GA-6JIEV2-RH

Intel® mini-ITX Motherboard

USER'S MANUAL

Intel® mini-ITX Motherboard

Rev. 1001

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

* The WEEE marking applies only in European Union's member states.

Notice

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Product Manual Classification

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

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

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

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

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Item Checklist

- ☑ The GA-6JIEV2-RH motherboard
- ☑ I/O Shield Kit
- ☑ CD for motherboard driver & utility
- ☑ GA-6JIEV2-RH Quick Reference Guide
- ☑ Power cable x 1
- ☑ B4P/S4P Cable x 1
- ☑ Optional Power Adapter x 1

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

Chapter 1 Introduction

1-1 Considerations Prior to Installation

Preparing Your Computer

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

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

Installation Notices

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

Instances of Non-Warranty

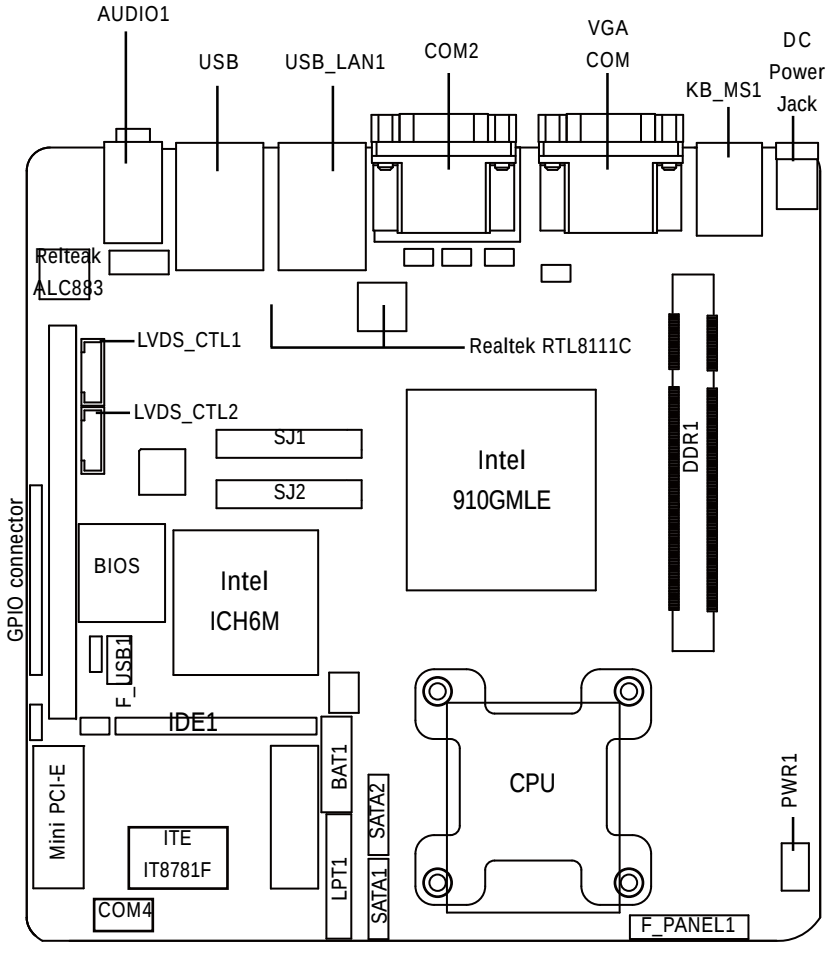
1. Damage due to natural disaster, accident or human cause.
2. Damage as a result of violating the conditions recommended in the user manual.
3. Damage due to improper installation.
4. Damage due to use of uncertified components.
5. Damage due to use exceeding the permitted parameters.
6. Product determined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

1.2 Features Summary

Form Factor	• 170mm x 170mm Mini ITX form factor, 8 layers PCB.
CPU	• Supports single Intel® ULV CeleronM processor • Supports 1GHz
Chipset	• Intel® 910GMLE MCH • Intel® ICH6M
Memory	• 1 x DDR2 DIMM SO-DIMM socket • Supports up to 2GB 400 memory • Supports 1.8V DDR2 DIMMs
I/O Control	• ITE IT8781F Super I/O
Expansion Slots	• Supports 1 PCI slot 32-Bit/33MHz • Supports 1 mini card slot (PCI-E x1/ USB 2.0)
SATA Controller	• Intel® ICH6M
On-Board Graphic	• Build in Intel® 910GMLE chipset • Shared system memory up to 128MB
On-Board Sound	• Relteak® ALC 883 chipset
Internal Connector	• 2 x SATA connectors • 1 x IDE connector • 1 x Serial connectors (COM) • 1 x front audio connector • 1 x USB 2.0 connectors for additional 2 ports by cable • 1 x front panel connecctor • 1 x System fan cable connector • 1 x CPU fan cable connector
Rear Panel I/O	• 1 x DC power jack • 1 x VGA port • 3 x COM port • 4 x USB 2.0 ports • 1 x LAN RJ45 ports • 1 HD Audio jacks (Line-out / MIC-in)
Hardware Monitor	• Enhanced features with CPU Vcore, 1.5V reference, VCC3 (3.3V) , VBAT3V, +5VSB, CPUA/B Temperature, and System Temperature Values viewing • CPU/System Fan Revolution Detect • CPU shutdown when overheat
On-Board LAN	• Realtek RTL8111C GbE LAN controller • Supports WOL, PXE

BIOS	• AWARD BIOS on 4Mb Flash ROM
Additional Features	• External Modem wake up • Supports S1, S3, S4, S5 under Windows Operating System • Wake on LAN (WOL) • Supports Console Redirection • Supports 3-pin Fan controller

1.3 Motherboard Components



Chapter 2 Hardware Installation Process

2-1: Installing Memory Module

CAUTION

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

1. Please make sure the computer power is switched off before installing or removing memory modules.

The motherboard supports DDR2 memory module, whereby BIOS will automatically detect memory capacity and specifications. The memory module only can be inserted in one direction.

Installation Steps:

Step 1. Align the memory with the DIMM module and insert the DIMM memory module into the DIMM slot. Please note that memory module has a foolproof insertion design. A memory module can be installed In only one direction.

Step 2. Push down the memory to seat it firmly.

