

GA-8I915PM-FS

Intel® Pentium® 4 LGA775 Processor Motherboard

User's Manual

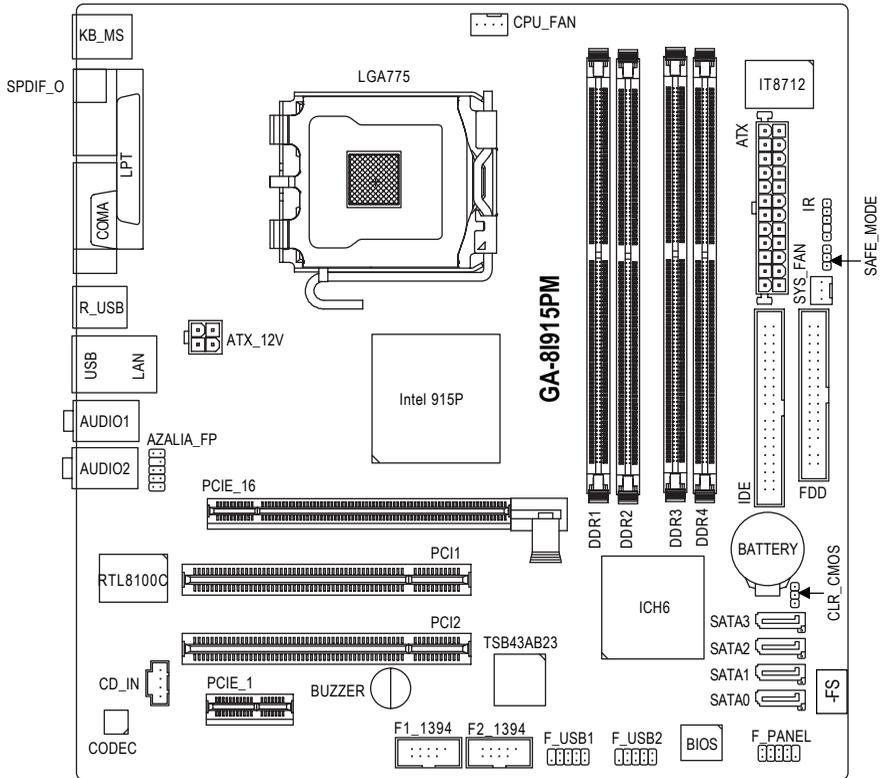
Rev. 2001

12ME-8I915PMFS-2001

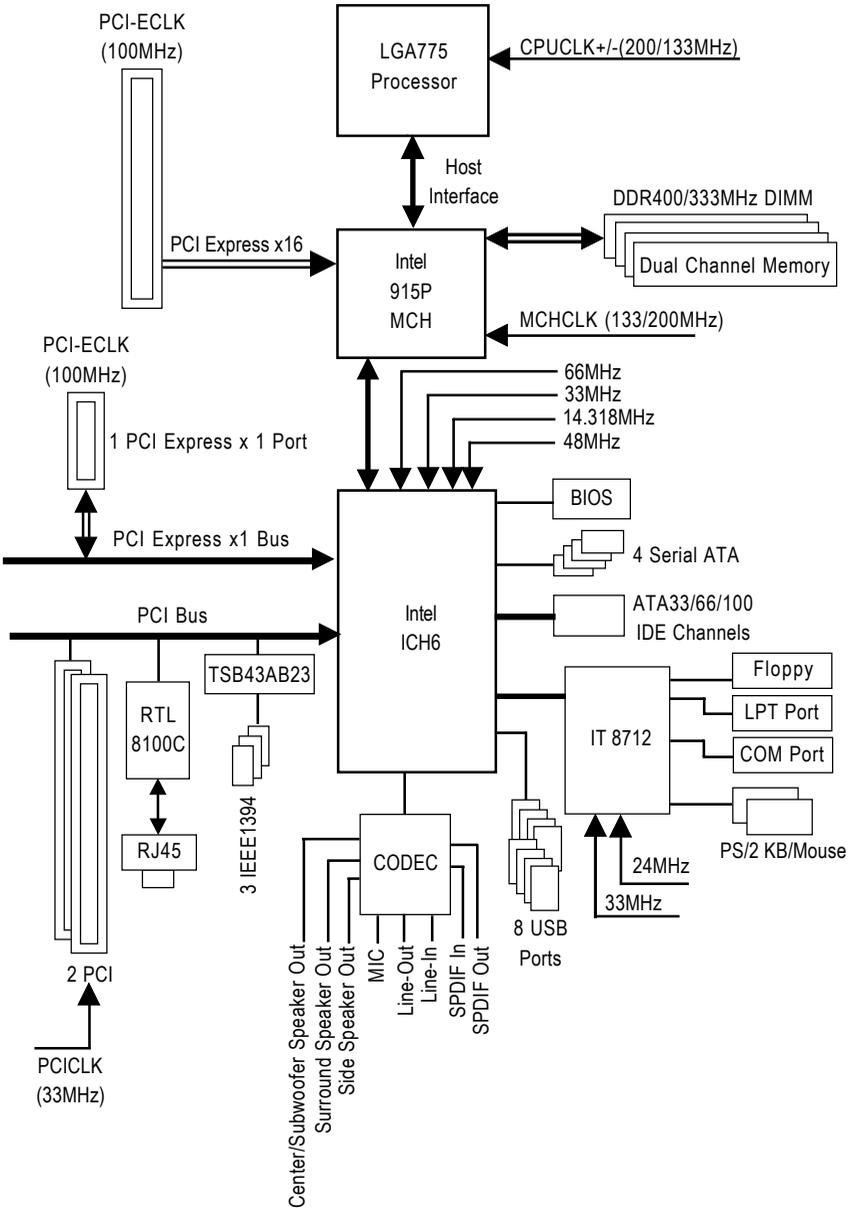
Table of Contents

GA-8I915PM-FS Motherboard Layout	3
Block Diagram	4
Chapter 1 Hardware Installation	5
1-1 Considerations Prior to Installation	5
1-2 Feature Summary	6
1-3 Installation of the CPU and Heatsink	8
1-3-1 Installation of the CPU	8
1-3-2 Installation of the Heatsink	9
1-4 Installation of Memory	10
1-5 Install expansion cards	12
1-6 I/O Back Panel Introduction	13
1-7 Connectors Introduction	14
Chapter 2 BIOS Setup	23
The Main Menu (For example: BIOS Ver. : 10D)	24
2-1 Standard CMOS Features	26
2-2 Advanced BIOS Features	28
2-3 Integrated Peripherals	30
2-4 Power Management Setup	32
2-5 PnP/PCI Configurations	34
2-6 PC Health Status	35
2-7 Frequency/Voltage Control	36
2-8 Load Fail-Safe Defaults	37
2-9 Load Optimized Defaults	37
2-10 Set Supervisor/User Password	38
2-11 Save & Exit Setup	39
2-12 Exit Without Saving	39

GA-8I915PM-FS Motherboard Layout



Block Diagram



Chapter 1 Hardware Installation

1-1 Considerations Prior to Installation

Preparing Your Computer

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

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

Installation Notices

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

Instances of Non-Warranty

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

1-2 Feature Summary

CPU	<ul style="list-style-type: none"> ◆ Supports the latest Intel® Pentium® 4 LGA775 CPU ◆ Supports 800/533MHz FSB ◆ L2 cache varies with CPU
Chipset	<ul style="list-style-type: none"> ◆ Northbridge: Intel® 915P Express chipset ◆ Southbridge: Intel® ICH6 ◆ Supported on the Win 2000/XP/MCE operating systems
Memory	<ul style="list-style-type: none"> ◆ 4 DDR DIMM memory slots (supports up to 4GB memory) ^(Note) ◆ Supports dual channel DDR400/333 DIMM ◆ Supports 2.5V DDR DIMM
Slots	<ul style="list-style-type: none"> ◆ 1 PCI Express x 16 slot ◆ 1 PCI Express x 1 slot ◆ 2 PCI slots
IDE Connections	<ul style="list-style-type: none"> ◆ 1 IDE connection (UDMA 33/ATA 66/ATA 100), allows connection of 2 IIDE devices ◆ Supported on the Win 2000/XP/MCE operating systems
FDD Connections	<ul style="list-style-type: none"> ◆ 1 FDD connection, allows connection of 2 FDD devices
Onboard SATA	<ul style="list-style-type: none"> ◆ 4 Serial ATA connections ◆ Supported on the Win 2000/XP/MCE operating systems
