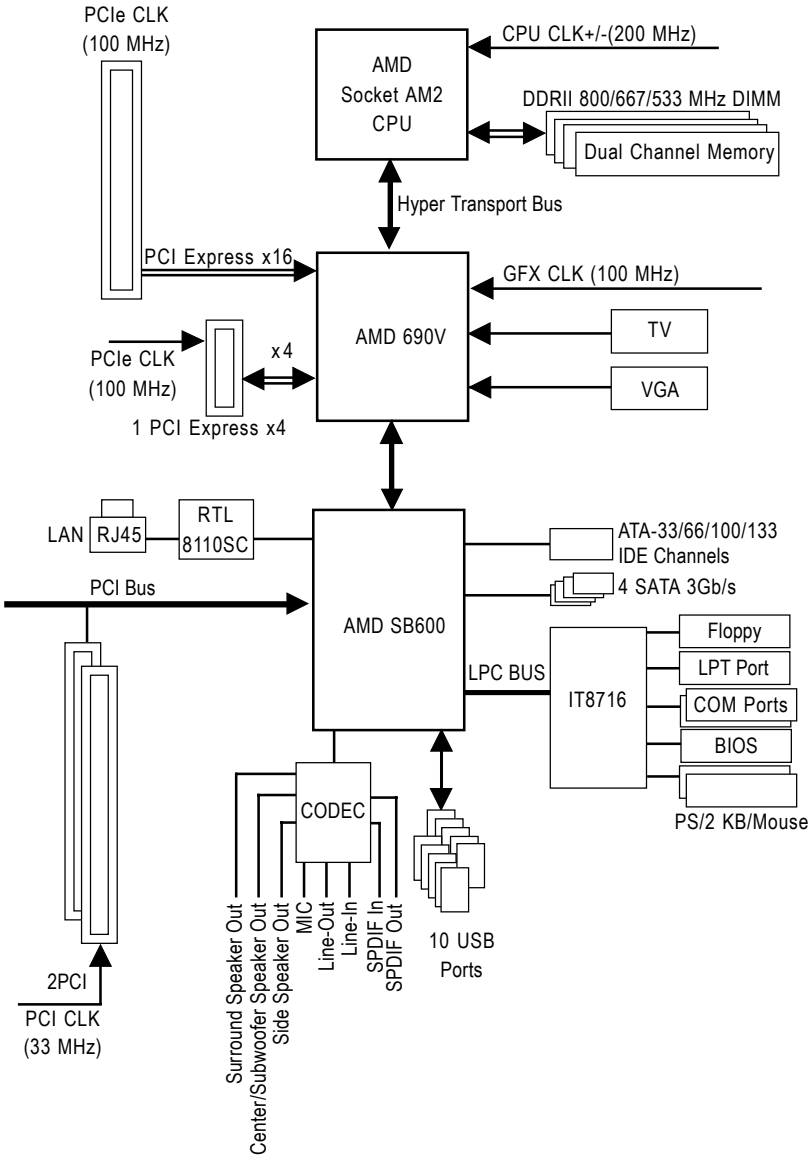
Optional Accessories

- 2 Ports USB 2.0 Cable (Part Number: 12CR1-1UB030-51/ 51R)
- 4 Ports USB 2.0 Cable (Part Number: 12CR1-1UB030-21/ 21R)
- COM Port Cable (Part Number: 12CF1-1CM001-31/31R)
- S/PDIF In and Out Cable (Part Number: 12CR1-1SPINO-11/11R)
- TV Out Cable (Part Number: 12CR1-10S001-01R)(Please refer to the instructions on Page 69)

GA-MA69VM-S2 Motherboard Layout



Block Diagram



Chapter 1 Hardware Installation

1-1 Considerations Prior to Installation

Preparing Your Computer

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

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

Installation Notices

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

Instances of Non-Warranty

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

1-2 Feature Summary

CPU	◆	Socket AM2 for AMD Athlon™ 64 FX / Athlon™ 64 X2 Dual-Core / Athlon™ 64 / Sempron™ processor
Front Side Bus	◆	2000 MHz
Chipset	◆	Northbridge: AMD 690V
	◆	Southbridge: AMD SB600
LAN	◆	Onboard Realtek 8110SC chip(10/100/1000 Mbit)
Audio	◆	ALC888 CODEC
	◆	Supports 2 / 4 / 6 / 8 channel audio
	◆	Supports High Definition Audio
	◆	Supports Line In ; Line Out (Front Speaker Out) ; MIC ; Surround Speaker Out (Rear Speaker Out) ; Center/Subwoofer Speaker Out ; Side Speaker Out connection
	◆	S/PDIF In/Out connection
	◆	CD In connection
Storage	◆	AMD SB600 - 1 FDD connector, allowing connection of 1 FDD device - 1 IDE connector with ATA-33/66/100/133 support, allowing connection of 2 IDE devices - 4 SATA 3Gb/s connectors, allowing connection of 4 SATA 3Gb/s devices - Supports RAID 0, RAID 1,and RAID 0+1for Serial ATA
O.S Support	◆	Microsoft Windows 2000/XP/Vista
Memory	◆	4 DDRII DIMM memory slots (supports up to 16 GB memory)(Note 1)
	◆	Supports dual channel DDRII 800/667/533 DIMMs
	◆	Supports 1.8V DDRII DIMMs
Expanstion Slots	◆	1 PCI Express x16 slot
	◆	1 PCI Express x4 slot
	◆	2 PCI slots
Internal Connectors	◆	1 24-pin ATX power connector
	◆	1 4-pin ATX 12V power connector
	◆	1 floppy connector
	◆	1 IDE connector
	◆	4 SATA 3Gb/s connectors
	◆	1 CPU fan connector
	◆	1 system fan connector
	◆	1 front panel connector
	◆	1 front audio connector
	◆	1 CD In connector
	◆	1 S/PDIF In/Out connector
	◆	3 USB 2.0/1.1 connectors for additional 6 USB 2.0/1.1 ports by cables
	◆	1 Power LED connector
	◆	1 COMB connector
	◆	1 Chassis Intrusion connector
	◆	1 TV out connector

Rear Panel I/O	◆	1 PS/2 keyboard port
	◆	1 PS/2 mouse port
	◆	1 parallel port
	◆	1 COMA port
	◆	1 VGA port
	◆	4 USB 2.0/1.1 ports
	◆	1 RJ-45 port
	◆	6 audio jacks (Line In / Line Out / MIC In/Surround Speaker Out (Rear Speaker Out)/Center/Subwoofer Speaker Out/Side Speaker Out)
I/O Control	◆	IT8716 chip
Hardware Monitor	◆	System voltage detection
	◆	CPU / System temperature detection
	◆	CPU / System fan speed detection
	◆	CPU / System warning temperature
	◆	CPU / System fan failure warning
	◆	Supports CPU Smart Fan function(Note 2)
BIOS	◆	1 4 Mbit flash ROM
	◆	Use of licensed AWARD BIOS
	◆	PnP 1.0a, DMI 2.0, SM BIOS 2.3, ACPI 1.0b
Additional Features	◆	Supports @BIOS
	◆	Supports Download Center
	◆	Supports Q-Flash
	◆	Supports EasyTune (only supports Hardware Monitor function)(Note 3)
	◆	Supports Xpress Install
	◆	Supports Xpress Recovery2
	◆	Supports Xpress BIOS Rescue
Bundle Software	◆	Norton Internet Security (OEM version)
Form Factor	◆	Micro ATX form factor; 24.4cm x 24.4cm

(Note 1) Due to the limitation of Windows 32-bit operating system, when more than 4 GB of physical memory is installed, the actual memory available for the operating system will be less than 4 GB; Windows 64-bit operating system doesn't have such limitation.

(Note 2) Whether the CPU Smart FAN Control function is supported will depend on the CPU you install.

(Note 3) EasyTune functions may vary depending on different motherboards.

1-3 Installation of the CPU and CPU Cooler

CAUTION

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

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

1-3-1 Installation of the CPU

Check the CPU pins to see that none are bent. Move the socket lever to the unlocked position as shown in Fig. 1 (90° to the plane of the motherboard) prior to inserting the CPU. The pin 1 location is designated on the CPU by a small triangle that corresponds to a triangle marking on the socket as shown in Fig. 2. Align the CPU to the socket and gently lower it into place. Do not force the CPU into the socket.

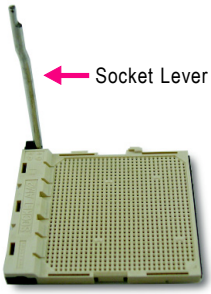


Fig.1
Position lever at a 90 degree angle.

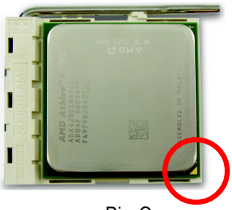


Fig.2
Pin 1 location on the socket and processor.
Gently place the CPU into position making sure that the CPU pins fitperfectly into their holes. Once the CPU is positioned into its socket, place one finger down on the middle of the CPU and gently press themetal lever back into its original position.

CAUTION

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

1-3-2 Installation of the CPU cooler

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

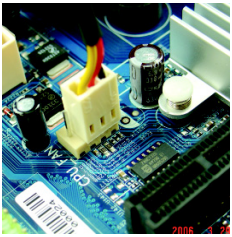


Fig.2
Please connect the CPU cooler power connector to the CPU_FAN connector located on the motherboard so that the CPU cooler can properly function to prevent CPU overheating.

NOTE

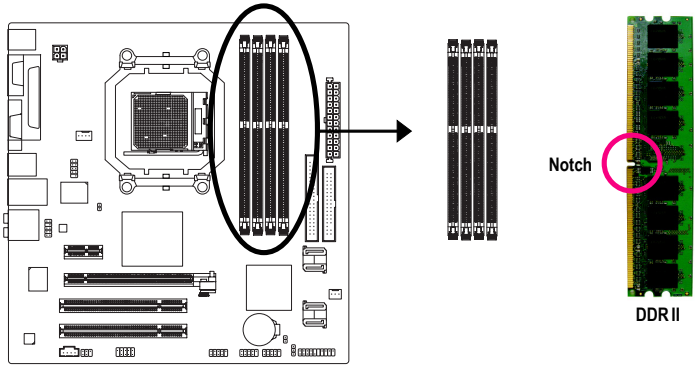
The CPU cooler may adhere to the CPU as a result of hardening of the heat paste. To prevent such an occurrence, it is suggested that either thermal tape rather than heat paste be used for heat dissipation or using extreme care when removing the CPU cooler.

1-4 Installation of Memory

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

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

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



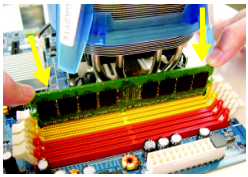


Fig.1
The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.

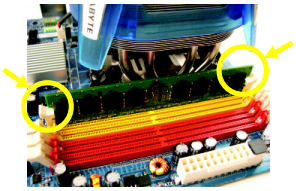


Fig.2
Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
Reverse the installation steps when you wish to remove the DIMM module.

Dual Channel Memory Configuration

The GA-MA69VM-S2 supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will add double. Due to CPU limitation, if you wish to operate the Dual Channel Technology, follow the guidelines below:

1. Dual Channel mode will not be enabled if only one memory module is installed.
2. To enable Dual Channel mode with two memory modules (it is recommended to use memory modules of identical brand, size, chips, and speed), you must install them into DIMM sockets of the same color.
3. To enable Dual Channel mode with four memory modules, it is recommended to use memory modules of identical brand, size, chips, and speed.

