- **The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.**

- **Third-party brands and names are the property of their respective owners.**

- **Please do not remove any labels on motherboard, this may void the warranty of this motherboard.**

- **Due to rapid change in technology, some of the specifications might be out of date before publicution of this booklet.**

WARNING: *Never run the processor without the heatsink properly and firmly attached. PERMANENT DAMAGE WILL RESULT!*

Mise en garde : *Ne faites jamais tourner le processeur sans que le dissipateur de chaleur soit fix correctement et fermement. UN DOMMAGE PERMANENT EN RÉSULTERA !*

Achtung: *Der Prozessor darf nur in Betrieb genommen werden, wenn der W rmeableiter ordnungsgem ß und fest angebracht ist. DIES HAT EINEN PERMANENTEN SCHADEN ZUR FOLGE!*

Advertencia: *Nunca haga funcionar el procesador sin el disipador de calor instalado correcta y firmemente. ¡SE PRODUCIRÁ UN DAÑO PERMANENTE!*

Aviso: *Nunca execute o processador sem o dissipador de calor estar adequado e firmemente conectado. O RESULTADO SERÁ UM DANO PERMANENTE!*

警告：　将散热板牢固地安装到处理器上之前，不要运行处理器。过热将永远损坏处理器!

警告:　將散熱器牢固地安裝到處理器上之前，不要運行處理器 。過熱將永遠損壞處理器!

경고:　*히트싱크를 제대로 또 단단히 부착시키지 않은 채 프로세서를 구동시키지 마십시오. 영구적 고장이 발생합니다!*

警告:　永久的な損傷を防ぐため、ヒートシンクを正しくしっかりと取り付けるまでは、プロセッサを動作させないようにしてください。

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Träding GMbH
Ausschlager Weg 41, 1F, 20537 Hamburg, Germany

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

Mother Board
GA-7VKMLE
is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial,scientific and medical (ISM high frequency equipment	☐ **EN 61000-3-2*** ☒ **EN 60555-2**	Disturbances in supply systems cause by household appliances and similar electrical equipment "Harmonics"
☐ **EN 55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN 61000-3-3*** ☒ **EN 60555-3**	Disturbances in supply systems cause by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55014**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☒ **EN 50081-1**	Generic emission standard Part 1: Residual commercial and light industry
		☒ **EN 50082-1**	Generic immunity standard Part 1: Residual commercial and light industry
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55081-2**	Generic emission standard Part 2: Industrial environment
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 55082-2**	Generic emission standard Part 2: Industrial environment
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	☐ **ENV 55104**	Immunity requirements for household appliances tools and similar apparatus
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or **distribution** from sound and television signals	☐ **EN50091-2**	EMC requirements for uninterruptible power systems (UPS)

☒ **CE marking** CE (EC conformity marking)

The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC

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

Manufacturer/Importer

(Stamp)

Date : September 30, 2002

Signature: *Timmy Huang*
Name: Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

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

Address: **17358 Railroad Street**
City of Industry, CA 91748

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

hereby declares that the product

Product Name: **Motherboard**

Model Number: **GA-7VKMLE**

Conforms to the following specifications:

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

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: *Eric Lu*

Date: September 30,2002

GA-7VKMLE

AMD Socket A Processor Motherboard

USER'S MANUAL

AMD Socket A Processor Motherboard
Rev. 4001
12ME-7VKMLE-4001

English

Table of Content

Item Checklist

- ☑ The GA-7VKMLE motherboard
- ☑ IDE cable x 1/ Floppy cable x 1
- ☑ CD for motherboard driver & utility
- ☑ GA-7VKMLE user's manual
- ☑ I/O Shield
- ☐ Quick PC Installation Guide
- ☐ RAID Manual
- ☐ 2 Port USB Cable x 1
- ☐ 4 Port USB Cable x 1
- ☐ SPDIF KIT x 1(SPD-KIT)
- ☐ IEEE 1394 Cable x1
- ☐ Audio Combo Kit x 1
- ☐ Motherboard Settings Label

WARNING!

Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis…

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

Chapter 1 Introduction

Features Summary

Form Factor	• 24.3cm x 19cm Micro ATX size form factor, 4 layers PCB.
CPU	• Socket A processor AMD Athlon™/Athlon™ XP/Duron™ (K7) Socket A processor 128K L1 & 256K/64K L2 cache on die • Supports 1.4GHz and faster • 200/266MHz FSB and DDR bus speeds
Chipset	• VIA KM266/KL266 Memory/AGP/PCI Controller (PAC) • VIA VT8233 Low cost V-LINK Client Highly Intergated
Memory	• 2 184-pin DDR DIMM sockets • Supports PC1600 DDR or PC2100 DDR DIMM • Supports up to 1GB DRAM (Max) • Supports only 2.5V DDR DIMM
I/O Control	• IT8700F
Slots	• 3 PCI Slots Supports 33MHz & PCI 2.2 compliant
On-Board IDE	• 2 IDE bus master (ATA66/100/133) IDE ports for up to 4 ATAPI devices • Supports PIO mode3,4 (ATA66/100/133) IDE & ATAPI CD-ROM
On-Board Peripherals	• 1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes. • 1 Parallel port supports Normal/EPP/ECP mode • 2 Serial port (COM A, Internal COM B) • 1 VGA port • 4 USB ports (Rear USB x 2, Front USB x 2)
Hardware Monitor	• CPU temperature detect

to be continued.....

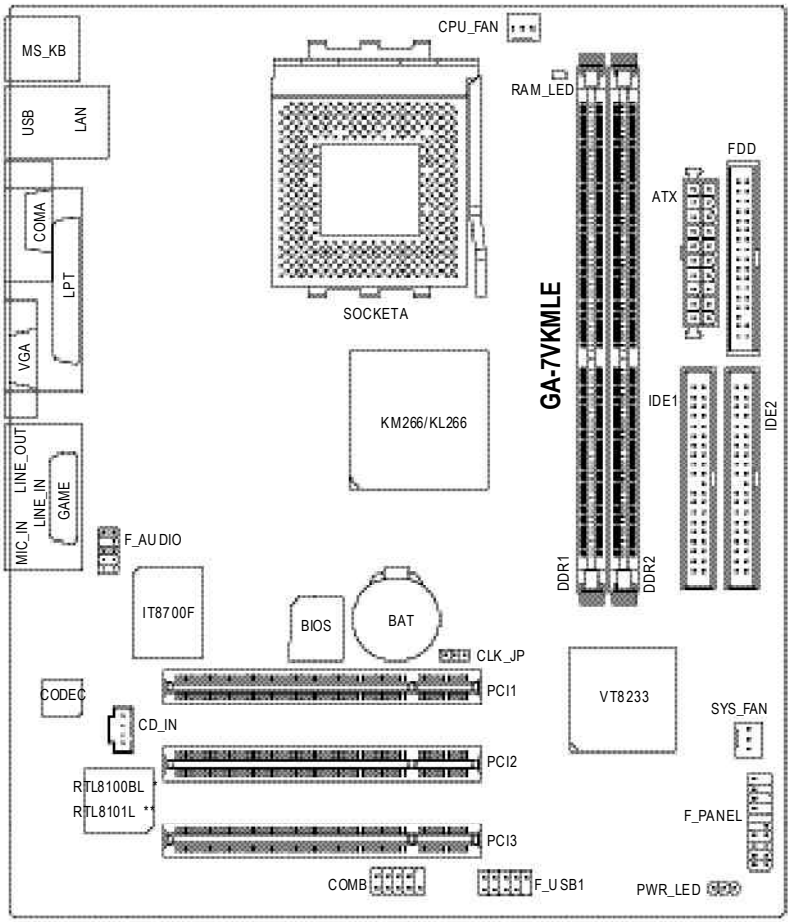
On-BoardSound	• AC97 CODEC • Line In/Line Out/Mic In/CD_In/Game Port
On-Board LAN	• Build in RTL8100BL Chipset* • Build in RTL8101L Chipset**
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	• Licensed AMI BIOS • Support Q-Flash Utility
Additional Features	• STR(Suspend-To-RAM) • AC Recovery • USB KB/Mouse wake up from S3 • PS2 KB/Mouse wake up from S1, S3, S4, S5 • Supports @BIOS™ • Supports Easy Tune™4

Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Chipsets,SDRAM,Cards….etc.

"*" for PCB Ver.: 3.1

"" for PCB Ver.: 4.0**

GA-7VKMLE Motherboard Layout



"*" for PCB Ver.: 3.1

"" for PCB Ver.: 4.0**

English

Chapter 2 Hardware Installation Process

To set up your computer, you must complete the following setups:

Step 1- Set system Jumper(CLK_JP)

Step 2- Install the Central Processing Unit (CPU)

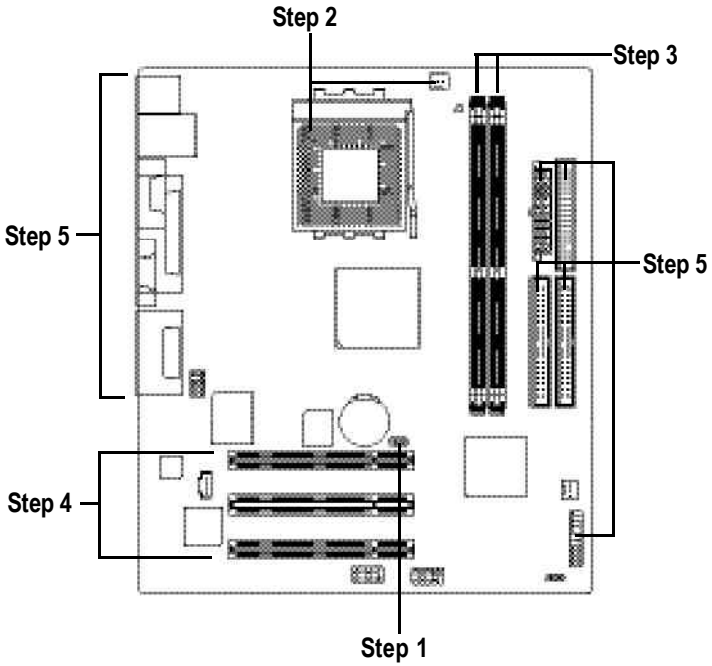
Step 3- Install memory modules

Step 4- Install expansion cards

Step 5- Connect ribbon cables, cabinet wires, and power supply

Step 6- Setup BIOS software

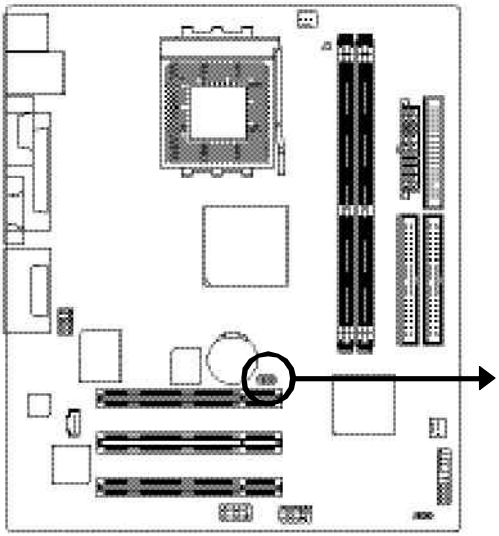
Step 7- Install supporting software tools



Step 1: Install the Central Processing Unit (CPU)

Step1-1: CPU Speed Setup

The system bus frequency can be switched at 100/133MHz by adjusting CLK_JP.
(The frequency ratio depend on CPU.)

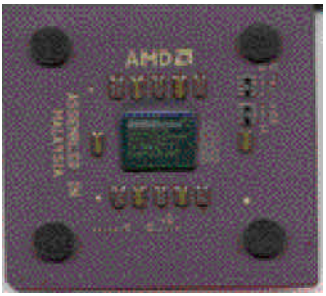


1-2 close: 100 MHz

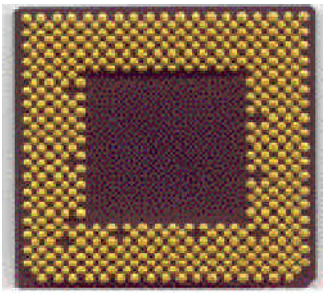
2-3 close: 133 MHz

Default Setting: 100MHz

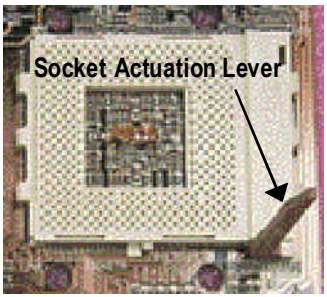
Step1-2: CPU Installation



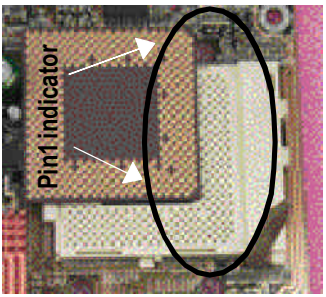
CPU Top View



CPU Bottom View



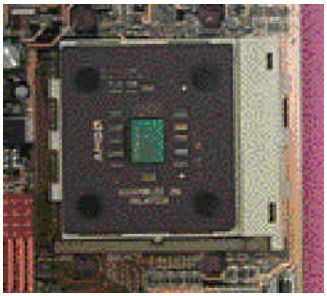
1. Pull up the CPU socket lever and up to 90-degree angle.



2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

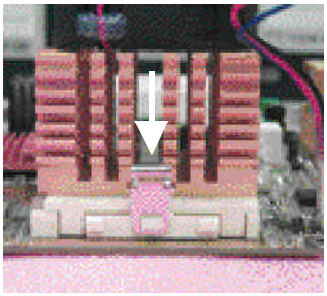
- **Please make sure the CPU type is supported by the motherboard.**
- **If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.**

Step1-3: CPU Cooling Fan Installation

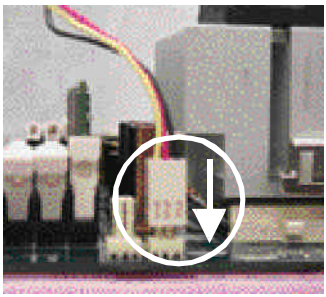


1.Press down the CPU socket lever and finish CPU installation.

2.Use qualified fan approved by AMD.



3.Fasten the cooling fan supporting-base onto the CPU socket on the main-board.



4.Make sure the CPU fan is plugged to the CPU fan connector, than install complete.

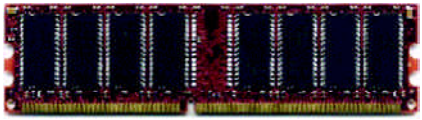
- **Please use AMD approved cooling fan.**
- **We recommend you to apply the thermal paste to provide better heat conduction between your CPU and cooling fan.**
- **Make sure the CPU fan power cable is plugged in to the CPU fan connector, this completes the installation.**
- **Please refer to CPU cooling fan user's manual for more detail installation procedure.**

Step 2: Install memory modules

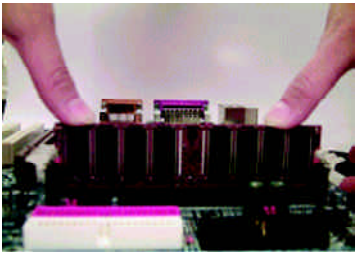
The motherboard has 2 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.

Total Memory Sizes With Unbuffered DDR DIMM

Devices used on DIMM	1 DIMMx64/x72	2 DIMMsx64/x72
64 Mbit (2Mx8x4 banks)	128 MBytes	256 MBytes
64 Mbit (1Mx16x4 banks)	64 MBytes	128 MBytes
128 Mbit(4Mx8x4 banks)	256 MBytes	512 MBytes
128 Mbit(2Mx16x4 banks)	128 MBytes	256 MBytes
256 Mbit(8Mx8x4 banks)	512 MBytes	1 GBytes
256 Mbit(4Mx16x4 banks)	256 MBytes	512 MBytes
512 Mbit(8Mx16x4 banks)	512 MBytes	1 GBytes



DDR



1. The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.
2. Insert the DIMM memory module vertically into the DIMM slot. Then push it down.
3. Close the plastic clip at both edges of the DIMM slots to lock the DIMM module.
   Reverse the installation steps when you wish to remove the DIMM module.

DDR Introduction

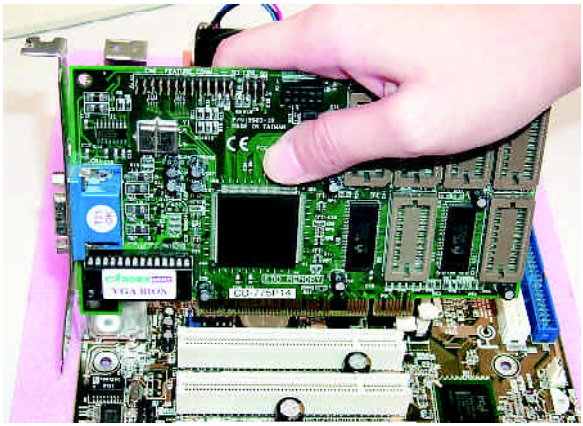
Established on the existing SDRAM industry infrastructure, DDR (Double Data Rate) memory is a high performance and cost-effective solution that allows easy adoption for memory vendors, OEMs and system integrators.

DDR memory is a sensible evolutionary solution for the PC industry that builds on the existing SDRAM infrastructure, yet makes awesome advances in solving the system performance bottle-neck by doubling the memory bandwidth. DDR SDRAM will offer a superior solution and migration path from existing SDRAM designs due to its availability, pricing and overall market support. PC2100 DDR memory (DDR266) doubles the data rate through reading and writing at both the rising and falling edge of the clock, achieving data bandwidth 2X greater than PC133 when running with the same DRAM clock frequency. With peak bandwidth of 2.1GB per second, DDR memory enables system OEMs to build high performance and low latency DRAM subsystems that are suitable for servers, workstations, high-end PC's and value desktop SMA systems. With a core voltage of only 2.5 Volts compared to conventional SDRAM's 3.3 volts, DDR memory is a compelling solution for small form factor desktops and notebook applications.

- **When RAM_LED is ON, do not install/remove DDR from socket.**
- **Please note that the DIMM module can only fit in one direction due to the one notches. Wrong orientation will cause improper installation. Please change the insert orientation.**

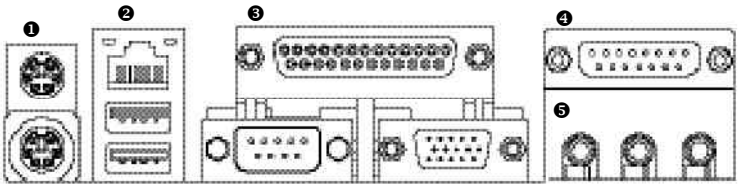
Step 3: Install expansion cards

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

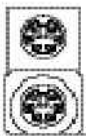


Step 4: Connect ribbon cables, cabinet wires, and power supply

Step 4-1: I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse Connector

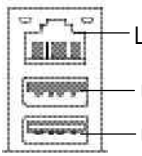


PS/2 Mouse Connector (6 pin Female)

PS/2 Keyboard Connector (6 pin Female)

➢ This connector supports standard PS/2 keyboard and PS/2 mouse.

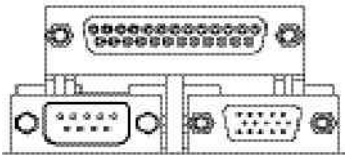
❷ USB & LAN Connector



➢ 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.

❸ Parallel Port and VGA Port/COMA Port

Parallel Port
(25 pin Female)

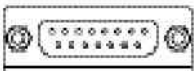


COMA
Serial Port
(9 pin Male)

VGA
VGA Port
(15 pin Female)

➢ This mainboard sutports 1 standard COM port, 1 VGA port and 1 LPT port. Device like printer can be connected to LPT port; mouse and modem etc can be connected to COM port.

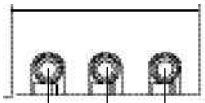
❹ Game /MIDI Ports



Joystick/ MIDI (15 pin Female)

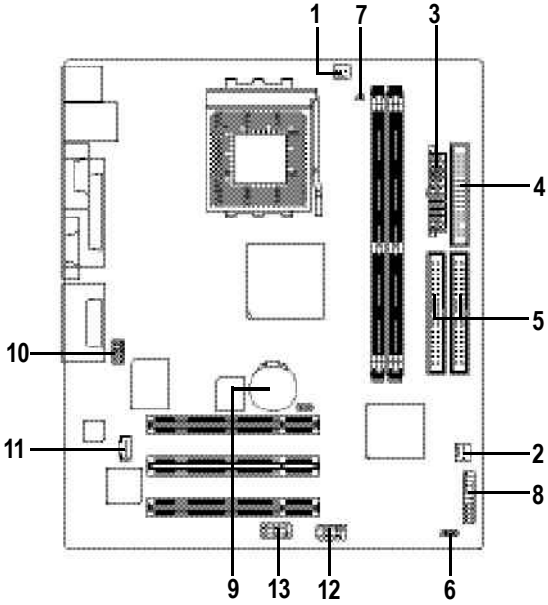
➢ This connector supports joystick, MIDI key board and other relate audio devices.

❺ Audio Connectors



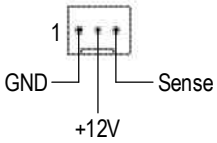
➢ After install onboard audio driver, you may connect speaker to Line Out jack, micro phone to MIC In jack. Device like CD-ROM, walkman etc can be connected to Line-In jack.

Step 4-2: Connectors Introduction



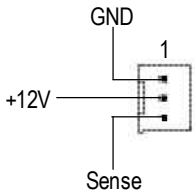
1) CPU_FAN	9) BAT
2) SYS_FAN	10) F_AUDIO
3) ATX	11) CD_IN
4) FDD	12) F_USB1
5) IDE1/IDE2	13) COMB
6) PWR_LED	
7) RAM_LED	
8) F_PANEL	

1) CPU_FAN (CPU FAN Connector)



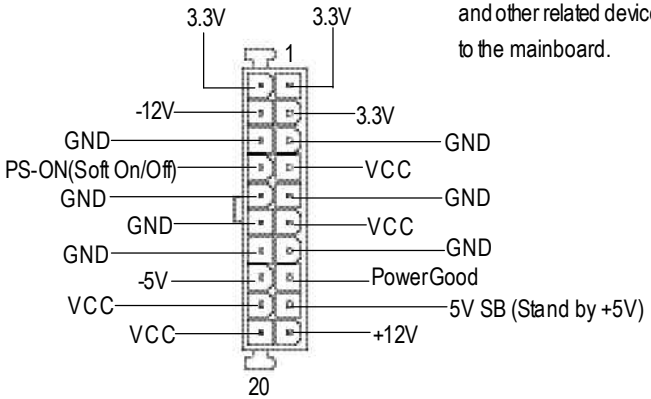
- Please note, a proper installation of the CPU cooler is essential to prevent the CPU from run ning under abnormal condition or damaged by overheating.The CPU fan connector supports Max. current up to 600mA .

2) SYS_FAN (System FAN Connector)



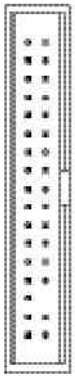
- This connector allows you to link with the cooling fan on the system case to lower the system temperature.

3) ATX (ATX Power)



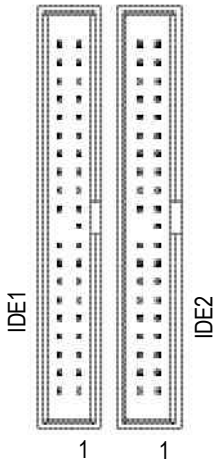
- AC power cord should only be connected to your power supply unitafter ATX power cable and other related devices are firmly connected to the mainboard.

4) FDD (Floppy Connector)



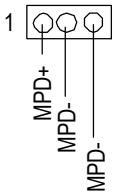
- Please connect the floppy driver ribbon cables to FDD. It supports 360K,1.2M,720K,1.44M and 2.88M bytes floppy disk types.
  The rad stripe of the ribbn cable must be the same side with the Pin1.

5) IDE1/IDE2 [IDE1 (Primary), IDE2(Secondary) Connector]



- Important Notice:
  Please connect first harddisk to IDE1 and connect CDROM to IDE2.
  The rad stripe of the ribbn cable must be the same side with the Pin1.

6) PWR_LED



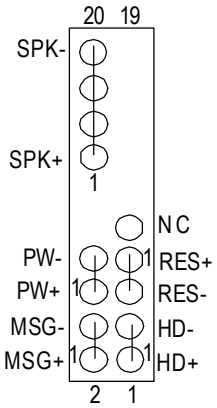
- PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode. If you use dual color LED, power LED will turn to another color.

7) RAM_LED

+ ▭ -

➢ Do not remove memory modules while DIMM LED is on. It might cause short or other unexpected damages due to the 2.5V stand by voltage. Remove memory modules only when AC Power cord is disconnected.

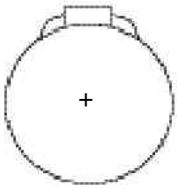
8) F_PANEL (2x10 pins Connector)



HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
RES (Reset Switch)	Open: Normal Operation Close: Reset Hardware System
PW (Soft Power Connector)	Open: Normal Operation Close: Power On/Off
MSG(Message LED/Power/ Sleep LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
NC	NC

➢ 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 above.

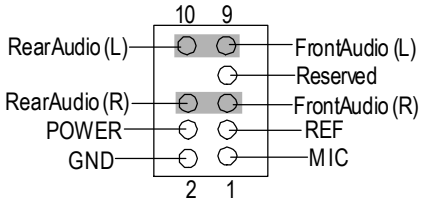
9) BAT (Battery)



CAUTION

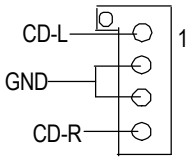
- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacture's instructions.

10) F_AUDIO (Front Audio)



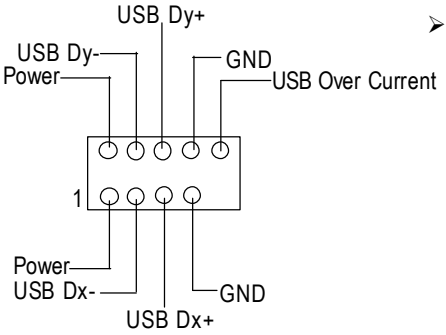
- ➢ If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis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

11) CD_IN (CD Audio Line In)



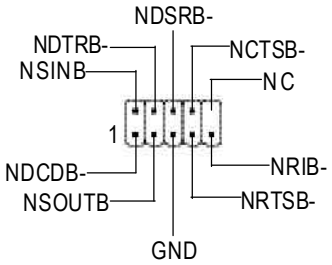
- ➢ Connect CD-ROM or DVD-ROM audio out to the connector.

12) F_USB1 (Front USB Connector)(F_USB1 connector in yellow is for USB 1.1)



- Be careful with the polarity of the front USB connector. Check the pin assignment while you connect the front USB cable. Please contact your nearest dealer for optional front USB cable.

13) COM B (White)



- Be careful with the polarity of the COMB connector. Check the pin assignment while you connect the COMB cable. Please contact your nearest dealer for optional COMB cable.

Chapter 3 BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Power ON the computer and press <Del> immediately will allow you to enter Setup.

CONTROL KEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select item
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Reserved
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the file-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Q-Flash utility
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu

GETTING HELP

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. : F2a)

Once you enter AMI BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from eight setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

AMIBIOS SIMPLE SETUP UTILITY - VERSION 2.00 (C) 2001 American Megatrends, Inc. All Rights Reserved	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC SETUP
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP / PCI CONFIGURATION	IDE HDD AUTO DETECTION
LOAD FAIL-SAFE DEFAULTS	SAVE & EXIT SETUP
LOAD OPTIMIZED DEFAULTS	EXIT WITHOUT SAVING
ESC: Quit ↑↓←→: Select Item	F5: Old Values F6: Fail-Safe Values
F7: Optimized Values F8: Q-Flash Utility	F10:Save & Exit
Time, Date , Hard Disk Type...	

Figure 1: Main Menu

- **Standard CMOS Features**

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

- **BIOS Features Setup**

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

- **Chipset Features Setup**

  This setup page includes all the adjustable items of chipset special features.

- **Power Management Setup**

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

- **PNP/PCI Configurations**

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

- **Load Fail-Safe Defaults**

  Load Fail-Safe Defaults option loads preset system parameter values to set the system in its most stable configurations.

- **Load Optimized Defaults**

  Load Optimized Defaults option loads preset system parameter values to set the system in its highest performance configurations.

- **Integrated Peripherals**

  This setup page includes all onboard peripherals.

- **Hardware Monitor & MISC Setup**

  This setup page is auto detect fan and temperature status.

- **Set Supervisor Password**

  Set Change or disable password. It allows you to limit access to the system and/or BIOS setup.

- **Set User Password**

  Set Change or disable password. It allows you to limit access to the system.

- **IDE HDD Auto Detection**

  Automatically configure hard disk parameters.

- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.

- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

Standard CMOS Features

AMIBIOS SETUP - STANDARD CMOS SETUP

(C) 2001 American Megatrends, Inc. All Rights Reserved

System Date : Jan 08 2002 Tue

System Time : 14:44:35

	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Pri Master :	Auto							
Pri Slave :	Auto							
Sec Master :	Auto							
Sec Slave :	Auto							

Floppy Drive A : 1.44 MB 3 1/2	Base Memory : 640 Kb
Floppy Drive B : Not Installed	Other Memory : 384 Kb
	Extended Memory : 95 Mb
Virus Protection : Disabled	Total Memory : 96 Mb
Date is standard format	ESC : Exit
Month : Jan - Dec	↑↓ : Select Item
Day : 01- 31	PU / PD / + / - :Modify
Year : 1990 - 2099	(Shift) F2 : Color

Figure 2: Standard CMOS Setup

☞ System Date

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

- ⏩ Week The week, from Sun to Sat, determined by the BIOS and is display only
- ⏩ Month The month, Jan. Through Dec.
- ⏩ Day The day, from 1 to 31 (or the maximum allowed in the month)
- ⏩ Year The year, from 1990 through 2099

☞ System 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.

☞ Primary Master, Slave / Secondary Master, Slave

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and manual type. Manual type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

⏩ SIZE	HDD Size
⏩ CYLS.	Number of cylinders
⏩ HEADS	number of heads
⏩ PRECOMP	write precomp
⏩ LANDZONE	Landing zone
⏩ SECTORS	number of sectors
⏩ MODE	Logical block addressing

If a hard disk has not been installed select NONE and press <Enter>.

☞ Floppy Drive A / Drive B

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

⏩ Not Installed	No floppy drive installed
⏩ 1.2M, 5.25 in.	5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
⏩ 720K, 3.5 in.	3.5 inch double-sided drive; 720K byte capacity
⏩ 1.44M, 3.5 in.	3.5 inch double-sided drive; 1.44M byte capacity.
⏩ 2.88M, 3.5 in.	3.5 inch double-sided drive; 2.88M byte capacity.

☞ Virus Protection

If it is set to enable, the category will flash on the screen when there is any attempt to write to the boot sector or partition table of the hard disk drive. The system will halt and the following error message will appear in the mean time. You can run anti-virus program to locate the problem.

- ⏩ Enabled — Activate automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table
- ⏩ Disabled — No warning message to appear when anything attempts to access the boot sector or hard disk partition table (Default Value)

☞ Memory

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

Base Memory

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

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

Other Memory

This refers to the memory located in the 640 K to 1024 K address space. This is memory that can be used for different applications.

DOS uses this area to load device drivers to keep as much base memory free for application programs. Most use for this area is Shadow RAM.

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.

BIOS Features Setup

AMIBIOS SETUP - BIOS FEATURES SETUP (C) 2001 American Megatrends, Inc. All Rights Reserved			
BIOS Flash Protection	: Auto		
1st Boot Device	: Disabled		
2nd Boot Device	: Disabled		
3rd Boot Device	: Disabled		
Floppy Drive Seek	: Disabled		
BootUp Num-Lock	: On		
Password Check	: Setup	ESC: Quit	↑↓←→: Select Item
S.M.A.R.T. for Hard Disks	: Disabled	F1 : Help	PU/PD+/-/ : Modify
Interrupt Mode	: APIC	F5 : Old Values	(Shift)F2: Color
		F6 : Fail-Safe	F7:Optimized
		F8 : Q-Flash Utility	

Figure 3: BIOS Feature Setup

☞BIOS Flash Protection

This field lets you determine the states that flash BIOS.

- ⏩Auto — BIOS enables flash write access automatically when updating BIOS data/ DMI/ESCD. (Default Value)
- ⏩Enabled — During POST, DMI/ESCD would not be updated. But flash tools can update BIOS always.

☞1st / 2nd / 3rd Boot device

- ⏩Floppy — Select your boot device priority by Floppy.
- ⏩CDROM — Select your boot device priority by CDROM.
- ⏩Disabled — Disable this function.
- ⏩IDE-0~3 — Select your boot device priority by IDE-0~3.
- ⏩Realtek Boot — Select your boot device priority by Realtek Lan function.

Boot order depends on the devices you use, for example: Floppy, HDD, CD-ROM...

☞ Floppy Drive Seek

During POST, BIOS will determine the floppy disk drive installed is 40 or 80 tracks. 360 K type is 40 tracks 720 K, 1.2 M and 1.44 M are all 80 tracks.

- ⏩ Enabled — BIOS searches for floppy disk drive to determine it is 40 or 80 tracks. Note that BIOS can not tell from 720 K, 1.2 M or 1.44 M drive type as they are all 80tracks.
- ⏩ Disabled — BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360 K. (Default value)

☞ Boot Up Num-Lock

- ⏩ On — Keypad is number keys. (Default value)
- ⏩ Off — Keypad is arrow keys.

☞ Password Check

Please refer to the detail on P.48

- ⏩ Always — The user must enter correct password in order to access the system and/or BIOS Setup.
- ⏩ Setup — The user must enter correct password in order to access BIOS setup utility. (Default Value)

☞ S.M.A.R.T. for Hard Disks

- ⏩ Enabled — Enable HDD S.M.A.R.T. Capability.
- ⏩ Disabled — Disable HDD S.M.A.R.T. Capability. (Default value)

☞ Interrupt Mode

- ⏩ APIC — Through IOAPIC generate more IRQ for system use.(Default value)
- ⏩ PIC — Use AT stantard IRQ controlles to generate IRQ.

When you already have IOAPIC enable system and want to upgrade the system please note, since running an IOAPIC enabled OS (like Windows NT,Windows 2000, Windows XP...) system with none IOAPIC HW support will cause the system to hang. Following are some situations users might run into:

1.An IOAPIC enabled OS and change the BIOS setting from IOAPIC to PIC, this will cause your system to hang.

Chipset Features Setup

We would not suggest you change the chipset default setting unless you really need it.

AMIBIOS SETUP - CHIPSET FEATURES SETUP (C) 2001 American Megatrends, Inc. All Rights Reserved			
Configure SDRAM by SPD	:Enabled		
SDRAM Frequency	:Auto		
#SDRAM CAS# Latency	:2.5		
SDRAM Command Rate	:2T Command		
AGP Mode	:4X		
AGP Comp. Driving	:Auto		
Manual AGP Comp. Driving	:DA		
AGP Fast Write	:Disabled		
AGP Aperture Size	:64MB		
AGP Read Synchronization	:Disabled		
PCI Delay Transaction	:Disabled		
USB Controller	:4 USB Ports	ESC: Quit	↑↓←→: Select Item
USB Legacy Support	:Disabled	F1 : Help	PU/PD+/-/ : Modify
USB Port 64/60 Emulation	:Disabled	F5 : Old Values	(Shift)F2: Color
		F6 : Fail-Safe	F7:Optimized
		F8 : Q-Flash Utility	

Figure 4: Chipset Features Setup

#This item will be available when "Configure SDRAM by SPD" is set to Disabled.

