IV. 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 JP4 (Closed.)

PIN No.	Function
Open	STR Disable
Close	STR Enable
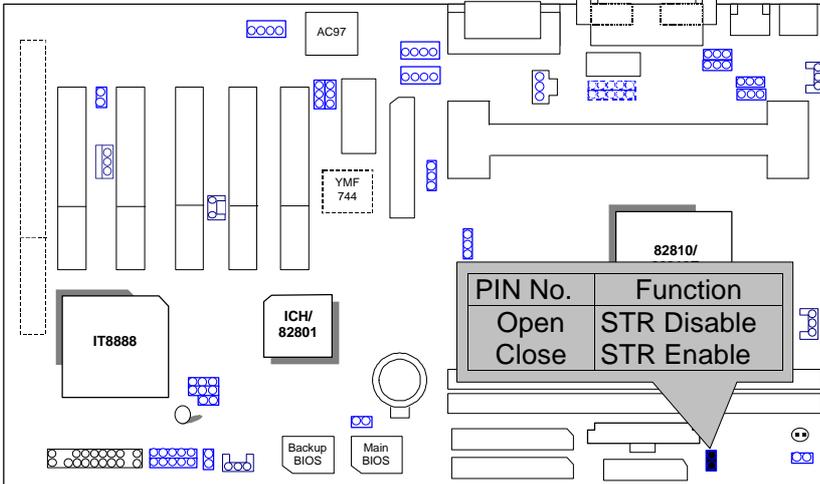
Step 3:

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"

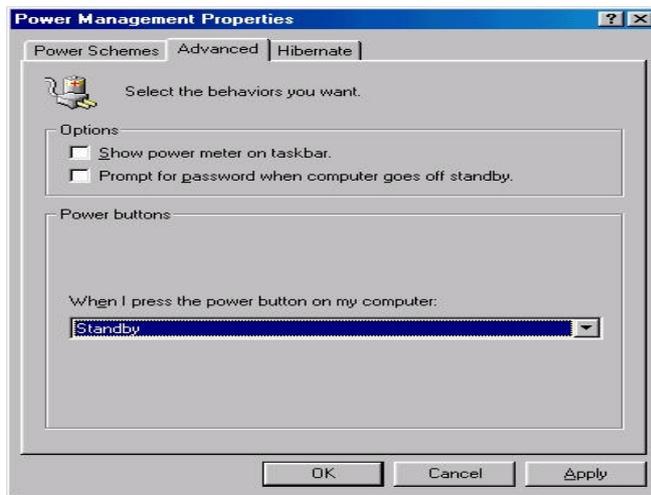2. Define the system "power on" button to initiate STR sleep mode:

   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 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 JP1 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.
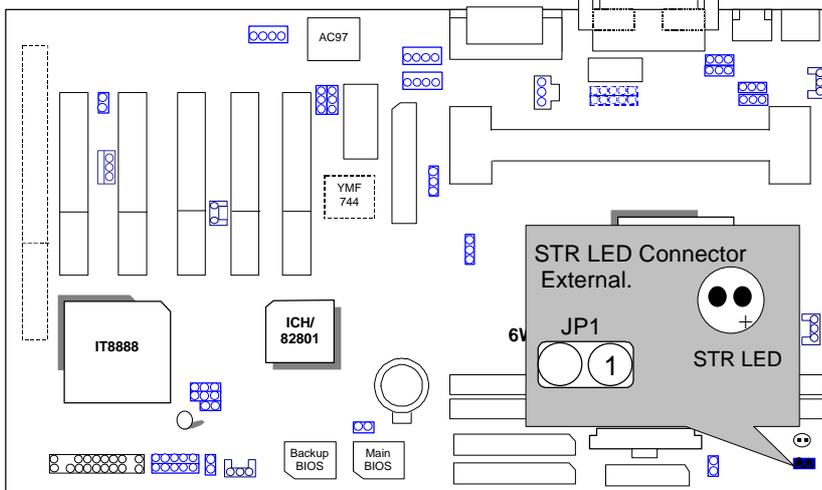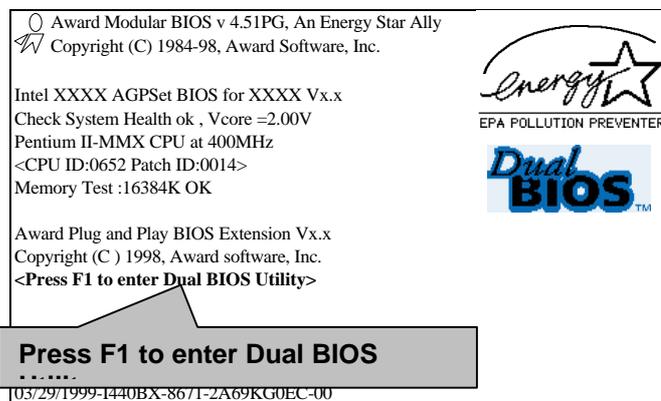
V. Introduce Dual BIOS (Optional)