Peripherals	<ul style="list-style-type: none"> ◆ 1 parallel port supporting Normal/EPP/ECP mode ◆ 1 COMA port connection ◆ 8 USB 2.0/1.1 ports (rear x 4, front x 4 via cable) ◆ 2 IEEE1394 ports ◆ 1 front audio connector ◆ 1 IR connector ◆ 1 PS/2 keyboard port ◆ 1 PS/2 mouse port
Onboard LAN	<ul style="list-style-type: none"> ◆ Onboard Realtek 8100C chip (10/100 Mbit) ◆ 1 RJ 45 port ◆ Supported on the Win 2000/XP/MCE operating systems

(Note) Due to standard PC architecture, a certain amount of memory is reserved for system usage and therefore the actual memory size is less than the stated amount.

For example, 4 GB of memory size will instead be shown as 3.xxGB memory during system startup.

Onboard Audio	<ul style="list-style-type: none">◆ ALC880 CODEC◆ Supports Jack Sensing function◆ Supports 2 / 4 / 6 / 8 channel audio◆ Supports Line In ; Line Out (Front Speaker Out) ; MIC ; Surround Speaker Out (Rear Speaker Out) ; Center/Subwoofer Speaker Out ; Side Speaker Out connection◆ Supports SPDIF Out connection◆ CD In connection◆ Supported on the Win 2000/XP/MCE operating systems
I/O Control	<ul style="list-style-type: none">◆ IT8712
Hardware Monitor	<ul style="list-style-type: none">◆ System voltage detection◆ CPU temperature detection◆ CPU / System fan speed detection◆ CPU smart fan control
BIOS	<ul style="list-style-type: none">◆ Use of licensed AWARD BIOS
Form Factor	<ul style="list-style-type: none">◆ Micro ATX form factor; 24.4 cm x 24.4cm

1-3 Installation of the CPU and Heatsink



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

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



HT functionality requirement content :

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

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

1-3-1 Installation of the CPU

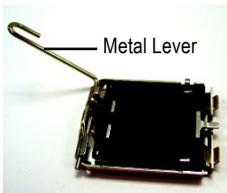


Fig. 1
Gently lift the metal lever located on the CPU socket to the upright position.

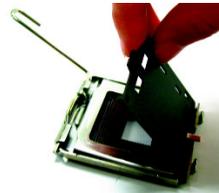


Fig. 2
Remove the plastic covering on the CPU socket.

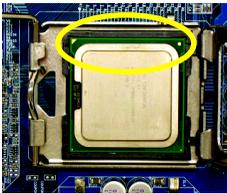


Fig. 3
Notice the small gold colored triangle located on the edge of the CPU socket. Align the indented corner of the CPU with the triangle and gently insert the CPU into position. (Grasping the CPU firmly between your thumb and forefinger, carefully place it into the socket in a straight and downwards motion. Avoid twisting or bending motions that might cause damage to the CPU during installation.)



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

1-3-2 Installation of the Heatsink



Fig. 1

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

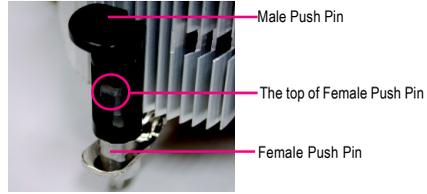


Fig. 2

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

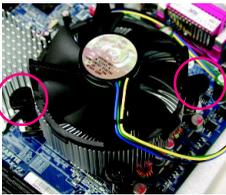


Fig. 3

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

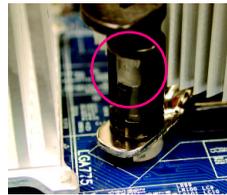


Fig. 4

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

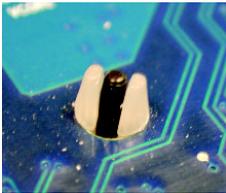


Fig. 5

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

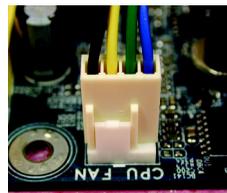


Fig. 6

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



NOTE

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

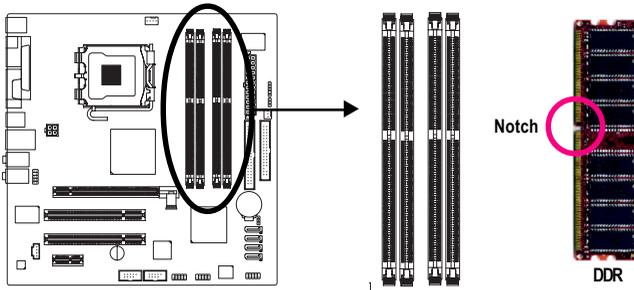
1-4 Installation of Memory



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

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

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



1. The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.



2. Insert the DIMM memory module vertically into the DIMM slot. Then push it down.



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



Dual Channel DDR Memory Configuration

The GA-8I915PM-FS supports the Dual Channel Technology. When the Dual Channel Technology is activated, the bandwidth of memory bus will be double the original one.

The GA-8I915PM-FS includes 4 DIMM sockets, and each Channel has 2 DIMM sockets as following:

- ▶▶ Channel A : DDR 1, DDR 2
- ▶▶ Channel B : DDR 3, DDR 4

Due to chipset limitation, if you want to operate the Dual Channel Technology, please follow the guidelines below for Dual Channel memory configuration.

1. Dual channel memory cannot be used if one or three DDR memory modules are installed.
2. If two DDR memory modules are installed (same storage capacity), one must be added to the Channel A slot and the other in the Channel B slot in order to use dual channel memory. Dual channel memory cannot function if both DDR memory modules are installed on the same channel.
3. If four DDR memory modules are installed, please use memory of the same storage capacity in order to use dual channel memory and for BIOS to detect all the DDR memory modules.

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

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

	DDR1	DDR2	DDR3	DDR4
2 memory modules	DS/SS	X	DS/SS	X
	X	DS/SS	X	DS/SS
4 memory modules	DS/SS	DS/SS	DS/SS	DS/SS

1-5 Install expansion cards

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

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

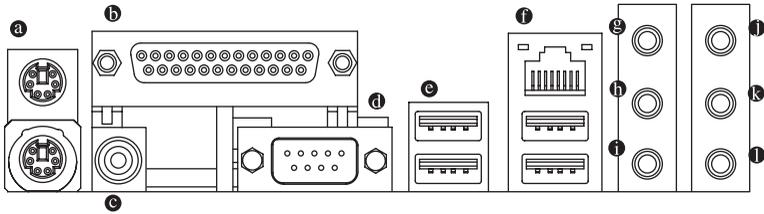
Installing a PCI Express x 16 expansion card:



CAUTION

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

1-6 I/O Back Panel Introduction



● 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).

● Parallel Port

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

● SPDIF_O (SPDIF Out)

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

● COM A (Serial Port)

Connects to serial-based mouse or data processing devices.

● USB port

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

● LAN Port

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

● Line In

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

● 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.

● Surround Speaker Out (Rear Speaker Out)

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

● Center/Subwoofer Speaker Out

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

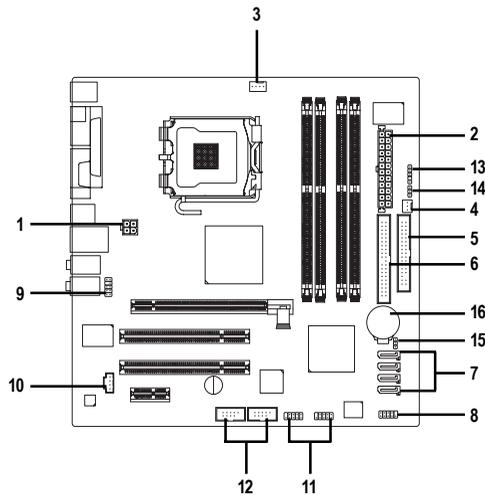
● Side Speaker Out

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



In addition to the default speakers settings, the ●~● audio jacks can be reconfigured to perform different functions via the audio software. Only microphones still **MUST** be connected to the default Mic In jack (●).

1-7 Connectors Introduction



1) ATX_12V	9) AZALIA_FP
2) ATX (Power Connector)	10) CD_IN
3) CPU_FAN	11) F_USB1 / F_USB2
4) SYS_FAN	12) F1_1394 / F2_1394
5) FDD	13) IR
6) IDE	14) SAFE_MODE
7) SATA0 / SATA1 / SATA2 / SATA3	15) CLR_CMOS
8) F_PANEL	16) BATTERY

1/2) ATX_12V / ATX (Power Connector)

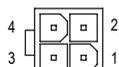
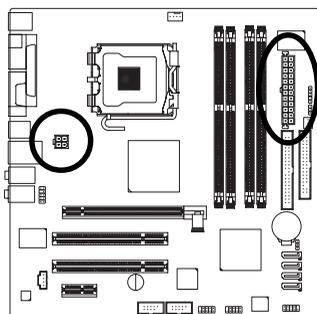
With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard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

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

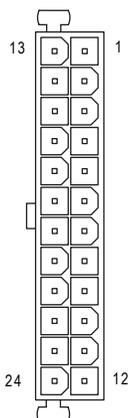
Caution!