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

	DDRII 1	DDRII 2	DDRII 3	DDRII 4
2 memory modules	DS/SS	DS/SS	--	--
	--	- -	DS/SS	DS/SS
4 memory modules	DS/SS	DS/SS	DS/SS	DS/SS

NOTE

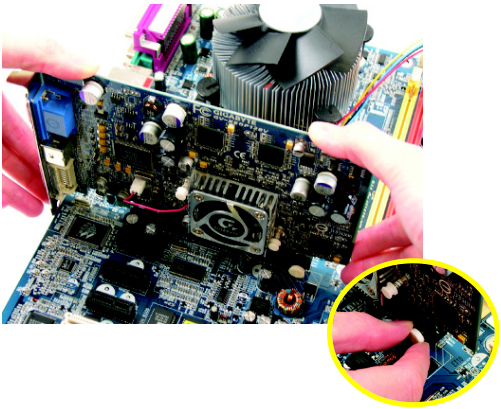
If two memory modules are to be used to achieve Dual Channel mode, we recommend installing them in DDRII 1 and DDRII 2 DIMM sockets.

1-5 Installation of Expansion Cards

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

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

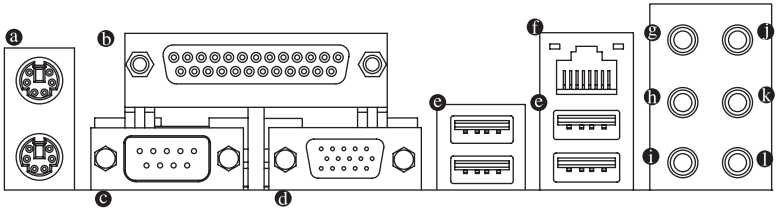
Installing a PCI Express x16 expansion card:



CAUTION

Please carefully pull out the small white-drawable bar at the end of the PCI Express x16 slot when you try to install/uninstall the VGA card. Please align the VGA card to the onboard PCI Express x16 slot and press firmly down on the slot. Make sure your VGA card is locked by the small white-drawable bar.

1-6 I/O Back Panel Introduction



a PS/2 Keyboard and PS/2 Mouse Connector

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

b Parallel Port

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

c COMA (Serial Port)

Connects to serial-based mouse or data processing devices.

d VGA Port

Monitor can be connected to VGA port.

e USB port

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

f LAN Port

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

g Center/Subwoofer Speaker Out

The default Center/Subwoofer Speaker Out jack. Center/Subwoofer speakers can be connected to Center/Subwoofer Speaker Out jack.

h Surround Speaker Out (Rear Speaker Out)

The default Surround Speaker Out (Rear Speaker Out) jack. Rear surround speakers can be connected to Surround Speaker Out (Rear Speaker Out) jack.

i Side Speaker Out

The default Side Speaker Out jack. Surround side speakers can be connected to Side Speaker Out jack.

j Line In

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

k Line Out (Front Speaker Out)

The default Line Out (Front Speaker Out) jack. Stereo speakers, earphone or front surround speakers can be connected to Line Out (Front Speaker Out) jack.

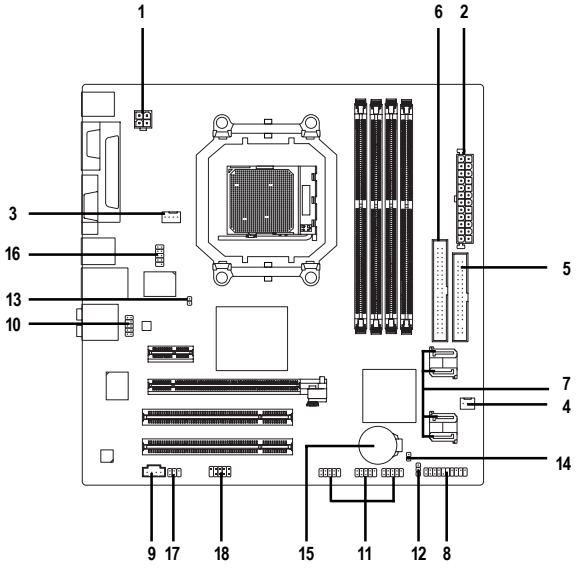
❶ **MIC In**

The default MIC In jack. Microphone must be connected to MIC In jack.

NOTE

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

1-7 Connectors Introduction



1) ATX_12V	10) F_AUDIO
2) ATX (Power Connector)	11) F_USB1 / F_USB2/ F_USB3
3) CPU_FAN	12) POWER_LED
4) SYS_FAN	13) CI
5) FDD	14) CLR_CMOS
6) IDE	15) BATTERY
7) SATAII0 /1 /2 /3	16) TV
8) F_PANEL	17) SPDIF_IO
9) CD_IN	18) COMB

1/2) ATX_12V/ATX (Power Connector)

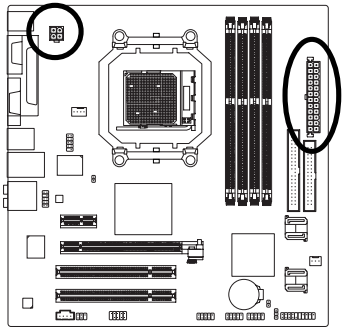
With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard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

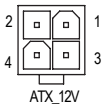
The ATX_12V power connector mainly supplies power to the CPU. If the ATX_12V power connector is not connected, the system will not start.

Caution!

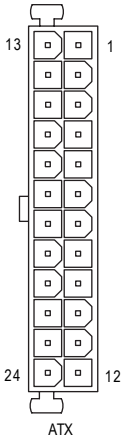
Please use a power supply that is able to handle the system voltage requirements. It is recommended that a power supply that can withstand high power consumption be used (300W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable system or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

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





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



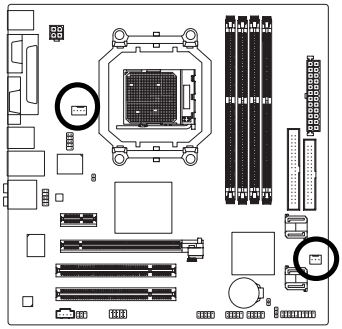
Pin No.	Definition	Pin No.	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON(soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	-5V
9	5V SB(stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V(Only for 24-pin ATX)	23	+5V (Only for 24-pin ATX)
12	3.3V(Only for 24-pin ATX)	24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

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

The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin (only for CPU_FAN) power connector and possesses a foolproof connection design.

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

Remember to connect the CPU/system fan cable to the CPU_FAN/SYS_FAN connector to prevent CPU damage or system hanging caused by overheating.



CPU_FAN

CPU_FAN :

Pin No.	Definition
1	GND
2	+12V / Speed Control
3	Sense
4	Speed Control

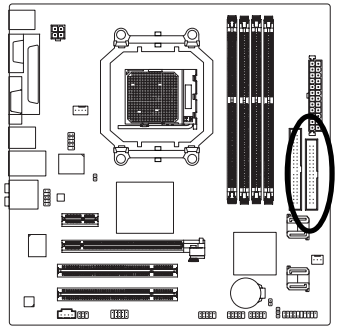
SYS_FAN

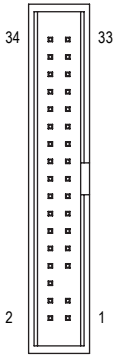
SYS_FAN :

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

5) FDD (FDD Connector)

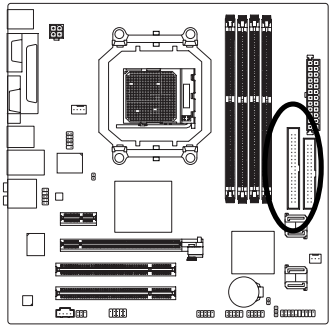
The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360 KB, 720 KB, 1.2 MB, 1.44 MB and 2.88 MB. Before attaching the FDD cable, please take note of the foolproof groove in the FDD connector.

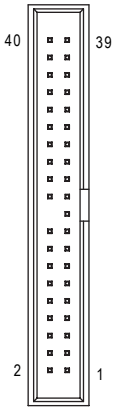




6) IDE (IDE Connector)

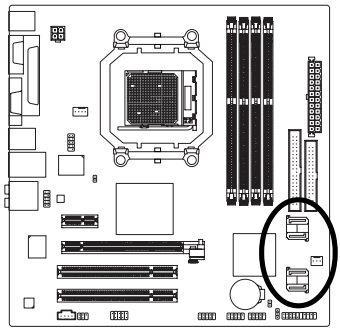
An IDE device connects to the computer via an IDE connector. One IDE connector can connect to one IDE cable, and the single IDE cable can then connect to two IDE devices (hard drive or optical drive). If you wish to connect two IDE devices, please set the jumper on one IDE device as Master and the other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

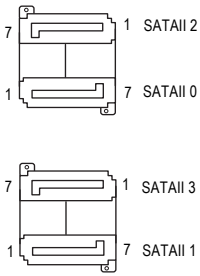




7) SATAII0 /1 /2 /3 (SATA 3Gb/s Connectors, Controlled by AMD SB600)

SATA 3Gb/s can provide up to 300 MB/s transfer rate. Please refer to the BIOS setting for the Serial ATA and install the proper driver in order to work properly.

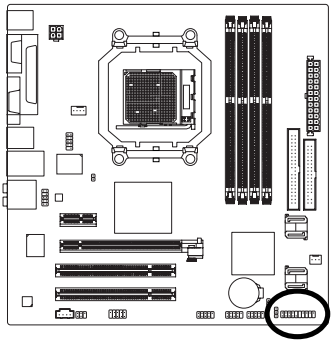


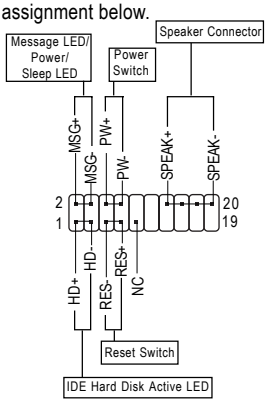


Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

8) F_PANEL (Front Panel Jumper)

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

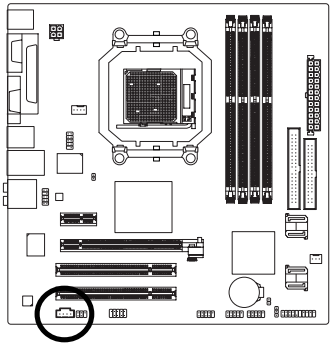




HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPEAK (Speaker Connector)	Pin 1: Power Pin 2- Pin 3: NC Pin 4: Data(-)
RES (Reset Switch)	Open: Normal Close: Reset Hardware System
PW (Power Switch)	Open: Normal Close: Power On/Off
MSG(Message LED/Power/Sleep LED)	Pin 1: LED anode(+)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

9) CD_IN (CD In Connector)

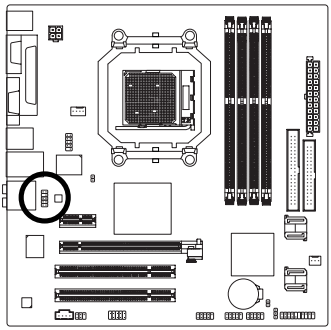
Connect CD-ROM or DVD-ROM audio out to the connector.



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

10) F_AUDIO (Front Audio Panel Connector)

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



HD Audio:

Pin No.	Definition
1	MIC2_L
2	GND
3	MIC2_R
4	-ACZ_DET
5	LINE2_R
6	FSENSE1
7	FAUDIO_JD
8	No Pin
9	LINE2_L
10	FSENSE2

AC'97 Audio:

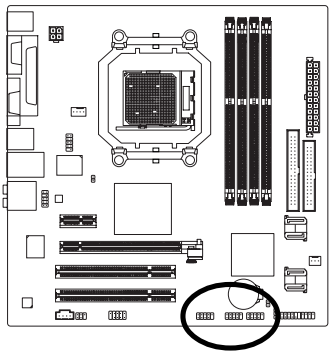
Pin No.	Definition
1	MIC
2	GND
3	MIC Power
4	NC
5	Line Out (R)
6	NC
7	NC
8	No Pin
9	Line Out (L)
10	NC

NOTE

By default, the audio driver is configured to support HD Audio. To connect an AC97 front panel audio module to this connector, please refer to the instructions on Page 77 about the software settings.

