GA-8EGXDR-E

Dual Xeon™ Processor Motherboard

USER'S MANUAL

Dual Xeon™ Processor Motherboard

Rev. 1001

12ME-8EGXDRE-1001

Table of Content

Item Checklist

- ☑ The GA-8EGXDR-E(C) motherboard
- ☑ IDE cable x 1/ Floppy cable x 1
- ☑ Driver CD for motherboard driver & utility
- ☑ GA-8EGXDRE user's manual
- ☑ I/O Back Panel
- ☑ USB Cable x 1(Optional)
- ☑ SCSI Cable x 1 (Optional)

WARNING!

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

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

Installing the motherboard to the chassis...

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

Chapter 1 Introduction

Features Summary

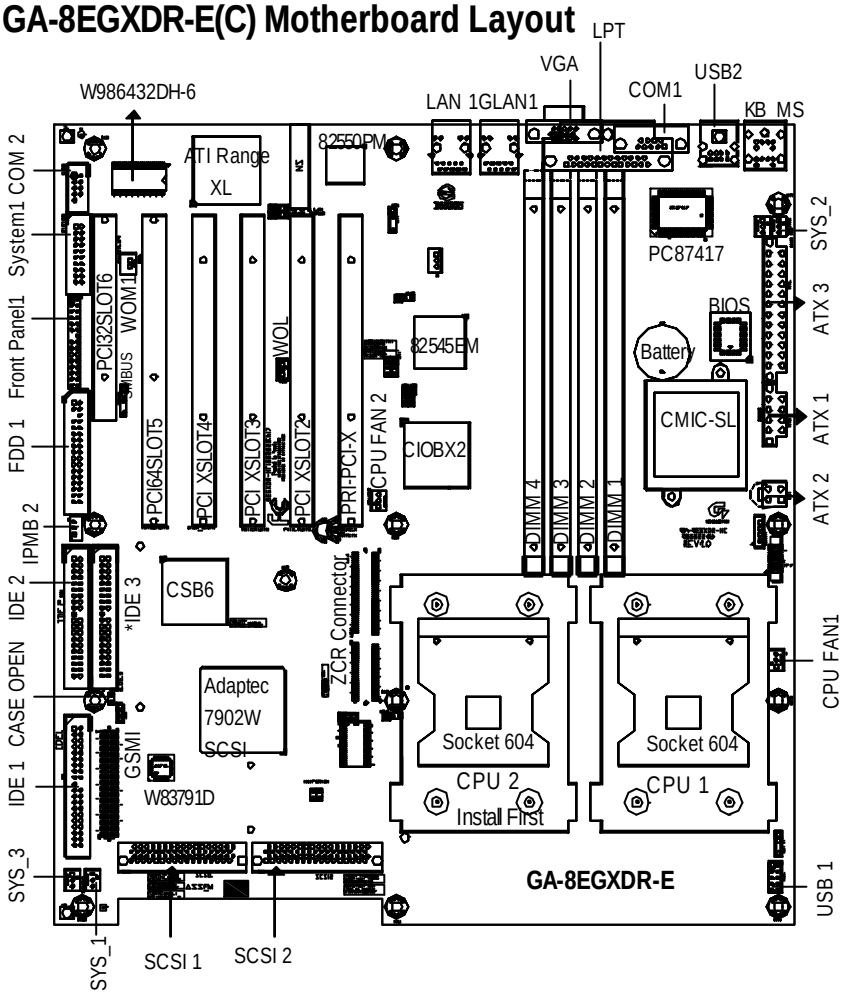
Form Factor	• 30.5cm x 33cm Extend ATX size form factor, 8 layers PCB.
CPU	• Dual socket 604 for Intel® FC-PGA Xeon processor suopprts 1.8 GB to 2.8GB and upper • Intel Pentium®4 Xeon 533MHz FSB • 512KB internal cache depend on CPU
Chipset	• Serverworks CMIC-SL Northbridge • Serverworks CIOB-X2 PCI-X Bridge • Serverworks CSB6 Southbridge
Memory	• 4 184-pin DDR DIMM sockets • Supports 4 ECC Register DIMM DDR 266 • Supports up to 4 GB DRAM (Max) • Supports 2.5V DDR DIMM only
I/O Control	• NS PC87417
Slots	• Support PCI-X 100MHz x 2 slots PCI 64/66 MHz x 2 Slots PCI 64/33 MHz x 1 Slot PCI 32/33 MHz x 1 Slot
On-Board IDE	• 2 IDE bus master (ATA100) IDE ports for up to 4 ATAPI devices • 1 IDE bus master (ATA66) IDE ports for up to 2 ATAPI devices (Optioanl) • Support LSI software IDE RAID 0,1,5 **(Optional)**
On-Board Peripherals	• 1 Floppy port supports 360K, 720K,1.2M, 1.44M and 2.88M bytes. • 1 Parallel port supports Normal/EPP/ECP mode • 2 COM ports (COM1 & COM2; one at front and one at rear) • 2 LAN ports (LAN1: 10/100 ; & GLAN1: Gigabit Ethernet) • 4 USB 1.1 (Rear USB x 2, Front USB x 2)
Hardware Monitor	• CPU/Power/System Fan speed detection • CPU/Power/System Fan Control • CPU Overheat Warning

to be continued.....

	• System Intrution Detect • System Voltage Detect
On-Board LAN	• Build in Intel RC82545EM 10/100/1000 Gigabit Ethernet Chipset (Server Adapter) • Build-in Intel 82550PM 10/100 Fast Ethernet
On-Board VGA	• Build in ATI Rage XL VGA PCI Chipset with 8M SDRAM on board
On-Board SCSI	• Adaptec 7902W SCSI Chipset supports dual ultra 320 SCSI channels
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interace
BIOS	• Licensed Award BIOS, 4Mb flash ROM
Additional Features	• Wake on LAN (LAN1 & GLAN1) • AC Recovery • IPMI V1.0 (Optioal) • Support Adaptec ASR-2015S Zero Channel RAID (ZCR) card

Please use the same speed CPU when your system runs in the dual CPU configuration. Whether your system can run under these specific bus frequencies properly, it will depend on your hardware configurations, including CPU, Chipsets, SDRAM, Cards... .etc.

GA-8EGXDR-E(C) Motherboard Layout



* For **GA-8EGXDR-EC** Only

Chapter 2 Hardware Installation Process

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

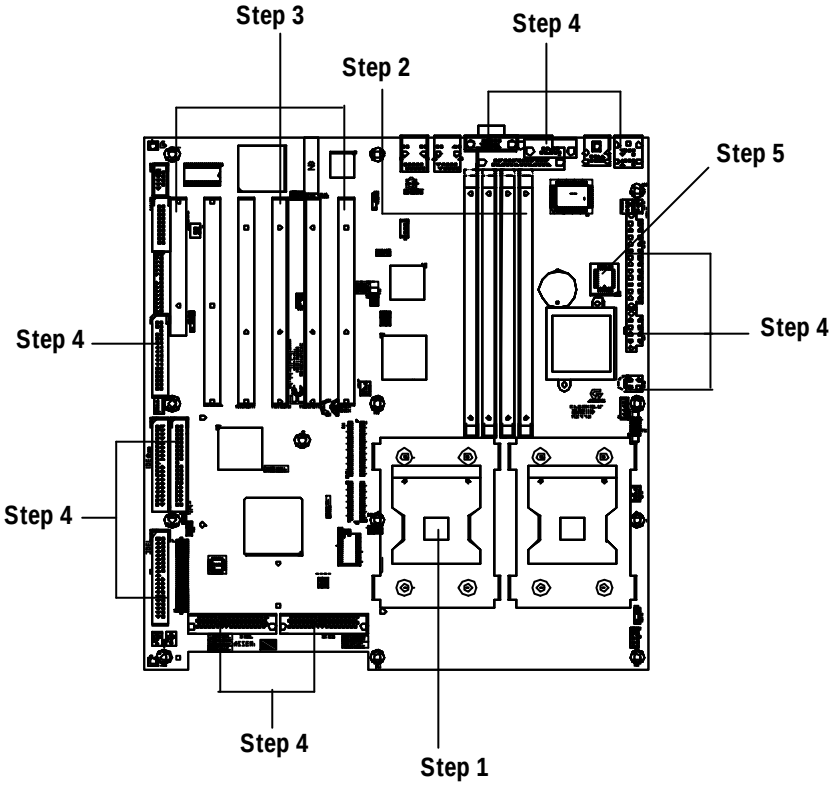
Step 1- Install the CPU2 (If you are installing one CPU ONLY)

Step 2- Install memory modules

Step 3- Install expansion cards

Step 4- Connect cables, cabinet wires, and power supply

Step 5- Setup BIOS software



Step 1: Install the CPU (Central Processing Unit)

Step 1-1: Installation Kit Preparation

You may use the 4 screws which come with the mainboard to reinforce the support between P4 CPU heat-sink on the mainboard and chassis.

Step1: The 4 new mounting holes on the chassis are for additional support for P4 CPU heat-sink on the mainboard.

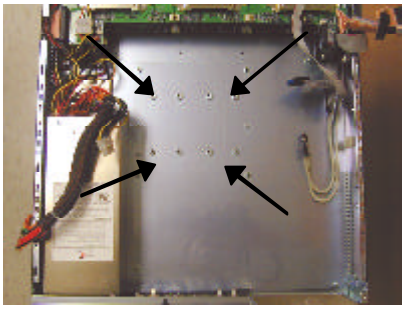


Figure 1

Step2: Apppearance of mainboard.

