

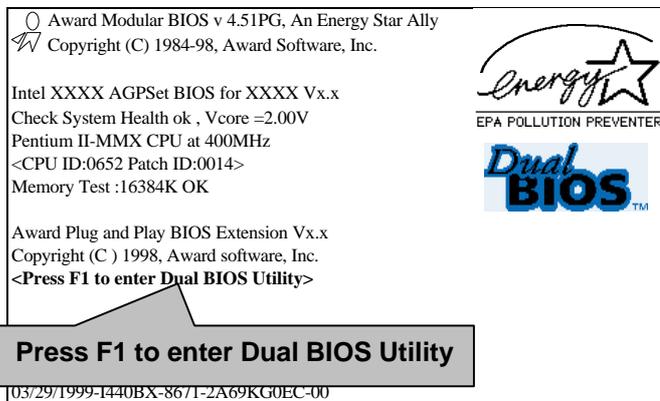
## V. Introduce Dual BIOS

### 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

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, update DMI failure 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 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-BX2000 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.

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## 1. INTRODUCTION

### 1.1. PREFACE

Welcome to use the **6GXDW** motherboard. It is a Dual Pentium®II / III XEON SLOT2 Processor based PC / AT compatible system with AGP / PCI / SCSI / 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 XEON SLOT2 Processor based PC / AT compatible mainboard.
- ❑ Supports Pentium®II / III XEON SLOT2 processor running at 400-650 MHz.
- ❑ Intel 440GX chipset, Supports AGP / SDRAM / Ultra DMA/33 IDE / Wake on LAN / Keyboard and PS/2 Mouse Power On/ 3 steps ACPI LED features.
- ❑ Supports Intel LDCM® Network Manageability.
- ❑ Supports 4xDIMMs using 3.3V SDRAM DIMM module.
- ❑ Supports 16MB - 2GB SDRAM memory on board.
- ❑ Supports ECC or Non-ECC type DRAM module.
- ❑ 1xAGP slot, 6xPCI Bus slots, 1xISA Bus slot.
- ❑ Supports 2 channels Ultra DMA/33 IDE ports for 4 IDE Devices.
- ❑ Supports 1x SCSI, Ultra 2 Wide SCSI x 3.
- ❑ Supports 2xCOM (16550), 1xLPT (EPP / ECP), 1x Floppy port.
- ❑ Supports 2xUSB ports, 1xPS/2 Mouse, 1xPS/2 Keyboard.
- ❑ Licensed AWARD BIOS, 2M bits FLASH RAM.
- ❑ 30.5 cm x 33 cm ATX SIZE form factor, 6 layers PCB.

- Support Dual BIOS.

### 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.)

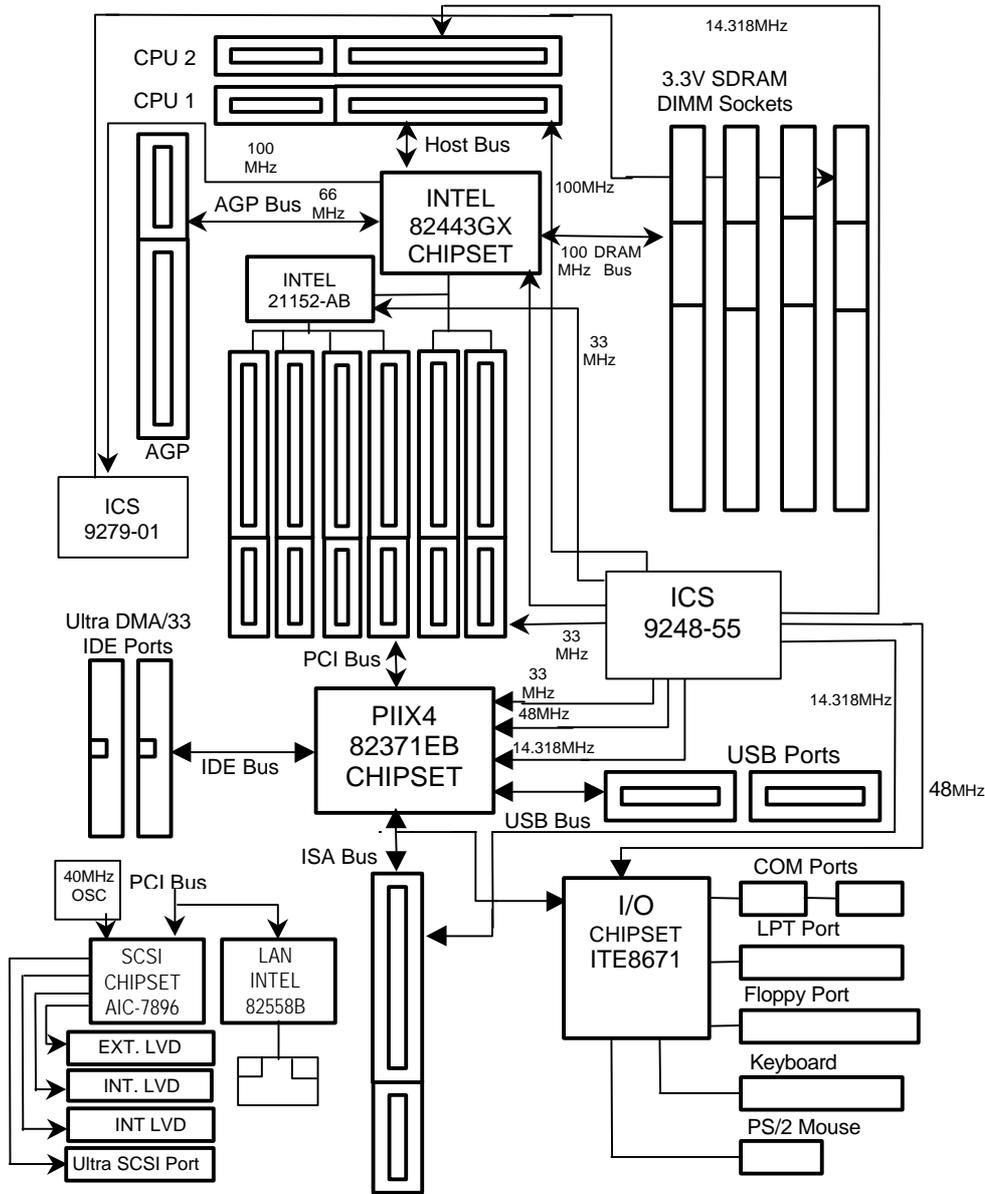
- CPU Pentium® II XEON Slot 2 450MHz
- DRAM (128x2)MB SDRAM (MITSUBISHI M5M4V64S30ATP-8)
- CACHE SIZE 2MB included in CPU
- DISPLAY GA-630 AGP Display Card (16MB SGRAM)
- STORAGE Onboard Ultra-II SCSI (IBM DDRS-39130)
- O.S. Windows NT™ 4.0 (SPK4)
- DRIVER Display Driver at 1024 x 768 x 64 colors x 75Hz.

Adaptec PCI Ultra II SCSI Driver

Processor	Intel Pentium® II XEON SLOT2 450MHz (100*4.5)
<b>Winbench99</b>	
CPU mark32	1270
FPU Winmark	2350
Business Disk	4540
Hi-End Disk	10800
Business Graphics	235
Hi-End Graphics	401
<b>Winstone99</b>	
Business	34.4

Hi-End	31.7
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### 1.4. BLOCK DIAGRAM



**1.5. INTRODUCE THE Pentium® II /III XEON SLOT2 Processor & AGP**



Figure 1: Dual Processor Retention Mechanism



Figure 2: Pentium® II/III XEON SLOT2 Processor



Figure 3:Heatsink / FAN & Heat sink support for Pentium® II / III XEON SLOT2 Processor



Figure 4:Boxed Pentium® II/ III XEON SLOT2 Processor & Heat sink support

## 1.6 What is AGP?

The Accelerated Graphics Port (AGP) is a new port on the Host-To-PCI bridge device that supports an AGP port. The main purpose of the AGP port is to provide fast access to system memory.

The AGP port can be used either as fast PCI port (32-bits at 66MHz vs. 32-bits at 33MHz) or as an AGP port which supports 2x data-rate, a read queue, and side band addressing. When the 2x-data rate is used the port can transmit data at 533MB/sec ( $66.6 \times 2 \times 4$ ). The read-queue can be used to pipeline reads – removing the effects of the reads-latency. Side band addressing can be used to transmit the data address on a separate line in order to speed up the transaction.



## 2. SPECIFICATION

### 2.1. HARDWARE

- CPU
  - Pentium® II / III XEON SLOT2 processor 400 – 650 MHz.
  - 330 pins 100MHz XEON SLOT2 on board.
- PROTECTION
  - Speaker Alarm when detect "CPU FAN Failure" or "CPU Overheat".
  - Automatically slow down CPU speed when "CPU Overheat".
  - Intel LDCM® supported.
  - H/W monitor power status ( $\pm 5V$ ,  $\pm 12V$ , VcoreA, VcoreB voltage & CMOS battery voltage).(Optional)
  - CPU Over Voltage protect.
  - BIOS Fault Tolerance.
- SPEED
  - 100 MHz system speed.
  - 66 MHz AGP bus speed. (2Xmode 133MHz)
  - 33 MHz PCI-Bus speed.
  - 8 MHz AT bus speed.
- DRAM MEMORY
  - 4 banks 168 pins DIMM module sockets on board.
  - Use 16 / 32 / 64 / 128 / 256 / 512 MB DIMM module DRAM.
  - 16MB ~ 2 GB SDRAM.
  - Supports 3.3V SDRAM.
  - Supports ECC or Non-ECC type DRAM.
- CACHE MEMORY
  - 32 KB 1st cache memory included in CPU.
  - 512KB/1MB/2MB 2nd cache in CPU.
  - Supports DIB speed mode for L2 Cache.
- I/O BUS SLOTS
  - 6 33MHz Master / Slave PCI-BUS.
  - 1 8MHz 16 bits ISA BUS.
  - 1 66MHz / 133MHz AGP bus.
- IDE PORTS
  - 2 Ultra DMA/33 Bus Master IDE channels on board.(Using IRQ14,15)

- 
- SCSI PORTS
    - Support Mode 3,4 IDE & ATAPI CD – ROM.
    - Supports 1 Ultra SCSI port.
    - Supports 3 Ultra II SCSI port.
  - I/O PORTS
    - Supports 2 16550 COM ports.
    - Supports 1 EPP/ECP LPT port.
    - Supports 1 Floppy port.
    - Supports 2 USB ports.
    - Supports PS/2 Mouse & Keyboard.
  - GREEN FUNCTION
    - Suspend mode support.
    - IDE & Display power down support.
    - Monitor all IRQ / DMA / Display / I/O events.
  - BIOS
    - 2M bits FLASH RAM.(Dual BIOS 2M DIP FLASH ROM & 2M PLCC FLASH ROM)
    - Supports Plug & Play, DMI Function.
  - DIMENSION
    - ATX Form Factor, 6 layers PCB.

## 2.2. SOFTWARE

- DRIVER
  - Intel LDCM® optional.
  - Health monitor Utility.
  - Bus Master IDE Driver.
  - Adaptec SCSI Driver.
- BIOS
  - Licensed AWARD BIOS.
  - AT CMOS Setup, BIOS / Chipset Setup, Green Setup, Hard Disk Utility included.
  - Monitor Health status.
- 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 – 4.9 V to 5.2 V. (Max. 20A current at 5V.)

