GA-8VT880P Combo

Intel® Pentium® 4 LGA775 Processor Motherboard

User's Manual

Rev. 1003 12ME-8VT880PCO-1003



* 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.

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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 quick installation, please refer to the "Hardware Installation Guide" included with the product.
- 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.

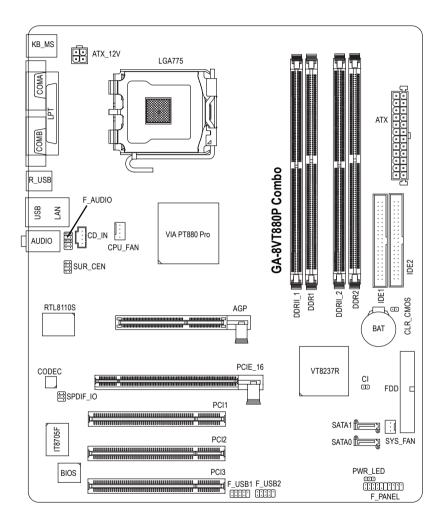
For more product details, please click onto Gigabyte's website at www.gigabyte.com.tw

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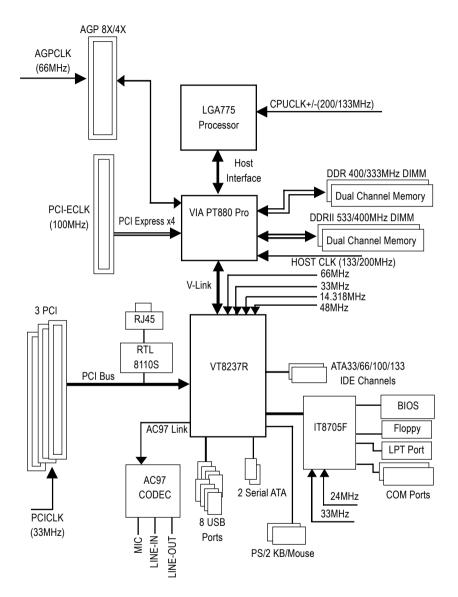
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GA-8VT880P Combo Motherboard Layout



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.
- 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.
- 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	 Supports the latest Intel[®] Pentium[®] 4 LGA775 CPU
	Supports 800/533MHz FSB
	L2 cache varies with CPU
Chipset	Northbridge: VIA PT880 Pro Chipset
	 Southbridge: VIA 8237R
Memory	 2 DDR DIMM memory slots (supports up to 2GB memory)
	Supports 2.5V DDR DIMM
	 Supports dual channel DDR 400/333 DIMM
	 2 DDR II DIMM memory slots (supports up to 2GB memory)
	Supports 1.8V DDR II DIMM
	 Supports dual channel DDR II 533/400 DIMM
	(Note: Mixed mode, populating DDR and DDR II memory modules
	simultaneously is not supported.)
Slots	1 PCI Express x 16 slot (Note1)
	1 AGP slot
	3 PCI slots
IDE Connections	 2 IDE connection (UDMA 33/ATA 66/ATA 100/ATA 133), allows connection of 4
	IDE devices(IDE1/IDE2)
FDD Connections	1 FDD connection, allows connection of 2 FDD devices
Onboard SATA	2 Serial ATA connections (Note2)
Peripherals	 1 parallel port supporting Normal/EPP/ECP mode
	2 Serial port (COMA/COMB)
	 8 USB 2.0/1.1 ports (rear x 4, front x 4 via cable)
	1 front audio connector
	 1 PS/2 keyboard port
	 1 PS/2 mouse port
Onboard LAN	Onboard Realtek 8110S chip (10/100/1000 Mbit)
	 1 RJ 45 port
Onboard Audio	ALC850 CODEC (UAJ)
	 Supports Jack Sensing function
	 Supports 2 / 4 / 6 / 8 channel audio
	 Supports Line In / Line Out / MIC connection
	 Surround Back Speaker (use of Surround-Kit to select)
	 SPDIF In / Out
	CD In

- (Note1) Due to the PT880 Pro chipset's limitation, the PCI Express x16 slots work at the bandwidth of PCI Express x4.
- (Note 2) It is recommended to use SATA (1.5Gb/s) hard disks.

RAID1)
or function)

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.
- 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 VIA 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

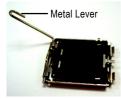


Fig. 1 Gently lift the metal lever located on the CPU socket to the upright position.



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

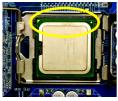


Fig. 3 Notice the small gold colored triangle located on the edge of the CPU socket. Align the indented corner of the

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.

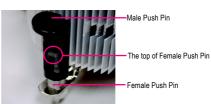


Fig. 2

(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.

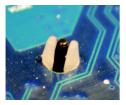


Fig. 5

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



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. 6

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



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.

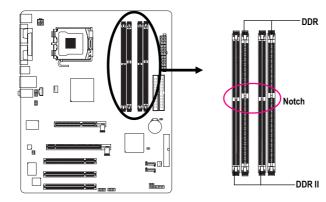
1-4 Installation of Memory



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

- 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.
 - Before installing or removing memory modules, please make sure that the computer power is switched off to prevent hardware damage.
 - 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 II & 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.



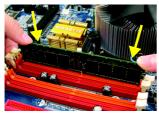


Fig.1

The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.



Fig.2

Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.

Reverse the installation steps when you wish to remove the DIMM module.

Dual Channel Memory Configuration

GA-8VT880P Combo supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will add double.

- If you want to operate the Dual Channel Technology, please note the following explanations due to the limitation of Intel chipset specifications.
- 1. Dual Channel mode will not be enabled if only one DDR/DDR II memory module is installed.
- To enable Dual Channel mode with 2 memory modules (it is recommended to use memory modules of identical brand, size, chips, and speed), you must install them into DIMM sockets of the same color.

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

	DDR 1	DDR 2
2 memory modules	DS/SS	DS/SS

OR

	DDR II 1	DDR II 2
2 memory modules	DS/SS	DS/SS

Note: Mixed mode, populating DDR and DDR II memory modules simultaneously is not supported.

1-5 Installation of Expansion Cards

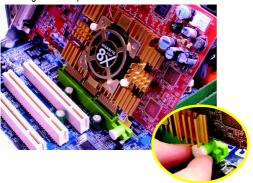
You can install your expansion card by following the steps outlined below:

- 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:



Installing a AGP expansion card:





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

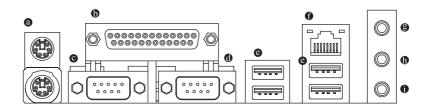
1-5-1 Recommended PCI Express x 16 graphics cards for the GA-8VT880 Combo

ATi Chipset: GV-RX60P128D (Radeon X600 PRO) GV-RX60X128V (Radeon X600XT) GV-RX70P128D (Radeon X700 PRO) GV-RX80T256V (Radeon X800XT) GV-RX80L256V (Radeon X800XL) GV-RX80256D (Radeon X800) Nvidia Chipset:

GV-NX53128D (Geforce PCX5300) GV-NX57128D (Geforce PCX5750) GV-NX57128D (Geforce PCX5750) GV-NX59128D (Geforce PCX5900) GV-NX62128D (Geforce 6200) GV-NX661128D (Geforce 6600GT) GV-NX66T128D (Geforce 6600GT) GV-NX68T256DH (Geforce 6800GT) GV-NX55128DP (Geforce 5200 Ultra) GV-NX68U256D (Geforce 6800 Ultra) GV-NX68U256D (Geforce 6200)

Please view the graphics cards support list currently validated by GIGABYTE enginneers. For more updated information, please logon to GIGABYTE website at http://www.gigabyte.com.tw

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).

LPT (Parallel Port)

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

COM A/COM B (Serial Port)

Connects to serial-based mouse or data processing devices.

USB port Output Description Second sec

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 Gigabit Ethernet, providing data transfer speeds of 10/100/1000Mbps.

Line In

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

Line Out

Connect the stereo speakers, earphone or front surround channels to this connector.

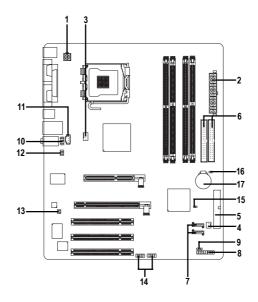
MIC In

Microphone can be connected to MIC In jack.



>
angle You can use audio software to configure 2-/4-/6-/8- channel audio functioning.

1-7 Connectors Introduction



1)	ATX_12V	10)	F_AUDIO
2)	ATX (Power Connector)	11)	CD_IN
3)	CPU_FAN	12)	SUR_CEN
4)	SYS_FAN	13)	SPDIF_IO
5)	FDD	14)	F_USB1 / F_USB2
6)	IDE1 /IDE2	15)	CI
7)	SATA0 / SATA1	16)	CLR_CMOS
8)	F_PANEL	17)	BAT
9)	PWR_LED		

1/2) ATX_12V/ATX (Power Connector)

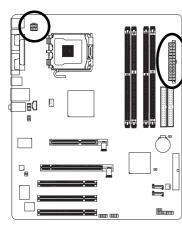
With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard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

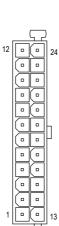
The ATX_12V power connector mainly supplies power to the CPU. If the ATX_12V power connector is not connected, the system will not start.

