GA-M68MT-S2

AM3 socket motherboard for
AMD Phenom™ II processor/ AMD Athlon™ II processor

User's Manual

Rev. 1301
12ME-M68MTS2-1301R

Declaration of Conformity
We, Manufacturer/Importer
(full address)

G.B.T. Technology Trading GmbH
Bullenkoppel 16, 22047 Hamburg, Germany

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

Motherboard
GA-M68MT-S2

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 2004/108/EC-EMC Directive

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

CE

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

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

Manufacturer/Importer

Signature: _Timmy Huang_

(Stamp)   Date : Nov. 8, 2010   Name : Timmy Huang

DECLARATION OF CONFORMITY
Per FCC Part 2 Section 2.1077(a)

FCC

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

Address: 17358 Railroad Street

City of Industry, CA 91748

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

hereby declares that the product

Product Name: Motherboard

Model Number: GA-M68MT-S2

Conforms to the following specifications:

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

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: _Eric Lu_

Date: Nov. 8, 2010

Copyright

Disclaimer

- In order to assist in the use of this product, carefully read the User's Manual.
- For product-related information, check on our website at: http://www.gigabyte.com

Identifying Your Motherboard Revision

The revision number on your motherboard looks like this: "REV: X.X." For example, "REV: 1.0" means the revision of the motherboard is 1.0. Check your motherboard revision before updating motherboard BIOS, drivers, or when looking for technical information.
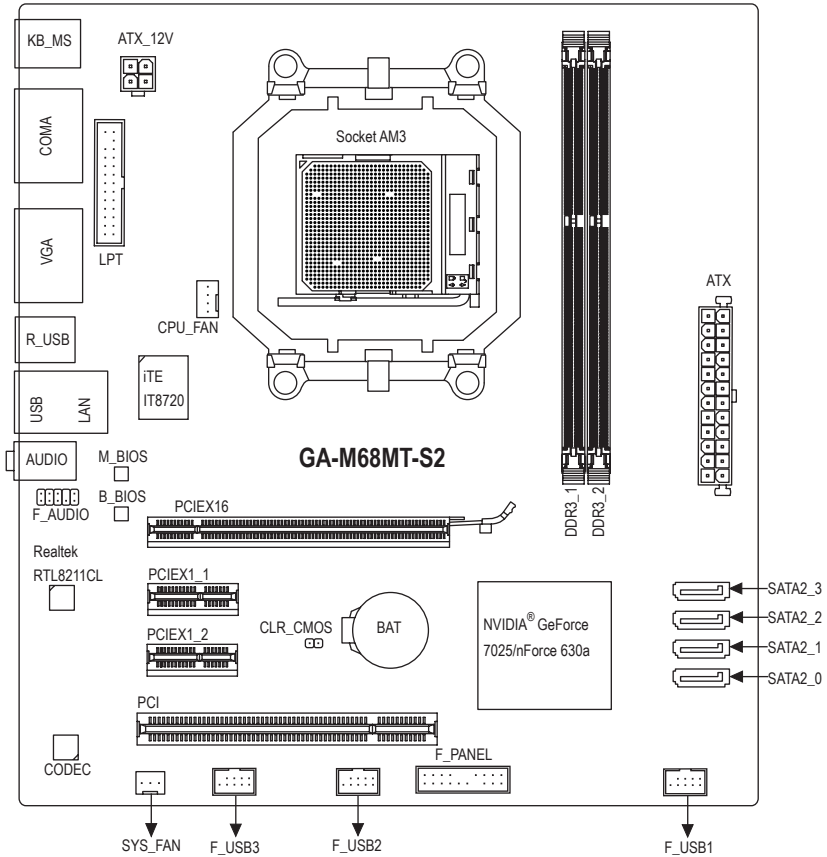
Example:
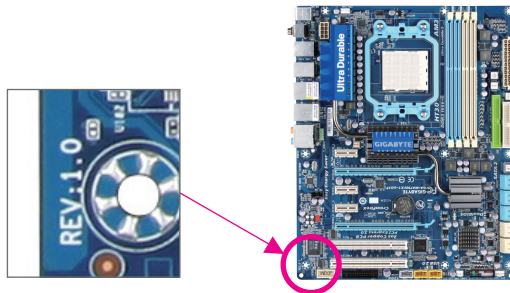
Table of Contents

GA-M68MT-S2 Motherboard Layout

Box Contents

- ☑ GA-M68MT-S2 motherboard
- ☑ Motherboard driver disk   ☑ User's Manual
- ☑ Two SATA cables   ☑ I/O Shield

The box contents above are for reference only and the actual items shall depend on the product package you obtain.
The box contents are subject to change without notice.

Chapter 1   Hardware Installation

1-1   Installation Precautions

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Prior to installation, carefully read the user's manual and follow these procedures:

- Prior to installation, do not remove or break motherboard S/N (Serial Number) sticker or warranty sticker provided by your dealer. These stickers are required for warranty validation.
- Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.
- When connecting hardware components to the internal connectors on the motherboard, make sure they are connected tightly and securely.
- When handling the motherboard, avoid touching any metal leads or connectors.
- It is best to wear an electrostatic discharge (ESD) wrist strap when handling electronic components such as a motherboard, CPU or memory. If you do not have an ESD wrist strap, keep your hands dry and first touch a metal object to eliminate static electricity.
- Prior to installing the motherboard, please have it on top of an antistatic pad or within an electrostatic shielding container.
- Before unplugging the power supply cable from the motherboard, make sure the power supply has been turned off.
- Before turning on the power, make sure the power supply voltage has been set according to the local voltage standard.
- Before using the product, please verify that all cables and power connectors of your hardware components are connected.
- To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components.
- Make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- Do not place the computer system on an uneven surface.
- Do not place the computer system in a high-temperature environment.
- Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
- If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

1-2 Product Specifications

CPU	◆	Support for AM3 processors: AMD Phenom™ II processor/ AMD Athlon™ II processor (Go to GIGABYTE's website for the latest CPU support list.)
Hyper Transport Bus	◆	2000 MT/s
Chipset	◆	NVIDIA® GeForce 7025/nForce 630a

Memory	◆	2 x 1.5V DDR3 DIMM sockets supporting up to 8 GB of system memory
		  * Due to Windows 32-bit operating system limitation, when more than 4 GB of physical
		     memory is installed, the actual memory size displayed will be less than 4 GB.

	◆	Dual channel memory architecture
	◆	Support for DDR3 1333(O.C.)/1066/800 MHz memory modules (Go to GIGABYTE's website for the latest supported memory speeds and memory modules.)
Onboard Graphics	◆	Integrated in the Chipset: - 1 x D-Sub port
Audio	◆	Realtek ALC888B codec
	◆	High Definition Audio

	◆	2/4/5.1/7.1-channel
		  * To configure 7.1-channel audio, you have to use an HD front panel audio module
		     and enable the multi-channel audio feature through the audio driver.

LAN	◆	1 x Realtek RTL8211CL chip (10/100/1000 Mbit)
Expansion Slots	◆	1 x PCI Express x16 slot, running at x16
	◆	2 x PCI Express x1 slot
	◆	1 x PCI slot
Storage Interface	◆	Chipset: - 4 x SATA 3Gb/s connectors supporting up to 4 SATA 3Gb/s devices - Support for SATA RAID 0, RAID 1, RAID 10, RAID 5, and JBOD
USB	◆	Chipset: - Up to 10 USB 2.0/1.1 ports (4 on the back panel, 6 via the USB brackets connected to the internal USB headers)
Internal Connectors	◆	1 x 24-pin ATX main power connector
	◆	1 x 4-pin ATX 12V power connector
	◆	4 x SATA 3Gb/s connectors
	◆	1 x CPU fan header
	◆	1 x system fan header
	◆	1 x front panel header
	◆	1 x front panel audio header
	◆	3 x USB 2.0/1.1 headers
	◆	1 x parallel port connector
	◆	1 x clearing CMOS jumper

Back Panel Connectors	◆	1 x PS/2 keyboard port
	◆	1 x PS/2 mouse port
	◆	1 x D-Sub port
	◆	1 x serial port
	◆	4 x USB 2.0/1.1 ports
	◆	1 x RJ-45 port
	◆	3 x audio jacks (Line In/Line Out/Microphone)
I/O Controller	◆	iTE IT8720 chip
Hardware Monitor	◆	System voltage detection
	◆	CPU/System temperature detection
	◆	CPU/System fan speed detection
	◆	CPU/System overheating warning
	◆	CPU/System fan fail warning
	◆	CPU fan speed control * Whether the CPU fan speed control function is supported will depend on the CPU cooler you install.
BIOS	◆	2 x 8 Mbit flash
	◆	Use of licensed AWARD BIOS
	◆	Support for DualBIOS™
	◆	PnP 1.0a, DMI 2.0, SM BIOS 2.4, ACPI 1.0b
Unique Features	◆	Support for @BIOS
	◆	Support for Q-Flash
	◆	Support for Xpress BIOS Rescue
	◆	Support for Download Center
	◆	Support for Xpress Install
	◆	Support for Xpress Recovery2
	◆	Support for EasyTune * Available functions in EasyTune may differ by motherboard model.
	◆	Support for Auto Green
	◆	Support for ON/OFF Charge
Bundled Software	◆	Norton Internet Security (OEM version)
Operating System	◆	Support for Microsoft® Windows® 7/Vista/XP
Form Factor	◆	Micro ATX Form Factor; 24.4cm x 20.6cm