### 3. HARDWARE INSTALLATION

#### 3.1. UNPACKING

The mainboard package should contain the following:

- The **6GXDW** mainboard.
- The Retention Mechanism & Attach Mount
- USER'S MANUALS for mainboard & SCSI device.
- Adaptec User's Guide.
- Cable set for IDE, Floppy, SCSI devices.
- Diskettes and CD for Mainboard Utility.(If you want to use LDCM to view dual CPU Health, please run Patch file.)
- External LVD SCSI port adapter.

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

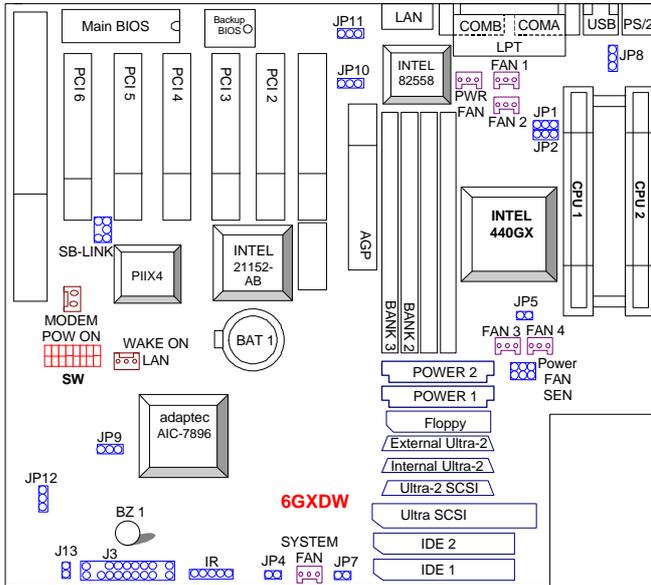
Unpacking and installation should be done on a grounded anti-static mat. The operator should be wearing an anti static wristband, grounded at the same point as the anti-static mat.

Inspect the mainboard 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 mainboard 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. MAINBOARD LAYOUT



<Figure 3.1>

### 3.3. QUICK REFERENCE FOR JUMPERS & CONNECTORS

◆ I/O Ports Connector	
USB	USB port.
External Ultra 2	External Ultra 2 Port.
Internal Ultra 2	Internal Ultra 2 Port.
Ultra 2 SCSI	Ultra 2 SCSI Port.
Ultra SCSI	Ultra SCSI Port.
IDE1	For Primary IDE port.
IDE2	For Secondary IDE port.
PS/2	For PS/2 Keyboard / Mouse port.
Floppy	For Floppy port
COM B	For Serial port2 (COM B).
COM A	For Serial port1 (COM A).
LPT	For LPT port.
Power 1/ 2	For ATX Power connector.
LAN	For LAN Connector.

◆ CPU 1/ CPU 2	
For Pentium® II / III XEON SLOT 2 processor installed	

◆ JP4 : System After Ac Back	
Pin No.	Function
Open	Soft Off(Default)
Short	Full On

◆ IR : INFRARED Connector (IR) --(Optional)	
Pin No.	Function
1	IR Data Output
2	GND
3	IR Data Input
4	FIR Data Input
5	POWER (+)

◆ CPU FAN1/FAN2/ FAN3/FAN4:CPU cooling FAN Power Connector	
Pin No.	Function
1	Fan Ctrl
2	+12V
3	SENSE

◆ System FAN : System FAN Power Connector	
Pin No.	Function
1	Fan Ctrl
2	+12V
3	SENSE

◆ Power FAN : Power FAN Power Connector	
Pin No.	Function
1	Fan Ctrl
2	+12V
3	SENSE

◆ JP8 : Keyboard Power On Selection	
Pin No.	Function
1-2 short	Enabled Keyboard power on.
2-3 short	Disabled Keyboard power on.(Disabled)

◆ J4 : Wake on LAN	
Pin No.	Function
1	+5V SB
2	GND
3	Signal

◆ SB-LINK : For PCI Audio / Sound Card use only	
Pin No.	Function
1	Signal
2	GND
3	NC
4	Signal
5	GND
6	Signal

◆ JP11:Wake On LAN Function	
Pin No.	Function
1-2 short	Wake On LAN Enable
2-3 short	Wake On LAN Disable(Default)

◆ JP10 : LAN Function	
Pin No.	Function
1-2 short	LAN Enable.(Default)
2-3 short	LAN Disable.