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.





Definition
GND
GND
+12V
+12V

	Pin No.	Definition
4	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
	12	3.3V(Only for 24pins ATX)
3	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
	24	GND

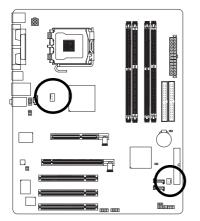
3/4) CPU_FAN / SYS_FAN (Cooler Fan Power Connector)

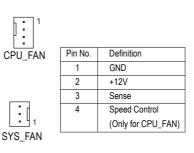
The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin (only for CPU_FAN) power connector and possesses a foolproof connection design.

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!

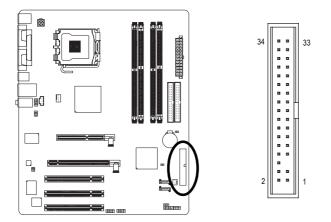
Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.





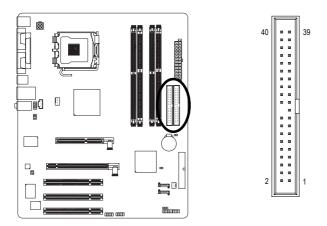
5) FDD (Floppy Connector)

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.



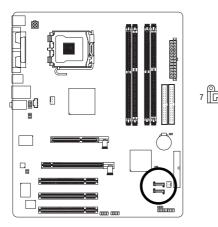
6) IDE1/IDE2 (IDE Connector)

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 (Serial ATA Connector)

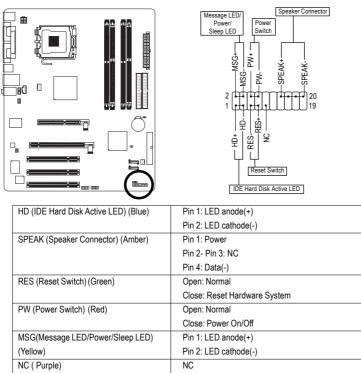
Serial ATA can provide up to 150MB/s transfer rate. Please refer to the BIOS setting for the Serial ATA and install the proper driver in order to work properly.



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

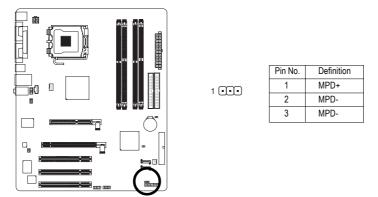
8) F_PANEL (Front Panel Jumper)

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



9) PWR_LED

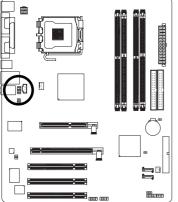
PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.



10) F_AUDIO (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. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.

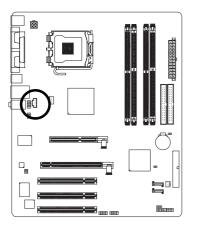
10 • • 9



Pin No.	Definition
1	MIC
2	GND
3	MIC_BIAS
4	POWER
5	FrontAudio(R)
6	Rear Audio (R)/ Return R
7	NC
8	No Pin
9	FrontAudio (L)
10	Rear Audio (L)/ Return L

11) CD_IN (CD IN)

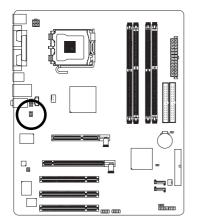
Connect CD-ROM or DVD-ROM audio out to the connector.



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

12) SUR_CEN

Please contact your nearest dealer for optional SUR_CEN cable.

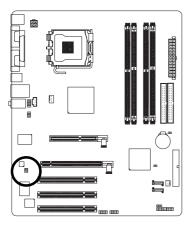


Pin No.	Definition
1	SUR OUTL
2	SUR OUTR
3	GND
4	No Pin
5	CENTER_OUT
6	BASS_OUT
7	AUX_L
8	AUX_R

13) SPDIF_IO (SPDIF In/Out)

The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Use SPDIF IN feature only when your device has digital output function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.

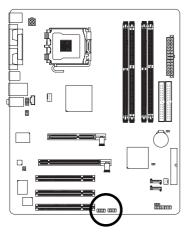
8 • • 7



	Pin No.	Definition
6 💶 🖬 5	1	Power
	2	No Pin
2 💶 1	3	SPDIF
	4	SPDIFI
	5	GND
	6	GND

14) 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.

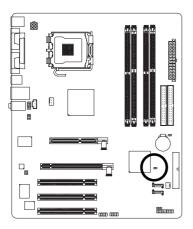




D: 11	
Pin No.	Definition
1	Power
2	Power
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

15) CI (Chassis Intrusion, Case Open)

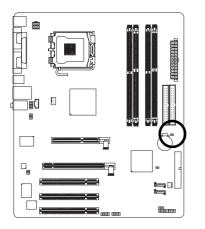
This 2-pin connector allows your system to detect if the chassis cover is removed. You can check the "Case Opened" status in BIOS Setup.



. ~	Pin No.	Definition
1	1	Signal
	2	GND

16) CLR_CMOS (Clear CMOS)

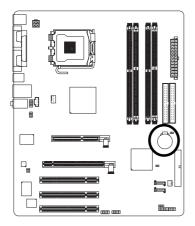
You may clear the CMOS data to its default values by this jumper. To clear CMOS, temporarily short 1-2 pin. Default doesn't include the "Shunter" to prevent from improper use this jumper.



1 • Open: Normal

1 • Short: Clear CMOS

17) BAT(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.
- 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. You can enter the BIOS setup screen by pressing "Ctrl + F1". 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. If you wish to upgrade to a new BIOS, either Gigabyte's Q-Flash or @BIOS utility can be used.

Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system. @BIOS is a Windows-based utility that does not require users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

$<\!\!\uparrow\!\!>\!\!<\!\!\downarrow\!\!>\!\!<\!\!\leftrightarrow\!\!>\!\!<\!\!\rightarrow\!\!>$	Move to select item	
<enter></enter>	Select Item	
<esc></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=""></page>	Increase the numeric value or make changes	
<page down=""></page>	Decrease the numeric value or make changes	
<f1></f1>	General help, only for Status Page Setup Menu and Option Page Setup Menu	
<f2></f2>	Item Help	
<f5></f5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu	
<f6></f6>	Load the file-safe default CMOS value from BIOS default table	
<f7></f7>	Load the Optimized Defaults	
<f8></f8>	Q-Flash utility	
<f9></f9>	System Information	
<f10></f10>	Save all the CMOS changes, only for Main Menu	

CONTROL KEYS

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 Main Menu (For example: BIOS Ver. : FD)

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.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software				
•	Standard CMOS Features	Load Fail-Safe Defaults		
►	Advanced BIOS Features	Load Optimized Defaults		
►	Integrated Peripherals	Set Supervisor Password		
►	Power Management Setup	Set User Password		
►	PnP/PCI Configurations	Save & Exit Setup		
►	PC Health Status	Exit Without Saving		
►	MB Intelligent Tweaker(M.I.T.)			
ESC	C: Quit	↑↓→←: Select Item		
F8: Q-Flash		F10: Save & Exit Setup		
Time, Date, Hard Disk Type				



If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option hidden.

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.

■ MB Intelligent Tweaker(M.I.T.)

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)	Mon, Feb 1	4 2005	Item Help		
	Time (hh:mm:ss)	15:31:24		Menu Level▶		
	IDE Channel 0 Master	[None]		Change the day, month,		
▶	IDE Channel 0 Slave	[None]		year		
▶	IDE Channel 1 Master	[None]				
▶	IDE Channel 1 Slave	[None]		<week></week>		
▶	IDE Channel 2 Master	[None]		Sun. to Sat.		
▶	IDE Channel 3 Master	[None]				
				<month></month>		
	Drive A	[1.44M, 3.5	יי	Jan. to Dec.		
	Drive B	[None]				
	Floppy 3 Mode Support	[Disabled]		<day></day>		
				1 to 31 (or maximum		
	Halt On	[All, But Keyboard]		allowed in the month)		
				, í		
	Base Memory	640K		<year></year>		
	Extended Memory	511M		1999 to 2098		
	Total Memory	512M				
	· · · · · · · · · · · · · · · · · · ·					
↑	$\downarrow \rightarrow \leftarrow$: Move Enter: Select		F10: Save ESC:			
	F5: Previous Values	F6: Fail-Safe Defaults	F7: Optimized Defa	ults		

Date

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

- ✤ Month The month, Jan. Through Dec.
- ▶ Day The day, from 1 to 31 (or the maximum allowed in the month)

ං 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 0/1 Master, Slave

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

➡ IDE Device Setup. You can use one of three methods:

Auto	Allows BIOS to automatically detect IDE devices during POST(default)
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 2/3 Master

- >> IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.
- >> Extended IDE Drive SATA devices setup. You can use one of two methods:
 - Auto
 Allows BIOS to automatically detect SATA IDE devices during POST. (Default value)

 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 currently installed hard disk.

