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Industrial Micro Computers



User Manual
IMM-A26S / A26PS / A26P2S
Mobile / Box Computer

Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

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Chapter 1: Getting Started

1.1 Specifications

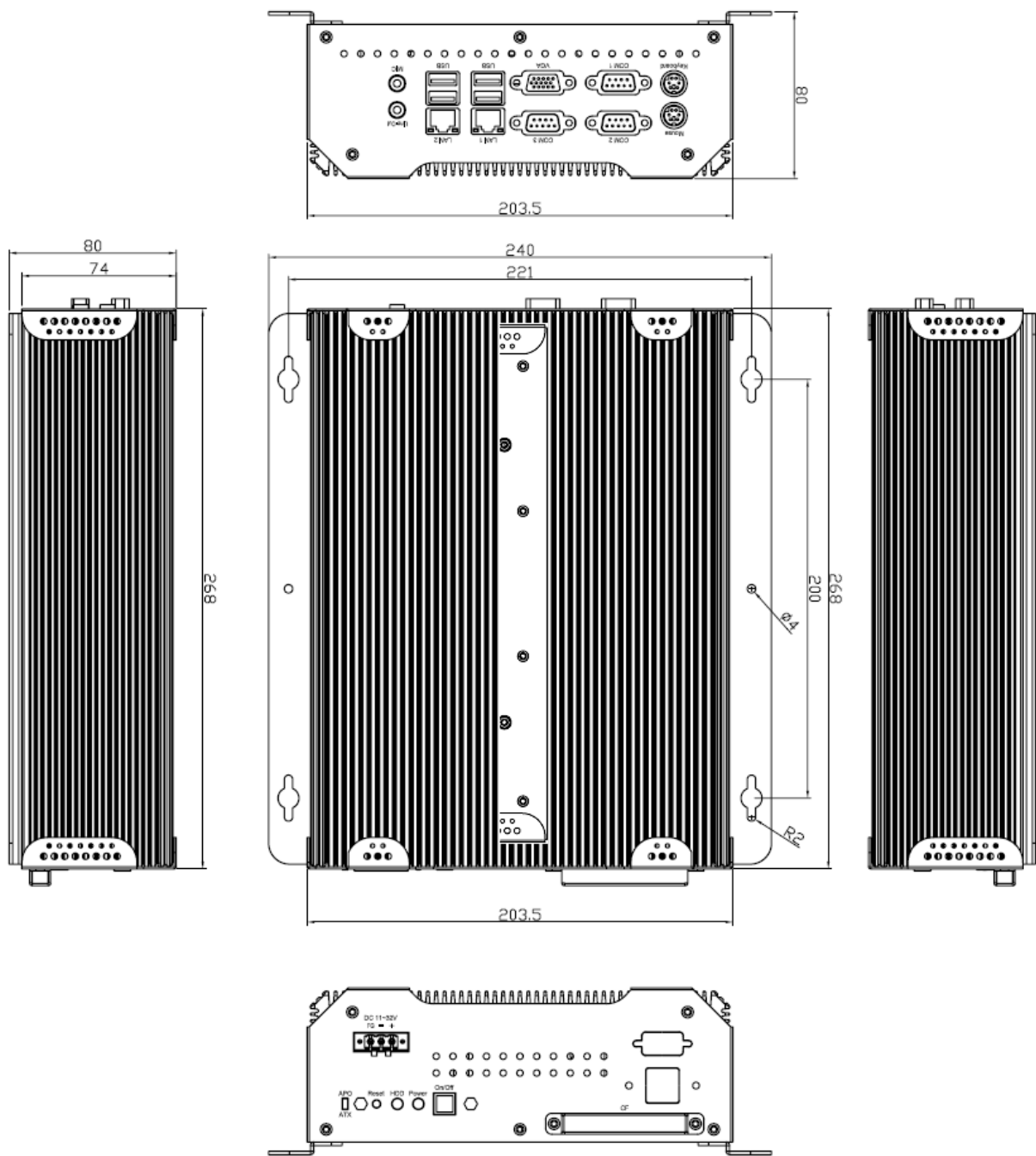
- Intel® Core™ 2 Duo Socket P processor with 533/667/800MHz FSB
- Intel® GM965 + Intel® ICH8ME
- Fanless design
- 2 x DDR2 DIMM Socket, Support DDR2 667/533 up to 4GB
- 2 x 10/100 Ethernet LAN, 1 x VGA connector
- 3 x COM ports & 4 x USB ports
- 1 x 2.5" HDD space & 1 x CF Slot
- Support 11~32V/DC Input, support AT/ATX mode

1.2 Specifications

Model No. Specs	IMM-A26S	IMM-A26PS	IMM-A26P2S
CPU	Socket P Intel® Core™ 2 Duo processor with 533/667/800MHz FSB (Up to T7250 / 2M Cache, 2.0G 800MHz FSB Processor)		
Chipset	Intel® GM965 + Intel® ICH8ME		
System Memory	2 x DDR2 DIMM Socket, Support DDR2 667/533 up to 4GB		
Storage support	1 x 2.5" SATA HDD space and 1 x External CF Slot		
VGA	1x VGA port		
Keyboard & Mouse	2 x PS/2 for Keyboard and Mouse Connectors		
Serial Port	3 x RS-232, 1x RS232/422/485 (optional)		
Ethernet	2 x Gigabit LAN		
USB Port	4 x USB port on the I/O side and 2 x USB on the front side		
Audio	1 x Line-out, 1 x MIC in		
Expansion Slots	None	1 x PCI slot	2 x PCI slots
Power Input	DC 11~32V		
Watchdog Timer	Software programmable supported		
OS support	XP Pro, XP Embedded		
Construction	Aluminum Molding & Heavy-duty steel chassis		
Color	Blue Heat sink and Black Chassis		
Mounting	Wall mount		
Dimensions (WxHxD)	203.2 x 268 x 73.3 mm	203.2 x 268 x 104 mm	203.2 x 268 x 125mm
Net Weight	4.5kgs	4.85kgs	5kgs
Operating Temperature	0~50 °C		
Storage Temperature	-20~60 °C		
Relative Humidity	10%~95% (non-condensing)		
Certificate	Meet CE / FCC Class A		

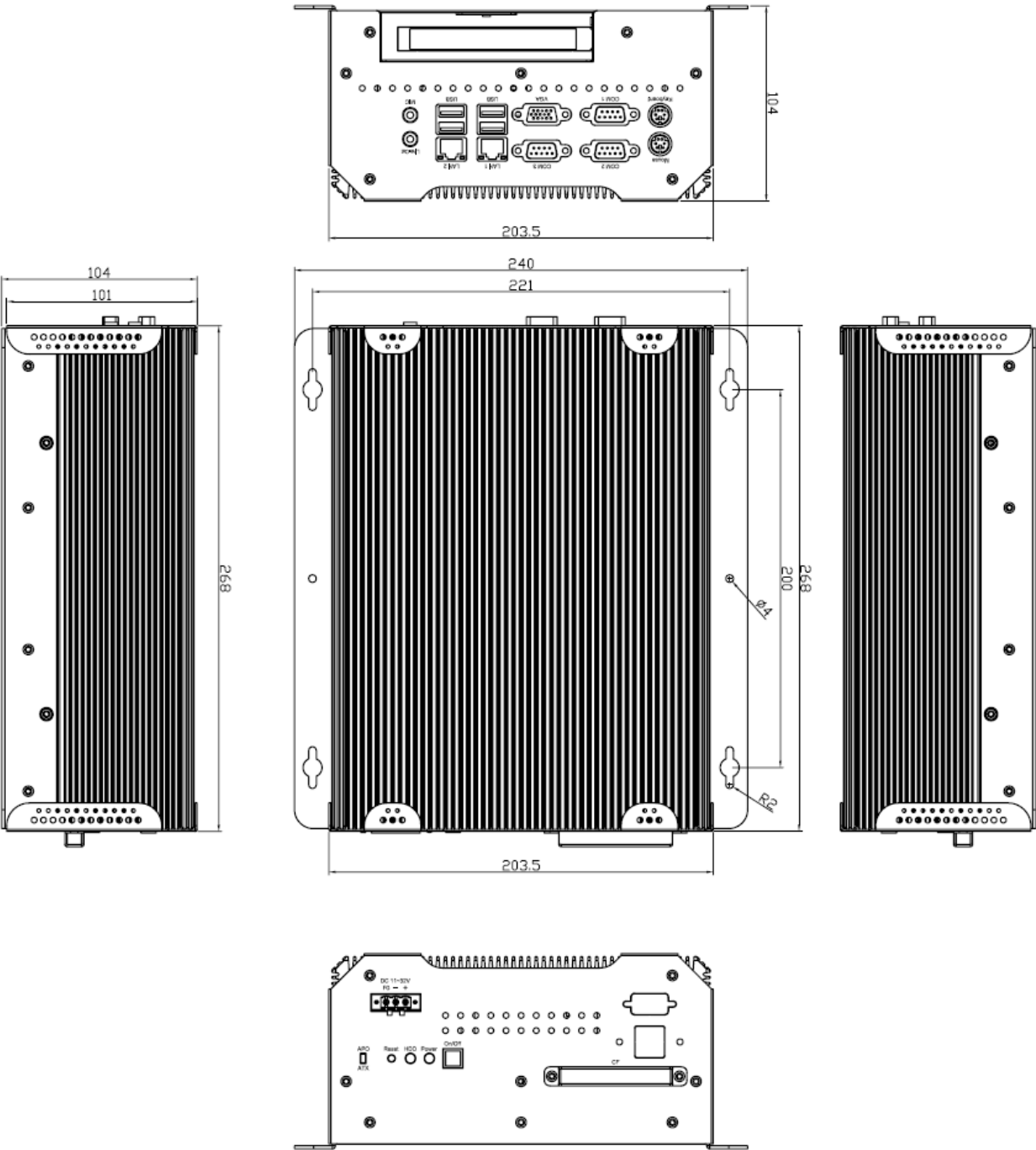
Chapter 1: Getting Started

1.3 Dimensions



Dimensions of the IMM-A26S

Chapter 1: Getting Started



Dimensions of the IMM-A26PS

Chapter 1: Getting Started

1.6 Brief Description of the IMM-A26S/A26PS/A26P2S

The IMM-A26S/A26PS/A26P2S is a Fanless High-efficiency Thermal Solution and ultra-compact standalone Box PC, powered by an Intel Core 2 Duo, up to T7250 2.0GHz, and supporting 4 USB 2.0 ports, 3x COM Ports, 1 x VGA, 1 x PCI slots (IMM-A26PS only) or 2x PCI slots (IMM-A26P2S only), 1 x SATA HDD, 1 x external CF slot etc. It is ideal for kiosks, POS systems, airport terminal controllers, digital entertainments, etc. and running factory operations from small visual interface and maintenance applications to large control process applications. The IMM-A26(Px)S works very well along with any of our Display Monitor series.

It comes with a DC11~32V wide-ranging power input.



Front and Rear View of the IMM-A26PS

1.5 Safety Precautions

Follow the messages below to avoid your systems from damage:

- Avoid your system from static electricity on all occasions.
- Prevent electric shock. Don't touch any components of this card when the card is power-on.
- Always disconnect power when the system is not in use.
- Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

Chapter 2: Hardware Installation

2.1 Installing PCI Add-on Cards

2.1.1 Removing bottom cover

Use screwdriver to remove the bottom cover 27 screws. Keep them safely for later use.



2.1.2 Support 1 x PCI slot (IMM-A26PS only) Support 2 x PCI slots (IMM-A26P2S only)

Shown in the picture are the one PCI expansion slots for add-on. The location of the 1 x PCI expansion slot card is found by the side of the rail.



2.1.3 Insert the PCI Card

Now slide an add-on into the slot of the PCI as circled in the picture and making sure the golden part of the card is evenly aligned with the slot of the PCI. Then carefully push the card deep into the slot.



2.1.4 Tightening PCI bracket

Now get the add-on secured by tightening the screw as circled in the picture.

** Support Card size of PCI : 115 mm x 210mm



2.1.5 Finish the installation

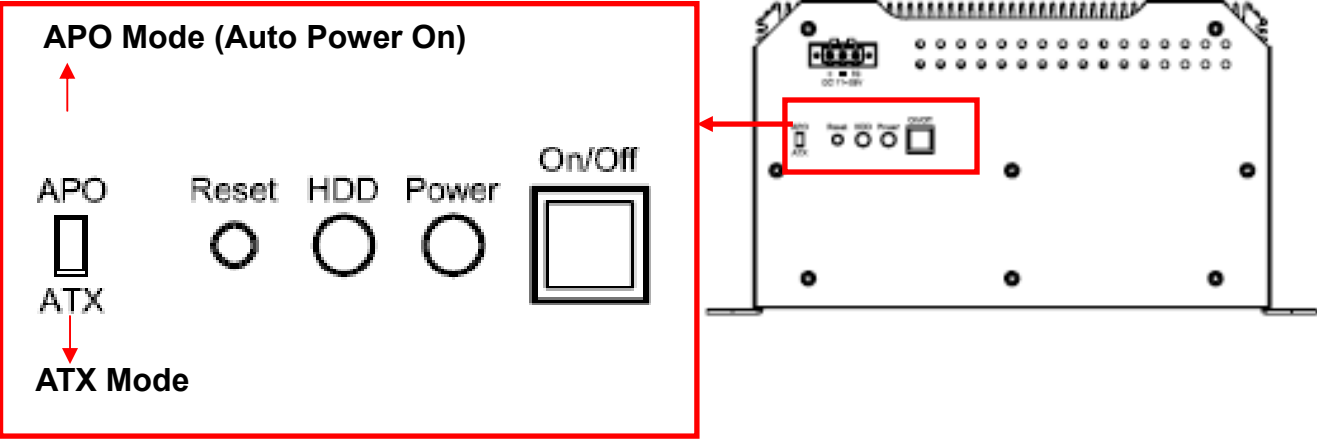
To finish the job, get the 27 screws tightened onto the chassis as shown in the picture.



Chapter 2: Hardware Installation

2.2 APO/ATX Power Mode Selection

APO and ATX power modes can use on the Box PC series. Power mode flexibility allows you to select the most suitable power mode for your unique application requirements. (Default: APO)



Chapter 3: BIOS Setup

3.1 Introduction

A licensed copy of AMI BIOS is preprogrammed into the ROM BIOS. The BIOS setup program allows users to modify the basic system configuration. This chapter describes how to access the BIOS setup program and the configuration options that may be changed.

3.1.1 Starting Setup

The AMI BIOS is activated when the computer is turned on. The setup program can be activated in one of two ways.

1. Press the DELETE key as soon as the system is turned on or
2. Press the DELETE key when the "Press Del to enter SETUP" message appears on the screen.

If the message disappears before the DELETE key is pressed, restart the computer and try again.

3.1.2 Using Setup

Use the arrow keys to highlight items, press ENTER to select, use the PageUp and PageDown keys to change entries, press F1 for help and press ESC to quit. Navigation keys are shown in.

Key	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left hand side
Right arrow	Move to the item on the right hand side
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
Page Up key	Increase the numeric value or make changes
Page Dn key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2/F3 key	Change color from total 16 colors. F2 to select color forward.
F10 key	Save all the CMOS changes, only for Main Menu

3.1.3 Getting Help

When F1 is pressed a small help window describing the appropriate keys to use and the possible selections for the highlighted item appears. To exit the Help Window press ESC or the F1 key again.

Chapter 3: BIOS Setup

3.1.4 Unable to Reboot After Configuration Changes

If the computer cannot boot after changes to the system configuration is made, CMOS defaults.

3.1.5 BIOS Menu Bar

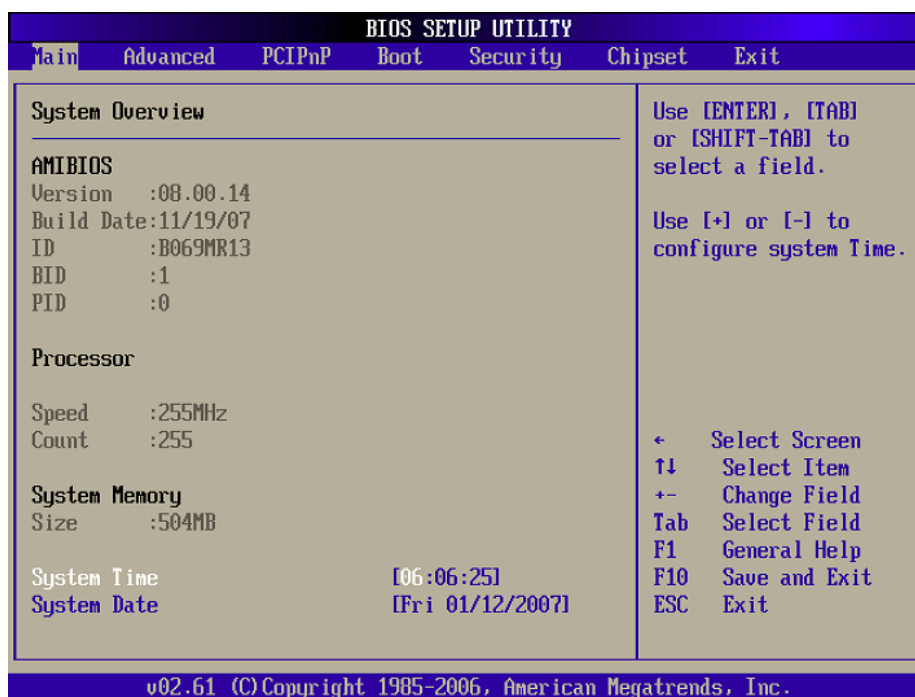
The menu bar on top of the BIOS screen has the following main items:

- Main Changes the basic system configuration.
- Advanced Changes the advanced system settings.
- PCIPnP Changes the advanced PCI/PnP Settings
- Boot Changes the system boot configuration.
- Security Sets User and Supervisor Passwords.
- Chipset Changes the chipset settings.
- Exit Selects exit options and loads default settings

The following sections completely describe the configuration options found in the menu items at the top of the BIOS screen and listed above.

3.2 Main

The Main BIOS menu (BIOS Menu 1) appears when the BIOS Setup program is entered. The Main menu gives an overview of the basic system information.



Chapter 3: BIOS Setup

○ **System Overview**

The System Overview lists a brief summary of different system components. The fields in System Overview cannot be changed. The items shown in the system overview include:

- **AMI BIOS:** Displays auto-detect BIOS information
 - Version: Current BIOS version
 - Build Date: Date the current BIOS version was made
 - ID: Installed BIOS ID
- **Processor:** Displays auto-detected CPU specifications
 - Type: Names the currently installed processor
 - Speed: Lists the processor speed
 - Count: The number of CPUs on the motherboard
- **System Memory:** Displays the auto-detected system memory.
 - Size: Lists memory size

The System Overview field also has two user configurable fields:

○ **System Time [xx:xx:xx]**

Use the System Time option to set the system time. Manually enter the hours, minutes and seconds.

○ **System Date [xx/xx/xx]**

Use the System Date option to set the system date. Manually enter the day, month and year.

3.3 Advanced

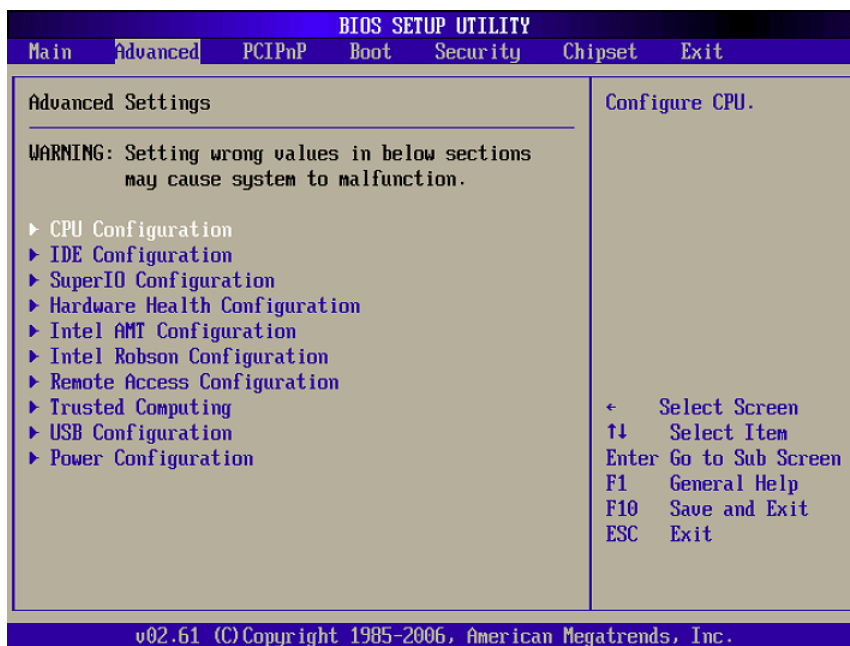
Use the Advanced menu (BIOS Menu 2) to configure the CPU and peripheral devices through the following sub-menus:

WARNING!

Setting the wrong values in the sections below may cause the system to malfunction. Make sure that the settings made are compatible with the hardware.

- CPU Configuration
- IDE Configuration
- Super IO Configuration
- Hardware Health Configuration
- Intel AMT Configuration
- Intel Robson Configuration
- Remote Access Configuration
- Trusted Computing
- USB Configuration
- Power Configuration

Chapter 3: BIOS Setup



3.3.1 CPU Configuration

Use the CPU Configuration menu (BIOS Menu 3) to view detailed CPU specifications and configure the CPU.



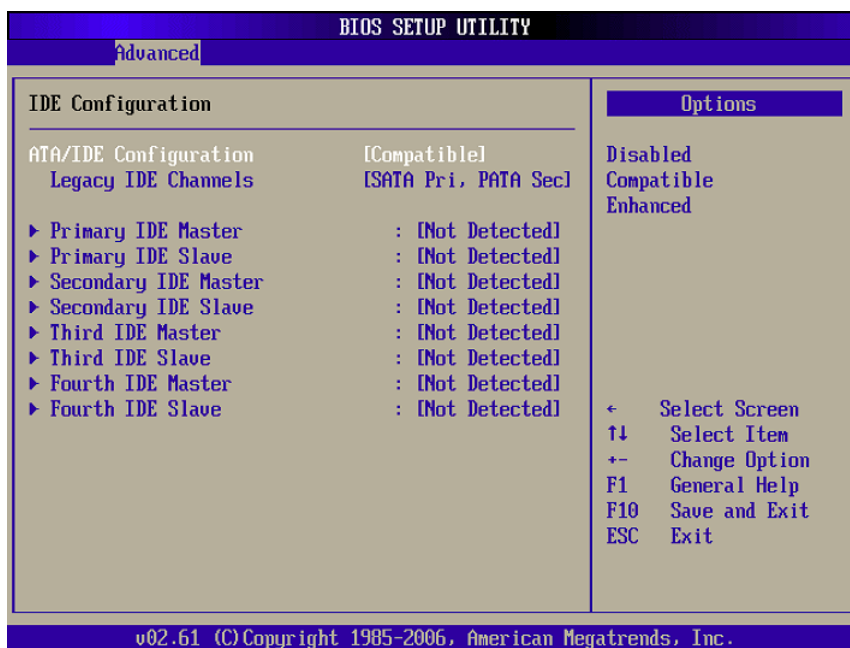
The CPU Configuration menu (BIOS Menu 3) lists the following CPU details:

- Manufacturer: Lists the name of the CPU manufacturer
- Brand String: Lists the brand name of the CPU being used
- Frequency: Lists the CPU processing speed
- FSB Speed: Lists the FSB speed
- Cache L1: Lists the CPU L1 cache size
- Cache L2: Lists the CPU L2 cache size

Chapter 3: BIOS Setup

3.3.2 IDE Configuration

Use the IDE Configuration menu (BIOS Menu 4) to change and/or set the configuration of the IDE devices installed in the system.



- **ATA/IDE Configurations [Compatible]**

Use the ATA/IDE Configurations option to configure the ATA/IDE controller.

- **Disabled**

Disables the on-board ATA/IDE controller.

- **Compatible [Default]**

Configures the on-board ATA/IDE controller to be in compatible mode. In this mode, a SATA channel will replace one of the IDE channels. This mode supports up to 4 storage devices.

- **Enhanced**

Configures the on-board ATA/IDE controller to be in Enhanced mode. In this mode, IDE channels and SATA channels are separated. This mode supports up to 6 storage devices. Some legacy OS do not support this mode.

- **Legacy IDE Channels [SATA Pri, PATA Sec]**

- **SATA Only**
- **SATA Pri., PATA Sec [Default]**
- **PATA Only**

Chapter 3: BIOS Setup

○ IDE Master and IDE Slave

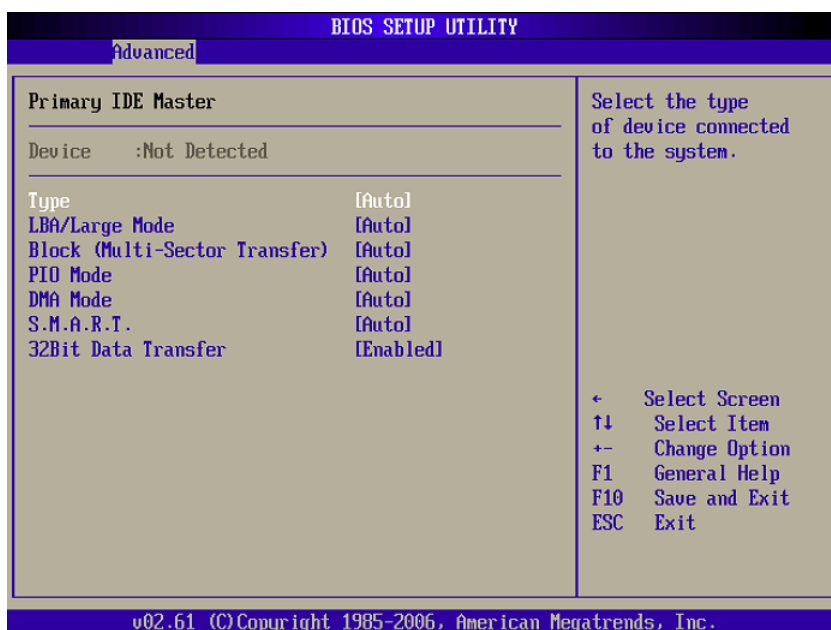
When entering setup, BIOS auto detects the presence of IDE devices. BIOS displays the status of the auto detected IDE devices. The following IDE devices are detected and are shown in the IDE Configuration menu:

- Primary IDE Master
- Primary IDE Slave
- Secondary IDE Master
- Secondary IDE Slave
- Third IDE Master
- Third IDE Slave
- Fourth IDE Master
- Fourth IDE Slave

The IDE Configuration menu (BIOS Menu 4) allows changes to the configurations for the IDE devices installed in the system. If an IDE device is detected, and one of the above listed four BIOS configuration options are selected, the IDE configuration options shown in Section 3.3.2.1 appear.

3.3.2.1 IDE Master, IDE Slave

Use the IDE Master and IDE Slave configuration menu to view both primary and secondary IDE device details and configure the IDE devices connected to the system.



○ Type [Auto]

Use the Type BIOS option select the type of device the AMIBIOS attempts to boot from after the Power-On Self-Test (POST) is complete.

Chapter 3: BIOS Setup

- **Not Installed**

BIOS is prevented from searching for an IDE disk drive on the specified channel.

- **Auto [Default]**

The BIOS auto detects the IDE disk drive type attached to the specified channel. This setting should be used if an IDE hard disk drive is attached to the specified channel.

- **CD/DVD**

The CD/DVD option specifies that an IDE CD-ROM drive is attached to the specified IDE channel. The BIOS does not attempt to search for other types of IDE disk drives on the specified channel.

- **ARMD**

This option specifies an ATAPI Removable Media Device. These include, but are not limited to:

- ZIP
- LS-120

- **LBA/Large Mode [Auto]**

Use the LBA/Large Mode option to disable or enable BIOS to auto detects LBA (Logical Block Addressing). LBA is a method of addressing data on a disk drive. In LBA mode, the maximum drive capacity is 137 GB.

- **Disabled** BIOS is prevented from using the LBA mode control on the specified channel.
- **Auto** BIOS auto detects the LBA mode control on the specified channel.

- **Block (Multi Sector Transfer) [Auto]**

Use the Block (Multi Sector Transfer) to disable or enable BIOS to auto detect if the device supports multi-sector transfers.

- **Disabled** BIOS is prevented from using Multi-Sector Transfer on the specified channel. The data to and from the device occurs one sector at a time.
- **Auto** BIOS auto detects Multi-Sector Trasfer support on the drive on the specified channel. If supported the data transfer to and from the device occurs multiple sectors at a time. [Default]

- **PIO Mode [Auto]**

Use the PIO Mode option to select the IDE PIO (Programmable I/O) mode program timing cycles between the IDE drive and the programmable IDE controller. As the PIO mode increases, the cycle time decreases.

- **Auto** BIOS auto detects the PIO mode. Use this value if the IDE disk drive support cannot be determined. [Default]
- **PIO mode 0** selected with a maximum transfer rate of 3.3MBps
- **PIO mode 1** selected with a maximum transfer rate of 5.2MBps
- **PIO mode 2** selected with a maximum transfer rate of 8.3MBps
- **PIO mode 3** selected with a maximum transfer rate of 11.1MBps
- **PIO mode 4** selected with a maximum transfer rate of 16.6MBps (This setting generally works with all hard disk drives manufactured after 1999. For other disk drives, such as IDE CD-ROM drives, check the specifications of the drive.)

Chapter 3: BIOS Setup

○ DMA Mode [Auto]

Use the DMA Mode BIOS selection to adjust the DMA mode options.

- **Auto** BIOS auto detects the DMA mode. Use this value if the IDE disk drive support cannot be determined. [Default]
- **SWDMA0** Single Word DMA mode 0 selected with a max. data transfer rate of 2.1MBps
- **SWDMA1** Single Word DMA mode 1 selected with a max. data transfer rate of 4.2MBps
- **SWDMA2** Single Word DMA mode 2 selected with a max. data transfer rate of 8.3Mbps
- **MWDMA0** Multi Word DMA mode 0 selected with a max. data transfer rate of 4.2MBps
- **MWDMA1** Multi Word DMA mode 1 selected with a max. data transfer rate of 13.3Mbps
- **MWDMA2** Multi Word DMA mode 2 selected with a max. data transfer rate of 16.6Mbps
- **UDMA1** Ultra DMA mode 0 selected with a max. data transfer rate of 16.6MBps
- **UDMA1** Ultra DMA mode 1 selected with a max. data transfer rate of 25MBps
- **UDMA2** Ultra DMA mode 2 selected with a max. data transfer rate of 33.3MBps
- **UDMA3** Ultra DMA mode 3 selected with a max. data transfer rate of 44MBps
(To use this mode, it is required that an 80-conductor ATA cable is used.)
- **UDMA4** Ultra DMA mode 4 selected with a max. data transfer rate of 66.6MBps
(To use this mode, it is required that an 80-conductor ATA cable is used.)
- **UDMA5** Ultra DMA mode 5 selected with a max. data transfer rate of 99.9MBps
(To use this mode, it is required that an 80-conductor ATA cable is used.)

○ S.M.A.R.T. [Auto]

Use the S.M.A.R.T. option to auto-detect, disable or enable Self-Monitoring Analysis and Reporting Technology (SMART) on the drive on the specified channel. S.M.A.R.T predicts impending drive failures. The S.M.A.R.T. BIOS option enables or disables this function.

- **Auto** BIOS auto detects HDD SMART support. [Default]
- **Disabled** Prevents BIOS from using the HDD SMART feature.
- **Enabled** Allows BIOS to use the HDD SMART feature

○ 32Bit Data Transfer [Enabled]

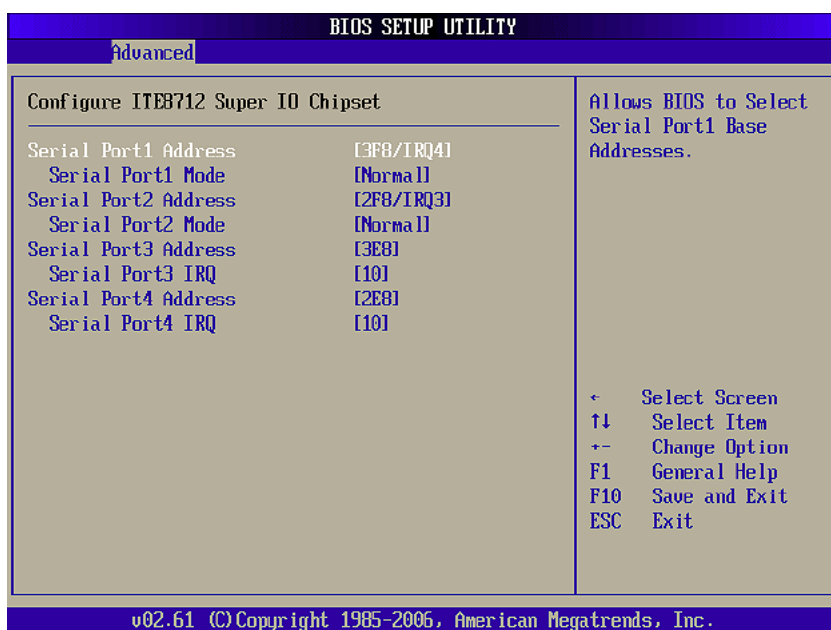
Use the 32Bit Data Transfer BIOS option to enables or disable 32-bit data transfers.

- **Disabled** Prevents the BIOS from using 32-bit data transfers.
- **Enabled** Allows BIOS to use 32-bit data transfers on supported hard disk drives. [Default]

Chapter 3: BIOS Setup

3.3.3 Super IO Configuration

Use the Super IO Configuration menu (BIOS Menu 6) to set or change the configurations for the FDD controllers, parallel ports and serial ports.



○ Serial Port1 Address [3F8/IRQ4]

Use the Serial Port1 Address option to select the Serial Port 1 base address.

- **Disabled** No base address is assigned to Serial Port 1
- **3F8/IRQ4** Serial Port 1 I/O port address is 3F8 and the interrupt address is IRQ4 [Default]
- **3E8/IRQ4** Serial Port 1 I/O port address is 3E8 and the interrupt address is IRQ4
- **2E8/IRQ3** Serial Port 1 I/O port address is 2E8 and the interrupt address is IRQ3

○ Serial Port1 Mode [Normal]

Use the Serial Port1 Mode option to select the transmitting and receiving mode for the first serial port.

- **Normal** Serial Port 1 mode is normal [Default]
- **IrDA** Serial Port 1 mode is IrDA
- **ASK IR** Serial Port 1 mode is ASK IR

○ Serial Port2 Address [2F8/IRQ3]

Use the Serial Port2 Address option to select the Serial Port 2 base address.

- **Disabled** No base address is assigned to Serial Port 2
- **2F8/IRQ3** Serial Port 2 I/O port address is 3F8 and the interrupt address is IRQ3 [Default]
- **3E8/IRQ4** Serial Port 2 I/O port address is 3E8 and the interrupt address is IRQ4
- **2E8/IRQ3** Serial Port 2 I/O port address is 2E8 and the interrupt address is IRQ3

Chapter 3: BIOS Setup

○ **Serial Port2 Mode [Normal]**

Use the Serial Port2 Mode option to select the Serial Port2 operational mode.

- **Normal** Serial Port 2 mode is normal [Default]
- **IrDA** Serial Port 2 mode is IrDA
- **ASK IR** Serial Port 2 mode is ASK IR

○ **Serial Port3 Address [3E8]**

Use the Serial Port3 Address option to select the Serial Port 3 base address.

- **Disabled** No base address is assigned to Serial Port 3
- **3F8** Serial Port 3 I/O port address is 3F8
- **2F8** Serial Port 3 I/O port address is 2F8
- **3E8** Serial Port 3 I/O port address is 3E8 [Default]
- **2E8** Serial Port 3 I/O port address is 2E8

○ **Serial Port3 IRQ [10]**

Use the Serial Port3 IRQ option to select the interrupt address for serial port 3.

- Serial port 3 IRQ address is 10 [Default]

○ **Serial Port4 Address [2E8]**

Use the Serial Port4 Address option to select the Serial Port 4 base address.

- **Disabled** No base address is assigned to Serial Port 4
- **3F8** Serial Port 4 I/O port address is 3F8
- **2F8** Serial Port 4 I/O port address is 2F8
- **3E8** Serial Port 4 I/O port address is 3E8
- **2E8** Serial Port 4 I/O port address is 2E8 [Default]

○ **Serial Port4 IRQ [10]**

Use the Serial Port4 IRQ option to select the interrupt address for serial port 4.

- Serial port 4 IRQ address is 10 [Default]

Chapter 3: BIOS Setup

3.3.4 Hardware Health Configuration

The Hardware Health Configuration menu (BIOS Menu 7) shows the operating temperature, fan speeds and system voltages.

BIOS SETUP UTILITY	
Advanced	
Hardware Health Configuration	
CPU Temperature	:42°C/107°F
PWM Temperature	:42°C/107°F
System Temperature	:41°C/105°F
Fan1 Speed	:6308 RPM
Fan2 Speed	:N/A
CPU Core	:1.216 V
+1.8V	:1.824 V
+3.30V	:3.376 V
+5.00V	:4.999 V
+12.0V	:11.904 V
+1.05V	:1.024 V
+1.5V	:1.488 V
+1.25V	:1.232 V
VBAT	:3.264 V
← Select Screen ↑↓ Select Item F1 General Help F10 Save and Exit ESC Exit	
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

The following system parameters and values are shown. The system parameters that are monitored are:

- **System Temperatures:** The following system temperatures are monitored

- CPU Temperature
- PWM Temperature
- System Temperature

- **Fan Speeds:** The CPU cooling fan speed is monitored.

- Fan1 Speed
- Fan2 Speed

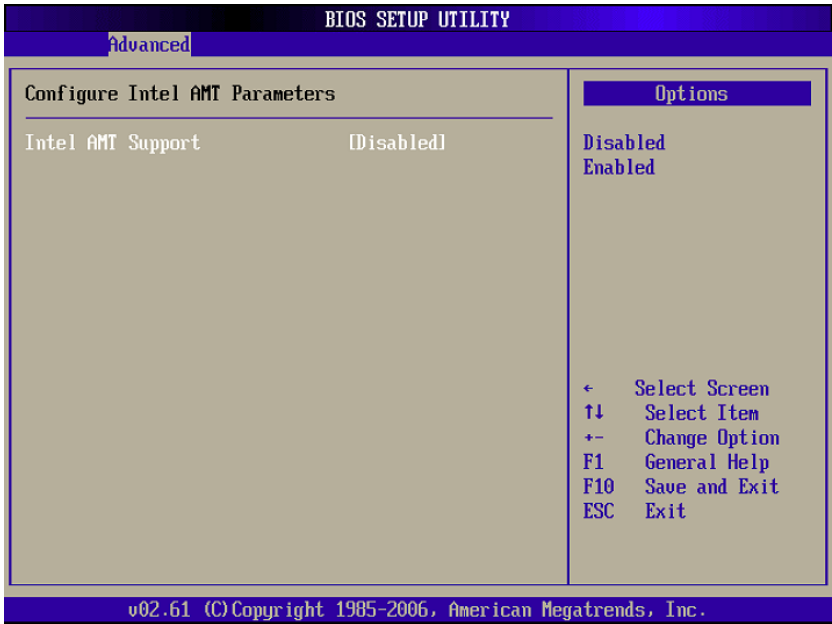
- **Voltages:** The following system voltages are monitored

- CPU Core
- +1.8V
- +3.30V
- +5.00V
- +12.0V
- +1.05V
- +1.5V
- +1.25V
- VBAT

Chapter 3: BIOS Setup

3.3.5 Intel AMT Configuration

The Intel AMT Configuration menu (BIOS Menu 8) configures the Intel® Active Management Technology (AMT) options.



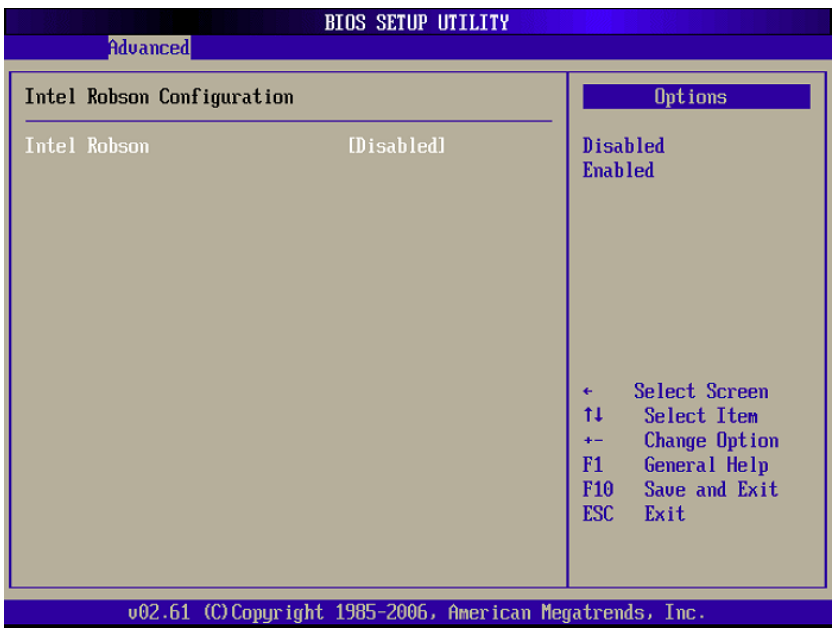
- Intel AMT Support [Disabled]

Use the Intel AMT Support option to enable or disable the Intel AMT support.

- Disabled** The Intel® AMT function is disabled. [Default]
- Enabled** The Intel® AMT function is enabled.

3.3.6 Intel Robson Configuration

The Intel Robson Configuration menu (BIOS Menu 9) allows the Intel® Robson Technology option to be configured.



Chapter 3: BIOS Setup

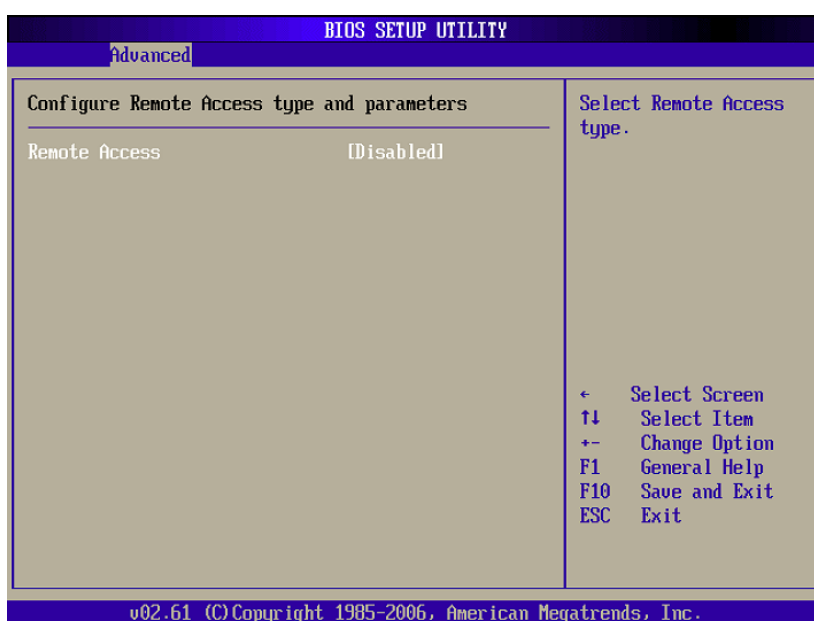
○ Intel Robson [Disabled]

Use the Intel Robson BIOS option to enable or disable the Intel® Robson Technology feature. Intel® Robson, Intel® Turbo Memory, is a technology introduced by Intel® to boost a computer startup process.

- **Disabled** Disables the Intel® Robson feature [Default]
- **Enabled** Enables the Intel® Robson feature

3.3.7 Remote Access Configuration

Use the Remote Access Configuration menu (BIOS Menu 10) to configure remote access parameters. The Remote Access Configuration is an AMIBIOS feature and allows a remote host running a terminal program to display and configure the BIOS settings.



○ Remote Access [Disabled]

Use the Remote Access option to enable or disable access to the remote functionalities of the system.

- **Disabled** Remote access is disabled. [Default]
- **Enabled** Remote access configuration options shown below appear:
 - Serial Port Number
 - Serial Port Mode
 - Redirection after BIOS POST
 - Terminal Type

Chapter 3: BIOS Setup

○ Serial Port Number [COM1]

Use the Serial Port Number option allows users to select the serial port used for remote access.

- **COM1** System is remotely accessed through COM1 [Default]
- **COM2** System is remotely accessed through COM2
- **COM3** System is remotely accessed through COM3
- **COM4** System is remotely accessed through COM4
- **COM5** System is remotely accessed through COM5

NOTE: Make sure the selected COM port is enabled through the Super I/O configuration menu.

○ The Base Address IRQ [3F8h, 4]

The Base Address IRQ option cannot be configured and only shows the interrupt address of the serial port listed above.

○ Serial Port Mode [115200 8,n,1]

Use the Serial Port Mode option to select baud rate through which the console redirection is made. The following configuration options are available

- **115200 8,n,1** [Default]
- **57600 8,n,1**
- **38400 8,n,1**
- **19200 8,n,1**
- **9600 8,n,1**

NOTE: Identical baud rate setting must be set on the host (a management computer running a terminal software) and the slave

○ Redirection After BIOS POST [Always]

Use the Redirection After BIOS POST option to specify when console redirection should occur.

- **Disabled** The console is not redirected after POST
- **Boot Loader** Redirection is active during POST and during Boot Loader
- **Always** Redirection is always active [Default]
(Some OSes may not work if set to always)

○ Terminal Type [ANSI]

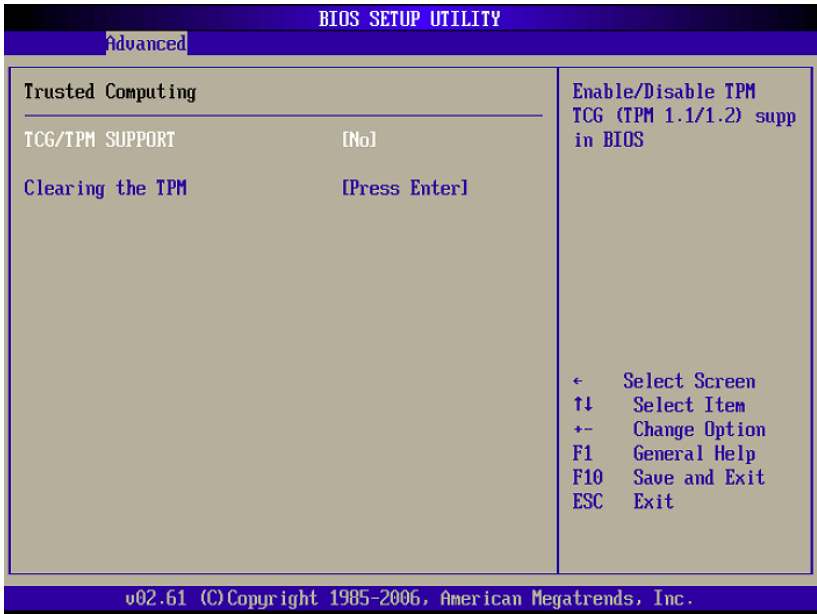
Use the Terminal Type BIOS option to specify the remote terminal type.

- **ANSI** The target terminal type is ANSI [Default]
- **VT100** The target terminal type is VT100
- **VT-UTF8** The target terminal type is VT-UTF8

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3.3.8 Trusted Computing

Use the Trusted Computing menu (BIOS Menu 1 1) to configure settings related to the Trusted Computing Group (TCG) Trusted Platform Module (TPM).



- **TCG/TPM Support [No]**

Use the TCG/TPM Support option to configure support for the TPM.

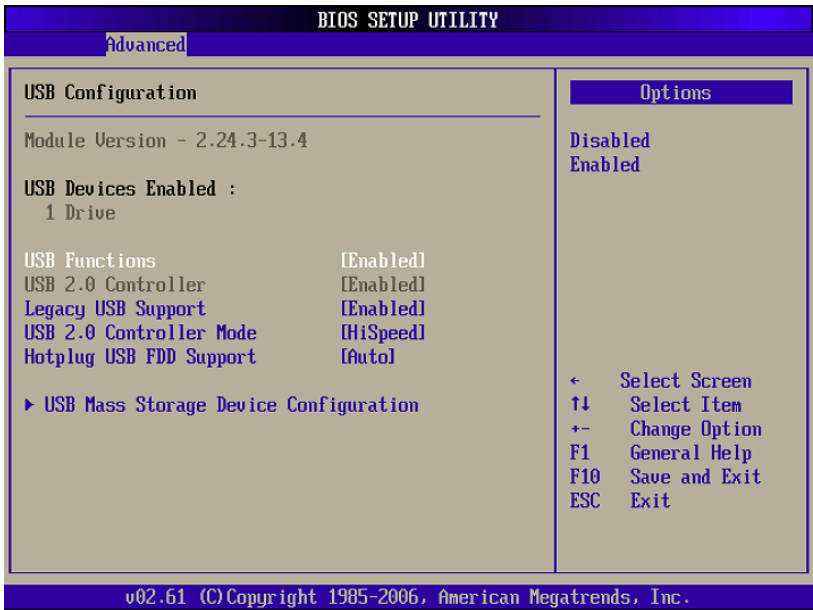
- **No** TPM support is disabled. [Default]
- **Yes** TPM support is enabled.

- **Clearing the TPM [Press Enter]**

Use the Clearing the TPM option to clear the information stored in the TPM.

3.3.9 USB Configuration

Use the USB Configuration menu (BIOS Menu 12) to read USB configuration information and configure the USB settings.



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○ **USB Configuration**

The USB Configuration field shows the system USB configuration.

The listed items are: Module Version: x.xxxxx.xxxxx

○ **USB Devices Enabled**

The USB Devices Enabled field lists the USB devices that are enabled on the system

○ **USB Function [Enabled]**

Use the USB Function BIOS option to enable or disable the USB function.

- **Disabled** USB function support disabled
- **Enabled** USB function support enabled [Default]

○ **Legacy USB Support [Enabled]**

Use the Legacy USB Support BIOS option to enable USB mouse and USB keyboard support. Normally if this option is not enabled, any attached USB mouse or USB keyboard does not become available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB mouse or USB keyboard can control the system even when there is no USB driver loaded onto the system.

- **Disabled** Legacy USB support disabled
- **Enabled** Legacy USB support enabled [Default]
- **Auto** Legacy USB support disabled if no USB devices are connected

○ **USB2.0 Controller Mode [HiSpeed]**

Use the USB2.0 Controller Mode option to set the speed of the USB2.0 controller.

- **FullSpeed** The controller is capable of operating at 12Mb/s
- **HiSpeed** The controller is capable of operating at 280Mb/s [Default]

○ **Hotplug USB FDD Support [Auto]**

Use the Hotplug USB FDD Support option to enable or disable USB FDD support.

- **Disabled** Hot-plug USB FDD support is disabled
- **Enabled** A virtual FDD drive is created and will be associated with the hot-plugged FDD later [Default]
- **Auto** A virtual FDD drive is created only if there is no USB FDD present.

Chapter 3: BIOS Setup

3.3.9.1 USB Mass Storage Device Configuration

Use the USB Mass Storage Device Configuration menu (BIOS Menu 13) to configure USB mass storage class devices.



- **USB Mass Storage Reset Delay [20 Sec]**

Use the USB Mass Storage Reset Delay option to set the number of seconds POST waits for the USB mass storage device after the start unit command.

- **10 Sec** POST waits 10 seconds for the USB mass storage device after the start unit command.
- **20 Sec** POST waits 20 seconds for the USB mass storage device after the start unit command. [Default]
- **30 Sec** POST waits 30 seconds for the USB mass storage
- **40 Sec** POST waits 40 seconds for the USB mass storage device after the start unit command.

- **Device ##**

The Device## field lists the USB devices that are connected to the system.

- **Emulation Type [Auto]**

Use the Emulation Type BIOS option to specify the type of emulation BIOS has to provide for the USB device.

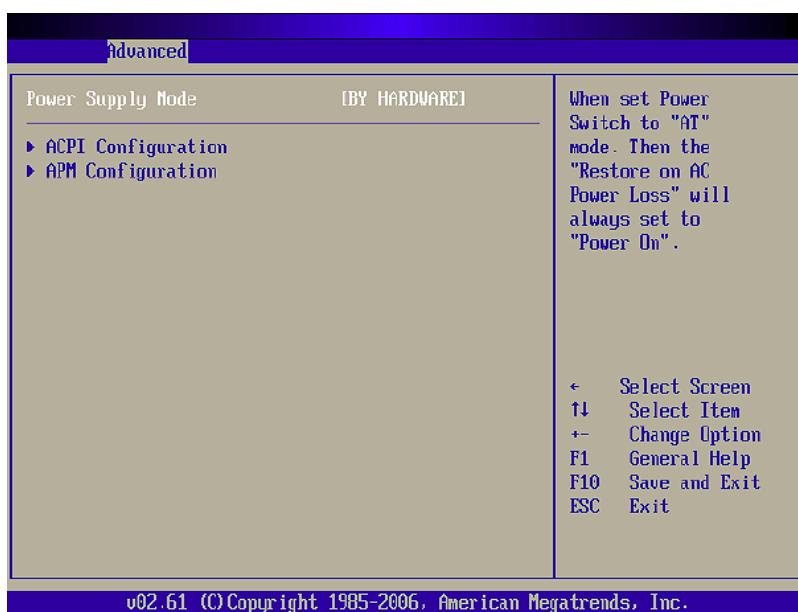
Note: Please note that the device's formatted type and the emulation type provided by the BIOS must match for a device to boot properly. If both types do not match then device's behavior is undefined. To make sure both types match, format the device using BIOS INT13h calls after selecting the proper emulation option in BIOS setup. The FORMAT utility provided by Microsoft® MS-DOS®, Microsoft® Windows® 95, and Microsoft® Windows® 98 can be used for this purpose.

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- **Auto** BIOS auto-detects the current USB. [Default]
- **Floppy** The USB device will be emulated as a floppy drive. The device can be either A: or B: corresponding to INT13h calls that return DL=0 or DL=1 respectively.
- **Forced FDD** Allows a hard disk image to be connected as a floppy image
- **Hard Disk** Allows the USB device to be emulated as hard disk responding to INT13h calls that return DL values of 80h or above.
- **CDROM** Assumes the CD-ROM is formatted as bootable media. All the devices that support block sizes greater than 512 bytes can only be booted using this option.

3.3.10 Power Configuration

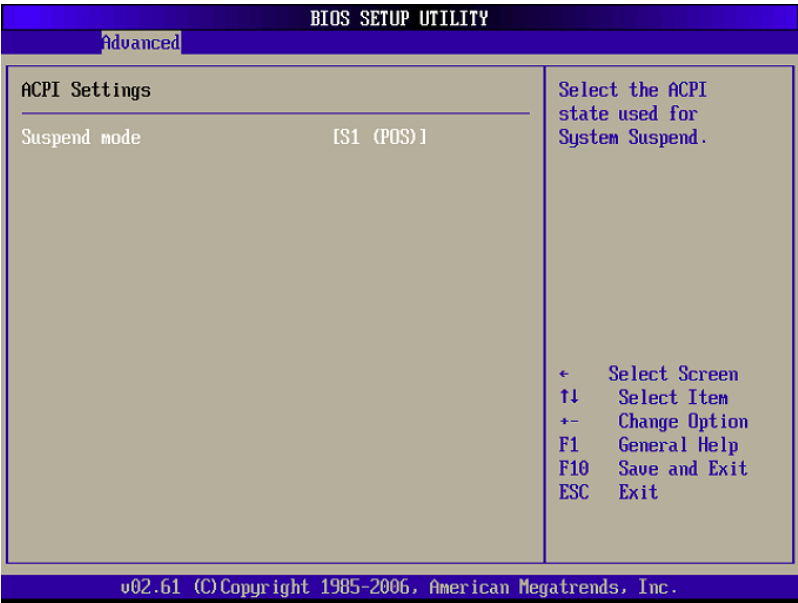
Use the Power Configuration menu (BIOS Menu 14) configures the Advanced Configuration and Power Interface (ACPI) and Power Management (APM) options.



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3.3.10.1 ACPI Configuration

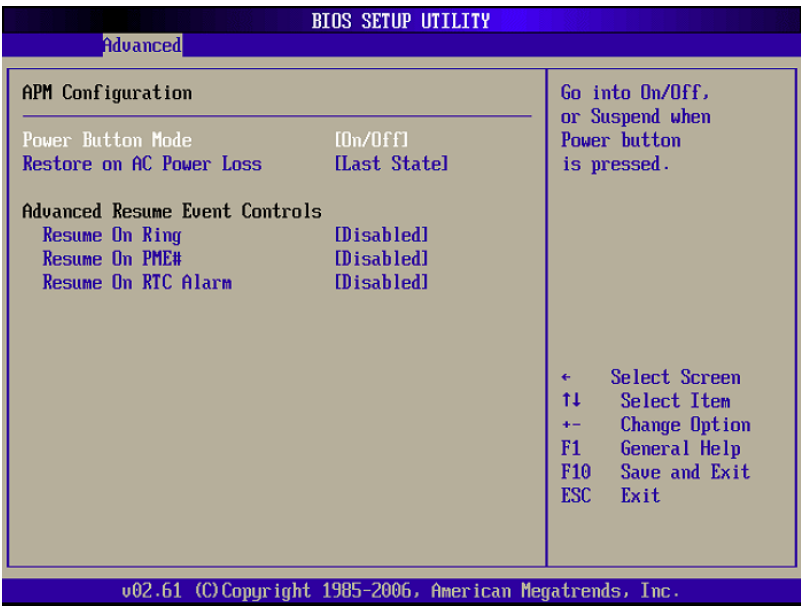
The ACPI Configuration menu (BIOS Menu 8) configures the Advanced Configuration and Power Interface (ACPI) option.



- **Suspend Mode [S1(POS)]**
Use the Suspend Mode option to specify the sleep state the system enters when it is not being used.
 - **S1 (POS)** The system enters S1 (POS) sleep state. The system appears off. The CPU is stopped; RAM is refreshed; the system is running in a low power mode. [Default]
 - **S3 (STR)** System appears off. The CPU has no power; RAM is in slow refresh; the power supply is in a reduced power mode.

3.3.11 APM Configuration

The APM Configuration menu (BIOS Menu 9) allows the advanced power management options to be configured.



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- **Power Button Mode [On/Off]**

Use the Power Button Mode BIOS to specify how the power button functions.

- **On/Off** When the power button is pressed the system is either turned on or off [Default]
- **Suspend** When the power button is pressed the system goes into suspend mode

- **Restore on AC Power Loss [Last State]**

Use the Restore on AC Power Loss BIOS option to specify what state the system returns to if there is a sudden loss of power to the system.

- **Power Off** The system remains turned off
- **Power On** The system turns on
- **Last State** The system returns to its previous state. If it was on, it turns itself on. If it was off, it remains off. [Default]

- **Resume on Ring [Disabled]**

Use the Resume on Ring BIOS option to enable activity on the RI (ring in) modem line to rouse the system from a suspend or standby state. That is, the system will be roused by an incoming call on a modem.

- **Disabled** Wake event not generated by an incoming call [Default]
- **Enabled** Wake event generated by an incoming call

- **Resume on PME# [Disabled]**

Use the Resume on PME# BIOS option to enable activity on the PCI PME (power management event) controller to rouse the system from a suspend or standby state.

- **Disabled** Wake event not generated by PCI PME controller activity [Default]
- **Enabled** Wake event generated by PCI PME controller activity

- **Resume On RTC Alarm [Disabled]**

Use the Resume On RTC Alarm option to specify the time the system should be roused from a suspended state.

- **Disabled** The real time clock (RTC) cannot generate a wake event [Default]
- **Enabled** If selected, the following appears with values that can be selected:
 - RTC Alarm Date (Days)
 - RTC Alarm Time

After setting the alarm, the computer turns itself on from a suspend state when the alarm goes off.

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3.4 PCI/PnP

Use the PCI/PnP menu (BIOS Menu 17) to configure advanced PCI and PnP settings.

WARNING!

Setting wrong values for the BIOS selections in the PCIPnP BIOS menu may cause the system to malfunction.



○ IRQ#

Use the IRQ# address to specify what IRQs can be assigned to a particular peripheral device.

- **Available** The specified IRQ is available to be used by PCI/PnP devices
- **Reserved** The specified IRQ is reserved for use by Legacy ISA devices

Available IRQ addresses options are:

- IRQ3
- IRQ4
- IRQ5
- IRQ7
- IRQ9
- IRQ10
- IRQ11
- IRQ14
- IRQ15

Chapter 3: BIOS Setup

○ DMA Channel# [Available]

Use the DMA Channel# option to assign a specific DMA channel to a particular PCI/PnP device.

- **Available** The specified DMA is available to be used by PCI/PnP devices [Default]
- **Reserved** The specified DMA is reserved for use by Legacy ISA devices

Available DMA Channels are:

- DM Channel 0
- DM Channel 1
- DM Channel 3
- DM Channel 5
- DM Channel 6
- DM Channel 7

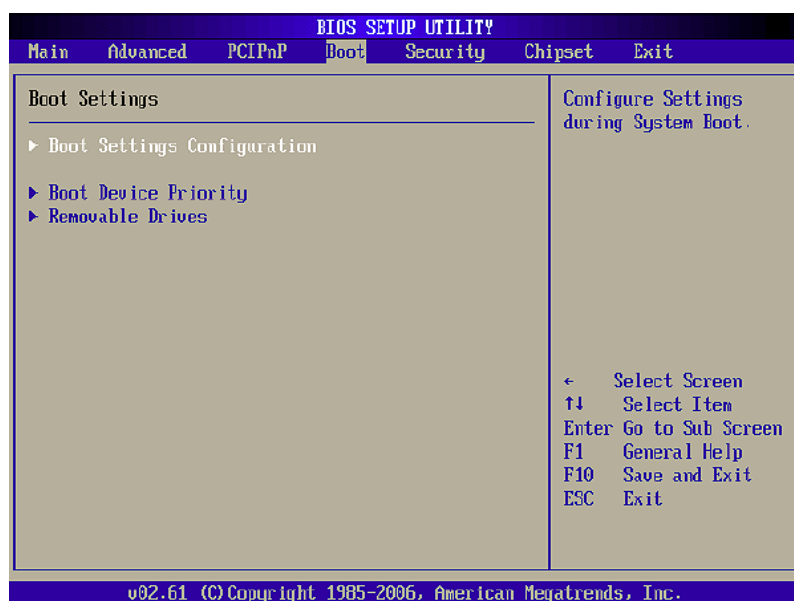
○ Reserved Memory Size [Disabled]

Use the Reserved Memory Size BIOS option to specify the amount of memory that should be reserved for legacy ISA devices.

- **Disabled** No memory block reserved for legacy devices [Default]
- **16K** 16KB reserved for legacy ISA devices
- **32K** 32KB reserved for legacy ISA devices
- **64K** 54KB reserved for legacy ISA devices

3.5 Boot

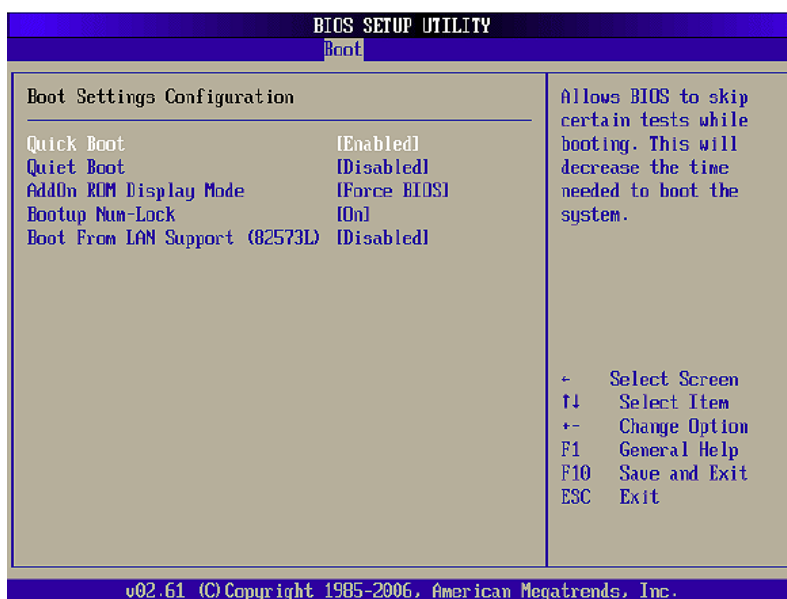
Use the Boot menu (BIOS Menu 18) to configure system boot options.



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3.5.1 Boot Settings Configuration

Use the Boot Settings Configuration menu (BIOS Menu 19) to configure advanced system boot options.



○ Quick Boot [Enabled]

Use the Quick Boot BIOS option to make the computer speed up the boot process.

- **Disabled** No POST procedures are skipped
- **Enabled** Some POST procedures are skipped to decrease the system boot time [Default]

○ Quiet Boot [Disabled]

Use the Quiet Boot BIOS option to select the screen display when the system boots.

- **Disabled** Normal POST messages displayed [Default]
- **Enabled** OEM Logo displayed instead of POST messages

○ AddOn ROM Display Mode [Force BIOS]

Use the AddOn ROM Display Mode option to allow add-on ROM (read-only memory) messages to be displayed.

- **ForceBIOS** The system forces third party BIOS to display during system boot [Default]
- **Keep Current** The system displays normal information during system boot

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○ Bootup Num-Lock [On]

Use the Bootup Num-Lock BIOS option to specify if the number lock setting must be modified during boot up.

- **Off** Does not enable the keyboard Number Lock automatically. To use the 10-keys on the keyboard, press the Number Lock key located on the upper left-hand corner of the 10-key pad. The Number Lock LED on the keyboard light up when the Number Lock is engaged.
- **On** Allows the Number Lock on the keyboard to be enabled automatically when the computer system boots up. This allows the immediate use of the 10-key numeric keypad located on the right side of the keyboard. To confirm this, the Number Lock LED light on the keyboard is lit. [Default]

○ Boot From LAN Support (82573L) [Disabled]

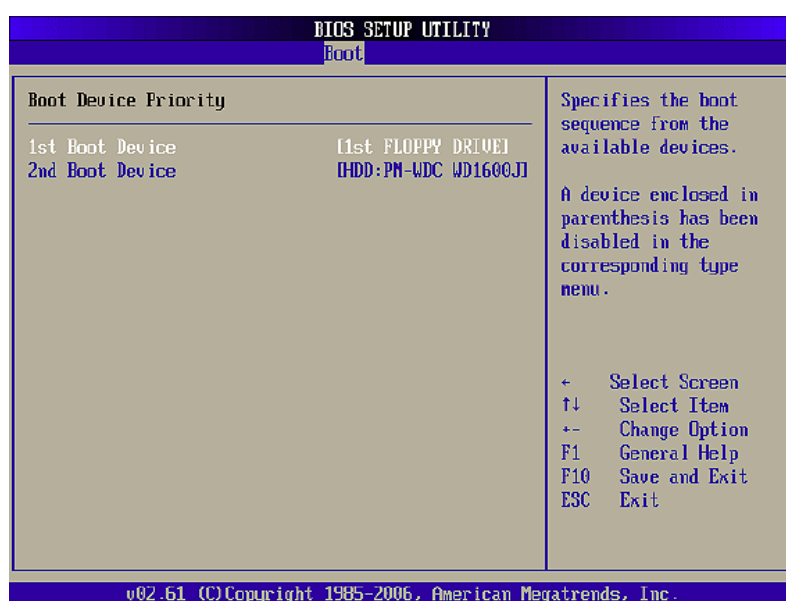
Use the BOOT From LAN Support (82573L) option to enable the Intel® 82573L PCIe GbE controller to boot the system.

- **Disabled** Cannot be booted from a remote system through the Intel® 82573L PCIe GbE controller [Default]
- **Enabled** Can be booted from a remote system through the Intel® 82573L PCIe GbE controller

3.5.2 Boot Device Priority

Use the Boot Device Priority menu (BIOS Menu 20) to specify the boot sequence from the available devices. Possible boot devices may include:

- USB
- HDD
- CD/DVD

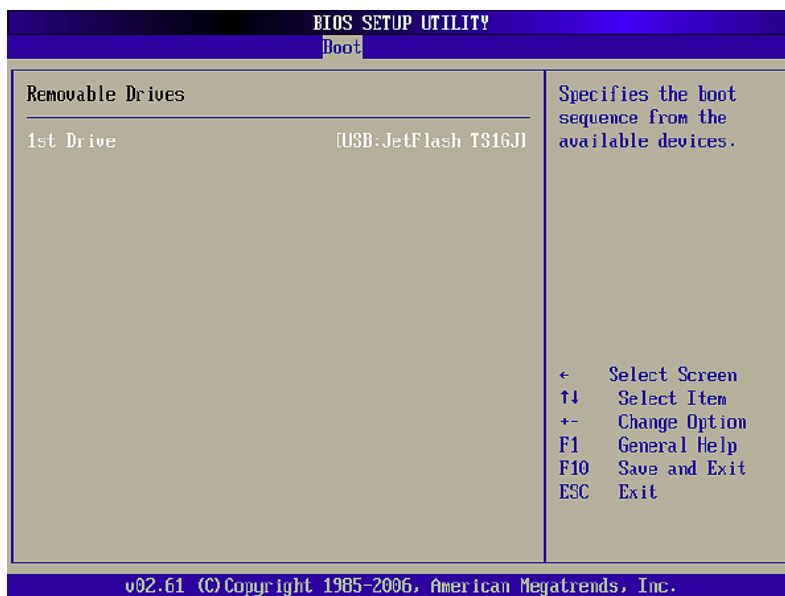


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3.5.3 Removable Drives

Use the Removable Drives menu (BIOS Menu 21) to specify the boot sequence of the available USB devices. When the menu is opened, the USB devices connected to the system are listed as shown below:

- 1st Drive [1st USB]
- 2nd Drive [2nd USB]



Note:

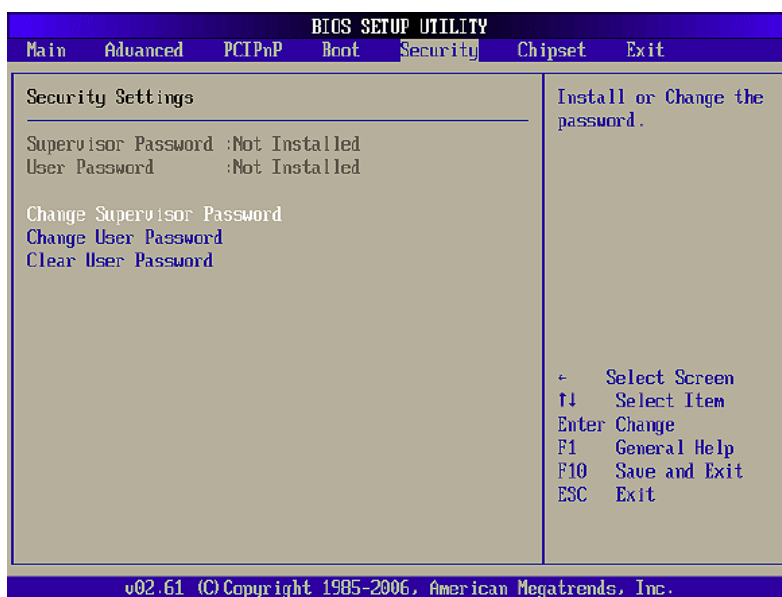
Only the drives connected to the system are shown. For example, if only one USB device is connected only "1st Drive" is listed.

The boot sequence from the available devices is selected. If the "1st Drive" option is selected a list of available USB devices is shown. Select the first USB device the system boots from. If the "1st Drive" is not used for booting this option may be disabled.

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3.6 Security

Use the Security menu (BIOS Menu 22) to set system and user passwords.



- **Change Supervisor Password**

Use the Change Supervisor Password to set or change a supervisor password. The default for this option is Not Installed. If a supervisor password must be installed, select this field and enter the password. After the password has been added, Install appears next to Change Supervisor Password.

- **Change User Password**

Use the Change User Password to set or change a user password. The default for this option is Not Installed. If a user password must be installed, select this field and enter the password. After the password has been added, Install appears next to Change User Password.

- **Clear User Password**

Use the Clear User Password to clear a user's password. The default for this option is Not Installed. If a user password must be cleared, use this option.

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3.7 Chipset

Use the Chipset menu to access the NorthBridge, SouthBridge and ME Subsystem configuration menus.

WARNING!

Setting the wrong values for the Chipset BIOS selections in the Chipset BIOS menu may cause the system to malfunction.

3.7.1 NorthBridge Configuration

Use the Northbridge Chip set Configuration menu (BIOS Menu 23) to configure the Northbridge chipset.



○ Memory Remap Feature [Enabled]

Use the Memory Remap Feature option to allow the overlapped PCI memory above the total physical memory to be remapped.

- **Enabled** Overlapped PCI memory can be remapped [Default]
- **Disabled** Overlapped PCI memory cannot be remapped

○ Memory Hole [Disabled]

Use the Memory Hole option to reserve memory space between 15MB and 16MB for ISA expansion cards that require a specified area of memory to work properly. If an older ISA expansion card is used, please refer to the documentation that came with the card to see if it is necessary to reserve the space.

- **Disabled** Memory is not reserved for ISA expansion cards [Default]
- **15MB – 16MB** Between 15MB and 16MB of memory is reserved for ISA expansion cards

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- **Boots Graphics Adapter Priority [IGD]**

Use the Boots Graphics Adapter Priority option to select the graphics controller used as the primary boot device. Select either an integrated graphics controller (IGD) or a combination of PCI graphics controller, a PCI express (PEG) controller or an IGD. Configuration options are listed below:

- **IGD [Default]**
- **PCI/IGD**

- **Internal Graphics Mode Select [Enable, 8MB]**

Use the Internal Graphic Mode Select option to specify the amount of system memory that can be used by the Internal graphics device.

- **Disable**
- **Enable, 1MB** 1MB of memory used by internal graphics device
- **Enable, 8MB** 8MB of memory used by internal graphics device [Default]

3.7.1 Video Function Configuration

Use the Video Function Configuration menu to configure the video device connected to the system.

- **Boot Display Device [Auto]**

Use the Boot Display Device option to select the display device used by the system when it boots. Configuration options are listed below.

- **Auto [Default]**
- **CRT**
- **TV**
- **LFP**

- **Flat Panel Type [1024x768, 18b]**

Use the Flat Panel Type option to select the type of flat panel connected to the system. Configuration options are listed below.

- **640x480, 18b**
- **800x600, 18b**
- **1024x768, 18b [Default]**
- **1024x768, 24b**
- **1280x1024, 48b**
- **1600x1200, 48b**

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○ TV Standard [VBIOS]

Use the TV Standard option to select the standard of the television connected to the system. The configuration options are listed below.

- **VBIOS** [Default]
- **NTSC**
- **PAL**
- **SECAM**
- **SMPTE240M**
- **ITU-R television**
- **SMPTE295M**
- **SMPTE296M**
- **EIA-770.2**
- **EIA-770.3**

3.7.2 Southbridge Configuration

The Southbridge Configuration menu (BIOS Menu 24) allows the Southbridge chipset to be configured.



○ HDA Controller [Enabled]

Use the HDA Controller option to enable the Southbridge high definition audio controller. If the HDA device has been connected to the system, this option should be enabled.

- **Disabled** Southbridge HDA controller is disabled
- **Enabled** Southbridge HDA controller is enabled [Default]

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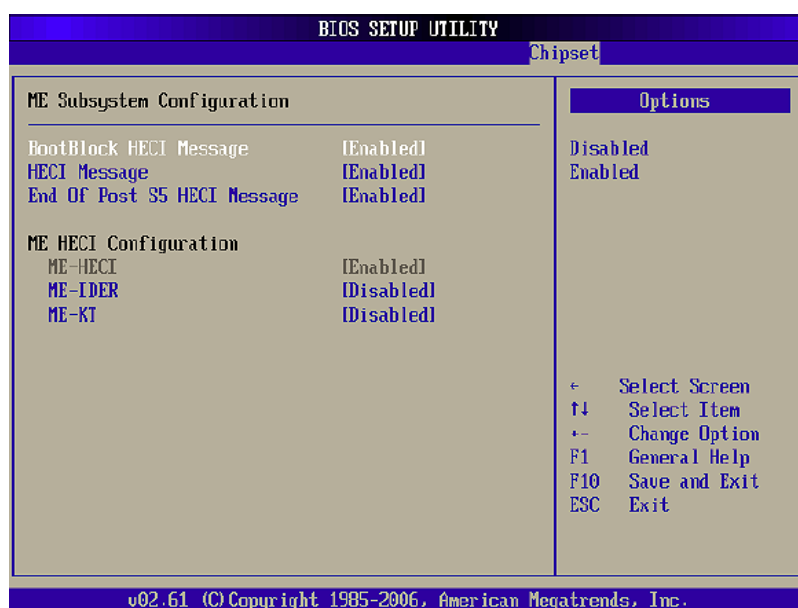
○ ASF Support [Enabled]

Use the ASF Support BIOS option to control the system's ability to connect to a remote management server.

- **Disabled** The system will not communicate with a remote management server.
- **Enabled** The Alert Standard Format (ASF) controller is activated and can communicate with a remote management server. [Default]

3.7.3 ME Subsystem Configuration

The ME Subsystem Configuration menu (BIOS Menu 24) allows the AMT subsystem (Management Engine, ME) and Host Embedded Controller Interface (HECI) driver options to be configured.



○ BootBlock HECI Message [Enabled]

Use the BootBlock HECI Message option to enable or disable HECI message when booting up the system.

- **Disabled** The HECI message is disabled when booting up the system.
- **Enabled** The HECI message is enabled when booting up the system. [Default]

○ HECI Message [Enabled]

Use the HECI Message BIOS option to enable or disable HECI message.

- **Disabled** The HECI message disabled.
- **Enabled** The HECI message enabled. [Default]

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- **End Of Post S5 HECI Message [Enabled]**

Use the End Of Post S5 HECI Message option to enable or disable HECI message when the system is in the off (S5) state.

- **Disabled** The HECI message is disabled when the system is off.
- **Enabled** The HECI message is enabled when the system is off. [Default]

- **ME-HECI [Enabled]**

The ME-HECI option is enabled by default and can not be changed.

- **ME-IDER [Disabled]**

Use the ME-IDER option to enable or disable the IDE-Redirection (IDE-R) function on an AMT-capable system.

- **Disabled** The IDE-R function is disabled. [Default]
- **Enabled** The IDE-R function allows an AMT-capable client system to access IDE devices and load OS from a management system. When an IDE-R session is established, the virtual drives are shown in the system.

- **ME-KT [Disabled]**

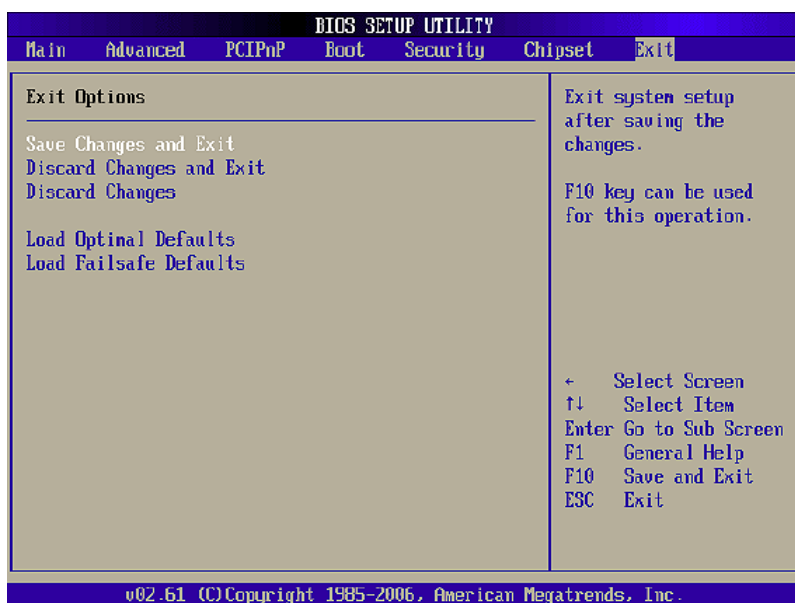
Use the ME-KT option to enable or disable the Keyboard and Text redirection (KT) function on an AMT-capable system. KT is also known as Serial-Over-Lan (SOL).

- **Disabled** The KT function of the ME is disabled. [Default]
- **Enabled** The KT function allows a management system to control an Intel® AMT client system remotely. The keyboard interface of a managed client system, such as BIOS menu, is displayed through the management system.

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3.8 Exit

Use the Exit menu (BIOS Menu 26) to load default BIOS values, optimal failsafe values and to save configuration changes.



- **Save Changes and Exit**

Use the Save Changes and Exit option to save the changes made to the BIOS options and to exit the BIOS configuration setup program.

- **Discard Changes and Exit**

Use the Discard Changes and Exit option to exit the BIOS configuration setup program without saving the changes made to the system.

- **Discard Changes**

Use the Discard Changes option to discard the changes and remain in the BIOS configuration configuration setup program.

- **Load Optimal Defaults**

Use the Load Optimal Defaults option to load the optimal default values for each of the parameters on the Setup menus. F9 key can be used for this operation.

- **Load Failsafe Defaults**

Use the Load Failsafe Defaults option to load failsafe default values for each of the parameters on the Setup menus. F8 key can be used for this operation.

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