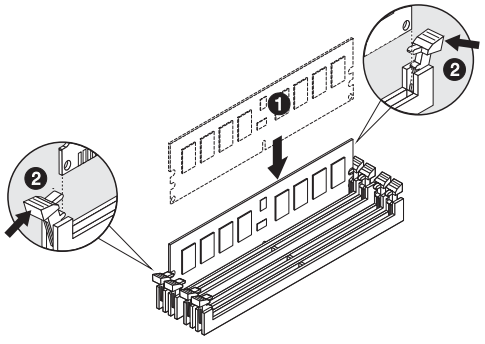
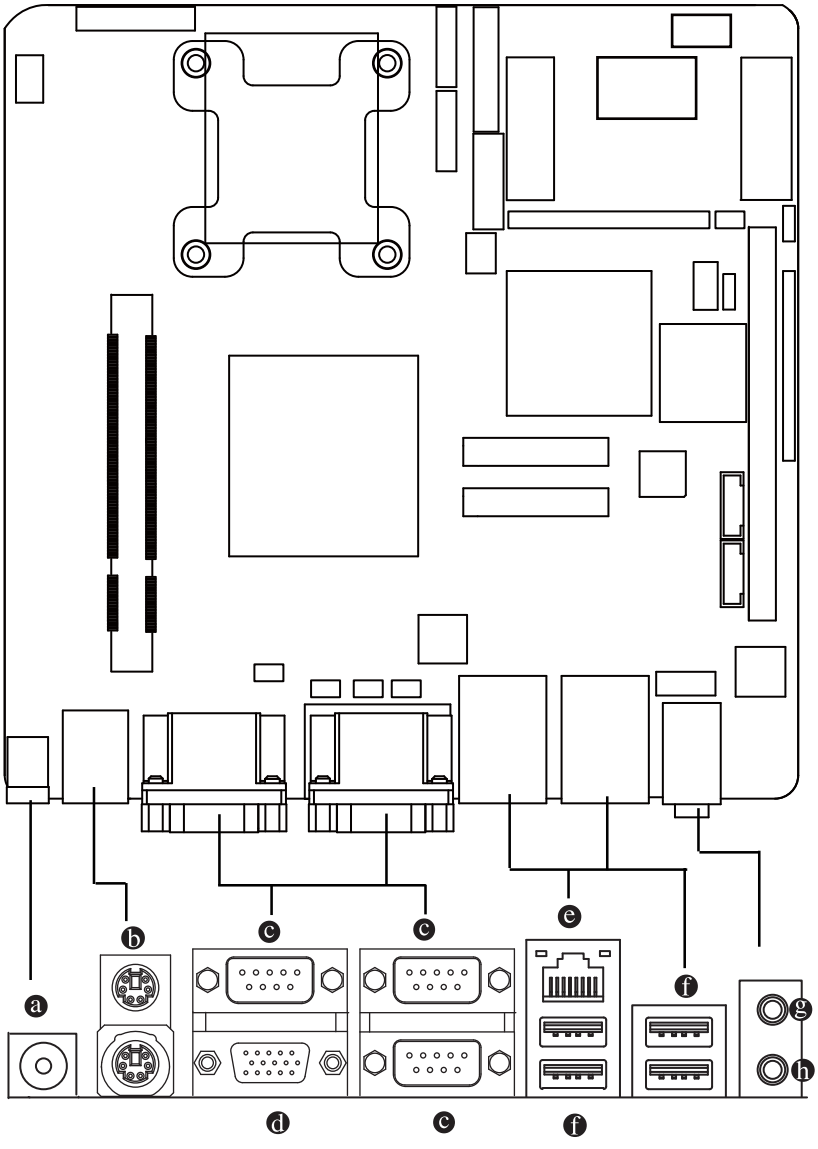


Table 1. Supported DIMM Module Type

Size	Organization	RAM Chips/DIMM
256MB	8MB x 8 x 4 bks	8
	16MB x 16 x 4bks	16
512MB	16MB x 8 x 4bks	8
	32MB x 16 x 4bks	16
1GB	32MB x 8 x 4bks	8
	64MB x 16 x 4bks	16
2GB	32MB x 8 x 4bks	8
	64MB x 16 x 4bks	16

2-2: Connect ribbon cables, cabinet wires, and power supply

2-2-1 : I/O Back Panel Introduction



ⓐ DC Power Jack

Connect the DC power to this port.

ⓑ PS/2 Keyboard and PS/2 Mouse Connector

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

ⓒ COM Port

Modem can be connected to Serial port.

ⓓ VGA Port

Connect the monitor cable to this port.

ⓔ LAN Port

The LAN port provides Internet connection of Gigabit Ethernet with data transfer speeds of 10/100/1000Mbps.

ⓕ USB

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

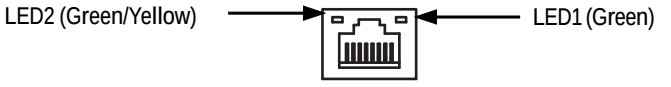
ⓖ Line Out (Front Speaker Out)

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

ⓗ MIC In

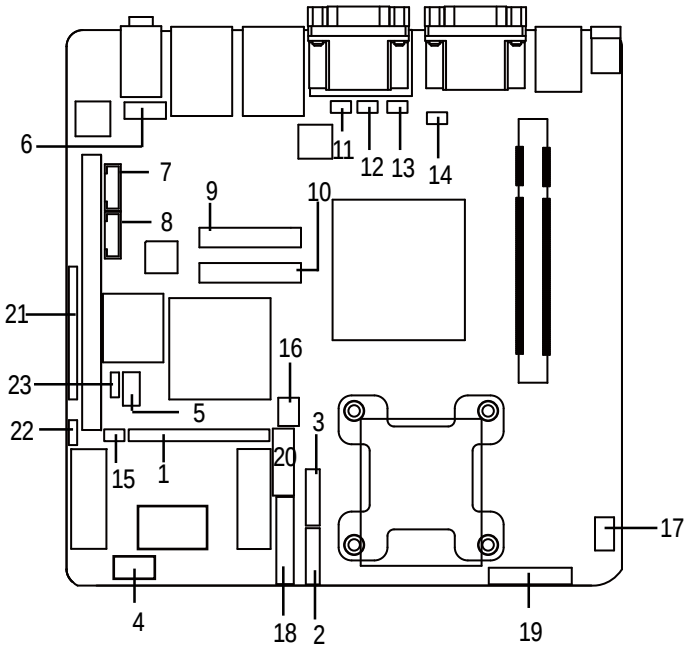
The default MIC In jack. Microphone must be connected to MIC In jack.

LAN LED Description



Name	Color	Condition	Description
LED1	Green	ON	LAN Link / no Access
	Green	BLINK	LAN Access
	-	OFF	Idle
LED2	-	OFF	10Mbps connection
	-	OFF	Port identification with 10 Mbps connection
	Green	ON	100Mbps connection
	Green	BLINK	Port identification with 100Mbps connection
	Yellow	ON	1Gbps connection
	Yellow	BLINK	Port identification with 1Gbps connection

2-3: Connectors Introduction & Jumper Setting

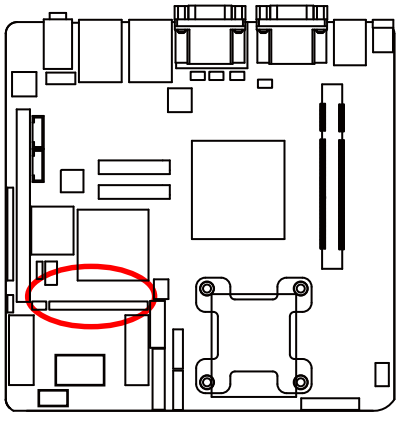


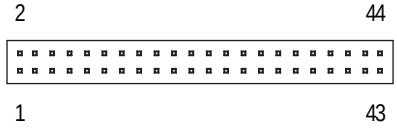
1. IDE1 (IDE cable connector)
2. SATA1 (SATA cable connector)
3. SATA2 (SATA cable connector)
4. COM4
5. F_USB1 (Fornt USB cable connector)
6. F_AUDIO1
7. LVDS_CTL1
8. LVDS_CTL2
9. SJ1
10. SJ2
11. LVDS_PSEL1
12. RI_S2
13. RI_S3
14. RI_S5
15. RI_S4
16. CPU_FAN1
17. PWR1
18. LPT1
19. F_PANEL1 (Front panel connector)
20. BAT1
21. GPIO1
22. CF_S1
23. CLR_CMOS

1) IDE1 (IDE cable connector)

An IDE device connects to the computer via an IDE connector. One IDE connector can connect to one IDE cable, and the single IDE cable can then connect to two IDE devices (hard drive or optical drive). If you want to connect two IDE devices, please set the jumper on one IDE device as Master and the other as Slave (for information, please refer to the instructions located on the IDE device).

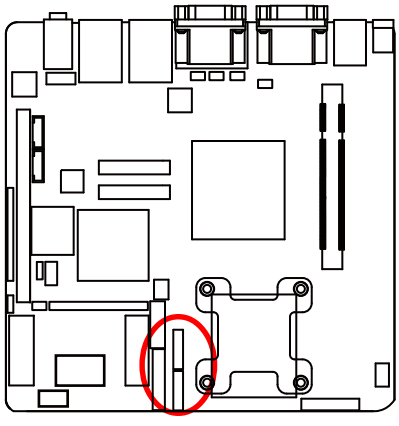
Before attaching the IDE cable, please take note of the foolproof groove in IDE connector.