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 / Drive B

The category identifies the types of floppy disk drive A or drive B 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.

∽ Floppy 3 Mode Support (for Japan Area)

- Disabled Normal Floppy Drive. (Default value)
- Drive A
 Drive A is 3 mode Floppy Drive.
- Drive B Drive B is 3 mode Floppy Drive.
- ➡ Both Drive A & B are 3 mode Floppy Drives.

・ 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.
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. (Default value)
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.

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

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Advanced BIOS Features					
 Hard Disk Boot Priority First Boot Device Second Boot Device Third Boot Device Password Check CPU Hyper-Threading Limit CPUID Max. to 3 	[Press Enter] [Floppy] [Hard Disk] [CDROM] [Setup] [Enabled] [Disabled]	Item Help Menu Level > Select Hard Disk Boot Device Priority			
↑↓→←: Move Enter: Select F5: Previous Values		C: Exit F1: General Help : Optimized Defaults			



" # " 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 $<\uparrow>$ or $<\downarrow>$ 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.
- ➡ Legacy LAN Select your boot device priority by Legacy LAN.
- ► Disabled Disable 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.

If you want to cancel the setting of password, please just press ENTER to make [SETUP] empty.

∽ 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)

2-3 Integrated Peripherals

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Integrated Peripherals		
OnChip IDE Channel 0	[Enabled]	Item Help
OnChip IDE Channel 1	[Enabled]	Menu Level
OnChip Serial ATA	[Enabled]	
SATA Mode	[RAID]	
AC97 Audio	[Auto]	
USB 1.1 Controller	[Enabled]	
USB 2.0 Controller	[Enabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
Onboard H/W LAN	[Enabled]	
OnBoard LAN Boot ROM	[Disabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[Normal]	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
I dialier i ort mode	[011]	
↑↓→←: Move Enter: Select	+/-/PU/PD: Value F10: Save	ESC: Exit F1: General Help
F5: Previous Values	F6: Fail-Safe Defaults	F7: Optimized Defaults

∽ OnChip IDE Channel0

- Enabled Enable onboard 1st channel IDE port.(Default value)
- Disabled Disable onboard 1st channel IDE port.

∽ OnChip IDE Channel1

- Enabled Enable onboard 2nd channel IDE port.(Default value)
- Disabled Disable onboard 2nd channel IDE port.

○ OnChip Serial ATA

- ➡ Enabled Enable VT8237R Serial ATA support. (Default value)
- Disabled Disable this function.

SATA Mode

RAID Set onboard SATA mode to RAID. (Default value)
 IDE Set onboard SATA mode to IDE.

ー AC97 Audio

- Auto Enable onboard AC'97 audio function. (Default value)
 Disabled Disable this function.
 - 35 -

☞ USB 1.1 Controller

- Disabled Disable USB 1.1 controller.
- ➡ Enabled Enable USB 1.1 controller. (Default value)

・ USB 2.0 Controller

Disabled Disable USB 2.0 controller.
 Enabled Enable USB 2.0 controller. (Default value)

☞ USB Keyboard Support

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

☞ USB Mouse Support

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

∽ Onboard H/W LAN

- ✤ Enabled Enable onboard LAN chip function. (Default value)
- Disabled Disable onboard LAN chip 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 Serial Port 2

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

☞ UART Mode Select

This item allows you to determine which Infra Red(IR) function of Onboard I/O chip.

- Normal Set onboard I/O chip UART to Normal mode.(Default value)
- ▶ IrDA Set onboard I/O chip UART to IrDA mode.
- ➡ ASKIR Set onboard I/O chip UART to ASKIR mode.

☞ UR2 Duplex Mode

This feature allows you to select IR mode.

This function is available only when UART Mode Select is not set to Normal.

- Half IR Function Duplex Half. (Default value)
- ► Full IR Function Duplex Full.

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

2-4 Power Management Setup

	CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Power Management Setup						
x	ACPI Suspend Type USB Device Wake-Up From S3 Power LED in S1 state Soft-Off by PWRBIN AC BACK Function Keyboard Power On Mouse Power On PME Event Wake Up Modem Ring Resume Resume by Alarm Date (of Month) Alarm Time (hh:mm:ss) Alarm	[S1(POS)] Disabled [Blinking] [Instant-Of [Soft-Off] [Disabled] [Disabled] [Enabled] [Disabled] [Disabled] [Disabled] Everday 0:0:0	ı)	-	Item Help Menu Level> [S1] Set suspend type to Power On Suspend under ACPI OS [S3] Set suspend type to Suspend to RAM under ACPI OS		
1	↓→←: Move Enter: Select F5: Previous Values	+/-/PU/PD: Value F6: Fail-Safe Defaults	F10: Save	ESC: F F7: Op	Exit F1: General Help stimized Defaults		

☞ ACPI Suspend Type

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

☞ USB Device Wake-Up From S3

- Disabled
 Disable USB Device Wake-Up from S3. (Default value)
- ▶ Enabled Enable USB Device Wake-Up from S3.

∽ Power LED in S1 state

- Blinking In standby mode(S1), power LED will blink. (Default value)
- ▶ OFF In standby mode(S1), power LED will turn off.

∽ Soft-Off by PWRBTN

- ▶ 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.

AC BACK Function

- Memory When AC-power back to the system, the system will be back to the last state before AC-power is lost.
 Soft-Off When AC-power back to the system, the system will be in "Off" state.
- Soft-Off When AC-power back to the system, the system will be in "Off" state. (Default value)
- ✤ Full-On When AC-power back to the system, the system always in "On" state.

∽ Keyboard Power On

- Password Enter from 1 to 8 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.

Mouse Power On

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

☞ 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)

∽ Modem Ring Resume

An incoming call via modem can awake the system from any suspend state.

- Disabled Disable Modem Ring Resume function.
- ▶ Enabled Enable Modem Ring Resume function. (Default value)

☞ 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)

2-5 PnP/PCI Configurations

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software PnP/PCI Configurations						
PCI 1 IRQ Assignment	[Auto]	Item Help				
PCI 2 IRQ Assignment	[Auto]	Menu Level▶				
PCI 3 IRQ Assignment	[Auto]					
↑↓→←: Move Enter: Sele		ESC: Exit F1: General Help				
F5: Previous Values	F6: Fail-Safe Defaults	F7: Optimized Defaults				

☞ PCI 1 IRQ Assignment

▶ Auto▶ 3,4,5,7,9,10,11,12,14,15

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

→ PCI 2 IRQ Assignment → Auto → 3,4,5,7,9,10,11,12,14,15

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

☞ PCI 3 IRQ Assignment

► Auto

▶ 3,4,5,7,9,10,11,12,14,15

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

2-6 PC Health Status

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software PC Health Status						
Reset Case Open Status Case Opened Vcore DDR POWER +3.3V +12V Current CPU Temperature Current CPU FAN Speed Current SYSTEM FAN Speed CPU Smart FAN Control CPU Smart FAN Mode	[Disabled] No OK OK OK 44*C 4687 RPM 0 RPM [Enabled] [Auto]	:	Item Help Menu Level≯			
↑↓→←: Move Enter: Select F5: Previous Values	+/-/PU/PD: Value F6: Fail-Safe Defaults	F10: Save ESC: F7: Optimized Default				

Reset Case Open Status

- >> Disabled Don't reset case open status. (Default value)
- ✤ Enabled Clear case open status at next boot.

Case Opened

If the case is closed, "Case Opened" will show "No".

If the case have been opened, "Case Opened" will show "Yes".

If you want to reset "Case Opened" value, set "Reset Case Open Status" to "Enabled" and save CMOS, your computer will restart.

∽ Current Voltage(V) Vcore / DDR POWER / +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 Smart FAN Control

- Disabled Disable this function.
- Enabled When this function is enabled, CPU fan will run at different speed depending on CPU temperature. Users can adjust the fan speed with Easy Tune based on their requirements. (Default Value)

☞ CPU Smart FAN Mode

This option is available only when CPU Smart FAN Control is enabled.

➡ Auto BIOS autodetects the type of CPU fan you installed and sets the optimal CPU Smart FAN control mode for it. (Default Value) ✤ Voltage Set to Voltage when you use a CPU fan with a 3-pin fan power cable.

▶ PWM Set to PWM when you use a CPU fan with a 4-pin fan power cable.

Note: In fact, the Voltage option can be used for CPU fans with 3-pin or 4-pin power cables. However, some 4-pin CPU fan power cables are not designed following Intel 4-Wire fans PWM control specifications. With such CPU fans, selecting PWM will not effectively reduce the fan speed.

2-7 MB Intelligent Tweaker(M.I.T.)