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

```
  ◯ Award Modular BIOS v 4.51PG, An Energy Star Ally
  ⌁ Copyright (C) 1984-98, Award Software, Inc.

 Intel XXXX AGPSet BIOS for XXXX Vx.x
 Check System Health ok , Vcore =2.00V
 Pentium II-MMX CPU at 400MHz
 <CPU ID:0652 Patch ID:0014>
 Memory Test :16384K OK

 Award Plug and Play BIOS Extension Vx.x
 Copyright (C ) 1998, Award software, Inc.
 <Press F1 to enter Dual BIOS Utility>
```

Press F1 to enter Dual BIOS Utility

03/29/1999-I440BX-8671-2A69KG0EC-00

b. Dual BIOS Utility

```
┌─────────────────────────────────────────────────────┐
│            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                       │
│                                                       │
└─────────────────────────────────────────────────────┘
```

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^{TM} 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-6WXM motherboard. Future GIGABYTE motherboards will also incorporate this innovation.

What' s DualBIOS^{TM}?

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^{TM} technology work?
Answer:
1. DualBIOS^{TM} 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^{TM} 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^{TM} utility, the "Auto Recovery" option will guarantee that if either the main BIOS or backup BIOS is corrupted, the DualBIOS^{TM} technology will use the good BIOS and correct the wrong BIOS automatically.
3. DualBIOS^{TM} provides manual recovery for the BIOS. DualBIOS^{TM} 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^{TM} 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^{TM} technology?
Answer:
1. Every user should have DualBIOS^{TM} 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^{TM} 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^{TM} 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^{TM} 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^{TM} 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^{TM} 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^{TM} 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^{TM} 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.

TABLE OF CONTENTS

1. INTRODUCTION

1.1. PREFACE

Welcome to use the **6WXM** motherboard. It is a Pentium® II / III / Celeron Processor based PC / AT compatible system with PCI / ISA Bus, and has been designed to be the fastest PC / AT system. There are some new features allow you to operate the system with just the performance you want.

This manual also explains how to install the motherboard for operation, and how to set up your CMOS CONFIGURATION with BIOS SETUP program.

1.2. KEY FEATURES

❑ Intel Pentium® II / III / Celeron Processor based PC / AT compatible main board.

❑ Slot 1 supports Pentium® II / III / Celeron processor.

❑ Built-in AC 97-Link software audio .

❑ YAMAHA YMF744 Hardware audio is optional.

❑ INTEL FW82810/82810E chipset, Supports AGP / SDRAM / Ultra DMA/66 IDE / Keyboard and PS/2 Mouse Power On / ACPI features.

❑ Supports 2xDIMMs using 3.3V SDRAM DIMM module.

❑ Supports external Modem Ring-On on COMA & COMB and internal Modem Ring-On.

❑ Supports PC100 SDRAM 16MB~512MB memory on board.

❑ Supports Wake-up on LAN.

❑ 5xPCI Bus slots, 1xISA Bus slots(Optional).

❑ Supports 2 channels Ultra DMA/66 IDE ports for 4 IDE Devices.

❑ Supports 1x Line in, 1x Line Out, 1x Mic in, 1x CD Line in,1x GAME Port 1 x TEL, 1x AUX_IN, 1X SPDIF.

❑ Supports 2xCOM (16550), 1xLPT (EPP / ECP/ SPP), 1x1.44MB Floppy port.

❑ Supports 2 x USB port & PS/2 Mouse/ Keyboard port.

❑ Licensed AWARD BIOS, 4M bits FLASH RAM.