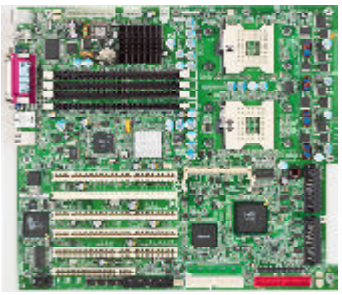


Figure 2

Step 3: Preparing retention module kit.

Figure 3

Step 4: Fit the 4 screws with 2 CPU retention modules on the chassis. Push screw into the motherboard firmly as shown below

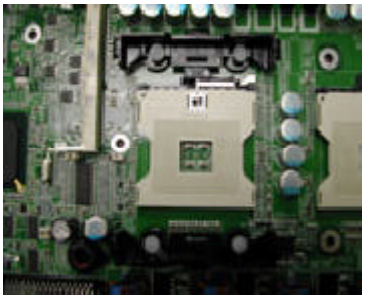
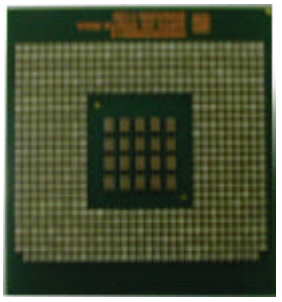


Figure 4

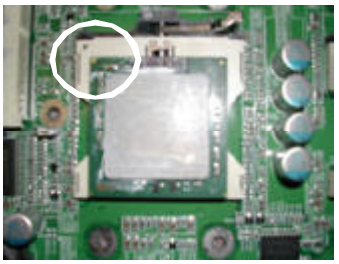
Step 1-2: CPU Installation

CPU Top View



CPU Bottom View

1. Pull the lever out, than lift up the Lever.



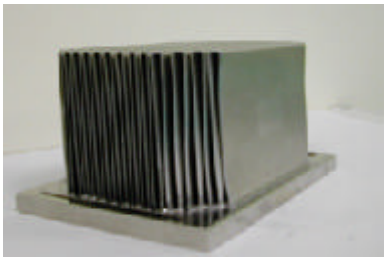
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

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

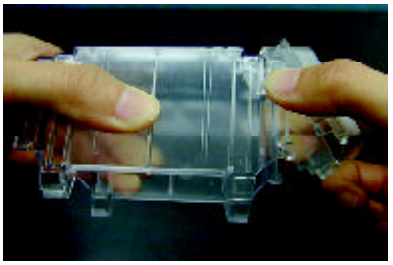
- **Please make sure the CPU type is supported by the motherboard.**
- **If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.**
- **Warning: If your install one CPU ONLY, please refer to the Motherboard Layout (page 7) to install the CPU 2 frist.**
- **Note that if you insall two CPUs, please install the same speed CPUs.**

Step 1-3: CPU Heat Sink Installation

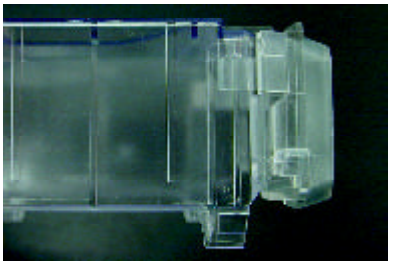
1. Use qualified fan approved by Intel.



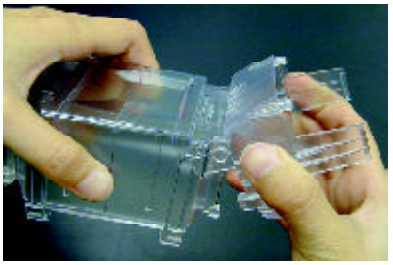
2. Heat Sink



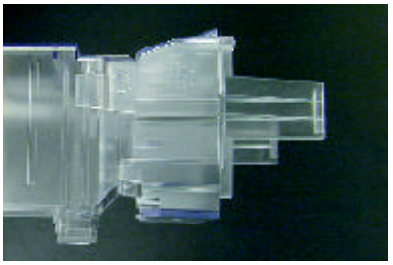
3. First step of assembling.



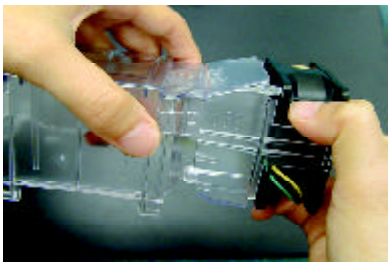
4. Completive picture for Step 3.



5. Second step of assembling.

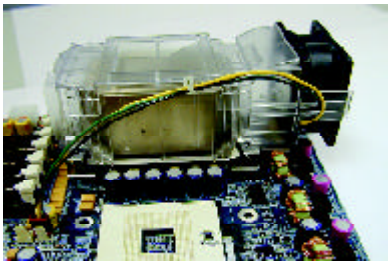


6. Completive picture for Step 5.



7. Fan assembly.

8. Hook one end of the cooler bracket to the CPU socket first.



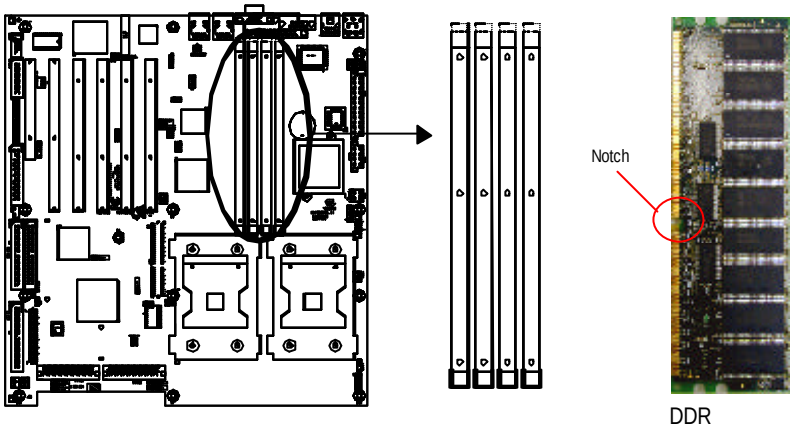
9. Picture of device set on the motherboard.

- **You should apply the thermal paste to provide better heat conduction between your CPU and heatsink.**
- **Make sure the CPU fan power cable is plugged in to the CPU fan connector, this completes the installation.**
- **Please refer to CPU heat sink user's manual for more detail installation procedure.**

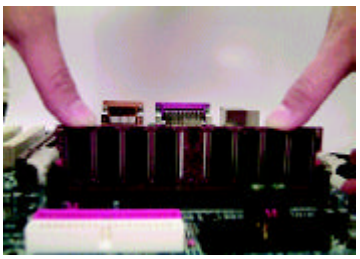
Step 2: Installing memory modules

Before installing the processor and heatsink, adhere to the following warning:
When DIMM LED is ON, do not install/remove DIMM from socket.
Please note that the DIMM module can only fit in one direction due to the one notches. Wrong orientation will cause improper installation. Please change the insert orientation.

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.



DDR

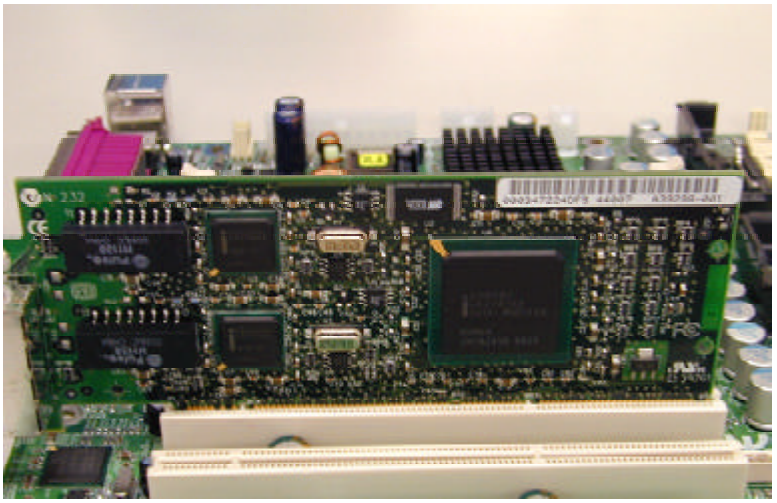


1. The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.
2. Insert the DIMM memory module vertically into the DIMM slot. Then push it down.
3. Close the plastic clip at both edges of theDIMM slots to lock the DIMM module.
   Reverse the installation steps when you wish to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

Please note that the DIMM module can only fit in one direction due to the one notches. Wrong orientation will cause improper installation. Please change the insert orientation.

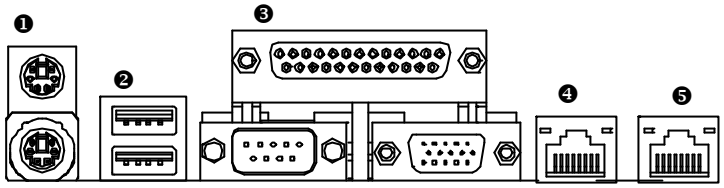
Step 3: Installing expansion cards

1. Discharge any static electricity from your body before handling the sensitive board of the card.
2. Turn off and unplug your computer before removing your computer's chassis. Failure do so may endamger you and damage the expansion or computer.
3. Read the related expansion card's instruction document before install the expansion card into the computer.
4. Remove your computer's chassis cover, screws and slot bracket from the computer.
5. Press the expansion card firmly into expansion slot in motherboard.
6. Be sure the metal contacts on the card are indeed seated in the slot.
7. Replace the screw to secure the slot bracket of the expansion card.
8. Replace your computer's chassis cover.
9. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
10. Install related driver from the operating system.

