Rampage III GENE

ASUS®

Motherboard

E5875

First Edition
June 2010

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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

> The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

REACH

Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS website at http://green.asus.com/english/REACH.htm.

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.

- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.

- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.

- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.

- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.

- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.

- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.

- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.

- Place the product on a stable surface.

- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This guide contains the following parts:

*   **Chapter 1: Product introduction**

    This chapter describes the features of the motherboard and the new technology it supports.

*   **Chapter 2: Hardware information**

    This chapter lists the hardware setup procedures that you have to perform when installing system components. It includes description of the switches, jumpers, and connectors on the motherboard.

*   **Chapter 3: BIOS setup**

    This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

*   **Chapter 4: Software support**

    This chapter describes the contents of the support DVD that comes with the motherboard package and the software.

*   **Chapter 5: Multiple GPU technology support**

    This chapter describes how to install and configure multiple ATI® CrossFireX™ graphics cards.

*   **Appendix: Debug code table**

    The Appendix lists the debug code table for the LCD Poster.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS websites**

    The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional documentation**

    Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key. Example: <Enter> means that you must press the Enter or Return key.
<Key1+Key2+Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: <Ctrl+Alt+D>
`Command`	Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets. Example: At the DOS prompt, type the command line: `afudos /iMAIIGEN.ROM`

Rampage III GENE specifications summary

CPU	LGA1366 socket for Intel® Core™i7 Processor Extreme Edition / Core™i7 Processors - Support Intel® Turbo Boost Technology * Refer to www.asus.com for Intel CPU support list
Chipset	Intel® X58/ICH10R
System Bus	Up to 6.4 GT/s with QuickPath Interconnection
Memory	Triple channel memory architecture 6 x DIMM, max. 24GB, DDR3 2200(O.C.)/2133(O.C.)/2000(O.C)/1800(O.C.)/1600/1333/1066 MHz, non-ECC, un-buffered memory modules Supports Intel® Extreme Memory Profile (XMP) *Hyper DIMM support is subject to the physical characteristics of individual CPUs. *Refer to www.asus.com or this user manual for the Memory QVL (Qualified Vendors Lidts)..
Expansion Slots	2 x PCIe2.0 x16 slots, support dual x16 mode 1 x PCIe x4 1 x PCI 2.2
Multi-GPU Technology	Support NVIDIA SLI™ / ATI CrossFireX™ Technology
Storage	**ICH10R Southbridge:** - 6 x SATA 3.0 Gb/s ports (gray) - Intel Matrix Storage Technology supports RAID 0, 1, 5 and 10 **Marvell® PCIe 9128 SATA 6Gb/s controller** - 2 x SATA 6.0 Gb/s ports (red)
LAN	Gigabit Intel® LAN
High Definition Audio	**SupremeFX X-Fi 2 built-in** - 8-channel High Definition Audio CODEC - EAX® Advanced™ HD 5.0 - THX TrueStudio PC - X-Fi® Xtreme Fidelity™ - Creative ALchemy - Supports Blu-ray audio layer content protection - Supports Jack-detection, Multi-streaming, Front Panel Jack-retasking - Supports 1 x Optical S/PDIF out port at back panel
IEEE 1394	2 x 1394a ports (1 port at back panel, 1 port at midboard)
USB	**NEC® USB 3.0 controller** - 2 x USB 3.0/2.0 ports (at back panel) **Intel® ICH10R Southbridge** - 11 x USB 2.0/1.1 ports (4 ports at midboard; 6 ports at back panel, 1 reserved for ROG Connect)

Rampage III GENE specifications summary

ROG Exclusive Features	Power Design:
	  - **8-phase CPU power**
	  - **2-phase QPI/DRAM power**
	  - **2-phase NB power**
	ROG Connect
	ProbeIt
	iROG
	GameFirst
	CPU Level Up
	MemOK!
	Extreme Tweaker
	Q-Fan Plus (without thermal sensor cables)
	Loadline Calibration
	Intelligent Overclocking Tools:
	  - **ASUS TurboV EVO**
	  - **O.C Profile**
	Overclocking Protection:
	  - **COP EX (Component Overheat Protection - EX)**
	  - **Voltiminder LED**
	  - **ASUS C.P.R.(CPU Parameter Recall)**

Other Special Features	ASUS MyLogo3 ASUS Fan Xpert ASUS EZ Flash 2 ASUS CrashFree BIOS 3 ASUS Q-Connector ASUS Q-Slot ASUS Q-DIMM
BIOS Features	16Mb AMI BIOS, PnP, DMI2.0, WfM2.0, SM BIOS 2.5, ACPI2.0a Multi-Language BIOS
Manageability	WOL by PME, WOR by PME, PXE
Back Panel I/O Ports	1 x PS/2 Keyboard port (purple) 1 x Clr CMOS switch 1 x Optical S/PDIF out port 1 x IEEE 1394a connector 1 x LAN (RJ45) port 1 x ROG Connect On/Off switch 2 x USB 3.0/2.0 ports (Blue) 7 x USB 2.0/1.1 ports (1 port also for ROG Connect) 8-channel Audio I/O

Rampage III GENE specifications summary

Internal I/O Connectors	2 x USB 2.0 connectors support additional 4 USB 2.0 ports 8 x SATA connectors: 2 x SATA 6G connectors (Red); 6 x standard SATA connectors (Gray) 5 x Fan connectors: 1 x CPU / 1 x PWR / 2 x Chassis / 1 x Optional 8 x ProbeIt Measurement Points 1 x Go Button 1 x Thermal sensor connector 1 x IEEE1394a connector 1 x SPDIF_Out Connector 1 x 24-pin ATX Power connector 1 x 8-pin ATX 12V Power connectors 1 x En/Dis-able Clr CMOS header 1 x En/Dis-able QPI_LL header 1 x START (Power On) button 1 x RESET button 1 x Front panel audio connector 1 x System panel connector
Software	Support DVD: - Drivers and Applications Sound Blaster X-Fi MB2 Utility Kaspersky Anti-Virus ROG GameFirst Utility ASUS AI Suite II ASUS PC Probe II ASUS Update
Form Factor	mATX Form Factor, 9.6"x 9.6" (24.4cm x 24.4cm)

*Specifications are subject to change without notice.

This chapter describes the motherboard features and the new technologies it supports.

Product introduction

1

Chapter summary

1

1.1   Welcome!

Thank you for buying an ROG Rampage III GENE motherboard!

The motherboard delivers a host of new features and latest technologies, making it another standout in the long line of ASUS quality motherboards!

Before you start installing the motherboard, and hardware devices on it, check the items in your package with the list below.

1.2   Package contents

Check your motherboard package for the following items.

Motherboard	ROG Rampage III GENE
Cables	1 x SLI Cable 3 x 2-in-1 SATA signal cables 1 x 2-in-1 SATA 6G cables
Accessories	1 x ROG Connect cable 1 x 2 in 1 ASUS Q-Connector Kit 1 x I/O Shield 1 x Cable Ties Pack 1 x ROG theme label 1 x 12-in-1 ROG Cable Label
Application DVD	ROG motherboard support DVD
Documentation	User guide

If any of the above items is damaged or missing, contact your retailer.

1.3 Special features

1.3.1 Product highlights

Republic of Gamers

The Republic of Gamers consists only the best of the best. We offer the best hardware engineering, the fastest performance, the most innovating ideas, and we welcome the best gamers to join in. In the Republic of Gamers, mercy rules are only for the weak, and bragging rights means everything. We believe in making statements and we excel in competitions. If your character matches our trait, then join the elite club, make your presence felt, in the Republic of Gamers.

Green ASUS

This motherboard and its packaging comply with the European Union's Restriction on the use of Hazardous Substances (RoHS). This is in line with the ASUS vision of creating environment-friendly and recyclable products/packaging to safeguard consumers' health while minimizing the impact on the environment.

LGA1366 Intel® Core™ i7 Ready

This motherboard supports the latest Intel® Core™ i7 processors in LGA1366 package with integrated memory controller to support 3-channel (6 DIMMs) DDR3 memory. Supports Intel® QuickPath Interconnect (QPI) with a system bus of up to 6.4 GT/s and a max bandwidth of up to 25.6 GB/s. Intel® Core™ i7 processor is one of the most powerful and energy efficient CPUs in the world.

Intel® X58 Chipset

The Intel® X58 Express Chipset is one of the most powerful chipset designed to support the Intel® Core™ i7 Processors with LGA1366 package and Intel® next generation system interconnect interface, Intel® QuickPath Interconnect (QPI), providing improved performance by utilizing serial point-to-point links, allowing increased bandwidth and stability. It also supports up to 36 PCI Express 2.0 lanes providing better graphics performance.

SLI/CrossFireX On-Demand

Why choose when you can have both?

SLI or CrossFireX? Fret no longer because with the ROG Rampage III Extreme, you'll be able to run both multi-GPU setups. The board features SLI/CrossFireX on Demand technology, supporting SLI or CrossFireX configuration. Whichever path you take, you can be assured of jaw-dropping graphics at a level previously unseen.

Tri-Channel, DDR3 2200(O.C.) MHz

The motherboard supports DDR3 memory that features data transfer rates of 2200(O.C.)/2133(O.C.)/2000(O.C.)/1800(O.C.)/1600/1333/1066 MHz to meet the higher bandwidth requirements of the latest operation system, 3D graphics, multimedia, and Internet applications. The dual-channel DDR3 architecture double the bandwidth of your system memory to boost system performance.

PCIe 2.0

Double Speed; Double Bandwidth
This motherboard supports the latest PCIe 2.0 devices for double speed and bandwidth which enhances system performance.

1.3.2   ROG Intelligent Performance & Overclocking features

ROG Connect

Plug and Overclock - Tweak it the hardcore way!

Monitor the status of your desktop PC and tweak its parameters in real-time via a notebook—just like a race car engineer—with ROG Connect. ROG Connect links your main system to a notebook through a USB cable, allowing you to view real-time POST code and hardware status readouts on your notebook, as well as make on-the-fly parameter adjustments at a purely hardware level. Diagram, power, reset button, flash BIOS through notebook. Refer to page 2-32 for details.

MemOK!

Any memory is A-OK!

Memory compatibility is among the top concerns when it comes to computer upgrades. Worry no more, MemOK! is the fastest memory booting solution today. This remarkable memory rescue tool requires nothing but a push of a button to patch memory issues and get your system up and running in no time. The technology is able to determine failsafe settings that can dramatically improve system booting success.

iROG

Intelligent multiple control at hand

The iROG is a special IC which enables several ROG highlighted functions that gives users full disposal of the motherboard at any stage! This design allows advanced user control and management to be processed purely at a hardware level. iROG greatly increases fun during overclocking for PC enthusiasts and it offers system maintenance and management with more control and efficiency.

ProbeIt

Get all hands-on with hardware-based overclocking

ProbeIt takes the guesswork out of locating the motherboard's measurement points, identifying them clearly in the form of 8 sets of detection points so you'll know exactly where to get quick yet accurate readings using a multitester.

CPU Level Up

A simple click for instant upgrade!
Ever wish that you could have a more expansive CPU? Upgrade your CPU at no additional cost with ROG's CPU Level Up! Simply pick the processor you wanted to OC to, and the motherboard will do the rest! See the new CPU speed and enjoy that performance instantly. Overclocking is never as easy as this.

Extreme Tweaker

One stop performance tuning shop
Extreme Tweakers is the one stop shop to fine-tune your system to optimal performance. No matter if you're looking for frequency adjustment, over-voltage options, or memory timing settings, they're all here!

Voltiminder LED

Friendly reminder on Voltage Settings
In the pursuit of extreme performance, overvoltage adjustment is critical but risky. Acting as the "red zone" of a tachometer, the Voltiminder LED displays the voltage status for CPU, PCH, and Memory in a intuitive color-coded fashion. The voltiminder LED allows quick voltage monitoring for overclockers.

1.3.3   ROG unique features

COP EX

Maximum OC with confidence with burn proof protection to chipsets and GPU!
The COP EX allows overclockers to increase chipset voltage without the worries of overheating. It can also be used to monitor and save an overheating GPU. The COP EX allows more freedom and less constraint for maximum performance achievement.

Loadline Calibration

Optimal power boost for extreme CPU overclocking!
Maintaining ample voltage support for the CPU is critical during overclocking. The Loadline Calibration ensures stable and optimal CPU voltage under heavy loading. It helps overclockers enjoy the motherboard's ultimate OC capabilities and benchmark scores.

Onboard Switches

No more shorting pins or moving jumpers
With an easy press during overclock, this exclusive onboard switch allows gamer to effortlessly fine-tune the performance without having to short the pins or moving jumpers!

ASUS Q-Connector

Make connections quick and accurate

The Q-Connector allows you to connect or disconnect chassis front panel cables in one easy step with one complete module. This unique adapter eliminates the trouble of plugging in one cable at a time, making connection quick and accurate.

1.3.4   ASUS special features

USB 3.0 Support

10X Faster Date Rates!

Experience ultra-fast data transfers at 4.8Gbps with USB 3.0—the latest connectivity standard. Built to connect easily with next generation components and peripherals, USB 3.0 transfers data 10X faster and is also backward compatible with USB 2.0 components.

SATA 6Gb/s Support

Experience the Future of Storage!

Supporting next-generation Serial ATA (SATA) storage interface, this motherboard delivers up to 6.0Gb/s data transfer rates. Additionally, get enhanced scalability, faster data retrieval, double the bandwidth of current bus systems.

O.C. Profile

Conveniently store or load multiple BIOS settings

Freely share and distribute favorite overclocking settings The motherboard features the ASUS O.C. Profile that allows users to conveniently store or load multiple BIOS settings. The BIOS settings can be stored in the CMOS or a separate file, giving users freedom to share and distribute their favorite overclocking settings.

8-channel Audio

Enjoy High-End 8-channel sound system on your PC

The onboard 8-channel HD audio (High Definition Audio, previously code-named Azalia) CODEC enables high-quality 192KHz/24-bit audio output, jack-sensing feature, retasking functions and multi-streaming technology that simultaneously sends different audio streams to different destinations. This motherboard now adopts the future standard to deliver the most vivid audio enjoyment.

Kaspersky® Anti-Virus

The best protection from viruses and spyware

Kaspersky® Anti-Virus Personal offers premium antivirus protection for individual users and home offices. It is based on advanced antivirus technologies. The product incorporates the Kaspersky® Anti-Virus engine, which is renowned for malicious program detection rates that are among the industry's highest.

This chapter lists the hardware setup
procedures that you have to perform
when installing system components. It
includes description of the jumpers and
connectors on the motherboard.

Hardware information

2

Chapter summary

2

2.1   Before you proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.

- •   Unplug the power cord from the wall socket before touching any component.

- •   Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity.

- •   Hold components by the edges to avoid touching the ICs on them.

- •   Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

- •   Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

Onboard LEDs

The motherboard comes with LEDs that indicate the voltage conditions of CPU, memory, northbridge, and southbridge. You may adjust the voltages in BIOS. There are also an LED for hard disk drive activity and an onboard switch for power status. For more information about voltage adjustment, refer to **3.3 Extreme Tweaker menu**.

1. CPU LED

The CPU LED has three voltage displays: Vcore voltage, CPU PLL 1.8 voltage, and QPI/DRAM Core voltage you can select the voltage to display in BIOS. Refer to the illustration below for the location of the CPU LED and the table below for LED definition.

CPU_CRAZY
CPU_HIGH
CPU_NORMAL
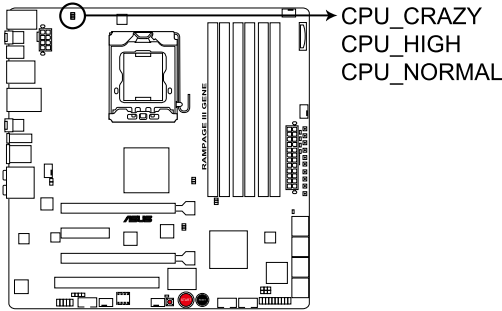
RAMPAGE III GENE CPU LED

	Normal (green)	High (yellow)	Crazy (red)
VCore	0.85–1.5	1.50625–1.59375	1.6–
CPU PLL 1.8V	1.20375–1.89475	1.90800–1.94775	1.961–
QPI/DRAM Core	1.2–1.39375	1.4–1.69375	1.7–

2. Northbridge/Southbridge LEDs

The northbridge and southbridge LEDs each have two different voltage displays. The northbridge LED displays either the NB 1.1 Voltage or the NB 1.5 Voltage. The southbridge LED shows either the SB 1.1 Voltage or the SB 1.5 Voltage. You can select the voltage to display in BIOS. Refer to the illustration below for the location of the northbridge/southbridge LEDs and the table below for LED definition.

NB_CRAZY
NB_HIGH
NB_NORMAL

SB_CRAZY
SB_HIGH
SB_NORMAL
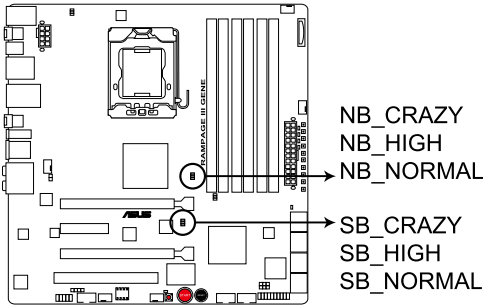
RAMPAGE III GENE North/South Bridge LED

	Normal (green)	High (yellow)	Crazy (red)
NB 1.1 Voltage	1.113–1.391	1.4045–1.643	1.65625–
NB 1.5 Voltage	1.5105–1.696	1.709–1.84175	1.855–
SB 1.1 Voltage	1.113–1.591	1.60325–1.84175	1.855–
SB 1.5 Voltage	1.5105–1.6165	1.62975–1.802	1.81525–

3. Memory LED

Refer to the illustration below for the location of the memory LED and the table below for LED definition.

DDR_CRAZY
DDR_HIGH
DDR_NORMAL
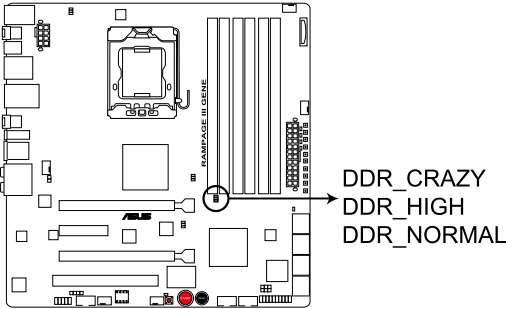
RAMPAGE III GENE DDR LED

	Normal (green)	High (yellow)	Crazy (red)
DDR3 1.5V	1.20575–1.60325	1.6165–1.802	1.81525–

4. Hard Disk LED

The hard disk LED is designed to indicate the hard disk activity. It blinks when data is being written into or read from the hard disk drive. The LED does not light up when there is no hard disk drive connected to the motherboard or when the hard disk drive does not function.

HD_LED
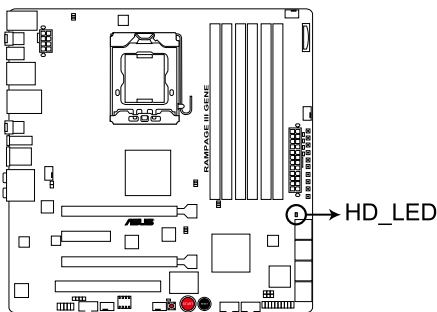
RAMPAGE III GENE Hard Disk LED

5.   **Power LED**

The motherboard comes with a power-on switch that lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard power-on switch.
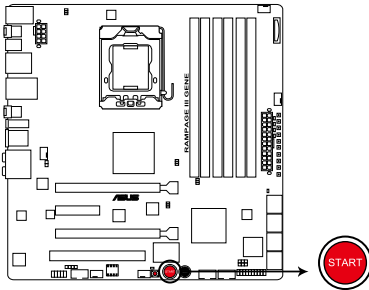
RAMPAGE III GENE Power on switch

When you turn on the ATX power supply, the **Power LED** flashes three times to indicate that the system is ready to boot. Wait till the flash stops before you press the power-on switch.

6.   **GO LED**

Blinking: Indicates that MemOK! is enabled before POST.

Lighting: Indicates that the system loads the preset profile (GO_Button file) for temporary overclocking when in OS.
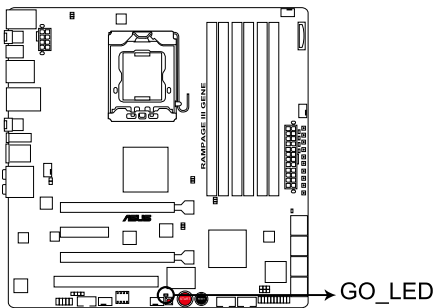
GO_LED

RAMPAGE III GENE GO_LED

7. **Q LED**

Q LEDs check key components (CPU, DRAM, VGA card, and booting devices) in sequence during motherboard booting process. If an error is found , the corresponding LED will continue lighting until the problem is solved. This user-friendly design provides an intuitional way to locate the root problem within a second.
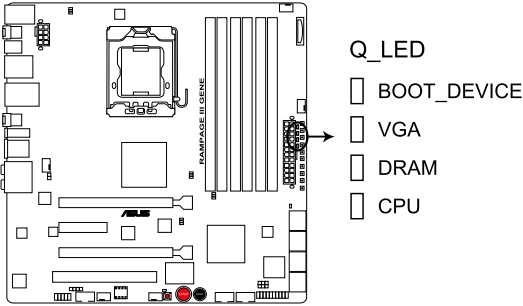
RAMPAGE III GENE CPU/ DRAM/ VGA/ BOOT_DEVICE LED

2.2 Motherboard overview

2.2.1 Motherboard layout
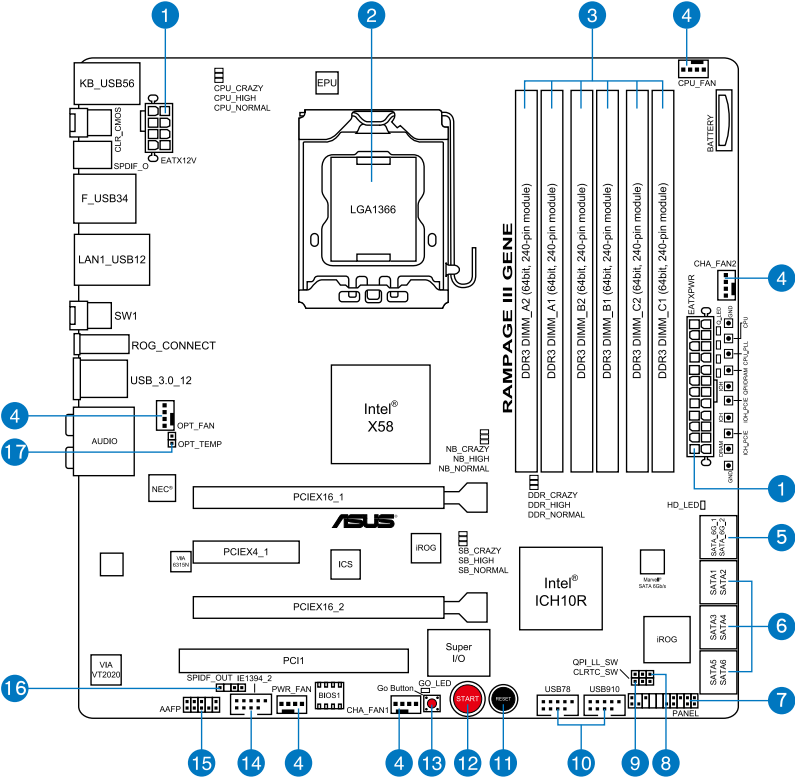
2.2.2   Layout contents

Connectors/Jumpers/Switches/Slots	Page
1. ATX power connectors (24-pin EATXPWR, 8-pin EATX12V)	2-40
2. LGA1366 CPU Socket	2-10
3. DDR3 DIMM slots	2-15
4. CPU, chassis, and optional fan connectors (4-pin CPU_FAN; 4-pin CHA_FAN1–2; 4-pin PWR_FAN; 4-pin OPT_FAN)	2-38
5. Marvell® Serial ATA 6.0 Gb/s connectors (7-pin SATA6G_1/2 [red])	2-34
6. ICH10R Serial ATA connectors (7-pin SATA1–6 [grey])	2-33
7. System panel connector (20-8 pin PANEL)	2-41
8. QPI_LL (3-pin QPI_LL_SW)	2-28
9. Clear RTC RAM (3-pin CLRTC_SW)	2-27
10. USB connectors (10-1 pin USB78; USB910)	2-35
11. Reset switch	2-43
12. Power-on switch	2-43
13. GO button	2-44
14. IEEE 1394a port connector (10-1 pin IE1394_2)	2-36
15. Front panel audio connector (10-1 pin AAFP)	2-37
16. Digital audio connector (4-1 pin SPDIF_OUT)	2-36
17. Thermal sensor cable connector (2-pin OPT_TEMP)	2-39

Refer to **2.7 Connectors** for more information about rear panel connectors and internal connectors.

2.2.3   Placement direction

When installing the motherboard, ensure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below.

2.2.4   Screw holes

Place eight (8) screws into the holes indicated by circles to secure the motherboard to the chassis.

DO NOT overtighten the screws! Doing so can damage the motherboard.

Place this side towards the rear of the chassis
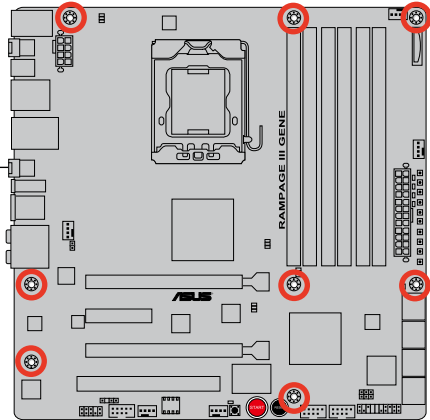
2.3 Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA1366 socket designed for the Intel® Core™ i7 Processors.

Ensure that all power cables are unplugged before installing the CPU.

- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.

- Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA1366 socket.

- The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/ incorrect removal of the PnP cap.

2.3.1 Installing the CPU

To install a CPU:

1. Locate the CPU socket on the motherboard.
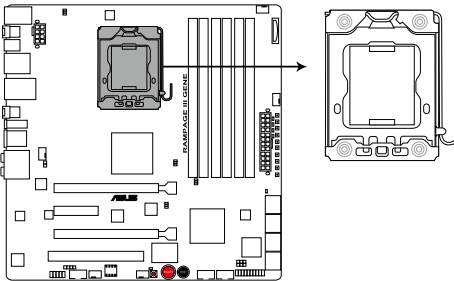
RAMPAGE III GENE CPU LGA1366 Socket

2. Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab.

To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU.

Retention tab

A

B
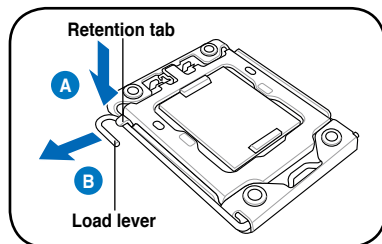
Load lever

3. Lift the load lever in the direction of the arrow to a 135º angle.

4. Lift the load plate with your thumb and forefinger to a 100º angle.

Load plate

4

3
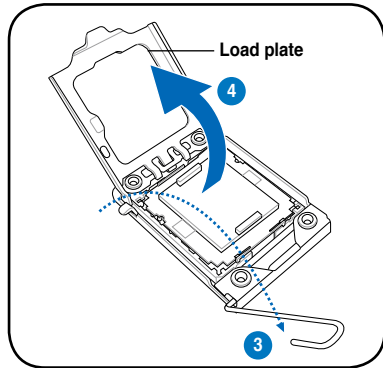
5. Remove the PnP cap from the CPU socket.

PnP cap
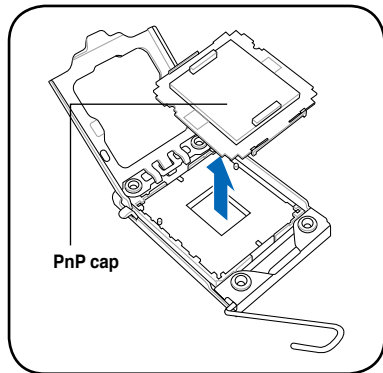
6. Position the CPU over the socket, ensuring that the gold triangle is on the bottom-left corner of the socket, and then fit the socket alignment key into the CPU notch.

⚠️ The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!

Gold triangle mark

CPU notch

Alignment key
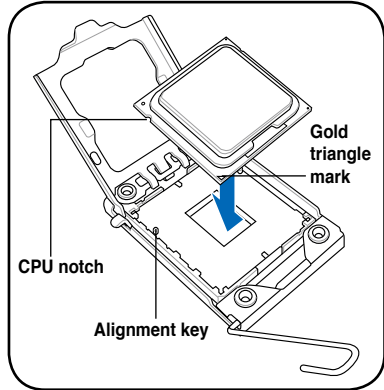
7. Apply some Thermal Interface Material to the exposed area of the CPU that the heatsink will be in contact with, ensuring that it is spread in an even thin layer.

✎ Some heatsinks come with pre-applied Thermal Interface Material. If so, skip this step.
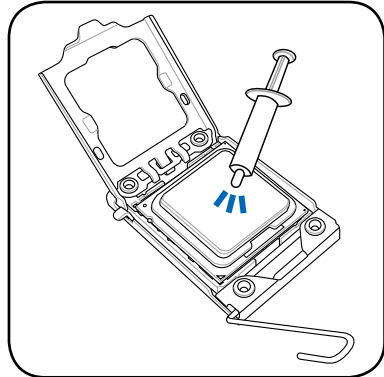
⚠️ The Thermal Interface Material is toxic. DO NOT eat the Thermal Interface Material. If it gets into your eyes or touches your skin, ensure that you wash it off immediately and seek professional medical help.

👉 To prevent contaminating the Thermal Interface Material, DO NOT spread the Thermal Interface Material with your finger directly.

2.3.2   Installing the CPU heatsink and fan

The Intel® LGA1366 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance.

- • When you buy a boxed Intel® processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, ensure that you use only Intel®-certified multi-directional heatsink and fan.

- • Your Intel® LGA1366 heatsink and fan assembly comes in a push-pin design and requires no tool to install.

- • Use an LGA1366-compatible CPU heatsink and fan assembly only. The LGA1366 socket is incompatible with the LGA775 and LGA1366 sockets in size and dimension.

If you purchased a separate CPU heatsink and fan assembly, ensure that the Thermal Interface Material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly.

Ensure that you have installed the motherboard to the chassis before you install the CPU fan and heatsink assembly.

To install the CPU heatsink and fan:

1.   Place the heatsink on top of the installed CPU, ensuring that the four fasteners match the holes on the motherboard.

2.   Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.
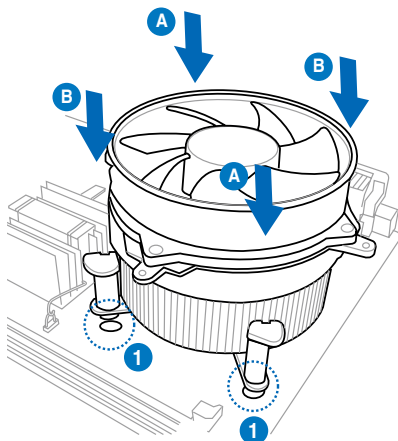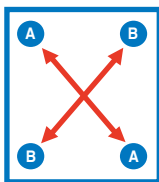
Orient the heatsink and fan assembly such that the CPU fan cable is closest to the CPU fan connector.

3. Connect the CPU fan cable to the connector on the motherboard labeled CPU_FAN.

CPU_FAN

CPU FAN PWM
CPU FAN IN
CPU FAN PWR
GND
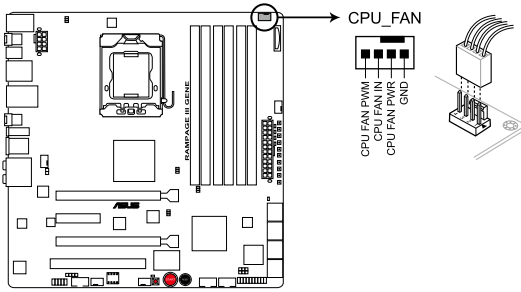
RAMPAGE III GENE CPU fan connector

DO NOT forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector.

2.3.3 Uninstalling the CPU heatsink and fan

To uninstall the CPU heatsink and fan:

1. Disconnect the CPU fan cable from the connector on the motherboard.

2. Rotate each fastener counterclockwise.

3. Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard.
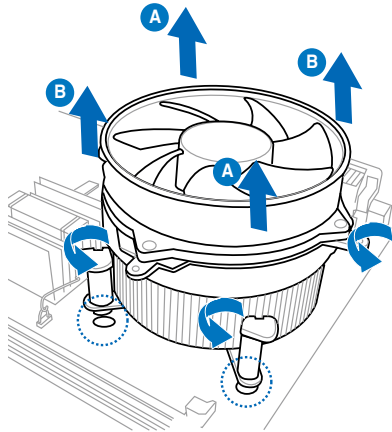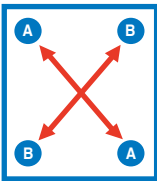
4. Carefully remove the heatsink and fan assembly from the motherboard.

2.4 System memory

2.4.1 Overview

The motherboard comes with six Double Data Rate 3 (DDR3) Dual Inline Memory Modules (DIMM) sockets.

A DDR3 module has the same physical dimensions as a DDR2 DIMM but is notched differently to prevent installation on a DDR2 DIMM socket. DDR3 modules are developed for better performance with less power consumption.

The figure illustrates the location of the DDR3 DIMM sockets:
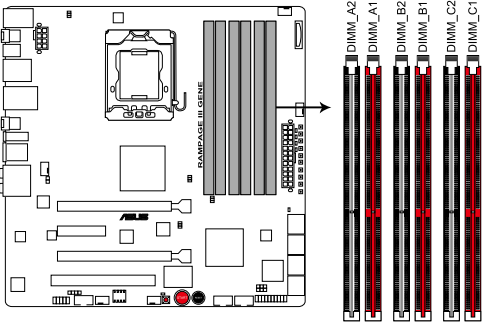
RAMPAGE III GENE 240-pin DDR3 DIMM sockets

2.4.2 Memory configurations

You may install 512MB, 1GB, 2GB and 4GB unbuffered and non-ECC DDR3 DIMMs into the DIMM sockets.

- • You may install varying memory sizes in Channel A, Channel B and Channel C. The system maps the total size of the lower-sized channel for the dual-channel or triple-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.

- • Due to Intel spec definition, X.M.P. DIMMs and DDR3-1600 are supported for one DIMM per channel only.

- • According to Intel CPU spec, DIMMs with voltage requirement over 1.65V may damage the CPU permanently. We recommend you install the DIMMs with the voltage requirement below 1.65V.

- • Always install DIMMs with the same CAS latency. For optimum compatibility, we recommend that you obtain memory modules from the same vendor.

- • Due to the memory address limitation on 32-bit Windows OS, when you install 4GB or more memory on the motherboard, the actual usable memory for the OS can be about 3GB or less. For effective use of memory, we recommend that you do any of the following:
  - Use a maximum of 3GB system memory if you are using a 32-bit Windows OS.
  - Install a 64-bit Windows OS when you want to install 4GB or more on the motherboard.
    For more details, refer to the Microsoft® support site at http://support.microsoft.com/kb/929605/en-us.

- • This motherboard does not support DIMMs made up of 512 Mb (64MB) chips or less (Memory chip capacity counts in Megabit, 8 Megabit/Mb = 1 Megabyte/MB).

- • The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value. To operate at the vendor-marked or at a higher frequency, refer to section **3.3 Extreme Tweaker** menu for manual memory frequency adjustment.

- • For system stability, use a more efficient memory cooling system to support a full memory load (6 DIMMs) or overclocking condition.

Rampage III GENE Motherboard
Qualified Vendors Lists (QVL) DDR3-2000MHz capability

Vendor	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)			
								2 DIMM	3 DIMM	4 DIMM	6 DIMM
G.SKILL	F3-16000CL9D-4GBRH(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•		
G.SKILL	F3-16000CL9D-4GBTD(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•		
G.SKILL	F3-16000CL7T-6GBPS(XMP)	6GB(3 x 2GB)	DS	-	-	7-8-7-20	1.65	•	•		
G.SKILL	F3-16000CL9T-6GBPS(XMP)	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•		
GEIL	GU34GB2000C9DC(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-28	2				•
KINGSTON	KHX2000C8D3T1K3/3GX(XMP)	3GB(3 x 1GB)	SS	-	-	8	1.65	•			
KINGSTON	KHX2000C9D3T1K3/3GX(XMP)	3GB(3 x 1GB)	SS	-	-	9	1.65		•		
KINGSTON	KHX2000C9D3T1FK3/6GX(XMP)	6GB(3 x 2GB)	DS	-	-	9	1.65	•	•	•	
KINGSTON	KHX2000C9D3T1K3/6GX(XMP)	6GB(3 x 2GB)	DS	-	-	9	1.65	•	•		
OCZ	OCZ3B2000LV6GK	6GB(3 x 2GB)	DS	-	-	7-8-7	1.65	•	•		
Transcend	TX2000KLU-4GK(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•		
Patriot	PVT36G2000LLK(XMP)	6GB(3 x 2GB)	DS	-	-	8-8-8-24	1.65				•

Rampage III GENE Motherboard
Qualified Vendors Lists (QVL) DDR3-1866MHz capability

Vendor	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)			
								2 DIMM	3 DIMM	4 DIMM	6 DIMM
CORSAIR	TR3X6G1866C9DVer4.1(XMP)	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.65	•			
G.SKILL	F3-15000CL9D-4GBRH (XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•	•	
G.SKILL	F3-15000CL9D-4GBTD(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•	•	
OCZ	OCZ3RPR1866C9LV3GK	3GB(3 x 1GB)	SS	-	-	9-9-9	1.65	•			
OCZ	OCZ3P1866LV4GK	4GB(2 x 2GB)	DS	-	-	9-9-9	1.65	•	•	•	
OCZ	OCZ3P1866C9LV6GK	6GB(3 x 2GB)	DS	-	-	9-9-9	1.65	•	•	•	
OCZ	OCZ3RPR1866C9LV6GK	6GB(3 x 2GB)	DS	-	-	9-9-9	1.65	•	•	•	
Super Talent	W1866UX2G8(XMP)	2GB(2 x 1GB)	SS	-	-	8-8-8-24	-	•	•	•	
Patriot	PVS32G1866LLK(XMP)	2GB(2 x 1GB)	SS	-	-	8-8-8-24	1.9	•			

Rampage III GENE Motherboard
Qualified Vendors Lists (QVL) DDR3-1800MHz capability

Vendor	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)			
								2 DIMM	3 DIMM	4 DIMM	6 DIMM
G.SKILL	F3-14400CL9D-4GBRL(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.6	•	•	•	
KINGSTON	KHX1800C9D3T1K3/6GX(XMP)	6GB(3 x 2GB)	DS	-	-	-	1.65	•	•	•	
OCZ	OCZ3P18002GK	2GB(2 x 1GB)	SS	-	-	8	-	•	•		
OCZ	OCZ3P18002GK	2GB(2 x 1GB)	SS	-	-	8	-	•	•		
OCZ	OCZ3P18004GK	4GB(2 x 2GB)	DS	-	-	8	1.9				
Patriot	PVS32G1800LLKN(EPP)	2GB(2 x 1GB)	SS	-	-	8-8-8-20	1.9	•	•		

Rampage III GENE Motherboard
Qualified Vendors Lists (QVL) DDR3-1600MHz capability

Vendor	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)			
								2 DIMM	3 DIMM	4 DIMM	6 DIMM
A-DATA	AD31600G001GMU	1GB	SS	-	-	9-9-9-24	1.65~1.85	•	•		
A-DATA	AX3U1600GB1G9-AG	2GB(2 x 1GB)	SS	-	-	9-9-9-24	1.65~1.85	•	•		
A-DATA	AX3U1600PB1G8-2P	2GB(2 x 1GB)	SS	-	-	8-8-8-24	1.65-1.85	•	•		
A-DATA	AD31600E001GMU	3GB(3 x 1GB)	SS	-	-	8-8-8-24	1.65-1.85	•	•		
A-DATA	AX3U1600GB1G9-3G	3GB(3 x 1GB)	SS	-	-	9-9-9-24	1.65~1.85	•	•		
A-DATA	AX3U1600PB1G8-3P	3GB(3 x 1GB)	SS	-	-	8-8-8-24	1.65-1.85	•	•		
A-DATA	AX3U1600GB2G9-AG(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.65~1.85	•	•		•
A-DATA	AX3U1600GB2G9-3G(XMP)	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.65~1.85	•	•		•
A-DATA	AX3U1600GB2G9-3G(XMP)	6GB(3 x 2GB)	DS	-	-	8-8-8-24	1.65~1.85	•	•		•
CORSAIR	TR3X3G1600C8DVer2.1(XMP)	3GB(3 x 1GB)	SS	-	-	8-8-8-24	1.65	•	•	•	
CORSAIR	TR3X3G1600C9Ver1.1(XMP)	3GB(3 x 1GB)	SS	-	-	9-9-9-24	1.65	•	•		
CORSAIR	CMG4GX3M2A1600C6	4GB(2x 2GB)	DS	-	-	6-6-6-18	1.65	•	•	•	
CORSAIR	CMX4GX3M2A1600C8(XMP)	4GB(2x 2GB)	DS	-	-	8-8-8-24	1.65	•	•		
CORSAIR	CMD4GX3M2A1600C8(XMP)	4GB(2 x 2GB)	DS	-	-	8-8-8-24	1.65	•	•		
CORSAIR	CMG4GX3M2A1600C7(XMP)	4GB(2 x 2GB)	DS	-	-	7-7-7-20	1.65	•	•		
CORSAIR	TR3X6G1600C8D	6GB(3 x 2GB)	DS	-	-	8-8-8-24	1.65	•	•		
CORSAIR	TR3X6G1600C8DVer2.1(XMP)	6GB(3 x 2GB)	DS	-	-	8-8-8-24	1.65	•	•	•	
CORSAIR	TR3X6G1600C9Ver2.1(XMP)	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•		•
CORSAIR	CMD8GX3M4A1600C8(XMP)	8GB(4 x 2GB)	DS	-	-	8-8-8-24	1.65	•	•	•	•
CORSAIR	CMX8GX3M4A1600C9(XMP)	8GB(4 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•	•	•
Crucial	BL12864BN1608.8FF(XMP)	2GB(2x 1GB)	SS	-	-	8-8-8-24	1.65	•	•	•	•
Crucial	BL25664BN1608.16FF(XMP)	2GB	DS	-	-	8-8-8-24	1.65	•	•	•	•
Crucial	BL25664BN1608.16FF(XMP)	4GB(2x 2GB)	DS	-	-	8-8-8-24	1.65	•	•	•	•
G.SKILL	F3-12800CL9D-4GBNG	4GB(2x 2GB)	SS	-	-	-	1.6	•	•	•	•
G.SKILL	F3-12800CL9D-4GBRL	4GB(2x 2GB)	SS	-	-	-	1.6	•	•	•	•
G.SKILL	F3-12800CL7D-4GBECO(XMP)	4GB(2 x 2GB)	DS	-	-	7-8-7-24	-	•	•	•	
G.SKILL	F3-12800CL7D-4GBRH(XMP)	4GB(2 x 2GB)	DS	-	-	7-7-7-24	1.65	•	•	•	•
G.SKILL	F3-12800CL8D-4GBRM(XMP)	4GB(2 x 2GB)	DS	-	-	8-8-8-24	1.6	•	•	•	
G.SKILL	F3-12800CL9D-4GBECO(XMP)	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.35	•	•	•	
G.SKILL	F3-12800CL8T-6GBPI(XMP)	6GB (3 x 2GB)	DS	-	-	8-8-8-21	1.6~1.65	•	•	•	
G.SKILL	F3-12800CL9T-6GBNQ	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.5-1.6	•	•	•	
KINGMAX	FLGD45F-B8MF7(XMP)	1GB	SS	-	-	-	-	•	•	•	•
KINGSTON	KHX1600C9D3K3/12GX(XMP)	12GB(3 x 4GB)	DS	-	-	-	1.65	•	•	•	•
KINGSTON	KHX1600C9D3K3/12GX(XMP)	12GB(3 x 4GB)	DS	-	-	9	1.65	•	•	•	•
KINGSTON	KHX1600C9D3K6/24GX(XMP)	24GB (6x 4GB)	DS	-	-	9	1.65	•	•	•	•
KINGSTON	KHX1600C9D3LK2/4GX(XMP)	4GB (2x 2GB)	DS	-	-	9	1.35	•	•	•	
KINGSTON	KHX1600C8D3T1K2/4GX(XMP)	4GB(2 x 2GB)	DS	-	-	8	1.65	•	•	•	
KINGSTON	KHX1600C9D3K3/6GX(XMP)	6GB(3 x 2GB)	DS	-	-	9	1.65	•	•	•	•
OCZ	OCZ3G1600LV3GK	3GB(3x 1GB)	SS	-	-	8-8-8	1.65	•	•	•	
OCZ	OCZ3P1600LV3GK	3GB(3 x 1GB)	SS	-	-	7-7-7	1.65	•	•	•	
OCZ	OCZ3BE1600C8LV4GK	4GB(2x 2GB)	DS	-	-	8-8-8	1.65	•	•	•	
OCZ	OCZ3OB1600LV4GK	4GB(2x 2GB)	DS	-	-	9-9-9	1.65	•	•	•	
OCZ	OCZ3P16004GK	4GB(2x 2GB)	DS	-	-	7-7-7	1.9	•	•	•	
OCZ	OCZ3X16004GK(XMP)	4GB(2 x 2GB)	DS	-	-	7-7-7	1.9	•	•	•	•
OCZ	OCZ3FXE1600C7LV6GK	6GB(3 x 2GB)	DS	-	-	7-7-7	1.65	•	•	•	
OCZ	OCZ3G1600LV6GK	6GB(3 x 2GB)	DS	-	-	8-8-8	1.65	•	•	•	
OCZ	OCZ3X1600LV6GK(XMP)	6GB(3 x 2GB)	DS	-	-	8-8-8	1.65	•	•	•	•
OCZ	OCZ3X1600LV6GK(XMP)	6GB(3 x 2GB)	DS	-	-	8-8-8	1.65	•	•	•	
Super Talent	WP160UX4G8(XMP)	4GB(2x 2GB)	DS	-	-	8	-	•	•		
Super Talent	WB160UX6G8(XMP)	6GB(3 x 2GB)	DS	-	-	-	-	•	•		
Super Talent	WB160UX6G8(XMP)	6GB(3 x 2GB)	DS	-	-	8	-	•	•		
EK Memory	EKM324L28BP8-I16(XMP)	4GB(2x 2GB)	DS	-	-	9	-	•	•	•	
EK Memory	EKM324L28BP8-I16(XMP)	4GB(2 x 2GB)	DS	-	-	9	-	•	•	•	
Mushkin	996657	4GB(2 x 2GB)	DS	-	-	7-7-7-20	-	•	•	•	
Mushkin	998659(XMP)	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.5-1.6	•	•	•	
Patriot	PVT33G1600ELK	3GB(3 x 1GB)	SS	-	-	9-9-9-24	1.65	•	•	•	
Patriot	PGS34G1600LLKA2	4GB (2x 2GB)	DS	-	-	8-8-8-24	1.7	•	•	•	•
Patriot	PVV34G1600LLK(XMP)	4GB (2x 2GB)	DS	-	-	8-8-8-24	1.65	•	•	•	•
Patriot	PGS34G1600LLKA	4GB(2x 2GB)	DS	-	-	7-7-7-20	1.7	•	•	•	
PATRIOT	PGS34G1600LLKA	4GB(2 x 2GB)	DS	-	-	7-7-7-20	1.7	•	•	•	
Patriot	PVS34G1600ELK	4GB(2 x 2GB)	DS	-	-	9-9-9-24	1.8	•	•	•	
Patriot	PVS34G1600LLK(XMP)	4GB(2 x 2GB)	DS	-	-	7-7-7-20	1.9	•			
Patriot	PVS34G1600LLKN	4GB(2 x 2GB)	DS	-	-	7-7-7-20	2.0	•			
Patriot	PVT36G1600ELK	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•	•	
Patriot	PVT36G1600ELK	6GB(3 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•	•	
Patriot	PVT36G1600LLK(XMP)	6GB(3 x 2GB)	DS	-	-	8-8-8-24	1.65	•	•	•	

Rampage III GENE Motherboard
Qualified Vendors Lists (QVL) DDR3-1333MHz capability

Vendor	Part No.	Size	SS /DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)			
								2 DIMM	3 DIMM	4 DIMM	6 DIMM
Apacer	78.01GC6.9L0	1GB	SS	Apacer	AM5D5808DEJSBG	9	-	•	•	•	•
CORSAIR	TR3X3G1333C9 (Ver2.1)	3GB (3 x 1GB)	SS	-	-	9-9-9-24	1.5	•	•	•	
CORSAIR	CM3X1024-1333C9DHX	1GB	DS	-	-	-	1.1	•			
CORSAIR	BoxP/N:TWIN3X2048-1333C9 (CM3X1024-1333C9)Ver1.1	2GB (2 x 1GB)	DS	-	-	9-9-9-24	1.70	•	•	•	
CORSAIR	CM3X2G1333C9	2GB	DS	-	-	9-9-9-24	1.5	•	•	•	•
CORSAIR	TR3X6G1333C9 (Ver2.1)	6GB (3 x 2GB)	DS	-	-	9-9-9-24	1.5	•	•	•	
CORSAIR	CMX8GX3M4A1333C9	8GB (4 x 2GB)	DS	-	-	9-9-9-24	1.5	•	•	•	
Crucial	CT12864BA1339.8FF	1GB	SS	MICRON	D9KPT	9	-	•	•	
Crucial	CT12864BA1339.8SFD	1GB	SS	MICRON	MT8JF12864AY-1G4D1	-	-	•	•	•	
Crucial	CT12872BA1339.9FF	1GB	SS	MICRON	D9KPT(ECC)	9	-	•	•	•	•
Crucial	BL25664BN1337.16FF(XMP)	2GB	DS	-	-	7-7-7-24	1.65	•	•	•	
Crucial	CT25664BA1339.16FF	2GB	DS	MICRON	D9KPT	9	-	•	•	•	
Crucial	CT25664BA1339.16SFD	2GB	DS	MICRON	D9JNM	-	-	•	•	•	
Crucial	CT25672BA1339.18FF	2GB	DS	MICRON	D9KPT(ECC)	9	-	•	•	•	
ELPIDA	EBJ10UE8BAW0-DJ-E	1GB	SS	ELPIDA	J1108BABG-DJ-E	9	-	•	•	•	
ELPIDA	EBJ10UE8BDF0-DJ-F	1GB	SS	ELPIDA	J1108BDSE-DJ-F	-	-	•	•	•	
ELPIDA	EBJ10UE8EDF0-DJ-F	1GB	SS	ELPIDA	J1108EDSE-DJ-F	-	-	•	•	•	
ELPIDA	EBJ21UE8BAW0-DJ-E	2GB	DS	ELPIDA	J1108BABG-DJ-E	9	-	•	•	•	
ELPIDA	EBJ21UE8BDF0-DJ-F	2GB	DS	ELPIDA	J1108BDSE-DJ-F	-	-	•	•	•	
G.SKILL	F3-10600CL7D-2GBPI	2GB (2 x 1GB)	SS	-	-	-	1.65	•			
G.SKILL	F3-10600CL8D-2GBHK	2GB (2 x 1GB)	SS	-	-	-	1.65	•	•	•	•
G.SKILL	F3-10666CL7T-6GBPK(XMP)	2GB	DS	-	-	7-7-7-18	1.5-1.6	•	•	•	
G.SKILL	F3-10666CL8D-4GBECO(XMP)	4GB (2 x 2GB)	DS	-	-	8-8-8-24	1.35	•	•		•
G.SKILL	F3-10666CL8D-4GBHK(XMP)	4GB (2 x 2GB)	DS	-	-	8-8-8-21	1.5-1.6	•	•	•	
G.SKILL	F3-10666CL8D-4GBRM(XMP)	4GB (2 x 2GB)	DS	-	-	8-8-8-21	1.5-1.6	•	•	•	
G.SKILL	F3-10666CL9T-6GBNQ	6GB (3 x 2GB)	DS	-	-	9-9-9-24	1.5	•	•	•	
GEIL	GB34GB1333C7DC	4GB (2 x 2GB)	DS	GEIL	GL1L128M88BA15FW	7-7-7-24	1.5	•			•
GEIL	GG34GB1333C9DC	4GB (2 x 2GB)	DS	GEIL	GL1L128M88BA12N	9-9-9-24	1.3	•	•	•	
GEIL	GV34GB1333C7DC	4GB (2 x 2GB)	DS	-	-	7-7-7-24	1.5	•	•	•	
Hynix	HMT112U6BFR8C-H9	1GB	SS	Hynix	H5TQ1G83BFR	9	-	•	•	•	•
Hynix	HMT112U6TFR8A-H9	1GB	SS	Hynix	H5TC1G83TFR	-	-	•	•	•	•
Hynix	HMT125U6BFR8C-H9	2GB	DS	Hynix	H5TQ1G83BFRH9C	9	-	•	•	•	•
Hynix	HMT125U6TFR8A-H9	2GB	DS	Hynix	H5TC1G83TFR	-	-	•	•	•	•
KINGMAX	FLFD45F-B8KG9	1GB	SS	KingMax	KFB8FNGBF-ANX-15A	-	-	•	•	•	
KINGSTON	KVR1333D3N9/1G	1G	SS	Kingston	D1288JELDPGD9U	-	1.5	•	•	•	
KINGSTON	KVR1333D3E9S/4G	4GB	DS	SAMSUNG	K4B2G0846B-HCH9	-	1.5	•	•	•	
KINGSTON	KVR1333D3N9/4G	4GB	DS	SAMSUNG	K4B2G0846B-HCH9	9	1.5	•	•	•	
MICRON	MT8JTF12864AZ-1G4F1	1GB	SS	MICRON	9FF22 D9KPT	9	-	•	•	•	
MICRON	MT8JTF12864AZ-1G4F1	1GB	SS	MICRON	D9KPT	9	-	•	•	•	
MICRON	MT9JSF12872AZ-1G4F1	1GB	SS	MICRON	D9KPT(ECC)	9	-	•	•	•	•
MICRON	MT16JF25664AZ-1G4F1	2GB	DS	MICRON	D9KPT	9	-	•	•	•	
MICRON	MT16JTF25664AZ-1G4F1	2GB	DS	MICRON	9FF22 D9KPT	9	-	•	•	•	
MICRON	MT18JSF25672AZ-1G4F1	2GB	DS	MICRON	D9KPT(ECC)	9	-	•	•	•	
OCZ	OCZ3RPX1333EB2GK	1GB	SS	-	-	-	-	•	•		
OCZ	OCZ3RPX1333EB2GK	2GB (2 x 1GB)	SS	NANYA	-	6-5-5	1.85	•			
OCZ	OCZ3G1333LV3GK	3GB (3 x 1GB)	SS	-	-	9-9-9	1.65	•			
OCZ	OCZ3P1333LV3GK	3GB (3 x 1GB)	SS	-	-	7-7-7	1.65	•			
OCZ	OCZ3P13332GK	1GB	DS	-	-	7-7-7-20	-	•			
OCZ	OCZ3G13334GK	4GB (2 x 2GB)	DS	-	-	9	1.7	•			
OCZ	OCZ3G1333ULV4GK	4GB (2 x 2GB)	DS	-	-	8-8-8	1.65	•			
OCZ	OCZ3P13334GK	4GB (2 x 2GB)	DS	-	-	7	1.8	•	•	•	
OCZ	OCZ3P1333LV4GK	4GB (2 x 2GB)	DS	-	-	7-7-7	1.65	•	•		

Rampage III GENE Motherboard
Qualified Vendors Lists (QVL) DDR3-1333MHz capability

Vendor	Part No.	Size	SS /DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)			
								2 DIMM	3 DIMM	4 DIMM	6 DIMM
OCZ	OCZ3P1333LV6GK	6GB (3 x 2GB)	DS	-	-	7-7-7	1.65	•	•	•	
OCZ	OCZX1333LV6GK(XMP)	6GB (3 x 2GB)	DS	NA	-	8-8-8	1.6	•	•	•	•
PSC	AL7F8G73D-DG1	1GB	SS	PSC	A3P1GF3DGF	-	-	-	•	•	•
PSC	AL8F8G73D-DG1	2GB	DS	PSC	A3P1GF3DGF	-	-	•	•	•	•
SAMSUNG	M378B2873DZ1-CH9	1GB	SS	SAMSUNG	K4B1G0846D	9	-	•	•	•	•
SAMSUNG	M378B2873EH1-CH9	1GB	SS	SAMSUNG	K4B1G0846E	-	-	•	•	•	•
SAMSUNG	M378B2873FHS-CH9	1GB	SS	SAMSUNG	K4B1G0846F	-	-	•	•	•	•
SAMSUNG	M391B2873DZ1-CH9	1GB	SS	SAMSUNG	K4B1G0846D(ECC)	9	-	•	•	•	•
SAMSUNG	M378B5673DZ1-CH9	2GB	DS	SAMSUNG	K4B1G0846D	9	-	•	•	•	
SAMSUNG	M378B5673FH0-CH9	2GB	DS	SAMSUNG	K4B1G0846F	-	-	•	•	•	
SAMSUNG	M391B5673DZ1-CH9	2GB	DS	SAMSUNG	K4B1G0846D(ECC)	9	-	•	•	•	
SAMSUNG	M378B5273BH1-CH9	4GB	DS	SAMSUNG	K4B2G0846B-HCH9	9	-	•	•	•	•
SAMSUNG	M378B5273CH0-CH9	4GB	DS	SAMSUNG	K4B2G0846C	-	-	•	•	•	•
Transcend	JM1333KLU-1G	1GB	SS	Transcend	TK243EDF3	9	-	•	•	•	
Transcend	JM1333KLU-2G	2GB	DS	Transcend	TK243EAF3	9	-	•	•	•	
Asint	SLY3128M8-EDJ	1GB	SS	Asint	DDRIII1208-DJ	-	-	•	•	•	•
Asint	SLY3128M8-EDJE	1GB	SS	ELPIDA	J1108BASE-DJ-E	-	-	•	•	•	•
Asint	SLZ3128M8-EDJ	2GB	DS	Asint	DDRIII1208-DJ	-	-	•	•	•	•
Asint	SLZ3128M8-EDJE	2GB	DS	ELPIDA	J1108BASE-DJ-E	-	-	•	•	•	•
ASUS	N/A	1GB	DS	-	-	-	-	•	•	•	•
ATP	AQ28M64A8BJH9S	1GB	SS	SAMSUNG	K4B1G0846E	-	-	•	•	•	•
ATP	AQ28M72D8BJH9S	1GB	SS	SAMSUNG	K4B1G0846D(ECC)	-	-	•	•	•	•
ATP	AQ56M64B8BJH9S	2GB	DS	SAMSUNG	K4B1G0846D	-	-	•	•	•	•
ATP	AQ56M72E8BJH9S	2GB	DS	SAMSUNG	K4B1G0846D(ECC)	-	-	•	•	•	•
BUFFALO	FSX1333D3G-1G	1GB	SS	-	-	-	-	•	•	•	
BUFFALO	FSH1333D3G-T3G(XMP)	3GB (3 x 1GB)	SS	-	-	7-7-7-20	-	•	•	•	
BUFFALO	FSX1333D3G-2G	2GB	DS	-	-	-	-	•	•	•	
EK Memory	EKM324L28BP8-I13	4GB (2 x 2GB)	DS	-	-	9	-	•	•	•	•
Elixir	M2Y2G64CB8HA9N-CG	2GB	DS	-	-	-	-	•	•	•	
Elixir	M2Y2G64CB8HC9N-CG	2GB	DS	-	-	-	-	•	•	•	
Patriot	PDC32G1333LLK	1GB	SS	PATRIOT	-	7	1.7	•	•	•	
Patriot	PVT33G1333ELK	3GB (3 x 1GB)	SS	-	-	9-9-9-24	1.65		•	•	
Patriot	PSD31G13332	1GB	DS	Patriot	PM64M8D3BU-15	-	-	•	•		
Patriot	PGS34G1333LLKA	4GB (2 x 2GB)	DS	-	-	7-7-7-20	1.7	•	•	•	
Patriot	PVS34G1333ELK	4GB (2 x 2GB)	DS	-	-	9-9-9-24	1.5	•			
Patriot	PVT36G1333ELK	6GB (3 x 2GB)	DS	-	-	9-9-9-24	1.65	•	•	•	
PQI	MFACR423PA0105	2GB	DS	PQI	PQC32808E15R	-	-	•	•		
Silicon Power	SP001GBLTU1333S01	1GB	SS	NANYA	NT5CB128M8AN-CG	-	-	•	•	•	•
Silicon Power	SP001GBLTU133S02	1GB	SS	S-POWER	I0YT3E0	9	-	•	•	•	•
Silicon Power	SP002GBLTU133S02	2GB	DS	S-POWER	I0YT3E0	9	-	•	•	•	

Rampage III GENE Motherboard
Qualified Vendors Lists (QVL) DDR3-1067MHz capability

Vendor	Part No.	Size	SS /DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)			
								2 DIMM	3 DIMM	4 DIMM	6 DIMM
Crucial	CT12864BA1067.8FF	1GB	SS	MICRON	D9KPT	7	-	•	•	•	
Crucial	CT12864BA1067.8SFD	1GB	SS	MICRON	D9JNL	7	-	•	•	•	
Crucial	CT12872BA1067.9FF	1GB	SS	MICRON	D9KPT(ECC)	7	-	•	•	•	•
Crucial	CT25664BA1067.16FF	2GB	DS	MICRON	D9KPT	7	-	•	•	•	•
Crucial	CT25664BA1067.16SFD	2GB	DS	MICRON	D9JNL	7	-	•	•	•	
Crucial	CT25672BA1067.18FF	2GB	DS	MICRON	D9KPT(ECC)	7	-	•	•	•	
ELPIDA	EBJ10UE8BAW0-AE-E	1GB	SS	ELPIDA	J1108BABG-DJ-E	7	-	•	•	•	•
ELPIDA	EBJ10UE8EDF0-AE-F	1GB	SS	ELPIDA	J1108EDSE-DJ-F	-	-	•	•	•	•
ELPIDA	EBJ11RD8BAFA-AE-E	1GB	DS	ELPIDA	J5308BASE-AC-E(ECC)	7	-	•	•	•	•
ELPIDA	EBJ11UD8BAFA-AG-E	1GB	DS	ELPIDA	J5308BASE-AC-E	8	-	•	•	•	
ELPIDA	EBJ21UE8BAW0-AE-E	2GB	DS	ELPIDA	J1108BABG-DJ-E	7	-	•	•	•	•
ELPIDA	EBJ21UE8EDF0-AE-F	2GB	DS	ELPIDA	J1108EDSE-DJ-F	-	-	•	•	•	
Hynix	HMT112U6AFP8C-G7N0	1GB	SS	HYNIX	H5TQ1G83AFPG7C	7	-	•	•	•	
Hynix	HYMT112U64ZNF8-G7	1GB	SS	HYNIX	HY5TQ1G831ZNFP-G7	7	-	•	•		
Hynix	HMT125U6AFP8C-G7N0	2GB	DS	HYNIX	H5TQ1G83AFPG7C	7	-	•	•	•	•
Hynix	HYMT125U64ZNF8-G7	2GB	DS	HYNIX	HY5TQ1G831ZNFP-G7	7	-	•	•	•	
KINGSTON	KVR1066D3N7/1G	1GB	SS	KINGSTON	D1288JEKAPA7U	7	1.5	•	•	•	•
KINGSTON	KVR1066D3N7/2G	2GB	DS	KINGSTON	D1288JEKAPGA7U	7	1.5	•	•	•	•
KINGSTON	KVR1066D3N7/2G	2GB	DS	ELPIDA	J1108BABG-DJ-E	-	1.5	•	•	•	•
KINGSTON	KVR1066D3N7/4G	4GB	DS	SAMSUNG	K4B2G0846B-HCF8	-	1.5			•	•
MICRON	MT8JTF12864AZ-1G1F1	1GB	SS	MICRON	8ZF22 D9KPV	7	-	•	•	•	•
MICRON	MT8JTF12864AZ-1G1F1	1GB	SS	MICRON	D9KPT	7	-	•	•	•	
MICRON	MT9JSF12872AZ-1G1F1	1GB	SS	MICRON	D9KPT(ECC)	7	-	•	•	•	•
MICRON	MT16JTF25664AZ-1G1F1	2GB	DS	MICRON	8ZF22 D9KPV	7	-	•	•	•	•
MICRON	MT16JTF25664AZ-1G1F1	2GB	DS	MICRON	D9KPT	7	-	•	•	•	•
MICRON	MT18JSF25672AZ-1G1F1	2GB	DS	MICRON	D9KPT(ECC)	7	-	•	•	•	
SAMSUNG	M378B5273BH1-CF8	4GB	DS	SAMSUNG	K4B2G0846B-HCF8	8	1.5	•			•
Transcend	TS128MLK64V1U	1GB	SS	ELPIDA	J1108BASE-AE-E	7	-	•	•	•	•
Elixir	M2Y2G64CB8HA9N-BE	2GB	DS	-	-	-	-	•	•	•	•
Elixir	M2Y2G64CB8HC5N-BE	2GB	DS	Elixir	N2CB1G80CN-BE	-	-	•	•	•	•
Elixir	M2Y2G64CB8HC9N-BE	2GB	DS	-	-	-	-	•	•	•	•
WINTEC	3DU3191A-10	1GB	DS	Qimonda	IDSH51-03A1F1C-10F	7	-	•	•		

6 DIMM Slots:

- 2 DIMMs: Supports two (2) modules inserted into slot A1 and B1 as one pair of Dual-channel memory configuration.

- 3 DIMMs: Supports three (3) modules inserted into the orange slots (A1, B1 and C1) as one set of Triple-channel memory configuration

- 4 DIMMs: Supports four (4) modules inserted into the orange slots (A1, B1 and C1) and the black slot A2 as one set of Triple-channel memory configuration.

- 6 DIMMs: Supports six (6) modules inserted into both the orange slots and the black slots as two set of Triple-channel memory configuration.

- ASUS exclusively provides hyper DIMM support function.

- Hyper DIMM support is subject to the physical characteristics of individual CPUs.

- Visit the ASUS website for the latest QVL.

2.4.3 Installing a DIMM

> Ensure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

1. Unlock a DIMM socket by pressing the retaining clip outward.

2. Align a DIMM on the socket such that the notch on the DIMM matches the DIMM slot key on the socket.

DIMM notch

DIMM slot key   **Unlocked retaining clip**
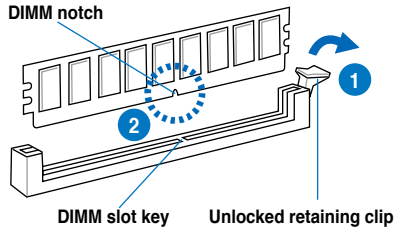
> A DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket in the wrong direction to avoid damaging the DIMM.

3. Hold the DIMM by both of its ends, then insert the DIMM vertically into the socket. Apply force to both ends of the DIMM simultaneously until the retaining clip snaps back into place, and the DIMM cannot be pushed in any further to ensure proper sitting of the DIMM.

Locked Retaining Clip
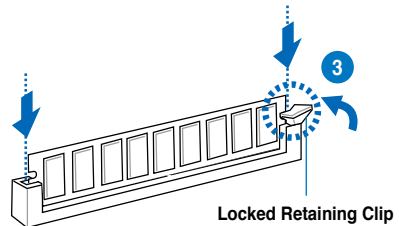
> Always insert the DIMM into the socket VERTICALLY to prevent DIMM notch damage.

2.4.4 Removing a DIMM

1. Press the retaining clip outward to unlock the DIMM.

2. Remove the DIMM from the socket.
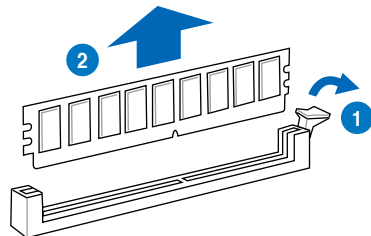
2.5 Expansion slots

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.

> Ensure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

2.5.1 Installing an expansion card

To install an expansion card:

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

2.5.2 Configuring an expansion card

After installing the expansion card, configure it by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 3 for information on BIOS setup.
2. Assign an IRQ to the card. Refer to the tables on the next page.
3. Install the software drivers for the expansion card.

> When using PCI cards on shared slots, ensure that the drivers support "Share IRQ" or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable. Refer to the table on the next page for details.

2.5.3   Interrupt assignments

Standard interrupt assignments

IRQ	Priority	Standard function
0	1	System Timer
1	2	Keyboard Controller
2	–	Redirect to IRQ#9
4	12	Communications Port (COM1)*
5	13	IRQ Holder for PCI Steering*
6	14	Reserved
7	15	Reserved
8	3	System CMOS/Real Time Clock
9	4	IRQ Holder for PCI Steering*
10	5	IRQ Holder for PCI Steering*
11	6	IRQ Holder for PCI Steering*
12	7	Reserved
13	8	Numeric Data Processor
14	9	Primary IDE Channel

* These IRQs are usually available for PCI devices.

IRQ assignments for this motherboard

IOH

	24	25	26	27	28	29	30	31
PCIE16_1	shared	–	–	–	–	–	–	–
PCIE16_2	–	–	–	–	–	–	shared	–
Marvell 9128	–	–	–	–	shared	–	–	–
NEC USB 3.0	–	–	–	–	–	shared	–	–

ICH

	A	B	C	D	E	F	G	H
PCIE1_1	shared	–	–	–	–	–	–	–
Intel 82657V	–	–	shared	–	–	–	–	–
PCI_1	–	–	–	–	shared	–	–	–
USB controller 1	–	–	–	–	–	–	–	shared
USB controller 2	–	–	–	shared	–	–	–	–
USB controller 3	–	–	shared	–	–	–	–	–
USB controller 4	shared	–	–	–	–	–	–	–
USB controller 5	–	–	–	–	–	shared	–	–
USB controller 6	–	–	–	shared	–	–	–	–
USB 2.0 controller 1	–	–	–	–	–	–	–	shared
USB 2.0 controller 2	–	–	shared	–	–	–	–	–
SATA controller 1	–	–	–	–	shared	–	–	–
SATA controller 2	–	–	–	–	shared	–	–	–
VIA VT2020 (Audio)	–	–	–	–	–	–	shared	–

2.5.4   PCI slot

The PCI slot supports cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. Refer to the figure below for the location of the slot.

2.5.5   PCI Express x4 slot

This motherboard supports PCI Express x4 network cards, SCSI cards and other cards that comply with the PCI Express specifications.

Install a PCIe x4 device to a PCIe x4 slot prior to a PCIe x16 slot.

2.5.6   PCI Express 2.0 x16 slots

This motherboard has two PCI Express 2.0 x16 slots that support PCI Express x16 2.0 graphic cards complying with the PCI Express specifications. Refer to the figure below for the location of the slots.
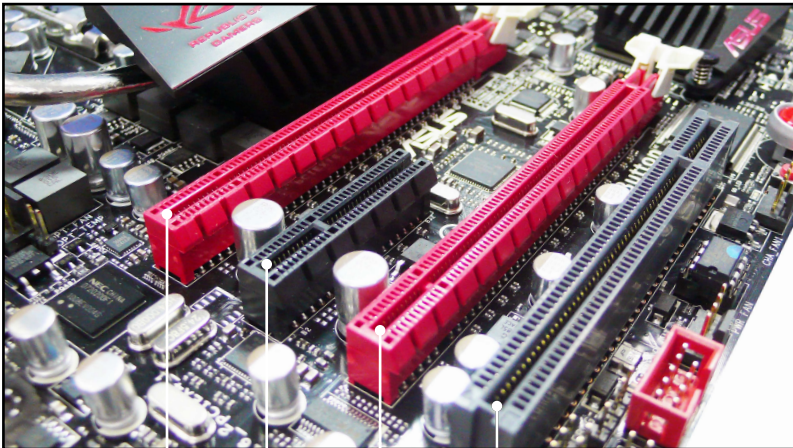
PCI slot
PCI Express 2.0 x16_2 slot
PCI Express x4 slot
PCI Express 2.0 x16_1 slot

- In single VGA card mode, use first the PCIe 2.0 x16_1 slot for a PCI Express x16 graphics card to get better performance.

- In CrossFireX™ mode, use the PCIe 2.0 x16_1 and PCIe 2.0 x16_2 slots for PCI Express x16 graphics cards to get better performance.

- We recommend that you provide sufficient power when running CrossFireX™ mode. See page 2-40 for details.

- Connect a chassis fan to the motherboard connector labeled CHA_FAN1/2 when using multiple graphics cards for better thermal environment. See page 2-38 for details.

2.6 Jumper

1. Clear RTC RAM (3-pin CLRTC_SW)

This jumper allows you to enable the **clr CMOS** switch on the back I/O. You can clear the CMOS memory and system setup parameters by erasing the CMOS RTC RAM data. The **clr CMOS** switch on the back I/O helps you easily clear the system setup information such as system passwords.

To erase the RTC RAM:

1. Press down the clr CMOS switch on the back I/O.

2. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.

CLRTC_SW

1 2   2 3

Enable   Disable
(Default)
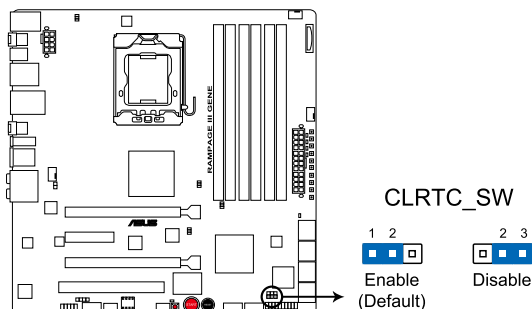
RAMPAGE III GENE Clear RTC RAM

clr CMOS switch behavior

System power state	G3*	S5*	S0 (DOS mode)	S0 (OS mode)	S1	S3	S4
Clearing CMOS	●	●	● **				

*G3: Power off without +5VSB power (AC power loss); S5: Power off with +5VSB power
**The system shuts dowm immediately.

- The **clr CMOS** switch will not function if the CLRTC_SW jumper is moved to the Disable position, but the shutdwon function in S0 mode (DOS mode) still works.

- Ensure to re-enter your previous BIOS settings after you clear the CMOS.

- You do not need to clear the RTC when the system hangs due to CPU overclocking. With the C.P.R. (CPU Parameter Recall) feature, shut down and reboot the system so the BIOS can automatically reset CPU parameter settings to default values. If the system hangs due to overclocking of memory timing or chipset voltage and the power button fails to function, pressing down the **clr CMOS** switch will shut down the system and clear CMOS simultaneously.

2. **QPI_LL (3-pin QPI_LL_SW)**

This jumper prevents QPI voltage from dropping too much when you perform overclocking. The low QPI voltage may cause system malfunction. Set the jumper to pin 2—3 to activate this function and pin 1—2 to disable this function.

QPI_LL_SW

1 2 Disable   2 3 Enable (Default)

RAMPAGE III GENE QPI LL switch
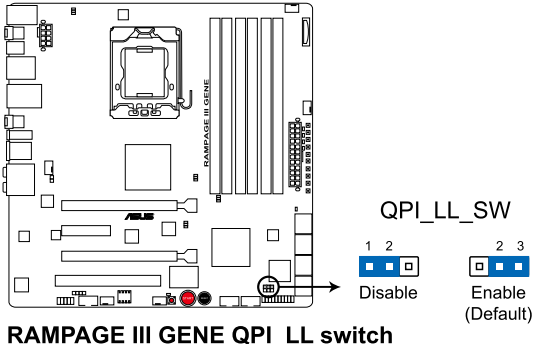
2.7 Connectors

2.7.1 Rear panel connectors
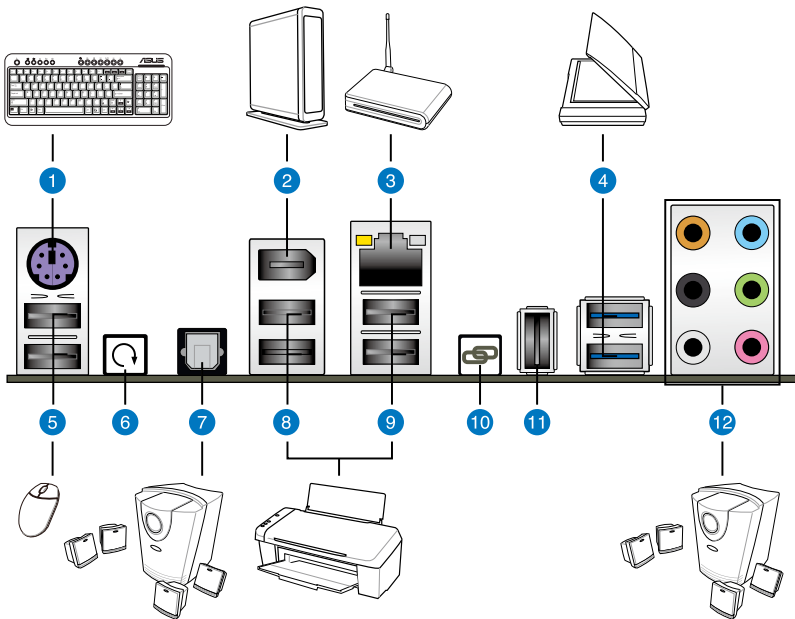
Rear panel connectors	
1. PS/2 keyboard port (purple)	7. Optical S/PDIF Out port
2. IEEE 1394a port	8. USB 2.0 ports 3 and 4
3. LAN (RJ-45) port*	9. USB 2.0 ports 1 and 2
4. USB 3.0 ports 1 and 2	10. ROG Connect switch
5. USB 2.0 ports 5 and 6	11. ROG Connect port
6. Clear CMOS switch	12. Audio I/O ports**

- To use hot-plug, set the **Controller Mode** in the BIOS settings to [AHCI] mode. See section **3.5.3 Onboard Devices Configuration** for details.

- You cannot boot from USB 3.0 ports (blue) and remember to install the USB 3.0 driver before using the ports.

* LAN port LED indications

Activity/Link	Speed LED	Description
OFF	OFF	Soft-off Mode
Yellow Blinking	OFF	During Power ON/OFF
Yellow Blinking	ORANGE	100 Mbps connection
Yellow Blinking	GREEN	1 Gbps connection

Activity/ Speed
Link LED LED

LAN port
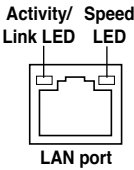
** Audio 2, 4, 6, or 8-channel configuration

Port	Headset 2-channel	4-channel	6-channel	8-channel
Light Blue	Line In	Line In	Line In	Line In
Lime	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mic In	Mic In
Orange	–	–	Center/Subwoofer	Center/Subwoofer
Black	–	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Gray	–	–	–	Side Speaker Out

2.7.2   Audio I/O connections

Audio I/O ports

orange   light blue

black   lime

gray   pink
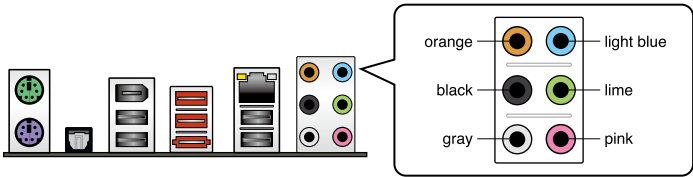
Connect to Headphone and Mic

Connect to Stereo Speakers
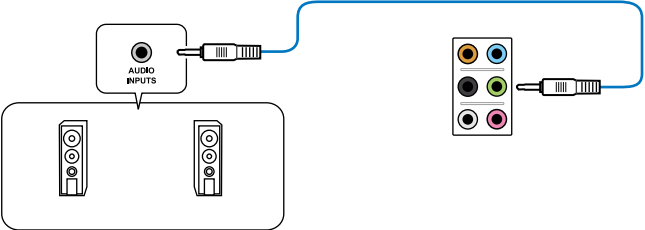
Connect to 2.1 channel Speakers
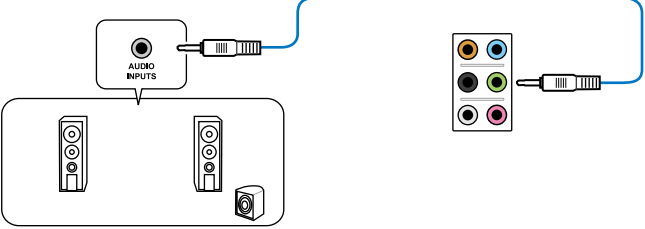
Connect to 4.1 channel Speakers
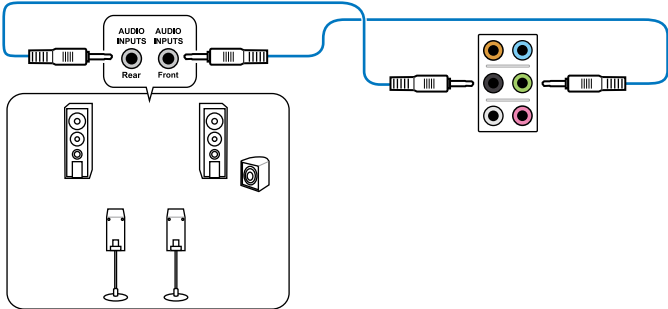
Connect to 5.1 channel Speakers
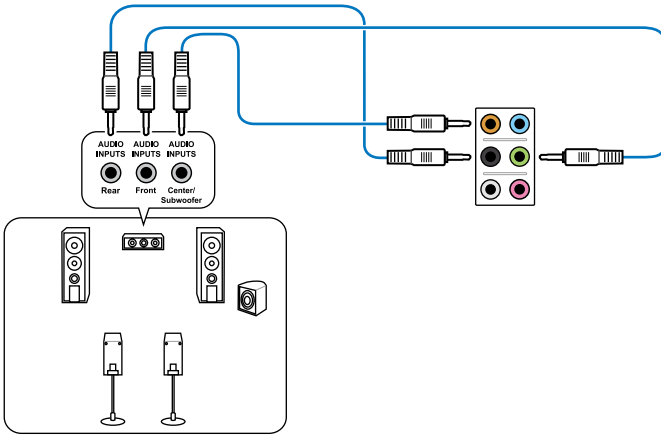
Connect to 7.1 channel Speakers
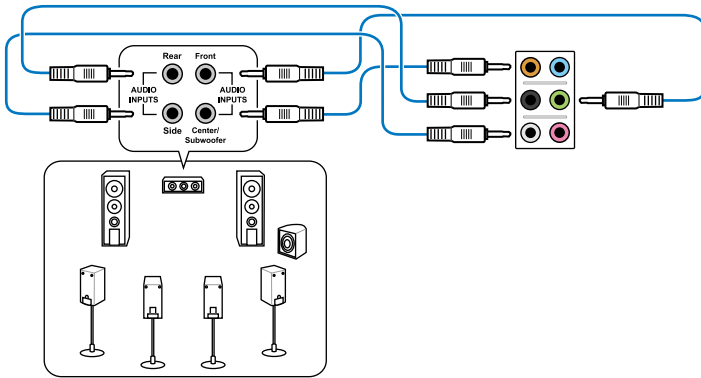
2.7.2 Internal connectors

1. ICH10R Serial ATA connectors (7-pin SATA 1-6 [grey])

These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives and optical disc drives.

If you installed Serial ATA hard disk drives, you can create a RAID 0, 1, 5, and 10 configuration with the Intel® Matrix Storage Technology through the onboard Intel® ICH10R RAID controller.

RAMPAGE III GENE SATA connectors

right-angle side

NOTE: Connect the right-angle side of SATA signal cable to SATA device. Or you may connect the right-angle side of SATA cable to the onboard SATA port to avoid mechanical conflict with huge graphics cards.
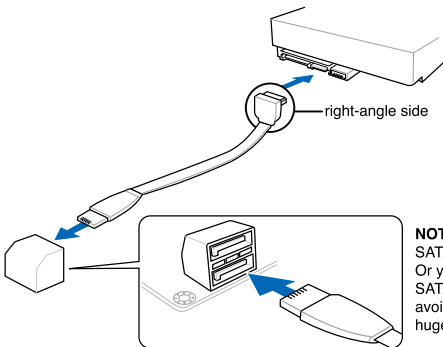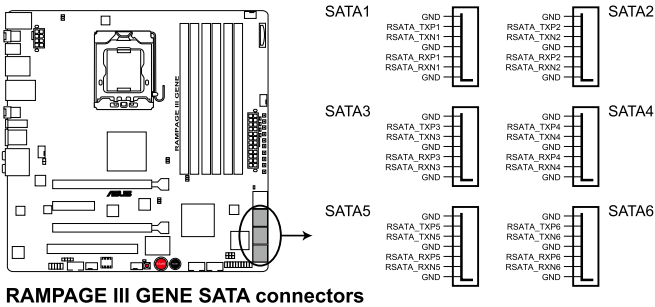
- These connectors are set to Standard IDE mode by default. In Standard IDE mode, you can connect Serial ATA boot/data hard disk drives to these connectors. If you intend to create a Serial ATA RAID set using these connectors, set the **Configure SATA as** item in the BIOS to [RAID]. See section **3.4.5 Storage Configuration** for details.

- Before creating a RAID set, refer to section **4.4 RAID configurations** or the manual bundled in the motherboard support DVD.

- You must install Windows® XP Service Pack 2 or later versions before using Serial ATA hard disk drives. The Serial ATA RAID feature is available only if you are using Windows® XP SP2 or later versions.

- When using hot-plug and NCQ, set the **Configure SATA as** in the BIOS to [AHCI]. See section **3.4.5 Storage Configuration** for details.

2. **Marvell® Serial ATA 6.0 Gb/s connectors (7-pin SATA_6G_1/2 [red])**

These connectors connect to Serial ATA 6.0 Gb/s hard disk drives via Serial ATA 6.0 Gb/s signal cables.

SATA_6G_1   SATA_6G_2
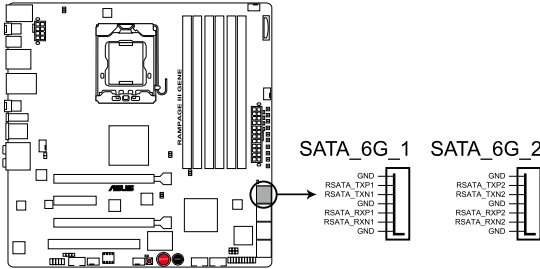
RAMPAGE III GENE SATA connectors

- These connectors are set to IDE mode by default. When using hot-plug and NCQ, set the **Marvell 9128 Controller** item in the BIOS to [AHCI Mode]. Refer to section **3.6.3 Onboard Devices Configuration** for details.

- You must install Windows® XP Service Pack 2 or later versions before using Serial ATA hard disk drives.

- Press <Ctrl> + <M> during POST to enter the Marvell RAID utility to create or delete a RAID configuration.

- If you want to install a Windows operating system to a RAID configuration created using the Marvell SATA controller, you have to create a RAID driver disk using the motherboard support DVD and load the driver during OS installation. For 32/64bit Windows XP OS, load first the **Marvell shared library driver**, and then load **Marvell 91xx SATA Controller Driver**. For Windows Vista / Windows 7 OS, load only the **Marvell 91xx SATA Controller Driver**.

3. USB connectors (10-1 pin USB78; USB910)

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

RAMPAGE III GENE USB2.0 connectors
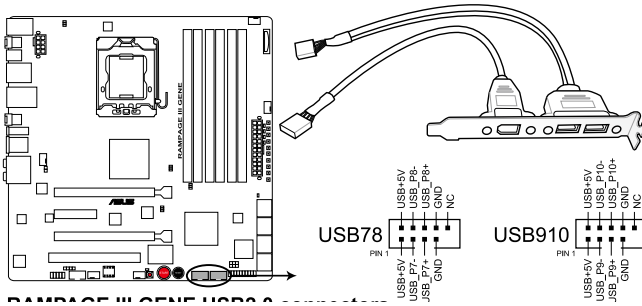
Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

You can connect the USB cable to ASUS Q-Connector (USB, blue) first, and then install the Q-Connector (USB) to the USB connector onboard.

The USB cable is purchased separately.

4.   IEEE 1394a port connector (10-1 pin IE1394_2)

This connector is for an IEEE 1394a port. Connect the IEEE 1394a module cable to this connector, then install the module to a slot opening at the back of the system chassis.

RAMPAGE III GENE IEEE 1394 connector
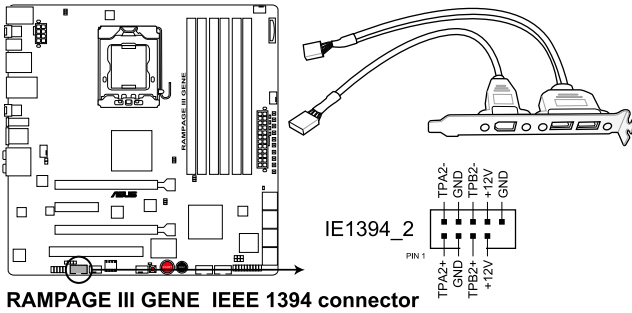
Never connect a USB cable to the IEEE 1394a connector. Doing so will damage the motherboard!

The IEEE 1394a cable is purchased separately.

5.   Digital audio connector (4-1 pin SPDIF_OUT)

This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port(s). Connect the S/PDIF Out module cable to this connector, then install the module to a slot opening at the back of the system chassis.

RAMPAGE III GENE Digital audio connector
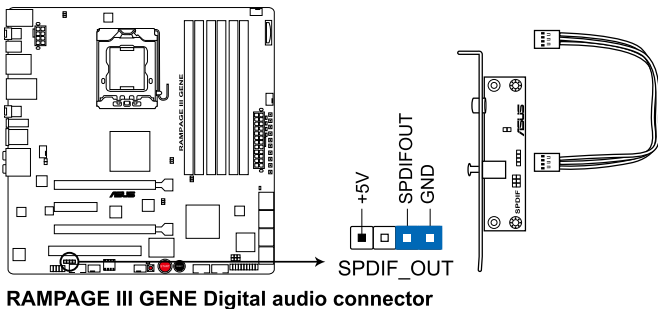
The S/PDIF out module is purchased separately.

6. Front panel audio connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC`97 audio standard. Connect one end of the front panel audio I/O module cable to this connector.

RAMPAGE III GENE Analog front panel connector
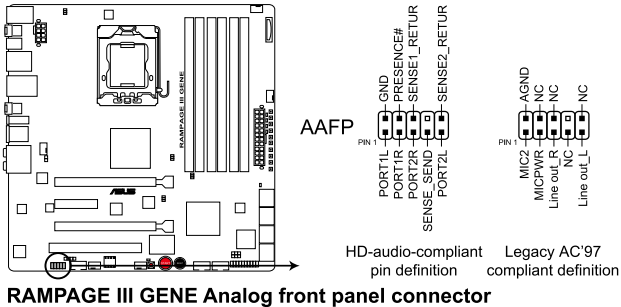
- We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.

- If you want to connect a high-definition front panel audio module to this connector, set the **Front Panel Type** item in the BIOS setup to [HD Audio]; if you want to connect an AC'97 front panel audio module to this connector, set the item to [AC97]. By default, this connector is set to [HD Audio].

7. CPU, chassis, power and optional fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN1–2, 4-pin PWR_FAN, 4-pin OPT_FAN)

The fan connectors support cooling fans of 350 mA–2000 mA (24 W max.) or a total of 1 A–7 A (84 W max.) at +12V. Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.

> ⚠ DO NOT forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors!

A CPU_FAN

CPU FAN PWM
CPU FAN IN
CPU FAN PWR
GND

B CHA_FAN2

+5V
CHA FAN IN
CHA FAN PWR
GND

C OPT_FAN

OPT FAN PWM
OPT FAN IN
OPT FAN PWR
GND

D PWR_FAN

GND
CHA FAN PWR
CHA FAN IN
+5V

E CHA_FAN1

GND
CHA FAN PWR
CHA FAN IN
+5V

RAMPAGE III GENE Fan connectors
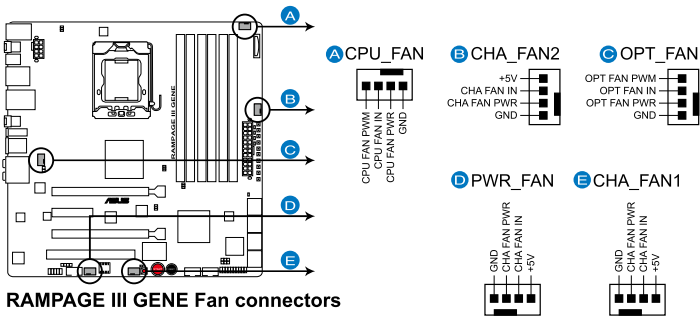
> 🖉 If you install two VGA cards, we recommend that you plug the chassis fan cable to the motherboard connector labeled OPT_FAN for better thermal environment.

8. **Thermal sensor cable connector (2-pin OPT_TEMP)**

    This connector is for temperature monitoring. Connect the thermal sensor cables to this connector and place the other end to the device which you want to monitor temperature. The optional fan can work with the temperature sensor for a better cooling effect.
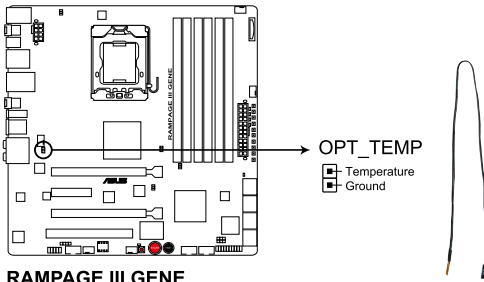
RAMPAGE III GENE
Thermal sensor cable connector

Enable **OPT FAN overheat protection** in BIOS if you connect thermal sensor cable to this connector. Refer to page 3-34 for details.

The thermal sensor cable is purchased separately.

9. ATX power connectors (24-pin EATXPWR, 8-pin EATX12V)

These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.

A EATX12V

PIN 1

+12V DC	GND
+12V DC	GND
+12V DC	GND
+12V DC	GND

B EATXPWR

+3 Volts	GND
+12 Volts	+5 Volts
+12 Volts	+5 Volts
+5V Standby	+5 Volts
Power OK	-5 Volts
GND	GND
+5 Volts	GND
GND	GND
+5 Volts	PSON#
GND	GND
+3 Volts	-12 Volts
+3 Volts	+3 Volts

PIN 1
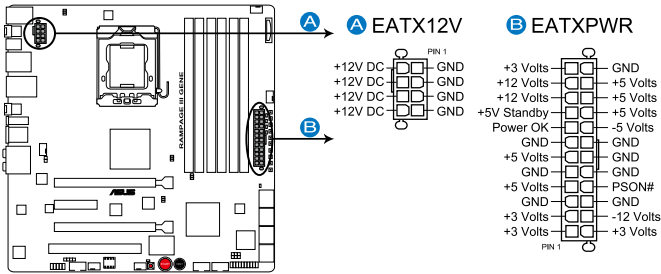
RAMPAGE III GENE ATX power connectors

• For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 600 W.

• Do not forget to connect the 8-pin EATX12V power plugs; otherwise, the system will not boot.

• Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate. Refer to the Appendix for the certified 500W power supply or above.

• If you are uncertain about the minimum power supply requirement for your system, refer to the Recommended Power Supply Wattage Calculator at **http://support.asus.com/PowerSupplyCalculator/PSCalculator. aspx?SLanguage=en-us** for details.

10. System panel connector (20-8 pin PANEL)

This connector supports several chassis-mounted functions.
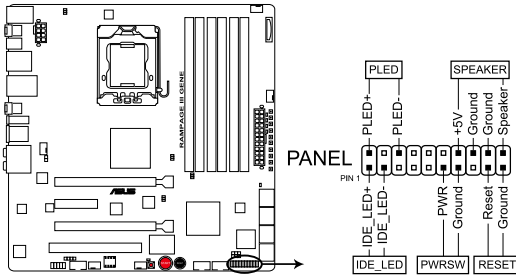
RAMPAGE III GENE System panel connector

- **System power LED (2-pin PLED)**

  This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **Hard disk drive activity LED (2-pin IDE_LED)**

  This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.

- **System warning speaker (4-pin SPEAKER)**

  This 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings.

- **ATX power button/soft-off button (2-pin PWRSW)**

  This connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.

- **Reset button (2-pin RESET)**

  This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

11.   ASUS Q-Connector (system panel)

Use the ASUS Q-Connector to connect/disconnect the chassis front panel cables.

To install the ASUS Q-Connector:

1.   Connect the front panel cables to the ASUS Q-Connector.

      Refer to the labels on the Q-Connector to know the detailed pin definitions, and then match them to their respective front panel cable labels.

      The labels on the front panel cables may vary depending on the chassis model.
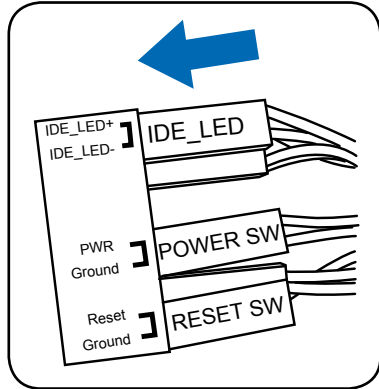
2.   Install the ASUS Q-Connector to the system panel connector, ensuring the orientation matches the labels on the motherboard.
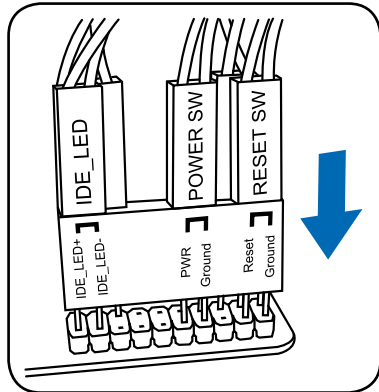
3.   The front panel functions are now enabled. The figure shows the Q-Connector is properly installed on the motherboard.
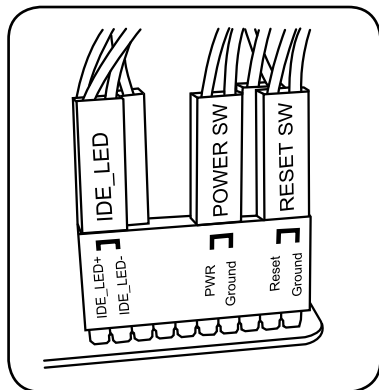
2.7.3 Onboard switches

Onboard switches allow you to fine-tune performance when working on a bare or open-case system. This is ideal for overclockers and gamers who continually change settings to enhance system performance.

1. **Power-on switch**

   Press the power-on switch to wake/power up the system.
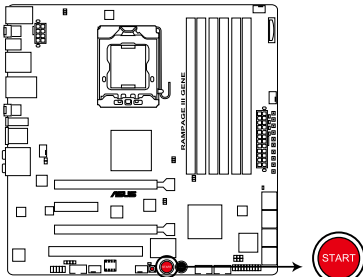
RAMPAGE III GENE Power on switch

2. **Reset switch**

   Press the reset switch to reboot the system.
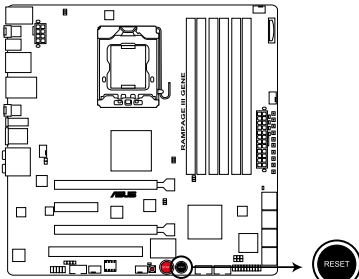
RAMPAGE III GENE Reset switch

3.   **GO button**

Press the GO button before POST to enable MemOK! or press it to quickly load the preset profile (GO_Button file) for temporary overclocking when in OS.
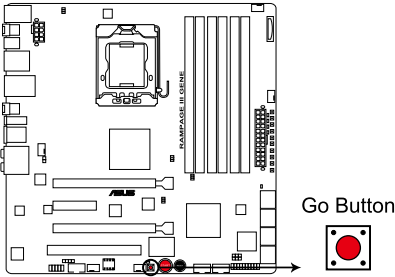
Go Button

RAMPAGE III GENE GO BUTTON

2.7.4   ProbeIt

The ROG ProbeIt feature provides a nice touch for your convenient and accurate OC settings. No time wasted fumbling around on the complicated motherboard layout, the clearly marked area gives you easier access to the measure points when a multitester is employed for more accurate measurements during your busy overclocking work.

Refer to the following illustration for ProbeIt location.
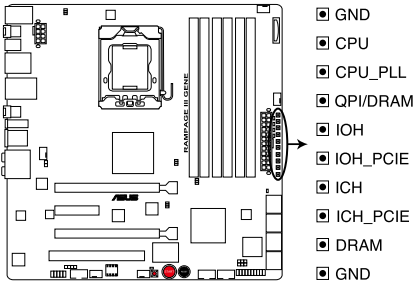
RAMPAGE III GENE ProbeIt

Using ProbeIt

You may connect the multitester to the motherboard as shown.
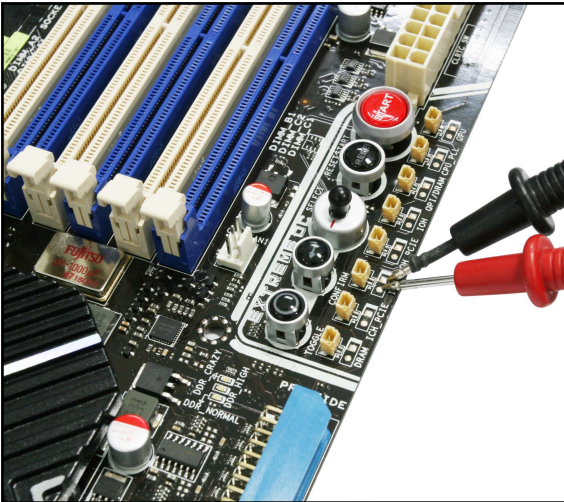
The photos above are for reference only, the actual motherboard layout and measure points location may differ by models.

2.8   Starting up for the first time

1.   After making all the connections, replace the system case cover.

2.   Be sure that all switches are off.

3.   Connect the power cord to the power connector at the back of the system chassis.

4.   Connect the power cord to a power outlet that is equipped with a surge protector.

5.   Turn on the devices in the following order:

    a.   Monitor

    b.   External SCSI devices (starting with the last device on the chain)

    c.   System power

6.   After applying power, the system power LED on the system front panel case lights up. For systems with ATX power supplies, the system LED lights up when you press the ATX power button. If your monitor complies with "green" standards or if it has a "power standby" feature, the monitor LED may light up or switch between orange and green after the system LED turns on.

The system then runs the power-on self tests or POST. While the tests are running, the BIOS beeps (see BIOS beep codes table below) or additional messages appear on the screen. If you do not see anything within 30 seconds from the time you turned on the power, the system may have failed a power-on test. Check the jumper settings and connections or call your retailer for assistance.

BIOS Beep	Description
One short beep	VGA detected Quick boot set to disabled No keyboard detected
One continuous beep followed by two short beeps then a pause (repeated)	No memory detected
One continuous beep followed by three short beeps	No VGA detected
One continuous beep followed by four short beeps	Hardware component failure

7.   At power on, hold down the <Delete> key to enter the BIOS Setup. Follow the instructions in Chapter 3.

2.9 Turning off the computer

2.9.1 Using the OS shut down function

If you are using Windows® Vista™:

1. Click the **Start** button then select **Shut Down**.
2. The power supply should turn off after Windows® shuts down.

If you are using Windows® XP:

1. Click the **Start** button then select **Turn Off Computer**.
2. Click the **Turn Off** button to shut down the computer.
3. The power supply should turn off after Windows® shuts down.

2.9.2 Using the dual function power switch

While the system is ON, pressing the power switch for less than four seconds puts the system to sleep mode or to soft-off mode, depending on the BIOS setting. Pressing the power switch for more than four seconds lets the system enter the soft-off mode regardless of the BIOS setting. Refer to section **3.6 Power Menu** in Chapter 3 for details.

This chapter tells how to change the
system settings through the BIOS Setup
menus. Detailed descriptions of the BIOS
parameters are also provided.

BIOS setup 3

Chapter summary

3

3.1 Managing and updating your BIOS

The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup.

1. **ASUS Update** (Updates the BIOS in Windows® environment.)
2. **ASUS EZ Flash 2** (Updates the BIOS using a floppy disk or USB flash disk.)
3. **ASUS CrashFree BIOS 3 utility:** Restores the BIOS using the motherboard support DVD or a USB flash drive when the BIOS file fails or gets corrupted.

Refer to the corresponding sections for details on these utilities.

Save a copy of the original motherboard BIOS file to a USB flash drive in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the **ASUS Update** utility.

3.1.1 ASUS Update utility

The ASUS Update is a utility that allows you to manage, save, and update the motherboard BIOS in Windows® environment. The ASUS Update utility allows you to:

*   Save the current BIOS file
*   Download the latest BIOS file from the Internet
*   Update the BIOS from an updated BIOS file
*   Update the BIOS directly from the Internet, and
*   View the BIOS version information.

This utility is available in the support DVD that comes with the motherboard package.

ASUS Update requires an Internet connection either through a network or an Internet Service Provider (ISP).

Installing ASUS Update

To install ASUS Update:

1. Place the support DVD in the optical drive. The Drivers menu appears.
2. Click the Utilities tab, then click Install ASUS Update VX.XX.XX.
3. The ASUS Update utility is copied to your system.

Quit all Windows® applications before you update the BIOS using this utility.

Updating the BIOS through the Internet

To update the BIOS through the Internet:

1. Launch the ASUS Update utility from the Windows® desktop by clicking **Start > Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update main window appears.
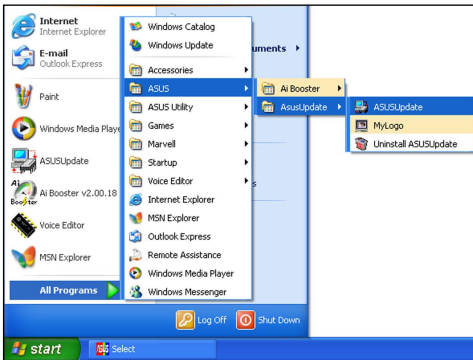
2. Select **Update BIOS** from the Internet option from the drop-down menu, then click **Next**.

3. Select the ASUS FTP site nearest you to avoid network traffic, or click **Auto Select**. Click **Next**.
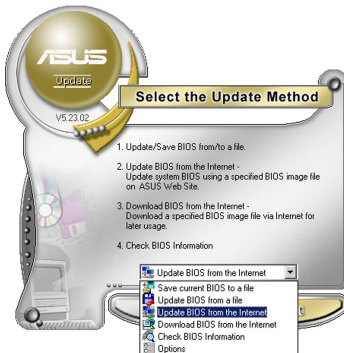
4. From the FTP site, select the BIOS version that you wish to download. Click **Next**.

5. Follow the screen instructions to complete the update process.

> The ASUS Update utility is capable of updating itself through the Internet. Always update the utility to avail all its features.
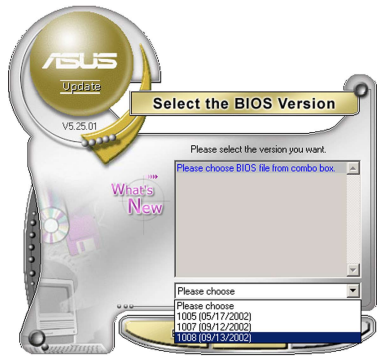
Updating the BIOS through a BIOS file

To update the BIOS through a BIOS file:

1. Launch the ASUS Update utility from the Windows® desktop by clicking **Start** > **Programs** > **ASUS** > **ASUSUpdate** > **ASUSUpdate**. The ASUS Update main window appears.

2. Select **Update BIOS** from a file option from the drop-down menu, then click **Next**.
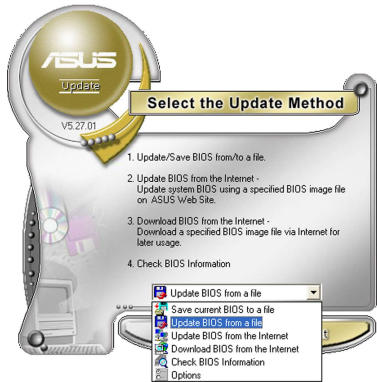
3. Locate the BIOS file from the Open window, then click **Open**.

4. Follow the screen instructions to complete the update process.
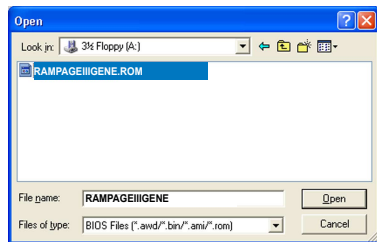
3.1.2   ASUS EZ Flash 2 utility

The ASUS EZ Flash 2 feature allows you to update the BIOS without having to use a DOS-based utility. The EZ Flash 2 utility is built in the BIOS chip so it is accessible by pressing <Alt> + <F2> during the Power-On Self Tests (POST).

Before you start using this utility, download the latest BIOS from the ASUS website at www.asus.com.

To update the BIOS using EZ Flash 2

1.   Insert the USB flash disk that contains the latest BIOS file to the USB port, and then launch EZ Flash 2 in any of these two ways:

   •   Press <Alt> + <F2> during POST to display the following.

   •   Enter the BIOS setup program. Go to the **Tools** menu to select **EZ Flash 2** and press <Enter> to enable it.

```
            ASUSTek EZ Flash 2 BIOS ROM Utility V4.18

      ┌──── Current ROM ────┐          ┌──── Update ROM ────┐
      │ BOARD: Rampage III GENE         │ BOARD: Unknown
      │ VER: 0213 (H:00 B:12)           │ VER: Unknown
      │ DATE: 06/08/2010                │ DATE: Unknown

      PATH: A:\

      ┌─ A: ─┐  ┌─────────────────────────────────────┐
      │      │  │                                     │
      │      │  │                                     │
      │      │  │                                     │
      │      │  │                                     │
      │      │  │                                     │

      ┌─ Note ─┐
      │  [Enter] Select or Load    [Tab] Switch    [V] Drive Info
      │  [Up/Down/Home/End] Move    [B] Backup      [Esc] Exit
```
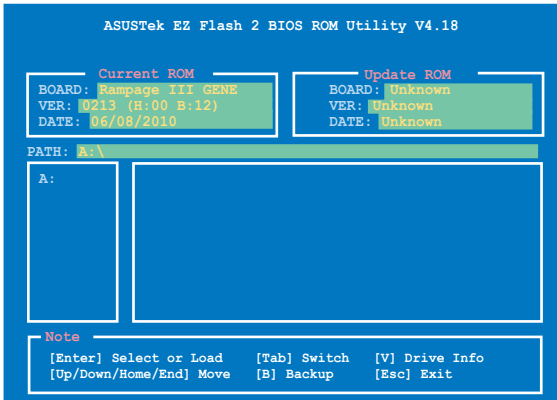
2.   Press <Tab> to switch between drives until the correct BIOS file is found. When found, EZ Flash 2 performs the BIOS update process and automatically reboots the system when done.

   •   This function can support devices such as a USB flash disk with FAT 32/16 format and single partition only.

   •   DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!

Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the **Load Setup Defaults** item under the **Exit** menu. See section **3.9 Exit Menu** for details.

3.1.3 ASUS CrashFree BIOS 3 utility

The ASUS CrashFree BIOS 3 utility is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using the motherboard support DVD or a USB flash drive that contains the BIOS file.

> The BIOS file in the motherboard support DVD may be older than the BIOS file published on the ASUS official website. If you want to use the newer BIOS file, download the file at support.asus.com and save it to a USB flash drive.

