GA-8EGXR Series

Workstation / Server Motherboard

USER'S MANUAL

Pentium® 4 Processor Motherboard

Rev. 1002

12ME-8EGXR-1002

Table of Content

Item Checklist

- ☑ The GA-8EGXR(C) motherboard
- ☑ Driver CD for motherboard driver & utility
- ☑ I/O Shielding x 1
- ☑ GA-8EGXR user's manual
- ☑ SCSI Cable x 1 (For GA-8EGXR with color box Only)
- ☑ IDE cable x 2/ Floppy cable x 1

GA-8EGXR Series Model List

- ✓ GA-8EGXR (Supports 533MHz / with SCSI function)
- ✓ GA-8EGXR-C (Suppots 533MHz / without SCSI function)

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	• 30.48cm x 24.38cm ATX size form factor, 6 layers PCB.
CPU	• Socket 478 for Intel® Micro FC-PGA2 Intel® Pentium® 4 processor • Intel Pentium® 4 400/533MHz FSB • 2nd cache depend on CPU
Chipset	• Serverworks CMIC-SL Northbridge • Serverworks CSB6 Southbridge
Memory	• 4 184-pin DDR DIMM sockets • Supports Up to 4 Register DIMM DDR200/266 • Supports up to 4 GB (Max) • Supports only 2.5V DDR DIMM
I/O Control	• NS PC87417
Slots	• Support PCI 64/33 MHz x 4 Slot PCI 32/33 MHz x 2 Slot
On-Board IDE	• 2 IDE bus master (ATA100) IDE ports for up to 4 ATAPI devices
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) • 4 USB ports (Two ar front and two at rear)
Hardware Monitor	• CPU/System Fan Revolution detect • CPU/System Fan Fail Warning • CPU/System Overheat Warning • System Voltage Detect • Caseopen intrusion

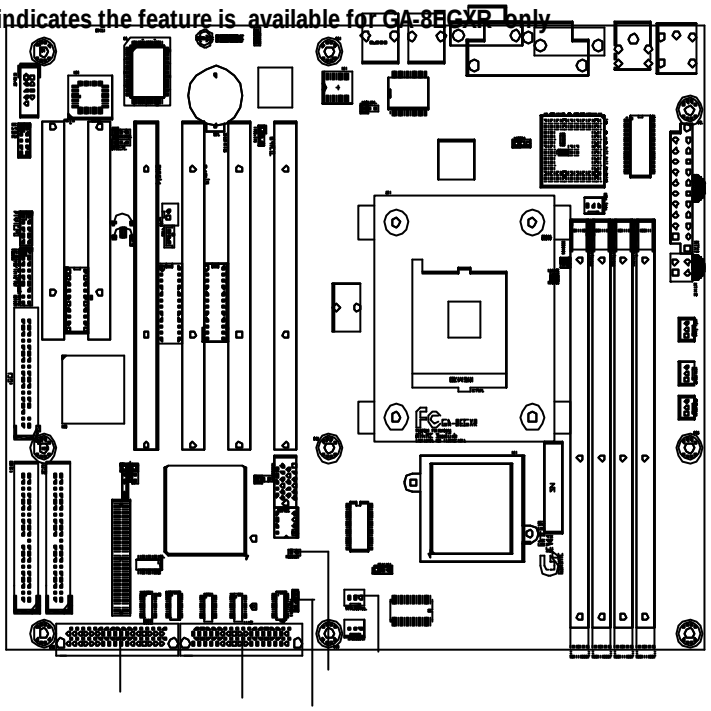
to be continued.....

On-Board LAN	• Build in Intel® 82540EM 10/100/1000 Gigabit Ethernet Chipset (Server Adaptec) • 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 (For GA-8EGXR Only)	• Adaptec 7899W SCSI Chipset ; Dual Channel Ultra 160
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interace
BIOS	• Licensed AMI BIOS, 4M bit Flash ROM
Additional Features	• Wake on LAN (On board LAN 1 & LAN 2) • Wake on Moderm • Support Intel ZCR and Adaptec ZCR card (Note: Insert to the green PCI slot ;For GA-8EGXR Only)

☞ 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.

GA-8EGXR Motherboard Layout

- **Note: the * indicates the feature is available for GA-8EGXR only.**



Chapter 2 Hardware Installation Process

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

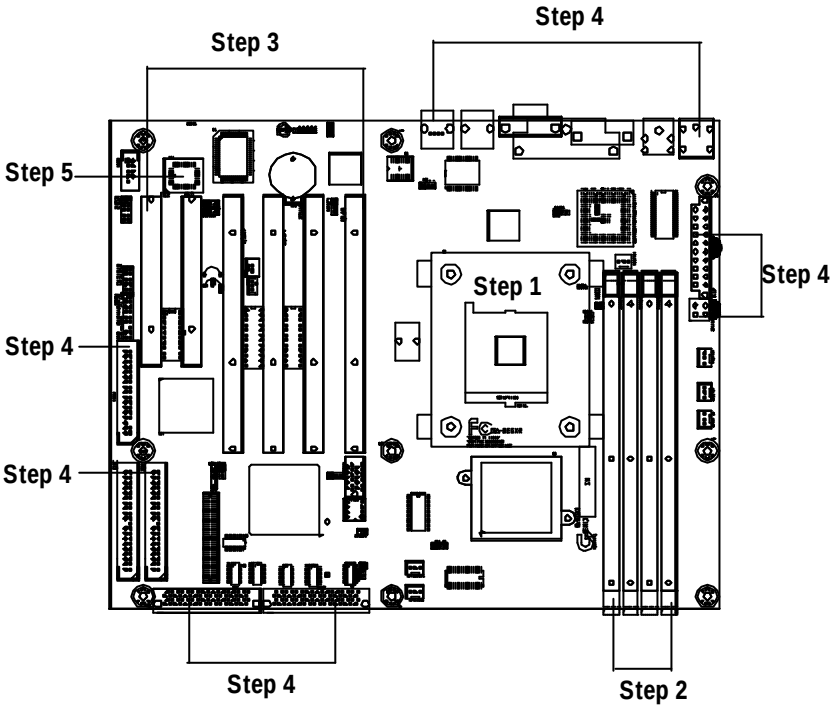
Step 1- Install the CPU

Step 2- Install memory modules

Step 3- Install expansion cards

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

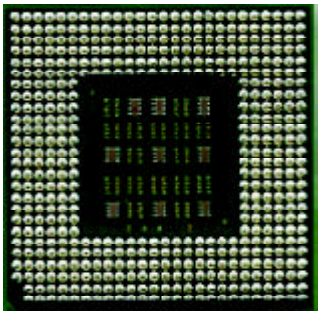
Step 5- Setup BIOS software



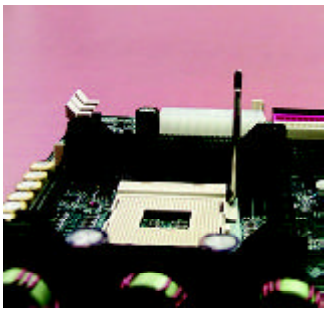
Step 1: Install the Central Processing Unit (CPU)

Step 1-1: CPU Installation

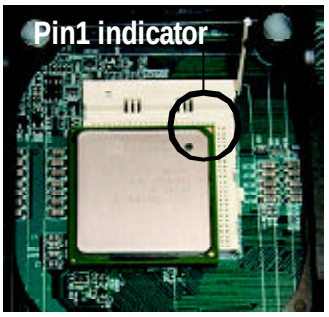
CPU Top View



CPU Bottom View



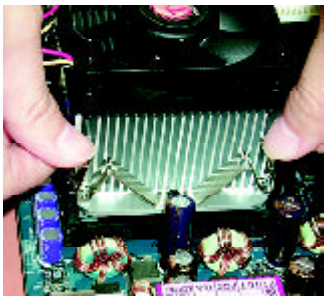
1. Pull up the CPU socket lever and up to 90-degree angle.
3. Press down the CPU socket lever and finish CPU installation.



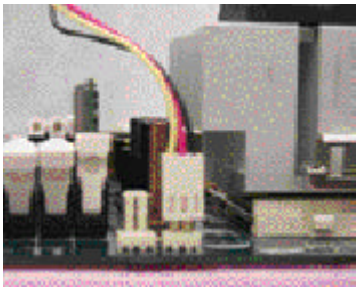
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

- **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.**

Step 1-2: CPU Heat Sink Installation



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



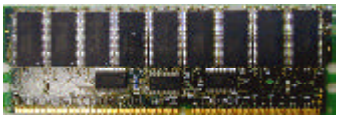
2. Hook the other end of the cooler bracket to the CPU socket.

- **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.**

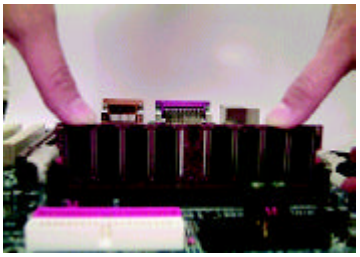
Step 2: Install memory modules

The motherboard has 4 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot.

The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.



Registered DDR

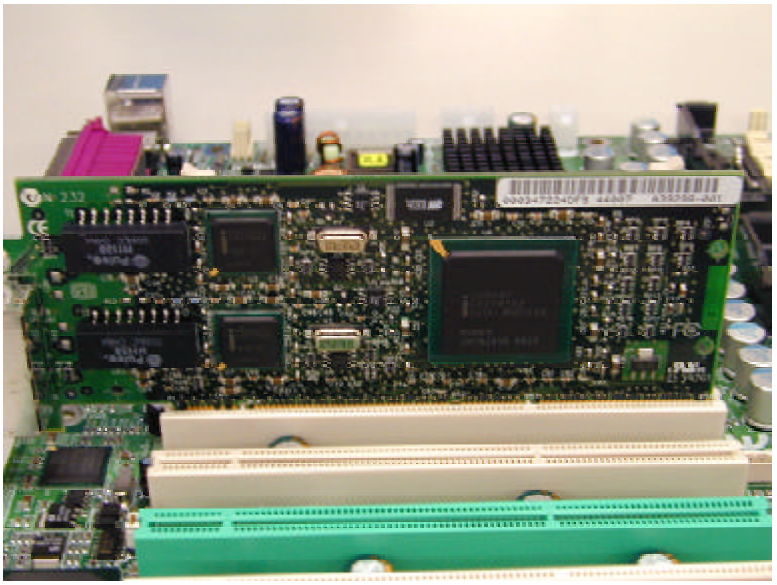


1. The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.
2. Insert the DIMM memory module vertically into the DIMM slot. Then push it down.
3. Close the plastic clip at both edges of the DIMM slots to lock the DIMM module.
   Reverse the installation steps when you wish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

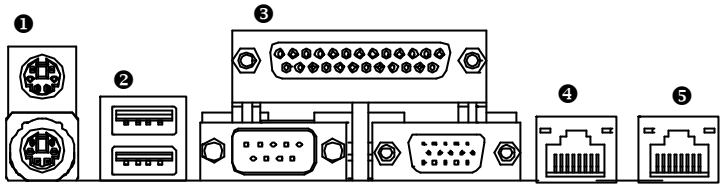
Step 3: Install expansion cards

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the card are indeed seated in the slot.
5. Replace the screw to secure the slot bracket of the expansion card.
6. Replace your computer's chassis cover.
7. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
8. Install related driver from the operating system.

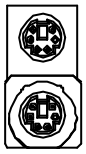


Step 4: Connect ribbon cables, cabinet wires, and power supply

Step 4-1: I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse Connector

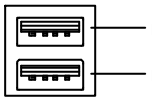


PS/2 Mouse Connector
(6 pin Female)

PS/2 Keyboard Connector
(6 pin Female)

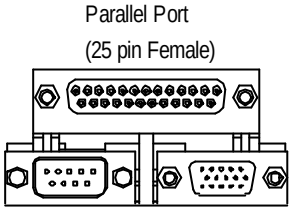
➢ This connector supports standard PS/2 keyboard and PS/2 mouse.

❷ USB Connector



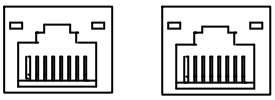
➢ Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker..etc. Have a standard USB interface. Also make sure your OS (Windows 2000, Win dows ME, Win NT with SP 6) supports USB controller. If your OS does not support 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.

❺/❹ LAN1 / LAN2 Port

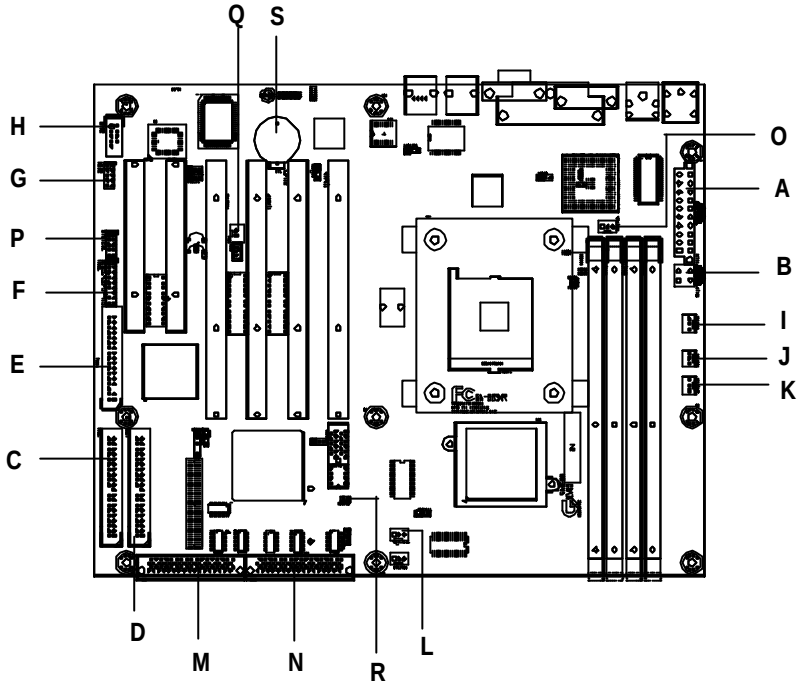


- LAN 2: Giagbit Ethernet 10/100/100
- LAN 1: 10/100 Ethernet

LAN1 / LAN2 LED Indicator Description

LAN Port	Status	Description
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
LAN 2	Yellow LED Blink	LAN2 active
	Yellow LED On	LAN2 connected
	Green LED On	LAN2 at speed 100/1000MB
	Green LED Off	LAN2 at speed 10MB

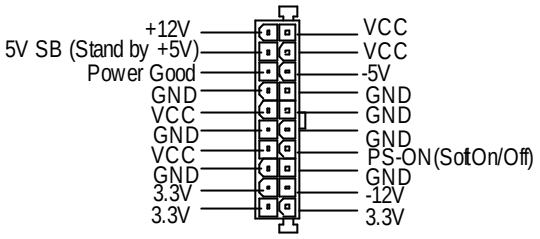
Step 4-2: Connectors Introduction



A) ATX1	K) System FAN 3
B) ATX2	L) System FAN 4
C) IDE1	M) SCSI 1
D) IDE2	N) SCSI 2
E) FDD1	O) CPU FAN1
F) F_PANEL1	P) WOL1
G) USB2	Q) WOM1
H) COM2	R) CASEOPEN
I) System FAN 1	S) BT
J) System FAN 2	

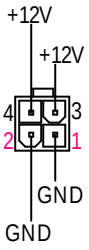
Note: the * indicates the feature is available for GA-8EGXR only

A) ATX1 (2x10 Pin ATX Power)



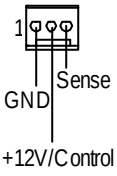
- AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

B) ATX2 (+12V Power Connector)



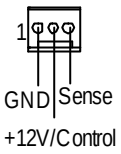
- This connector (ATX +12V) is used only for CPU Core Voltage.

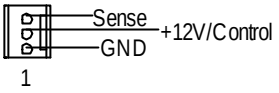
Q) CPU FAN 1 Connector



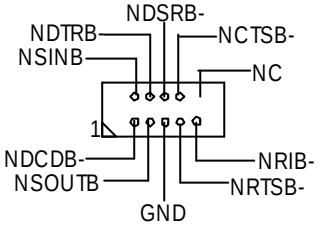
- Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating.The CPU fan connector supports Max. current up to 600mA .

I / J / K / L) System FAN 1/2/3/4 Connectors

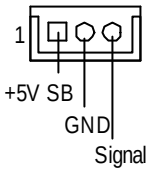




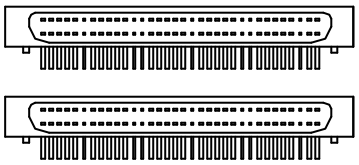
H) COM 2 Connector



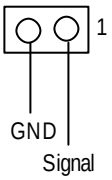
P) Wake On LAN Connector



M / N) *SCSI1/SCSI2 Connector

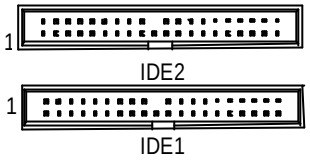


Q) Wake On Ring Connector

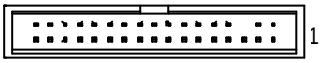


➧ **Note: the * indicates the feature is available for GA-8EGXR only**

C / D) IDE 1/ IDE 2 [IDE1 / IDE2 / Connectors(Primary/Secondary)]

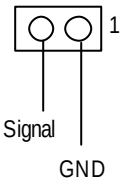


E) FDD1 (Floppy Connector)



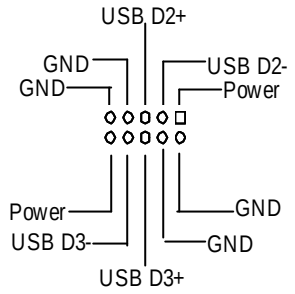
Floppy

R) CASE OPEN



➢ Please note that uder normal circumstance, the CASEOPEN connector is set at closed status. When it is at open status (for example, the chassis cover is opened) system will alarm warning beeping.
We recommend user to use the **Normal-Close** switch.

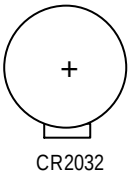
G) USB2



➢ 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.

S) BT1 (Battery)

Li-Battery 3V



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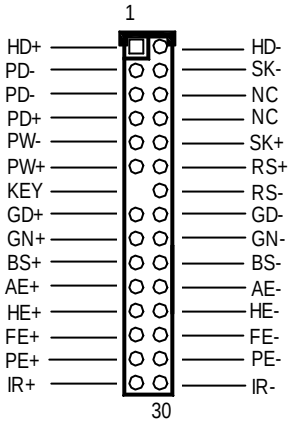
CAUTION

- ❖ 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.

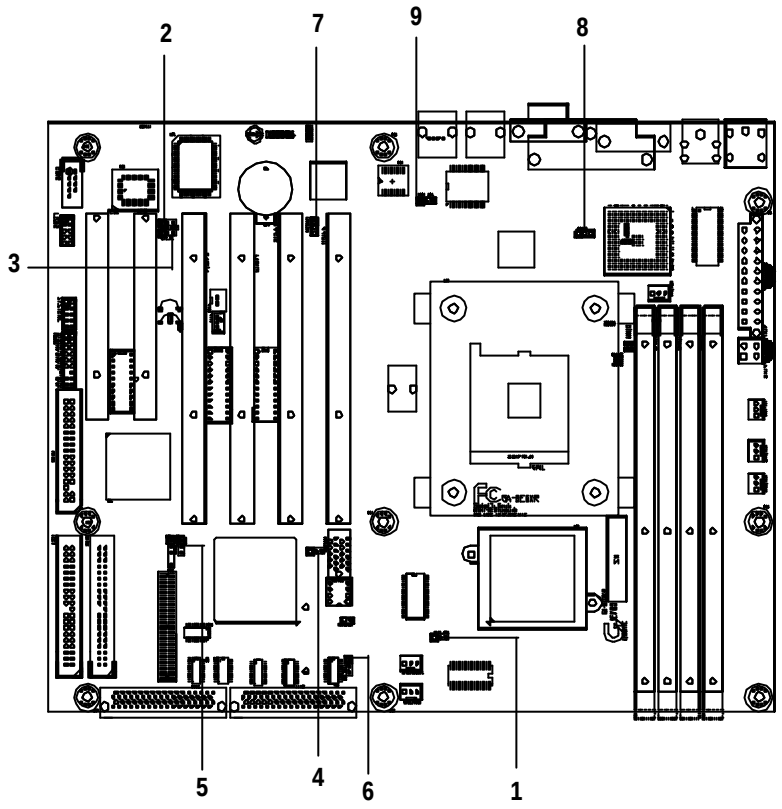
F) F_PANEL1 (2x15 Pins connector)



1) HD+ (HDD LED)	**2) HD- (HDD LED)**
3) PD- (Power LED)	**4) SK- (Speaker)**
5) PD- (Power LED)	**6) NC (Not Connect)**
7) PD+ (Power LED)	**8) NC (Not Connect)**
9) PW+ (Power Switch)	**10) SK+ (Speaker)**
11) PW- (Power Switch)	**12) RS+ (Reset Button)**
13) KEY (Not Connect)	**14) RS- (Reset Button)**
15) GD+ (System Sleep LED)	**16) GD- (System Sleep LED)**
17) GN+ (System Sleep Switch)	**18) GN- (System Sleep Switch)**
19)BS+ (Not Connect)	**20) BS- (Not Connect)**
21) AE+ (Not Connect)	**22) AE- (Not Connect)**
23) HE+ (Not Connect)	**24) HE- (Not Connect)**
25)FE+ (Not Connect)	**26) FE- (Not Connect)**
27)PE+ (Not Connect)	**28) PE- (Not Connect)**
29) IR+ (Not Connect)	**30) IR- (Not Connect)**

- 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.

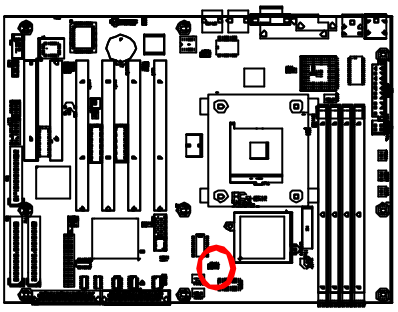
Step 4-3: Jumper Setting Introduction



1) CLK_JP1	6) TERM_EN2
2) CMOS_CLR1	7) LAN1_EN1
3) WRITE_P1	8) VGA_EN1
4) SCSI_EN1	9) LAN2_EN1
5) TERM_EN1	

☝ **Please note that the highlight white mark on the motherboard is presented as Pin 1**

1) CLK_JP1

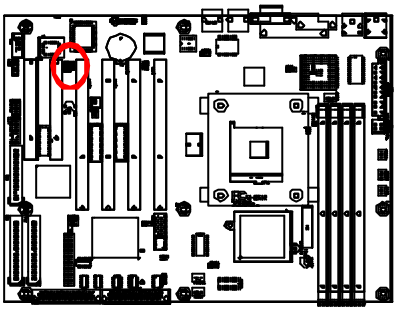


1  2-3 close: CPU Speed at 533MHz (Default)

1  None: CPU Speed at 400MHz

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

2) CMOS_CLR1 (Clear CMOS Function)

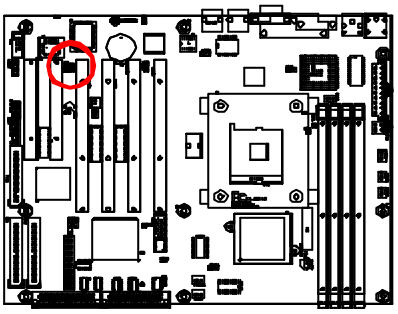


1  1-2 close: Clear CMOS

1  2-3 close: Normal (Default)

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

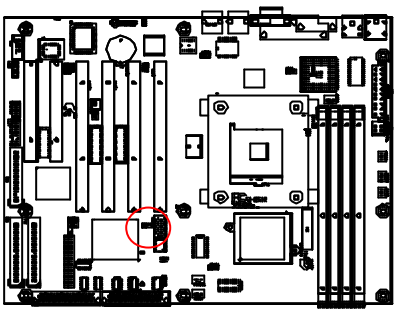
3) WRITE_P1 (Write Protect Function)



1  1-2 close: BIOS Write Protect Enables

1  2-3 close: Writer Protect Disabled (Default)

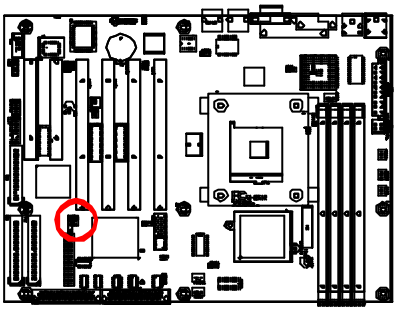
4) SCSI_EN1 (SCSI Function)



1 1-2 close: SCSI Enabled (Default)

1 2-3 close: SCSI Disabled

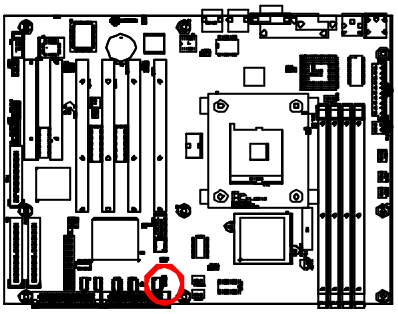
5) TERM_EN1 (SCSI1 On-Board Terminator Function)



1 1-2 close: SCSI Terminator Enabled (Default)

1 2-3 close: SCSI Terminator Disabled

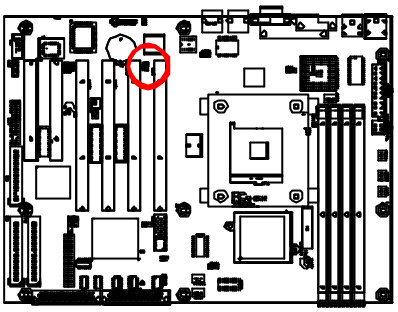
6) TERM_EN2 (SCSI2 On-Board Terminator Function)



1 1-2 close: SCSI Terminator Enabled (Default)

1 2-3 close: SCSI Terminator Disabled

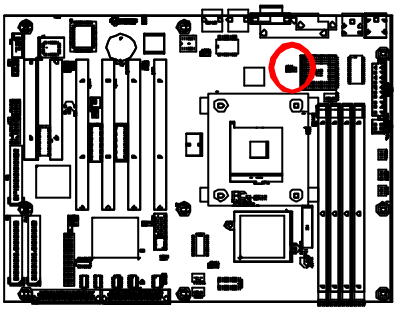
7) LAN1_EN1 (LAN1 Function)



1  1-2 close: LAN1 Enabled (Default)

1  2-3 close: LAN1 Disabled

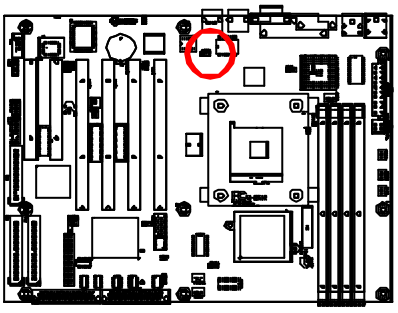
8) VGA_EN1 (VGA Function)



1  1-2 close: VGA Enabled (Default)

1  2-3 close: VGA Disabled

9) LAN2_EN1 (LAN2 Function)



1  1-2 close: LAN2 Enabled (Default)

1  2-3 close: LAN2 Disabled

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.)

- **Security**

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

- **Boot**

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

- **Exit**

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

Main (BIOS Version)

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.

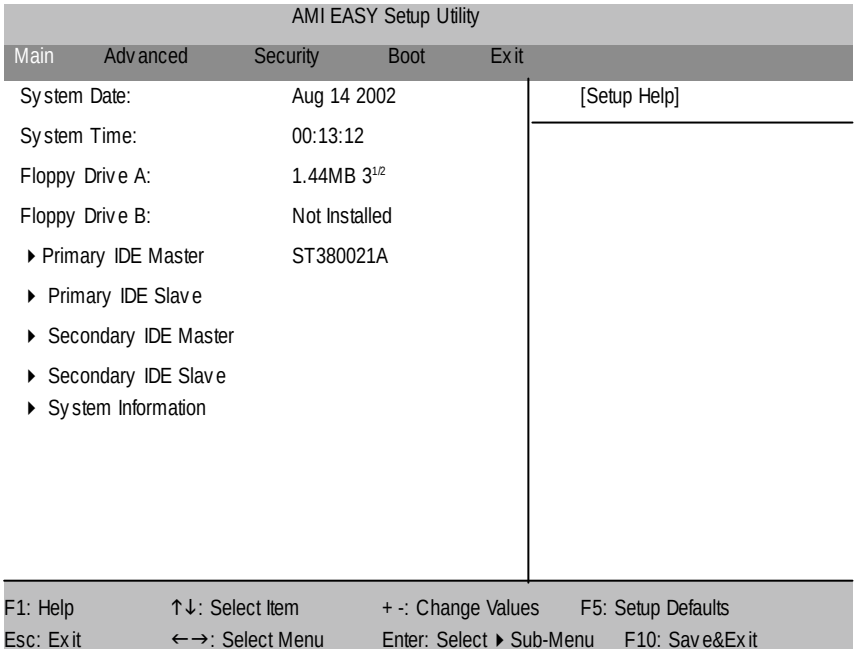


Figure 1: Main

☞ **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 CPU Type, Speed, Cache and Memory.

Advanced

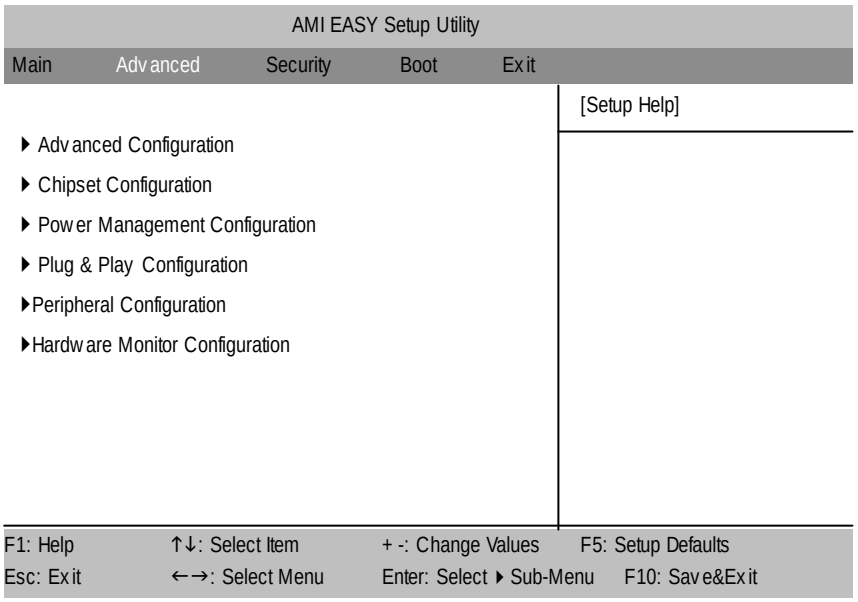


Figure 2: Advanced

About This Section: Advanced

This section **"Advanced"** is divided into six sub-menus.

- **Advanced Configuration**
- **Chipset Configuration**
- **Power Management Configuration**
- **Plug & Play Configuration**
- **Peripheral Configuration**
- **Hardware Monitor Configuration**

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

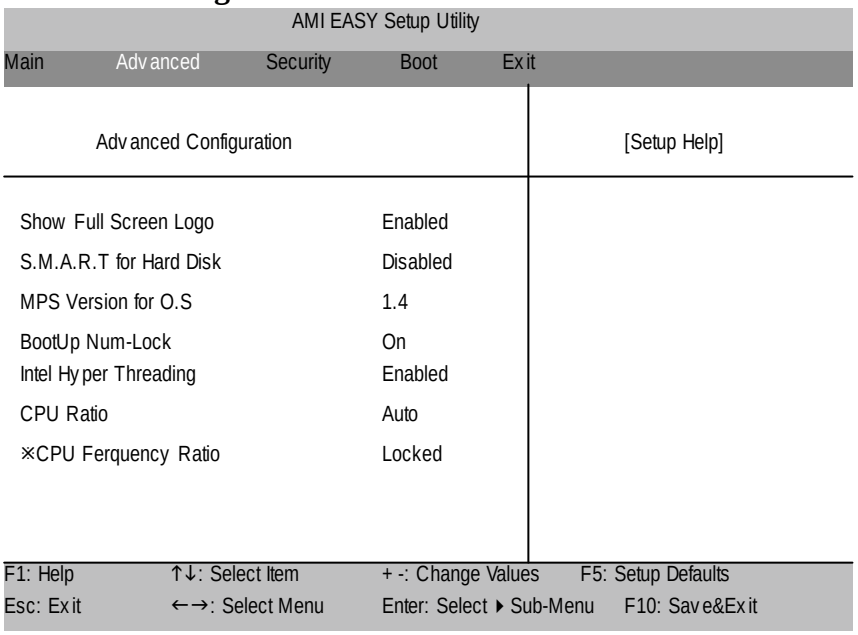


Figure 2-1: Advanced Configuration

Note that ※ DISPLAYS ONLY when CPU Frequency Ratio selection is invalid.

☞ Advanced Configuration

This category allow user to configure advanced functions .

▸ Show Full Screen Logo (If vaild)

- ▸▸Enabled Enable Show Full Screen Logo function.(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.

- ▸▸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

- ▸▸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 Inel Hyper Threading. (Default Value)
- ▸▸Disabled Disable Inel Hyper Threading.

▸ CPU Ratio

- ▸▸Auto Set the CPU Ratio at Auto Mode (Default Value)
- ▸▸Manual Set the CPU Ratio at Manual Mode

Note that it will not have any effect on the CPU Frequency whether uesr set the CPU Ratio at Auto or Manual mode.

Chipset Configuration

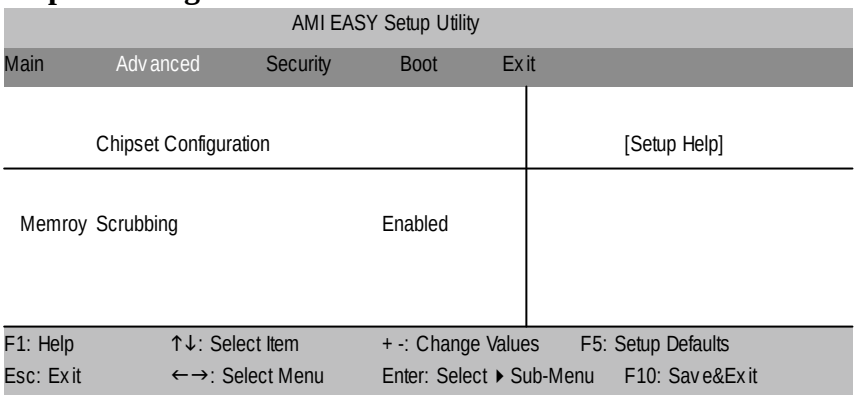


Figure 2-2: Chipset Configuration

☞ Chipset Configuration

▸ **Memory Scrubbing**

▸▸Enabled Enable this option to write back the ECC corrected memory data to the DRAM. (Default Value)

▸▸Disabled Disable this function.

Power Management Configuration

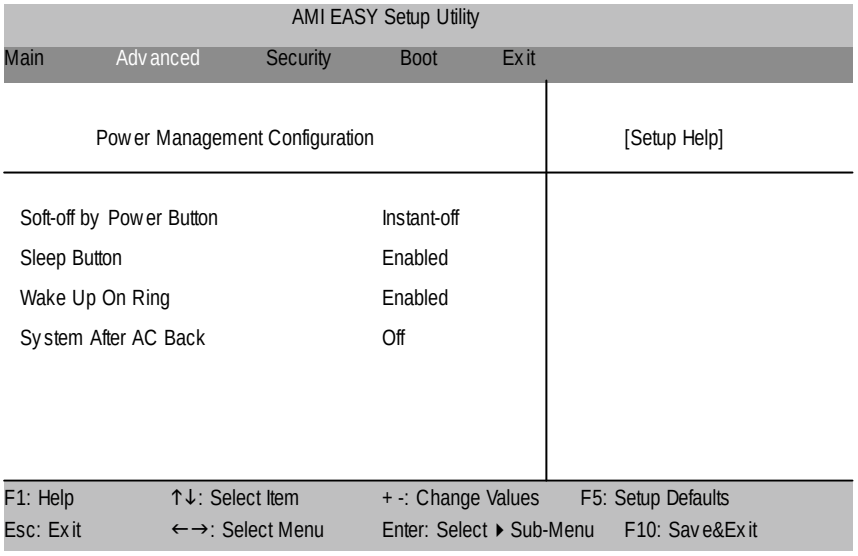


Figure 2-3: Power Management Configuration

☞ 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 — Turn off system as soon as power button is pressed.
  - ▸▸Delay 4 Sec — Turn off system when power button is pressed and hold for more than 4 seconds.

- **Sleep Button**

Leaves on the default for best compatibility

- ▸▸Enabled — Enable Sleep Button. (Default Value)
- ▸▸Disabled — Disable this function.

▸ Wake Up Ring

System is waken up when Moderm-Ring is on.

- ▸▸Enabled — Enable Wake Up Ring. (Default Value)
- ▸▸Disabled — Disable this function.

▸ System After AC Back

System power state when AC cord is re-plugged.

- ▸▸Pre-State — Set system power to the last state when AC power is removed.
- ▸▸OFF — Do not power on system when AC power is back. (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 & 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 with its own special components. This section covers some technical items and it is stongly recommended that only experienced users can make 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

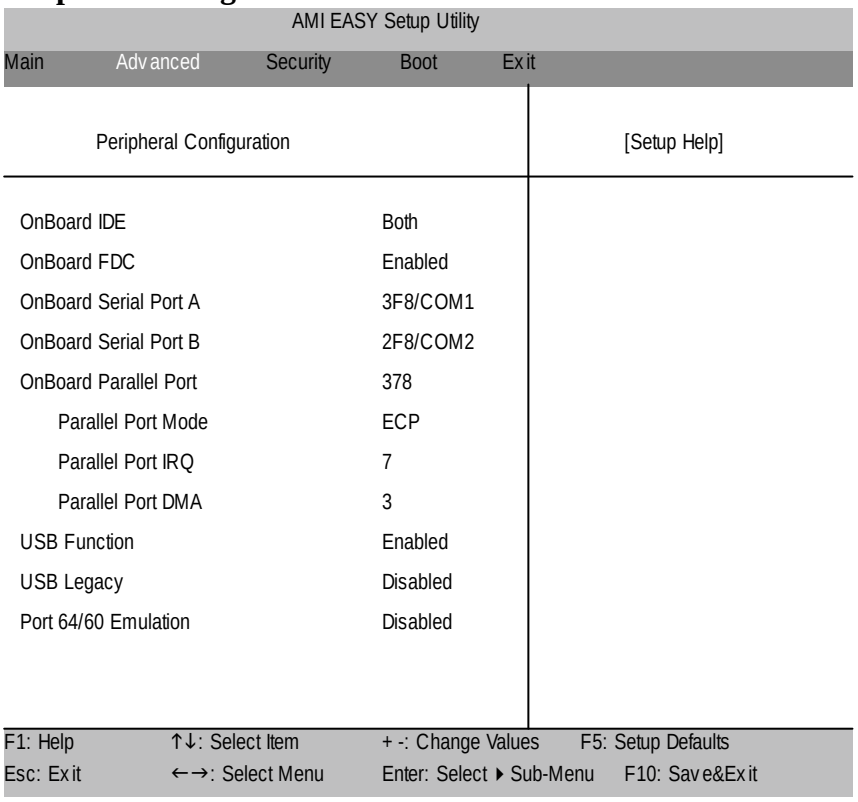


Figure 2-5: Peripheral Configuration

☞ 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.

- 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.

- Enable Enable support for legacy USB.
- Disabled Disable 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)

Hardware Monitor Configuration

AMI EASY Setup Utility

Main Advanced Security Boot Exit

Hardware Monitor Configuration		[Setup Help]
CPU Temperature	+39℃/+102℉	
System Temperature	+39℃/+102℉	
CPU_FAN Speed	RPM	
SYS_FAN1 Speed	RPM	
SYS_FAN2 Speed	RPM	
SYS_FAN3 Speed	RPM	
SYS_FAN4 Speed	RPM	
VCC_P	1.952V	
VCC 2.5	0.000V	
VCC 3	0.000V	
VCC 5	0.000V	
VCC 12	0.000V	
VBAT	0.000V	
5VSB	0.000V	
Hardware Monitor Alarm	Disabled	
SYS_TEM. Buzzer Alarm	Disabled	
CPU_FAN1 Buzzer Alarm	Disabled	
SYS_FAN1 Buzzer Alarm	Disabled	
SYS_FAN2 Buzzer Alarm	Disabled	
SYS_FAN3 Buzzer Alarm	Disabled	
SYS_FAN4 Buzzer Alarm	Disabled	
VCC_P Buzzer Alarm	Disabled	
Case Open Alarm	Disabled	
Case Open Status	Close	
Reset Case Open Status	No	

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

Figure 2-6: Hardware Monitor Configuration

☞ Hardware Monitor Configuration

This section provides the system hardware health information to user for reference.

▸ CPU Temperature

This field only displlays the current CPU temperature.

▸ System Temperature

This field only displlays the current system temperature.

▸ CPU FAN Speed

This field indicates the **RPM** (Ratio Per Minute) of current CPU speed.

▸ SYS FAN 1 / 2 / 3 /4 Speed

This field indicates the **RPM** (Ratio Per Minute) of System Fan 1/2/3/4 speed.

▸ VCC_P / VCC 2.5 / VCC 3 / VCC5 / VBAT/12V/5VSB

This field only displays the current CPU / System voltage.

▸ Hardwae Monitor Alarm

This field allows user to monitor and to ser the set the warning values to protect the system hardware health. Enable this function to active the following desired items.

▸ SYS_TEM. Buzzer Alarm

Enable this function is protecting the System temperature is under the set value. System will alarm when the system temperature is over the set value.

- ▸▸Enabled — Enable system temperature buzzer alarm. It will alarm if the system temperature is over 55°C
- ▸▸Disabled — Disable this function.

CPU_TEM. Buzzer Alarm

Enable this function is protecting the CPU temperature is under the set value. System will alarm when the CPU temperature is over the set value.

- Enabled — Enable CPU temperature buzzer alarm. System will alarm if the CPU temperature is over 85°C.
- Disabled — Disable this function.

CPU_FAN and SYS_FAN1/2/3/4 Buzzer Alarm

When this function is enabled, system will alarm when CPU and System FAN1/2/3/4 stop.

- Enabled — Enable CPU FAN and System FAN 1/2/3/4 buzzer alarm.
- Disabled — Disable this function.

VCC_P Buzzer Alarm

Enable this function is protecting the system voltage is under the set value. System will alarm when the voltage is over the set value.

- Enabled — Enable VCC_P buzzer alarm.
- Disabled — Disable this function.

Case Open Alarm

This option allows user to set the case open alarm by physical warning alert. Once the chassis is opened, the system will rise warning beep to alarm user to close the case properly.

- Enabled — Enable Case Open alarm.
- Disabled — Disable this function.

Case Status

This item displays the status of system case.

Reset Case Open Status

This function provides user to stop the case open warning beep. Once the case is opened, the system will rise waring alert. To stop the beep, user is required to enter the setup menu and rest the case open status to "Yes" option.

Security

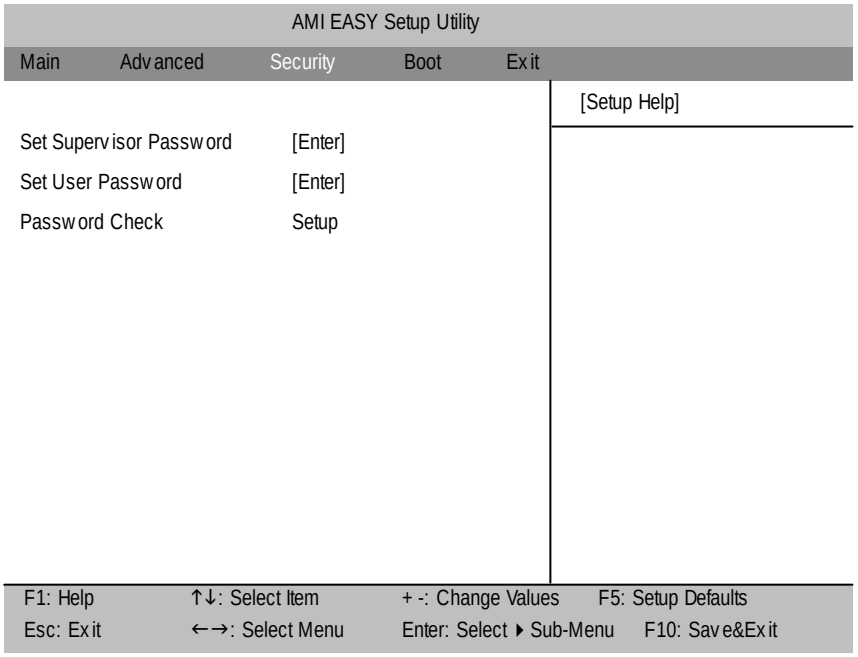


Figure 3: Security

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 to 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.

Always will check the password while involking setup as well as on each boot.

Option: Setup (Default Value), Always

Boot

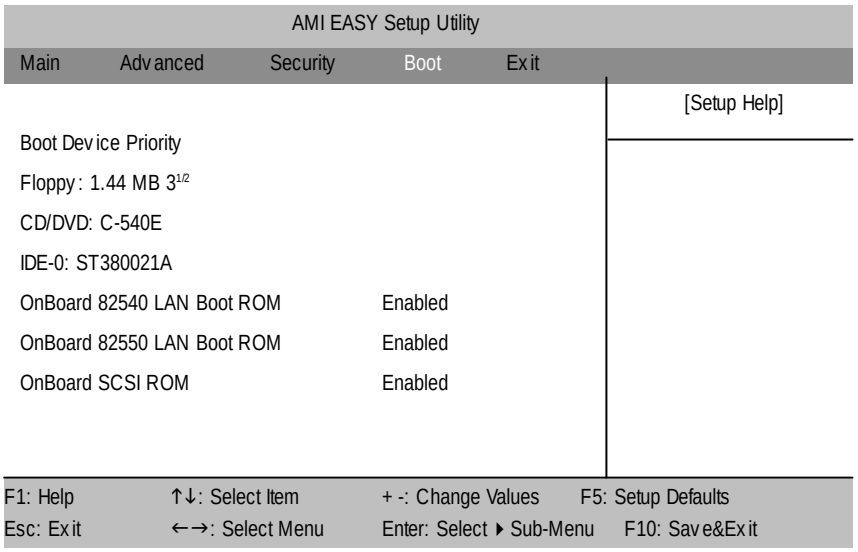


Figure 4: Boot

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.

The Choice for 3rd Boot Device: Removable Device , ATAPI CDROM, Hard Disk (Default Value), Disabled.

▶ OnBoard 82540 LAN Boot ROM

- ▸▸Enabled Enable OnBoard 82540 LAN Boot 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 Boot ROM. (Default Value)
- ▸▸Disabled Disable this function.

Exit

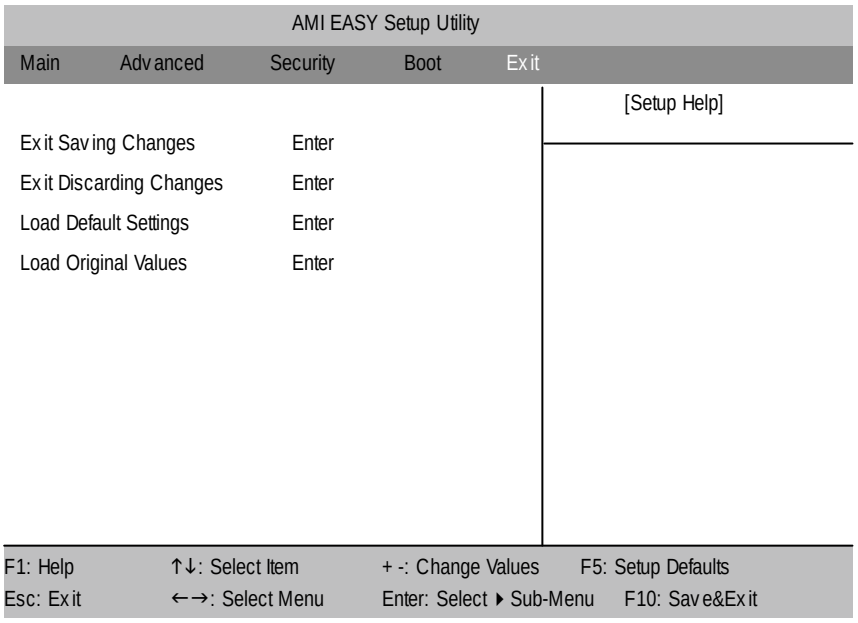


Figure 5: Exit

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

When you press <Enter> on this item, you will get a confirmation dialog box with a message as below:

[Load Default Settings]
Press [Enter] to continue
Or [ESC] to Abort

☞Load Original Values

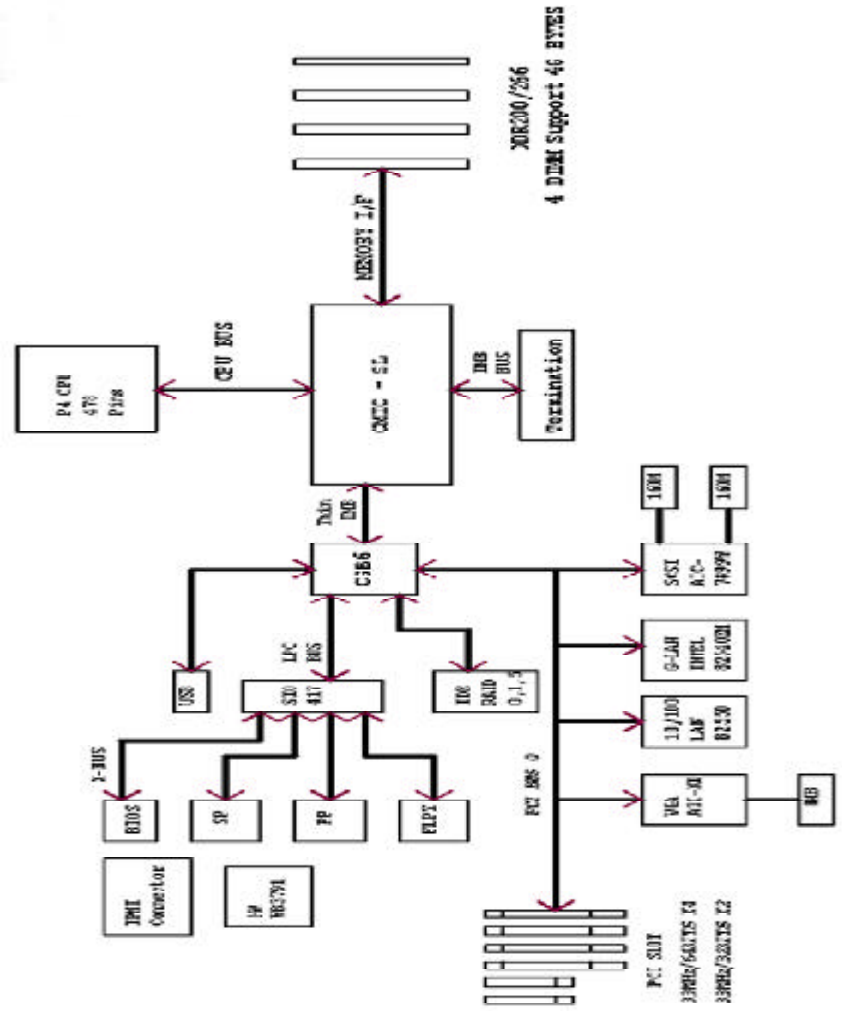
When you press <Enter> on this item, you will get a confirmation dialog box with a message as below:

[Load Original Values]
Press [Enter] to continue
Or [ESC] to Abort

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

Chapter 4 Technical Reference

Block Diagram

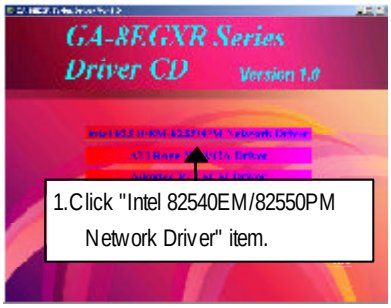


Chapter 5 Appendix

Appendix A: Intel 82540EM 82550PM Network Driver Installation

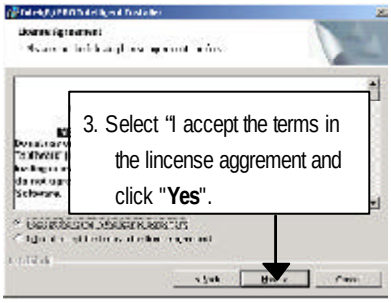
(For example: Driver CD Ver. : 1.0)

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.

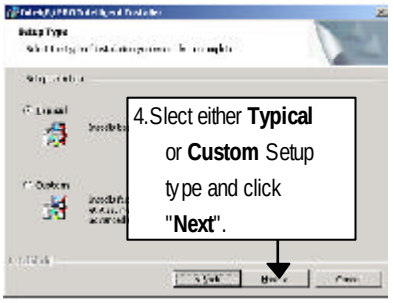


(1)

(2)

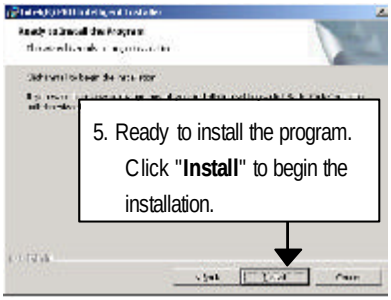


(3)

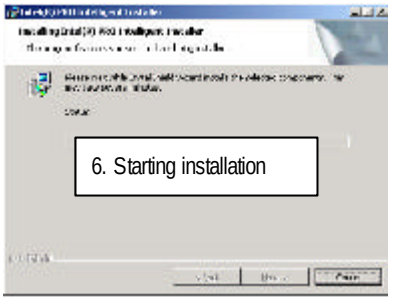


(4)

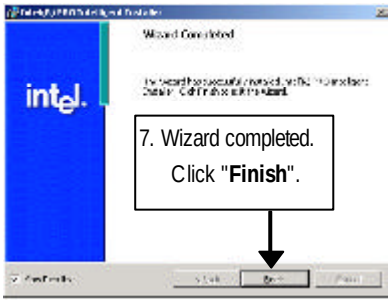
Step 4. Note that user can select either **Typical** or **Custom** Setup Types. **Typical** setup type allows users to install basic connectivity and the adapter management utility. **Custom** setup type embraces installing features and subfeatures user selects, including modern utilities, manage ment components and drivers. Recommended for advanced users.


5. Ready to install the program.
Click "Install" to begin the
installation.

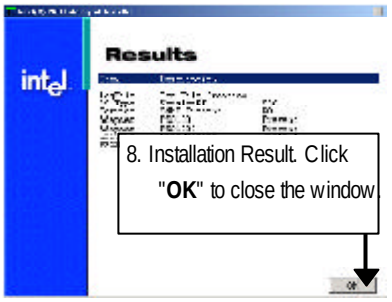
(5)


6. Starting installation

(6)


intel
7. Wizard completed.
Click "Finish".

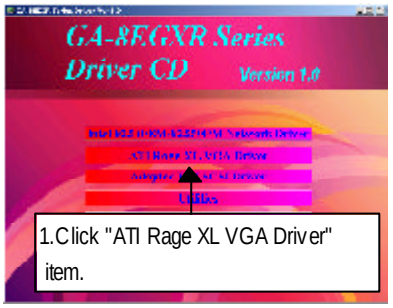
(7)


Results
intel
8. Installation Result. Click
"OK" to close the window

(8)

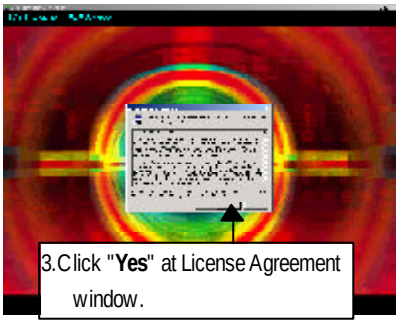
Appendix B: ATI Rage XL VGA Driver Installation

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.

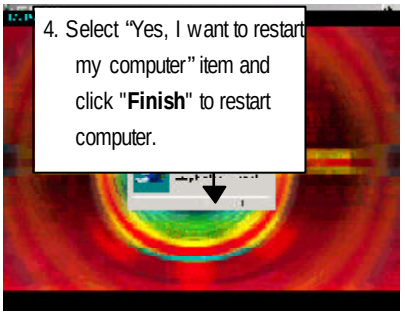


(1)

(2)



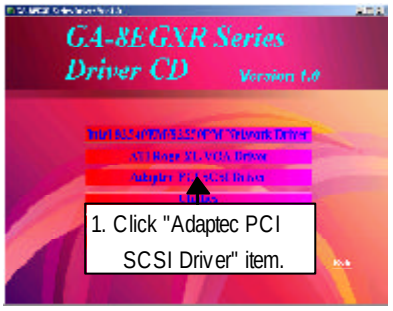
(3)



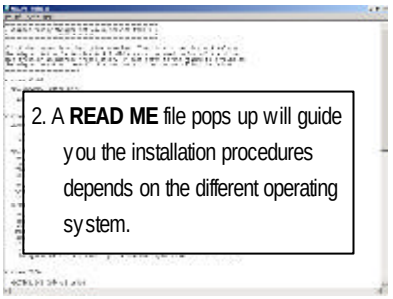
(4)

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)

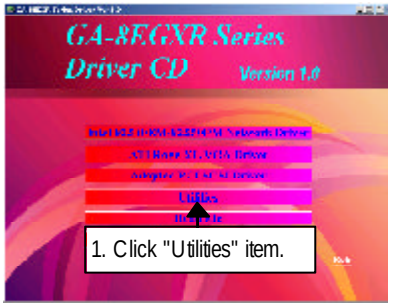


(2)

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 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: