



775i45GV

# User Manual

Version 1.0

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# Chapter 1 Introduction

Thank you for purchasing ASRock 775i45GV motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

Chapter 1 and 2 of this manual contain introduction of the motherboard and step-by-step installation guide for new DIY system builders. Chapter 3 and 4 contain basic BIOS setup and Support CD information.

For advanced users' reference, the Appendix appearing on page 25 offers more advanced BIOS setup information.



Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest memory and CPU support lists on ASRock website as well.

ASRock website <http://www.asrock.com>

## 1.1 Package Contents

ASRock 775i45GV Motherboard

(Micro ATX form factor: 9.6" x 8.5", 24.4 x 21.6 cm)

ASRock 775i45GV Quick Installation Guide

ASRock Intel-Intel Support CD (including *LGA 775 CPU Installation Live Demo*)

1 Cable for IDE Devices (1 x ATA 66 / 100)

1 Cable for Floppy Drive (1 x Ribbon Cable)

1 ASRock I/O™ Shield

1 COM Port Bracket (2 COM Port Bracket is optional)

1 ASRock MR Card (Optional)

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## 1.2 Specifications

<b>Platform:</b>	Micro ATX form factor (9.6" x 8.5", 24.4 x 21.6 cm)
<b>CPU:</b>	775-Pin Socket supporting Intel® Pentium® 4 / Celeron® processor (in 775-land LGA package)
<b>Chipsets:</b>	North Bridge: Intel® 845GV chipsets, standard FSB @ 533 MHz, supports Hyper-Threading Technology (see <b>CAUTION 1</b> ) South Bridge: Intel® ICH4
<b>VGA:</b>	Intel® Extreme Graphics, Max. 64MB VRAM
<b>Memory:</b>	2 DDR DIMM slots, DDR1 and DDR2 supports PC2700 (DDR333) / PC2100 (DDR266), Max. 2GB
<b>IDE:</b>	IDE1: ATA 100 / Ultra DMA Mode 5; IDE2: ATA 100 / Ultra DMA Mode 5; Can connect up to 4 IDE devices
<b>Floppy Port:</b>	Supports 2 floppy disk drives
<b>Audio:</b>	5.1 channels AC'97 Audio
<b>PCI LAN:</b>	Speed: 802.3u (10/100 Ethernet), supports Wake-On-LAN
<b>Hardware Monitor:</b>	CPU temperature sensing; Chassis temperature sensing; CPU overheat shutdown to protect CPU life (ASRock U-COP) (see <b>CAUTION 2</b> ); Voltage monitoring: +12V, +5V, +3.3V, Vcore; CPU fan tachometer; Chassis fan tachometer
<b>PCI slots:</b>	3 slots with PCI Specification 2.2, PCI3 slot shared with AMR
<b>AGI slot:</b>	1 AGI [ASRock Graphics Interface] slot (see <b>CAUTION 3</b> )
<b>AMR slot:</b>	1 slot, supports ASRock MR card (Optional)
<b>USB 2.0:</b>	4 default USB 2.0 ports and 1 extra set of header for 2 additional USB 2.0 ports upgrade (see <b>CAUTION 4</b> )
<b>ASRock I/O™:</b>	PS/2: 1 keyboard port / 1 mouse port; 1 RJ 45 port; 4 rear default USB 2.0 ports; 1 VGA port; 1 parallel port: ECP/EPP support; Audio Jack: Line Out/ Line In/ Microphone + Game port
<b>BIOS:</b>	AMI legal BIOS; Supports "Plug and Play"; ACPI 1.1 compliance wake up events; CPU frequency stepless control (only for advanced users' reference, see <b>CAUTION 5</b> )
<b>OS:</b>	Microsoft® Windows® 98SE / ME / 2000 / XP compliant

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## **CAUTION!**

1. About the setting of "Hyper Threading Technology", please check page 25.
2. While CPU overheat is detected, the system will automatically shutdown. Please check if the CPU fan on the motherboard functions properly before you resume the system. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.
3. The AGI [ASRock Graphics Interface] slot is a special design that only supports compatible AGP VGA cards. For the information of the compatible AGP VGA cards, please refer to the "Supported AGP VGA Cards List" on page 7 and page 8. For the proper installation of AGP VGA card, please refer to the installation guide on page 16.
4. Power Management for USB 2.0 works fine under Microsoft® Windows® XP SP1/2000 SP4. It may not work properly under Microsoft® Windows® 98/ME. Please refer to Microsoft® official document at <http://www.microsoft.com/whdc/hwdev/bus/USB/USB2support.mspx>
5. Although this motherboard offers stepless control, it is not recommended to perform over clocking. Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU.

---

## 1.3 Supported AGP VGA Cards List

(for Windows 2000/Windows XP)

### I. AGP 4X

Graphics Chip Vendor	Model Name
n-VIDIA	ASUS AGP-V7100 ASUS AGP-V7100PRO ASUS AGP-V7100 MAGIC / 32M ASUS AGP-V7700Ti ASUS AGP-V8170DDR ASUS AGP-V8170SE / LP ASUS AGP-V8200 T2 ASUS AGP-V8200 T5 ASUS AGP-V8440 ASUS AGP-V8460 Ultra GAINWARD- GF3-TI500/64M GAINWARD- GF3-TI500/128M Inno3D GeForce2 MX400 Leadtek WinFast A170 TH Leadtek WinFast A170 DDR Leadtek WinFast A250LE TD Leadtek WinFast GeForce2 MX MX64 Leadtek WinFast GeForce2 H MX400 MSI- GF4-MX440SE PROLINK GF4-MX440 SPARKLE GF4-MX440
ATI	Gigabyte GV-AP64D Gigabyte GV-AP64D-H Gigabyte GV-AR64S-H POWERCOLOR RADEON 9000 TRANSCEND TS64MVDR7
Sis	SYNNEX GCM-SIS315EA32

For the latest updates of the supported AGP VGA cards list, please visit ASRock website for details.