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software Frequency/Voltage Control						
CPU Clock Ratio [16X] Item Help						
CPU Host Clock Control	[Disabled]	Menu Level				
x CPU Clock	200MHz					
C.I.A. Function	[Disabled]					
x C.I.A. Frequency (Mhz)	Cruise					
x Fixed AGP/PCI Frequency						
AGP/PCI Frequency						
DRAM Clock	[Auto]					
CPU Voltage Control	[Normal]					
Normal CPU Vcore	1.3875V					
AGP Voltage Control	[Normal]					
DDR Voltage Control	[Normal]					
$\uparrow \downarrow \rightarrow \leftarrow$: Move Enter: Select	+/-/PU/PD: Value F10: Save	ESC: Exit F1: General Help				
F5: Previous Values	F6: Fail-Safe Defaults	F7: Optimized Defaults				



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

- CPU Clock Ratio

This setup option will automatically assign by CPU detection.

The option will display "Locked" and read only if the CPU ratio is not changeable.

∽ CPU Host Clock Control

Please note that if your system is overclocked and cannot restart, please wait 20secs.

for automatic system restart or clear the CMOS setup data and perform a safe restart.

- Disabled Disable CPU Host Clock Control. (Default value)
- ➡ Enabled Enable CPU Host Clock Control.

CPU Clock

 \blacktriangleright 200MHz ~ 600MHz $\:$ Set CPU Host Clock from 200MHz to 600MHz. Incorrectly using this function may damage your system. For power users only.

∽ C.I.A. Function

C.I.A. (CPU Intelligent Acelerator) is designed to detect CPU loading during software program executing, and automatically adjust CPU computing power to maximize system performance.

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

∽ C.I.A. Frequency (Mhz)

- ➤ Cruise Set C.I.A. to Cruise. (Automatically increase CPU frequency(3%) by CPU loading.
- ✤ Sports Set C.I.A. to Sports. (Automatically increase CPU frequency(5%) by CPU loading.
- ➡ Racing Set C.I.A. to Racing. (Automatically increase CPU frequency(7%) by CPU loading.
- ▶ Turbo Set C.I.A. to Turbo. (Automatically increase CPU frequency(10%) by CPU loading.

Warning: Stability is highly dependent on system components.

☞ Fixed AGP/PCI Frequency

This item will be available when "CPU Host Clock Control" is set to Enabled. → Adjust AGP/PCI clock asychrohous with CPU.

∽ AGP/PCI Frequency (Mhz)

The values depend on Fixed AGP/PCI Frequency.

☞ DRAM Clock (MHz)

▶ Please set DRAM Clock according to your requirement.

If you use DDR333 DRAM module, please set "DRAM Clock(MHz)" to "166-DDR333". If you use DDR400/ DDRII400 DRAM module, please set "DRAM Clock(MHz)" to "200-DDR400".

Incorrect using it may cause your system broken. For power End-User use only!

∽ CPU Voltage Control

➡ Supports adjustable CPU Vcore from 0.8375V to 1.6000V. (Default value: Normal) Warning: CPU may be damaged or reduce CPU life-cycle when CPU is over-voltage.

∽ Normal CPU Vcore

Display your CPU Vcore Voltage.

∽ AGP Voltage Control

- ➡ +0.1V Set AGP Voltage Control to +0.1V.
- ➡ +0.2V Set AGP Voltage Control to +0.2V.
- ➡ +0.3V Set AGP Voltage Control to +0.3V.

Increase AGP voltage may get stable for Over_Clock. But it may damage to AGP Card when enable this feature.

☞ DDR Voltage Control

Please note that by overclocking your system through the increase of the DDR voltage, damage to the memory may occur.

▶ Normal Set DDR Voltage Control to Normal. (Default value)

- ► +0.1V Set DDR Voltage Control to +0.1V.
- ➡ +0.2V Set DDR Voltage Control to +0.2V.
- ➡ +0.3V Set DDR Voltage Control to +0.3V.
- ➡ +0.4V Set DDR Voltage Control to +0.4V.
- ➡ +0.5V Set DDR Voltage Control to +0.5V.
- ➡ +0.6V Set DDR Voltage Control to +0.6V.
- ➡ +0.7V Set DDR Voltage Control to +0.7V.

Incorrect using it may cause your system broken. For power End-User use only!

2-8 Load Fail-Safe Defaults

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software					
•	Standard CMOS Features		Load Fail-Safe Defaults		
•	Advanced BIOS Features		Load Optimized Defaults		
•	Integrated Peripherals		Set Supervisor Password		
•	Power Ma	I			
▶ PnP/PCI C Load Fail-Safe D		ad Fail-Safe D	efaults (Y/N)? N		
Þ	PC Health Sumus	1	LAR WINDU Saving		
•	MB Intelligent Tweaker(M.I.T.)				
ESC	2: Quit		↑↓→←: Select Item		
F8: (Q-Flash		F10: Save & Exit Setup		
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

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software					
Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Ma	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password				
 PnP/PCI C PC Health status MB Intelligent Tweaker(M.I.T.) 	oad Optimized Defaults (Y/N)? N				
ESC: Quit F8: Q-Flash	↑↓→←: Select Item F10: Save & Exit Setup				
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

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software					
Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Content PnP/PCI C Enter Password: PC Health MB Intelligent Tweaker(M.I.T.)	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set Hose Decoursed				
ESC: Quit F8: Q-Flash	↑↓→←: Select Item F10: Save & Exit Setup				
Change/Set/Disable 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

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software					
 Standard CMOS Features 	Load Fail-Safe Defaults				
 Advanced BIOS Features 	Load Optimized Defaults				
 Integrated Peripherals 	Set Supervisor Password				
 Power Management Setup 	Set User Password				
► PnP/PCI C					
 PC Health Save to CMOS an 	d EXIT (Y/N)? Y				
MB Intelligent i meaner(1911.1.1.)					
ESC: Quit	↑↓→←: Select Item				
F8: Q-Flash	F10: Save & Exit Setup				
Save Data to CMOS					

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

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software					
Standard CMOS Features Advanced BIOS Features Integrated Peripherals	Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password				
 Power Mar PnP/PCI C Quit With PC Health sumues MB Intelligent Tweaker(M.I.T.) 	Dut Saving (Y/N)? N				
ESC: Quit F8: Q-Flash	↑↓→←: Select Item F10: Save & Exit Setup				
Abandon all Data					

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

Chapter 3 Drivers Installation



Pictures below are shown in Windows XP.

Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the Setup.exe.

3-1 Install Chipset Drivers

After insert the driver CD, "Xpress Install" will scan automatically the system and then list all the drivers that recommended to install. The "Xpress Install" uses the "Click and Go" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The "Xpress Install" will execute the installation for you automatically.





Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.

System will reboot automatically after install the drivers, afterward you can install others application.



For USB2.0 driver support under Windows XP operating system, please use Windows Service Pack. After install Windows Service Pack, it will show a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the question mark and restart the system (System will auto-detect the right USB2.0 driver).

3-2 Software Application

This page displays all the tools that Gigabyte developed and some free software. You can click an item to install it.



3-3 Software Information

This page lists the contents of software and drivers in this CD-title.



3-4 Hardware Information

This page lists all device you have for this motherboard.



3-5 Contact Us

Please see the last page for details.



Chapter 4 Appendix

4-1 Unique Software Utilities

4-1-1 EasyTune 5 Introduction

EasyTune 5 presents the most convenient Windows based system performance enhancement and manageability utility. Featuring several powerful yet easy to use tools such as 1) Overclocking for enhancing system performance, 2) C.I.A. and M.I.B. for special enhancement for CPU and Memory, 3) Smart-Fan control for managing fan speed control of both CPU cooling fan and North-Bridge Chipset cooling fan, 4) PC health for monitoring system status.^[Note]

User Interface Overview



	Button / Display	Description
1.	Overclocking	Enters the Overclocking setting page
2.	C.I.A./C.I.A.2 and M.I.B./M.I.B.2	Enters the C.I.A./2 and M.I.B./2 setting page
3.	Smart-Fan	Enters the Smart-Fan setting page
4.	PC Health	Enters the PC Health setting page
5.	GO	Confirmation and Execution button
6.	"Easy Mode" & "Advance Mode"	Toggles between Easy and Advance Mode
7.	Display screen	Display panel of CPU frequency
8.	Function display LEDs	Shows the current functions status
9.	GIGABYTE Logo	Log on to GIGABYTE website
10.	Help button	Display EasyTune [™] 5 Help file
11.	Exit or Minimize button	Quit or Minimize EasyTune™ 5 software

(Note) EasyTune 5 functions may vary depending on different motherboards.

4-1-2 Xpress Recovery2 Introduction



Xpress Recovery2 is designed to provide quick backup and restoration of hard disk data. Supporting Microsoft operating systems including Windows XP/2000/NT/98/Me and DOS, and file systems including FAT16, FAT32, and NTFS, Xpress Recovery2 is able to back up data

on hard disks on PATA and SATA IDE controllers. After Xpress Recovery2 is executed from CD-ROM for the first time, it will stay permanent in your hard disk. If you wish to run Xpress Recovery2 later, you can simply press F9 during system bootup to enter Xpress Recovery2 without the CD-ROM.

