

USER'S MANUAL

UST200-83H-FL

Robust DIN-rail Fanless Embedded
System

User's Manual



www.axiomtek.com

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Safety Precautions

Before getting started, please read the following important safety precautions.

1. The UST200-83H-FL does not come equipped with an operating system. An operating system must be loaded first before installing any software into the computer.
2. 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.
3. Disconnect the power cord from the UST200-83H-FL before making any installation. Be sure both the system and the external devices are turned off. Sudden surge of power could ruin sensitive components. Make sure the UST200-83H-FL is properly grounded.
4. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
5. Turn OFF the system power before cleaning. Clean the system using a cloth only. Do not spray any liquid cleaner directly onto the screen.
6. Do not leave this equipment in an uncontrolled environment where the storage temperature is below -45°C or above 85°C . It may damage the equipment.
7. Do not open the system's back 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 on your body.
 - When handling boards and components, wear a grounding wrist strap, available from most electronic component stores.
8. This product is intended to be supplied by a Listed Power Adapter or DC power source, output meets SELV, rated 12-24Vdc, minimum 0.85-0.45A, Tma = 70 degree C, and the altitude of operation = 5000m.

If you need further assistance with purchasing the power source, please contact to manufacturer for further information.

CAUTION

Risk of explosion may occur if the battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

WARNING

- Do not touch the hot surface of the system unit when it is turned on.
- Restricted access area: The equipment should only be installed in a Restricted Access Area.

Classification

1. Degree of protection against electric shock: not classified
2. Degree of protection against the ingress of water: IP20
3. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
4. Mode of operation: Continuous

General Cleaning Tips

You may need the following precautions before you begin to clean the computer. When you clean any single part or component for the computer, please read and understand the details below fully.

When you need to clean the device, please rub it with a piece of dry cloth.

1. Be cautious of the tiny removable components when you use a vacuum cleaner to absorb the dirt on the floor.
2. Turn the system off before you start to clean up the computer or any components.
3. Never drop the components inside the computer or get circuit board damp or wet.
4. Be cautious of all kinds of cleaning solvents or chemicals when you use it for the sake of cleaning. Some individuals may be allergic to the ingredients.
5. Try not to put any food, drink or cigarette around the computer.

Cleaning Tools

Although many companies have created products to help improve the process of cleaning your computer and peripherals users can also use household items to clean their computers and peripherals. Below is a listing of items you may need or want to use while cleaning your computer or computer peripherals.

Keep in mind that some components in your computer may require a designated product for cleaning. Please read the instructions that come with a cleaning product to avoid misuse.

- Cloth: A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, we still recommend you to rub it with a piece of cloth.
- Water or rubbing alcohol: You may moisten a piece of cloth a bit with some water or rubbing alcohol and rub it on the computer. Unknown solvents may be harmful to the plastics parts.
- Vacuum cleaner: Vacuuming the dust, dirt, hair, cigarette particles, and other particles out of a computer can be one of the best methods of cleaning a computer. Over time these items can restrict the airflow in a computer and cause circuitry to corrode.
- Cotton swabs: Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas in your keyboard, mouse, and other locations.
- Foam swabs: Whenever possible it is better to use lint free swabs such as foam swabs.



Note: *We strongly recommended that you should shut down the system before you start to clean any single components.*

Please follow the steps below:

1. Close all application programs;
2. Close operating software;
3. Turn off power;
4. Remove all device;
5. Pull out power cable.

Scrap Computer Recycling

Please inform the nearest Axiomtek distributor as soon as possible for suitable solutions in case computers require maintenance or repair; or for recycling in case computers are out of order or no longer in use.

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SECTION 1

INTRODUCTION

This chapter contains general information and detailed specifications of the UST200-83H-FL. Chapter 1 includes the following sections:

- General Description
- System Specification
- Dimensions
- I/O Outlets

1.1 General Description

The UST200-83H fanless embedded system is suitable for in-vehicle communications control and protocol converter applications in critical environments. Built specifically for operation under rugged conditions, the UST200-83H-FL features a robust industrial-grade hardware design and an advanced cooling system. It also runs an extra low power consumption Intel[®] ATOM[™] E3930 (1.3GHz/2-cores) processor to ensure optimal performance in an industrial temperature range of -40°C to +70°C.

The system's front accessible I/O cabling is very convenient for wiring and maintenance, including a VGA output which makes it particularly suited for communication control, SCADA and industrial automation. Its compact size along with wall-mount and DIN-rail mounting support also allows for easy installation into control cabinets.

Pre-installed with Linux and Windows[®] 10, the UST200-83H-FL provides programmers with a friendly environment for developing application software at a lower cost. By supporting mSATA, the UST200-83H-FL also serves as a perfect field control & monitoring system solution for the following markets:

- Public transportation industries (traffic/ highway control; train/bus control, etc.)
- Utility industries (hydro resources; energy; chemical plants; mining, etc.)
- Homeland security (weather monitoring/alarm system, etc.)