ASRock website: <http://www.asrock.com/support/index.htm>

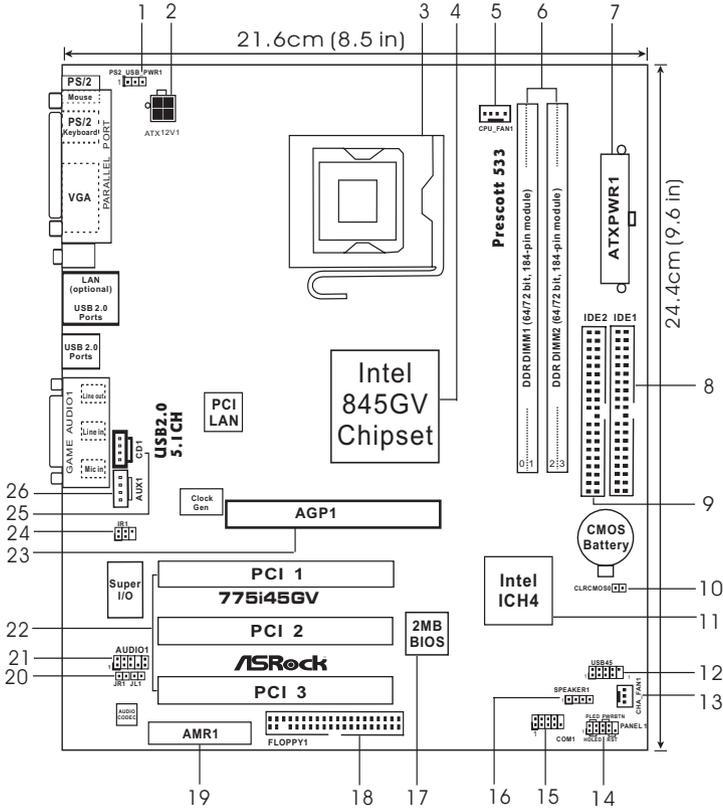
## II. AGP 8X

Graphics Chip Vendor	Model Name
n-VIDIA	ALBATRON GF4-MX440 64M ALBATRON GF4-MX440-8X ALBATRON GF-FX5600 AOPEN Aeolus FX5600S-DV128 AOPEN Aeolus FX5200-V128 ASUS AGP-V9180 ASUS AGP-V9280 VIEDO SUITE ASUS AGP-V9520 MAGIC/T ASUS V9900 ASUS V9900 ULTRA ASUS V9480 ASUS U9950 ULTRA ASUS V9570 ASUS V9560 ASUS V9400MAGIC ELSA-GLADIC 518 ELSA-GLADIC 518 P GIGABYTE GV-N57L256D Inno3D GeForce FX5600 LEADTEK A280 LE LEADTEK A340TDH LEADTEK GF-FX5700 LEADTEK GF-FX5200 LEADTEK GF4-4200-8X LEADTEK GF6800 MSI Ti4800SE-VTD8X MSI FX5700-TD128 PALIT GF4 MX440 8X 64MB PROLINK GeForceFX5900 PROLINK GF4-TI4200 SPARKLE GF4-MX440-8X
ATI	Gigabyte GV R9000 PRO Gigabyte RADEON 9500 Gigabyte RADEON 9700 PRO MSI RX9200SE-T128 POWER COLOR 9200 POWER COLOR RADEON9200 SAPPHIRE RADEON 9200-128MB
SiS	XABRE400 POWER COLOR XABRE60

For the latest updates of the supported AGP VGA cards list, please visit ASRock website for details.

ASRock website: <http://www.asrock.com/support/index.htm>

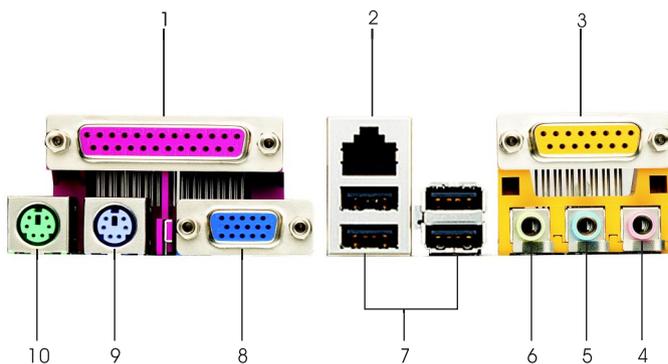
# 1.4 Motherboard Layout



- |    |                                       |    |  |
|----|---------------------------------------|----|--|
| 1  | PS2_USB_PWR1 Jumper                   | 14 | System Panel Header (PANEL1)           |
| 2  | ATX 12V Connector (ATX12V1)           | 15 | Serial Port Connector (COM1)           |
| 3  | 775-Pin CPU Socket                    | 16 | Chassis Speaker Header (SPEAKER 1)     |
| 4  | North Bridge Controller               | 17 | BIOS FWH Chip                          |
| 5  | CPU Fan Connector (CPU_FAN1)          | 18 | Floppy Connector (FLOPPY1)             |
| 6  | 184-pin DDR DIMM Slots (DDR1-2)       | 19 | AMR Slot (AMR1)                        |
| 7  | ATX Power Connector (ATXPWR1)         | 20 | JR1/JL1 Jumpers                        |
| 8  | Primary IDE Connector (IDE1, Blue)    | 21 | Front Panel Audio Connector (AUDIO1)   |
| 9  | Secondary IDE Connector (IDE2, Black) | 22 | PCI Slots (PCI-3)                      |
| 10 | Clear CMOS Jumper (CLR_CMOS0)         | 23 | ASRock Graphics Interface Slot         |
| 11 | South Bridge Controller               | 24 | Infrared Module Header (IR1)           |
| 12 | USB 2.0 Header (USB45, Blue)          | 25 | Internal Audio Connector: CD1 (Black)  |
| 13 | Chassis Fan Connector (CHA_FAN1)      | 26 | Internal Audio Connector: AUX1 (White) |

---

## 1.5 ASRock I/O™



- |   |                       |    |                             |
|---|-----------------------|----|-----------------------------|
| 1 | Parallel Port         | 6  | Line Out (Lime)             |
| 2 | RJ-45 Port (Optional) | 7  | USB 2.0 Ports               |
| 3 | Game Port             | 8  | VGA Port                    |
| 4 | Microphone (Pink)     | 9  | PS/2 Keyboard Port (Purple) |
| 5 | Line In (Light Blue)  | 10 | PS/2 Mouse Port (Green)     |

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## Chapter 2 Installation

775i45GV is a Micro ATX form factor (9.6" x 8.5", 24.4 x 21.6 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.



Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

### 2.1 Screw Holes

Place screws into the holes indicated by circles to secure the motherboard to the chassis.



Do not over-tighten the screws! Doing so may damage the motherboard.

### 2.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

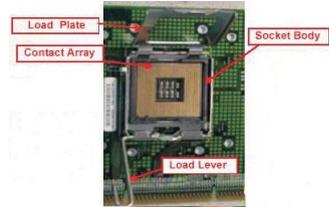
1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.



Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

## 2.3 CPU Installation

For the installation of Intel 775-Pin CPU, please follow the steps below.



775-Pin Socket Overview



Before you insert the 775-Pin CPU into the socket, please check if the CPU surface is unclean or if there is any bent pin on the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.

Step 1. Open the socket:

Step 1-1. Disengaging the lever by depressing down and out on the hook to clear retention tab.



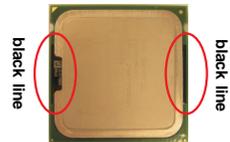
Step 1-2. Rotate the load lever to fully open position at approximately 135 degrees.



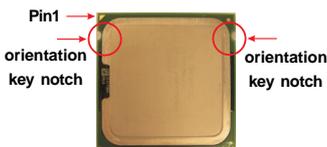
Step 1-3. Rotate the load plate to fully open position at approximately 100 degrees.

Step 2. Insert the 775-Pin CPU:

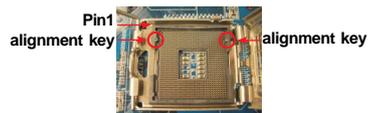
Step 2-1. Hold the CPU by the edges where are marked with black lines.



Step 2-2. Orient the CPU with IHS (Integrated Heat Sink) up. Locate Pin1 and the two orientation key notches.



775-Pin CPU



775-Pin Socket



For proper inserting, please ensure to match the two orientation key notches of the CPU with the two alignment keys of the socket.

Step 2-3. Carefully place the CPU into the socket by using a purely vertical motion.

Step 2-4. Verify that the CPU is within the socket and properly mated to the orient keys.



Step 3. Remove PnP Cap (Pick and Place Cap):

Use your left hand index finger and thumb to support the load plate edge, engage PnP cap with right hand thumb and peel the cap from the socket while pressing on center of PnP cap to assist in removal.



It is recommended to use the cap tab to handle and avoid kicking off the PnP cap.

Step 4. Close the socket:

Step 4-1. Rotate the load plate onto the IHS.

Step 4-2. While pressing down lightly on load plate, engage the load lever.

Step 4-3. Secure load lever with load plate tab under retention tab of load lever.



## 2.4 Installation of CPU Fan and Heatsink

This motherboard is equipped with 775-Pin socket that supports Intel 775-Pin CPU. Please adopt the type of heatsink and cooling fan compliant with Intel 775-Pin CPU to dissipate heat. Before you installed the heatsink, you need to spray thermal interface material between the CPU and the heatsink to improve heat dissipation. Ensure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU\_FAN connector (CPU\_FAN1, see page 9, No. 5).



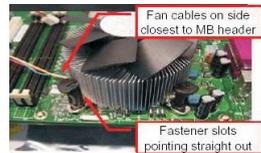
For proper installation, please kindly refer to the instruction manuals of your CPU fan and heatsink.

Below is an example to illustrate the installation of the heatsink for 775-Pin CPU.

Step 1. Apply thermal interface material onto center of IHS on the socket surface.



Step 2. Place the heatsink onto the socket. Ensure fan cables are oriented on side closest to the CPU fan connector on the motherboard (CPU\_FAN1, see page 9, No. 5).



Step 3. Align fasteners with the motherboard throughholes.

Step 4. Rotate the fastener clockwise, then press down on fastener caps with thumb to install and lock. Repeat with remaining fasteners.



If you press down the fasteners without rotating them clockwise, the heatsink cannot be secured on the motherboard.

Step 5. Connect fan header with the CPU fan connector on the motherboard.

Step 6. Secure excess cable with tie-wrap to ensure cable does not interfere with fan operation or contact other components.

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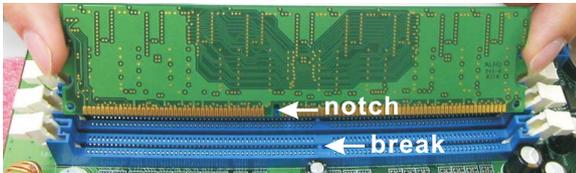
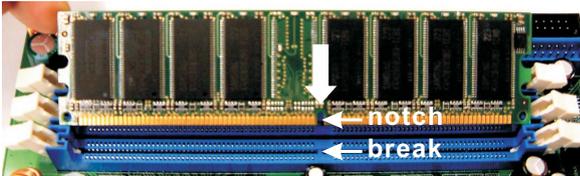
## 2.5 Installation of Memory Modules (DIMM)

775i45GV motherboard provides two 184-pin DDR (Double Data Rate) DIMM slots.



