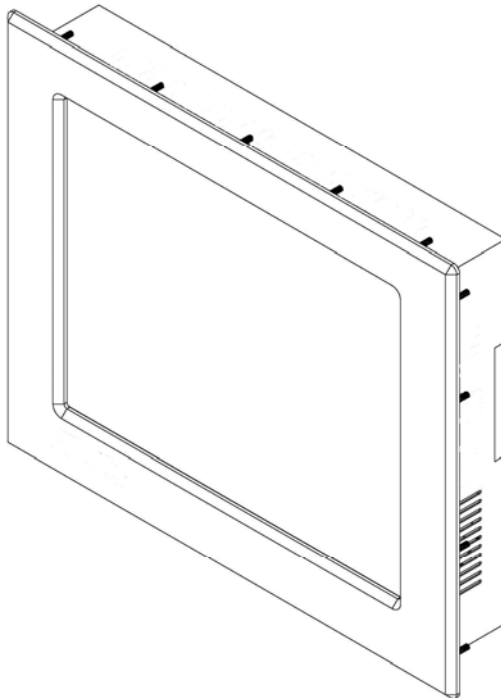




*Solutions for Demanding Applications*

**VARTECH**  
**SYSTEMS INC.**



**10.4" Panel Mount PC**

**Model VTPC104PF / PSF**

**User's Guide**

Read these instructions completely before attempting to operate your new Panel Mount PC

## Revision History

Date	Rev No	Summary	Page
10/16/08	00	First Issue	
03/30/09	01	Corrected connections illustration	7
07/16/10	02	Changed specifications to reflect hardware change	

## Safety Instructions

- Read the Safety Instructions carefully and keep it for use later.
- The chassis metalwork of the module must be installed properly to the main earthing termination for Class 1 equipment.
- Care must be exercised in the application of the system to prevent overheating. Ensure that the ambient temperature around the system does not exceed 50°C and provide adequate means of ventilation to achieve this.
- When cleaning cut off the electrical supply at all times. Never use liquid or aerosol detergent, use a soft damp cloth instead.
- Never insert anything metallic into the chassis openings. This may create an electric shock hazard or hazard from rotating fan blades.
- To avoid electric shock, never touch the inside of the system. There are no user adjustable components inside, only a qualified technician should open the system's case.
- Openings in the system enclosure are to allow for ventilation. To prevent overheating, these openings should not be blocked or covered.
- If the system does not operate normally – in particular, if there are any unusual sounds or smells coming from it – disconnect it immediately.
- Do not put pressure on the LCD panel screen because it is very fragile.
- Always handle the system with care when moving it.
- Take care that the system is disposed of correctly at the end of its life. If in doubt refer to your local ordinances or regulations for proper disposal.
- A socket-outlet shall be installed near the equipment and shall be easily accessible.

## Cleaning the LCD monitor

To clean the LCD panel:

- Wipe the screen gently with a clean lens brush made of camel hair, or a soft, clean, lint free cloth. This is to remove dust and other particles without scratching the LCD panel.
- If it is still not clean, then wipe with a damp lint free cloth and blow on it to dry.

Do not clean the panel with a keton-type material (e.g. acetone), or ethyl toluene, ethyl acid, methyl or chloride. These may damage the LCD panel.

Do not apply pressure to the LCD panel.

## Standard Technical Specifications:

### LCD Monitor:

<b>Size / Type</b>	10.4" SVGA TFT LCD
<b>Native Resolution</b>	800 x 600
<b>Contrast Ratio</b>	600:1
<b>Viewing Angles</b>	Horizontal: 80° Vertical: 80°
<b>Pixel Pitch</b>	0.264mm
<b>Brightness (typical)</b>	400 cd/m <sup>2</sup>
<b>Response Time (typical)</b>	25ms
<b>Colors Supported</b>	16.8 million

### Computer System:

<b>CPU</b>	Intel Atom Processor N270 1.6GHz
<b>System Chipset</b>	Intel 945GSE & ICH7M
<b>Front-Side Bus</b>	533 MHz
<b>BIOS</b>	AMI 8Mbit SPI Flash, DMI, Plug and Play
<b>System Memory</b>	One 200-pin unbuffered 2GB DDR2 PC2-5300 SO-DIMM
<b>Onboard Multi I/O</b>	Controller: Winbond W83627UHG Serial Ports: Three ports for RS-232 Two SATA-150 connectors
<b>CompactFlash Socket</b>	One CompactFlash Type II Socket
<b>Display</b>	CRT Connector capable of supporting up to 1600x1200 dpi
<b>Watchdog Timer</b>	1~255 seconds; up to 255 levels
<b>Ethernet</b>	Dual port with RTL8111B for Gigabit/Fast Ethernet
<b>Audio</b>	AC'97 Audio compliant via ALC203(requires optional connector)
<b>Power Management</b>	ACPI (Advanced Configuration and Power Interface)

<b>Power Input</b>	90 - 220VAC 1.5A 50/60 Hz		
<b>Power Consumption</b>	37W		
<b>Temperature</b>	Operational:	32°F to 122°F	0°C to 60°C
	Storage:	-4°F to 149°F	-20°C to 75°C
<b>Humidity</b>	Operational:	20 to 40°C, 90% RH NC	
	Storage:	5 to 65°C, 28% RH NC	

### Installation of Your Panel PC

Packaged with each carton will be:

- 1 - VTPC104PF / PSF
- 1 - AC Power Cable
- 1 - #10-32 Mounting Hardware
- 1 - Users Guide (Printed or on CD)

**BEFORE MAKING ANY CONNECTIONS OR APPLYING POWER,  
FIRST READ THROUGH THE ENTIRE MANUAL**

**Panel Mount Procedure**

**Panel Mounting Procedure:**

- 1- Cut and drill the panel (refer to the panel mount drawing, Figure A). Measurements are provided in inches and millimeters.

**Panel Mounting Cutout:**

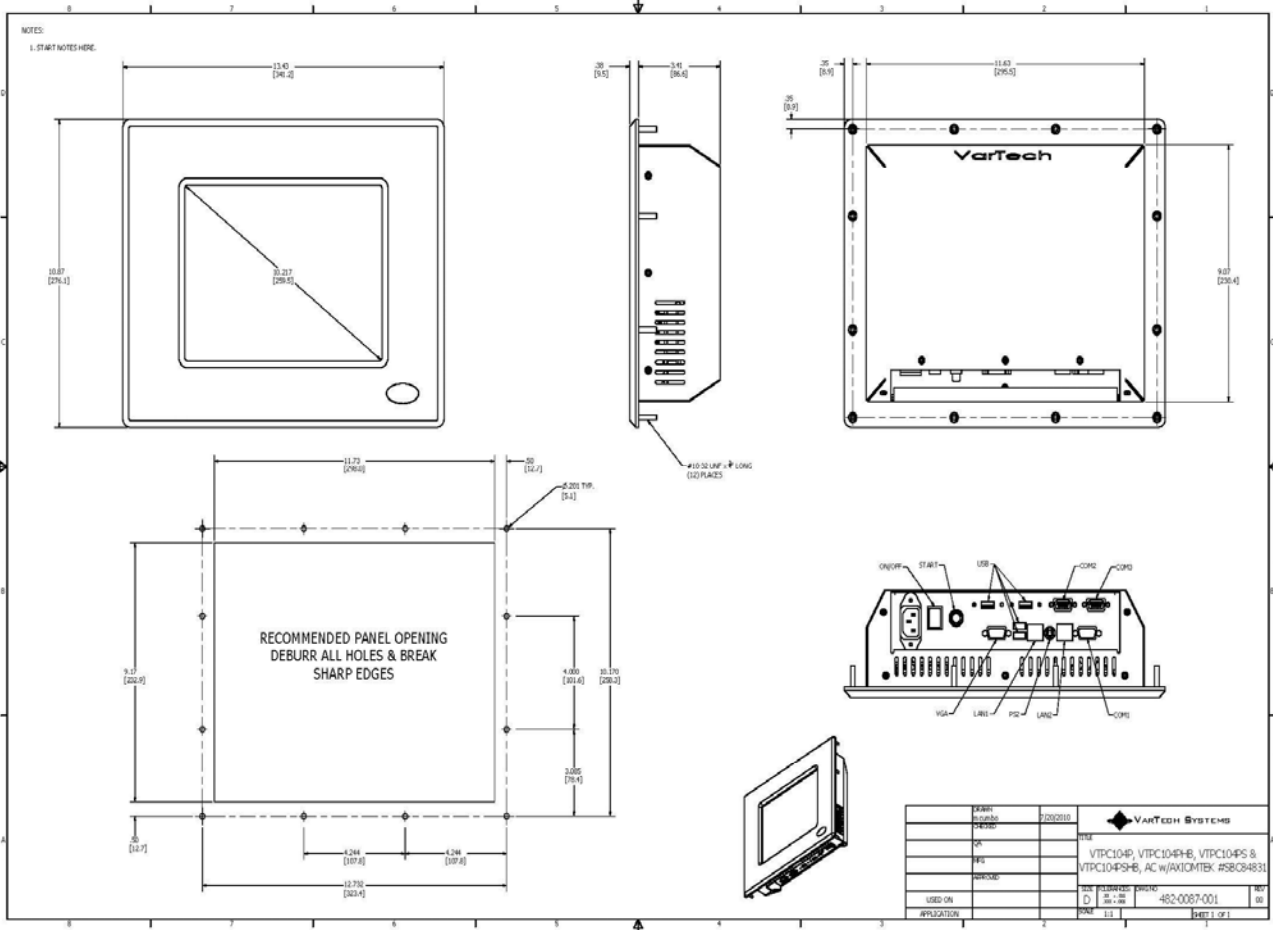
- 1- If access to the bottom of the enclosure is not available following installation, attach the power and all necessary cables to the bottom side of the enclosure at this time.
- 2- Install the enclosure in the prepared cutout.
- 3- Secure the enclosure using the lock nuts and washers, supplied with the unit, behind the holes running along the sides and the top and bottom of the cutout in the panel. Extra lock nuts and washers are provided.