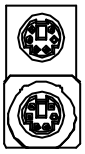


Step 4: Connect ribbon cables, cabinet wires, and power supply

Step 4-1: I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse Connector

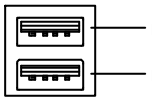


PS/2 Mouse Connector
(6 pin Female)

PS/2 Keyboard Connector
(6 pin Female)

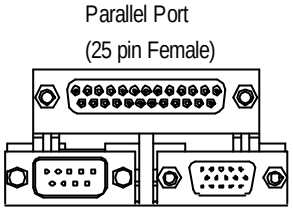
➢ This connector supports standard PS/2 keyboard and mouse.

❷ USB2 Connector



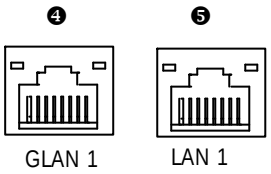
➢ Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker..etc. Have a standard USB interface. Also make sure your OS (Windows 2000, Win dows ME, Win NT with SP 6) supports USB controller. If your OS does not support USB controller, please contact the OS vendor for pos sible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

❸ Parallel Port / Serial Port / VGA Port (LPT/COMA/VGA)



- This connector supports 1 standard COM port ,1 Parallel port and 1 VGA port. Device like printercan be connected to Parallel port ; mouse and modem etc can be connected to Serial ports.

❹/❺ GLAN1 / LAN1 Port

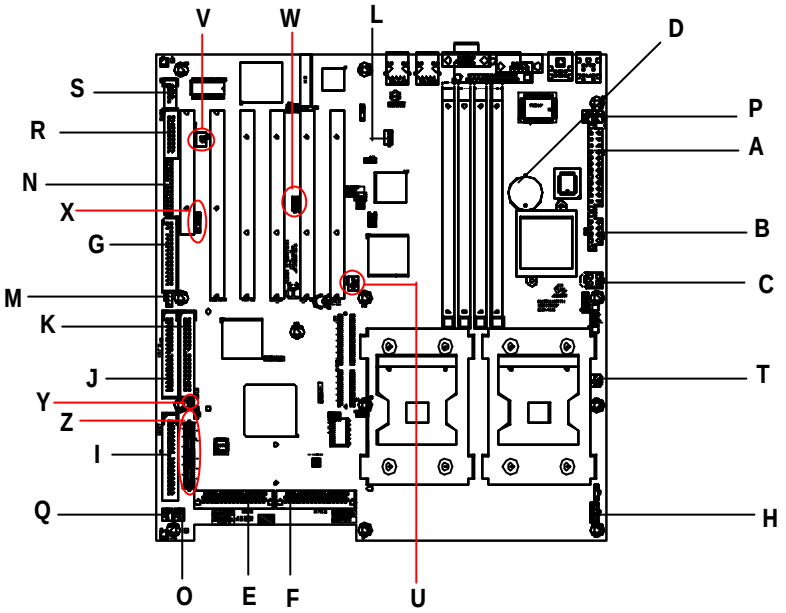


- GLAN 1: Giagbit Ethernet
- LAN 1: 10/100 Ethernet

GLAN1 / LAN1 LED Indicator Description

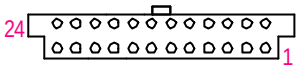
LAN Port	Status	Description
GLAN 1	Yellow LED Blink	GLAN1 active
	Yellow LED On	GLAN1 connected
	Green LED On	GLAN1 at Speed 100MB/1000MB
	Green LED Off	GLAN1 at speed 10MB
LAN 1	Yellow LED Blink	LAN1 active
	Yellow LED On	LAN1 connected
	Green LED On	LAN1 at speed 100MB
	Green LED Off	LAN1 at speed 10MB

Step 4-2: Connectors Introduction



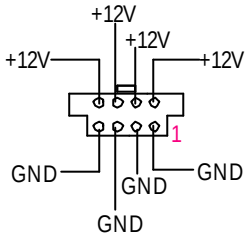
A) ATX1	N) F_Panel 1
B) ATX3	O) System FAN 1
C) ATX2	P) System FAN 2
D) BT1	Q) System FAN 3
E) SCSI 1	R) System 1 (Optional)
F) SCSI 2	S) COM 2
G) FDD1	T) CPU FAN 1
H) USB1	U) CPU FAN 2
I) IDE1	V) WOM
J) IDE2	W) WOL
K) IDE3	X) I2C
L) IPMB_CON 1 (Optional)	Y) CASE Open
M) IPMB_CON 2 (Optional)	Z) GSMI Connector (Optional)

A) ATX3 (2x12 Pin ATX Power)



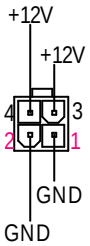
- AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

B) ATX1 (ATX1 Power)



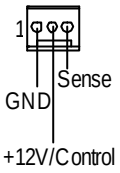
- This connector (ATX +12V) is used only for CPU Core Voltage.

C) ATX2 (+12V Power Connector)



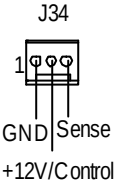
- This connector (ATX +12V) is used only for CPU Core Voltage.

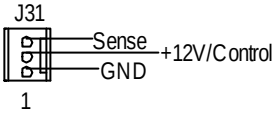
T/U) CPU FAN 1/2 Connectors



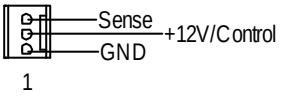
➢ Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600mA .

O/P/Q) System FAN 1/2/3 Connectors

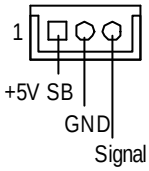




Y) Power FAN Connector

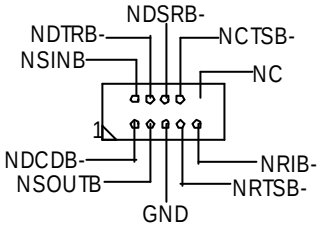


W) Wake On LAN Connector

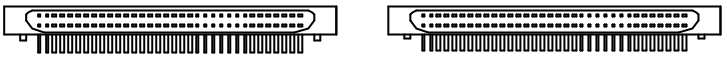


Note that when CPU FAN connector and Power FAN connector exist in the motherboard, you are ONLY allowed to connect either **CPU FAN 1** or **Power FAN.**

S) COM 2 Connector

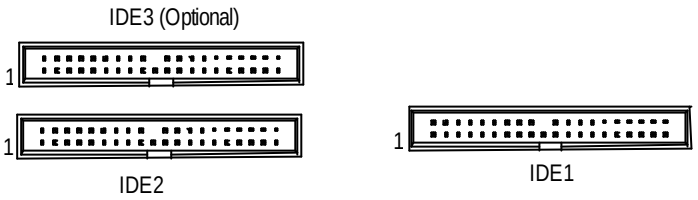


E/F) SCSI1/SCSI2 Connector

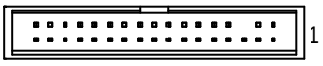


SCSI 1 SCSI 2

I) IDE 1/ IDE 2/ IDE 3 [IDE1 / IDE2 / Connectors(Primary/Secondary)]



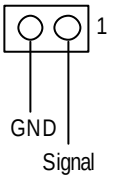
G) FDD1 (Floppy Connector)



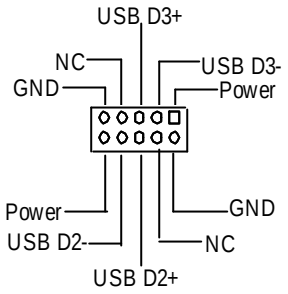
Floppy

Z) CASE OPEN

This 2 pin connector allows your system to enable or disable the "case open" item in BIOS if the system case begin remove.

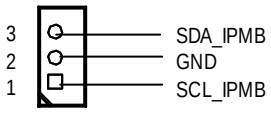


H) USB1 (Front USB Connector)

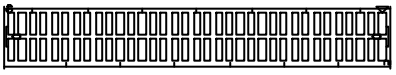


➢ Be careful with the polarity of the front panel USB connector. Check the pin assignment while you connect the front panel USB cable. Please contact your nearest dealer for optional front panel USB cable.

J) IPMB_CON1/IPMB_CON2



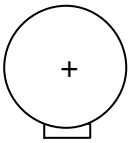
1) GSMI 1: IPMI Moudule Interface (2X35 Pins IPMI Connector)



➢ We have IPMI module to customer used for option.