Please make sure to disconnect power supply before adding or removing DIMMs or the system components.

- Step 1. Unlock a DIMM slot by pressing the retaining clips outward.
- Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



The DIMM only fits in one correct orientation.  
It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

- Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

---

## 2.6 Expansion Slots (PCI, AMR, and AGI Slots)

There are 3 PCI slots, 1 AMR slot, and 1 AGI slot on this motherboard.

**PCI slots:** PCI slots are used to install expansion cards that have the 32-bit PCI interface.



Because the installed AMR card will occupy the same external connecting position with the PCI card installed in "PCI3" slot, you will not be able to install any PCI card in "PCI3" slot if an AMR card has already been installed in the AMR slot.

**AMR slot:** AMR slot is used to insert an ASRock MR card (optional) with v.92 Modem functionality.

**AGI slot:** The AGI [ASRock Graphics Interface] slot is a special design that only supports compatible AGP VGA cards. For the information of the compatible AGP VGA cards, please refer to the "Supported AGP VGA Cards List" on page 7 and page 8.



To install the system with an add-on AGP VGA card, you must make sure to install the driver of add-on AGP VGA card before you install the onboard VGA driver. If the onboard VGA driver has already been installed before you install the add-on AGP VGA card, the system will automatically set the onboard VGA as the primary graphics adapter. In that case, if you want to install the add-on AGP VGA card, you need to remove the onboard VGA driver first, and then install the add-on AGP VGA card and its driver. For the detailed instruction, please refer to the documents in the Support CD, "AGI Slot Installation Guide (for Windows 2000)" and "AGI Slot Installation Guide (for Windows XP)", which are located in the folder at the following path:

..\ Easy Dual Monitor

### Installing an expansion card

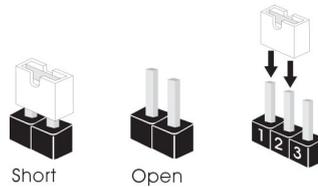
- Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.
- Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).
- Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.
- Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
- Step 5. Fasten the card to the chassis with screws.
- Step 6. Replace the system cover.

## 2.7 Easy Dual Monitor Feature

Thanks to ASRock patented AGI8X Technology, this motherboard supports Easy Dual Monitor upgrade. With the internal onboard VGA and the external add-on AGP VGA card, you can easily enjoy the benefits of Dual Monitor feature. For the detailed instruction, please refer to the document at the following path in the Support CD: **..\ Easy Dual Monitor**

## 2.8 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is "SHORT". If no jumper cap is placed on pins, the jumper is "OPEN". The illustration shows a 3-pin jumper whose pin1 and pin2 are "SHORT" when jumper cap is placed on these 2 pins.



Jumper	Setting	Description
PS2_USB_PWR1 (see p.9 item 1)		Short pin2, pin3 to enable USB wake up events.

Note: To select +5VSB, it requires 2 Amp and higher standby current provided by power supply.

JR1 (see p.9 item 20)

JL1 (see p.9 item 20)



Note: If the jumpers JL1 and JR1 are short, both the front panel and the rear panel audio connectors can work.

CLRCMOS0

(see p.9 item 10)



Note: CLRCMOS0 allows you to clear the data in CMOS. The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord, then use a jumper cap to short the pins on CLRCMOS0 for 3 seconds. Please remember to remove the jumper cap after clearing the CMOS.

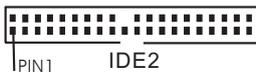
## 2.9 Onboard Headers and Connectors



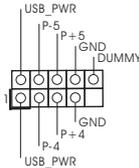
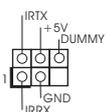
Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

Connector	Figure	Description
FDD Connector (33-pin FLOPPY1) (see p.9, No. 18)		

Note: Make sure the red-striped side of the cable is plugged into Pin1 side of the connector.

Primary IDE Connector (Blue) (39-pin IDE1, see p.9, No. 8)	Secondary IDE Connector (Black) (39-pin IDE2, see p.9, No. 9)
	
connect the blue end to the motherboard	connect the black end to the IDE devices
	
80-conductor ATA 66/100 cable	

Note: If you use only one IDE device on this motherboard, please set the IDE device as “Master”. Please refer to the instruction of your IDE device vendor for the details. Besides, to optimize compatibility and performance, please connect your hard disk drive to the primary IDE connector (IDE1, blue) and CD-ROM to the secondary IDE connector (IDE2, black).

USB 2.0 Header (9-pin USB45) (see p.9, No. 12)		ASRock I/O™ accommodates 4 default USB 2.0 ports. If those USB 2.0 ports on the I/O panel are not sufficient, this USB 2.0 header is available to support 2 additional USB 2.0 ports.
Infrared Module Header (5-pin IR1) (see p.9, No. 24)		This header supports an optional wireless transmitting and receiving infrared module.

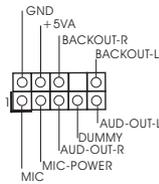
Internal Audio Connectors (4-pin CD1, 4-pin AUX1) (CD1: see p9, No. 25) (AUX1: see p.9, No. 26)	 CD1   AUX1	These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, DVD/ROM, TV tuner card, or MPEG card.
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### Front panel audio connector

(9-pin AUDIO1)

(see p.9 item 21)



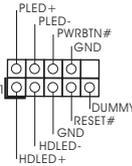
This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

---

### System panel Header

(9-pin PANEL1)

(see p.9 item 14)



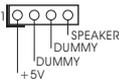
This connector accommodates several system front panel functions.

---

### Chassis speaker Header

(4-pin SPEAKER 1)

(see p.9 item 16)



This connector allows you to attach to a chassis speaker.

---

### Chassis fan connector

(3-pin CHA\_FAN1)

(see p.9 item 13)



Connect the fan cable to the connector matching the black wire to the ground pin.

---

### CPU fan connector

(4-pin CPU\_FAN1)

(see p.9 item 5)



Connect the fan cable to the connector matching the black wire to the ground pin.

---

### ATX power connector

(20-pin ATXPWR1)

(see p.9 item 7)



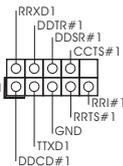
Connect an ATX power supply to the connector.

---

### Com port Header

(9-pin COM1)

(see p.9 item 15)



This COM header supports a serial port module.

---

### ATX 12V Connector

(4-pin ATX12V1)

(see p.9 No. 2)



Please note that it is necessary to connect a power supply with ATX 12V plug to this connector so that it can provide sufficient power. Failing to do so will cause the failure to power up.

---

## Chapter 3 BIOS Setup

### 3.1 BIOS Setup Utility

This section explains how to configure your system using the BIOS Setup Utility. The BIOS FWH chip on the motherboard stores the BIOS Setup Utility. When you start up the computer, there is a chance for you to run the BIOS Setup. Press <F2> during the Power-On-Self-Test (POST) to enter the BIOS Setup Utility, otherwise, POST continues with its test routines.

If you wish to enter the BIOS Setup after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on.

The BIOS Setup Utility is designed to be user-friendly. It is a menu-driven program, which allows you to scroll through its various sub-menus and select among the predetermined choices.



Because the BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purpose only, and may not exactly match what you see on your screen.

#### 3.1.1 BIOS Menu Bar

The top of the screen has a menu bar with the following selections:

<b>MAIN</b>	Sets up the basic system configuration
<b>ADVANCED</b>	Sets up the advanced features
<b>SECURITY</b>	Sets up the security features
<b>POWER</b>	Configures Power Management features
<b>BOOT</b>	Configures the default system device that is used to locate and load the Operating System
<b>EXIT</b>	Exits the current menu or the BIOS Setup

To access the menu bar items, press the right or left arrow key on the keyboard until the desired item is highlighted.

#### 3.1.2 Legend Bar

At the bottom of the Setup Screen is a legend bar. The following table lists the keys in the legend bar with their corresponding functions.

Navigation Key(s)	Function Description
<F1>	Displays the General Help Screen
<ESC>	Jumps to the Exit menu or returns to the upper menu from the current menu
↑ / ↓	Moves cursor up or down between fields
← / →	Selects menu to the left or right
+ / -	Increases or decreases values
<Enter>	Brings up a selected menu for a highlighted field
<F9>	Loads all the setup items to default value
<F10>	Saves changes and exits Setup

## 3.2 Main Menu

When you enter the BIOS Setup Utility, the following screen appears.

AMIBIOS SETUP UTILITY - VERSION 3.31a	
Main	Advanced Security Power Boot Exit
System Date	Sep 01 2004 Wed
System Time	16:07:40
▶ Floppy Drives	[ Setup Help ]
▶ IDE Devices	Month: Jan - Dec
	Day: 01 - 31
	Year: 1980 - 2099
BIOS Version	775i45GV BIOS P1.00
Processor Type	Intel (R) CPU
Processor Speed	2933 MHz
Cache Size	256 KB
Microcode Update	F41 / 05
Total Memory	1024 MB with 8MB Shared Memory
DDR1	512 MB / 166 MHz (DDR333)
DDR2	512 MB / 166 MHz (DDR333)
F1:Help	F1:Select Item
Esc:Exit	+-:Change Values
	F9:Setup Defaults
	Enter:Select
	F10:Save & Exit
	▶Sub-Menu

### System Date [Month/Day/Year]

Set the system date that you specify. Valid values for month, day, and year are Month: (Jan to Dec), Day: (1 to 31), Year: (up to 2099). Use ↑ ↓ keys to move between the Month, Day and Year fields.

### System Time [Hour:Minute:Second]

Set the system to the time that you specify. Use ↑ ↓ keys to move between the Hour, Minute and Second fields.

### Floppy Drives

Use this to set the type of floppy drives installed.

### IDE Devices

Use this to configure IDE devices.

## TYPE

To set the type of the IDE device, first, please select "IDE Devices" on Main menu and press <Enter> to get into the sub-menu. Then, select among "Primary IDE Master", "Primary IDE Slave", "Secondary IDE Master", and "Secondary IDE Slave" to make configuration of its type. Below are the configuration options.

AMIBIOS SETUP UTILITY - VERSION 3.31a	
Main	
Primary IDE Master: [ Setup Help ]	
Type	Auto
Cylinders	
Heads	
Write Precompensation	
Sectors	
Maximum Capacity	
LBA Mode	On
Block Mode	On
Fast Programmed I/O Modes	Auto
32 Bit Transfer Mode	On
Ultra DMA Mode	Auto
Select how to set the parameters of drive, Or Select [AUTO] to set all HDD parameters automatically.	
F1: Help	F11: Select Item
Esc: Previous Menu	+/-: Change Values
	Enter: Select
	→: Sub-Menu
	F9: Setup Defaults
	F10: Save & Exit

**[USER]:** It allows user to manually enter the number of cylinders, heads, and sectors per track for the drive.



Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer. Incorrect settings may cause the system to fail to recognize the installed hard disk.

**[Auto]:** Select [Auto] to automatically detect hard disk drive. If auto-detection is successful, the BIOS Setup automatically fills in the correct values for the remaining fields on this sub-menu. If the auto-detection fails, it may be due to that the hard disk is too old or too new. If the hard disk was already formatted on an older system, the BIOS Setup may detect incorrect parameters. In these cases, select [User] to manually enter the IDE hard disk drive parameters.



After entering the hard disk information into BIOS, use a disk utility, such as FDISK, to partition and format new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

---

**[CD/DVD]:** This is used for IDE CD/DVD drives.

**[ARMD]:** This is used for IDE ARMD (ATAPI Removable Media Device), such as MO.

### **Cylinders**

This is used to configure the number of cylinders. Refer to the drive documentation to determine the correct value.

### **Heads**

This is used to configure the number of read/write heads. Refer to the drive documentation to determine the correct values.

### **Write Pre-compensation**

Enter Write Pre-compensation sector. Refer to the drive documentation to determine the correct value.

### **Sectors**

This is used to configure the number of sectors per track. Refer to the drive documentation to determine the correct value.

### **Maximum Capacity**

This field shows the drive's maximum capacity as calculated by the BIOS based on the drive information you entered.

### **LBA Mode**

This allows user to select the LBA mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Off] to disable the LBA mode.

### **Block Mode**

Set the block mode to [On] will enhance hard disk performance by reading or writing more data during each transfer.

### **Fast Programmed I/O Modes**

This allows user to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

### **32 Bit Transfer Mode**

It allows user to enable 32-bit access to maximize the IDE hard disk data transfer rate.

### **Ultra DMA Mode**

Ultra DMA capability allows improved transfer speeds and data integrity for compatible IDE devices. Set to [Disabled] to suppress Ultra DMA capability.

## **3.3 Advanced, Security, Power, Boot, and Exit Menus**

Detailed descriptions of these menus are listed in the Appendix. See page 24.

---

# Chapter 4 Software Support

## 4.1 Install Operating System

This motherboard supports various Microsoft® Windows® operating systems: 98 SE / ME / 2000 / XP. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

## 4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard features.

### 4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASETUP.EXE" from the "BIN" folder in the Support CD to display the menus.

### 4.2.2 Drivers Menu

The Drivers Menu shows the available devices drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

### 4.2.3 Utilities Menu

The Utilities Menu shows the applications software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

### 4.2.4 ASRock PC-DIY Live Demo Program

ASRock presents you a multimedia PC-DIY live demo, which shows you how to install your own PC system step by step. You can find the file through the following path:

```
..\MPEGAV\AVSEQ01.DAT
```

To see this demo program, you can run Microsoft® Media Player® to play the file.

### 4.2.5 "LGA 775 CPU Installation Live Demo" Program

This motherboard is equipped with Intel LGA 775 socket, which is a new CPU socket interface that Intel has released. Since it has several tiny pins, which are easily to be damaged by improper handling, ASRock sincerely presents you a clear installation guide through this "LGA 775 CPU Installation Live Demo". We hope you may check this live demo program before you start the installation of LGA 775 CPU in order to reduce the risks of CPU and motherboard damages caused by any improper handling. To see this Live Demo, you can run Microsoft® Media Player® to play the file. You may find this Live Demo in the motherboard's Support CD through the following path:

```
..\MPEGAV\LGA775INST.DAT
```

### 4.2.6 Contact Information

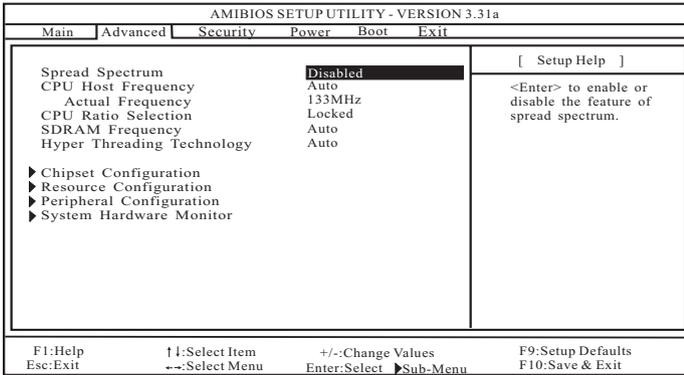
If you need to contact ASRock or want to know more about ASRock, welcome to visit ASRock's website at <http://www.asrock.com>; or you may contact your dealer for further information.

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# Appendix: Advanced BIOS Setup

This section will introduce you the following BIOS Setup menus: "Advanced," "Security," "Power," "Boot," and "Exit."

## 1. Advanced BIOS Setup Menu



### Spread Spectrum:

This field should always be [Disabled] for better system stability.

### CPU Host Frequency:

This shows current CPU host frequency of the installed motherboard.

### CPU Ratio Selection:

CPU Ratio is the multiple that times the frontside bus frequency will equal the core speed of the installed processor. Whether the option is open or locked is determined by the installed processor.

### SDRAM Frequency:

If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assigns appropriate frequency automatically.

### Hyper-Threading Technology:

To enable this feature, it requires a computer system with an Intel Pentium®4 processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology, such as Microsoft® Windows® XP. Set to [Auto] if using Microsoft® Windows® XP, or Linux kernel version 2.4.18 or higher. This option will be hidden if the current CPU does not support Hyper-Threading technology.

## Chipset Configuration:

AMIBIOS SETUP UTILITY - VERSION 3.31a		
Advanced		[ Setup Help ]
Chipset Configuration		
AGP Aperture Size	64MB	<Enter> to select the size of mapped memory for graphics data.
ICH Delayed Transaction	Disabled	
USB Controller	Enabled	
USB Device Legacy Support	Disabled	
CPU Thermal Throttling	Enabled	
DRAM Write Throttling	Enabled	
AGP/PCI Frequency	67.2MHz, 33.6MHz	
***** DRAM Timing *****	Auto	
SDRAM CAS Latency	Disabled	
Configure SDRAM Timing by SPD	3 Clocks	

F1: Help	↑: Select Item	+/-: Change Values	F9: Setup Defaults
Esc: Previous Menu		Enter: Select	F10: Save & Exit
		→: Sub-Menu	

**AGP Aperture Size:** It refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this field at the default value unless your AGP card requires other sizes.

**ICH Delayed Transaction:** Select [Enabled] will enable delayed transactions for internal register, FWH, and LPC interface accesses.

**USB Controller:** Use this to enable or disable the use of USB controller.

**USB Device Legacy Support:** Use this to enable or disable support to emulate legacy I/O devices such as mouse, keyboard,... etc.

**CPU Thermal Throttling:** Select [Enabled] will enable P4 thermal control circuit to keep CPU from overheated.

**DRAM Write Throttling:** Select [Enabled] will enable north bridge thermal management to keep it from overheated.

**AGP/PCI Frequency:** You may select among four sets of configuration options as the AGP/PCI frequency. The default value is [67.2MHz, 33.6MHz], and other configuration options are: [72.0MHz, 36.0MHz], [64.0MHz, 32.0MHz], [76.0MHz, 38.4MHz].

### SDRAM CAS Latency:

This parameter controls the latency between the read command and the time the data available.

### Configure SDRAM Timing by SPD:

**SDRAM RAS# Precharge:** This parameter controls the number of idle clocks after a precharge command is issued.

**SDRAM RAS# to CAS# Delay:** This parameter controls the latency between the active command and the read/write command.

**SDRAM Precharge Delay:** This parameter controls the minimum latency between the active command and the precharge command.

### No-Execute Memory Protection:

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with “No Execute (NX) Memory Protection” can prevent data pages from being used by malicious software to execute code. This option will be hidden if the current CPU does not support No-Excute Memory Protection.

### Resource Configuration:

AMIBIOS SETUP UTILITY - VERSION 3.31a		
Advanced		
Resource Configuration		[ Setup Help ]
PCI Latency Timer (PCI Clocks)	32	<Enter> to select PCI clocks. Leave on default setting for the best PCI performance.
Primary Graphics Adapter	PCI	
F1:Help	F4:Select Item	+/-:Change Values
Esc:Previous Menu	Enter:Select	F9:Setup Defaults
		F10:Save & Exit

**PCI Latency Timer (PCI Clocks):** The default is 32. We recommend you to keep the default value unless your PCI expansion cards' specifications require other settings.

**Primary Graphics Adapter:** This allows you to select [PCI], [AGI], or [Internal VGA] as the primary graphics adapter.

### Peripheral Configuration:

AMIBIOS SETUP UTILITY - VERSION 3.31a		
Advanced		
Peripheral Configuration		[ Setup Help ]
OnBoard FDC	Auto	<Enter> to enable or disable the floppy drive controller.
OnBoard Serial Port	Auto	
OnBoard Infrared Port	Disabled	
OnBoard Parallel Port	Auto	
Parallel Port Mode	ECP + EPP	
EPP Version	1.9	
Parallel Port IRQ	Auto	
Parallel Port DMA Channel	Auto	
OnBoard Midi Port	Disabled	
Midi IRQ Select	5	
OnBoard Game Port	200H	
OnBoard IDE	Both	
OnBoard LAN	Enabled	
OnBoard AC'97 Audio	Auto	
OnBoard MC'97 Modem	Auto	
F1:Help	F4:Select Item	
Esc:Previous Menu	Enter:Select	F9:Setup Defaults
		F10:Save & Exit

- 
- OnBoard FDC:** Use this to enable or disable floppy drive controller.
- OnBoard Serial Port:** Use this to set addresses for the onboard serial ports or disable serial ports. Configuration options: [Auto], [Disabled], [3F8 / IRQ4 / COM1], [2F8 / IRQ3 / COM2], [3E8 / IRQ4 / COM3], [2E8 / IRQ3 / COM4].
- OnBoard Infrared Port:** You may select [Auto] or [Disabled] for this onboard infrared port feature.
- OnBoard Parallel Port:** Select Parallel Port address or disable Parallel Port. Configuration options: [Auto], [Disabled], [378], [278].
- Parallel Port Mode:** Set the operation mode of the parallel port. The default value is [ECP+EPP]. If this option is set to [ECP+EPP], it will show the EPP version in the following item, "EPP Version".
- EPP Version:** Use this item to set the EPP version. Configuration options: [1.9] and [1.7].
- Parallel Port IRQ:** Use this item to set the IRQ for the parallel port. Configuration options: [IRQ5] and [IRQ7].
- Parallel Port DMA Channel:** Use this item to set the ECP mode DMA channel. Configuration options: [DMA0], [DMA1], and [DMA3].
- OnBoard Midi Port:** Select address for Midi Port or disable Midi Port. Configuration options: [Disabled], [330], [300], [310], [320].
- Midi IRQ Select:** Use this to select Midi IRQ. Configuration options: [5], [10], [11].
- OnBoard Game Port:** Select address for Game Port or disable Game Port. Configuration options: [Disabled], [200H], [208H], .
- OnBoard IDE:** You may enable either the primary IDE channel or the secondary IDE channel. Or you may enable both the primary and the secondary IDE channels by selecting [Both]. Set to [Disabled] will disable the both. Configuration options: [Disabled], [Primary], [Secondary], [Both].
- OnBoard LAN (Optional):** This allows you to enable or disable the "OnBoard LAN" feature.
- OnBoard AC'97 Audio:** Select [Disabled], [Auto] or [Enabled] for the onboard AC'97 Audio feature.
- OnBoard MC'97 Modem:** Select [Auto] or [Disabled] for the onboard MC'97 Modem feature.

**System Hardware Monitor:** You can check the status of the hardware on your system. It allows you to monitor the parameters for CPU temperature, Motherboard temperature, CPU fan speed, and critical voltage.