❑ Support Dual BIOS (Optional)

- ❑ 30.3 cm x 19.0 cm ATX SIZE form factor, 4 layers PCB.
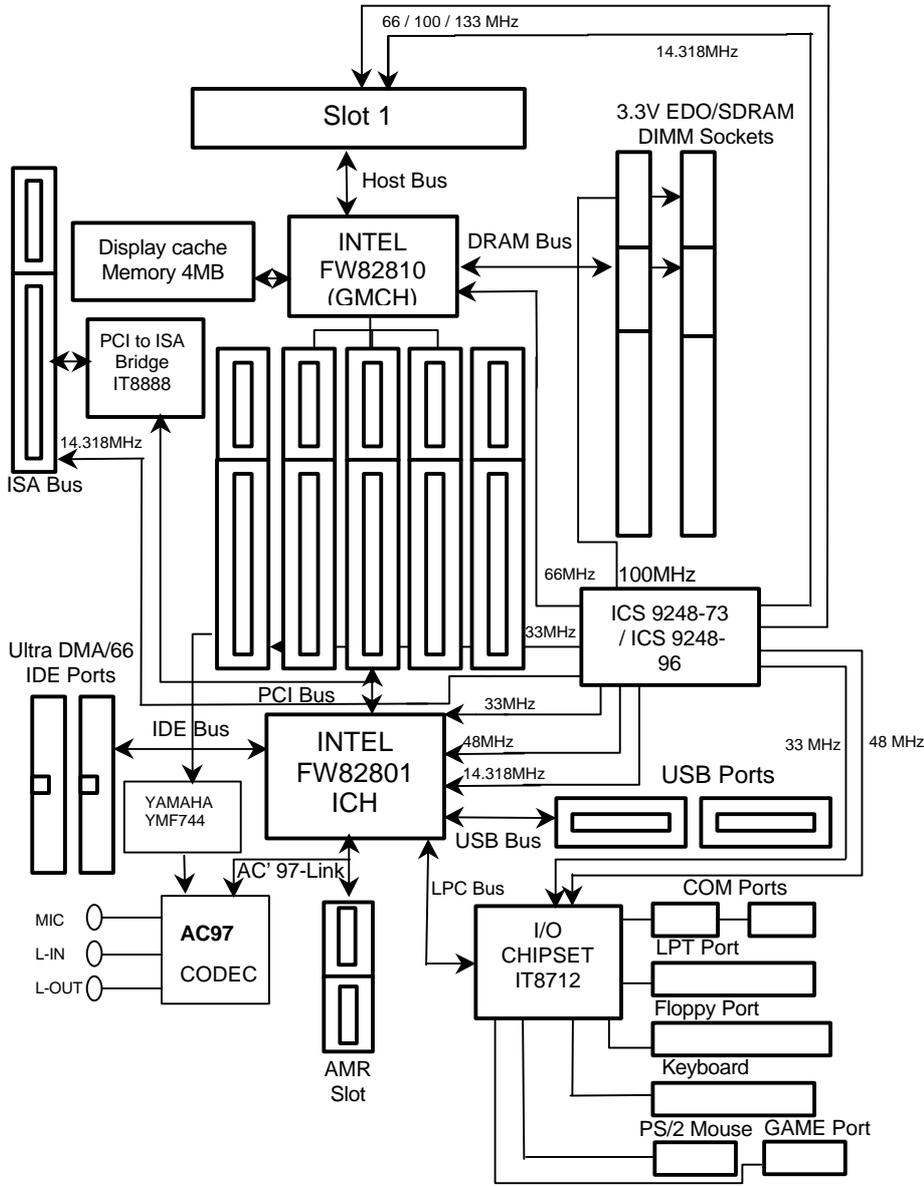
1.3. PERFORMANCE LIST

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® Pentium III 500MHz Processor
- DRAM   (128x 1) MB SDRAM
  (Winbond 902WB W986408BH-8H)
- CACHE SIZE   512 KB included in CPU
- DISPLAY   Onboard i810 chipset
- STORAGE   Onboard IDE (IBM DJNA-371800)
- O.S.   Windows NT™4.0 SPK4
- DRIVER   Display Driver at 1024 x 768 x 16bits colors x 75Hz.

Processor	Intel Pentium® III 500MHz (100x5)
Winbench99	
CPU mark99	36.8
FPU Winmark	2560
Business Graphics	154
Business Disk	3700
Hi-End Disk	6300
Hi-End Graphics	345
Winstone99	
Business	29.9
Hi-End	24.4

1-3

1.4. BLOCK DIAGRAM

66 / 100 / 133 MHz

14.318MHz

Slot 1

3.3V EDO/SDRAM
DIMM Sockets

Host Bus

Display cache
Memory 4MB

INTEL
FW82810
(GMCH)

DRAM Bus

PCI to ISA
Bridge
IT8888

14.318MHz

ISA Bus

66MHz   100MHz

ICS 9248-73
/ ICS 9248-
96

33MHz

Ultra DMA/66
IDE Ports

PCI Bus

33MHz

IDE Bus

INTEL
FW82801
ICH

48MHz

14.318MHz

USB Ports

33 MHz   48 MHz

YAMAHA
YMF744

USB Bus

AC' 97-Link

LPC Bus

COM Ports

MIC

L-IN

L-OUT

AC97

CODEC

AMR
Slot

I/O
CHIPSET
IT8712

LPT Port

Floppy Port

Keyboard

PS/2 Mouse   GAME Port

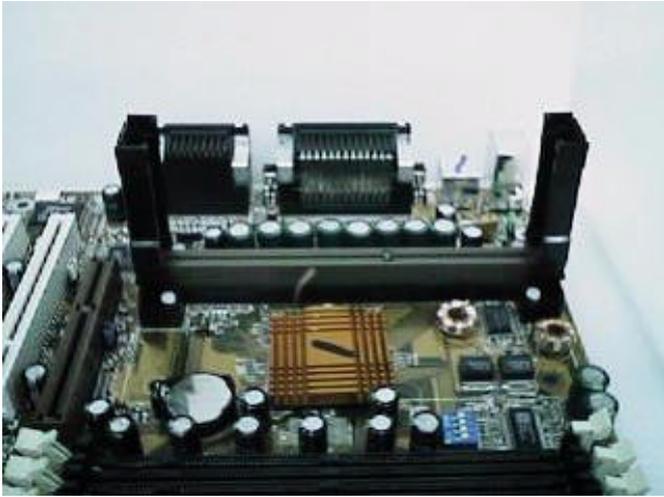## 1.5. INTRODUCE THE Pentium^â II / III Processors

Figure 1: Universal Retention Mechanism & attach Mount

Figure 2:OEM Pentium® II Processor

Figure 3: OEM Pentium® III Processor

1.6 INTRODUCE AMR

The Audio Modem Riser (AMR) is a new port that supports both audio and modem. The main purpose of the AMR port is to provide lower cost and higher levels of integration at all levels of the PC platform.
The backbone of the AMR interface is on AC' 97 compliant AC-Link with support for codes. Motherboard support for an AMR interface are not only capable of achieving the lowest possible cost for basic PC audio and modem, but have also introduced increased motherboard flexibility enabling robust, cost effective scalability.
The AMR is done through software and controlled by the motherboard' s I/O Controller Hub (ICH). There are two types of AMR, one defined as primary and another defined as secondary. If the motherboard with onboard sound YAMAHA 744, the AMR must be used primary.

2. SPECIFICATION

2.1. HARDWARE

- CPU
  - − Pentium® II/III/Celeron processor.
  - − 242 pins 66 / 100 / 133MHz slot1 on board.

- PROTECTION
  - − Speaker Alarm when detect "CPU FAN Failure" or "CPU Overheat".
  - − Automatically slow down CPU speed when "CPU Overheat".
  - − H/W monitor power status (±5V, ±12V, VGTL,5VSB, CPU voltage & CMOS battery voltage).(Optional)

- SPEED
  - − 66/100/133 MHz system speed.
  - − 33 MHz PCI-Bus speed.
  - − 8 MHz AT bus speed.

- DRAM MEMORY
  - − 2 banks 168 pins DIMM module sockets on board.
  - − Use 16 / 32 / 64 / 128 / 256MB DIMM module DRAM.
  - − Supports PC-100 SDRAM 16MB~512MB.

- CACHE MEMORY
  - − 32 KB 1st cache memory included in CPU.
  - − 512KB L2 cache memory included in CPU.
  - − Supports DIB speed mode for L2 Cache.
  - − Supports Suspend To RAM Function.

- I/O BUS SLOTS
  - − 5 33MHz Master PCI-BUS.
  - − 1 8MHz 16 bits ISA BUS (Optional)
  - − 1 24.576MHz AMR bus.