D) BT1 (Battery)

Li-Battery 3V

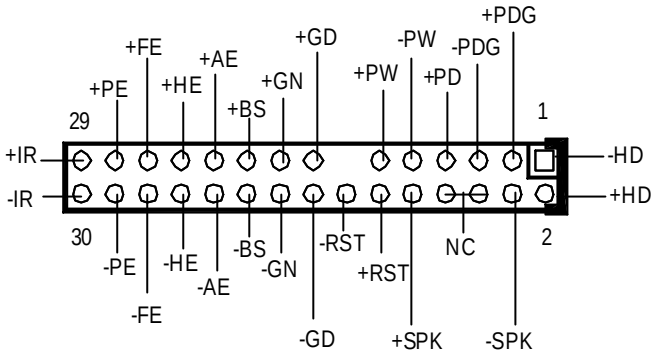


CR2032

CAUTION

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

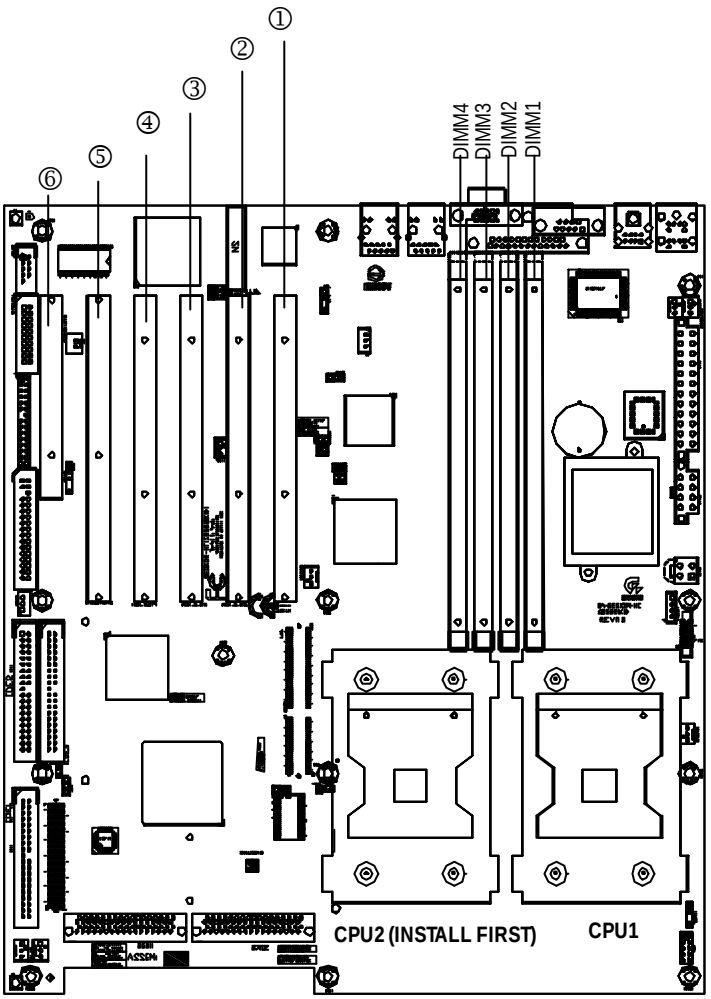
K) F_PANEL1 (2x15 Pins connector)



1) HD+ (HDD LED)	**2) HD- (HDD LED)**
3) PD- (Power LED)	**4) SK-(Speaker)**
5) PD- (Power LED)	**6) NC (Speaker)**
7) PD+(Power LED)	**8) NC (Speaker)**
9) PW- (Power Button)	**10) SK+ (Speaker)**
11) PW+ (Power Button)	**12) RS+ (Reset Button)**
13) KEY	**14) RS- (Reset Button)**
15) GD+ (Green LED)	**16) GD- (Green LED)**
17) GN+ (Green Button)	**18) GN- (Green Button)**
19)BS+ (Buzzer Stop Button)	**20) BS- (Buzzer Stop Button)**
21) AE+ (All Error LED)	**22) AE- (All Error LED)**
23) HE+ (HDD Error LED)	**24) HE- (HDD Error LED)**
25) FE+ (Fan Error LED)	**26) FE- (Fan Error LED)**
27) PE+ (Power Supply Error LED)	**28) PE- (Power Supply Error LED)**
29) IR+ (NC)	**30) IR- (NC)**

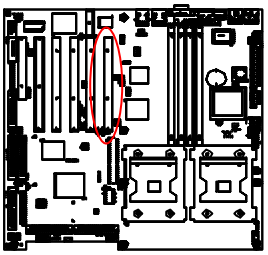
- Please connect the power LED, PC speaker, reset switch and power switch etc of your chassis front panel to the F_PANEL1 connector according to the pin assignment above.

Step 4-3: PCI Slot Introduction



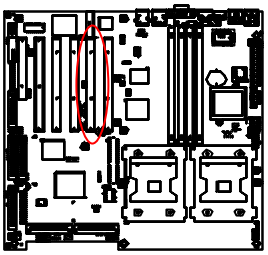
① **PCI_X_SLOT1**

Supports PCI-X 100MHz



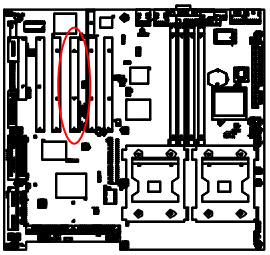
② **PCI_X_SLOT2**

Supports PCI-X 100MHz



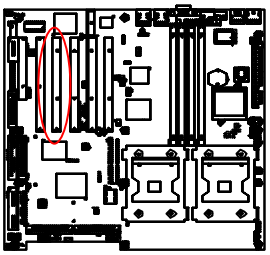
③ **PCI_X_SLOT3**

Supports PCI 64/66MHz



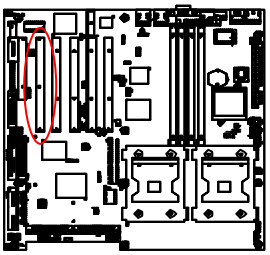
④ **PCI_X_SLOT4**

Supports PCI 64/66MHz



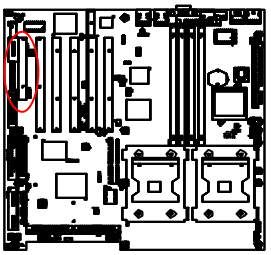
⑤ **PCI_64_SLOT5**

Supports PCI 64/33MHz



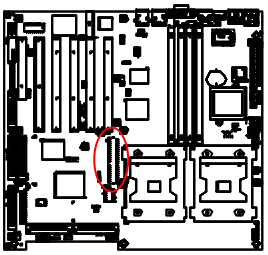
⑥ **PCI_32_SLOT6**

Supports PCI 32/33MHz

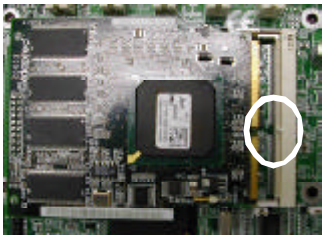


Step 4-4: Installating Zero Channel Card (Optional)

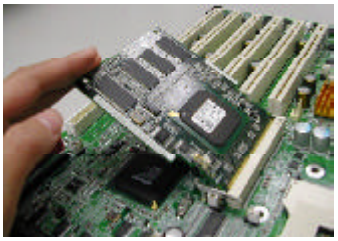
1. ZCR connector location.



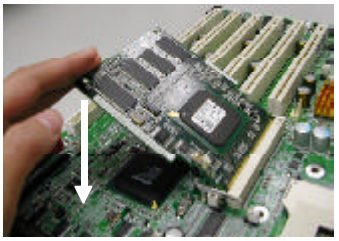
2. The ZCR connector has a notch, and the ZCR module can only fit in one direction.



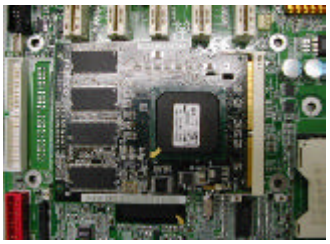
3. Insert the card into the connecotor by 60 degree and push it in until hearing 'click' sound.



4. Then, push the card down vertically.

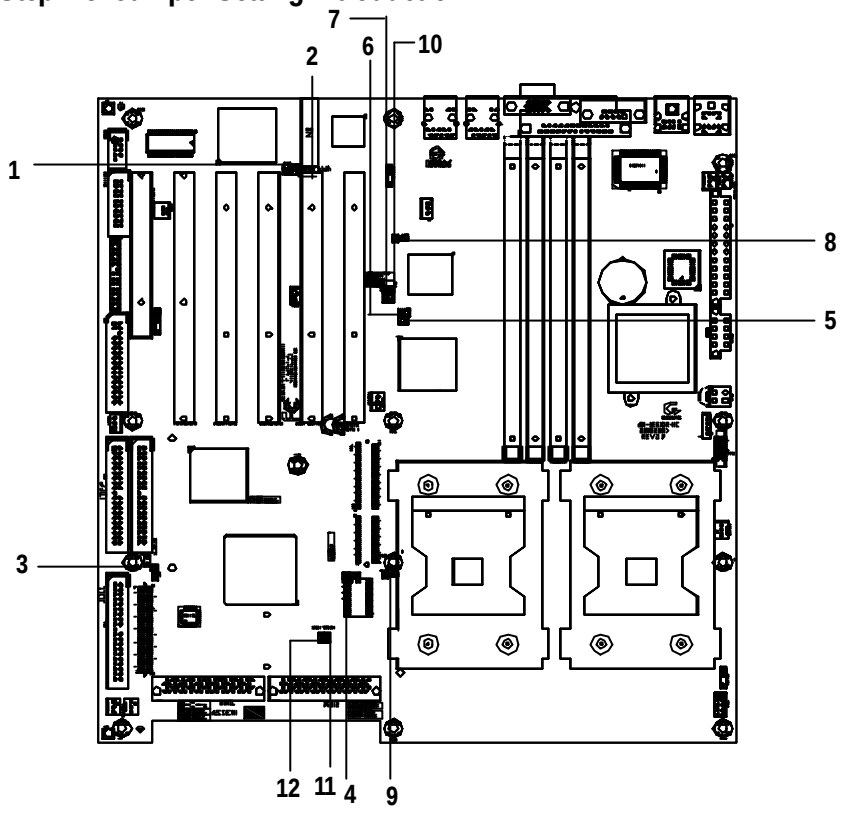


5. Installation completed.



6. To remove the ZCR card just simply pull out the clips.

Step 4-5: Jumper Setting Introduction



1) JP2	8) JP9
2) JP3	9) JP10
3) JP4	10) JP11
4) JP5	11) J7
5) JP6	12) J8
6) JP7	
7) JP8	

☝ **Please note that the highlight white mark on the motherboard is presented as**

1) JP2 (10/100 LAN Function)

1-2 close: LAN Enabled (Default)

2-3 close: LAN Disabled

Please note that the the highlight white mark is presented as Pin 1.

2) JP3 (Onboard VGA Functon)

1-2 close: VGA Enabled (Default)

2-3 close: VGA Disabled

3) JP4 (Clear CMOS Function)

1-2 close: Clear CMOS (Default)

2-3 close: Normal

Please note, You may clear the CMOS data to its default values by this jumper

4) JP5 (SCSI Function)

1-2 close: SCSI Enables (Default)

2-3 close: SCSI Disabled

5) JP6 (Primary PCI-X Bus Speed Function)

1-2 close: 100MHz (Default)

2-3 close: 133MHz

6) JP7 (Secondary PCI-X Bus Speed Function)

1-2 close: 100MHz (Default)

2-3 close: 133MHz

7) JP8 (Primary PCI-X Bus Speed Functon)

1-2 close: Conventional PCI Mode (PCI 66MHz)

2-3 close: PCI-X 66MHz


Jumper Open: Auto (Default)

PCI-X - Slot 3, PCI-X - Slot 4, On board SCSI

8) JP9 (Secondary PCI-X Bus Speed Functon)

1-2 close: Conventional PCI Mode (PCI 66MHz)

2-3 close: PCI-X 66MHz(Default)


Open: Auto

PCI-X - Slot 1, PCI-X - Slot 2, On board Gigabit Ethernet

9) JP10 (Host Clock Frequency Setting Functon)

1-2 close: 100MHz

2-3 close: 133MHz (Default)

10) JP11 (Gigabit LAN Functon)

1-2 close: Enable (Default)

2-3 close: Disabled

11) J8 (SCSI 1 On-Board Terminator Functon)

Close: Enable (Default)

Open: Auto

12) J7 (SCSI 2 On-Board Terminator Functon)

Close: Enable (Default)

Open: Auot

Chapter 3 BIOS Setup

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

ENTERING SETUP

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

CONTROL KEYS

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

GETTING HELP

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

- **Main**

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

- **Advanced**

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

  (ex: Auto detect fan and temperature status, automatically configure hard disk parameters.)

- **Boot**

  This setup page include all the items of first boot function features.

- **Security**

  Change, set, or disable password. It allows you to limit access the system and setup.

- **Exit**

  There are five optionsin this selection: Exit Saving Changes, Exit Discarding Changes, Load Optimal Defaults, Load Failsafe Defaults, and Discard Changes.

Main

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

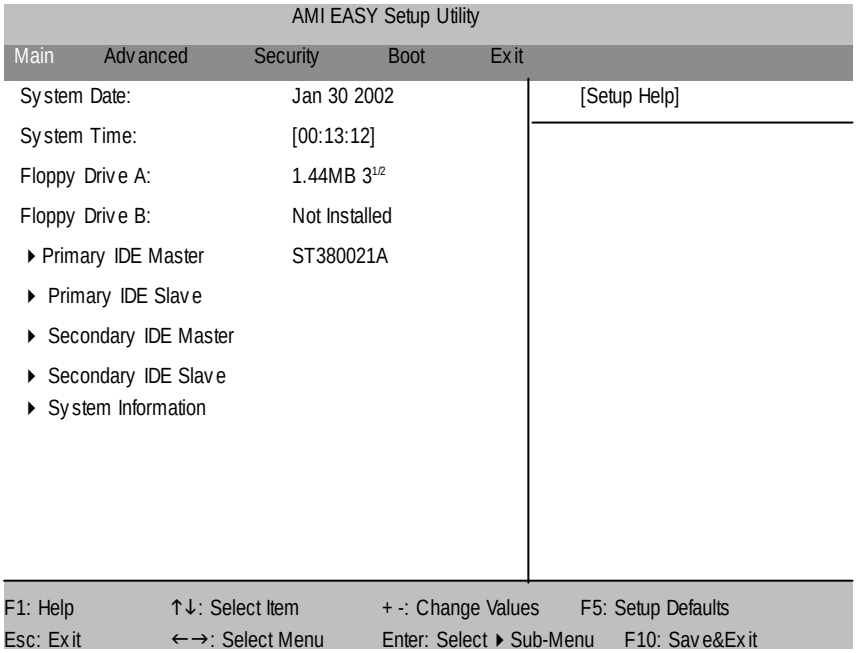


Figure 1: Main

☞ **System Date**

Set the System Date. Note that the "Day" automatically changed after you set the date. (Weekend: DD: MM: YY) (YY: 1099~2099)

☞ **System Time**

The time is calculated based on the 24-hour military time clock. Set the System Time (HH:MM:SS)

☞ Floppy Drive A/B

This category identifies the type of floppy disk drive A or drive B that have been installed in the computer.

⏩None	No floppy drive installed
⏩1.2MB, 3.5 in.	3.5 inch AT-type high-density drive; 1.2M byte capacity
⏩720K, 3.5 in.	3.5 inch double-sided drive; 720K byte capacity
⏩1.44M, 3.5 in.	3.5 inch double-sided drive; 1.44M byte capacity.
⏩2.88M, 3.5 in.	3.5 inch double-sided drive; 2.88M byte capacity.

☞ IDE Primary Master, Slave / Secondary Master, Slave

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

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

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

TYPE

⏩1-50: Predefined types.

⏩Users: Set parameters by User.

⏩Auto: Set parameters automatically. (Default Vaules)

⏩CD-ROM: Use for ATAPI CD-ROM drives.

Or double click [Auto] to set all HDD parameters automatically.

⏩Cylinders	Number of cylinders
⏩Write Precompensation	Write precompensation
⏩SECTORS	Number of sectors
⏩Maximum Capacity	Maximum Capacity
⏩LBA Mode	This field shows if the device type in the specific IDE channel support LBA Mode
⏩Block Mode	This field only shows the information of Block Mode.

▸▸Fast Programmed I/O Mode	This field only shows the information of Fast Programmed I/O Mode.
▸▸32 Bit Transfer Mode	Enables 32 bit access to maximize the hard disk data transfer rate. Option: On (Default Value); Off

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

☞ System Information

This category displays the system information on **Processor type, speed, cache** and **Total Memory Size**.

Advanced

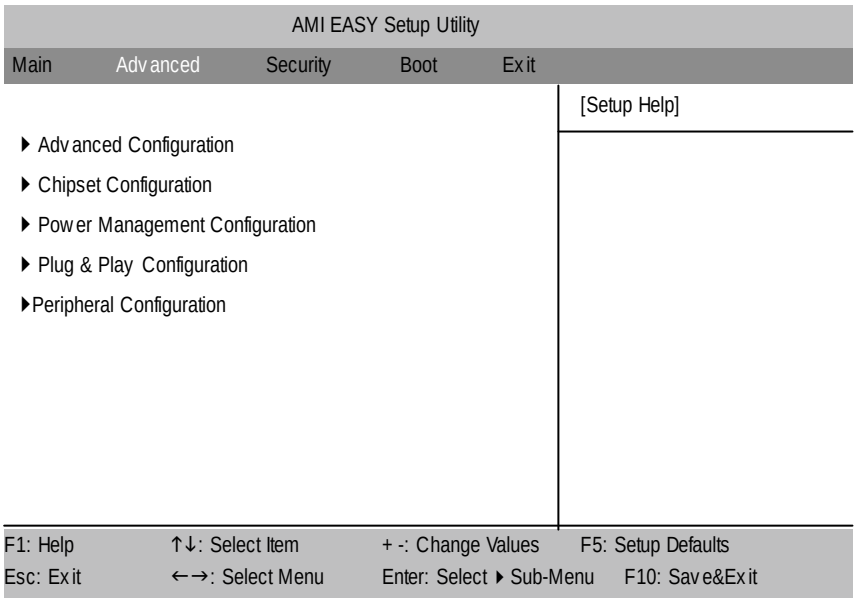


Figure 2: Advanced

About This Section: Advanced

This section **"Advanced"** will be divided into five sub-menus.

- **Advanced Configuration**
- **Chipset Configuration**
- **Power Management Configuration**
- **Plug & Play Configuration**
- **Peripheral Redirection**

With this section, allowing user to configure your system for basic operation. A user can change the system's default boot-up sequence, keyboard operation, shadowing and security, etc.

Advanced Configuration

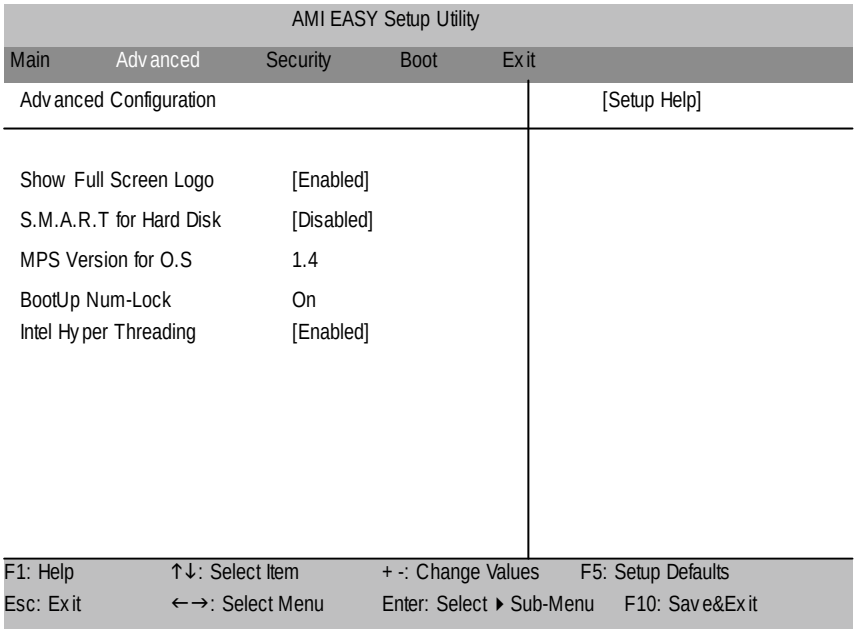


Figure 2-1: Advanced Configuration

☞ Advanced Configuration

▸ Show Full Screen Logo

This option allows user to set whether to show the Logo while boot.