System requirements:

- 1. Intel x86 platforms
- 2. At least 64M bytes of system memory
- 3. VESA-supported VGA cards

How to use the Xpress Recovery2

Initial access by booting from CD-ROM and subsequent access by pressing the F9 key:

Steps: After entering BIOS Setup, go to Advanced BIOS Feature and set to boot from CD-ROM. Save the settings and exit the BIOS Setup. Insert the provided driver CD into your CD-ROM drive. Upon system restart, the message which says "Boot from CD/DVD:" will appear in the bottom left corner of the screen. Press any key to enter Xpress Recovery2.

After the steps above are completed, subsequent access to Xpress Recovery2 can be made by simply pressing the <F9> key during system power-on.





- If you have already entered Xpress Recovery2 by booting from the CD-ROM, you can enter Xpress Recovery2 by pressing the <F9> key in the future.
- 2. System storage capacity and the reading/writing speed of the hard disk will affect the data backup speed.
- 3. It is recommended that Xpress Recovery2 be immediately installed once you complete installations of OS and all required drivers as well as software.

The Main Screen of Xpress Recovery2



1. RESTORE:

Restore the backed-up data to your hard disk. (This button will not appear if there is no backup file.)

2. BACKUP:

Back up data from hard disk.

3. REMOVE:

Remove previously-created backup files to release disk space.

(This button will not appear if there is no backup file.)

4. REBOOT:

Exit the main screen and restart the system.

Limitations:

- 1. Not compatible to Xpress Recovery.
- 2. For the use of Xpress Recovery2, a primary partition must be reserved.
- 3. Xpress Recovery2 will store the backup file at the end of the hard disk, so free space available on the hard disk for the backup file must be allocated in advance. (A minimum 4GB is recommended but the actual space is dependent on the size of the data to be backed up)
- Capable of backing up hard disks installed with Windows operating systems including DOS and Windows XP/2000/NT/9x/Me.
- 5. USB hard disks are currently not supported.
- 6. Does not support RAID/AHCI (class code 0104/0106) hard disks.
- 7. Capable of backing up and restoring only the first physical hard disk.

Hard disks detection sequence is as follows:

- a. PATA IDE primary channel
- b. PATA IDE secondary channel
- c. SATA IDE channel 1
- d. SATA IDE channel 2
- e. SATA IDE channel 3
- f. SATA IDE channel 4

Precautions:

- 1. When using hard disks with more than 128G under Windows 2000, be sure to execute the EnableBigLba.exe program from the driver CD before data backup.
- 2. It is normal that data backup takes longer time than data restoration.
- 3. Xpress Recovery2 is compliant with the GPL regulations.
- 4. On a few motherboards based on Nvidia chipsets, BIOS update is required for Xpress Recovery2 to correctly identify RAID and SATA IDE mode. Please contact your motherboard manufacturer.
- 5. Xpress Recovery2 supports only PATA hard disks and not SATA hard disks on the following motherboards (As this is a BIOS-related issue, it can be solved by BIOS update)

GA-K8U	GA-K8NXP-9	GA-8N-SLI Royal
GA-K8U-9	GA-K8N Ultra-9	GA-8N-SLI Pro
GA-K8NXP-SLI	GA-K8NF-9 (PCB Ver. 1.0)	GA-8N-SLI
GA-K8N Ultra-SLI	GA-K8NE (PCB Ver. 1.0)	
GA-K8N Pro-SLI	GA-K8NMF-9	

4-1-3 Flash BIOS Method Introduction



Method 1 : Q-Flash[™] Utility

Q-Flash[™] is a BIOS flash utility embedded in Flash ROM. With this utility, users only have to stay in the BIOS menu when they want to update BIOS. Q-Flash?allows users to flash BIOS without any utility in DOS or

Windows. Using Q-Flash™ indicating no more fooling around with any complicated instructions and operating system since it is in the BIOS menu.



Please note that because updating BIOS has potential risk, please do it with caution!! We are sorry that Gigabyte Technology Co., Ltd is not responsible for damages of system because of incorrect manipulation of updating BIOS to avoid any claims from end-users.

Before You Begin:

Before you start updating BIOS with the Q-Flash™ utility, please follow the steps below first.

- 1. Download the latest BIOS for your motherboard from Gigabyte's website.
- Extract the BIOS file downloaded and save the BIOS file (the one with model name.Fxx. For example, 8KNXPU.Fba) to a floppy disk.
- 3. Reboot your PC and press Del to enter BIOS menu.

The BIOS upgrading guides below are separated into two parts. If your motherboard has dual-BIOS, please refer to **Part One**. If your motherboard has single-BIOS, please refer to **Part Two**.

Part One:

Updating BIOS with Q-Flash[™] Utility on Dual BIOS Motherboards.

Some of Gigabyte motherboards are equipped with dual BIOS. In the BIOS menu of the motherboards supporting Q-Flash and Dual BIOS, the Q-Flash utility and Dual BIOS utility are combined in the same screen. This section only deals with how to use Q-Flash utility.

In the following sections, we take GA-8KNXP Ultra as the example to guide you how to flash BIOS from an older version to the latest version. For example, from Fa3 to Fba.



The BIOS file is Fa3 before updating

Entering the Q-Flash[™] utility:

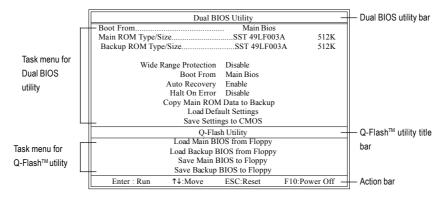
Step1: To use Q-Flash utility, you must press Del in the boot screen to enter BIOS menu.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software		
Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup	Select Language Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password	
 PnP/PCI Configurations PC Health Status MB Intelligent Tweaker(M.I.T.) 	Set User Password Save & Exit Setup Exit Without Saving	
F3: Change Language F8: Dual BIOS/Q-Flash Time, Date, Hard Disk Type		

Step 2: Press F8 button on your keyboard and then Y button to enter the Dual BIOS/Q-Flash utility.

Exploring the Q-Flash[™] / Dual BIOS utility screen

The Q-Flash / Dual BIOS utility screen consists of the following key components.



Task menu for Dual BIOS utility:

Contains the names of eight tasks and two item showing information about the BIOS ROM type. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

Task menu for Q-Flash utility:

Contains the names of four tasks. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

Action bar:

Contains the names of four actions needed to operate the Q-Flash/Dual BIOS utility. Pressing the buttons mentioned on your keyboards to perform these actions.

Using the Q-Flash[™] utility:

This section tells you how to update BIOS using the Q-Flash utility. As described in the "Before you begin" section above, you must prepare a floppy disk having the BIOS file for your motherboard and insert it to your computer. If you have already put the floppy disk into your system and have entered the Q-Flash utility, please follow the steps below to flash BIOS.

Steps:

Press arrow buttons on your keyboard to move the light bar to "Load Main BIOS from Floppy" item in 1. the Q-Flash menu and press Enter button.

Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.



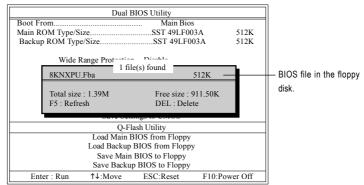
If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.

2. Move to the BIOS file you want to flash and press Enter.

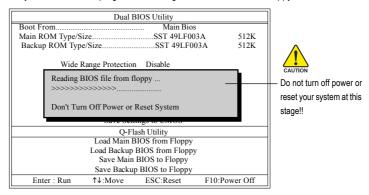
In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.



Please confirm again you have the correct BIOS file for your motherboard.



After pressing **Enter**, you'll then see the progress of reading the BIOS file from the floppy disk.



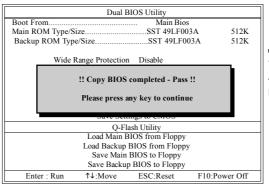
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

3. Press Y button on your keyboard after you are sure to update BIOS.

Then it will begin to update BIOS. The progress of updating BIOS will be displayed.

Please do not take out the floppy disk when it begins flashing BIOS.

4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.



OTE

You can repeat Step 1 to 4 to flash the backup BIOS, too.

 Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.

Dual BIOS Utility					
Boot From					
Main ROM Type/S		SST 49LF00			
Backup ROM Typ	e/Size	SST 49LF00	3A 512K		
Wide	Wide Range Protection Disable				
Are you sure to RESET ? [Enter] to continure or [Esc] to abort					
Save Settings to Enrols					
Q-Flash Utility					
Load Main BIOS from Floppy					
Load Backup BIOS from Floppy					
Save Main BIOS to Floppy					
Save Backup BIOS to Floppy					
Enter : Run	↑↓:Move	ESC:Reset	F10:Power Off		

After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

	Award Modular BIOS v6.00PG, An Energy Star Ally Copyright (C) 1984-2003, Award Software, Inc.	Dual BLOS
The BIOS file	Intel i875P AGPset BIOS for 8KNXP Ultra Fba Check System Health OK, VCore = 1,5250	PPS 2
becomes Fab after updating.	Main Processor : Intel Pentium(R) 4 1.6GHz (133x12) <cpuid: 0027="" 0f27="" id:="" patch=""> Memory Testing: : 131072K OK</cpuid:>	Dual Power System
upudung.	Memory Frequency 266 MHz in Single Channel Primary Master : FUJITSU MPE3170AT ED-03-08 Primary Slave : None Secondary Master : CREATIVEDVD-RM DVD1242E BC101 Secondary Slave : None	
	Press DEL to enter SETUP / Dual BIOS / Q-Flash / F9 For Xpress Recovery 09/23/2003-i875P-6A79BG03C-00	

6. Press Del to enter BIOS menu after system reboots. When you are in BIOS menu, move to Load Fail-Safe Defaults item and press Enter to load BIOS Fail-Safe Defaults. Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS defaults after BIOS has been upgraded.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software		
Standard CMOS Features Advanced BIOS Features Integrated Perinhorale Power Mana; Load Fail-Safe Def PnP/PCI Co	Select Language Load Fail-Safe Defaults Load Ontimized Defaults faults (Y/N)? Y	
 PC Health Status MB Intelligent Tweaker(M.I.T.) 	Save & Exit Setup Exit Without Saving	
ESC: Quit F3: Change Language F8: Dual BIOS/Q-Flash F10: Save & Exit Setup Time, Date, Hard Disk Type		

Press Y on your keyboard to load defaults.

 Select Save & Exit Setup item to save the settings to CMOS and exit the BIOS menu. System will reboot after you exit the BIOS menu. The procedure is completed.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software		
Standard CMOS Features Advanced BIOS Features	Select Language Load Fail-Safe Defaults Load Ontimized Defaults	
Integrated Peripharale Power Mana; Save to CMOS and Pn/PCI Cor		
PC Health Status MB Intelligent Tweaker(M.I.T.)	Save & Exit Setup Exit Without Saving	
ESC: Quit F3: Change Language F8: Dual BIOS/Q-Flash F10: Save & Exit Setup		
Time, Date, Hard Disk Type		

Press Y on your keyboard to save and exit.

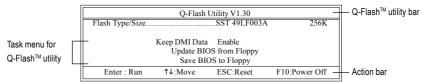
Part Two:

Updating BIOS with Q-Flash[™] Utility on Single-BIOS Motherboards.

This part guides users of single-BIOS motherboards how to update BIOS using the Q-Flash™ utility.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software		
 Standard CMOS Features 	Top Performance	
 Advanced BIOS Features 	Load Fail-Safe Defaults	
 Integrated Peripherals 	Load Optimized Defaults	
 Power Management Setup 	Set Supervisor Password	
 PnP/PCI Configurations 	Set User Password	
PC Health Status	Save & Exit Setup	
▶ MB Intelligent Tweaker(M.I.T.)	Exit Without Saving	
ESC. Qui	F3: Change Language	
F8: Q-Flash F10: Save & Exit Setup		
Time, Date, Hard Disk Type		

Exploring the Q-Flash[™] utility screen



The Q-FlashBIOS utility screen consists of the following key components.

Task menu for Q-Flash utility:

Contains the names of three tasks. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

Action bar:

Contains the names of four actions needed to operate the Q-Flash utility. Pressing the buttons mentioned on your keyboards to perform these actions.

Using the Q-Flash[™] utility:

This section tells you how to update BIOS using the Q-Flash utility. As described in the "Before you begin" section above, you must prepare a floppy disk having the BIOS file for your motherboard and insert it to your computer. If you have already put the floppy disk into your system and have entered the Q-Flash utility, please follow the steps below to flash BIOS.

Steps:

1. Press arrow buttons on your keyboard to move the light bar to "Update BIOS from Floppy" item in the Q-Flash menu and press Enter button.

Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.

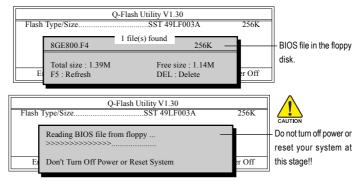


If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floppy" item.

2. Move to the BIOS file you want to flash and press Enter.

In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8GE800.F4, is listed.

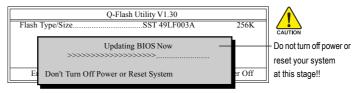
Please confirm again you have the correct BIOS file for your motherboard.



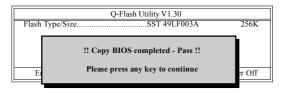
After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"

Please do not take out the floppy disk when it begins flashing BIOS.

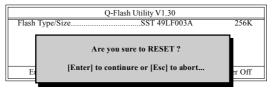
3. Press Y button on your keyboard after you are sure to update BIOS. Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.



4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.



5. Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.



After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.



6. Press Del to enter BIOS menu after system reboots and "Load BIOS Fail-Safe Defaults". See how to Load BIOS Fail-Safe Defaults, please kindly refer to Step 6 to 7 in Part One.

Congratulation!! You have updated BIOS successfully!!

updating



Method 2 : @BIOS™ Utility

If you do not have a DOS startup disk, we recommend that you use the new @BIOS utility. @BIOS allows users to update their BIOS under Windows. Just select the desired @BIOS server to download the latest version of BIOS.

Fig 1. Installing the @BIOS utility



Fig 3. The @BIOS Utility



1. Methods and steps:

- I. Update BIOS through Internet
 - a. Click "Internet Update" icon
 - b. Click "Update New BIOS" icon
 - c. Select @BIOSTM sever
 - d. Select the exact model name on your motherboard
 - e. System will automatically download and update the BIOS.
- II. Update BIOS NOT through Internet:
 - a. Do not click "Internet Update" icon
 - b. Click "Update New BIOS"
 - c. Please select "All Files" in dialog box while opening the old file.
 - Please search for BIOS unzip file, downloading from internet or any other methods (such as: 8VT880P Combo.D2).
 - e. Complete update process following the instruction.

Fig 2. Installation Complete and Run @BIOS



Fig 4. Select the desired @BIOS server



III. Save BIOS

In the very beginning, there is "Save Current BIOS" icon shown in dialog box. It means to save the current BIOS version.

IV. Check out supported motherboard and Flash ROM:

In the very beginning, there is "About this program" icon shown in dialog box. It can help you check out which kind of motherboard and which brand of Flash ROM are supported.

2. Note:

- In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.
- II. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.
- III. In method I, if the BIOS file you need cannot be found in @BIOSTM server, please go onto Gigabyte's web site for downloading and updating it according to method II.
- IV. Please note that any interruption during updating will cause system unbooted

4-1-4 Serial ATA BIOS Setting Utility Introduction

RAID Levels

RAID (Redundant Array of Independent Disks) is a method of combining two hard disk drives into one logical unit. The advantage of an Array is to provide better performance or data fault tolerance. Fault tolerance is achieved through data redundant operation, where if one drives fails, a mirrored copy of the data can be found on another drive. This can prevent data loss if the operating system fails or hangs. The individual disk drives in an array are called members. The configuration information of each member is recorded in the reserved sector that identifies the drive as a member. All disk members in a formed disk array are recognized as a single physical drive to the operating system.

Hard disk drives can be combined together through a few different methods. The different methods are referred to as different RAID levels. Different RAID levels represent different performance levels, security levels and implementation costs. The RAID levels which the VIA VT8237R chipset supports are RAID 0, RAID 1,and JBOD.

RAID 0 (Striping)

RAID 0 reads and writes sectors of data interleaved between multiple drives. If any disk member fails, it affects the entire array. The disk array data capacity is equal to the number of drive members times the capacity of the smallest member. The striping block size can be set from 4KB to 64KB. RAID 0 does not support fault tolerance.

RAID 1 (Mirroring)

RAID 1 writes duplicate data onto a pair of drives and reads both sets of data in parallel. If one of the mirrored drives suffers a mechanical failure or does not respond, the remaining drive will continue to function. Due to redundancy, the drive capacity of the array is the capacity of the smallest drive. Under a RAID 1 setup, an extra drive called the spare drive can be attached. Such a drive will be activated to replace a failed drive that is part of a mirrored array. Due to the fault tolerance, if any RAID 1 drive fails, data access will not be affected as long as there are other working drives in the array.

JBOD (Spanning)

A spanning disk array is equal to the sum of the all drives when the drives used are having different capacities. Spanning stores data onto a drive until it is full, then proceeds to store files onto the next drive in the array. When any disk member fails, the failure affects the entire array. JBOD is not really a RAID and does not support fault tolerance.

Please follow the steps below to construct a complete RAID array:

- 1) Have ready your hard drives for RAID construction.
 - Note: To achieve best performance, it is recommended that the hard drives used are of similar make and storage capacity.
- Please attach the hard drive connectors to their appropriate location on the motherboard ie. IDE, SCSI, or SATA.
- 3) Enter the motherboard BIOS and locate RAID setup (Please refer to the section on Integrated Peripherals).
- Enter RAID setup in the BIOS and select the RAID type (For instance, enter Tab to select VT8237R RAID; Ctrl + S to select Silicon Image).
- 5) Complete driver installation.
- 6) Complete RAID utility installation.

More information on steps 4 and 5 is provided. (For more detailed setup information, please visit our website at http://www.gigabyte.com.tw to read or download the information you need.)