AMIBIOS SETUP UTILITY - VERSION 3.31a	
Advanced	
System Hardware Monitor	[ Setup Help ]
CPU Temperature	35°C / 95°F
M/B Temperature	27°C / 82°F
CPU Fan Speed	3110 RPM
Chassis Fan Speed	0 RPM
Vcore	1.375 V
+ 3.30V	3.312V
+ 5.00V	4.975V
+ 12.00V	12.167V
F1: Help	F9: Setup Defaults
Esc: Previous Menu	F10: Save & Exit
↑: Select Item	+/-: Change Values
	Enter: Select   ▶ Sub-Menu

## 2. Security Setup Menu

AMIBIOS SETUP UTILITY - VERSION 3.31a					
Main	Advanced	Security	Power	Boot	Exit
Supervisor Password	Clear				
User Password	Clear				
Set Supervisor Password	[ Enter ]				
Set User Password	[ Enter ]				
Password Check	Setup				
					[ Setup Help ]
					<Enter> to set the supervisor password.
F1: Help	F9: Setup Defaults				
Esc: Exit	F10: Save & Exit				
↑: Select Item	+/-: Change Values				
←: Select Menu	Enter: Select   ▶ Sub-Menu				

**Supervisor Password:** This field shows the status of the Supervisor Password.

**[Clear]:** No password has been set.

**[Set]:** Supervisor password has been set.

**User Password:** This field shows the status of the User Password.

**[Clear]:** No password has been set.

**[Set]:** User password has been set.

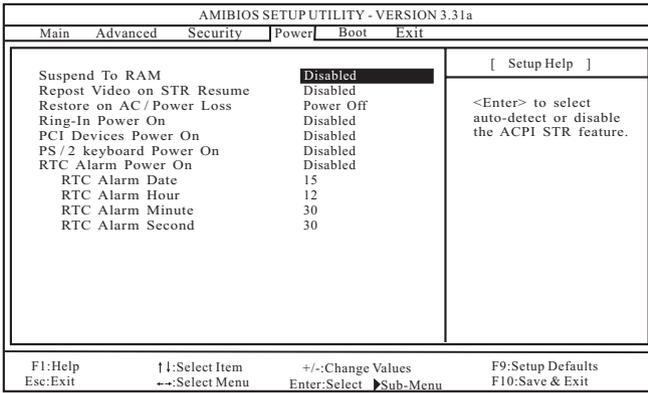
**Set Supervisor Password:** Press <Enter> to set Supervisor Password. Valid password can be a 1 to 6 alphanumeric characters combination. If you already have a password, you must enter your current password first in order to create a new password.

**Set User Password:** Press <Enter> to set User Password. Valid password can be a 1 to 6 alphanumeric characters combination. If you already have a password, you must enter your current password first in order to create a new

password.

**Password Check:** Select the check point for “Password Check”. Configuration options: [Setup], [Always]. If [Setup] option is selected, the “Password Check” is performed before BIOS setup. If [Always] option is selected, the “Password Check” is performed before both boot-up and BIOS setup.

### 3. Power Setup Menu



**Suspend to RAM:** This field allows you to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the system supports it.

**Repost Video on STR Resume:** This feature allows you to repost video on STR resume. It is recommended to enable this feature under Microsoft® Windows® 98 / ME.

**Restore on AC/Power Loss:** This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

**Ring-In Power On:** Use this to enable or disable Ring-in signals to turn on the system from the power-soft-off mode.

**PCI Devices Power On:** Use this to enable or disable PCI devices to turn on the system from the power-soft-off mode.

**PS/2 Keyboard Power On:** Use this to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

**RTC Alarm Power On:** Use this to enable or disable RTC (Real Time Clock) to power on the system. If [Enable] is selected, you must fill the RTC Alarm Date / Hour / Minute / Second sub-fields with the actual wake up time you desire.

---

## 4. Boot Setup Menu

AMIBIOS SETUP UTILITY - VERSION 3.31a					
Main	Advanced	Security	Power	Boot	Exit
Quick Boot Mode	Enabled			[ Setup Help ]	
Boot Up Num-Lock	On			<Enter> to enable or	
Boot To OS/2	No			disable the quick boot	
Boot From Network	Disabled			mode.	
▶ Boot Device Priority					
F1:Help	↑↓:Select Item	+/-:Change Values	F9:Setup Defaults		
Esc:Exit	←→:Select Menu	Enter:Select ▶Sub-Menu	F10:Save & Exit		

**Quick Boot Mode:** Enable this mode will speed up the boot-up routine by skipping memory retestings.

**Boot Up Num-Lock:** If this is enabled, it will automatically activate the Numeric Lock function after boot-up.

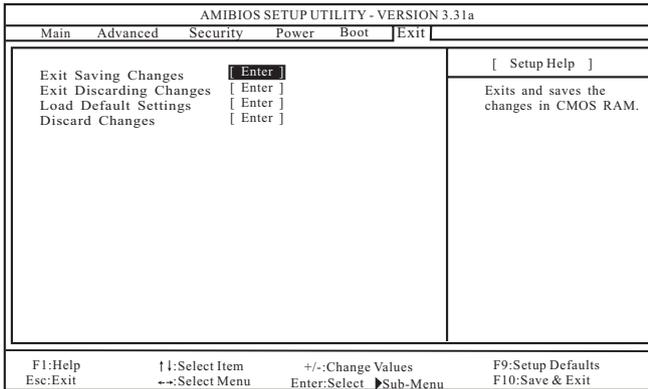
**Boot To OS/2:** Select [Yes] will enable boot-up to OS/2 operating system.

**Boot From Network (Optional):** Use this to enable or disable “boot from network” feature.

**Boot Device Priority:** This allows you to set the boot device priority.

---

## 5. Exit Menu



**Exit Saving Changes:** After you enter the sub-menu, the message “Save current settings and exit” will appear. If you press <ENTER>, it will save the current settings and exit the BIOS SETUP Utility.

**Exit Discarding Changes:** After you enter the submenu, the message “Quit without saving changes” will appear. If you press <ENTER>, you will exit the BIOS Setup Utility without making any changes to the settings.

**Load Default Settings:** After you enter the submenu, the message “Load default settings” will appear. If you press <Enter>, it will load the default values for all the setup configuration.

**Discard Changes:** After you enter the sub-menu, the message “Load setup original values” will appear. If you press <ENTER>, original values will be restored and all changes are discarded.