1-3 Installing the CPU and CPU Cooler

Read the following guidelines before you begin to install the CPU:
• Make sure that the motherboard supports the CPU.
  (Go to GIGABYTE's website for the latest CPU support list.)
• Always turn off the computer and unplug the power cord from the power outlet before installing the CPU to prevent hardware damage.
• Locate the pin one of the CPU. The CPU cannot be inserted if oriented incorrectly. (Or you may locate the notches on both sides of the CPU and alignment keys on the CPU socket.)
• Apply an even and thin layer of thermal grease on the surface of the CPU.
• Do not turn on the computer if the CPU cooler is not installed, otherwise overheating and damage of the CPU may occur.
• Set the CPU host frequency in accordance with the CPU specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the standard requirements for the peripherals. If you wish to set the frequency beyond the standard specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.

1-3-1 Installing the CPU

Locate the pin one (denoted by a small triangle) of the CPU socket and the CPU.

A Small Triangle Mark Denotes Pin One of the Socket

AM3 Socket

A Small Triangle Marking Denotes CPU Pin One

AM3 CPU
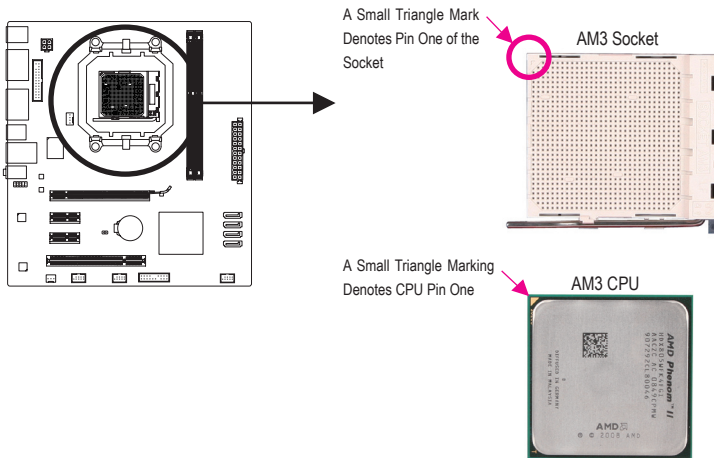
1-4 Installing the Memory

Read the following guidelines before you begin to install the memory:
• Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
  (Go to GIGABYTE's website for the latest supported memory speeds and memory modules.)
• Always turn off the computer and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.
• Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.

1-4-1 Dual Channel Memory Configuration

This motherboard provides two DDR3 memory sockets and supports Dual Channel Technology.
The two DDR3 memory sockets are divided into two channels and each channel has two memory sockets as following:
▸▸Channel 0: DDR3_1
▸▸Channel 1: DDR3_2
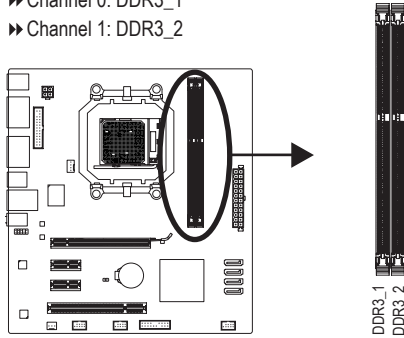
Due to CPU limitation, read the following guidelines before installing the memory in Dual Channel mode.
1. Dual Channel mode cannot be enabled if only one DDR3 memory module is installed.
2. When enabling Dual Channel mode with two memory modules, it is recommended that memory of the same capacity, brand, speed, and chips be used.

1-5 Installing an Expansion Card

Read the following guidelines before you begin to install an expansion card:
• Make sure the motherboard supports the expansion card. Carefully read the manual that came with your expansion card.
• Always turn off the computer and unplug the power cord from the power outlet before installing an expansion card to prevent hardware damage.

1-6 Back Panel Connectors
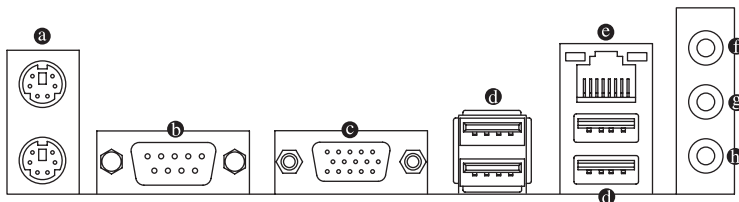
ⓐ **PS/2 Keyboard and PS/2 Mouse Port**
Use the upper port (green) to connect a PS/2 mouse and the lower port (purple) to connect a PS/2 keyboard.

ⓑ **Serial Port**
Use the serial port to connect devices such as a mouse, modem or other peripherals.

○ **D-Sub Port**

The D-Sub port supports a 15-pin D-Sub connector. Connect a monitor that supports D-Sub connection to this port.

○ **USB 2.0/1.1 Port**

The USB port supports the USB 2.0/1.1 specification. Use this port for USB devices such as a USB keyboard/mouse, USB printer, USB flash drive and etc.

○ **RJ-45 LAN Port**

The Gigabit Ethernet LAN port provides Internet connection at up to 1 Gbps data rate. The following describes the states of the LAN port LEDs.

Connection/Speed LED:

State	Description
Orange	1 Gbps data rate
Green	100 Mbps data rate
Off	10 Mbps data rate

Activity LED:

State	Description
Blinking	Data transmission or receiving is occurring
Off	No data transmission or receiving is occurring
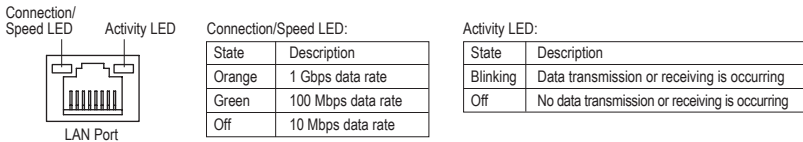
○ **Line In Jack (Blue)**

The default line in jack. Use this audio jack for line in devices such as an optical drive, walkman, etc.

○ **Line Out Jack (Front Speaker Out, Green)**

The default line out jack. Use this audio jack for a headphone or 2-channel speaker. This jack can be used to connect front speakers in a 4/5.1-channel audio configuration.

○ **Mic In Jack (Pink)**

The default Mic in jack. Microphones must be connected to this jack.

> To configure 7.1-channel audio, you have to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver.

> • When removing the cable connected to a back panel connector, first remove the cable from your device and then remove it from the motherboard.
> • When removing the cable, pull it straight out from the connector. Do not rock it side to side to prevent an electrical short inside the cable connector.

1-7 Internal Connectors
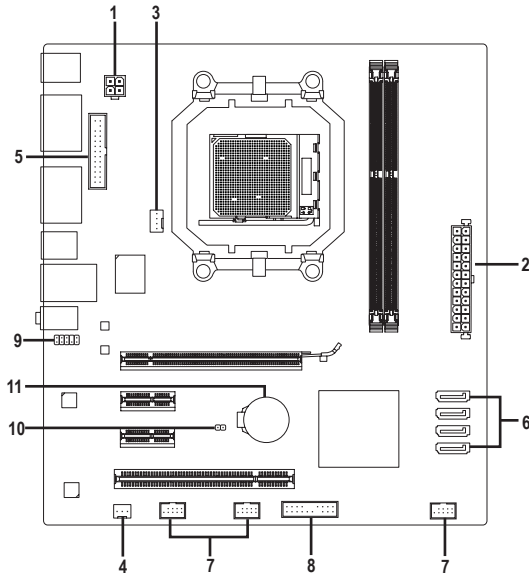
1)	ATX_12V	7)	F_USB1/F_USB2/F_USB3
2)	ATX	8)	F_PANEL
3)	CPU_FAN	9)	F_AUDIO
4)	SYS_FAN	10)	CLR_CMOS
5)	LPT	11)	BAT
6)	SATA2_0/1/2/3		

Read the following guidelines before connecting external devices:
- First make sure your devices are compliant with the connectors you wish to connect.
- Before installing the devices, be sure to turn off the devices and your computer. Unplug the power cord from the power outlet to prevent damage to the devices.
- After installing the device and before turning on the computer, make sure the device cable has been securely attached to the connector on the motherboard.