● Features

- Fanless design
- Wide temperature operation range of -40°C to +70°C
- Supports 2 10/100/1000 Base-T Ethernet with Magnetic Isolated Protection
- 1 DB9 CANBus 2.0A/B (CANBus SKU)
- 1 DB9 COM Port supports RS-232/422/485 (COM SKU) (optional)
- 2 USB 2.0 ports
- 1 Wireless (USB and PCIe Interface)
- Supports one mSATA
- Wide range 9–36 Vdc power input (typical 12Vdc and 24Vdc) with terminal block
- 1 DB9 8 bits programmable TTL level digital input/output port.
- Wall mount and DIN-rail mounting
- CE and FCC certified, ISO 7637-2 compliant

- **O.S. Supported**

Windows[®] 10 and Linux Ubuntu 18.04 LTS

1.2 System Specifications

1.2.1 CPU

- Onboard Intel[®] ATOM™ E3930 (1.3 GHz/2-core) processor.

1.2.2 BIOS

- AMI(American Megatrends Inc.) UEFI(Unified Extensible Firmware Interface) BIOS.

1.2.3 System Memory

- One DDR3L 204-pin SO-DIMM (1.35V) slot.
- Supports 1866MHz max. up to 8GB.

1.2.4 Display

- One slim type 15-pin D-Sub connector as VGA connector
- Supports VGA standards up to 1920x1200@60Hz

1.2.5 Ethernet Ports

- LAN chip: Intel Ethernet Controller
Intel I211
- 2 x RJ-45 connectors support 10/100/1000 Base-T Ethernet with 1.5KV magnetic isolated protection

1.2.6 Storage

- 1 x mSATA.

1.2.7 Wireless

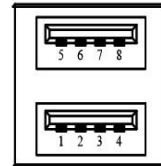
- 1 x Full size Mini Card slot supports modules with USB and PCIe interfaces.
- 1 x SIM card socket.
- 2 x Antenna holes.

1.2.8 USB

- 2 USB 2.0 ports
- USB Pin Define:

USB 2.0

Pin	Signal USB2.0 Port 1	Pin	Signal USB2.0 Port 2
1	VCC	5	VCC
2	D0-	6	D1-
3	D0+	7	D1+
4	GND	8	GND

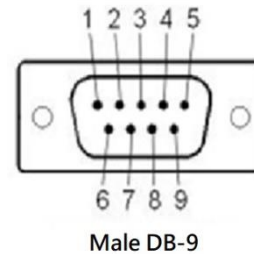


1.2.9 COM (COM SKU)

- 1 port DB9 supports RS-232/422/485, which can be selected by BIOS.
- Supports Auto Flow Control in RS485 mode.
- Serial Port Pin Define: (DB9 Male) as below
- Supports High Speed Mode 115.2 Kbps, Up to 1.5 Mbps

COM

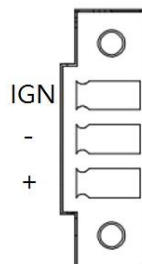
Pin	RS-232	RS-422	RS-485
1	DCD	TX-	Data-
2	RXD	TX+	Data+
3	TXD	RX+	--
4	DTR	RX-	--
5	GND	GND	GND
6	DSR	--	--
7	RTS	--	--
8	CTS	--	--
9	RI	--	--



1.2.10 Power

- Power Input
- DC Terminal block : Wide-range 9 - 36V. OVP and Reverse protection.

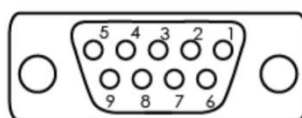
Pin	Signal
1	+
2	-
3	IGN



1.2.11 DIO

- One DB9 female connector supports 8 bits TTL level programmable digital input/output
- The voltage of TTL is 5V
- The programming is as follow:
 - I/O sink current is 8~10mA
 - Input/Output is programmable

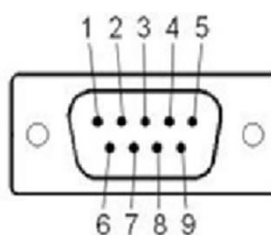
Pin	Signal
1	DIO0
2	DIO1
3	DIO2
4	DIO3
5	DIO4
6	DIO5
7	DIO6
8	DIO7
9	GND



Female DB-9

1.2.12 CANBus (CANBus SKU)

Pin	Signal
1	NC
2	CAN-L
3	GND
4	NC
5	GND
6	NC
7	CAN-H
8	NC
9	NC



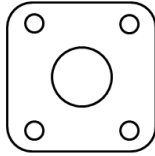
Male DB-9

1.2.13 WatchDog Timer (WDT)

- 1~255 seconds or minutes; up to 255 levels.

1.2.14 Restore BIOS Optimal Defaults (SW1)

- Press the tact switch (SW 1) 4 seconds to restore optimal BIOS defaults.