☞ Configure SDRAM by SPD

- ⏩ Disabled — Disable Configure SDRAM by SPD.
- ⏩ Enabled — Enable Configure SDRAM by SPD. (Default Value)

☞ SDRAM Frequency

- ⏩ 200MHz — Set SDRAM Frequency to 200MHz.
- ⏩ 266MHz — Set SDRAM Frequency to 266MHz.
- ⏩ Auto — Set SDRAM Frequency to Auto. (Default Value)

☞ SDRAM CAS# Latency

- ⏩ 2 — For Fastest SDRAM DIMM module.
- ⏩ 2.5 — For Slower SDRAM DIMM module. (Default Value)

☞ SDRAM Command Rate

- ⏩ 2T Command — Set SDRAM Command Rate to 2T Command. (Default Value)
- ⏩ 1T Command — Set SDRAM Command Rate to 1T Command.

☞ AGP Mode

- ⏩ 4X — Set AGP Mode to 4X. (Default Value)
- ⏩ 1X — Set AGP Mode to 1X.
- ⏩ 2X — Set AGP Mode to 2X.

☞ AGP Comp. Driving

- ⏩ Auto — Set AGP Comp. Driving to Auto. (Default Value)
- ⏩ Manual — Set AGP Comp. Driving to Manual.

If AGP Comp. Driving is Manual.
Manual AGP Comp. Driving : 00~FF

☞ AGP Fast Write

- ⏩ Disabled — Disable AGP Fast Write. (Default Value)
- ⏩ Enabled — Enable AGP Fast Write.

☞ AGP Aperture Size

- ⏩ 4MB — Set AGP Aperture Size to 4MB.
- ⏩ 8MB — Set AGP Aperture Size to 8 MB.
- ⏩ 16MB — Set AGP Aperture Size to 16 MB.
- ⏩ 32MB — Set AGP Aperture Size to 32 MB.
- ⏩ 64MB — Set AGP Aperture Size to 64 MB. (Default Value)
- ⏩ 128MB — Set AGP Aperture Size to 128 MB.
- ⏩ 256MB — Set AGP Aperture Size to 256 MB.

☞ AGP Read Synchronization

- ⏩ Enabled — Enable AGP Read Synchronization.
- ⏩ Disabled — Disable AGP Read Synchronization. (Default Value)

☞ PCIDelay Transaction

⏩Enabled	Enable PCI Delay Transaction.
⏩Disabled	Disable PCI Delay Transaction.(Default Value)

☞ USB Controller

⏩Disabled	Disable USB Controller function.
⏩4 USB Ports	Enable 4 USB Ports. (Default Value)
⏩2 USB Ports	Enable 2 USB Ports.

☞ USB Legacy Support

⏩No Mice	Set USB Legacy Support Keyboard / Floppy.
⏩All Device	Set USB Legacy Support Keyboard / Mouse /Floppy.
⏩Disabled	Disable USB Legacy Support Function. (Default Value)

☞ USB Port 64/60 Emulation

⏩Enabled	To use USB mouse under Win NT environment, set USB Legacy Support to KB/Mouse/FDD and USB Port 64/60 Emulation to enabled.
⏩Disabled	Disable this Function. (Default Value)

Power Management Setup

AMIBIOS SETUP - POWER MANAGEMENT SETUP (C) 2001 American Megatrends, Inc. All Rights Reserved			
ACPI Standby State	:S1/POS	Resume On RTC Alarm	:Disabled
Power LED in S1 state	:Blinking	RTC Alarm Date	:15
USB Dev Wakeup From S3	:Disabled	RTC Alarm Hour	:12
Suspend Time Out (Min.)	:Disabled	RTC Alarm Minute	:30
IRQ3	:Monitor	RTC Alarm Second	:30
IRQ 4	:Monitor		
IRQ 5	:Ignore		
IRQ 7	:Monitor		
IRQ 9	:Ignore		
IRQ 10	:Ignore		
IRQ 11	:Ignore		
IRQ 13	:Ignore		
IRQ 14	:Monitor		
IRQ 15	:Ignore		
Soft-off by Power Button	:Instant off		
AC Back Function	:Soft-Off	ESC: Quit	↑↓←→: Select Item
Modem Ring / Wake On Lan	:Enabled	F1 : Help	PU/PD+/-/ : Modify
PME Event Wake Up	:Enabled	F5 : Old Values	(Shift)F2: Color
Keyboard Wakeup From	:S1(Suspend)	F6 : Fail-Safe	F7:Optimized
PS/2 Mouse Wakeup From	:S1(Suspend)	F8 : Q-Flash Utility	

Figure 5: Power Management Setup

☞ ACPI Standby State

- ⏩S1/POS — Set ACPI standby state is S1. (Default Value)
- ⏩S3/STR — Set ACPI standby state is S3.

☞ Power LED in S1 state

- ⏩Blinking — In standby mode(S1), power LED will blink. (Default Value)
- ⏩Dual/OFF — In standby mode(S1):

  a. If use single color LED, power LED will turn off.

  b. If use dual color LED, power LED will turn to another color.

☞ USB Dev Wakeup From S3

USB Dev Wakeup From S3 can be set when ACPI standby state set to S3/STR.

- ⏩ Enabled — Enable USB Dev Wakeup From S3.
- ⏩ Disabled — Disable USB Dev Wakeup From S3. (Default Value)

☞ Suspend Time Out (Min.)

- ⏩ Disabled — Disable Suspend Time Out Function. (Default Value)
- ⏩ 1 — Enable Suspend Time Out after 1min.
- ⏩ 2 — Enable Suspend Time Out after 2min.
- ⏩ 4 — Enable Suspend Time Out after 4min.
- ⏩ 8 — Enable Suspend Time Out after 8min.
- ⏩ 10 — Enable Suspend Time Out after 10min.
- ⏩ 20 — Enable Suspend Time Out after 20min.
- ⏩ 30 — Enable Suspend Time Out after 30min.
- ⏩ 40 — Enable Suspend Time Out after 40min.
- ⏩ 50 — Enable Suspend Time Out after 50min.
- ⏩ 60 — Enable Suspend Time Out after 60min.

☞ IRQ 3~IRQ15

- ⏩ Ignore — Ignore IRQ3 ~IRQ15.
- ⏩ Monitor — Monitor IRQ3~IRQ15.

☞ Soft-off by Power Button

- ⏩ Instant off — Soft switch ON/OFF for POWER ON/OFF. (Default Value)
- ⏩ Suspend — Soft switch ON/OFF for suspend.

☞ AC Back Function

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

☞ Modem Ring /Wake On LAN

- ⏩Disabled Disable Resume Modem Ring / Wake On LAN.
- ⏩Enabled Enable Resume Modem Ring / Wake On LAN. (Default Value)

☞ PME Event Wake Up

- ⏩Disabled Disable PME Event Wake Up.
- ⏩Enabled Enabled PME Event Wake Up. (Default Value)

☞ Keyboard Wakeup From

- ⏩S1(Suspend) Keyboard is able to Wakeup the system from S1(Suspend) state. (Default value)
- ⏩S1/S3 Keyboard is able to Wakeup the system from S1/S3 state.
- ⏩S1/S3/S4/S5 Keyboard is able to Wakeup the system from S1/S3/S4/S5 state.

☞ PS/2 Wakeup From

- ⏩S1(Suspend) PS/2 Mouse is able to Wakeup the system from S1(Suspend) state. (Default value)
- ⏩S1/S3 PS/2 Mouse is able to Wakeup the system from S1/S3 state.
- ⏩S1/S3/S4/S5 PS/2 Mouse is able to Wakeup the system from S1/S3/S4/S5 state.

☞ Resume On RTC Alarm

You can set "RTC Alarm Power On" item to enabled and key in Data/time to power on system.

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

If RTC Alarm Lead To Power On is Enabled.

RTC Alarm Date: Everyday, 1~31

RTC Alarm Hour: 0~23

RTC Alarm Minute : 0~59

RTC Alarm Second: 0~59

PNP/PCI Configuration

AMIBIOS SETUP - PNP/PCI CONFIGURATION (C) 2001 American Megatrends, Inc. All Rights Reserved		
OnChip VGA Frame Buffer	: 32MB	
VGA Boot From	: AGP	
PCI Slot 1 IRQ Priority	: Auto	
PCI Slot 2 IRQ Priority	: Auto	
PCI Slot 3 IRQ Priority	: Auto	
Realtek LAN ROM initial	: Yes	
		ESC: Quit ↑↓←→: Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2: Color F6 : Fail-Safe F7 : Optimized F8 : Q-Flash Utility

Figure 6: PNP/PCI Configuration

☞ OnChip VGA Frame Buffer

- ⏩ 8MB — Set OnChip VGA Frame Buffer to 8MB.
- ⏩ 16MB — Set OnChip VGA Frame Buffer to 16MB.
- ⏩ 32MB — Set OnChip VGA Frame Buffer to 32MB.(Default Value)
- ⏩ None — Disable this function.

☞ VGA Boot From

- ⏩ AGP — Set VGA Boot from AGP VGA Card. (Default Value)
- ⏩ PCI — Set VGA Boot from PCI VGA Card.

☞ PCI Slot1, 2, 3 IRQ Priority

⏩ Auto	The system will reserved a free IRQ for PCI slot 1, 2, 3 device. (Default Value)
⏩ 3	The system will reserved IRQ3 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ3.
⏩ 4	The system will reserved IRQ4 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ4.
⏩ 5	The system will reserved IRQ5 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ5.
⏩ 7	The system will reserved IRQ7 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ7.
⏩ 10	The system will reserved IRQ10 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ10.
⏩ 11	The system will reserved IRQ11 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ11.

☞ Realtek LAN ROM initial

⏩ Yes	Enabled Realtek LAN ROM initial. (Default Value)
⏩ No	Disabled Realtek LAN ROM initial.

Load Fail-Safe Defaults

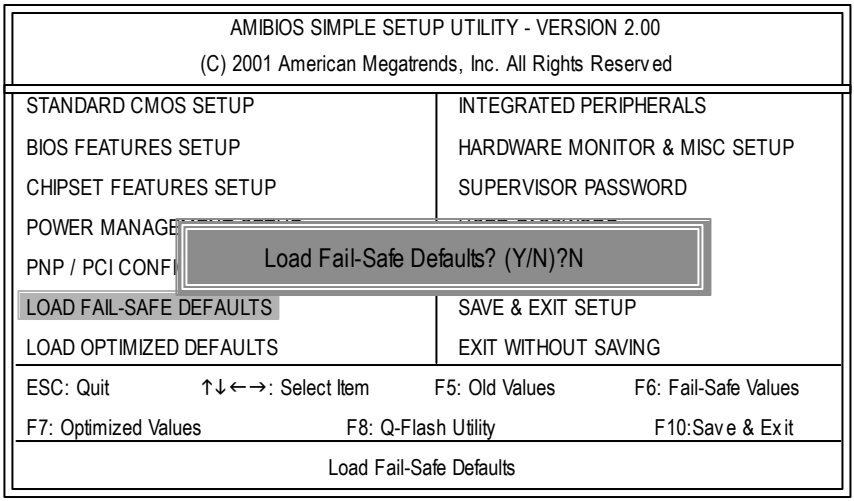


Figure 7: Load Fail-Safe Defaults

☞ Load Fail-Safe Defaults

Fail-Safe defaults contain the most appropriate system parameter values of to configure the system to achieve maximum stability.

Load Optimized Defaults

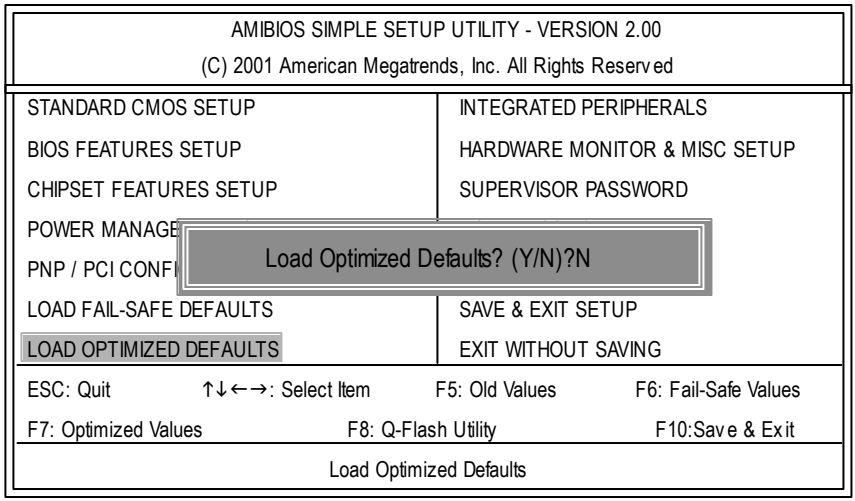


Figure 8: Load Optimized Defaults

☞ Load Optimized Defaults

Optimized defaults contain the most appropriate system parameter values to configure the system to achieve maximum performance.

Integrated Peripherals

AMIBIOS SETUP - INTEGRATED PERIPHERALS (C) 2001 American Megatrends, Inc. All Rights Reserved			
OnBoard IDE	:Both		
IDE1 Conductor Cable	:Auto		
IDE2 Conductor Cable	:Auto		
OnBoard FDC	:Auto		
OnBoard Serial Port 1	:Auto		
OnBoard Serial Port 2	:Auto		
OnBoard Parallel Port	:Auto		
Parallel Port Mode	:ECP		
Parallel Port IRQ	:Auto		
Parallel Port DMA	:Auto		
OnBoard MIDI Port	:300		
MIDI Port IRQ	:5		
OnBoard Game Port	:201		
OnBoard AC'97 Audio	:Auto	ESC : Quit	↑↓→←: Select Item
OnBoard Lan Chip	:Enabled	F1 : Help	PU/PD+/-/ : Modify
		F5 : Old Values	(Shift)F2: Color
		F6 : Fail-Safe	F7:Optimized
		F8 : Q-Flash Utility	

Figure 9: Integrated Peripherals

☞ OnBoard IDE

- ▸▸Disabled — Disabled OnBoard IDE.
- ▸▸Both — Set OnBoard IDE is Both (Default Value).
- ▸▸Primary — Set OnBoard IDE is Primary.
- ▸▸Secondary — Set OnBoard IDE is Secondary.

☞ IDE1 Conductor Cable

- ▸▸Auto — Will be automatically detected by BIOS. (Default Value)
- ▸▸ATA66/100 — Set IDE1 Conductor Cable to ATA66/100 (Please make sure your IDE device and cable is compatible with ATA66/100).
- ▸▸ATA33 — Set IDE1 Conductor Cable to ATA33 (Please make sure your IDE device and cable is compatible with ATA33).

☞ IDE2 Conductor Cable

⏩ Auto	Will be automatically detected by BIOS. (Default Value)
⏩ ATA66/100	Set IDE2 Conductor Cable to ATA66/100 (Please make sure your IDE device and cable is compatible with ATA66/100).
⏩ ATA33	Set IDE2 Conductor Cable to ATA33 (Please make sure your IDE device and cable is compatible with ATA33).

☞ On Board FDC

⏩ Auto	Set On Board FDC is Auto (Default Value).
⏩ Disabled	Disabled On Board FDC.
⏩ Enabled	Enabled On Board FDC.

☞ Onboard Serial Port 1

⏩ Auto	BIOS will automatically setup the port 1 address (Default Value).
⏩ 3F8/COM1	Enable onboard Serial port 1 and address is 3F8.
⏩ 2F8/COM2	Enable onboard Serial port 1 and address is 2F8.
⏩ 3E8/COM3	Enable onboard Serial port 1 and address is 3E8.
⏩ 2E8/COM4	Enable onboard Serial port 1 and address is 2E8.
⏩ Disabled	Disable onboard Serial port 1.

☞ Onboard Serial Port 2

⏩ Auto	BIOS will automatically setup the port 2 address. (Default Value)
⏩ 3F8/COM1	Enable onboard Serial port 2 and address is 3F8.
⏩ 2F8/COM2	Enable onboard Serial port 2 and address is 2F8.
⏩ 3E8/COM3	Enable onboard Serial port 2 and address is 3E8.
⏩ 2E8/COM4	Enable onboard Serial port 2 and address is 2E8.
⏩ Disabled	Disable onboard Serial port 2.

☞ OnBoard Parallel port

⏩ 378	Enable On Board LPT port and address is 378.
⏩ 278	Enable On Board LPT port and address is 278.
⏩ 3BC	Enable On Board LPT port and address is 3BC.
⏩ Auto	Set On Board LPT port is Auto. (Default Value)
⏩ Disabled	Disable On Board LPT port.

☞Parallel Port Mode

- ⏩EPP — Using Parallel port as Enhanced Parallel Port.
- ⏩ECP — Using Parallel port as Extended Capabilities Port. (Default Value)
- ⏩Normal — Normal Operation.
- ⏩EPP+ECP — Using Parallel port as Enhanced Parallel Port & Extended Capabilities Port.

☞Parallel Port IRQ

- ⏩7 — Set Parallel Port IRQ is 7.
- ⏩Auto — Set Auto to parallel Port IRQ DMA Channel. (Default Value)
- ⏩5 — Set Parallel Port IRQ is 5.

☞Parallel Port DMA

- ⏩3 — Set Parallel Port DMA is 3.
- ⏩Auto — Set Auto to parallel port mode DMA Channel. (Default Value)
- ⏩1 — Set Parallel Port DMA is 1.
- ⏩0 — Set Parallel Port DMA is 0.

☞OnBoard MIDI Port

- ⏩300 — Set 300 for MIDI Port. (Default Value)
- ⏩310 — Set 310 for MIDI Port.
- ⏩320 — Set 320 for MIDI Port.
- ⏩330 — Set 330 for MIDI Port.
- ⏩Disabled — Disable this function.

☞ Midi Port IRQ

- ⏩5 — Set Midi Port IRQ to 5. (Default Value)
- ⏩10 — Set Midi Port IRQ to 10.
- ⏩11 — Set Midi Port IRQ to 11.

☞OnBoard Game Port

- ⏩201 — Set 201 for Game Port.(Default Value)
- ⏩209 — Set 209 for Game Port .
- ⏩Disabled — Disable this function.

☞ OnBoardAC97 Audio

- ▸▸Auto — Enable auto detect onboard AC'97 audio. (Default v alue)
- ▸▸Disabled — Disable this function.

☞ Onboard Lan Chip

- ▸▸Disabled — Disable this function.
- ▸▸Enabled — Enable Onboard Lan Chip function. (Default Value)

Hardware Monitor & MISC Setup

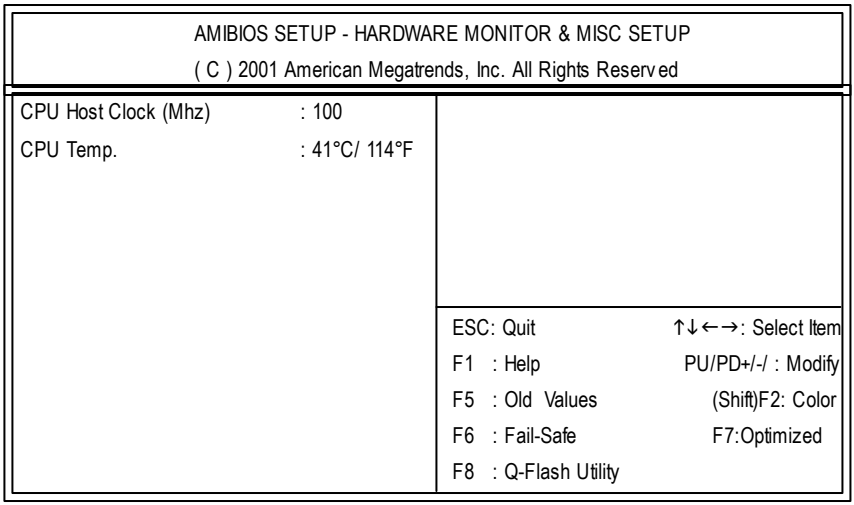


Figure 10: Hardware Monitor & MISC Setup

☞CPU Host Clock (Mhz)

- ▸▸By Hw — Set CPU Host Clock by Hw.
- ▸▸133 — Set CPU Host Clock to 133MHz~161MHz.
- ▸▸100 — Set CPU Host Clock to 100Mhz~128MHz.(Default Value)

☞CPU Temp.

- ▸▸Detect CPU Temperature automatically.

Set Supervisor / User Password

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

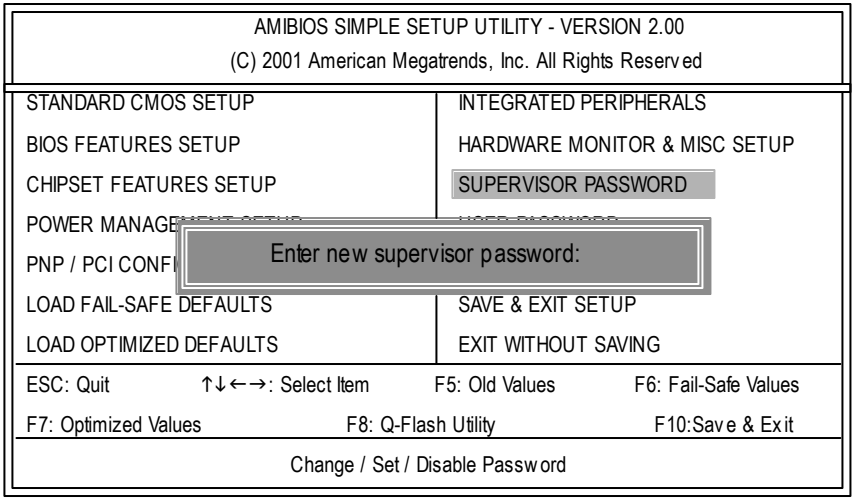


Figure 11: Password Setting

Type the password, up to six 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: a SUPERVISOR PASS WORD 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 "Always" at "Password Check" in BIOS Features Setup 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 BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

IDE HDD Auto Detection

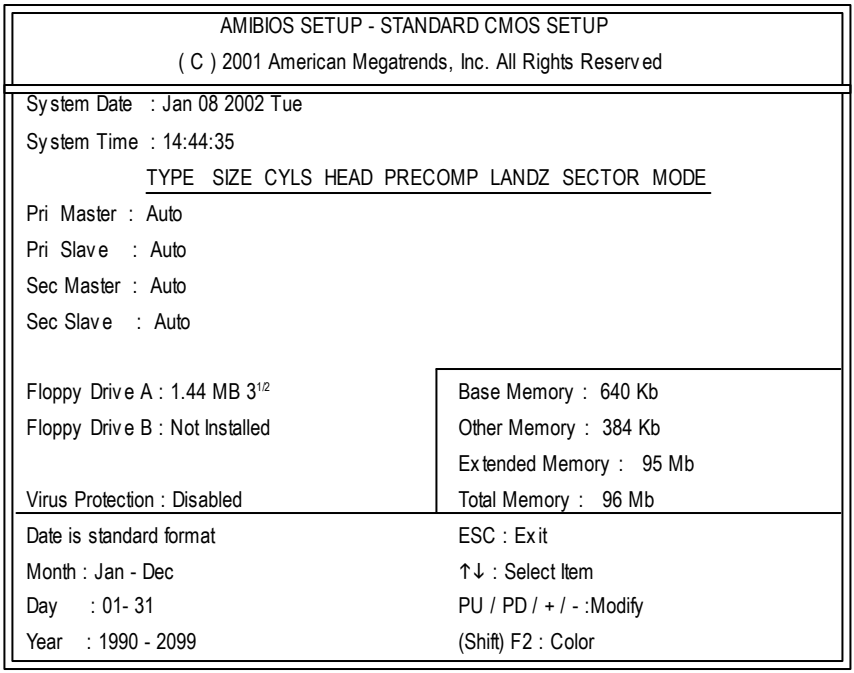


Figure 12: IDE HDD Auto Detection

Type "Y" will accept the H.D.D. parameter reported by BIOS.

Type "N" will keep the old H.D.D. parameter setup. If the hard disk cylinder number is over 1024, then the user can select LBA mode or LARGER mode for DOS partition larger than 528 MB.

Save & Exit Setup

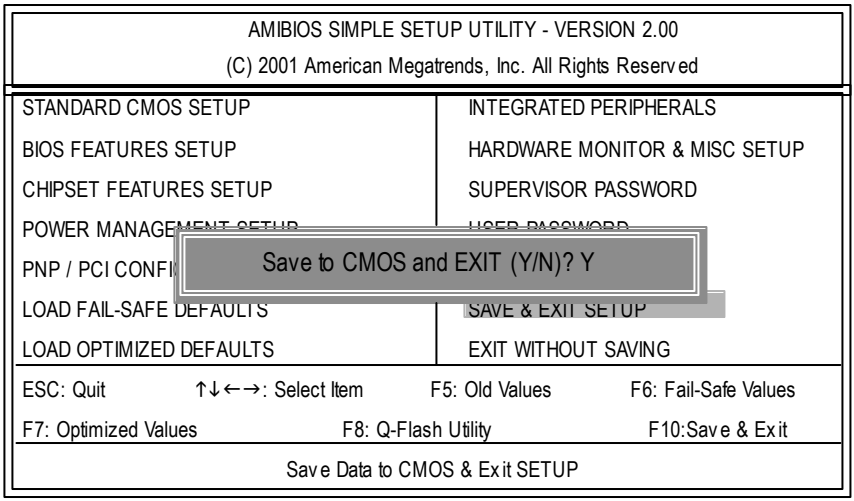


Figure 13: Save & Exit Setup

Type “Y” will quit the Setup Utility and save the user setup value to RTC CMOS.

Type “N” will return to Setup Utility.

Exit Without Saving

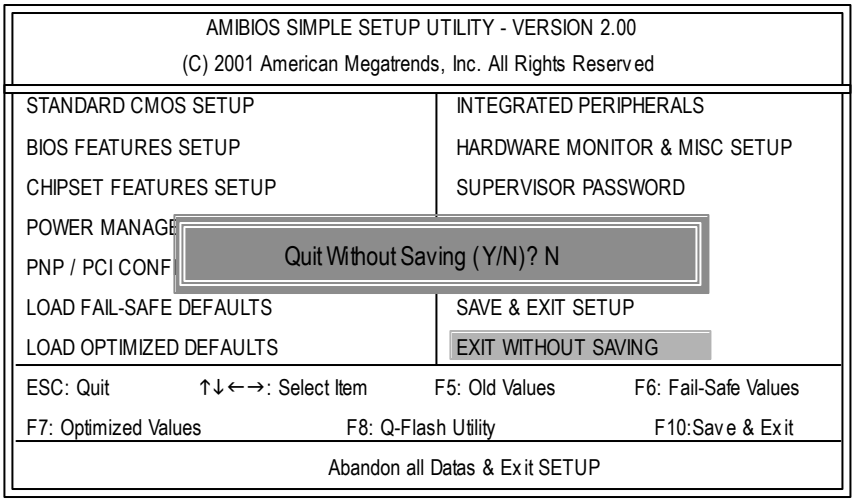
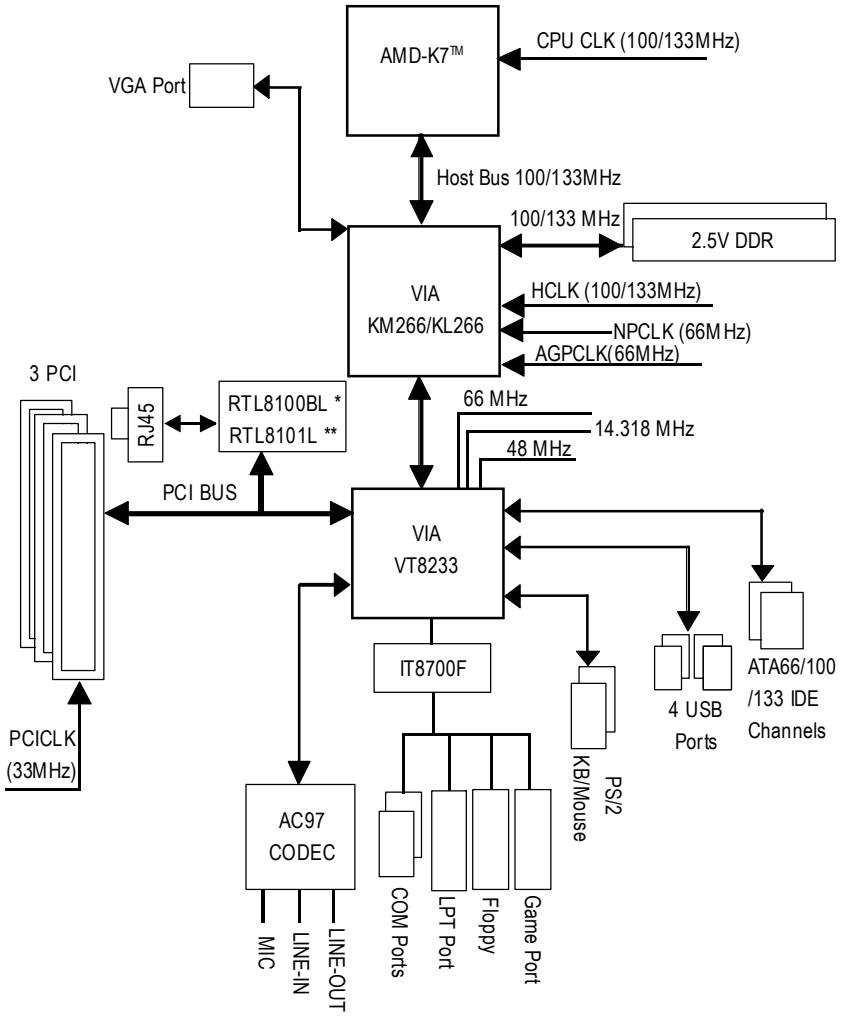


Figure 14: Exit Without Saving

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

Chapter 4 Technical Reference

Block Diagram



"*" for PCB Ver.: 3.1

"" for PCB Ver.: 4.0**

@ BIOS™ Introduction

Gigabyte announces @ BIOS Windows BIOS live update utility

Have you ever updated BIOS by yourself? Or like many other people, you just know what BIOS is, but always hesitate to update it? Because you think updating newest BIOS is unnecessary and actually you don't know how to update it.

Maybe not like others, you are very experienced in BIOS updating and spend quite a lot of time to do it. But of course you don't like to do it too much. First, download different BIOS from website and then switch the operating system to DOS mode. Secondly, use different flash utility to update BIOS. The above process is not a interesting job. Besides, always be carefully to store the BIOS source code correctly in your disks as if you update the wrong BIOS, it will be a nightmare.

Certainly, you wonder why motherboard vendors could not just do something right to save your time and effort and save you from the lousy BIOS updating work? Here it comes! Now Gigabyte announces @BIOS—the first Windows BIOS live update utility. This is a smart BIOS update software. It could help you to download the BIOS from internet and update it. Not like the other BIOS update software, it's a Windows utility. With the help of "@BIOS', BIOS updating is no more than a click.

Besides, no matter which mainboard you are using, if it's a Gigabyte's product*, @BIOS help you to maintain the BIOS. This utility could detect your correct mainboard model and help you to choose the BIOS accordingly. It then downloads the BIOS from the nearest Gigabyte ftp site automatically. There are several different choices; you could use "Internet Update" to download and update your BIOS directly. Or you may want to keep a backup for your current BIOS, just choose "Save Current BIOS" to save it first. You make a wise choice to use Gigabyte, and @BIOS update your BIOS smartly. You are now worry free from updating wrong BIOS, and capable to maintain and manage your BIOS easily. Again, Gigabyte's innovative product erects a milestone in mainboard industries.

For such a wonderful software, how much it costs? Impossible! It's free! Now, if you buy a Gigabyte's motherboard, you could find this amazing software in the attached driver CD. But please remember, connected to internet at first, then you could have a internet BIOS update from your Gigabyte @BIOS.

Easy Tune™ 4 Introduction

Gigabyte announces *EasyTune™ 4*

Windows based Overclocking utility

EasyTune 4 carries on the heritage so as to pave the way for future generations.

Overclock" might be one of the most common issues in computer field. But have many users ever tried it? The answer is probably "no". Because "Overclock" is thought to be very difficult and includes a lot of technical know-how, sometimes "Overclock" is even considered as special skills found only in some enthusiasts. But as to the experts in "Overclock", what's the truth? They may spend quite a lot of time and money to study, try and use many different hardware or BIOS tools to do "Overclock". And even with these technologies, they still learn that it's quite a risk because the safety and stability of an "Overclock" system is unknown. Now everything is different because of a Windows based overclocking utility "EasyTune 4" --announced by Gigabyte. This windows based utility has totally changed the gaming rule of "Overclock". This is the first windows based overclocking utility is suitable for both normal and power users. Users can choose either "Easy Mode" or "Advanced Mode" for overclocking at their convenience. For users who choose "Easy Mode", they just need to click "Auto Optimize" to have autoed and immediate CPU overclocking. This software will then overdrive CPU speed automatically with the result being shown in the control panel. If users prefer "Overclock" by them, there is also another choice. Click "Advanced Mode" to enjoy "sport drive" class Overclocking user interface. "Advanced Mode", allows users to change the system bus / AGP / Memory working frequency in small increments to get ultimate system performance. It operates in coordination with Gigabyte motherboards. Besides, it is different from other traditional over-clocking methods, EasyTune 4 doesn't require users to change neither BIOS nor hardware switch/jumper setting; on the other hand, they can do "Overclock" at easy step . Therefore, this is a safer way for "Overclock" as nothing is changed on software or hardware. If user runs EasyTune 4 over system's limitation, the biggest lost is only to restart the computer again and the side effect is then well controlled. Moreover, if one well-performed system speed has been tested in EasyTune 4, user can "Save" this setting and "Load" it in next time. Obviously, Gigabyte EasyTune 4 has already turned the "Overclock" technology toward to a newer generation. This wonderful software is now free bundled in Gigabyte motherboard attached in driver CD. Users may make a test drive of "EasyTune 4" to find out more amazing features by themselves.

*Some Gigabyte products are not fully supported by EasyTune 4. Please find the products supported list in the web site.

*Any "Overclocking action" is at user's risk, Gigabyte Technology will not be responsible for any damage or instability to your processor, motherboard, or any other components.

Flash BIOS Method Introduction

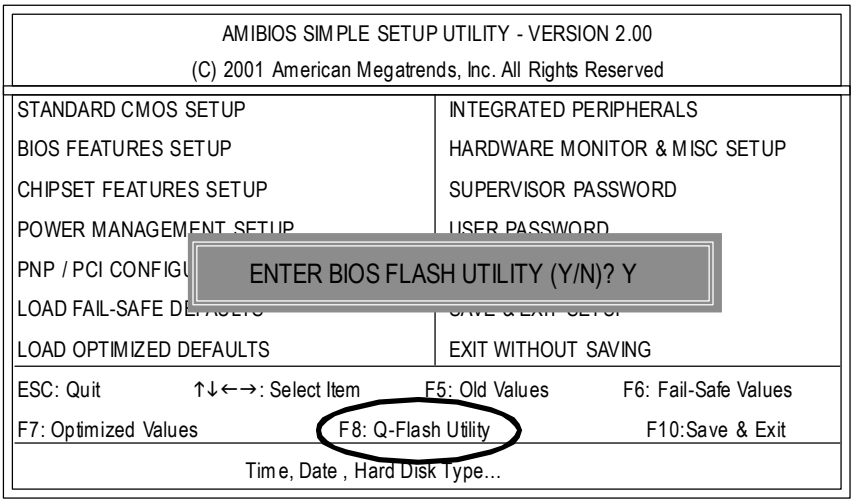
Method 1: Q-Flash

A. What is Q-Flash Utility?

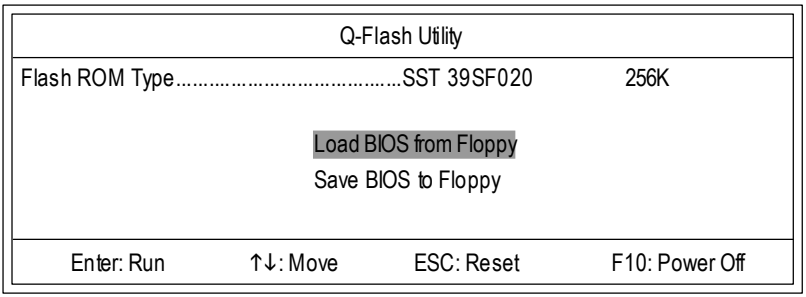
Q-Flash utility is a pre-O.S. BIOS flash utility enables users to update its BIOS within BIOS mode, no more fooling around any OS.

B. How to use Q-Flash?

a. After power on the computer, pressing <Del> immediately during POST (Power On Self Test) it will allow you to enter AMI BIOS CMOS SETUP, then press <F8> to enter Flash utility.

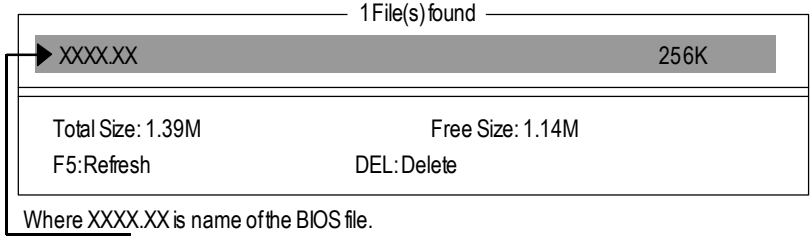


b. Q-Flash Utility

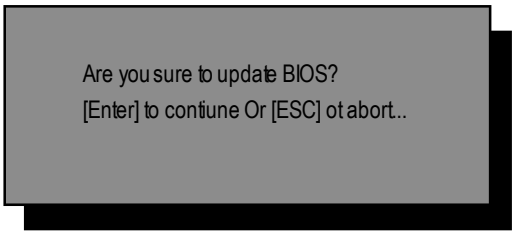


Load BIOS From Floppy

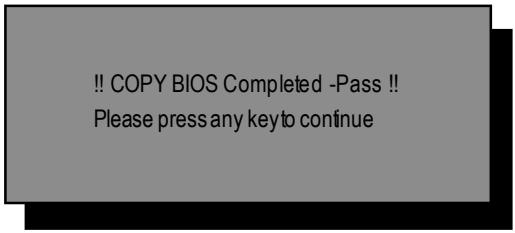
✎ In the A:drive, insert the "BIOS" diskette, then Press Enter to Run.



✎ Press Enter to Run.



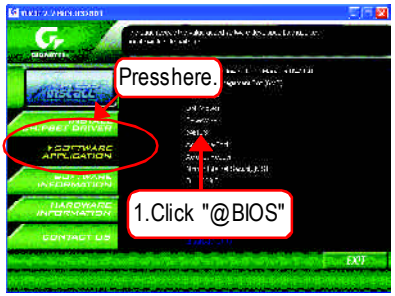
✎ Press Enter to Run.



Congratulation! You have completed the flashed and now can restart system.

Method 2: @ BIOS Utility

If you don't have DOS boot disk, we recommend that you used Gigabyte @BIOS™ program to flash BIOS.



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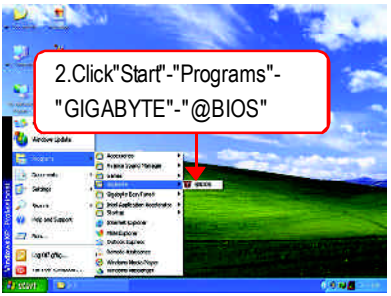

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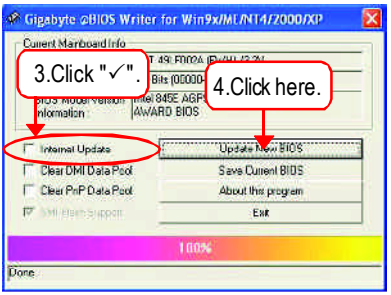

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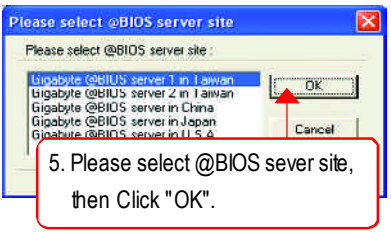


(4)

Methods and steps:

I. Update BIOS through Internet

a. Click "Internet Update" icon
b. Click "Update New BIOS" icon
c. Select @BIOS™ 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.
d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: 7VKMLE.F2a).
e. Complete update process following the instruction.

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.

Note:

a. 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.
b. 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.
c. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigabyte's web site for downloading and updating it according to method II.
d. Please note that any interruption during updating will cause system unbooted

Chapter 5 Appendix

Install Drivers

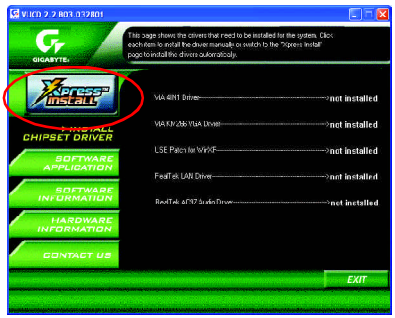
NOTE

Pictures below are shown in Windows XP (CD ver. 2.2)

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.

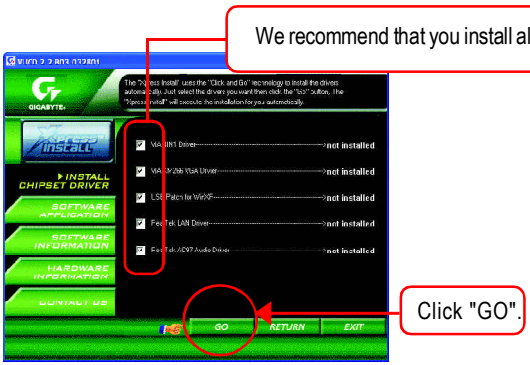
INSTALL CHIPSET DRIVER

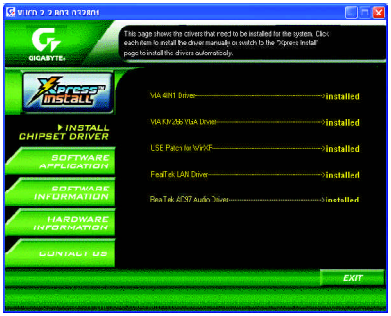
This page shows the drivers that need to be installed for the system. Click each item to install the driver manually or switch to the  to install the drivers automatically.



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

The "Xpress Install" uses the"Click and Forget" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The  will execute the installation for you by itself.





Driver install finished!! you have to reboot system!!

Item Description

- VIA 4IN1 Driver

  For INF, AGP, IDE and DMA Driver.
- VIA KM266 VGA Driver

  For VIA KM266 VGA driver.
- USB Patch for WinXP

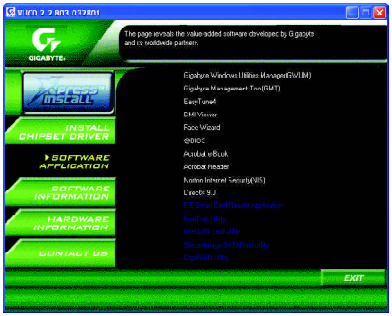
  This patch driver can help you to resolve the USB device wake up S3 hang up issue in XP.
- RealTek LAN Driver

  RealTek 10/100 LAN driver for 81xx series chips.
- RealTek AC97 Audio Driver

  Audio driver for Realtek AC97 codec chipset .

SOFTWARE APPLICATION

This page reveals the value-added software developed by Gigabyte and its worldwide partners.



- Gigabyte Windows Utilities Manager(GWUM)

  This utility can integrate the Gigabyte's applications in the system tray.
- Gigabyte Management Tool(GMT)

  A useful tool which can manage the computer via the network.
- EasyTune4

  Powerful utility that integrates the overclocking and hardware monitoring functions.
- DMI Viewer

  Windows based utility which is used to browse the DMI/SMBIOS information of the system.
- Face-Wizard

  New utility for adding BIOS logo.
- @BIOS

  Gigabyte windows flash BIOS utility.
- Acrobat e-Book

  Useful utility from Adobe.
- Acrobat Reader

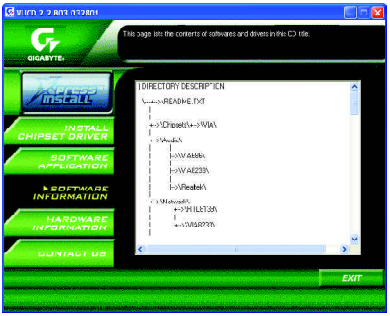
  Popular utility from Adobe for reading .PDF file format documents.
- Norton Internet Security(NIS)

  Integrated utility which includes anti-virus, ad control, etc
- DirectX 9.0

  Install Microsoft DirectX 9.0 to enable 3D hardware acceleration that support for operating system to achieve better 3D performence.

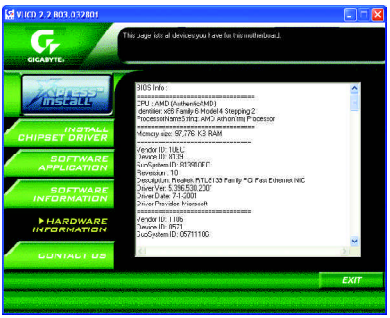
SOFTWARE INFORMATION

This page list the contects of softwares and drivers in this CD title.



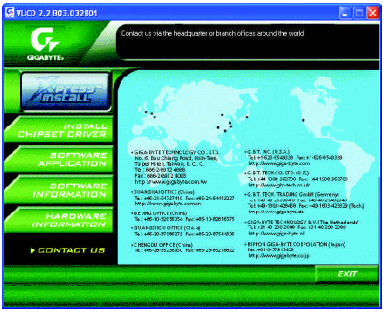
HARDWARE INFORMATION

This page lists all device you have for this motherboard.



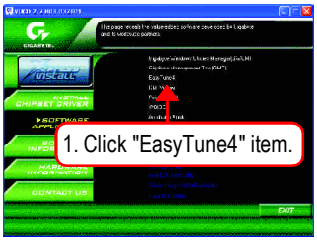
CONTACT US

Please see the last page for details.



EasyTune 4 Utilities Installation

Powerful utility that integrates the overclocking and hardware monitoring functions



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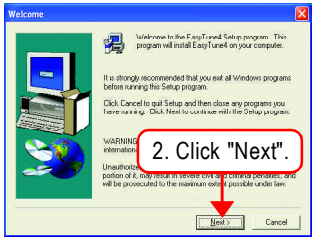

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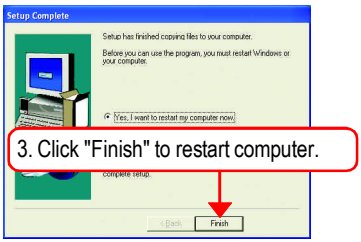
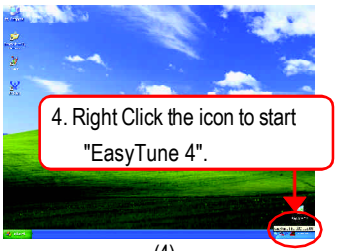


(3)



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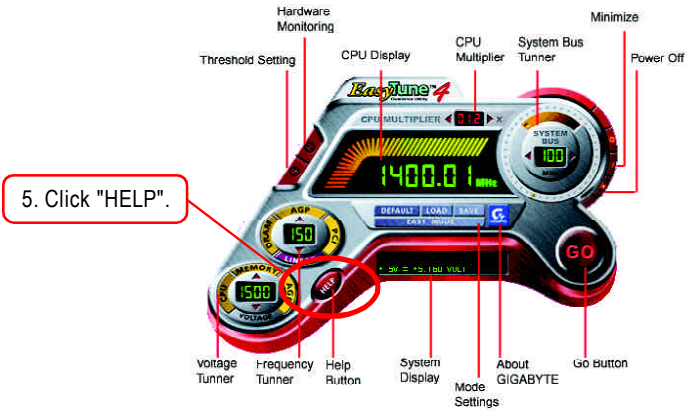


FAQ

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to http://tw.giga-byte.com/faq/faq.htm

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: Why cannot I use all functions in EasyTune™ 4?
Answer: The availability of the listed functions in EasyTune™ 4 depends on the MB chipset. If the chipset doesn't support certain functions in EasyTune™ 4, these functions will be locked automatically and you will not be able to use them.

Question 4: Why do I fail to install RAID and ATA drivers under Win 2000 and XP on boards that support RAID function after I connect the boot HDD to IDE3 or IDE4 ?
Answer: First of all, you need to save some files in the CD-ROM to a floppy disk before installing drivers. You also need to go through some rather different steps in the installation process. Therefore, we suggest that you refer to the installation steps in the RAID manual at our website.
(Please download it at http://tw.giga-byte.com/support/user_pdf/raid_manual.pdf)

Question 5: 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.
3. 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).
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.
7. Save changes and reboot the system.

Question 6: Why does system seem unstable after updating BIOS?
Answer: Please remember to load Fail-Safe Defaults (Or Load BIOS Defaults) after flashing BIOS. However, if the system instability still remains, please clear CMOS to solve the problem.

Question 7: 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 8: How do I disable onboard VGA card in order to add an external VGA card?
Answer: Gigabyte motherboards will auto-detect the external VGA card after it is plugged in, so you don't need to change any setting manually to disable the onboard VGA.

Question 9: Why cannot I use the IDE 2?
Answer: Please refer to the user manual and check whether you have connected any cable that is not provided with the motherboard package to the USB Over Current pin in the Front USB Panel. If the cable is your own cable, please remove it from this pin and do not connect any of your own cables to it.

Question 10: 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.

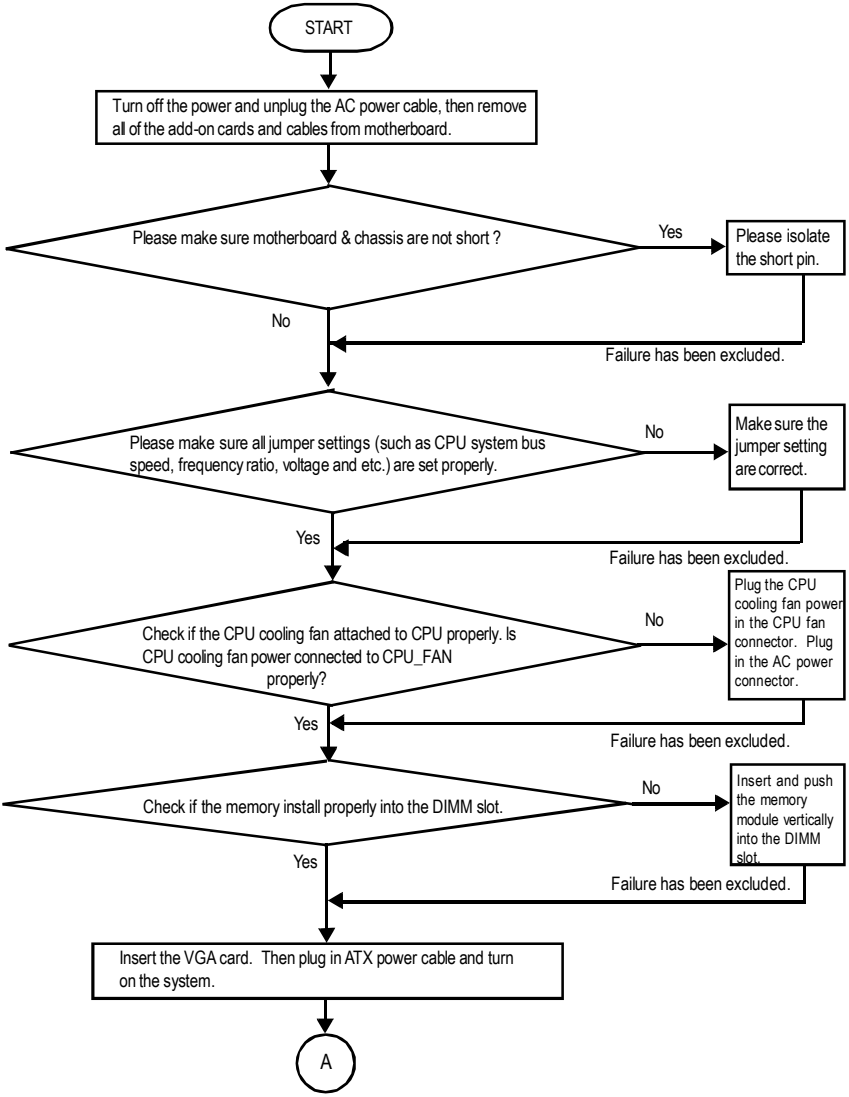
1 beep Refresh failure
2 beeps Parity error
3 beeps Base 64K memory failure
4 beeps Timer not operational
5 beeps Processor error
6 beeps 8042 - gate A20 failure
7 beeps Processor exception interrupt error
8 beeps Display memory read/write failure
9 beeps ROM checksum error
10 beeps CMOS shutdown register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

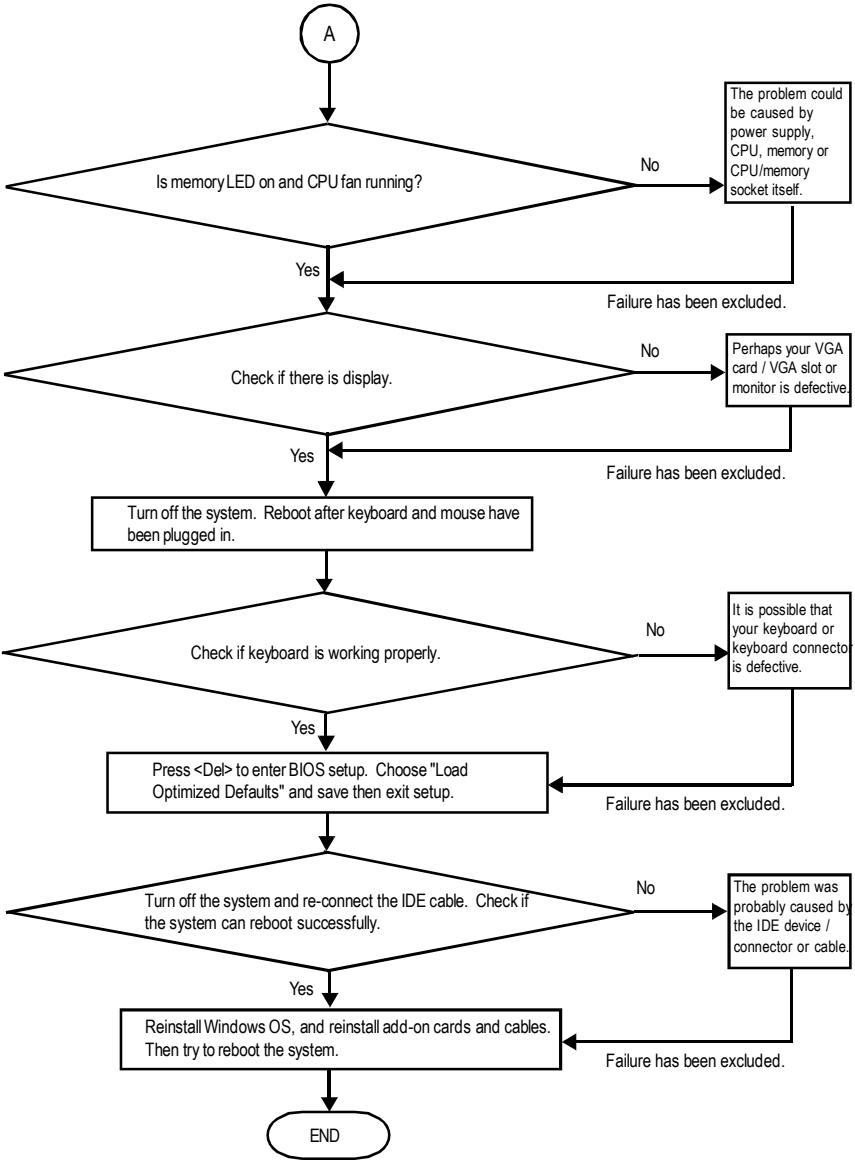
→ AWARD BIOS Beep Codes

1 short: System boots successfully
2 short: CMOS setting 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

Troubleshooting

If you encounter any trouble during boot up, please follow the troubleshooting procedures .





If the above procedure unable to solve your problem, please contact with your local retailer or national distributor for help. Or, you could submit your question to the service mail via Gigabyte website technical support zone
(http://www.gigabyte.com.tw). The appropriate response will be provided ASAP.

Technical Support/RMA Sheet

Customer/Country:	Company:	Phone No.:
Contact Person:	E-mail Add. :	

Model name/Lot Number:	PCB revision:
BIOS version:	O.S./A.S.:

Hardware Configuration	Mfs.	Model name		Size: Driver/Utility:
CPU				
Memory Brand				
Video Card				
Audio Card				
HDD				
CD-ROM / DVD-ROM				
Modem				
Network				
AMR / CNR				
Keyboard				
Mouse				
Power supply				
Other Device				

Problem Description:

Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communications Riser
BIOS	Basic Input / Output System
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRM	Dual Retention Mechanism
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCD	Extended System Configuration Data
ECC	Error Checking and Correcting
EMC	Electromagnetic Compatibility
EPP	Enhanced Parallel Port
ESD	Electrostatic Discharge
FDD	Floppy Disk Device
FSB	Front Side Bus
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network

to be continued.....

Acronyms	Meaning
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Interface Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory
SMP	Symmetric Multi-Processing
SMI	System Management Interrupt
USB	Universal Serial Bus
VID	Voltage ID

CONTACT US

Contact us via the information in this page all over the world.

- Taiwan

Gigabyte Technology Co., Ltd.

Address: No.6, Bau Chiang Road, Hsin-Tien, Taipei Hsien, Taiwan, R.O.C.

TEL: 886 (2) 8912-4888 (50 lines)

FAX: 886 (2) 8912-4004

Technical issue:

http://tw.giga-byte.com/support/service_main.htm

Non-Technical issue:

smsupport@gigabyte.com.tw

Web Address: http://www.gigabyte.com.tw

- USA

G.B.T. INC.

Address: 17358 Railroad St, City of Industry, CA 91748.

Tel: 1 (626) 854-9338

Fax: 1 (626) 854-9339

E-mail: sales@giga-byte.com

support@giga-byte.com

Web Address: www.giga-byte.com

- Germany

G.B.T. Technology Trading GmbH

Tel: 49-40-2533040

Fax: 49-40-25492343 (Sales)

Tel: 49-01803-428468 (Tech.)

Fax: 49-01803-428329 (Tech.)

E-mail:support@gigabyte.de

Web Address: www.gigabyte.de

- JAPAN/Nippon Giga-Byte Corporation

Web Address: www.gigabyte.co.jp

- U.K

G.B.T. TECH. CO. LTD.

Tel: 44-1908-362700

Fax: 44-1908-362709

E-mail:support@gbt-tech.co.uk

Web Address: www.gbt-tech.co.uk

- The Netherlands

Giga-Byte Technology B.V.

Address: Postbus 1385, 5602 BJ, Eindhoven, The Netherlands

Tel: +31 40 290 2088

Fax: +31 40 290 2089

E-mail:info@giga-byte.nl

Web Address: http://www.giga-byte.nl

- China

Shanghai Office

Tel: 86-21-64737410

Fax: 86-21-64453227

Web Address: www.gigabyte.com.cn

GuangZhou Office

Tel: 86-20-87586273

Fax: 86-20-87544306

Web Address: www.gigabyte.com.cn

Beijing Office

Tel:86-10-82856054

86-10-82856064

86-10-82856094

Fax: 86-10-82856575

Web Address: www.gigabyte.com.cn

E-mail:bjsupport@gigabyte.com.cn

Chengdu Office

Tel: 86-28-85236930

Fax: 86-28-85256822

Web Address: www.gigabyte.com.cn