1/2) ATX_12V/ATX (2x2 12V Power Connector and 2x12 Main Power Connector)

With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, first make sure the power supply is turned off and all devices are properly installed. The power connector possesses a foolproof design. Connect the power supply cable to the power connector in the correct orientation. The 12V power connector mainly supplies power to the CPU. If the 12V power connector is not connected, the computer will not start.

To meet expansion requirements, it is recommended that a power supply that can withstand high power consumption be used (500W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable or unbootable system.
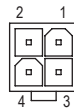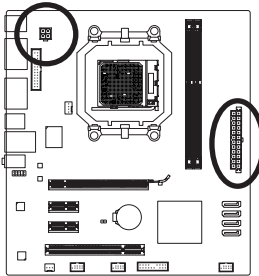
ATX_12V:

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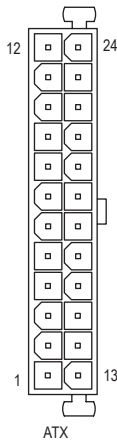
ATX:

Pin No.	Definition	Pin No.	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON (soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	-5V
9	5VSB (stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V (Only for 2x12-pin ATX)	23	+5V (Only for 2x12-pin ATX)
12	3.3V (Only for 2x12-pin ATX)	24	GND (Only for 2x12-pin ATX)

3/4) CPU_FAN/SYS_FAN (Fan Headers)

The motherboard has a 4-pin CPU fan header (CPU_FAN) and a 3-pin (SYS_FAN) system fan headers. Most fan headers possess a foolproof insertion design. When connecting a fan cable, be sure to connect it in the correct orientation (the black connector wire is the ground wire). The motherboard supports CPU fan speed control, which requires the use of a CPU fan with fan speed control design. For optimum heat dissipation, it is recommended that a system fan be installed inside the chassis.
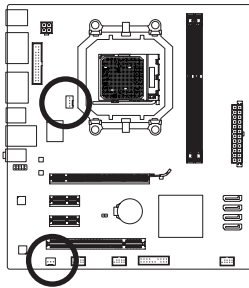
CPU_FAN:

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

SYS_FAN:

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

- Be sure to connect fan cables to the fan headers to prevent your CPU and system from over-heating. Overheating may result in damage to the CPU or the system may hang.
- These fan headers are not configuration jumper blocks. Do not place a jumper cap on the headers.

5) LPT (Parallel Port Header)

The LPT header can provide one parallel port via an optional LPT port cable. For purchasing the optional LPT port cable, please contact the local dealer.
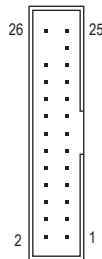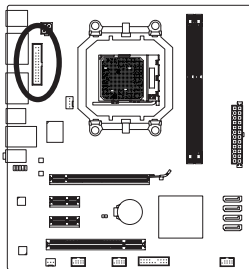
Pin No.	Definition	Pin No.	Definition
1	STB-	14	GND
2	AFD-	15	PD6
3	PD0	16	GND
4	ERR-	17	PD7
5	PD1	18	GND
6	INIT-	19	ACK-
7	PD2	20	GND
8	SLIN-	21	BUSY
9	PD3	22	GND
10	GND	23	PE
11	PD4	24	No Pin
12	GND	25	SLCT
13	PD5	26	GND

6) SATA2_0/1/2/3 (SATA 3Gb/s Connectors)

The SATA connectors conform to SATA 3Gb/s standard and are compatible with SATA 1.5Gb/s standard. Each SATA connector supports a single SATA device. The NVIDIA® GeForce 7025/nForce 630a control-ler supports RAID 0, RAID 1, RAID 5, RAID 10, and JBOD. Refer to Chapter 4, "Configuring SATA Hard Drive(s)," for instructions on configuring a RAID array.
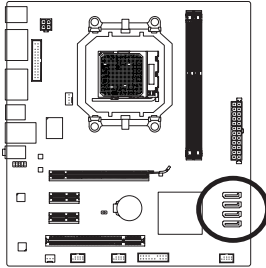
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

```
1 [===] 7  SATA2_3
1 [===] 7  SATA2_2
1 [===] 7  SATA2_1
1 [===] 7  SATA2_0
```
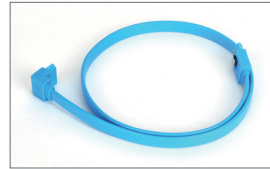
Please connect the L-shaped end of the SATA cable to your SATA hard drive.

- A RAID 0 or RAID 1 configuration requires at least two hard drives. If more than two hard drives are to be used, the total number of hard drives must be an even number.
- A RAID 5 configuration requires at least three hard drives. (The total number of hard drives does not have to be an even number.)
- A RAID 10 configuration requires four hard drives.

7) F_USB1/F_USB2/F_USB3 (USB Headers)

The headers conform to USB 2.0/1.1 specification. Each USB header can provide two USB ports via an optional USB bracket. For purchasing the optional USB bracket, please contact the local dealer.

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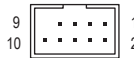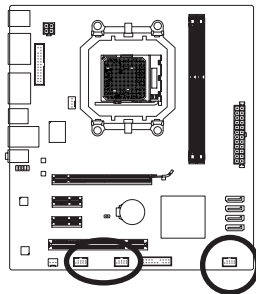
Pin No.	Definition
1	Power (5V)
2	Power (5V)
3	USB DX-
4	USB DY-
5	USB DX+
6	USB DY+
7	GND
8	GND
9	No Pin
10	NC

Prior to installing the USB bracket, be sure to turn off your computer and unplug the power cord from the power outlet to prevent damage to the USB bracket.

8)   F_PANEL (Front Panel Header)

Connect the power switch, reset switch, speaker, chassis intrusion switch/sensor and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.
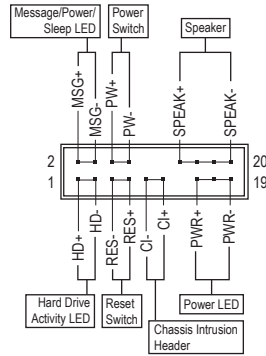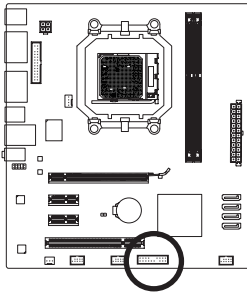
- **MSG/PWR** (Message/Power/Sleep LED, Yellow/Purple):

System Status	LED
S0	On
S1	Blinking
S3/S4/S5	Off

Connects to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).

- **PW** (Power Switch, Red):

  Connects to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch (refer to Chapter 2, "BIOS Setup," "Power Management Setup," for more information).

- **SPEAK** (Speaker, Orange):

  Connects to the speaker on the chassis front panel. The system reports system startup status by issuing a beep code. One single short beep will be heard if no problem is detected at system startup. If a problem is detected, the BIOS may issue beeps in different patterns to indicate the problem.

- **HD** (Hard Drive Activity LED, Blue)

  Connects to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

- **RES** (Reset Switch, Green):

  Connects to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

- **CI** (Chassis Intrusion Header, Gray):

  Connects to the chassis intrusion switch/sensor on the chassis that can detect if the chassis cover has been removed. This function requires a chassis with a chassis intrusion switch/sensor.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

9) F_AUDIO (Front Panel Audio Header)

The front panel audio header supports Intel High Definition audio (HD) and AC'97 audio. You may connect your chassis front panel audio module to this header. Make sure the wire assignments of the module con-nector match the pin assignments of the motherboard header. Incorrect connection between the module connector and the motherboard header will make the device unable to work or even damage it.
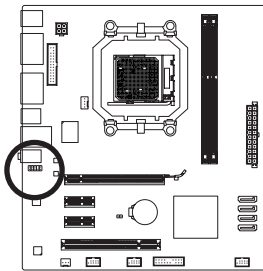
For HD Front Panel Audio:

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

For AC'97 Front Panel Audio:

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

- The front panel audio header supports HD audio by default.
- Audio signals will be present on both of the front and back panel audio connections simultane-ously.
- Some chassis provide a front panel audio module that has separated connectors on each wire instead of a single plug. For information about connecting the front panel audio module that has different wire assignments, please contact the chassis manufacturer.

10) CLR_CMOS (Clearing CMOS Jumper)

Use this jumper to clear the CMOS values (e.g. date information and BIOS configurations) and reset the CMOS values to factory defaults. To clear the CMOS values, place a jumper cap on the two pins to temporarily short the two pins or use a metal object like a screwdriver to touch the two pins for a few seconds.
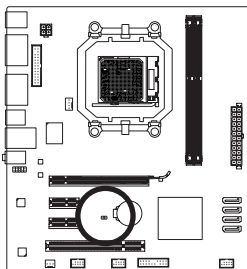
Open: Normal

Short: Clear CMOS Values

- Always turn off your computer and unplug the power cord from the power outlet before clear-ing the CMOS values.
- After clearing the CMOS values and before turning on your computer, be sure to remove the jumper cap from the jumper. Failure to do so may cause damage to the motherboard.
- After system restart, go to BIOS Setup to load factory defaults (select **Load Optimized De-faults**) or manually configure the BIOS settings (refer to Chapter 2, "BIOS Setup," for BIOS configurations).

11) BAT (Battery)

The battery provides power to keep the values (such as BIOS configurations, date, and time information) in the CMOS when the computer is turned off. Replace the battery when the battery voltage drops to a low level, or the CMOS values may not be accurate or may be lost.
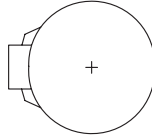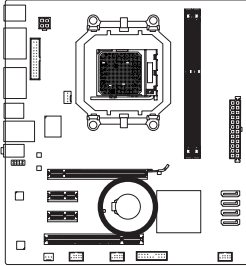
You may clear the CMOS values by removing the battery:
1. Turn off your computer and unplug the power cord.
2. Gently remove the battery from the battery holder and wait for one minute. (Or use a metal object like a screwdriver to touch the positive and negative terminals of the battery holder, making them short for 5 seconds.)
3. Replace the battery.
4. Plug in the power cord and restart your computer.

- • Always turn off your computer and unplug the power cord before replacing the battery.
- • Replace the battery with an equivalent one. Danger of explosion if the battery is replaced with an incorrect model.
- • Contact the place of purchase or local dealer if you are not able to replace the battery by your-self or uncertain about the battery model.
- • When installing the battery, note the orientation of the positive side (+) and the negative side (-) of the battery (the positive side should face up).
- • Used batteries must be handled in accordance with local environmental regulations.

Chapter 2   BIOS Setup

To access the BIOS Setup program, press the <Delete> key during the POST when the power is turned on. To see more advanced BIOS Setup menu options, you can press <Ctrl> + <F1> in the main menu of the BIOS Setup program.

To upgrade the BIOS, use either the GIGABYTE Q-Flash or @BIOS utility.

• Q-Flash allows the user to quickly and easily upgrade or back up BIOS without entering the operating system.

• @BIOS is a Windows-based utility that searches and downloads the latest version of BIOS from the Internet and updates the BIOS.

> • Because BIOS flashing is potentially risky, if you do not encounter problems using the current version of BIOS, it is recommended that you not flash the BIOS. To flash the BIOS, do it with caution. Inadequate BIOS flashing may result in system malfunction.
> • It is recommended that you not alter the default settings (unless you need to) to prevent system instability or other unexpected results. Inadequately altering the settings may result in system's failure to boot. If this occurs, try to clear the CMOS values and reset the board to default values. (Refer to the "Load Optimized Defaults" section in this chapter or introductions of the battery/ clearing CMOS jumper in Chapter 1 for how to clear the CMOS values.)

2-1   Startup Screen

The following screens may appear when the computer boots.

Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2010, Award Software, Inc.

Motherboard Model → M68MT-S2 D9 ← **BIOS Version**

<DEL>: BIOS Setup <F9>: XpressRecovery2 <F12>: Boot Menu <End>: Qflash → **Function Keys**
10/18/2010-NV-MCP68-6A61KG0PC-00
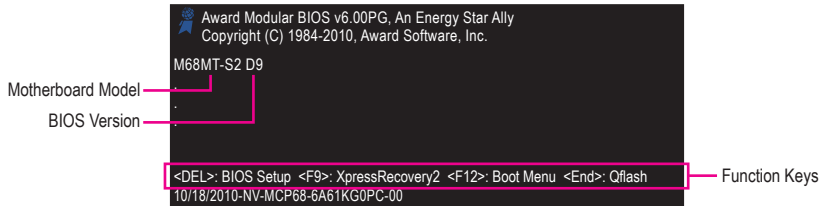
2-2   The Main Menu

Once you enter the BIOS Setup program, the Main Menu (as shown below) appears on the screen. Use arrow keys to move among the items and press <Enter> to accept or enter a sub-menu.

(Sample BIOS Version: D9)

CMOS Setup Utility-Copyright (C) 1984-2010 Award Software	
▶ MB Intelligent Tweaker(M.I.T.) ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving
ESC: Quit F8: Q-Flash	↑↓→←: Select Item F10: Save & Exit Setup
Change CPU's Clock & Voltage	

- • If you do not find the settings you want in the Main Menu or a submenu, press <Ctrl>+<F1> to access more advanced options.
- • When the system is not stable as usual, select the **Load Optimized Defaults** item to set your system to its defaults.
- • The BIOS Setup menus described in this chapter are for reference only and may differ by BIOS version.

2-3   MB Intelligent Tweaker(M.I.T.)

```
                    CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                                MB Intelligent Tweaker(M.I.T.)

     Set Memory Clock                      [Auto]                        Item Help
 x   Memory Clock                           x6.66        1333Mhz     Menu Level   ▶▶
 ▶   DRAM Configuration                     [Press Enter]
     DDR3 Voltage Control                   [Normal]
     CPU NB VID Control                     [Normal]
     CPU Voltage Control                    [Normal]
     Normal CPU Vcore                       1.1500V


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

Whether the system will work stably with the overclock settings you made is dependent on your over-all system configurations. Incorrectly doing overclock may result in damage to CPU, chipset, or memory and reduce the useful life of these components. This page is for advanced users only and we recommend you not to alter the default settings to prevent system instability or other unexpected results. (Inadequately altering the settings may result in system's failure to boot. If this occurs, clear the CMOS values and reset the board to default values.)

☞ **Set Memory Clock**

Determines whether to manually set the memory clock. **Auto** lets BIOS automatically set the memory clock as required. **Manual** allows the memory clock control item below to be configurable. (Default: Auto)

☞ **Memory Clock**

This option is configurable only when **Set Memory Clock** is set to **Manual**.

▶ X4.00   Sets Memory Clock to X4.00.
▶ X5.33   Sets Memory Clock to X5.33.
▶ X6.66   Sets Memory Clock to X6.66.
▶ X8.00   Sets Memory Clock to X8.00.

⊃ **DRAM Configuration**

```
                   CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                                     DRAM Configuration

     DCTs Mode                     [Unganged]                          Item Help
     DDR3 Timing Items             [Auto]        SPD         Auto    Menu Level  ▶▶
  x  CAS# latency                  Auto          7T          7T
  x  RAS to CAS R/W Delay          Auto          7T          7T
  x  Row Precharge Time            Auto          7T          7T
  x  Minimum RAS Active Time       Auto          20T         20T
  x  1T/2T Command Timing          Auto          --          --
  x  TwTr Command Delay            Auto          4T          4T
  x  Trfc0 for DIMM1               Auto          110ns       110ns
  x  Trfc1 for DIMM3               Auto          --          --
  x  Write Recovery Time           Auto          8T          8T
  x  Precharge Time                Auto          4T          4T
  x  Row Cycle Time                Auto          27T         27T
  x  RAS to RAS Delay              Auto          4T          4T
     CKE Power Down Mode           [Disabled]
     CKE Power Down Control        [per Channel]



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

⊃ **DCTs Mode**

Allows you to set memory control mode.

▶▶ Ganged   Sets memory control mode to single dual-channel.

▶▶ Unganged   Sets memory control mode to two single-channel. (Default)

⊃ **DDR3 Timing Items**

Manual allows all DDR3 Timing items below to be configurable.

Options are: Auto (default), Manual.

⊃ **CAS# latency**

Options are: Auto (default), 4T~12T.

⊃ **RAS to CAS R/W Delay**

Options are: Auto (default), 5T~12T.

⊃ **Row Precharge Time**

Options are: Auto (default), 5T~12T.

⊃ **Minimum RAS Active Time**

Options are: Auto (default), 15T~30T.

⊃ **1T/2T Command Timing**

Options are: Auto (default), 1T, 2T.

⊃ **TwTr Command Delay**

Options are: Auto (default), 4T~7T.

⊃ **Trfc0 for DIMM1**

Options are: Auto (default), 90ns, 110ns, 160ns, 300ns, 350ns.

⊃ **Trfc1 for DIMM3**

Options are: Auto (default), 90ns, 110ns, 160ns, 300ns, 350ns.

⊃ **Write Recovery Time**

Options are: Auto (default), 5T~12T.

☞ **Precharge Time**

Options are: Auto (default), 4T~7T.

☞ **Row Cycle Time**

Options are: Auto (default), 11T~42T.

☞ **RAS to RAS Delay**

Options are: Auto (default), 4T~7T.

☞ **CKE Power Down Mode**

Determines whether to set the memory to power down mode when the CKE pin is closed. (Default: Disabled)

☞ **CKE Power Down Control**

Allows you to select a CKE power down mode. Options are per Channel (Default), per CS.

☞ **DDR3 Voltage Control**

Allows you to set the memory voltage.

▶▶ Normal   Supplies the memory voltage as required. (Default)

▶▶ +0.1V ~ +0.7V   The adjustable range is from +0.1V to +0.7V.

Note: Increasing memory voltage may result in damage to the memory or reduce the useful life of the memory.

☞ **CPU NB VID Control**

Allows you to set the CPU Northbridge VID voltage. **Auto** sets the CPU Northbridge VID voltage as required. The adjustable range is dependent on the CPU being installed. (Default: Normal)

Note: Increasing CPU voltage may result in damage to your CPU or reduce the useful life of the CPU.

☞ **CPU Voltage Control**

Allows you to set the CPU voltage. **Auto** sets the CPU voltage as required. The adjustable range is dependent on the CPU being installed. (Default: Normal)

Note: Increasing CPU voltage may result in damage to your CPU or reduce the useful life of the CPU.

☞ **Normal CPU Vcore**

Displays the normal operating voltage of your CPU.

2-4   Standard CMOS Features

```
                     CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                                  Standard CMOS Features
┌──────────────────────────────────────────────────────────────────────────────────┐
│  Date (mm:dd:yy)                    Thu, Oct.  21  2010          Item Help          │
│  Time (hh:mm:ss)                    22:31:24               Menu Level    ▶          │
│                                                                                    │
│ ▶  IDE Channel 0 Master             [None]                                         │
│ ▶  IDE Channel 1 Slave              [None]                                         │
│ ▶  IDE Channel 2 Master             [None]                                         │
│ ▶  IDE Channel 3 Master             [None]                                         │
│                                                                                    │
│    Halt On                          [All, But Keyboard]                            │
│                                                                                    │
│    Base Memory                      640K                                           │
│    Extended Memory                  1790M                                          │
│                                                                                    │
│                                                                                    │
│                                                                                    │
│                                                                                    │
│ ↑↓→←: Move      Enter: Select      +/-/PU/PD: Value      F10: Save      ESC: Exit      F1: General Help │
│          F5: Previous Values       F6: Fail-Safe Defaults          F7: Optimized Defaults │
└──────────────────────────────────────────────────────────────────────────────────┘
```

☏ **Date (mm:dd:yy)**

Sets the system date.

☏ **Time (hh:mm:ss)**

Sets the system time.

☏ **IDE Channel 0 Master/Slave, IDE Channel 1, 2, 3 Master**

▶▶ IDE HDD Auto-Detection, IDE Auto-Detection

Press <Enter> to autodetect the parameters of the IDE/SATA device on this channel.

▶▶ IDE Channel 0 Master/Slave, Extended IDE Drive

Configure your IDE/SATA devices by using one of the three methods below:

    • Auto   Lets the BIOS automatically detect IDE/SATA devices during the POST. (Default)

    • None   If no IDE/SATA devices are used, set this item to **None** so the system will skip the
    detection of the device during the POST for faster system startup.

▶▶ Access Mode   Sets the hard drive access mode. (Default: Auto)

The following fields display your hard drive specifications. If you wish to enter the parameters manually, refer to the information on the hard drive.

▶▶ Capacity   Approximate capacity of the currently installed hard drive.

▶▶ Cylinder   Number of cylinders.

▶▶ Head   Number of heads.

▶▶ Precomp   Write precompensation cylinder.

▶▶ Landing Zone   Landing zone.

▶▶ Sector   Number of sectors.

☏ **Halt On**

Allows you to determine whether the system will stop for an error during the POST.

Options are: "All Errors," "No Errors," "All, But Keyboard" (default), "All, But Diskette," "All, But Disk/Key."

☏ **Memory**

These fields are read-only and are determined by the BIOS POST.

2-5 Advanced BIOS Features

		Item Help
Virtualization	[Enabled]	Menu Level ▶
AMD K8 Cool&Quiet control	[Auto]	
CPU Unlock (Note)	[Disabled]	
CPU core Control	[Auto]	
x CPU core 0 (Note)	Enabled	
x CPU core 1 (Note)	Enabled	
x CPU core 2 (Note)	Enabled	
x CPU core 3 (Note)	Enabled	
▶ Hard Disk Boot Priority	[Press Enter]	
First Boot Device	[Floppy]	
Second Boot Device	[Hard Disk]	
Third Boot Device	[CDROM]	
Password Check	[Setup]	
HDD S.M.A.R.T. Capability	[Disabled]	
Away Mode	[Disabled]	
Init Display First	[PEG]	
Frame Buffer Size	[Auto]	
Onboard GPU	[Enable If No Ext PEG]	

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

⌐ **Virtualization**

Virtualization allows a platform to run multiple operating systems and applications in independent parti-tions. With virtualization, one computer system can function as multiple virtual systems.
(Default: Enabled)

⌐ **AMD K8 Cool&Quiet control**

▶ Auto   Lets the AMD Cool'n'Quiet driver dynamically adjust the CPU clock and VID to reduce heat output from your computer and its power consumption. (Default)

▶ Disabled   Disables this function.

⌐ **CPU Unlock** (Note)

Allows you to determine whether to unlock hidden CPU cores. (Default: Disabled)

⌐ **CPU core Control**

Allows you to determine whether to manually enable/disable CPU Core 2 and Core 3. **Manual** allows the two items below to be configurable.

▶ Auto   Lets the BIOS to enable all CPU cores (number of cores available depends on the CPU being used).

▶ Manual   Allows you to individually enable/disable CPU Core 2 and Core 3.

⌐ **CPU core 0** (Note)

Enables or disables CPU Core 0. (Default: Enabled)

⌐ **CPU core 1** (Note)

Enables or disables CPU Core 1. (Default: Enabled)

⌐ **CPU core 2** (Note)

Enables or disables CPU Core 2. (Default: Enabled)

⌐ **CPU core 3** (Note)

Enables or disables CPU Core 3. (Default: Enabled)

⌐ **Hard Disk Boot Priority**

Specifies the sequence of loading the operating system from the installed hard drives.

(Note)   This item appears only if you install a CPU that supports this feature.

- **First/Second/Third Boot Device**

  Specifies the boot order from the available devices.
- **Password Check**

  Specifies whether a password is required every time the system boots, or only when you enter BIOS Setup. After configuring this item, set the password(s) under the **Set Supervisor/User Password** item in the BIOS Main Menu.
  - ▶ Setup A password is only required for entering the BIOS Setup program. (Default)
  - ▶ System A password is required for booting the system and for entering the BIOS Setup program.
- **HDD S.M.A.R.T. Capability**

  Enables or disables the S.M.A.R.T. (Self Monitoring and Reporting Technology) capability of your hard drive. This feature allows your system to report read/write errors of the hard drive and to issue warnings when a third party hardware monitor utility is installed. (Default: Enabled)
- **Away Mode**

  Enables or disables Away Mode in Windows XP Media Center operating system. Away Mode allows the system to silently perform unattended tasks while in a low-power mode that appears off.
  (Default: Disabled)
- **Init Display First**

  Specifies the first initiation of the monitor display from the installed PCI graphics card, PCI Express graphics card, or the onboard graphics.
  - ▶ PCI Slot Sets the PCI graphics card as the first display.
  - ▶ Onboard VGA Sets the onboard graphics as the first display.
  - ▶ PEG Sets the PCI Express graphics card as the first display. (Default)
- **Frame Buffer Size**

  Frame buffer size is the total amount of system memory allocated solely for the onboard graphics controller. MS-DOS, for example, will use only this memory for display. Options are: Auto (Default), Disabled, 32M, 64M, 128M, 256M.
- **Onboard GPU**

  Enables or disables the onboard graphics function.
  - ▶ Enable If No Ext PEG

  Activates the onboard graphics only if no PCI Express graphics card is installed. (Default)
  - ▶ Always Enable

  Always activates the onboard graphics, whether or not a PCI Express card is installed. If you wish to set up a dual view configuration, set this item to Always Enable.

2-6   Integrated Peripherals

```
                    CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                                   Integrated Peripherals

      NV Serial-ATA Controller                [All Enabled]              Item Help
   ▶  Serial-ATA RAID Config                  [Press Enter]          Menu Level    ▶
      Onboard Audio Function                  [Auto]
      On-Chip MAC Lan                         [Auto]
      Onboard LAN Boot ROM                    [Disabled]
      Onboard Serial Port 1                   [3F8/IRQ4]
      Onboard Parallel Port                   [378/IRQ7]
      Parallel Port Mode                      [SPP]
   x  ECP Mode Use DMA                        3
      USB Controllers                         [Enabled]
      USB Legacy Function                     [Enabled]
      USB Storage Function                    [Enabled]



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

  🀯 **NV Serial-ATA Controller**

Enables or disables the integrated SATA controller(s). You can select whether to enable all SATA control-
lers or only the first SATA controller. (Default: All Enabled)

  🀯 **Serial-ATA RAID Config**

```
                    CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                                   Serial-ATA RAID Config
      NV SATA RAID function                   [Disabled]               Item Help
   x  NV SATA 1 Primary RAID                  Enabled              Menu Level    ▶▶
   x  NV SATA 1 Secondary RAID                Enabled
   x  NV SATA 2 Primary RAID                  Enabled
   x  NV SATA 2 Secondary RAID                Enabled

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

  🀯 **NV SATA RAID function**

Enables or disables RAID for the integrated SATA 3Gb/s controllers. Enabled allows you to configure
RAID for individual SATA channel. (Default: Disabled)

  🀯 **NV SATA 1 Primary RAID**

Enables or disables RAID for the first channel of the first integrated SATA 3Gb/s controller. This item is
configurable only if the **NV SATA RAID function** item is set to Enabled. (Default: Enabled)

  🀯 **NV SATA 1 Secondary RAID**

Enables or disables RAID for the second channel of the first integrated SATA 3Gb/s controller. This item
is configurable only if the **NV SATA RAID function** item is set to Enabled. (Default: Enabled)

  🀯 **NV SATA 2 Primary RAID**

Enables or disables RAID for the first channel of the second integrated SATA 3Gb/s controller. This item
is configurable only if the **NV SATA RAID function** item is set to Enabled. (Default: Enabled)

  🀯 **NV SATA 2 Secondary RAID**

Enables or disables RAID for the second channel of the second integrated SATA 3Gb/s controller. This
item is configurable only if the **NV SATA RAID function** item is set to Enabled. (Default: Enabled)

- **Onboard Audio Function**

  Enables or disables the onboard audio function. (Default: Auto)
  If you wish to install a 3rd party add-in audio card instead of using the onboard audio, set this item to **Disabled**.

- **On-Chip MAC Lan**

  Enables or disables the onboard LAN function. (Default: Auto)
  If you wish to install a 3rd party add-in network card instead of using the onboard LAN, set this item to **Disabled**.

- **Onboard LAN Boot ROM**

  Allows you to decide whether to activate the boot ROM integrated with the onboard LAN chip.
  (Default: Disabled)

- **Onboard Serial Port 1**

  Enables or disables the first serial port and specifies its base I/O address and corresponding interrupt.
  Options are: Auto, 2F8/IRQ3, 3F8/IRQ4(default), 3E8/IRQ4, 2E8/IRQ3, Disabled.

- **Onboard Parallel Port**

  Enables or disables the onboard parallel port (LPT) and specifies its base I/O address and corresponding interrupt. Options are: 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

- **Parallel Port Mode**

  Selects an operating mode for the onboard parallel (LPT) port. Options are: SPP (Standard Parallel Port) (default), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port), ECP+EPP.

- **ECP Mode Use DMA**

  Selects DMA channel for the LPT port in ErP mode. This item is configurable only if **Parallel Port Mode** is set to **ECP** or **ECP+EPP** mode. Options are: 3 (default), 1.

- **USB Controllers**

  Enables or disables the integrated USB controllers. (Default: Enabled)
  Disabled will turn off all of the USB functionalities below.

- **USB Legacy Function**

  Allows USB keyboard to be used in MS-DOS. (Default: Enabled)

- **USB Storage Function**

  Determines whether to detect USB storage devices, including USB flash drives and USB hard drives during the POST. (Default: Enabled)

2-7 Power Management Setup

```
                CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                            Power Management Setup

    ACPI Suspend Type                        [S3(STR)]              Item Help
    Soft-Off by Power button                 [Instant-Off]        Menu Level  ▶
    PME Event Wake Up                        [Enabled]
    Modem Ring On                            [Enabled]
    USB Resume from Suspend                  [Enabled]
    Power-On by Alarm                        [Disabled]
  x Day of Month Alarm                       Everyday
  x Time (hh:mm:ss) Alarm                    0 : 0 : 0
    HPET Support (Note)                      [Enabled]
    HPET Mode (Note)                         [32-bit mode]
    Power On By Mouse                        [Disabled]
    Power On By Keyboard                     [Disabled]
  x KB Power ON Password                     Enter
    AC Back Function                         [Soft-Off]
    ErP Support                              [Disabled]

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

☞ **ACPI Suspend Type**

Specifies the ACPI sleep state when the system enters suspend.

▶ S1(POS)   Enables the system to enter the ACPI S1 (Power on Suspend) sleep state.
               In S1 sleep state, the system appears suspended and stays in a low power mode.
               The system can be resumed at any time.

▶ S3(STR)   Enables the system to enter the ACPI S3 (Suspend to RAM) sleep state (default).
               In S3 sleep state, the system appears to be off and consumes less power than in
               the S1 state. When signaled by a wake-up device or event, the system resumes to
               its working state exactly where it was left off.

☞ **Soft-Off by Power button**

Configures the way to turn off the computer in MS-DOS mode using the power button.

▶ Instant-Off   Press the power button and then the system will be turned off instantly. (Default)

▶ Delay 4 Sec.   Press and hold the power button for 4 seconds to turn off the system. If the power
                  button is pressed for less than 4 seconds, the system will enter suspend mode.

☞ **PME Event Wake Up**

Allows the system to be awakened from an ACPI sleep state by a wake-up signal from a PCI or PCIe de-vice. Note: To use this function, you need an ATX power supply providing at least 1A on the +5VSB lead. (Default: Enabled)

☞ **Modem Ring On**

Allows the system to be awakened from an ACPI sleep state by a wake-up signal from a modem that supports wake-up function. (Default: Enabled)

☞ **USB Resume from Suspend**

Allows the system to be awakened from ACPI S3 sleep state by a wake-up signal from the installed USB device. (Default: Enabled)

(Note)   Supported on Windows 7/Vista operating system only.

- **Power-On by Alarm**

  Determines whether to power on the system at a desired time. (Default: Disabled)

  If enabled, set the date and time as following:

  ▶▶ Day of Month Alarm: Turn on the system at a specific time on each day or on a specific day in a month.

  ▶▶ Time (hh: mm: ss) Alarm: Set the time at which the system will be powered on automatically.

  Note: When using this function, avoid inadequate shutdown from the operating system or removal of the AC power, or the settings may not be effective.

- **HPET Support** (Note)

  Enables or disables High Precision Event Timer (HPET) for Windows 7/Vista operating system.

  (Default: Enabled)

- **HPET Mode** (Note)

  Allows you to select the HPET mode for your Windows 7/Vista operating system. This item is configurable only if the **HPET Support** is set to **Enabled**. (Default: 32-bit mode)

- **Power On By Mouse**

  Allows the system to be turned on by a PS/2 mouse wake-up event. (Default: Disabled)

  Note: To use this function, you need an ATX power supply providing at least 1A on the +5VSB lead.

  ▶▶ Double Click   Double click on left button on the PS/2 mouse to turn on the system.

- **Power On By Keyboard**

  Allows the system to be turned on by a PS/2 keyboard wake-up event. (Default: Disabled)

  Note: you need an ATX power supply providing at least 1A on the +5VSB lead.

  ▶▶ Password   Set a password with 1~5 characters to turn on the system.

  ▶▶ Any KEY   Press any key on the keyboard to turn on the system.

  ▶▶ Keyboard 98   Press POWER button on the Windows 98 keyboard to turn on the system.

- **KB Power ON Password**

  Set the password when **Power On by Keyboard** is set to **Password**. Press <Enter> on this item and set a password with up to 5 characters and then press <Enter> to accept. To turn on the system, enter the password and press <Enter>.

  Note: To cancel the password, press <Enter> on this item. When prompted for the password, press <Enter> again without entering the password to clear the password settings.

- **AC Back Function**

  Determines the state of the system after the return of power from an AC power loss.

  ▶▶ Soft-Off   The system stays off upon the return of the AC power. (Default)

  ▶▶ Full-On   The system is turned on upon the return of the AC power.

- **ErP Support**

  Determines whether to let the system consume less than 1W power in S5 (shutdown) state. (Default: Disabled)

  Note: When this item is set to Enabled, the following four functions will become unavailable:

  PME event wake up, power on by mouse, power on by keyboard, and wake on LAN.

(Note)   Supported on Windows 7/Vista operating system only.

2-8 PnP/PCI Configurations

```
                      CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                                     PnP/PCI Configurations
  PCI1 IRQ Assignment                        [Auto]                          Item Help
  PCI2 IRQ Assignment                        [Auto]                  Menu Level    ▶




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

☞ **PCI1/2 IRQ Assignment**

➚ Auto   BIOS auto-assigns IRQ to the first/second PCI slot. (Default)
➚ 3,4,5,7,9,10,11,12,14,15   Assigns IRQ 3,4,5,7,9,10,11,12,14,15 to the first/second PCI slot.

2-9 PC Health Status

```
                      CMOS Setup Utility-Copyright (C) 1984-2010 Award Software
                                       PC Health Status
  Reset Case Open Status                     [Disabled]                      Item Help
  Case Opened                                 No                      Menu Level    ▶
  Vcore                                        1.364V
  DDR3 1.5V                                    1.520V
  +3.3V                                        3.280V
  +12V                                        12.048V
  Current System Temperature                  38ºC
  Current CPU Temperature                     36ºC
  Current CPU FAN Speed                     1962 RPM
  Current SYSTEM FAN Speed                     0 RPM
  System Warning Temperature                 [Disabled]
  CPU Warning Temperature                    [Disabled]
  CPU FAN Fail Warning                       [Disabled]
  SYSTEM FAN Fail Warning                    [Disabled]
  CPU Smart FAN Control                      [Enabled]
  CPU Smart FAN Mode                         [Auto]


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

☞ **Reset Case Open Status**

Keeps or clears the record of previous chassis intrusion status. **Enabled** clears the record of previous chassis intrusion status and the **Case Opened** field will show "No" at next boot. (Default: Disabled)

☞ **Case Opened**

Displays the detection status of the chassis intrusion detection device attached to the motherboard CI header. If the system chassis cover is removed, this field will show "Yes", otherwise it will show "No". To clear the chassis intrusion status record, set **Reset Case Open Status** to **Enabled**, save the settings to the CMOS, and then restart your system.

☞ **Current Voltage(V) Vcore/DDR3 1.5V/+3.3V/+12V**

Displays the current system voltages.

☞ **Current System/CPU Temperature**

Displays current system/CPU temperature.

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

Displays current CPU/system fan speed.

☞ **System/CPU Warning Temperature**

Sets the warning threshold for system/CPU temperature. When system/CPU temperature exceeds the threshold, BIOS will emit warning sound. Options are: Disabled (default), 60ºC/140ºF, 70ºC/158ºF, 80ºC/176ºF, 90ºC/194ºF.

☞ **CPU/SYSTEM FAN Fail Warning**

Allows the system to emit warning sound if the CPU/system fan is not connected or fails. Check the fan condition or fan connection when this occurs. (Default: Disabled)

☞ **CPU Smart FAN Control**

Enables or disables the CPU fan speed control function. **Enabled** allows the CPU fan to run at different speed according to the CPU temperature. You can adjust the fan speed with EasyTune based on system requirements. If disabled, the CPU fan runs at full speed. (Default: Enabled)

☞ **CPU Smart FAN Mode**

Specifies how to control CPU fan speed. This item is configurable only if **CPU Smart FAN Control** is set to **Enabled**.

▷ Auto Lets the BIOS automatically detect the type of CPU fan installed and sets the optimal CPU fan control mode. (Default)

▷ Voltage Sets Voltage mode for a 3-pin CPU fan.

▷ PWM Sets PWM mode for a 4-pin CPU fan.

2-10 Load Fail-Safe Defaults

CMOS Setup Utility-Copyright (C) 1984-2010 Award Software	
▶ MB Intelligent Tweaker(M.I.T.)	Load Fail-Safe Defaults
▶ Standard CMOS Features	Load Optimized Defaults
▶ Advanced BIOS Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power Manageme	Load Fail-Safe Defaults (Y/N)? N
▶ PnP/PCI Configur	
▶ PC Health Status	
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Load Fail-Safe Defaults	

Press <Enter> on this item and then press the <Y> key to load the safest BIOS default settings.

In case system instability occurs, you may try to load Fail-Safe defaults, which are the safest and most stable BIOS settings for the motherboard.

2-11 Load Optimized Defaults

CMOS Setup Utility-Copyright (C) 1984-2010 Award Software

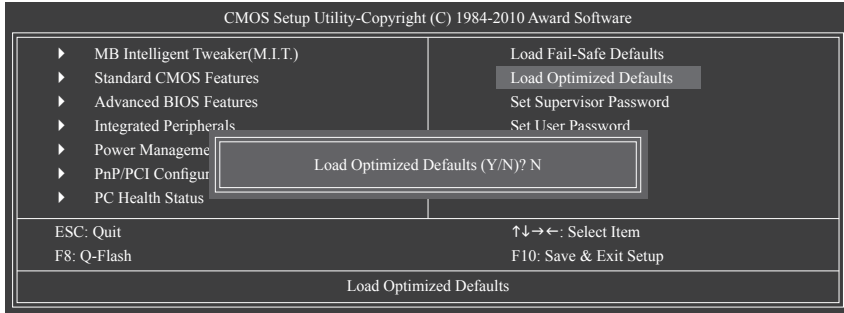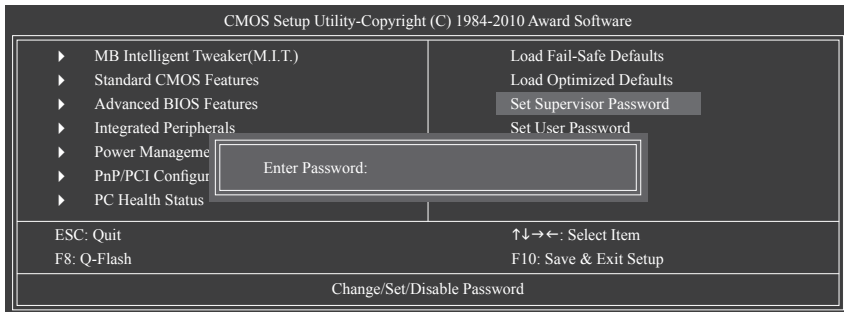|	
▶ MB Intelligent Tweaker(M.I.T.)	Load Fail-Safe Defaults
▶ Standard CMOS Features	Load Optimized Defaults
▶ Advanced BIOS Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power Manageme	
▶ PnP/PCI Configur	Load Optimized Defaults (Y/N)? N
▶ PC Health Status	

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

Load Optimized Defaults

Press <Enter> on this item and then press the <Y> key to load the optimal BIOS default settings.
The BIOS defaults settings help the system to operate in optimum state. Always load the Optimized defaults after updating the BIOS or after clearing the CMOS values.

2-12 Set Supervisor/User Password

CMOS Setup Utility-Copyright (C) 1984-2010 Award Software

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

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

Change/Set/Disable Password

Press <Enter> on this item and type the password with up to 8 characters and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>.

The BIOS Setup program allows you to specify two separate passwords:
☞ **Supervisor Password**

When a system password is set and the **Password Check** item in **Advanced BIOS Features** is set to **Setup**, you must enter the supervisor password for entering BIOS Setup and making BIOS changes.
When the **Password Check** item is set to **System**, you must enter the supervisor password (or user password) at system startup and when entering BIOS Setup.

☞ **User Password**

When the **Password Check** item is set to **System**, you must enter the supervisor password (or user password) at system startup to continue system boot. In BIOS Setup, you must enter the supervisor password if you wish to make changes to BIOS settings. The user password only allows you to view the BIOS settings but not to make changes.

To clear the password, press <Enter> on the password item and when requested for the password, press <Enter> again. The message "PASSWORD DISABLED" will appear, indicating the password has been cancelled.

2-13 Save & Exit Setup

```
                    CMOS Setup Utility-Copyright (C) 1984-2010 Award Software

   ▶   MB Intelligent Tweaker(M.I.T.)                       Load Fail-Safe Defaults
   ▶   Standard CMOS                                                          ults
   ▶   Advanced BIOS         Save to CMOS and EXIT (Y/N)? Y                   ord
   ▶   Integrated Periphe
   ▶   Power Management Setup                              Save & Exit Setup
   ▶   PnP/PCI Configurations                              Exit Without Saving
   ▶   PC Health Status

   ESC: Quit                                      ↑↓→←: Select Item
   F8: Q-Flash                                    F10: Save & Exit Setup
                              Save Data to CMOS
```
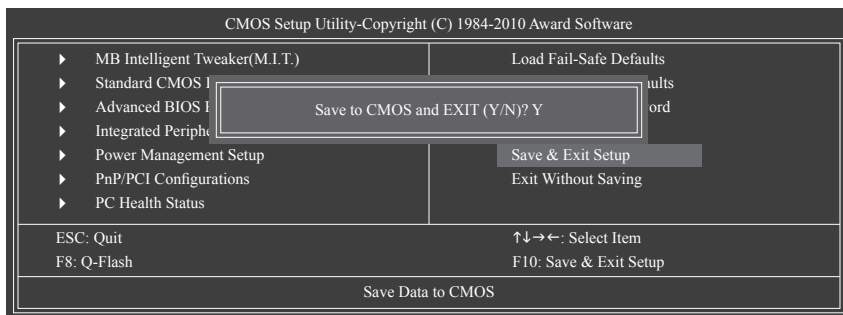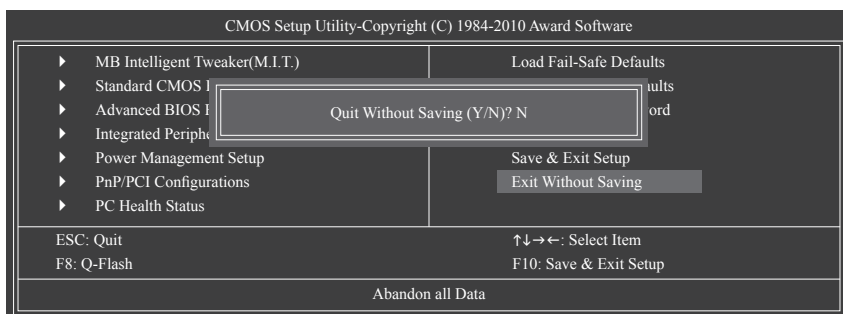
Press <Enter> on this item and press the <Y> key. This saves the changes to the CMOS and exits the BIOS Setup program. Press <N> or <Esc> to return to the BIOS Setup Main Menu.

2-14 Exit Without Saving

```
                    CMOS Setup Utility-Copyright (C) 1984-2010 Award Software

   ▶   MB Intelligent Tweaker(M.I.T.)                       Load Fail-Safe Defaults
   ▶   Standard CMOS                                                          ults
   ▶   Advanced BIOS          Quit Without Saving (Y/N)? N                    ord
   ▶   Integrated Periphe
   ▶   Power Management Setup                              Save & Exit Setup
   ▶   PnP/PCI Configurations                              Exit Without Saving
   ▶   PC Health Status

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

Press <Enter> on this item and press the <Y> key. This exits the BIOS Setup without saving the changes made in BIOS Setup to the CMOS. Press <N> or <Esc> to return to the BIOS Setup Main Menu.

Chapter 3   Drivers Installation

![pencil icon] • Before installing the drivers, first install the operating system.
• After installing the operating system, insert the motherboard driver disk into your optical drive. The driver Autorun screen is automatically displayed which looks like that shown in the screen shot below. (If the driver Autorun screen does not appear automatically, go to My Computer, double-click the optical drive and execute the **Run**.exe program.)

Installing Chipset Drivers

After inserting the driver disk, "Xpress Install" will automatically scan your system and then list all the drivers that are recommended to install. You can click the **Install All** button and "Xpress Install" will install all the recommended drivers. Or click **Install Single Items** to manually select the drivers you wish to install.
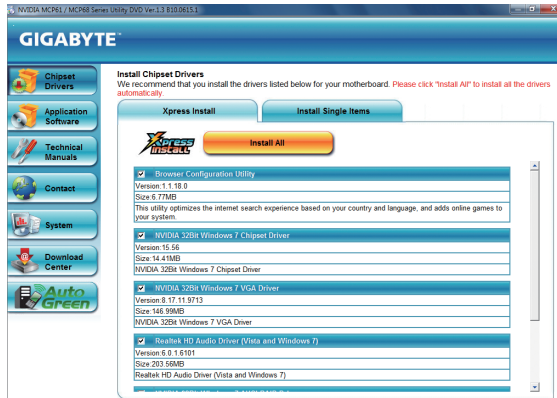
Chapter 4   Appendix

Configuring SATA Hard Drive(s)

Before you begin
Please prepare:
• At least two SATA hard drives (to ensure optimal performance, it is recommended that you use two hard drives with identical model and capacity). If you do not want to create RAID, you may prepare only one hard drive.
• An empty formatted floppy disk.
• Windows Vista/XP setup disk.
• Motherboard driver disk.

Configuring the Onboard SATA Controller
A. Installing SATA hard drive(s) in your computer
Attach one end of the SATA signal cable to the rear of the SATA hard drive and the other end to available SATA port on the motherboard. Then connect the power connector from your power supply to the hard drive.
B. Configuring SATA controller mode in BIOS Setup
Make sure to configure the SATA controller mode correctly in system BIOS Setup. For the BIOS Setup menus, refer to Chapter 2, "BIOS Setup," "Integrated Peripherals."

Steps:
1. Turn on your computer and press <Delete> to enter BIOS Setup during the POST (Power-On Self-Test). Under **Integrated Peripherals**, make sure **NV Serial-ATA Controller** is enabled. To enable RAID, go to the **Serial-ATA RAID Config** sub-menu.
2. Set **NV SATA RAID function** to **Enabled** to enable RAID control for each SATA connector. Then enable the SATA channels with hard drives that you want to use for RAID (for example, **NV SATA 1 Primary RAID** controls the SATA2_0 connector and **NV SATA 1 Secondary RAID** controls the SATA2_1 connector).
3. Save changes and exit BIOS Setup.

The BIOS Setup options described in this section may differ from the exact settings for your mother-board. The actual BIOS Setup options you will see shall depend on the motherboard you have and the BIOS version.

C. Configuring RAID set in RAID BIOS
Enter the RAID BIOS setup utility to configure a RAID array. After the POST memory test begins and before the operating system boot begins, look for a message which says "Press <F10> to enter RAID setup utility." Hit the <F10> key to enter the NVIDIA RAID setup utility.
Steps:
1. Press the <Tab> key to move from field to field until the appropriate field is highlighted.
2. In the **RAID Mode** field, use the up or down arrow key to select a RAID mode. The following procedure dem-onstrates how a RAID 0 array (Striping) is created.
3. In the **Striping Block** field, use the up or down arrow key to set the striping block size. The striping block size can be set from 4 KB to 128 KB.
4. Next, press <Tab> to move to the **Free Disks** block. Select the target hard drives using the up or down arrow key and use the right arrow key to add the hard drives to the **Array Disks** block.
5. Press <F7>. A message which says "Clear disk data?" appears. Press <Y> to confirm. (If the hard drives contain a previously created RAID array, you need to press <Y> to clear the data in the hard drives.) After that, the **Array List** screen appears, displaying the RAID array that you have created.
6. To exit the NVIDIA RAID setup utility, press <Esc> in the main menu or <Ctrl>+<X> in the **Array List** screen. Now, you can proceed to the installation of the SATA controller driver and operating system.

Making a SATA RAID Driver Diskette

Copy the driver for the SATA controller from the motherboard driver disk to a floppy disk (for Windows XP) or a USB flash drive (for Windows 7/Vista). For example, to copy the RAID driver for Windows XP 32-bit operat-ing system, copy the driver from the following directory to your floppy disk: **BootDrv\UDA\WinXP\sataraid**

Installing the SATA RAID Driver and Operating System

A. Installing Windows XP

Restart your system to boot from the Windows XP setup disk and press <F6> as soon as you see the mes-sage "Press F6 if you need to install a 3rd party SCSI or RAID driver." Insert the floppy disk containing the SATA controller driver. Follow the on-screen instructions to install the two drivers displayed. When completed, proceed with the Windows XP installation.

B. Installing Windows 7/Vista

Restart your system to boot from the Windows 7/Vista setup disk and perform standard OS installation steps. Select **Load Driver**. Insert the floppy disk/USB flash drive (for users using a SATA optical drive) containing the driver or insert the motherboard driver disk. For Windows 7, browse to **BootDrv\UDA\Win7\sataraid** to load the driver and continue the OS installation. For Windows Vista, browse to **BootDrv\UDA\Win Vista\sat-araid** to load the driver and continue the OS installation.

Regulatory Statements

Regulatory Notices

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In addition to high-efficiency performance, all GIGABYTE motherboards fulfill European Union regulations for RoHS (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) and WEEE (Waste Electrical and Electronic Equipment) environmental directives, as well as most major worldwide safety requirements. To prevent releases of harmful substances into the environment and to maximize the use of our natural resources, GIGABYTE provides the following information on how you can responsibly recycle or reuse most of the materials in your "end of life" product.

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GIGABYTE products have not intended to add and safe from hazardous substances (Cd, Pb, Hg, Cr+6, PBDE and PBB). The parts and components have been carefully selected to meet RoHS requirement. Moreover, we at GIGABYTE are continuing our efforts to develop products that do not use internationally banned toxic chemicals.

Waste Electrical & Electronic Equipment (WEEE) Directive Statement

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WEEE Symbol Statement

The symbol shown below is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local government office, your household waste disposal service or where you purchased the product for details of environmentally safe recycling.

◆ When your electrical or electronic equipment is no longer useful to you, "take it back" to your local or regional waste collection administration for recycling.

◆ If you need further assistance in recycling, reusing in your "end of life" product, you may contact us at the Customer Care number listed in your product's user's manual and we will be glad to help you with your effort.

Finally, we suggest that you practice other environmentally friendly actions by understanding and using the energy-saving features of this product (where applicable), recycling the inner and outer packaging (including shipping containers) this product was delivered in, and by disposing of or recycling used batteries properly. With your help, we can reduce the amount of natural resources needed to produce electrical and electronic equipment, minimize the use of landfills for the disposal of "end of life" products, and generally improve our quality of life by ensuring that potentially hazardous substances are not released into the environment and are disposed of properly.

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The following table is supplied in compliance with China's Restriction of Hazardous Substances (China RoHS) requirements:

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Management Methods on Control of Pollution from Electronic Information Products
(China RoHS Declaration)

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

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

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

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

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

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Then select your language to enter the system.