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

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



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



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

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

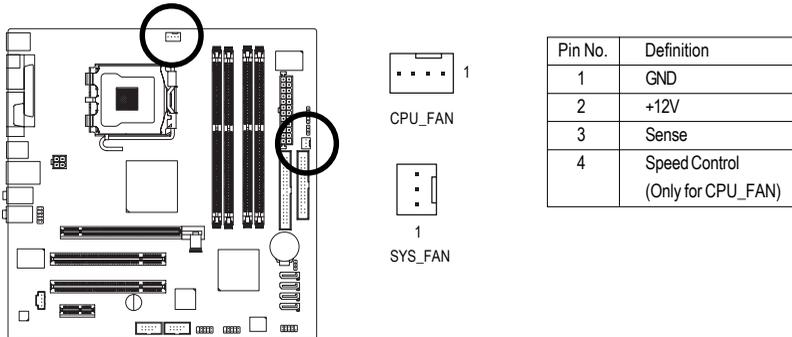
The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin (only for CPU_FAN) power connector and possesses a foolproof connection design.

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

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

Caution!

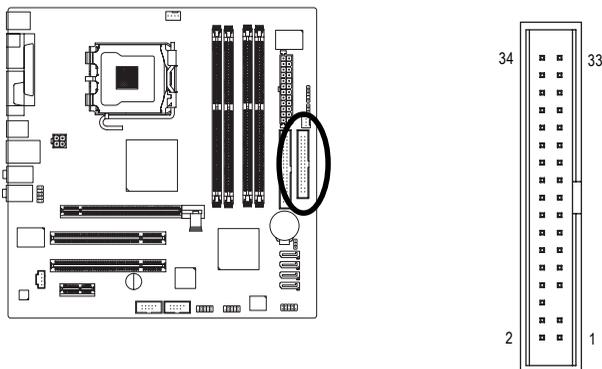
Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.



5) FDD (Floppy Connector)

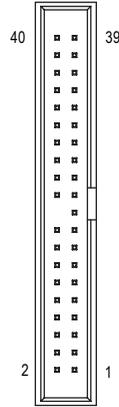
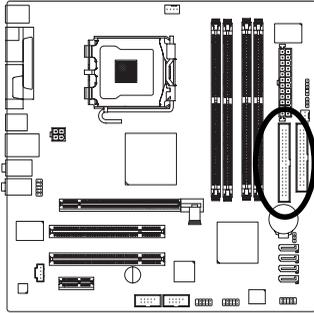
The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB.

Please connect the red power connector wire to the pin1 position.



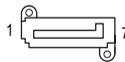
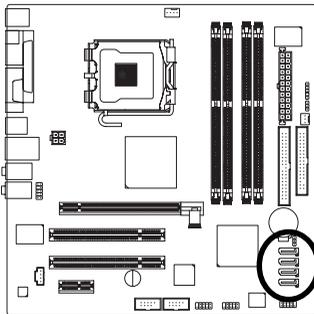
6) IDE (IDE Connector)

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



7) SATA0 / SATA1 / SATA2 / SATA3 (Serial ATA Connector, Controlled by ICH6)

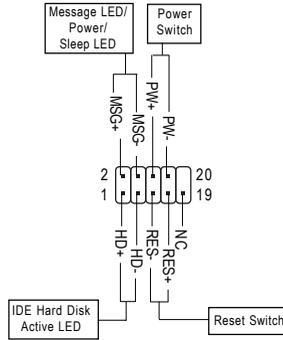
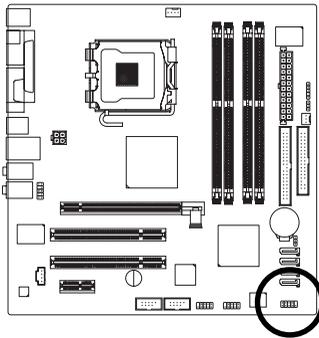
Serial ATA can provide up to 150MB/s transfer rate. Please refer to the BIOS setting for the Serial ATA and install the proper driver in order to work properly.



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

8) F_PANEL (Front Panel Jumper)

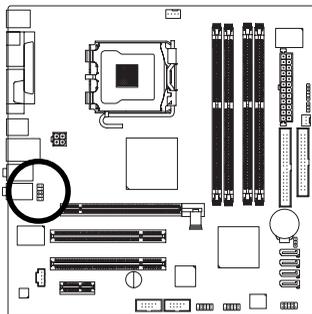
Please connect the power LED, reset switch and power switch etc. of your chassis front panel to the F_PANEL connector according to the pin assignment below.



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

9) AZALIA_FP (Front Audio Connector)

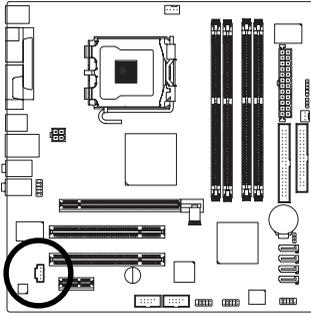
If you wish to use the front audio function, connect the front panel audio module to this connector. Check the pin assignments carefully while you connect the front panel audio module. Incorrect connection between the module and connector will make the audio device unable to work or even damage it. For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



HD Audio:		AC'97 Audio:	
Pin No.	Definition	Pin No.	Definition
1	MIC2_L	1	MIC
2	GND	2	GND
3	MIC2_R	3	MIC Power
4	-ACZ_DET	4	N/A
5	Line2_R	5	Line Out (R)
6	FSENSE1	6	N/A
7	FAUOIO_JD	7	N/A
8	No Pin	8	No Pin
9	LINE2_L	9	Line Out (L)
10	FSENSE2	10	N/A

10) CD_IN (CD IN Connector)

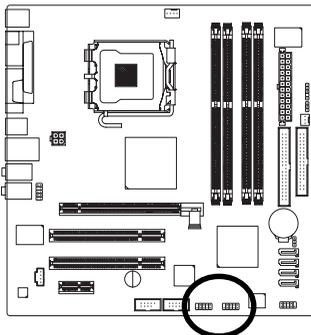
Connect CD-ROM or DVD-ROM audio out to the connector.



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

11) F_USB1 / F_USB2 (Front USB Connector)

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

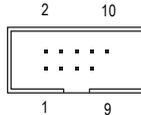
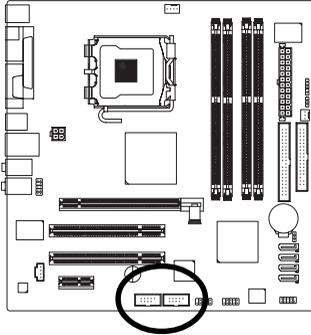


Pin No.	Definition
1	Power
2	Power
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

12) F1_1394 / F2_1394 (Front IEEE 1394 Connector)

Serial interface standard set by Institute of Electrical and Electronics Engineers, which has features like high speed, high bandwidth and hot plug.

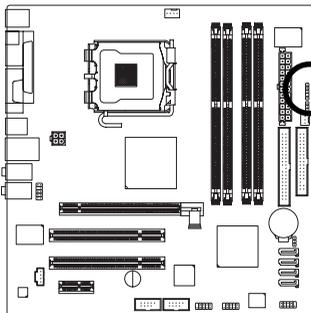
Be careful with the polarity of the IEEE1394 connector. Check the pin assignment carefully while you connect the IEEE1394 cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional IEEE1394 cable, please contact your local dealer.



Pin No.	Definition
1	TPA2+
2	TPA2-
3	GND
4	GND
5	TPB2+
6	TPB2-
7	Power
8	Power
9	No Pin
10	GND

13) IR

Be careful with the polarity of the IR connector while you connect the IR. Please contact your nearest dealer for optional IR device.

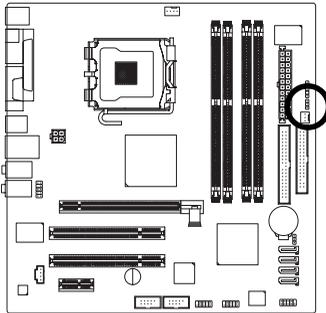


Pin No.	Definition
1	Power
2	No Pin
3	IR RX
4	GND
5	IR TX

14) SAFE_MODE

When this jumper is set to Safe Mode, system will enter BIOS Setup directly at bootup. At this mode, the Supervisor/User Password previously configured will be cleaned.

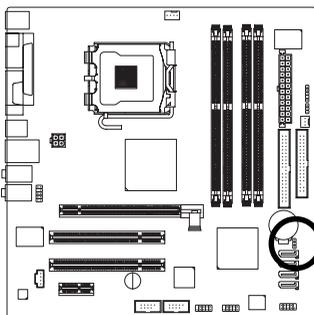
If the BIOS file on the motherboard is damaged, set this jumper to Recovery mode. Insert the floppy disk containing the complete BIOS file and then restart the system. System will write the BIOS file to the BIOS ROM automatically at startup.



- 
 1-2 short: Normal (Default)
- 
 2-3 short: Safe Mode
- 
 Open: Recovery

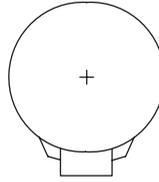
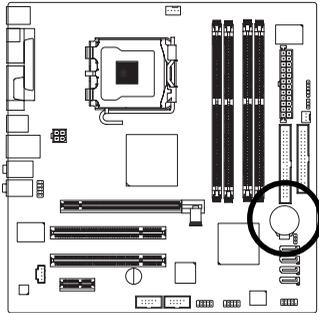
15) CLR_CMOS (Clear CMOS)

You may clear the CMOS data to its default values by this jumper. To clear CMOS, temporarily short 1-2 pin.



- 
 1-2 short: Clear CMOS
- 
 2-3 short: Normal

16) BATTERY



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

If you want to erase CMOS...

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

Chapter 2 BIOS Setup

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

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

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

When the power is turned on, pushing the button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen.

When setting up BIOS for the first time, it is recommended that you save the current BIOS to a disk in the event that BIOS needs to be reset to its original settings.

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
<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

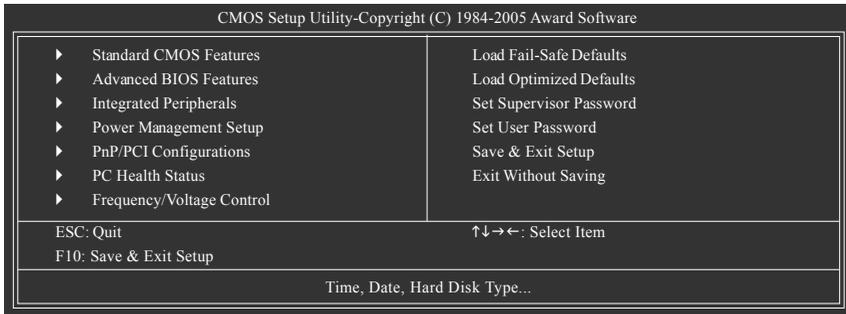
Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.



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

The Main Menu (For example: BIOS Ver. : 10D)

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.



Please Load Optimized Defaults in the BIOS when somehow the system works not stable as usual. This action makes the system reset to the default for stability.

■ Standard CMOS Features

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

■ Advanced BIOS Features

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

■ Integrated Peripherals

This setup page includes all onboard peripherals.

■ Power Management Setup

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

■ PnP/PCI Configuration

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

■ PC Health Status

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

■ 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.

2-1 Standard CMOS Features

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Standard CMOS Features		
Date (mm:dd:yy)	Wed, Jul 27 2005	Item Help
Time (hh:mm:ss)	22:31:24	Menu Level▶
▶ IDE Channel 0 Master	[None]	Change the day, month, year
▶ IDE Channel 0 Slave	[None]	<Week>
▶ IDE Channel 2 Master	[None]	Sun. to Sat.
▶ IDE Channel 2 Slave	[None]	<Month>
▶ IDE Channel 3 Master	[None]	Jan. to Dec.
▶ IDE Channel 3 Slave	[None]	<Day>
Drive A	[None]	1 to 31 (or maximum allowed in the month)
Halt On	[No Errors]	<Year>
Base Memory	640K	1999 to 2098
Extended Memory	503M	
Total Memory	504M	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

☞ Date

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

- ▶▶ Week The week, from Sun to Sat, determined by the BIOS and is display only
- ▶▶ Month The month, Jan. Through Dec.
- ▶▶ Day The day, from 1 to 31 (or the maximum allowed in the month)
- ▶▶ Year The year, from 1999 through 2098.

☞ 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 devices during POST. (Default value)
- None Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
- Manual User can manually input the correct settings.

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

☞ IDE Channel 2 Master/Slave; IDE Channel 3 Master/Slave

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

SATA IDE devices setup. You can use one of two methods:

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

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

» Capacity Capacity of correctly 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

☞ Drive A

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

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

☞ Halt on

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

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

☞ Memory

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

» Base Memory

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

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

» Extended Memory

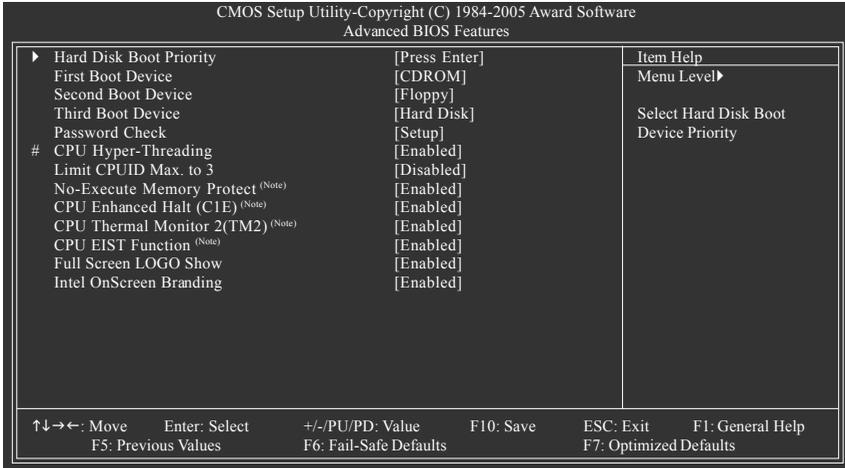
The BIOS determines how much extended memory is present during the POST.

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

» Total Memory

This item displays the memory size that used.

2-2 Advanced BIOS Features



" # " System will detect automatically and show up when you install the Intel® Pentium® 4 processor with HT Technology.

☞ Hard Disk Boot Priority

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

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

Press <ESC> to exit this menu.

☞ First / Second / Third Boot Device

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

☞ Password Check

- ▶ Setup The system will boot but will not access to Setup page if the correct password is not entered at the prompt. (Default value)
- ▶ System The system will not boot and will not access to Setup page if the correct password is not entered at the prompt.

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

☞ CPU Hyper-Threading

- ▶▶ Enabled Enables CPU Hyper Threading Feature. Please note that this feature is only working for operating system with multi processors mode supported. (Default value)
- ▶▶ Disabled Disables CPU Hyper Threading.

☞ Limit CPUID Max. to 3

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

☞ No-Execute Memory Protect^(Note)

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

☞ CPU Enhanced Halt (C1E)^(Note)

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

☞ CPU Thermal Monitor 2 (TM2)^(Note)

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

☞ CPU EIST Function^(Note)

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

☞ Full Screen LOGO Show

This feature allows you to show the company logo on the bootup screen.

- ▶▶ Disabled Displays the POST messages at boot.
- ▶▶ Enabled Displays the LOGO on the full screen at boot. (Default value)

☞ Intel OnScreen Branding

This feature allows you to show the Intel brand logo on the bootup screen.

- ▶▶ Disabled Don't display Intel brand logo.
- ▶▶ Enabled Display Intel brand logo at boot. (Default value)

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

☞ **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 value)
- ▶▶ Disabled Disable USB 2.0 controller.

☞ **USB Keyboard Support**

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

☞ **USB Mouse Support**

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

☞ **Azalia Codec**

- ▶▶ Auto Auto detect Azalia audio function. (Default value)
- ▶▶ Disabled Disable Azalia audio function.

☞ **Onboard H/W 1394**

- ▶▶ Enabled Enable onboard IEEE1394 function. (Default value)
- ▶▶ Disabled Disable this function.

☞ **Onboard H/W LAN**

- ▶▶ Enabled Enable onboard H/W LAN function. (Default value)
- ▶▶ Disabled Disable this function.

☞ **Onboard LAN Boot ROM**

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

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

☞ **Onboard Serial Port 1**

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

☞ **Onboard Parallel port**

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

☞ **Parallel Port Mode**

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

☞ **ECP Mode Use DMA**

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

2-4 Power Management Setup

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
Power Management Setup

ACPI Suspend Type	[S3(STR)]	Item Help
Soft-Off by PWR-BTTN	[Instant-Off]	Menu Level▶
PME Event Wake Up	[Enabled]	
Power On by Ring	[Enabled]	
Resume by Alarm	[Disabled]	
x Date (of Month) Alarm	Everyday	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
Power On by Mouse	[Disabled]	
Power On by Keyboard	[Disabled]	
x KB Power ON Password	Enter	
AC BACK Function	[Memory]	

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

☞ ACPI Suspend Type

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

☞ Soft-Off by PWR-BTTN

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

☞ PME Event Wake Up

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

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

☞ Power On by Ring

- ▶▶ Disabled Disable Power on by Ring function.
- ▶▶ Enabled Enable Power on by Ring function. (Default value)

☞ Resume by Alarm

You can set "Resume by Alarm" item to enabled and key in Data/time to power on system.

