Chapter 4 Startup and BIOS Settings

4.1 Startup Screen

Only a few motherboards without buzzers do not send out a warning sound before entering the operating system. If the hardware is correctly installed, a buzzer will send out a "beep" sound after booting, and then the booting screen below will be displayed on the monitor.



1. Chipset and Motherboard Model Number and BIOS Version

When confronted with compatibility problems with the motherboard (e.g. the capacity of the supported hard disk drive), refer to the model number of the motherboard and check for a new BIOS version to get an update from the manufacturer's website. For GIGABYTE motherboards, the BIOS versions are usually indicated by a capital F as the first character; the later versions are indicated by larger numbers after the capital F.

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2. CPU Specifications

CPU Specifications include CPU brand, type, clock (in parentheses are external frequency and clock multiplier) and ID, etc. CPU types can change, so sometimes the wrong clock detection occurs and you need to enter BIOS Setup to adjust it manually or update the BIOS.

3. Memory Information

The number of the memory capacity detection will increase during startup. When the number stops increasing, it indicates the total capacity of the computer's memory. If the memory modules are installed in the dual-channel fashion along with the chipset's support, "Dual Channel" will be displayed to indicate that the dual channel function has been activated.

4. IDE and Serial ATA Device Information

If two devices are connected to an IDE cable and the jumper setting are correct (refer to Section 3.4), Master and Slave will display the model numbers of the hard disk drive or optical drive. This also applies to Serial ATA devices.

5. Function Prompt

The screen will show the key to enter BIOS (Del key in most cases). Gigabyte motherboards that support Dual BIOS, Q-Flash and Xpress Recovery will display such information (at the bottom of the screen) and hot keys for execution.

BIOS Definition------

BIOS (Basic Input/Output System) is saved in the EPROM chip of the motherboard and saves the hardware settings, including processor, memory, graphics accelerator and hard disk drive. The BIOS also control the performance and stability of the system. You need to know about BIOS to configure the optimal settings for the best performance.



4.2 BIOS Settings

Press the "Del" key to enter the Main menu of BIOS. Do not get confused by the BIOS setting items. All you have to do is change a few settings and use the default values for most of the items. Next, we will show the necessary adjustment items or selected functions for the operating condition to maximize the computer's performance. However, please be advised to refer to the motherboard's documentation for options that you are not familiar with, otherwise, the system may be unbootable or unstable because of incorrect settings.



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Switch Operation Interface to Traditional Chinese------

Standard CMOS Fea		Select L	anguage
Advanced BIOS Feat			l-Safe Defaults
Integrated Periph		Load Opt	inized Defaults
▶ Power Management	Select Langua	ge	
▶ PnP/PC1 Configura	English		
PC Health Status	Deutsch		
MB Intelligent Tu	繁體中文 …		aving
Top Performance	日本語		
'sc : Quit 18 : Dual B10S∕Q-F1	14:Move ESC:Abort		uage Setup

To prevent language problems, most GIGABYTE BIOS offer a multi-language interface such as Traditional Chinese to help users operate the setup.

Date and Time Adjustment...



Select the "Standard CMOS Features" and adjust the date and time at the top of the screen. The following section displays the settings of the IDE devices which are detected automatically and do not need to be changed. Next are the floppy disk drive and "Halt On" mode settings. The default setting for the "Halt On" mode is "All, But Keyboard", meaning that the system will not boot-up when detecting any errors, except for keyboard.

Booting Priority Setting

Hard Disk Boot Pri BIOS Flash Protect First Boot Device Second Boot Device	ority [Press ion [Auto [CDROP [Hard	s Enter]] Disk]	He	Iten Help nu Level ▶
Third Boot Device Boot Up Floppy Se	First Boot De	vice		nect Boot Devic ority
Password Check	Floppy			oppul
Interrupt Mode				t from floppy
HDD S.M.A.B.T. Ca				
CPU Hyper-Threadi				1201
Limit CPUID Max.				
No-Execute Menory	USB-FDD			
CPU Enhanced Halt	USB-Z1P			rd Disk]
Delay For HDD (Se	USB-CDROM			
DRAM Data Integri	ti:Move ESC:Abort			ROM] t from CDROM

In "Advanced BIOS Features", you can set the first, second and third booting device. For Windows[®] XP™ installation, make sure to set the optical drive prior to the hard disk drives so that the system can boot up from the CD. It is suggested to turn off the "Boot Up Floppy Seek" function to increase the boot-up speed.





