

GA-8N-SLI Royal/ GA-8N-SLI Pro/ GA-8N-SLI

Intel® Pentium® Processor Extreme Edition

Intel® Pentium® D / Pentium® 4 LGA775 Processor Motherboard

User's Manual

Rev. 1004

12ME-8NSLIRO-1004

Declaration of Conformity

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

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

GA-8N-SLI Royal
Motherboard
is in conformity with conformity is declared)
(reference to the specification with which conformity is declared)
in accordance with 90/269 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
 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 equipment

EN 55024

Information Technology equipment. Immunity requirements

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
 EN 50082-2

Generic immunity standard Part 1: Residential, commercial and light industry. Industrial environment

EN 55015
Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaires

EN 55014-2

Immunity requirements for household appliances tools and similar apparatus

EN 55020
Immunity from radio interference of 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 1
 Part 12
Cabled distribution systems. Equipment for power supply systems for sound and television signals

CE marking



(EC conformity marking)

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

EN 60085
Safety requirements for mains operated household and similar general use

EN 60950

Safety for information technology equipment including electrical business equipment

EN 60335
Safety of household and similar electrical appliances

EN 50091-1

General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

Signature: *Timmy Huang*

(Stamp)

Date: May 6, 2005

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-8N-SLI Royal

Conforms to the following specifications:

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

(a), Class B Digital Device

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: *Eric Lu*

Date: May 6, 2005

Declaration of Conformity

G.B.T. Technology, Inc.
We, Manufacturer/Importer
(full address)
Ausselshager Weg 41, Ff 20327 Hamburg, Germany

(description of the apparatus, system, installation to which it refers)
I declare that the product
GA-8N-SLI Pro
Motherboard
is in conformity with
(reference to the specification with which conformity is declared)
the specifications with 90338 EEC EMC Directive

- | | | | |
|--|---|--|---|
| <input type="checkbox"/> EN 55011 | Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment | <input checked="" type="checkbox"/> EN 61000-3-2 | Disturbances in supply systems caused by household appliances and similar electrical equipment. Voltage fluctuations* |
| <input type="checkbox"/> EN 55013 | Limits and methods of measurement of radio disturbance characteristics of equipment | <input checked="" type="checkbox"/> EN 55024 | Information Technology equipment/Immunity requirements |
| <input type="checkbox"/> EN 55014-1 | Limits and methods of measurement of radio disturbance characteristics of portable tools and similar electrical apparatus | <input type="checkbox"/> EN 55082-1 | Generic immunity standard Part 1: Residential, commercial and light industry |
| <input type="checkbox"/> EN 55015 | Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaires | <input type="checkbox"/> EN 55082-2 | Generic immunity standard Part 2: Industrial environment |
| <input type="checkbox"/> EN 55020 | Immunity from radio interference of equipment | <input type="checkbox"/> EN 55014-2 | Immunity requirements for household appliances tools and similar apparatus |
| <input checked="" type="checkbox"/> EN 55022 | Limits and methods of measurement of radio disturbance characteristics of information technology equipment | <input type="checkbox"/> EN 50091-2 | EMC requirements for uninterruptible power systems (UPS) |
| <input type="checkbox"/> EN 50091-1 | Limits and methods of measurement of radio disturbance characteristics of sound and television signals | | |
| <input type="checkbox"/> EN 50095 | Safety requirements for mains operated household and similar general use electrical appliances | <input type="checkbox"/> EN 60950 | Safety for information technology equipment including electrical business equipment |
| <input type="checkbox"/> EN 60335 | Safety of household and similar electrical appliances | <input type="checkbox"/> EN 50091-1 | General and Safety requirements for uninterruptible power systems (UPS) |



(EEC conformity marking)

The manufacturer/declarer declares the conformity of above standard product with the actual required safety standards in accordance with LVD 7023 EEC

(Stamp)

Date : June 2, 2005

Signature : Timmy Huang
Name : Timmy Huang

Manufacturer/Importer

Signature : 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-8N-SLI Pro

Conforms to the following specifications:

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

(a), Class B Digital Device

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: June 2, 2005

Declaration of Conformity

G.B.T. Technology, Inc.
We, Manufacturer/Importer
(full address)
Ausselshager Weg 41, Pk 20327 Hamburg, Germany

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

Motherboard

GA-8N-SLI
is in conformity with conformity is declared)
(reference to the specification in accordance with 90/269 EEC EMC Directive)

- | | | | |
|--|--|--|---|
| <input type="checkbox"/> EN 55011 | Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment | <input checked="" type="checkbox"/> EN 61000-3-2 | Disturbances in supply systems caused by household appliances and similar electrical equipment. Voltage fluctuations* |
| <input type="checkbox"/> EN 55013 | Limits and methods of measurement of radio disturbance characteristics of information technology equipment | <input checked="" type="checkbox"/> EN 55024 | Information Technology equipment immunity requirements |
| <input type="checkbox"/> EN 55014-1 | Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus | <input type="checkbox"/> EN 55082-1 | Generic immunity standard Part 1: Residential, commercial and light industry |
| <input type="checkbox"/> EN 55015 | Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaires | <input type="checkbox"/> EN 55082-2 | Generic immunity standard Part 2: Industrial environment |
| <input type="checkbox"/> EN 55020 | Immunity from radio interference of equipment | <input type="checkbox"/> EN 55014-2 | Immunity requirements for household appliances tools and similar apparatus |
| <input checked="" type="checkbox"/> EN 55022 | Limits and methods of measurement of radio disturbance characteristics of information technology equipment | <input type="checkbox"/> EN 50091-2 | EMC requirements for uninterruptible power systems (UPS) |
| <input type="checkbox"/> EN VDE 0855 | Cabled distribution systems. Equipment | | |
| <input type="checkbox"/> EN 50091-1 | Immunity from radio interference of equipment | | |
| <input type="checkbox"/> EN 50095 | Safety requirements for mains operated household and similar general use electrical appliances | | |
| <input type="checkbox"/> EN 50035 | Safety of household and similar electrical appliances | | |
| <input type="checkbox"/> EN 50091-1 | General and Safety requirements for uninterruptible power systems (UPS) | | |



(EC conformity marking)

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

EN 60950

Safety for information technology equipment including electrical business equipment

Manufacturer/Importer

Signature: Timmy Huang

Date: Oct. 26, 2005

Name: Timmy Huang

(Stamp)

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-8N-SLI

Conforms to the following specifications:

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

(a), Class B Digital Device

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Oct. 26, 2005

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Product Manual Classification

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

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

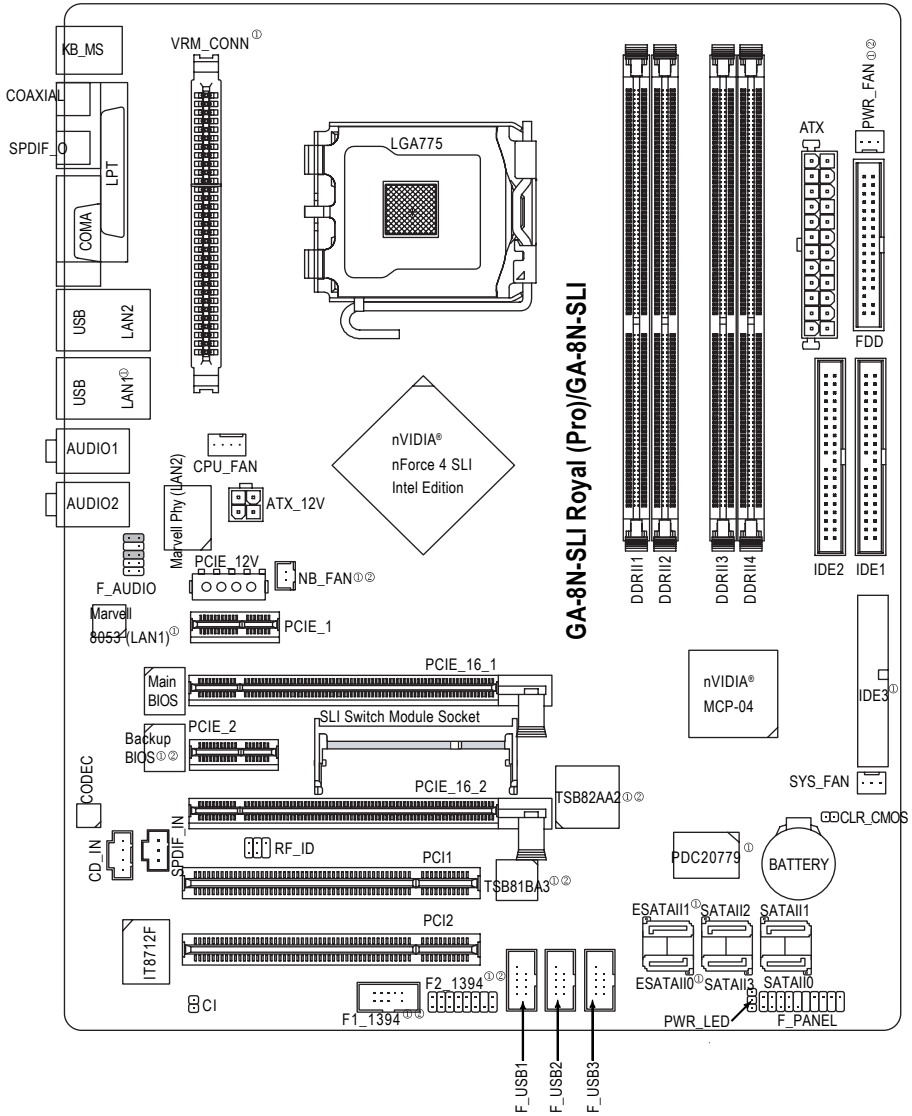
GA-8N-SLI Royal / GA-8N-SLI Pro / GA-8N-SLI Motherboard Layout	8
Block Diagram	9
Chapter 1 Hardware Installation	11
1-1 Considerations Prior to Installation	11
1-2 Feature Summary	12
1-3 Installation of the CPU and Heatsink	14
1-3-1 Installation of the CPU	14
1-3-2 Installation of the Heatsink	15
1-4 Installing/Removing Cool-Plus (Northbridge Cooling Fan) ^{①②}	16
1-5 Installation of Memory	16
1-6 Installation of Expansion Cards	18
1-7 Installation of U-Plus DPS (Universal Plus Dual Power System) ^①	19
1-8 Setup of SLI (Scalable Link Interface) Configuration	20
1-9 I/O Back Panel Introduction	23
1-10 Connectors Introduction	24
Chapter 2 BIOS Setup	35
The Main Menu (For example: BIOS Ver. : GA-8N-SLI Royal F3I)	36
2-1 Standard CMOS Features	38
2-2 Advanced BIOS Features	40
2-3 Integrated Peripherals	42
2-4 Power Management Setup	45
2-5 PnP/PCI Configurations	47
2-6 PC Health Status	48
2-7 MB Intelligent Tweaker(M.I.T.)	50
2-8 Select Language ^{①②}	53
2-9 Load Fail-Safe Defaults	53
2-10 Load Optimized Defaults	53
2-11 Set Supervisor/User Password	54
2-12 Save & Exit Setup	55
2-13 Exit Without Saving	55

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

Chapter 3 Drivers Installation	57
3-1 Install Chipset Drivers	57
3-2 Software Application	58
3-3 Software Information	58
3-4 Hardware Information	59
3-5 Contact Us	59
Chapter 4 Appendix	61
4-1 Unique Software Utilities	61
4-1-1 EasyTune 5 Introduction	62
4-1-2 Xpress Recovery2 Introduction	63
4-1-3 Flash BIOS Method Introduction	65
4-1-4 Serial ATA BIOS Setting Utility Introduction	76
4-1-5 2- / 4- / 6- / 8- Channel Audio Function Introduction	87
4-2 Troubleshooting	91

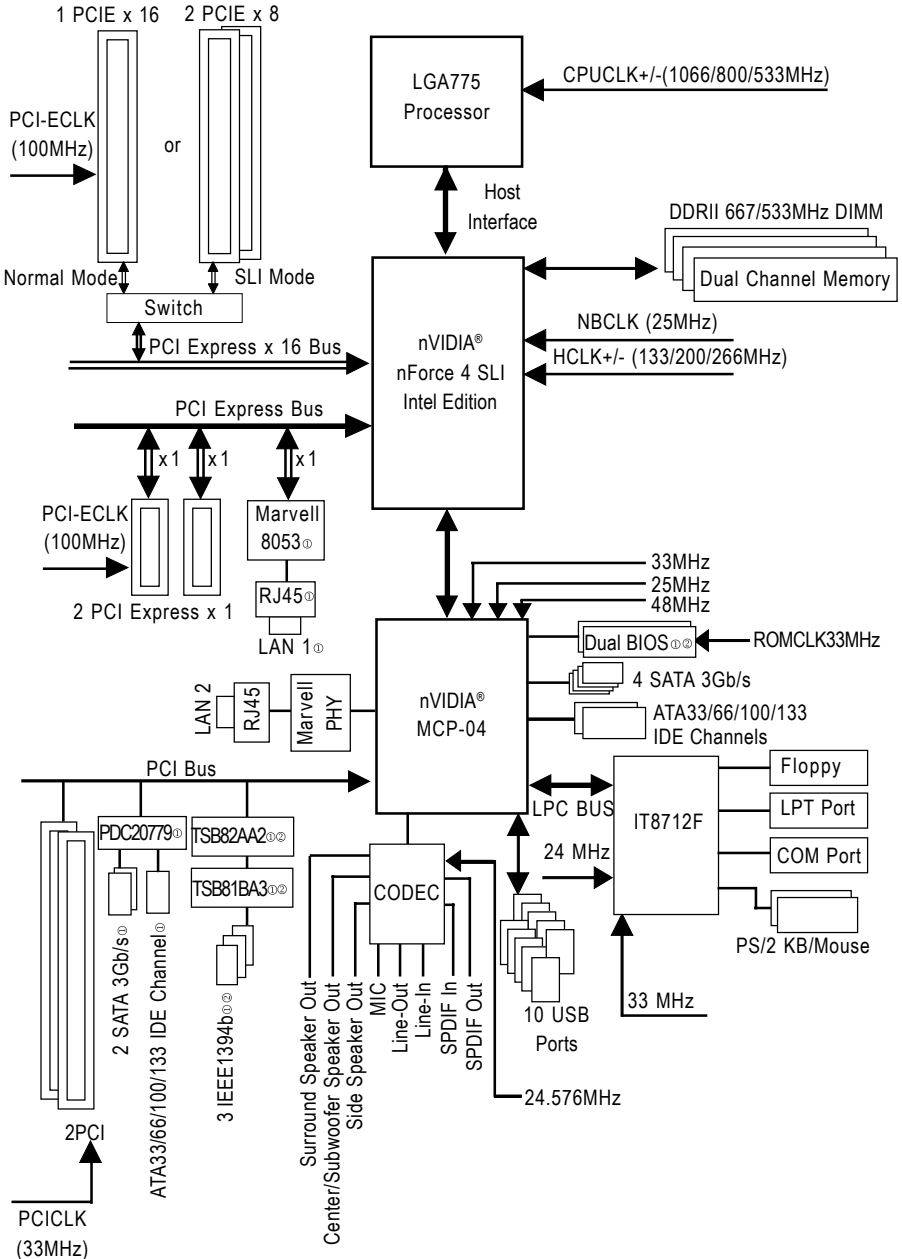
GA-8N-SLIRoyal / GA-8N-SLIPro / GA-8N-SLIMotherboard Layout



① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

Block Diagram



① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

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

Motherboard	<ul style="list-style-type: none"> ♦ GA-8N-SLI Royal or GA-8N-SLI Pro or GA-8N-SLI
CPU	<ul style="list-style-type: none"> ♦ Supports LGA775 Intel® Pentium® Processor Extreme Edition/ Pentium® D / Pentium® 4 ♦ Supports 1066/800/533MHz FSB ♦ L2 cache varies with CPU
Chipset	<ul style="list-style-type: none"> ♦ Northbridge: nVIDIA® nForce 4 SLI Intel Edition (Crush 19) ♦ Southbridge: nVIDIA® MCP-04 ♦ Supported on the Win 2000/XP operating systems
Memory	<ul style="list-style-type: none"> ♦ 4 DDR II DIMM memory slots (supports up to 8GB memory) ♦ Supports dual channel DDR II 667/533 unbuffered DIMM ♦ Supports 1.8V DDR II DIMM
Slots	<ul style="list-style-type: none"> ♦ 2 PCI Express x 16 slots^(Note 1) ♦ 2 PCI Express x 1 slots ♦ 2 PCI slots
IDE Connections	<ul style="list-style-type: none"> ♦ 2 ports from MCP-04 (IDE1/IDE2) (UDMA 33/ATA 66/ATA 100/ATA 133), allows connection of 4 IDE devices <ul style="list-style-type: none"> - Supported on the Win 2000/XP operating systems ♦ 1 port from PDC20779 (IDE3)(UDMA 33/ATA 66/ATA 100/ATA 133), allows connection of 2 IDE hard drives① <ul style="list-style-type: none"> - Supported on the Win 2000/XP operating systems
FDD Connections	<ul style="list-style-type: none"> ♦ 1 FDD connection, allows connection of 2 FDD devices
Onboard SATA 3Gb/s	<ul style="list-style-type: none"> ♦ 6 SATA 3Gb/s ports: <ul style="list-style-type: none"> 4 ports from MCP-04 controller (SATAII0, SATAII1, SATAII2, SATAII3) <ul style="list-style-type: none"> - Supported on the Win 2000/XP operating systems 2 ports from PDC20779 controller (ESATAII0, ESATAII1)② <ul style="list-style-type: none"> - Supported on the Win 2000/XP operating systems
Peripherals	<ul style="list-style-type: none"> ♦ 1 parallel port supporting Normal/EPP/ECP mode ♦ 1 Serial port (COMA) ♦ 10 USB 2.0/1.1 ports (rear x 4, front x 6 via cable) ♦ 3 IEEE1394b connectors (requires cable)①② ♦ 1 front audio connector ♦ 1 PS/2 keyboard port ♦ 1 PS/2 mouse port
Onboard LAN	<ul style="list-style-type: none"> ♦ Onboard Marvell 8053 chip (10/100/1000 Mbit) (LAN1)① ♦ Onboard Marvell 88E1111/88E1115 phy (10/100/1000 Mbit) (LAN2) <ul style="list-style-type: none"> - Supported on the Win 2000/XP operating systems ♦ 2 RJ45 ports