- ⏩ Enabled — Set this option "Enable" to permit BIOS to show full screen logo. (Default Value)
- ⏩ Disabled — Disable this function.

▸ S.M.A.R.T for Hard Disk

This filed shows if the device in the specific IDE channel supports S.M.A.R.T.

S.M.A.R.T stands for Self-Monitoring Analysis and Reporting Technology. Set this option "Enable" to permit BIOS to use S.M.A.R.T.

- ⏩ Enabled — Set this option "Enable" to permit BIOS to use S.M.A.R.T.
- ⏩ Disabled — Disable S.M.A.R.T function. (Default Value)

▸ MPS Version for O.S

This option allows a user to select MP (Multi Processors) system supported version.

Note: Some old MPS OS support 1.1 version only.

- ⏩ 1.4 — Support MPS Version 1.4 . (Default Value)
- ⏩ 1.1 — Support MPS Version 1.1.

▸ BootUp Num-Lock

Set this option "On" to turn the Num Lock On at a system boot.

- ⏩ ON — Set this option "On" to turn the Num Lock On at a system boot. (Default Value)
- ⏩ OFF — Disable this function.

▸ Intel Hyer Threading

- ⏩ Enabled — Enable Intel Hyper Threading. (Default Value)
- ⏩ Disabled — Disable Inel Hyper Threading.

Chipset Configuration

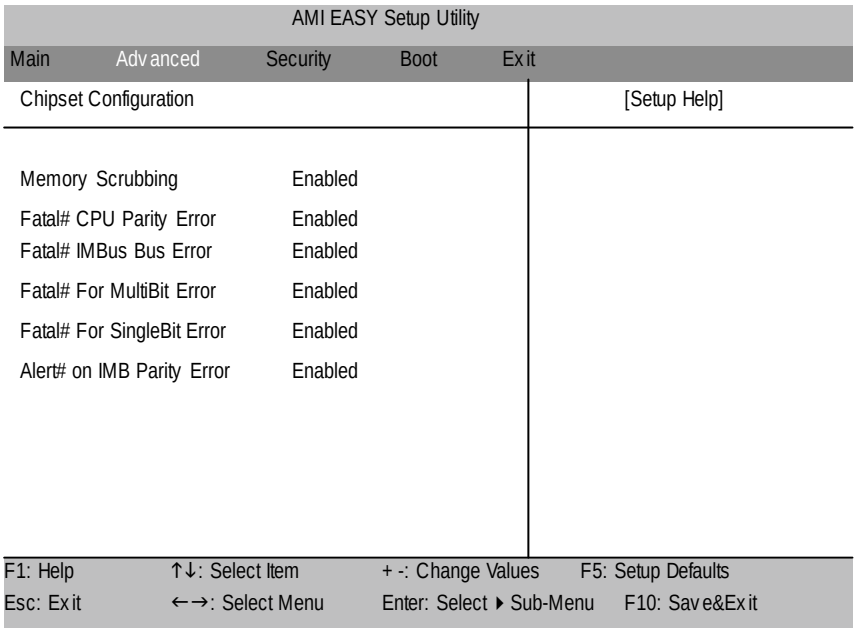


Figure 2-2: Chipset Configuration

☞ Chipset Configuration

▸ Memory Scrubbing

Enables this option to write back the ECC corrected memory data to the DRAM.

⏩ Enabled Enabled Memory Srubbing (Default Value)

⏩ Disabled Disable this function.

Fatal# CPU Parity Error

Enables this option to report the CPU Parity Error.

- Enabled — Enable CPU Parity Error Checking (Default Values)
- Disabled — Disable this function.

Fatal# IMBus Bus Error

Enables this option to report the IMBus Bus Error.

- Enabled — Enable IMBus Bus Error Checking (Default Values)
- Disabled — Disable this function.

Fatal# For MultiBit Error

Enables this option to report the Multibit Error.

- Enabled — Enable MultiBit Error Checking (Default Values)
- Disabled — Disable this function.

Fatal# For SingleBit Error

Enables this option to report the Singlebit Error.

- Enabled — Enable SingleBit Error Checking (Default Values)
- Disabled — Disable this function.

Alert# on IMB Parity Error

- Enabled — Enable IMB Parity Alerting (Default Values)
- Disabled — Disable this function.

Power Management Configuration

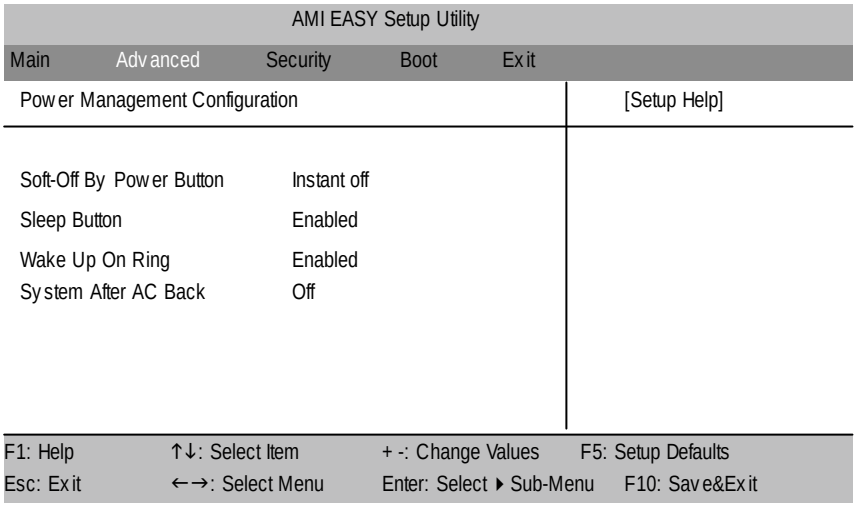


Figure 2-3: Power Management Configuration

☞ Power Management Configuration

The Power Management Configuration allows you to reduce system power consumption through different saving power methods for various devices.

▸ Soft-Off by Power Button

▸▸Instant-off: Soft switch ON/OFF for Power Button.

▸ Sleep Button

Leaves on the default for best compatibility

▸▸Enabled Enables Sleep button(Default Value)

▸▸Disabled Disabled this function.

Wake Up On Ring

- Enabled — Enabled Wake Up On Ring(Default Value)
- Disabled — Disabled this function.

System After AC Back

- Options: Pre-State; OFF (Default Value)

Plug and Play Configuration

AMI EASY Setup Utility

Main | Advanced | Security | Boot | Exit

Plug and Play Configuration		[Setup Help]
PCI Slot 1/5 IRQ Priority	Auto	
PCI Slot 2/6 IRQ Priority	Auto	
PCI Slot 3 IRQ Priority	Auto	
PCI Slot 4 IRQ Priority	Auto	
IRQ 3	PCI/PnP	
IRQ 4	PCI/PnP	
IRQ 5	PCI/PnP	
IRQ 7	PCI/PnP	
IRQ 9	PCI/PnP	
IRQ 10	PCI/PnP	
IRQ 11	PCI/PnP	
IRQ 14	PCI/PnP	
IRQ 15	PCI/PnP	

F1: Help ↑↓: Select Item + -: Change Values F5: Setup Defaults
Esc: Exit ←→: Select Menu Enter: Select ▸ Sub-Menu F10: Save&Exit

Figure 2-4: Plug and Play Configuration

☞ Plug and Play Configuration

This option describes the configuration of PCI bus system, or Personal Conputer Interconnect, is a system which allows I/O devices to operate at a speeds nearing the speed the CPU itself uses when communicating withits own special components. This section covers some technical items and it si stongly recommended that only experienced users should make any changes to the default settings.

▸ PCI Slot 1/5 IRQ Priority

Select PCI Slot 1/5 IRQ Priority.

⏩Auto	Auto assign IRQ to PCI 1/5 (Default Value)
⏩3, 4, 5, 7, 9, 10, 11	Set 3, 4, 5, 7, 9, 10, 11 to PCI 1/5

▸ PCI Slot 2/6 IRQ Priority

Select PCI Slot 2/6 IRQ Priority.

⏩Auto	Auto assign IRQ to PCI 2/6 (Default Value)
⏩3, 4, 5, 7, 9, 10, 11	Set 3, 4, 5, 7, 9, 10, 11 to PCI 2/6

▸ PCI Slot 3 IRQ Priority

Select PCI Slot 3 IRQ Priority.

⏩Auto	Auto assign IRQ to PCI 3 (Default Value)
⏩3, 4, 5, 7, 9, 10, 11	Set 3, 4, 5, 7, 9, 10, 11 to PCI 3

▸ PCI Slot 4 IRQ Priority

Select PCI Slot 4 IRQ Priority.

⏩Auto	Auto assign IRQ to PCI 4 (Default Value)
⏩3, 4, 5, 7, 9, 10, 11	Set 3, 4, 5, 7, 9, 10, 11 to PCI 4

▸ IRQ 3, 4, 5, 7, 9, 10, 11, 14, 15

This option allows a user to set if let BIOS detect the IRQ events. When the BIOS detects an IRQ trigger event being actived, the system will wake up and resumes its activities.