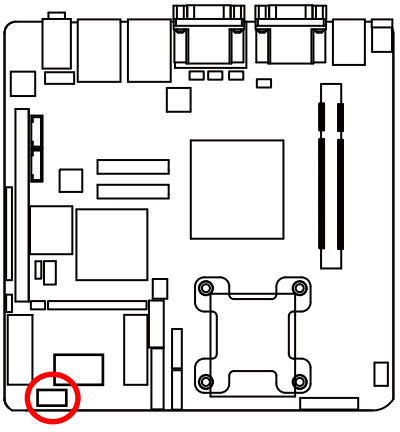
2/3) SATA 1/2 (Serial ATA cable connectors)

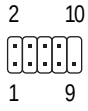
SATA 3Gb/s can provide up to 300MB/s stransfer rate. Please refer to the BIOS setting for the SATA 3Gb/s and install the proper driver in order to work properly.



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

4) COM4

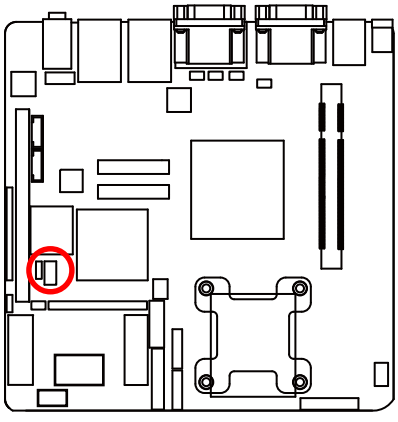


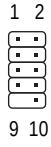


Pin No.	Definition
1	DCD-
2	SIN2
3	SOUT2
4	DTR2-
5	GND
6	DSR2-
7	RTS2-
8	CTS2-
9	RI2-
10	NC

5) F_USB1 (Front USB cable connector)

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

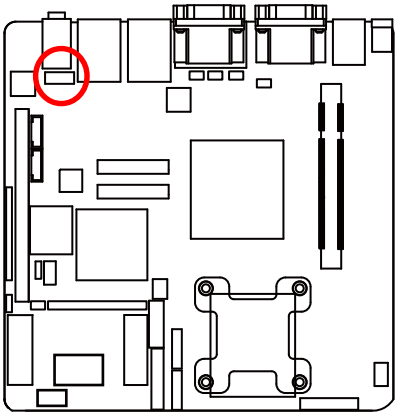


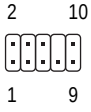


Pin No.	Definition
1	Power
2	Power
3	USB Dx-
4	USB Dy-
5	USB Dx+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

6) F_AUDIO1 (Front AUDIO connector)

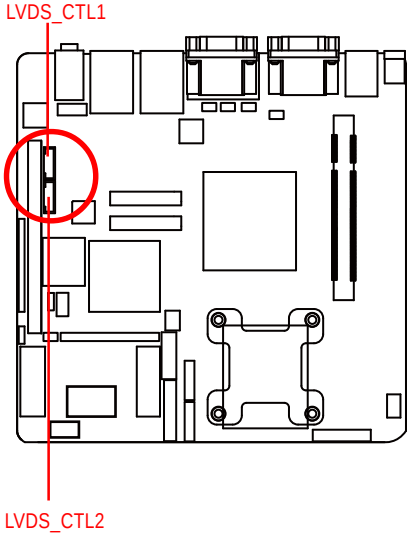
If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer.





Pin No.	Definition
1	MIC_L
2	GND
3	MIC_R
4	-ACZ_DEC
5	Line_R
6	GND
7	Faudio_JD
8	No Pin
9	Line_L
10	GND

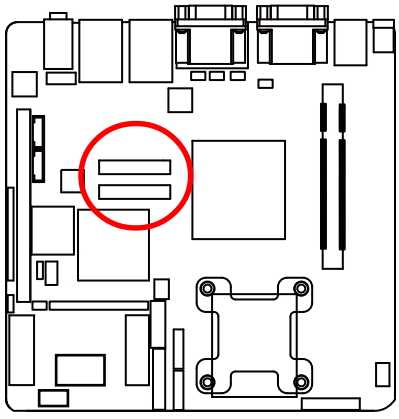
7/8)LVDS_CTL1/LVDS_CTL2 (LVDS panel control connectors)



Pin No.	Definition
1	LBKLT_EN
2	GND
3	NC
4	PANEL_BKLT
5	PANEL_BKLT
6	P5V

9/10) SJ1/SJ2 (LVDS connectors)

LVDS stands for Low-voltage differential signaling, which uses high-speed analog circuit techniques to provide multigigabit data transfers on copper interconnects and is a generic interface standard for high-speed data transmission.



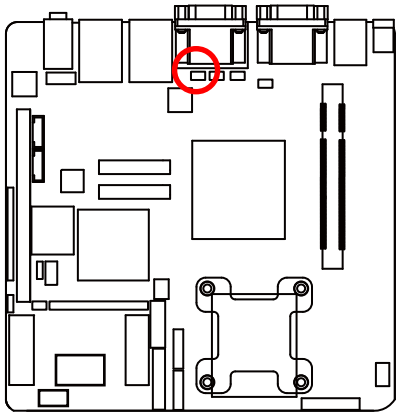
SJ1 Pin Definition

Pin No.	Definition	Pin No.	Definition	Pin No.	Definition	Pin No.	Definition
1	PANEL_VDD	2	PANEL_VDD	21	A2+	22	A6-
3	GND	4	GND	23	GND	24	GND
5	PANEL_VDD	6	PANEL_VDD	25	CLK1-	26	CLK2+
7	A0-	8	A4+	27	CLK1+	28	CLK2-
9	A0+	10	A4-	29	GND	30	GND
11	GND	12	GND	31	NC	32	NC
13	A1-	14	A5+	33	GND	34	GND
15	A1+	16	A5-	35	NC	36	NC
17	GND	18	GND	37	NC	38	NC
19	A2-	20	A6+	39	GND	40	GND

SJ2 Pin Definition

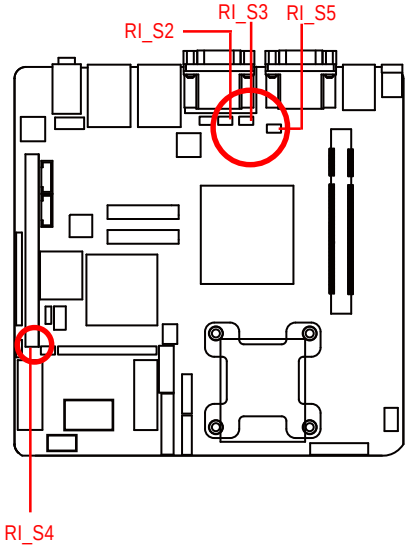
Pin No.	Definition	Pin No.	Definition	Pin No.	Definition	Pin No.	Definition
1	PANEL_VDD	2	PANEL_VDD	21	A2+	22	A6-
3	GND	4	GND	23	GND	24	GND
5	PANEL_VDD	6	PANEL_VDD	25	CLK1-	26	CLK2+
7	A0-	8	A4+	27	CLK1+	28	CLK2-
9	A0+	10	A4-	29	GND	30	GND
11	GND	12	GND	31	NC	32	NC
13	A1-	14	A5+	33	GND	34	GND
15	A1+	16	A5-	35	A3-	36	A7-
17	GND	18	GND	37	A3+	38	A7-
19	A2-	20	A6+	39	GND	40	GND

11) LVDS_PSEL1 (Panel power selection connector)



Pin No.	Definition
1	P5V
2	P5V
3	LVDS2_VCC
4	LVDS1_VCC
5	P3V3
6	P3V3

12/13/14/15) RI_S2/RI_S3/RI_S5/RI_S4 (COM2/COM3/COM1/COM4 Ring In selection connectors)



RI_S2

Pin No.	Definition
1	5V
2	RNI-
3	12V
4	RNI-
5	NRIB-
6	RNI-

RI_S3

Pin No.	Definition
1	5V
2	RNI-
3	12V
4	RNI-
5	NRIC-
6	RNI-

RI_S4

Pin No.	Definition
1	5V
2	RNI-
3	12V
4	RNI-
5	NRID-
6	RNI-

RI_S5

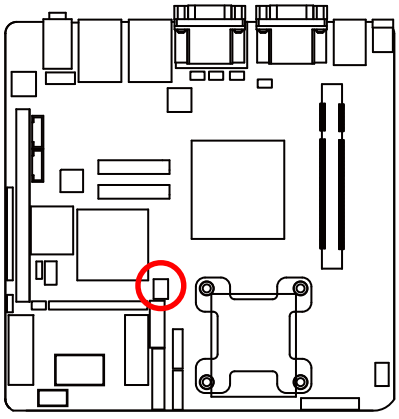
Pin No.	Definition
1	5V
2	RNI-
3	12V
4	RNI-
5	NRIA-
6	RNI-

16) CPU_FAN1 (CPU fan cable connector)

The cooler fan power connector supplies a +12V power voltage via a 3-pin power connector and possesses a foolproof connection design.

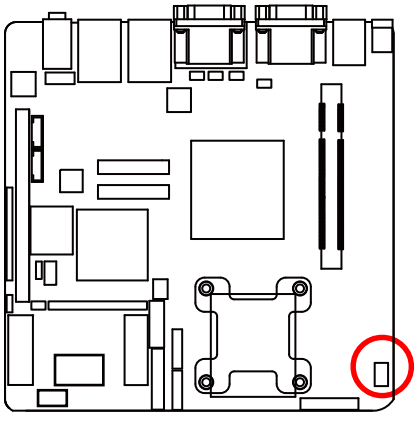
Most coolers are designed with color-coded power connector wires. A red power connector wire indicates a positive connection and requires a +12V power voltage. The black connector wire is the ground wire (GND).

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



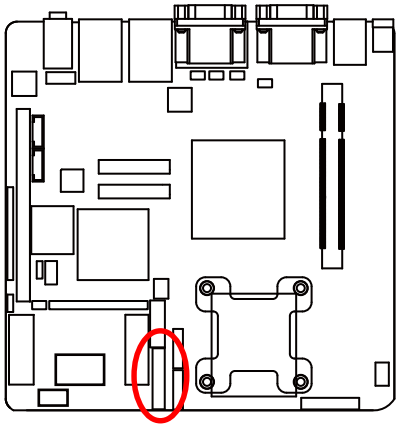
Pin No.	Definition
1	GND
2	12V
3	Sense

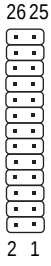
17) PWR1 (Power Output connector)



Pin No.	Definition
1	12V
2	GND
3	GND
4	5V

18) LPT1 (Parallel port connector)

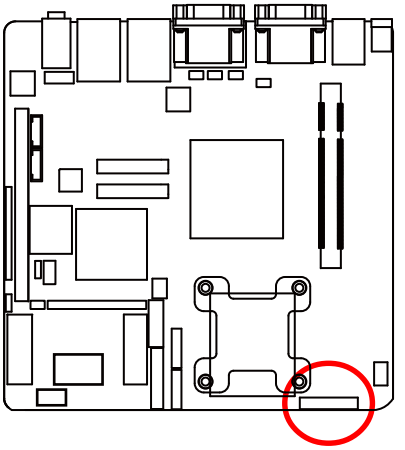


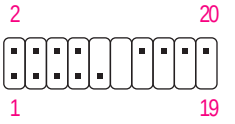


Pin No.	Definition	Pin No.	Definition
1	STB#	2	AFD-
3	PTD0	4	ERR-
5	PTD1	6	INIT-
7	PTD2	8	SLIN-
9	PTD3	10	GND
11	PTD4	12	GND
13	PTD5	14	GND
15	PTD6	16	GND
17	PTD7	18	GND
19	ACK-	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SLCT	26	NC

19) F_Panel (2X10 Pins Front Panel connector)

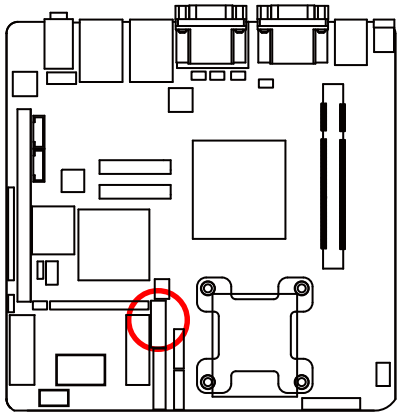
Please connect the power LED, PC speaker, reset switch and power switch of your chassis front panel to the F_PANEL connector according to the pin assignment above.

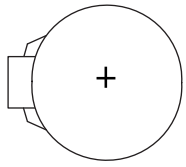




Pin No.	Signal Name	Description
1.	HD+	Hard Disk LED Signal anode (+)
2.	MSG+	Message LED Signal anode (+)
3.	HD-	Hard Disk LED Signal cathode(-)
4.	MSG-	Message LED Signal cathode(-)
5.	RES-	Reset Button anode (+)
6.	PW+	Power Button Signal cathode(-)
7.	RES+	Reset Button cathode(-)
8.	PW-	Power Button Signal anode (+)
9.	N C	No connect
10.	No Pin	Pin removed
11.	No Pin	Pin removed
12.	No Pin	Pin removed
13.	No Pin	Pin removed
14.	Speaker+	Speaker LED Signal anode (+)
15.	No Pin	Pin removed
16.	N C	No connect
17.	No Pin	Pin removed
18.	N C	No connect
19.	No Pin	Pin removed
20.	Speaker-	Speaker LED Signal cathode(-)

20) BAT1 (Battery)



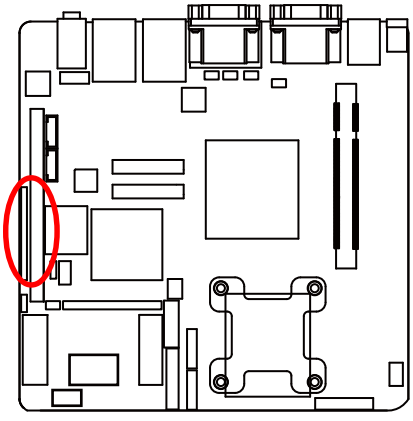


CAUTION

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

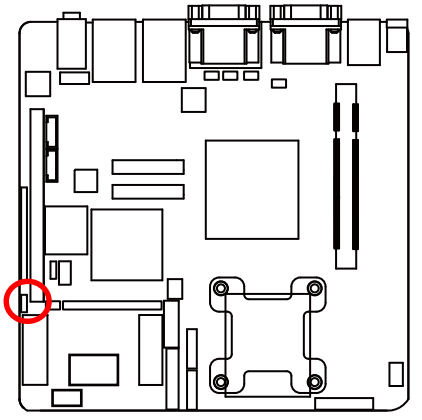
If you want to erase CMOS...
1.Turn OFF the computer and unplug the power cord.
2.Remove the battery, wait for 30 second.
3.Re-install the battery.
4.Plug the power cord and turn ON the computer.