◆ JP5 :Spread Spectrum Function	
Pin No.	Function
On	Down Spread(Default)
Off	Center Spread

◆ JP12 : SCSI LED Function	
Pin No.	Function
1-2 short	SCSI LED Enable.(Default)
2-3 short	SCSI LED Disable.

◆ JP7 : CASE OPEN	
Pin No.	Function
1	Signal
2	GND

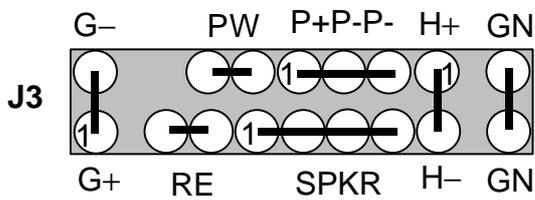
◆ JP9 : Onboard SCSI Function	
Pin No.	Function
1-2 short	Onboard SCSI Enable.(Default)
2-3 short	Onboard SCSI Disable.

◆ J2 : RING PWR ON Function	
Pin No.	Function
1	Signal
2	GND

◆ Power FAN Sense Connector	
Pin No.	Function
1	Fan Monitor
2	Fan Control
3	NC
4	NC
5	NC
6	Reserved

◆ J13 : Internal Buzzer	
Pin No.	Function
Open	Internal Buzzer Disabled.
Close	Internal Buzzer Enabled.

**J3 : 2\*11 PIN Jumper**

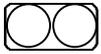


**PW: Soft Power Connector**



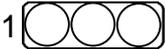
Open: Normal Operation  
 Short: Power On/Off

**RE: Reset Switch**



Open: Normal Operation  
Short: For Hardware Reset System

**P+P- P- : Power LED**



PIN 1 : anode (+)  
PIN 2 : cathode (-)  
PIN 3 : cathode (-)

**SPKR : Speaker Connector**



PIN 1 : VCC  
PIN 2 : NC  
PIN 3 : NC  
PIN 4 : Data

**H+H- : IDE Hard Disk Active LED**



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

**GN: Green Function Switch**



Open : Normal operation  
Short : Entering Green Mode

**G- G+ : Green LED**



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

**3.4. DRAM INSTALLATION**

The mainboard can be installed with 16 / 32 / 64 / 128 / 256 / 512 MB 168 pins DIMM module DRAM. The DRAM memory system on mainboard consists of bank 0, 1, 2 & bank 3.

Since 168 pins DIMM module is 64 bits width, using 1 PCS which can match a 64 bits system. The total memory size is 16MB ~ 2 GB 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 DRAM DIMM module into the DIMM socket at Vertical angle. If there is a wrong direction of Pin 1, the DRAM DIMM module couldn't be inserted into socket completely.

### 3.5. CPU SPEED SETUP

The system bus speed can be set to 100MHz. The user can change the DIP SWITCH (**SW1**) selection to set up the CPU speed for different processors. The CPU speed must match with the frequency RATIO and Front Side Bus (FSB) speed. It will cause system hanging up if the frequency RATIO and FSB Speed do not match with the CPU.

XEON CPU	SLOT2	1	2	3	4	5	6	7	8
400 / 100 Mhz		O	O	X	O	X	X	X	X
450 / 100 Mhz		X	O	X	O	X	X	X	X
500 / 100 Mhz		O	X	X	O	X	X	X	X
550 / 100 Mhz		X	X	X	O	X	X	X	X
600 / 100 Mhz		O	O	O	X	X	X	X	X
650 / 100 Mhz		X	O	O	X	X	X	X	X

⚠ **The CPU is a sensitive electric component and it can be easily damaged by static electricity, so users must keep it away from metal surface when the CPU is installed onto main board.**

### 3.6. CMOS RTC & ISA CFG CMOS SRAM

There're RTC & CMOS SRAM 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 SRAM 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.