**1.2.15 System LED**

- The table below summarizes the functional descriptions of the LED indicators and their corresponding colors.

LED Name	Description	Color
ACT	Indicates storage status. The LED flashes when storage is being accessed.	Orange
PWR	Indicates power status. When the DC input is acceptable, the LED will turn on.	Green

1.2.16 Operation Temperature

- Wide temperature $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$

1.2.17 Storage Temperature

- $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

1.2.18 Humidity

- 0% ~ 95% (non-condensation)

1.2.19 Weight

- 0.3 kg

1.2.20 Dimensions

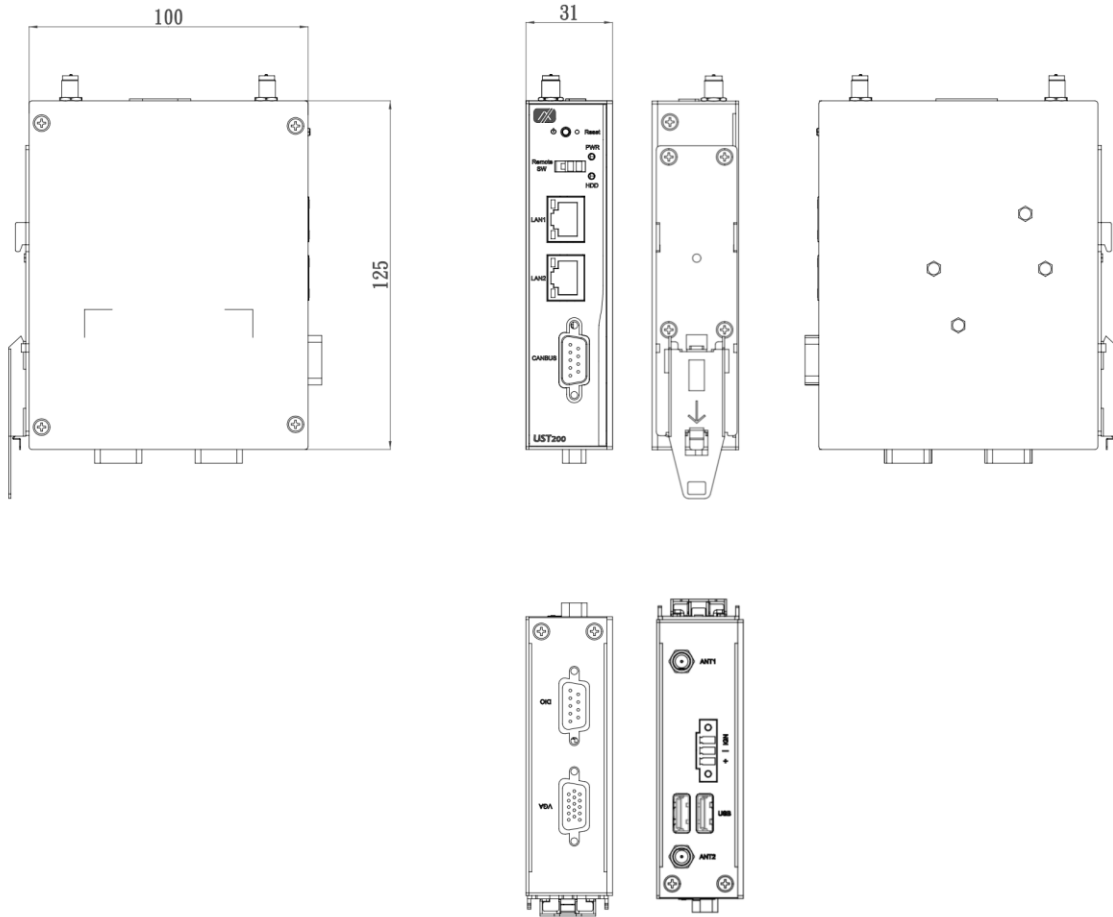
- 31mm (1.22") (W) x100mm (3.93") (D) x125mm (4.92") (H)

1.2.21 System I/O Outlets

- 1 x 9-pin D-Sub male connector, COM1. (COM SKU)
- 1 x 9-pin D-Sub male connector, CANBus 2.0A/B (CAN SKU)
- 1 x 15-pin D-Sub female connector for VGA.
- 2 x 10/100/1000 Base-T RJ-45 with 1.5KV magnetic isolated protection.
- 2 x USB 2.0 ports
- 1 x DC power input with terminal block.
- 1 x 9-pin D-Sub female connector for DIO.
- 2 x Antenna holes.