11) F_ USB1 / F_USB2 / F_USB3 (Front USB Connector)

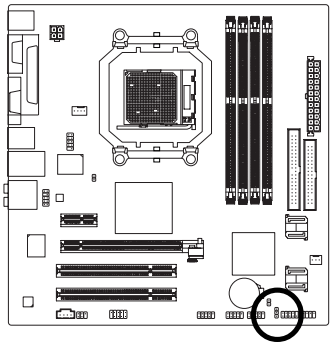
Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.



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

12) POWER_LED

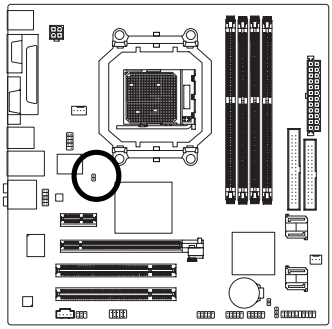
The PWR_LED connector is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode(S1).



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

13) CI (Chassis Intrusion, Case Open)

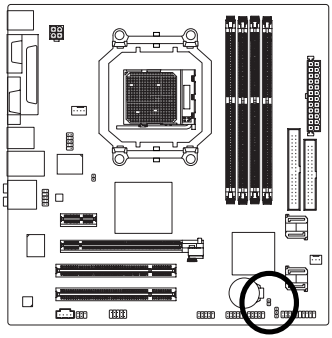
This 2-pin connector allows your system to detect if the chassis cover is removed. You can check the "Case Opened" status in BIOS Setup.



Pin No.	Definition
1	Signal
2	GND

14) CLR_CMOS (Clear CMOS)

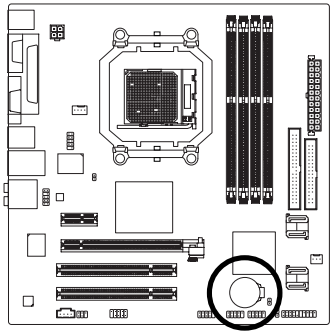
You may clear the CMOS data to its default values by this header. To clear CMOS, temporarily short the two pins. Default doesn't include the jumper to avoid improper use of this header.

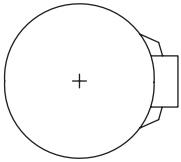


Open: Normal

Short: Clear CMOS

15) BATTERY





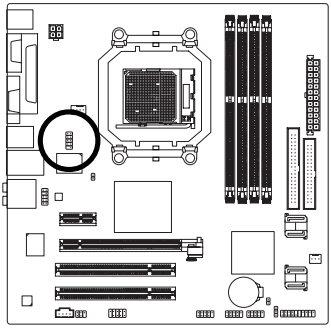
- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...

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

16) TV (TV Output Connector)

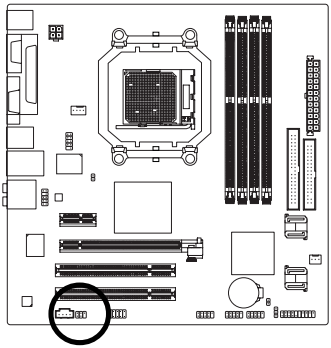
Use this connector to connect an optional TV Out cable to your computer for output of analog video signals. To connect the TV Out cable, check the pin assignments carefully and install it correctly. Incorrect connection between the cable and connector will make the device unable to work or even damage it. For the optional TV Out cable, please contact your local dealer. Refer to page 69 for instructions on installing the TV Out cable.



Pin No.	Definition
1	Y
2	GND
3	C
4	GND
5	COMP
6	GND
7	GND
8	GND
9	No Pin
10	GND

17) SPDIF_IO (S/PDIF In/Out Connector)

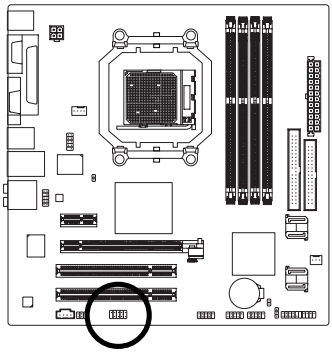
The S/PDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Use S/PDIF IN feature only when your device has digital output function. Be careful with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



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

18) COMB (COMB Connector)

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



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

Chapter 2 BIOS Setup

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required settings or to activate certain system features.
The CMOS SETUP saves the configuration in the CMOS SRAM of the motherboard.
When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS SRAM.
When the power is turned on, pressing the <Del> button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen. You can enter the BIOS setup screen by pressing "Ctrl + F1".
If you wish to upgrade to a new BIOS, either GIGABYTE's Q-Flash or @BIOS utility can be used.
Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system.
@BIOS is a Windows-based utility that does not require users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

CONTROL KEYS

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

Main Menu

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

Status Page Setup Menu / Option Page Setup Menu

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

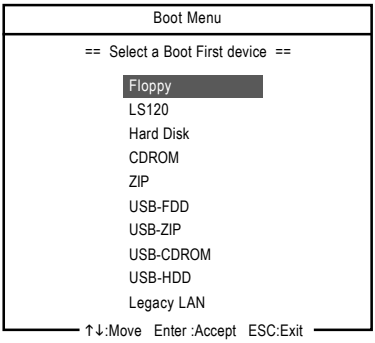
CAUTION

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

<F12> : Boot Menu

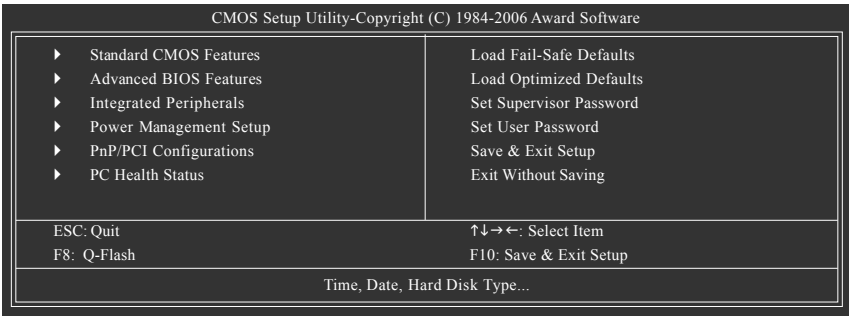
Select boot sequence for onboard (or add-on cards) device.

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



The Main Menu (For example: BIOS Ver. : D11)

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



NOTE

1. If you don't find the settings you want, press "Ctrl+F1" to access advanced options.
2. Select the **Load Optimized Defaults** item in the BIOS Setup when somehow the system is not stable as usual. This action makes the system reset to the default settings for stability.
3. The BIOS Setup menus described in this chapter are for reference only and may differ from the exact settings for your motherboard.

- **Standard CMOS Features**

  This setup page includes all the items in standard compatible BIOS.
- **Advanced BIOS Features**

  This setup page includes all the items of Award special enhanced features.
- **Integrated Peripherals**

  This setup page includes all onboard peripherals.
- **Power Management Setup**

  This setup page includes all the items of Green function features.
- **PnP/PCI Configuration**

  This setup page includes all the configurations of PCI & PnP ISA resources.
- **PC Health Status**

  This setup page is the System auto detect Temperature, voltage, fan, speed.
- **Load Fail-Safe Defaults**

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

  Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.
- **Set Supervisor Password**

  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.
- **Set User Password**

  Change, set, or disable password. It allows you to limit access to the system.
- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.
- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

2-1 Standard CMOS Features

```
CMOS Setup Utility-Copyright (C) 1984-2007 Award Software
Standard CMOS Features

Date (mm:dd:yy)                Wed, Feb  14  2007        Item Help
Time (hh:mm:ss)                14:42:37                  Menu Level▶

▶ IDE Channel 0 Master         [None]
▶ IDE Channel 0 Slave          [None]
▶ IDE Channel 2 Master         [None]
▶ IDE Channel 2 Slave          [None]
▶ IDE Channel 3 Master         [None]
▶ IDE Channel 3 Slave          [None]

Drive A                        [1.44M, 3.5"]
Floppy 3 Mode Support          [Disabled]

Halt On                        [All Errors]
Base Memory                    640K
Extended Memory                511M

↑↓→←: Move   Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1: General Help
     F5: Previous Values     F6: Fail-Safe Defaults          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 2000 through 2099

☞ Time

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

☞ IDE Channel 0 Master, Slave

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

☞ IDE Channel 2/3 Master, Slave

- ▸▸ IDE Auto-Detection Press "Enter" to select this option for automatic device detection.
- ▸▸ Extended IDE Drive IDE/SATA devices setup. You can use one of two methods:
  - Auto — Allows BIOS to automatically detect SATA IDE devices during POST. (Default value)
  - None — Select this if no SATA IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.

- Access Mode — Use this to set the access mode for the hard drive. The two options are: Large/Auto(default: Auto)
- Capacity — Capacity of currently installed hard disk.

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

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

Drive A

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

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

Floppy 3 Mode Support (for Japan Area)

- Disabled — Normal Floppy Drive. (Default value)
- Drive A — Drive A is 3 mode Floppy Drive.

Halt on

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

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

Memory

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

Base Memory

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

The value of the base memory is typically 512 K for systems with 512 K 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 1 MB in the CPU's memory address map.

2-2 Advanced BIOS Features

```
CMOS Setup Utility-Copyright (C) 1984-2007 Award Software
Advanced BIOS Features

  AMD K8 Cool&Quiet control      [Auto]          Item Help
▶ Hard Disk Boot Priority        [Press Enter]   Menu Level▶
  First Boot Device              [Floppy]
  Second Boot Device             [Hard Disk]
  Third Boot Device              [CDROM]
  Boot Up Floopy Seek            [Disabled]
  Password Check                 [Setup]
  HDD S.M.A.R.T. Capability      [Disabled]
  Init Display First             [PCI Slot]
x Surroundview                   Disabled
  Internal Graphics Mode         [Auto]
  Frame Buffer Size              [Auto]
    Current UMA Size               64 MB

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

☞ AMD K8 Cool&Quiet control

- ▸▸ Auto — AMD Cool'n'Quiet driver manages clock and VID to best serve the thermal, performance and power requirements. (Default value)
- ▸▸ Disabled — Disable this function.

☞ Hard Disk Boot Priority

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

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

☞ First / Second / Third Boot Device

- ▸▸ Floppy — Select your boot device priority by Floppy.
- ▸▸ LS120 — Select your boot device priority by LS120.
- ▸▸ Hard Disk — Select your boot device priority by Hard Disk.
- ▸▸ CDROM — Select your boot device priority by CDROM.
- ▸▸ ZIP — Select your boot device priority by ZIP.
- ▸▸ USB-FDD — Select your boot device priority by USB-FDD.
- ▸▸ USB-ZIP — Select your boot device priority by USB-ZIP.
- ▸▸ USB-CDROM — Select your boot device priority by USB-CDROM.
- ▸▸ USB-HDD — Select your boot device priority by USB-HDD.
- ▸▸ Legacy LAN — Select your boot device priority by Legacy LAN.
- ▸▸ Disabled — Disable this function.

☞ Boot Up Floppy Seek

During POST, BIOS will determine the floppy disk drive installed is 40 or 80 tracks. 360 K type is 40 tracks 720 K, 1.2 M and 1.44 M are all 80 tracks.

- ⏩ Enabled — BIOS searches for floppy disk drive to determine it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.
- ⏩ Disabled — BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K. (Default value)

☞ Password Check

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

☞ HDD S.M.A.R.T. Capability

This feature allows your hard disk to report read/write errors and to issue warnings when third-party hardware monitor utility is installed.

- ⏩ Enabled — Enable HDD S.M.A.R.T. capability.
- ⏩ Disabled — Disable HDD S.M.A.R.T. capability.(Default value)

☞ Init Display First

This feature allows you to select the first initiation of the monitor display from which card when you install a PCI card and a PCI Express VGA card on the motherboard.

- ⏩ PEG — Set Init Display First to PCI Express VGA card.
- ⏩ PCI Slot — Set Init Display First to PCI VGA card. (Default value)
- ⏩ OnChip VGA — Set Init Display First to onboard VGA.

☞ Surroundview

This option is configurable only if an ATI graphics card is installed.