(Note 1) In SLI Mode, the two PCIE x 16 slots can run at up to x 8 respectively. In Normal Mode, only the first PCIE x 16 slot (PCIE_16_1, color-coded blue) is available and can run at up to x 16.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

Onboard Audio	<ul style="list-style-type: none"> ◆ ALC850 CODEC ◆ Supports 2 / 4 / 6 / 8 channel audio ◆ Supports Line In ; Line Out (Front Speaker Out) ; MIC ; Surround Speaker Out (Rear Speaker Out) ; Center/Subwoofer Speaker Out ; Side Speaker Out connection ◆ SPDIF_IN connection ◆ SPDIF_Out (optical+coaxial) connection ◆ CD_IN connection
I/O Control	<ul style="list-style-type: none"> ◆ IT8712F
Hardware Monitor	<ul style="list-style-type: none"> ◆ System voltage detection ◆ CPU temperature detection ◆ CPU / system / power^② fan speed detection ◆ CPU warning temperature ◆ CPU / system / power^② fan failure warning ◆ CPU smart fan control
Onboard SATA 3Gb/s RAID	<ul style="list-style-type: none"> ◆ Onboard nVIDIA[®] MCP-04 chipset <ul style="list-style-type: none"> - supports data striping (RAID 0) or mirroring (RAID 1), striping + mirroring (RAID 0+1) or RAID 5 function - supports data transfer rate of up to 300 MB/s - supports hot plugging function - supports a maximum of 4 SATA 3Gb/s connections - supported on the Win 2000/XP operating systems ◆ Onboard Promise PDC20779 chip^② <ul style="list-style-type: none"> - supports data striping (RAID 0) or mirroring (RAID 1) function - supports data transfer rate of up to 300 MB/s - supports hot plugging function - supports a maximum of 2 SATA 3Gb/s connections - supported on the Win 2000/XP operating systems
BIOS	<ul style="list-style-type: none"> ◆ Use of licensed AWARD BIOS ◆ Supports Dual BIOS^② /Q-Flash/Multilanguage BIOS^②
Additional Features	<ul style="list-style-type: none"> ◆ Supports U-Plus DPS^② ◆ Supports @BIOS ◆ Supports EasyTune 5 ^(Note 2)
Overclocking	<ul style="list-style-type: none"> ◆ Over Voltage via BIOS (FSB/DIMM/PCIE/SATA II/CPU) ◆ Over Clock via BIOS (CPU/DIMM/PCIE)
Form Factor	<ul style="list-style-type: none"> ◆ ATX form factor; 30.5cm x 24.4cm

(Note 2) EasyTune 5 functions may vary depending on different motherboards.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

1-3 Installation of the CPU and Heatsink



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

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



HT functionality requirement content :

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

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

1-3-1 Installation of the CPU

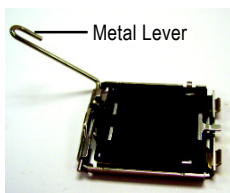


Fig. 1
Gently lift the metal lever located on the CPU socket to the upright position.

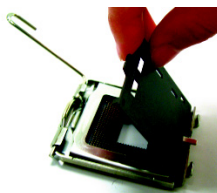


Fig. 2
Remove the plastic covering on the CPU socket.

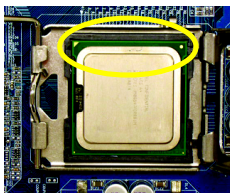


Fig. 3
Notice the small gold colored triangle located on the edge of the CPU socket. Align the indented corner of the



Fig. 4
Once the CPU is properly inserted, please replace the load plate and push the metal lever back into its original position.

CPU with the triangle and gently insert the CPU into position. (Grasping the CPU firmly between your thumb and forefinger, carefully place it into the socket in a straight and downwards motion. Avoid twisting or bending motions that might cause damage to the CPU during installation.)

1-3-2 Installation of the Heatsink



Fig. 1
Please apply an even layer of heatsink paste on the surface of the installed CPU.

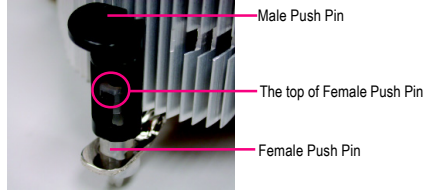


Fig. 2
(Turning the push pin along the direction of arrow is to remove the heatsink, on the contrary, is to install.) Please note the direction of arrow sign on the male push pin doesn't face inwards before installation. (This instruction is only for Intel boxed fan)

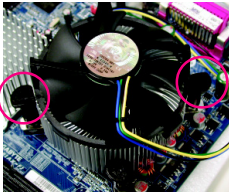


Fig. 3
Place the heatsink atop the CPU and make sure the push pins aim to the pin hole on the motherboard. Pressing down the push pins diagonally.

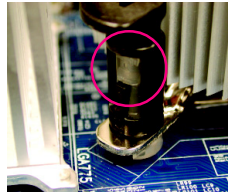


Fig. 4
Please make sure the Male and Female push pin are joined closely. (for detailed installation instructions, please refer to the heatsink installation section of the user manual)

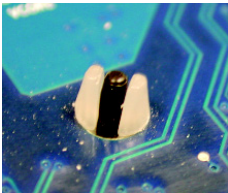


Fig. 5
Please check the back of motherboard after installing. If the push pin is inserted as the picture, the installation is complete.

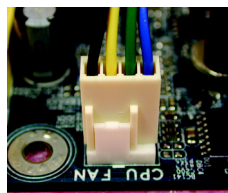


Fig. 6
Finally, please attach the power connector of the heatsink to the CPU fan header located on the motherboard.



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

1-4 Installing/Removing Cool-Plus (Northbridge Cooling Fan) ①②

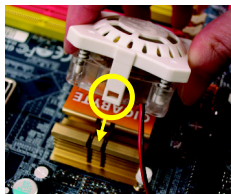


Fig.1
To attach Cool-Plus to a heatsink, align the extensions on both sides with the grooves in the heatsink as shown. Firmly press down until it snaps into position.

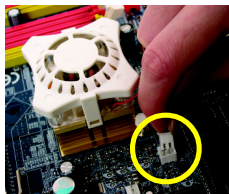


Fig.2
Once the fan is properly affixed onto the heatsink, plug the power cable into the NB_FAN connector.

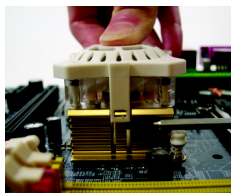


Fig.3
Before proceeding, first check to make sure that the fan's power cable is disconnected. Then, while applying pressure to the top of the fan, carefully use a screwdriver to dislodge the extension on one side.



Exerting too much pressure on the fan during removal might cause the side extensions to break-off.

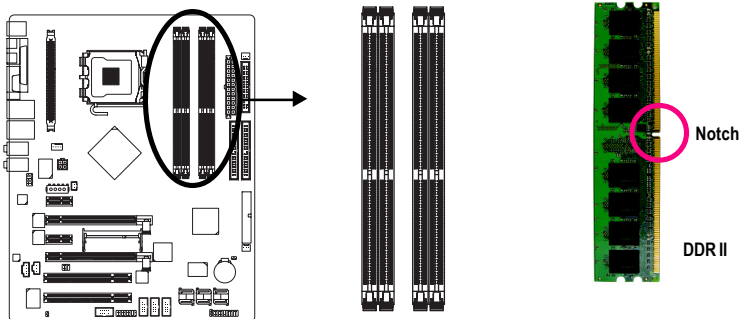
1-5 Installation of Memory



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

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

The motherboard supports DDR II 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.



① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

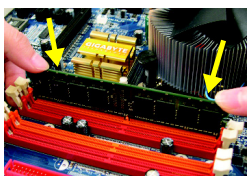


Fig.1

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

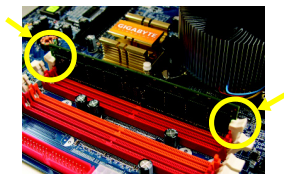


Fig.2

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

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

Dual Channel DDR II

GA-8N-SLI Royal/GA-8N-SLI Pro/GA-8N-SLI supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will double.

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



1. Dual channel memory cannot be used if one or three DDR II memory modules are installed.
2. To enable Dual Channel mode with 2 or 4 memory modules, it is recommended to use memory modules of identical brand, size, chips, and speed.

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

The following table is for Dual Channel Technology combination: (DS: Double Side, SS: Single Side)

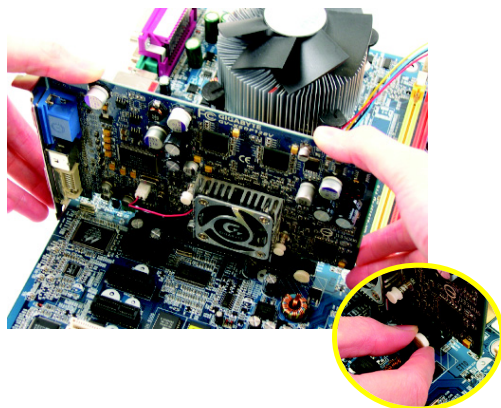
	DDR II 1	DDR II 2	DDR II 3	DDR II 4
2 memory modules	DS/SS	X	DS/SS	X
	X	DS/SS	X	DS/SS
4 memory modules	DS/SS	DS/SS	DS/SS	DS/SS

1-6 Installation of Expansion Cards

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

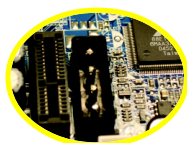
1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the 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 x 16 expansion card:



CAUTION

Please carefully pull out the small white-drawable bar at the end of the PCI Express x 16 slot when you try to install/uninstall the VGA card. Please align the VGA card to the onboard PCI Express x 16 slot and press firmly down on the slot. Make sure your VGA card is locked by the small white-drawable bar.

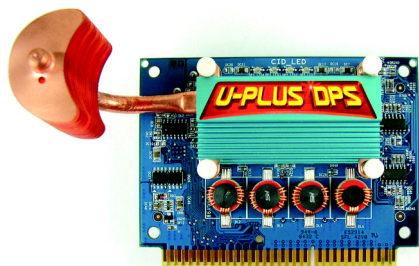


NOTE

The PCIE_12V power connector supplies extra power to the PCI Express x 16 slots. Connect this connector depending on your system requirements.

1-7 Installation of U-Plus DPS (Universal Plus Dual Power System)^①

The U-Plus Dual Power System (U-Plus D.P.S.) is a revolutionary eight-phase power circuit built for ultimate system protection. Designed to withstand varying current levels and changes, the U-Plus DPS provides an immensely durable and stable power circuit to the CPU for solid system stability. These characteristics make it the ideal companion with the latest LGA775 Intel® Pentium® 4 Processor as well as future Intel® processors. As well, 4 blue LED's are mounted on the U-Plus D.P.S. for intelligent indication of system loading.

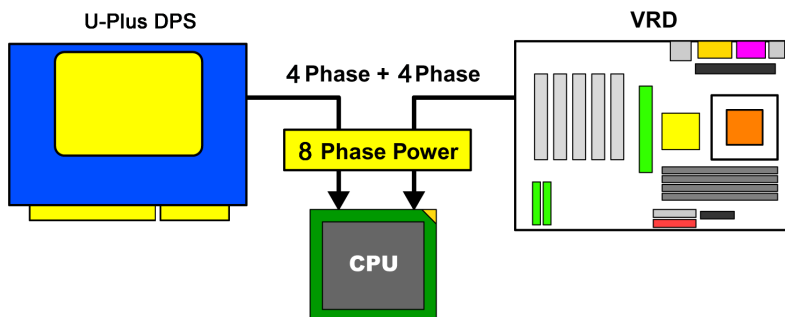


The U-Plus DPS can work in a Dual Power System: Parallel Mode--

U-Plus DPS and motherboard CPU power can work simultaneously, providing a total of 8-phase power circuit.

How to install U-Plus DPS?

1. The U-Plus DPS socket (VRM_CONN) has a notch, so the U-Plus DPS can only fit in one direction.
2. Insert the U-Plus DPS vertically into the socket and then push it down.
3. Fix the U-Plus DPS on the motherboard with the clip.
4. Reverse the installation steps if you want to remove the U-Plus DPS.



^① Only for GA-8N-SLI Royal.

1-8 Setup of SLI (Scalable Link Interface) Configuration

The nVIDIA® nForce 4 SLI Intel Edition chipset offers blistering graphics performance with the ability to bridge two NVIDIA SLI-ready PCI Express™ graphics cards! The SLI design takes advantage of the increased bandwidth of the PCI Express™ bus architecture, features hardware and software innovations within NVIDIA GPU (graphics processing unit) and the nVIDIA nForce 4 SLI Intel Edition chipset. Together, the NVIDIA SLI technologies work seamlessly to allow two graphics cards to operate in parallel and share the work and deliver heart-pounding PC performance. This section introduces steps to configure an SLI system on the GA-8N-SLI Royal/GA-8N-SLI Pro/GA-8N-SLI motherboard.

Before You Begin--

I. Understanding the components:

The SLI bridge connector (GC-SLICON)

The GC-SLICON is used to bridge two SLI-capable graphics cards in order to set up an SLI configuration.



The SLI switch module (GC-SLISW-C19)

The GC-SLISW-C19 switch module is installed in the SLI switch module socket by factory default. This SLI switch module has gold edge connectors on two sides. One is SLI Mode and the other is Normal mode.



Normal Mode: When the SLI switch module is set to Normal Mode, the first PCIE x 16 slot (PCIE_16_1, color coded blue) is available and can operate at up to x 16 speed. Please note that the second PCIE x 16 slot is not available in Normal Mode.

SLI Mode: In SLI Mode, the two PCIE x 16 slots can operate in two ways:

1. You can install two SLI-capable PCIE x 16 graphics cards of the same model (Example: GIGABYTE GV-NX66T128D) and link them together with the GC-SLICON bridge to enable SLI function to provide enhanced performance.
2. You can use them as two individual PCIE x16 slots and each slot provides up to x8 bandwidth.

The SLI switch module (GC-SLISW-3D1)

For users who wish to install the GIGABYTE GV-3D1 graphics card on this motherboard, they must insert the GC-SLISW-3D1 switch module in the **3D1 Mode** direction. (The Normal Mode is the same as that of the **GC-SLISW-C19** module.)



We do not recommend removing the SLI switch module from the motherboard because in that case, both of the PCIE x 16 slots will not be available.

II. Power Requirements:

Before installation, assure that the power supply you use is able to provide sufficient power to fully support an SLI configuration and other components in your system. We recommend a power supply that provides at least 20A 5V and 12V current and a minimum of 400W wattage. Please note that the exact power requirements will depend on your overall system configurations.

III. Supported Operating Systems:

Only Windows XP operating system is currently supported by the NVIDIA SLI technology.

Enabling SLI Mode--

Set the SLI switch module:

Note that as the switch module (GC-SLISW-C19) is preinstalled in the Normal Mode direction by factory default, the first step to enable SLI mode on your system is to take out the module from the socket, turn it around and insert it in the SLI Mode direction.

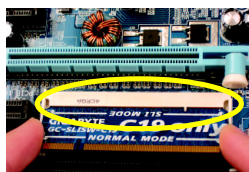
Step 1: Gently spread the retaining clips of the socket and the module may then be removed from the socket. Hold the module by the edges and lift it away from the socket.



Step 2: Position the SLI Mode side of the module above the socket at a 25° angle. Align the small notch at the top edge of the module with the key in the socket.



Step 3: Insert the top edge of the module into the socket. Make sure the gold edge connectors are fully inserted.

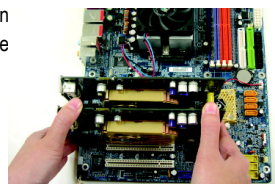


Step 4: Gently press down on the two ends of the module until it is locked in place by the socket clips. (You should hear a "click" when the module is attached.)



Connecting Two Graphics Cards:

Step 1: Observe the steps in "1-6 Installation of Expansion Cards" on page 16 and install two SLI-ready graphics cards of the same model to the PCIE_16_1 and PCIE_16_2 slots.

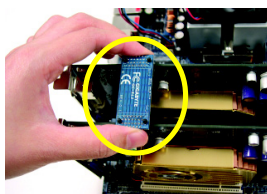


Step 2: Insert the SLI bridge (the GC-SLICON) to the SLI gold edge connector on top of both cards. Make sure the two mini female slots on the bridge connector securely fit onto the SLI gold edge connectors of both cards.

Female slots on the bridge connector



Gold edge connector on the top of graphics card

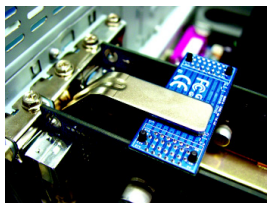


Step 3: In order to securely fix the bridge connector between the two cards, you must install the retention bracket included with the motherboard and secure the retention bracket to the chassis back panel with a screw.

