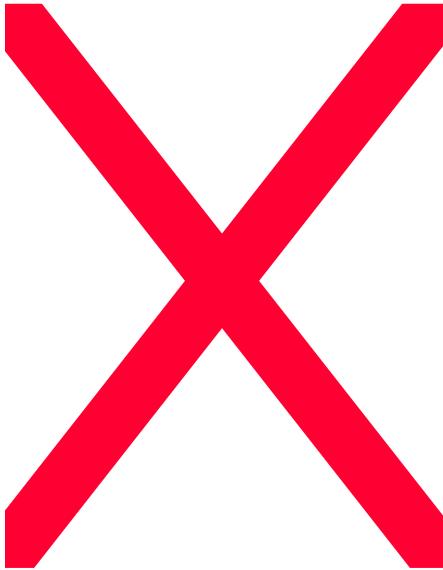


## Block Diagram



## Suspend to RAM Installation (Optional)

### A.1 Introduce STR function:

Suspend-to-RAM (STR) is a Windows 98 ACPI sleep mode function. When recovering from STR (S3) sleep mode, the system is able, in just a few seconds, to retrieve the last "state" of the system before it went to sleep and recover to that state. The "state" is stored in memory (RAM) before the system goes to sleep. During STR sleep mode, your system uses only enough energy to maintain critical information and system functions, primarily the system state and the ability to recognize various "wake up" triggers or signals, respectively.

### A.2 STR function Installation

Please use the following steps to complete the STR function installation.

#### Step-By-Step Setup

##### Step 1:

To utilize the STR function, the system must be in Windows 98 ACPI mode.

Putting Windows 98 into ACPI mode is fairly easy.

#### There are two ways to accomplish this:

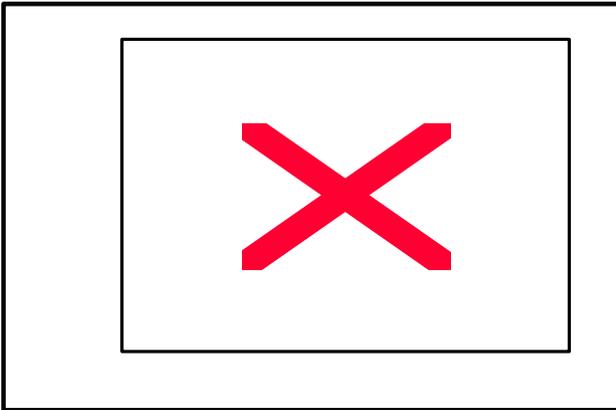
##### 1. Setup with Windows 98 CD:

- A. Insert the Windows 98 CD into your CD-ROM drive, select Start, and then Run.
- B. Type (without quotes) "**D:\setup /p j**" in the window provided. Hit the enter key or click OK.
- C. After setup completes, remove the CD, and reboot your system  
(This manual assumes that your CD-ROM device drive letter is D:).

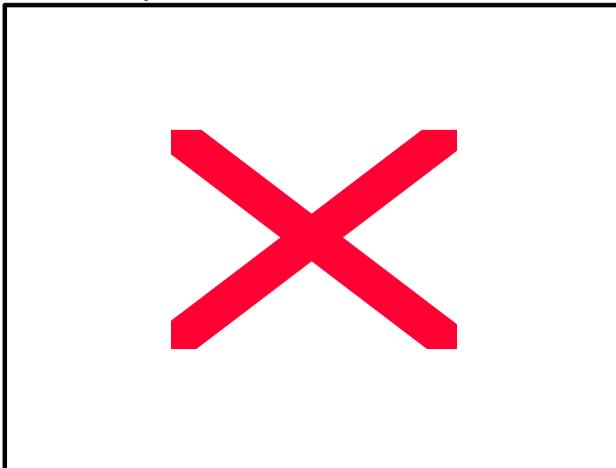
**2. Update from Windows98 APM mode:**

If your Windows 98 system is in APM mode, use the following steps to update your system to ACPI mode.