21) GPIO1 (GPIO connector)



Pin No.	Definition
1	GPI1
2	GPI2
3	GPI3
4	GPI4
5	GPI5
6	GPI6
7	GPI7
8	GPI8
9	GPO1
10	GPO2
11	GPO3
12	GPO4
13	GPO5
14	GPO6
15	GPO7
16	GPO8

22) CF_S1 (CF Mater/Slave Selction jumper)



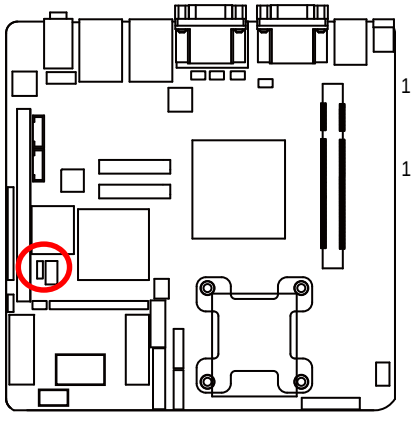
1 1-2 Close: Slave. (Default setting)

1 2-3 Close: Mater.

23) CLR_CMOS1 (Clear CMOS Function)

You may clear the CMOS data to restore its default values by this jumper.

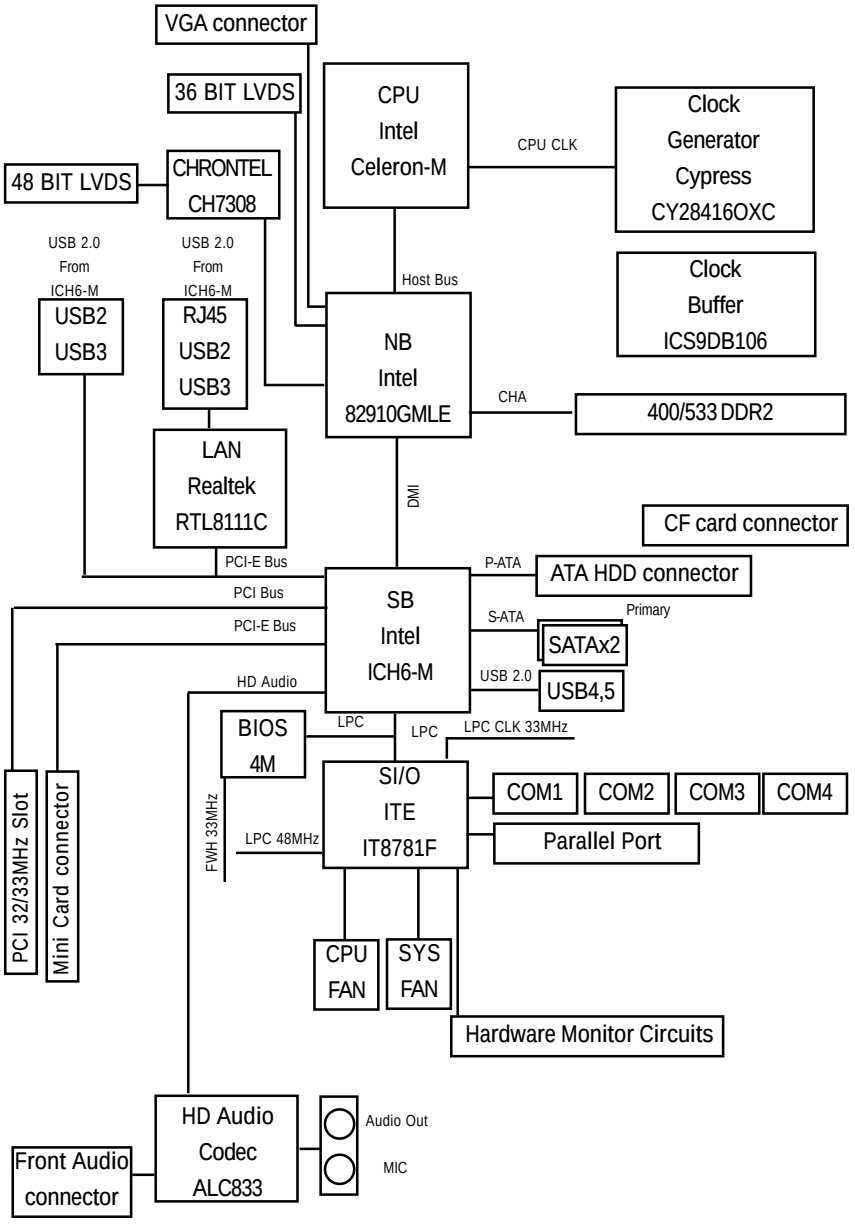
Default value doesn't include the "Shunter" to prevent from improper use this jumper. To clear CMOS, temporarily short 1-2 pin.



1 1-2 Close: Clear CMOS

1 2-3 Close: Normal operation(Default setting)

2-4: Block Diagram



Chapter 3 BIOS Setup

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required settings or to activate certain system features.
The CMOS SETUP saves the configuration in the CMOS SRAM of the motherboard.
When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS SRAM.
When the power is turned on, press the <F2> button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen. You can enter the BIOS setup screen by pressing "Ctrl + F1".
If you wish to upgrade to a new BIOS, or GIGABYTE's Q-Flash utilitycan be used.
Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system.

CONTROL KEYS

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

Main Menu

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

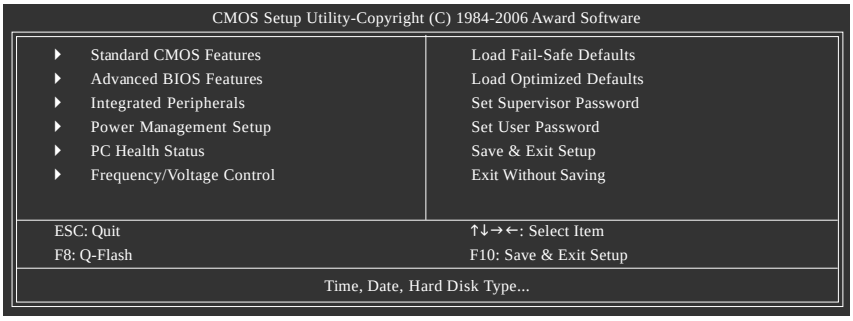
Status Page Setup Menu / Option Page Setup Menu

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

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

The Main Menu (For example: BIOS Ver. : F1)

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

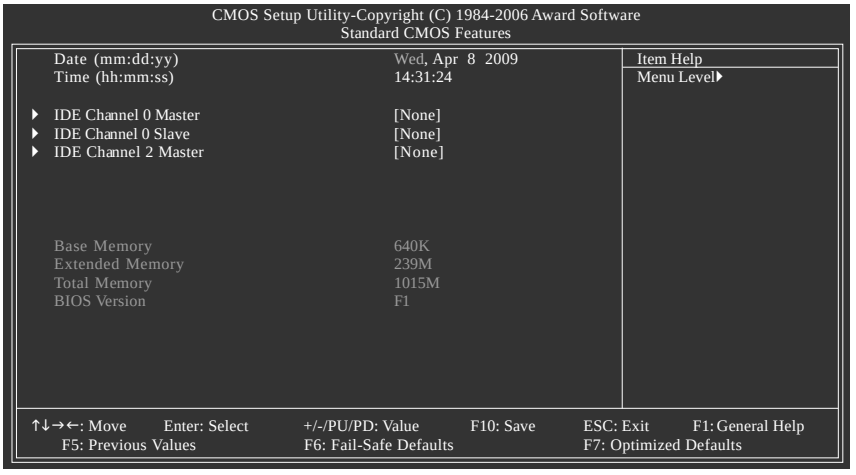


NOTE

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

- **Standard CMOS Features**
  This setup page includes all the items in standard compatible BIOS.
- **Advanced BIOS Features**
  This setup page includes all the items of Award special enhanced features.
- **Integrated Peripherals**
  This setup page includes all onboard peripherals.
- **Power Management Setup**
  This setup page includes all the items of Green function features.
- **PC Health Status**
  This setup page is the System auto detect Temperature, voltage, fan, speed.
- **Frequency/Voltage Control**
  This setup page is control CPU clock and frequency ratio.
- **Load Fail-Safe Defaults**
  Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.
- **Load Optimized Defaults**
  Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.
- **Set Supervisor Password**
  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.
- **Set User Password**
  Change, set, or disable password. It allows you to limit access to the system.
- **Save & Exit Setup**
  Save CMOS value settings to CMOS and exit setup.
- **Exit Without Saving**
  Abandon all CMOS value changes and exit setup.