- ⏩ Disabled — Disable the Dual-View capability. (Default value)
- ⏩ Enabled — Enable the Dual-View capability.

☞ Internal Graphics Mode

- ⏩ Auto — Disable the onboard GPU, whether or not a PCI Express card is installed. (Default)
- ⏩ Disabled — Enable output from the onboard GPU when no PCI Express card is installed. When a PCI Express card is installed, automatically output from the PCI Ex press card and disable the onboard GPU.

☞ Frame Buffer Size

- ⏩ Auto — Auto-detect frame buffer size.(Default value)
- ⏩ 32MB — Set frame buffer size to 32 MB.
- ⏩ 64MB — Set frame buffer size to 64 MB.
- ⏩ 128MB — Set frame buffer size to 128 MB.
- ⏩ 256MB — Set frame buffer size to 256 MB.
- ⏩ 512MB — Set frame buffer size to 512 MB.
- ⏩ 1024MB — Set frame buffer size to 1024 MB.

☞ Current UMA Size

Detect UMA size automatically.

2-3 Integrated Peripherals

```
CMOS Setup Utility-Copyright (C) 1984-2007 Award Software
Integrated Peripherals

▶ IDE Configuration                [Press Enter]      Item Help
  OnChip SATA Controller           [Enabled]          Menu Level▶
  OnChip SATA Type                 [Native IDE]
  Onboard Audio Function           [Auto]
  Onboard LAN Function             [Enabld]
  Onboard LAN Boot ROM             [Disabled]
  OnChip USB Controller            [Enabled]
  USB EHCI Controller              [Enabled]
  USB Keyboard Support             [Enabled]
  USB Mouse Support                [Disabled]
  Legacy USB storage detect        [Enabled]
  Onboard Serial Port 1            [3F8/IRQ4]
  Onboard Serial Port 2            [2F8/IRQ3]
  Onboard Parallel Port            [378/IRQ7]
  Parallel Port Mode               [SPP]
x ECP Mode Use DMA                   3

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

☞ IDE Configuration

```
CMOS Setup Utility-Copyright (C) 1984-2007 Award Software
IDE Configuration

  OnChip IDE Channel0              [Enabled]          Item Help
                                                      Menu Level▶

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

☞ OnChip IDE Channel0

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

☞ OnChip SATA Controller

- ▸▸ Enabled — Enable onboard SATA function. (Default value)
- ▸▸ Disabled — Disable onboard SATA function.

☞ OnChip SATA Type

- ▸▸ Native IDE — Set the SATA channel to Native IDE mode.(Default value)
- ▸▸ RAID — Set the SATA channel to RAID mode.
- ▸▸ Legacy IDE — Set the SATA channel to Legacy IDE mode.
- ▸▸ SATA→AHCI — Set the SATA channel to AHCI mode. Advanced Host Controller Interface (AHCI) is an interface specification that allows the storage driver to enable advanced Serial ATA features such as Native Command Queuing and hot plug.

☞ Onboard Audio Function

- ⏩ Auto — Auto-detect onboard audio function. (Default value)
- ⏩ Disabled — Disable this function.

☞ Onboard LAN Function

- ⏩ Enabled — Enable onboard LAN chip function.(Default value)
- ⏩ Disabled — Disable onboard LAN chip function.

☞ Onboard LAN Boot ROM

This function decide whether to invoke the boot ROM of the onboard LAN chip.

- ⏩ Enabled — Enable this function.
- ⏩ Disabled — Disable this function. (Default value)

☞ OnChip USB Controller

- ⏩ Enable — Enable USB 1.1 function. (Default Value)
- ⏩ Disabled — Disable onchip USB 1.1 function.

☞ USB EHCI Controller

- ⏩ Enable — Enable USB 2.0 function. (Default Value)
- ⏩ Disabled — Disable onchip USB 2.0 function.

☞ USB Keyboard Support

- ⏩ Enabled — Enable USB keyboard support.
- ⏩ Disabled — Disable USB keyboard support. (Default value)

☞ USB Mouse Support

- ⏩ Enabled — Enable USB mouse support.
- ⏩ Disabled — Disable USB mouse support. (Default value)

☞ Legacy USB storage detect

This option allows users to decide whether to detect USB storage devices, including USB flash drives and USB hard drives during POST.

- ⏩ Enabled — BIOS will scan all USB storage devices. (Default value)
- ⏩ Disabled — Disable this function.

☞ Onboard Serial Port 1

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

☞ Onboard Serial Port 2

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

☞ Onboard Parallel Port

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

☞ Parallel Port Mode

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

☞ ECP Mode Use DMA

This option is available only when **Parallel Port Mode** is set to ECP or ECP+EPP.

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

2-4 Power Management Setup

```
CMOS Setup Utility-Copyright (C) 1984-2007 Award Software
Power Management Setup

   ACPI Suspend Type                [S1(POS)]        Item Help
   Soft-Off by Power button         [Instant-off]    Menu Level▶
   Modem Ring Resume                [Disabled]
   PME Event Wake UP                [Disabled]
   Power On By Mouse                [Disabled]
   Power On By Keyboard             [Disabled]
x  KB Power ON Password              Enter
   AC BACK Function                 [Soft-Off]
   Power-On by Alarm                [Disabled]
x  Date  (of Month)                 Everyday
x  Resume Time (hh:mm:ss)           0 : 0 : 0

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

☞ ACPI Suspend Type

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

☞ Soft-Off by Power button

- ▸▸ Instant-off Press power button then Power off instantly. (Default value)
- ▸▸ Delay 4 Sec Press power button 4 seconds to Power off. Enter suspend if button is pressed less than 4 seconds.

☞ Modem Ring Resume

An incoming call via modem can awake the system from any suspend state.

- ▸▸ Disabled Disable Modem Ring on function. (Default value)
- ▸▸ Enabled Enable Modem Ring on function.

☞ PME Event Wake Up

This feature requires an ATX power supply that provides at least 1A on the 5VSB lead.

- ▸▸ Disabled Disable this function.
- ▸▸ Enabled Enable PME as wake up event. (Default value)

☞ Power On By Mouse

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

☞ Power On By Keyboard

- ▸▸ Password Enter from 1 to 5 characters to set the Keyboard Power On Password.
- ▸▸ Disabled Disable 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.

☞ Power-On by Alarm

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

- ▸▸ Disabled — Disable this function. (Default value)
- ▸▸ Enabled — Enable alarm function to POWER ON system.

If Power-On by Alarm is Enabled.

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

2-5 PnP/PCI Configurations

```
CMOS Setup Utility-Copyright (C) 1984-2007 Award Software
PnP/PCI Configurations

PCI 1 IRQ Assignment        [Auto]        Item Help
PCI 2 IRQ Assignment        [Auto]        Menu Level▶

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

☞ PCI 1 IRQ Assignment

▸▸ Auto	Auto assign IRQ to PCI 1. (Default value)
▸▸ 3,4,5,7,9,10,11,12,14,15	Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

☞ PCI 2 IRQ Assignment

▸▸ Auto	Auto assign IRQ to PCI 2. (Default value)
▸▸ 3,4,5,7,9,10,11,12,14,15	Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 2.

2-6 PC Health Status

CMOS Setup Utility-Copyright (C) 1984-2007 Award Software
PC Health Status

		Item Help
Reset Case Open Status	[Disabled]	Menu Level▶
Case Opened	NO	
Vcore	OK	
DDR18V	OK	
+3.3V	OK	
+12V	OK	
Current System Temperature	39°C	
Current CPU Temperature	49°C	
Current CPU FAN Speed	3183 RPM	
Current System FAN Speed	0 RPM	
System Warning Temperature	[Disabled]	
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	
CPU Smart FAN Control	[Enabled]	
CPU Smart FAN Mode	[Auto]	

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

☞ **Reset Case Open Status**

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

☞ **Case Opened**

If the case is closed, **Case Opened** will show "No."
If the case is opened, **Case Opened** will show "Yes."
If you want to reset **Case Opened** value, enable **Reset Case Open Status** and save the change to CMOS, and then your computer will restart.

☞ **Current Voltage(V) VCORE / DDR18V / +3.3V / +12V**

- Detect system's voltage status automatically.

☞ **Current System/CPU Temperature**

- Detect system/CPU temperature automatically.

☞ **Current System/CPU FAN Speed (RPM)**

- Detect system/CPU fan speed status automatically.

☞ **System/CPU Warning Temperature**

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

☞ **CPU/SYSEM FAN Fail Warning**

- Disabled — Fan Fail warning function disable. (Default value)
- Enabled — Fan Fail warning function enable.

☞ CPU Smart FAN Control (Note)

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

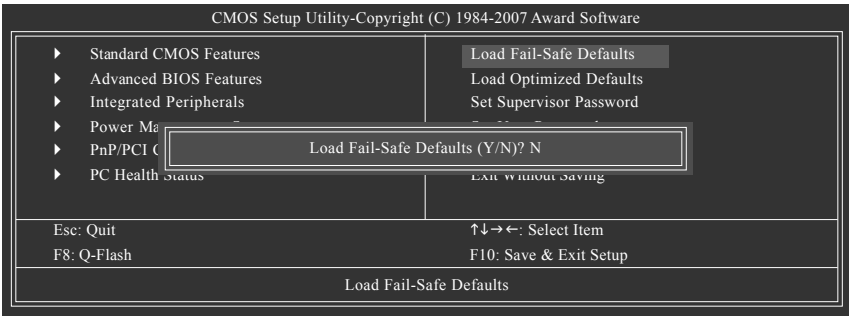
☞ CPU Smart FAN Mode

This option is available only when CPU Smart FAN Control is enabled.

- ▸▸ Auto — BIOS autodetects the type of CPU fan you installed and sets the optimal CPU Smart FAN control mode for it. (Default Value)
- ▸▸ Voltage — Set to Voltage when you use a CPU fan with a 3-pin fan power cable.
- ▸▸ PWM — Set to PWM when you use a CPU fan with a 4-pin fan power cable.

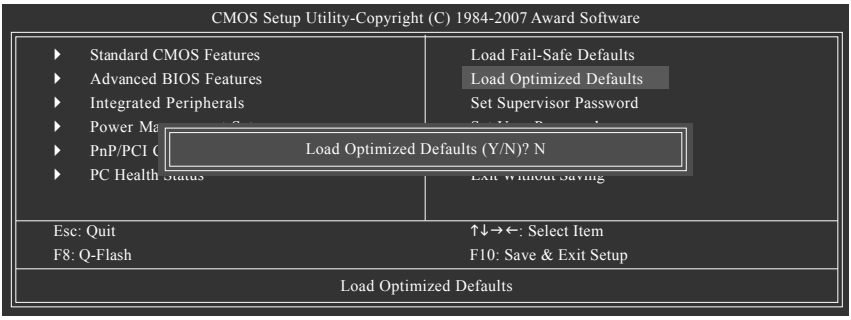
(Note) Whether the CPU Smart FAN Control function is supported will depend on the CPU you install.

2-7 Load Fail-Safe Defaults



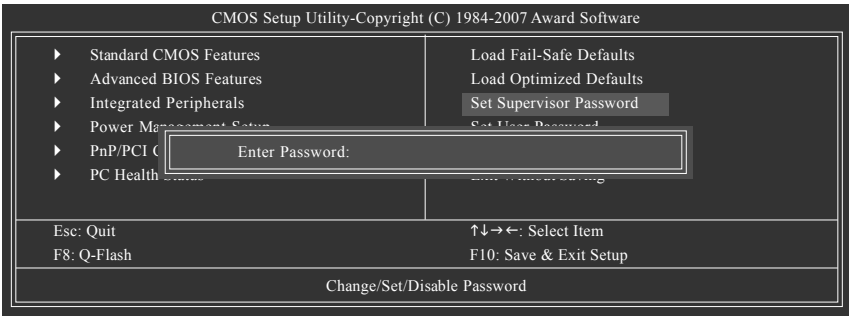
Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

2-8 Load Optimized Defaults



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

2-9 Set Supervisor/User Password



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

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

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

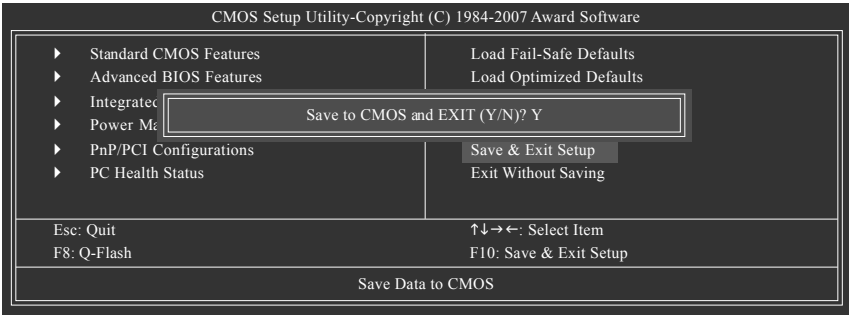
The BIOS Setup program allows you to specify two separate passwords:

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

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

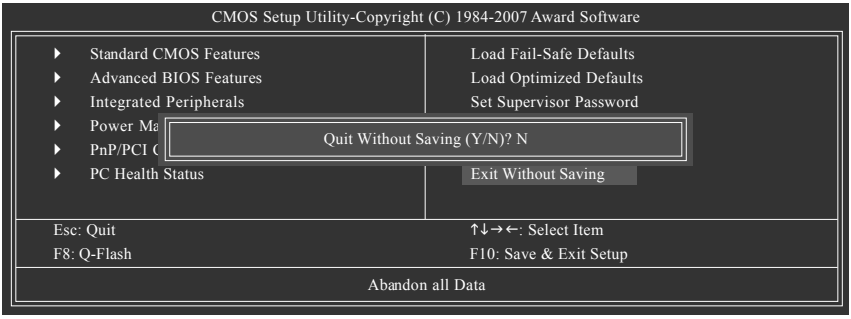
If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

2-10 Save & Exit Setup



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

2-11 Exit Without Saving



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

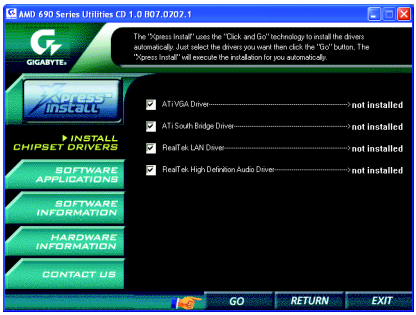
Chapter 3 Drivers Installation

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.

3-1 Install Chipset Drivers

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



NOTE

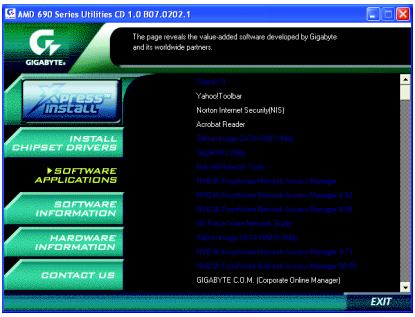
Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.
System will reboot automatically after install the drivers, afterward you can install others application.

CAUTION

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

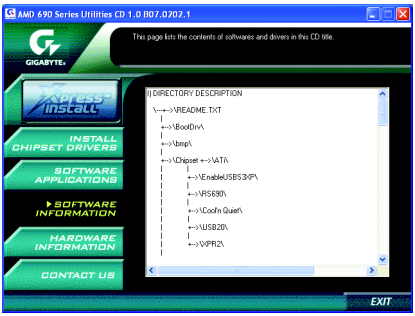
3-2 Software Application

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



3-3 Software Information

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



3-4 Hardware Information

This page lists all device you have for this motherboard.

3-5 Contact Us

Please see the last page for details.

Chapter 4 Appendix

4-1 Unique Software Utilities

4-1-1 EasyTune 5 Introduction

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

User Interface Overview

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

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

4-1-2 Xpress Recovery2 Introduction

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

System requirements:

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

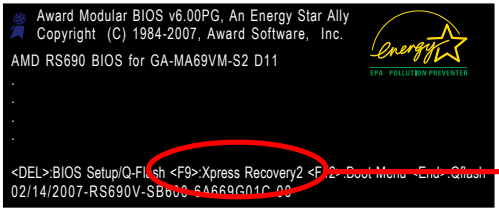
How to use the Xpress Recovery2

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

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

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

Boot from CD/DVD:



<F9> Xpress Recovery2

NOTE

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

The Main Screen of Xpress Recovery2

1. RESTORE:

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

2. BACKUP:

Back up data from hard disk.

3. REMOVE:

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

4. REBOOT:

Exit the main screen and restart the system.

Limitations:

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

Hard disks detection sequence is as follows:

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

Precautions:

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

4-1-3 Flash BIOS Method Introduction

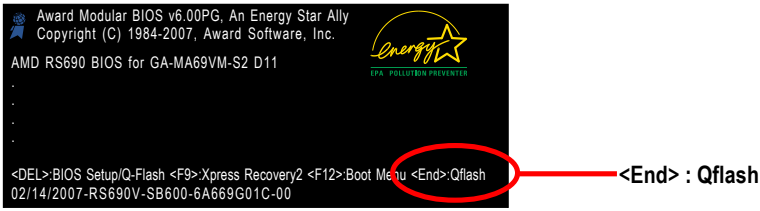
Method 1 : Q-Flash™

Q-Flash™ is a BIOS update tool that allows the user to update BIOS without entering operating systems like MS-DOS or Windows.Embedded in the BIOS, the Q-Flash™ tool frees you from the hassles of going through complicated BIOS flashing process.

Before Use:

Follow the steps below before using Q-Flash to update BIOS:

1. From GIGABYTE's website, download the latest compressed BIOS update file that matches your motherboard model.
2. Extract the file and save the new BIOS file (e.g. ma69vms2.F1) to your floppy disk, USB flash drive, or hard disk. Note: The USB flash drive or hard disk must use FAT32/16/12 file system.
3. Restart the system. During POST, press the End key to enter Q-Flash. Note: You can access Q-Flash by either pressing the End key during POST or the F8 key in BIOS Setup. However, if the BIOS update file is saved to a hard drive in RAID/AHCI mode or a hard drive attached to an independent IDE/SATA controller, use the End key during POST to access Q-Flash.



Because BIOS flashing is potentially risky, please do it with caution. Inadequate BIOS flashing may result in system malfunction.

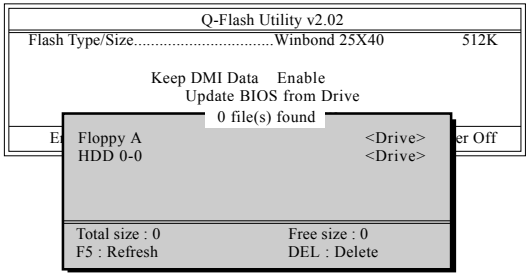
Updating the BIOS

Step 1:

a. In the Q-Flash menu, use the UP or DOWN ARROW key to select **Update BIOS from Drive** and press ENTER.

If you wish to back up the current BIOS file, use the **Save BIOS to Drive** function.

b. Select the floppy drive or hard drive where the BIOS file is saved, such as "Floppy A" and press ENTER.



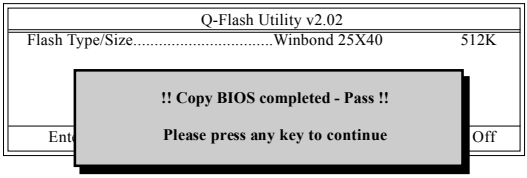
c. Select the BIOS file and press ENTER.

Make sure again the BIOS file matches your motherboard model.

Step 2: The process of system reading the BIOS file from the floppy disk is displayed on the screen. When the message "Are you sure to update BIOS?" appears, press ENTER. The BIOS update will begin and the current process will be displayed.

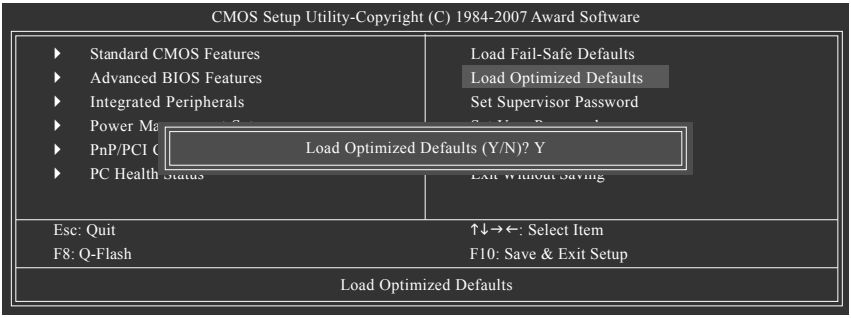
1. Do not turn off or restart the system when the system is reading/updating the BIOS.
2. Do not remove the floppy disk or hard drive/USB drive when the system is updating the BIOS.

Step 3: When the update process is complete, press any key to return to the Q-Flash main menu.



Step 4: Press ESC and then ENTER to exit Q-Flash and the system will restart. As the system reboots, you will see the new BIOS version during POST.

Step 5: As the system reboots, press DELETE to enter BIOS Setup. Select **Load Optimized Defaults** and press ENTER to load BIOS defaults. System will re-detect all peripherals devices after BIOS update, so we recommend that you reload BIOS defaults.



Press Y to load BIOS defaults

Step 6: Select **Save & Exit Setup** and then press **Y** to save settings to CMOS and exit BIOS Setup. When the system restarts, the whole update process is complete.

Method 2 : @BIOS™ Utility

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

Fig 1. Installing the @BIOS utility

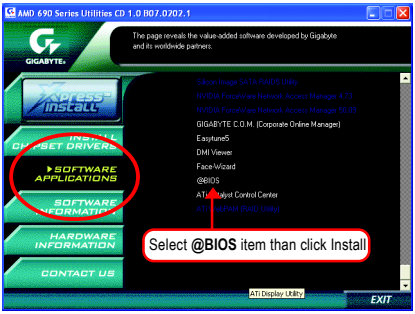


Fig 2. Installation complete and run @BIOS

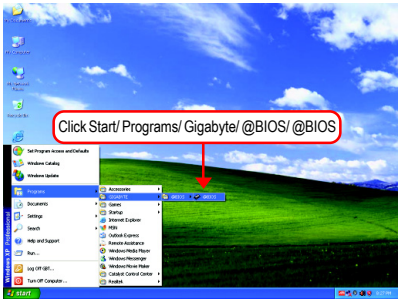


Fig 3. The @BIOS utility

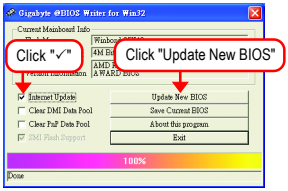
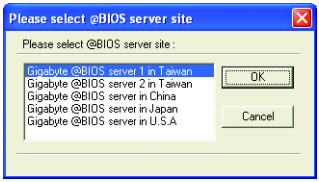


Fig 4. Select the desired @BIOS server



1. Methods and steps:

I. Update BIOS through Internet:

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

II. Update BIOS NOT through Internet:

a. Do not click "Internet Update" icon.
b. Click "Update New BIOS".
c. Please select "All Files" in dialog box while opening the old file.
d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: ma69vms2.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.

2. Note:

I. In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.
II. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.
III. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigabyte's website for downloading and updating it according to method II.
IV. Please note that any interruption during updating will cause system unbooted.
V. Do not use @BIOS and C.O.M. (Corporate Online Management) at the same time.

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

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

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

Before you begin

Please prepare:

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

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

Attach one end of the SATA signal cable to the rear of the SATA hard drive and the other end to available SATA port(s) on the motherboard. Then connect the power connector from your power supply to the hard drive.

(Note) Skip this step if you do not want to create RAID array on the SATA controller.

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

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

Step 1:

Turn on your computer and press Del to enter BIOS Setup during POST (Power-On Self Test). In BIOS Setup, go to **Integrated Periperals.** Ensure that **OnChip SATA Controller** is enabled. If you wish to create RAID array, set **OnChip SATA Type** to **RAID**. (Figure 1).

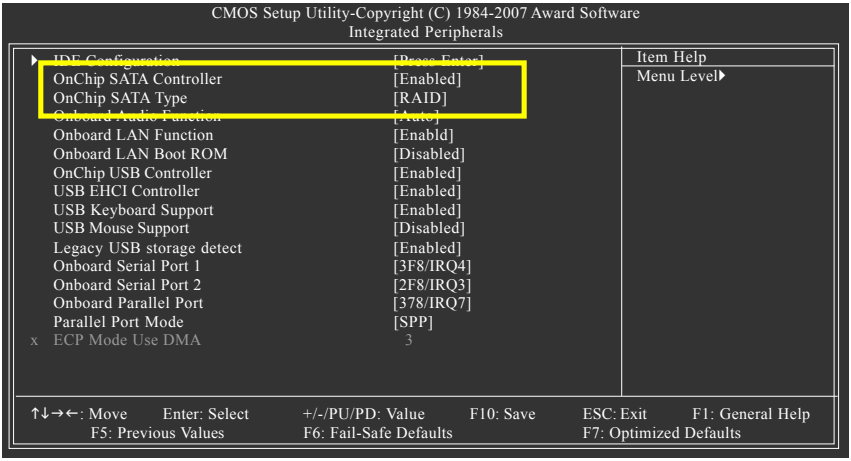


Figure 1

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

Step 2:

To boot from Windows installation CD-ROM, set **First Boot Device** under the **Advanced BIOS Features** menu to **CDROM** (Figure 2).

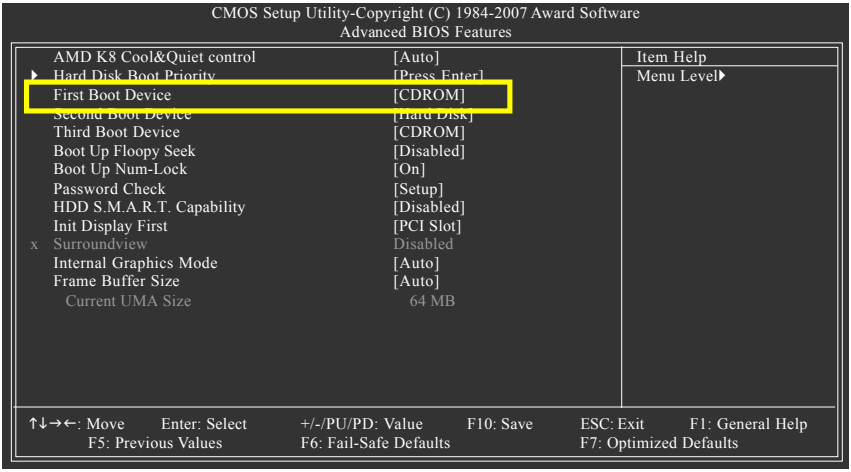


Figure 2

Step 3:

Save and exit BIOS Setup.

(3) Configuring RAID set in RAID BIOS

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

Step 1:

After the POST memory test begins and before the operating system boot begins, look for a message which says "Press <Ctrl-F> to enter FastBuild (tm) Utility" (Figure 3). Hit the <Ctrl>+<F> key to enter the ATI RAID BIOS setup utility.

```
RAID BIOS Version 2.5.1540.32
(c) 2006 ATI Technology, Inc. All rights reserved.

No Array is defined.............................

Press <Ctrl-F> to enter FastBuild (tm) Utility
```

Figure 3

Step 2:

Main Menu

This is the first option screen when you enter the ATI BIOS RAID Setup utility. (Figure 4).

To view the disk drives assigned to arrays, press <1> to enter the *View Drive Assignments* window.

To create an array, press <2> to enter the *Define LD* window.

To delete an array, press <3> to enter the *Delete LD* window.

To view controller settings, press <4> to enter the *Controller Configuration*.

```
FastBuild (tm) Utility (c) 2006 ATI Technology, Inc.

[ Main Menu]

View Drive Assignments.............................[ 1 ]

Define LD..........................................[ 2 ]

Delete LD..........................................[ 3 ]

Controller Configuration...........................[ 4 ]

[ Keys Available]

Press 1..4 to Select Option                    [ESC] Exit
```

Figure 4

Create Arrays Manually

To create a new array, press <2> to enter the *Define LD* window (Figure 5). The Define LD selection from the Main Menu allows users to begin the process of manually defining the drive elements and RAID levels for one or multiple disk arrays attached to the AMD SB600 controller.

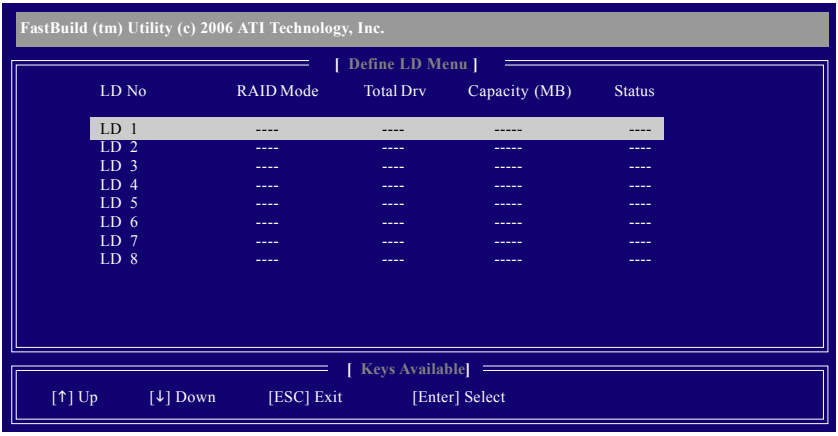


Figure 5

Use arrow keys [↑↓] to move to a logical disk set and press ENTER to enter the *Define LD Menu* (Figure 6).

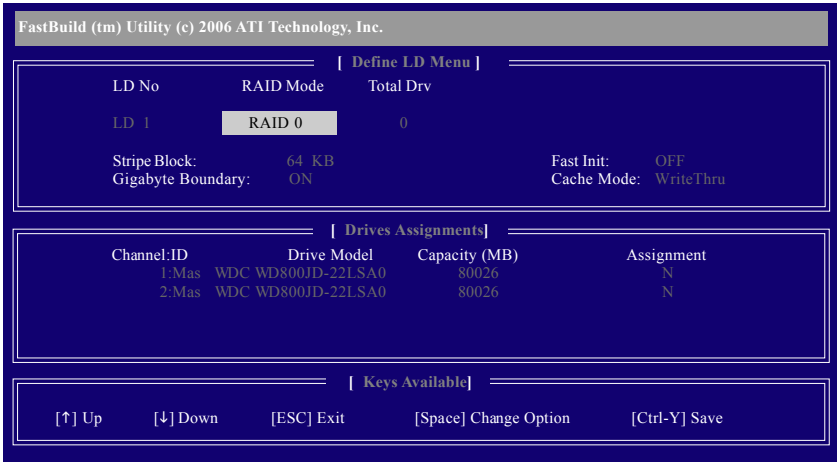


Figure 6

In the following procedure, we'll create RAID 0 as an example.

1. Under the RAID Mode section, press the Spacebar to select *RAID 0*.
2. Set the Stripe Block size. 64K is the default.
3. Under the Drives Assignments section, press UP or DOWN ARROW keys to highlight a drive.
4. Press the Spacebar to change the Assignment option to Y. This action adds the drive to the disk array. The Total Drv section will show the number of disks assigned.
5. Press <Ctrl>+<Y> keys to save the information. The window below will appear.

Figure 7

6. Press <Ctrl>+<Y> to set the capacity of the RAID array or press other keys to set the array to its maximum capacity.
7. After the creation is complete, the screen will return to *Define LD Menu* where you will see the newly-created array.
8. Press <Esc> to return to Main Menu and press <Esc> again if you want to exit the RAID BIOS utility.

View Drive Assignments

The *View Drives Assignments* option in the Main Menu displays whether drives attached to the ATI SB600 controller are assigned to a disk array or are unassigned. Under the Assignment column, drives are labeled with their assigned disk array or shown as *Free* if unassigned.

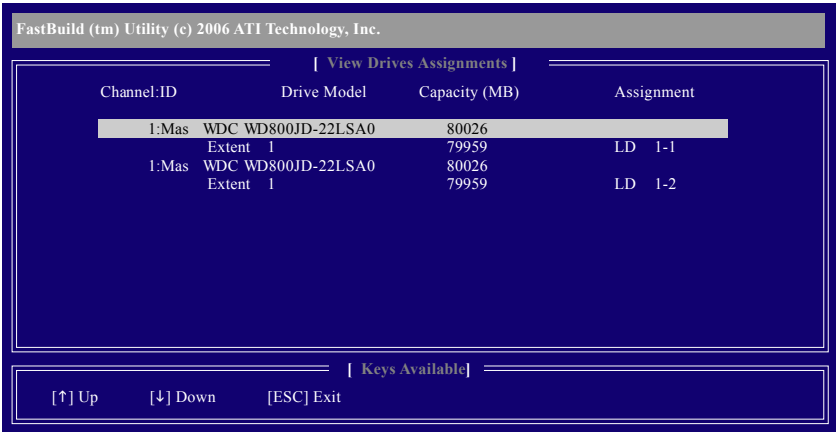


Figure 8

Delete an Array

The Delete Array menu option allows for deletion of disk array assignments.

CAUTION

Deleting an existing disk array could result in loss of data. Record all array information including the array type, the disk members, and stripe block size in case you wish to undo a deletion.

1. To delete an array, in *Delete LD Menu*, highlight the array you wish to delete and press the <Del> key or the <Alt>+<Del> keys.
2. The View LD Definition Menu will appear (as Figure 9) showing which drives are assigned to this array. Press <Ctrl>+<Y> if you are sure to delete the array or other keys to abort.
3. When the array is deleted, the screen will return to *Delete LD Menu*. Press <Esc>to return to Main Menu.

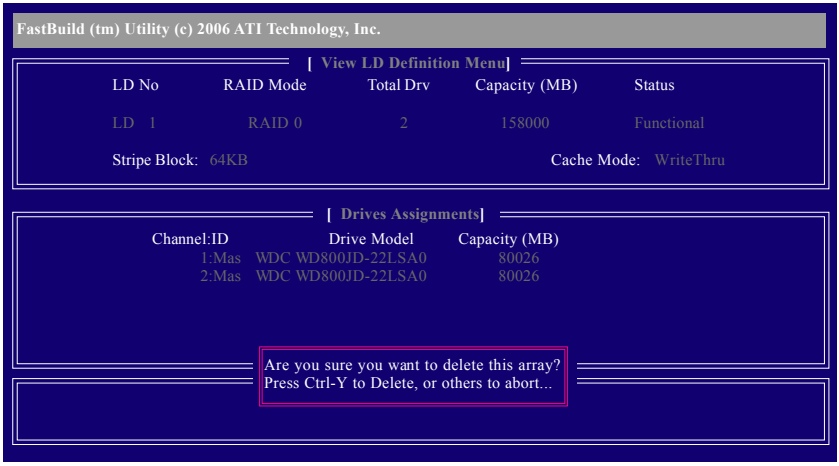


Figure 9

(4) Making a SATA Driver Disk

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

Step 1: Insert the prepared startup disk and motherboard driver CD-ROM in your system. Boot from the startup disk. Once at the A:\> prompt, change to the CD-ROM drive (example: D:\>). At the D:\> prompt, type the following two commands. Press ENTER after each command (Figure 10):

```
cd bootdrv
menu
```

Step 2: When the controller menu (Figure 11) appears, remove the startup disk and insert the blank formatted disk. Select the controller driver by pressing the corresponding letter from the menu.
For example, from the menu in Figure 11, press 4 to select **(4) SB600 SATA**. Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.

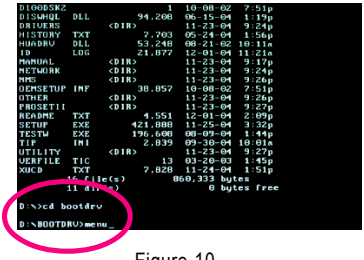


Figure 10

Figure 11

(Note) For users without a startup disk:
Use an alternative system and insert the GIGABYTE motherboard driver CD-ROM. From the CD-ROM drive folder, double click the **MENU.exe** file in the **BootDrv** folder (Figure 12). A command prompt window will open similar to that in Figure 11.

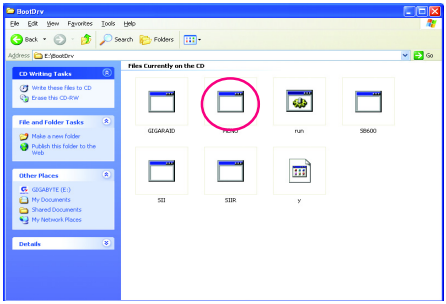


Figure 12

(5) Installing SATA controller driver during OS installation

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

Step 1: Restart your system to boot from the Windows 2000/XP Setup disk and press F6 as soon as you see the "Press F6 if you need to install a 3rd party SCSI or RAID driver" message (Figure 13). After pressing F6, there will be a few moments of some files being loaded before you see the next screen.

Figure 13

Step 2:
When a screen similar to that below appears, insert the floppy disk containing the SATA driver and press S (Figure 14).

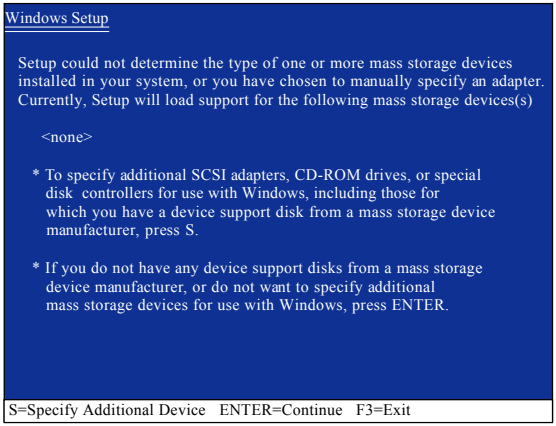


Figure 14

Step 3:

If Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 15 below will appear. Use the ARROW keys to select **ATI AHCI Compatible RAID Controller-x86 platform** (Figure 15) and press ENTER. Later, when a screen similar to Figure 16 appears, press ENTER to continue the SATA driver installation from the floppy disk.

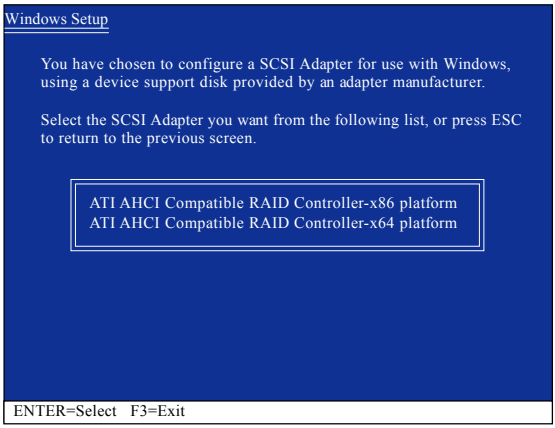


Figure 15

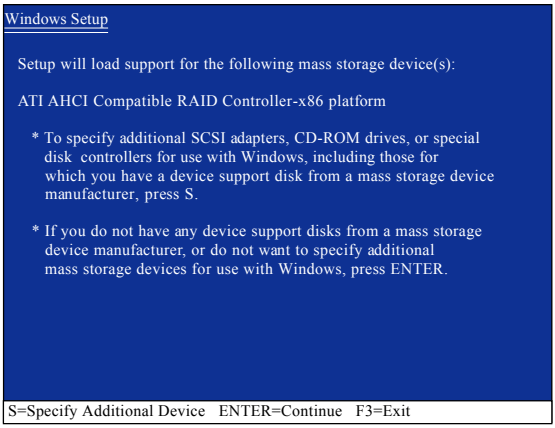


Figure 16

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

Step 4:

After the SATA controller driver installation is completed, you can proceed with the Windows 2000/XP installation.

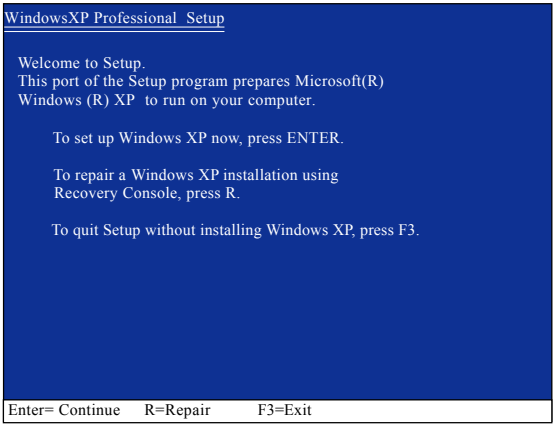


Figure 17

(Note: Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.)

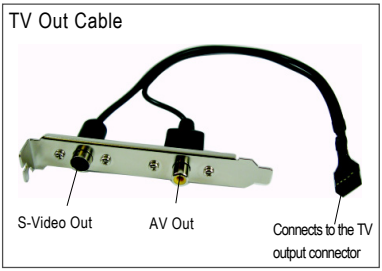
4-1-5 Installation of TV Out Cable (Optional Device)

A TV output connector is available on the motherboard (refer to page 26). Via the use of the TV Out cable, you can connect a TV to your computer for output of analog video signals.

Hardware Installation

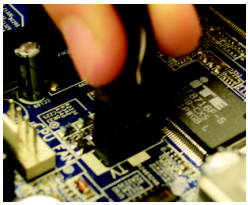
CAUTION

- Turn off your system and the power switch on the power supply before installing or removing the TV Out cable to prevent damage to the TV Out cable.
- Insert the TV Out cable securely into the corresponding connector when installing.



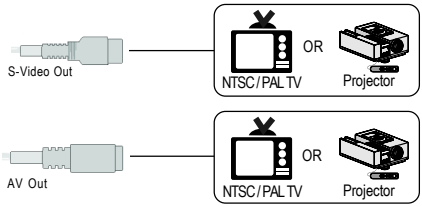
Follow the steps below to install theTV Out Cable:

Step 1:
Secure the TV Out cable to the chassis back panel with a screw.



Step 2:
Connect TV Out cable connector to the motherboard TV output connector.

Step 3:
Connect the S-Video or AV cable from your video system to the S-Video Out or AV Out jack on the bracket to output the analog video signals (Note).

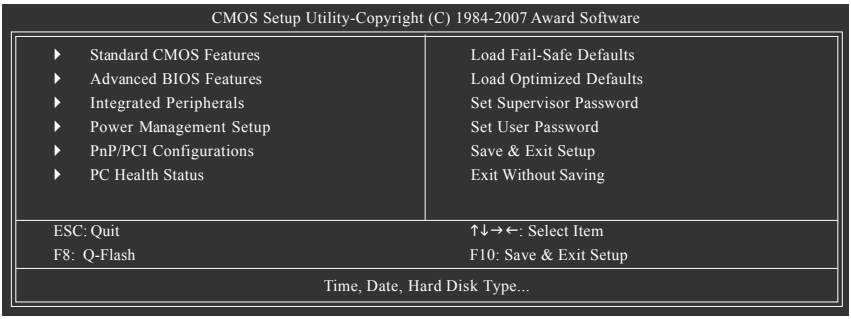


(Note): The S-Video Out and AV Out cannot be used at the same time.

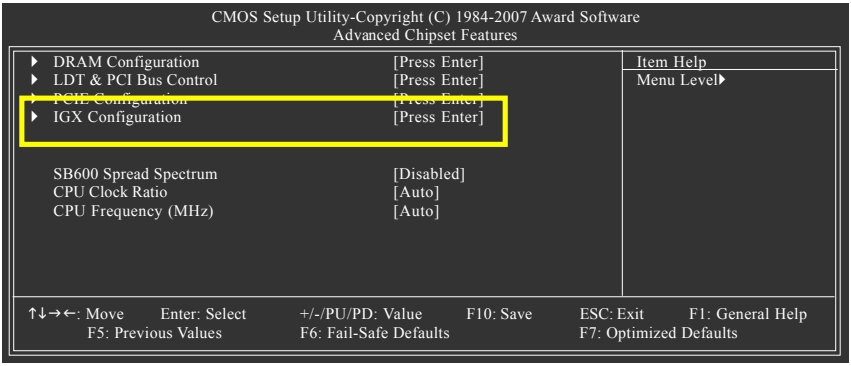
Enabling the TV Out Function

Method 1: Throuth the BIOS Setup program

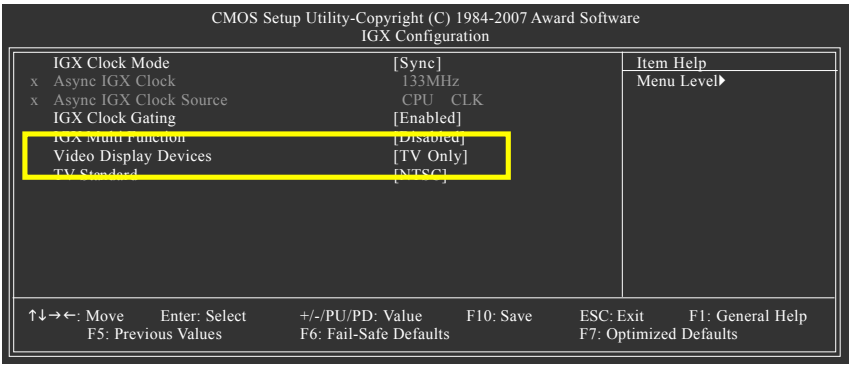
Step 1: In BIOS Setup, press <Ctrl>+<F1> to access advanced options.



Step 2: Press <Enter> on the **Advanced Chipset Features** item to enter the submenu. Then In **IGX Configuration** press <Enter>.



Step 3: Set **Video Display Devices** under the **IGX Configuration** submenu to **TV Only.**



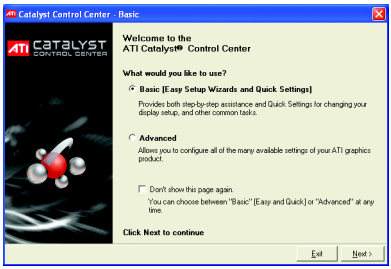
Step 4:Save and exit BIOS Setup.

Method 2:Through Software Settings

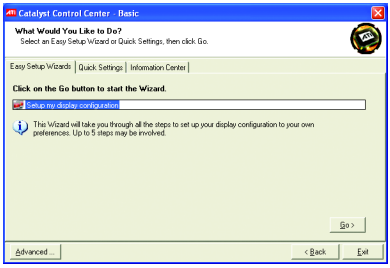
Step 1:
Install the ATI Catalyst Control Center utility.

Step 2:
After the installation, you will find an **ATI Catalyst Control Center** icon on the taskbar's status area. Right-click the icon to select **Catalyst Control Center**. Or you can right-click on the desktop to select **ATI CATALYST(R) Control Center**.

Step 3:
The Basic View is the default view when Catalyst Control Center is launched for the first time. This interface provides access to the basic settings and advanced features of your ATI graphics products. You can switch between Basic View and Advanced View at any time. Please select **Basic [Easy Setup Wizards and Quick Settings],** then click **Next**.

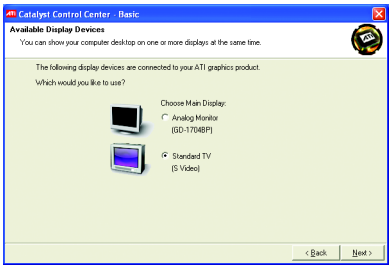


Step 4:
Choose **Setup my display configuration** from the central list and click **Go**. The EasySetup Wizard will assist you in step-by-step configurations.



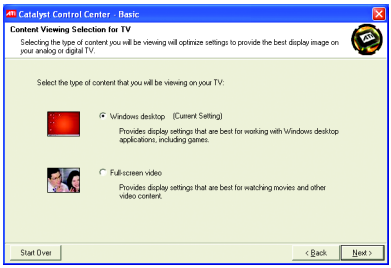
Step 5:

Select **Standard TV**, then click **Go**.



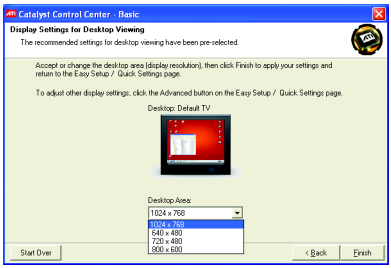
Step 6:

Depending on your requirements, select the type of content that you will be viewing on your TV. Then click **Next**.



Step 7:

Accept or change the desktop area display resolution, then click **Finish** to apply your settings and return to the Easy Setup / Quick Settings page. The recommended settings for desktop viewing have been preselected.



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

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

CAUTION Note that if you wish to connect a microphone, you MUST connect it to the default Mic In jack for the microphone to work correctly.

HD Audio

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

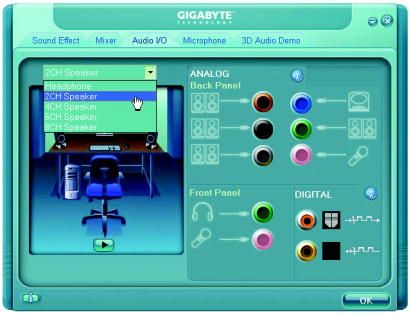
Stereo Speakers Connection and Settings:

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

STEP 1 :

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

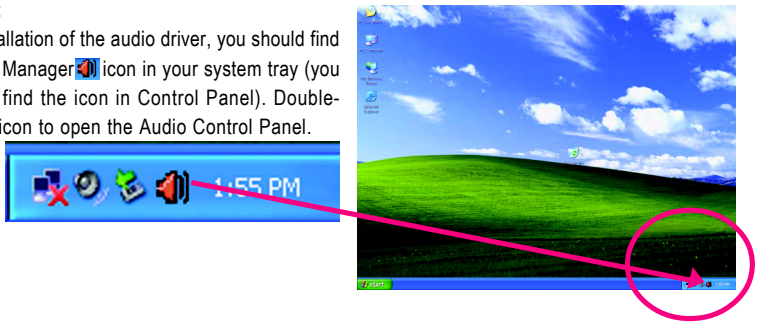
STEP 2:
In the Audio Control Panel, click the **Audio I/O** tab. In the upper left list, click **2CH Speaker**.



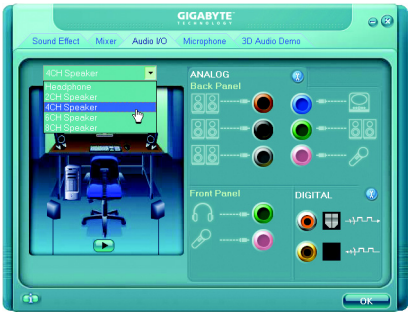
STEP 3:
After a speaker or headphone is plugged into the rear Line Out jack, a small window will pop up and ask you what type of equipment is connected. Choose **Headphone** or **Line Out** depending on the device connected and click **OK**. The 2-channel audio setup is completed.

4 Channel Audio Setup

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



STEP 2:
In the Audio Control Panel, click the **Audio I/O** tab. In the upper left list, click **4CH Speaker**.



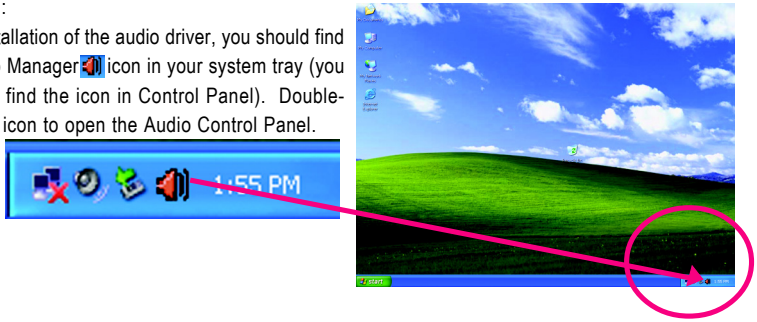
STEP 3:

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

6 Channel Audio Setup

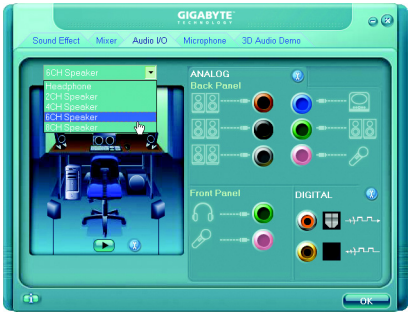
STEP 1 :

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



STEP 2:

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



STEP 3:

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

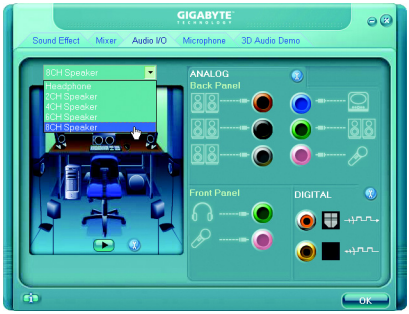
8 Channel Audio Setup

STEP 1 :

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

STEP 2:

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



STEP 3:

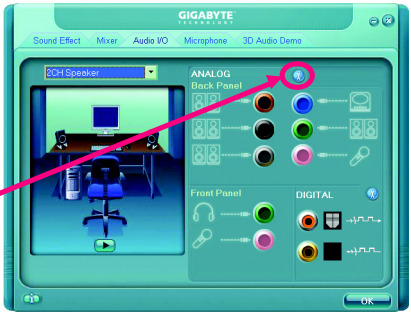
After plugging in 8-channel speakers to the rear speaker jacks, a small window will pop up and ask you what type of equipment is connected. Choose a device depending on the type of speaker connected (8-channel audio consists of Front Speaker Out (Line Out), Rear Speaker Out, Center/Subwoofer Speaker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

Sound Effect Configuration:

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

AC'97 Audio Configuration:

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



4-2 Troubleshooting

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to www.gigabyte.com.tw

Question 1: I cannot see some options that were included in previous BIOS after updating BIOS. Why?
Answer: Some advanced options are hidden in new BIOS version. Please press Ctrl and F1 keys after entering BIOS menu and you will be able to see these options.

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

Question 3: How do I clear CMOS?
Answer: If your board has a Clear CMOS jumper, please refer to the Clear CMOS steps in the manual. If your board doesn't have such jumper, you can take off the on-board battery to leak voltage to clear CMOS. Please refer to the steps below:

Steps:

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

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

Question 5: Sometimes I hear different continuous beeps from computer after system boots up. What do these beeps usually stand for?
Answer: The beep codes below may help you identify the possible computer problems. However, they are only for reference purposes. The situations might differ from case to case.

→ AWARD BIOS Beep Codes

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

Contact Us

- **Taiwan (Headquarters)**

GIGA-BYTE TECHNOLOGY CO., LTD.
Address: No.6, Bau Chiang Road, Hsin-Tien,
Taipei 231, Taiwan
TEL: +886-2-8912-4888
FAX: +886-2-8912-4003
Tech. and Non-Tech. Support (Sales/Marketing) :
http://ggts.gigabyte.com.tw
WEB address (English): http://www.gigabyte.com.tw
WEB address (Chinese): http://www.gigabyte.tw

- **U.S.A.**

G.B.T. INC.
TEL: +1-626-854-9338
FAX: +1-626-854-9339
Tech. Support:
http://rma.gigabyte-usa.com
Web address: http://www.gigabyte.us

- **Mexico**

G.B.T Inc (USA)
Tel: +1-626-854-9338 x 215 (Soporte de habla hispano)
FAX: +1-626-854-9339
Correo: soporte@gigabyte-usa.com
Tech. Support:
http://rma.gigabyte-usa.com
Web address: http://www.gigabyte-latam.com

- **Japan**

NIPPON GIGA-BYTE CORPORATION
WEB address : http://www.gigabyte.co.jp

- **Singapore**

GIGA-BYTE SINGAPORE PTE. LTD.
WEB address : http://www.gigabyte.com.sg

- **China**

NINGBO G.B.T. TECH. TRADING CO., LTD.
WEB address : http://www.gigabyte.cn

Shanghai
TEL: +86-21-63410999
FAX: +86-21-63410100

Beijing
TEL: +86-10-62102838
FAX: +86-10-62102848

Wuhan
TEL: +86-27-87851061
FAX: +86-27-87851330

GuangZhou
TEL: +86-20-87540700
FAX: +86-20-87544306 ext. 333

Chengdu
TEL: +86-28-85236930
FAX: +86-28-85256822 ext. 814

Xian
TEL: +86-29-85531943
FAX: +86-29-85539821

Shenyang
TEL: +86-24-83992901
FAX: +86-24-83992909

- **India**

GIGABYTE TECHNOLOGY (INDIA) LIMITED
WEB address : http://www.gigabyte.in

- **Australia**

GIGABYTE TECHNOLOGY PTY. LTD.
WEB address : http://www.gigabyte.com.au

- **Germany**

G.B.T. TECHNOLOGY TRADING GMBH

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

- **U.K.**

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

WEB address : http://www.giga-byte.co.uk

- **The Netherlands**

GIGA-BYTE TECHNOLOGY B.V.

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

- **France**

GIGABYTE TECHNOLOGY FRANCE

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

- **Italy**

WEB address : http://www.giga-byte.it

- **Spain**

GIGA-BYTE SPAIN

WEB address : http://www.giga-byte.es

- **Czech Republic**

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

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

- **Turkey**

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

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

- **Russia**

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

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

- **Latvia**

GIGA-BYTE Latvia

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

- **Poland**

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

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

- **Ukraine**

WEB address : http://www.gigabyte.kiev.ua

- **Romania**

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

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

- **Serbia & Montenegro**

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

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

GIGABYTE Global Service System

To submit a technical or non-technical (Sales/ Marketing) question, please link to :

http://ggts.gigabyte.com.tw

Then select your language to enter the system.

关于符合中国《电子信息产品污染控制管理办法》的声明
Management Methods on Control of Pollution from Electronic Information Products
(China RoHS Declaration)

产品中有毒有害物质或元素的名称及含量
Hazardous Substances Table

部件名称(Parts)	有毒有害物质或元素(Hazardous Substances)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB板 PCB	○	○	○	○	○	○
结构件及风扇 Mechanical parts and Fan	×	○	○	○	○	○
芯片及其他主动零件 Chip and other Active components	×	○	○	○	○	○
连接器 Connectors	×	○	○	○	○	○
被动电子元器件 Passive Components	×	○	○	○	○	○
线材 Cables	○	○	○	○	○	○
焊接金属 Soldering metal	○	○	○	○	○	○
助焊剂，散热膏，标签及其他耗材 Flux,Solder Paste,Label and other Consumable Materials	○	○	○	○	○	○

○:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。
Indicates that this hazardous substance contained in all homogenous materials of this part is below the limit requirement SJ/T 11363-2006

×:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。
Indicates that this hazardous substance contained in at least one of the homogenous materials of this part is above the limit requirement in SJ/T 11363-2006

对销售之日的所受售产品，本表显示我公司供应链的电子信息产品可能包含这些物质。注意：在所售产品中可能会也可能不会含有所有所列的部件。
This table shows where these substances may be found in the supply chain of our electronic information products, as of the date of the sale of the enclosed products, Note that some of the component types listed above may or may not be a part of the enclosed product.