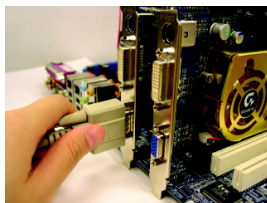


retention bracket

place this part on the top of the bridge connector.



Step 4: Plug the display cable into either one of the two graphics cards for display output. If you plug the display cable to the card on the PCIE_16_1 slot, make sure to set **Init Display First** in BIOS Setup to **PEG**; if you plug the display cable to the card on the PCIE_16_2 slot, set **Init Display First** to **PEG(Slot2)**.

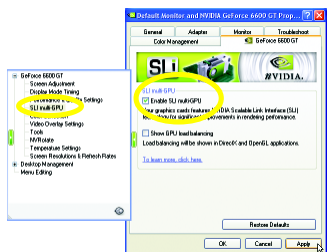


Graphics Card Driver Setting:

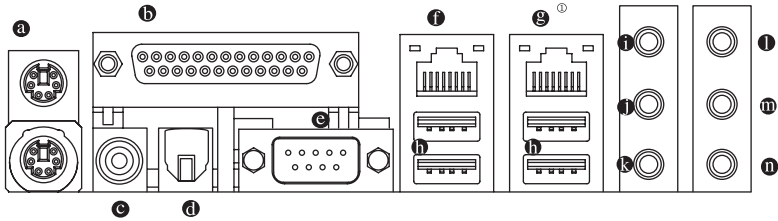
Step 1: After installing graphics card driver in operating system, right-click the NVIDIA icon in your system tray and then select **NVIDIA Display**. The NVIDIA control panel will appear.



Step 2: Select **SLI multi-GPU** from the side menu and then select the **Enable SLI multi-GPU** checkbox in the SLI multi-GPU dialog box. System will restart after you click **Apply**. Then the SLI configuration is completed.



1-9 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 COAXIAL (SPDIF_0)

The SPDIF coaxial output port is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder via a coaxial cable.

d OPTICAL (SPDIF_0)

The SPDIF optical output port is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder via an optical cable.

e COMA (Serial Port)

Connects to serial-based mouse or data processing devices.

f LAN Port 2

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

g LAN Port 1

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

h 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.

i Line In

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

j Line Out (Front Speaker Out)

Connect the stereo speakers, earphone or front surround speakers to this connector.

k MIC In

Microphone can be connected to MIC In jack.

l Rear Speaker Out

Connect the rear surround speakers to this connector.

① Only for GA-8N-SLI Royal.

⑩ Center/Subwoofer Speaker Out

Connect the Center/Subwoofer speakers to this connector.

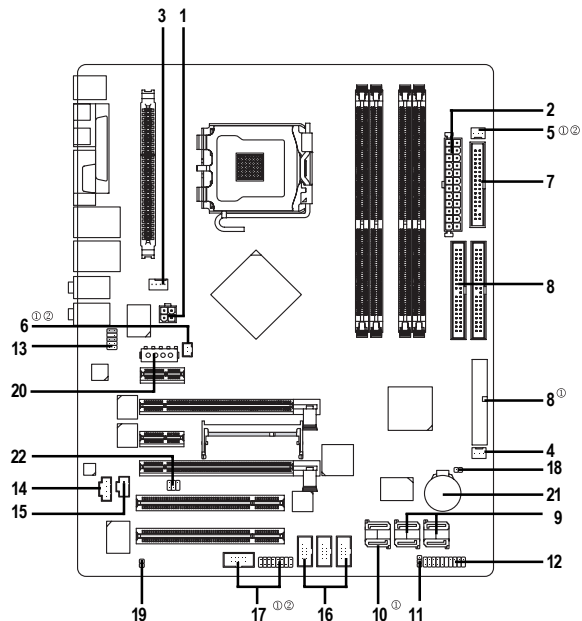
⑪ Side Speaker Out

Connect the side surround speakers to this connector.



NOTE You can use audio software to configure 2-/4-/6-/8-channel audio functioning.

1-10 Connectors Introduction



1) ATX_12V	12) F_PANEL
2) ATX (Power Connector)	13) F_AUDIO
3) CPU_FAN	14) CD_IN
4) SYS_FAN	15) SPDIF_IN
5) PWR_FAN ^{①②}	16) F_USB1 / F_USB2/F_USB3
6) NB_FAN ^{①②}	17) F1_1394/F2_1394 ^{①②}
7) FDD	18) CLR_CMOS
8) IDE1 / IDE2 / IDE3 ^①	19) CI
9) SATAII0/1/2/3	20) PCIE_12V
10) ESATAII0/1 ^①	21) BATTERY
11) PWR_LED	22) RF_ID

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

1/2) ATX_12V/ATX (Power Connector)

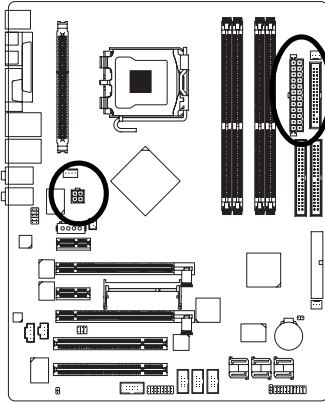
With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard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

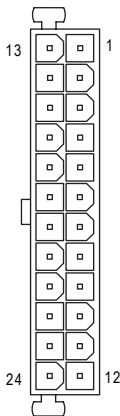
Caution!

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)

3/4/5) CPU_FAN / SYS_FAN / PWR_FAN^{①②} (Cooler Fan Power Connector)

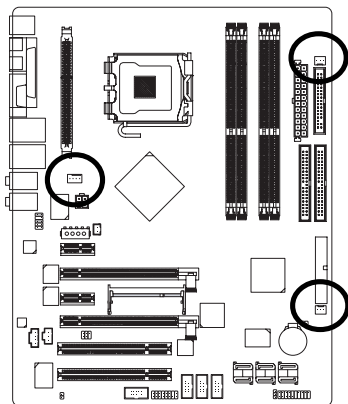
The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin (only for CPU_FAN) power connector and possesses a foolproof connection design.

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).

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

Caution!

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



CPU_FAN



SYS_FAN

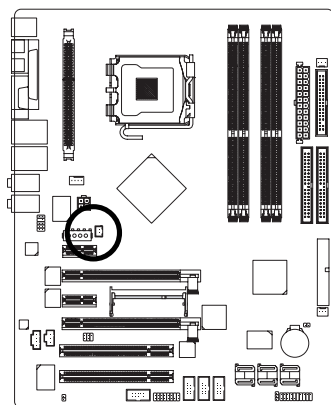


PWR_FAN

Pin No.	Definition
1	GND
2	+12V
3	Sense
4	Speed Control (Only for CPU_FAN)

6) NB_FAN (Chip Fan Power Connector)^{①②}

If you installed wrong direction, the chip fan will not work. Sometimes will damage the chip fan. (Usually black cable is GND)



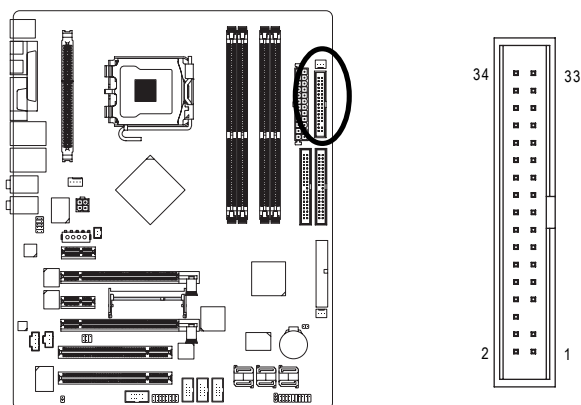
Pin No.	Definition
1	+12V
2	GND

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

7) FDD (Floppy Connector)

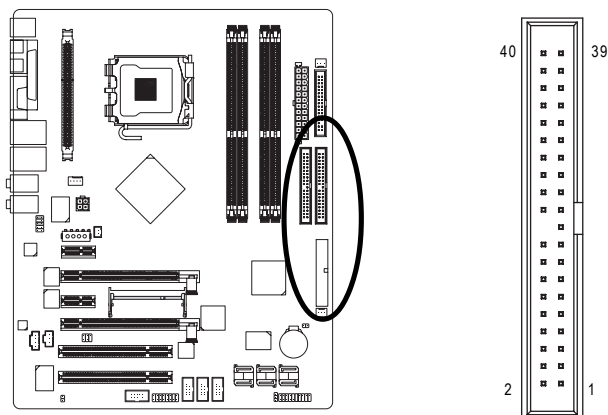
The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB. Please connect the red power connector wire to the pin1 position.



8) IDE1/IDE2/IDE3^① (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).

To ensure that an IDE CD-ROM drive can work properly, please attach it to the IDE 1/IDE 2 connector.

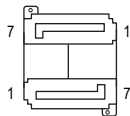
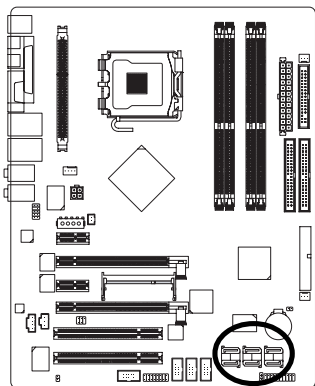


① Only for GA-8N-SLI Royal.

9) SATAII0/1/2/3 (SATA 3Gb/s Connectors, Controlled by MCP-04)

10) ESATAII0/1 (SATA 3Gb/s Connectors, Controlled by PDC20779)①

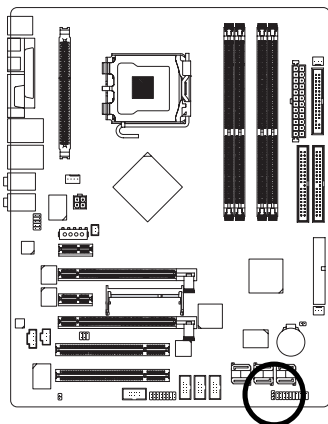
SATA 3Gb/s can provide up to 300MB/s transfer rate. Please refer to the BIOS setting for the SATA 3Gb/s and install the proper driver in order to work properly.



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

11) PWR_LED

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

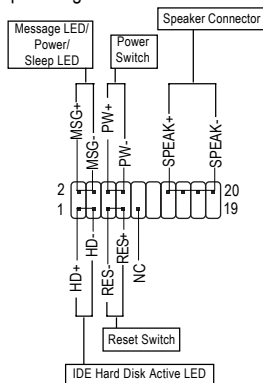
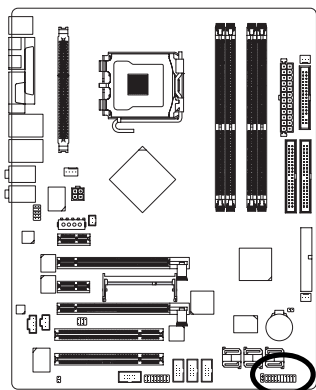


Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

① Only for GA-8N-SLI Royal.

12 F_PANEL (Front Panel Jumper)

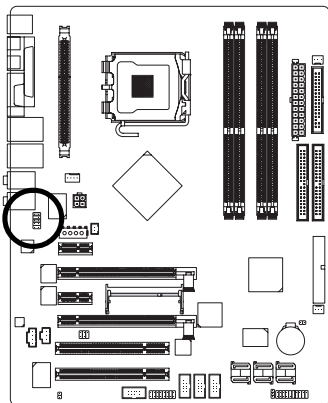
Please connect the power LED, PC speaker, reset switch and power switch etc of your chassis front panel to the F_PANEL connector according to the pin assignment below.



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

13) F_AUDIO (Front Audio Connector)

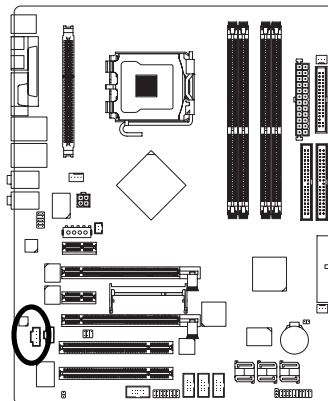
If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignments on the cable are the same as the pin assignments on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.



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

14) CD_IN (CD IN)

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

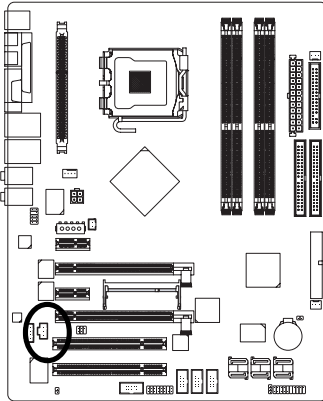


Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

15) SPDIF_IN (SPDIF In)

Use SPDIF IN feature only when your device has digital output function.

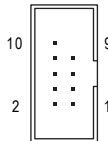
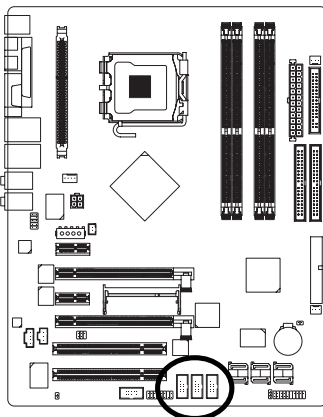
Be careful with the polarity of the SPDIF_IN connector. Check the pin assignment carefully while you connect the SPDIF cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.



Pin No.	Definition
1	Power
2	SPDIFI
3	GND

16) F_USB1 / F_USB2 / F_USB3 (Front USB Connector)

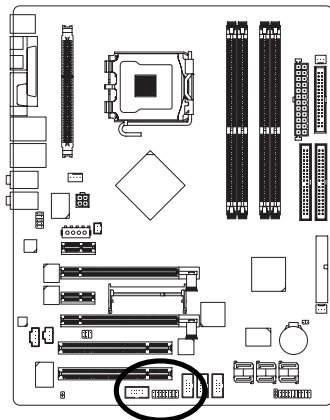
Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.



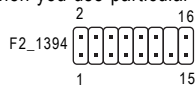
Pin No.	Definition
1	Power
2	Power
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

17) F1_1394/F2_1394 (IEEE 1394 Connectors) ①②

Serial interface standard set by Institute of Electrical and Electronics Engineers, which has features like high speed, high bandwidth and hot plug. Be careful with the polarity of the IEEE1394 connector. Check the pin assignment carefully while you connect the IEEE1394 cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional IEEE1394 cable, please contact your local dealer. IEEE1394b can approach the maximum speed to 800Mb/S, but the speed can be achieved only when you use particular IEEE1394b cable.



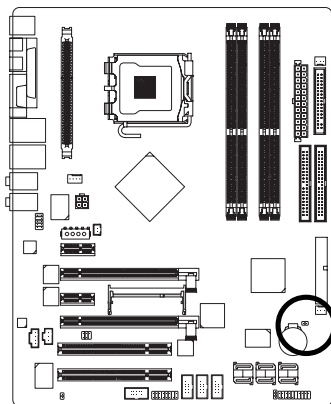
Pin No.	Definition
1	TPA0+
2	TPA0-
3	GND
4	GND
5	TPB0+
6	TPB0-
7	No Pin
8	Power
9	Power
10	GND



Pin No.	Definition
1	Power
2	Power
3	TPA1+
4	TPA1-
5	GND
6	GND
7	TPB1+
8	TPB1-
9	Power
10	Power
11	TPA2+
12	TPA2-
13	GND
14	No Pin
15	TPB2+
16	TPB2-

18) CLR_CMOS (Clear CMOS)

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



1 Open: Normal

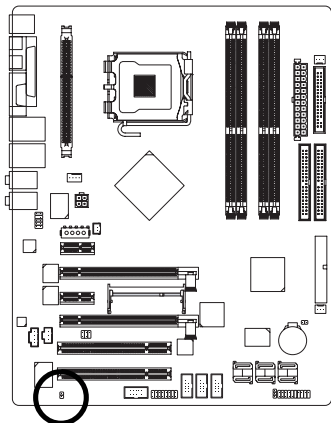
1 Short: Clear CMOS

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

19) CI (Chassis Intrusion, Case Open)

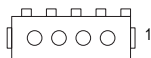
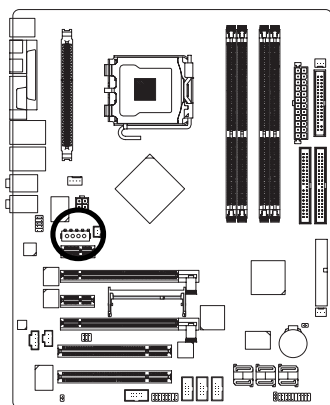
This 2-pin connector allows your system to detect if the chassis cover is removed. You can check the "Case Opened" status in BIOS Setup.



Pin No.	Definition
1	Signal
2	GND

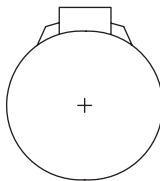
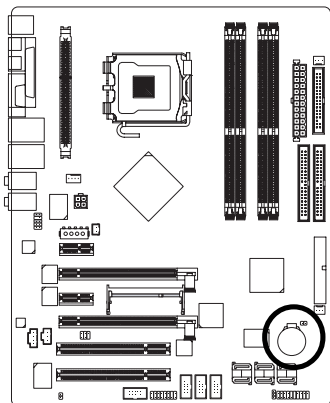
20) PCIE_12V (Power Connector)

The PCIE_12V power connector supplies extra power to the PCI Express 16 slots. Connect this connector depending on your system requirements.



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

21) BAT(Battery)



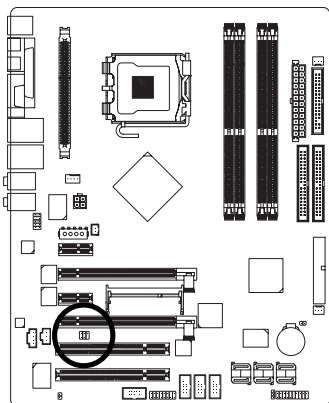
- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...