3-1 Standard CMOS Features



☞ **Date**

The date format is <week>, <month>, <day>, <year>.

- ⏩ Week — The week, from Sun to Sat, determined by the BIOS and is display-only
- ⏩ Month — The month, Jan. Through Dec.
- ⏩ Day — The day, from 1 to 31 (or the maximum allowed in the month)
- ⏩ Year — The year, from 2000 through 2099

☞ **Time**

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

☞ **IDE Channel 0 Master/Slave**

⏩ IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

⏩ IDE Channel 0 Master/Slave

IDE devices setup. You can use one of three methods:

- • Auto — Allows BIOS to automatically detect IDE/SATA devices during POST. (Default value)
- • None — Select this if no IDE/SATA devices are used and the system will skip the automatic detection step and allow for faster system start up.
- • Manual — User can manually input the correct settings.

⏩ Access Mode — Use this to set the access mode for the hard drive. The four options are: CHS/LBA/Large/Auto(default:Auto)

⏩ Capacity — Capacity of currectly installed hard drive.

☞ **IDE Channel 2 Master**

⏩ IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

⏩ Extended IDE Drive You can use one of the two methods:

- • Auto — Allows BIOS to automatically detect IDE/SATA devices during POST(default)
- • None — Select this if no IDE/SATA devices are used and the system will skip the automatic detection step and allow for faster system start up.

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

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

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

Memory

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

Base Memory

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

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

Extended Memory

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

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

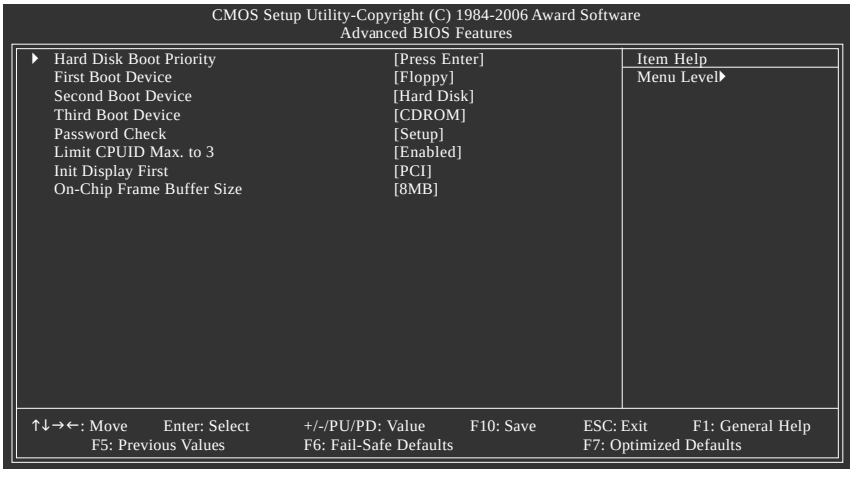
Total Memory

The BIOS determines the total memory is present during the POST.

BIOS Version

The BIOS determines the current BIOS version.

3-2 Advanced BIOS Features



☞ Hard Disk Boot Priority

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

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

☞ First / Second / Third Boot Device

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

☞ Password Check

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

☞ Limit CPUID Max. to 3

- ⏩ Enabled Limit CPUID Maximum value to 3 when use older OS like NT4.
- ⏩ Disabled Disable CPUID Limit for windows XP. (Default setting)

☞ Init Display First

This feature allows you to select the first initation of the monitor display from which card, when you install a PCI VGA card or a onboard VGA device.

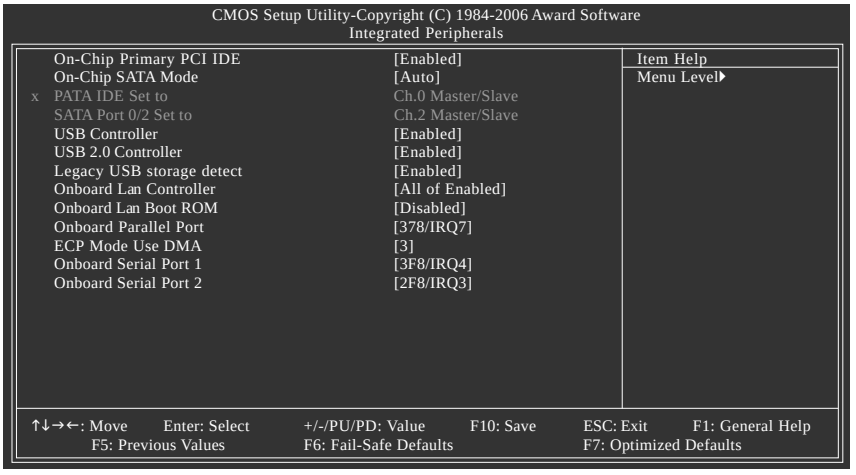
- ⏩ PCI Set Init Display First to PCI Slot. (Default setting)
- ⏩ Onboard Set Init Display First to onbaord VGA device.

☞ On-Chip Frame Buffer Size

- ⏩ 1MB Set on-chip frame buffer size to 1 MB.
- ⏩ 8MB Set on-chip frame buffer size to 8 MB. (Default setting)

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

3-3 Integrated Peripherals



☞ On-Chip Primary PCI IDE

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

☞ On-Chip SATA Mode

- ⏩ Disabled — Disable this function.
- ⏩ Auto — BIOS will auto detect. (Default setting)
- ⏩ Combined — Set On-Chip SATA mode to Combined, you can use up to 4 HDDs on the motherboard; 2 for SATA and the other for PATA.
- ⏩ Enhanced — Set On-Chip SATA mode to Enhanced, the motherboard allows up to 6 HDDs to use; 4 for SATA and the other for PATA.
- ⏩ Non-Combined — Set On-Chip SATA mode to Non-Combined, SATA will be simulated to PATA mode. Support a maximum of 4 SATA devices. PATA devices will be ignored.

☞ PATA IDE Set to

- ⏩ Ch.0 Master/Slave Set PATA IDE to Ch. 0 Master/Slave. (Default setting)
- ⏩ Ch.1 Master/Slave Set PATA IDE to Ch. 1 Master/Slave.

☞ SATA Port 0/2 Set to

⏩ This value will auto make by the setting "On-Chip SATA Mode" and "PATA IDE Set to". If PATA IDE were set to Ch. 1 Master/Slave, this function will auto set to Ch. 0 Master/Slave.

☞ USB Controller

- ⏩ Enabled — Enable USB controller. (Default setting)
- ⏩ Disabled — Disable USB controller.

☞ USB 2.0 Controller

You can disable this function if you are not using onboard USB 2.0 feature.

- ⏩ Enabled — Enable USB 2.0 controller. (Default setting)

- Disabled Disable USB 2.0 controller.

☞ Legacy USB storage detect

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

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

☞ Onboard Lan Controller

- All of Enabled Enable all onboard LAN devices. (Default setting)
- Only Used LAN1 Enable onboard LAN1 device.
- Only Used LAN2 Enable onboard LAN2 device.
- All of Disabled Disable both onboard LAN devices.

☞ Onboard Lan Boot ROM

- Enabled Onboard Lan Boot ROM.
- Disabled Disable this function. (Default setting)

☞ Onboard Parallel Port

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

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

☞ Parallel Port Mode

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

- SPP Using Parallel port as Standard Parallel Port. (Default setting)
- EPP Using Parallel port as Enhanced Parallel Port.
- ECP Using Parallel port as Extended Capabilities Port.