Configuring the VT8237(VT8237R) SATA RAID BIOS

The RAID BIOS setup utility lets you choose the RAID array type and which hard drives you want to make part of the array.

Entering the VT8237(VT8237R) SATA RAID BIOS Setup Utility

1. After rebooting your computer, wait until you see the RAID software prompting you to press **Tab**. The RAID prompt appears as part of the system POST and boot process prior to loading the OS. You have a few seconds to press **Tab** before the window disappears.

VIA Technologies, Inc. VIA VT8237 Serial ATA RAID BIOS Setting Utility V2.41 Copyright (C) VIA Technologies, Inc. All Right reserved.	
Scan Devices, Please wait Press <tab> key into User Window! Serial_Ch0 Master : ST3120026AS Serial_Ch1 Master : ST3120026AS</tab>	

Press **Tab** to enter RAID setup utility, the **VT8237 SATA RAID BIOS** utility screen will appear. You can press up arrow key< \uparrow > or down arrow key< \downarrow > to move the selection bar and select the item that you want to execute.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41					
 Create Array Delete Array Create/Delete Spare Select Boot Array Serial Number View 		Create a RAID array with the hard disks attached to VIA RAID controller F1 : View Array/disk Status ↑,↓ : Move to next item Enter : Confirm the selection ESC : Exit			
Channel Driv	ve Name Arra	ny Name	Mode	Size(GB)	Status
Serial_Ch0 Master ST3	120026AS		SATA	111.79	Hdd
Serial_Ch1 Master ST3	5120026AS		SATA	111.79	Hdd

A. Create Array:

Press Enter on Create Array item, you will see the screen as shown below.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41			
 Auto Setup For Performance Array Mode RAID 0 (Striping) Select Disk Drives Block Size 64K Start Create Process 	Create a RAID array with the hard disks attached to VIA RAID controller F1 : View Array/disk Status ↑, ↓ : Move to next item Enter : Confirm the selection ESC : Exit		
Channel Drive Name Ar	ay Name Mode Size(GB) Status		
Serial_Ch0 Master ST3120026AS	SATA 111.79 Hdd		
Serial_Ch1 Master ST3120026AS	SATA 111.79 Hdd		

Before create an Array, you have to set the array mode first. Select **Array Mode** and press **Enter**, use the arrow key to select the array mode. The options are: RAID 0 for performance, RAID 1 for data protection, and RAID SPAN for capacity.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41			
 RAID 0 for performance RAID 1 for data protection RAID SPAN for capacity 	Create a RAID array with the hard disks attached to VIA RAID controller F1 : View Array/disk Status ↑,↓ : Move to next item Enter : Confirm the selection ESC : Exit		
Channel Drive Name	Array Name Mode Size(GB) Status		
Serial_Ch0 Master ST3120026AS	SATA 111.79 Hdd		
Serial_Ch1 Master ST3120026AS	SATA 111.79 Hdd		

After array mode is selected, there are two methods to create a disk array. One method is **Auto Setup** and the other one is **Select Disk Drives**. **Auto Setup** allows BIOS to select the disk drives and create arrays automatically, but it does not duplicate the mirroring drives even if the user selected Create and duplicate for RAID 1. It is recommended all disk drives are new ones when wanting to create an array. **Select Disk Drives** lets the user select the array drives by their requirements. Select the **Select Disk Drives** item and press **Enter**, use the arrow key to select the hard disk. The selected hard disk will be marked a star(*) signal.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41			
 Auto Setup For Performance Array Mode RAID 0 (Striping) Select Disk Drives Block Size 64K Start Create Process 	Create a RAID array with the hard disks attached to VIA RAID controller F1 : View Array/disk Status ↑, ↓ : Move to next item Enter : Confirm the selection ESC : Exit		
Channel Drive Name Arr	rayName Mode Size(GB) Status		
[*]Serial_Ch0 Master ST3120026AS	SATA 111.79 Stripe0		
[*]Serial_Ch1 Master ST3120026AS	SATA 111.79 Stripel		

If you select a RAID 0 array, the block size of the array can also be selected. Use the arrow key to select Block Size and press **Enter**, then select a block size from the popup menu. The block size can be 4KB to 64KB.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41		
 Auto Setup For Perfort Array Mode RAID 0 (S Select Disk Drives Block Size 64K Start Create Process 4K 64K 	Create a RAID array with the hard disks attached to VIA RAID controller F1 : View Array/disk Status ↑, ↓ : Move to next item Enter : Confirm the selection ESC : Exit	
Channel Drive Name A	ray Name Mode Size(GB) Status	
[*]Serial_Ch0 Master ST3120026AS	SATA 111.79 Stripe0	
[*]Serial_Ch1 Master ST3120026AS	SATA 111.79 Stripe1	

Use the arrow key to select Start Create Process and press Enter. A warning message will appear [The data on the selected disks will be destroied. Continue? (Y/N)], press Y to finish the creation, or press N to cancel the creation.

Important note: All existing contents in the hard drive will be destroyed after array creation.

B. Delete Array:

If you want to delete the Array, select **Delete Array** in the main menu and press **Enter**. The channel column will be activated. Select the member of an array that is to be deleted and press **Enter**. A warning message will show up, press **Y** to delete or press **N** to cancel.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41		
 Create Array Delete Array Create/Delete Spare Select Boot Array Serial Number View The selected array will be destoried. Are you sure? Continue? Press Y/N 	Delete a RAID array contain the hard disks attached to VIA RAID controller F1 : View Array/disk Status f, J : Move to next item Enter : Confirm the selection ESC : Exit	
Channel Drive Name Arr	ay Name Mode Size(GB) Status	
[*]Serial_Ch0 Master ST3120026AS	RRAY 0 SATA 111.79 Stripe0	
[*]Serial_Ch1 Master ST3120026AS A	RRAY 0 SATA 111.79 Stripe1	

Deleting a disk array will destroy all the data on the disk array except RAID 1 arrays. When a RAID is deleted, the data on these two hard disk drives will be reserved and become two normal disk drives.

C. Select Boot Array:

You can select a disk array as boot device if you want to boot operating system from an array. Boot disk array cannot be selected if the operating system does not boot from the disk array. Highlight the **Select Boot Array** item; press **Enter** and the channel column will be activated. Then highlight the target disk array and press **Enter**. Press **Esc** to go back to main menu. If you want to cancel the boot array, select the disk array that has a star(*) mark and press **Enter**, its boot setting will be canceled.

 Create Array Delete Array Create/Delete Spare 	NTA RAID BIOS Ver 2.41 Set/Clear bootable array
 Select Boot Array Serial Number View 	F1 : View Array/disk Status ↑,↓ : Move to next item Enter : Confirm the selection ESC : Exit
Channel Drive Name Ar	ray Name Mode Size(GB) Status
[*]Serial_Ch0 Master ST3120026AS	ARRAY 0 SATA 111.79 Boot
[*]Serial_Ch1 Master ST3120026AS	ARRAY 0 SATA 111.79 Boot

D. Serial Number View:

Highlight **Serial Number View** and press **Enter**. Use arrow key to select a drive, the selected drive's serial number can be viewed in the last column. The serial number is assigned by the disk drive manufacturer.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41				
 Create Array Delete Array Create/Delete Spare Select Boot Array Serial Number View 	View the serial number of hard disk, it is useful for identify same model disks F1 : View Array/disk Status ↑, ↓ : Move to next item Enter : Confirm the selection ESC : Exit			
Channel Drive Name A	rrayName Mode Size(GB) Status			
Serial_Ch0 Master ST3120026AS	ARRAY 0 SATA 111.79 Stripe0			
Serial_Ch1 Master ST3120026AS	ARRAY 0 SATA 111.79 Stripe1			
Serial Number: 3JT354CP				

E. View Array Status:

Press the F1 key to show the array status on the lower screen. If there are no disk arrays then nothing will be displayed on the screen.

VIA Tech. VT8237 SATA RAID BIOS Ver 2.41		
 Create Array Delete Array Create/Delete Spare Select Boot Array Serial Number View 	Create a RAID array with the hard disks attached to VIA RAID controller F1 : View Array/disk Status f, J : Move to next item Enter : Confirm the selection ESC : Exit	
Array Name Array Mode	Block Size(GB) Size(GB)	
ARRAY 0 Stripe	64K 223.58	

Installing the RAID drivers

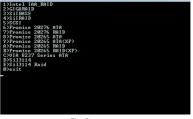
To install operating system onto a serial ATA hard disk successfully, you need to install the SATA controller driver during OS installation. Without the driver, the hard disk may not be recognized during the Windows setup process. First of all, copy the driver for the SATA controller from the motherboard driver CD-ROM to a floppy disk. See the instructions below about how to copy the driver in MS-DOS mode^(Note1). Prepare a startup disk that has CD-ROM support and a blank formatted floppy disk.

Step 1: Insert the prepared startup disk and motherboard driver CD-ROM in your system. Boot from the startup disk. Once at the A:\> prompt, change to the CD-ROM drive (example: D:\>). At the D:\> prompt, type the following two commands. Press ENTER after each command (Fig.1):

```
cd bootdrv
menu
```

Step 2: When the controller menu (Fig.2) appears, remove the startup disk and insert the blank formatted disk. Select the controller driver by pressing the corresponding letter from the menu. Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.