Seagate's S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) is a monitoring system for hard disks to detect and report on various indicators of reliability. In case any malfunction occurs, it will send a warning message, allowing users to back up their data before the hard disk drive crashes (additional software is required).

Integrated Peripherals Setting

On-Chip Primary PCI I	DE (Enabled)	Item Help
SATA RAIDZAHCI Mode	[Disabled]	Henu Level
On-Chin SATA Mode	fauto 1	Hend Bever
x PATA IDE Set to	Ch.0 Master/Slave	If a hard disk
	Disable	controller card is
	Ch.1 Master/Slave	used, set at Disab
USB Controller	[Enabled]	
USB 2.0 Controller	[Enabled]	[Enabled]
USB Keyboard Support	[Disabled]	Enable on-chip IDE
USB Mouse Support	[Disabled]	Port
Azalia Codec	[Auto]	
Onboard H/W 1394	[Enabled]	[Disabled]
Onboard H/W SATA	[Disabled]	Disable on-chip ID
		Port
Onboard H/W GigaRAID	[Disabled]	
Onboard H/W LAN1	[Enabled]	
Onboard H/W LAN2	[Enabled]	

On-Chip Primary	CI IDE (Enabled 1	rten Help
SATA RAID/AHCI Mod On-Chip SATA Mode	E (Disabled) [Auto]]	Menu Level ►
SATA Port0/2 Set	Onboard H/W GigaRAID	
USB Controller	Enabled[] Disabled [0]	
USB Keyboard Supp		
Azalia Codec		
Onboard H/W SATA		
H/W SATA Function		
GigaRAID Function	14:Move ENTER:Accept ESC:Abort	
Onboard H/W LAN2	Licentitore	

"Integrated Peripherals" is used to control the peripherals, including Serial ATA, IDE, USB, network and 1394 devices. Users may freely enable or disable these devices. For example, the 1394 function may be disabled if it is not in use. In addition to the built-in Serial ATA in the South Bridge chip, this motherboard also supports the chip of the same kind from Silicon Image. Therefore, Serial ATA devices include "On-Chip" and "Onboard" devices. As the RAID function requires more (at least two) hard disk drives and is not applicable to most users, it is skipped (as recommended) during boot-up detection to increase the startup speed. If you use a USB keyboard or mouse, make sure to enable the USB Keyboard Support and USB Mouse Support items to allow for normal operation under DOS.

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Wakeup Source Control.

ACPI Suspend Type [S1(POS)]		Item Help
Soft-Off by PWR-BI PME Event Wake Up	TN [Instant-Off] [Enabled]	Henu Level 🕨
Resume by Alarm	Power On By Mouse	abled this
AC BACK Function	Disabled [0] Double Click []	uble Clickl se double click power on system
	T4:Move ENTER:Accep ESC:Abort	

To power on the computer, pressing the power button is not the only way; you can also use the mouse or keyboard. Enter the "Power Management Setup" option and locate "Power On by Mouse", "Power On By Keyboard" or using modem (Power On By Ring), timer (Resume By Alarm) to wake up computer. These functions can all be turned off while not in use.

Hardware Monitoring Adjustment.....



To monitor the system operation, "PC Health Status" provides information such as processor temperature as well as speed values of the power supply fan and system fans. Make sure to enable the processor temperature warning function to protect against processor damage. In addition, you could turn on "CPU Smart FAN Control" function, allowing the CPU cooling fan to automatically adjust its rotational speed, based on the temperature, to reach the balance between heat dissipation and silence.

Adjust the CPU Clock------

MB Intelligent Tweaker(M.I.T.)		MB Intelligent Tweaker(M.I.T.)		
CPU Clock Ratio [16 X] Robust Graphics Booster [Auto] [Disabled] CPU Host Clock Control [Enabled]	▲ Iten Help Menu Level →	CPU Clock Ratio [15 X] ▲ Iten Hel; Robust Graphics Booster [Auto] [Disabled] [Disabled] [Henn Level] CPU Host Clock Control [Enabled] [Enabled] [Enabled] [Enabled]		
PCT Distances Frequences PCT Distances Frequencies Frequencies PCT-Distances PCT-Distances PCT-Distances PCT-Distance PCT	io is unlocked	CrU nest Frequency FCI Express Freque Distance Frequency (Miz) Distance Frequency (Miz) Distance Frequency (Miz) Diff UberVoltage FCI-E OverVoltage FCI-E OverVoltage CFU voltage Contr Roya L CFU Vocre CFU Voltage Contr Roya L CFU Vocre CFU Vocre		
CAS Latency Time DRAM RASE to CASE DRAM RASE Prechar 14:Move ENTER:AM	ccept	CAS Latency Time DRAM RASE to CASE DRAM RASE Prechan 11: Hove ENTER:Accept		

After selecting "MB Intelligent Tweaker (M.I.T.)", you can change the CPU clock ratio and external clock settings in "CPU Clock Ratio" and "CPU Host Frequency (Mhz)" respectively. Inadequate adjustment may cause the over-clock state and system instability. Inexperienced users are advised not to change the settings without full knowledge.



MB Intelligent Tweaker(M.	1.T.)	MB Intelligent Tweaker(M.I.T.))
CPU Clock hatie (16 X) CPU Clock hatie (16 X) CPU AD (16 X)	Item Help Hema Leviel > Image: Leviel > Ima	CTU Clock Retio Robust Groups State C. I. A. Grophics Booster CTU Host Clock Control CTU Host Frequenc FCI Express Frequenc FCI Express Frequenc Birth Gerkholtage PCI-E Deerkoltage DIM Gerkholtage CTU Voltage Contr Astronal CTU Voltage COS Latency Tine Dem Mass to Cons	(16 X) (field) (field) (105xbled) (105x	Iten Help Hens Level > rease Diff Volt e : Increase H Voltage may g e stable for relock but it a e damge to Diff ile

"DIMM OverVoltage Control" and "Memory Frequency (MHz)" allows you to set the clock and voltage of the memory module. Enable the automatic detection, unless over clock is intended.

PCI-E Clock and Voltage

MB Intelligent Tweaker(M.I	I.)	MB Intelligent Tweaker(M.I.T.)	
CPU Clock Ratio [16 X] Robust Graphics Booster [Auto] C.I.A.2 [Disabled] CPU Host Clock Control [Enabled]	▲ Iten Help Henu Level ►	CPU Clock Ratio (16 X) Robust Graphics Booster (Retto) C.1.A.2 (Disabled) CPU Host Clock Control (Enabled)	Item Help Menu Level →
CTU mass frequency(fMz) System Amony file Auto (1) PC1E Supress frequency(fMz) Auto (1) PC1E Supress frequency(fMz) Auto (1) FC1E Supress frequency(fMz) Auto (1) FC1E Supress frequency(fMz) (1) FC1E Supress frequency(f		Crol nois Frequenci FCI-E OverVoltage Control Guiten Renory hi format format DIMI OverVoltage format format PCI-E OverVoltage format format PCI-E OverVoltage format format PCI-E OverVoltage format format PSB DuerVoltage format format FSB DuerVoltage format format FORD format format COS Latemeng Time format format	e : Increase PCI - Contra Unitage may get e stable for rclock but it may e damage to PCI- ice
DRAM RASE to CASE DRAM RASE Prechar 14:Nove ENTER:Acce	pt	DRAM RASH to CASH DRAM RASH Prechar Active to Prechar ESC:Abort	

"PCI Express Frequency (MHz)" and "PCI-E OverVoltage Control" allow you to set the speed and voltage of the PCI Express® slot. Make sure that the adjustment does not cause system instability.

Saving Settings



Make sure to save the settings you have made; otherwise, those previous changes will be lost. Select "SAVE to CMOS and EXIT (Y/N)" or press "F10" on the keyboard and then press the "Y" button. If you don't want to change the setup, you may select "Exit Without Saving" or the "ESC" button on the keyboard and press the "Y" button.