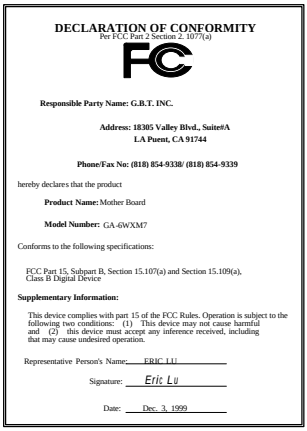
FCC Compliance Statement:



DECLARATION OF CONFORMITY
Per FCC Part 2 Section 2. 1077(a)

Responsible Party Name: G.B.T. INC.

Address: 18305 Valley Blvd., Suite#A
LA Puent, CA 91744

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

hereby declares that the product

Product Name: Mother Board

Model Number: GA-6WXM7

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: Dec. 3, 1999

This equipment has been tested and found to comply with limits for a Class B digital device , pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna

-Move the equipment away from the receiver

-Plug the equipment into an outlet on a circuit different from that to which the receiver is connected

-Consult the dealer or an experienced radio/television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void Your authority to operate such equipment.

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

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-6WXM7

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*** ☒ **EN60555-2**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Harmonics"
☐ **EN55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN61000-3-3*** ☒ **EN60555-3**	Disturbances in supply systems caused 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 immunity 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	☐ **EN 50091- 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 business 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 : Dec. 3, 1999

Signature : Rex Lin

Name : Rex Lin

6WXM7 Series

Intel® 810 Socket 370 Motherboard

USER'S MANUAL

INTEL® 810 Socket 370 Processor MAINBOARD
REV. 2.0 First Edition
R-20-01-091201

How this manual is organized

This manual is divided into the following sections:

1) Revision List	Manual revision information
2) Item Checklist	Product item list
3) Features	Product information & specification
4) Hardware Setup	Instructions on setting up the motherboard
5) Performance & Block Diagram	Product Performance & Block Diagram
6) Suspend to RAM & Dual BIOS	Instructions STR installation & Dual BIOS function (Optional)
7) BIOS Setup	Instructions on setting up the BIOS software
8) Appendix	General reference

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Summary of Features	P.3
6WXM7 Series Motherboard Layout	P.5
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Performance List	P.29
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Suspend RAM Installation	P.31
Introduce Dual BIOS (Optional)	P.37
Memory Installation	P.44
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Revision History

Revision	Revision Note	Date
1.4	Initial release of the 6WXM7 Series motherboard user's manual.	Jul.1999
2.0	Initial release of the 6WXM7 Series motherboard user's manual.	Dec.1999

Dec. 1, 1999 Taipei, Taiwan, R.O.C

Item Checklist

☑The 6WXM7 Series Motherboard

☑Cable for IDE / Floppy device

☑Diskettes or CD (IUCD) for motherboard utilities

☑Internal COM2 Cable (Optional)

☐Internal USB Cable

☐Cable for SCSI device

☑6WXM7 Series User's Manual

☑Internal DFP and TV-Out Cable (Optional)

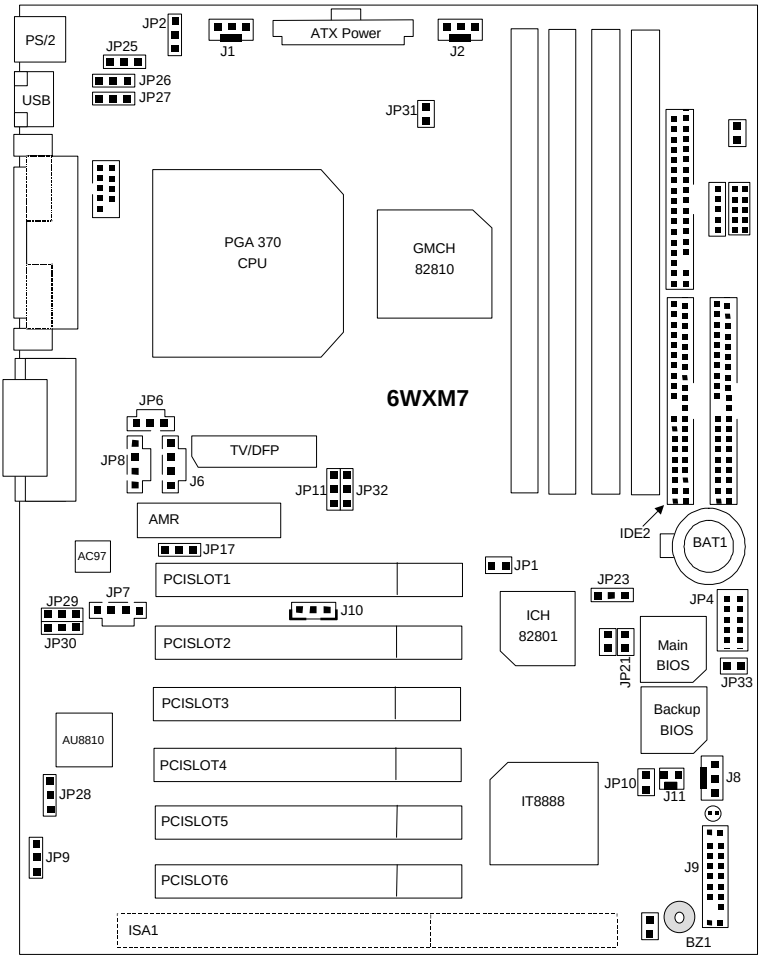
Summary of Features

Form factor	• 30.5 cm x 19.1 cm ATX SIZE form factor, 4 layers PCB.
Motherboard	• 6WXM7 series includes 6WXM7,6WXM7-1,6WXM7-E
CPU	• Socket 370 Processor • 128 KB 2nd cache in CPU(Depend on CPU)
Chipset	Intel® 810 ,consisting of: • 82810E PCI/AGP Controller(PAC) /82810DC100/82810 • 82801AA PCI IDE Xcelerator(PIIX4E)
Clock Generator	• Supports 66 / 100 / 133MHz
Memory	• 4 168-pin DIMM Sockets • Supports PC-100/133 SDRAM 16MB~256MB • Supports only 3.3V SDRAM DIMM
I/O Control	• ITE IT8712
Slots	• 1 AMR • 6 32-bit Master PCI Bus slots • 1 16-bit ISA Bus slots (Optional)
On-Board IDE	• An IDE controller on the Intel® 82801AA PCI chipset provides IDE HDD/ CD-ROM with PIO, Bus Master and Ultra DMA33/ATA66 operation modes • Can connect up to four IDE devices
On-Board Peripherals	• 1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes • 1 Parallel ports supports SPP/EPP/ECP mode • 2 Serial Ports (COMA & COMB) • 2 USB ports(FPUSBx1/BPUSBx1) • 4MB Display cache RAM (For 82810-DC100, 82810E) • 1 IrDA connector for IR/CIR (Optional)
On-Board Sound (Optional)	• Aureal AU8810(Optional) • Line In / Line Out / Mic In / AUX In / CD In / TEL / SPDIF / Game Port
Hardware Monitor (Optional)	• CPU/Power Supply/Chassis Fan Revolution detect • CPU Fan Control • System Voltage Detect • CPU Overheat Warning • Chassis Intrusion Detect • Display Actual Current Voltage

To be continued…

PS/2 Connector	• PS/2® Keyboard interface and PS/2® Mouse interface
BIOS	• Licensed AWARD BIOS, 4M bit FLASH ROM
Additional Features	• Internal/External Modem Wake up • Keyboard Password Wake up • System after AC back • Support Dual BIOS Function (Optional) • Support STR Function
Drivers & Utilities	• Display/Bus Master/Audio/Network Driver • Patch 95/98 Utility • DirectX 6.1 • Intel® LDCM® • Adobe® Acrobat Reader

6WXM7 Series Motherboard Layout



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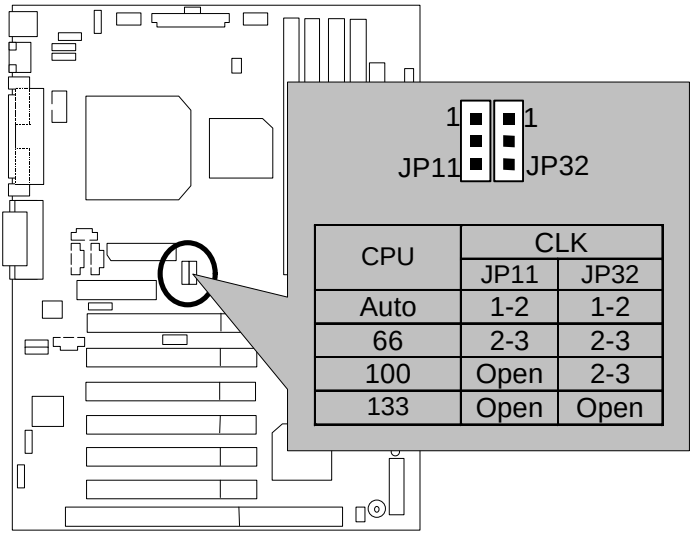
CPU Speed Setup

The system bus frequency can be switched at 66MHz, 100MHz, 133MHz(For Intel 810E)(Optional) and Auto by adjusting JP11/JP32 (See Figure-1). The CPU Frequency is control by BIOS.

The CPU speed must match with the frequency RATIO. It will cause system hanging up if the frequency RATIO is higher than that of CPU.

JP11/JP32 : CPU Speed Setup



CPU	CLK	
	JP11	JP32
Auto	1-2	1-2
66	2-3	2-3
100	Open	2-3
133	Open	Open

Figure 1

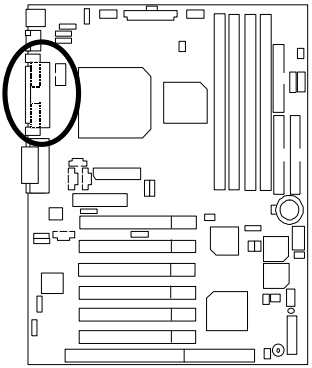
★ **Note : Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals.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

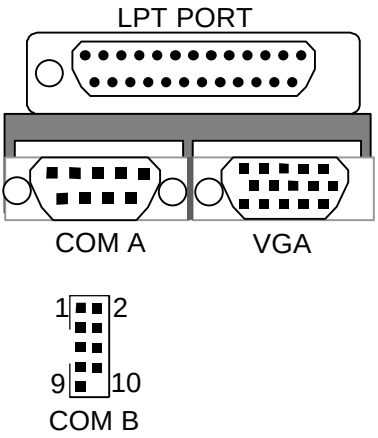
★ **Note : JP32 is only available when the motherboard use 82810E chipset.**

★ **Note : 133MHz only 82810E support.**

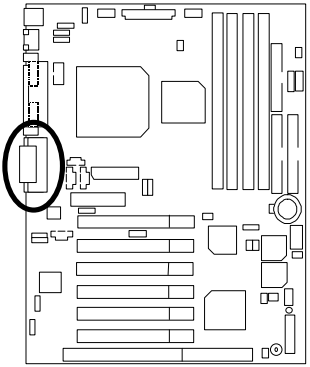
Connectors

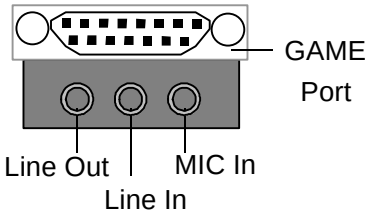
COM A / COM B / VGA / LPT Port



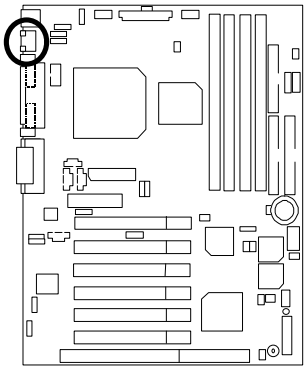


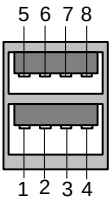
Game & Audio Port





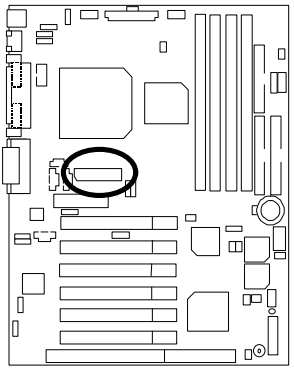
USB Connector

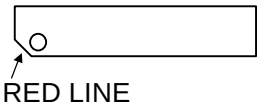




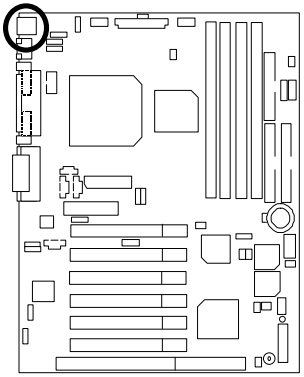
Pin No.	Definition
1	USB V0
2	USB D0-
3	USB D0+
4	GND
5	USB V1
6	USB D1-
7	USB D1+
8	GND

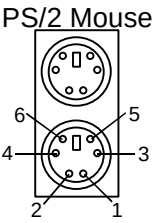
TV/DFP : TV-Out / Digital Flat Panel Daughter card connector.





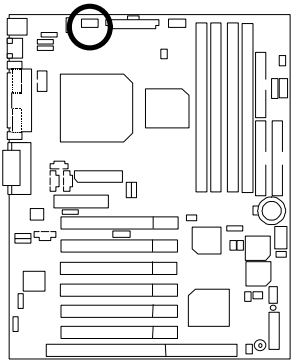
PS/2 Keyboard & PS/2 Mouse Connector





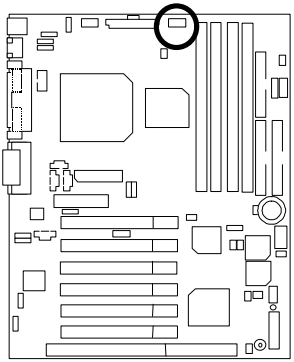
PS/2 Mouse/ Keyboard	
Pin No.	Definition
1	Data
2	NC
3	GND
4	VCC(+5V)
5	Clock
6	NC

CPU Cooling FAN Power Connector



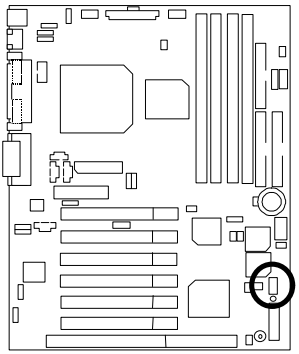
Pin No.	Definition
1	Control
2	+12V
3	SENSE

Power Cooling FAN Power Connector



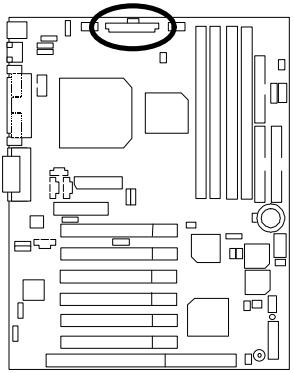
Pin No.	Definition
1	Control
2	+12V
3	SENSE

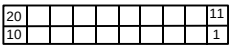
System Cooling FAN Power Connector



Pin No.	Definition
1	Control
2	+12V
3	SENSE

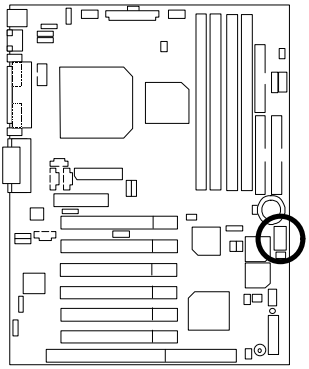
ATX Power

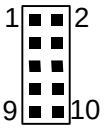




Pin No.	Definition
3,5,7,13, 15-17	GND
1,2,11	3.3V
4,6,19,20	VCC
10	+12V
12	-12V
18	-5V
8	Power Good
9	5V SB stand by+5V
14	PS-ON(Soft On/Off)

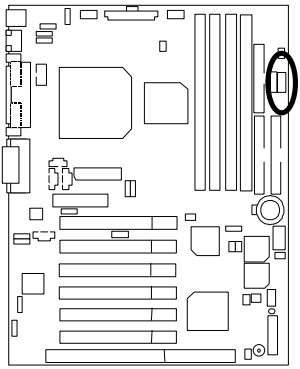
Front Panel USB Port

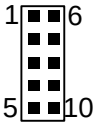




Pin No.	Definition
1,4,5,10	NC
2	+5V
3,7,9	GND
6	USBP0+
8	USBP0-

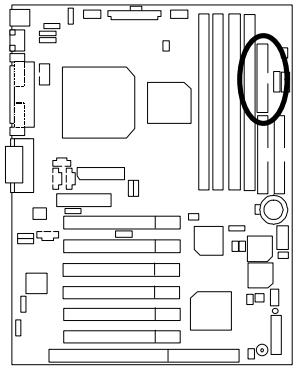
IR/CIR



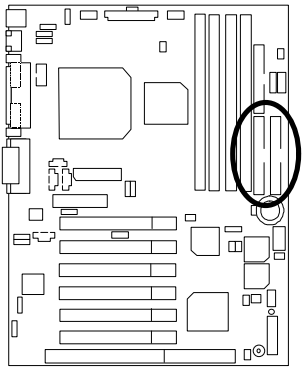


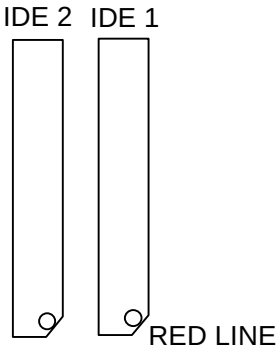
Pin No.	Definition
1	VCC
2,6,9	NC
3	IRRX
4	GND
5	IRTX
7	CIRRX
8	KBVcc
10	CIRTX

Floppy Port

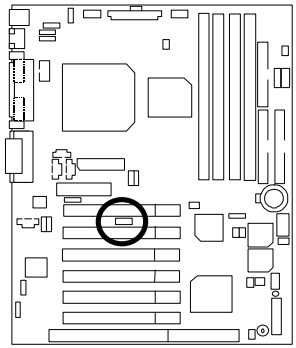


IDE1(Primary) , IDE2 (Secondary) Port



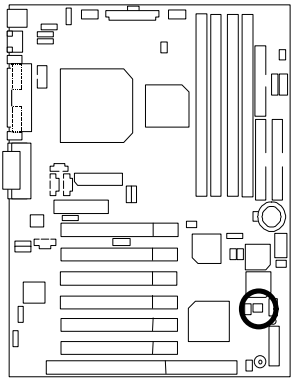


J10 : Wake on LAN



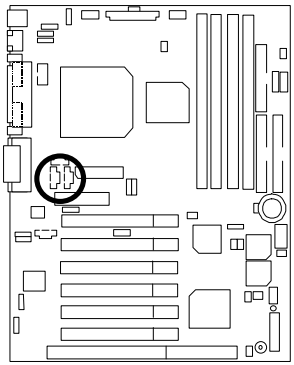
Pin No.	Definition
1	+5V SB
2	GND
3	Signal

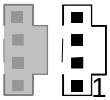
J11 : Ring Power On (Internal Modem Card Wake Up)



Pin No.	Definition
1	Signal
2	GND

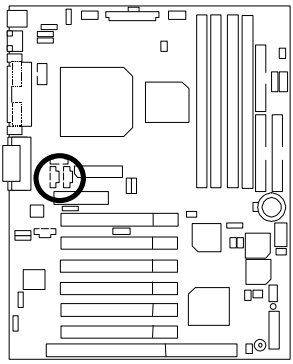
J6 : CD Audio Line In (Optional)

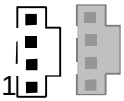




Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

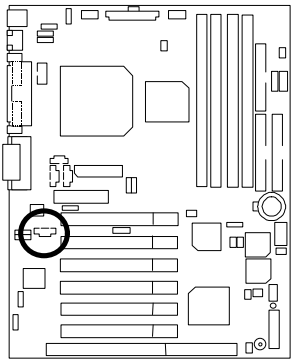
JP8 : AUX IN (Optional)





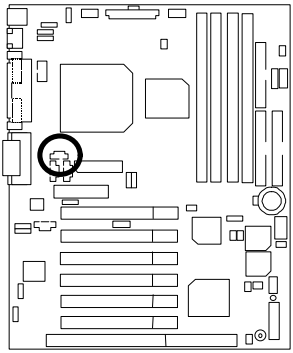
Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX-R

JP7 : TEL : The connector is for Modem with internal voice connector (Optional)



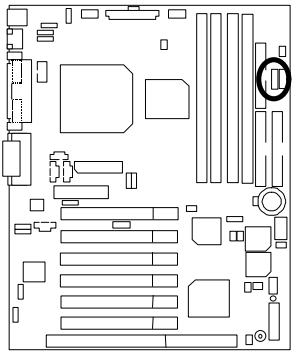
Pin No.	Definition
1	Signal-In
2	GND
3	GND
4	Signal-Out

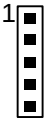
JP6 : SPDIF(The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dobly digital decoder.)(Optional)



Pin No.	Definition
1	VCC
2	SPD OUT
3	GND

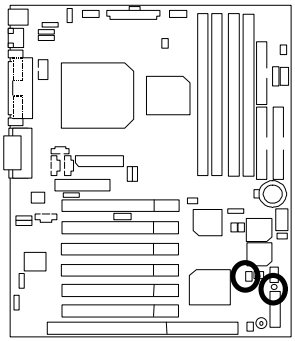
J13 : SMBUS





Pin No.	Definition
1	SMB CLK
2	NC
3	GND
4	SMB DATA
5	+5V

JP10 : STR LED Connector & DIMM LED

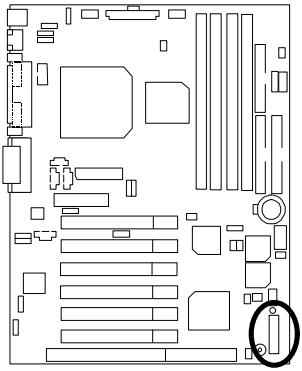


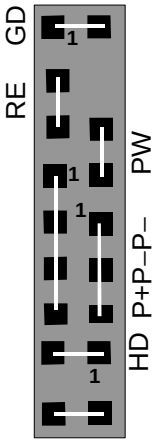
STR LED Connector External.

RAM Indicator LED1

Panel and Jumper Definition

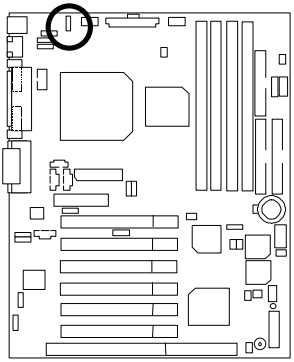
J9 : For 2X11 Pins Jumper





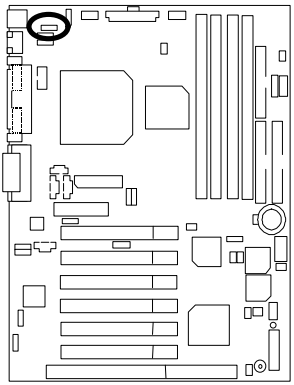
GN (Green Switch)	Open: Normal Operation Close: Entering Green Mode
GD (Green LED)	Pin 1: LED anode(+) Pin 2: LED cathode(–)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(–)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(–)
RE (Reset Switch)	Open: Normal Operation Close: Reset Hardware System
P+P–P–(Power LED)	Pin 1: LED anode(+) Pin 2: LED cathode(–) Pin 3: LED cathode(–)
PW (Soft Power Connector)	Open: Normal Operation Close: Power On/Off

JP2 : Keyboard Power On



Pin No.	Definition
1-2 close	Keyboard Power on Enabled
2-3 close	Keyboard Power on Disabled (Default)

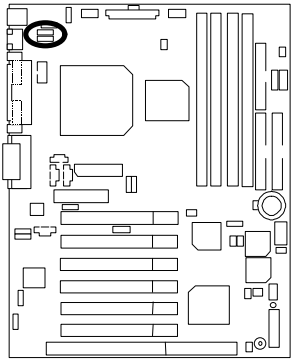
JP25 : USB Device Wake up Selection

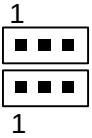


Pin No.	Definition
1-2 close	Disabled USB Device Wake up(Default)
2-3 close	Enabled USB Device Wake up

(If you want to use "**USB KB Wake from S3**" function, you have to set the BIOS setting "USB KB Wake from S3" enabled, and the jumper "**JP25**" enabled).
*(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 "**USB KB Wake from S3**". Remember to save the setting by pressing "ESC" and choose the "SAVE & EXIT SETUP" option.)

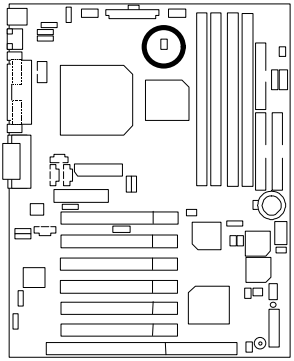
JP26/JP27 : USB Port Selection





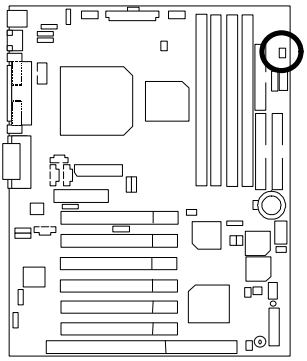
	Front Panel USB Enable	Back Panel USB Enable
	FPUSB	BPUSB
JP26	1-2close	2-3close
JP27	1-2close	2-3close

JP31 : Over Voltage CPU Speed Up **(Magic Booster)**
(When JP31 set “Open”, CPU Voltage is rising 10%)



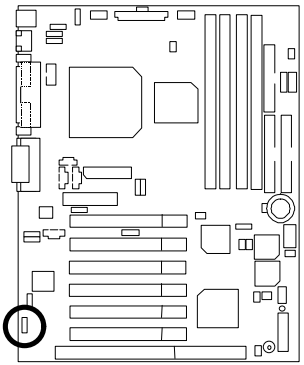
Pin No.	Definition
Open	Over Voltage
Close	Normal

JP18 : Case Open



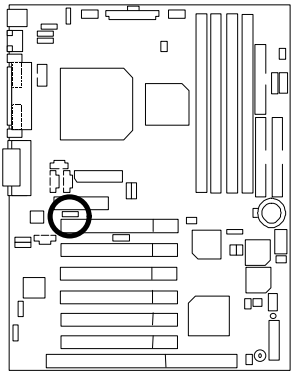
Pin No.	Definition
1	Signal
2	GND

JP9 : Clear CMOS Function



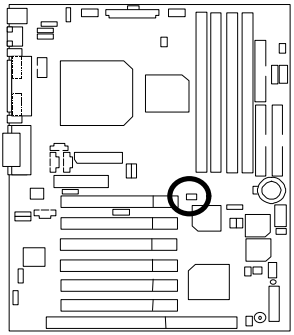
Pin No.	Definition
1-2 close	Clear CMOS
2-3 close	Normal (Default)

JP17 : AMR Selection (Optional)



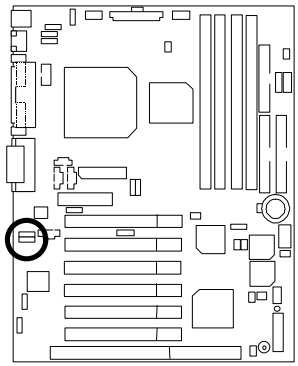
Pin No.	Definition
1-2close	AMR Secondary
2-3close	AC'97 Disabled (Disabled Onboard CODEC)

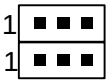
JP1 : STR Function Selection



Pin No.	Definition
Close	STR Enabled
Open	STR Disabled(Default)

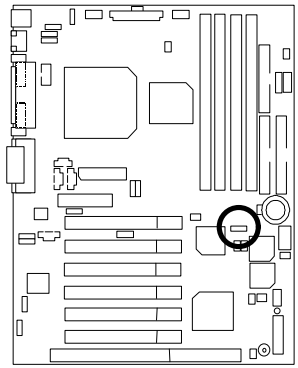
JP29 & JP30 : Quad Speaker (Optional)





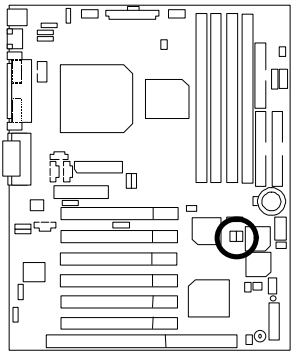
Pin No.	Definition
1-2 close	Normal Sound
2-3 close	Quad Speaker

JP23 : Safe mode/Recovery/Normal



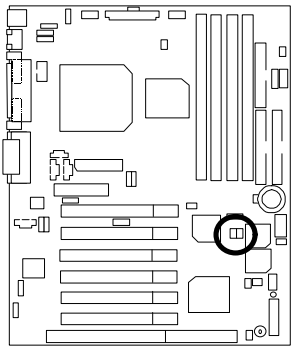
Pin No.	Definition
1-2close	Normal(Default)
2-3close	Safe mode
1-2-3open	Recovery

JP19 : Timeout Reboot Function



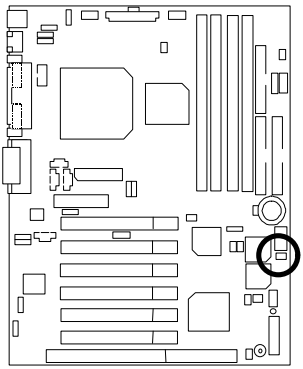
Pin No.	Definition
Open	Timeout Reboot
Close	No Reboot on Timeout (Default)

JP21 : Top Block Lock



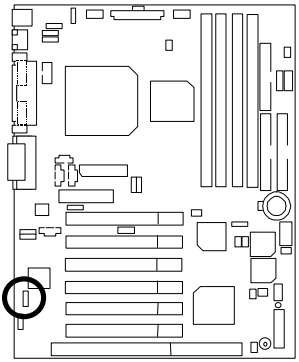
Pin No.	Definition
Open	TBL Lock
Close	Unlock (Default)

JP33 : FWH Write Protection



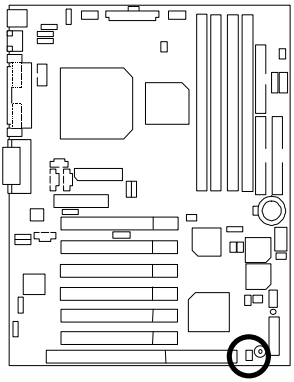
Pin No.	Definition
Close	Write Protect
Open	Normal (Default)

JP28 : Onboard Sound Function Selection (Optional)



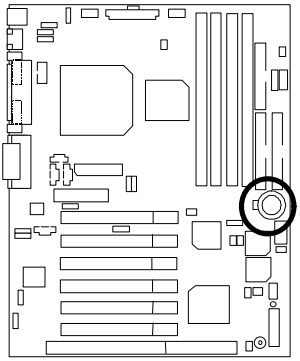
Pin No.	Definition
1-2 close	Enabled Onboard Sound (Default)
2-3 close	Disabled Onboard Sound

JP24 : Buzzer Enabled (Optional)



Pin No.	Definition
Open	Internal Buzzer Disabled
Close	Internal Buzzer Enabled (Default)

BAT1 : Battery



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

Performance List

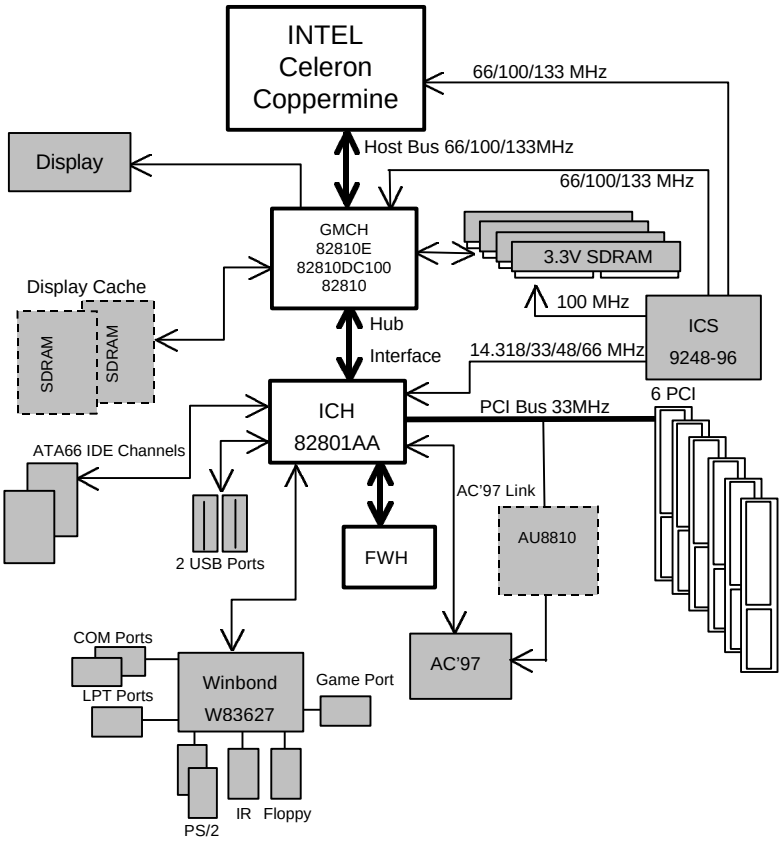
The following performance data list is the testing results of some popular benchmark testing programs.

These data are just referred by users, and there is no responsibility for different testing data values gotten by users. (The different Hardware & Software configuration will result in different benchmark testing results.)

- CPU — Intel® Celeron™ 400/533MHz processor, Intel® Coppermine 600MHz processor
- DRAM — (128x1) MB SDRAM (LGS GM72V66841ET7J)
- CACHE SIZE — 128 KB included in CPU
- DISPLAY — Onboard Intel Corporation 810 Graphics Controller Hub(4MB SDRAM)
- STORAGE — Onboard IDE (Quantum KA13600AT)
- O.S. — Windows NT™ 4.0 SPK5
- DRIVER — Display Driver at 1024 x 768 65536 colors 75Hz. Intel Ultra ATA Storage Driver V5.0 Engineering Sample , Build 12i (v5.00.0012i)

Processor	Intel® Celeron™ 400(100x4)	Intel® Celeron™ 533(66x8)	Intel® Coppermine 600(100x6)	Intel® Coppermine 600(133x4.5)
Winbench99				
CPU mark 99	29.9	32.7	48.9	49.9
FPU Winmark 99	2150	2860	3230	3230
Business Disk Winmark 99	4550	4840	5320	5330
Hi-End Disk Winmark 99	12600	12500	13400	13900
Business Graphics Winmark 99	132	131	168	185
Hi-End Graphics Winmark 99	300	337	458	470
Winstone99				
Business Winstone99	25.4	25.8	33.8	34.2
Hi-End Winstone99	22.5	23.3	30.7	31.1

Block Diagram



Suspend to RAM Installation

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.

Setup with Windows 98 CD:

A. Insert the Windows 98 CD into your CD-ROM drive, select Start, and then Run.

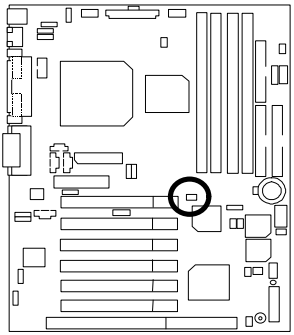
B. Type (without quotes) **"D:\setup /p j"** in the window provided. Hit the enter key or click OK.

C. After setup completes, remove the CD, and reboot your system

(This manual assumes that your CD-ROM device drive letter is D:).

Step 2:

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



Pin No.	Definition
Close	STR Enabled
Open	STR Disabled(Default)

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: S3(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.

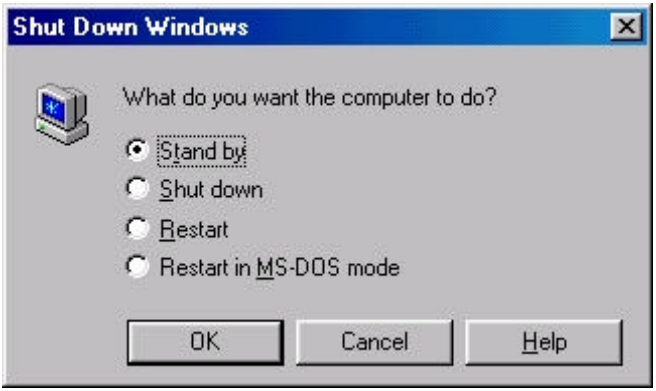
A.3 How to put your system into STR mode?

There are two ways to accomplish this:

1. Choose the “Stand by” item in the “Shut Down Windows” area.

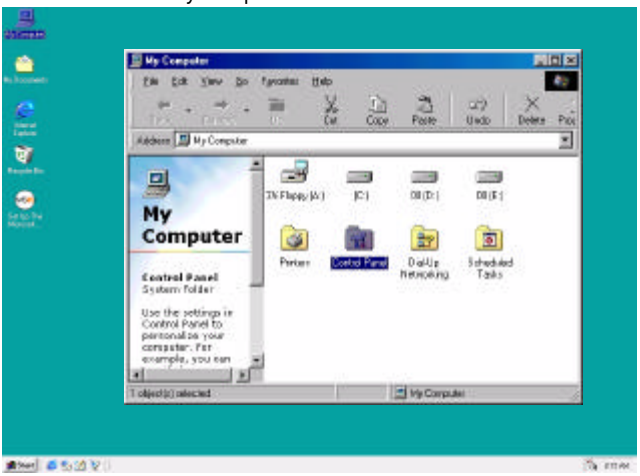
   A. Press the “Start” button and then select “Shut Down”

   B. Choose the “Stand by” item and press “OK”

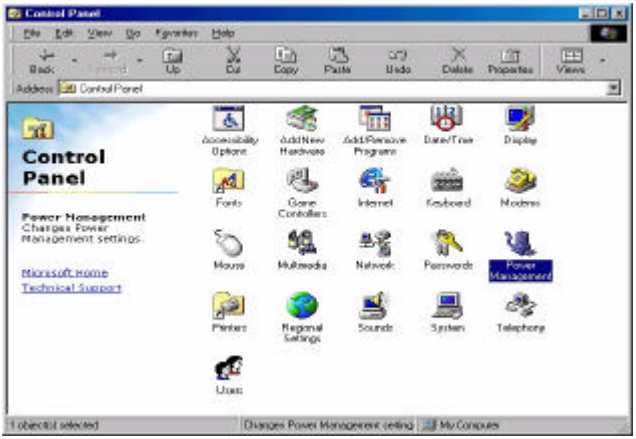


2. Define the system ”power on” button to initiate STR sleep mode:

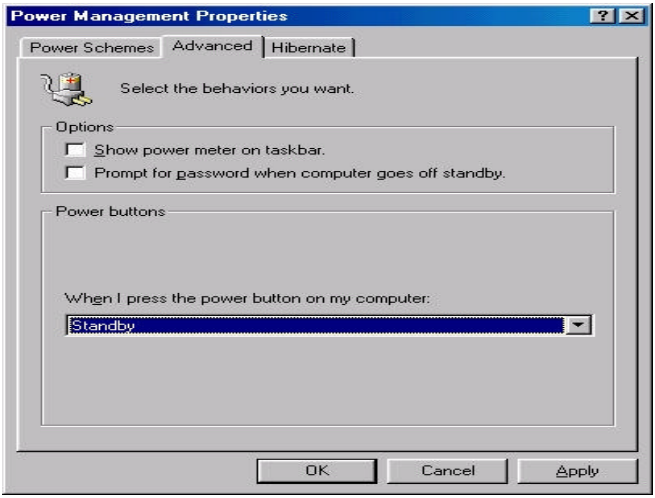
A. Double click “My Computer” and then “Control Panel”



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 seven 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.
7. Use the “USB Device Wake Up” function.

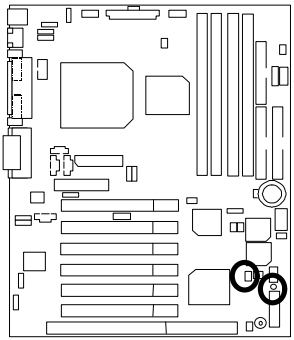
A.5 Notices :

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 LED

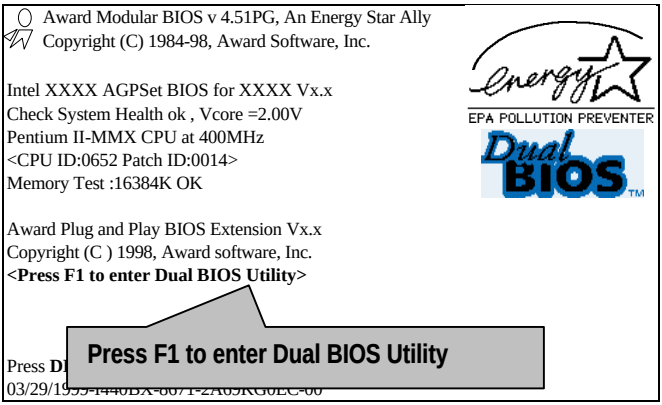
Introduce Dual BIOS (Optional)

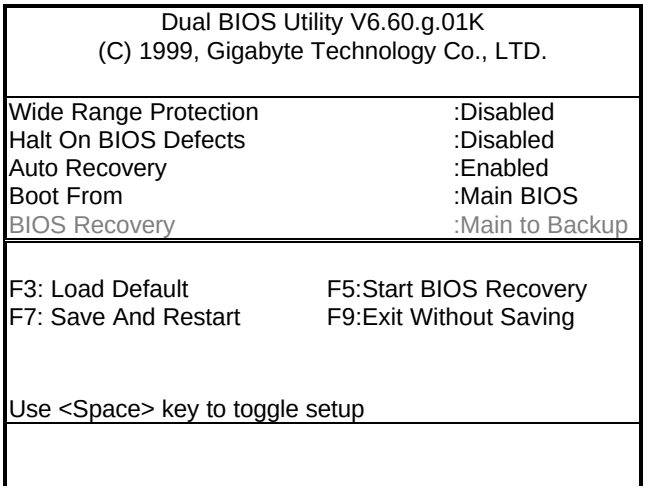
A. What is Dual BIOS Technology?

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





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 Series 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 4 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:

Location	168-pin SDRAM DIMM Modules	Note
DIMM1	Single – Sided	
	Double – Sided	DIMM4 must be empty
DIMM2	Single – Sided	
	Double – Sided	DIMM3 must be empty
DIMM3	Single – Sided	DIMM2 must have single-sided
	Double – Sided	DIMM2 must be empty
DIMM4	Single – Sided	DIMM1 must have single-sided
	Double – Sided	DIMM1 must be empty
Total System Memory (Max 512MB)		

¡ Supports 16 / 32 / 64 / 128 / 256 MB SDRAM DIMM Modules .