☞ ECP Mode Use DMA

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

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

- 3 Set ECP Mode Use DMA to 3. (Default setting)
- 1 Set ECP Mode Use DMA to 1.

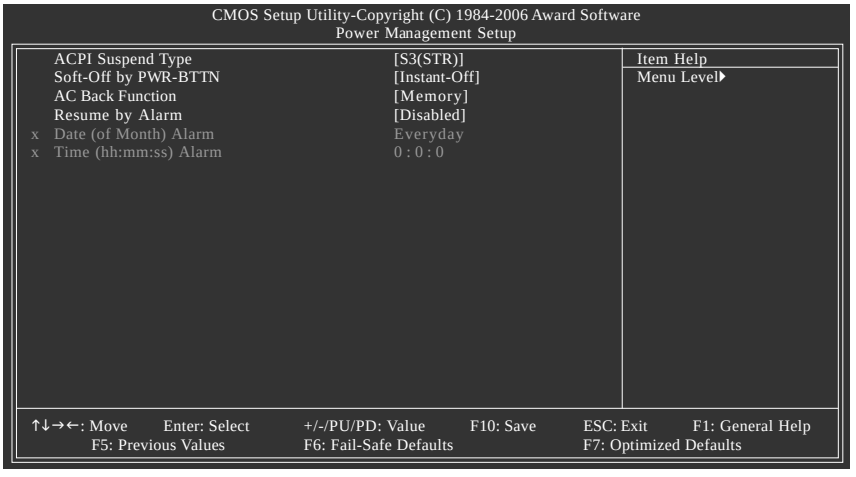
☞ Onboard Serial Port 1

- 3F8/IRQ4 Enable onboard Serial port 1 and address is 3F8/IRQ4. (Default setting)
- 2F8/IRQ3 Enable onboard Serial port 1 and address is 2F8/IRQ3.
- 3E8/IRQ4 Enable onboard Serial port 1 and address is 3E8/IRQ4.
- 2E8/IRQ3 Enable onboard Serial port 1 and address is 2E8/IRQ3.
- Disabled Disable onboard Serial port 1.

☞ Onboard Serial Port 2

- 3F8/IRQ4 Enable onboard Serial port 1 and address is 3F8/IRQ4.
- 2F8/IRQ3 Enable onboard Serial port 1 and address is 2F8/IRQ3. (Default setting)
- 3E8/IRQ4 Enable onboard Serial port 1 and address is 3E8/IRQ4.
- 2E8/IRQ3 Enable onboard Serial port 1 and address is 2E8/IRQ3.
- Disabled Disable onboard Serial port 1.

3-4 Power Management Setup



☞ ACPI Suspend Type

- ⏩ S3 (STR) Set the suspend type to RAM under ACPI OS. (Default setting)
- ⏩ S1 (POS) Set the suspend type to Power ON Suspend under ACPI OS.

☞ Soft-Off by PWR-BTTN

- ⏩ Instant-Off Press power button then Power off instantly. (Default setting)
- ⏩ Delay 4 Sec. Press power button 4 sec. to Power off. Enter suspend if button is pressed less than 4 sec.

☞ AC BACK Function

- ⏩ Soft-Off When AC-power back to the system, the system will be in "Off" state. (Default setting)
- ⏩ Full-On When AC-power back to the system, the system always in "On" state.
- ⏩ Memory When AC-power back to the system, the system will return to the Last state before AC-power off.

☞ Resume by Alarm

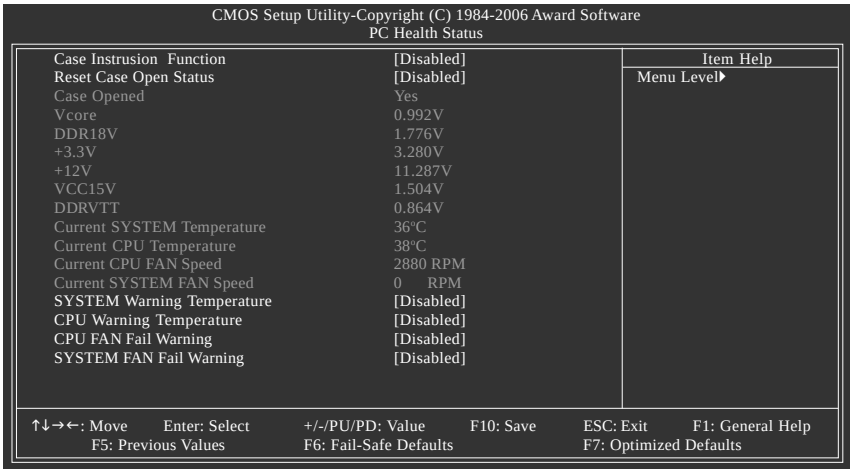
You can set "Resume by Alarm" item to Enabled and key in Date/Time to power on system.

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

If Resume by Alarm is Enabled.

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

3-5 PC Health Status



☞ Case Instrusion Function

- ⏩ Enabled — Enable Case Instrusion function.
- ⏩ Disabled — Disable case instrusion function. (Default setting)

☞ Reset Case Open Status

- ⏩ Enabled — Enable Reset Case Open status.
- ⏩ Disabled — Disable Reset Case Open status. (Default setting)

☞ Case Opened

- ⏩ Display the case open status.

☞ Current Voltage(V) Vcore / DDR18V / +3.3V / +12V / VCC15V / DDRVTT

- ⏩ Detect system's voltage status automatically.

☞ Current CPU/System Temperature

- ⏩ Detect CPU and System temperature automatically.

☞ Current CPU/SYSTEM FAN Speed (RPM)

- ⏩ Detect CPU/system fan speed status automatically.

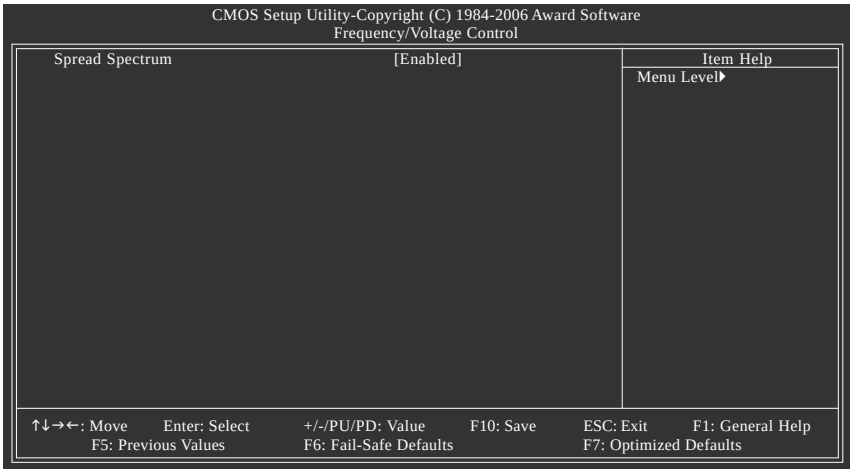
☞ CPU Warning Temperature

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

☞ CPU/System FAN Fail Warning

- ⏩ Disabled — Disable the fan fail warning function. (Default setting)
- ⏩ Enabled — Enable the fan fail warning function.

3-6 Frequency/Voltage Control



CAUTION

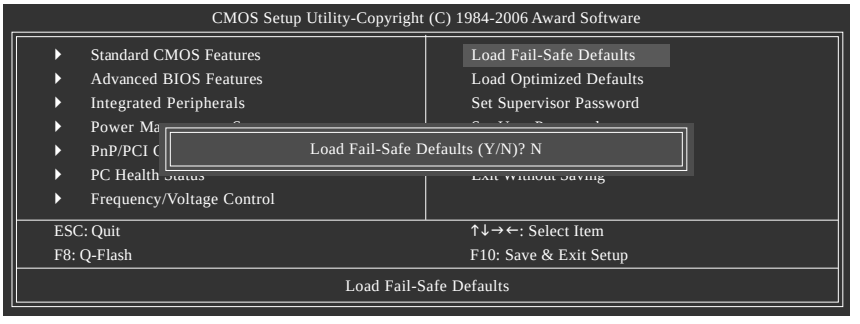
Incorrectly using these features may result in system instability or corruption.
Doing a overclock or overvoltage on CPU, chipsets and memory modules may result in damages or shortened life expectancy to these components.
Please be aware that the menu items are for power users only.