**NOTE:** Use #10-32 nuts for mounting.

- 4- Tighten all mounting hardware to a torque of 24 inch-pounds.

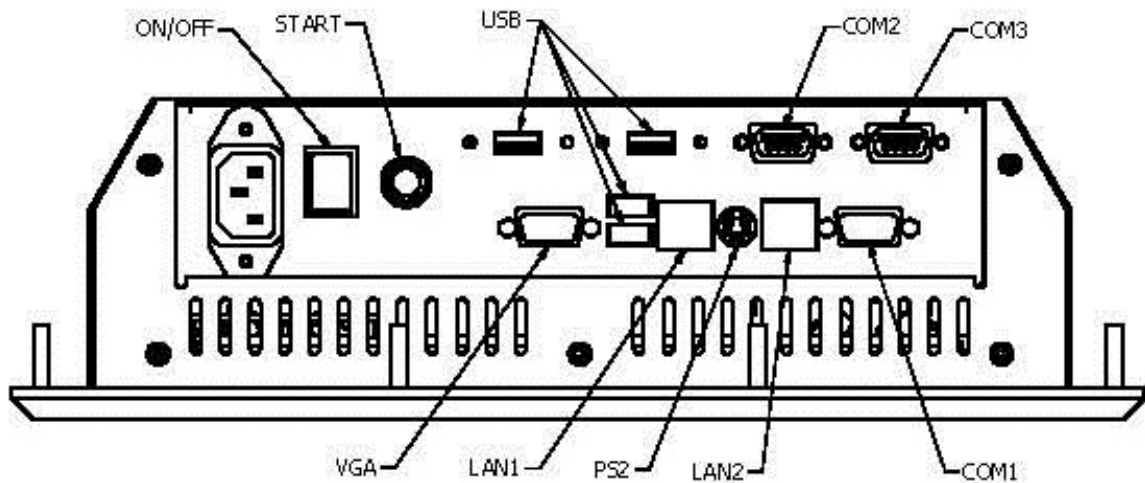
**ATTENTION:** Mounting nuts must be tightened to a torque of 24 inch-pounds to provide a proper panel seal and avoid potential damage. Vartech Systems assumes no responsibility for water or chemical damage to the monitor or other equipment within the enclosure due to improper installation.

- 5- Attach the power, video and system cables to the bottom side of the enclosure if you have not already done so.



Panel Mount Drawing: Detail –A–

## Connections to the Panel Mount PC



**Bottom Rear View  
- Connector Panel -**

### **Power Connection (Power In)**

The Panel Mount PC includes an AC line cord which is 6ft long. The power input receptacle is located on the bottom rear panel of the system.

### **Serial Connections (COM1, 2, 3)**

The Panel Mount PC is supplied with three serial connectors. COM1-COM3 are configured for RS-232. The connectors are 9 pin female connectors and can be set up for any baud rate from 300 to 19.2 baud. The connector is located on the bottom panel of the system.

### **Ethernet Connections (LAN 1 &2)**

The Panel Mount PC is supplied with two integrated Ethernet connectors. The interface will support 10/100/1000 BaseT connection to a local area network (LAN). The Panel Mount PC is supplied with two RJ-45 female connectors located on the bottom panel of the system.

### **USB Connections (USB1-4)**

The Panel Mount PC is supplied with four USB 2.0 connectors located on the bottom front panel of the system.

### **VGA Port**

The 15-pin female VGA connector can be used to connect to any analog VGA monitor.



## Turning the system On and Off

Before connecting the Panel Mount PC to power, connect any peripheral devices. As a general rule, any peripheral device should only be connected or disconnected when the Panel Mount PC is off with the exception of any USB or 1394 peripheral.

The Panel Mount PC is turned on using the main On-Off rocket switch located on the bottom rear panel. Once the Panel Mount PC main switch is turned on the computer power pushbutton switch must be depressed for Windows to start. Windows must be properly shut down before the main power switch is turned off to prevent the chance of corrupting files in the operating system.

The Panel Mount PC is rated for continuous duty. However, to extend the life of the various components and conserve power, it is highly recommended that the system be properly shut down and power turned off when the Panel Mount PC is not in use.

## LCD Monitor Warm-up Time

All LCD monitors need time to become thermally stable the first time you turn them on. Therefore, to achieve more accurate adjustments for parameters, allow the LCD monitor to warm (be on) for at least 20 minutes before making any screen adjustments.

## Maintenance

The Panel Mount PC is designed to provide optimum service and performance with minimal maintenance including the occasional external cleaning. For cleaning the Panel Mount PC enclosure follow the suggested guidelines.

**General** – NEVER use abrasive cleaners or solvent-based cleaners!! Use a clean soft cloth. The Panel Mount PC should only be opened and serviced by a qualified technician. Keep the area around the Panel Mount PC clear and free of excessive dirt or other contaminants. Do not use water or any liquids on the Panel Mount PC.

**Disposal** – Once this product has reached the end of its lifecycle, check state and local ordinances for proper disposal or contact manufacturer.

# AMI BIOS SETUP UTILITY

## 1.1 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.

## 1.2 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.



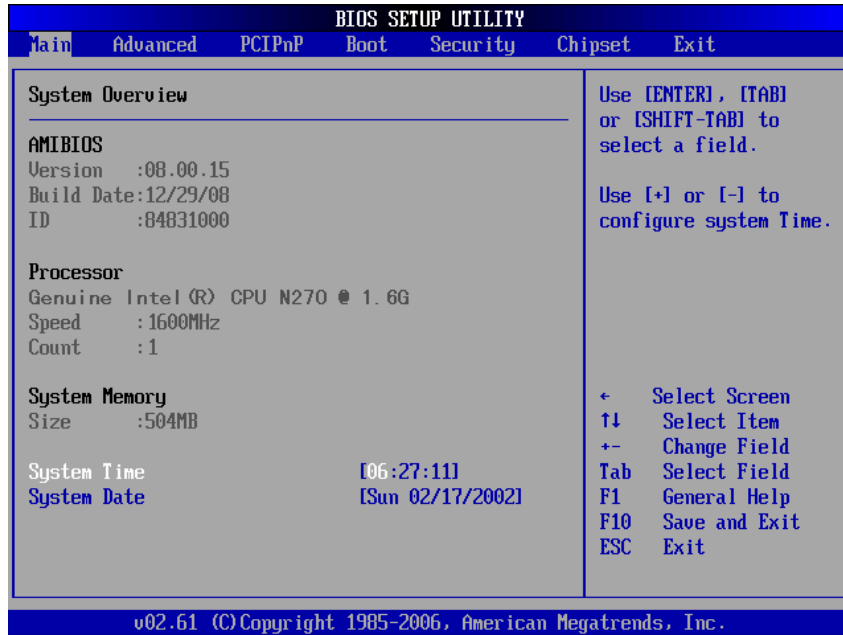
**Note** Some of navigation keys differ from one screen to another.

<b>Left/Right</b>	The Left and Right <Arrow> keys allow you to select a setup screen.
<b>Up/Down</b>	The Up and Down <Arrow> keys allow you to select a setup screen or sub-screen.
<b>Plus/Minus</b>	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item.
<b>Tab</b>	The <Tab> key allows you to select setup fields.
<b>F1</b>	The <F1> key allows you to display the General Help screen.

<b>F10</b>	The <F10> key allows you to save any changes you have made and exit Setup. Press the <F10> key to save your changes.
<b>Esc</b>	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.
<b>Enter</b>	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.

### 1.3 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.



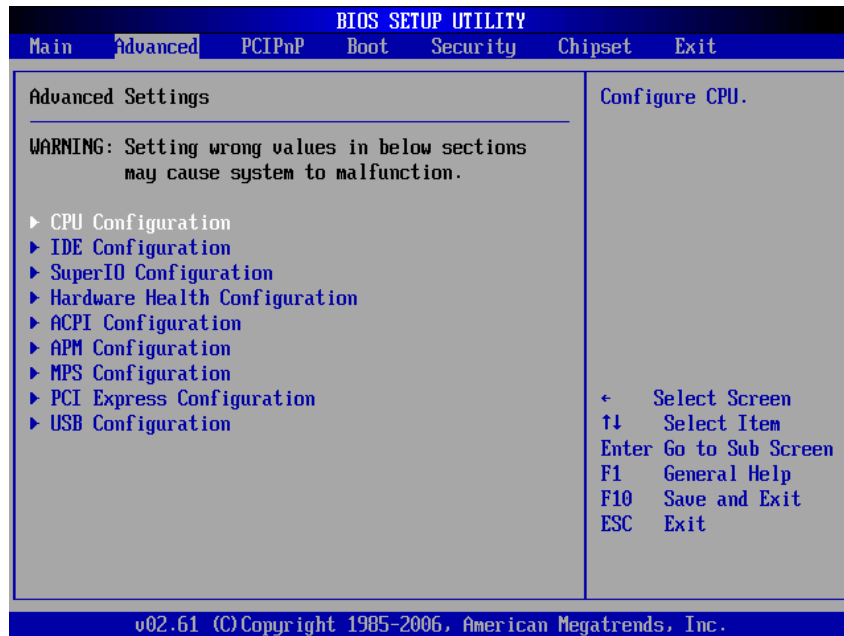
#### System Time/Date

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.

## 1.4 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    APM    Configuration
- MPS Configuration
- PCI Express Configuration
- USB Configuration



## Configure advanced CPU settings

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.

### Hyper Threading Technology

Use this item to enable or disable Hyper-Threading Technology, which makes a single physical processor perform multi-tasking function as two logical ones.

### Intel (R) SpeedStep (tm) tech

This item helps you enable or disable the Intel SpeedStep Technology.

### Intel (R) C-STATE tech

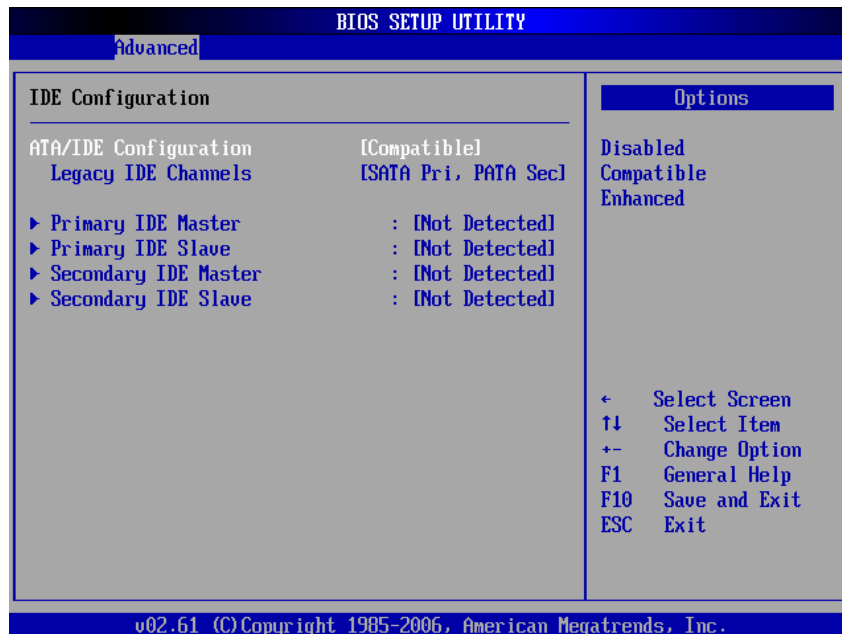
Use this item to enable or disable the C-State technology.

### Enhanced C-States

This item allows you to enable or disable any available enhanced C-states ( C1E, C2E, C3E, C4E and Hard C4E).

### 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.



### ATA/IDE Configuration

Use this item to specify the integrated IDE controller. There are three options for your selection: *Disabled*, *Compatible* and *Enhanced*.

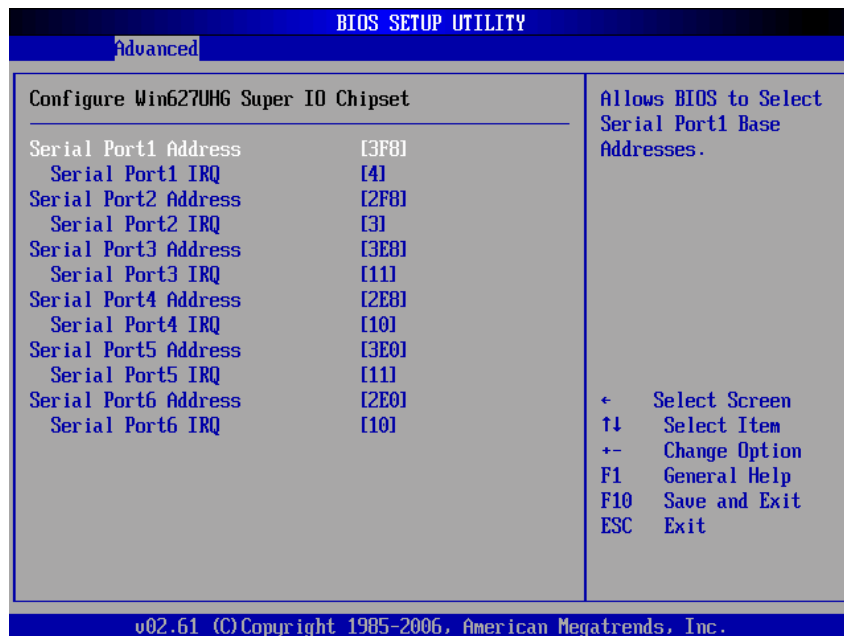
### Legacy IDE Channels

When the ATA/IDE Configuration is set to *Compatible*, this item will be displayed.

**Primary/Secondary/Third IDE Master/Slave** 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 item 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 Port1 IRQ

This item specifies the IRQ used by the serial port 1.

#### Serial Port2 Address

This item 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*.

**Serial Port2 IRQ**

This item specifies the IRQ used by the serial port 2.

**Serial Port2 Mode**

This item specifies the mode used by the serial port 2.

**Serial Port3 Address**

This item specifies the base I/O port address and Interrupt Request address of serial port 3.

**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.

**Serial Port4 IRQ**

This item specifies the IRQ used by the serial port 4.

**Serial Port5 Address**

This item specifies the base I/O port address and Interrupt Request address of serial port 5.

**Serial Port5 IRQ**

This item specifies the IRQ used by the serial port 5.

**Serial Port6 Address**

This item specifies the base I/O port address and Interrupt Request address of serial port 6.

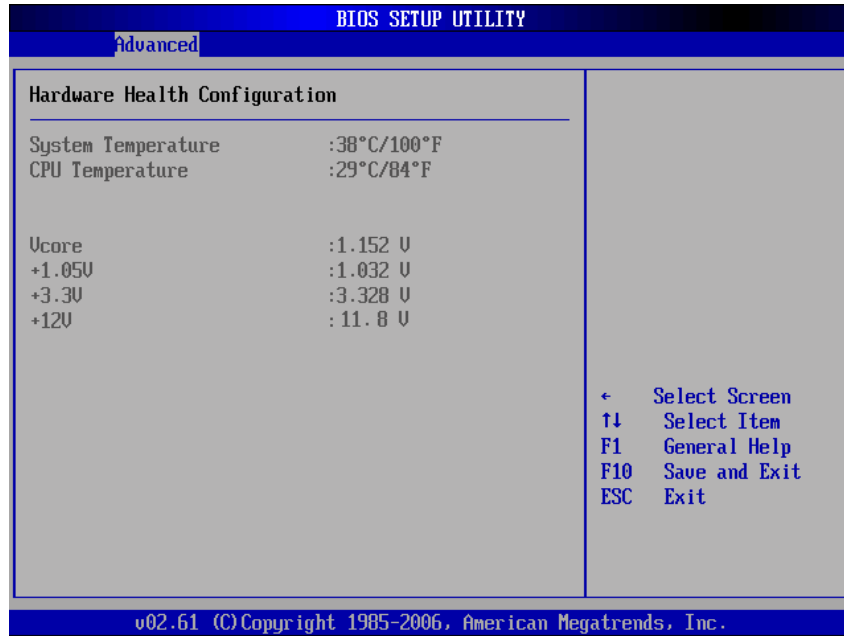
**Serial Port6 IRQ**

This item specifies the IRQ used by the serial port 6.



### 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.

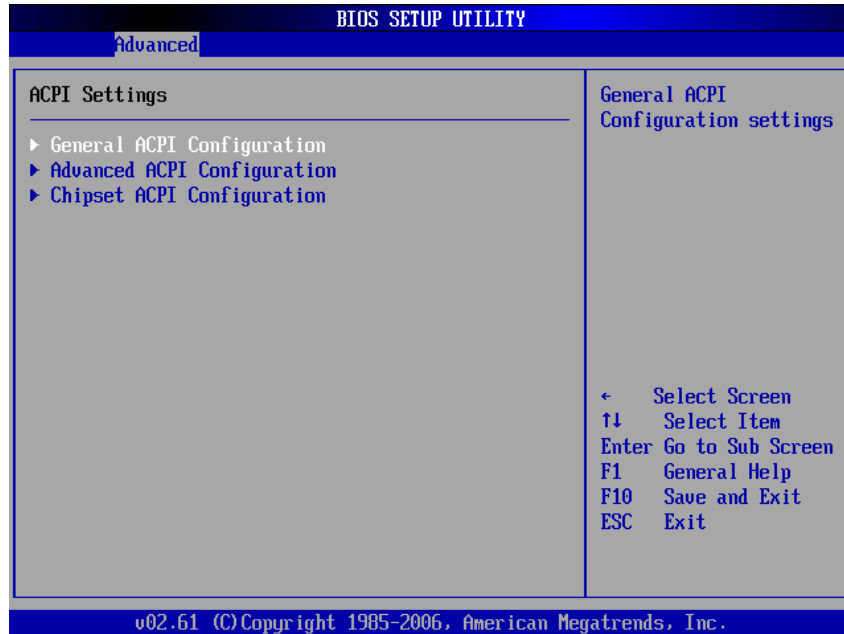


### System Temperature/CPU Temperature

These items display the temperature of CPU and System, Vcore, etc.

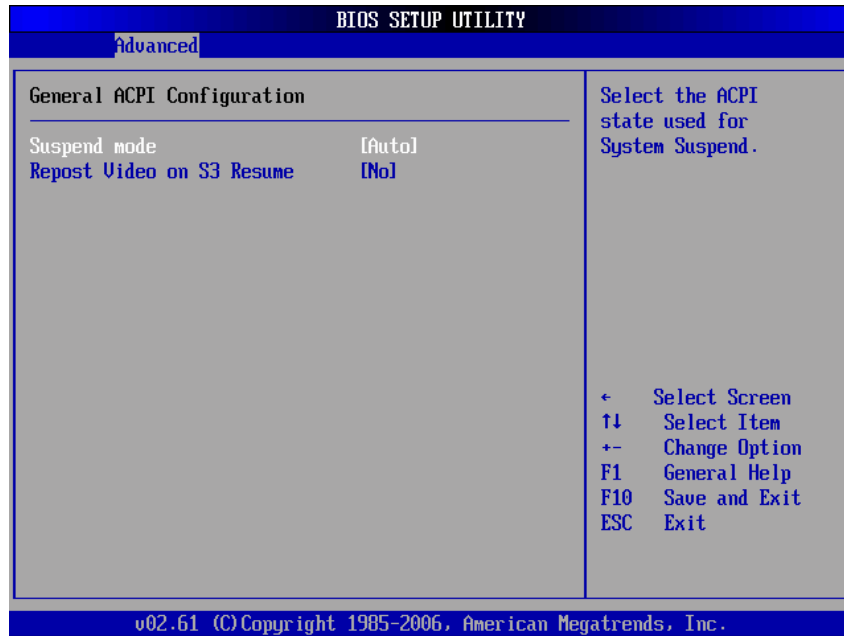
### ACPI Settings

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



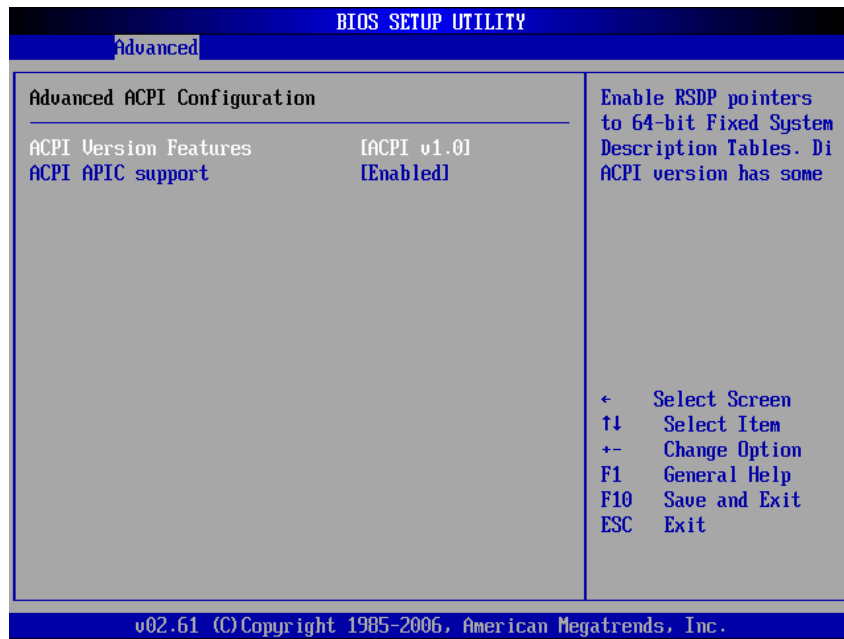
### General ACPI Configuration

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.



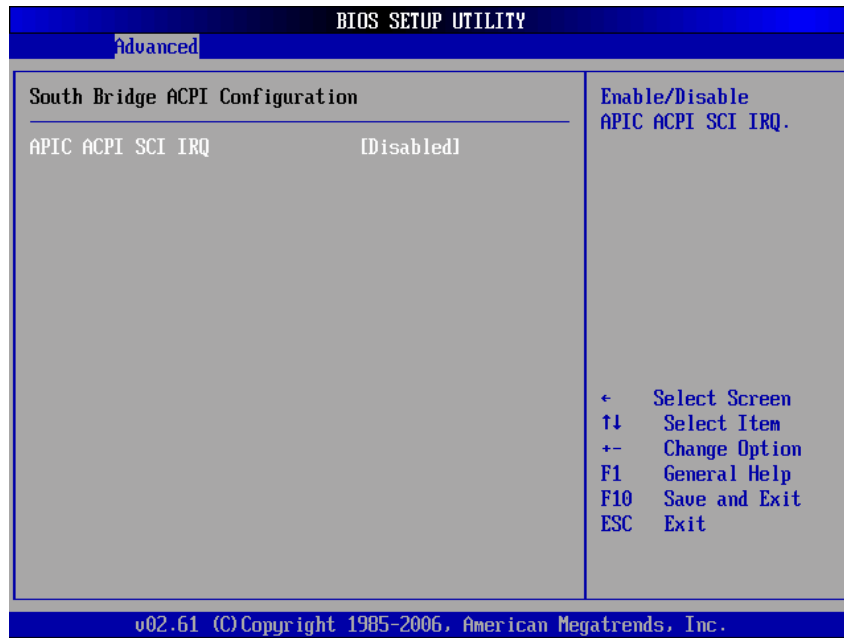
### Advanced ACPI Configuration

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.



### APM Configuration

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



#### Power Management/APM

Set this item to allow Power Management/APM support. The default setting is *Enabled*.

<b>Disabled</b>	Set this item to prevent the chipset power management and APM (Advanced Power Management) features.
<b>Enabled</b>	Set this item to allow the chipset power management and APM (Advanced Power Management) features. This is the default setting.

#### Video Power Down Mode

This option specifies the Power State that the video subsystem enters when the BIOS places it in a power saving state after the specified period of display

inactivity has expired. The default setting is *Suspend*.

<b>Disabled</b>	This setting prevents the BIOS from initiating any power saving modes concerned with the video display or monitor.
<b>Suspend</b>	This option places the monitor into suspend mode after the specified period of display inactivity has expired. This means the monitor is not off. The screen will appear blacked out. The standards do not cite specific power ratings because they vary from monitor to monitor, but this setting use less power than Standby mode. This is the default setting.

**Hard Disk Drive Power Down Mode**

This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The default setting is *Suspend*.

<b>Disabled</b>	This setting prevents hard disk drive power down mode.
<b>Suspend</b>	This option cuts the power to the hard disk drives during a system suspend. This is the default setting.

**Suspend Time Out (Minute)**

This option specifies the length of time the system waits before it enters suspend mode. The default setting is *Disabled*.

<b>Disabled</b>	This setting prevents the system from entering suspend mode. This is the default setting.
<b>1 Min</b>	Set this item to allow the computer system to enter suspend mode after being inactive for 1 minute.
<b>4 Min</b>	Set this item to allow the computer system to enter suspend mode after being inactive for 4 minutes.
<b>10 Min</b>	Set this item to allow the computer system to enter suspend mode after being inactive for 10 minutes.

**Throttle Slow Clock Ratio**

Use this item to specify the speed of the system clock when running the power saving states.

**Power Button Mode**

This option specifies how the externally mounted

power button on the front of the computer chassis is used. The default setting is *On/Off*.

<b>On/Off</b>	Pushing the power button turns the computer on or off. This is the default setting. This is the default setting.
<b>Suspend</b>	Pushing the power button places the computer in Suspend mode or Full On power mode.

**\*\*\* Advanced Resume Event Controls \*\*\***

**Resume On Ring**

This item enables or disables the function of Resume On Ring that resumes the system through incoming calls.

**Resume On LAN**

This item enables or disables the function of Resume On LAN that resumes the system through the network.

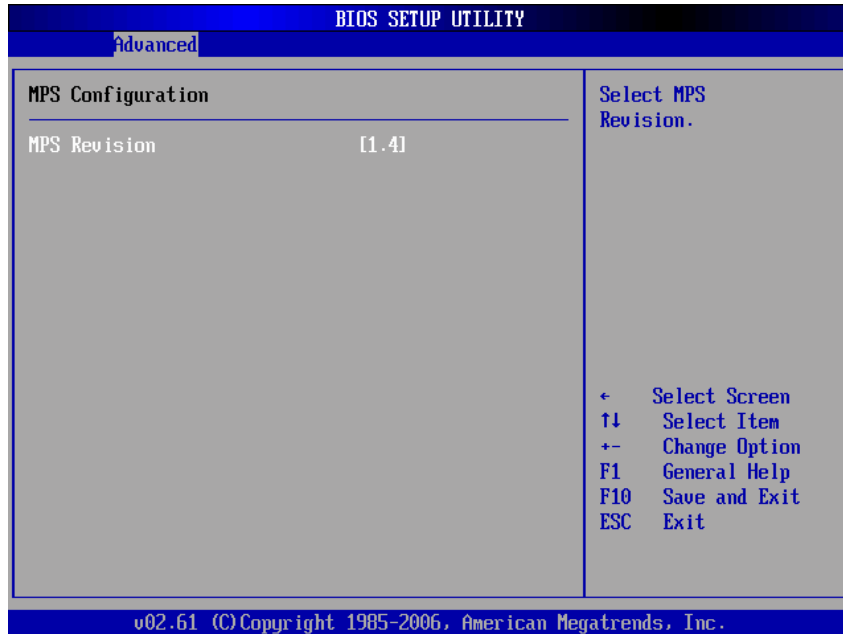
**Resume On RTC Alarm**

You can set "Resume On RTC Alarm" item to enabled and key in Data/time to power on system.



### MPS Configuration

This screen shows the MPS (Multi Processor Specification) Configuration, and you can change its value. A description of the selected item appears on the right side of the screen.

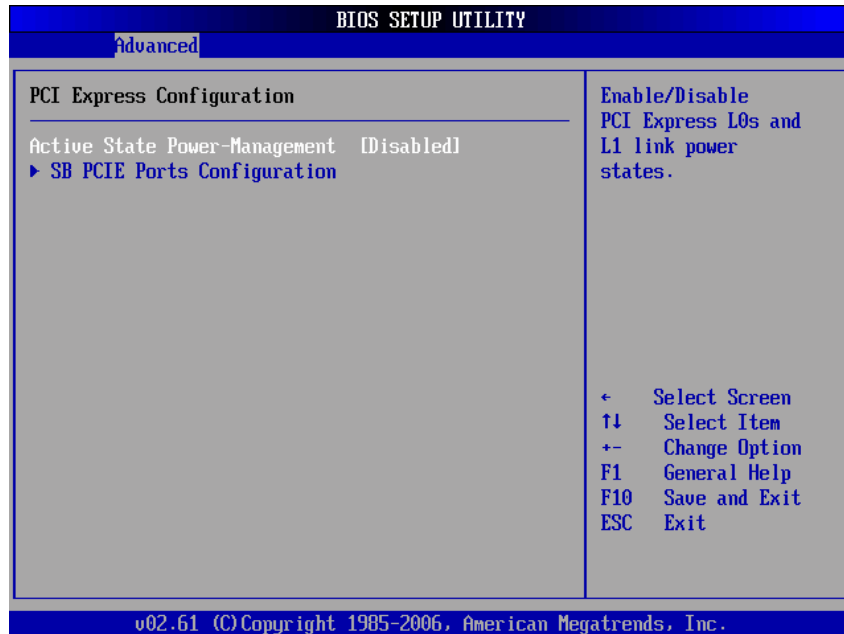


### MPS Revision

Use this item to select MPS (Multi Processor Specification) Revision 1.1 or 1.4. The default setting is 1.4.

### 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.

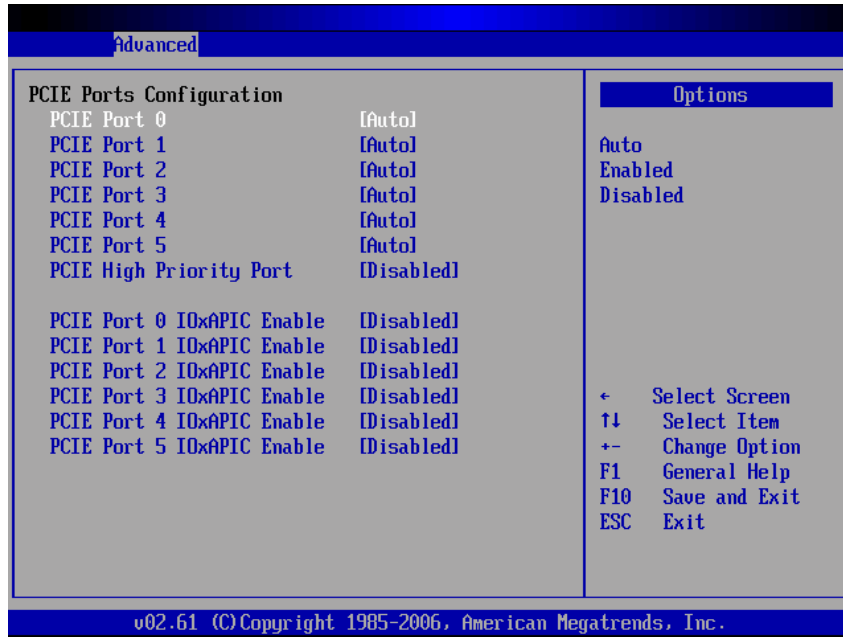


### Active State Power-Management

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*.

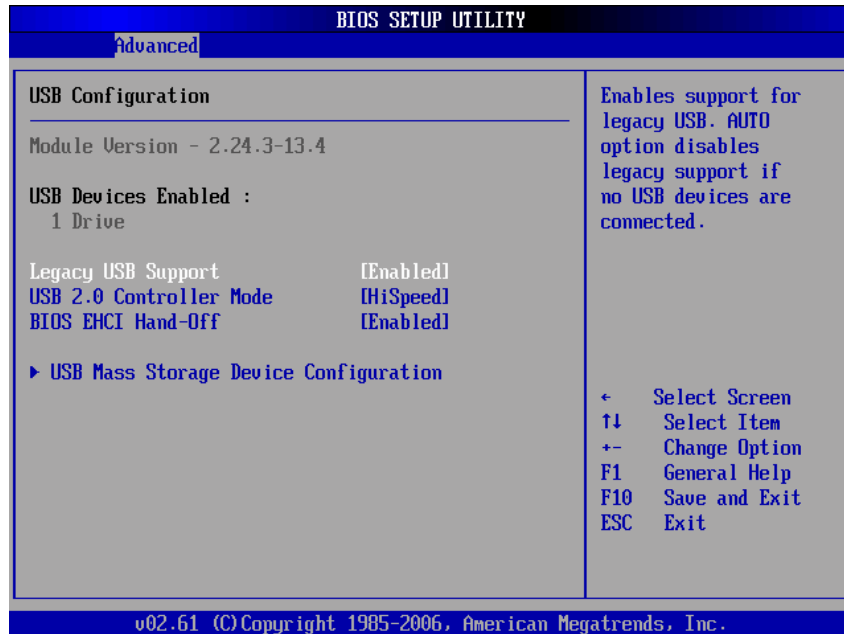
### SB PCIE Ports Configuration

Scroll to this item and press <Enter> to view the SB PCIE Ports Configuration sub menu, which contains several options for your configuration.



## 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.



### 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

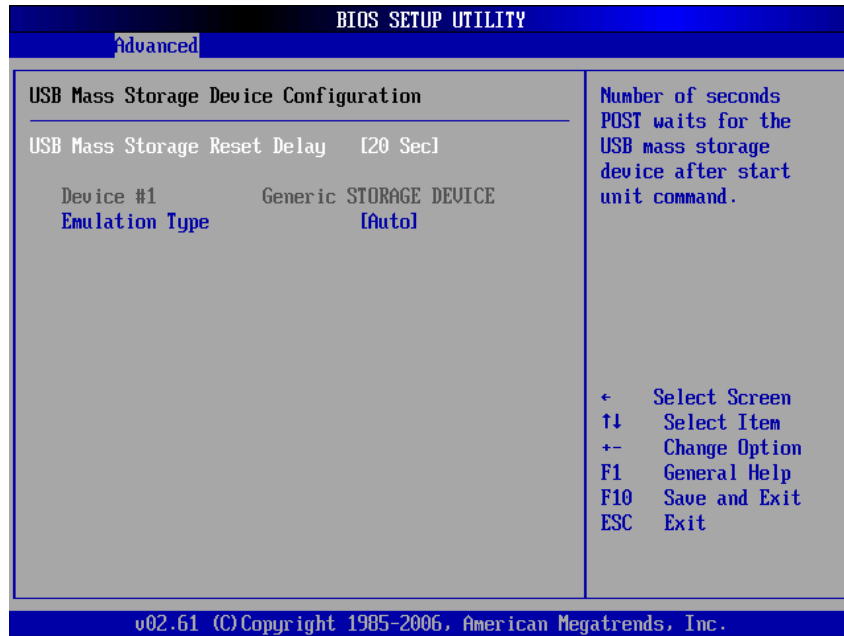
Use this item to configure the USB 2.0 controller. The default setting is *HiSpeed*.

### BIOS EHCI Hand-Off

Enabling this item provide the support for operating systems without an EHCI hand-off feature. The default setting is *Enabled*.

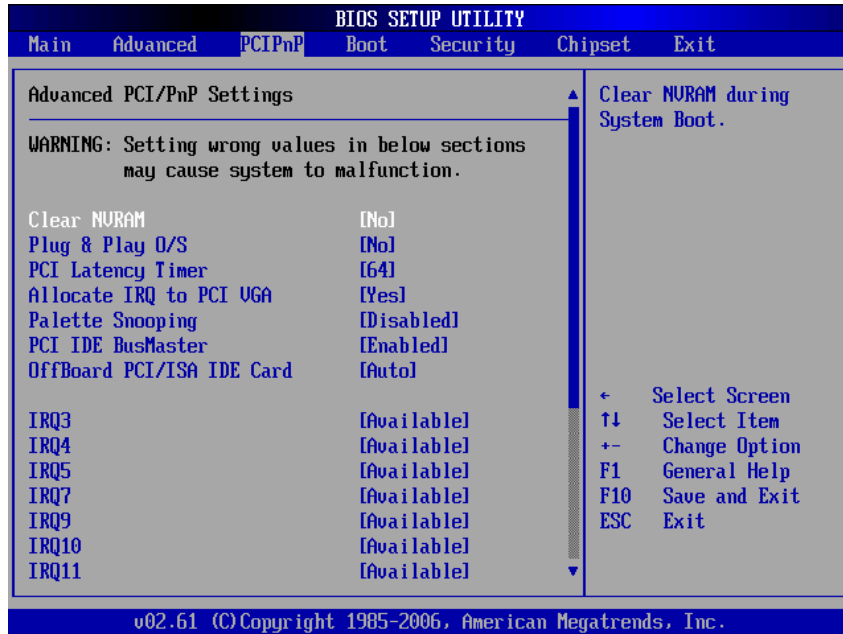
### USB Mass Storage Device Configuration

Scroll to this item and press <Enter> to view the USB Mass Storage Device Configuration sub menu, which contains several options for your configuration.

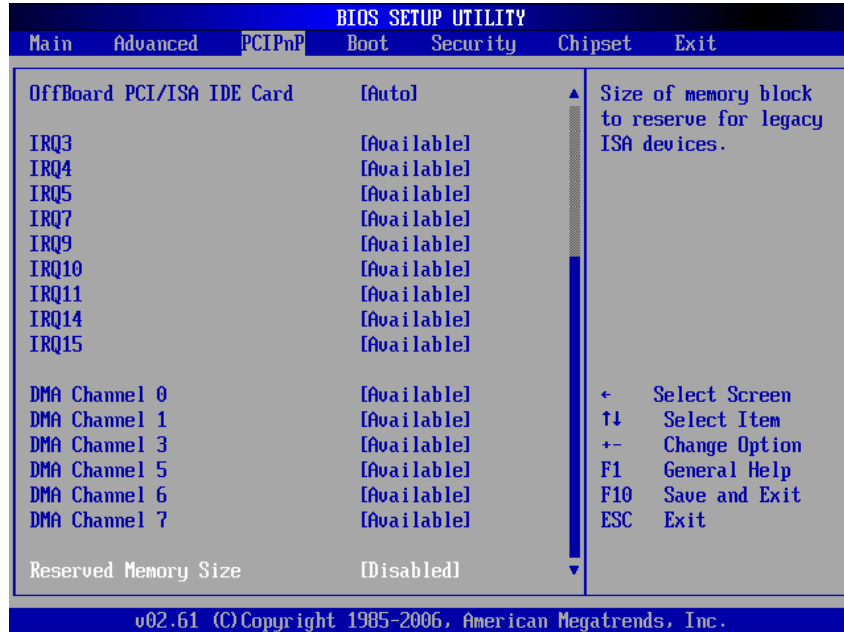


## 1.5 PCI PnP Menu

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



(1)



### 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*.



## 1.6 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



## Boot Settings Configuration

BIOS SETUP UTILITY	
Boot	
<b>Boot Settings Configuration</b>	
Quick Boot	[Enabled]
LAN1 Boot	[Disabled]
LAN2 Boot	[Disabled]
Quiet Boot	[Disabled]
AddOn ROM Display Mode	[Force BIOS]
Bootup Num-Lock	[On]
PS/2 Mouse Support	[Auto]
Wait For 'F1' If Error	[Enabled]
Hit 'DEL' Message Display	[Enabled]
<p>Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.</p>	
<p>← Select Screen            ↑↓ Select Item            +- Change Option            F1 General Help            F10 Save and Exit            ESC Exit</p>	
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

### Quick Boot

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

### LAN1/LAN2 Boot

Use these items to enable or disable the Boot ROM function of the onboard LAN chip when the system boots up.

### Quiet Boot

<b>Disabled</b>	Set this item to allow the computer system to display the POST messages.
<b>Enabled</b>	Set this item to allow the computer system to display the OEM logo. This is the default setting.

### 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' If Error

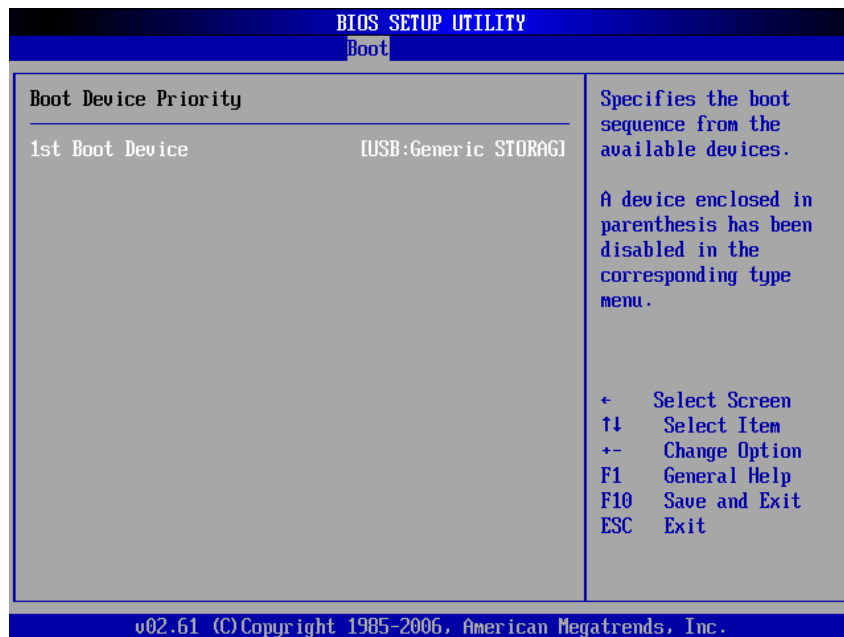
If this item is enabled, the system waits for the F1 key to be pressed when error occurs. The default setting is *Enabled*.

### 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*.

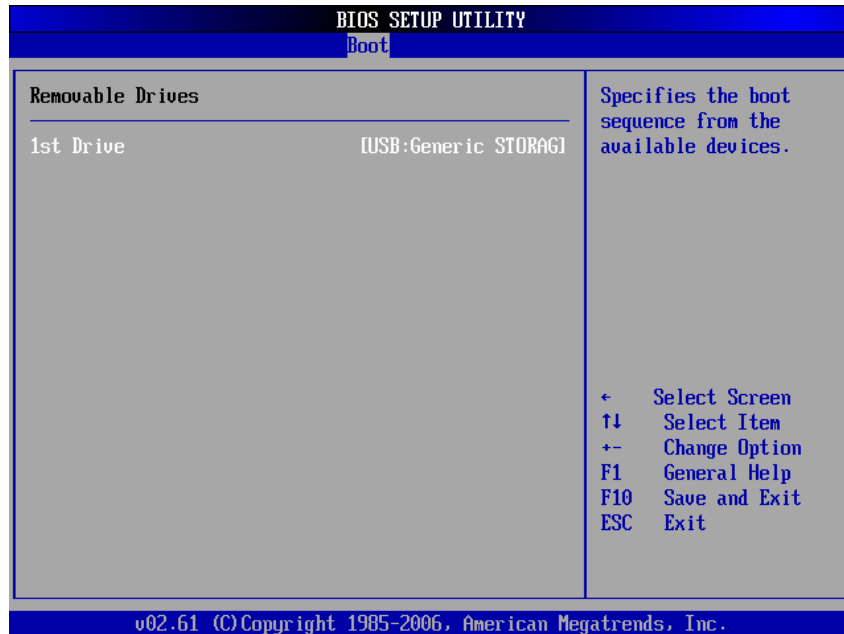
## Boot Device Priority

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



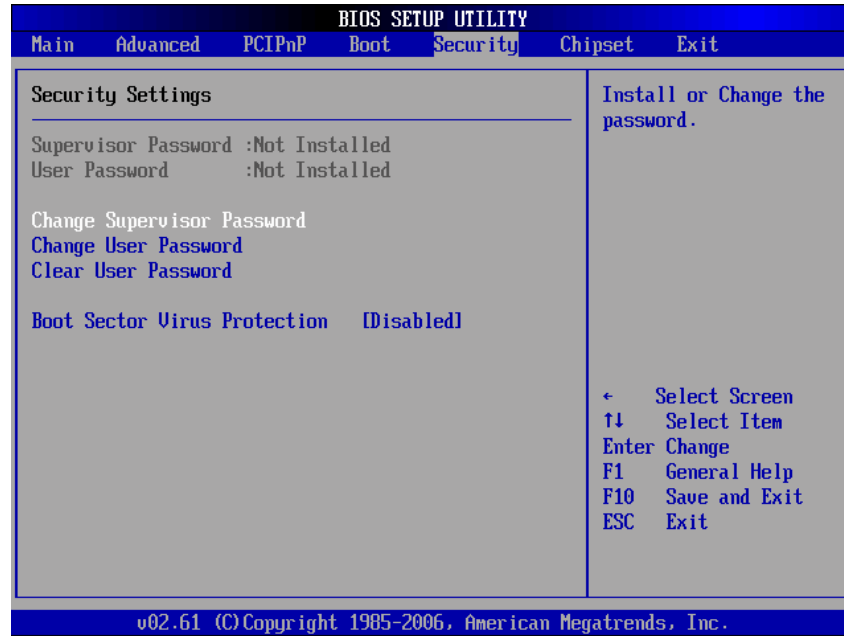
### Removable Drives

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.



## 1.7 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.

**Clear User Password**

Select this option and press <Enter> to access the sub menu. You can use the sub menu to clear the user password.

**Boot Sector Virus Protection**

This option is near the bottom of the Security Setup screen. The default setting is *Disabled*.

<b>Disabled</b>	Set this item to prevent the Boot Sector Virus Protection. This is the default setting.
<b>Enabled</b>	Select Enabled to enable boot sector protection. It displays a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. If enabled, the following appears when a write is attempted to the boot sector. You may have to type N several times to prevent the boot sector write. Boot Sector Write! Possible VIRUS: Continue (Y/N)? _ The following appears after any attempt to format any cylinder, head, or sector of any hard disk drive via the BIOS INT 13 Hard disk drive Service: Format!!! Possible VIRUS: Continue (Y/N)?

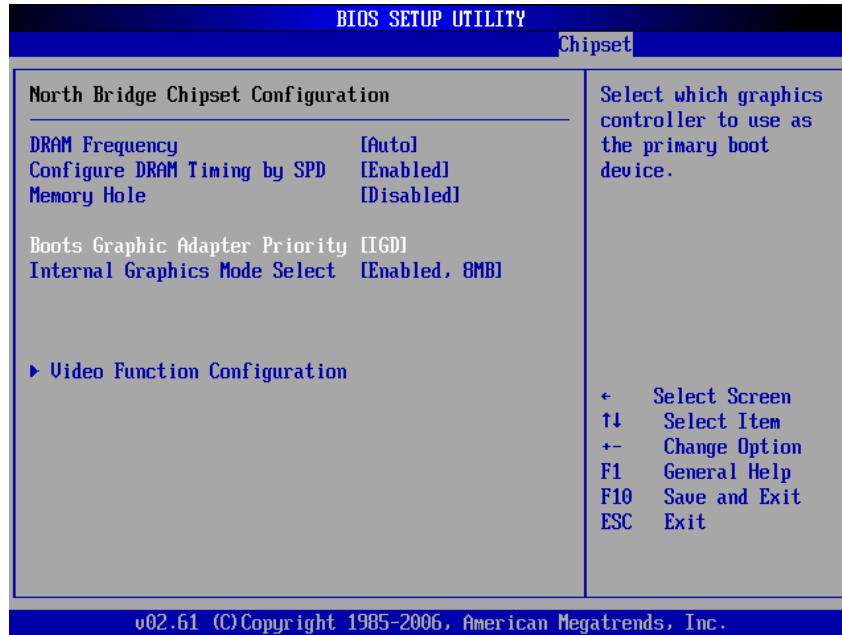
## 1.8 Chipset Menu

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



## North Bridge Configuration



### 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 of system memory for the memory requirements. Here are the options, *Disabled* and *15M-16M*.

### Boot Graphic Adapter Priority

This item allows you to select the graphics controller



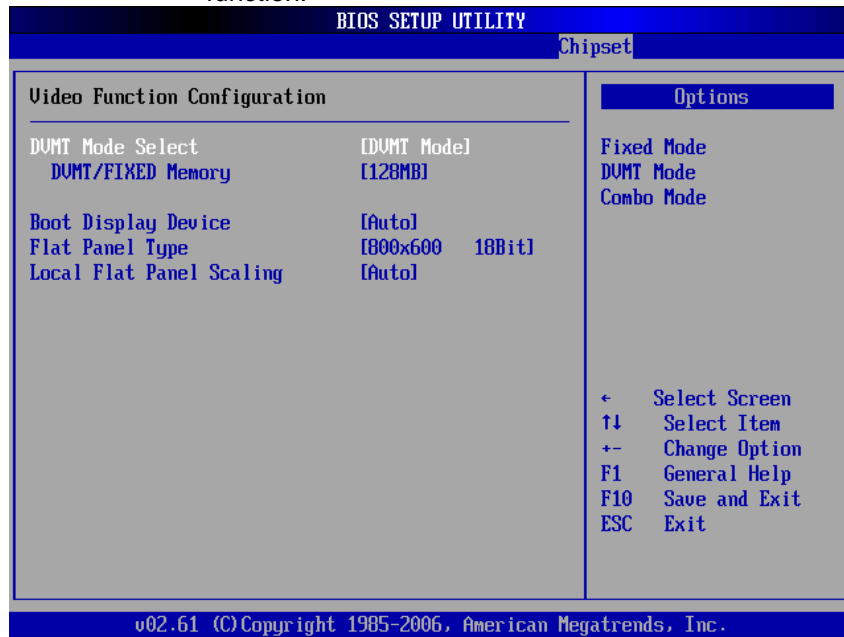
as the primary boot device.

### Internal Graphics Mode Select

This item allows you to select the amount of system memory used by the internal graphics device.

### Video Function Configuration

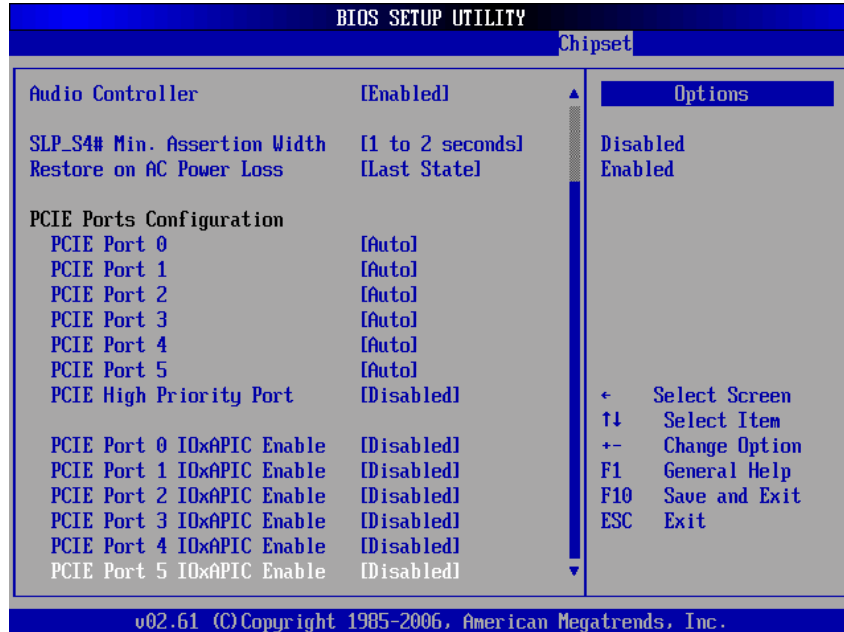
Press <Enter> for the sub-menu for setting up video function.



## South Bridge Configuration

BIOS SETUP UTILITY	
Chipset	
<b>South Bridge Chipset Configuration</b>	
USB Functions	[Enabled]
USB 2.0 Controller	[Enabled]
Audio Controller	[Enabled]
SLP_S4# Min. Assertion Width	[1 to 2 seconds]
Restore on AC Power Loss	[Last State]
<b>PCIE Ports Configuration</b>	
PCIE Port 0	[Auto]
PCIE Port 1	[Auto]
PCIE Port 2	[Auto]
PCIE Port 3	[Auto]
PCIE Port 4	[Auto]
PCIE Port 5	[Auto]
PCIE High Priority Port	[Disabled]
PCIE Port 0 IOxAPIC Enable	[Disabled]
PCIE Port 1 IOxAPIC Enable	[Disabled]
<b>Options</b>	
Disabled	
Enabled	
← Select Screen	
↑↓ Select Item	
+/- Change Option	
F1 General Help	
F10 Save and Exit	
ESC Exit	

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### USB Function

This item allows you to enable or disable USB function.

### USB 2.0 Controller

This item allows you to enable or disable the USB 2.0 controller.

### Audio Controller

This item allows you to enable or disable the audio support.

### SLP\_S4# Min. Assertion Width

This item allows you to set the SLP\_S4# Assertion Width.

### Restore on AC Power Loss

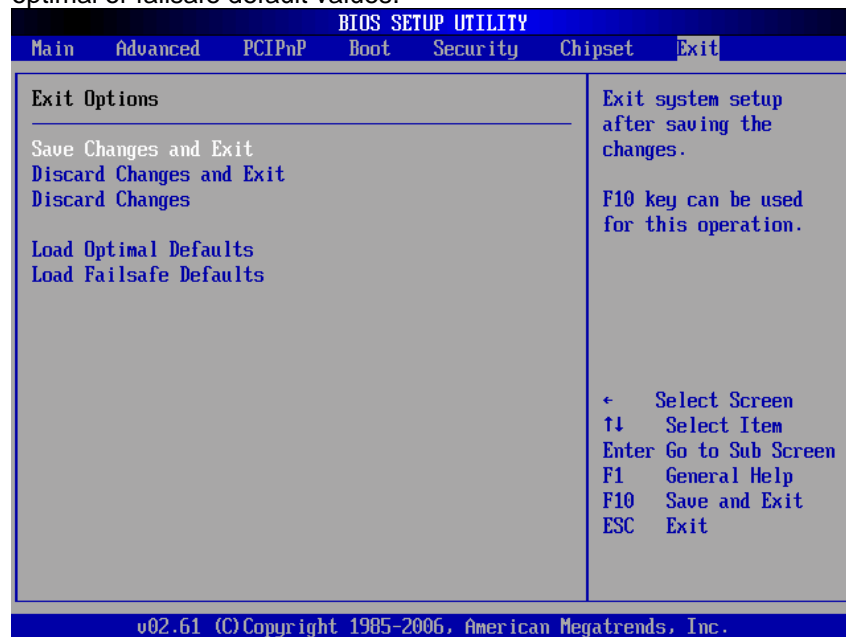
This item can control how the PC will behave once power is restored following a power outage, or other unexpected shutdown.

### PCIE Port Configuration

This item allows you to set or disable the PCI Express Ports.

## 1.9 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.

**Discard Changes**

Use this item to abandon all changes.

**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.

# 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

↓

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

↓

Set base timer :

O 2E F6  
O 2F M=00,01,02,...FF(Hex) ,Value=0 to 255

↓

; IF to disable WDT:

O 2E 30  
O 2F 00 ; Can be disable at any time

### Timeout Value Range

- .. 1 to 255
- .. Minute / Second

### Program Sample

O 2E 87	
O 2E 87	
O 2E 07	
O 2F 08	Logical Device 8
O 2E 30	Activate
O 2F 01	
O 2E F5	
O 2F N	Set Minute or Second N=08 (Min),00(Sec)
O 2E F6	
O 2F M	Set Value M = 00 ~ FF



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