1. When Windows 98 finishes loading, open the "Control Panel" in Windows 98 "My Computer" area.



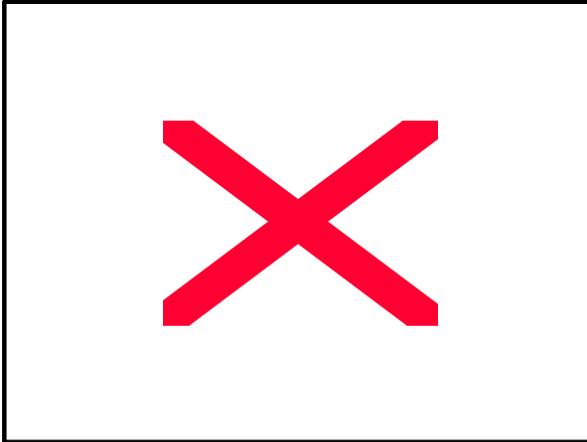
2. Double click the "System" item.



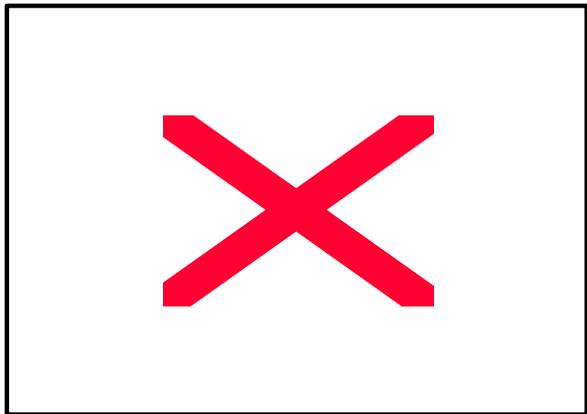
## 6WXM7 Motherboard

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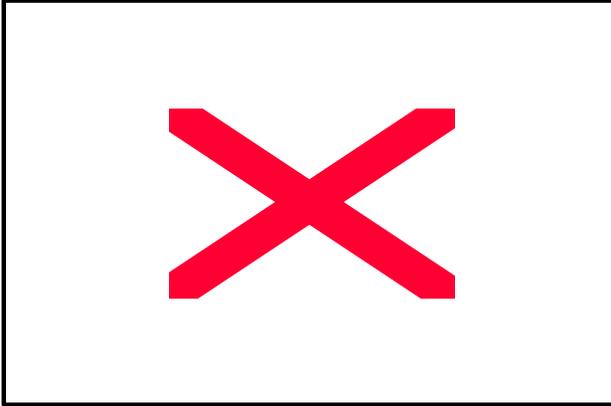
3. Select the "Device Manager" tab and then the "System Devices" item. Double click the "Plug and Play BIOS" item or select "Properties"



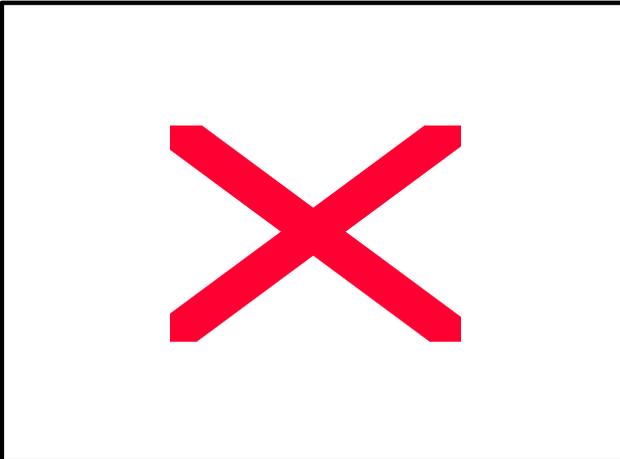
4. Select the "Driver" item and "Update Driver"