- IDE PORTS
  - − 2 Ultra DMA/66 Bus Master IDE channels on board.(Using IRQ14,15)
  - − Supports Mode 3,4 IDE & ATAPI CD – ROM.

- I/O PORTS
  - − Supports 2 16550 COM ports.
  - − Supports 1 EPP/ECP LPT port.
  - − Supports 1 1.44/2.88 MB Floppy port.
  - − Supports 2 USB ports.
  - − Supports PS/2 Mouse & Keyboard.

- Audio Ports
  - − 1x Line in
  - − 1x Line out
  - − 1x Mic in
  - − 1x Game Port
  - − 1x CD Line in
  - − 1x TEL
  - − 1x AUX_IN
  - − 1x SPDIF

- GREEN FUNCTION
  - − Suspend mode support.
  - − Green switch & ACPI LED support.
  - − IDE & Display power down support.
  - − Monitors all IRQ / DMA / Display / I/O events.

- BIOS
  - − Support **Dual BIOS**.(Optional)
  - − Supports Plug & Play, DMI Function.

- DIMENSION
  - − ATX Form Factor, 4 layers PCB.

2.2. SOFTWARE

- DRIVER
  - − IUCD (Bus Master + Sound Driver + LDCM + Utility)
  - − INTEL 82810 Driver.

- BIOS
  - − Licensed AWARD BIOS.
  - − AT CMOS Setup, BIOS / Chipset Setup, Green Setup, Hard Disk Utility included.

- O.S.
  - − Operation with MS-DOS®, Windows®95, Windows®98, WINDOWS™ NT, OS/2, NOVELL and SCO UNIX.

2.3. ENVIRONMENT

- Ambient Temp. − 0°C to +50°C (Operating).
- Relative Hum. − 0 to +85% (Operating).
- Altitude − 0 to 10,000 feet (Operating).
- Vibration − 0 to 1,000 Hz.

- Electricity   − 4.75 V to 5.25 V. (Max. 20A current at 5V.)

3. HARDWARE INSTALLATION

3.1. UNPACKING

The main board package should contain the following:

- The **6WXM** main board.

- USER'S MANUAL for main board.

- Cable set for IDE, Floppy devices, COM Ports.(COMB Cable-optional)

- CD for main board Utility. [IUCD (Bus Master + Sound Driver + LDCM + Utility), INTEL 82810/82810E Driver.]

The main board contains sensitive electric components, which can be easily damaged by static electricity, so the main board should be left in its original packing until it is installed.

Unpacking and installation should be done on a grounded anti-static mat. The operator should be wearing an anti static wristband, grounded at the same point as the anti-static mat.

Inspect the main board carton for obvious damage. Shipping and handling may cause damage to your board. Be sure there are no shipping and handling damages on the board before proceeding.

After opening the main board carton, extract the system board and place it only on a grounded anti-static surface component side up. Again inspect the board for damage. Press down on all of the socket IC's to make sure that they are properly seated. Do this only on with the board placed on a firm flat surface.

🎇**DO NOT APPLY POWER TO THE BOARD IF IT HAS BEEN DAMAGED.**

3.2. MAIN BOARD LAYOUT

◁Figure 3.1▷

3.3. QUICK REFERENCE FOR JUMPERS & CONNECTORS

♦ I/O Ports Connector	
USB	USB port.
IDE1	For Primary IDE port.
IDE2	For Secondary IDE port.
PS/2	For PS/2 Mouse & Keyboard port.
FLOPPY	For Floppy port.
COMB	For Serial port2 (COM B){Support Modem Ring On}.
COMA	For Serial port1 (COM A){Support Modem Ring On}.
LPT	For LPT port.
VGA	For VGA Port.
ATX Power	For ATX Power Connector.
GAME & Audio	For GAME & MIC LINE-IN, LINE-OUT,TEL Port

♦ Slot 1
For Pentium® II / III / Celeron Processor installed

♦ IR : INFRARED Connector (IR / CIR)	
Pin No.	Function
1	VCC
2	NC
3	IRRX
4	GND
5	IRTX
6	NC
7	CIRRX
8	VCC
9	NC
10	CIRTX

♦ CPU FAN : CPU cooling FAN Power Connector	
Pin No.	Function
1	GND.
2	+12V
3	SENSE

♦ PWR FAN: Power FAN Connector	
Pin No.	Function
1	GND.
2	+12V
3	SENSE

♦ SYS FAN: System FAN Connector	
Pin No.	Function
1	GND.
2	+12V
3	SENSE

♦ JP14:Buzzer Enable (Optional)	
Pin No.	Function
Open	Internal Buzzer Disable
Close	Internal Buzzer Enable

♦ J9 RING PWR ON :Internal Modem Card Ring PWR On	
Pin No.	Function
1	Signal
2	GND

♦ JP3 : Keyboard Power On Selection	
Pin No.	Function
1-2 Close	Enabled Keyboard power on.
2-3 Close	Disabled Keyboard power on(Default).

♦ JP25 : USB Wake Up Function	
Pin No.	Function
1-2 Close	Disable USB Wake Up (Default)
2-3 Close	Enable USB Wake Up

♦ JP13 : CLEAR CMOS	
Pin No.	Function
1-2 Close	Clear CMOS
2-3 Close	Normal operation (Default).

♦ JP12/JP27 :USB Port Selection	
Pin No.	Function
1-2 Close	JP12/JP27 Front Panel USB Enable
2-3 Close	JP12/JP27 Back Panel USB Enable

♦ J8: CD Audio Line in	
Pin No.	Function
1	Left
2	GND
3	GND
4	Right

♦ JP17: AUX_IN	
Pin No.	Function
1	Left
2	GND
3	GND
4	Right

♦ J14:Wake on LAN	
Pin No.	Function
1	5VSB
2	GND
3	Signal

♦ TEL : The connector for Modem with internal voice connector.	
Pin No.	Function
1	Phone-in
2,3	GND
4	Phone-out

♦ JP4:STR Enable	
Pin No.	Function
Open	STR Disable
Close	STR Enable

♦ JP15 : Case Open	
Pin No.	Function
1	Signal
2	GND

♦ JP9: Top Block Lock	
Pin No.	Function
Open	TBL LOCK
Close	TBL Unlock (Default)

♦ JP16 : System Boot Option	
Pin No.	Function
1-2 Close	Normal
2-3 Close	Safe mode (Frequency ratio always set to x3)
1-2-3 Open	Recovery

♦ JP7 : Onboard H/W Audio Function	
Pin No.	Function
1-2 Close	Disable H/W Audio
2-3 Close	Enable H/W Audio (Default)

♦ JP10 : Front Panel USB Port	
Pin No.	Function
1,4,5,10	NC
2	+5V
3,7,9	GND
6	USBP0+
8	USBP0-

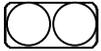| ♦ JP11 :Timeout Reboot Function	
Pin No.	Function
Open	Timeout Reboot
Close	No Reboot on Timeout

J13 : For 2X11 PINs Jumper
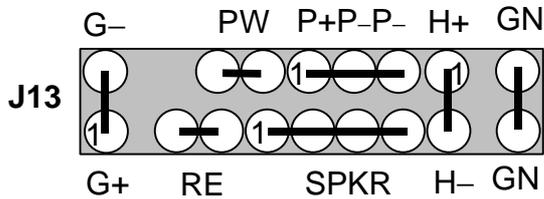
Soft PWR: Soft Power Connector
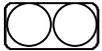
Open: Normal Operation
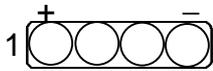Short: Power On/Off

RES: Reset Switch

Open: Normal Operation
Short: For Hardware Reset System

P+P- P- : Power LED

PIN 1 : LED anode (+)
PIN 2 : LED cathode (−)
PIN 3 : LED cathode (−)

SPKR: Speaker Connector

PIN 1 : VCC (+)
PIN 2 : NC
PIN 3 : NC
PIN 4 : Data (−)

HD: IDE Hard Disk Active LED

PIN 1: LED anode (+)
PIN 2: LED cathode (-)

GN: Green Function Switch

Open : Normal operation
Short : Entering Green Mode

GD: Green LED

PIN 1 : LED anode (+)
PIN 2 : LED cathode (-)

3.4. DRAM INSTALLATION

The main board can be installed with 16 / 32 / 64 / 128 / 256 MB 168 pins
DIMM module DRAM, and the DRAM speed must 100 MHz for SDRAM
when system bus speed is set to 66MHz or 100MHz, the DRAM memory
system on main board consists of bank 0 and bank 1.

Since 168 pins DIMM module is 64 bits width, therefore 1 piece of DIMM
module may match a 64 bits system. The total memory size is 16 MB ~
512MB SDRAM . The DRAM installation position refer to Figure 3.1, and
notice the Pin 1 of DIMM module must match with the Pin 1 of DIMM socket.
Insert the DIMM module into the DIMM socket at Vertical angle. If there is a
wrong direction of Pin 1, the SDRAM DIMM module could not be inserted
into socket completely.

3.5. CPU SPEED SETUP

The system bus frequency can be switched between 66, 100 MHz and 133MHz by adjusting JP6 & JP28 (See Figure-1). The CPU Frequency is control by BIOS.
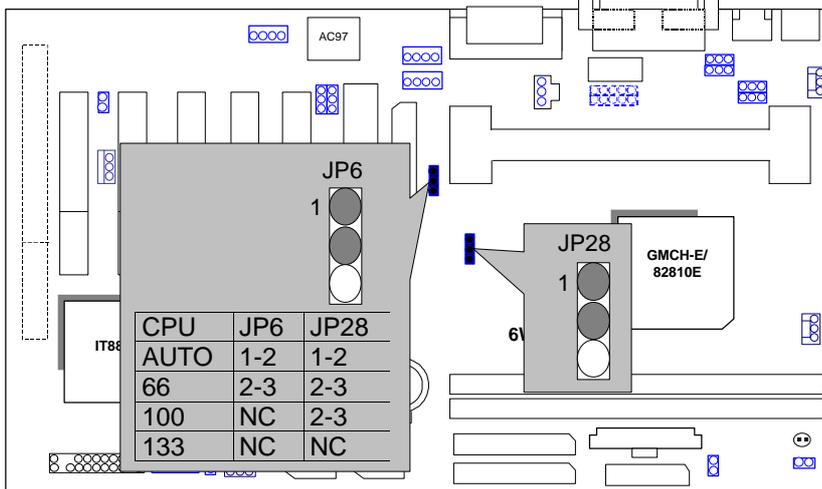
JP6 / JP28: System Bus Speed

CPU	JP6	JP28
AUTO	1-2	1-2
66	2-3	2-3
100	NC	2-3
133	NC	NC

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.**

3.6. CMOS RTC & ISA CFG CMOS RAM

There're RTC & CMOS RAM on board; they have a power supply from external battery to keep the DATA inviolate & effective. The RTC is a REAL-TIME CLOCK device, which provides the DATE & TIME to system. The CMOS RAM is used for keeping the information of system configuration, so the system can automatically boot OS every time. Since the lifetime of

internal battery is 5 years, the user can change a new Battery to replace old one after it cannot work.

🎗 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.

3.7. SPEAKER CONNECTOR INSTALLATION

There is a speaker in AT system for sound purpose. The 4 - Pins connector **SPKR** is used to connect speaker.

3.8. HARDWARE RESET SWITCH CONNECTOR INSTALLATION

The RESET switch on panel provides users with HARDWARE RESET function. The system will do a cold start after the RESET switch is pushed and released by user. The RESET switch is a 2 PIN connector and should be installed to **RST** on main board.

3.9. POWER LED CONNECTOR INSTALLATION

System has power LED lamp on the panel of chassis. The power LED will light on off or flash to indicate which step on the system. The connector should be connected to **P+P-P-** of main board in a correct direction.

3.10. IDE & ATAPI DEVICE INSTALLATION

There are two-Enhanced PCI IDE ports (**IDE1, IDE2**) on board, which following ATAPI standard SPEC. Each IDE port can connected to two ATAPI devices (IDE Hard Disk, CD-ROM or Tape Driver), so total four ATAPI devices can exist in a system. The **HD** is the active LED port for ATAPI devices.

3.11. PERIPHERAL DEVICE INSTALLATION

After the I/O device installation and jumpers setup, the main board can be mounted into the chassis and fixed by screw. To complete the main board installation, the peripheral device could be installed now. The basic system needs a display interface card. If the PCI - Bus device is to be installed in the system, any one of three PCI - Bus slots can be used.

3.12. KEYBOARD & PS/2 MOUSE INSTALLATION

The main board supports PS/2 Mouse. The BIOS will auto detect whether the PS/2 Mouse is installed or not & assign IRQ12 for PS/2 Mouse port if it is installed. After installing the peripheral device, the user should check

everything again, and ready power-on the system.