IMB203 Series
Intel® Core™ 2 Quad/Core™ 2 Duo D
ATX Industrial Motheroard
User's Manual

Disclaimers

This manual has been carefully checked and believed to contain accurate information. AXIOMTEK Co., Ltd. assumes no responsibility for any infringements of patents or any third party's rights, and any liability arising from such use.

AXIOMTEK does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any information in this document. AXIOMTEK does not make any commitment to update the information in this manual.

AXIOMTEK reserves the right to change or revise this document and/or product at any time without notice.

No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of AXIOMTEK Co., Ltd.

CAUTION

If you replace wrong batteries, it causes the danger of explosion. It is recommended by the manufacturer that you follow the manufacturer's instructions to only replace the same or equivalent type of battery, and dispose of used ones.

April 2009, Version A1
Printed in Taiwan

ESD Precautions

Computer boards have integrated circuits sensitive to static electricity. To prevent chipsets from electrostatic discharge damage, please take care of the following jobs with precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.
- Before holding the board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. It discharges static electricity from your body.
- Wear a wrist-grounding strap, available from most electronic component stores, when handling boards and components.

Trademarks Acknowledgments

Table of Contents

MEMO

CHAPTER 1
INTRODUCTION

The **IMB203** ATX industrial Motherboard supports LGA775 socket for Intel® Core™ 2 Quad/Core™ 2 Duo processors with 45/65nm technology and FSB 800/1066/1333 MT/s. The board integrates Intel® Q45 and ICH10/R/DO chipsets (co-layout) that deliver outstanding system performance through high-bandwidth interfaces, multiple I/O functions for interactive applications and various embedded computing solutions. There are four 240-pin DDR3 DIMM sockets for dual channel DDR3 800/1066, maximum memory capacity up to 16GB. The board also features Gigabit Ethernet, six serial ATA-II ports at maximum transfer rate up to 3Gbs, and SATARAID 0/1/5/10 by ICH10-DO. Twelve USB 2.0 high speed compliant ports and built-in Intel® HD Audio Digital Header can achieve the best stability and reliability for industrial applications.

1.1 Specifications

- **CPU**
  - **Intel® Core™ 2 Quad / Core™ 2 Duo processors**
- **System Chipset**
  - **Intel® Q45 and ICH10/R/DO (co-layout)**
- **CPU Socket**
  - **LGA775 Socket**
- **Front-Side Bus**
  - **800/1066/1333 MHz**
- **BIOS**
  - AMI BIOS via SPI interface with socket
- **System Memory**
  - Four 240-pin DDR3 DIMM sockets
  - Maximum up to 16GB DDR3 memory
  - Supports DDR3 800/1066 memory
- **L2 Cache**
  - Integrated in CPU
- **Onboard Multi-I/O**
  - SPP/EPP/ECP supported; with D-Sub connector on the rear I/O
  - Serial Ports:

COM 1	9-pin D-Sub connector on the rear I/O and supports RS-232/422/485 with jumper selectable, RS-485 with auto-flow control
COM 2	2*5-pin 2.54 pitch box-header; supports RS-232
COM 3	2*5-pin 2.54 pitch box-header; supports RS-232
COM 4	2*5-pin 2.54 pitch box-header; supports RS-232

- **USB Interface**
  - Tweleve USB ports (four on I/O bracket, six ports by 2x5-pin 2.54 pin-header, two ports for 1 USB DoM support with 2x5 2.54 pitch box-header)
- **VGA Controller**
  - Chipset -- Intel® integrated Graphics Gen5 on Intel® Q45 supports 3D, 2D, video capabilities, DX10 and OpenGL 2.1
  - Memory Size -- Intel® DVMT supported; preallocated memory for frame buffer option as 32/48/64/128/256MB, and 96 MB (0 + 96), 160 MB (64 + 96), 224 MB (128 + 96), 352 MB (256 + 96).
  - Resolution -- Analog output -- the analog port utilizes an integrated 350MHz RAMDAC that can directly drive a standard progressive scan analog monitor up to a resolution of 2048x1536 pixels with 32-bit color at 75 Hz
  - Analog Output Interface -- CRT from DAC output via 15-pin D-Sub connector on the edge
- **Ethernet**
  - LAN1 – Intel® 82567LM PHY, connected to PCIe x1 port#6; supports 10/100/1000 Base-T Gigabit Ethernet, RJ-45 connector on the edge; with AMT Gen 5 supported; with 5-pin 2.0 pitch wafer for LED
  - LAN2 -- Intel® 82574L NIC, connected to PCIe x1 port#5; supports 10/100/1000 Base-T Gigabit Ethernet, RJ-45 connector on the edge; with 5-pin 2.0 pitch wafer for LED
- **Serial ATA**
  - Six Serial ATA-II ports (3Gb/s performance) and SATARAID 0/1/5/10 by ICH10-DO
- **Audio**
  - HD Audio codec Realtek ALC888 for Line/speaker-out & MIC-in on the rear I/O double deck connector; with LM1877 audio amplifier
- **Watchdog Timer**
  - Reset Supported (1-255 levels)

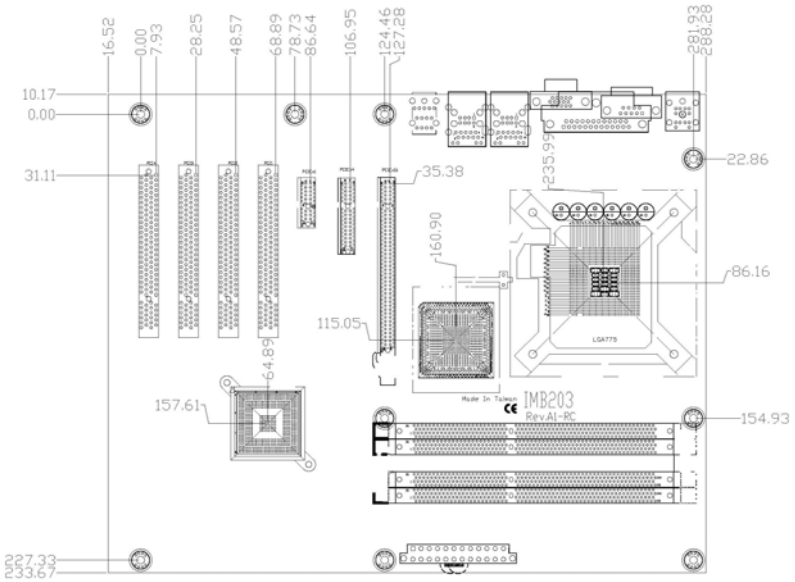
NOTE *All specifications and images are subject to change without notice.*

1.2 Utilities Supported

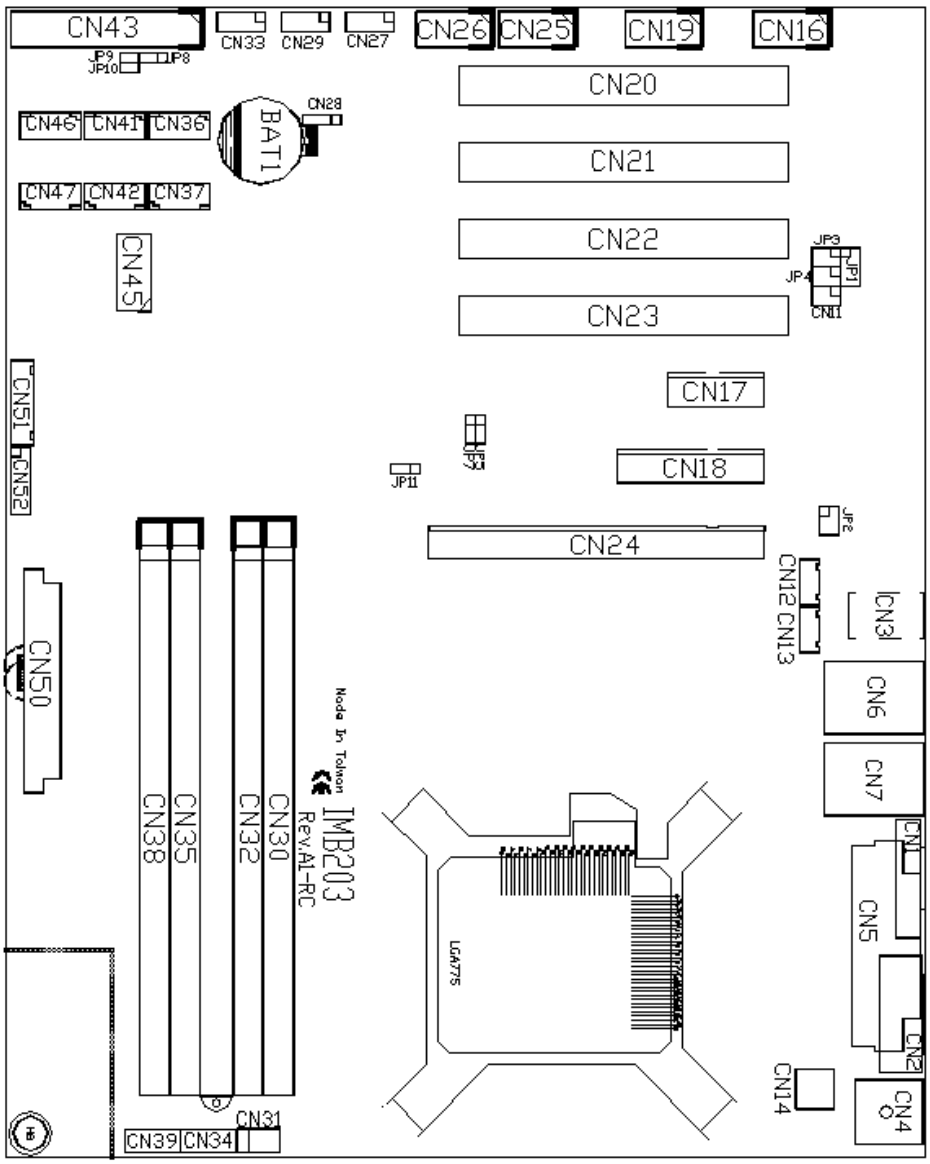
- Intel® Q45 Utility and Drivers
- VGA Drivers
- Ethernet Utility and Drivers
- RAID Utility
- iAMT Utility and Drivers
- ITPM Utility

CHAPTER 2
JUMPERS AND CONNECTORS

2.1 Board Dimensions



2.2 Board Layout

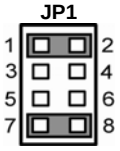
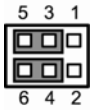
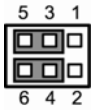
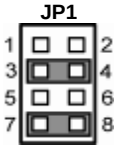
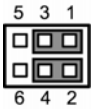
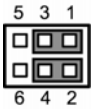
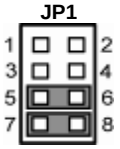
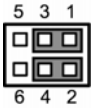
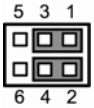


2.3 Jumper Settings

Proper jumper settings configure the **IMB203** to meet your application purpose.

2.3.1 COM1 Mode Select Jumpers for RS-232/422/485 (JP1, JP3, JP4)

These jumpers select the COM1 port's communication mode to operate RS-232 or RS-422/485.

Description	Function	Jumper Setting		
COM1	RS-232 (Default)	JP1  	JP3  	JP4 
	RS-422	JP1  	JP3  	JP4 
	RS-485	JP1  	JP3  	JP4 

2.3.2 Audio Amplifier Jumper (JP2)

Description	Function	Jumper Setting
Audio Amplifier	Disable	
	Enable (Default)	

2.3.3 CMOS Clear Jumper (JP7)

You may need to use this jumper is to clear the CMOS memory if incorrect BIOS settings.

Description	Function	Jumper Setting
CMOS Clear	Normal (Default)	
	Clear CMOS	

2.3.4 TPM Disable/Enable Jumper (JP9)

Description	Function	Jumper Setting
TPM Disable/ Enable	Enable TPM (Default)	
	Disabled	

2.3.5 ME Disable/Enable Jumper (JP10)

Description	Function	Jumper Setting
ME Disable/ Enable	Enable (Default)	
	Disable	

2.4 Connectors

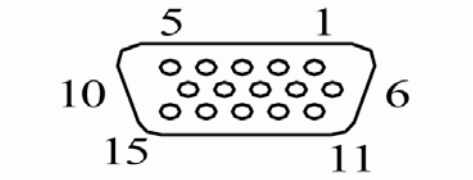
Connectors connect this board with other parts of the system. Loose or improper connection might cause problems. Make sure all connectors are properly and firmly connected.

Label	Connector
CN1	VGA
CN2	COM 1
CN3	Audio out, Mic in
CN4	Keyboard Mouse
CN5	Print Port
CN6, CN7	USB Ports
CN14	ATX 2x2
CN16	COM 2
CN19	COM 3
CN25	COM 4
CN26	DIO
CN27, CN29, CN33, CN45	USB
CN31	FAN
CN36, CN37, CN41, CN42, CN46, CN47	SATA
CN50	ATX-24Pin
CN52	F_PANEL

2.4.1 VGA Connector (CN1)

The board supports CRT/ VGA with a 15-pin D-Sub connector for the CRT VGA display.

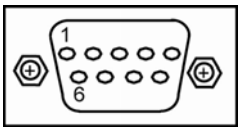
Pin	Signal	Pin	Signal	Pin	Signal
1	Red	2	Green	3	Blue
4	N/A	5	GND	6	GND
7	GND	8	GND	9	VCC
10	GND	11	N/A	12	DDC DATA
13	Horizontal Sync	14	Vertical Sync	15	DDC CLK



2.4.2 COM1 Connector (CN2)

The board has the onboard serial port COM1 (CN2), a 9-pin D-Sub connector on the rear I/O to support RS-232/422/485 with jumper selectable, RS-485 with auto-flow control.

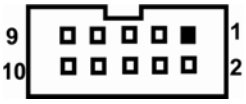
Pin	Signal
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	RI, Ring indicator



2.4.3 COM2~COM4 Connectors (CN16, CN19, CN25)

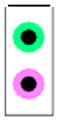
The board has the onboard serial ports COM2~4 (CN16, CN19, CN25), three 2*5-pin 2.54 pitch box-header to support RS-232.

Pin	Signal	Pin	Signal
1	Data Carrier Detect (DCD)	2	Data Set Ready (DSR)
3	Receive Data (RXD)	4	Request to Send (RTS)
5	Transmit Data (TXD)	6	Clear to Send (CTS)
7	Data Terminal Ready (DTR)	8	Ring Indicator (RI)
9	Ground (GND)	10	NC



2.4.4 Audio Connector (CN3)

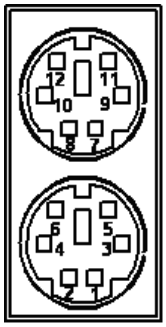
Color	Signal
Green	LINE_OUT
Red	MIC_IN



2.4.5 PS/2 Keyboard/Mouse Connector (CN4)

The board supports a keyboard and Mouse interface.

Pin	Signal	Pin	Signal
1	K/B Data	7	M/S Data
2	NC	8	NC
3	GND	9	GND
4	VCC	10	VCC
5	K/B CLK	11	M/S CLK
6	NC	12	NC



2.4.6 Print Port Connector (CN5)

Print Port Connector
This board has a multi-mode parallel port to support the following modes:

1. Standard Mode
IBM PC/XT, PC/AT and PS/2™ are compatible with bi-directional parallel port.

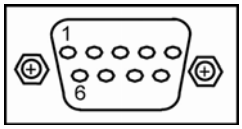
2. Enhanced Mode
Enhanced parallel port (EPP) is compatible with EPP 1.7 and EPP 1.9 (IEEE 1284 compliant).

3. High Speed Mode
Microsoft and Hewlett Packard extended capabilities port (ECP) is IEEE 1284 compliant.

Please refer to next page for the list of pin assignment.

Print Port Pin Assignment (Default)

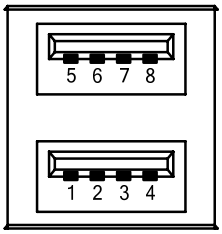
Pin	Signal
1	Data Carrier Detect (DCD)
2	Data Set Ready (DSR)
3	Receive Data (RXD)
4	Request to Send (RTS)
5	Transmit Data (TXD)
6	Clear to Send (CTS)
7	Data Terminal Ready (DTR)
8	Ring Indicator (RI)
9	Ground (GND)



2.4.7 USB Port Connector (CN6, CN7)

The Universal Serial Bus (USB) port connector on the board is for the installation of peripherals supporting the USB interface. The **CN6/CN7** consists of two 4-pin standard USB ports.

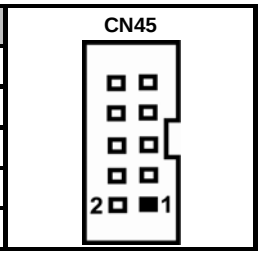
Pin	Signal
1, 5	USB Vcc
2, 6	USB -
3, 7	USB +
4, 8	USB GND



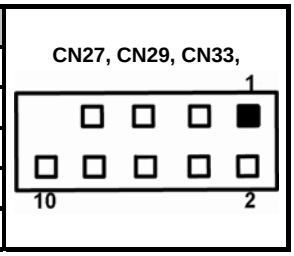
2.4.8 USB Connectors (CN27, CN29, CN33, CN45)

The 10-pin standard Universal Serial Bus (USB) connectors, **CN27/29/33/45**, on this board are for installing versatile USB interface peripherals.

Pin	Signal	Pin	Signal
1	USB	2	USB
3	USB2-	4	USB3-
5	USB2+	6	USB3+
7	GND	8	GND
9	GND	10	GND



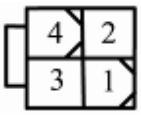
Pin	Signal	Pin	Signal
1	USB	2	USB
3	USB4-	4	USB5-
5	USB4+	6	USB5+
7	GND	8	GND
		10	GND



2.4.9 ATX 4 Pin 12V In Connector (CN14)

You can connect it to the ATX12V power supply for CPU Core Voltage.

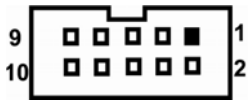
Pin	Signal
1	GND
2	GND
3	+12V
4	+12V



2.4.10 Digital I/O Port (DIO) Connector (CN26)

The board is equipped an 8-channel digital I/O connector **CN26** that meets requirements for a system customary automation control. The digital I/O can be configured to control cash drawers, sense warning signals from an Uninterrupted Power System (UPS), or perform store security control. The digital I/O is controlled via software programming.

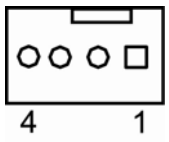
Pin	Signal	Pin	Signal
1	DO1	2	DI1
3	DO2	4	DI2
5	DO3	6	DI3
7	DO4	8	DI4
9	GND	10	GND



2.4.11 CPU Fan Connector (CN31)

A CPU fan is always needed for cooling CPU heat. The CPU fan connector provides power to the CPU fan.

Pin	Signal
1	Ground
2	+12V
3	Rotation Detection
4	Speed Control

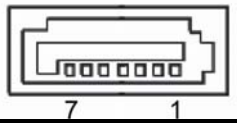


2.4.12 SATA Connectors (CN36, CN37, CN41, CN42, CN46, CN47)

These SATA connectors are for high-speed SATA interface ports and they can be connected to hard disk devices.

Pin	Signal
1	GND
2	SATA_TX+
3	SATA_TX-

CN36/41/46

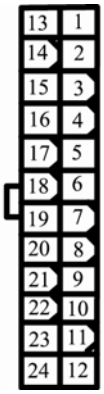


4	GND	
5	SATA_RX-	
6	SATA_RX+	
7	GND	

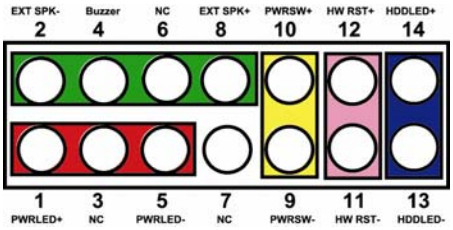
2.4.13 ATX Power Connector (CN50)

Steady and sufficient power can be supplied to all components on the board by connecting the power connector. Please make sure all components and devices are properly installed before connecting the power connector. If you use a 24-pin ATX power supply, please remove the small cover from the power connector before plugging in the power cord; otherwise, please do not remove it.

Pin	Signal	Pin	Signal
1	3.3V	2	3.3V
3	GND	4	5V
5	GND	6	5V
7	GND	8	PWR
9	5VSB	10	12V
11	12V	12	3.3V
13	3.3V	14	-12V
15	GND	16	PS_ON
17	GND	18	GND
19	GND	20	-5V
21	5V	22	5V
23	5V	24	GND



2.4.14 Front Panel Connector (CN52)



- **Power LED**

  This 3-pin connector denoted as Pin 1 and Pin 5 connects the system power LED indicator to such a switch on the case. Pin 1 is assigned as +, and Pin 5 as -. The Power LED lights up when the system is powered ON. Pin 3 is defined as GND.

- **External Speaker and Internal Buzzer Connector**

  Pin 2, 4, 6 and 8 can be connected to the case-mounted speaker unit or internal buzzer. While connecting the CPU card to an internal buzzer, please short pins 2-4; while connecting to an external speaker, you need to set pins 2-4 to Open and connect the speaker cable to pin 8 (+) and pin 2 (-).

- **ATX Power On/Off Button**

  This 2-pin connector denoted as Pin 9 and 10 connects the front panel's ATX power button to the CPU card, which allows users to control ATX power supply to be power on/off.

- **System Reset Switch**

  Pin 11 and 12 can be connected to the case-mounted reset switch that reboots your computer instead of turning OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.

- **HDD Activity LED**

  This connection is linked to hard drive activity LED on the control panel. LED flashes when HDD is being accessed. Pin 13 and 14 connect the hard disk drive to the front panel HDD LED, Pin 13 assigned as -, and Pin 14 as +.

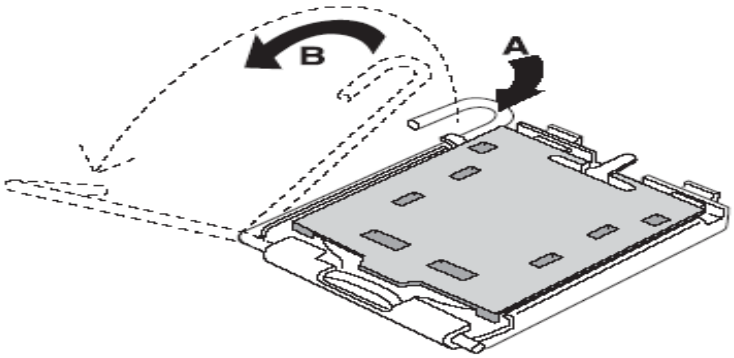
MEMO

CHAPTER 3
HARDWARE INSTALLATION

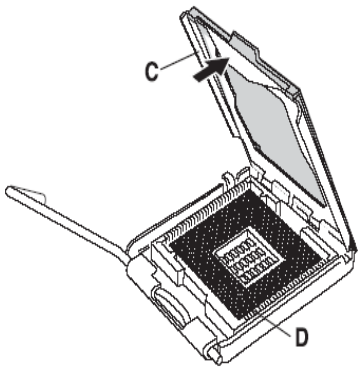
Before installing the processor, please access Intel® website for more detailed information http://www.intel.com .

3.1 Installing the Processor

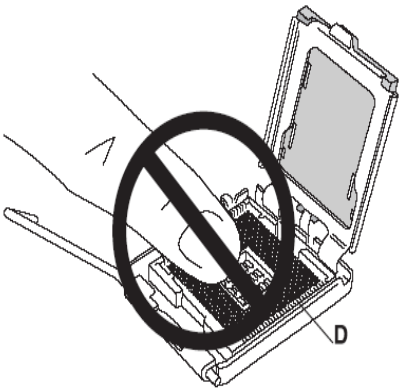
The LGA775 processor socket comes with a cover to protect the processor. Please install the processor into the CPU socket step by step as below:



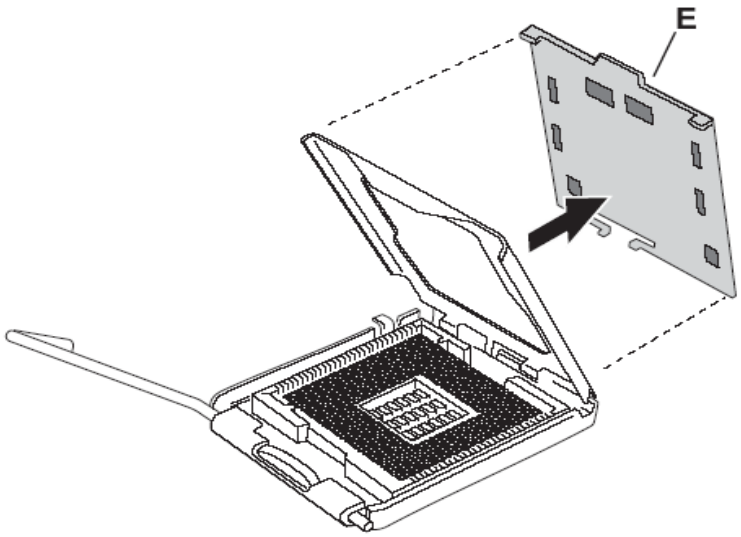
Hold the hook (A) of the lever and push it down.
Pull the lever (B) aside to unlock the cover.



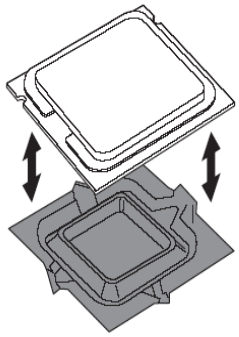
Open the cover (C), you can see the contact.

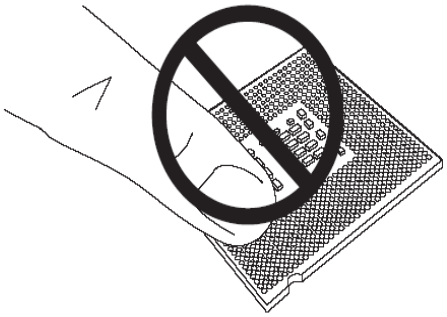


Be careful not to touch the contact (D).

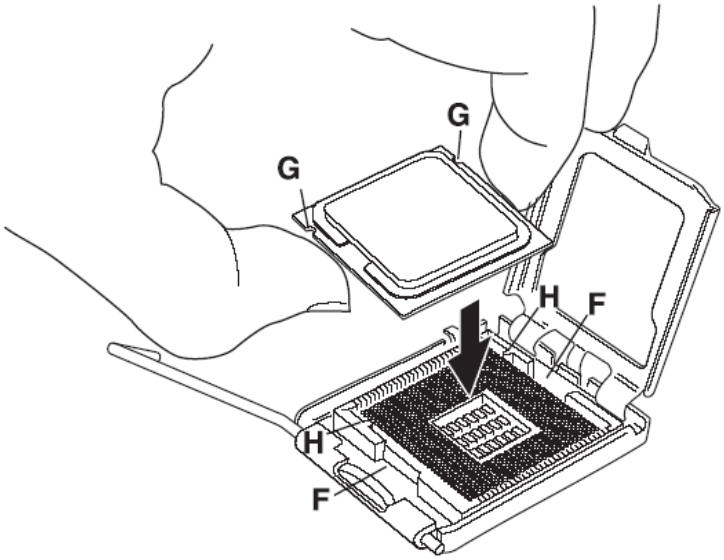


Remove the plastic cap (E) from the cover.

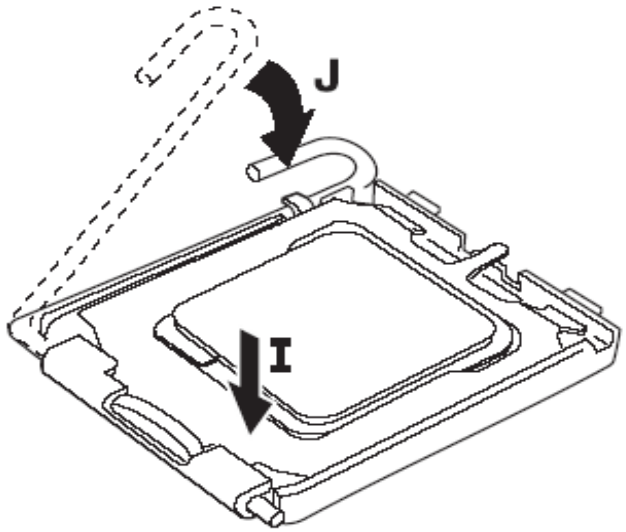




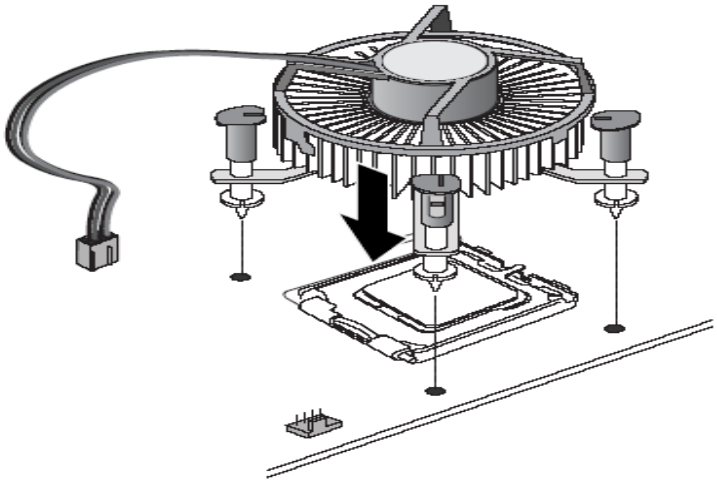
Place the CPU down into the socket. Be careful not to touch the contact.



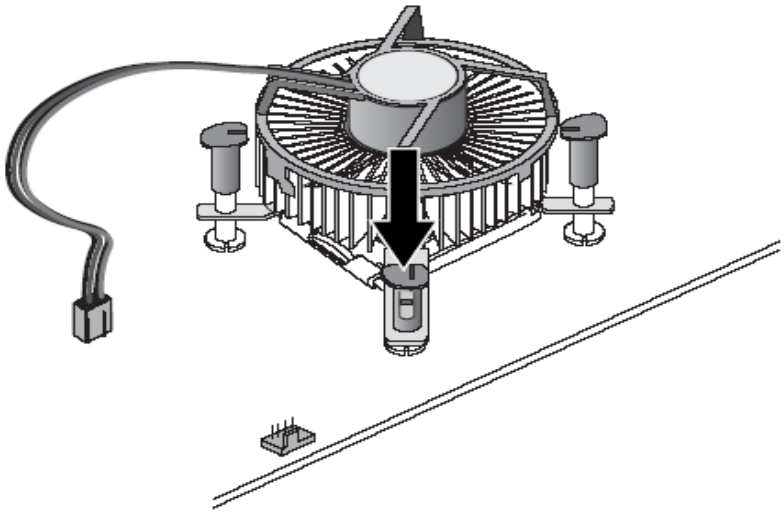
Hold the edges of the CPU, and orientate it as the marked direction (G) down into the socket to match the (H) and (F) locations.



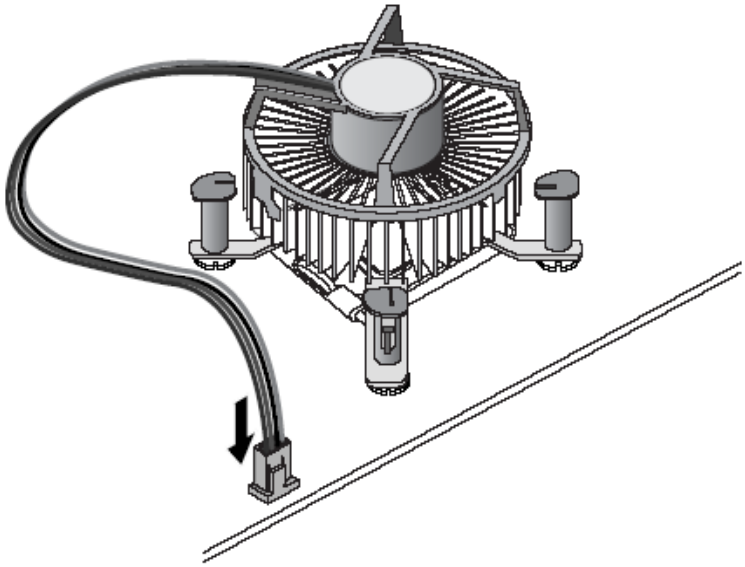
Slightly push down the cover and hook the lever (I~J). The CPU is completely locked.



Orientate the CPU cooling fan to fixing holes on the board.



Screw the CPU cooling fan onto the board.



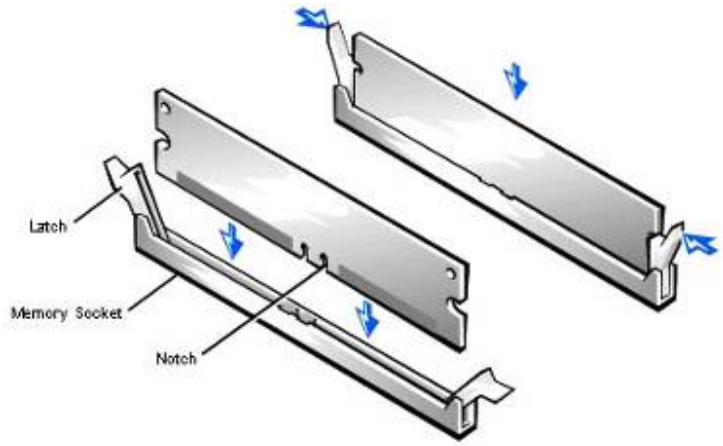
Make sure the CPU fan is plugged to the CPU fan connector.

3.2 Installing the Memory

The board supports four 240-pin DDR3 DIMM memory sockets with maximum memory capacity up to 16GB.

Please follow steps below to install the memory modules:

1 Push down latches on each side of the DIMM socket.
2 Align the memory module with the socket that notches of memory module must match the socket keys for a correct installation.
3 Install the memory module into the socket and push it firmly down until it is fully seated. The socket latches are levered upwards and clipped on to the edges of the DIMM.
4 Install any remaining DIMM modules.



CHAPTER 4
HARDWARE DESCRIPTION

4.1 Microprocessors

The **IMB203 Series** supports Intel® Core™ 2 Quad / Core™ 2 Duo processors, which make your system operated under Windows® XP and Linux environments. The system performance depends on the microprocessor. Make sure all correct settings are arranged for your installed microprocessor to prevent the CPU from damages.

4.2 BIOS

The **IMB203 Series** uses AMI Plug and Play BIOS with a single 32Mbit SPI Flash.

4.3 System Memory

The **IMB203 Series** supports four 240-pin DDR3 DIMM sockets for a maximum memory of 16GB DDR3 SDRAMs. The memory module can come in sizes of 1GB, 2GB and 4GB.

4.4 I/O Port Address Map

The Intel® Core™ 2 Extreme/ Intel® Core™ 2 Quad / Core™ 2 Duo CPUs can communicate via I/O ports. There are total 1KB port addresses available for assignment to other devices via I/O expansion cards.

Address	Devices
000-01F	DMA controller #1
020-02D, 024-025 028-029, 02C-02D	Interrupt controller #1
02E-02F	Forwarded to LPC(LPC Super I/O)
030-031, 034-035 038-039, 03C-03D	Interrupt controller #2
040-043, 050-053	Timer/Counter (8254)
060	Forwarded to LPC (Microcontroller)
061	NMI
062-066	Forwarded to LPC (Microcontroller)
070-077	Real time clock, NMI
080-091	DMA page register
092	Processor I/F(Reset Generator)
093-09F	DMA page register
0A0-0BF	Interrupt controller #2
0C0-0DF	DMA controller #2
0F0	Processor I/F
0F8-0FF	Math processor
170-177	Forward to SATA (SATA Controller)
1F0-1F7	Forward to SATA (SATA Controller)
376	Forward to SATA(SATA Controller)
378-37F	Parallel Port (LPT)
380-38F	SDLC #2
3A0-3AF	SDLC #1
3B0-3BF	MDA video card

(to be continued)

Address	Devices
3C0-3CF	EGA card
3D0-3DF	CGA card
3F6	Forward to SATA(SATA Controller)
3F8-3FF	Serial port #1 (COM1)
2F8-2FF	Serial port #2 (COM2)

4.5 Interrupt Controller (IRQ) Map

The **IMB203 Series** is a 100% PC compatible control board. It consists of 16 interrupt request lines, and four out of them can be programmable. The mapping list of the 16 interrupt request lines is shown as the following table.

IRQ	Parity check error
IRQ0	System Timer Output
IRQ1	Keyboard
IRQ2	Interrupt rerouting from IRQ8 through IRQ15
IRQ3	Serial port #2
IRQ4	Serial port #1
IRQ5	PCI Device Share
IRQ7	Parallel port
IRQ8	Real time clock
IRQ9	ACPI Controller
IRQ10	PCI Device Share
IRQ11	PCI Device Share
IRQ12	PS/2 Mouse
IRQ13	Math coprocessor
IRQ14	SATA Primary (Legacy Mode)
IRQ15	SATA Secondary (Legacy Mode)

MEMO

CHAPTER 5
AMI BIOS SETUP UTILITY

This chapter provides users with detailed description how to set up basic system configuration through the AMIBIOS8 BIOS setup utility.

5.1 Starting

To enter the setup screens, follow the steps below:

1. Turn on the computer and press the <Del> key immediately.
2. After you press the <Delete> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Chipset and Power menus.

5.2 Navigation Keys

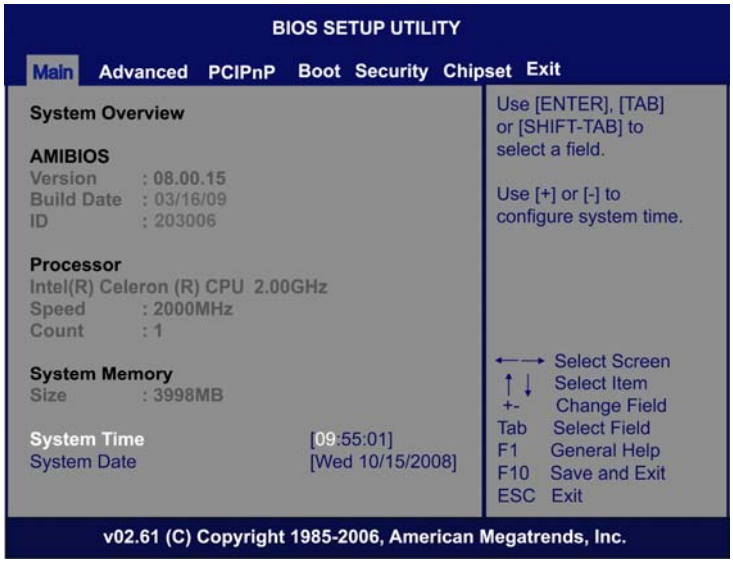
The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process.
These keys include <F1>, <F10>, <Enter>, <ESC>, <Arrow> keys, and so on.

Note *Some of navigation keys differ from one screen to another.*

← Left/Right	The Left <Arrow> keys allow you to select a setup screen.
↑↓ Up/Down	The Up and Down <Arrow> keys allow you to select a setup screen or sub-screen.
+– Plus/Minus	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item.
Tab	The <Tab> key allows you to select setup fields.
F1	The <F1> key allows you to display the General Help screen.
F10	The <F10> key allows you to save any changes you have made and exit Setup. Press the <F10> key to save your changes.
Esc	The <Esc> key allows you to discard any changes you have made and exit the Setup. Press the <Esc> key to exit the setup without saving your changes.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub- screens.

5.3 Main Menu

When you first enter the Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.