Recovering the BIOS

To recover the BIOS

1. Turn on the system.
2. Insert the motherboard support DVD to the optical drive, or the USB flash drive containing the BIOS file to the USB port.
3. The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file.
4. Turn off the system after the utility completes the updating process and power on again.
5. The system requires you to enter BIOS Setup to recover BIOS setting. To ensure system compatibility and stability, we recommend that you press <F2> to load default BIOS values.

> DO NOT shut down or reset the system while recovering the BIOS! Doing so can cause system boot failure!

3.2 BIOS setup program

This motherboard supports two programmable firmware chips that you can update using the provided utility described in section **3.1 Managing and updating your BIOS**.

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware chip.

The firmware chip on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Del> during the Power-On Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.

- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Setup Defaults** item under the Exit Menu. See section **3.9 Exit Menu**.

- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

- Visit the ASUS website at www.asus.com to download the latest BIOS file for this motherboard.

3.2.1   BIOS menu screen

Menu items   Menu bar   Configuration fields   General help

```
                          Rampage III GENE BIOS SETUP                     Version 0213
   Extreme Tweaker      Main    Advanced      Power     Boot     Tools     Exit

   System Time               [13:51:25]                  Use [ENTER], [TAB]
   System Date               [Thu 06/10/2010]            or [SHIFT-TAB] to
   Language                  [English]                   select a field.

                                                         Use [+] or [-] to
   ▶ SATA1                   [HDT722516DLA380]            configure system Date.
   ▶ SATA2                   [Not Detected]
   ▶ SATA3                   [ATAPI DVD D DH1]
   ▶ SATA4                   [Not Detected]
   ▶ SATA5                   [Not Detected]
   ▶ SATA6                   [Not Detected]              ←→   Select Screen
                                                         ↑↓   Select Item
   ▶ Storage Configuration                               +-   Change Field
   ▶ System Information                                  Tab  Select Field
                                                         F1   General Help
                                                         F10  Save and Exit
                                                         ESC  Exit

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```

Sub-menu items   Navigation keys

3.2.2   Menu bar

The menu bar on top of the screen has the following main items:

Extreme Tweaker	For changing the overclocking settings
Main	For changing the basic system configuration
Advanced	For changing the advanced system settings
Power	For changing the advanced power management (APM) configuration
Boot	For changing the system boot configuration
Tools	For configuring options for special functions
Exit	For selecting the exit options and loading default settings

3.2.3   Navigation keys

At the bottom right corner of a menu screen are the navigation keys for that particular menu. Use the navigation keys to select items in the menu and change the settings.

Some of the navigation keys differ from one screen to another.

3.2.4   Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting Main shows the Main menu items.

The other items (Advanced, Power, Boot, and Exit) on the menu bar have their respective menu items.

3.2.5   Submenu items

A solid triangle before each item on any menu screen means that the iteam has a submenu. To display the submenu, select the item and press <Enter>.

3.2.6   Configuration fields

These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to **3.2.7 Pop-up window.**

3.2.7   Pop-up window

Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item.
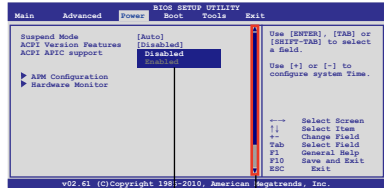
3.2.8   Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the Up/Down arrow keys or <Page Up> / <Page Down> keys to display the other items on the screen.

Scroll bar

Pop-up window

3.2.9   General help

At the top right corner of the menu screen is a brief description of the selected item.

3.3 Extreme Tweaker menu

The Extreme Tweaker menu items allow you to configure overclocking-related items.

> ⚠️ Take caution when changing the settings of the **Extreme Tweaker** menu items. Incorrect field values can cause the system to malfunction.

> ✎ The default values of the following items vary depending on the CPU and memory modules you install on the motherboard.

```
                     Rampage III GENE BIOS SETUP                    Version 0213
 Extreme Tweaker    Main     Advanced    Power    Boot    Tools    Exit

 Configure System Performance Settings              ▲  Sync mode

 Target CPU Frequency: 2793MHZ
 Target DRAM Frequency: 1066MHZ
 QPI Loadline Calibration: Disabled

 Tuning Mode                   [Extreme OC]
 CPU Level Up                  [Auto]
 ------------------------------------------------
 Ai Overclock Tuner            [Auto]
 CPU Ratio Status:(Min:12, Max:63)
 CPU Ratio Setting             [Auto]
 CPU Turbo Power Limit         [Disabled]
 ▶  CPU Configuration
 DRAM Frequency                [Auto]                 ←→   Select Screen
 UCLK Frequency                [Auto]                 ↑↓   Select Item
 QPI Link Data Rate            [Auto]                 +-   Change Field
                                                      F1   General Help
 Memory Configuration Protect  [Disabled]            F10   Save and Exit
 ▶  DRAM Timing Control                        ▼      ESC   Exit

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```

Scroll down to display the following items:

```
 EPU II Phase Control          [Full Phase]    ▲
 CPU Loadline Calibration      [Auto]
 CPU Differential Amplitude    [Auto]
 IOH Voltage OCP               [Enabled]
 DRAM Voltage OCP              [Enabled]
 QPI Voltage OCP               [Enabled]
 --- Please key in numbers or select voltage!---
 Extreme OV                    [Disabled]
 CPU Temperature: 20˚C/122˚F
 CPU Voltage Control           [Absolute (VID)]
 CPU Voltage          1.230 [Auto]
 CPU PLL Voltage      1.812 [Auto]
 QPI/DRAM Core Voltage 1.151 [Auto]
 NB/SB Temperature: 47˚C/116.5˚F  61˚C/141.5˚F
 IOH Voltage          1.111 [Auto]
 IOH PCIE Voltage     1.508 [Auto]
 ICH Voltage          1.111 [Auto]
 ICH PCIE Voltage           [Auto]
 DRAM Bus Voltage     1.601 [Auto]
 ▶  DRAM REF Voltages

 ******** Spread Spectrum Control ********         ←→   Select Screen
 CPU Spread Spectrum           [Auto]              ↑↓   Select Item
 PCIE Spread Spectrum          [Auto]              +-   Change Option
 CPU Clock Skew                [Auto]              F1   General Help
 IOH Clock Skew                [Auto]             F10   Save and Exit
                                            ▼     ESC   Exit

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```

3.3.1 Tuning Mode [Extreme OC]

The Tuning Mode item is the Extreme Tweaker menu item switch for different purpose. The **Extreme OC** mode offers the maximum tuning degree of freedom to the extreme. The **Gaming** mode provides the major tuning settings for system performance boost. Configuration options: [Extreme OC] [Gaming]

3.3.2 CPU Level Up [Auto]

Allows you to select a CPU level, and the related parameters will be automatically adjusted according to the selected CPU level. If you want to manually configure the settings in detail, set **Ai Overclock Tuner** to [Manual] after selecting a CPU level. Configuration options: [Auto] [i3-530-2.93G] [i3-540-3.06G] [i5-650-3.2G]

3.3.3 Ai Overclock Tuner [Auto]

Allows selection of CPU overclocking options to achieve desired CPU internal frequency. Select either one of the preset overclocking configuration options:

Manual	Allows you to individually set overclocking parameters.
Auto	Loads the optimal settings for the system.
X.M.P.	If you install memory module(s) supporting the eXtreme Memory Profile (X.M.P.) Technology, choose this item to set the profile(s) supported by your memory module(s) for optimizing the system performance.
CPU Level Up	Allows you to select a CPU level, and the related parameters will be adjusted automatically.
Memory Level Up	Allows you to select a memory level, and the related parameters will be adjusted automatically.
ROG Memory Profile	Allows you to select a memory profile.

eXtreme Memory Profile [Disabled]

This item appears only when you set the **Ai Overclock Tuner** item to [X.M.P.] and allows you to select the X.M.P. mode supported by your memory module. Configuration options: [High Performance] [High Frequency]

ROG Memory Profile [Disabled]

This item appears only when you set the **Ai Overclock Tuner** item to [ROG Memory Profile] and allows you to select the X.M.P. mode supported by your memory module. Configuration options: [Speedy] [Flying] [Lightning]

> This item may cause system unstable. Select a memory profile and the DDR timing will adjusted automatically.

3.3.4 CPU Ratio Setting [Auto]

Allows you to adjust the ratio between CPU Core Clock and FSB Frequency. Use the <+> and <-> keys to adjust the value. The valid value ranges differently according to your CPU model.

3.3.5 CPU Turbo Power Limit [Enabled]

Allows you to activate or deactivate the CPU Turbo Power Limit. If you want to keep the Turbo mode ratio, remember to disable C1E and TM functions at the same time. Configuration options: [Disabled] [Enabled]

3.3.6 CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects. Refer to **3.5 Advanced menu** for details.

> The following two items appear when you set the **Ai Overclock Tuner** item to [X.M.P] or [Manual].

3.3.7 BCLK Frequency [XXX]

Allows you to adjust the Internal Base Clock (BCLK). Use the <+> and <-> keys to adjust the value. You can also type the desired value using the numeric keypad. The values range from 100 to 500.

3.3.8 PCIE Frequency [XXX]

Allows you to adjust the PCI Express frequency. Use the <+> and <-> keys to adjust the value. You can also type the desired value using the numeric keypad. The values range from 100 to 200.

3.3.9 DRAM Frequency [Auto]

Allows you to set the DDR3 operating frequency.
Configuration options: [Auto] [DDR3-800MHz] [DDR3-1066MHz] [DDR3-1333MHz] [DDR3-1600MHz] [DDR3-1866MHz] [DDR3-2133MHz] [DDR3-2400MHz]

> For CPU that is locked, only frequency [DDR3-800MHZ] or [DDR3-1066MHZ] can work.

3.3.10 UCLK Frequency [Auto]

Allows you to adjust the Uncore Clock Ratio.
Configuration options: [Auto] [1600MHz] [1733MHz] [1866MHz] [2000MHz] [2133MHz] [2266MHz] [2400MHz] [2533MHz] [2666MHz] [2800MHz] [2933MHz] [3066MHz] [3200MHz] [3333MHz] [3466MHz] [3600MHz] [3733MHz] [3866MHz] [4000MHz] [4133MHz] [4266MHz] [4400MHz] [4533MHz] [4666MHz] [4800MHz] [4933MHz] [5066MHz] [5200MHz] [5333MHz] [5466MHz]

3.3.11   QPI Link Data Rate [Auto]

Allows you to adjust the QPI link data rate.
Configuration options: [Auto] [Slow Mode] [4800MT/s] [5866MT/s] [6400MT/s]

3.3.12   Memory Configuration Protect [Disabled]

Allows you to lock or unlock the memory configuration.
Configuration options: [Enabled] [Disabled]

3.3.13   DRAM Timing Control

> The configuration options for some of the following items vary **depending on the** DIMMs you install on the motherboard.

1st Information: 9-9-9-24-4-74-10-7-20-0

The values vary depending on your settings of the following sub-items:

CAS# Latency 9 [Auto]
Configuration options: [Auto] [3 DRAM Clock] [4 DRAM Clock] – [10 DRAM
Clock] [11 DRAM Clock]

RAS# to CAS# Delay 9 [Auto]
Configuration options: [Auto] [3 DRAM Clock] – [15 DRAM Clock]

RAS# PRE Time 9 [Auto]
Configuration options: [Auto] [3 DRAM Clock] – [15 DRAM Clock]

RAS# ACT Time 24 [Auto]
Configuration options: [Auto] [3 DRAM Clock] [4 DRAM Clock] – [30 DRAM
Clock] [31 DRAM Clock]

RAS# to RAS# Delay 4 [Auto]
Configuration options: [Auto] [1 DRAM Clock] – [7 DRAM Clock]

REF Cycle Time 74 [Auto]
Configuration options: [Auto] [30 DRAM Clock] [36 DRAM Clock]
[48 DRAM Clock] [60 DRAM Clock] [72 DRAM Clock] [82 DRAM Clock]
[88 DRAM Clock] [90 DRAM Clock] [100 DRAM Clock] [110 DRAM Clock]
[124 DRAM Clock] [132 DRAM Clock] [140 DRAM Clock] [150 DRAM Clock]
[160 DRAM Clock]

WRITE Recovery Time 10 [Auto]
Configuration options: [Auto] [1 DRAM Clock] – [15 DRAM Clock]

READ to PRE Time 7 [Auto]
Configuration options: [Auto] [3 DRAM Clock] – [15 DRAM Clock]

FOUR ACT WIN Time 20 [Auto]
Configuration options: [Auto] [1 DRAM Clock] – [63 DRAM Clock]

Back-To-Back CAS# Delay 0 [Auto]
Configuration options: [Auto] [4 DRAM Clock] – [32 DRAM Clock]

2nd Information: 1N-57-0-0

The values vary depending on your settings of the following sub-items:

Timing Mode 1N [Auto]
Configuration options: [Auto] [1N] [2N] [3N]

Round Trip Latency on CHA 57 [Auto]
Configuration options: [Auto] [30] – [100]

Round Trip Latency on CHB 0 [Auto]
Configuration options: [Auto] [30] – [100]

Round Trip Latency on CHC 0 [Auto]
Configuration options: [Auto] [30] – [100]

3rd Information: 5-5-16-10-10-11-7-6-4-7-7-4

The values vary depending on your settings of the following sub-items:

WRITE to READ Delay(DD) 5 [Auto]
Configuration options: [Auto] [1 DRAM Clock] – [8 DRAM Clock]

WRITE to READ Delay(DR) 5 [Auto]
Configuration options: [Auto] [1 DRAM Clock] – [8 DRAM Clock]

WRITE to READ Delay(SR) 16 [Auto]
Configuration options: [Auto] [10 DRAM Clock] – [22 DRAM Clock]

READ to WRITE Delay(DD) 10 [Auto]
Configuration options: [Auto] [2 DRAM Clock] – [14 DRAM Clock]

READ to WRITE Delay(DR) 10 [Auto]
Configuration options: [Auto] [2 DRAM Clock] – [14 DRAM Clock]

READ to WRITE Delay(SR) 11 [Auto]
Configuration options: [Auto] [2 DRAM Clock] – [14 DRAM Clock]

READ to READ Delay(DD) 7 [Auto]
Configuration options: [Auto] [2 DRAM Clock] – [9 DRAM Clock]

READ to READ Delay(DR) 6 [Auto]
Configuration options: [Auto] [2 DRAM Clock] – [9 DRAM Clock]

READ to READ Delay(SR) 4 [Auto]
Configuration options: [Auto] [4 DRAM Clock] [6 DRAM Clock]

WRITE to WRITE Delay(DD) 7 [Auto]
Configuration options: [Auto] [2 DRAM Clock] – [9 DRAM Clock]

WRITE to WRITE Delay(DR) 7 [Auto]
Configuration options: [Auto] [2 DRAM Clock] – [9 DRAM Clock]

WRITE to WRITE Delay(SR) 4 [Auto]
Configuration options: [Auto] [4 DRAM Clock] [6 DRAM Clock]

3.3.14 EPU II Phase Control [Full Phase]

Allows you to select the EPU II Phase.
Configuration options: [Auto] [Normal] [Full Phase]

3.3.15 CPU Load-Line Calibration [Auto]

Allows you to select the CPU Load-Line mode.
Configuration options: [Auto] [Disabled] [Enabled]

3.3.16 CPU Differential Amplitude [Auto]

Different AMP might enhance BCLK overclocking ability.
Configuration options: [Auto] [700mV] [800mV] [900mV] [1000mV]

3.3.17 IOH Voltage OCP [Enabled]

Allows you to enable or disable the IOH over current protection.

3.3.18 DRAM Voltage OCP [Enabled]

Allows you to enable or disable the DRAM over current protection.

3.3.19 QPI Voltage OCP [Enabled]

Allows you to enable or disable the QPI over current protection.

3.3.20 Extreme OV [Disabled]

[Enabled]   Enables the Extreme OV function.
[Disabled]   Disables this function.

3.3.21   CPU Voltage Control [Absolute (VID)]

Allows you to set the CPU Voltage Mode. Configuration options: [Absolute (VID)]
[Relative (Dynamic)]

3.3.22   CPU Voltage [Auto]

Allows you to set the CPU voltage. The values range from 0.85000V to 2.30000V
with a 0.00625V interval.

⚠️   Refer to the CPU documentation before setting the CPU Vcore voltage. Setting
a high VCore voltage may damage the CPU permanently, and setting a low
VCore voltage may make the system unstable.

3.3.23   CPU PLL Voltage [Auto]

Allows you to set the CPU PLL voltage. The values range from 1.20575V to
2.05375V with a 0.01325V interval.

⚠️   Setting the CPU PLL voltage over 2.00V may damage the CPU.

3.3.24   QPI/DRAM Core Voltage [Auto]

Allows you to set the QPI/DRAM core voltage. The values range from 1.20000V to
2.50000V with a 0.00625V interval.

3.3.25   IOH Voltage [Auto]

Allows you to set the IOH voltage. The values range from 1.11300V to 2.19950V
with a 0.01325V interval.

3.3.26   IOH PCIE Voltage [Auto]

Allows you to set the IOH voltage. The values range from 1.51050V to 2.78250V
with a 0.01325V interval.

3.3.27   ICH Voltage [Auto]

Allows you to set the ICH voltage. The values range from 1.11300V to 2.00075V
with a 0.01325V interval.

3.3.28   ICH PCIE Voltage [Auto]

Allows you to set the ICH voltage. The values range from 1.51050V to 2.05375V
with a 0.01325V interval.

3.3.29 DRAM Bus Voltage [Auto]

Allows you to set the DRAM voltage. The values range from 1.20575V to 2.50425V with a 0.01325V interval.

3.3.30 DRAM REF Voltages

DRAM DATA REF Voltage on CHA/B/C [Auto]

Allows you to set the DRAM DATA Reference Voltage on Channel A/B/C. The values range from -157.5mV to +200mV with a 12.5mV interval. Different ratio might enhance DRAM overclocking ability.

DRAM CTRL REF Voltage on CHA/B/C [Auto]

Allows you to set the DRAM Control Reference Voltage on Channel A/B. The values range from -157.5mV to +200mV with a 12.5mV interval. Different ratio might enhance DRAM overclocking ability.

3.3.31 CPU Spread Spectrum [Auto]

[Disabled]   Enhances the BCLK overclocking ability.
[Auto]   Sets to [Auto] for EMI control.

3.3.32 PCIE Spread Spectrum [Auto]

[Disabled]   Enhances the PCIE overclocking ability
[Auto]   Sets to [Auto] for EMI control.

3.3.33 CPU Clock Skew [Auto]

Adjusting this item may help enhancing BCLK overclocking ability. You may need to adjust the IOH Clock Skew item at the same time.
Configuration options: [Auto] [Normal] [Delay 100ps]–[Delay 1500ps]

3.3.34 IOH Clock Skew [Auto]

Adjusting this item may help enhancing BCLK overclocking ability. You may need to adjust the CPU Clock Skew item at the same time.
Configuration options: [Auto] [Normal] [Delay 100ps]–[Delay 1500ps]

3.4 Main menu

When you enter the BIOS Setup program, the Main menu screen appears, giving you an overview of the basic system information.

Refer to section **3.2.1 BIOS menu screen** for information on the menu screen items and how to navigate through them.

```
                    Rampage III GENE BIOS SETUP                Version 0213
 Extreme Tweaker    Main    Advanced    Power    Boot    Tools    Exit

                                                     Use [ENTER], [TAB]
                                                     or [SHIFT-TAB] to
 System Time          [13:51:25]                     select a field.
 System Date          [Thu 06/10/2010]
 Language             [English]                      Use [+] or [-] to
                                                     configure system Time.
 ▶ SATA1              [HDT722516DLA380]
 ▶ SATA2              [Not Detected]
 ▶ SATA3              [ATAPI DVD D DH1]
 ▶ SATA4              [Not Detected]
 ▶ SATA5              [Not Detected]
 ▶ SATA6              [Not Detected]
                                                     ←→    Select Screen
                                                     ↑↓    Select Item
 ▶ Storage Configuration                             +-    Change Field
 ▶ System Information                                Tab   Select Field
                                                     F1    General Help
                                                     F10   Save and Exit
                                                     ESC   Exit

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```

3.4.1   System Time [xx:xx:xx]

Allows you to set the system time.

3.4.2   System Date [Day xx/xx/xxxx]

Allows you to set the system date.

3.4.3   Language [English]

Allows you to choose the BIOS language version from the options.
Configuration options: [繁體中文] [簡体中文] [日本語] [Français] [Deutsch] [English]

3.4.4   SATA 1–6

While entering Setup, the BIOS automatically detects the presence of Serial ATA devices. There is a separate sub-menu for each SATA device. Select a device item then press <Enter> to display the SATA device information.

```
                    Rampage III GENE BIOS SETUP                    Version 0213
                    Main

 SATA 1                                               Select the type
                                                      of device connected
 Device    :Hard Disk                                 to the system.
 Vendor    :HDT722516DLA380
 Size      :164.7GB
 LBA Mode  :Supported
 Block Mode:16Sectors
 PIO Mode  :4
 Async DMA :MultiWord DMA-2
 Ultra DMA :Ultra DMA-5
 SMART Monitoring:Supported

 Type                        [Auto]
 LBA/Large Mode              [Auto]                   ←→   Select Screen
 Block(Multi-Sector Transfer)M  [Auto]               ↑↓   Select Item
 PIO Mode                    [Auto]                   +-   Change Field
 DMA Mode                    [Auto]                   F1   General Help
 SMART Monitoring            [Auto]                   F10  Save and Exit
 32Bit Data Transfer         [Enabled]                ESC  Exit


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```

The BIOS automatically detects the values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART monitoring). These values are not user-configurable. These items show [Auto] if no IDE device is installed in the system.

Type [Auto]

Allows you to select the type of IDE drive installed.

[Not Installed]   Select this option if no IDE drive is installed.

[Auto]   Allows automatic selection of the appropriate IDE device type.

[CDROM]   Select this option if you are specifically configuring a CD-ROM drive.

[ARMD]   Select [ARMD] (ATAPI Removable Media Device) if your device is either a ZIP, LS-120, or MO drive.

LBA/Large Mode [Auto]

Enables or disables the LBA (Logical Block Addressing) mode.

[Auto]   Select [Auto] to enable the LBA mode (Logical Block Addressing mode) if the device supports this mode, and if the device was not previously formatted with LBA mode disabled.

[Disabled]   Disable this function.

Block (Multi-Sector Transfer) M [Auto]

Enables or disables data multi-sectors transfers.

[Auto]   When set to [Auto], the data transfer from and to the device occurs multiple sectors at a time if the device supports multi-sector transfer feature.

[Disabled]   When set to [Disabled], the data transfer from and to the device occurs one sector at a time.

PIO Mode [Auto]

[Auto]   Allows automatic selection of the PIO (Programmed input/output) modes, which correspond to different data transfer rates.

[0] [1] – [4]   Set the PIO mode to Mode 0, 1, 2, 3, or 4.

DMA Mode [Auto]

DMA (Direct Memory Access) allows your computer to transfer data to and from the hardware devices installed with much less CPU overhead.

The DMA mode consists of SDMA (single-word DMA), MDMA (multi-word DMA), and UDMA (Ultra DMA). Setting to [Auto] allows automatic selection of the DMA mode, or you can select from the following options: [SWDMA1] [SWDMA2] [MWDMA0] [MWDMA1] [MWDMA2] [UDMA0] [UDMA1] [UDMA2] [UDMA3] [UDMA4] [UDMA5]

SMART Monitoring [Auto]

[Auto]   Allows automatic selection of the S.M.A.R.T (Smart Monitoring, Analysis, and Reporting Technology).

[Enabled]   Enable the S.M.A.R.T feature.

[Disabled]   Disable the S.M.A.R.T feature.

32Bit Data Transfer [Enabled]

[Enabled]   Sets the IDE controller to combine two 16-bit reads from the hard disk into a single 32-bit double word transfer to the processor. This makes more efficient use of the PCI bus as fewer transactions are needed for the transfer of a particular amount of data.

[Disabled]   Disable this function.

3.4.5   Storage Configuration

The items in this menu allow you to set or change the configurations for the SATA devices installed in the system. Select an item then press <Enter> if you want to configure the item.

```
                         Rampage III GENE BIOS SETUP                    Version 0213
                         Main

  Storage Configuration
                                                                  Options
  SATA Configuraton            [Enhanced]
   Configure SATA as           [IDE]                       Disabled
                                                           Enabled
  Hard Disk Write Protect      [Disabled]
  IDE Detect Time Out (Sec)    [35]
```
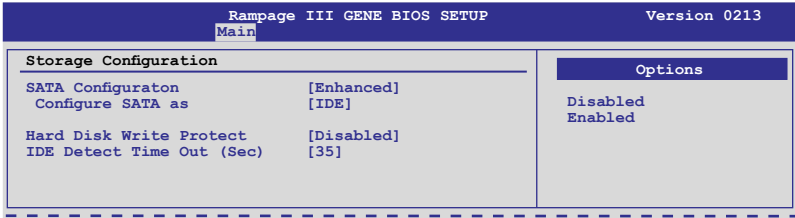
SATA Configuration [Enhanced]

Configuration options: [Disabled] [Compatible] [Enhanced]

> *Configure SATA as [IDE]*
> Sets the configuration for the Serial ATA connectors supported by the Southbridge chip. Configuration options: [IDE] [RAID] [AHCI]

> •   If you want to use the Serial ATA hard disk drives as Parallel ATA physical storage devices, keep the default setting [IDE].
>
> •   If you want the Serial ATA hard disk drives to use the Advanced Host Controller Interface (AHCI), set this item to [AHCI]. The AHCI allows the onboard storage driver to enable advanced Serial ATA features that increases storage performance on random workloads by allowing the drive to internally optimize the order of commands.
>
> •   If you want to create a RAID 0, RAID 1, RAID 5, RAID 10, or the Intel® Matrix Storage Technology configuration from the Serial ATA hard disk drives, set this item to [RAID].

Hard Disk Write Protect [Disabled]

Disables or enables device write protection. This will be effective only if the device is accessed through BIOS. Configuration option: [Disabled] [Enabled]

IDE Detect Time Out (Sec) [35]

Selects the time out value for detecting ATA/ATAPI devices. Configuration options: [0] [5] [10] [15] [20] [25] [30] [35]

3.4.6   AHCI Configuration

This menu is the section for AHCI configuration. It appears only when you set the item **Configure SATA as** from the sub-menu of **SATA Configuration** to [AHCI].

```
           Rampage III GENE BIOS SETUP              Version 0213
              Main

 AHCI Settings                                  Some SATA CD/DVD in
                                                AHCI mode need to
 AHCI CD/DVD Boot Time out        [35]          wait ready longer.

▶ SATA Port1 [Not Detected]
▶ SATA Port2 [Not Detected]
▶ SATA Port3 [Not Detected]
▶ SATA Port4 [Not Detected]
▶ SATA Port5 [Not Detected]
▶ SATA Port6 [Not Detected]
```
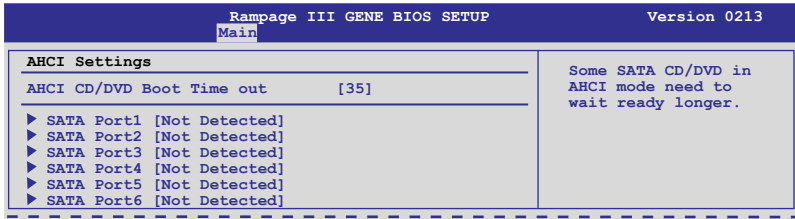
AHCI CD/DVD Boot Time out [35]

Allows you to select the boot waiting time for AHCI CD/DVD.
Configuration options: [0] [5] [10] [15] [20] [25] [30] [35]

SATA Port1–6 [XXXX]

Displays the status of auto-detection of SATA devices.

```
           Rampage III GENE BIOS SETUP              Version 0213
              Main

 SATA Port1                                     Select the type
                                                of devices connected
 Device      :Not Detected                      to the system.

 SATA Port1                    [Auto]
 SMART Monitoring              [Enabled]
```
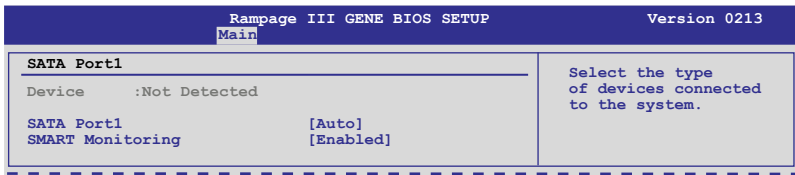
SATA Port1 [Auto]
Allows you to select the type of device connected to the system.
Configuration options: [Auto] [Not Installed]

SMART Monitoring [Enabled]
Allows you to set the Self-Monitoring, Analysis and Reporting Technology.
Configuration options: [Disabled] [Enabled]

3.4.7 System Information

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.

```
         Rampage III GENE BIOS SETUP                    Version 0213
   Main

 BIOS Information
 Version   : 0206
 Build Date: 05/13/10


 Processor
 Type      : Intel(R) Core(TM) i7 CPU 930 @ 3.20GHz
 Speed     : 3200MHz

 System Memory
 Usable Size  : 2040MB

                                         ←→   Select Screen
                                         ↑↓   Select Item
                                         +-   Change Field
                                         F1   General Help
                                         F10  Save and Exit
                                         ESC  Exit


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```
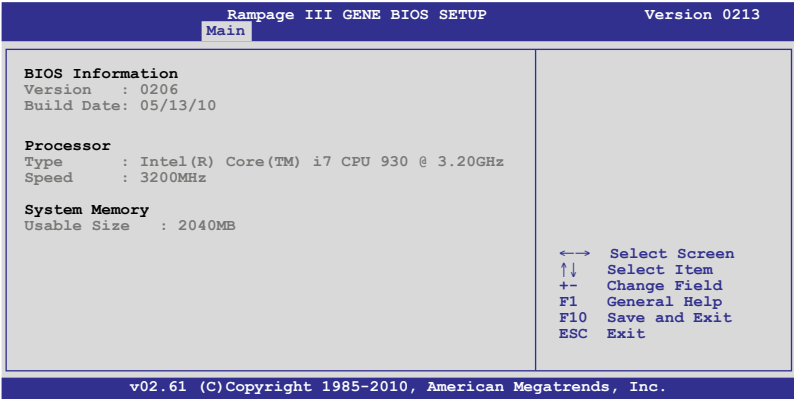
3.5 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

```
               Rampage III GENE BIOS SETUP              Version 0213
 Extreme Tweaker    Main    Advanced    Power    Boot    Tools    Exit

 ▶  CPU Configuration                          Configure CPU.
 ▶  Chipset
 ▶  Onboard Devices Configuration
 ▶  USB Configuration
 ▶  PCIPnP
 ▶  LED Control
 ▶  iROG Configuration
 ▶  ROG Connect



                                              ←→   Select Screen
                                              ↑↓   Select Item
                                              Enter Go to Sub Screen
                                              F1   General Help
                                              F10  Save and Exit
                                              ESC  Exit

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```

3.5.1 CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects.

✎ The items shown in this screen may be different due to the CPU you installed.

```
               Rampage III GENE BIOS SETUP              Version 0213
                        Advanced

 Configure advanced CPU settings             Sets the ratio between
                                             CPU Core Clock and the
 Manufacturer:Intel                          FSB Frequency.
 Brand String:Genuine Intel(R) CPU 000 @ 3.20GHz  NOTE: If an invalid
 Frequency   :3.20GHz                        ratio is set in CMOS
 BCLK Speed  :133MHz                         then actual and
 Cache L1    :256 KB                         setpoint values may
 Cache L2    :1024 KB                        differ.
 Cache L3    :8192 KB
 Ratio Status:(Min:12, Max:63)
 Ratio Actual Value:24                       NOTE: Please key in
 CPUID       :106A4                          ratio numbers directly

 CPU Ratio Setting          [Auto]           ←→   Select Screen
 C1E Support                [Enabled]        ↑↓   Select Item
 Hardware Prefetcher        [Enabled]        F1   General Help
 Adjacent Cache Line Prefetch [Enabled]      F10  Save and Exit
 Intel(R) Virtualization Tech [Enabled]      ESC  Exit
 CPU TM Function            [Enabled]
 Execute Disable Bit        [Enabled]

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```

Scroll down to display the following items:

```
 Intel(R) HT Technology     [Enabled]
 *Active Processor Cores    [All]
 A20M                       [Disabled]
 *Intel(R) SpeedStep(TM) Tech [Enabled]       ←→   Select Screen
 *Intel(R) Turbo Mode Tech  [Enabled]        ↑↓   Select Item
 Intel(R) C-STATE Tech      [Enabled]        +-   Change Option
                                              F1   General Help
                                              F10  Save and Exit
                                              ESC  Exit

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```

CPU Ratio Setting [Auto]

Allows you to adjust the ratio between CPU Core Clock and BCLK Frequency. Use the <+> and <-> keys to adjust the value. The valid value ranges differently according to your CPU model.

C1E Support [Disabled]

[Enabled]   Enables the C1E support function. This item should be enabled in order to enable the Enhanced Halt Sate.

[Disabled]   Disables this function.

Hardware Prefetcher [Enabled]

[Enabled]   Enables the Hardware Prefetcher function. This item should be enabled in order to enable the L2 cache (MLC) Streamer Prefetcher for tuning performance of the specific application.

[Disabled]   Disables this function.

Adjacent Cache Line Prefetcher [Enabled]

[Enabled]   Enables the Adjacent Cache Line Prefetcher function. This item should be enabled in order to enable the L2 cache (MLC) Spatial Prefetcher for tuning performance of the specific application.

[Disabled]   Disables this function.

Intel(R) Virtualization Tech [Enabled]

[Enabled]   Allows a hardware platform to run multiple operating systems separately and simultaneously, enabling one system to virtually function as several systems.

[Disabled]   Disables this function.

CPU TM Function [Enabled]

[Enabled]   Enables the overheated CPU to throttle its clock speed to cool down.

[Disabled]   Disables this function.

Execute Disable Bit [Enabled]

[Enabled]   Enables the No-Execution Page Protection Technology.

[Disabled]   Forces the XD feature flag to always return to zero (0).

Intel(R) HT Technology [Enabled]

[Enabled]   Enables the Intel Hyper-Threading Technology.

[Disabled]   Only one thread per activated CPU core is enabled.

Active Processor Cores [All]

[All]   Activate all CPU cores in the processor package.

[1]   Activate only 1 CPU core in the processor package.

[2]   Activate 2 CPU cores in the processor package.

A20M [Disabled]

[Enabled]   Legacy OSes and APs may need this function enabled.

[Disabled]   Disables this function.

Intel(R) SpeedStep (TM) Tech [Enabled]

[Enabled]   The CPU speed is controlled by the operating system.

[Disabled]   The CPU runs at its default speed.

Intel(R) Turbo Mode Tech [Enabled]

[Enabled]   Allows the processor cores to run faster than the marked frequency in specific condition.

[Disabled]   Disables this function.

Intel(R) C-STATE Tech [Disabled]

[Enabled]   Allows the CPU to save more power under idle mode. Enable this item only when you install a C-State Technology-supported CPU.

[Disabled]   Disables this function.

C State package limit setting [Auto]

This item appears only when you set the **Intel(R) C-STATE Tech** item to [Enabled]. We recommend that you set this item to [Auto] for BIOS to automatically detect the C-State mode supported by your CPU. Configuration options: [Auto] [C1] [C3] [C6]

3.5.2 Chipset

The Chipset menu allows you to change the advanced chipset settings. Select an item then press <Enter> to display the sub-menu.

```
                    Rampage III GENE BIOS SETUP              Version 0213
                           Advanced

  Advanced Chipset Settings

  WARNING: Setting wrong values in below sections
           may cause system to malfunction.

  ▶ Intel VT-d Configuration

```

Intel VT-d Configuration

```
                    Rampage III GENE BIOS SETUP              Version 0213
                           Advanced

  Intel VT-d Configuration                         Intel Virtualization
                                                   Technology for
  Intel VT-d              [Disabled]               Directed I/O.

```
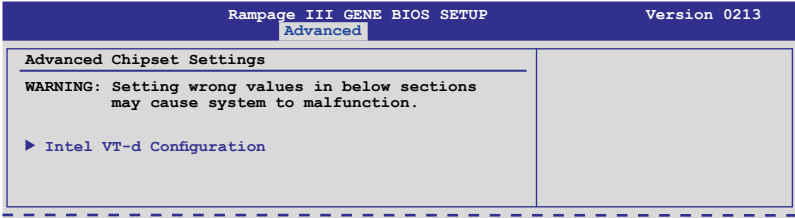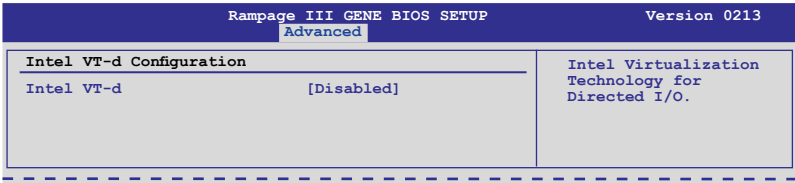
Intel VT-d [Disabled]
Enables or disables the Intel Virtualization technology for directed I/O.

3.5.3 Onboard Devices Configuration

```
                  Rampage III GENE BIOS SETUP              Version 0213
                          Advanced

  Onboard Device Configuration                        Get your best
                                                      overclocking record!
  Onboard Device              [Standard]              "Onboard Device" is
                                                      to disable all the
  High Definition Audio       [Enabled]               unnecessary devices
    Front Panel Type          [HD Audio]              when you want to reach
    SPDIF OUT Mode Setting    [SPDIF]                 your best overclocking
  GbE Controller              [Enabled]               record. But it will
    GbE LAN Boot              [Disabled]              keep 1 lan port alive
    GbE Wake Up From S5       [Disabled]              to submit your score.
  Onboard 1394 Controller     [Enabled]
  Marvell SATA6G Controller   [IDE Mode]
  Onboard USB 3.0 Controller  [Enabled]
```

Onboard Device [Standard]

Allows you to disable all the unnecessary onboard devices when you want to test and get the best overclocking record. One LAN port will remain function for you to submit your record online. Configuration options: [Standard] [Disabled]

High Definition Audio [Enabled]

[Enabled]   Enables the High Definition Audio Controller.

[Disabled]   Disables the controller.

Front Panel Type [HD Audio]

[AC97]   Set the front panel audio connector (AAFP) mode to legacy AC'97

[HD Audio]Set the front panel audio connector (AAFP) mode to high-definition audio.

SPDIF OUT Mode Setting [SPDIF]

[SPDIF]   Set the SPDIF OUT mode to SPDIF.

[HDMI]   Set the SPDIF OUT mode to HDMI.

GbE Controller [IDE Mode]

[Disabled]   Disables the GbE controller.

[Enabled]   Enables the GbE controller.

GbE LAN Boot [Disabled]

This item appears only when you enable the previous item(s).

[Enabled] Enables GbE LAN Boot ROM.

[Disabled] Disables GbE LAN Boot ROM.

GbE Wake Up From S5 [Disabled]

This item appears only when you enable the previous item(s).

[Enabled] Enables GbE Wake Up from S5.

[Disabled] Disables GbE Wake Up from S5.

Onboard 1394 Controller [Enabled]

[Enabled]   Enables the onboard 1394 Controller.

[Disabled]   Disables the controller.

Marvell SATA6G Controller [IDE Mode]

[Disabled]   Disables the Marvell SATA6G controller.

[IDE Mode]   Set to [IDE Mode] when you want to use the Serial ATA hard disk
                drives as Parallel ATA physical storage devices.

[AHCI Mode]   Set to [AHCI] when you want the SATA hard disk drives to use the
                AHCI (Advabced Host Controller Interface). The AHCI allows the
                onboard storage driver to enable advanced Serial ATA features that
                increases storage performance on random workloads by allowing
                the drive to internally optimize the order of commands.

Onboard USB 3.0 Controller [Enabled]

[Enabled]   Enables the onboard USB 3.0 Controller.

[Disabled]   Disables the controller.

3.5.4   USB Configuration

The items in this menu allows you to change the USB-related features. Select an item then press <Enter> to display the configuration options.

```
                    Rampage III GENE BIOS SETUP              Version 0213
                              Advanced

  USB Configuration
                                                     ┌──────────────────────┐
                                                     │       Options        │
  USB Devices Enabled:                               │                      │
   2 Hubs                                            │ Disabled             │
                                                     │ Enabled              │
  USB Functions            [Enabled]
  USB 2.0 Controller       [Enabled]
  USB 2.0 Controller Mode  [HiSpeed]
  BIOS EHCI Hand-off       [Enabled]
  Legacy USB Support       [Auto]
```
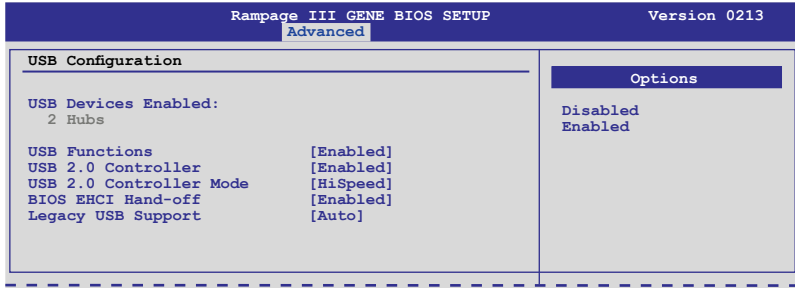
The **USB Devices Enabled** item shows the auto-detected values. If no USB device is detected, the item shows None.

USB Functions [Enabled]

[Enabled]   Enables the USB Host Controllers.

[Disabled]   Disables the controllers.

The following items appear only when you set **USB Functions** to [Enabled].

USB 2.0 Controller [Enabled]

[Enabled]   Enables the USB 2.0 Controllers.

[Disabled]   Disables the controllers.

USB 2.0 Controller Mode [HiSpeed]

[FullSpeed]   Sets the USB 2.0 Controller in full speed (12Mbps).

[HiSpeed]   Sets the USB 2.0 Controller in high speed (480Mbps).

BIOS EHCI Hand-off [Enabled]

[Enabled]   Enables the support for operating systems without an EHCI hand-off feature.

[Disabled]   Disables the function.

Legacy USB Support [Auto]

[Auto]   Allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

[Enabled]   Enables the support for USB devices on legacy operating systems (OS).

[Disabled]   Disables the function.

3.5.5   PCIPnP

The PCIPnP menu items allow you to change the advanced settings for PCI/PnP devices.

```
              Rampage III GENE BIOS SETUP            Version 0213
                        Advanced

 Advanced PCI/PnP Settings                            NO: lets the BIOS
                                                      configure all the
 WARNING: Setting wrong values in below sections      devices in the
          may cause system to malfunction.            system.

 Plug And Play O/S          [No]
```
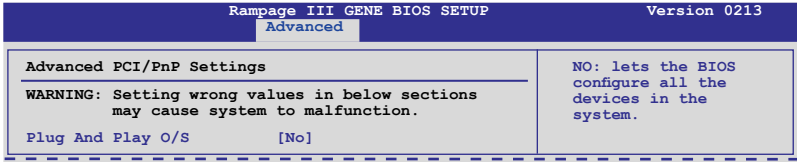
Plug And Play O/S [No]

[Yes]   When set to [Yes] and if you install a Plug and Play operating system, the operating system configures the Plug and Play devices not required for boot.

[No]   When set to [No], BIOS configures all the devices in the system.

3.5.6 LED Control

The LED Control menu items allow you to change the advanced settings for the onboard LEDs.

⚠️ Take caution when changing the settings of the LED Control menu items. Incorrect field values can cause the system to malfunction.

```
                    Rampage III GENE BIOS SETUP              Version 0213
                           Advanced

 LED Control                                        ▲    All LED Control

 All LED Control            [Enabled]
 Voltiminder LED            [Enabled]
 CPU LED Selection          [CPU]
 IOH LED Selection          [IOH]
 ICH LED Selection          [ICH]




                                                        ←→   Select Screen
                                                        ↑↓   Select Item
                                                        F1   General Help
                                                        F10  Save and Exit
                                                        ESC  Exit

                                                   ▼
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```
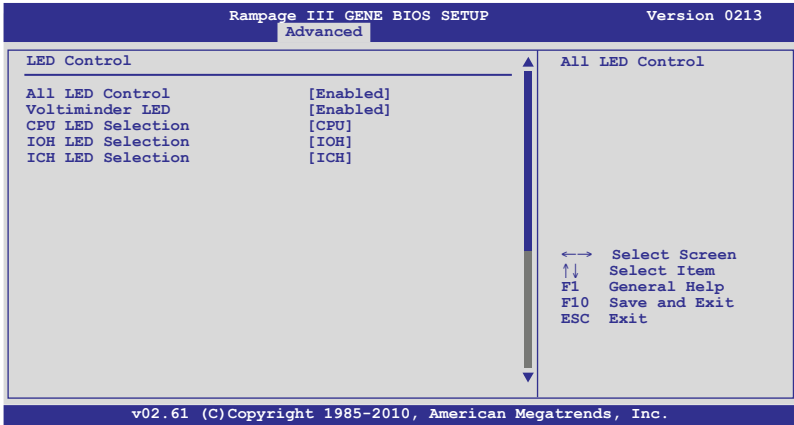
All LED Control [Enabled]

Allows you to enable or disable the onboard LEDs control.
Configuration options: [Enabled] [Disabled]

📝 The following items appear only when you set **All LED Control** to [Enabled].

Voltiminder LED [Enabled]

Allows you to enable or disable the onboard Voltiminder LED.
Configuration options: [Enabled] [Disabled]

CPU LED Selection [CPU]

Allows you to switch the onboard CPU LED display between CPU voltage [CPU], CPU PLL voltage [CPU PLL] and QPI/DRAM core voltage [QPI/DRAM Core]. Configuration options: [CPU] [CPU PLL] [QPI/DRAM Core]

IOH LED Selection [IOH]

Allows you to switch the onboard IOH LED display between IOH voltage [IOH], and IOH PCIE voltage [IOH PCIE]. Configuration options: [IOH] [IOH PCIE]

ICH LED Selection [ICH]

Allows you to switch the onboard ICH LED display between ICH voltage [ICH], and ICH PCIE voltage [ICH PCIE]. Configuration options: [ICH] [ICH PCIE]

3.5.7 iROG Configuration

```
                    Rampage III GENE BIOS SETUP              Version 0213
                          Advanced

   iROG Configuration                              iROG Timer Keeper
                                                   System will record
   iROG ID_Number Information                      using time every 1
   iROG_1 ID_Number: 13                            minute
   iROG_2 ID_Number: 2

   iROG Timer Keeper              [Last State]
   Current Operation time:

   Total Operation time:

                                                   ←→   Select Screen
                                                   ↑↓   Select Item
                                                   F1   General Help
                                                   F10  Save and Exit
                                                   ESC  Exit



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```

iROG Timer Keeper [Last State]

Allows you to set the iROG Time Keeper operation mode.
Configuration options: [Last State] [Disabled] [Enabled]

3.5.8 ROG Connect

```
          Rampage III GENE BIOS SETUP              Version 0213
                      Advanced

ROG Connect                  [Enabled]                   Options
RC Poster Mode               [String]
                                                   Enabled
                                                   Disabled




                                                 ←→   Select Screen
                                                 ↑↓   Select Item
                                                 F1   General Help
                                                 F10  Save and Exit
                                                 ESC  Exit


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```
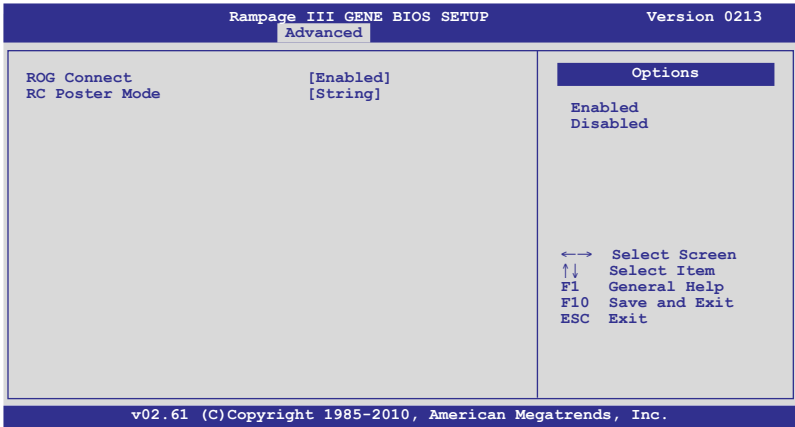
ROG Connect [Enabled]

Allows you to enable or disable the ROG Connect function.
Configuration options: [Enabled] [Disabled]

RC Poster Mode [String]

RC Poster describes what occurs during the POST.
Configuration options: [String] [Code]

3.6 Power menu

The Power menu items allow you to change the settings for the Advanced Power Management (APM). Select an item then press <Enter> to display the configuration options.

```
                    Rampage III GENE BIOS SETUP              Version 0213
  Extreme Tweaker    Main    Advanced    Power    Boot    Tools    Exit

  Suspend Mode                 [Auto]               Select the ACPI state
  Repost Video on S3 Resume    [No]                 used for System
  ACPI 2.0 Support             [Disabled]           Suspend.
  ACPI APIC Support            [Enabled]
  EuP Ready                    [Disabled]

  ▶  APM Configuration
  ▶  Hardware Monitor




                                                  ←→   Select Screen
                                                  ↑↓   Select Item
                                                  +-   Change Option
                                                  F1   General Help
                                                  F10  Save and Exit
                                                  ESC  Exit

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```

3.6.1 Suspend Mode [Auto]

Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend.

[S1 (POS) only]   Sets the APCI suspend mode to S1/POS (Power On Suspend).

[S3 only]   Sets the APCI suspend mode to S3/STR (Suspend To RAM).

[Auto]   The system automatically configures the ACPI suspend mode.

3.6.2 Repost Video on S3 Resume [No]

Determines whether to invoke VGA BIOS POST on S3/STR resume.

[No]   When set to [No], the system will not invoke VGA BIOS POST on S3/STR resume.

[Yes]   When set to [Yes], the system invokes VGA BIOS POST on S3/STR resume.

3.6.3 ACPI 2.0 Support [Disabled]

[Disabled]   When set to [Disabled], the system will not add additional tables as per ACPI 2.0 specifications.

[Enabled]   When set to [Enabled], the system adds additional tables as per ACPI 2.0 specifications.

3.6.4 ACPI APIC Support [Enabled]

Allows you to enable or disable the Advanced Configuration and Power Interface (ACPI) support in the Advanced Programmable Interrupt Controller (APIC).

[Disabled]   When set to [Disabled], the system disable the Advanced Configuration and Power Interface (ACPI) support in the Advanced Programmable Interrupt Controller (APIC).

[Enabled]   When set to [Enabled], the ACPI APIC table pointer is included in the RSDT pointer list.

3.6.5 EuP Ready [Disabled]

[Disabled]   Disables the Energy Using Products (EuP) Ready function.

[Enabled]   Allows BIOS to switch off some power at S5 state to get system ready for the EuP requirement. When set to [Enabled], power for WOL, WO_USB, audio and onboard LEDs will be switched off at S5 state.

3.6.6 APM Configuration

```
                    Rampage III GENE BIOS SETUP              Version 0206
                            Advanced

  APM Configuration
                                                          ┌──────────────────┐
  Restore on AC Power Loss      [Power Off]               │      Options      │
                                                          │                   │
  Power On By RTC Alarm         [Disabled]                │  Power Off        │
  Power On By PCI Devices       [Disabled]                │  Power On         │
  Power On By PCIE Devices      [Disabled]                │  Last State       │
  Power On By PS/2 Keyboard     [Disabled]                │                   │
                                                          │                   │
                                                          │                   │
                                                          │  ←→  Select Screen│
                                                          │  ↑↓  Select Item  │
                                                          │  +-  Change Options│
                                                          │  F1  General Help │
                                                          │  F10 Save and Exit│
                                                          │  ESC Exit         │
                                                          └──────────────────┘
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```

Restore On AC Power Loss [Power Off]

[Power Off]   The system goes into off state after an AC power loss.

[Power On]   The system goes into on state after an AC power loss.

[Last State]   The system goes into either off or on state, whatever the system state was before the AC power loss.

Power On By RTC Alarm [Disabled]

Allows you to enable or disable RTC to generate a wake event. When this item is set to [Enabled], the items **RTC Alarm Date**/ **RTC Alarm Hour**/ **RTC Alarm Minute**/ **RTC Alarm Second** will become user-configurable with set values. Configuration options: [Disabled] [Enabled]

[Disabled]   Disables RTC to generate a wake event.

[Enabled]   When set to [Enabled], the items **RTC Alarm Date/ RTC Alarm Hour/ RTC Alarm/ RTC Alarm Second** will become user-configurable with set values.

Power On By PCI Devices [Disabled]

[Disabled]   Disables the PME to wake up from S5 by PCI devices.

[Enabled]   Allows you to turn on the system through a PCI LAN or modem card. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead.

Power On By PCIE Devices [Disabled]

Allows you to enable or disable the PCIE devices to generate a wake event.

[Disabled]   Disables the PCIE devices to generate a wake event.

[Enabled]   Enables the PCIE devices to generate a wake event.

Power On By PS/2 Keyboard [Disabled]

Allows you to disable or enable the Power On by PS/2 keyboard function.

[Disabled]   Disables the Power On by PS/2 keyboard function.

[Enabled]   Sets specific keys on the PS/2 keyboard to turn on the system. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead.

3.6.7   Hardware Monitor

```
Hardware Monitor                                  ▲    Voltage Monitor
►   Voltage Monitor
►   Temperature Monitor
►   Fan Speed Monitor
►   Fan Speed Control




                                                      ←→   Select Screen
                                                      ↑↓   Select Item
                                                      F1   General Help
                                                      F10  Save and Exit
                                                      ESC  Exit

                                                  ▼
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```
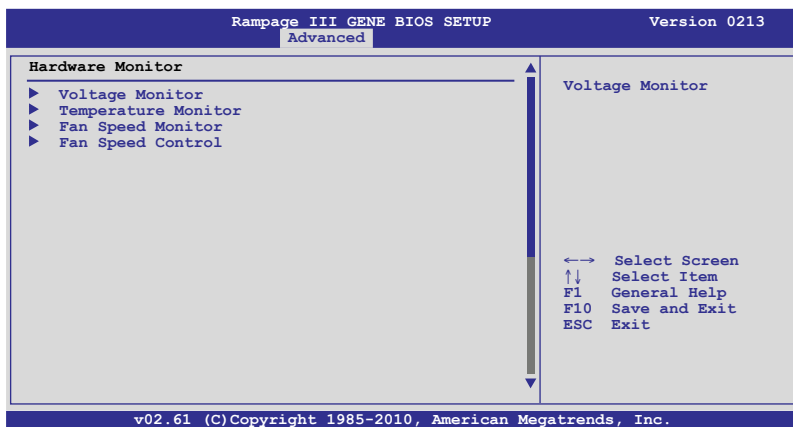
Voltage Monitor

CPU Voltage; CPU PLL Voltage; QPI/DRAM Core Voltage; IOH Voltage;
IOH PCIE Voltage; ICH Voltage; DRAM Bus Voltage;
3.3V Voltage; 5V Voltage; 12V Voltage
The onboard hardware monitor automatically detects the voltage output
through the onboard voltage regulators.

Temperature Monitor

CPU Temperature; MB Temperature; IOH Temperature; ICH Temperature;
OPT TEMP1 Temperature [xxxºC/xxxºF]
The onboard hardware monitor automatically detects and displays the CPU,
IOH/ICH, motherboard, power, and the assigned devices temperatures.
Select [Ignored] if you do not wish to display the detected temperatures.

IOH/ICH overheat protection [100ºC]
The system automatically shuts down when the IOH/ICH is heated over the
set temperature to protect it from damage.
Configuration options: [Disabled] [70ºC] [80ºC] [90ºC] **[100ºC]**

OPT TEMP1 overheat protection [100ºC]
Allows you to set the temperature over which the system automatically shuts
down when any of the thermal sensor cables connected to the motherboard
detects device overheat to protect the device from damage.
Configuration options: [Disabled] [70ºC] [80ºC] [90ºC] **[100ºC]**

Fan Speed Monitor

CPU FAN; Chassis FAN1/2; POWER Fan Speed
OPT FAN1 Speed [xxxxRPM] or [Ignored] / [N/A]
The onboard hardware monitor automatically detects and displays the CPU fan, chassis fan, power fan, and optional fan speed in rotations per minute (RPM). If any of the fans is not connected to the motherboard, the field shows [N/A]. These items are not user-configurable.

Fan Speed Control

```
          Rampage III GENE BIOS SETUP              Version 0213
                          Power

   Fan Speed Control
                                                Disable/Enable
   CPU Q-Fan Control         [Disabled]         Q-Fan functions of
   Chassis Q-Fan Control     [Disabled]         CPU fan

   OPTFan1 Control           [Disabled]
```

CPU Q-Fan Control [Disabled]
Allows you to enable or disable the CPU fan controller.

[Disabled]   Disables the CPU Q-fan controller.

[Enabled]   Enables the CPU Q-fan controller.

The **CPU Fan Profile** item appears when you enable the CPU Fan Control feature.

CPU Fan Profile [Standard]
This item appears only when you enable the **CPU Q-Fan Control** feature and allows you to set the appropriate performance level of the CPU fan.

[Standard]   Sets to [Standard] to make the CPU fan automatically adjust depending on the CPU temperature.

[Silent]   Sets to [Silent] to minimize the fan speed for quiet CPU fan operation.

[Turbo]   Set to [Turbo] to achieve maximum CPU fan speed.

Chassis Q-Fan Control [Disabled]
Allows you to enable or disable the Chassis fan controller.

[Disabled]   Disables the Chassis Q-fan controller.

[Enabled]   Enables the Chassis Q-fan controller.

The **Chassis Fan Profile** item appears when you enable the **Chassis Q-Fan Function** feature.

Chassis Fan Profile [Standard]
This item appears only when you enable the **Chassis Q-Fan Control** feature and allows you to set the appropriate performance level of the chassis fan.

[Standard]   Sets to [Standard] to make the chassis fan automatically adjust depending on the chassis temperature.

[Silent]   Sets to [Silent] to minimize the fan speed for quiet chassis fan operation.

[Turbo]   Set to [Turbo] to achieve maximum chassis fan speed.

OPTFan1 Control [Disabled]
Allows you to select the optional fan control mode. When this item is set to [Duty Mode], you can configure the **OPTFan1 Duty** item. If you set this item to [User Mode], you are allowed to configure the **OPTFan1 Low Speed Temp** and **OPTFan1 Full Speed Temp** item.
Configuration options: [Disabled] [Duty Mode] [User Mode]

You need to connect the thermal sensor cables to the OPT_TEMP1 connectors to enable this function.

OPTFan1 Duty [50%]
Allows you to set the fan duty cycle. This item appears when the **OPTFan1 Control** item is set to [Duty Mode].
Configuration options: [40%] [50%] [60%] [70%] [80%] [90%]

OPTFan1 Low Speed Temp [25˚C]
Allows you to set the temperature at which the power fan rotates at low speed. This item appears when the **OPTFan1 Control** item is set to [User Mode].
Configuration options: [25˚C] [30˚C] [35˚C] [40˚C]

OPTFan1 Full Speed Temp [60˚C]
Allows you to set the temperature at which the power fan rotates at full speed. This item appears when the **OPTFan1 Control** item is set to [User Mode].
Configuration options: [60˚C] [70˚C] [80˚C] [90˚C]

3.7 Boot menu

The Boot menu items allow you to change the system boot options. Select an item then press <Enter> to display the sub-menu.

```
                    Rampage III GENE BIOS SETUP              Version 0213
  Extreme Tweaker     Main     Advanced     Power    Boot    Tools    Exit

  Boot Settings                                    Specifies the Boot
                                                   Device Priority
  ▶ Boot Device Priority                           sequence.

  ▶ Boot Settings Configuration                    A virtual floppy disk
  ▶ Security                                       drive (Floppy Drive B:
                                                   ) may appear when you
                                                   set the CD-ROM drive
                                                   as the first boot
                                                   device.


                                                   ←→    Select Screen
                                                   ↑↓    Select Item
                                                   Enter Go to Sub Screen
                                                   F1    General Help
                                                   F10   Save and Exit
                                                   ESC   Exit

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```

3.7.1 Boot Device Priority

```
                    Rampage III GENE BIOS SETUP              Version 0213
                                          Boot

  Boot Device Priority                             Specifies the boot
                                                   sequence from the
  1st Boot Device          [Hard Drive]            availabe devices.
  2nd Boot Device          [Removable Dev.]
  3rd Boot Device          [ATAPI CD-ROM]          A device enclosed in
                                                   parenthesis has been
                                                   disabled in the
                                                   corresponding type
                                                   menu.



                                                   ←→    Select Screen
                                                   ↑↓    Select Item
                                                   Enter Go to Sub Screen
                                                   F1    General Help
                                                   F10   Save and Exit
                                                   ESC   Exit

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```

1st–xxth Boot Device [xxx Drive]

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Configuration options: [xxx Drive] [Disabled]

3.7.2 Boot Settings Configuration

```
                    Rampage III GENE BIOS SETUP              Version 0213
                                            Boot

   Boot Settings Configuration                          Allows BIOS to skip
                                                        certain tests while
   Quick Boot              [Enabled]                    booting. This will
   Full Screen Logo        [Enabled]                    decrease the time
   AddOn ROM Display Mode   [Force BIOS]                needed to boot the
   Bootup Num-Lock         [On]                         system.
   Wait for 'F1' if Error  [Enabled]
   Hit 'DEL' Message Display [Enabled]
```

Quick Boot [Enabled]

Allows you to enable or disable the **Quick Boot** function.

[Disabled]   When set to [Disabled], BIOS performs all the POST items.

[Enabled]   When set to [Enabled], BIOS skips some power on self tests
                (POST) while booting to decrease the time needed to boot the
                system.

Full Screen Logo [Enabled]

This allows you to enable or disable the full screen logo display feature.

[Enabled]   Enables the full screen logo display feature.

[Disabled]   Disables the full screen logo display feature.

Set this item to [Enabled] to use the ASUS MyLogo3™ feature.

AddOn ROM Display Mode [Force BIOS]

Sets the display mode for option ROM.

[Force BIOS]

[Keep Current] .

Bootup Num-Lock [On]

Allows you to select the power-on state for the NumLock.

[On]   Sets the power-on state of the NumLock to [On].

[Off]   Sets the power-on state of the NumLock to [Off].

Wait for 'F1' If Error [Enabled]

When set to [Enabled], the system waits for the <F1> key to be pressed when error
occurs.

Hit 'DEL' Message Display [Enabled]

When set to [Enabled], the system displays the message "Press DEL to run Setup"
during POST.

3.7.3   Security

The Security menu items allow you to change the system security settings. Select an item then press <Enter> to display the configuration options.

```
         Rampage III GENE BIOS SETUP                    Version 0213
                                        Boot

  Security Settings                              <Enter> to change
                                                 password.
  Supervisor Password        :Not Installed      <Enter> again to
  User Password              :Not Installed      disabled password

  Change Supervisor Password
  Change User Password




                                                 ←→    Select Screen
                                                 ↑↓    Select Item
                                                 Enter Go to Sub Screen
                                                 F1    General Help
                                                 F10   Save and Exit
                                                 ESC   Exit

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```
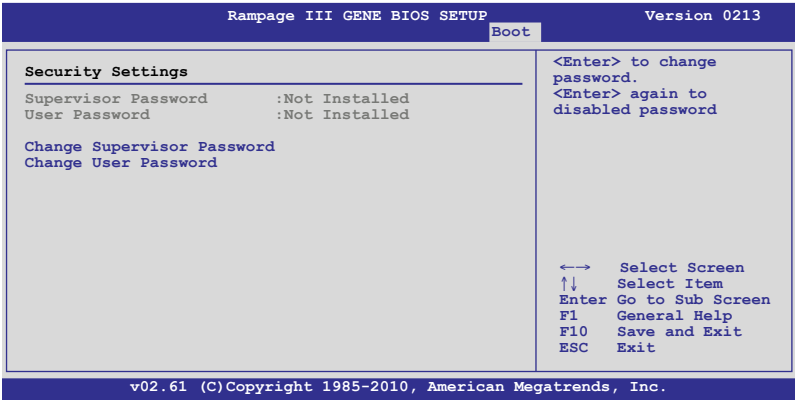
Change Supervisor Password

Select this item to set or change the supervisor password. The Supervisor Password item on top of the screen shows the default **Not Installed**. After you set a password, this item shows Installed.

To set a Supervisor Password:

1.   Select the **Change Supervisor Password** item and press <Enter>.

2.   From the password box, type a password composed of at least six letters and/or numbers, then press <Enter>.

3.   Confirm the password when prompted.
The message **Password Installed** appears after you successfully set your password.

To change the supervisor password, follow the same steps as in setting a user password.

To clear the supervisor password, select the **Change Supervisor Password** then press <Enter>. The message **Password Uninstalled** appears.

> If you forget your BIOS password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM. See section **2.6 Jumper** for information on how to erase the RTC RAM.

After you have set a supervisor password, the other items appear to allow you to change other security settings.

```
                        Rampage III GENE BIOS SETUP                Version 0213
                                               Boot

   Security Settings
                                                       <Enter> to change
   Supervisor Password        :Installed               password.
   User Password              :Installed               <Enter> again to
                                                       disabled password.
   Change Supervisor Password
   User Access Level              [Full Access]
   Change User Password
   Password Check                 [Setup]
```
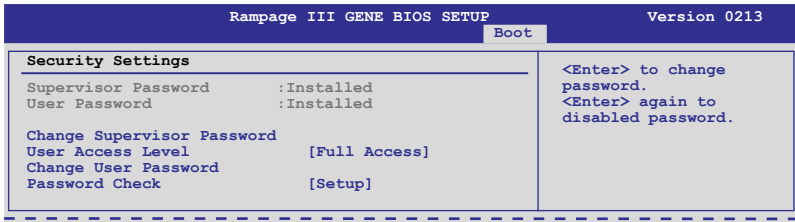
User Access Level [Full Access]

This item allows you to select the access restriction to the Setup items. Configuration options: [No Access] [View Only] [Limited] [Full Access]

[No Access] prevents user access to the Setup utility.

[View Only] allows access but does not allow change to any field.

[Limited] allows changes only to selected fields, such as Date and Time.

[Full Access] allows viewing and changing all the fields in the Setup utility.

Change User Password

Select this item to set or change the user password. The User Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a User Password:

1.   Select the Change User Password item and press <Enter>.

2.   On the password box that appears, type a password composed of at least six letters and/or numbers, then press <Enter>.

3.   Confirm the password when prompted.
The message "Password Installed" appears after you set your password successfully.

To change the user password, follow the same steps as in setting a user password.

Password Check [Setup]

When set to [Setup], BIOS checks for user password when accessing the Setup utility. When set to [Always], BIOS checks for user password both when accessing Setup and booting the system. Configuration options: [Setup] [Always]

3.8 Tools menu

The Tools menu items allow you to configure options for special functions. Select an item then press <Enter> to display the sub-menu.

```
                        Rampage III GENE BIOS SETUP              Version 0213
  Extreme Tweaker      Main    Advanced    Power    Boot   Tools    Exit

  ASUS EZ Flash 2

  ▶ ASUS O.C. Profile
  ▶ GO_Button File
  ▶ Drive Xpert Configuration


                                                    ←→   Select Screen
                                                    ↑↓   Select Item
                                                    Enter Go to Sub Screen
                                                    F1    General Help
                                                    F10   Save and Exit
                                                    ESC   Exit

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```
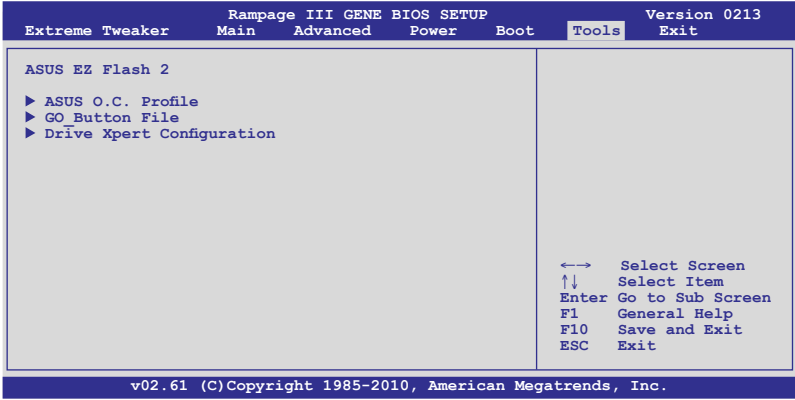
3.8.1 ASUS EZ Flash 2

Allows you to run ASUS EZ Flash 2. When you press <Enter>, a confirmation message appears. Use the left/right arrow key to select between [Yes] or [No], then press <Enter> to confirm your choice.

For more details, refer to **section 3.1.2 ASUS EZ Flash 2 utility**.

```
            ASUSTek EZ Flash 2 BIOS ROM Utility V4.13b

          ┌── Current ROM ──┐          ┌── Update ROM ──┐
          BOARD: Rampage III GENE      BOARD: Unknown
          VER: 0213 (H:00 B:14)        VER: Unknown
          DATE: 06/08/2010             DATE: Unknown

    PATH: A:\

    ┌──────┐   ┌──────────────────────────────────┐
    A:     │   │                                  │
       A:  │   │                                  │
           │   │                                  │
           │   │                                  │
           │   │                                  │
           │   │                                  │
           │   │                                  │
           │   │                                  │
    ┌─ Note ┐
    [Enter] Select or Load    [Tab] Switch     [V] Drive Info
    [Up/Down/Home/End] Move    [B] Backup       [Esc] Exit
```
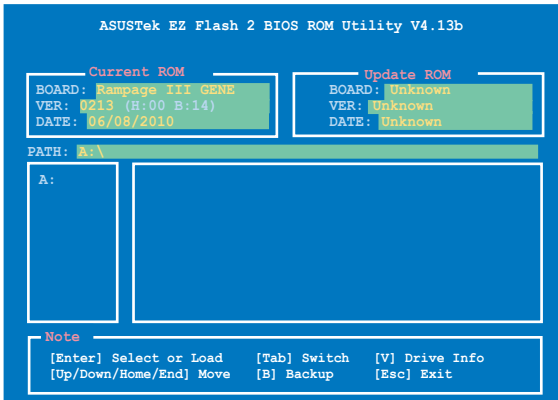
3.8.2   ASUS O.C. Profile

This item allows you to store or load multiple BIOS settings.

```
          Rampage III GENE BIOS SETUP                    Version 0213
                                              Tools
   O.C. PROFILE Configuration                        Typing your profile
                                                     name, [0-9][a-z][A-Z]
   O.C. Profile 1 Status  : Not Installed            are acceptable.
   O.C. Profile 2 Status  : Not Installed
   O.C. Profile 3 Status  : Not Installed
   O.C. Profile 4 Status  : Not Installed
   O.C. Profile 5 Status  : Not Installed
   O.C. Profile 6 Status  : Not Installed
   O.C. Profile 7 Status  : Not Installed
   O.C. Profile 8 Status  : Not Installed

   Add Your CMOS Profile.
     Name:              [Default-Profile]
     Save To:           [Uninstalled]          ←→   Select Screen
   Load CMOS Profiles.                         ↑↓   Select Item
     Load From:         [Blank]                F1   General Help
                                               F10  Save and Exit
   Start O.C. Profile                          ESC  Exit

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```

Add Your CMOS Profile

Allows you to save the current BIOS file to the BIOS Flash. In the Name sub-item, type your profile name and press <Enter>, and then choose a profile number to save your CMOS settings in the Save to sub-item.

Load CMOS Profiles

Allows you to load the previous BIOS settings saved in the BIOS Flash. Press <Enter>, and choose a profile to load.

Start O.C. Profile

Allows you to run the utility to save and load CMOS. Press <Enter> to run the utility.

```
                ASUSTek O.C. Profile Utility V2.18b


        ── Current CMOS ──              ── Restore CMOS ──
  BOARD: Rampage III GENE          BOARD: Unknown
  VER:  0213                       VER:  Unknown
  DATE: 06/08/2010                 DATE: Unknown

  PATH: A:\

   A:




        ── Note ──
   [Enter] Select or Load    [Tab] Switch     [V] Drive Info
   [Up/Down/Home/End] Move    [B] Backup       [Esc] Exit
```
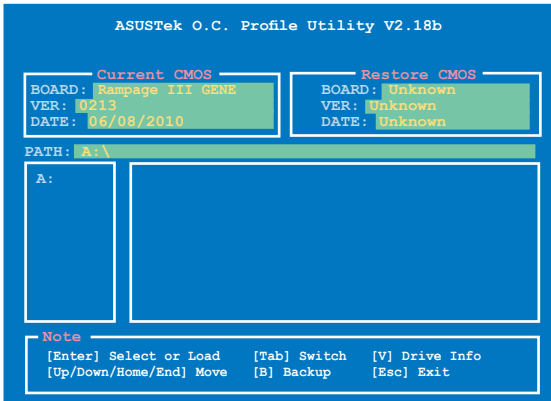
• This function supports devices such as a USB flash disk (FAT 32/16 format) or a floppy disk with single partition only.

• DO NOT shut down or reset the system while updating the BIOS to prevent the system boot failure!

• We recommend that you update the BIOS file only coming from the same memory/CPU configuration and BIOS version.

• Only the CMO file can be loaded.

3.8.3 GO_Button File

This menu allows you to set the GO_Button files, and load the desired GO_Button file.

```
             Rampage III GENE BIOS SETUP              Version 0213
                                         Tools

   GO_Button File                              Save GO_Button File

   Current Settings
     BCLK Speed   :133MHz
     PCIE Speed   :100MHz
     CPU Voltage  :1.230V
     CPU PLL Voltage  :1.812V
     QPI/DRAM Voltage  :1.151V
     IOH Voltage  :1.111V
     IOH PCIE Voltage  :1.508V
     ICH Voltage  :1.111V
     DRAM Voltage  :1.601V
   Frequency Controller            [Disabled]
     CPU Voltage                   [Auto]        ←—→   Select Screen
     CPU PLL Voltage               [Auto]        ↑↓    Select Item
     QPI/DRAM Core Voltage         [Auto]        +-    Change Option
     IOH Voltage                   [Auto]        F1    General Help
     IOH PCIE Voltage              [Auto]        F10   Save and Exit
     ICH Voltage                   [Auto]        ESC   Exit

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```
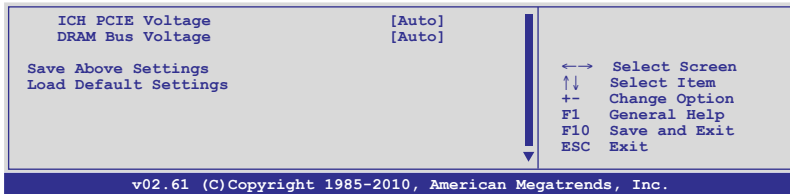
Scroll down to display the following items:

```
     ICH PCIE Voltage              [Auto]
     DRAM Bus Voltage              [Auto]

   Save Above Settings                          ←—→   Select Screen
   Load Default Settings                        ↑↓    Select Item
                                                +-    Change Option
                                                F1    General Help
                                                F10   Save and Exit
                                                ESC   Exit

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```

Frequency Controller; CPU Voltage; CPU PLL Voltage;
QPI/DRAM Core Voltage; IOH Voltage; IOH PCIE Voltage;
ICH Voltage; ICH PCIE Voltage; DRAM Bus Voltage

Allows you to use the <+> and <-> keys to adjust the values for each item. Refer to **3.3 Extreme Tweaker** Menu for details.
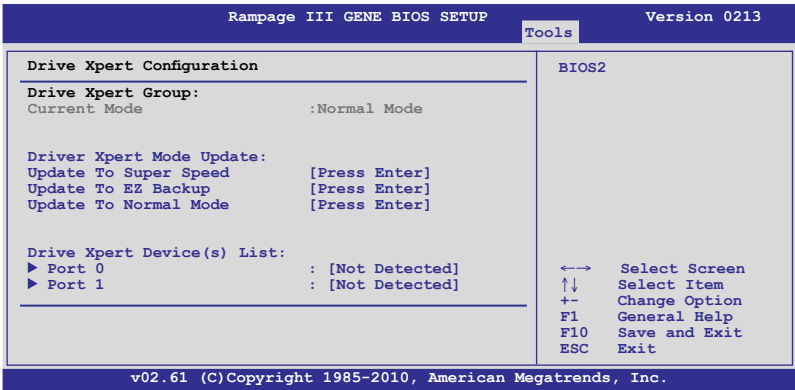
Save Above Settings

Allows you to save the adjusted values for specific items as a GO_Button file.

Load Above Settings

Allows you to load the desired GO_Button file.

3.8.4   BIOS FlashBack

```
           Rampage III GENE BIOS SETUP              Version 0213
                                        Tools
 Drive Xpert Configuration                          BIOS2

 Drive Xpert Group:
 Current Mode                  :Normal Mode


 Driver Xpert Mode Update:
 Update To Super Speed         [Press Enter]
 Update To EZ Backup           [Press Enter]
 Update To Normal Mode         [Press Enter]


 Drive Xpert Device(s) List:
 ▶ Port 0                      : [Not Detected]    ←→   Select Screen
 ▶ Port 1                      : [Not Detected]    ↑↓   Select Item
                                                   +-   Change Option
                                                   F1   General Help
                                                   F10  Save and Exit
                                                   ESC  Exit

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```

Update To Super Speed [Press Enter]

This item allows you to use **Super Speed** function. Plug two identical SATA hard drives in the SATA_E1 (orange, port 0) and SATA_E2 (white, port 1) connectors on the motherboard and press the <Enter> key.

Update To EZ Backup [Press Enter]

This item allows you to use **EZ Backup** function. Plug two identical SATA hard drives in the SATA_E1 (orange, port 0) and SATA_E2 (white, port 1) connectors on the motherboard and press the <Enter> key.
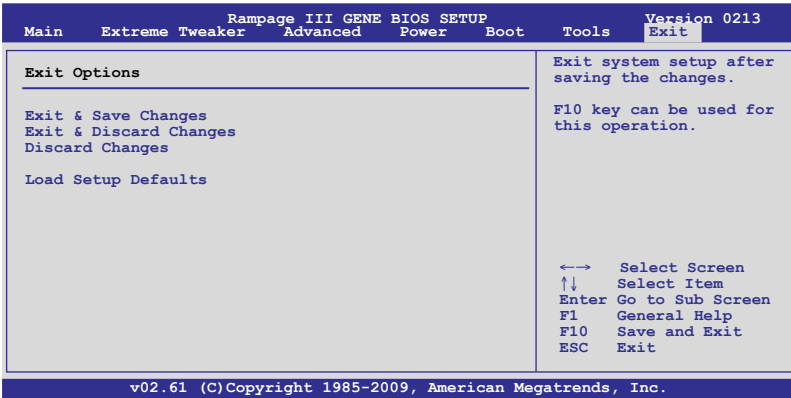
Update To Normal Mode [Press Enter]

This item allows you to use the SATA_E1 (orange, port 0) and SATA_E2 (white, port 1) connectors as normal SATA connectors.

Port 0/1 [XXXXX]

While entering BIOS setup, BIOS automatically detects the connected IDE/SATA devices. These items display the status of the detected IDE/SATA devices.

3.9   Exit menu

The Exit menu items allow you to load the optimal or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items.

```
                        Rampage III GENE BIOS SETUP              Version 0213
  Main    Extreme Tweaker    Advanced    Power    Boot    Tools    Exit

    Exit Options                                    Exit system setup after
                                                    saving the changes.

    Exit & Save Changes                             F10 key can be used for
    Exit & Discard Changes                          this operation.
    Discard Changes

    Load Setup Defaults




                                                    ←→    Select Screen
                                                    ↑↓    Select Item
                                                    Enter Go to Sub Screen
                                                    F1    General Help
                                                    F10   Save and Exit
                                                    ESC   Exit

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```

> Pressing <Esc> does not immediately exit this menu. Select one of the options from this menu or <F10> from the legend bar to exit.

Exit & Save Changes

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. An onboard backup battery sustains the CMOS RAM so it stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select YES to save changes and exit.

> If you attempt to exit the Setup program without saving your changes, the program prompts you with a message asking if you want to save your changes before exiting. Press <Enter> to save the changes while exiting.

Exit & Discard Changes

Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than System Date, System Time, and Password, the BIOS asks for a confirmation before exiting.

Discard Changes

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select YES to discard any changes and load the previously saved values.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select YES to load default values. Select Exit & Save Changes or make other changes before saving the values to the non-volatile RAM.

This chapter describes the contents of
the support DVD that comes with the
motherboard package and the software.

Software
support

4

Chapter summary

4

4.1 Installing an operating system

This motherboard supports Windows® XP/64-bit XP/Vista operating systems (OS). Always install the latest OS version and corresponding updates to maximize the features of your hardware.

> • Motherboard settings and hardware options vary. Use the setup procedures presented in this chapter for reference only. Refer to your OS documentation for detailed information.
>
> • Ensure that you install Windows® XP Service Pack 2 or later versions before installing the drivers for better compatibility and system stability.

4.2 Support DVD information

The support DVD that came with the motherboard package contains the drivers, software applications, and utilities that you can install to avail all motherboard features.

> The contents of the support DVD are subject to change at any time without notice. Visit the ASUS website at www.asus.com for updates.

4.2.1 Running the support DVD

Place the support DVD to the optical drive. The DVD automatically displays the Drivers menu if Autorun is enabled in your computer.
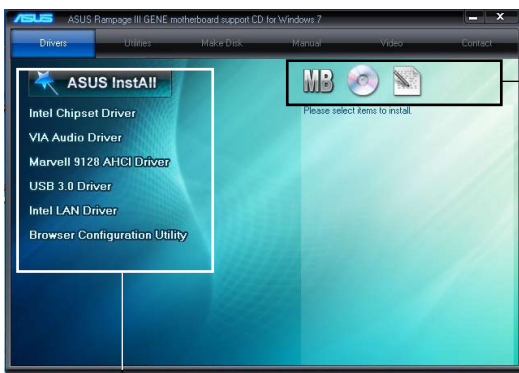
Click an icon to display support DVD/motherboard information

Click an item to install

> If Autorun is NOT enabled in your computer, browse the contents of the support DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the DVD.

4.2.2 Drivers menu

The drivers menu shows the available device drivers if the system detects installed devices. Install the necessary drivers to activate the devices.

ASUS InstAll - Drivers Installation Wizard

Launches the ASUS InstAll driver installation wizard.

Intel Chipset Driver

Installs the Intel® chipset driver.

VIA Audio Driver

Installs the VIA® audio driver and application.

Marvell 9128 AHCI Driver

Installs the Marvell® 9128 AHCI driver.

USB 3.0 Driver

Installs the USB 3.0 driver.

Intel LAN Driver

Installs the Intel® LAN driver.

Browser Configuration Utility

Installs the browser configuration utility.

4.2.3 Utilities menu

The Utilities menu shows the applications and other software that the motherboard supports.

ASUS InstAll - Installation Wizard for Utilities

Installs all of the utilities through the Installation Wizard.

Sound Blaster X-Fi

Installs the Sound Blaster X-Fi driver and utility.

Anti-Virus Utility

The anti-virus application scans, identifies, and removes computer viruses. View the online help for detailed information.

Marvell MRU Utility

Installs the Marvell® MRU utility.

ASUS ROG Connect

Installs the ASUS ROG Connect utility.

ASUUS ROG GameFirst

Installs the ASUS ROG GameFirst utility.

ASUS AI Suite II

Installs the ASUS AI Suite II.

Adobe Reader 9

Installs the Adobe® Reader that allows you to open, view, and print documents in Portable Document Format (PDF).

4.2.4 Make disk menu

The Make disk menu contains items to create the Intel ICH10R driver disk.

Intel AHCI/RAID Driver

Allows you to create an Intel® AHCI/RAID driver disk.