Step 3: After completing the steps, boot from the Windows installation disk to install the RAID drivers. Press **F6** as soon as you see the "Press F6 if you need to install a third party SCSI or RAID driver" message, then supply serial ATA controller driver by this floppy disk. Follow the on-screen instructions to complete the installation.

(Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.)



(Note 1): For users without a startup disk.

Use an alternative system and insert the GIGABYTE motherboard drive CD-ROM. From the CD-ROM drive (example: D:\) double click the **MENU.exe** file in the **BootDrv** folder. A command prompt window will open similar to that in Fig. 2.



4-1-5 2/4/6/8 Channel Audio Function Introduction

The installation of windows 98SE/2K/ME/XP is very simple. Please follow next step to install the function!

Stereo Speakers Connection and Settings:

We recommend that you use the speaker with amplifier to acquire the best sound effect if the stereo output is applied.

STEP 1:

Connect the stereo speakers or earphone to "Line Out".



Line Out

STEP 2 :

Following installation of the audio driver, you find a icon a Sound Effect of icon on the lower right hand taskbar. Click the icon to select the function.





STEP 3:

Click "Speaker Configuration" then click on the left selection bar and select "2CH Speaker" to complete 2 channel audio configuration.





4 Channel Analog Audio Output Mode

STEP 1 : Connect the front channels to "Line Out", the rear channels to "Line In".



Line Out Line In

STEP 2 :

Following installation of the audio driver, you find a icon a Sound Effect icon icon on the lower right hand taskbar. Click the icon to select the function.





STEP 3 :

Click "Speaker Configuration" and select the "UAJ Function". Then click on the left selection bar and select "4CH Speaker" to complete 4 channel audio configuration.

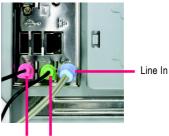
4CH Speaker	•
Headphone 2CH Speaker	
4CH Speaker 6CH Speaker	
8CH Speaker	



6 Channel Analog Audio Output Mode

Use the back audio panel to connect the audio output without any additional module. STEP 1 :

Connect the front channels to "Line Out", the rear channels to "Line In", and the Center/Subwoofer channels to "MIC In".





STEP 2 :

Following installation of the audio driver, you find a icon a Sound Effect of icon on the lower right hand taskbar. Click the icon to select the function.





.....

STEP 3 :

Click "Speaker Configuration" and select the "UAJ Function". Then click on the left selection bar and select "6CH Speaker" to complete 6 channel audio configuration.



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8 Channel Audio Setup (using Audio Combo Kit, Optional Device):

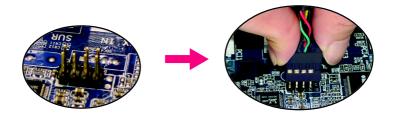
(Audio Combo Kit offers SPDIF output, an optical and coaxial cable and a Surround-Kit. The Surround-Kit offers R/L surround, center/subwoofer output and rear surround)



STEP 1 : Secure the Audio Combo Kit at the panel on the back of the case.

STEP 2 :

Connect the Surround-Kit to the SUR_CEN connector located on the motherboard.

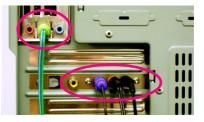


STEP 3 :

There are two methods of 8 channel audio configuration:

Method 1:

Connect the front channels to the "LINE OUT" port located on the audio panel and the rear channels to the Surround-Kit "REAR R/L" port. Connect the center/subwoofer channels to the Surround-Kit "SUB CENTER" and the R/L channels to the Surround-Kit "SUR BACK" port.



Method 2:

Connect the front channels to the "LINE OUT" port located on the audio panel and the rear channels to the "LINE IN" port. Connect the center/subwoofer channels to the "MIC IN" port located on the audio panel and the R/L channels to the Surround-Kit "SUR BACK" port. (This method requires UAJ function)



STEP 4 :

Following installation of the audio driver, you find a icon a Sound Effect of icon on the lower right hand taskbar. Click the icon to select the function.





STEP 5 :

Click "Speaker Configuration" and select both the "UAJ Function" and "Only Surround-Kit". Then click on the left selection bar and select "8CH Speaker" to complete 8 channel audio configuration.



Sound Effect Configuration: At the sound effect menu, users can adjust sound option settings as desired.





SPDIF Output Device (Optional Device)

A "SPDIF output" device is available on the motherboard. Cable with rear bracket is provided and could link to the "SPDIF output" connector (As picture.) For the further linkage to decoder, rear bracket provides coaxial cable and Fiber connecting port.

1. Connect the SPDIF output device to the rear bracket of PC, and fix it with screw.

2. Connect SPDIF device to the motherboard.



-

3. Connect SPDIF to the SPDIF decoder.



4-1-6 Jack-Sensing and UAJ Introduction

Jack-Sensing provides audio connectors error-detection function.

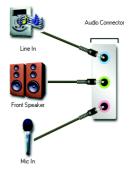


Install Microsoft DirectX8.1 or later version before to enable Jack-Sensing support for Windows 98/98SE/2000/ME.

Jack-Sensing includes 2 parts: AUTO and MANUAL. Following is an example for 2 channels (Windows XP):

Introduction of audio connectors

You may connect CDROM, Walkman or others audio input devices to Line In jack, speakers, earphone or others output devices to Line Out jack, and microphone to MIC In jack.



Auto-detecting:

Please connect the devices to the right jacks as above. A window will appear as right picture if you setup the devices properly. Please note that 3D audio function will only appear when 3D audio inputs.



If you set wrong with the connectors, the warning message will come out as right picture.



111111111

Manual setting:

If the device picture shows different from what you set, please press "Manual Selection" to set.



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UAJ Introduction

UAJ (Universal Audio Jack) has a very smart feature: It will switch signal automatically when user plugs his audio device to the wrong jack (Line-in/ Line-out). That means users do not need to worry the audio device should be plug in Line-in or Line-out jack, the device will work perfectly after UAJ is activated.

Enable UAJ function:

You can click "UAJ Automatic" button to enable UAJ function.

	HI
Sound Effect	
BCH Speaker	-Back 2 (1) UAI Automatic UAI Automatic Out - Diparker (UAI) - Trend Speaker Out
	Hexphone / Speaker(UA) SURBOUND-XIT Ouly SUSBOUND-KIT Side Speaker Out
Strap Center / Subwoofer Output	CenterSolwoodfur Speaker Ott Rau: Speaker Ott

4-2 Troubleshooting

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to http://www.gigabyte.com.tw

Question 1: I cannot see some options that were included in previous BIOS after updating BIOS. Why? Answer: Some advanced options are hidden in new BIOS version. Please press Ctrl and F1 keys after entering BIOS menu and you will be able to see these options.

Questions 2: Why is the light of my keyboard/optical mouse still on after computer shuts down? Answer: In some boards, a small amount of electricity is kept on standby after computer shuts down and that's why the light is still on.

Question 3: How do I clear CMOS?

Answer: If your board has a Clear CMOS jumper, please refer to the Clear CMOS steps in the manual. If your board doesn't have such jumper, you can take off the on-board battery to leak voltage to clear CMOS. Please refer to the steps below:

Steps:

- 1. Turn off power.
- 2. Disconnect the power cord from MB.
- 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 makethem short for one minute).
- 4. Re-insert the battery to the battery holder.
- 5. Connect power cord to MB again and turn on power.
- 6. Press Del to enter BIOS and load Fail-Safe Defaults(or load Optimized Defaults).
- 7. Save changes and reboot the system.

Question 4: Why do I still get a weak sound after turning up the speaker to the maximum volume? Answer: Please make sure the speaker you are using is equipped with an internal amplifier. If not, please change another speaker with power/amplifier and try again later.

Question 5: Sometimes I hear different continuous beeps from computer after system boots up. What do these beeps usually stand for?

Answer: The beep codes below may help you identify the possible computer problems. However, they are only for reference purposes. The situations might differ from case to case.

→AMI BIOS Beep Codes

*Computer gives 1 short beep when system boots successfully. *Except for beep code 8, these codes are always fatal.

- 1 beep Refresh failure
- 2 beeps Parity error
- 3 beeps Base 64K memory failure
- 4 beeps Timer not operational
- 5 beeps Processor error
- 6 beeps 8042 gate A20 failure
- 7 beeps Processor exception interrupt error
- 8 beeps Display memory read/write failure
- 9 beeps ROM checksum error
- 10 beeps CMOS shutdown register read/write error
- 11 beeps Cache memory bad

- → AWARD BIOS Beep Codes 1 short: System boots successfully 2 short: CMOS setting server
 - 2 short: CMOS setting error
 - 1 long 1 short: DRAM or M/B error
 - 1 long 2 short: Monitor or display card error
 - 1 long 3 short: Keyboard error
 - 1 long 9 short: BIOS ROM error
 - Continuous long beeps: DRAM error Continuous short beeps: Power error

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