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

If RTC Alarm Lead To Power On is Enabled.

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

☞ Power On by Mouse

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

☞ **Power On by Keyboard**

- ▶▶ Password Enter from 1 to 5 characters to set the Keyboard Power On Password.
- ▶▶ Disabled Disabled this function. (Default value)
- ▶▶ Keyboard 98 If your keyboard have "POWER Key" button, you can press the key to power on the system.

☞ **KB Power ON Password**

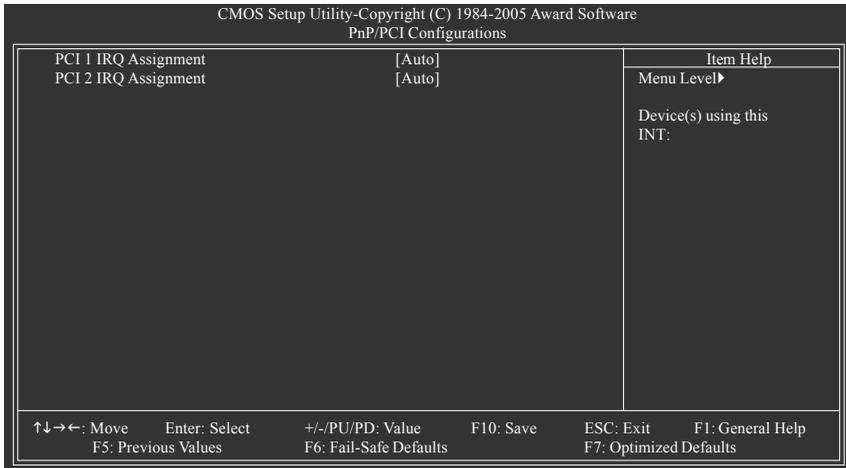
When "Power On by Keyboard" set at Password, you can set the password here.

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

☞ **AC BACK Function**

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

2-5 PnP/PCI Configurations



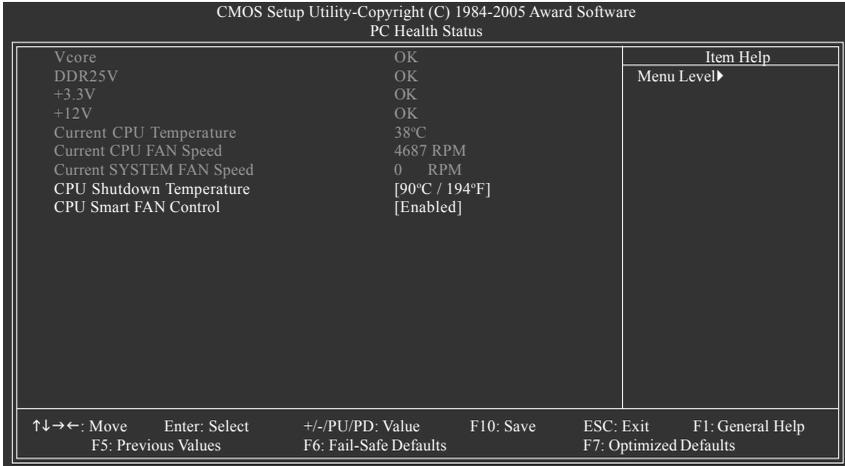
☞ PCI 1 IRQ Assignment

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

☞ PCI 2 IRQ Assignment

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

2-6 PC Health Status



☞ **Current Voltage(V) Vcore / DDR25V / +3.3V / +12V**

▶▶ Detect system's voltage status automatically.

☞ **Current CPU Temperature**

▶▶ Detect CPU temperature automatically.

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

▶▶ Detect CPU/System fan speed status automatically.

☞ **CPU Shutdown Temperature**

▶▶ 90°C / 194°F System will be forced to shutdown automatically when CPU reaches 90°C / 194°F. (Default value)

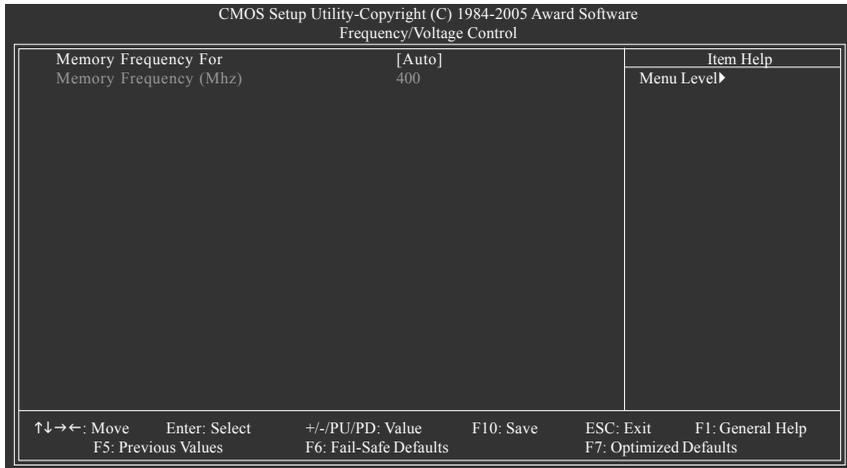
▶▶ Disabled Disable thermal shutdown function.

☞ **CPU Smart FAN Control**

▶▶ Disabled Disable this function.

▶▶ Enabled When this function is enabled, CPU fan will run at different speed depending on CPU temperature. (Default value)

2-7 Frequency/Voltage Control



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

☞ Memory Frequency For

Wrong frequency may make system can't boot, clear CMOS to overcome wrong frequency issue.
for FSB(Front Side Bus) frequency=533MHz,

- ▶▶ 2.0 Memory Frequency = Host clock x 2.
- ▶▶ 2.5 Memory Frequency = Host clock x 2.5.
- ▶▶ Auto Set Memory frequency by DRAM SPD data. (Default value)

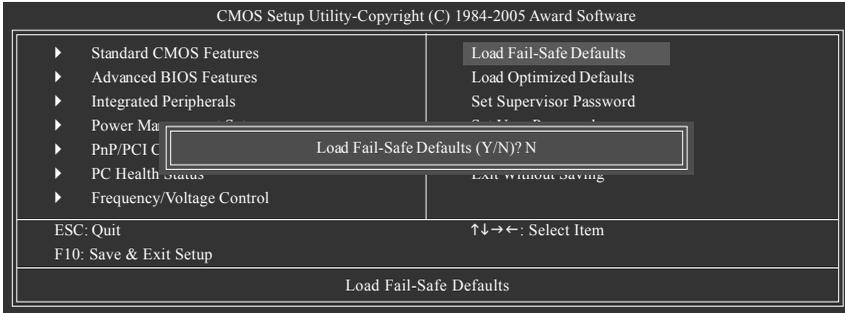
for FSB(Front Side Bus) frequency=800MHz,

- ▶▶ 1.66 Memory Frequency = Host clock x 1.66.
- ▶▶ 2.00 Memory Frequency = Host clock x 2.
- ▶▶ 2.66 Memory Frequency = Host clock x 2.66.
- ▶▶ Auto Set Memory frequency by DRAM SPD data. (Default value)

☞ Memory Frequency (Mhz)

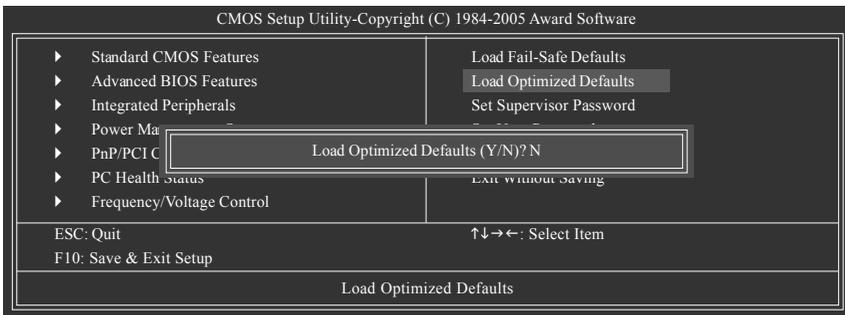
The values depend on "Memory Frequency For" item.

2-8 Load Fail-Safe Defaults



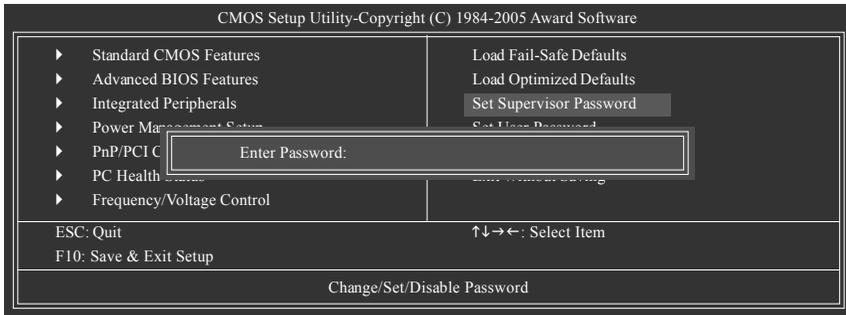
Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

2-9 Load Optimized Defaults



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

2-10 Set Supervisor/User Password



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

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

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

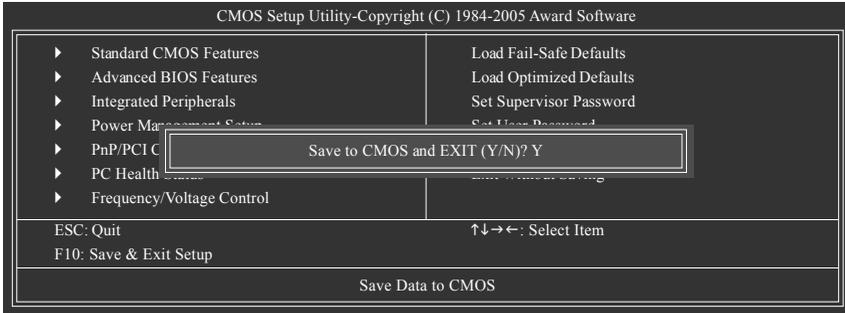
The BIOS Setup program allows you to specify two separate passwords:

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

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

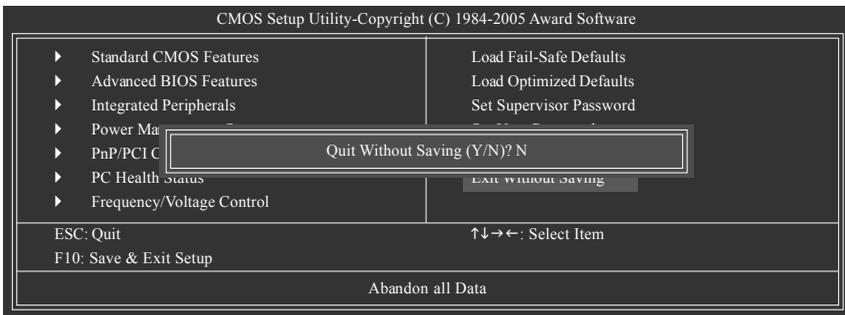
If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

2-11 Save & Exit Setup



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

2-12 Exit Without Saving



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