Marvell 9128 AHCI/RAID Driver

Allows you to create a Marvell® 9128 AHCI/RAID driver disk.

4.2.5 Manual menu

The Manuals menu contains a list of supplementary user manuals. Click an item to open the folder of the user manual.

> Most user manual files are in Portable Document Format (PDF). Install the Adobe® Acrobat® Reader from the Utilities menu before opening a user manual file.

4.2.6   Video menu

Click the Video tab to display a list of video clips. Click the video titles to watch ROG users' outstanding performances with ROG motherboards.

4.2.7   ASUS Contact information

Click the Contact tab to display the ASUS contact information. You can also find this information on the inside front cover of this user guide.
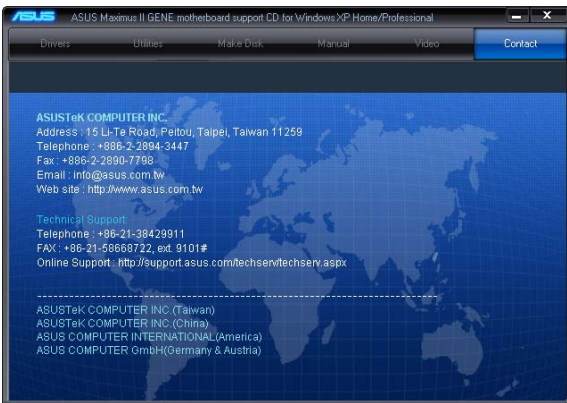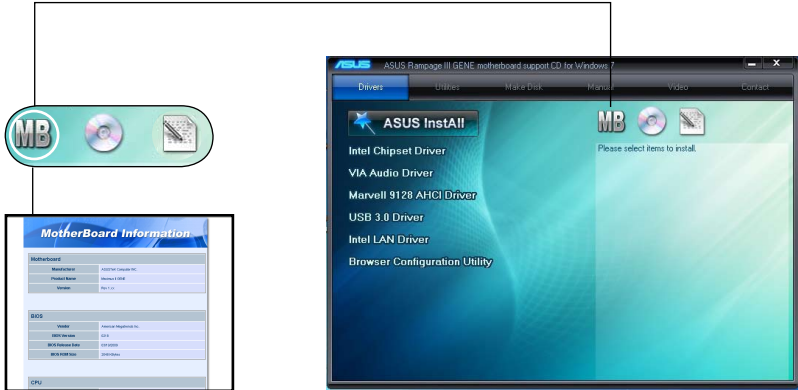
4.2.8   Other information

The icons on the top right corner of the screen give additional information on the motherboard and the contents of the support DVD. Click an icon to display the specified information.

Motherboard Info

Displays the general specifications of the motherboard.

Browse this DVD

Displays the support DVD contents in graphical format.
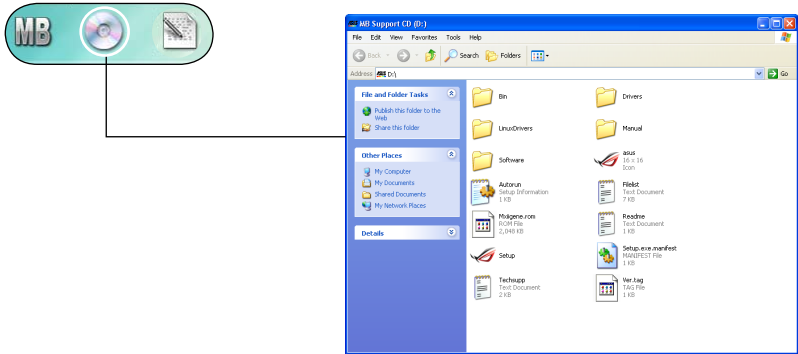
Filelist

Displays the contents of the support DVD and a brief description of each in text format.

4.3 Software information

Most of the applications in the support DVD have wizards that will conveniently guide you through the installation. View the online help or readme file that came with the software application for more information.

4.3.1 ASUS MyLogo3™

The ASUS MyLogo3™ utility lets you customize the boot logo. The boot logo is the image that appears on screen during the Power-On Self-Tests (POST). The ASUS MyLogo3™ is automatically installed when you install the ASUS Update utility from the Support CD. See section **4.2.3 Utilities menu** for details.

- Before using the ASUS MyLogo3™, use the AFUDOS utility to make a copy of your original BIOS file, or obtain the latest BIOS version from the ASUS website. See section **3.1.1 ASUS Update utility**.

- Ensure that the BIOS item Full Screen Logo is set to [Enabled] if you wish to use ASUS MyLogo3. See section **3.7.2 Boot Settings Configuration**.

- You can create your own boot logo image in GIF file format.

To launch the ASUS MyLogo3™:

1. Launch the ASUS Update utility. Refer to section "ASUS Update utility" in manual for details.
2. Select **Options** from the drop down menu, then click **Next**.
3. Check the option **Launch MyLogo** to replace system boot logo before flashing BIOS, then click **Next**.
4. Select **Update BIOS** from a file from the drop down menu, then click **Next**.
5. When prompted, locate the new BIOS file, then click **Next**. The ASUS MyLogo window appears.
6. From the left window pane, select the folder that contains the image you intend to use as your boot logo.

7. When the logo images appear on the right window pane, select an image to enlarge by clicking on it.

8. Adjust the boot image to your desired size by selecting a value on the Ratio box.

9. When the screen returns to the ASUS Update utility, flash the original BIOS to load the new boot logo.

10. After flashing the BIOS, restart the computer to display the new boot logo during POST.

4.4   RAID configurations

The motherboard comes with the Intel® ICH10R Southbridge controller that supports RAID 0, RAID 1, RAID 10, and RAID 5 for six independent Serial ATA channels.

4.4.1   RAID definitions

RAID 0 (Data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. Two hard disks perform the same work as a single drive but at a sustained data transfer rate, double that of a single disk alone, thus improving data access and storage. Use of two new identical hard disk drives is required for this setup.

RAID 1 (Data mirroring) copies and maintains an identical image of data from one drive to a second drive. If one drive fails, the disk array management software directs all applications to the surviving drive as it contains a complete copy of the data in the other drive. This RAID configuration provides data protection and increases fault tolerance to the entire system. Use two new drives or use an existing drive and a new drive for this setup. The new drive must be of the same size or larger than the existing drive.

RAID 5 stripes both data and parity information across three or more hard disk drives. Among the advantages of RAID 5 configuration include better HDD performance, fault tolerance, and higher storage capacity. The RAID 5 configuration is best suited for transaction processing, relational database applications, enterprise resource planning, and other business systems. Use a minimum of three identical hard disk drives for this setup.

RAID 10 is data striping and data mirroring combined without parity (redundancy data) having to be calculated and written. With the RAID 10* configuration you get all the benefits of both RAID 0 and RAID 1 configurations. Use four new hard disk drives or use an existing drive and three new drives for this setup.

Intel® Matrix Storage. The Intel® Matrix Storage technology supported by the ICH10R chip allows you to create a RAID 0, RAID 1, RAID 5, and RAID 10 function to improve both system performance and data safety. You can also combine two RAID sets to get higher performance, capacity, or fault tolerance provided by the difference RAID function. For example, RAID 0 and RAID 1 set can be created by using only two identical hard disk drives.

> If you want to boot the system from a hard disk drive included in a created RAID set, copy first the RAID driver from the support DVD to a floppy disk before you install an operating system to the selected hard disk drive. Refer to section **4.5 Creating a RAID driver disk** for details.

4.4.2 Installing Serial ATA hard disks

The motherboard supports Serial ATA hard disk drives. For optimal performance, install identical drives of the same model and capacity when creating a disk array.

To install the SATA hard disks for a RAID configuration:

1. Install the SATA hard disks into the drive bays.
2. Connect the SATA signal cables.
3. Connect a SATA power cable to the power connector on each drive.

4.4.3 Setting the RAID item in BIOS

You must enable the RAID function in the BIOS Setup before creating RAID set(s) using SATA HDDs. To do this:

1. Enter the BIOS Setup during POST.
2. Go to the **Main** menu > **Storage Configuration**, and then press <Enter>.
3. Set the **Configure SATA as** item to [RAID].
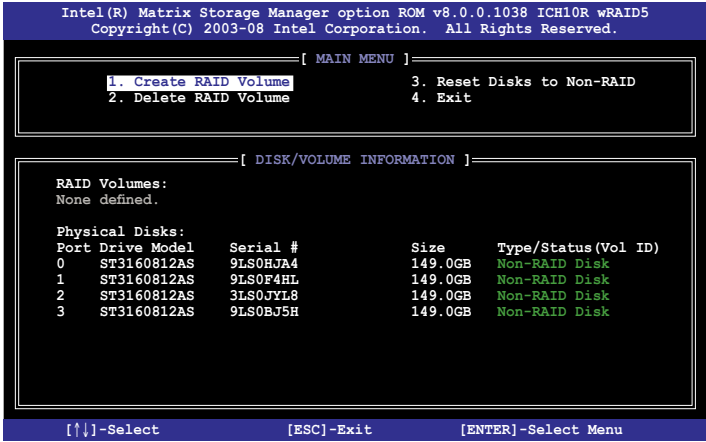4. Save your changes, and then exit the BIOS Setup.

Refer to Chapter 3 for details on entering and navigating through the BIOS Setup.

4.4.4   Intel® Matrix Storage Manager option ROM utility

The Intel® Matrix Storage Manager Option ROM utility allows you to create RAID 0, RAID 1, RAID 10 (RAID 0+1), and RAID 5 set(s) from Serial ATA hard disk drives that are connected to the Serial ATA connectors supported by the Southbridge.

To enter the Intel® Matrix Storage Manager option ROM utility:

1.   Turn on the system.

2.   During POST, press <Ctrl+I> to display the utility main menu.

```
        Intel(R) Matrix Storage Manager option ROM v8.0.0.1038 ICH10R wRAID5
             Copyright(C) 2003-08 Intel Corporation.  All Rights Reserved.
    ═══════════════════════════[ MAIN MENU ]══════════════════════════════
         1. Create RAID Volume              3. Reset Disks to Non-RAID
         2. Delete RAID Volume              4. Exit


    ════════════════════[ DISK/VOLUME INFORMATION ]═══════════════════════
      RAID Volumes:
      None defined.

      Physical Disks:
      Port Drive Model     Serial #        Size       Type/Status(Vol ID)
      0    ST3160812AS     9LS0HJA4        149.0GB    Non-RAID Disk
      1    ST3160812AS     9LS0F4HL        149.0GB    Non-RAID Disk
      2    ST3160812AS     3LS0JYL8        149.0GB    Non-RAID Disk
      3    ST3160812AS     9LS0BJ5H        149.0GB    Non-RAID Disk




       [↑↓]-Select            [ESC]-Exit           [ENTER]-Select Menu
```

The navigation keys at the bottom of the screen allow you to move through the menus and select the menu options.

The RAID BIOS setup screens shown in this section are for reference only and may not exactly match the items on your screen.
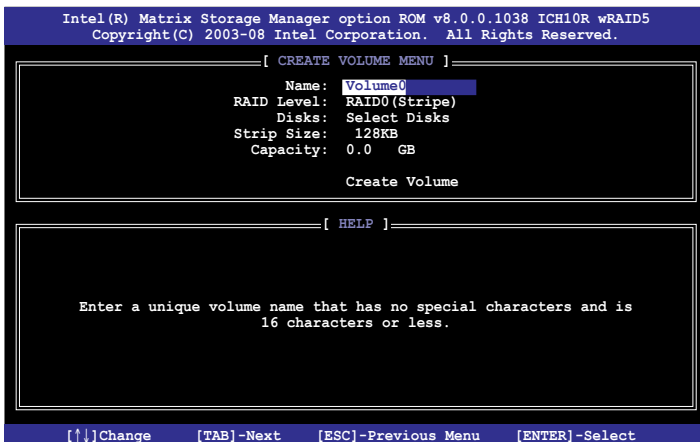
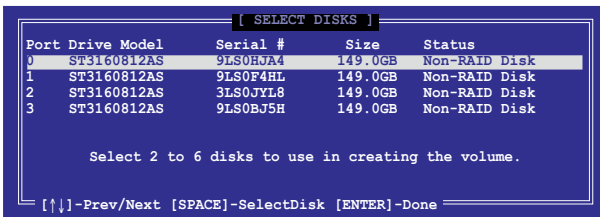The utility supports maximum four hard disk drives for RAID configuration.

Creating a RAID set

To create a RAID set

1. From the utility main menu, select **1. Create RAID Volume** and press <Enter>. The following screen appears.

```
    Intel(R) Matrix Storage Manager option ROM v8.0.0.1038 ICH10R wRAID5
         Copyright(C) 2003-08 Intel Corporation.  All Rights Reserved.

    ========================[ CREATE VOLUME MENU ]========================

                             Name:   Volume0
                       RAID Level:   RAID0(Stripe)
                            Disks:   Select Disks
                       Strip Size:   128KB
                         Capacity:   0.0   GB

                                 Create Volume

    ===============================[ HELP ]===============================



         Enter a unique volume name that has no special characters and is
                              16 characters or less.




    ======================================================================
       [↑↓]Change      [TAB]-Next    [ESC]-Previous Menu     [ENTER]-Select
```

2. Enter a name for the RAID set and press <Enter>.

3. When the **RAID Level** item is selected, press the up/down arrow key to select a RAID level to create, and then press <Enter>.

4. When the **Disks** item is selected, press <Enter> to select the hard disk drives you want to include in the RAID set. The **SELECT DISKS** screen appears.

```
    ==========================[ SELECT DISKS ]==========================
    Port Drive Model      Serial #        Size        Status
    0    ST3160812AS      9LS0HJA4        149.0GB     Non-RAID Disk
    1    ST3160812AS      9LS0F4HL        149.0GB     Non-RAID Disk
    2    ST3160812AS      3LS0JYL8        149.0GB     Non-RAID Disk
    3    ST3160812AS      9LS0BJ5H        149.0GB     Non-RAID Disk


            Select 2 to 6 disks to use in creating the volume.

    [↑↓]-Prev/Next [SPACE]-SelectDisk [ENTER]-Done
```

5. Use the up/down arrow key to select a drive, and then press <Space> to select. A small triangle marks the selected drive. Press <Enter> after completing your selection

6.	Use the up/down arrow key to select the stripe size for the RAID array (for RAID 0, 10 and 5 only), and then press <Enter>. The available stripe size values range from 4 KB to 128 KB. The following are typical values:
RAID 0: 128KB
RAID 10: 64KB
RAID 5: 64KB

> We recommend a lower stripe size for server systems, and a higher stripe size for multimedia computer systems used mainly for audio and video editing.

7.	When the **Capacity** item is selected, enter the RAID volume capacity that you want and press <Enter>. The default value indicates the maximum allowed capacity.

8.	When the **Create Volume** item is selected, press <Enter>. The following warning message appears.

```
         WARNING: ALL DATA ON SELECTED DISKS WILL BE LOST.
       Are you sure you want to create this volume? (Y/N):
```

9.	Press <Y> to create the RAID volume and return to the main menu, or <N> to go back to the **CREATE VOLUME** menu.

Deleting a RAID set

⚠️ Take caution when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

To delete a RAID set

1. From the utility main menu, select **2. Delete RAID Volume** and press <Enter>. The following screen appears.

```
    Intel(R) Matrix Storage Manager option ROM v8.0.0.1038 ICH10R wRAID5
         Copyright(C) 2003-08 Intel Corporation.   All Rights Reserved.
  ══════════════════════════[ DELETE VOLUME MENU ]══════════════════════════
     Name        Level        Drives    Capacity    Status      Bootable
     Volume0     RAID0(Stripe)    2       298.0GB     Normal        Yes



  ══════════════════════════════[ HELP ]══════════════════════════════════

            Deleting a volume will reset the disks to non-RAID.

                  WARNING: ALL DISK DATA WILL BE DELETED.



     [↑↓]-Select          [ESC]-Previous Menu     [DEL]-Delete Volume
```

2. Use the up/down arrow key to select the RAID set you want to delete, and then press <Del>. The following warning message appears.

```
  ══════════════════════[ DELETE VOLUME VERIFICATION ]══════════════════════

                   ALL DATA IN THE VOLUME WILL BE LOST!

       Are you sure you want to delete volume "Volume0"? (Y/N):
```

3. Press <Y> to delete the RAID set and return to the utility main menu, or press <N> to return to the **DELETE VOLUME** menu.

Exiting the Intel® Matrix Storage Manager

To exit the utility

1.   From the utility main menu, select **4. Exit**, and then press <Enter>. The following warning message appears.

```
╔══════════════════════ [ CONFIRM EXIT ] ══════════════════════╗
║                                                               ║
║         Are you sure you want to exit? (Y/N):                 ║
║                                                               ║
╚═══════════════════════════════════════════════════════════════╝
```

2.   Press <Y> to exit or press <N> to return to the utility main menu.

4.5   Creating a RAID driver disk

A floppy disk with the RAID driver is required when installing Windows® XP/Vista and later operating system on a hard disk drive that is included in a RAID set. For Windows Vista user, you can create a RAID driver disk with a floppy disk drive or a USB flash disk drive.

4.5.1   Creating a RAID driver disk without entering the OS

To create a RAID/SATA driver disk without entering the OS:

1.   Boot your computer.
2.   Press <Del> during POST to enter the BIOS setup utility.
3.   Set the optical drive as the primary boot device.
4.   Insert the support DVD into the optical drive.
5.   Save changes and exit BIOS.
6.   When the **Make Disk** menu appears, press <a> or <b> to create a 32/64bit **Intel ICH10R RAID driver disk**.
7.   Insert a formatted floppy disk into the floppy drive then press <Enter>.
8.   Follow the succeeding screen instructions to complete the process.

4.5.2   Creating a RAID driver disk in Windows®

To create a RAID driver disk in Windows®:

1.   Start Windows®.
2.   Place the motherboard support DVD into the optical drive.
3.   Go to the **Make disk** menu, and then click **Intel ICH10R 32/64 bit RAID Driver Disk** to create an Intel® ICH10R RAID driver disk.
4.   Insert a floppy disk into the floppy disk drive.
5.   Follow the succeeding screen instructions to complete the process.

> Write-protect the floppy disk to avoid computer virus infection.

To install the RAID driver in Windows® XP:

1.   During the OS installation, the system prompts you to press the F6 key to install third-party SCSI or RAID driver.

2.   Press <F6>, and then insert the floppy disk with RAID driver into the floppy disk drive.

3.   When prompted to select the SCSI adapter to install, ensure that you select **Intel(R) SATA RAID Controller (Desktop ICH10R)**.

4.   Follow the succeeding screen instructions to complete the installation.

To install the RAID driver in Windows® Vista™:

1.   Insert the floppy disk/USB device with RAID driver into the floppy disk drive/ USB port.

2.   During the OS installation, select **Intel(R) SATA RAID Controller (Desktop ICH10R)**.

3.   Follow the succeeding screen instructions to complete the installation.

This chapter describes how to install and configure multiple ATI® CrossFireX™ graphics cards.

Multiple GPU technology support

5

Chapter summary

5

5.1 ATI® CrossFireX™ technology

The motherboard supports the ATI® CrossFireX™ technology that allows you to install multi-graphics processing units (GPU) graphics cards. Follow the installation procedures in this section.

5.1.1 Requirements

• You should have two identical CrossFireX-ready graphics cards or one CrossFireX-ready dual-GPU graphics card that are ATI® certified.

• Ensure that your graphics card driver supports the ATI CrossFireX technology. Download the latest driver from the AMD website at www.amd.com.

• Ensure that your power supply unit (PSU) can provide at least the minimum power required by your system. See page 2-40 for details.

> • We recommend that you install additional chassis fans for better thermal environment.
>
> • Visit the ATI Game website at http://game.amd.com for the latest certified graphics card and the supported 3D application list.

5.1.2 Before you begin

For ATI CrossFireX to work properly, you have to uninstall all existing graphics card drivers before installing ATI CrossFireX graphics cards to your system.

To uninstall existing graphics card drivers

1. Close all current applications.

2. For Windows XP, go to **Control Panel > Add/Remove Programs**.
   For Windows Vista, go to **Control Panel > Programs and Features**.

3. Select your current graphics card driver/s.

4. For Windows XP, select **Add/Remove**.
   For Windows Vista, select **Uninstall**.

5. Turn off your computer.

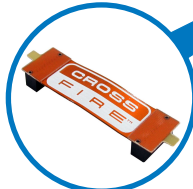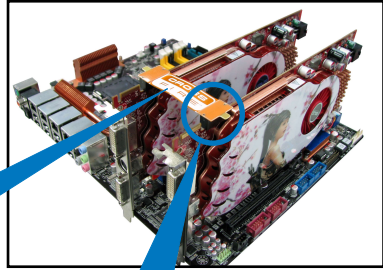### 5.1.3 Installing CrossFireX graphics cards

The following pictures are for reference only. The graphics cards and the motherboard layout may vary with models, but the installation steps remain the same.
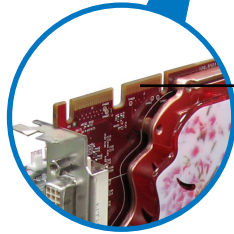
1. Prepare two CrossFireX-ready graphics cards.

2. Insert the two graphics card into the PCIEX16 slots.

3. Ensure that the cards are properly seated on the slots.
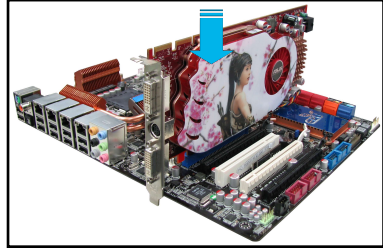
4. Align and firmly insert the CrossFireX bridge connector to the goldfingers on each graphics card. Ensure that the connector is firmly in place.
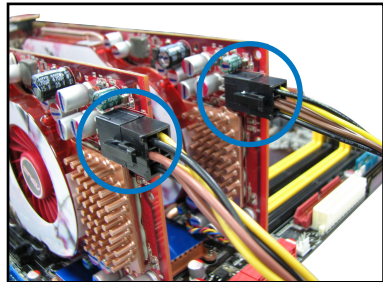
CrossFireX bridge

Goldfingers

5. Connect two independent auxiliary power sources from the power supply to the two graphics cards separately.

6. Connect a VGA or a DVI cable to the graphics card.

5.1.4 Installing the device drivers

Refer to the documentation that came with your graphics card package to install the device drivers.

Ensure that your PCI Express graphics card driver supports the ATI® CrossFireX™ technology. Download the latest driver from the AMD website (www.amd.com).

5.1.5 Enabling the ATI® CrossFireX™ technology

After installing your graphics cards and the device drivers, enable the CrossFireX™ feature through the ATI Catalyst™ Control Center in Windows environment.

Launching the ATI Catalyst Control Center

To launch the ATI Catalyst Control Center

1. Right-click on the Windows® desktop and select **Catalyst(TM) Control Center**. You can also right-click the ATI icon in the Windows notification area and select **Cayalist Control Center**.
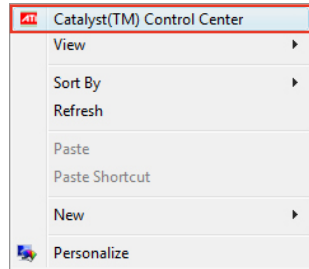
2. The **Catalyst Control Center Setup Assistant** appears when the system detects the existance of multi-graphics cards. Click **Go** to continue to the **Catalyst Control Center Advanced View** window.
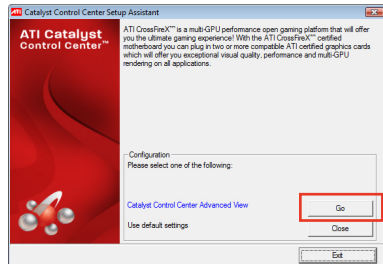
Enabling CrossFireX settings

1. In the Catalyst Control Center window, click **Graphics Settings > CrossFireX > Configure**.

2. From the Graphics Adapter list, select the graphics card to act as the display GPU.

3. Select **Enable CrossFireX**.

4. Click **Apply**, and then click **OK** to exit the window.
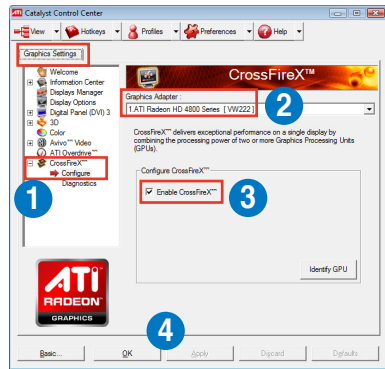
ASUS contact information

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Technical Support
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Support Fax   +49-2102-9599-11*
Online support   support.asus.com

*EUR 0.14/minute from a German fixed landline; EUR 0.42/minute from a mobile phone.

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2. 1077(a)

Responsible Party Name: **Asus Computer International**

Address: **800 Corporate Way, Fremont, CA 94539.**

Phone/Fax No: **(510)739-3777/(510)608-4555**

hereby declares that the product

Product Name : Motherboard

Model Number : Rampage III GENE

Conforms to the following specifications:

☒ FCC Part 15, Subpart B, Unintentional Radiators
☐ FCC Part 15, Subpart C, Intentional Radiators
☐ FCC Part 15, Subpart E, Intentional Radiators

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 interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Representative Person`s Name : __**Steve Chang / President**__

Signature : _____

Date : __**Jun. 04, 2010**__

EC Declaration of Conformity

We, the undersigned,

Manufacturer:	ASUSTek COMPUTER INC.
Address, City:	No. 150, LI-TE RD., PEITOU, TAIPEI 112, TAIWAN R.O.C.
Country:	TAIWAN
Authorized representative in Europe:	ASUS COMPUTER GmbH
Address, City:	HARKORT STR. 21-23, 40880 RATINGEN
Country:	GERMANY

declare the following apparatus:

Product name :	**Mother board**
Model name :	**Rampage III GENE**

conform with the essential requirements of the following directives:

☒2004/108/EC-EMC Directive

☒ EN 55022:2006+A1:2007
☒ EN 61000-3-2:2006
☐ EN 55013:2001+A1:2003+A2:2006
☒ EN 55024:1998+A1:2001+A2:2003
☒ EN 61000-3-3:2008
☐ EN 55020:2007

☐1999/5/EC-R &TTE Directive

☐ EN 300 328 V1.7.1(2006-05)
☐ EN 300 440-1 V1.4.1(2008-05)
☐ EN 300 440-2 V1.2.1(2008-03)
☐ EN 301 511 V9.0.2(2003-03)
☐ EN 301 908-1 V3.2.1(2007-05)
☐ EN 301 908-2 V3.2.1(2007-05)
☐ EN 301 893 V1.4.1(2005-03)
☐ EN 50360:2001
☐ EN 50371:2002
☐ EN 62311:2008
☐ EN 50385:2002
☐ EN 301 489-1 V1.8.1(2008-04)
☐ EN 301 489-3 V1.4.1(2002-08)
☐ EN 301 489-4 V1.3.1(2002-08)
☐ EN 301 489-7 V1.3.1(2005-11)
☐ EN 301 489-9 V1.4.1(2007-11)
☐ EN 301 489-17 V1.3.2(2008-04)
☐ EN 301 489-24 V1.4.1(2007-09)
☐ EN 302 326-2 V1.2.2(2007-06)
☐ EN 302 326-3 V1.3.1(2007-09)
☐ EN 301 357-2 V1.3.1(2006-05)

☒2006/95/EC-LVD Directive

☐ EN 60950-1:2001+A11:2004
☐ EN 60950-1:2006
☐ EN 60065:2002+A1:2006
☒ EN 60950-1:2006+A11:2009

☐2009/125/EC-ErP Directive

Regulation (EC) No.1275/2008
☐ EN 62301:2005
Regulation (EC) No.642/2009
☐ EN 62301:2005

Regulation (EC) No. 278/2009
☐ EN 62301:2005

☒CE marking

$C\epsilon$

(EC conformity marking)

Position : **CEO**
Name : __**Jerry Shen**__

Signature : _____

Declaration Date: Jun. 04, 2010
Year to begin affixing CE marking:2010