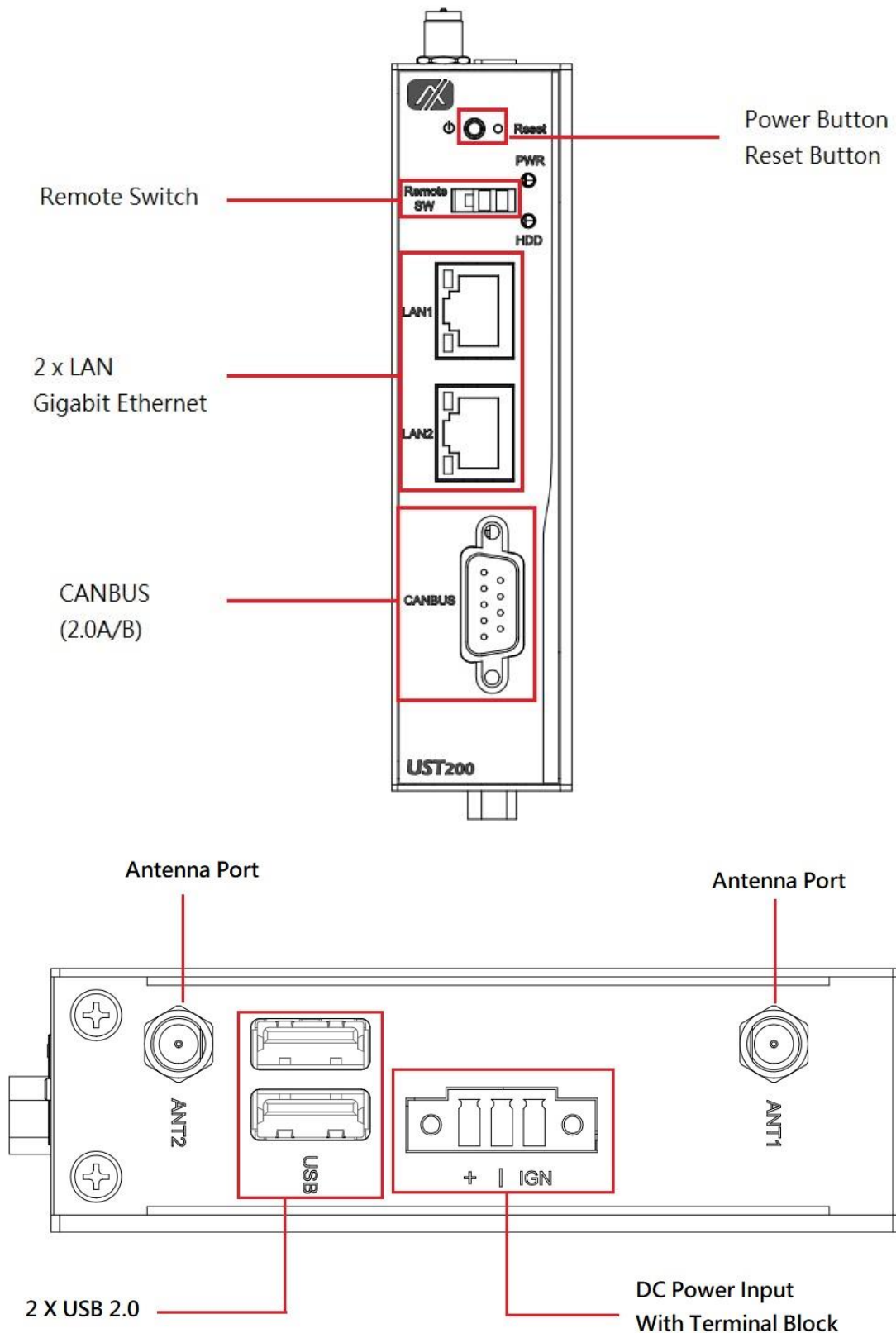
1.3 Dimensions

The following diagrams show you the dimensions and outlines of the UST200-83H-FL.

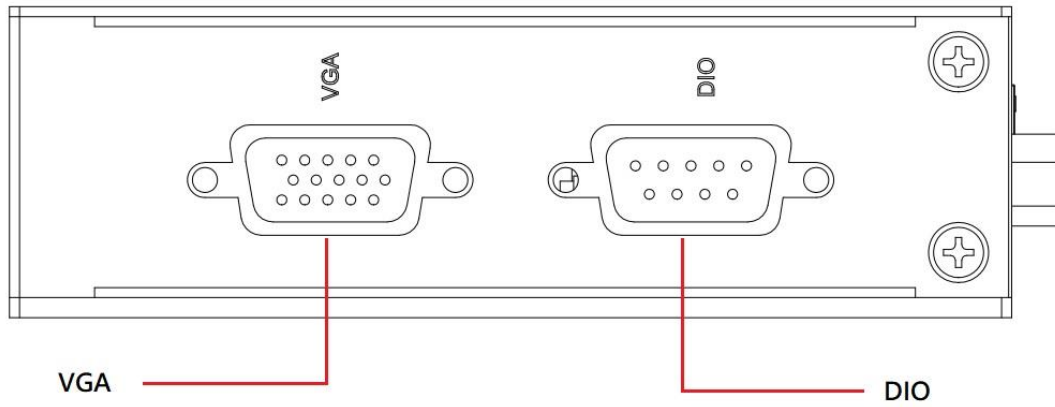


1.4 I/O Outlets

The following figures show you the I/O outlets on the front view and top view of the UST200-83H-FL.