1. Turn OFF the computer and unplug the power cord.
2. Take out the battery gently and put it aside for about 10 minutes.
(Or you can use a metal object to connect the positive and negative pins in the battery holder to makethem short for one minute.)
3. Re-install the battery.
4. Plug the power cord and turn ON the computer.

22) RF_ID

This connector allows you to connect external devices to use extra function. Check the pin assignments before you connect the external device cable. Please contact your nearest dealer for the optional GIGABYTE external device.



Pin No.	Definition
1	Power
2	RFID_RI-
3	RF_TXD
4	RF_RXD
5	NC
6	GND

Chapter 2 BIOS Setup

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

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

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

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

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

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

CONTROL KEYS

<↑> <↓> <←> <→>	Move to select item
<Enter>	Select Item
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<Page Up>	Increase the numeric value or make changes
<Page Down>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F3>	Select Language ^{①②}
<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>	Dual BIOS ^{①②} /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>.

① Only for GA-8N-SLI Royal.

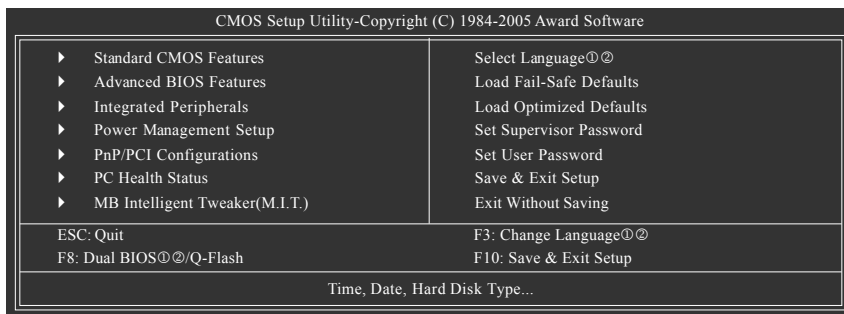
② Only for GA-8N-SLI Pro.



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

The Main Menu (For example: BIOS Ver. : GA-8N-SLI Royal F3I)

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.



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

■ Standard CMOS Features

This setup page includes all the items in standard compatible BIOS.

■ Advanced BIOS Features

This setup page includes all the items of Award special enhanced features.

■ Integrated Peripherals

This setup page includes all onboard peripherals.

■ Power Management Setup

This setup page includes all the items of Green function features.

■ PnP/PCI Configuration

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

■ PC Health Status

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

■ MB Intelligent Tweaker(M.I.T.)

This setup page is control CPU clock and frequency ratio.

■ Select Language^{ⓁⓂ}

This setup page is to select multilanguages.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

■ Load Fail-Safe Defaults

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

■ Load Optimized Defaults

Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.

■ Set Supervisor Password

Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

■ Set User Password

Change, set, or disable password. It allows you to limit access to the system.

■ Save & Exit Setup

Save CMOS value settings to CMOS and exit setup.

■ Exit Without Saving

Abandon all CMOS value changes and exit setup.

2-1 Standard CMOS Features

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Standard CMOS Features		
Date (mm:dd:yy)	Wed, Oct 27 2004	Item Help
Time (hh:mm:ss)	22:31:24	Menu Level▶
▶ IDE Channel 0 Master	[None]	Change the day, month, year
▶ IDE Channel 0 Slave	[None]	<Week>
▶ IDE Channel 1 Master	[None]	Sun. to Sat.
▶ IDE Channel 1 Slave	[None]	<Month>
Drive A	[1.44M, 3.5"]	Jan. to Dec.
Drive B	[None]	<Day>
Floppy 3 Mode Support	[Disabled]	1 to 31 (or maximum allowed in the month)
Halt On	[All, But Keyboard]	<Year>
Base Memory	640K	1999 to 2098
Extended Memory	511M	
Total Memory	512M	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F3: Language①② 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 1999 through 2098

☞ Time

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

☞ IDE Channel 0 Master/Slave; IDE Channel 1 Master/Slave

- ▶▶ IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.
- ▶▶ IDE Channel 0 Master/Slave; IDE Channel 1 Master/Slave devices setup. You can use one of three methods:
 - Auto Allows BIOS to automatically detect IDE devices during POST. (Default value)
 - None Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
 - Manual User can manually input the correct settings.
- ▶▶ Access Mode Use this to set the access mode for the hard drive. The four options are: CHS/LBA/Large/Auto(default:Auto)
- ▶▶ Capacity Capacity of currently installed hard drive. Hard drive information should be labeled on the outside drive casing. Enter the appropriate option based on this information.
 - ▶▶ Cylinder Number of cylinders
 - ▶▶ Head Number of heads
 - ▶▶ Precomp Write precomp
 - ▶▶ Landing Zone Landing zone

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

- Sector Number of sectors

☞ Drive A / Drive B

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

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

☞ Floppy 3 Mode Support (for Japan Area)

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

☞ Halt on

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

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

☞ Memory

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

‣ Base Memory

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

The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

‣ Extended Memory

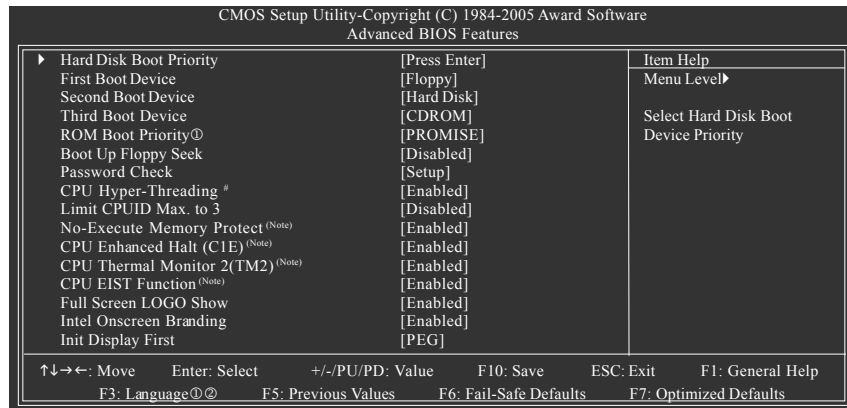
The BIOS determines how much extended memory is present during the POST.

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

‣ Total Memory

This item displays the memory size that used.

2-2 Advanced BIOS Features



"#": This option is available only when the processor you install supports Intel® Hyper-Threading Technology.

☞ Hard Disk Boot Priority

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

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

☞ First / Second / Third Boot Device

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

☞ ROM Boot Priority^①

Use this function to select onboard RAID or PCI SCSI boot ROM order if the boot ROM of your device cannot be auto initiated.

- ▶ SCSI Set boot ROM order to SCSI devices.
- ▶ PROMISE Set boot ROM order to devices on the Promise controller. (Default)
- ▶ Nvidia RAID Set boot ROM order to devices on the Nvidia RAID controller.

☞ Boot Up Floppy Seek

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

(Note) This item will show up when you install a processor that supports this function.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

- ▶▶ 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)

☞ CPU Hyper-Threading

This option appears only when the processor you install supports Intel® Hyper-Threading Technology.

- ▶▶ Enabled Enable CPU Hyper-Threading feature. Please note that this feature only works for operating system with multiprocessors mode supported. (Default value)
- ▶▶ Disabled Disable CPU Hyper-Threading.

☞ Limit CPUID Max. to 3

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

☞ No-Execute Memory Protect ^(Note)

- ▶▶ Enabled Enable No-Execute Memory Protect function.(Default value)
- ▶▶ Disabled Disable No-Execute Memory Protect function.

☞ CPU Enhanced Halt (C1E) ^(Note)

- ▶▶ Enabled Enable CPU Enhanced Halt (C1E) function.(Default value)
- ▶▶ Disabled Disable CPU Enhanced Halt (C1E) function.

☞ CPU Thermal Monitor 2 (TM2) ^(Note)

- ▶▶ Enabled Enable CPU Thermal Monitor 2 (TM2) function.(Default value)
- ▶▶ Disabled Disable CPU Thermal Monitor 2 (TM2) function.

☞ CPU EIST Function ^(Note)

- ▶▶ Enabled Enable CPU EIST function.(Default value)
- ▶▶ Disabled Disable CPU EIST function.

☞ Full Screen LOGO Show

- ▶▶ Enabled Display Full Screen Logo during POST. (Defaults value)
- ▶▶ Disabled Do not display Full Screen Logo.

☞ Intel Onscreen Branding

- ▶▶ Enabled Display Intel brand logo. (Defaults value)
- ▶▶ Disabled Do not display Intel brand Logo.

☞ 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.

- ▶▶ PCI Slot Set Init Display First to PCI VGA card.
- ▶▶ PEG Set Init Display First to PCI Express VGA card (Slot1). (Default value)
- ▶▶ PEG (Slot2) Set Init Display First to PCI Express VGA card (Slot2).

(Note) This item will show up when you install a processor that supports this function.

2-3 Integrated Peripherals

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Integrated Peripherals		
IDE/SATAII RAID Config	[Press Enter]	Item Help Menu Level▶
On-Chip IDE Channel0	[Enabled]	
On-Chip IDE Channel1	[Enabled]	
IDE1 Conductor Cable	[Auto]	
IDE2 Conductor Cable	[Auto]	
Serial-ATAII 1	[Enabled]	
Serial-ATAII 2	[Enabled]	
On-Chip USB	[V1.1+V2.0]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
AC97 Audio	[Auto]	
Onboard LAN2 Function	[Auto]	
Onboard SATAII/IDE3①	[Enabled]	
Onboard SATAII/IDE3 Mode①	[BASE]	
Onboard 1394b Function②②	[Enabled]	
Onboard LAN Function③	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
i-Lock	[Enabled]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F3: Language④② F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

☞ IDE/SATAII RAID Config

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software IDE/SATAII RAID Config		
IDE/SATAII RAID function	[Enabled]	Item Help Menu Level▶
IDE Primary Master RAID	[Disabled]	
IDE Primary Slave RAID	[Disabled]	
IDE Secndry Master RAID	[Disabled]	
IDE Secndry Slave RAID	[Disabled]	
SATAII 1 Primary RAID	[Enabled]	
SATAII 1 Secondary RAID	[Enabled]	
SATAII 2 Primary RAID	[Enabled]	
SATAII 2 Secondary RAID	[Enabled]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F3: Language④② F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

☞ IDE/SATAII RAID function

- ▶▶ Enabled Enable IDE/SATAII RAID function. (Default value)
- ▶▶ Disabled Disable IDE/SATAII RAID function.

☞ IDE Primary Master RAID

- ▶▶ Enabled Enable 1st master channel IDE RAID function.
- ▶▶ Disabled Disable this function. (Default value)

☞ IDE Primary Slave RAID

- ▶▶ Enabled Enable 1st slave channel IDE RAID function.
- ▶▶ Disabled Disable this function. (Default value)

☞ IDE Secndry Master RAID

- ▶▶ Enabled Enable 2nd master channel IDE RAID function.
- ▶▶ Disabled Disable this function. (Default value)

① Only for GA-8N-SLI Royal. ② Only for GA-8N-SLI Pro.

☞ IDE Secndry Slave RAID

- ▶▶ Enabled Enable 2nd slave channel IDE RAID function.
- ▶▶ Disabled Disable this function. (Default value)

☞ SATAII 1 Primary RAID

- ▶▶ Enabled Enable SATAII 1 1st SATA RAID function.(Default value)
- ▶▶ Disabled Disable this function.

☞ SATAII 1 Secondary RAID

- ▶▶ Enabled Enable SATAII 1 2nd SATA RAID function.(Default value)
- ▶▶ Disabled Disable this function.

☞ SATAII 2 Primary RAID

- ▶▶ Enabled Enable SATAII 2 1st SATA RAID function.(Default value)
- ▶▶ Disabled Disable this function.

☞ SATAII 2 Secondary RAID

- ▶▶ Enabled Enable SATAII 2 2nd SATA RAID function.(Default value)
- ▶▶ Disabled Disable this function.

☞ On-Chip IDE Channel0

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

☞ On-Chip IDE Channel1

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

☞ IDE1 Conductor Cable

- ▶▶ Auto BIOS autodetects IDE1 conductor cable .(Default Value)
- ▶▶ ATA66/100/133 Set IDE1 Conductor Cable to ATA66/100/133 (Please make sure your IDE device and cable are compatible with ATA66/100/133).
- ▶▶ ATA33 Set IDE1 Conductor Cable to ATA33. (Please make sure your IDE device and cable are compatible with ATA33)

☞ IDE2 Conductor Cable

- ▶▶ Auto BIOS autodetects IDE2 conductor cable. (Default Value)
- ▶▶ ATA66/100/133 Set IDE2 Conductor Cable to ATA66/100/133. (Please make sure your IDE device and cable are compatible with ATA66/100/133)
- ▶▶ ATA33 Set IDE2 Conductor Cable to ATA33. (Please make sure your IDE device and cable are compatible with ATA33)

☞ Serial-ATAII 1 (Onboard nVIDIA chipset)

- ▶▶ Enabled Enable Serial-ATAII 1 support. (Default Value)
- ▶▶ Disabled Disable Serial-ATAII 1 support.

☞ Serial-ATAII 2 (Onboard nVIDIA chipset)

- ▶▶ Enabled Enable Serial-ATAII 2 support. (Default Value)
- ▶▶ Disabled Disable Serial-ATAII 2 support.

☞ On-Chip USB

- ▶▶ V1.1+V2.0 Enable USB 1.1 and USB 2.0 controllers. (Default Value)
- ▶▶ V1.1 Enable only USB 1.1 controller
- ▶▶ Disabled Disable onchip USB support.

☞ **USB Keyboard Support**

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

☞ **USB Mouse Support**

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

☞ **AC97 Audio**

- ▶▶ Auto Autodetect onboard AC'97 audio function. (Default value)
- ▶▶ Disabled Disable this function.

☞ **Onboard LAN2 Function (Marvell 88E1111/88E1115)**

(For the GA-8N-SLI Pro/GA-8N-SLI motherboard, the item is **Onboard LAN Function**)

- ▶▶ Auto Autodetect onboard LAN2 chip function.(Default value)
- ▶▶ Disabled Disable onboard LAN2 chip function.

☞ **Onboard SATAII/IDE3^①**

- ▶▶ Enabled Enable onboard SATAII/IDE3 function.(Default value)
- ▶▶ Disabled Disable onboard SATAII/IDE3 function.

☞ **Onboard SATAII/IDE3 Mode^①**

- ▶▶ RAID Set onboard SATAII/IDE3 to RAID mode.
- ▶▶ BASE Set onboard SATAII/IDE3 to BASE (ATA) mode.(Default value)

☞ **Onboard 1394b Function^{①②}**

- ▶▶ Enabled Enable onboard IEEE1394b function.(Default value)
- ▶▶ Disabled Disable onboard IEEE1394b function.

☞ **Onboard LAN Function (Marvell 8053)^①**

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

☞ **i-Lock**

- ▶▶ Enabled Enable the i-Lock function. (Default value)
- ▶▶ Disabled Disable the i-Lock function.

☞ **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.

① Only for GA-8N-SLI Royal. ② Only for GA-8N-SLI Pro.

2-4 Power Management Setup

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Power Management Setup		
ACPI Suspend Type	[S1(POS)]	Item Help
Soft-Off by Power button	[Instant-Off]	Menu Level▶
PME Event Wake Up	[Enabled]	
Modem Ring On	[Enabled]	
USB Resume from Suspend	[Enabled]	
Power-On by Alarm	[Disabled]	
x Day of Month Alarm	Everyday	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
Power On By Mouse	[Disabled]	
Power On By Keyboard	[Disabled]	
x KB Power ON Password	Enter	
AC BACK Function	[Soft-Off]	
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F3: Language①② 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 sec. to Power off. Enter suspend if button is pressed less than 4 sec.

☞ 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)

☞ Modem Ring On

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

- ▶▶ Disabled Disable this function.
- ▶▶ Enabled Enable Modem Ring On function. (Default value)

☞ USB Resume from Suspend

- ▶▶ Disabled Disable this function.
- ▶▶ Enable Enable USB device wake up system from suspend mode.(Default value)

☞ 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)

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

☞ **Power On By Mouse**

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

☞ **Power On By Keyboard**

- ▶▶ Disabled Disabled this function. (Default value)
- ▶▶ Keyboard 98 If your keyboard have "POWER Key" button, you can press the key to power on the system.
- ▶▶ Password Set password to power on the system.

☞ **KB Power ON Password**

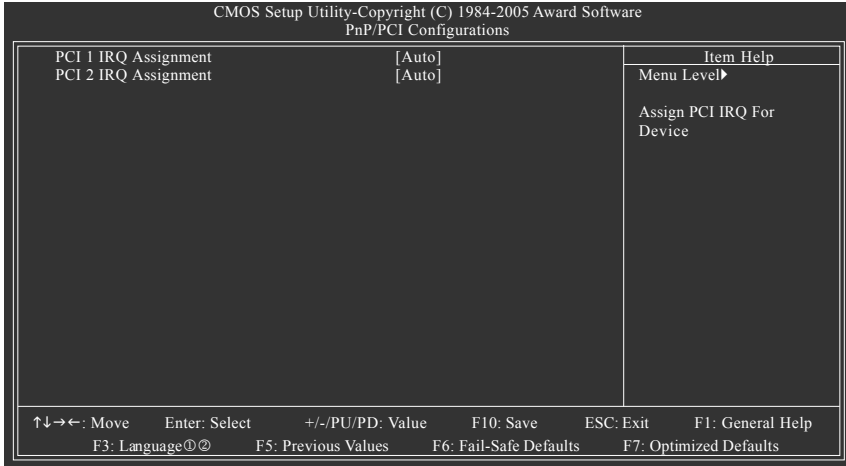
When "Power On by Keyboard" is set to Password, you can set the password here.