5. The "Update Device Driver Wizard" will appear.  
Press the "Next" button



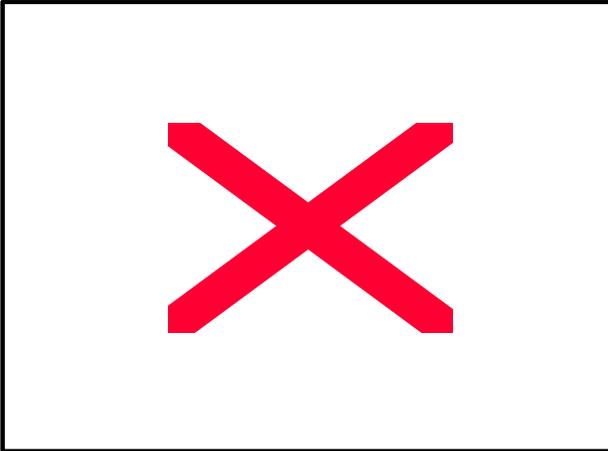
6. In the "Update Device Driver Wizard" window, select the "Display a list of all the drivers in a specific location, so you can select the driver you want." Then press the "Next" button "



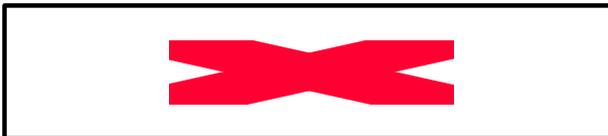
## 6WXM7 Motherboard

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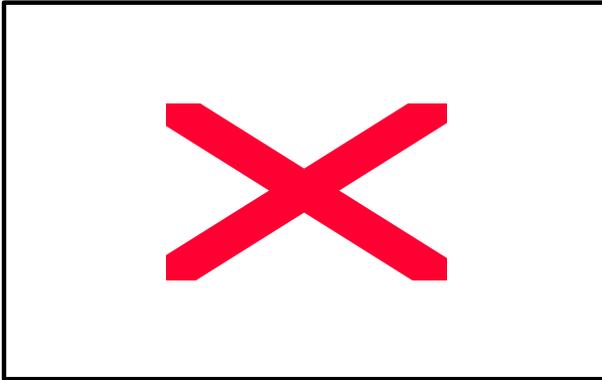
7. Select the "Show all hardware" item → then select the "Advance Configuration and Power Interface (ACPI) BIOS" and press the "Next" button.



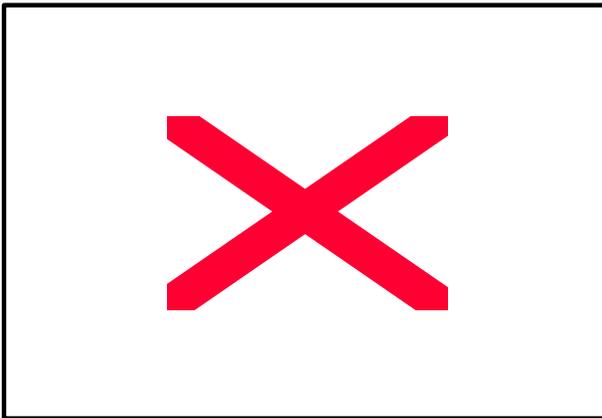
8. "Update Driver Warning" will show up and ask "Are you sure you want to use this driver?" Select the "Yes" button.



9. "Update Device Driver Wizard" will show up again. Select the "Next" button and start copying files to the system.



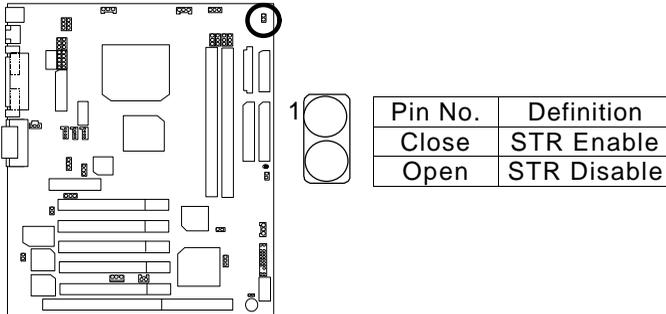
10. When complete, press the "Finish" button.