The following figures show you the I/O outlets on the front view and bottom view of the UST200-83H-FL.



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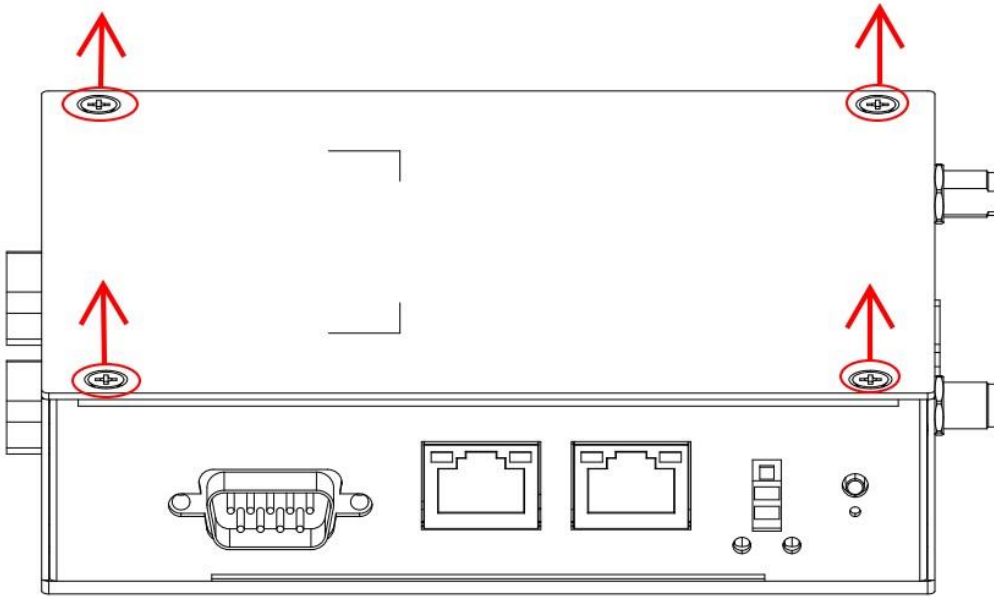
SECTION 2 HARDWARE INSTALLATION

The UST200-83H-FL is convenient for your various hardware configurations, such as memory modules and mSATA drives. Chapter 2 will show you how to install the hardware.

2.1 Installing the Memory Module

Step 1 Turn off the system.

Step 2 Loosen all screws of the cover and remove the cover from the system.



Step 3 Put the thermal pad on the memory module to increase cooling effect.



- Step 4** Use two fingers to hold the memory module, and insert the gold contact into the slot and push the module down.



- Step 5** The memory module is locked by two latches on the sides. We strongly recommend using “LDC737” silicone on both sides of the memory for optimal protection against vibration.

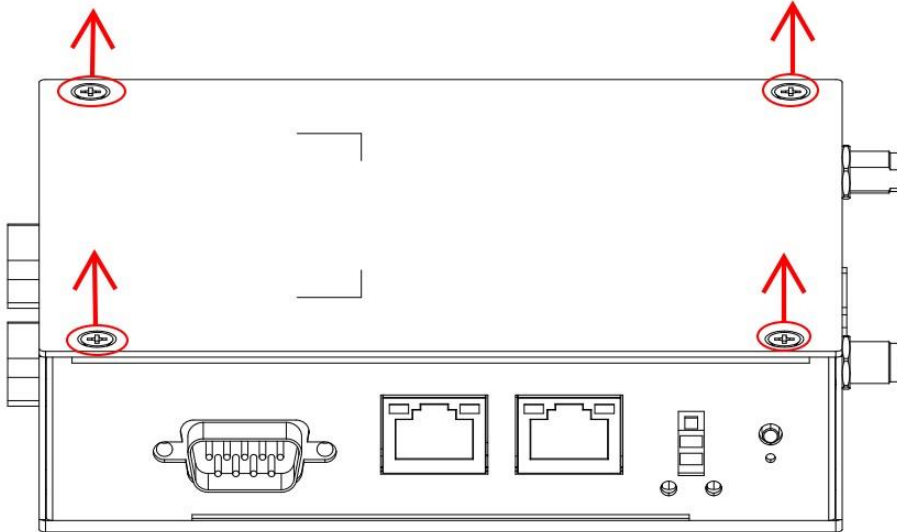


- Step 6** Put the cover back onto the system, and fasten all screws tight to close the chassis.

2.2 Installing the mSATA

Step 1 Turn off the system.

Step 2 Loosen all screws of the cover and remove the cover from the system.



Step 3 Insert the mSATA into the slot with the marking “mSATA / USB / PCIe”.