### 3.7. SPEAKER CONNECTOR INSTALLATION

There is a speaker in AT system for sound purpose. The 4-Pins connector SPK 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 button is pressed 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 case. The power LED will light on/off or flash to indicate which step on the system. The connector should be connected to PWR of main board in correct direction.

### 3.10. IDE & ATAPI DEVICE INSTALLATION

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

### 3.11. SCSI DEVICE INSTALLATION

There are two ULTRA II SCSI channels on-board which both channel A and B have 68-pin Ultra II SCSI ports for Ultra Wide and Ultra II SCSI devices. Channel B has one 50-pin 8bit SCSI port for Ultra SCSI devices. Total of 30 SCSI devices (15 devices per channel) can exist within one system. The termination of the channel A and channel B can be adjusted from the **Integrated Peripherals** of the **CMOS SETUP MENU**. The termination of channel A can be set to "Enabled" or "Disabled". The termination of channel B can be set to "Both", "High Byte", "Low Byte", or "None" for those types of the SCSI devices which being connected to the SCSI ports to ensure proper functionality.

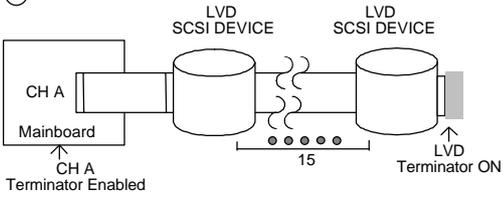
**Terminator ON/OFF rules**

**State 1. SCSI Devices connecting to the Channel A:**

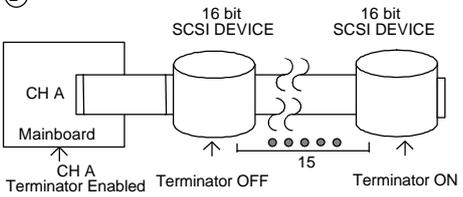
**CASE 1: Channel A Termination: Enabled**

**Channel B Termination: Both**

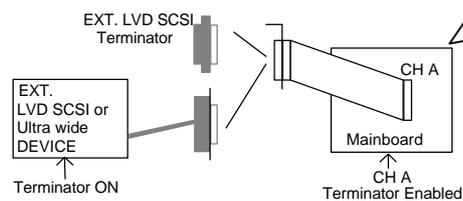
①



②



③ EXT LVD SCSI Port

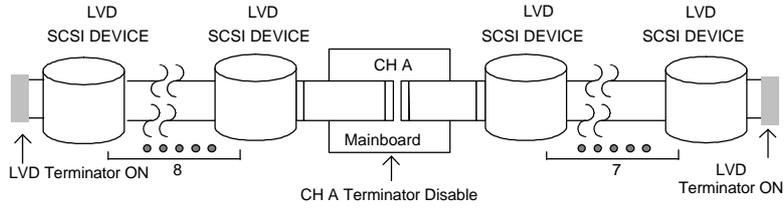


To boot from EXT.SCSI device, please press <Ctrl> <A> for SCSISelect Utility and set the **Advanced configuration option/ Support Removable Disks Under BIOS as Fixed Disks to "All Disks"**.