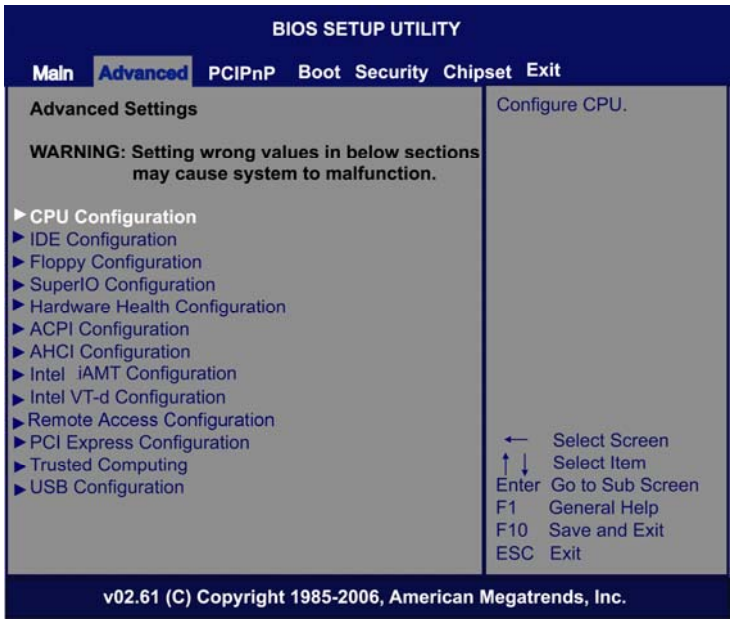
- **System Time/Date**
  Use this option to change the system time and date. Highlight *System Time* or *System Date* using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

5.4 Advanced Menu

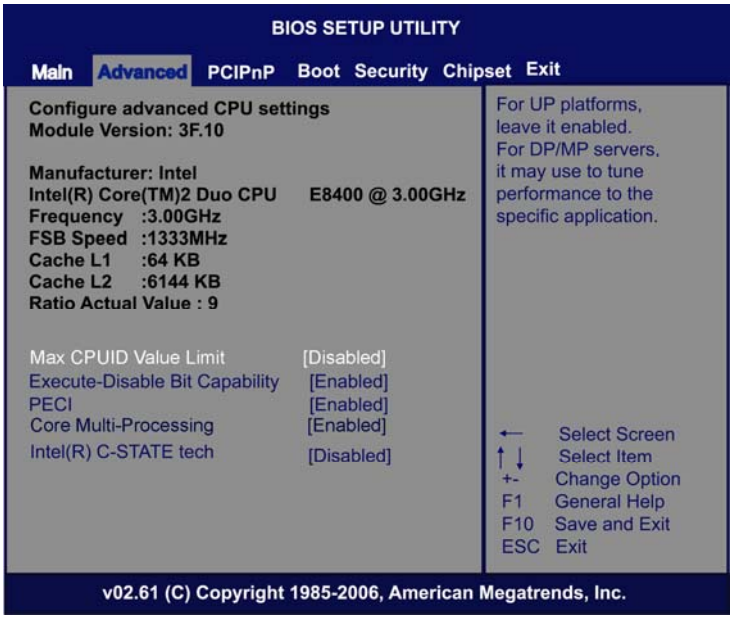
The Advanced menu allows users to set configuration of the CPU and other system devices. You can select any of the items in the left frame of the screen to go to the sub menus:

- CPU Configuration
- IDE Configuration
- SuperIO Configuration
- Hardware Health Configuration
- ACPI Configuration
- AHCI Configuration
- Intel iAMT Configuration
- Intel VT-d Configuration
- MPS Configuration
- PCI Express Configuration
- Trusted Computing
- USB Configuration

For items marked with "►", please press <Enter> for more options.



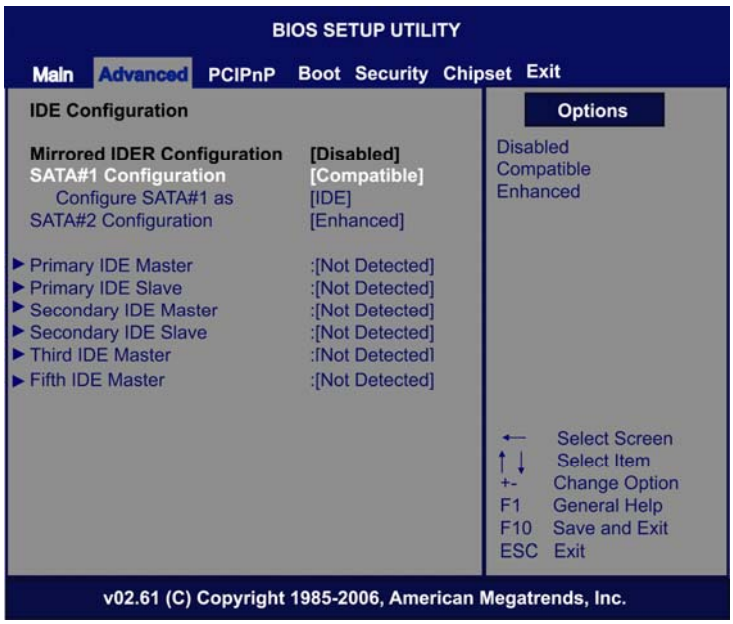
- **CPU Configuration**
  This screen shows the CPU Configuration, and you can change the value of the selected option.



  - **Max CPUID Value Limit**
    You can enable this item to let legacy operating systems boot even without support for CPUs with extended CPU ID functions.
  - **Execute-Disable Bit Capability**
    This item helps you enable or disable the No-Execution Page Protection Technology.
  - **Core Multi-Processing**
    This feature controls the functionality of the Core Multi-Processing to allow the processor to execute multitasking function.
  - **PECI**
    Use this item PECI (Platform Environment Control Interface) to execute the processor temperature monitoring and management.
  - **Intel (R) C-STATE tech**

Use this item to enable or disable the C-State technology.

- **IDE Configuration**
  You can use this screen to select options for the IDE Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with "►", please press <Enter> for more options.

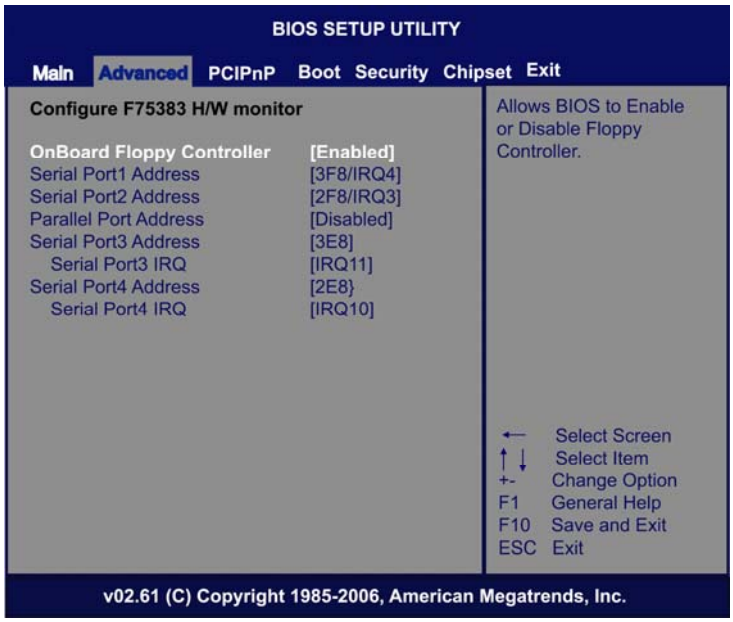


  - **SATA#1 Configuration**
    Use this item to control the onboard SATA controller. Here are the options for your selection, *Compatible*, *Disabled*, and *Enhanced*.
  - **Configure SATA#1 as**
    Use this item to choose the SATA operation mode. Here are the options for your selection, *IDE* and *AHCI*.
  - **SATA#2 Configuration**
    Use this item to control the onboard SATA controller. Here are the options for your selection, *Enhanced* and *Disabled*.
  - **Primary/Secondary/Third IDE Master**

Select one of the hard disk drives to configure IDE devices installed in the system by pressing <Enter> for more options.

- **Fifth IDE Master**
  Select one of the hard disk drives to configure IDE devices installed in the system by pressing <Enter> for more options.

- **SuperIO Configuration**
  You can use this screen to select options for the SuperIO Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



  - **Serial Port1 Address**
    This option specifies the base I/O port address and Interrupt Request address of serial port 1. The Optimal setting is *3F8/IRQ4*. The Fail-Safe default setting is *Disabled*.

  - **Serial Port2 Address**
    This option specifies the base I/O port address and Interrupt Request address of serial port 2. The Optimal setting is *2F8/IRQ3*. The Fail-Safe setting is *Disabled*.

  - **Parallel Port Address**
    This item allows you to determine the I/O address for onboard parallel port. There are several options for your selection.
    - **Parallel Port Mode**

Select an operating mode for the onboard parallel (printer) port.

- **Parallel Port IRQ**
  Use this item to set up the IRQ for onboard parallel port.

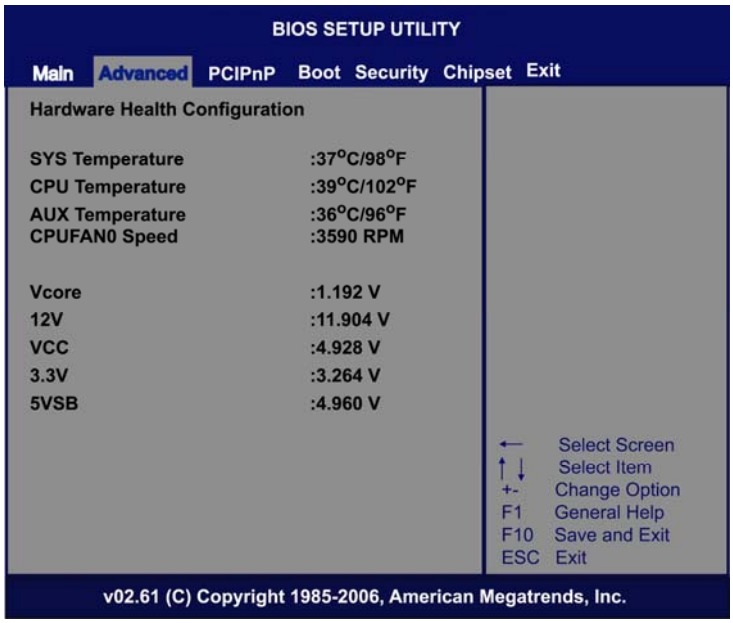
➢ **Serial Port3 Address**
This item specifies the base I/O port address and Interrupt Request address of serial port 3. The Optimal setting is *3E8/IRQ11*. The Fail-Safe default setting is *Disabled*.

➢ **Serial Port3 IRQ**
This item specifies the IRQ used by the serial port 3.

➢ **Serial Port4 Address**
This item specifies the base I/O port address and Interrupt Request address of serial port 4. The Optimal setting is *2E8/IRQ10*. The Fail-Safe default setting is *Disabled*.

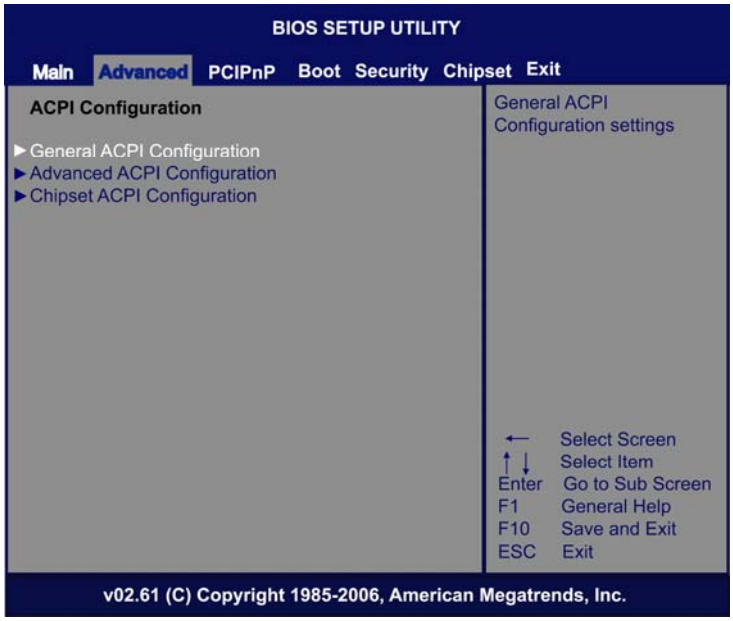
➢ **Serial Port4 IRQ**
This item specifies the IRQ used by the serial port 4.

- **Hardware Health Configuration**
  This screen shows the Hardware Health Configuration, and a description of the selected item appears on the right side of the screen.



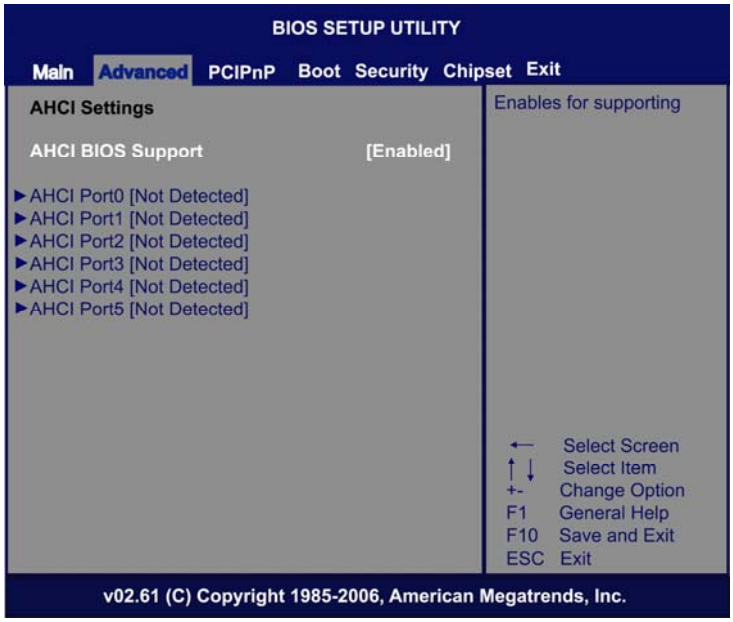
  - **H/W Health Configuration**
    This screen displays the temperature of CPU and System, Fan Speed, Vcore, etc.

- **ACPI Configuration**
  You can use this screen to select options for the ACPI Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



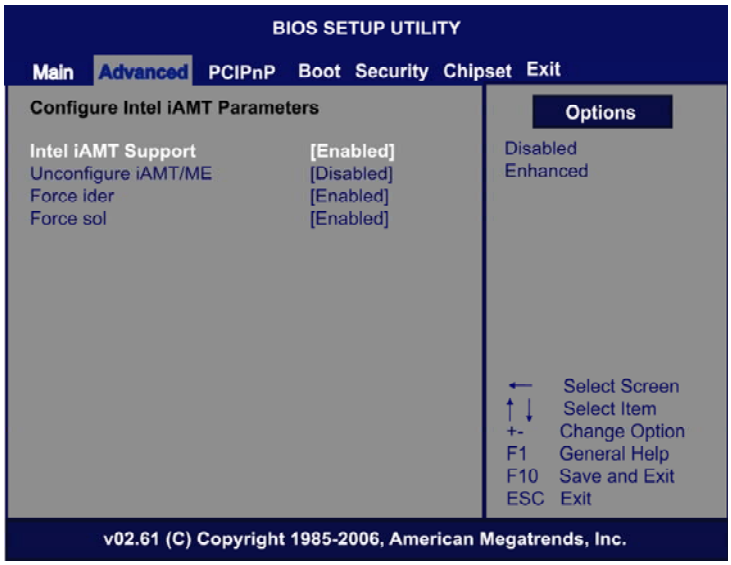
  - **General ACPI Configuration**
    Scroll to this item and press <Enter> to view the General ACPI Configuration sub menu, which contains General ACPI (Advanced Configuration and Power Management Interface) options for your configuration.
  - **Advanced ACPI Configuration**
    Scroll to this item and press <Enter> to view the Advanced ACPI Configuration sub menu, which contains Advanced ACPI (Advanced Configuration and Power Management Interface) options for your configuration.
  - **Chipset ACPI Configuration**
    Scroll to this item and press <Enter> to view the Chipset ACPI Configuration sub menu, which contains Chipset ACPI (Advanced Configuration and Power Management Interface) options for your configuration.

- **AHCI Configuration**
  You can use this screen to select options for the AHCI Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



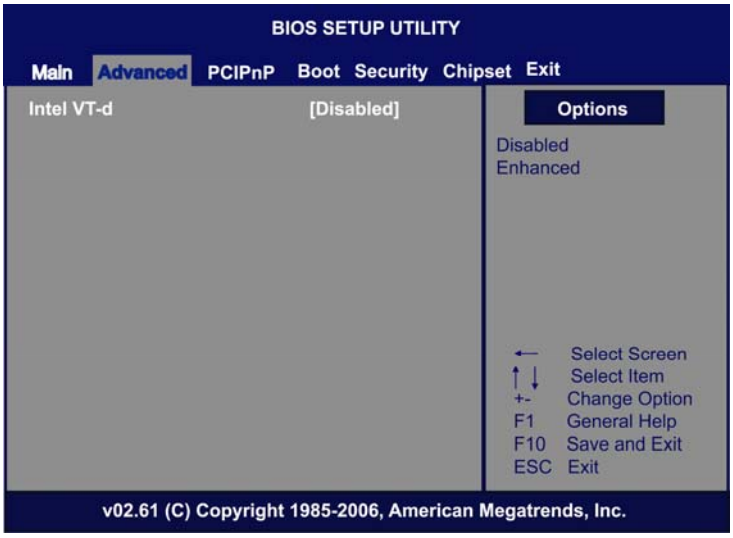
  - **AHCI BIOS Support**
    You can enable or disable this item to control the AHCI function of the SATA controller.

- **Intel iAMT Configuration**
  You can use this screen to select options for the Intel iAMT Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



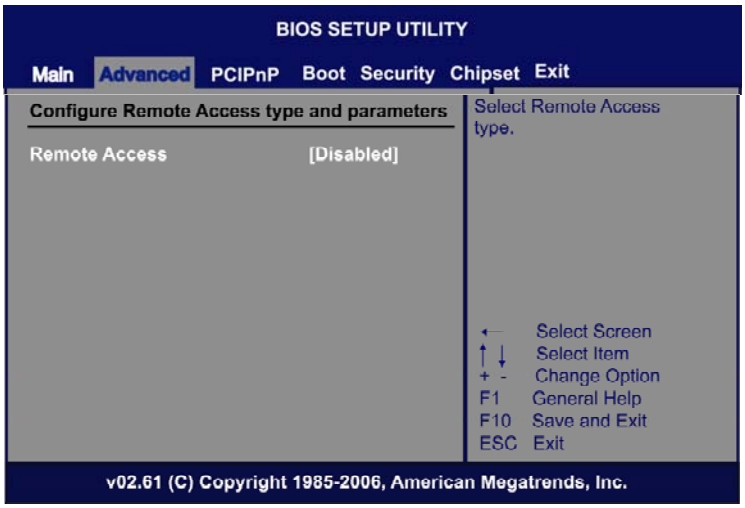
  - **Intel iAMT Support**
    You can enable this item to support iAMT (active management technology) function to follow up the procedure for the access to AMI program screen.
  - **Unconfigure iAMT/ME**
    Use this item to unconfigure the iAMT/ME settings.

- **Intel VT-d Configuration**
  You can use this screen to select options for the Intel VT-d Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



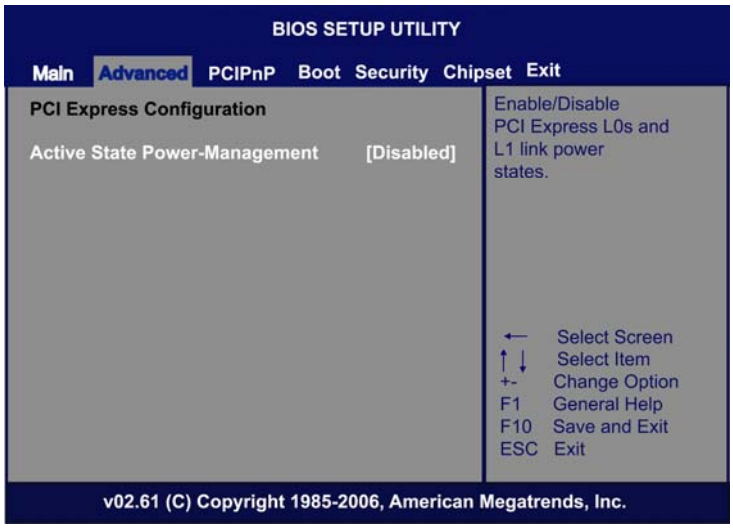
  - **Intel VT-d**
    Virtualization Technology for Directed I/O (VT-d) extends Virtualization Technology (VT) roadmap, by providing hardware assists for virtualization solution.
    VT-d can help end users improve security and reliability of the systems and also improve performance of I/O devices in virtualized environment. Here are the options for your selection, *Disabled* and *Enabled*.

- **Remote Access Configuration**
  You can use this screen to select options for the Remote Access Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



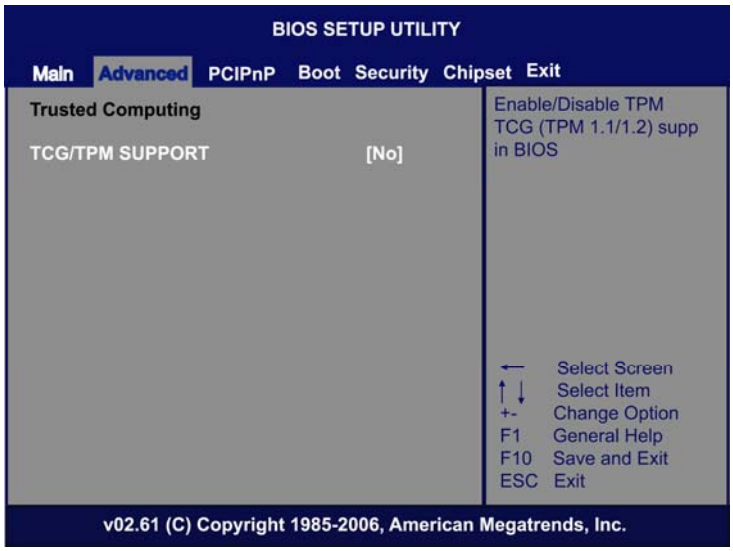
  - **Remote Access**
    Use this item to enable or disable the Remote Access function.

- **PCI Express Configuration**
  This screen shows the PCI Express Configuration, and you can change its value. A description of the selected item appears on the right side of the screen.



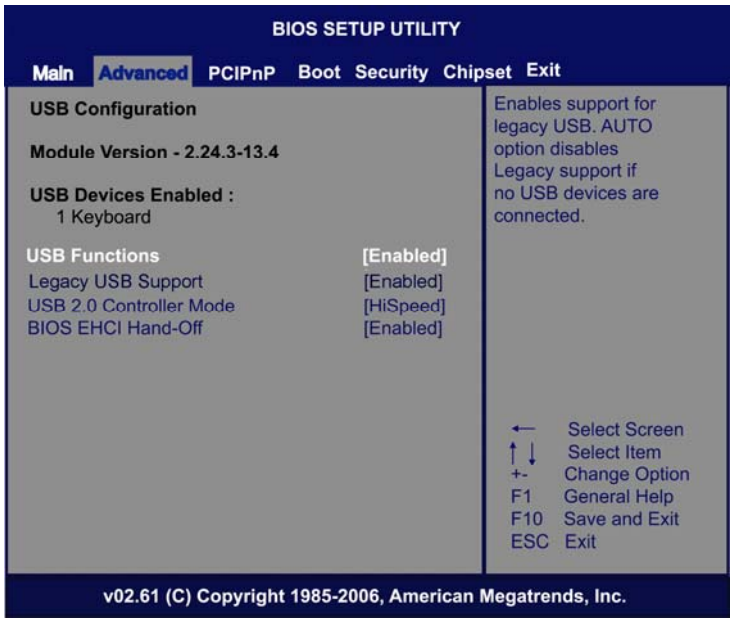
  - **Active State Power-Management**
    Use this item to enable or disable the function of Active State Power-Management to provide you with lower power consumption. The default setting is *Disabled*.

- **Trusted Computing**
  You can use this screen to select options for the Trusted Computing, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



  - **TCG/TPM SUPPORT**
    Use this item to control the Trusted Platform Module (TPM) function.

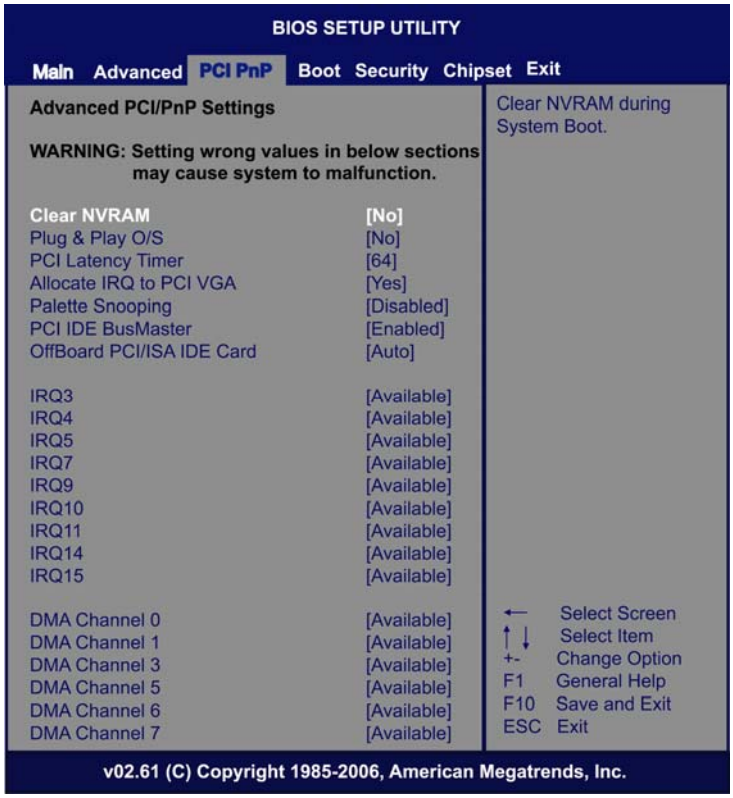
- **USB Configuration**
  You can use this screen to select options for the USB Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



  - **USB Functions**
    This item allows you to enable or disable USB functions.
  - **Legacy USB Support**
    Use this item to enable or disable support for USB device on legacy operating system. The default setting is *Enabled*.
  - **USB 2.0 Controller Mode**
    Use this item to configure the USB 2.0 controller. The default setting is *HiSpeed*.
  - **BIOS EHCI Hand-Off**
    Enabling this item provide the support for operating systems without an EHCI hand-off feature. The default setting is *Enabled*.

5.5 PCI PnP Menu

The PCI PnP menu allows users to change the advanced settings for PCI/PnP devices.



- **Clear NVRAM**
  Use this item to clear the data in the NVRAM (CMOS). Here are the options for your selection, *No* and *Yes*.

- **Plug & Play O/S**
  When the setting is No, Use this item to configure all the devices in the system. When the setting is Yes and if you install a Plug and Play operating system, the operating system configures the Plug and Play devices not required for boot. The default setting is *No*.

- **PCI Latency Timer**
  This item controls how long a PCI device can hold the PCI bus before another takes over. The longer the latency, the longer the PCI device can retain control of the bus before handing it over to another PCI device. There are several options for your selection.

- **Allocate IRQ to PCI VGA**
  This item allows BIOS to choose an IRQ to assign for the PCI VGA card. Here are the options for your selection, *No* and *Yes*.

- **Palette Snooping**
  Some old graphic controllers need to "snoop" on the VGA palette, and then map it to their display as a way to provide boot information and VGA compatibility. This item allows such snooping to take place. Here are the options for your selection, *Disabled* and *Enabled*.

- **PCI IDE BusMaster**
  This item is a toggle for the built-in driver that allows the onboard IDE controller to perform DMA (Direct Memory Access) transfer. Here are the options for your selection, *Disabled* and *Enabled*.

- **OffBoard PCI/ISA IDE Card**
  This item is for any other non-onboard PCI/ISA IDE controller adapter. There are several options for your selection.

- **IRQ3/4/5/7/9/10/11/14/15**
  These items will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. The option "Available" means the IRQ is going to assign automatically. Here are the options for your selection, *Available* and *Reserved*.

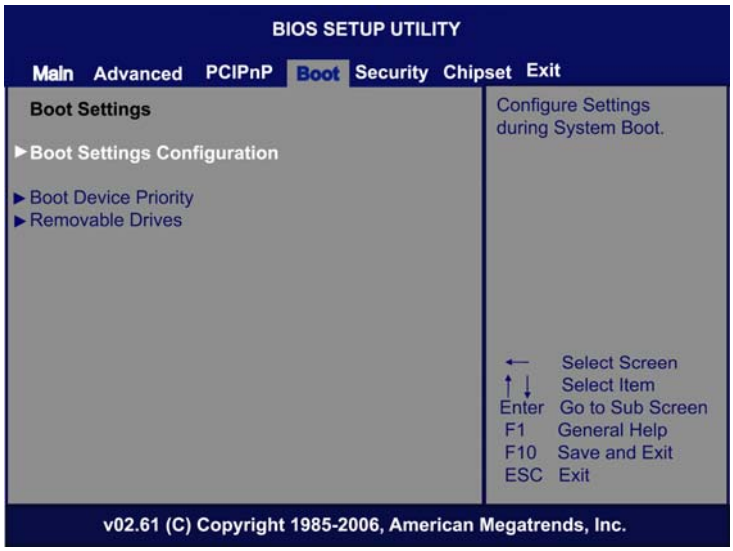
- **DMA Channel 0/1/3/5/6/7**
  These items will allow you to assign each DMA channel a type, depending on the type of device using the channel. The option "Available" means the channel is going to assign automatically. Here are the options for your selection, *Available* and *Reserved*.

5.6 Boot Menu

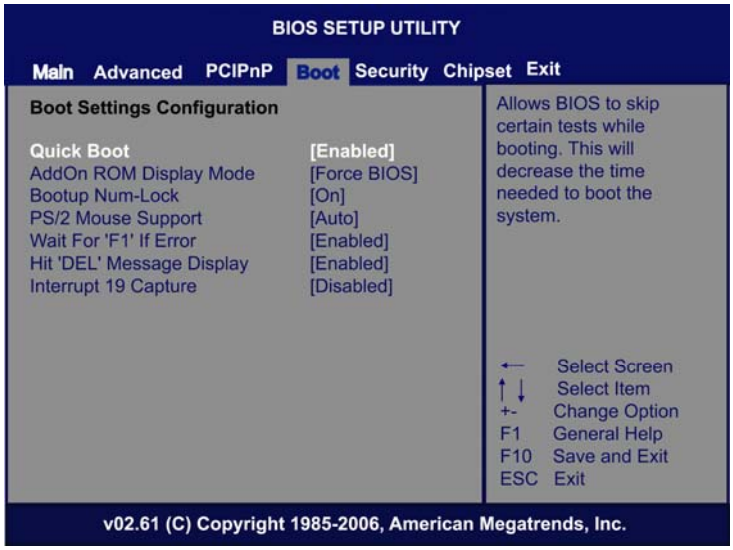
The Boot menu allows users to change boot options of the system. You can select any of the items in the left frame of the screen to go to the sub menus:

- Boot Settings Configuration
- Boot Device Priority
- Removable Drives

For items marked with "►", please press <Enter> for more options.



- **Boot Settings Configuration**



  - **Quick Boot**
    Enabling this item lets the BIOS skip some power on self tests (POST). The default setting is *Enabled*.

  - **AddOn ROM Display Mode**
    This item selects the display mode for option ROM. The default setting is *Force BIOS*.

  - **Boot Num-Lock**
    Use this item to select the power-on state for the NumLock. The default setting is *On*.

  - **PS/2 Mouse Support**
    This item determines if the BIOS should reserve IRQ12 for the PS/2 mouse or allow other devices to make use of this IRQ. Here are the options for your selection, *Auto*, *Enabled* and *Disabled*.

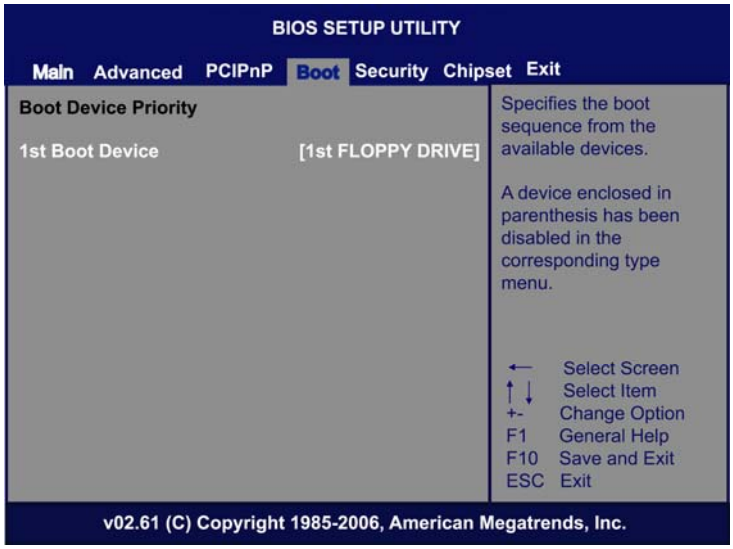
  - **Wait For 'F1' Of Error**
    If this item is enabled, the system waits for the F1 key to be pressed when error occurs. The default setting is *Enabled*.

  - **Hit 'DEL' Message Display**
    If this item is enabled, the system displays the message

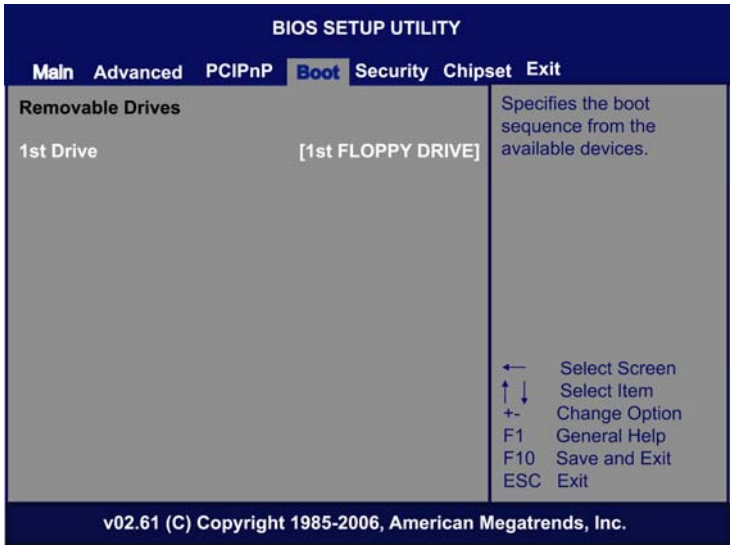
"Press DEL to run Setup" during POST. The default setting is *Enabled*.

- **Interrupt 19 Capture**
  If this item is enabled, this function makes the option ROMs to trap Interrupt 19. The default setting is *Disabled*.

- **Boot Device Priority**
  The Boot Device Priority screen specifies the boot device priority sequence from the available devices.

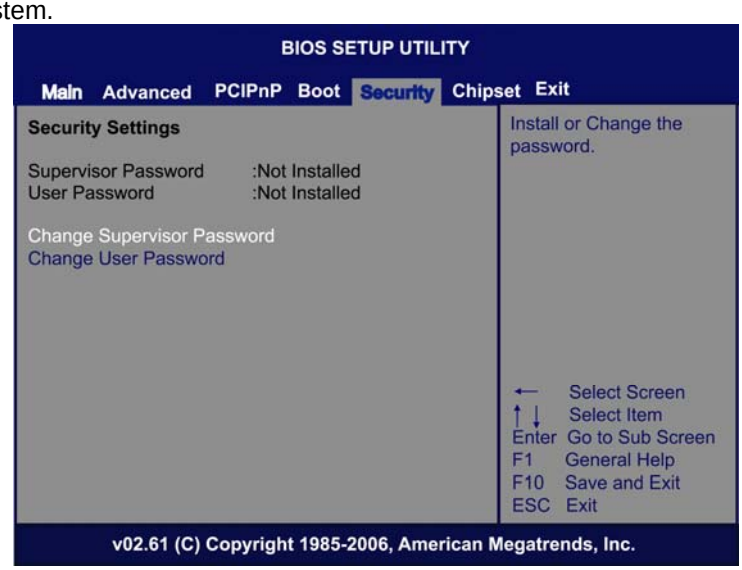


- **Removable Drives**
  Use this screen to view the removable drives in the system. The BIOS will attempt to arrange the removable drive boot sequence automatically. You can also change the booting sequence.



5.7 Security Menu

The Security menu allows users to change the security settings for the system.



- **Supervisor Password**
  This item indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

- **User Password**
  This item indicates whether a user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

- **Change Supervisor Password**
  Select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

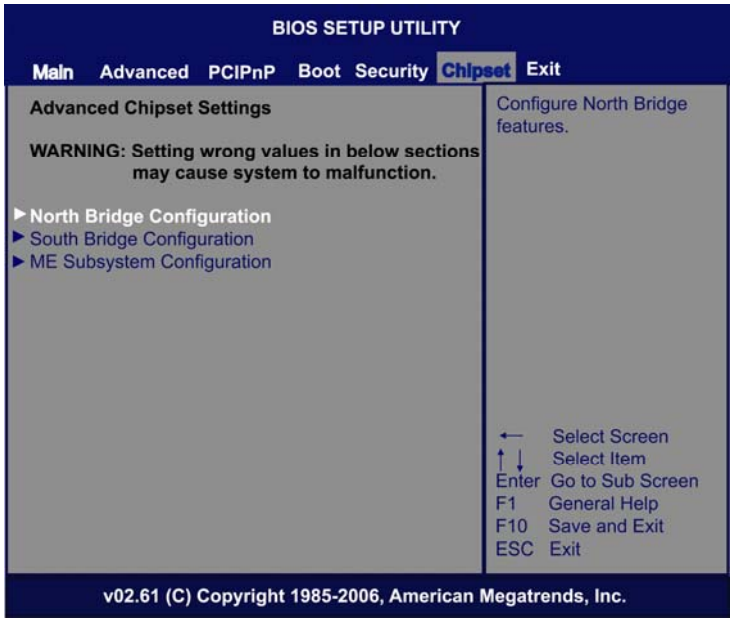
- **Change User Password**
  Select this option and press <Enter> to access the sub menu. You can use the sub menu to change the user password.

5.8 Chipset Menu

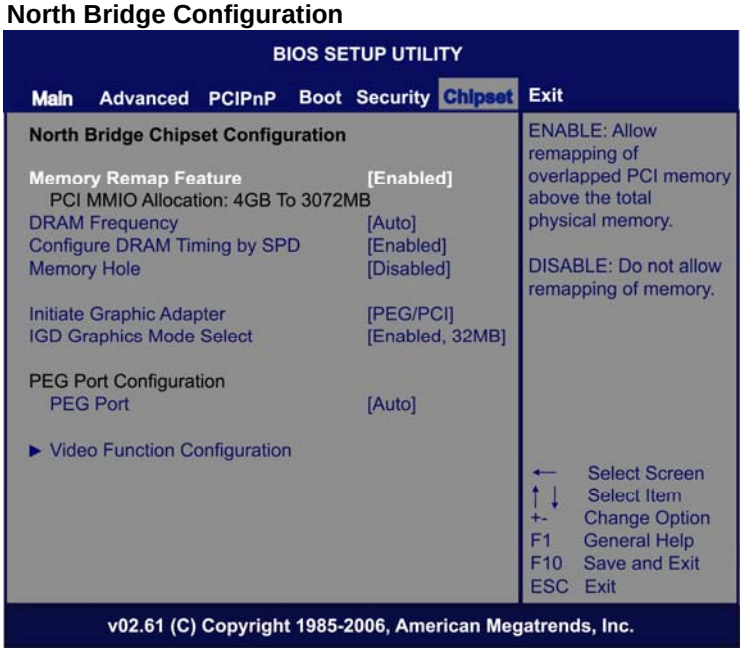
The Chipset menu allows users to change the advanced chipset settings. You can select any of the items in the left frame of the screen to go to the sub menus:

- North Bridge Configuration
- South Bridge Configuration
- ME Subsystem Configuration

For items marked with "►", please press <Enter> for more options.



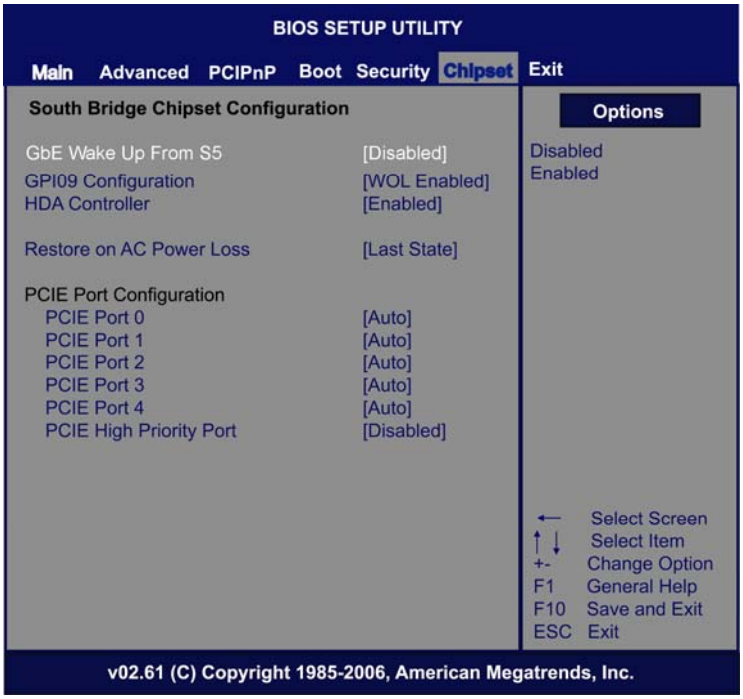
- **North Bridge Configuration**



  - **Memory Remap Feature**
    Use this item to enable or disable the remapping of the overlapped PCI memory above the total physical memory. Only 64-bit OS supports this function.
  - **DRAM Frequency**
    This item allows you to control the Memory Clock.
  - **Configure DRAM Timing by SPD**
    This item can enable or disable DRAM timing by SPD (Serial Presence Detect) device, which is a small EEPROM chip on the memory module, containing important information about the module speed, size, addressing mode and various parameters.
  - **Memory Hole**
    You can reserve this area of system memory for ISA adapter ROM. When this area is reserved it cannot be cached. Check the user information of peripherals that need to use this area o f system memory for the memory requirements. Here are the options, *Disabled* and *15M-16M*.

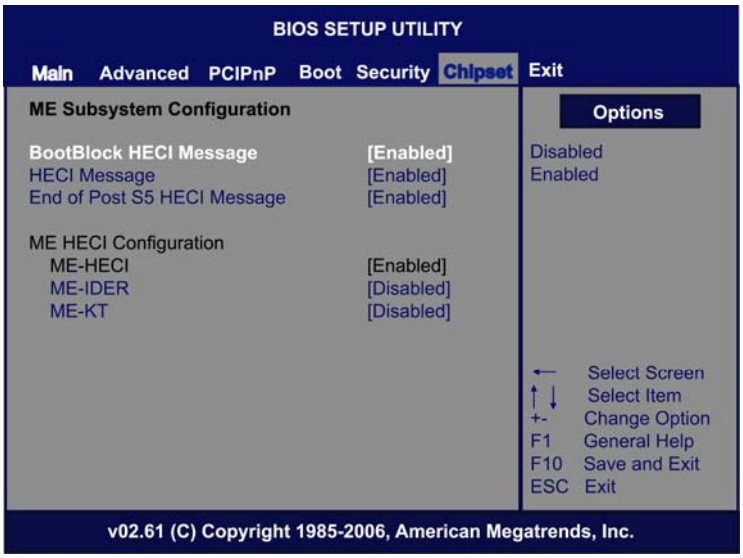
- **Initiate Graphic Adapter**
  When using multiple graphics cards, this item can select which graphics controller to be the primary display device during boot.
- **IGD Graphics Mode Select**
  This item allows you to select the amount of system memory used by the internal graphics device.
- **PEG Port Configuration/PEG Port**
  This item is a toggle to enable or disable the PCI Express port. Here are the options for your selection, *Auto* and *Disabled*.
- **Video Function Configuration**
  Press <Enter> for the sub-menu for setting up video function.

- **South Bridge Configuration**



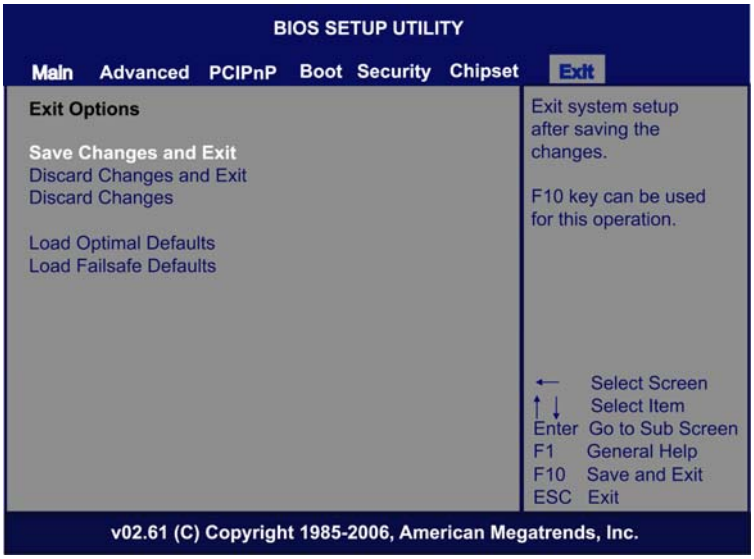
  - **GbE Wake Up From S5**
    This item specifies whether the system will be awakened from the S5 power.
  - **HDA Controller**
    This item allows you to enable or disable the HD audio support.
  - **Restore on AC Power Loss**
    This item can control how the PC will behave once power is restored following a power outage, or other unexpected shutdown.
  - **PCIE Port Configuration**
    This item allows you to set or disable the PCI Express Ports.

- **ME Subsystem Configuration**
  It is strongly recommended that you do not modify these options unless you are an advanced user.



5.9 Exit Menu

The Exit menu allows users to load your system configuration with optimal or failsafe default values.



- **Save Changes and Exit**
  When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select *Save Changes and Exit* from the Exit menu and press <Enter>. Select Ok to save changes and exit.

- **Discard Changes and Exit**
  Select this option to quit Setup without making any permanent changes to the system configuration. Select *Discard Changes and Exit* from the Exit menu and press <Enter>. Select Ok to discard changes and exit.

- **Load Optimal Defaults**
  It automatically sets all Setup options to a complete set of default settings when you select this option. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications. In particular, do not use the Optimal Setup options if your

computer is experiencing system configuration problems. Select Load Optimal Defaults from the Exit menu and press <Enter>.

- **Load Fail-Safe Defaults**
  It automatically sets all Setup options to a complete set of default settings when you select this option. The Fail-Safe settings are designed for maximum system stability, but not maximum performance. Select the Fail-Safe Setup options if your computer is experiencing system configuration problems.
  Select Load Fail-Safe Defaults from the Exit menu and press <Enter>. Select Ok to load Fail-Safe defaults.

MEMO

CHPATER 6
INSTALLATION OF DRIVERS

The device drivers are located on the Product Information CD-ROM that comes with the **IMB203 Series** package. The auto-run function of drivers will guide you to install the utilities and device drivers under a Windows system. You can follow the onscreen instructions to install these devices:

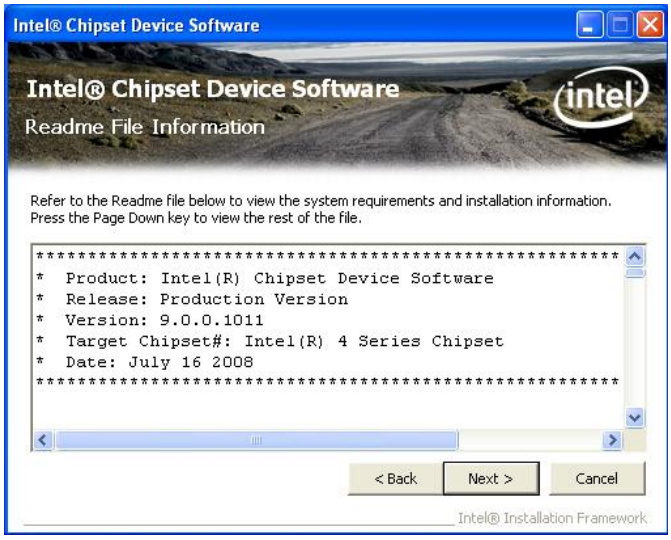
- Chipse
- VGA
- LAN
- Audio
- iAMT
- MEI

6.1 Installing Chipset Driver

1. Run the SETUP.EXE program from the driver directory in your driver CD. Click "Next" to next step.

2. An Intel® License Agreement appears to show you the important information. Click "Yes" to next step.

3. Refer to the Readme file below to view the system requirements and installation information.



3-1 Please wait while running the following setup operations.

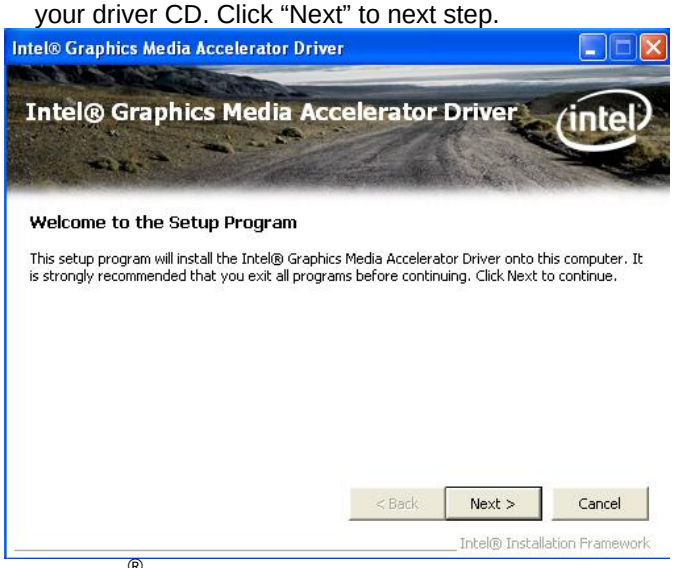
3-2 Please wait while running the following setup operations.

4. Click "Finish" to complete the setup process.

5. You will be asked to reboot your computer when the installation is completed. Please click "Yes, I want to restart my computer now" if you don't need to install any other drivers. Otherwise, please click "No, I will restart my computer later", and go on next step.

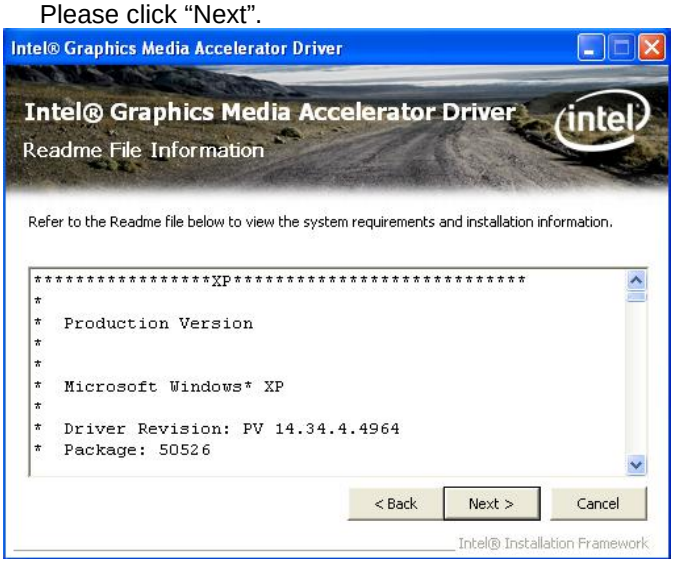
6.2 Installing VGA Driver

1. Run the SETUP.EXE program from the driver directory in your driver CD. Click "Next" to next step.



2. An Intel® License Agreement appears to show you the important information. Click "Yes" to next step.

3. The message of Readme File Information appears to show you the system requirements and installation information. Please click "Next".

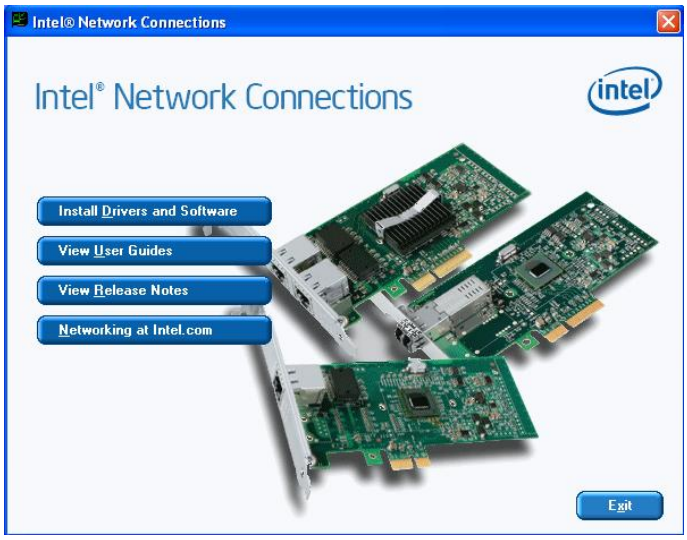


4. Please wait while running the following setup operations. When this message appears, please click "Next".

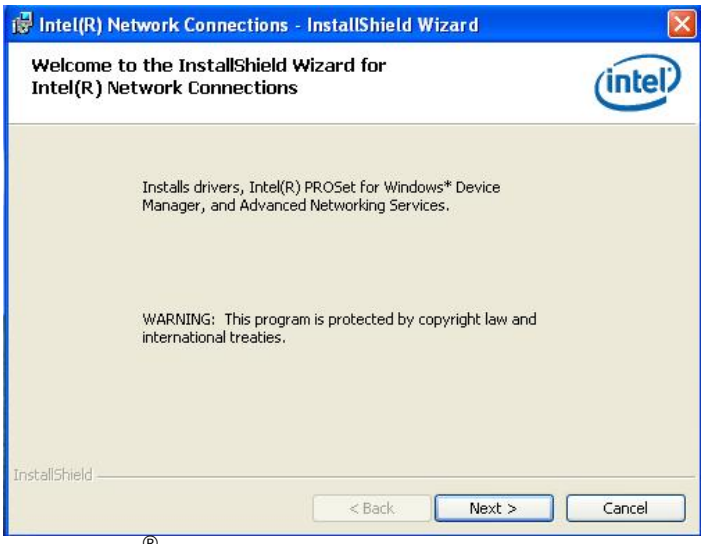
5. Click "Finish" to complete the setup process.

6. You will be asked to reboot your computer when the installation is completed. Please click "Yes, I want to restart my computer now" if you don't need to install any other drivers. Otherwise, please click "No, I will restart my computer later", and click "Finish" to complete the installation.

6.3 Installing LAN Driver

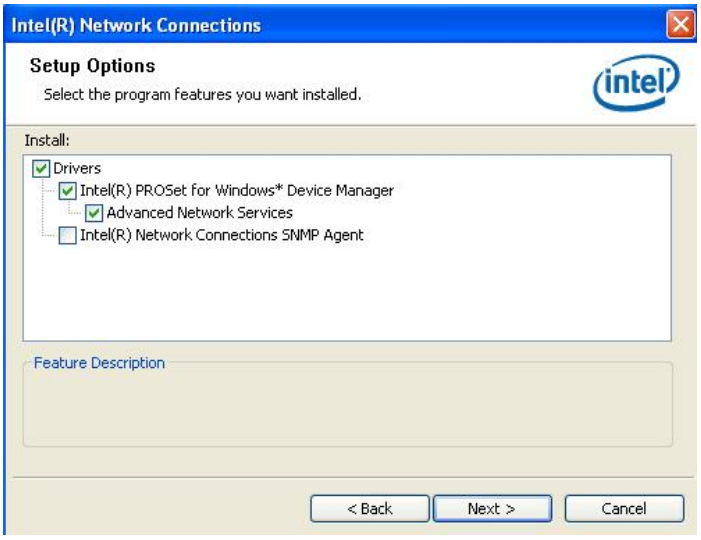


1.1 Run the InstallShield Wizard for Network Connections from the driver directory in your driver CD. Click "Next" to next step.



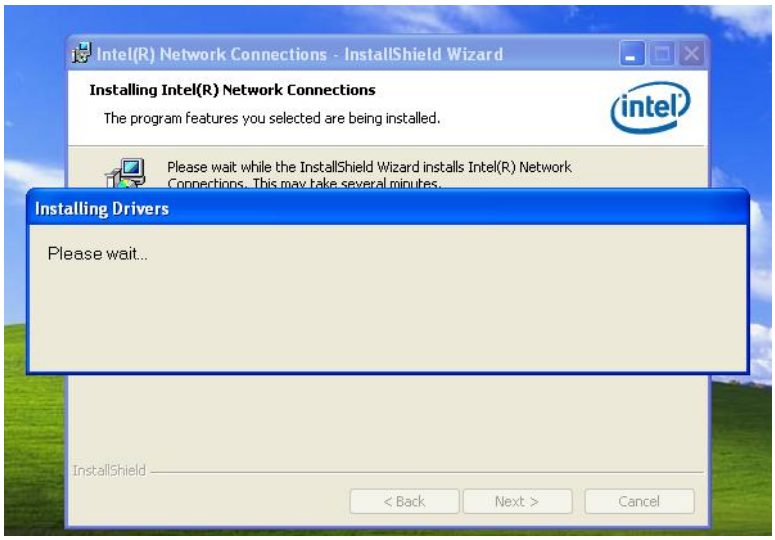
1.2 An Intel® License Agreement appears to show you the important information. Click "Yes" to next step.

1.3 A Setup Options window appears that you can select the program features you want to install.

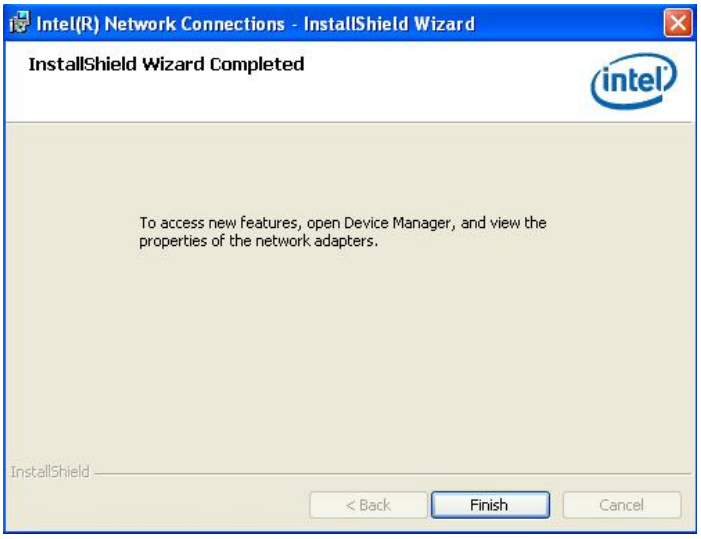


2. Click "Install" to start the installation.

3. Please wait while running the following installation operation.



4. Click "Finish" to complete the installation.

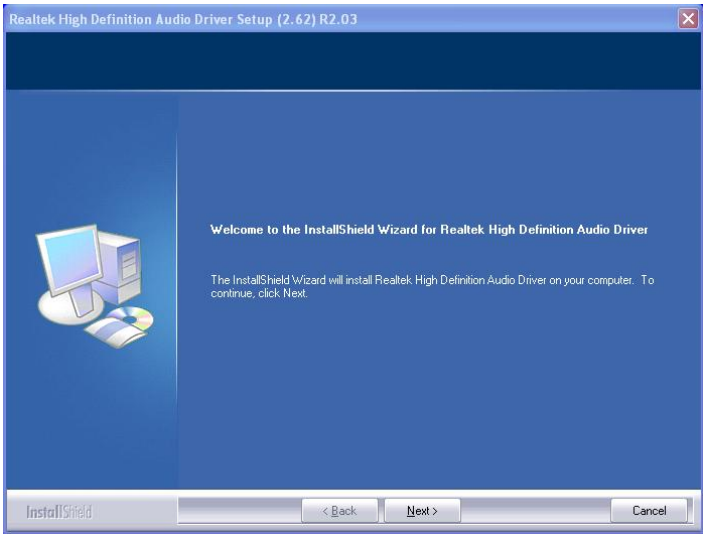


Note *The Driver item [Wake on Directed Packet] default is*

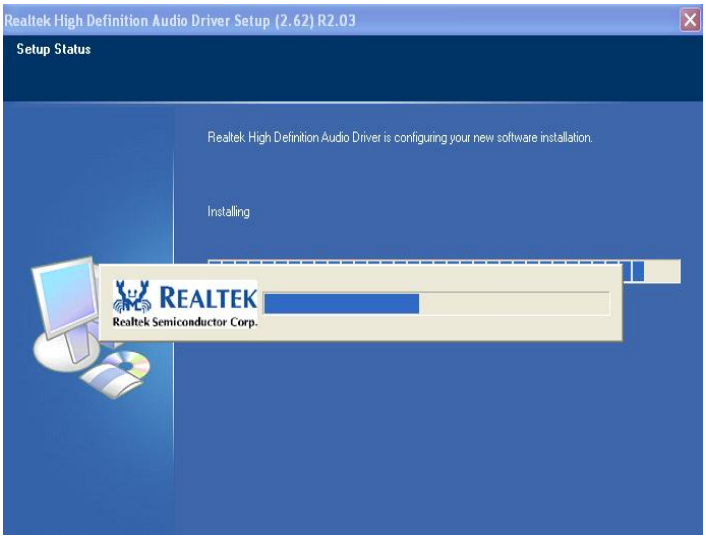
Enabled under Windows Vista.

6.4 Installing AUDIO Driver

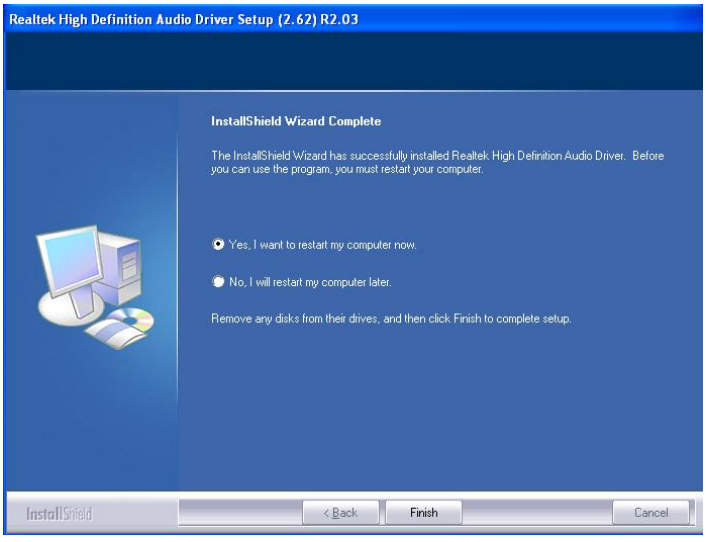
1. Run the InstallShield Wizard for Realtek High Definition Audio Driver from the driver directory in your driver CD. Click "Next" to next step.



2. Click "Install" to start the installation, and wait while running the installation operation.



3. Click "Finish" to complete the installation.



6.5 Installing iAMT (Active Management Technology) Driver

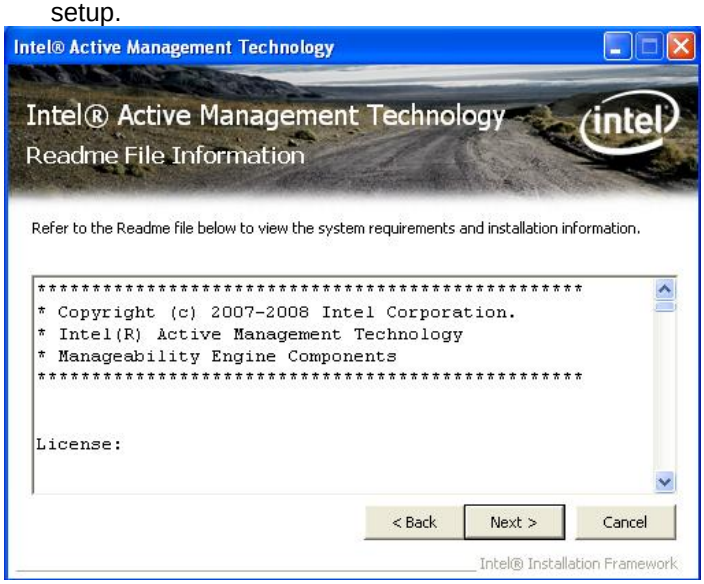
Note *You must download and properly install the required .NET version 3.5 provided from a separate downloading of the actual Fimware/Tools kit releases posted on VIP prior to loading the MEI/LMS Driver stack.*

6.5.1 LMS_SOL Setup

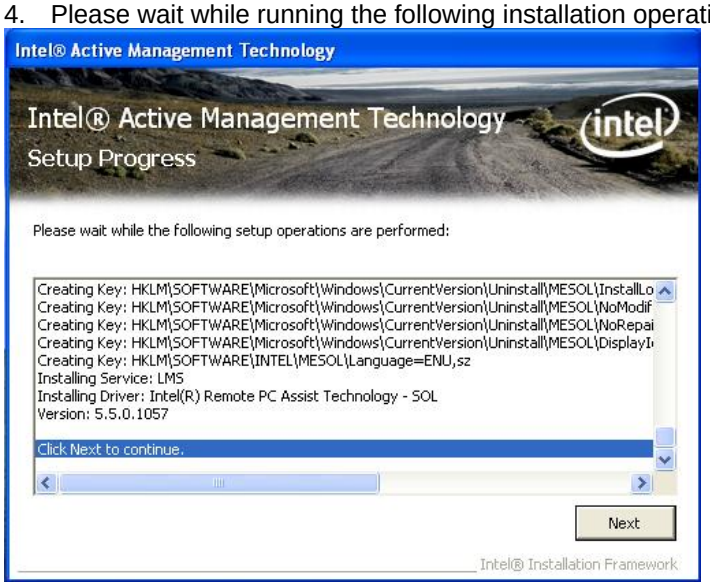
1. Run the setup program to install Intel® Active Management Technology onto your computer. It is strongly recommended that you exit all programs before continuing. Click "Next" to next step.

2. An Intel® license agreement appears that you need to continue the setup program by clicking "Yes" to accept the terms.

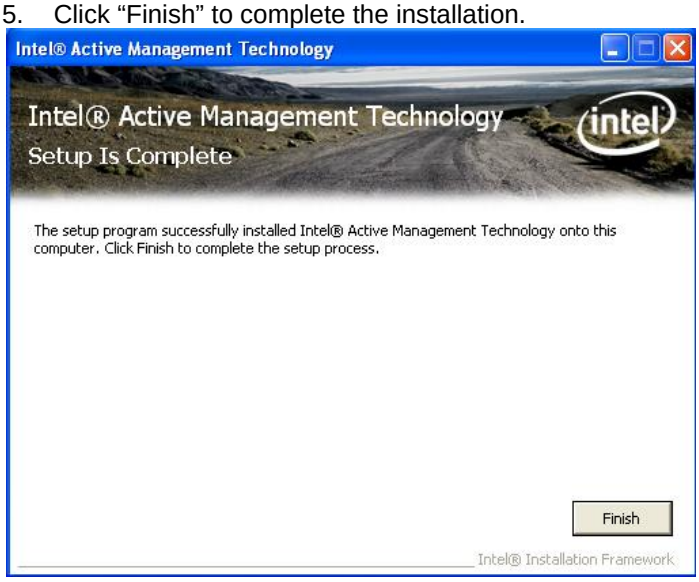
3. Refer to the Readme file below to view the system requirements and installation information. Click "Next" to next setup.



4. Please wait while running the following installation operation.



5. Click "Finish" to complete the installation.

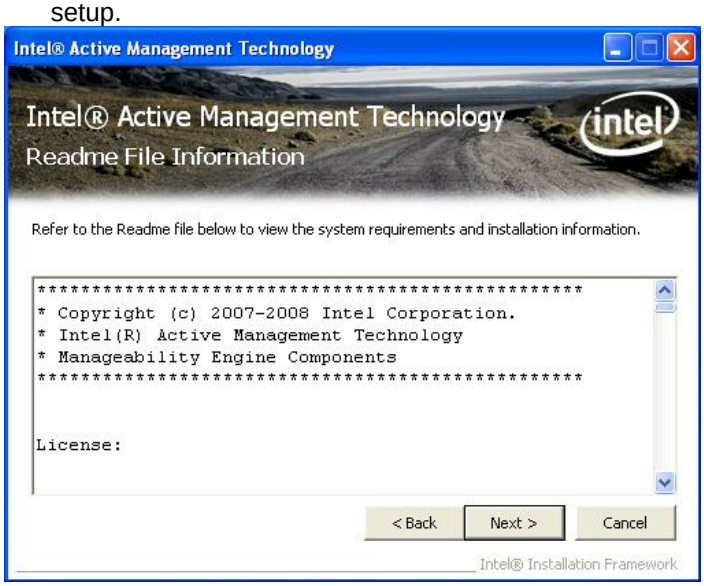


6.5.2 LMS_SOL_IS Setup

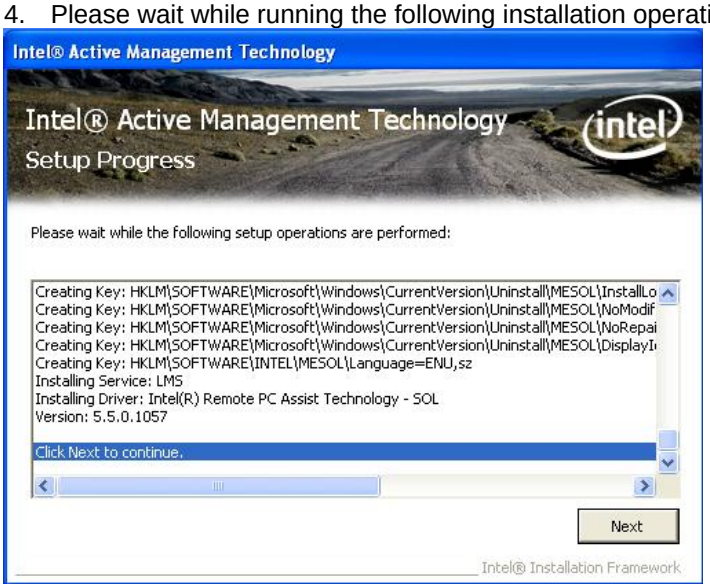
1. Run the setup program to install Intel® Active Management Technology onto your computer. It is strongly recommended that you exit all programs before continuing. Click "Next" to next step.

2. An Intel® license agreement appears that you need to continue the setup program by clicking "Yes" to accept the terms.

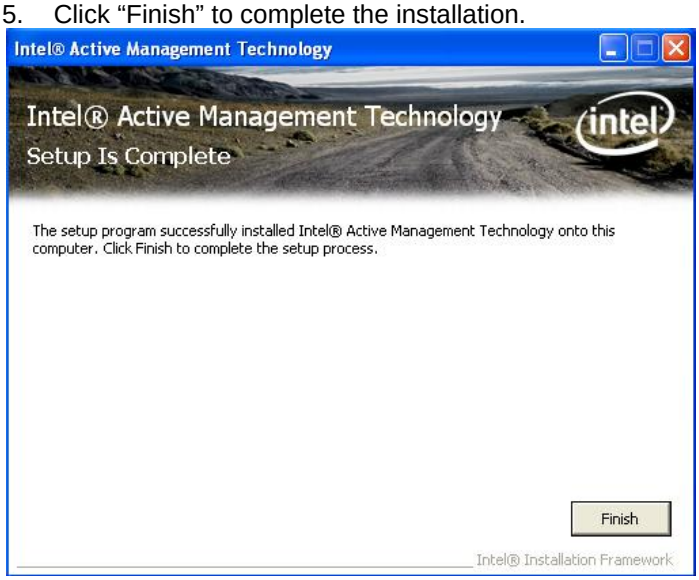
3. Refer to the Readme file below to view the system requirements and installation information. Click "Next" to next setup.



4. Please wait while running the following installation operation.



5. Click "Finish" to complete the installation.



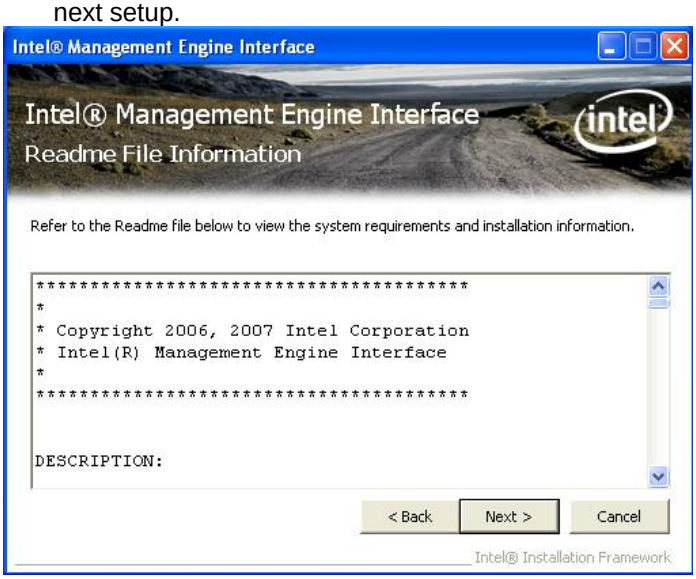
6.6 Installing MEI (Management Engine Interface) Driver

Note *You must download and properly install the required .NET version 3.5 provided from a separate downloading of the actual Fimware/Tools kit releases posted on VIP prior to loading the MEI/LMS Driver stack.*

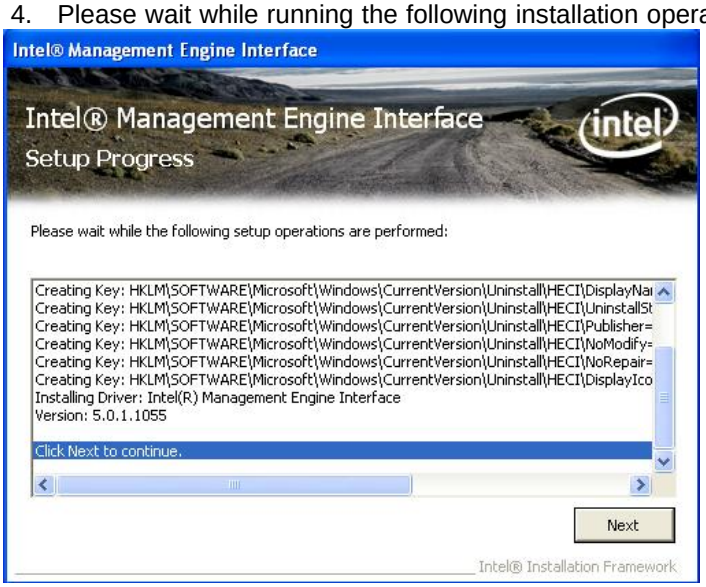
1. Run the setup program to install Intel® Management Engine Interface onto your computer. It is strongly recommended that you exit all programs before continuing. Click "Next" to next step.

2. An Intel® license agreement appears that you need to continue the setup program by clicking "Yes" to accept the terms.

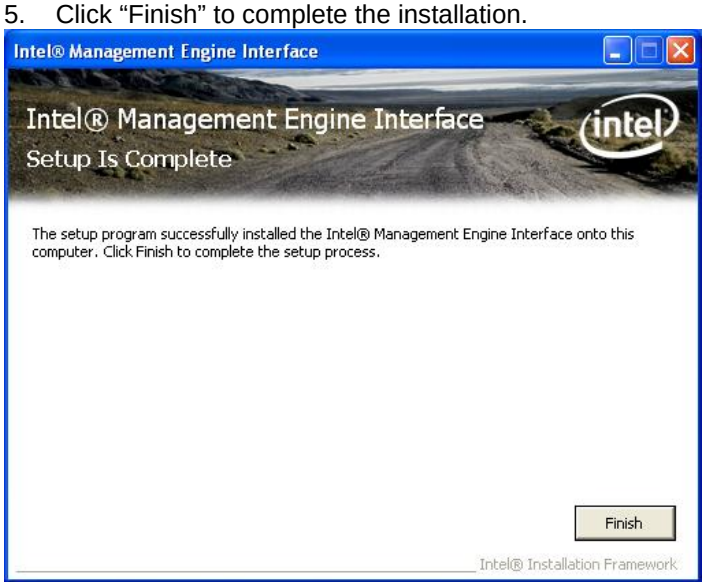
3. Refer to the Readme file below to view the system requirements and installation information. Click "Next" to next setup.



4. Please wait while running the following installation operation.



5. Click "Finish" to complete the installation.



MEMO

APPENDIX A
WATCHDOG TIMER

Watchdog Timer Setting

After the system stops working for a while, it can be auto-reset by the Watchdog Timer. The integrated Watchdog Timer can be set up in the system reset mode by program.

Using the Watchdog Function

Start
↓
Un-Lock WDT
:O 2E 87 ; Un-lock super I/O
O 2E 87 ; Un-lock super I/O
↓
Set WDT Function
O 2E 2D
O 2F 20
Select Logic device
O 2E 07
O 2F 08
↓
Activate WDT
:O 2E 30
O 2F 01

Set Second or Minute
O 2E F5
O 2F N N=00 or 08(See below table)
↓
Set base timer
:O 2E F6
O 2F M=00,01,02,…FF(Hex) ,Value=0 to 255
↓
WDT counting

re-set timer
:O 2E F6
O 2F M ; M=00,01,02,…FF(See below table)
↓

IF No re-set timer **:WDT time-out, generate RESET**

IF to disable WDT **:O 2E 30**
O 2F 00 ; Can be disable at any time

N=00

M= 00h: Time-out Disable
01h: Time-out occurs after 1 second
02h: Time-out occurs after 2 second
03h: Time-out occurs after 3 second
…….....
FFh: Time-out occurs after 255 second

N=08

M= 00h: Time-out Disable
01h: Time-out occurs after 1 minute
02h: Time-out occurs after 2 minutes
03h: Time-out occurs after 3 minutes
…….....

FFh: Time-out occurs after 255 minutes

APPENDIX B
PCI IRQ ROUTING

PICMG PCI IRQ Routing

Device	ID	Slot	Int
PCI Slot 0	31	0	BCDA
PCI Slot 1	30	1	CDAB
PCI Slot 2	29	2	DABC
PCI Slot 3	28	3	ABCD

MEMO

APPENDIX C
CONFIGURING SATA FOR RAID FUNCTION

Configuring SATA Hard Drive(s) for RAID Function (Controller: Intel® ICH10DO/DO DH only)

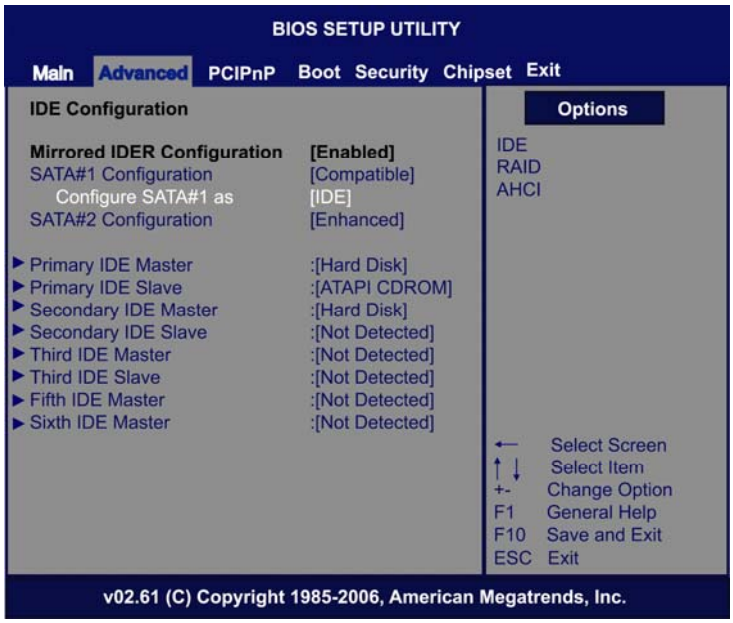
Please follow up the steps below to configure SATA hard drive(s):
(1) Install SATA hard drive(s) in your system.
(2) Enter the BIOS Setup to configure SATA controller mode and boot sequence.
(3) Configure RAID by the RAID BIOS.
(4) Install the SATA controller driver during the OS installation.

Before you begin the SATA configuration, please prepare:
(a) Two SATA hard drives (to ensure optimal performance, it is recommended that you use two hard drives with identical model and capacity). If you do not want to create RAID with the SATA controller, you may prepare only one hard drive.
(b) An empty formatted floppy disk
(c) Windows XP setup disk

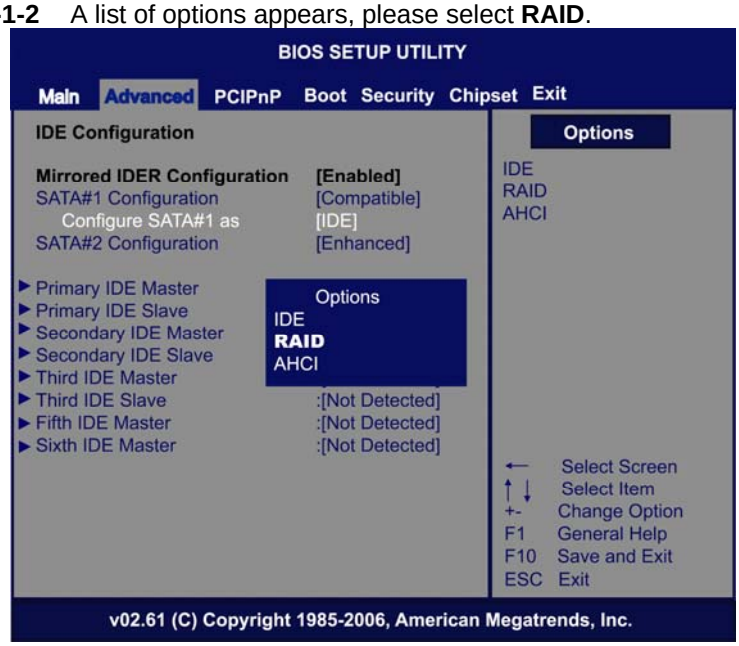
(1) Installing SATA hard drive(s) in your system
Connect one end of the SATA signal cable to the rear of the SATA hard drive, and the other end to available SATA port(s) on the board. Then, connect the power connector of power supply to the hard drive.

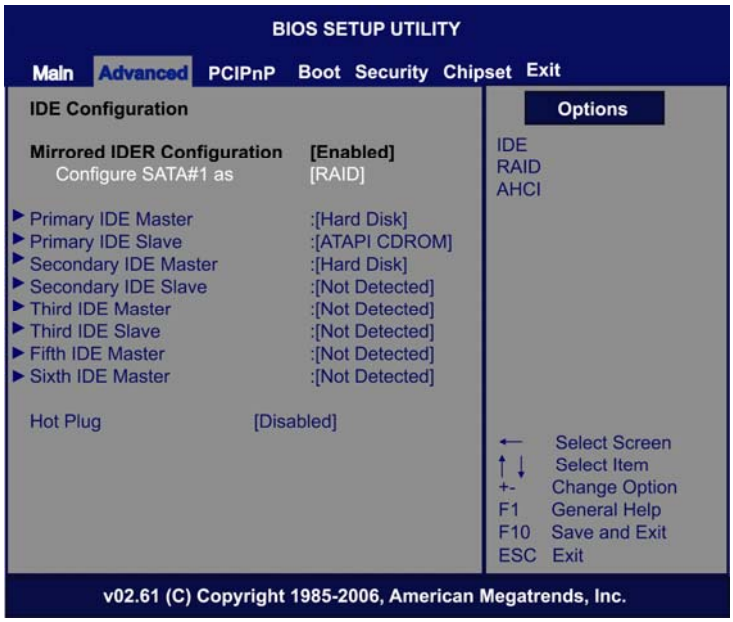
(2) Configuring SATA controller mode and boot sequence by the BIOS Setup
You have to make sure whether the SATA controller is configured correctly by system BIOS Setup and set up BIOS boot sequence for the SATA hard drive(s).

(2)-1-1 Turn on your system, and then press the Del button to enter BIOS Setup during running POST (Power-On Self Test). If you want to create RAID, just go to the Advanced Settings menu/IDE configuration, select the **Configure SATA#1 as**, and press <Enter> for more options.

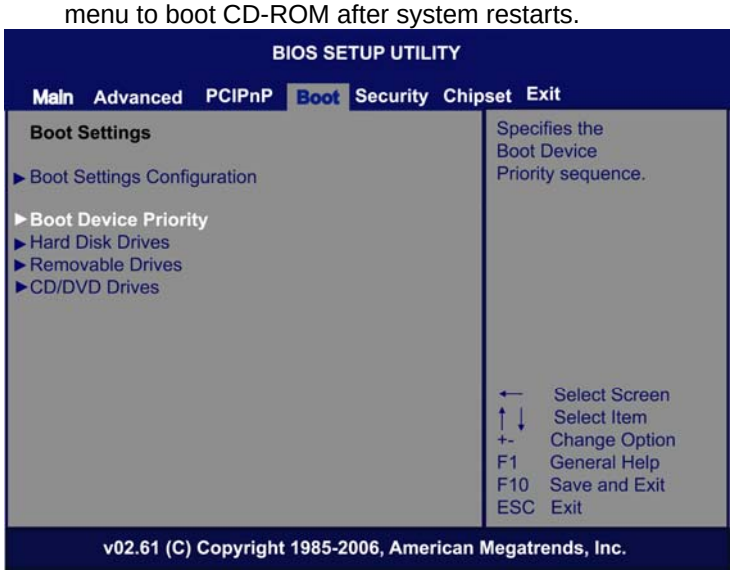


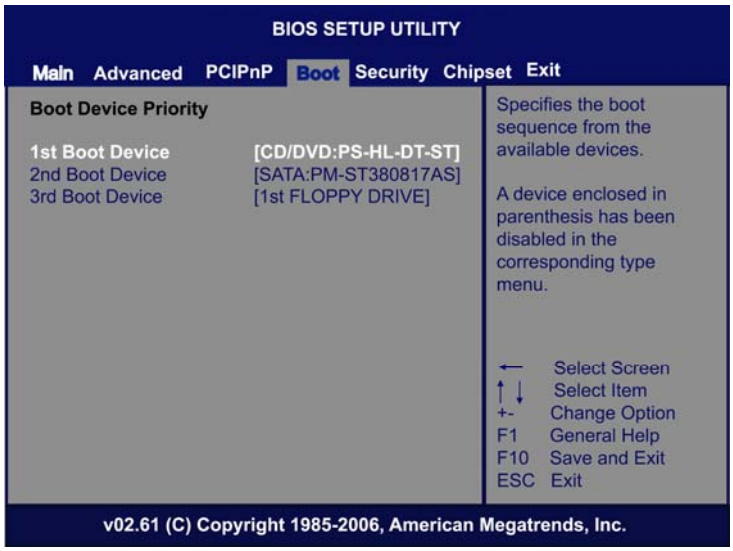
(2)-1-2 A list of options appears, please select **RAID**.





(2)-2 Set **CDROM** for **First Boot Device** under the **Boot Settings** menu to boot CD-ROM after system restarts.





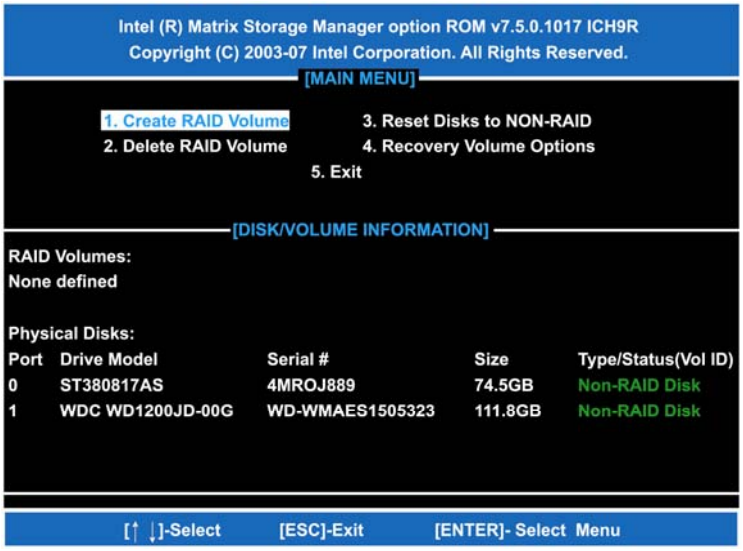
(2)-3 Save and exit the BIOS Setup.

(3) Configuring RAID by the RAID BIOS

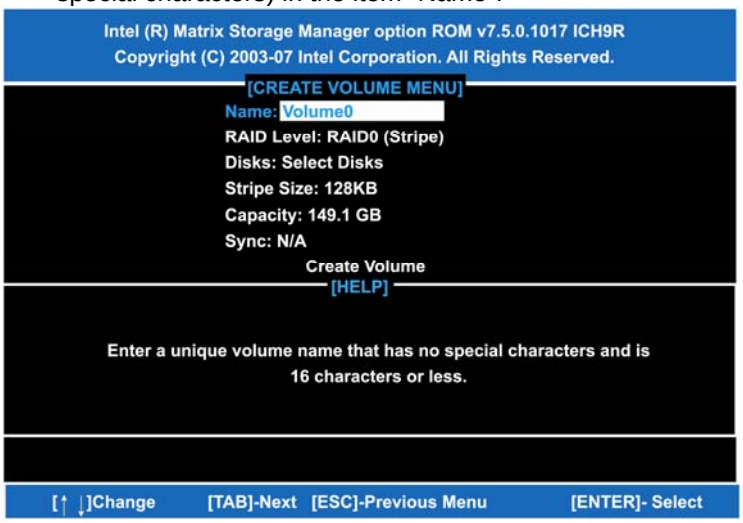
Enter the RAID BIOS setup utility to configure a RAID array. Skip this step and proceed to Section 4 if you do not want to create a RAID.

(3)-1 After the POST memory testing and before the operating system booting, a message "*Press <Ctrl-I> to enter Configuration Utility*" shows up, accordingly, press <CTRL+ I> to enter the RAID BIOS setup utility.

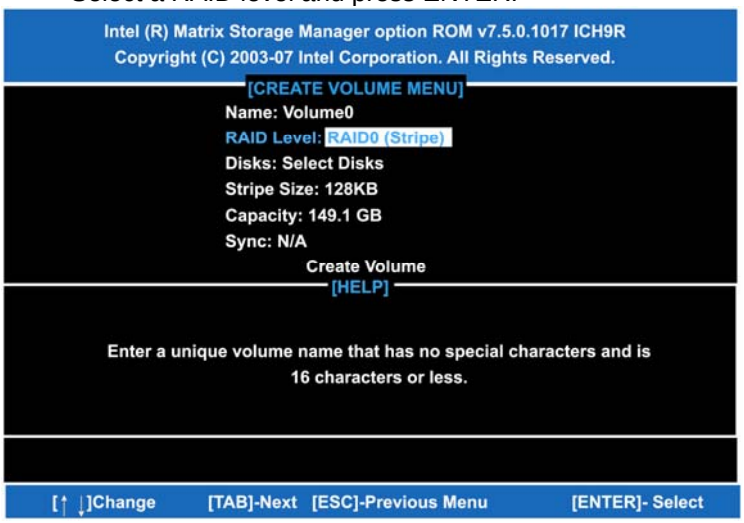
(3)-2 After you press <CTRL+ I>, the **Create RAID Volume** screen will appear. If you want to create a RAID array, select the **Create RAID Volume** option in the Main Menu and press ENTER.



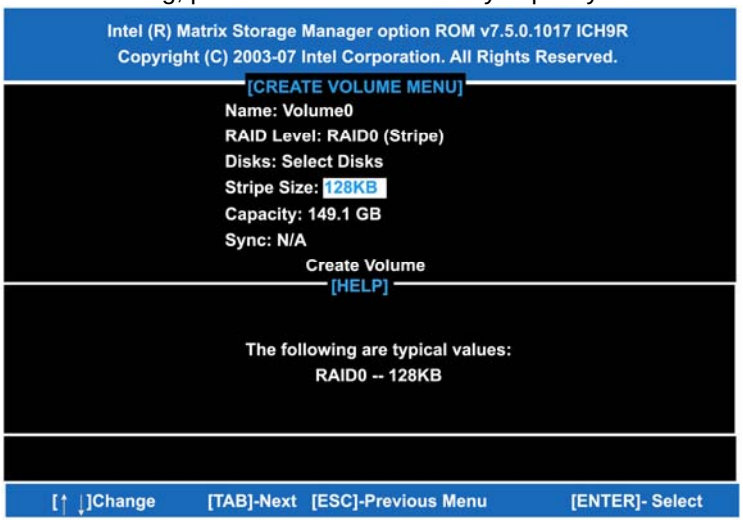
(3)-3-1 After entering the **CREATE VOLUME MENU** screen, you can type the disk array name with 1~16 letters (letters cannot be special characters) in the item "Name".



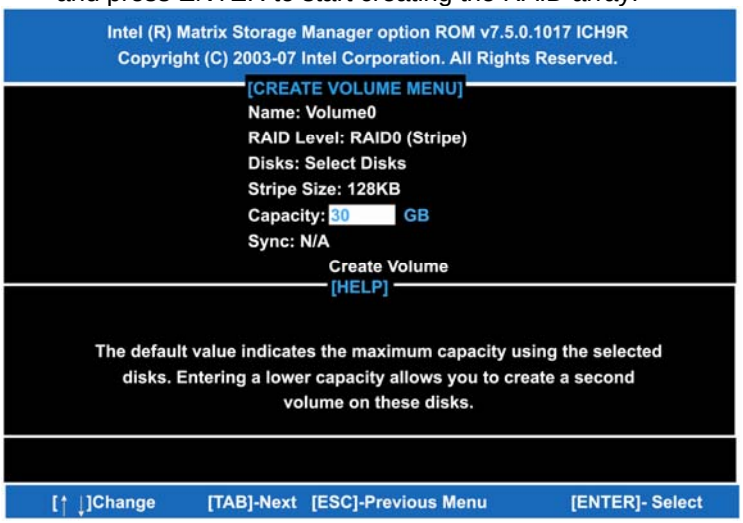
(3)-3-2 When finished, press ENTER to select a RAID level. There are three RAID levels, RAID0, RAID1 and RAID5 & RAID10. Select a RAID level and press ENTER.



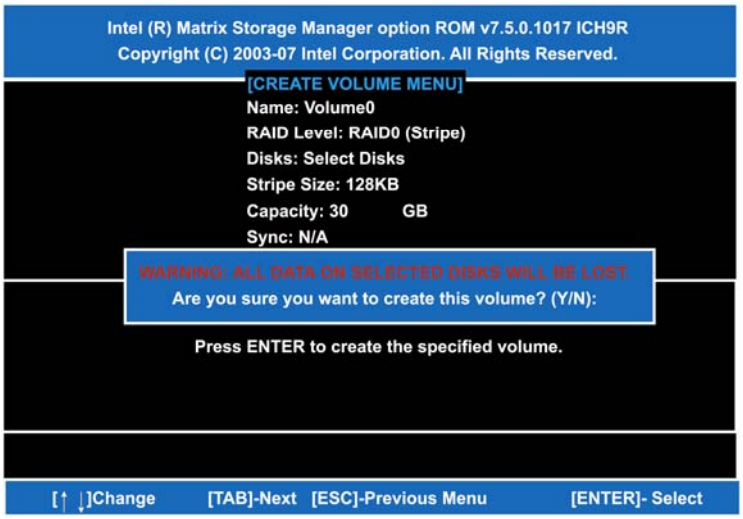
(3)-4 Set the stripe block size. The *KB* is the standard unit of stripe block size. The stripe block size can be 4KB to 128KB. After the setting, press ENTER for the array capacity.



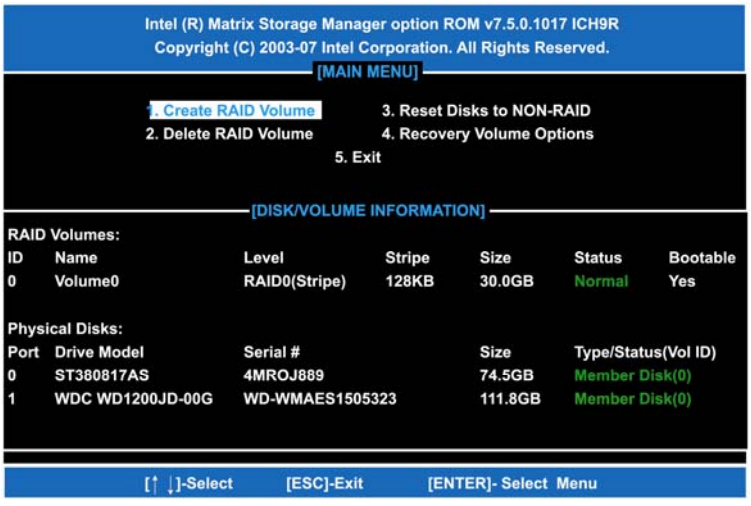
(3)-5 After setting all the items on the menu, select **Create Volume** and press ENTER to start creating the RAID array.



(3)-6 When prompting the confirmation, press "*Y*" to create this volume, or "*N*" to cancel the creation.

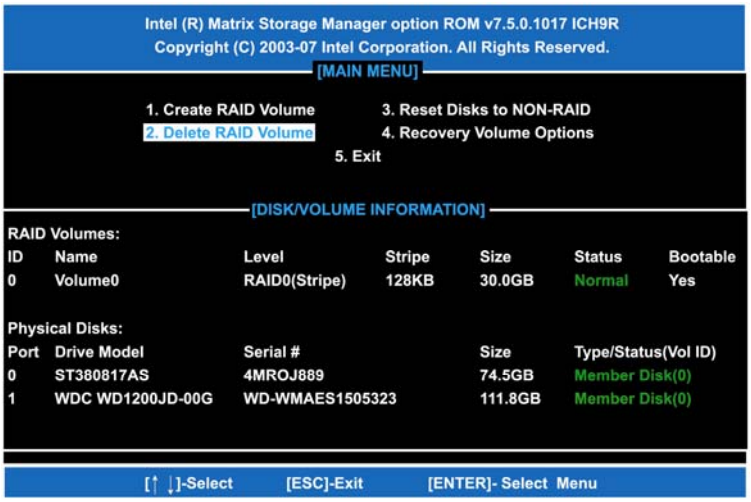


After the creation is completed, you can see detailed information about the RAID Array in the DISK/VOLUME INFORMATION section, including RAID mode, disk block size, disk name, and disk capacity, etc.



Delete RAID Volume

If you want to delete a RAID volume, select the **Delete RAID Volume** option in Main Menu. Press ENTER and follow on-screen instructions.



Please press [ESC] to exit the RAID BIOS utility.

Now, you can proceed to install a SATA driver controller and the operating system.

(4) Making a SATA Driver Disk

To install the operating system onto a serial ATA hard disk successfully, you need to install the SATA controller driver during the OS installation. Without the driver, the hard disk may not be recognized during the Windows setup process. First of all, please format a blank floppy disk. Secondly, follow up these steps below to produce a SATA driver disk.

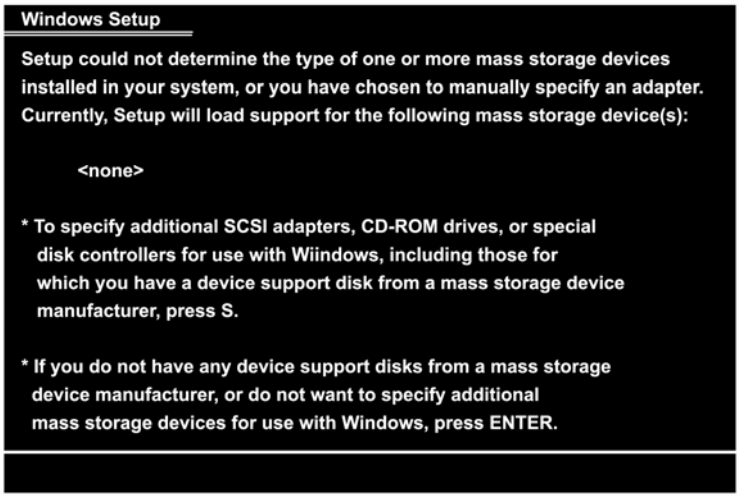
Users can insert the Driver CD and the formatted blank floppy disk in another system. And then, please copy all of file of the f6flpy32 folder in the Driver CD to a floppy disk.

Note *Please copy all of file of the f6flpy64 folder, if installing 64-bit Windows Operating System.*

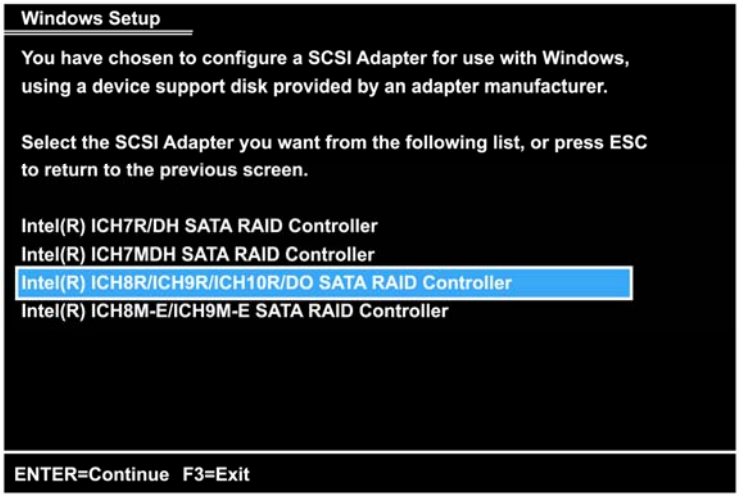
(5) Installing the SATA controller driver during the OS installation
Now, the SATA driver disk is ready, and BIOS settings configured, you can proceed to install Windows 2000/XP onto your SATA hard drive using the SATA driver. Here is an example for Windows XP installation.

(5)-1 Restart your system to boot the Windows 2000/XP Setup disk, and press F6 button as soon as you see the message "*Press F6 if you need to install a 3rd party SCSI or RAID driver*". After pressing the F6 button, there will be a few moments for some files being loaded before next screen appears.

(5)-2 When you see the screen below, insert the floppy disk containing the SATA driver and press "*S*".



(5)-3 If the Setup correctly recognizes the driver of the floppy disk, a controller menu will appear below. Use the ARROW keys to select **Intel(R) ICH8R/ICH9R/ICH10R/DO SATA RAID Controller** and press ENTER**.** Then it will begin to load the SATA driver from the floppy disk.



Note *If a message on the screen saying that one or some file(s) cannot be found, please check the floppy disk or copy the correct SATA driver again from the driver CD.*

MEMO

APPENDIX D
iAMT SETTINGS

The Intel® Active Management Technology (Intel® iAMT) has decreased a major barrier to IT efficiency that uses built-in platform capabilities and popular third-party management and security applications to allow IT a better discovering, healing, and protection their networked computing assets.
In order to utilize Intel iAMT you must enter the ME BIOS (CTRL + P during system startup), change the ME BIOS password, and then select "Intel® iAMT" as the manageability feature.

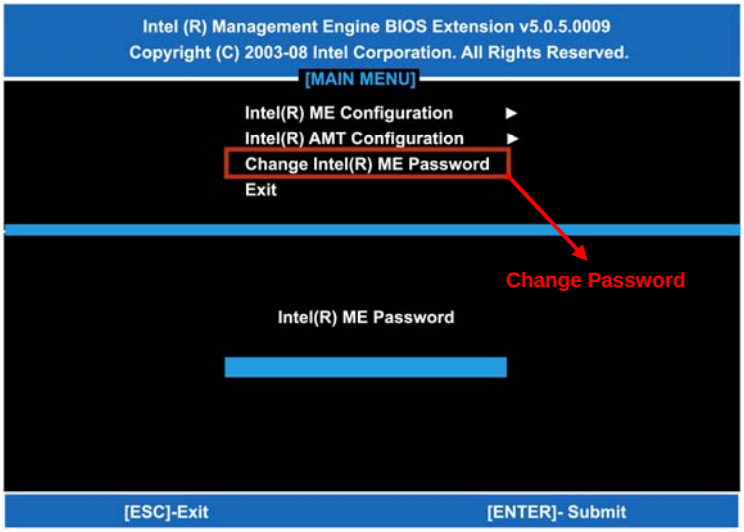
D.1 Entering MEBx

1. You must go to BIOS TO start iAMT function.
2. Exit from BIOS after starting iAMT, and press Ctrl+P to enter MEBx Setting.

It is better to press Ctrl+P before the screen popping out.

D.2 Set & Change Password

1. You will be asked to set a password when first log in. The default password is 'admin'.



2. You will be asked to change the password before setting ME.

3. You must confirm your new password while revising. (as ***Remark 1***)

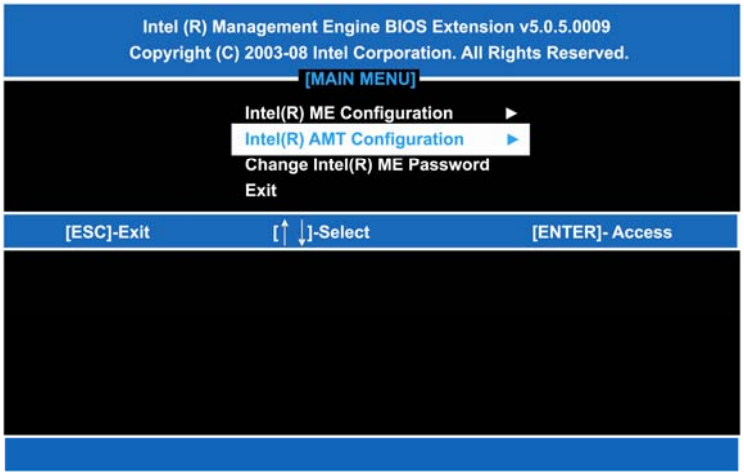
Remark 1 The new password must contain:
(example: **!!11qqQQ**) (default value)

- Eight characters
- One upper case
- One lower case
- One number
- One special symbol, such as **!** 、**$** or **;** ，
  (、**"** , excepted)

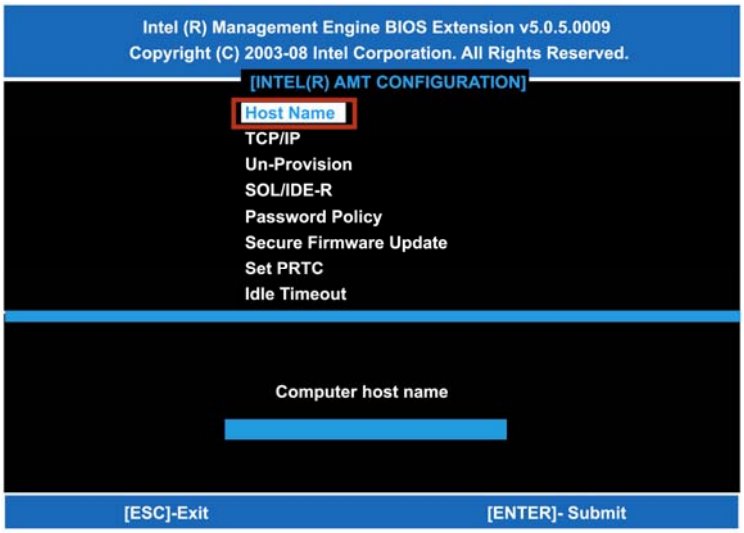
Underline (_) and space are valid characters for password, but they won't make higher complexity.

D.3 Intel® iAMT Settings

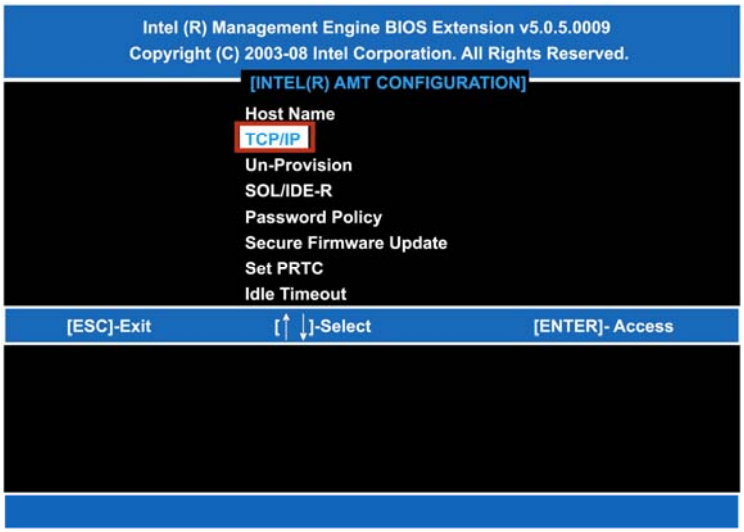
1. Select Intel® iAMT Configuration and press <ENTER>.



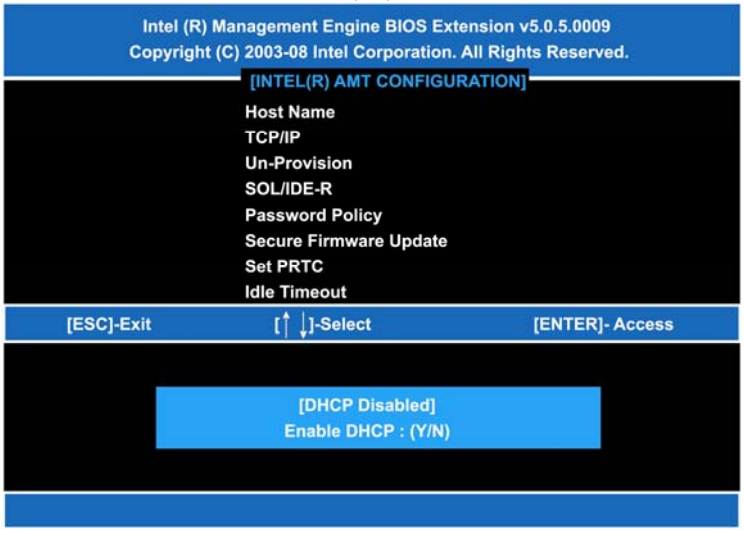
2. Key in the Host Name. If Intel® iAMT set to '***DHCP***', the Host name must be identical to the operating system mechanic.



3. Select TCP/IP to get into Network interface, and set it to '***ENABLED***'; into DHCP Mode, and set it to '***DISABLED***' (as ***Remark 2***) ; into Domain name, and set the Intel Management Engine domain name, such as '***AMT.intel.com***'.



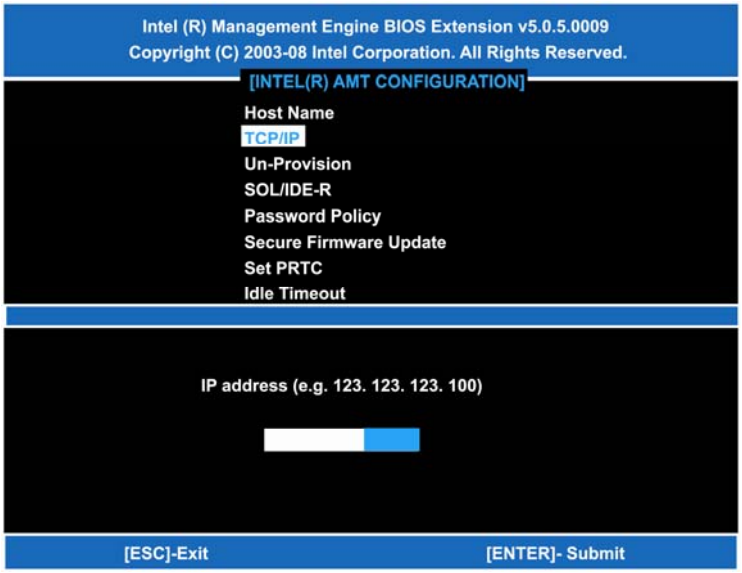
(3-1)



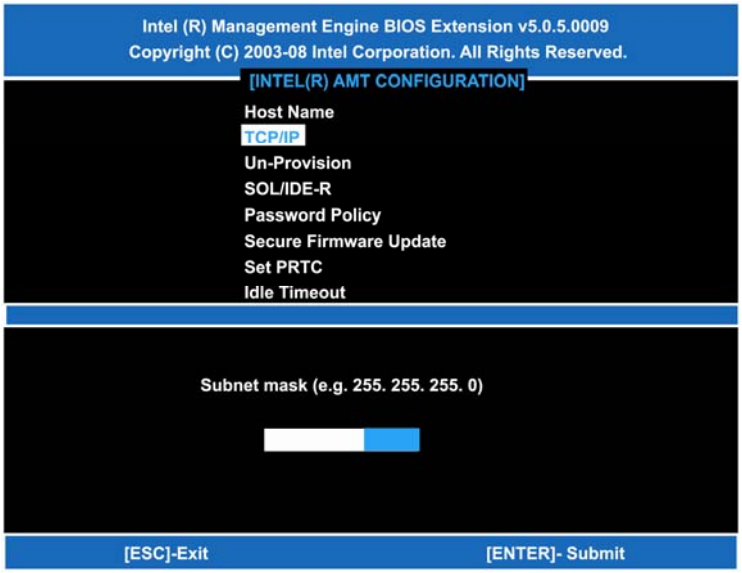
(3-2)

Remark 2 DHCP Mode '***DISABLED***': if DHCP Mode is disabled, you can make the following settings:

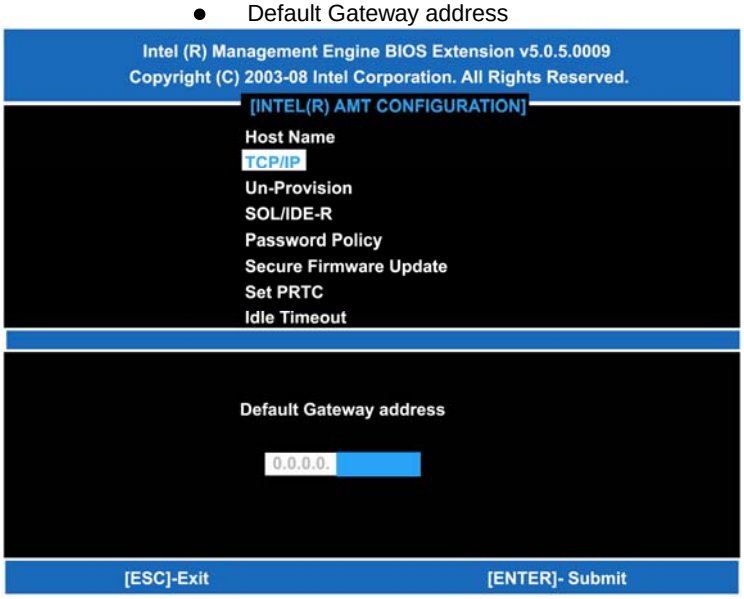
- IP address



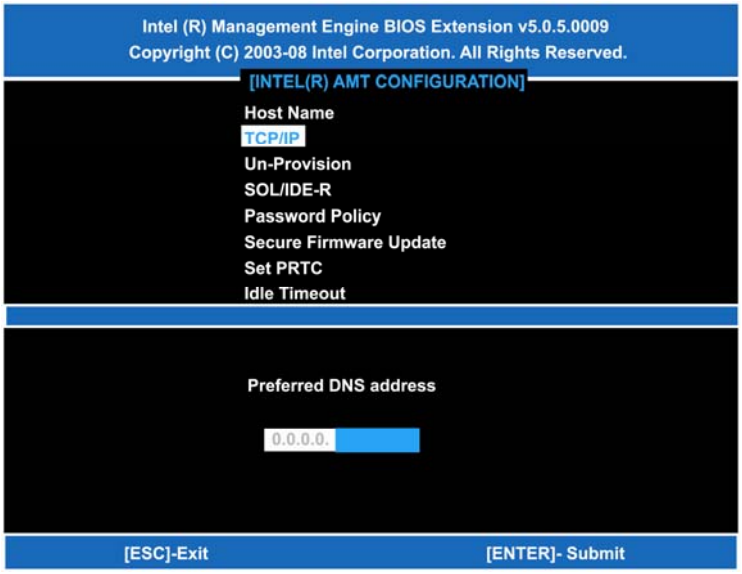
- Subnet mask



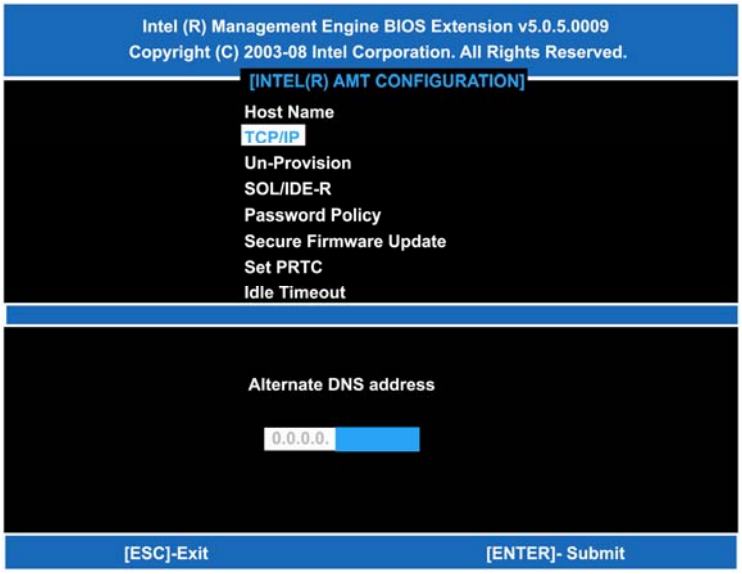
- Default Gateway address



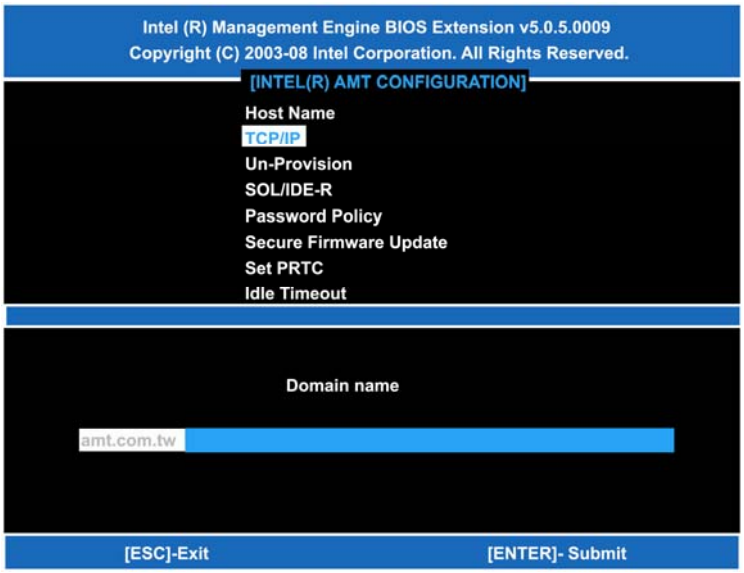
- Preferred DNS address



- Alternate DNS address



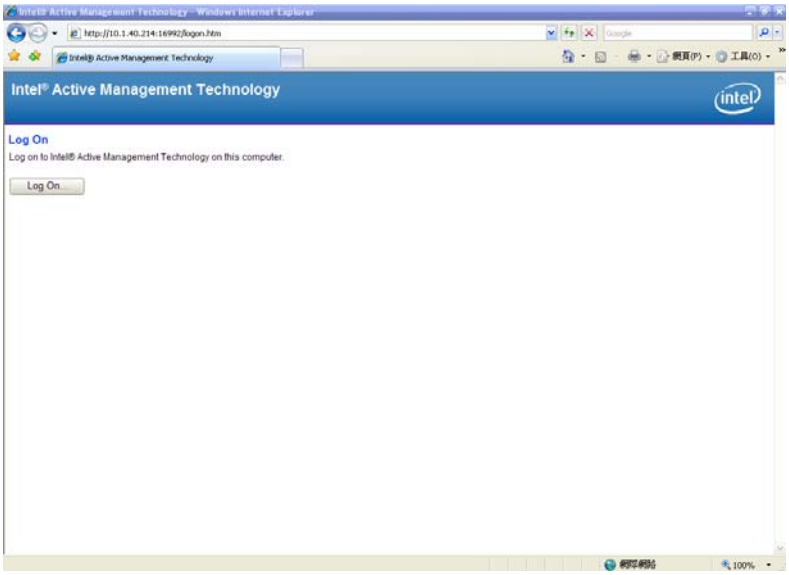
- Domain name



4. Exit from MEBx after completing the iAMT settings.

D.4 iAMT Web Console

1. From a web browser, please type http://(IP ADDRESS):16992, which connects to iAMT Web.
   Example: http://10.1.40.214:16992

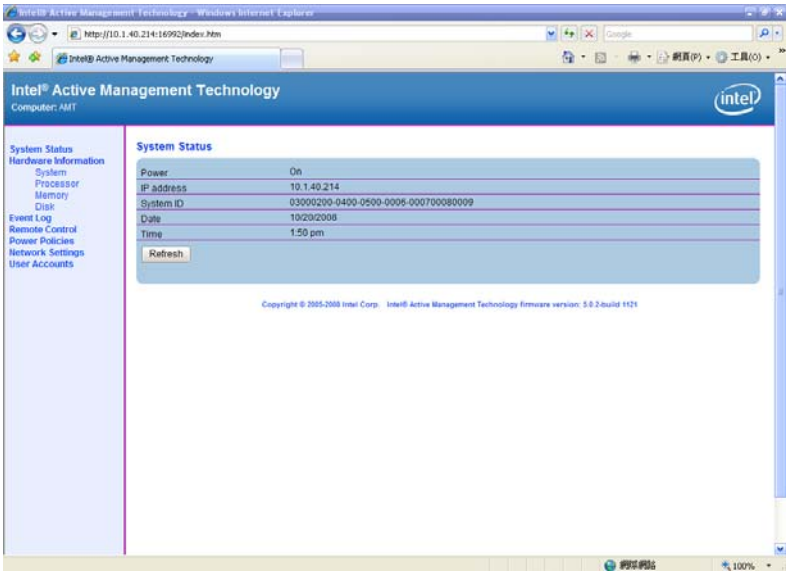


2. To log on, you will be required to type in username and password for access to the Web.

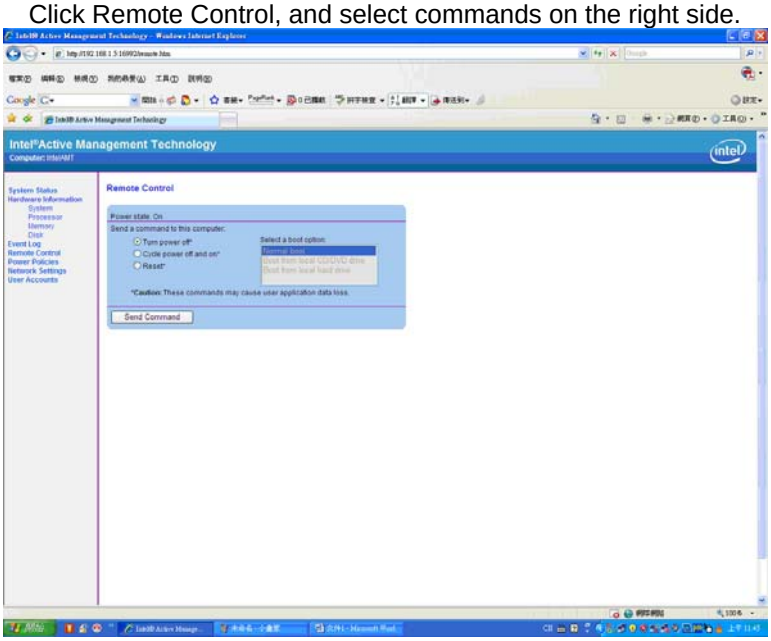
   USER: admin (default value)

   PASS: (MEBx password)

3. Enter the iAMT Web.



4. Click Remote Control, and select commands on the right side.



5. When you have finished using the iAMT Web console, close the Web browser.

MEMO