11. Restart your computer. Your system will start up using the ACPI mode.

**Step 2:**

**(If you want to use STR Function, please set jumper JP1 Closed.)**



**Step 3:**

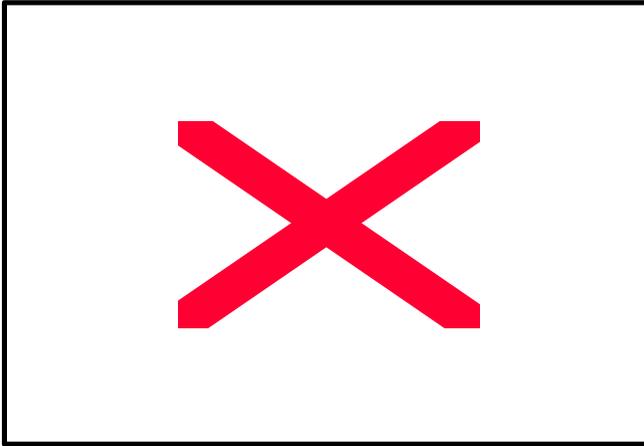
Power on the computer and as soon as memory counting starts, press <Del>. You will enter BIOS Setup. Select the item **"POWER MANAGEMENT SETUP"**, then select **"ACPI Suspend Type: Suspend to RAM"**. Remember to save the settings by pressing "ESC" and choose the **"SAVE & EXIT SETUP"** option.

Congratulation! You have completed the installation and now can use the STR function.

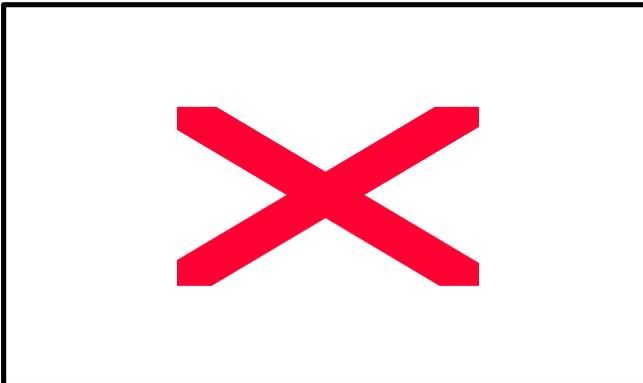
### A.3 How to put your system into STR mode?

There are two ways to accomplish this:

1. Choose the "Stand by" item in the "Shut Down Windows" area.
  - A. Press the "Start" button and then select "Shut Down"



- B. Choose the "Stand by" item and press "OK"

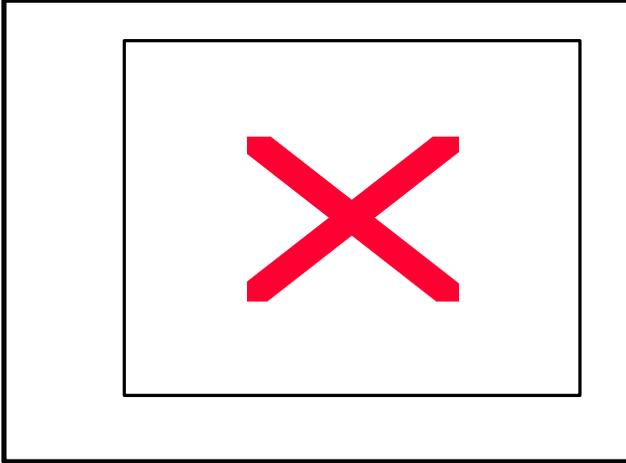


6WXM7 Motherboard

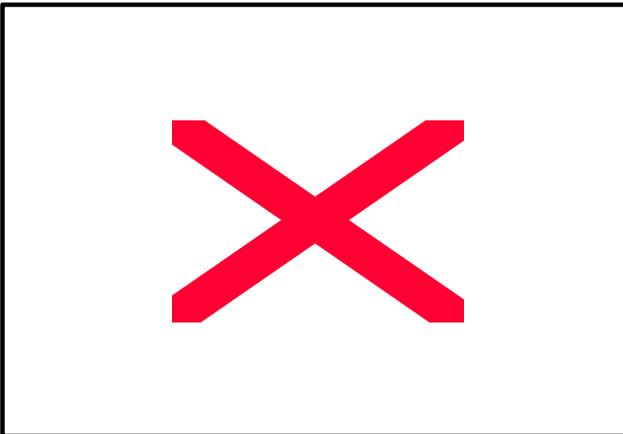
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2. Define the system "power on" button to initiate STR sleep mode:

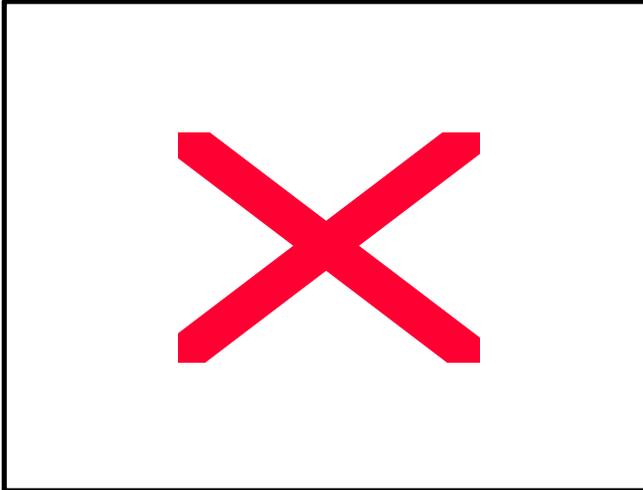
A. Double click "My Computer" and then "Control Panel"



B. Double click the " Power Management" item.



- C. Select the "Advanced" tab and "Standby" mode in Power Buttons.



**Step 4:**

Restart your computer to complete setup.

Now when you want to enter STR sleep mode, just momentarily press the "Power on" button..

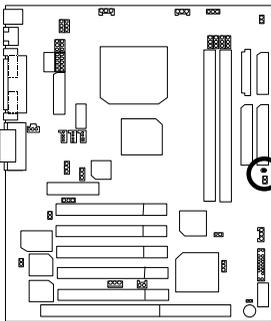
**A.4 How to recover from the STR sleep mode?**

There are six ways to "wake up" the system:

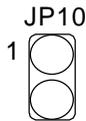
1. Press the "Power On" button.
2. Use the "Keyboard Power On" function.
3. Use the "Mouse Power On" function.
4. Use the "Resume by Alarm" function.
5. Use the "Modem Ring On" function.
6. Use the "Wake On LAN" function.

**A.5 Notices :**

1. In order for STR to function properly, several hardware and software requirements must be satisfied:
  - A. Your ATX power supply must comply with the ATX 2.01 specification (provide more than 720 mA 5V Stand-By current).
  - B. Your SDRAM must be PC-100 compliant.
2. Jumper JP10 is provided to connect to the STR LED in your system chassis. [Your chassis may not provide this feature.] The STR LED will be illuminated when your system is in STR sleep mode.



STR LED Connector External.



RAM Indicator LED1

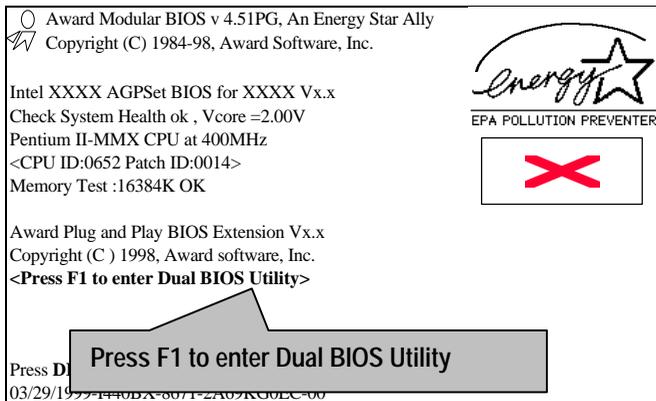
## Introduce Dual BIOS (Optional)

### A. What is Dual BIOS Technology?

Dual BIOS means that there are two system BIOS (ROM) on the motherboard, one is the Main BIOS and the other is Backup BIOS. Under the normal circumstances, the system works on the Main BIOS. If the Main BIOS is corrupted or damaged, the Backup BIOS can take over while the system is powered on. This means that your PC will still be able to run stably as if nothing has happened in your BIOS.

### B. How to use Dual BIOS?

#### a. Boot Screen



Dual BIOS Utility V6.60.g.01K (C) 1999, Gigabyte Technology Co., LTD.	
Wide Range Protection	:Disabled
Halt On BIOS Defects	:Disabled
Auto Recovery	:Enabled
Boot From	:Main BIOS
BIOS Recovery	:Main to Backup
F3: Load Default	F5:Start BIOS Recovery
F7: Save And Restart	F9:Exit Without Saving
Use <Space> key to toggle setup	

b. Dual BIOS Utility

c. Dual BIOS Item explanation:

**Wide Range Protection: Disabled(Default), Enabled**

*Status 1:*

If any failure (ex. Update ESCD failure, checksum error or reset.) occurs in the Main BIOS , just before the Operating System is loaded and after the power is on, and that the Wide Range Protection is set to "Enable", the PC will boot from Backup BIOS automatically.

*Status 2:*

If the ROM BIOS on peripherals cards(ex. SCSI Cards, LAN Cards,..) emits signals to request restart of the system after the user make any alteration on it, the boot up BIOS will not be changed to the Backup BIOS.

### **Halt On BIOS Defects : Disabled(Default), Enabled**

If the BIOS occurs a checksum error or the Main BIOS occurs a WIDE RANGE PROTECTION error and Halt On BIOS Defects set to Enable, the PC will show messages on the boot screen, and the system will pause and wait for the user's instruction.

If Auto Recovery : **Disabled**, it will show *<or the other key to continue.>*

If Auto Recovery : **Enabled**, it will show *<or the other key to Auto Recover.>*

### **Auto Recovery : Enabled(Default), Disabled**

When one of the Main BIOS or Backup BIOS occurs checksum failure, the working BIOS will automatically recover the BIOS of checksum failure.

(In the Power Management Setup of the BIOS Setting, if ACPI Suspend Type is set to Suspend to RAM, the Auto Recovery will be set to Enable automatically.)

(If you want to enter the BIOS setting, please press "Del" key when the boot screen appears.)

### **Boot From : Main BIOS(Default), Backup BIOS**

#### *Status 1:*

The user can set to boot from main BIOS or Backup BIOS.

#### *Status 2:*

If one of the main BIOS or the Backup BIOS fails, this item "Boot From : Main BIOS(Default)" will become gray and will not be changed by user.

### **BIOS Recovery : Main to Backup**

Auto recovery message:

#### ***BIOS Recovery: Main to Backup***

The means that the Main BIOS works normally and could automatically recover the Backup BIOS.

#### ***BIOS Recovery: Backup to Main***

The means that the Backup BIOS works normally and could automatically recover the Main BIOS.

(This auto recovery utility is set by system automatically and can't be changed by user.)



## DualBIOS™ Technology FAQ

GIGABYTE Technology is pleased to introduce DualBIOS technology, a hot spare for your system BIOS. This newest "Value-added" feature, in a long series of innovations from GIGABYTE, is available on GA-6WXM7 motherboard. Future GIGABYTE motherboards will also incorporate this innovation.

### What's DualBIOS™?

On GIGABYTE motherboards with DualBIOS there are physically two BIOS chips. For simplicity we'll call one your "Main BIOS" and the other we'll call your "Backup" BIOS (your "hot spare"). If your Main BIOS fails, the Backup BIOS almost automatically takes over on your next system boot. Almost automatically and with virtually zero down time! Whether the problem is a failure in flashing your BIOS or a virus or a catastrophic failure of the Main BIOS chip, the result is the same - the Backup BIOS backs you up, almost automatically.

**I. Q: What is DualBIOS™ technology?**

**Answer:**

DualBIOS technology is a patented technology from Giga-Byte Technology. The concept of this technology is based on the redundancy and fault tolerance theory. DualBIOS™ technology simply means there are two system BIOSes (ROM) integrated onto the motherboard. One is a main BIOS, and the other is a backup BIOS. The mainboard will operate normally with the main BIOS, however, if the main BIOS is corrupt or damaged for various reasons, the backup BIOS will be automatically used when the system powered-On. Your PC will operate as before the main BIOS was damaged, and is completely transparent to the user.

**II. Q: Why does anyone need a motherboard with DualBIOS™ technology?**

**Answer:**

In today' s systems there are more and more BIOS failures. The most common reasons are virus attacks, BIOS upgrade failures, and/or deterioration of the BIOS (ROM) chip itself.

1. New computer viruses are being found that attack and destroy the system BIOS. They may corrupt your BIOS code, causing your PC to be unstable or even not boot normally.
2. BIOS data will be corrupted if a power loss/surge occurs, or if a user resets the system, or if the power button is pressed during the process of performing a system BIOS upgrade.
3. If a user mistakenly updates their mainboard with the incorrect BIOS file, then the system may not be able to boot correctly. This may cause the PC system hang in operation or during boot.
4. A flash ROM's life cycle is limited according to electronic characteristics. The modern PC utilizes the Plug and Play BIOS, and is updated regularly. If a user changes peripherals often, there is a slight chance of damage to the flash ROM.

With Giga-Byte Technology' s patented DualBIOS™ technology you can reduce the possibility of hangs during system boot up, and/or loss BIOS data due to above reasons. This new technology will eliminate valuable system down time and costly repair bills cause by BIOS failures.

### **III. Q: How does DualBIOS™ technology work?**

#### **Answer:**

1. DualBIOS™ technology provides a wide range of protection during the boot up procedure. It protects your BIOS during system POST, ESCD update, and even all the way to PNP detection/assignment.
2. DualBIOS™ provides automatic recovery for the BIOS. When the first BIOS used during boot up does not complete or if a BIOS checksum error occurs, boot-up is still possible. In the DualBIOS™ utility, the "Auto Recovery" option will guarantee that if either the main BIOS or backup BIOS is corrupted, the DualBIOS™ technology will use the good BIOS and correct the wrong BIOS automatically.
3. DualBIOS™ provides manual recovery for the BIOS. DualBIOS™ technology contains a built-in flash utility, which can flash your system BIOS from backup to main and/or visa versa. There is no need for an OS-dependent flash utility program.
4. DualBIOS™ contains a one-way flash utility. The built-in one-way flash utility will ensure that the corrupt BIOS is not mistaken as the good BIOS during recovery and that the correct BIOS (main vs. backup) will be flashed. This will prevent the good BIOS from being flashed.

### **IV. Q: Who Needs DualBIOS™ technology?**

#### **Answer:**

1. Every user should have DualBIOS™ technology due to the advancement of computer viruses.  
Everyday, there are new BIOS-type viruses discovered that will destroy your system BIOS. Most commercial products on the market do not have solutions to guard against this type of virus intrusion. The DualBIOS™ technology will provide a state-of-the-art solution to protect your PC:  
Case I.) Vicious computer viruses may wipe out your entire system BIOS. With a conventional single system BIOS PC, the PC will not be functional until it is sent for repairs.  
Case II.) If the "Auto Recovery" option is enabled in the DualBIOS™ utility, and if a virus corrupts your system BIOS, the backup BIOS will automatically reboot the system and correct the main BIOS.  
Case III.) A user may override booting from the main system BIOS. The DualBIOS™ utility may be entered to manually change the boot sequence to boot from the backup BIOS.

2. During or after a BIOS upgrade, if DualBIOS™ detects that the main BIOS is corrupt, the backup BIOS will take over the boot-up process automatically. Moreover, it will verify the main and backup BIOS checksums when booting-up. DualBIOS™ technology examines the checksum of the main and backup BIOS while the system is powered on to guarantee your BIOS operates properly.
3. Power Users will have the advantage of having two BIOS versions on their mainboard. The benefit is being able to select either version BIOS to suit the performance system needs.
4. Flexibility for high-end desktop PCs and workstation/servers. In the DualBIOS™ utility, the option can be set, "Halt On When BIOS Defects," to be enabled to halt your system with a warning message that the main BIOS has been corrupted. Most workstation/servers require constant operation to guarantee services have not been interrupted. In this situation, the "Halt On When BIOS Defects" message may be disabled to avoid system pauses during normal booting. Another advantage you gain from Giga-Byte's DualBIOS™ technology is the ability to upgrade from dual 2 Mbit BIOS to dual 4 Mbit BIOS in the future if extra BIOS storage is need.

## Memory Installation

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 two notch. Memory size can vary between sockets.

Install memory in any combination table:

DIMM	168-pin SDRAM DIMM Modules	
Bank 0	Supports 8 / 16 / 32 / 64 / 128 / 256 MB	X 1 pcs
Bank 1	Supports 8 / 16 / 32 / 64 / 128 / 256 MB	X 1 pcs