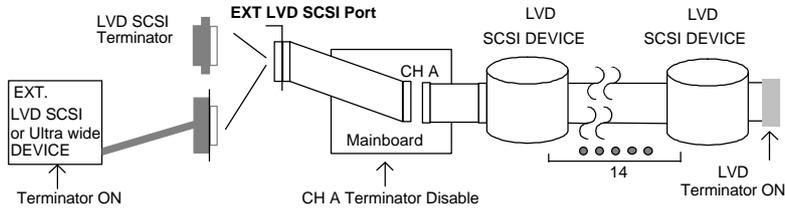
**CASE 2: Channel A : Disabled**

**Channel B : Both**

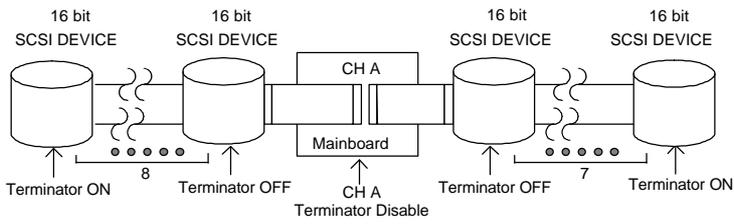
①



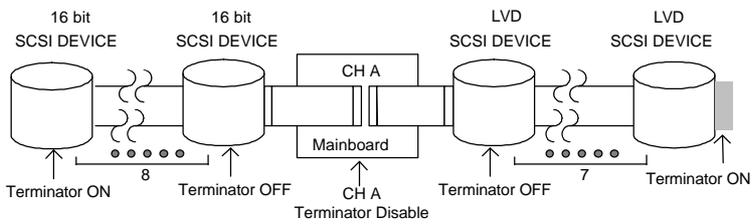
②



③

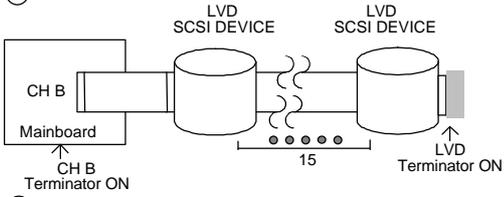


④

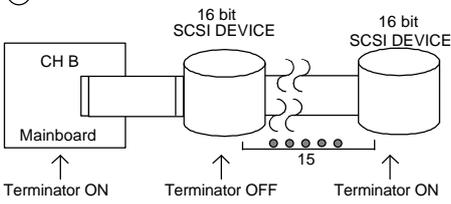


**State 2. SCSI Devices connecting to the Channel B:**  
**CASE 1: Channel A: Enabled**  
**Channel B: Both**

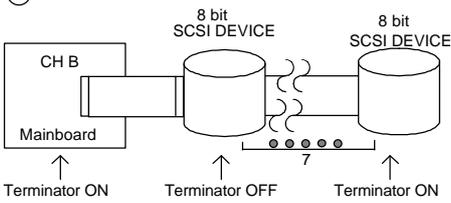
①



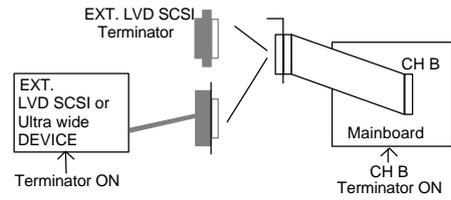
②



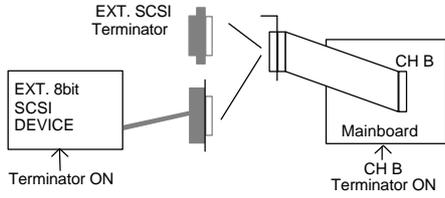
③



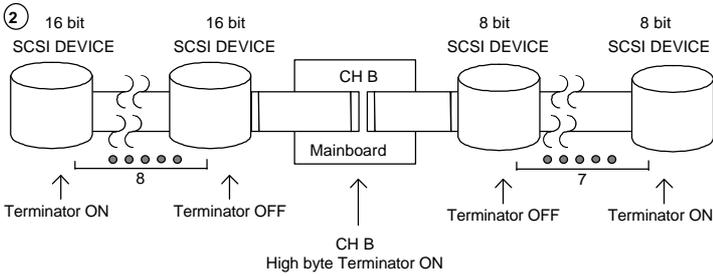
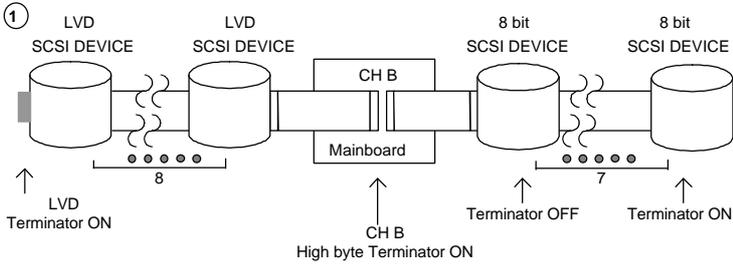
④ EXT LVD SCSI Port

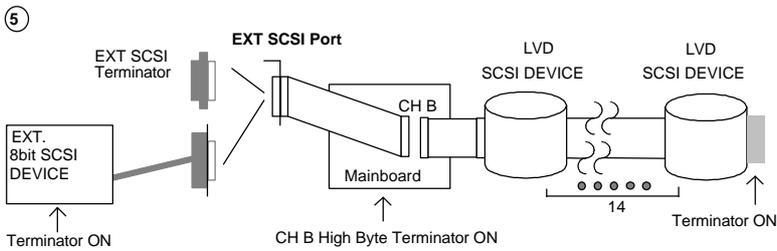
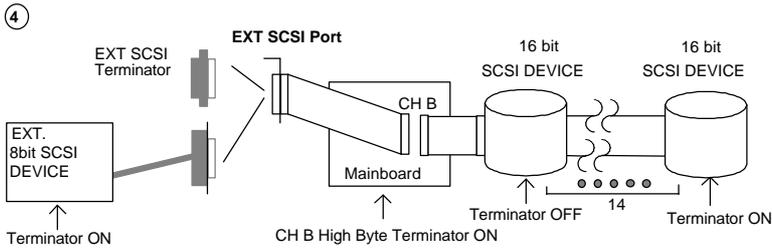
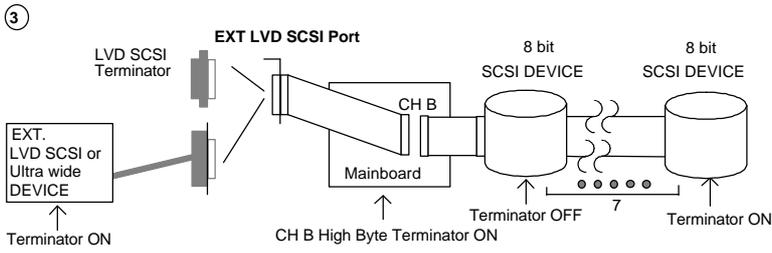


⑤ EXT SCSI Port



**CASE 2: Channel A: Enabled  
Channel B: High Byte**





## Adaptec 78xx Family Driver Installation for Windows NT CDROM Boot

### Installing Windows NT V4.0

The following instructions explain how to install the Adaptec 7800 Family Manager, while installing Windows NT V4.0 from CDROM Boot.

1. Start your system with the Windows NT Boot CD in the CDROM drive.
2. During the initial stages of the boot process as soon as you see blue screen of "Windows NT Setup" then press F6.
3. Press S again to specify an additional device.

4. Select "Other" and feed it the Adaptec 7800 Family Manager diskette for WinNT 3.5x, 4.0/d2.11 then press Enter.

5. For Ultra2 host adapters(AIC-7890/AIC-7896), Select the "Adaptec AHA-294xU2/295xU2/AIC-789X PCI Ultra2 SCSI Controller(NT 4.0)" and press ENTER.

6. Then follow the normal Windows NT installation procedure to complete the setup processor.

### **3.12. PERIPHERAL DEVICE INSTALLATION**

After the I/O device installation and jumpers setup, the mainboard can be mounted into the case and fixed by screw. To complete the mainboard 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 four PCI - Bus slots can be used.

### **3.13. 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 prepare to power-on the system.