▸▸ Option: PCI/PnP (Default Value); ISA

Peripheral Configuration

AMI EASY Setup Utility					
Main	Advanced	Security	Boot	Exit	
Peripheral Configuration					[Setup Help]
OnBoard IDE		Both			
OnBoard FDC		Enabled			
Onboard Serial Port A		3F8/COM1			
Onboard Serial Port B		2F8/COM2			
Onboard Parallel Port		378			
Parallel Port Mode		ECP			
Parallel Port IRQ		7			
Parallel Port DMA		3			
USB Function		Enabled			
USB Legacy Support		Disabled			
Port 64/60 Emulation		Disabled			
F1: Help	↑↓: Select Item		+ -: Change Values		F5: Setup Defaults
Esc: Exit	←→: Select Menu		Enter: Select ▸ Sub-Menu		F10: Save&Exit

Figure 2-5: Peripheral Configuration

☞ Peripheral Configuration

▸ OnBoard IDE

▸▸Option: Both (Default Value), Primary, Secondary, Disabled

▸ OnBoard FDC

▸▸Enabled Select "Enabled" to active Onboard Floppy Controller. (Default Value)

▸▸Disabled Disable this function.

OnBoard Serial Port A

This option specifies the base I/O port address of serial prot A.

- 3F8/COM1 Enable onboard serial port A and set I/O address to 3F8/COM1. (Default value)
- 2F8/COM2 Enable onboard serial port A and set I/O address to 2F8/COM2.
- 3E8/COM3 Enable onboard serial port A and set I/O address to 3E8/COM3.
- 2E8/COM4 Enable onboard serial port A and set I/O address to 2E8/COM4.

OnBoard Serial Port B

This option specifies the base I/O port address of serial prot B.

Note: If one port address is assigned to serial port A, than that address will not be able to resign to serial port B.

- 3F8/COM1 Enable onboard serial port A and set I/O address to 3F8/COM1.
- 2F8/COM2 Enable onboard serial port A and set I/O address to 2F8/COM2. (Default value)
- 3E8/COM3 Enable onboard serial port A and set I/O address to 3E8/COM3.
- 2E8/COM4 Enable onboard serial port A and set I/O address to 2E8/COM4.

OnBoard Parallel Port

This option specifies the base I/O address of the parallel prot on the motherboard.

- 378 Enable onboard LPT port and set I/O address to 378. (Default value)
- 278 Enable onboard LPT port and set I/O address to 278
- 3BC Enable onboard LPT port and set I/O address to 3BC

Parallel Port Mode

This option specifies the parallel mode.

- **Normal** The normal parallel pro is used.
- **Bi-Directional** Use this setting to support bi-directional transfers on the parallel port.
- **EPP** The parallel port can be used with devices that adhere to the enhanced Parallel Port (EPP) specifications. EPP uses the existing parallel port signal to provide asymmetric bi-directional data transfer driven by the host device.
- **ECP** The parallel port can be used with devices that adhere to the extended Capabilities Port specifications. ECP uses the DMA protocol to achieve data transfer rate up to 2.5Mbit/s. ECP provides the symmetric bi-directional communication. (Default value)

Parallel Port IRQ

This option is to select Parallel Port IRQ

- Option: 7 (Default Value) , 5

Parallel Port DMA

This option iallows user to select Parallel Port DMA.

- Option: 3 (Default Value) , 1

USB Function

This option allows user to enable USB host controller.

- Enable Enable USB host controller (Default Value)
- Disabled Disable this function.

USB Legacy Support

This option allows user to function support for legacy USB.

- Enabled Enables support for legacy USB
- Disabled Disables support for legacy USB (Default Value)

Port 64/60 Emulation

This option allows user to enable or disable the Port 64/60 Emulation function.

- Enable Enables the Port 64/60 Emulation function
- Disabled Disable this function. (Default Value)

Security

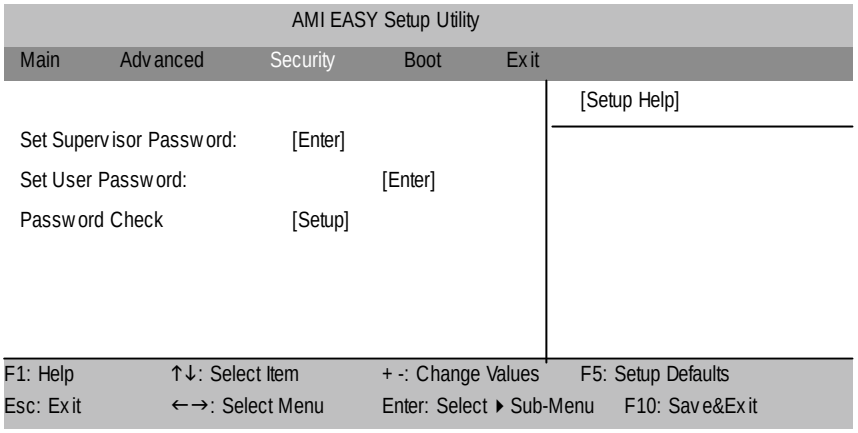


Figure 3: Security

About This Section: Security

In this section, user can set either supervisor or user passwords, or both for different level of password securities. In addition, user also can set the virus protection for boot sector.

☞Set Supervisor Password

You can install and change this options for the setup menus. Type the password up to 6 characters in lengh and press <Enter>. The password typed now will clear any previously entered password from the CMOS memory. You will be asked to confirm the entered password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a specified password or press <Enter> key to disable this option.

☞Set User Password

You can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen o assist you in creating a password.

Type the password up to 6 characters in lengh and press <Enter>. The password typed now will clear any previously entered password from the CMOS memory. You will be asked to confirm the entered password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a specified password.

☞Password Check

- **Setup** will check password while invlolking setup. (Default Value)
- **Always** will check the password while involking setup as well as on each boot.

Boot

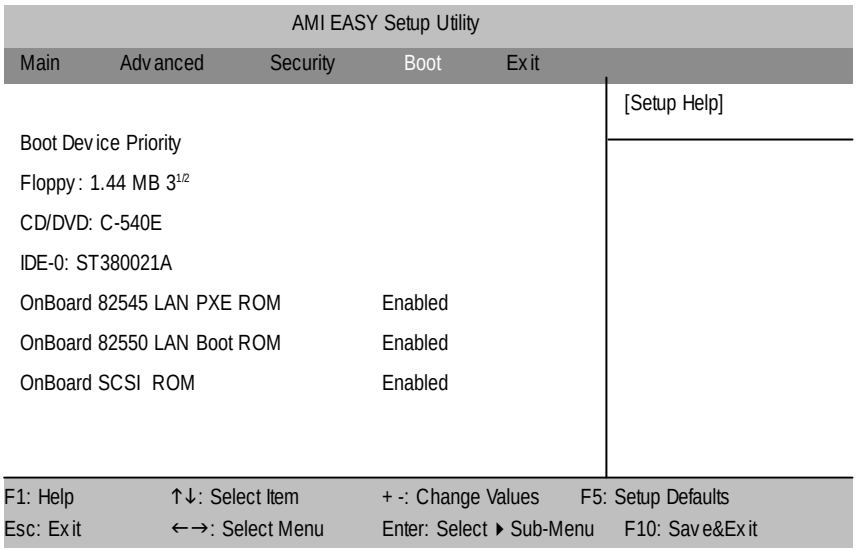


Figure 4: Boot

About This Section: Boot

The "Boot" menu allows user to select among four possible types of boot devices listed using the up and down arrow keys. By applying <+> and <Space> key, you can promote devices and by using the <-> key, you can demote devices. Promotion or demotion of devices alerts the priority that the system uses to search for boot device on system power on.

Boot Device Priority

▸ 1st / 2nd / 3 rd Boot Device

These three fields determines which type of device the system attempt to boot from after **AMIBIOS Post** completed. Specifies the boot sequence from the available devices. If the first device is not a bootable device, the system will seek for next available device.

- The Choice for 1st Boot Device: ,
  - Removable Device (Default Value)
  - ATAPI CDROM
  - Hard Disk
  - Disabled.

- The Choice for 2nd Boot Device:
  - Removable Device
  - ATAPI CDROM (Default Value)
  - Hard Disk
  - Disabled.

- **OnBoard 82545 LAN PXE ROM**
  - Enabled Enable OnBoard 82545 LAN PXE ROM. (Default Value)
  - Disabled Disable this function.

- **OnBoard 82550 LAN Boot ROM**
  - Enabled Enable OnBoard 82550 LAN Boot ROM. (Default Value)
  - Disabled Disable this function.

- **OnBoard SCSI ROM**
  - Enabled Enable OnBoard SCSI LAN Boot ROM. (Default Value)
  - Disabled Disable this function.

Exit

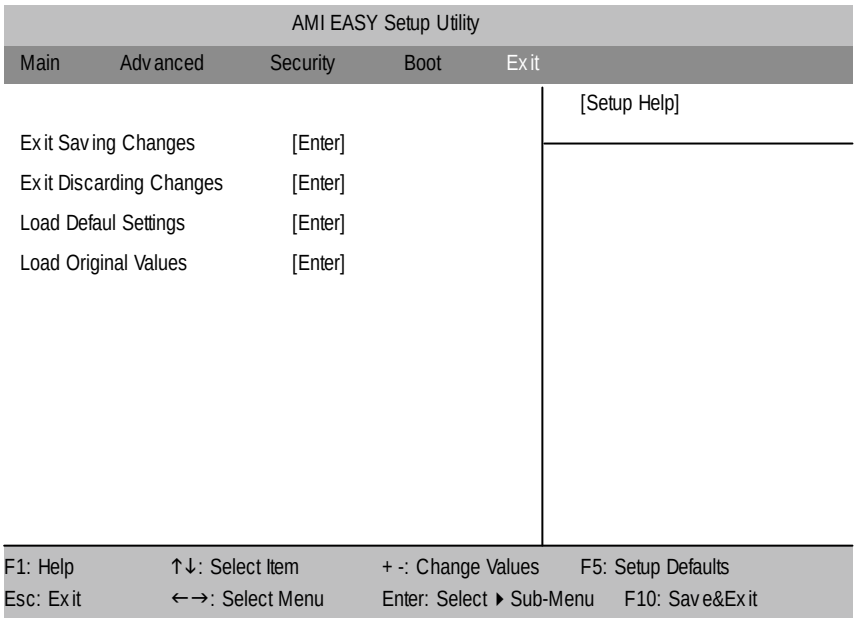


Figure 5: Exit

About This Section: Security

Once you have changed all of the set values in the BIOS setup, you should save your chnages and exit BIOS setup program. Select **"Exit"** from the menu bar, to display the following sub-menu.

- **Exit Saving Changes**
- **Exit Discarding Changes**
- **Load Default Settings**
- **Load Original Values**

☞Exit Saving Changes

This option allows user to exit system setup with saving the changes.
Press <Enter> on this item to ask for the following confirmation message:
Pressing 'Y' to store all the present setting values tha user made in this time into CMOS.
Therefore, whenyou boot up your computer next time, the BIOS will
re-configure your system according data in CMOS.

☞Exit Discarding Changes

This option allows user to exit system setup without changing any
previous settings values in CMOS. The previous selection remain in effect.
This will exit the Setup Utility and restart your compuetr when selecting this option.
Press <Enter> on this item to ask for confirmation message.

☞Load Default Settings

Press <Enter> on this item to load the default values for all the setup options. Enable this function you will get a confirmation dialog box with a message as below:

Press [Enter] to continue
Or press [ESC] to Abort

Press [Enter] to load the default settings that are factory settings for default performance system operations.

☞Load Original Values

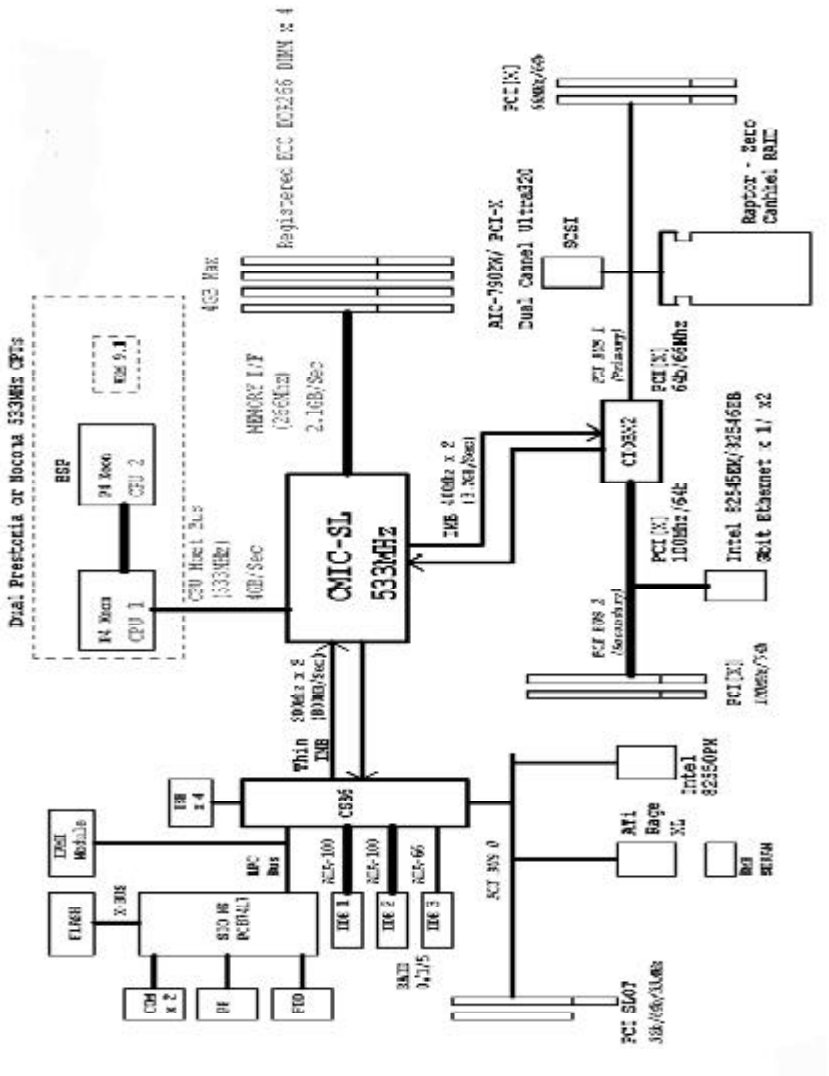
Press <Enter> on this item to discard changes without exiting setup. Enable this function you will get a confirmation dialog box with a message as below:

Press [Enter] to continue
Or press [ESC] to Abort

Press [Enter] to load the original values that are factory settings for factory original value system operations.

Chapter 4 Technical Reference

Block Diagram



Chapter 5 Appendix

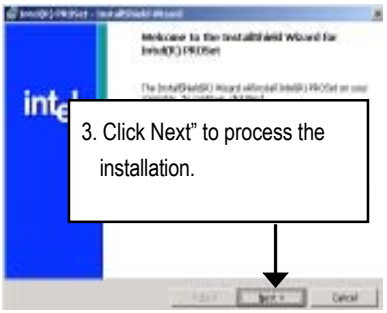
Appendix A: Intel Network Driver Installation

(Note: Driver CD Ver. : 1.1)

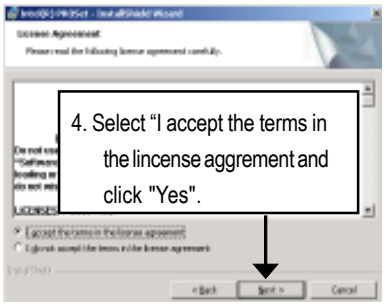
Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show a series of Setup Wizard dialog boxes. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

(1)

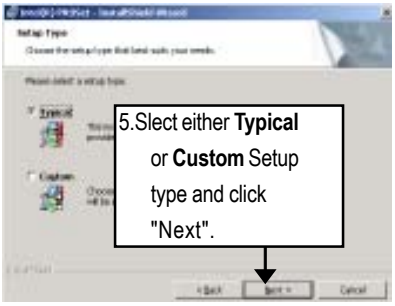
(2)



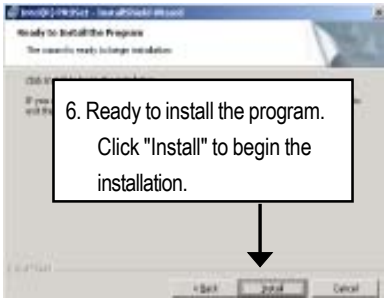
(3)



(4)

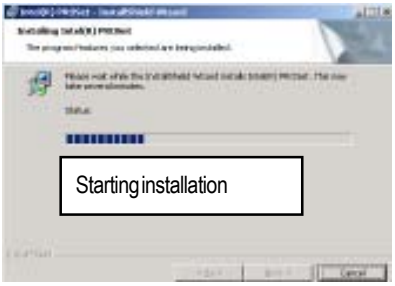


(5)



(6)

Step 5. Note that user can select either **Typical** or **Custom** Setup Types. **Typical** setup type allows users to install basic connectivity and the adapter management utility. **Custom** setup type embraces installing features and subfeatures user selects, including modern utilities, manage ment components and drivers. Recommended for advanced users.



(7)

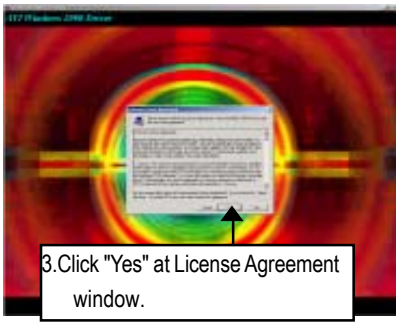
(8)

Appendix B: ATI Rage XL VGA Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

(1)

(2)



(3)

(4)

Appendix C: Adaptec SCSI Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

(1)

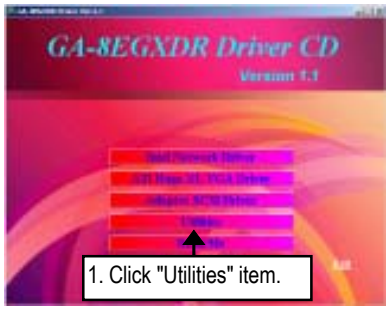
2. A n exploer window will pops up. Click in the “SCSI 7902W” folder, the followed up screen will guide you to install the SCSI driver depends on the operating system.

(2)

Appendix D: Utilities Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

The **Utilities** item contains the utility of **DirectX 8.1**, **Adabe Acrobate Reader V.5.0**, and **Norton Internet Security 2002**



(1)

(2)

Appendix E: About Updating latest version of BIOS

To update the latest BIOS version, please go to Gigabyte Networking official web site:
Http://networking.gigabyte.com.tw

Appendix F: ZCR Software Installation

For detail information of ZCR Software and Hardware Installation, please refer to **Promise RAID Function (For 20276 Chipset Used) User's Manual** that come with your motherboard.

Appendix G: Acronyms

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

to be continued.....

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

Technical Support/RMA Sheet

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

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

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

Problem Description: