

# USER'S MANUAL

**NA346 Series**

**Network Appliance**

**User's Manual**



[www.axiomtek.com](http://www.axiomtek.com)

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**July 2020, Version A2**

**Printed in Taiwan**

## Safety Approvals

- ◆ CE Marking
- ◆ FCC Class B

### ◆ FCC Compliance

This equipment has been tested and complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. If not installed and used in accordance with proper instructions, this equipment might generate or radiate radio frequency energy and cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

## Safety Precautions

Before getting started, read the following important cautions.

1. Be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
2. Disconnect the power cords from the **NA346** before making any installation. Be sure both the system and the external devices are turned OFF. A sudden surge of power could ruin sensitive components. Make sure the **NA346** is properly grounded.
3. Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
  - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity in your body.
  - When handling boards and components, wear a wrist-grounding strap, available from most electronic component stores.

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# Section 1

## Introduction

This chapter contains general information and detailed specifications of the NA346 Series Network Appliance Server. It contains the following sections:

- **General Description**
- **Features**
- **Specifications**
- **Dimensions and Outlines**
- **I/O Outlets**

### 1.1 General Description

The NA346 is a compact desktop network security hardware platform for VPN, firewall and other network security applications, which can support Intel® Apollo Lake processor. This platform supports one DDR3L-1866 SO-DIMM slot with maximum of up to 8GB memory. In the meantime, the platform also can support four gigabit Ethernet ports which can provide the best throughput. For storage, it also provides two mSATA SSD drive. This platform can be easily enabled through application programs to make a user-friendly appliance for customers, and provide the highest ever performance of encryption and decryption.

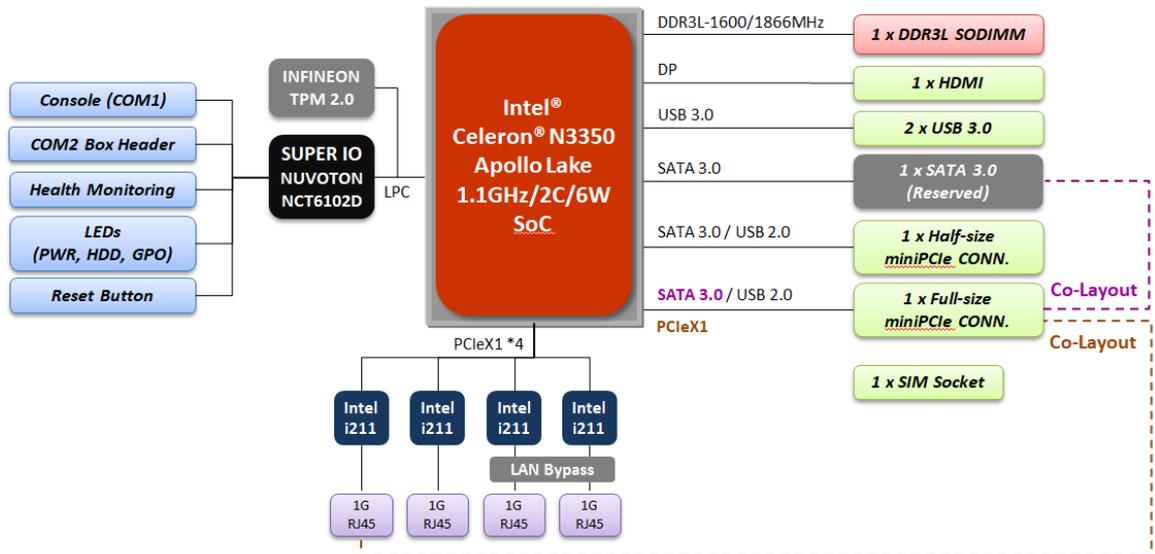
### 1.2 Features

NA346 series supports Intel® Apollo Lake processor, has compact size design' high compatibility, and low power for network security field application.

- **Intel® Apollo Lake Processor**
- **Supports up to 8GB DDR3L-1866 SO-DIMM system memory**
- **Supports up to four 10/100/1000 Mbps Ethernet ports**
- **Supports two mini-PCIe slot for Wireless/3G/LTE and mSATA**
- **Supports console redirection to COM port**
- **Supports Windows 10 and Linux operating systems**

## 1.3 Specifications

### 1.3.1 Block Diagram



### 1.3.2 Specifications

<b>Model</b>	NA346
<b>SBCs</b>	SBC8A346
<b>Form Factor</b>	Desktop
<b>Chassis</b>	Steel
<b>Material</b>	
<b>Chipset</b>	N/A
<b>Processor/Cac he</b>	Intel® Celeron® N3350 1.1GHz/2C/2M/6W
<b>BIOS</b>	AMI 128Mbits PnP Flash BIOS with function of BIOS redirected to COM port
<b>System Memory</b>	1 x DDR3L SO-DIMM socket, up to 8GB none-buffer none-ECC / ECC, up to 1866MHz
<b>Super I/O</b>	Controller: NCT6102D LQFP128 NUVOTON Detection of CPU temperature, system temperature, power failure
<b>Graphic</b>	Intel® HD Graphics 505 Integrated
<b>Storage</b>	1 x mini-PCIe socket for mSATA (Half Type) 1 x mini-PCIe socket for mSATA (Full Type) 1 x SATA3.0 connector (Reserved layout only, SATA signal co-layout with Full-size miniPCIe slot)
<b>Ethernet</b>	4 x 1GbE RJ45 (Intel® i211AT) (One pairs LAN bypass for optional, Eth1 and Eth2)
<b>System I/O</b>	4 x 1GbE RJ45 1 x Console port (RJ45 type, follow Cisco pin define) 2 x USB 3.0 ports 1 x HDMI 1.4b (3840x2160) 1 x Reset button. 1 x GPI button 1 x 4 (POWER ,HDD, Lan bypass LED, GPIO LED)
<b>Board Connectors</b>	1 x COM2 box header (Reserved for RS232/RS422/RS485) 1 x SIM Socket 1 x SATA 3.0 connector (Reserved only)
<b>Expansion slot</b>	1 x Half-size miniPCIe slot with SATA/USB signal 1 x Full-size miniPCIe slot with SATA/USB signal (PCIe signal for optional, PCIeX1 co-layout with Eth4)
<b>Power</b>	12V/5A 36W Adaptor with screw type
<b>PCBA Dimensions</b>	130 x 113mm
<b>System Dimensions</b>	33.5mm (1.32") (H) x 146mm (5.75") (W) x 118.2mm (4.65") (D)
<b>Weight (Net/ Gross)</b>	0.616 kg / 1.3 kg
<b>Form Factor</b>	Small Fanless chassis , support Wall-mount kit(option)
<b>Other</b>	4 x hole for Wireless/LTE Easy to install DDR and storage
<b>Certifications</b>	CE/FCC Class B

<b>OS</b>	Linux kernel (Ubuntu 15.10/Fedora 23/Yocto 64 bit/Centos6.9&7.3/FreeBSD or latest version)
<b>Environmental</b>	Operating temperature: 0°C ~ 60°C
<b>I</b>	Storage temperature: -20°C ~ 70°C 10% ~ 90% non-condensing

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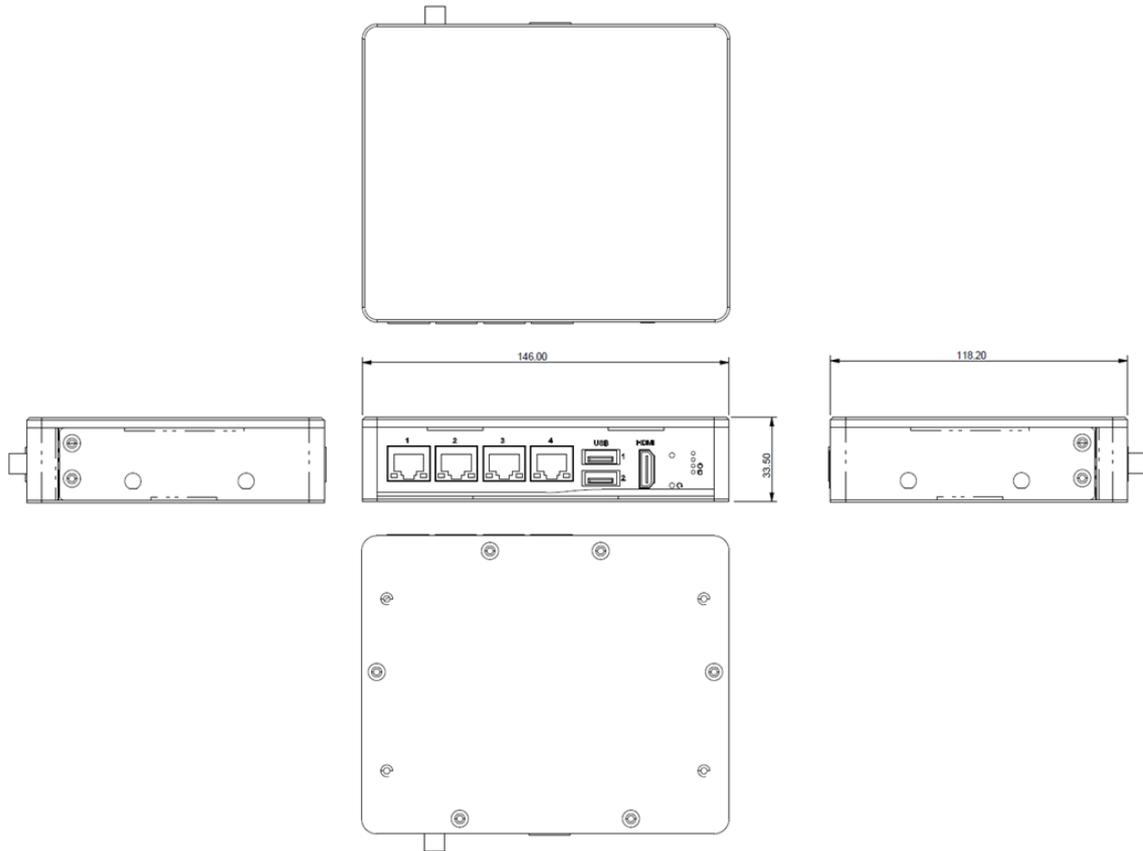


**NOTE:** All specifications and images are subject to change without notice.

## 1.4 Dimensions and Outlines

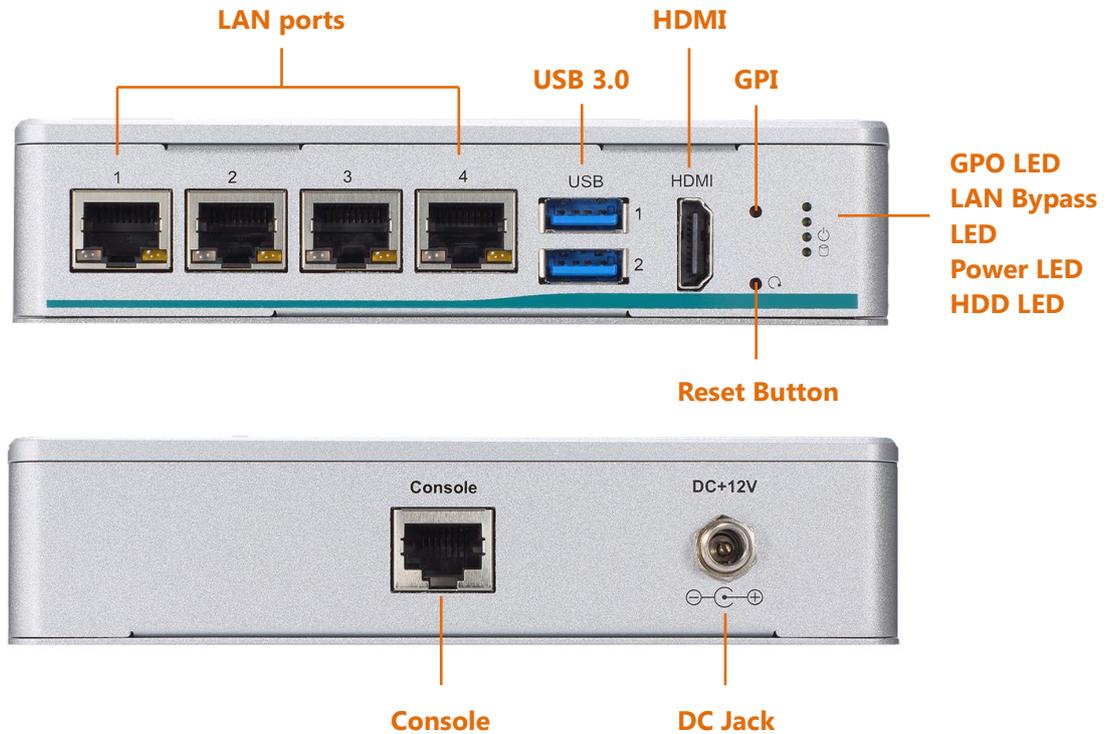
The following diagram shows you dimensions and outlines of the NA346 Series.

Unit: mm



## 1.5 I/O Outlets

Locate front and rear panel I/O outlets on the NA346 Series server to connect serial and Ethernet interface devices.



- Power LED**  
 It will be lighting when the server is powered on to perform diagnostic tests and check a proper operation.
- HDD LED**  
 The LED flashes when transmitting or receiving any signals.
- Programmable LED**  
 A sample code will be provided that allow users to define their own function.



**NOTE:** *If you need sample codes, please contact our FAE directly, and they are for reference purposes only.*

- **LAN Bypass LED**  
While running the LAN Bypass function, the LED always lights up.
- **Reset**  
It is for reset the system to reboot 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.
- **Tact Switch (GPI)**  
The sample code will be provided that allows users to define their own function. For example, when the system has any problems, this switch can support to reset it to the customer's OS default settings if our customer's OS supports this application.



**NOTE:** *If you need sample codes, please contact our FAE directly, and they are for reference purposes only.*

- **Active LED (Single color) for LAN port #1, port#2, port#3, port#4**
  1. The orange LED is on when the LAN port connection is working.
  2. The LED flashes when transmitting or receiving any signals to or from the appliance.
  3. The LED is dark when the appliance is off.
- **Link LED for LAN port #1, port#2, port#3, port#4**
  1. The double-color LED light indicates 10/100/1000Mbps transfer rate.
  2. When the amber-color LED light is radiating, it should be 1000Mbps transfer rate at this moment.
  3. When the green-color LED light is radiating, it should be 100Mbps transfer rate at this moment.
  4. If the LED is dark and Link/Active LED is light on or flashing, it should be 10Mbps transfer rate.
  5. When this LED and Link/Active LED both are dark. No networking devices are attached.

Transfer Rate	LED Light Color
10Mbps	Dark
100Mbps	Green
1000Mbps	Amber

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# Section 2

## Hardware and Installation

The NA346 Series are convenient for your various hardware configurations. This chapter will help you get familiar with the hardware.

### 2.1 Check List

The package bundled with your NA346 Series should contain the following items:

- **1 x The NA346 Series network appliance hardware platform**
- **1 x Power cord**
- **1 x Adapter**
- **4 x Plastic stand for stack-up**

If you cannot find this package or any items are missing, please contact Axiomtek distributors immediately. If you order any optional components, the package might contain those additional hardware or documents accordingly.

## 2.2 Memory Module (SO-DIMM)

The main board supports one DDR3L-1866 SO-DIMM slot with maximum of up to 8GB non-ECC memory.

The following steps show you how to install the memory modules:

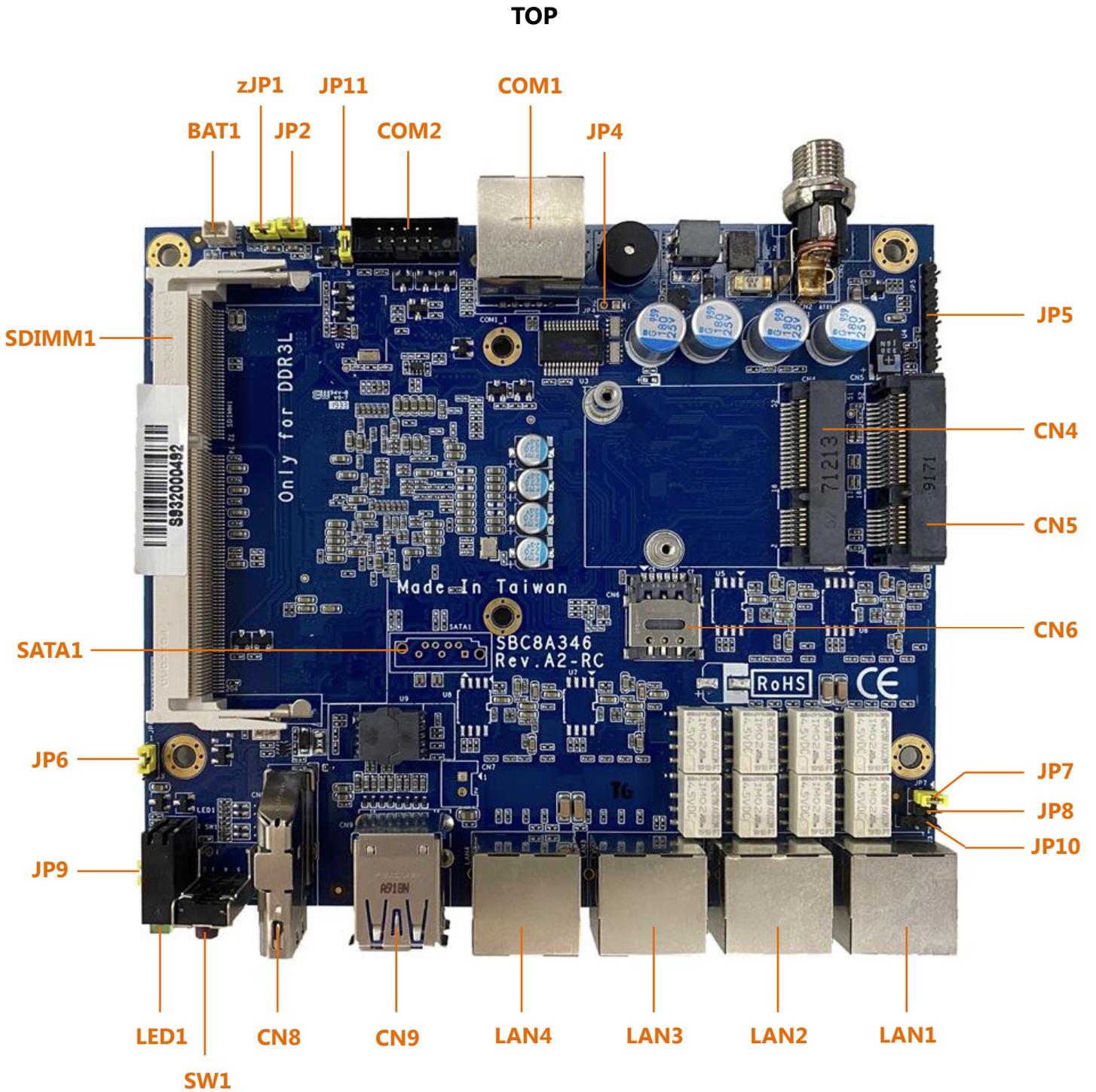
1. Push down each side of the SO-DIMM slot.
2. Align the memory module with the slot that the notches of memory module must match the slot keys for a correct installation.



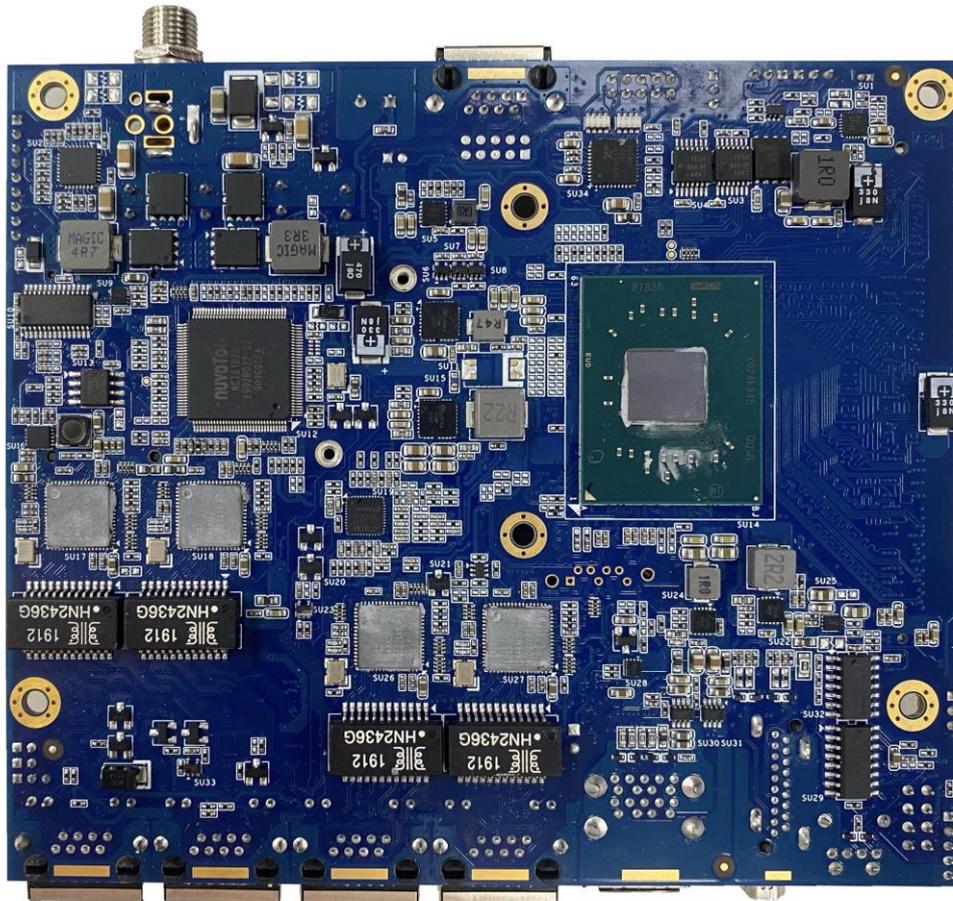
3. Install the memory module into the slot and push it firmly down until it is fully seated. The slot latches are levered upwards and clipped onto the edges of the DIMM.
4. Install any remaining SO-DIMM modules.



## 2.3 Board Layout

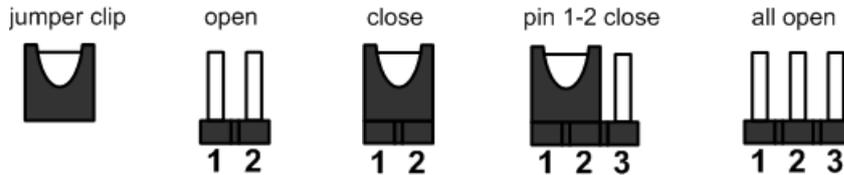


## BOTTOM



## 2.4 Jumper Settings

Jumper is a small component consists of jumper clip and jumper pins. Install jumper clip on 2 jumper pins to close. And remove jumper clip from 2 jumper pins to open. Below illustration shows how to set up jumper.

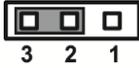


This section provides the information about jumpers and connectors of NA346 Series. Properly configure jumper settings on the main board in this appliance to meet your application purpose. Below we list a summary table of all jumpers and default settings for onboard devices.

Jumper	Definition	Jumper Settings	Function
JP1 JP2	RTC Well Reset & Restore BIOS optional defaults	Short (1-2)	Normal (Default)
		Short (2-3)	RTC Well Reset & Restore BIOS optional defaults
JP6	Reserved	Short (1-2)	Default
JP9	TACT SW1 Lower Button Function Selection	Short (1-2)	Power button On/Off
		Short (2-3)	Reset (Default)
		Short (4-5)	GPI
JP7/JP8	LAN By-Pass Trigger 1/2	Short/Open	LAN1 & LAN2 Bypass Trigger 1 : GPO Low Level (By Pass Enable) (Default)
		Open/Short	LAN1 & LAN2 Bypass Trigger 2 : GPO High Level (By Pass Disable)
JP10	LAN By-Pass Function	Short (1-2)	LAN5 & LAN6 By Pass Always Disable
		Short (2-3)	LAN5 & LAN6 By Pass Always Enable
		Open	LAN1 & LAN2 Bypass control by JP7 or JP8 or WDT(appendix A) (Default)

### 2.4.1 RTC/CMOS Clear Jumper (JP1 & JP2)

Use this jumper to erase and restore CMOS memory and BIOS setting. Put jumper clip to pin 2-3 for a few seconds then move it back to pin 1-2. By doing this procedure CMOS data resets to its safe default settings.

Description	Function	Jumper Setting
RTC/COMS Clear	Normal (Default)	 3 2 1 JP1&2
	Clear RTC/CMOS	 3 2 1 JP1&2

### 2.4.2 LAN Bypass Control Selection Jumper (JP7, JP8, JP10)

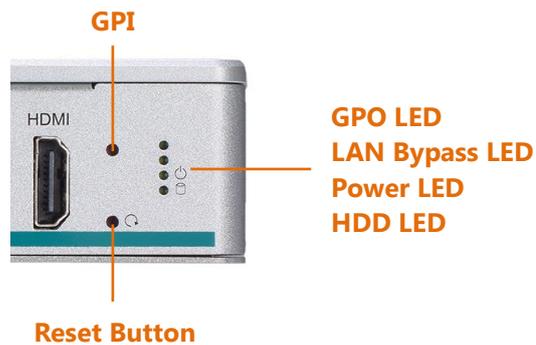
Description	Function	Jumper Setting
LAN Bypass Trigger when Power On	LAN bypass control by HW, always disable	 JP10 1 2 3  JP7 1 2  JP8 1 2
	LAN bypass control by HW, always enable	 JP10 1 2 3  JP7 1 2  JP8 1 2
	LAN bypass control by SW, default enable (Low Level GPO)	 JP10 1 2 3  JP7 1 2  JP8 1 2
	LAN bypass control by SW, default disable (High Level GPO) (Default)	 JP10 1 2 3  JP7 1 2  JP8 1 2



**Note:** If the jumper setting is "Low Level GPO", LAN Bypass function will still be started even when power supply is normally input. The default setting is "High Level GPO" that LAN Bypass function is not working when power supply is normally input.

### 2.4.3 TACT SW1 Function Selection Jumper (JP9)

Description	Function	Jumper Setting										
TACT SW1 Lower Button Function Selection	Power On/Off	<table style="border: 1px solid black; width: 100px; text-align: center;"> <tr><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr> <td style="border: 1px solid black;">□</td> <td style="border: 1px solid black;">□</td> <td style="border: 1px solid black;">□</td> <td style="border: 1px solid black;">■</td> <td style="border: 1px solid black;">■</td> </tr> </table>	5	4	3	2	1	□	□	□	■	■
	5	4	3	2	1							
	□	□	□	■	■							
Reset (Default)	<table style="border: 1px solid black; width: 100px; text-align: center;"> <tr><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr> <td style="border: 1px solid black;">□</td> <td style="border: 1px solid black;">□</td> <td style="border: 1px solid black;">■</td> <td style="border: 1px solid black;">■</td> <td style="border: 1px solid black;">■</td> </tr> </table>	5	4	3	2	1	□	□	■	■	■	
5	4	3	2	1								
□	□	■	■	■								
GPI	<table style="border: 1px solid black; width: 100px; text-align: center;"> <tr><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr> <td style="border: 1px solid black;">■</td> <td style="border: 1px solid black;">■</td> <td style="border: 1px solid black;">□</td> <td style="border: 1px solid black;">□</td> <td style="border: 1px solid black;">■</td> </tr> </table>	5	4	3	2	1	■	■	□	□	■	
5	4	3	2	1								
■	■	□	□	■								



**Note:** If you need GPI sample codes, please contact our FAE directly, and they are for reference purposes only.

## 2.5 Connectors

Signals go to other parts of the system through connectors. Loose or improper connection might cause problems, please make sure all connectors are properly and firmly connected. Here is a summary table which shows all connectors on the hardware.

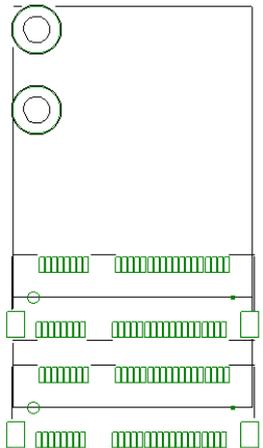
Connectors	Label
DC Jack for 12VDC Power Input	CN3
Serial Port1 for Console (RJ-45 connector)	COM1
Battery Connector	BAT1
DDR3L SODIMM Socket	SDIMM1
HDMI output Connector	CN8
USB3.0 *2 Connector	CN9
LAN connector	LAN1~LAN4
Mini PCIe full connector (SATA(default)/PCIE/USB, SIM signal)	CN5
Mini PCIe half connector (SATA/USB signal)	CN4
Nano SIM card slot	CN6
Serial Port2 with RS232/422/485 Box Header (Optional)	COM2

### 2.5.1 Mini PCIe full & half connector (CN4/CN5)

The CN4 is mini PCIe half, it supports SATA/USB2.0 single.

The CN5 is mini PCIe full, it supports SATA/USB2.0 single and PCIe for optional, with SIM slot CN6

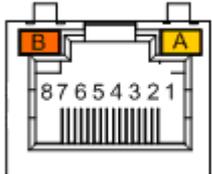
Pin	Signal	Pin	Signal
1	PCIE_WAKE0_N	2	+3.3VSB
3	No use	4	Ground (GND)
5	No use	6	+1.5V
7	No use	8	SIM_PWR
9	Ground (GND)	10	SIM_DATA
11	PCIE_CLK-	12	SIM_CLK
13	PCIE_CLK+	14	SIM_REST
15	Ground (GND)	16	SIM_VPP
17	No use	18	Ground (GND)
19	No use	20	No use
21	Ground (GND)	22	PLTRST_N
23	PCIE0_RN/SATA1_RP	24	+3.3VSB
25	PCIE0_RP/SATA1_RN	26	Ground (GND)
27	Ground (GND)	28	+1.5V
29	Ground (GND)	30	SMB_CLK
31	PCIE0_TN/SATA1_TN	32	SMB_DATA
33	PCIE0_TP/SATA1_TP	34	Ground (GND)
35	Ground (GND)	36	USB_D-
37	Ground (GND)	38	USB_D+
39	+3.3VSB	40	Ground (GND)
41	+3.3VSB	42	No use
43	Ground (GND)	44	No use
45	No use	46	No use
47	No use	48	+1.5V
49	No use	50	Ground (GND)
51	No use	52	+3.3VSB



The diagram shows a side view of a Mini PCIe connector. It features two circular pins at the top, followed by a series of rectangular pins. The pins are color-coded: green for power and ground, and blue for data and control signals. The diagram illustrates the physical layout of the connector, corresponding to the pin numbers and signals listed in the table.

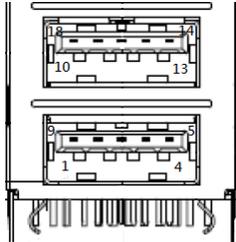
### 2.5.2 LAN Port (LAN1~LAN4)

Pin	Signal	Pin	Signal
1	MDI0+	5	MDI2+
2	MDI0-	6	MDI2-
3	MDI1+	7	MDI3+
4	MDI1-	8	MDI3-
A	100 LAN LED (Green)/ 1000 LAN LED (Amber)		
B	Active LED (Orange)		



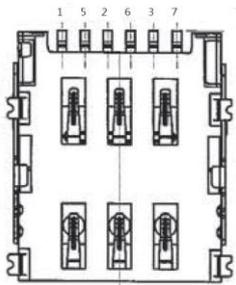
### 2.5.3 USB3.0 Port0 ~ Port1 Connector (CN9)

Pin	Signal	Pin	Signal
1	USB_POWER	2	USBP0N
3	USBP0P	4	Ground (GND)
5	SSRX0N	6	SSRX0P
7	Ground (GND)	8	SSTX0N
9	SSTX0P	10	USB_POWER
11	USBP1N	12	USBP1P
13	Ground (GND)	14	SSRX1N
15	SSRX1P	16	Ground (GND)
17	SSTX1N	18	SSTX1P



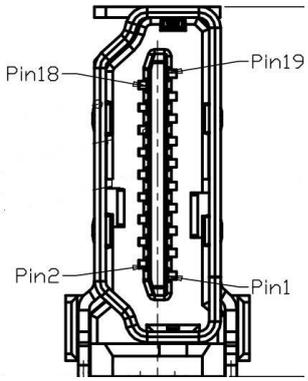
### 2.5.4 Nano SIM card slot (CN6)

Pin	Signal
1	SIM_PWR
2	SIM_REST
3	SIM_CLK
5	Ground (GND)
6	SIM_VPP
7	SIM_DATA



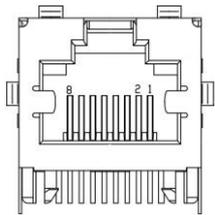
### 2.5.5 HDMI (CN8)

Pin	Signal	Pin	Signal
1	HDMI_DATA2+	2	GND
3	HDMI_DATA2-	4	HDMI_DATA1+
5	GND	6	HDMI_DATA1-
7	HDMI_DATA0+	8	GND
9	HDMI_DATA0-	10	HDMI_CLK+
11	GND	12	HDMI_CLK -
13	NC	14	NC
15	HDMI_SCL	16	HDMI_SDA
17	GND	18	+5V
19	HDMI_HTPLG		



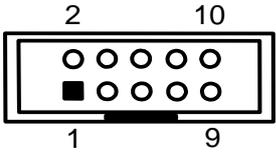
### 2.5.6 Serial Port1 (For Console) (COM1)

Pin	Signal	Pin	Signal
1	RTS1	2	DTR1
3	TXD1	4	GND
5	GND	6	RXD1
7	DSR1	8	CTS1



### 2.5.7 Serial Port2 (COM2 for Optional)

Pin	RS-232	RS-422	RS-485
1	DCD2	TX-	Data-
2	DSR2	NC	NC
3	RXD2	TX+	Data+
4	RTS2	NC	NC
5	TXD2	RX+	NC
6	CTS2	NC	NC
7	DTR2	RX-	NC
8	RI2	NC	NC
9	GND	GND	GND
10	NC	NC	NC



**2x5 Box header**  
**Pitch = 2.0**

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## Section 3

# AMI BIOS Setup Utility

The AMI BIOS provides users with a built-in setup program to modify basic system configuration. All configured parameters are stored in a battery-backed-up RAM (CMOS RAM) to save the setup information whenever the power is turned off. This chapter provides users with detailed description about how to set up basic system configuration through the AMI BIOS setup utility.

### 3.1 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.

### 3.2 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>, <F2>, <Enter>, <ESC>, <Arrow> keys, and so on.



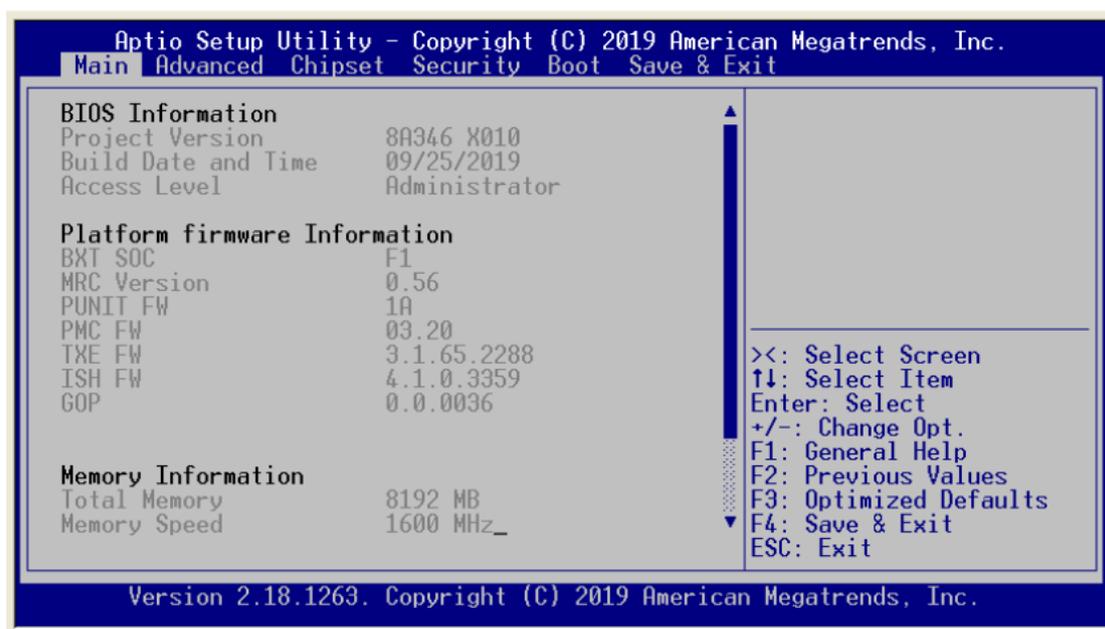
**Note:** Some of the navigation keys differ from one screen to another.

Hot Keys	Description
→← Left/Right	The Left and Right <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.
F2	The <F2> key allows you to load previous values.
F3	The <F3> key allows you to load optimized defaults.
F4	The <F4> key allows you to save any changes you have made and exit setup. Press the <F4> 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.

### 3.3 Main Menu

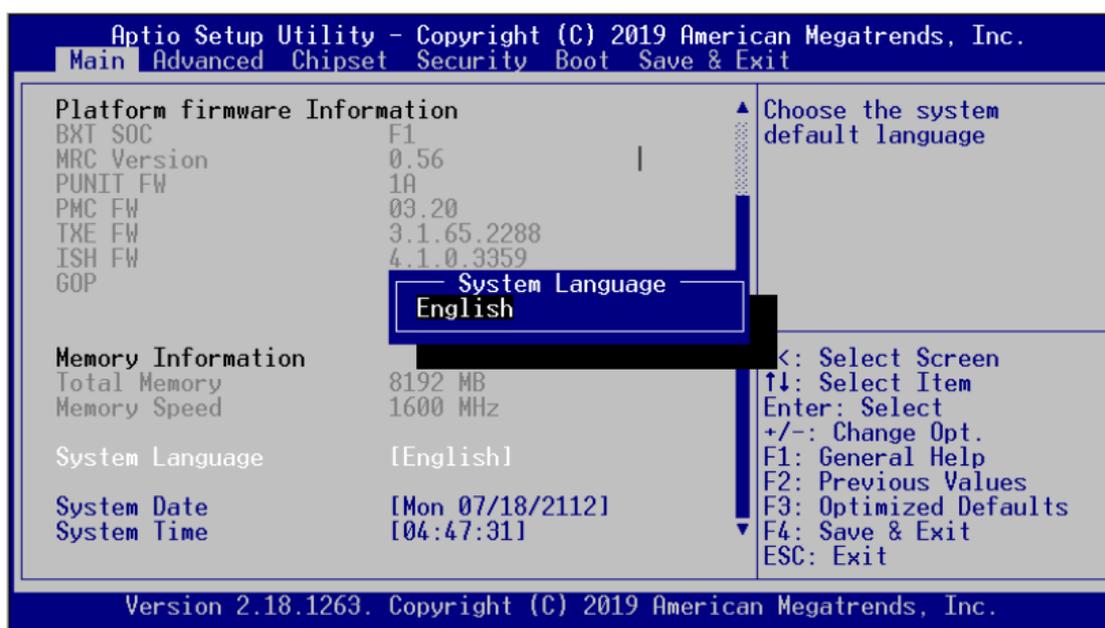
When you first enter the setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.

- ◆ System Language
- ◆ System Date/Time



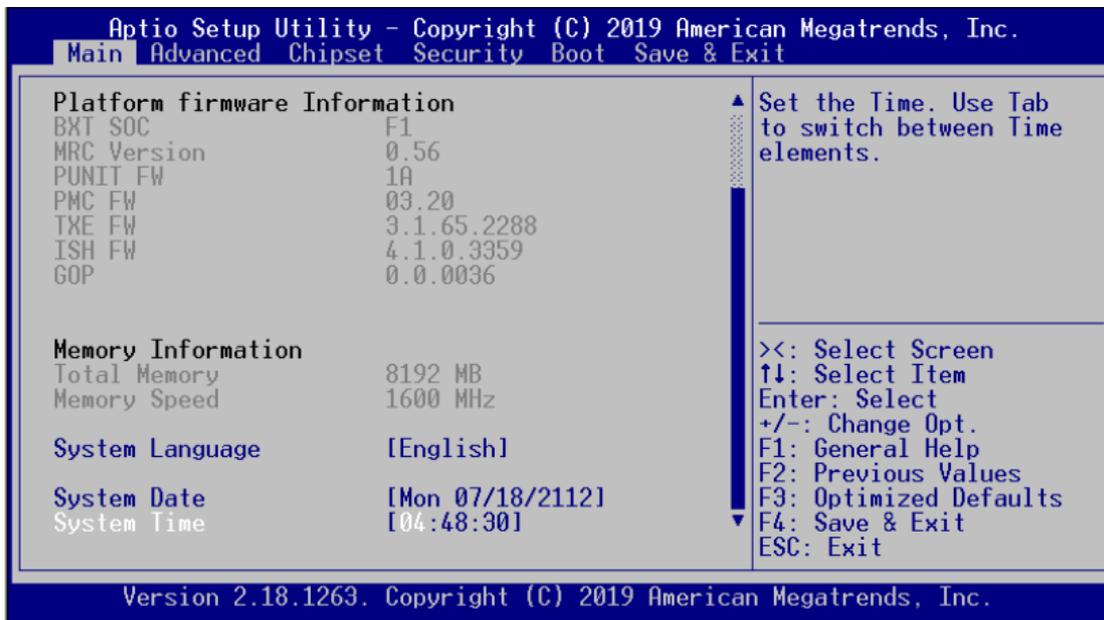
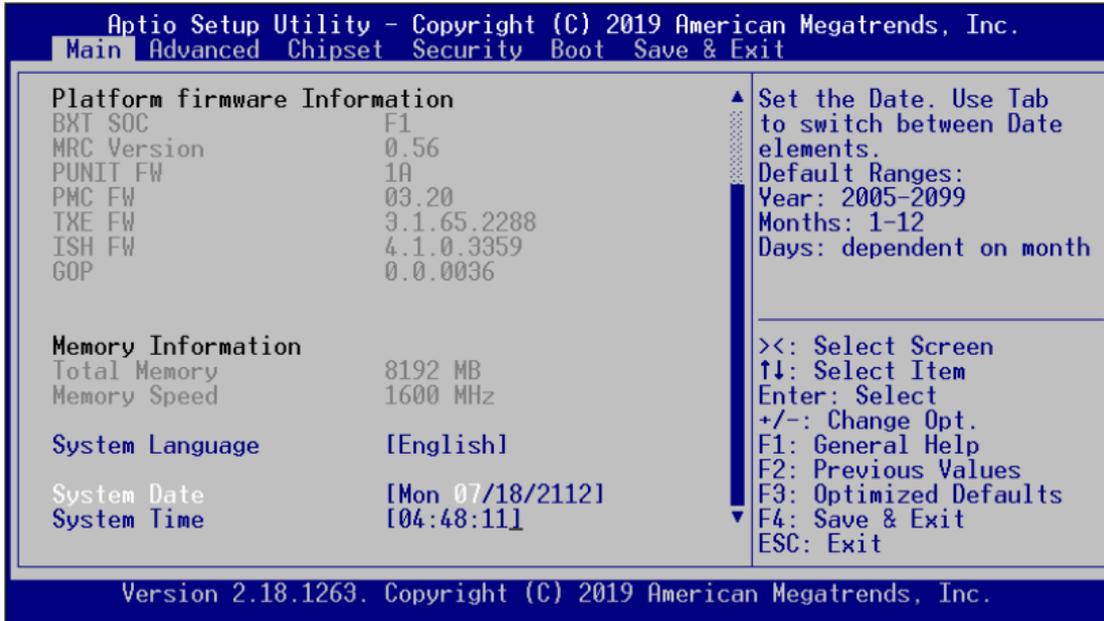
- **System Language**

Use this item to choose the BIOS language.



● **System Date/Time**

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.

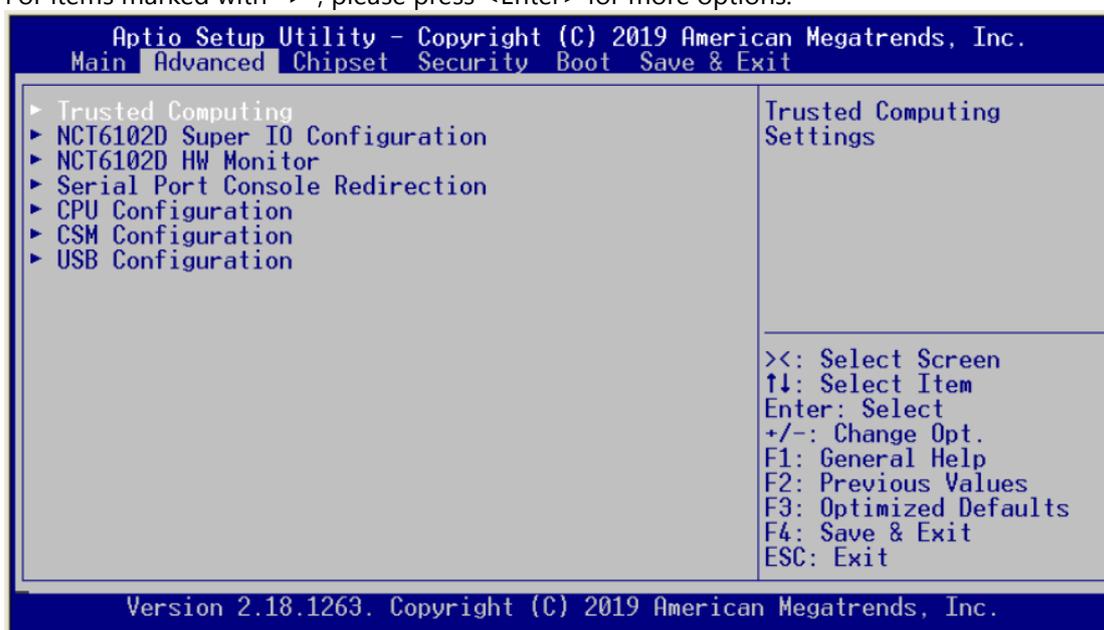


### 3.4 Advanced Menu

The Advanced menu also 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:

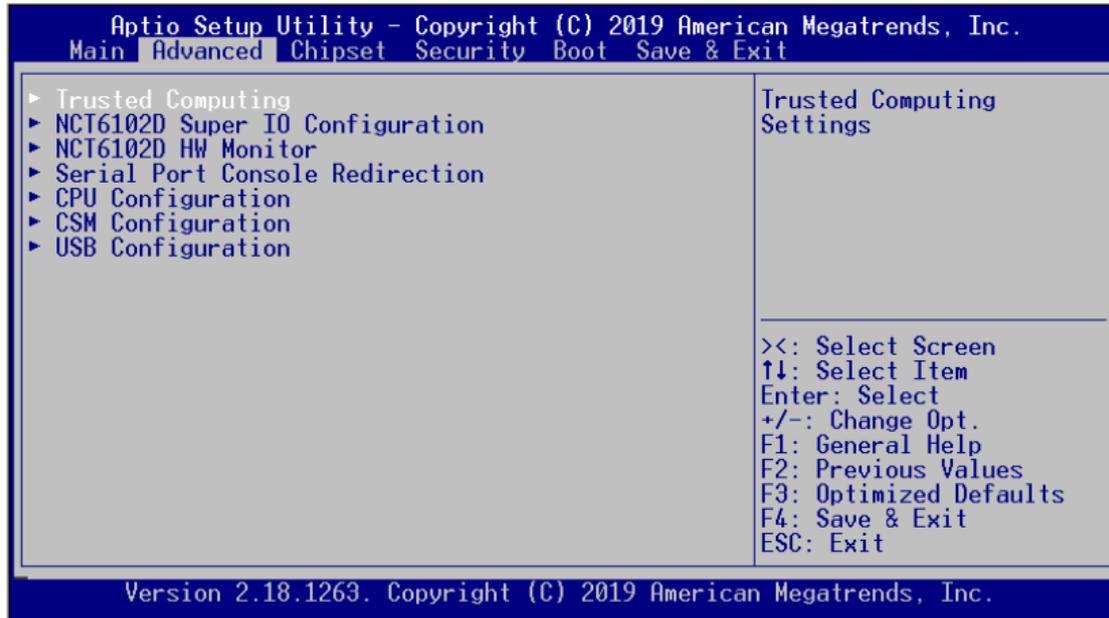
- Trusted Computing
- NCT6102D Super IO Configuration
- NCT6102D HW Monitor
- Serial Port Console Redirection
- CPU Configuration
- CSM Configuration
- USB Configuration

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



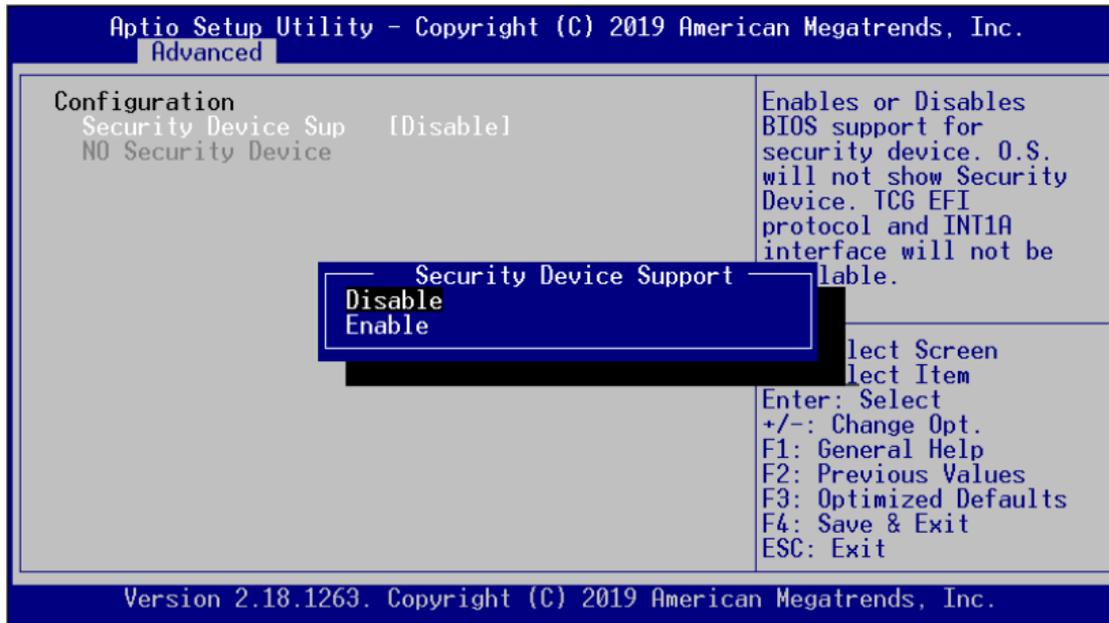
- **Trusted Computing**

This screen provides the function for specifying the TPM settings.



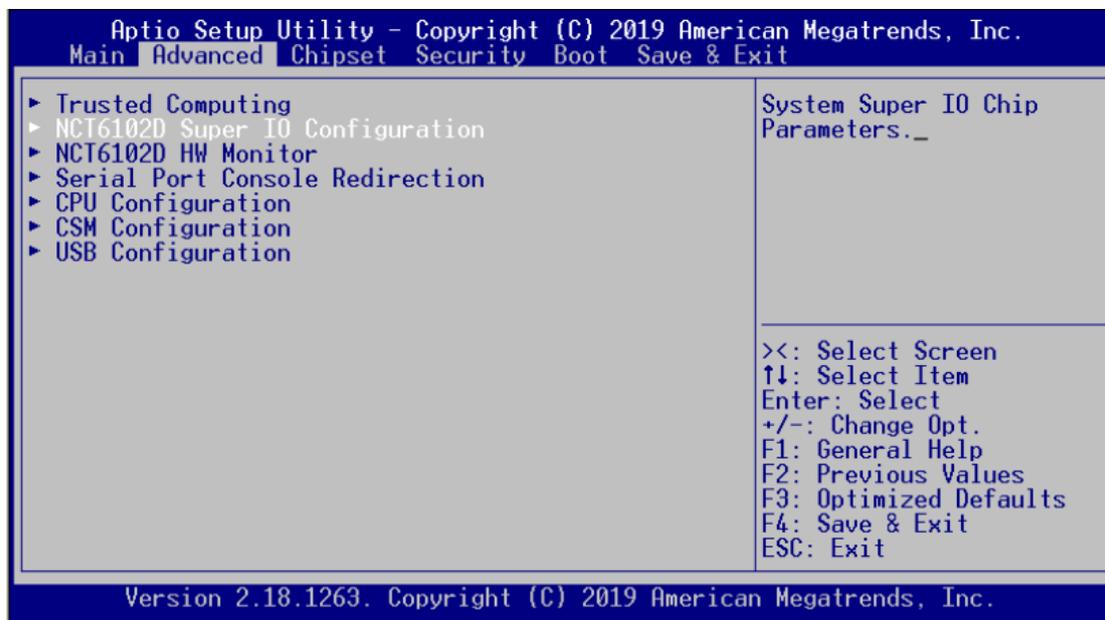
**Configuration**

Use this item to enable or disable control TPM function.



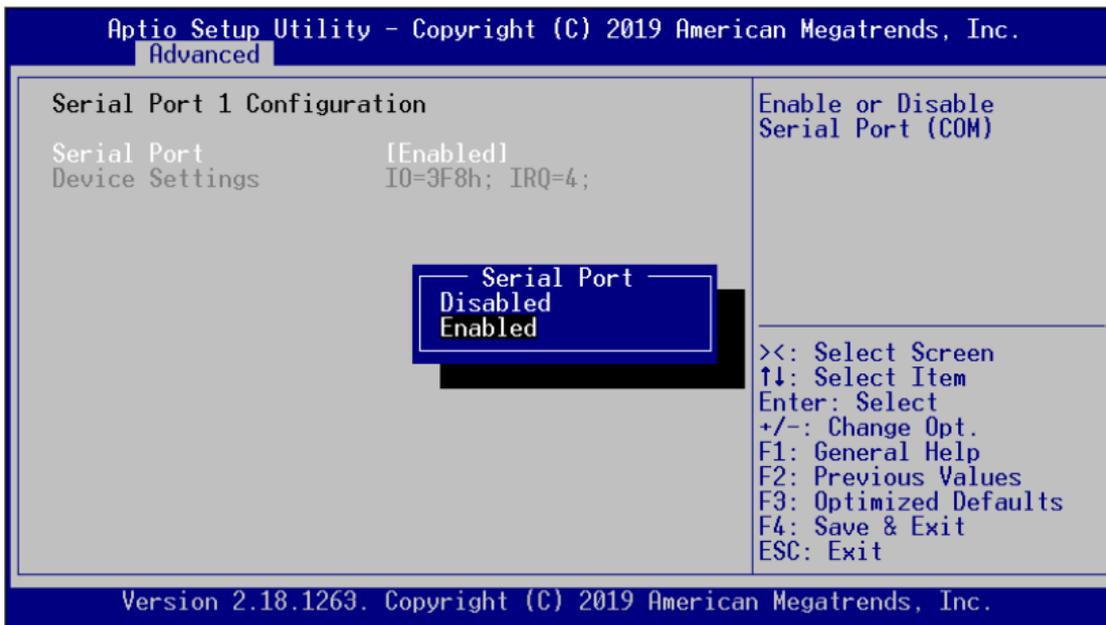
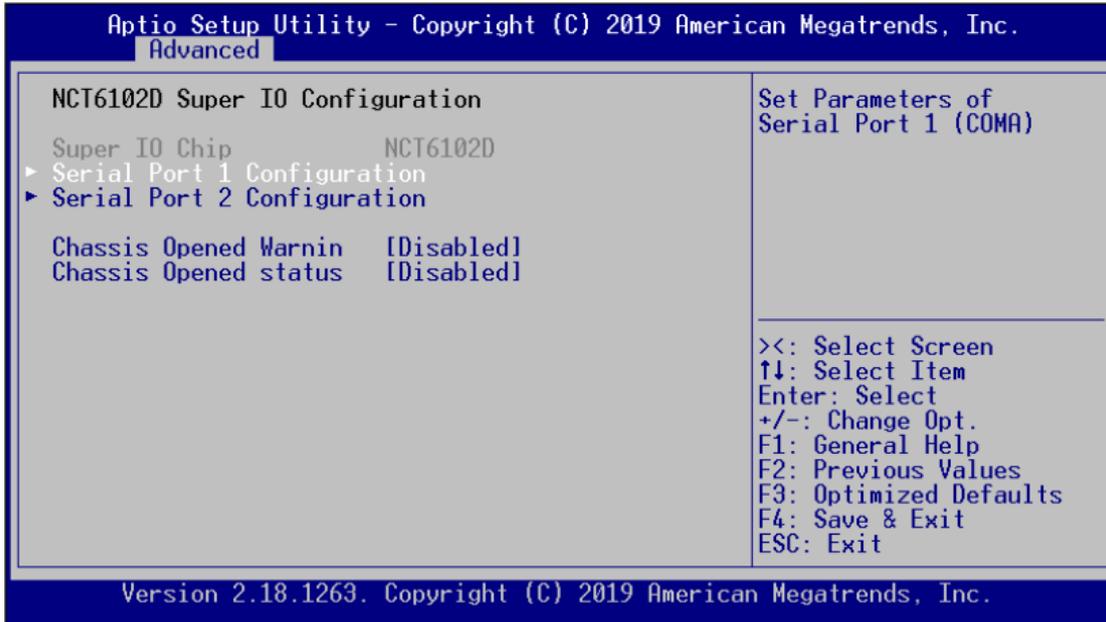
- **NCT6102D Super IO Configuration**

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



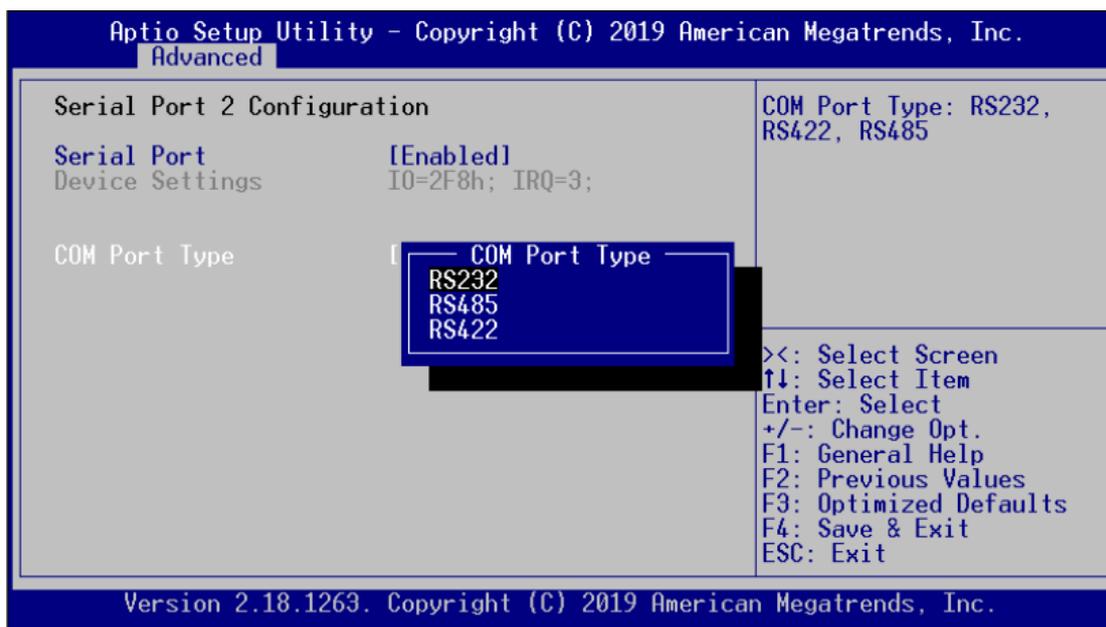
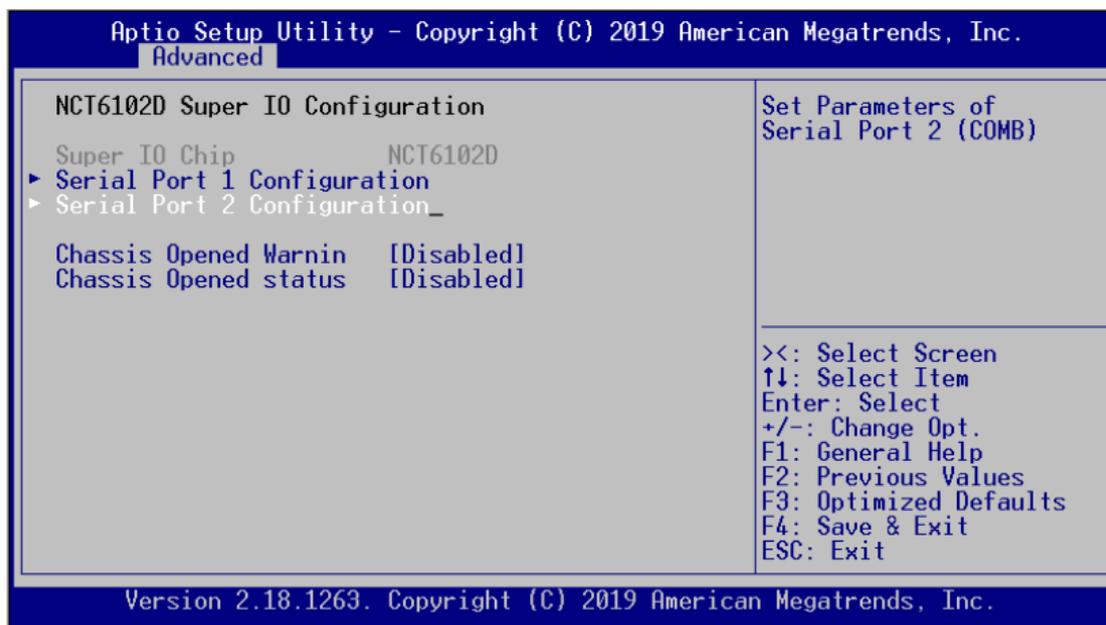
**Serial Port 1 Configuration**

This option specifies the base I/O port address and Interrupt Request address of serial port 1. The Optimal setting is 240h/IRQ4.



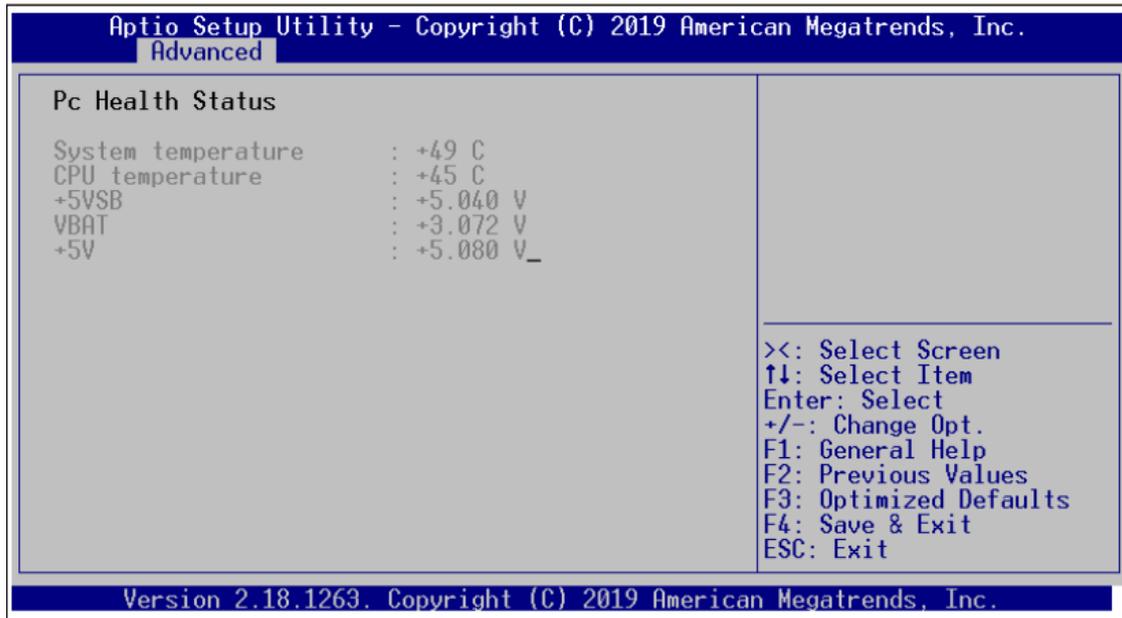
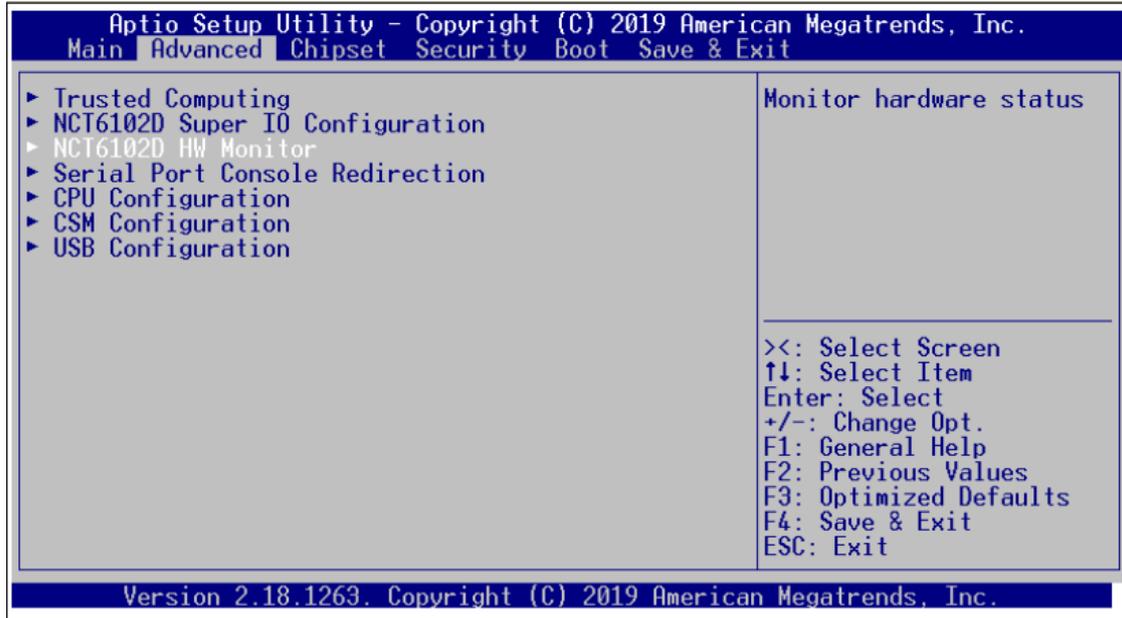
### Serial Port 2 Configuration

This option specifies the base I/O port address and Interrupt Request address of serial port 2. The Optimal setting is 248h/IRQ10

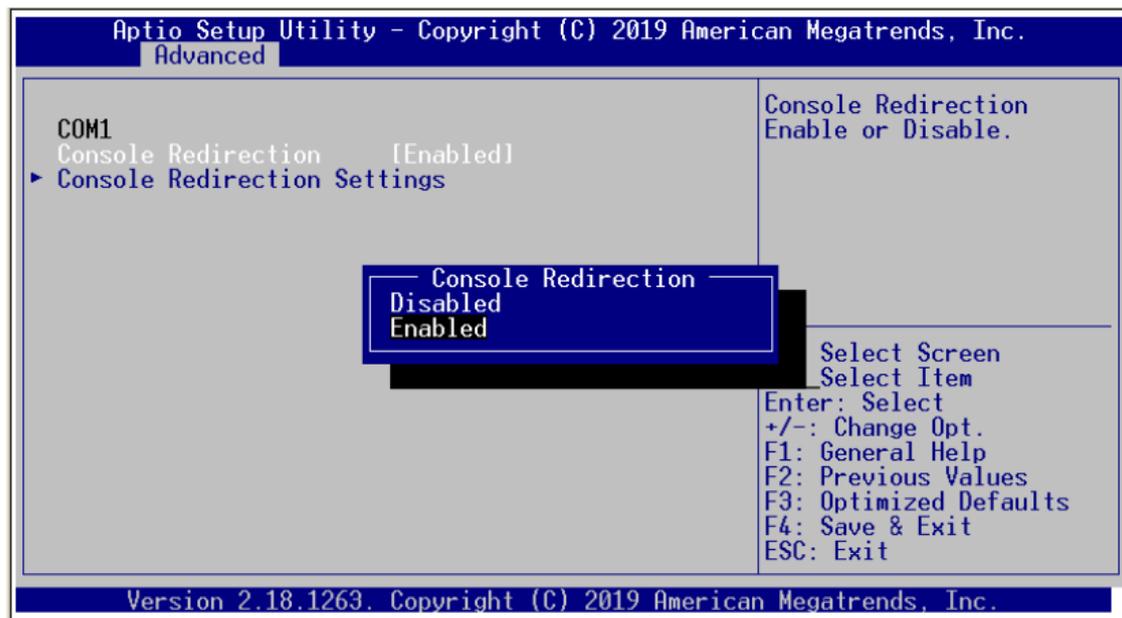
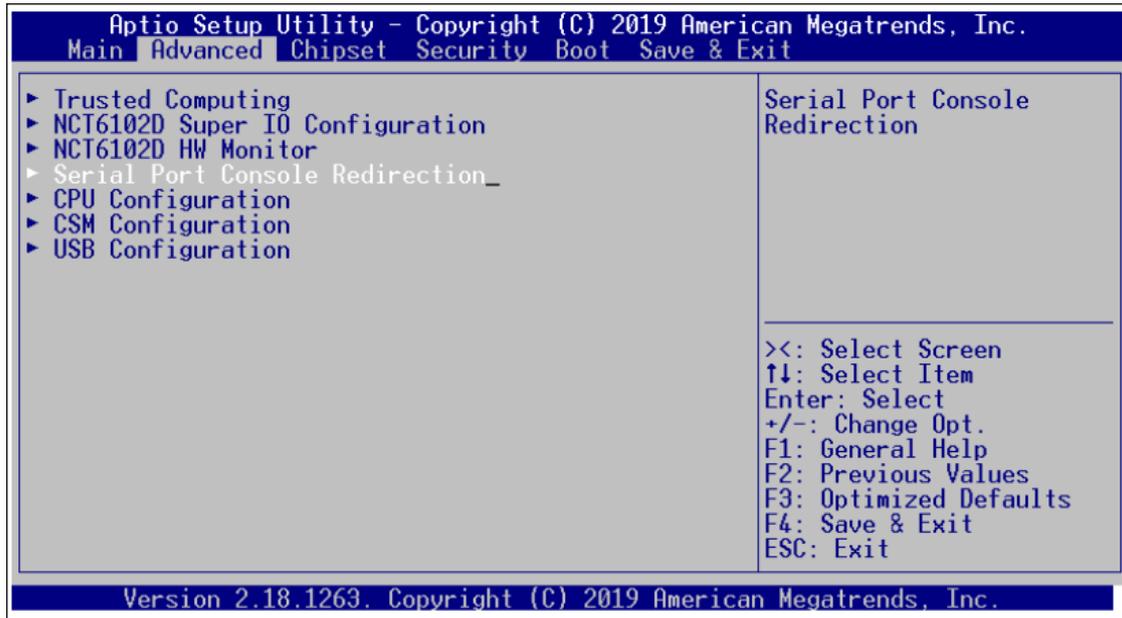


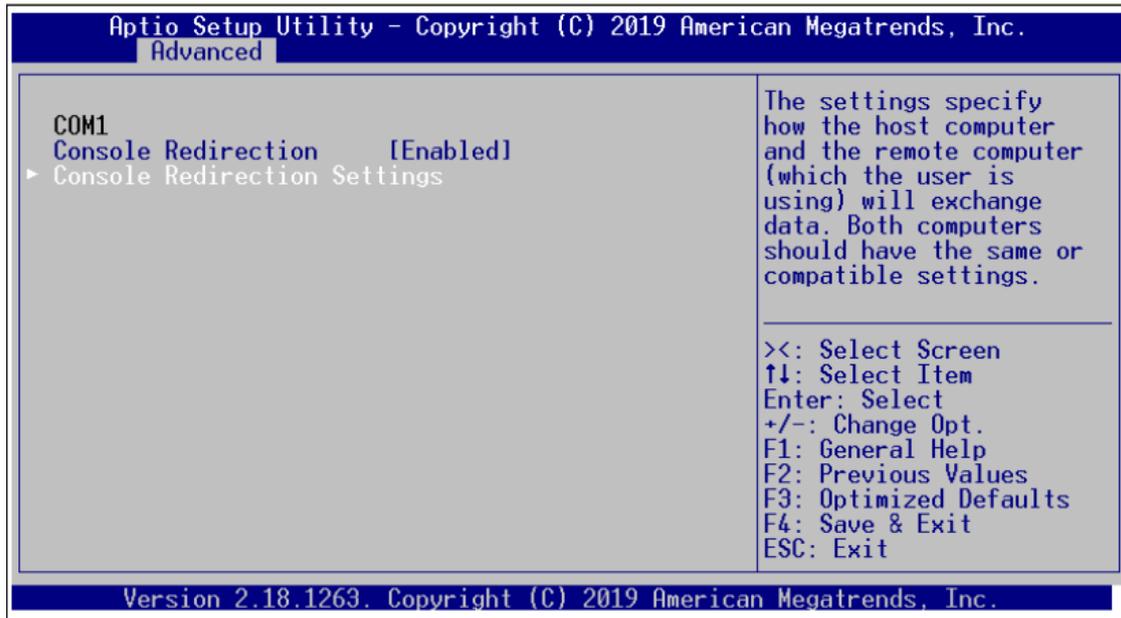
- **NCT6102D HW Monitor**

This screen monitors hardware health status.

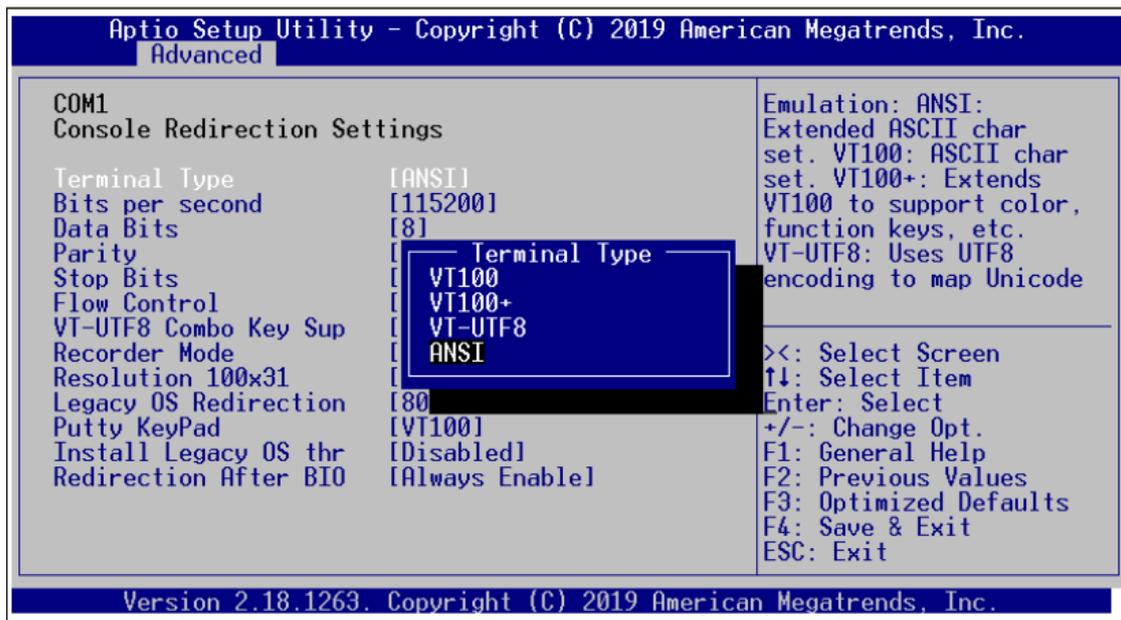


● **Serial Port Console Redirection**





### Console Redirection Settings



#### Terminal Type

This item allows you to select the target terminal type. Configuration options: ANSI, VT100 and VT-UTF8.

#### Bits per second

This item allows you to setup the data transfer rate for the console port. The default value is 115200. Available options are "9600", "19200", "38400", "57600" and "115200".

#### Data Bits

This item allows you to select the data bits. The configuration options: 7 and 8.

#### Parity

This item allows you to select flow control for console redirection. The configuration options: None, Even, Odd, Mark and Space.

**Stop Bits**

This item allows you to select the data bits. The configuration options: 1 and 2.

**Flow Control**

This item allows you to select flow control for console redirection. The configuration options: None, Hardware and Software.

**VT-UTF8 Combo Key Support**

Use this item to "Enabled" or "Disabled" VT-UTF8 combination key supports for ANSI / VT100 terminals.

**Recorder Mode**

This item allows you to select the recorder mode. The configuration options: Enabled and Disabled.

**Redirection Legacy OS**

This item allows you to select the legacy OS redirection. The configuration options: 80x24 and 80x25.

**Putty KeyPad**

This item allows you to select the putty keypad. The configuration options: VT100, LINUX, XTERMR6, SCO, ESCN and VT400.

**Install Legacy OS through Remote**

This item allows you to select the install legacy OS through remote. The configuration options: "Enabled" or "Disabled".

**Redirection After BIOS POST**

Use this item to enable or disable the function of Console Redirection, which allows you maintain a system from a remote location. The default setting is Always.

- **CPU Configuration**

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

```

Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
Main Advanced Chipset Security Boot Save & Exit

▶ Trusted Computing
▶ NCT6102D Super IO Configuration
▶ NCT6102D HW Monitor
▶ Serial Port Console Redirection
▶ CPU Configuration
▶ CSM Configuration
▶ USB Configuration

CPU Configuration Parameters

><: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

Version 2.18.1263. Copyright (C) 2019 American Megatrends, Inc.

```

### Socket 0 CPU Information

```

Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
Advanced

Socket 0 CPU Information

Intel(R) Celeron(R) CPU N3350E @ 1.10GHz
CPU Signature          506CA
Microcode Patch        1A
Max CPU Speed          1100 MHz
Min CPU Speed          800 MHz
Processor Cores        2
Intel HT Technology    Not Supported
Intel VT-x Technology  Supported

L1 Data Cache          24 kB x 2
L1 Code Cache          32 kB x 2
L2 Cache               1024 kB x 1
L3 Cache               Not Present

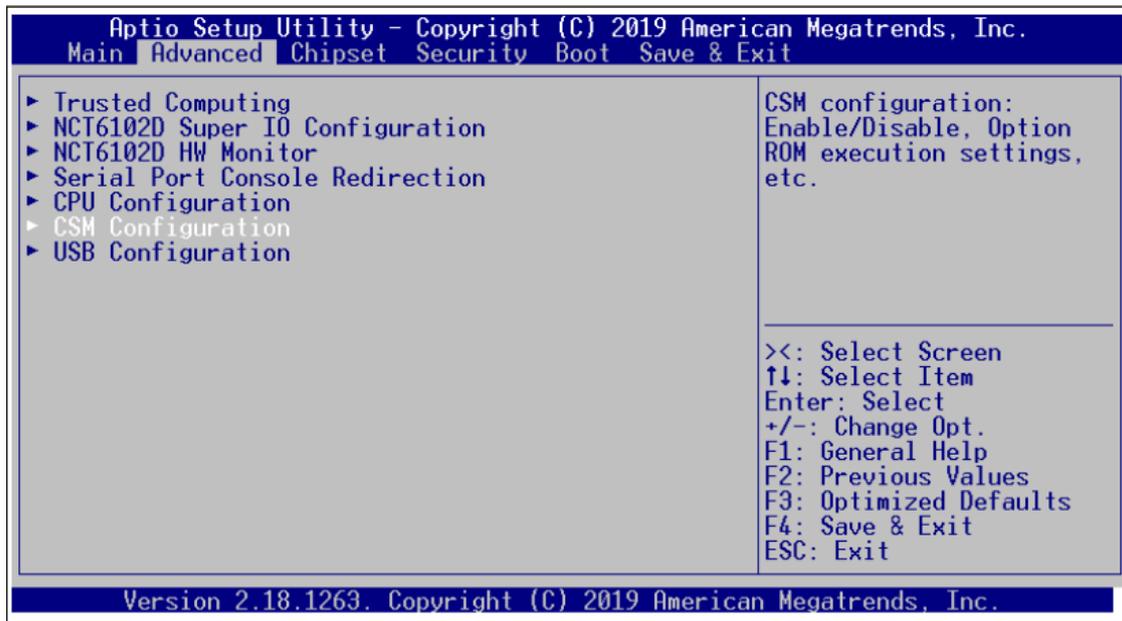
><: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

Version 2.18.1263. Copyright (C) 2019 American Megatrends, Inc.

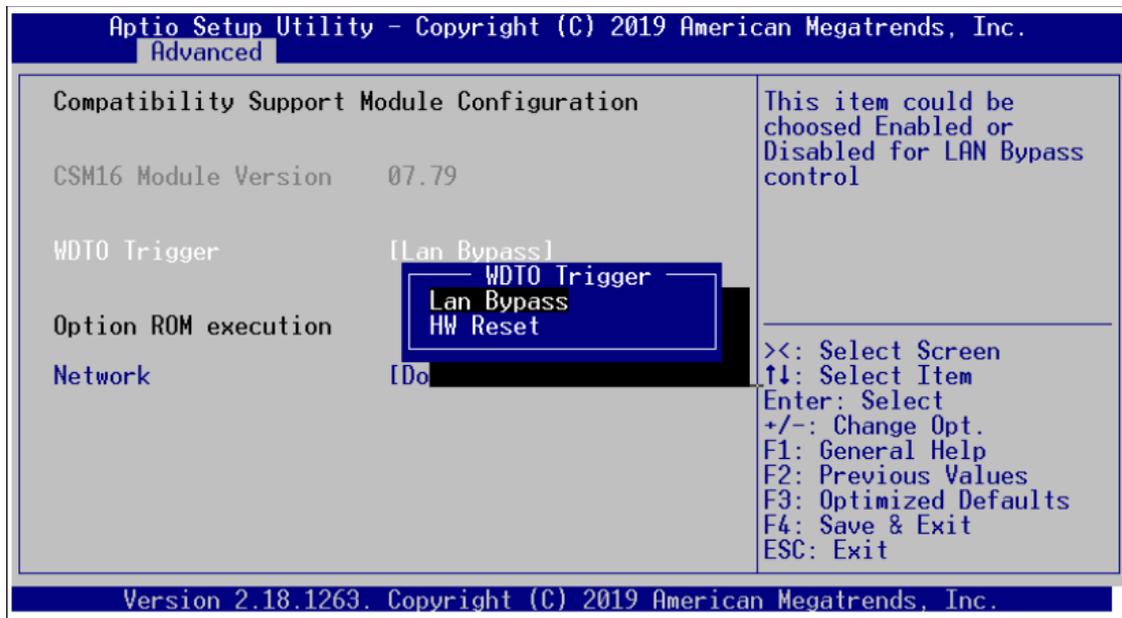
```

● **CSM Configuration**

This screen shows the CSM Configuration, and you can enable/disable option ROM execution settings.



**WDTO Trigger BIOS**

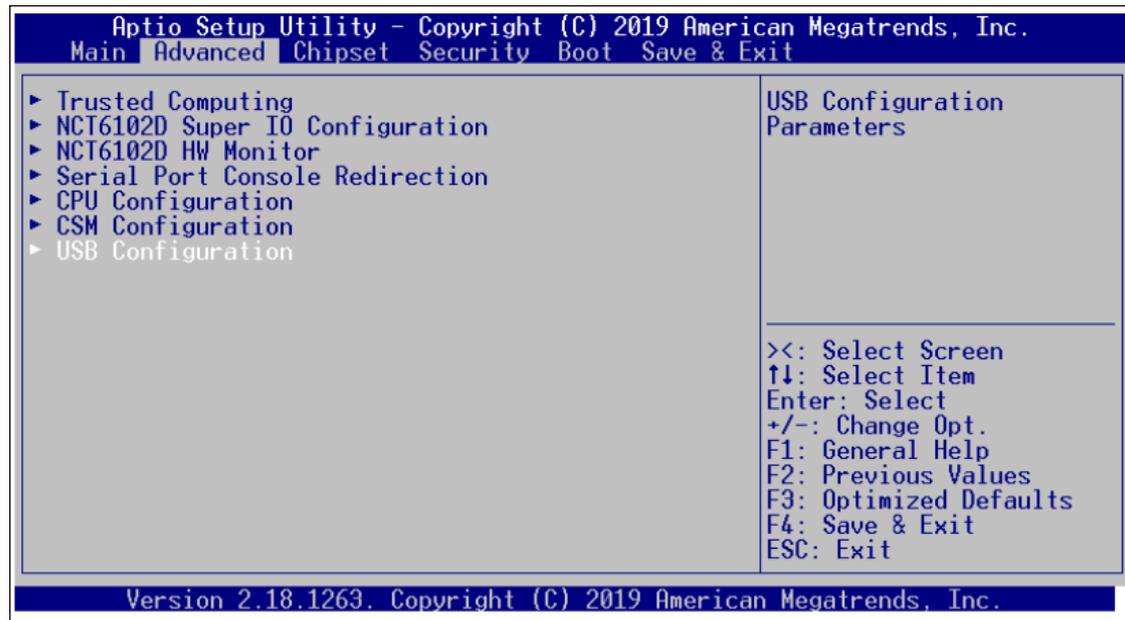


**Network**

Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.	
Advanced	
Compatibility Support Module Configuration	
CSM16 Module Version	07.79
WDT0 Trigger	[Lan Bypass]
Option ROM execution	[Do not launch]
Network	[Do not launch]
Controls the execution of UEFI and Legacy PXE OpROM ><: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.18.1263. Copyright (C) 2019 American Megatrends, Inc.	

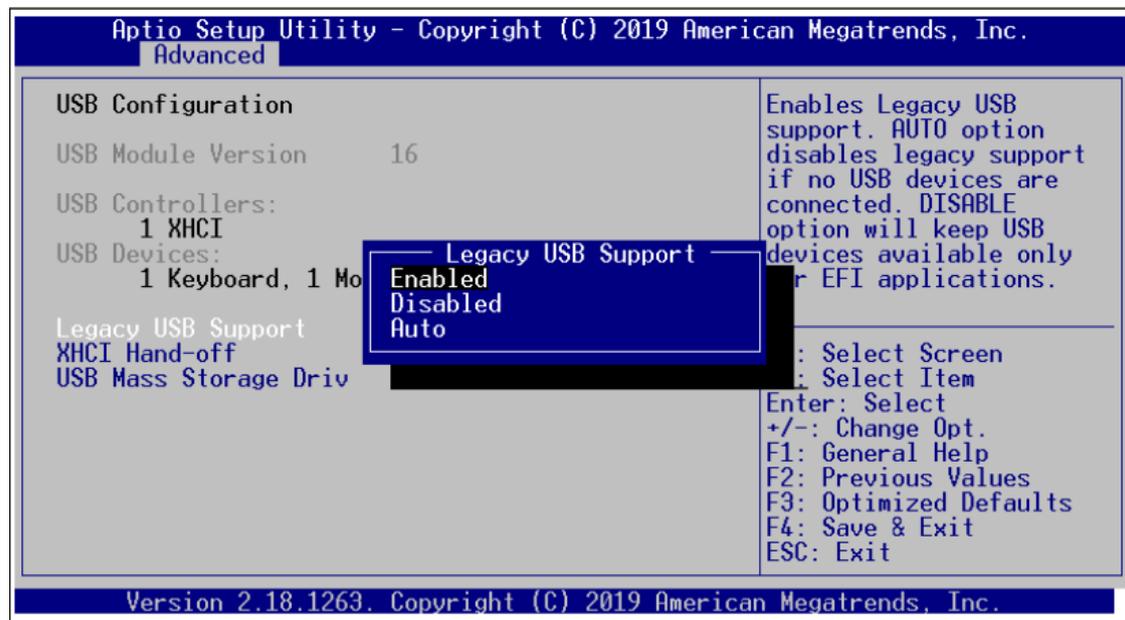
● **USB Configuration**

Use this item for further setting USB port configuration.



**Legacy USB Support**

Due to the limited space of the BIOS ROM, the support for legacy USB keyboard (in DOS mode) is by default set to Disabled. With more BIOS ROM space available, it will be able to support more advanced features as well as provide compatibility to a wide variety of peripheral devices. Configuration options: Auto, Enabled and Disabled.



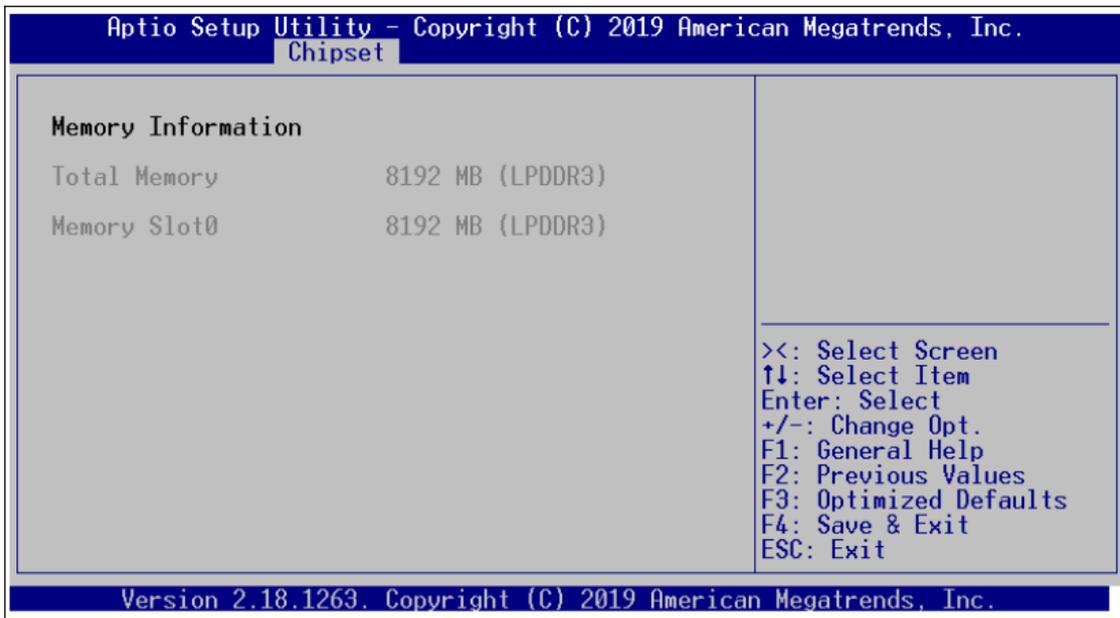
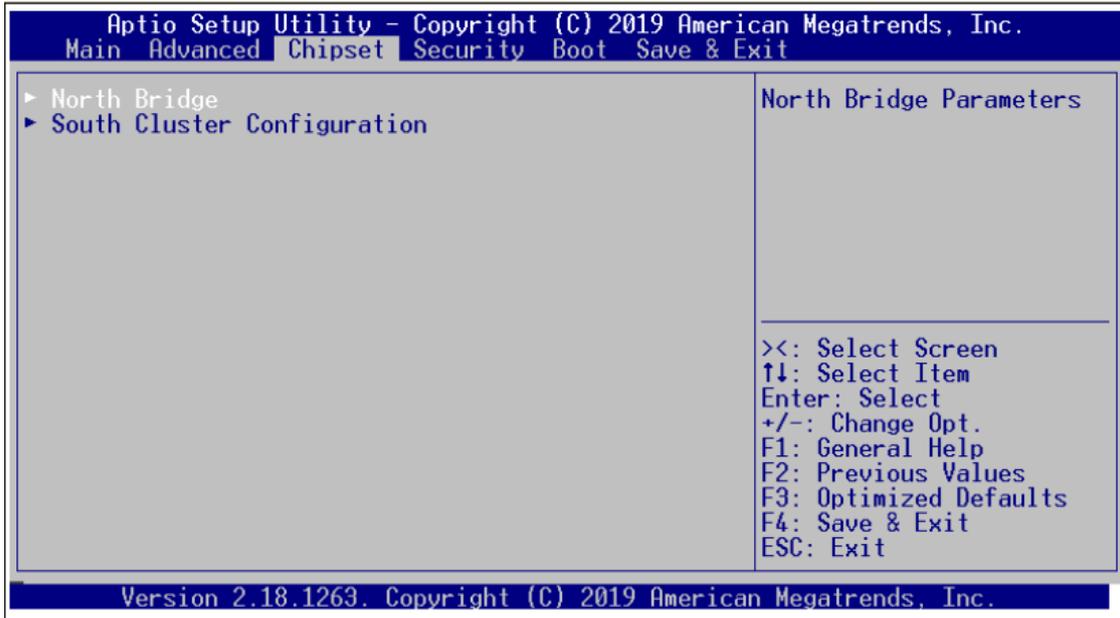
### 3.5 Chipset Menu

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 :

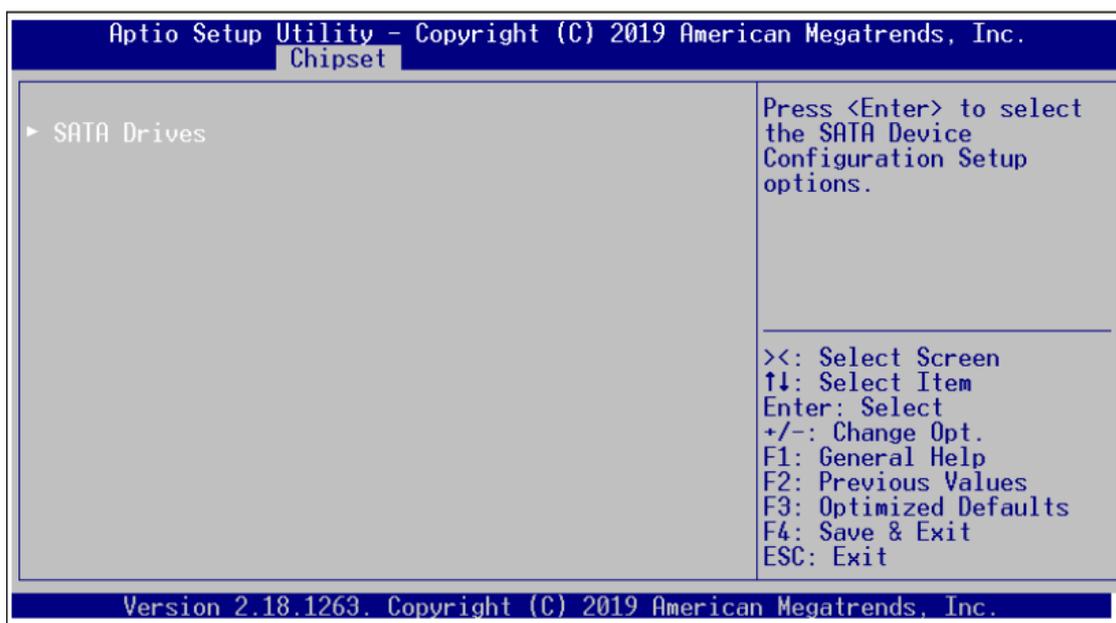
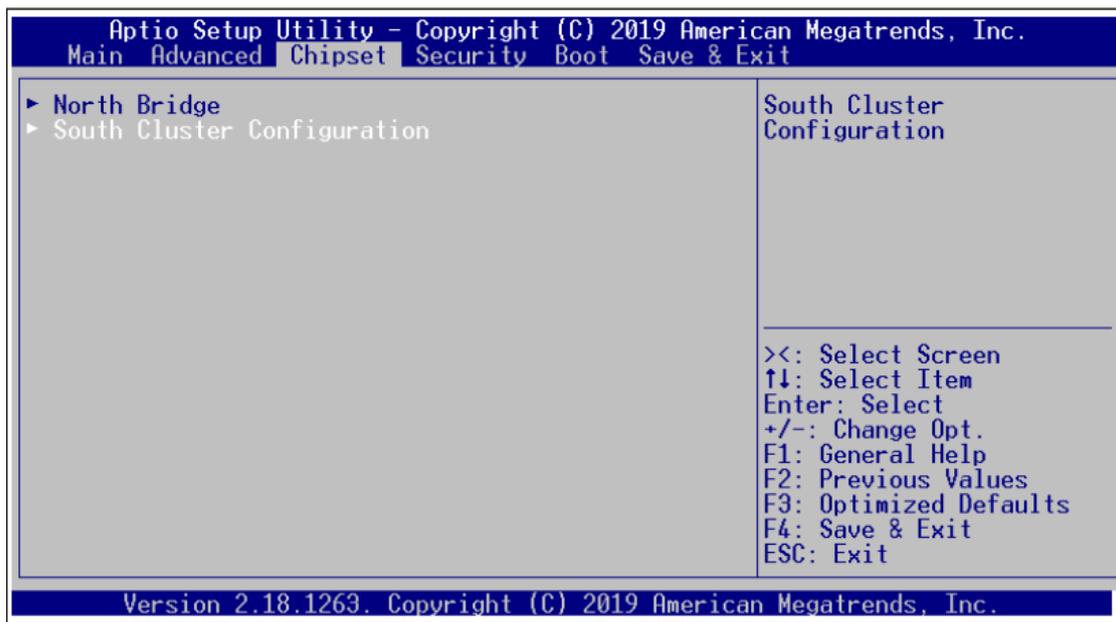
- North Bridge
- South Cluster Configuration

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

- **North Bridge**

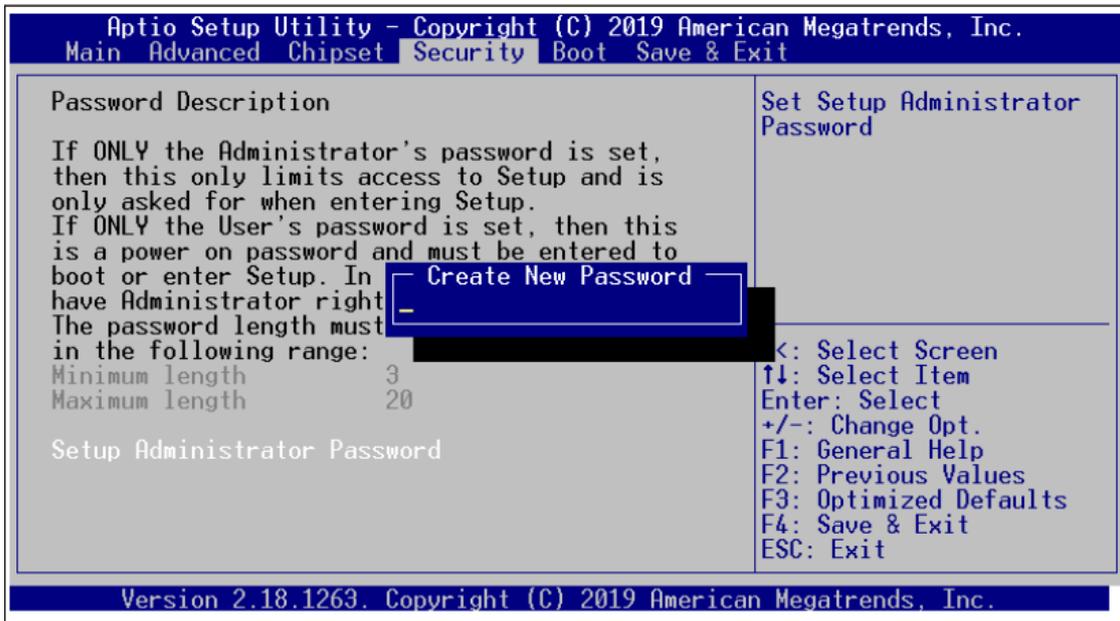


- **South Cluster Configuration**



### 3.6 Security Menu

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



#### Administrator Password

This item indicates whether an administrator password has been set (installed or uninstalled).

#### User Password

This item indicates whether a user password has been set (installed or uninstalled).

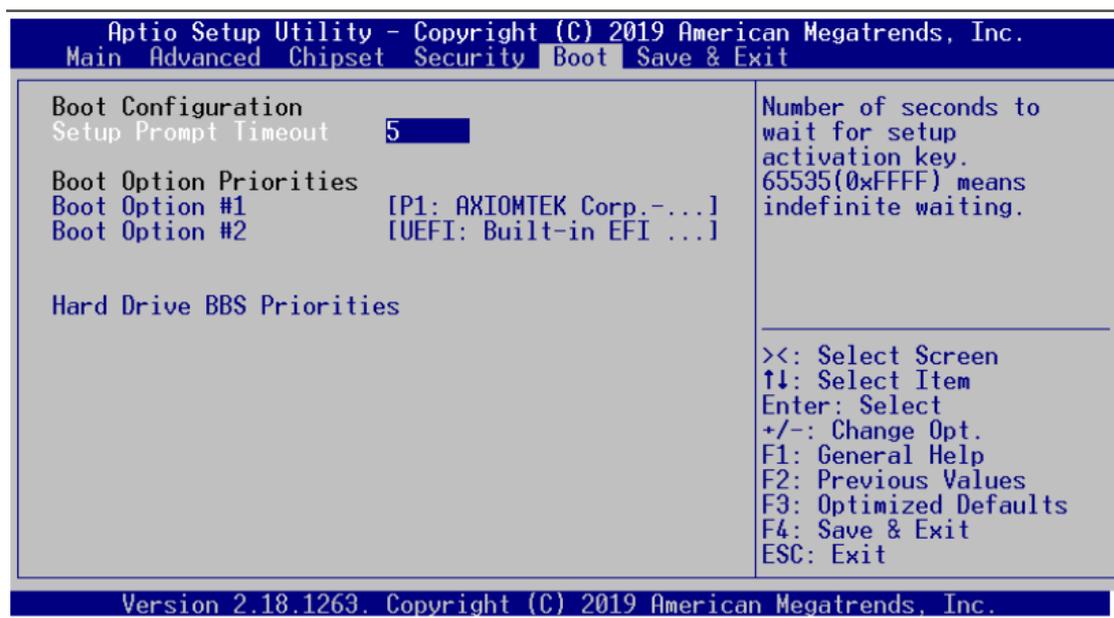
## 3.7 Boot Menu

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 Configuration
- Boot Option Priorities
- Hard Drive BBS Priorities

For items marked with “▶”, please press <Enter> for more options.

- **Boot Configuration**

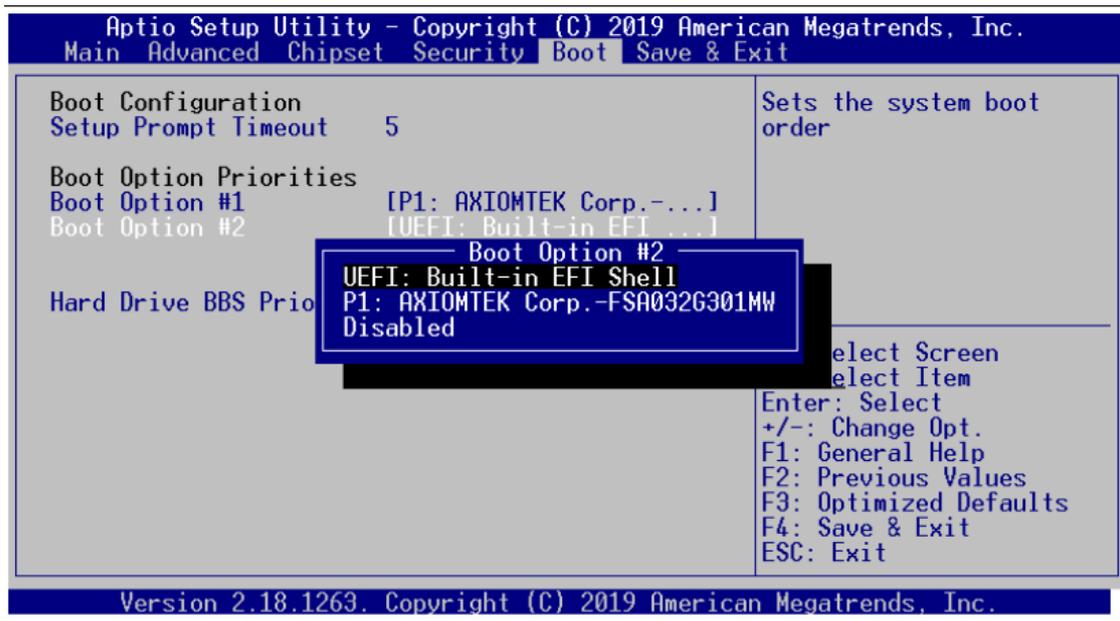
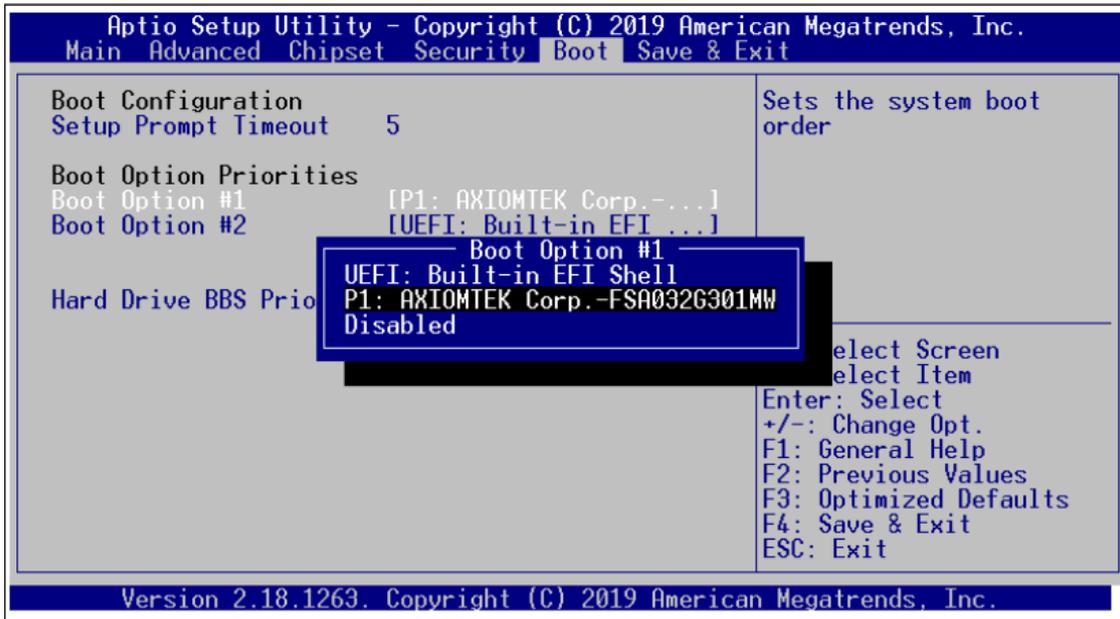


### Quiet Boot

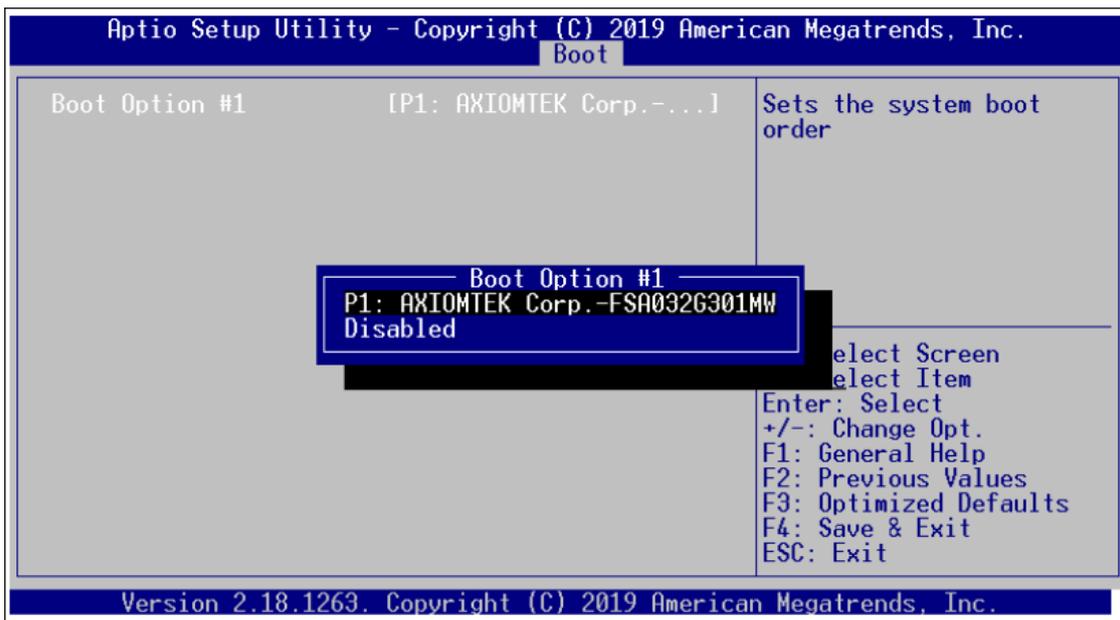
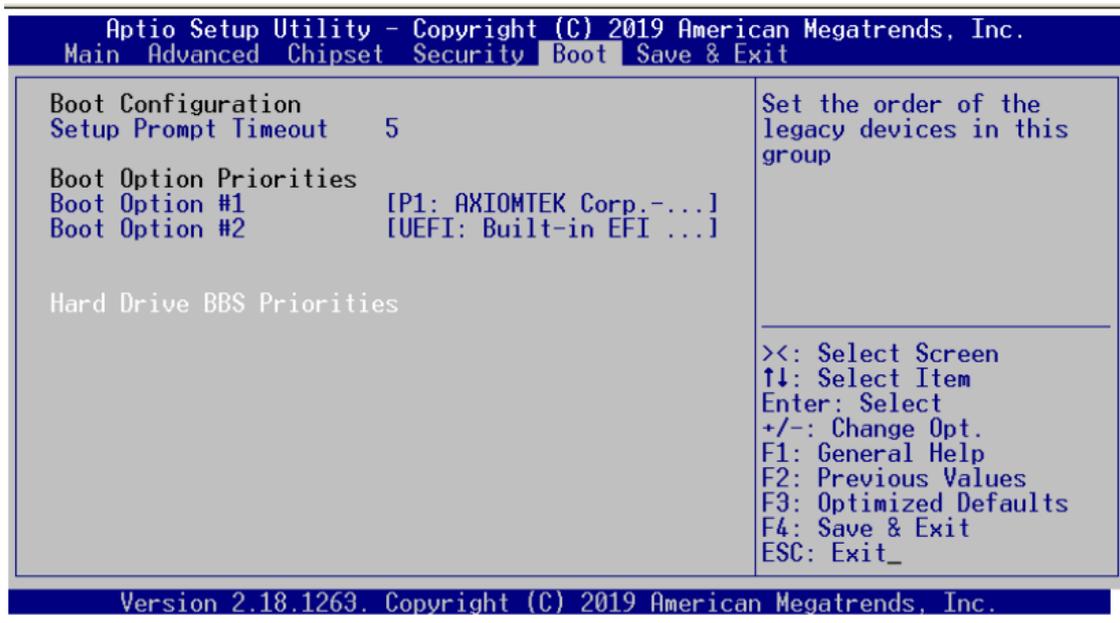
Enable or disable quiet boot option.

- **Boot Option Priorities**

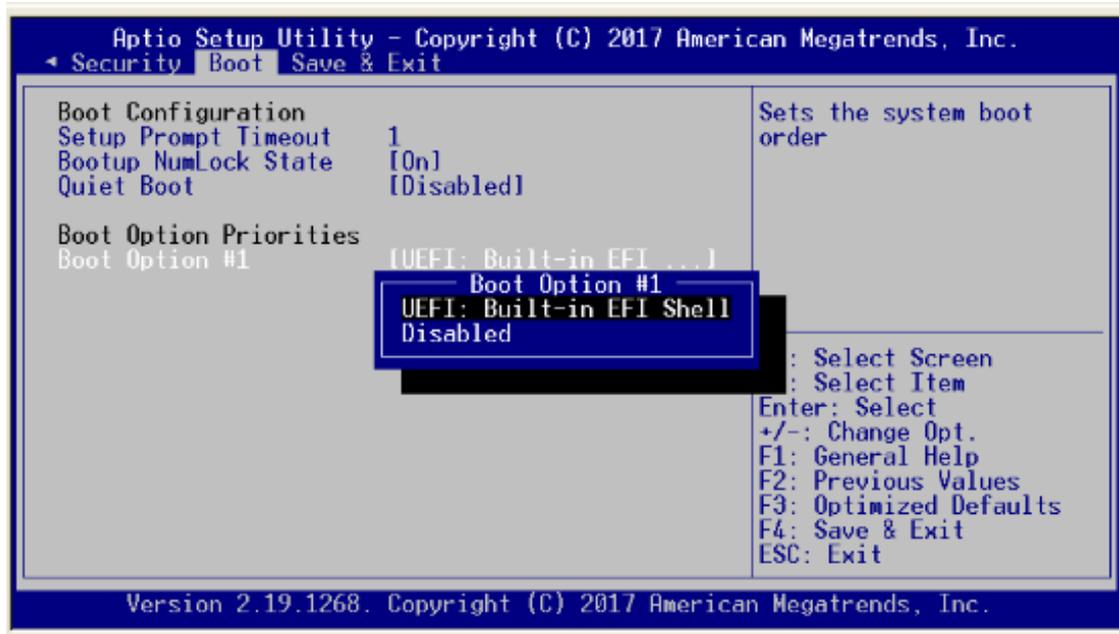
You could set the system boot order of the legacy devices in this group. You could set the system boot order in option #1 UEFI or Disabled.



- **Hard Drive BBS Priorities**



- **Boot Option Priorities**



### 3.8 Save & Exit Menu

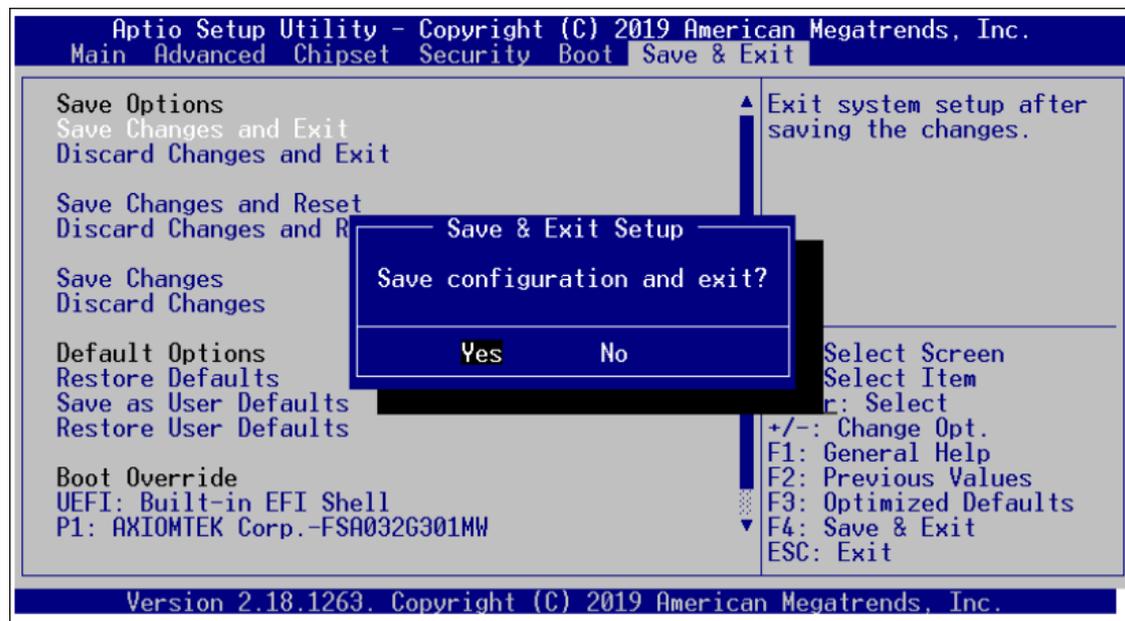
The Save & Exit menu allows users to load your system configuration with optimal or fail-safe default values.

- Save Options
- Default Options
- Boot Override

#### Save Options

##### Save Changes and Exit

When you have completed the system configuration changes, select this option to leave Setup and return to Main Menu. Select Save Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to save changes and exit.



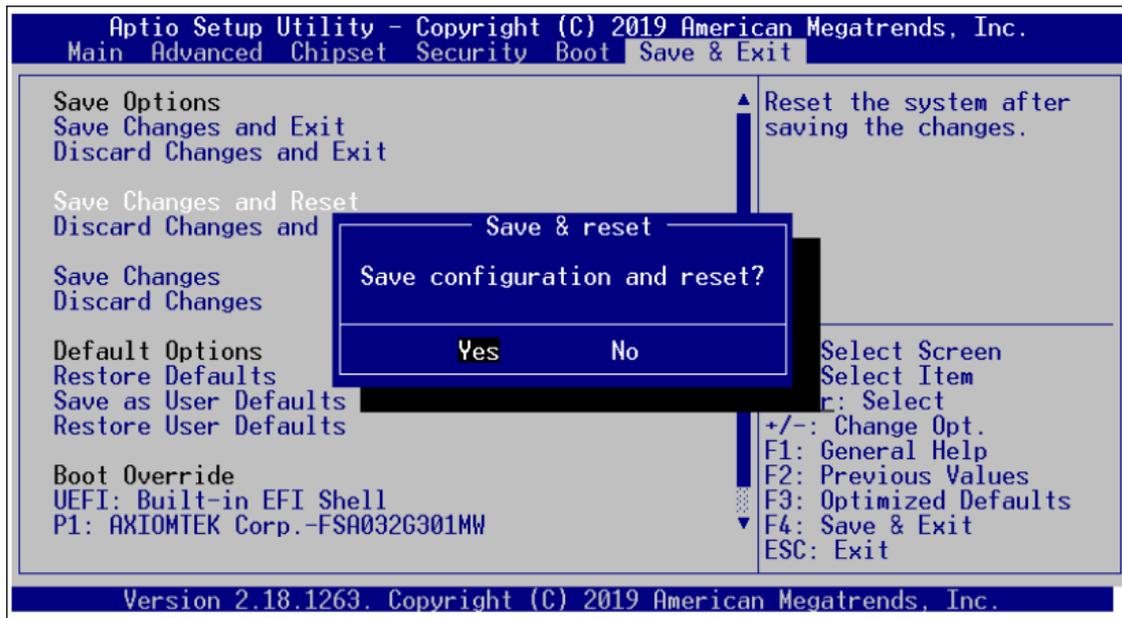
**Discard Changes and Exit**

Select this option to quit Setup without making any permanent changes to the system configuration and return to Main Menu. Select Discard Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to discard changes and exit.



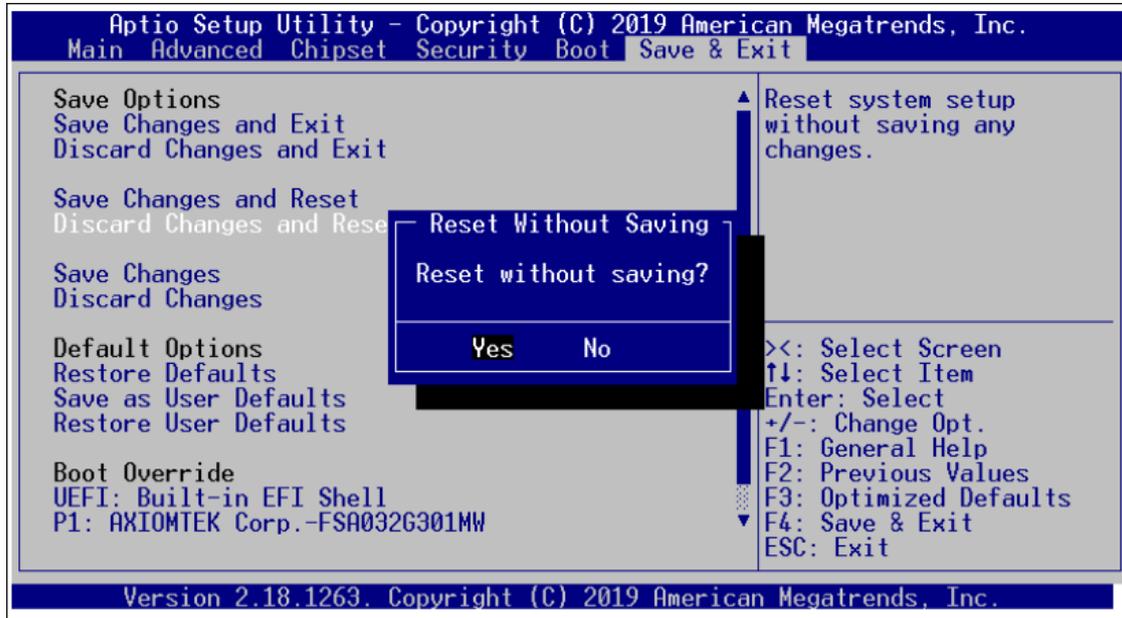
**Save Changes and Reset**

When you have completed the system configuration changes, select this option to save changes. Select Save Changes from the Save & Exit menu and press <Enter>. Select <Yes> to save changes and reset system.



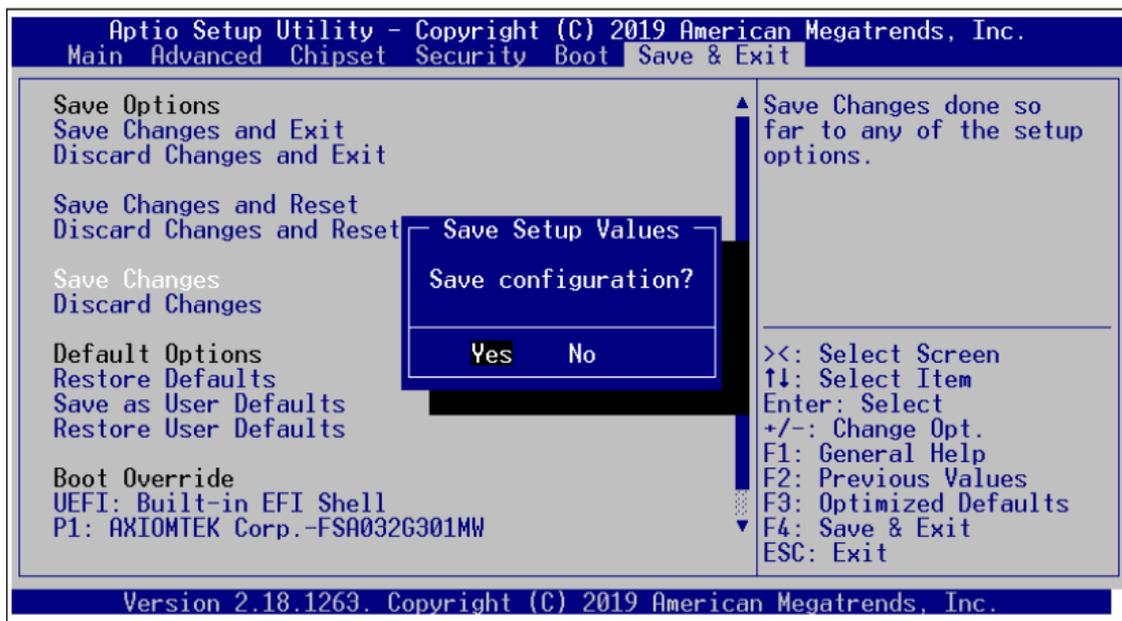
### Discard Changes and Reset

Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes from the Save & Exit menu and press <Enter>. Select <Yes> to discard changes and reset system.



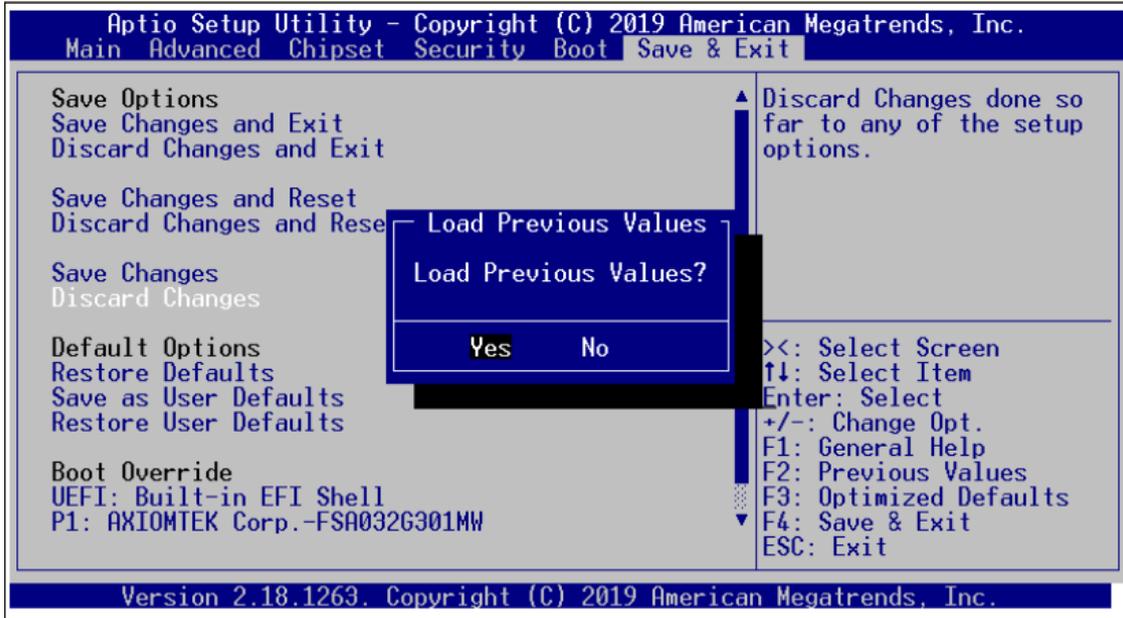
### Save Changes

When you have completed the system configuration changes, select this option to save changes. Select Save Changes from the Save & Exit menu and press <Enter>. Select [Yes] to save changes.



### Discard Changes

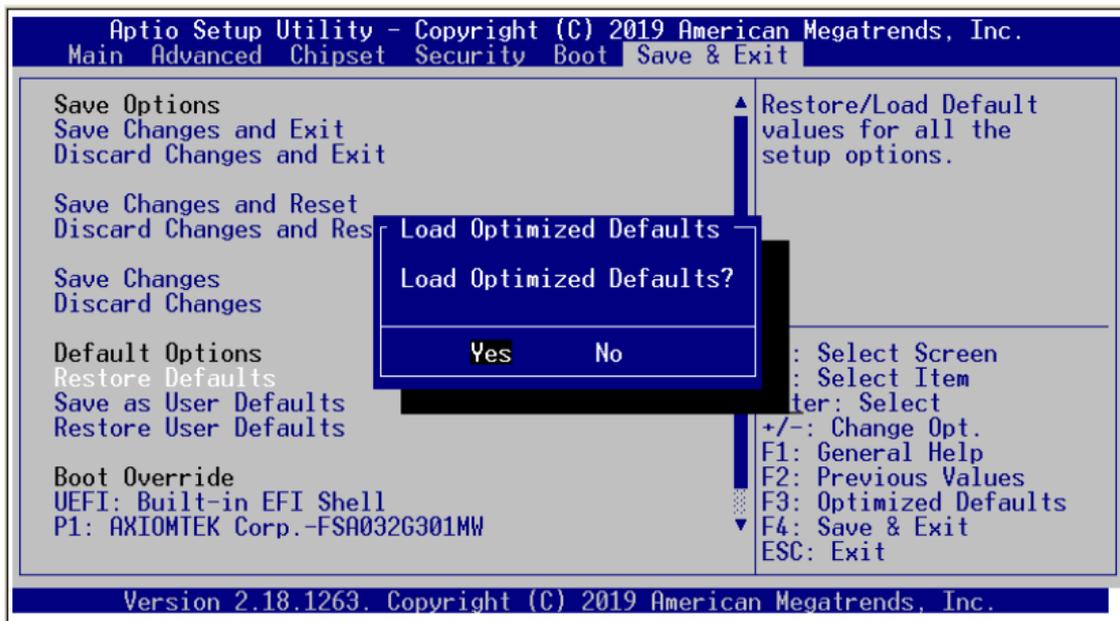
Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes from the Save & Exit menu and press <Enter>. Select <Yes> to discard changes and reset system.



## Default Options

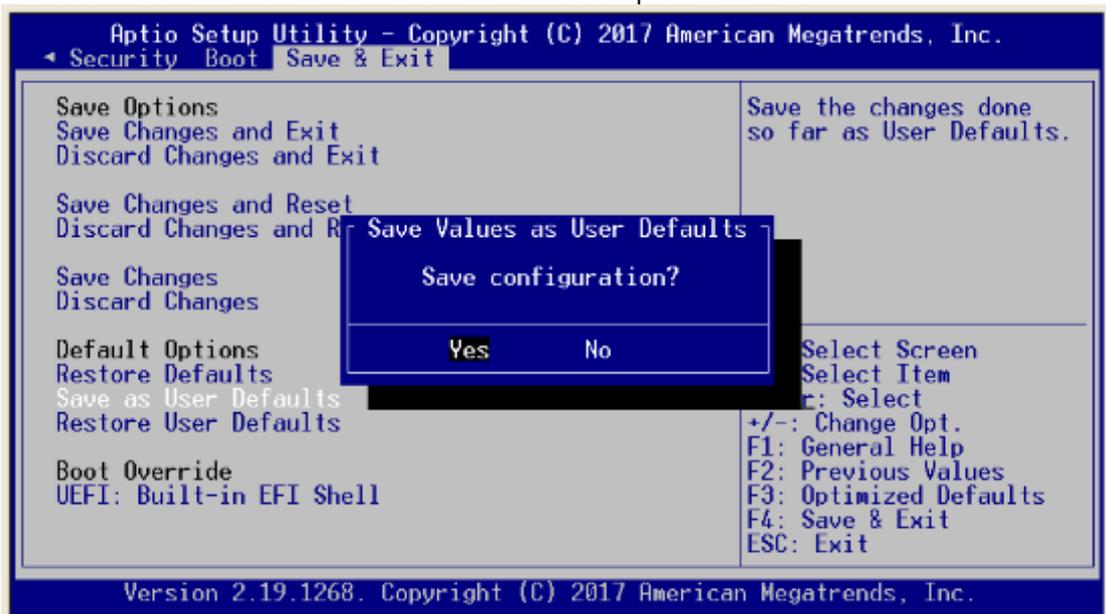
### Restore Defaults

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 Restore Defaults from the Save & Exit menu and press <Enter>.



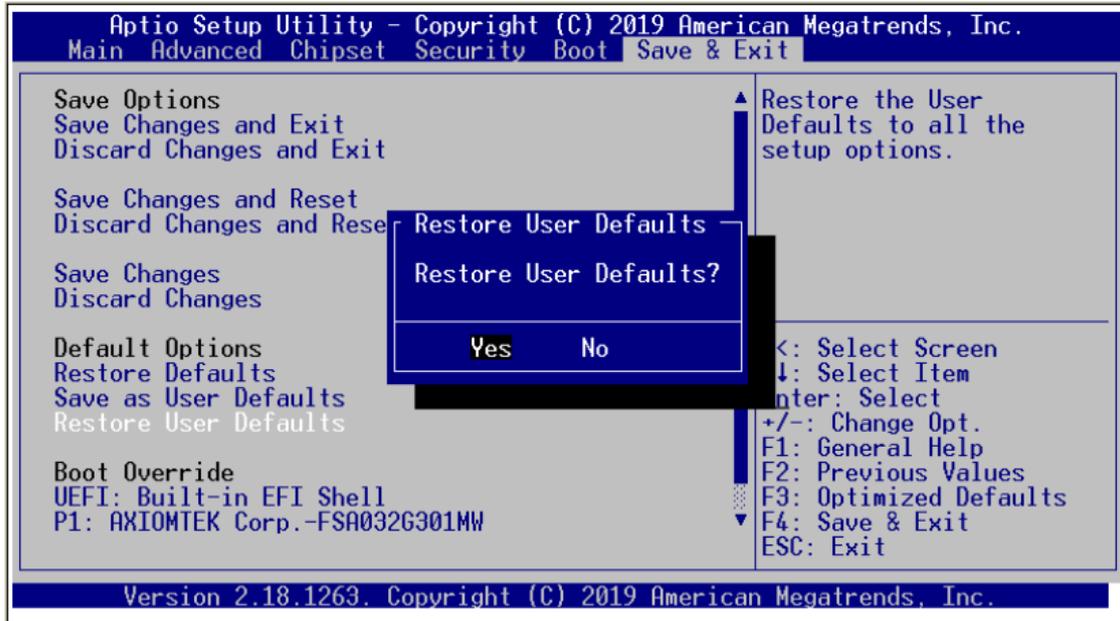
### Save as User Defaults

Select this option to save system configuration changes done so far as User Defaults. Select Save as User Defaults from the Save & Exit menu and press <Enter>.

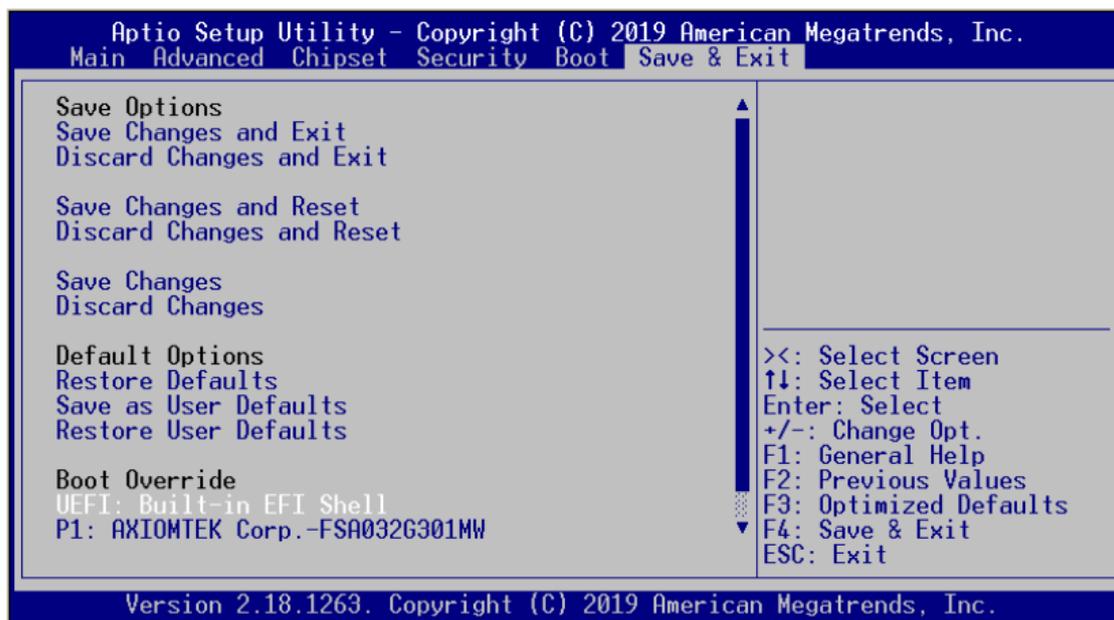


**Restore User Defaults**

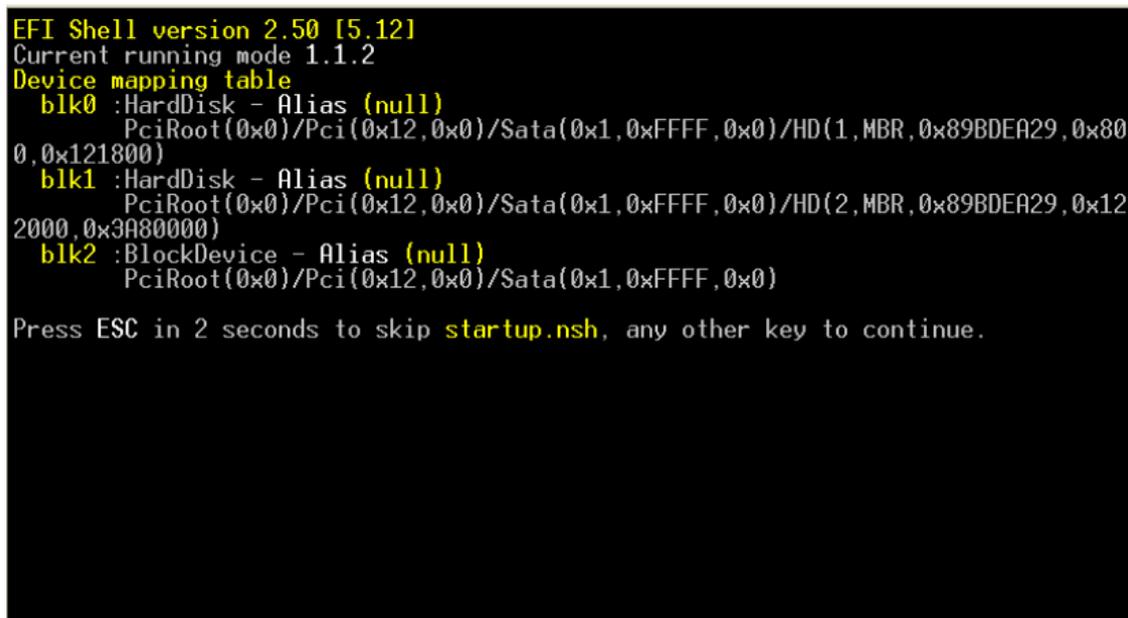
It automatically sets all Setup options to a complete set of User Defaults when you select this option. Select Restore User Defaults from the Save & Exit menu and press <Enter>.



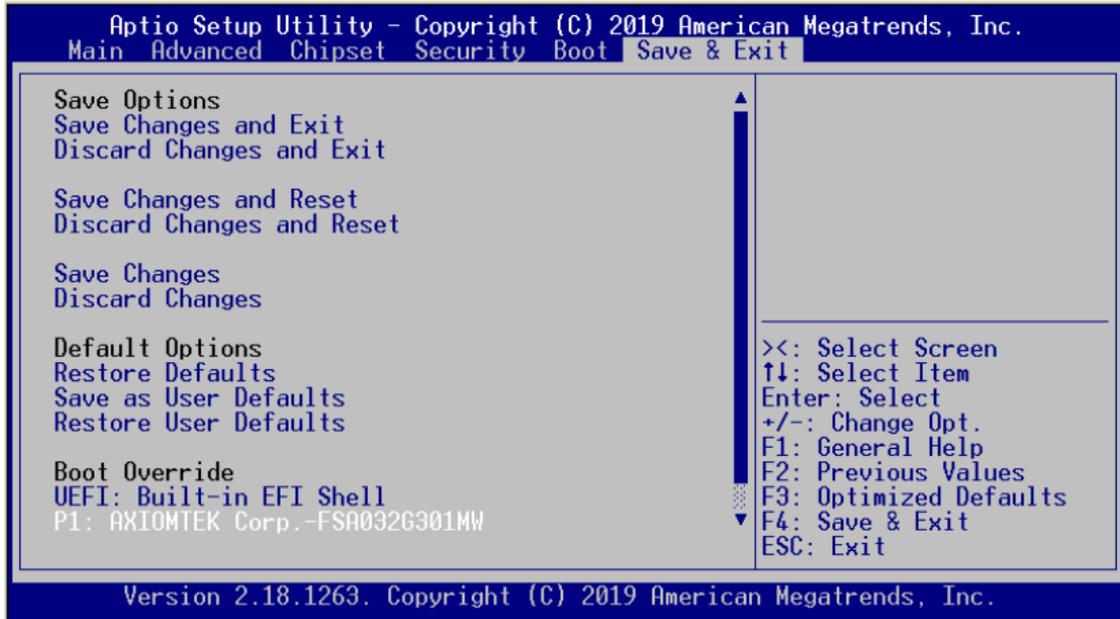
## Boot Override



UEFI: Built-in EFI Shell



P1: AXIOMTWK Corp.



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# Appendix A

## LAN Bypass Configuration

### About LAN Bypass

What is the LAN by-pass meant for **NA346 Series** It doesn't have any down time in network connections for two other network segments (LAN1 and LAN2) when any fatal errors occur to this device.

The LAN by-pass feature covers three levels as below:

**1. Power loss**

While the AC power loss occurs to this device, the LAN1 and LAN2 still can communicate with each other through hardware relay like as a short cut between two segments. If the power inlet can be normally done, the relay will turn to another correct position.

**2. GPO control**

It acts like a switch of the application software. You can enable the hardware relay feature through the GPO control through the application programs. Then, the software solution provider can be more flexible to make it close with the program.

**3. WDT (Watchdog Timer)**

The hardware supports the WDT (Watchdog Timer) function. While time-out happens after a defaulted period, the WDT will reset the system or make a short cut for two specific segments by hardware relay.

**Note: Please refer to BIOS "WDT function selection".**



**Note:** *If you need sample codes, please contact our FAE directly. And they are for reference purposes only.*

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# Appendix B

## WDT Timer for System Reset

### WDT (Watchdog Timer)

The hardware supports the WDT (Watchdog Timer) function. While time-out happens after a defaulted period, the WDT will reset the system.

**Note: Please refer to BIOS "WDT function selection".**



**Note:** *If you need sample codes, please contact our FAE directly. And they are for reference purposes only.*

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# Appendix C

## Warning

- This is a class A Product. In a domestic Environment this Product may cause radio interference in which case the user may be required to take adequate measures.

- It will be danger if battery is incorrectly replaced. Replacing only with the same or equivalent type is highly recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- **Warning for Hard Disk Drive Selection:**  
TUV approved Hard Disk Drive is preferred for TUV compliance Hard Disk drive-Optional, (NWGQ2), generic, Input Voltage rated 5V DC/1.0A, 12V DC/1.8A maximum. Minimum clearance from uninsulated live parts 4.0 mm.

- The equipment is to be installed in an environment with maximum ambient temperature must not exceed 60°C
- The openings on the enclosure are for air convection hence protected the equipment from overheating. DO NOT COVER THE OPENINGS.
- Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
- The equipment shall be installed according to specification as nameplate. Make sure the voltage of the power source when connect the equipment to the power outlet.
- The current of load and output power of loads shall be not over the specification.
- This equipment must be connected to the reliable earthling before using.



**Electric shock hazard inside the redundant power supply.**

The exchange of modules shall be done by service person.