- ▶▶ Enter Input password (from 1 to 5 characters) and press Enter to set the Keyboard Power On password.

☞ **AC BACK Function**

- ▶▶ Soft-Off When AC-power back to the system, the system will be in "Off" state. (Default value)
- ▶▶ Full-On When AC-power back to the system, the system always in "On" state.

2-5 PnP/PCI Configurations



☞ PCI 1 IRQ Assignment

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

☞ PCI 2 IRQ Assignment

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

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

2-6 PC Health Status

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software PC Health Status		
Reset Case Open Status	[Disabled]	Item Help
Case Opened	Yes	Menu Level ▶
Vcore	OK	
DDR18V	OK	[Disabled]
+3.3V	OK	Don't reset case open status
+12V	OK	
VBAT	OK	
Current CPU Temperature	38°C	
Current CPU FAN Speed	3245 RPM	[Enabled]
Current POWER FAN Speed②	0 RPM	Clear case open status and set to be Disabled at next boot
Current SYSTEM FAN Speed	0 RPM	
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
POWER FAN Fail Warning②	[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
 F3: Language② 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/ VBAT

- ▶▶ Detect system's voltage status automatically.

Current CPU Temperature

- ▶▶ Detect CPU temperature automatically.

Current CPU/POWER②/SYSTEM FAN Speed (RPM)

- ▶▶ Detect CPU/Power②/System fan speed status automatically.

CPU Warning Temperature

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

CPU/POWER②/SYSTEM FAN Fail Warning

- ▶▶ Disabled Disable CPU/Power②/System fan fail warning function. (Default value)
- ▶▶ Enabled Enable CPU/Power②/System fan fail warning function.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

CPU Smart FAN Control

- ▶▶ 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.



In fact, the **Voltage** option can be used for CPU fans with 3-pin or 4-pin power cables. However, some 4-pin CPU fan power cables are not designed following Intel 4-wire fans PWM control specifications. With such CPU fans, selecting PWM will not effectively reduce the fan speed.

2-7 MB Intelligent Tweaker(M.I.T.)

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software MB Intelligent Tweaker(M.I.T.)		
C.A.M. ^(Note)	[High]	Item Help
CPU Clock Ratio ^(Note)	[16x]	Menu Level▶
C.I.A.2	[Disabled]	
FSB Turbo Mode	[Disabled]	
System Clock Mode	[Optimal]	
x New FSB Speed (QDR)	Auto	
Current FSB Speed (QDR)	800.0 MHZ	
Target FSB Speed (QDR)	800.0 MHZ	
x New MEM Speed (DDR)	Auto	
Current MEM Speed (DDR)	533.3 MHZ	
Target MEM Speed (DDR)	533.3 MHZ	
PCI-E Frequency (MHz)	[100.0000]	
LDT Frequency	[4x]	
SLI Broadcast Aperture	[Disabled]	
DIMM OverVoltage Control	[Normal]	
PCI-E OverVoltage Control	[Normal]	
FSB OverVoltage Control	[Normal]	
SATAII OverVoltage Control	[Normal]	
CPU Voltage Control	[Normal]	
Normal CPU Vcore	1.3875V	
Robust Graphics Booster	[Auto]	
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F3: LanguageⓂ F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		



CAUTION

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

☞ C.A.M. ^(Note)

- ▶▶ High Set clock ratio for frequency-locked CPU to High. (Default value)
- ▶▶ Low Set clock ratio for frequency-locked CPU to Low.

☞ CPU Clock Ratio^(Note)

This setup option will automatically assign by CPU detection. The option will display "Locked" and read only or will not show up if the CPU ratio is not changeable.

☞ C.I.A.2

C.I.A.2 (CPU Intelligent Accelerator 2) is designed to detect CPU loading during software program executing, and automatically adjust CPU computing power to maximize system performance.

- ▶▶ Disabled Disable this function. (Default value)
- ▶▶ Cruise Set C.I.A.2 to Cruise. Automatically increase CPU frequency(5%,7%) by CPU loading.
- ▶▶ Sports Set C.I.A.2 to Sports. Automatically increase CPU frequency(7%,9%) by CPU loading.
- ▶▶ Racing Set C.I.A.2 to Racing. Automatically increase CPU frequency(9%,11%) by CPU loading.
- ▶▶ Turbo Set C.I.A.2 to Turbo. Automatically increase CPU frequency(15,17%) by CPU loading.
- ▶▶ Full Thrust Set C.I.A.2 to Full Thrust. Automatically increase CPU frequency(17%,19%) by CPU loading.

Warning: Stability is highly dependent on system components.

(Note) This item will show up when you install a processor that supports this function.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

- ☞ **FSB Turbo Mode**
 - ▶ Disabled Disable FSB Turbo Mode. (Default value)
 - ▶ Enabled Enable FSB Turbo Mode.
- ☞ **System Clock Mode**
 - ▶ Optimal Set FSB and memory speed automatically. (Default value)
 - ▶ Linked Allows FSB and memory speed to be overclocked proportionally.
 - ▶ Expert Enter FSB and memory speed manually.
- ☞ **New FSB Speed (QDR)**
This item becomes active when System Clock Mode is set to Linked or Expert. Type in a new FSB speed or use the PLUS SIGN (+)/MINUS SIGN (-) to set the FSB speed.
- ☞ **Current FSB Speed (QDR)**
Displays the current CPU FSB speed.
- ☞ **Target FSB Speed (QDR)**
This item depends on the value set in New FSB Speed (QDR).
- ☞ **New MEM Speed (DDR)**
This item becomes active when System Clock Mode is set to Expert. Type in a new memory speed or use the PLUS SIGN (+)/MINUS SIGN (-) to set the memory speed.
- ☞ **Current MEM Speed (DDR)**
Displays the current memory speed.
- ☞ **Target MEM Speed (DDR)**
The value changes based on the value set in New FSB Speed (QDR) and New MEM Speed (DDR).
- ☞ **PCI-E Frequency (MHz)**
This option allows you to adjust the PCI-E frequency.
- ☞ **LDT Frequency**
This option allows you to adjust the LDT frequency.
- ☞ **SLI Broadcast Aperture**
 - ▶ Auto Set SLI Broadcast Aperture to Auto.
 - ▶ Disabled Disable this function. (Default value)
- ☞ **DIMM OverVoltage Control**
 - ▶ Normal Set DIMM OverVoltage Control to Normal. (Default value)
 - ▶ +0.1V Set DIMM OverVoltage Control to +0.1V.
 - ▶ +0.2V Set DIMM OverVoltage Control to +0.2V.
 - ▶ +0.3V Set DIMM OverVoltage Control to +0.3V.
 - ▶ +0.4V Set DIMM OverVoltage Control to +0.4V.
 - ▶ +0.5V Set DIMM OverVoltage Control to +0.5V.
 - ▶ +0.6V Set DIMM OverVoltage Control to +0.6V.
 - ▶ +0.7V Set DIMM OverVoltage Control to +0.7V.
- ☞ **PCI-E OverVoltage Control**
 - ▶ Normal Set PCI-E OverVoltage Control to Normal. (Default value)
 - ▶ +0.1V Set PCI-E OverVoltage Control to +0.1V.
 - ▶ +0.2V Set PCI-E OverVoltage Control to +0.2V.
 - ▶ +0.3V Set PCI-E OverVoltage Control to +0.3V.

☞ **FSB OverVoltage Control**

- ▶▶ Normal Set FSB OverVoltage Control to Normal. (Default value)
- ▶▶ +0.1V Set FSB OverVoltage Control to +0.1V.
- ▶▶ +0.2V Set FSB OverVoltage Control to +0.2V.
- ▶▶ +0.3V Set FSB OverVoltage Control to +0.3V.

☞ **SATAII OverVoltage Control**

- ▶▶ Normal Set SATAII OverVoltage Control to Normal. (Default value)
- ▶▶ +0.1V Set SATAII OverVoltage Control to +0.1V.
- ▶▶ +0.2V Set SATAII OverVoltage Control to +0.2V.
- ▶▶ +0.3V Set SATAII OverVoltage Control to +0.3V.

☞ **CPU Voltage Control**

- ▶▶ Supports adjustable CPU Vcore from 0.8375V to 1.6000V. (Default value: Normal)
- Warning: CPU may be damaged or CPU life-cycle may be reduced when CPU is over-voltage.

☞ **Normal CPU Vcore**

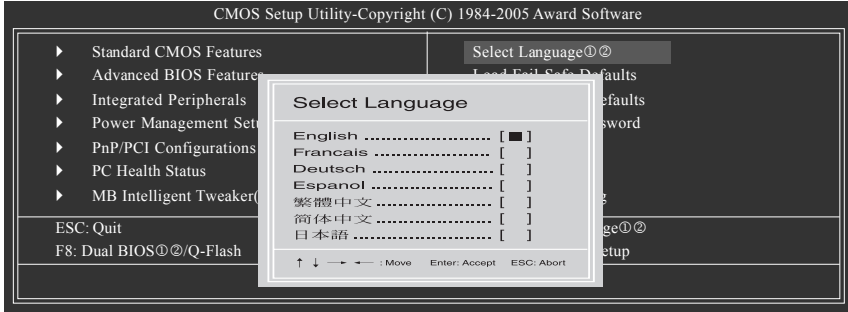
- ▶▶ Display your CPU normal voltage.

☞ **Robust Graphics Booster**

Select the options can enhance the VGA graphics card bandwidth to get higher performance.

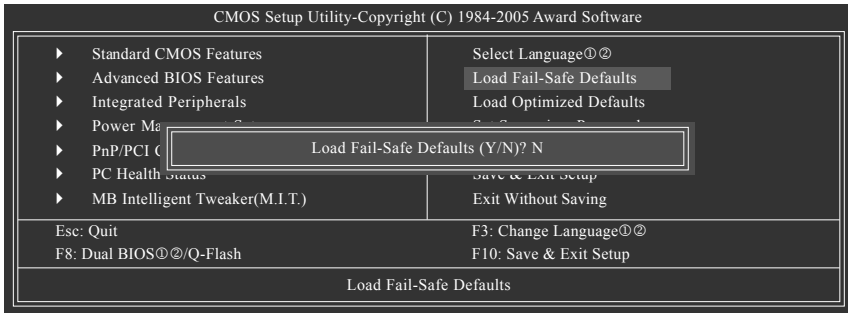
- ▶▶ Auto Set Robust Graphics Booster to Auto. (Default value)
- ▶▶ Fast Set Robust Graphics Booster to Fast.
- ▶▶ Turbo Set Robust Graphics Booster to Turbo.

2-8 Select Language ①②



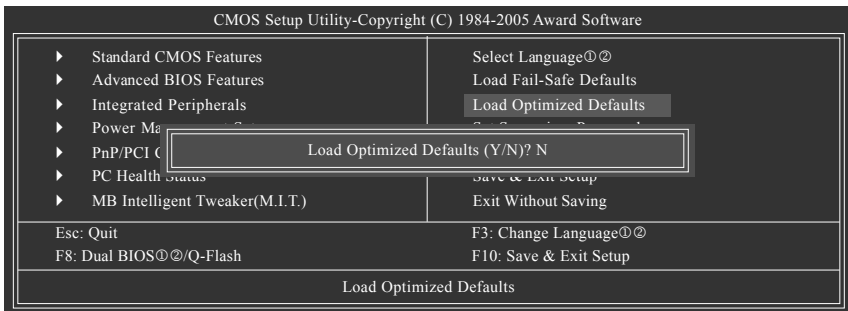
Multi-language supports 7 languages. There are English, French, German, Spanish, Traditional Chinese, Simplified Chinese, and Japanese.

2-9 Load Fail-Safe Defaults



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

2-10 Load Optimized Defaults

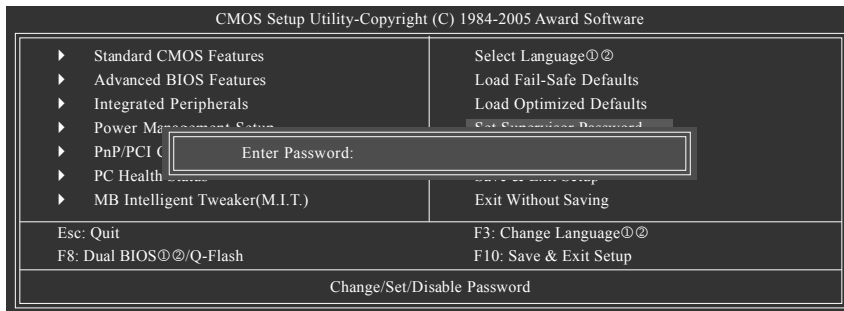


Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

2-11 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.

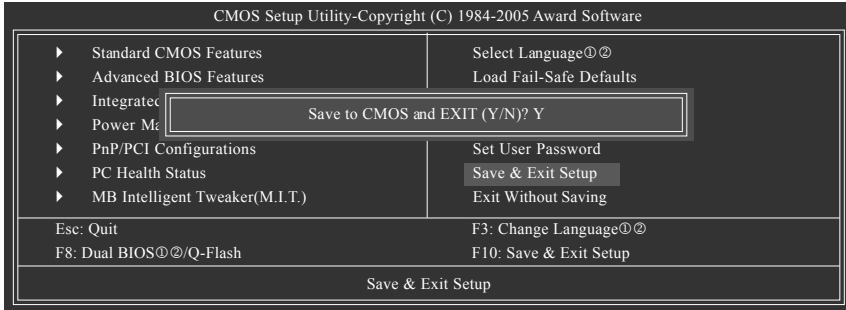
If you select "System" at "Password Check" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.

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

^① Only for GA-8N-SLI Royal.

^② Only for GA-8N-SLI Pro.

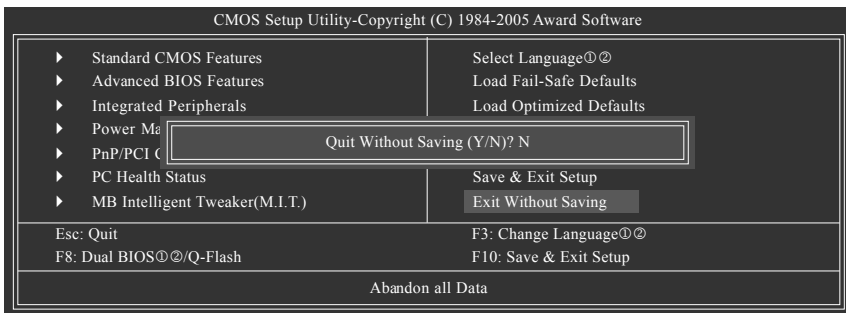
2-12 Save & Exit Setup



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

Type "N" will return to Setup Utility.

2-13 Exit Without Saving



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

Type "N" will return to Setup Utility.

① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

Chapter 3 Drivers Installation

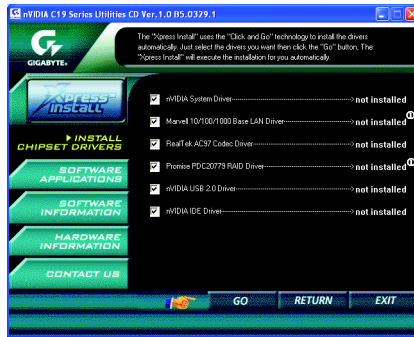


Pictures below are shown in Windows XP.

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

3-1 Install Chipset Drivers

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



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

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



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

① Only for GA-8N-SLI Royal.

3-2 Software Application

This page displays all the tools that Gigabyte developed and some free software, you can choose anyone you want and press "install" to install them.



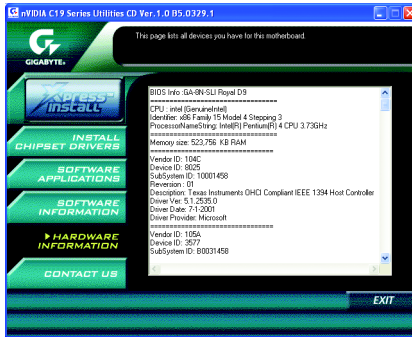
3-3 Software Information

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

(Not all model support these Unique Software Utilities, please check your MB features.)



U-PLUS D.P.S. (Universal Plus Dual Power System)

The U-Plus Dual Power System (U-Plus DPS) is a revolutionary eight-phase power circuit built for ultimate system protection. Designed to withstand varying current levels and changes, the U-Plus D.P.S. provides an immensely durable and stable power circuit to the CPU for solid system stability. These characteristics make it the ideal companion with the latest LGA775 Intel® Pentium® 4 Processor as well as future Intel® processors. As well, 4 blue LED's are mounted on the U-Plus D.P.S. for intelligent indication of system loading.



M.I.T. (Motherboard Intelligent Tweaker)

Motherboard Intelligent Tweaker (M.I.T.) allows user to access and change BIOS feature settings with relative speed and ease. Through GIGABYTE M.I.T. feature the user is no longer required to switch into different modes within BIOS setup in order to change system settings such as the CPU system bus, memory timings or to enable Gigabyte's unique C.I.A. 2 and M.I.B. 2 features. M.I.T.'s integration of all platform performance settings into a single mode now gives any user the ability to control and enhance their computer system to the desired level.



C.I.A.2 (CPU Intelligent Accelerator 2)

GIGABYTE CPU Intelligent Accelerator 2(C.I.A. 2) is designed to automatically adjust CPU computing power to maximize system performance. When enabled, the program detects the current CPU loading and automatically accelerates the CPU computing performance to allow for a faster and smoother execution of programs. When the function is disabled, the CPU is returned to its initial status.



M.I.B.2 (Memory Intelligent Booster 2)

Built on the original M.I.B., the new Memory Intelligent Booster 2 (M.I.B. 2) is designed especially to maximize memory performance and boost memory bandwidth up to 10%. With added branded memory module information, users are able to optimize memory performance by selecting from a recommended memory module list.



S.O.S. (System Overclock Saver)

System Overclock Saver (S.O.S.) is a unique feature that eliminates system boot-up errors resulting from system over-enhancement by the user. With GIGABYTE's proprietary S.O.S. feature, users no longer need to open up the PC chassis and short-circuit the "Clear CMOS" pins or the battery on the motherboard to reset the system back to factory default settings. Instead, S.O.S. automatically resets the overclocked system settings back to their factory defaults to provide a more user-friendly and reliable platform for users.



Download Center

Download Center allows users to quickly download and update their BIOS as well as the latest drivers for their system. Download Center automatically runs a system check of the user PC and provides the user with the current system information as well as displaying a detailed list of all new drivers with the option for download.



C.O.M. (Corporate Online Management)

A web-based system management tool that allows system hardware information such as CPU, memory, graphics card, etc. to be monitored and controlled via the Internet. C.O.M. allows corporate MIS engineers to easily maintain corporate computers such as providing the most up-to-date drivers and BIOS. (Do not use C.O.M. and @BIOS at the same time.)

4-1-1 EasyTune 5 Introduction

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

User Interface Overview



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

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

4-1-2 Xpress Recovery2 Introduction



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

System requirements:

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

How to use the Xpress Recovery2

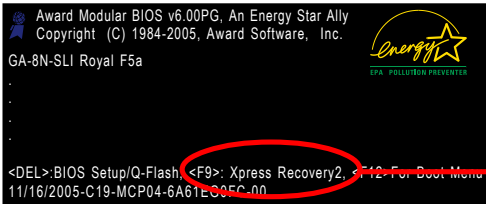
Initial access by booting from CD-ROM and subsequent access by pressing the F9 key:

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

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



Boot from CD/DVD:



<F9> Xpress Recovery2



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

The Main Screen of Xpress Recovery2



1. RESTORE:

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

2. BACKUP:

Back up data from hard disk.

3. REMOVE:

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

4. REBOOT:

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.
5. Xpress Recovery2 supports only PATA hard disks and not SATA hard disks on the following motherboards (As this is a BIOS-related issue, it can be solved by BIOS update)

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

4-1-3 Flash BIOS Method Introduction



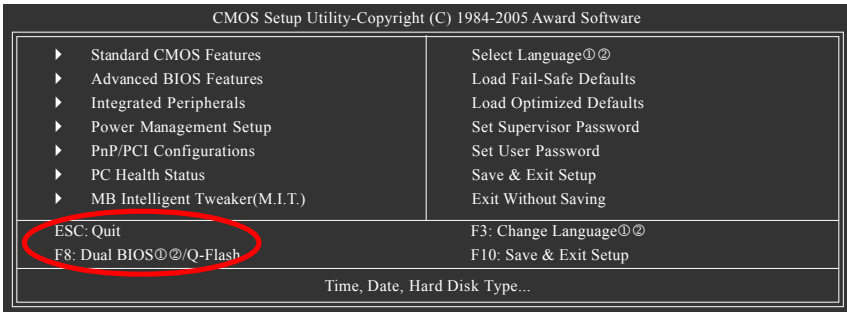
A. What is Dual BIOS Technology? ^{①②}

Dual BIOS means that there are two system BIOS (ROM) on the motherboard, one is the Main BIOS and the other is Backup BIOS.

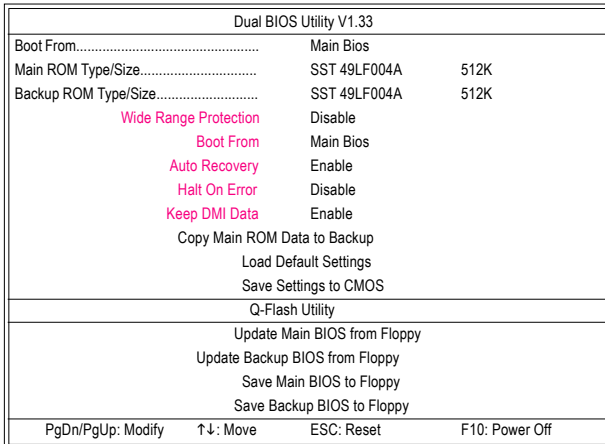
Under the normal circumstances, the system works on the Main BIOS. If the Main BIOS is corrupted or damaged, the Backup BIOS can take over while the system is powered on. This means that your PC will still be able to run stably as if nothing has happened in your BIOS.

B. How to use Dual BIOS and Q-Flash Utility?

a. After power on the computer, pressing immediately during POST (Power On Self Test) it will allow you to enter Award BIOS CMOS SETUP, then press <F8> to enter Flash utility.



b. Dual BIOS / Q-Flash Programming Utility



① Only for GA-8N-SLI Royal.

② Only for GA-8N-SLI Pro.

c. Dual BIOS Item explanation:

Wide Range Protection: Disable(Default), Enable

Status 1:

If any failure (ex. Update ESCD failure, checksum error or reset? occurs in the Main BIOS, just before the Operating System is loaded and after the power is on, and that the Wide Range Protection is set to "Enable", the PC will boot from Backup BIOS automatically.

Status 2:

If the ROM BIOS on peripherals cards(ex. SCSI Cards, LAN Cards,...) emits signals to request restart of the system after the user make any alteration on it, the boot up BIOS will not be changed to the Backup BIOS.

Boot From : Main BIOS(Default), Backup BIOS

Status 1:

The user can set to boot from main BIOS or Backup BIOS.

Status 2:

If one of the main BIOS or the Backup BIOS fails, this item "Boot From : Main BIOS(Default)" will become gray and will not be changed by user.

Auto Recovery : Enable(Default), Disable

When one of the Main BIOS or Backup BIOS occurs checksum failure, the working BIOS will automatically recover the BIOS of checksum failure.

(In the Power Management Setup of the BIOS Setting, if ACPI Suspend Type is set to Suspend to RAM, the Auto Recovery will be set to Enable automatically.)

(If you want to enter the BIOS setting, please press "Del" key when the boot screen appears.)

Halt On Error : Disable(Default), Enable

If the BIOS occurs a checksum error or the Main BIOS occurs a WIDE RANGE PROTECTION error and Halt On Error set to Enable, the PC will show messages on the boot screen, and the system will pause and wait for the user's instruction.

If Auto Recovery :Disable, it will show <or the other key to continue.>

If Auto Recovery :Enable, it will show <or the other key to Auto Recover.>

Keep DMI Data : Enable(Default), Disable

Enable: The DMI data won't be replaced by flashing new BIOS.(recommend)

Disable: The DMI data will be replaced by flashing new BIOS.

Copy Main ROM Data to Backup

(If you boot from Backup ROM, this item will change to Copy Backup ROM Data to Main)

Auto recovery message:

BIOS Recovery: Main to Backup

The means that the Main BIOS works normally and could automatically recover the Backup BIOS.

BIOS Recovery: Backup to Main

The means that the Backup BIOS works normally and could automatically recover the Main BIOS.

(This auto recovery utility is set by system automatically and can't be changed by user.)

Load Default Settings

Load dual BIOS default value.

Save Settings to CMOS

Save revised setting.



Method 1 : Q-Flash™ Utility

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



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

Before You Begin:

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

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

The BIOS upgrading guides below are separated into two parts.

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

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

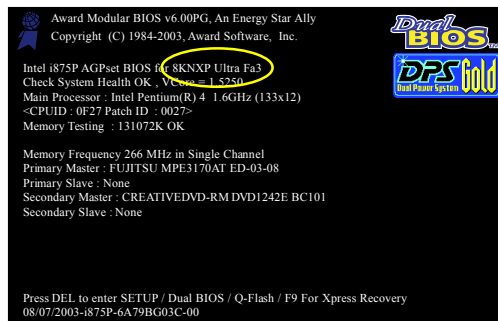
Part One:

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

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

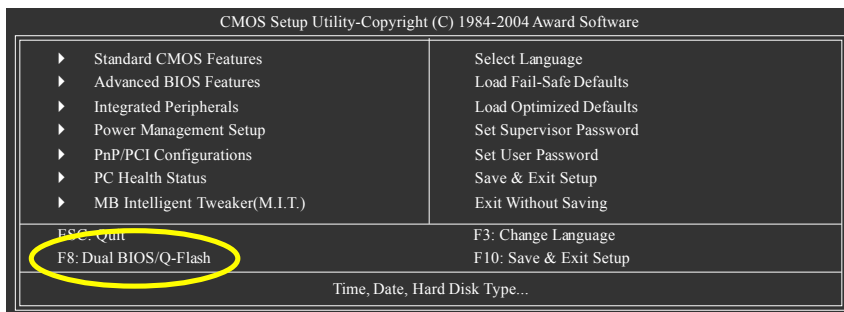
In the following sections, we take GA-8KNXP Ultra as the example to guide you how to flash BIOS from an older version to the latest version. For example, from Fa3 to Fba.

The BIOS file is Fa3
before updating



Entering the Q-Flash™ utility:

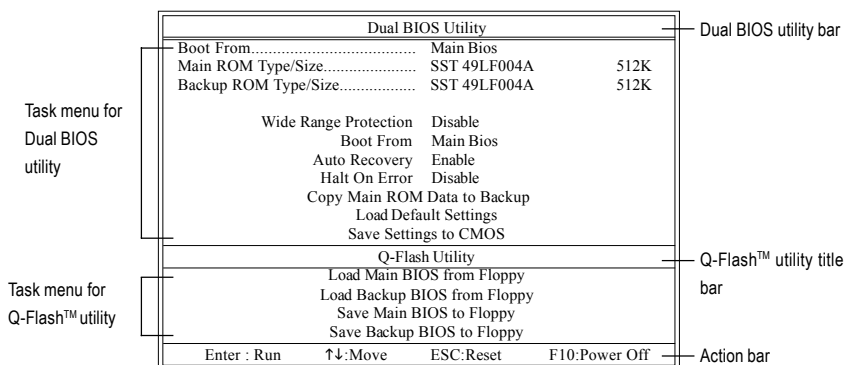
Step 1: To use Q-Flash utility, you must press **Del** in the boot screen to enter BIOS menu.



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

Exploring the Q-Flash™ / Dual BIOS utility screen

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



Task menu for Dual BIOS utility:

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

Task menu for Q-Flash utility:

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

Action bar:

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

Using the Q-Flash™ utility:

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

Steps:

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

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



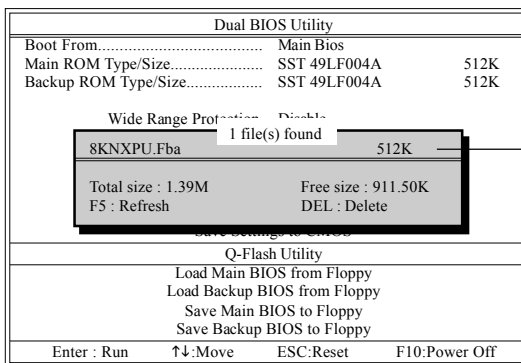
If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.

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

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

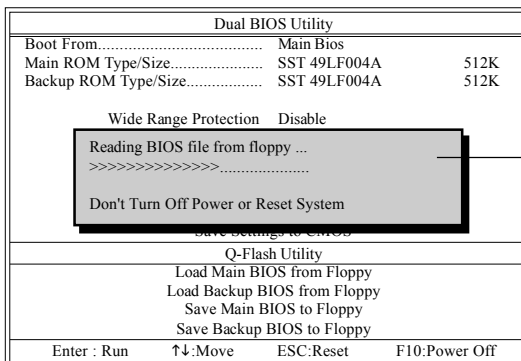


Please confirm again you have the correct BIOS file for your motherboard.



BIOS file in the floppy disk.

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



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

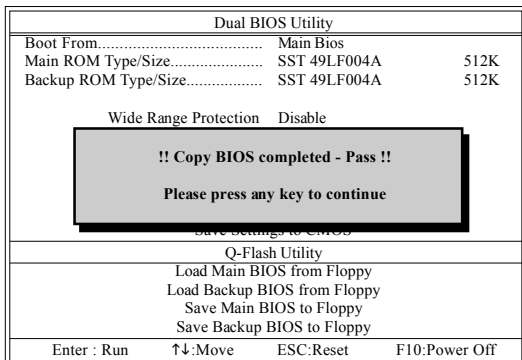
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

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



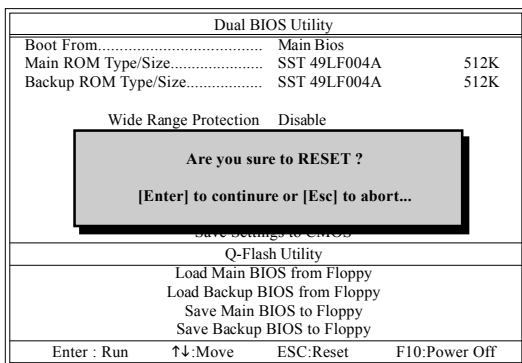
Please do not take out the floppy disk when it begins flashing BIOS.

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



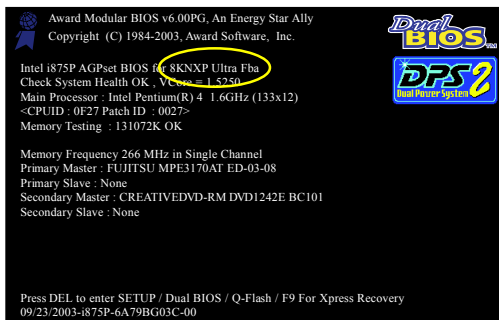
You can repeat Step 1 to 4 to flash the backup BIOS, too.

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

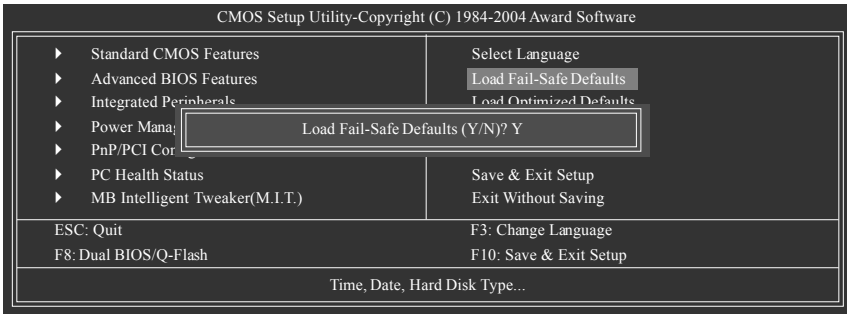


After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

The BIOS file becomes Fba after updating.

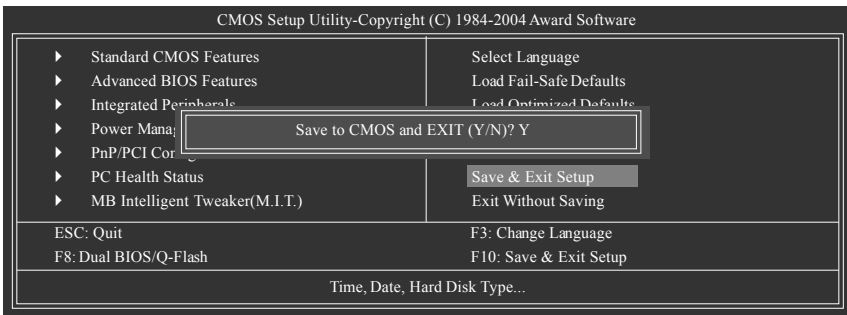


6. Press **Del** to enter BIOS menu after system reboots. When you are in BIOS menu, move to **Load Fail-Safe Defaults** item and press **Enter** to load BIOS Fail-Safe Defaults. Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS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



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

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

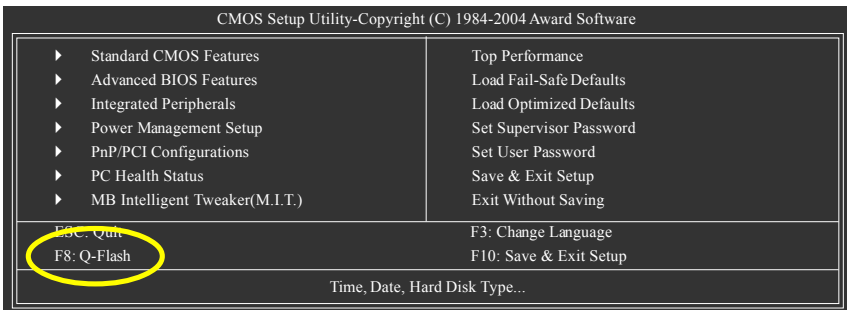


Press **Y** on your keyboard to save and exit.

Part Two:

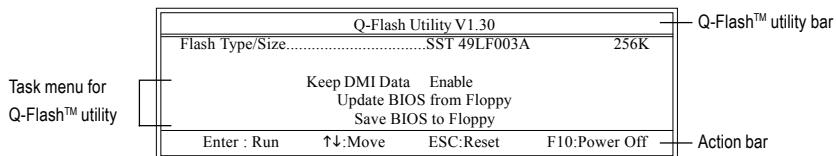
Updating BIOS with Q-Flash™ Utility on Single-BIOS Motherboards.

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



Exploring the Q-Flash™ utility screen

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



Task menu for Q-Flash utility:

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

Action bar:

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

Using the Q-Flash™ utility:

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

Steps:

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

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



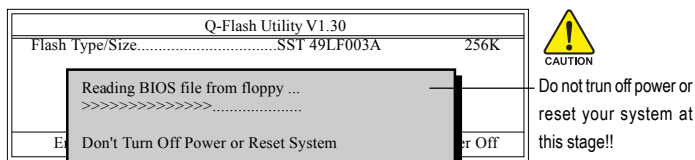
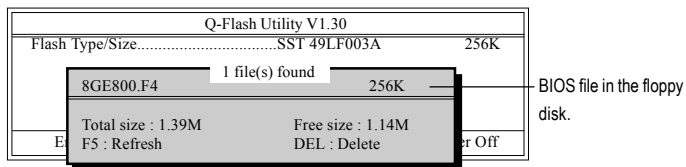
If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floppy" item.

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

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



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

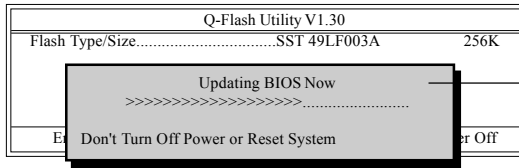


After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"



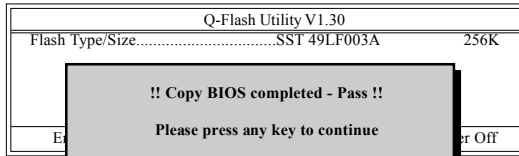
Please do not take out the floppy disk when it begins flashing BIOS.

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

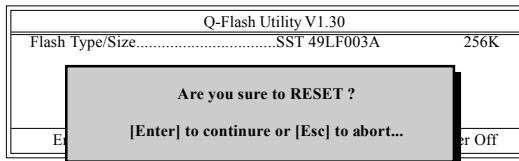


Do not turn off power or reset your system at this stage!!

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

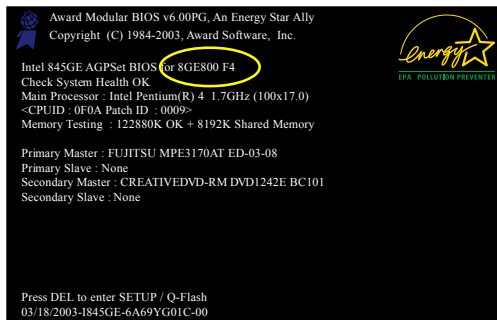


- Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.



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

The BIOS file becomes F4 after updating



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

Congratulation!! You have updated BIOS successfully!!



Method 2 : @BIOS™ Utility

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

Fig 1. Installing the @BIOS utility

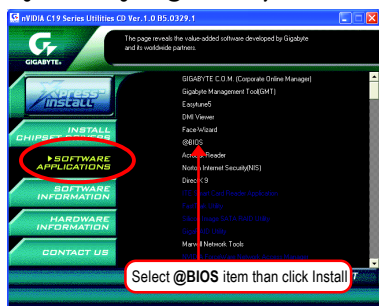


Fig 2. Installation complete and run @BIOS

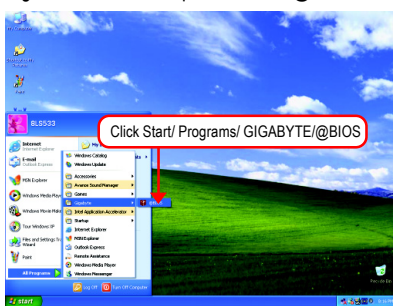


Fig 3. The @BIOS utility

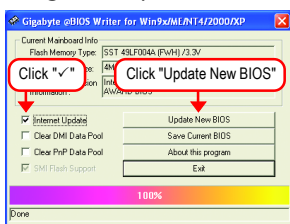
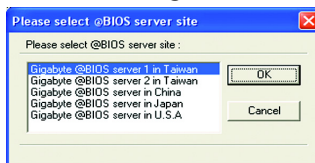


Fig 4. Select the desired @BIOS server



1. Methods and steps:

I. Update BIOS through Internet

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

II. Update BIOS NOT through Internet:

- Do not click "Internet Update" icon
- Click "Update New BIOS"
- Please select "All Files" in dialog box while opening the old file.
- Please search for BIOS unzip file, downloading from internet or any other methods (such as: 8NSLI.F1).
- 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 web site 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 Serial ATA BIOS Setting Utility Introduction

RAID Levels

RAID (Redundant Array of Independent Disks) is a method of combining two hard disk drives into one logical unit. The advantage of an Array is to provide better performance or data fault tolerance. Fault tolerance is achieved through data redundant operation, where if one drives fails, a mirrored copy of the data can be found on another drive. This can prevent data loss if the operating system fails or hangs. The individual disk drives in an array are called members. The configuration information of each member is recorded in the reserved sector that identifies the drive as a member. All disk members in a formed disk array are recognized as a single physical drive to the operating system.

Hard disk drives can be combined together through a few different methods. The different methods are referred to as different RAID levels. Different RAID levels represent different performance levels, security levels and implementation costs. The RAID levels which the nVIDIA® MCP-04 chipset supports are RAID 0, RAID 1, RAID 0+RAID 1, JBOD and RAID 5; the RAID levels which the Promise PDC20779^① chip supports are RAID 0 and RAID 1.

RAID 0 (Striping)

RAID 0 reads and writes sectors of data interleaved between multiple drives. If any disk member fails, it affects the entire array. The disk array data capacity is equal to the number of drive members times the capacity of the smallest member. RAID 0 does not support fault tolerance.

RAID 1 (Mirroring)

RAID 1 writes duplicate data onto a pair of drives and reads both sets of data in parallel. If one of the mirrored drives suffers a mechanical failure or does not respond, the remaining drive will continue to function. Due to redundancy, the drive capacity of the array is the capacity of the smallest drive. Under a RAID 1 setup, an extra drive called the spare drive can be attached. Such a drive will be activated to replace a failed drive that is part of a mirrored array. Due to the fault tolerance, if any RAID 1 drive fails, data access will not be affected as long as there are other working drives in the array.

RAID 0+1 (Striping + Mirroring)

RAID 0+1 combines the performance of data striping (RAID 0) and the fault tolerance of disk mirroring (RAID 1). Data is striped across multiple drives and duplicated on another set of drives.

JBOD (Spanning)

A spanning disk array is equal to the sum of the all drives when the drives used are having different capacities. Spanning stores data onto a drive until it is full, then proceeds to store files onto the next drive in the array. When any disk member fails, the failure affects the entire array. JBOD is not really a RAID and does not support fault tolerance.

RAID 5 (Striping with Parity)

RAID 5 provides good fault tolerance and allows for overlapped I/O operations. Under a RAID 5 setup, data and parity information are equally distributed to each disk member in the array. If any one of the drives fails, the remaining drive will continue to function. After replacing the failed drive, you can rebuild the data from the remaining data and parity. Only one drive can be safely crash without any data loss.

① Only for GA-8N-SLI Royal.

Please follow the steps below to construct a complete RAID array:

- 1) Have ready your hard drives for RAID construction.
Note: To achieve best performance, it is recommended that the hard drives used are of similar make and storage capacity.
- 2) Please attach the hard drive connectors to their appropriate location on the motherboard ie. IDE, SCSI, or SATA.
- 3) Enter the motherboard BIOS and locate RAID setup (Please refer to the section on Integrated Peripherals).
- 4) Enter RAID setup in the BIOS and select the RAID type (For instance, enter F10 to select NVIDIA RAID; Ctrl + S to select Silicon Image).
- 5) Complete driver installation.
- 6) Complete RAID utility installation.

More information on steps 4 and 5 is provided. (For more detailed setup information, please visit "Support\ Motherboard\ Technology Guide section" on our website at <http://www.gigabyte.com.tw> to read or download the information you need.)

Configuring the Nvidia RAID BIOS

The NVRAID BIOS setup lets you choose the RAID array type and which hard drives you want to make part of the array.

Entering the RAID BIOS Setup

1. After rebooting your computer, wait until you see the RAID software prompting you to press **F10**. The RAID prompt appears as part of the system POST and boot process prior to loading the OS. You have a few seconds to press **F10** before the window disappears.

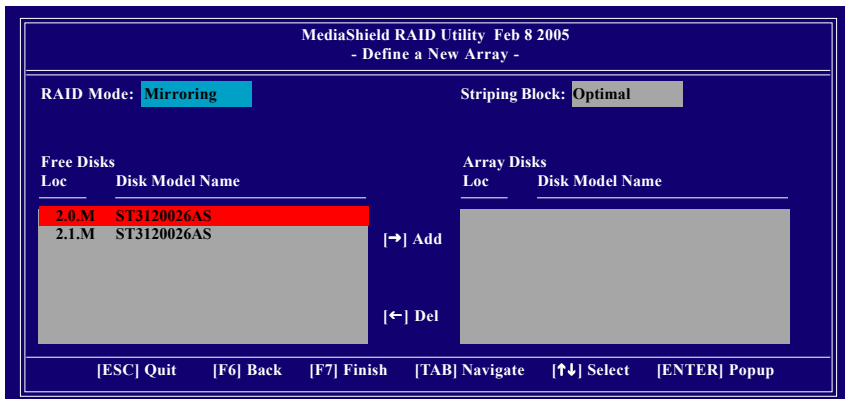
```
MediaShield IDE ROM BIOS 5.16
Copyright (C) 2005 NVIDIA Corp.

Detecting array ...

Press F10 to enter RAID setup utility ...
```

Press **F10**.

The NVIDIA RAID Utility - **Define a New Array** window appears (as Figure below).



Using the "Define a New Array" Window

If necessary, press the tab key to move from field to field until the appropriate field is highlighted.

Selecting the RAID Mode

By default, this is set to Mirroring. To change to a different RAID mode, press the down arrow key until the mode that you want appears in the RAID Mode box - either Mirroring, Striping, Spanning, Stripe Mirroring or RAID 5.

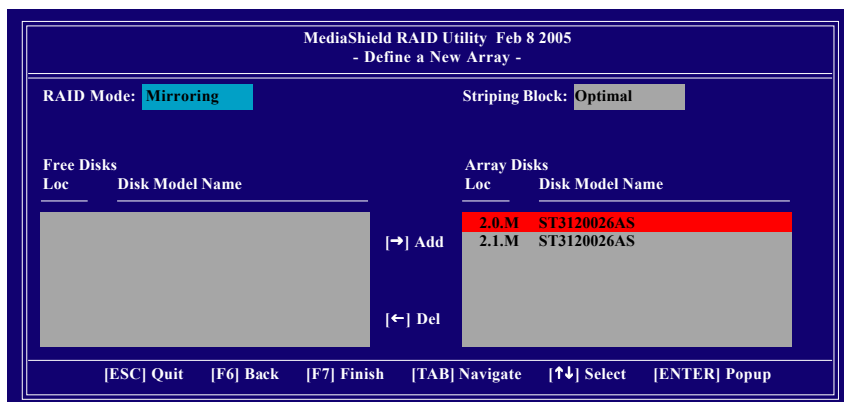
Selecting the Striping Block Size

Striping block size is given in kilobytes, and affects how data is arranged on the disk. It is recommended to leave this value at the default Optimal, which is 64KB, but the values can be between 4 KB and 128 KB.

Assigning the Disks

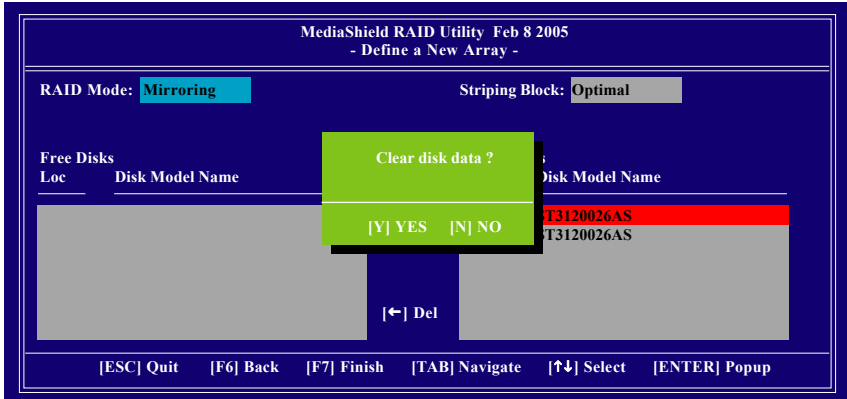
The disks that you enabled from the RAID Config BIOS setup page appear in the Free Disks block. These are the drives that are available for use as RAID array disks. To designate a free disk to be used as a RAID array disk,

1. Tab to the Free Disks section. The first disk in the list is selected.
2. Move it from the Free Disks block to the Array Disks block by pressing the right arrow key (→). The first disk in the list is moved, and the next disk in the list is selected and ready to be moved.
3. Continue pressing the right-arrow key (→) until all the disks that you want to use as RAID array disks appear in the Array Disks block.



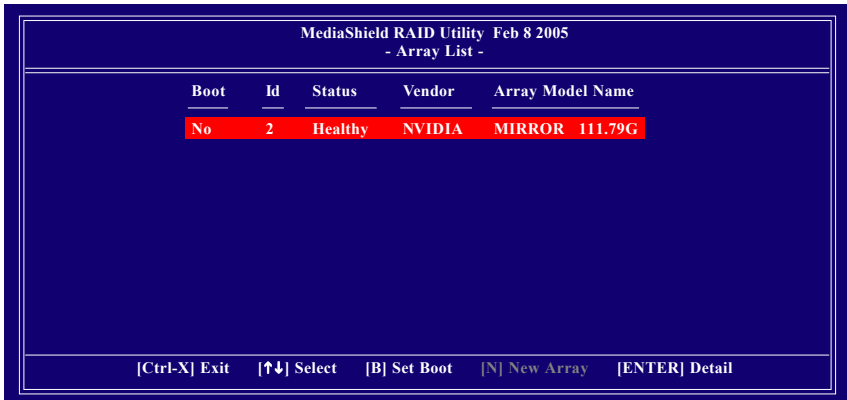
Completing the RAID BIOS Setup

After assigning your RAID array disks, press F7. The **Clear disk data** prompt appears.



Press **Y** if you want to wipe out all the data from the RAID array, otherwise press **N**. You must choose **Yes** if the drives were previously used as RAID drives. The **Array List** window appears, where you can review the RAID arrays that you have set up.

You can select a disk array as boot device if you want to boot operating system from an array. Use the arrow keys to select the array, then press **B** to specify the array as bootable.



Press **Enter** to view and verify details. The **Array Detail** screen appears.

The Array Detail screen shows various information about the array that you selected, such as Striping Block used, RAID Mode, Striping Width, Disk Model Name, and disk capacity.

Array 2 : NVIDIA MIRROR 111.79G - Array Detail -					
RAID Mode: Mirroring			Striping Block: 64K		
Striping Width : 1					
Adapt	Channel	M/S	Index	Disk Model Name	Capacity
2	0	Master	0	ST3120026AS	111.79GB
2	1	Master	1	ST3120026AS	111.79GB
[R] Rebuild [D] Delete [C] Clear Disk [ENTER] Return					

If you want to mark this disk as empty and wipe out all its contents, press **C**.

At the prompt, press **Y** to wipe out all the data, otherwise press **N**.

Press **Enter** again to go back to the previous screen and then press **Ctrl + X** to exit the RAID setup.

Now that the RAID setup has been configured from the RAID BIOS, the next step is to configure and load drivers under Windows.

B. Configuring the Promise PDC20779 RAID BIOS[®]

The Promise PDC20779 RAID BIOS setup lets you choose the RAID array type and which hard drives you want to make part of the array.

Entering the RAID BIOS Setup

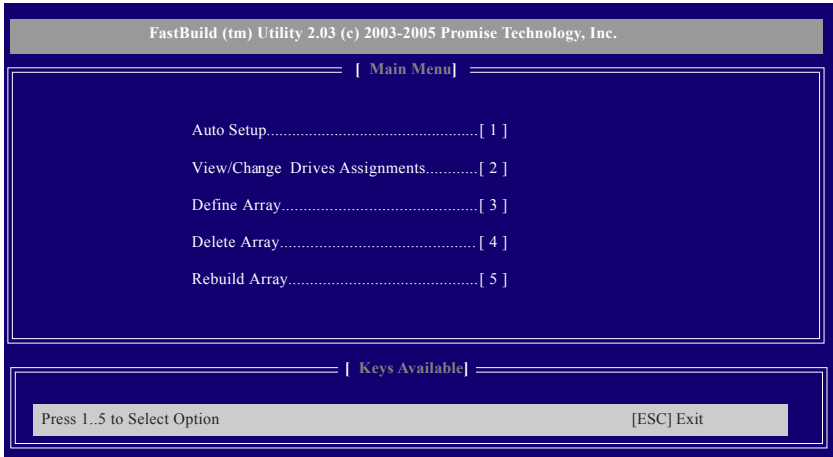
1. After rebooting your computer, wait until you see the RAID software prompting you to press Ctrl + F. The RAID prompt appears as part of the system POST and boot process prior to loading the OS. You have a few seconds to press <Ctrl> + <F> before the window disappears.

```
FastTrak 779 (tm) BIOS Version 2.00.0.25
Copyright (c) 2003 Promise Technology, Inc.
Updated in 2004

No Array is defined.....

Press <Ctrl-F> to enter FastBuild (tm) Utility or
Press [ESC] to continue booting
```

Press <Ctrl> + <F>. The Promise RAID Utility window appears (as Figure below).



Main Menu

This is the first option screen when you enter the FastBuild Setup.

To create a new array automatically, press <1>. Promise recommends this option for most users.

To manually create an array, press <3> to enter the *Define Array* window. If you wish to specify block size, you must create the array manually.

To view the disk drives assigned to arrays, press <2> to enter the *View Drive Assignments* window.

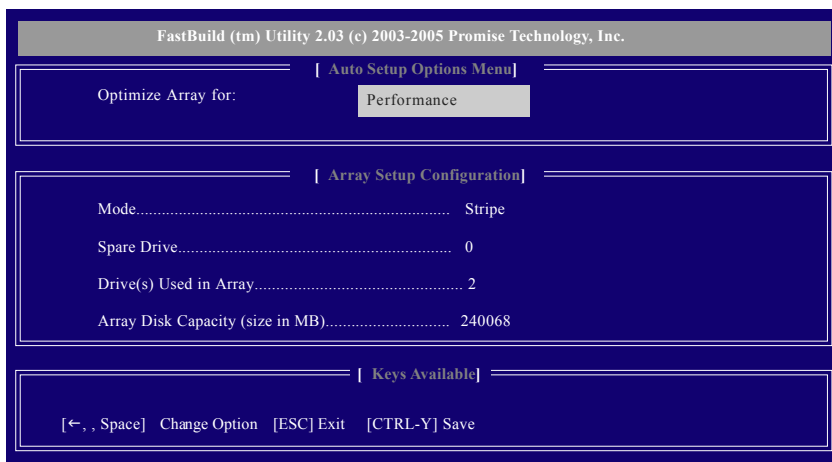
To delete an array, press <4> to enter the *Delete Array* window.

To recover from an error in a mirrored (RAID 1) disk array, press <5> to enter the *Rebuild Array* window.

① Only for GA-8N-SLI Royal.

Create Arrays Automatically

To create a new array automatically, press <1> to enter the *Auto Setup* window. The Auto Setup selection from the Main Menu can intuitively help create your disk array. It will assign all available drives appropriate for the disk array you are creating.



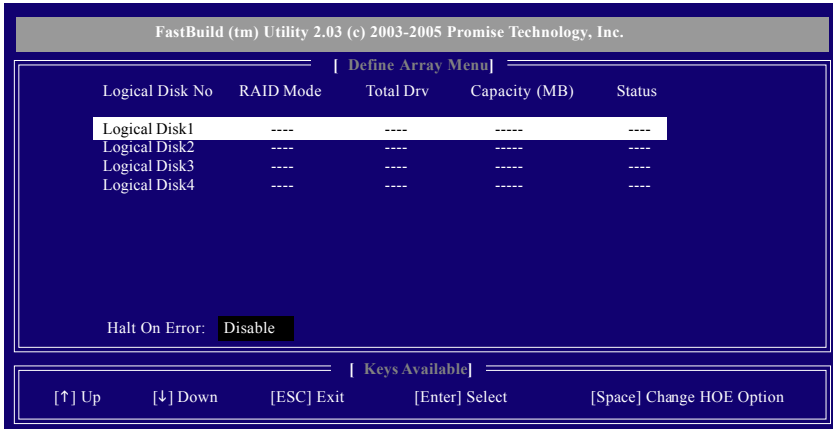
Under the *Optimized Array for* setting, use the LEFT ARROW <←> or SPACEBAR key to select Performance (RAID 0) or Security (RAID 1). Press <CTRL> and <Y> to save the configuration.

Performance: Under the Performance setting (RAID 0), FastTrak assigns two drives to a single Striped array. If you want a one-drive array or you want to specify block size, please go to the *Define Array* window.

Security: Under the Security setting (RAID 1), FastTrak assigns two drives to a single Mirrored array.

Create Arrays Manually

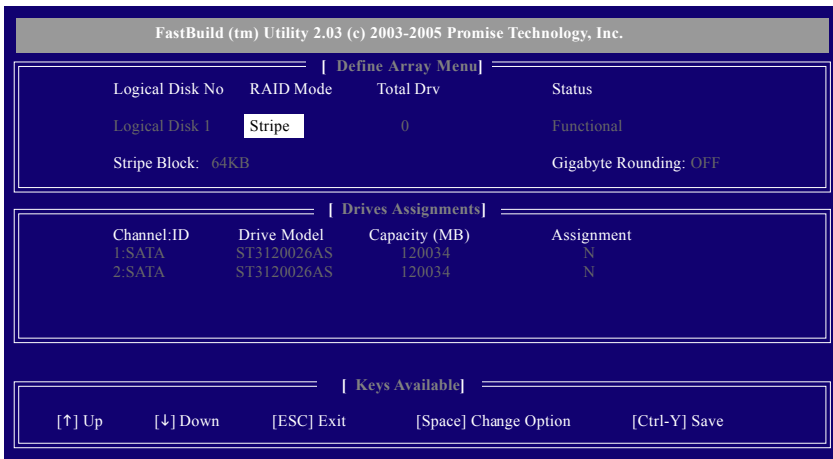
To create a new array manually, press <3> to enter the *Define Array* window. The Define Array selection from the Main Menu allows users to begin the process of manually defining the drive elements and RAID levels for one or multiple disk arrays attached to the Promise PDC20779 controller.



Use arrow keys [↑↓] to move to a logical disk set and press ENTER to enter the *Define Array Menu*.
Halt on Error

When enabled, if the RAID controller detects an error, the boot process will stop when the FastTrak BIOS appears and wait for your input. At that point, you can press <Ctrl>+<F> to enter the FastBuild utility or press <ESC> to continue booting.

When disabled, the FastTrak BIOS will appear and show the Critical array, but the computer will continue booting if you take no action.



RAID Mode: Use Space key to change your selection between Stripe (RAID 0) or Mirror (RAID 1)

Stripe Block: For striped (RAID 0) arrays, you can manually select the stripe block size. Press the Space bar to scroll through choices from 32 to 128KB. The default is 64KB.

Gigabyte Rounding: The Gigabyte Rounding feature is designed for Mirrored (RAID 1) arrays in which a drive has failed and the user cannot replace the drive with the same capacity or larger.

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

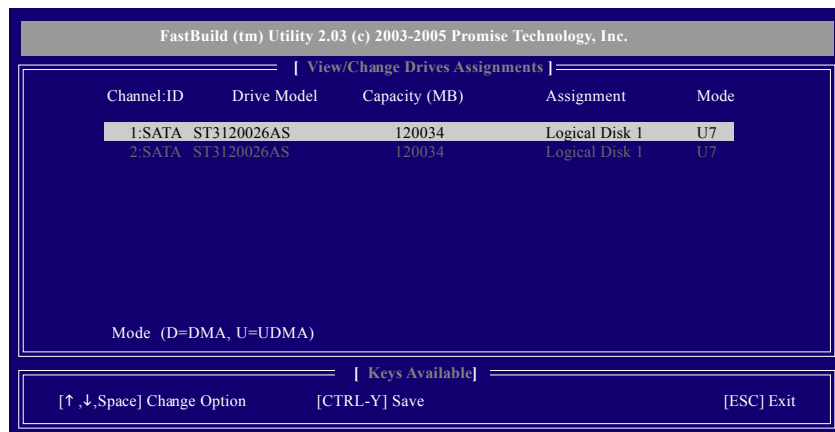
1. Under the RAID Mode section, press the Spacebar to select *Stripe*.
2. Set the Stripe Block size. 64K is the default.
3. Under the Drive Assignments section, press UP and DOWN ARROW keys to highlight a drive.
4. Press the Spacebar to change the Assignment option to <Y>. This action adds the drive to the disk array. Assign from one or two drives. If you assign only one drive, there will be no performance benefit. 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.

Do you want to do quick initialize
or create only? (Yes/No)
Y-Create and Quick Initialize
N-Create Only

6. Press <Y> to create and quick initialize the array or press <N> to create it only.
7. After the creation is complete, the screen will return to Define Array Menu and you should see the newly-created array in this screen.
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 Drive Assignments* option in the Main Menu displays whether drives are assigned to a disk array or are unassigned.



Under the Assignment column, drives are labeled with their assigned disk array or shown as *Spare* if unassigned.

Installing the RAID drivers

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^(Note1). 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 (Fig.1):

```
cd bootdrv
menu
```

Step 2: When the controller menu (Fig.2) appears, remove the startup disk and insert the blank formatted disk. Select the controller driver by pressing the corresponding letter from the menu. Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.

```
D:\OBSKZ  1 10-08-02 7:51p
DISMQL  DLL  94,208 06-15-04 1:19p
DRIVERS  <DIR> 11-23-04 9:24p
HISTORY  TXT  7,703 05-24-04 1:56p
HWDDBU  DLL  53,248 08-21-02 10:11a
IB      LDR  21,877 12-01-04 11:21a
MAMUL   <DIR> 11-23-04 9:17p
MCTMRR  <DIR> 11-23-04 9:24p
MMS     <DIR> 11-23-04 9:26p
OEMSETUP INF 30,057 10-08-02 7:51p
OEM     <DIR> 11-23-04 9:26p
PROSETII <DIR> 11-23-04 9:27p
SCWPM  TXT  4,551 12-01-04 2:09p
SETUP   EXE  421,888 11-25-04 3:32p
TESTM  EXE  196,608 08-09-04 1:44p
TIF     HTF  2,439 09-10-04 18:01a
UTILITY <DIR> 11-23-04 9:27p
USERFILE TIC 13 03-28-03 1:45p
XMC9    TXT  7,828 11-24-04 1:51p
-----
              860,353 bytes Free
              11 kb
D:\>cd bootdrv
D:\BOOTDRU>menu
```

Fig.1

```
1)IIR_RAID
2)G2RAID
3)S1
4)S11RAID
5)SCSI
6)Promise 28276 ATA
7)Promise 28276 RAID
8)Promise 28265 RAID
9)Promise 28265 RAID(XP)
10)Promise 28265 RAID(XP)
11)S1 8237 SATA0 010
12)S1 8237 SATA1 010
13)H1B14 SATA0 RAID(XP)
14)S113114 RAID
15)S113114 RAID
16)Promise 28779 SATA Driver
17)Promise 28779 SATA RAID Driver
0)Exit
```

Fig.2

Step 3: After completing the steps, boot from the Windows installation disk to install the RAID drivers. Press **F6** as soon as you see the "Press F6 if you need to install a third party SCSI or RAID driver" message, then supply serial ATA controller driver by this floppy disk. Follow the on-screen instructions to complete the installation.

(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.)



(Note 1): For users without a startup disk.

Use an alternative system and insert the GIGABYTE motherboard driver CD-ROM. From the CD-ROM drive (example: D:\) double click the **MENU.exe** file in the **BootDrv** folder. A command prompt window will open similar to that in Fig. 2.

This motherboard provide 6 audio connector. You are able to use 2-/4-/6-/8-channels audio feature by audio software selection.

Introduction of audio connectors:

You may connect CD-ROM/DVD-ROM, walkman or others audio input to Line In.

The front channels or earphone can be connected to Line Out (Front Speaker Out).

Connect microphone to Mic In.

Connect the rear channels to Rear Speaker Out.

Connect the Center/Subwoofer channels to Center/Subwoofer Speaker Out.

Connect the side channels to Side Speaker Out.

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

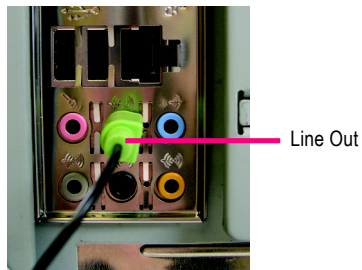


Stereo Speakers Connection and Settings:


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

STEP 1:

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



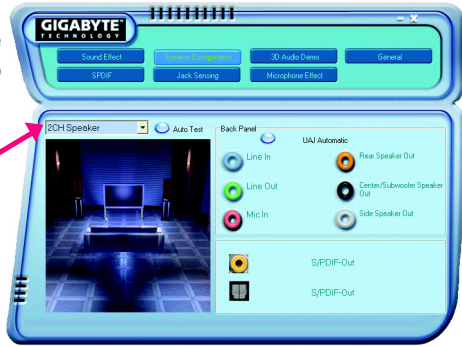
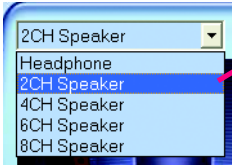
STEP 2 :

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



STEP 3:

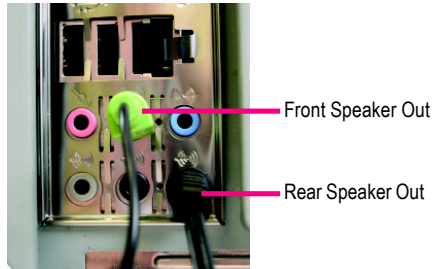
Click "Speaker Configuration" then click on the left selection bar and select "2CH Speaker" to complete 2 channel audio configuration.



4 Channel Audio Setup

STEP 1 :

Connect the front channels to "Front Speaker Out", the rear channels to "Rear Speaker Out".



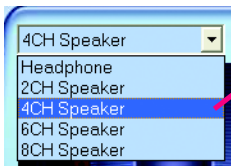
STEP 2 :

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



STEP 3:

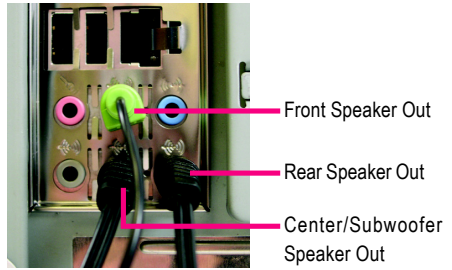
Click "Speaker Configuration" then click on the left selection bar and select "4CH Speaker" to complete 4 channel audio configuration.




6 Channel Audio Setup

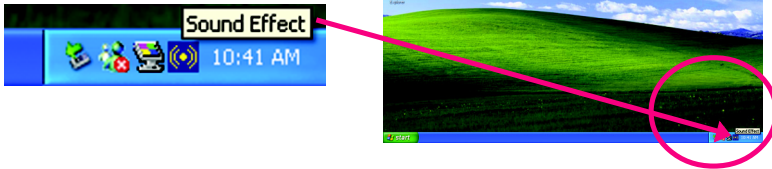
STEP 1 :

Connect the front channels to "Front Speaker Out", the rear channels to "Rear Speaker Out", and the Center/Subwoofer channels to "Center/Subwoofer Speaker Out".



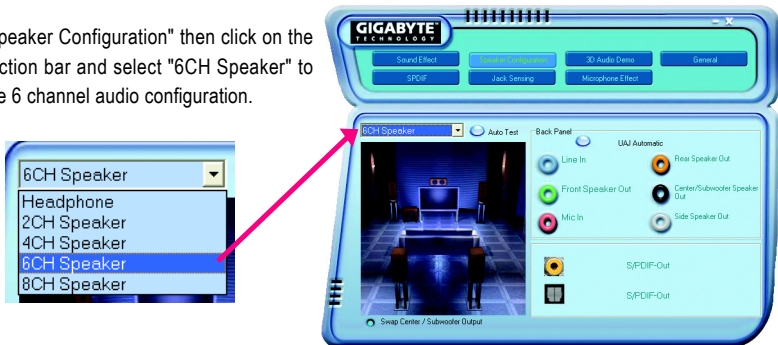
STEP 2 :

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



STEP 3:

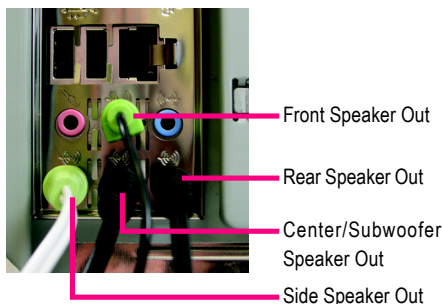
Click "Speaker Configuration" then click on the left selection bar and select "6CH Speaker" to complete 6 channel audio configuration.



8 Channel Audio Setup

STEP 1 :

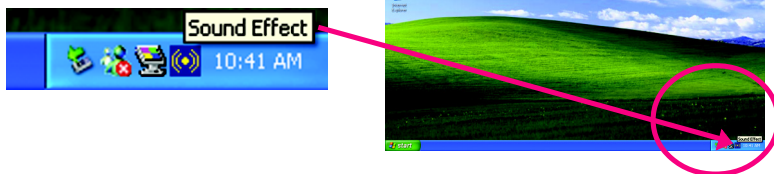
Connect the front channels to "Front Speaker Out", the rear channels to "Rear Speaker Out", the Center/Subwoofer channels to "Center/Subwoofer Speaker Out", and the side channels to "Side Speaker Out".



STEP 2 :

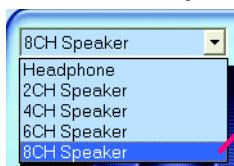
Following installation of the audio driver, you find a Sound Effect icon on the lower right hand taskbar.

Click the icon to select the function.



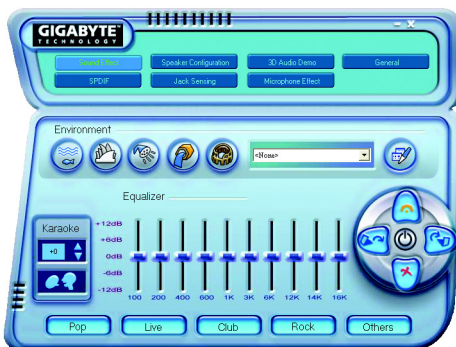
STEP 3:

Click "Speaker Configuration" then click on the left selection bar and select "8CH Speaker" to complete 8 channel audio configuration.



Sound Effect Configuration:

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



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

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

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

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

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

→ AMI BIOS Beep Codes

*Computer gives 1 short beep when system boots successfully.

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

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

→ AWARD BIOS Beep Codes

1 short: System boots successfully

2 short: CMOS setting error

1 long 1 short: DRAM or M/B error

1 long 2 short: Monitor or display card error

1 long 3 short: Keyboard error

1 long 9 short: BIOS ROM error

Continuous long beeps: DRAM error

Continuous short beeps: Power error



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