☞ Spread Spectrum

- Disabled — Disable Spread Spectrum.
- Enabled — Enable Spread Spectrum. (Default setting)

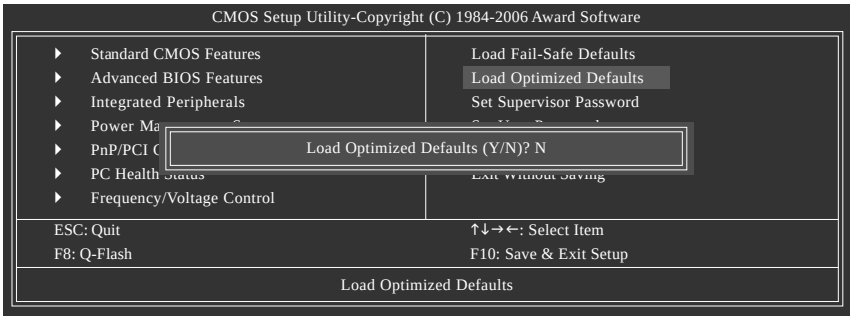
(Note) This item will show up when you install a processor which supports this function.

3-7 Load Fail-Safe Defaults



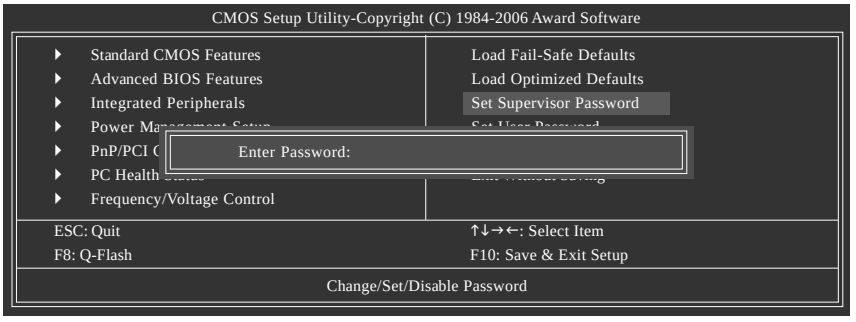
Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

3-8 Load Optimized Defaults



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

3-9 Set Supervisor/User Password



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

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

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

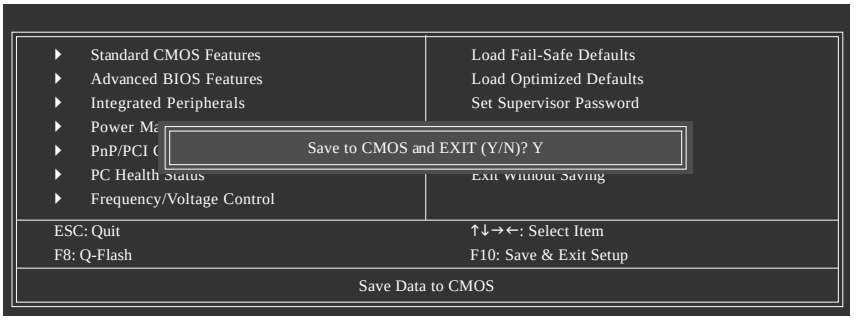
The BIOS Setup program allows you to specify two separate passwords:

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

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

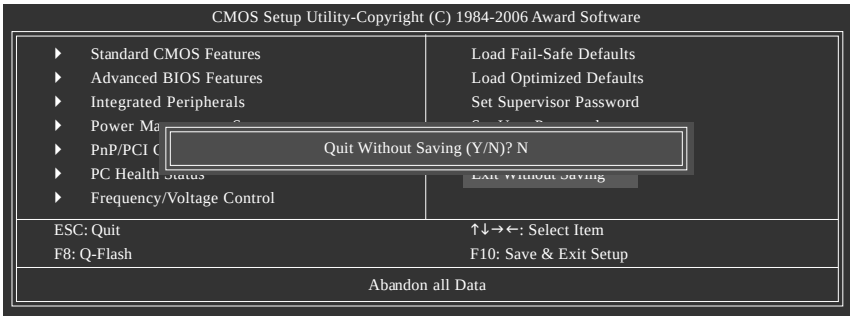
If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

3-10 Save & Exit Setup



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

3-11 Exit Without Saving



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

3-12 Flash BIOS Method Introduction

Method 1 : Q-Flash™

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

Before Use:

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

1. From GIGABYTE's website, download the latest compressed BIOS update file that matches your motherboard model.
2. Extract the downloaded BIOS files and save the new BIOS file (e.g. 6jiev.f1) to your floppy disk or hard disk. Note: Q-Flash only supports hard disks or flash drives using FAT32/16/12 file system.
3. Restart the system. During BIOS POST, press the End key to enter Q-Flash. NOTE: Press the End key to enter Q-Flash if you wish to use hard drives in RAID/AHCI mode or hard drives attached to the independent IDE/SATA controller.

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

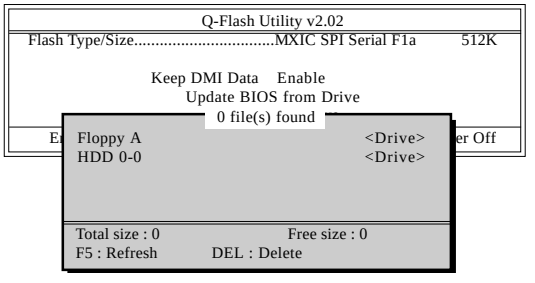
Updating the BIOS

Step 1:

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

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

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



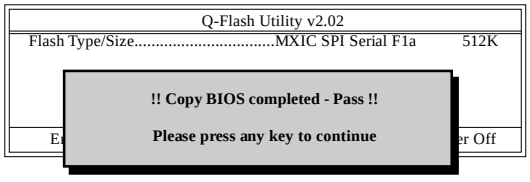
c. Select the BIOS file and press ENTER.

CAUTION Make sure again the BIOS file matches your motherboard model.

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

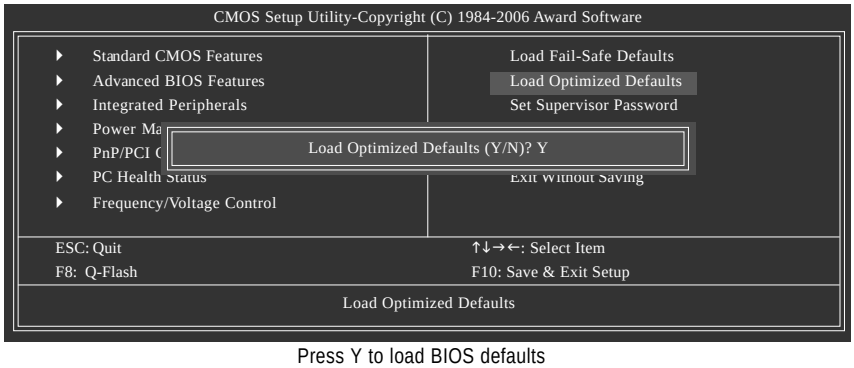
CAUTION
1. Do not turn off or restart the system when the system is reading/updating the BIOS.
2. Do not remove the floppy disk or hard drive/USB drive when the system is updating the BIOS.

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



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

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



Press Y to load BIOS defaults

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