Step 4 Fasten the screws tightly.

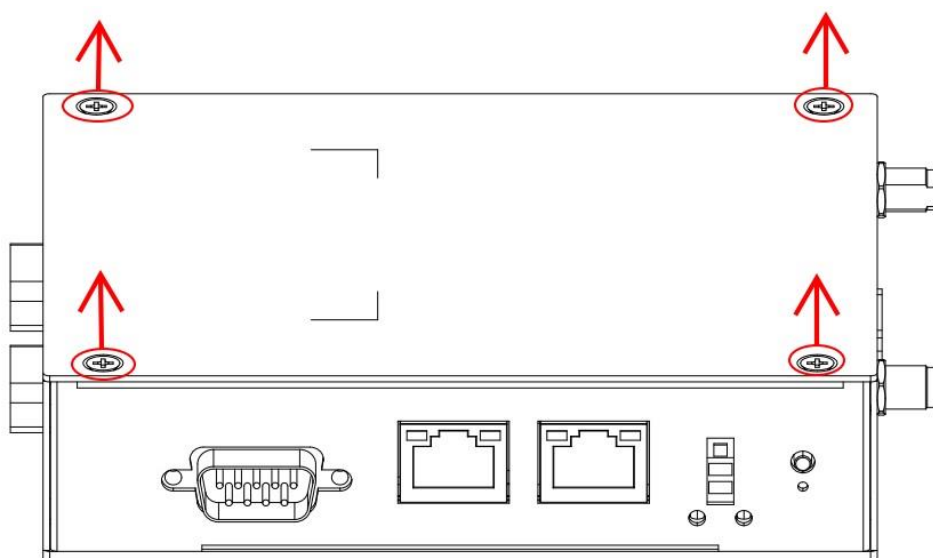


Step 5 Put the cover back onto the system, and fasten all screws tight to close the chassis.

2.3 Installing the Wireless Module

Step 1 Turn off the system.

Step 2 Loosen all screws of the cover and remove the cover from the system.



Step 3 Slide the SIM slot upward to unlock and lift the SIM slot (Figure 3-1), insert the SIM card and put it back down (Figure 3-2), and then slide the SIM slot downward to lock it up (Figure 3-3).



Figure 3-1

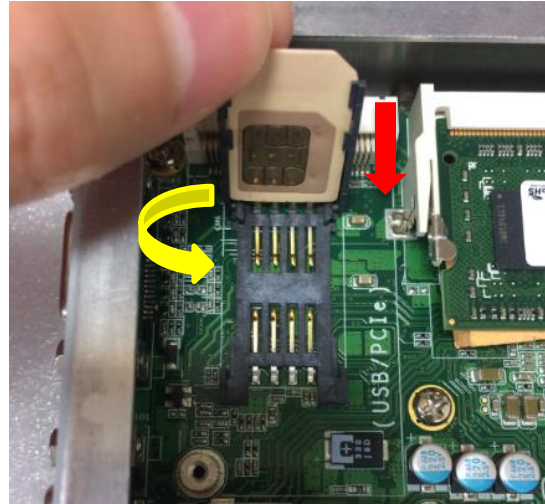


Figure 3-2

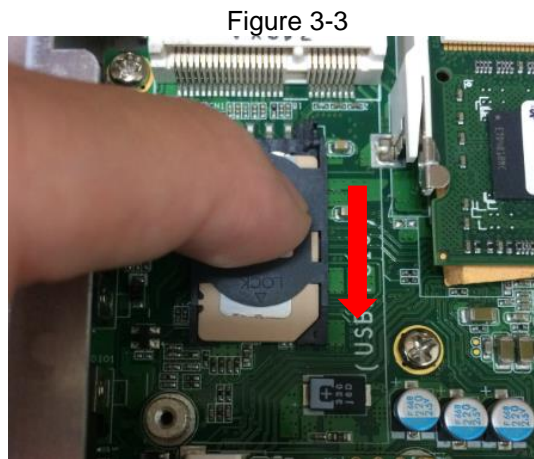
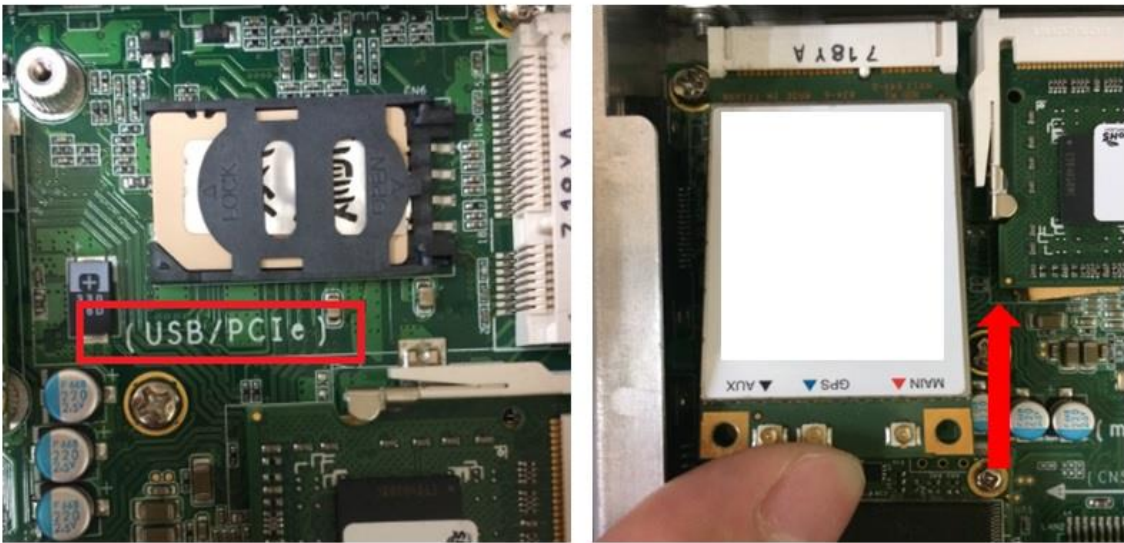


Figure 3-3

Step 4 Insert the wireless module into the slot with the marking “USB/PCIe”.



Step 5 Insert the LTE module and screw it tight.



Step 6 Remove the plug cover from the chassis.



Step 7 Connect the RF cable to the connector of the LTE module marked by “MAIN”.



Step 8 Taking out the antenna nut and gasket from the LTE kit package (Figure 8-1). Make the end of the RF cable through the antenna hole (Figure 8-2). Finally, screw the end of the RF cable tightly with the antenna nut and gasket (Figure 8-3).



Figure 8-1



Figure 8-2

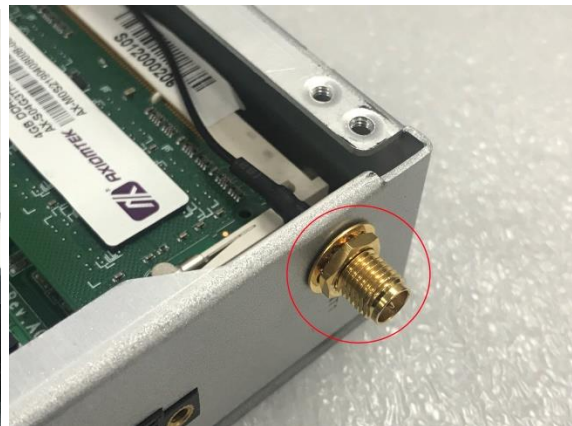


Figure 8-3

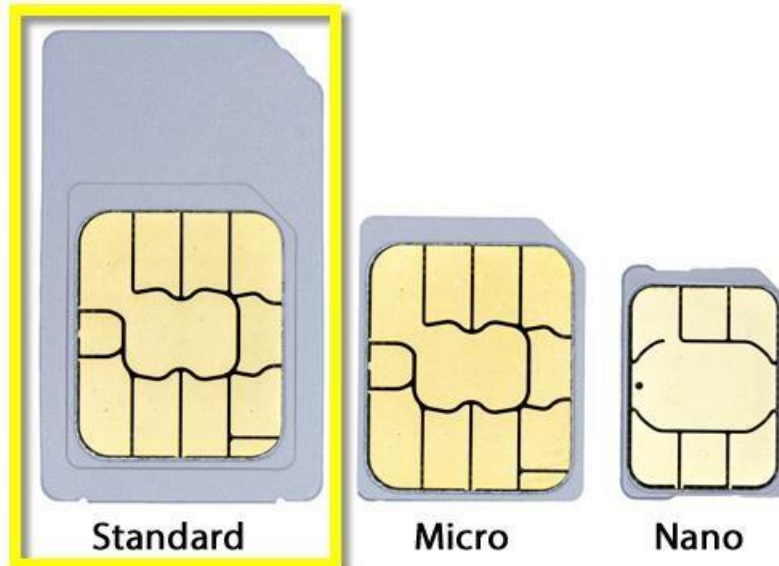
Step 9 Screw the RF antenna tight.



Step 10 Put the cover back onto the system, and fasten all screws tight to close the chassis.



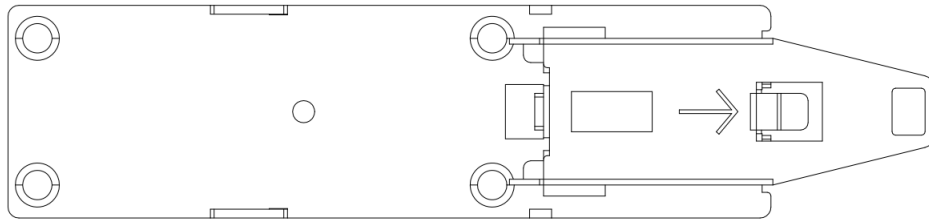
Note: Use only standard-size SIM cards, as illustrated below:



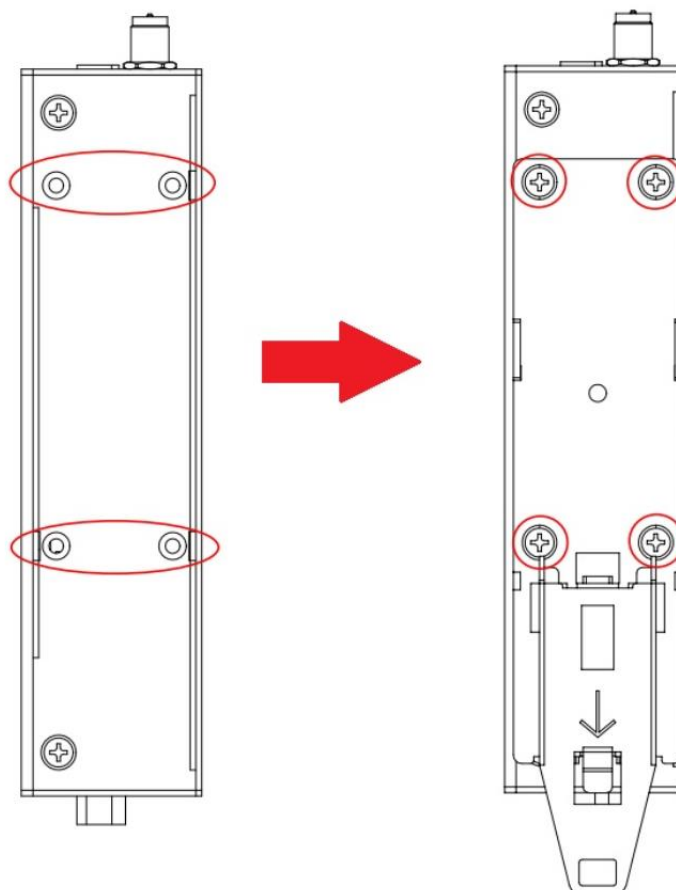
2.4 Installing the DIN-rail Kit

The UST200-83H-FL provides DIN-rail mount as illustrated below:

Step 1 Prepare the DIN-rail mount assembling components (screws and bracket) ready.



Step 2 Assembly the bracket to the system and fasten all screws tight.



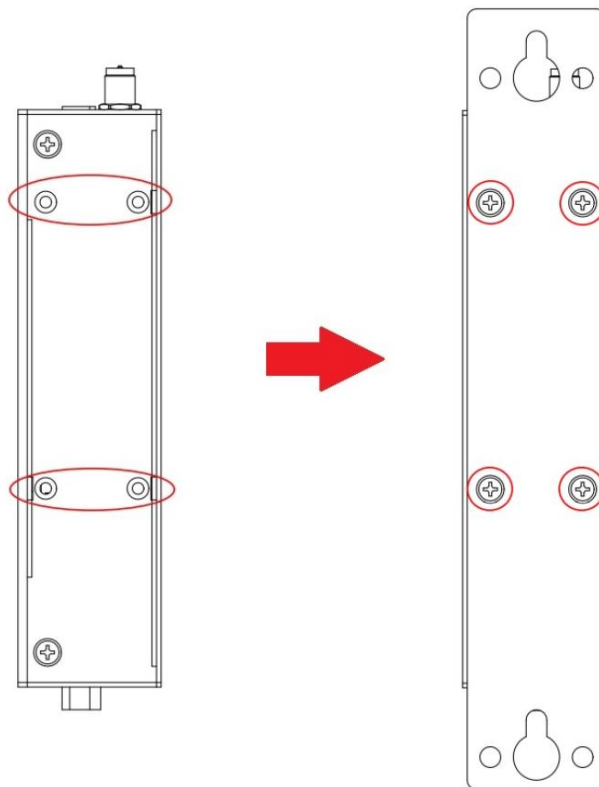
2.5 Installing the Wall Mount Kit (Optional)

The UST200-83H-FL provides a wall mount kit that customers can install as illustrated below:

Step 1 Prepare the wall mount assembling components (screws and bracket) ready.



Step 2 Assemble the bracket to the system, and fasten all screws tight.



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SECTION 3

AMI UEFI BIOS UTILITY

The AMI UEFI BIOS provides users with a built-in Setup program to modify basic system configuration. All configured parameters are stored in a flash backup to save the Setup information whenever the power is turned off.

3.1 Entering Setup

To enter the setup screens, follow the steps below:

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

3.2 The Main Menu



Once you enter the AMI BIOS Aptio Setup Utility, the Main Menu appears on the screen. In the Main Menu, there are several Setup functions and a couple of Exit options for your selection. Use Select Screen Keys (or Move Keys) to select the Setup Page you intend to configure and then press <Enter> to accept or enter its sub-menu.

System Date

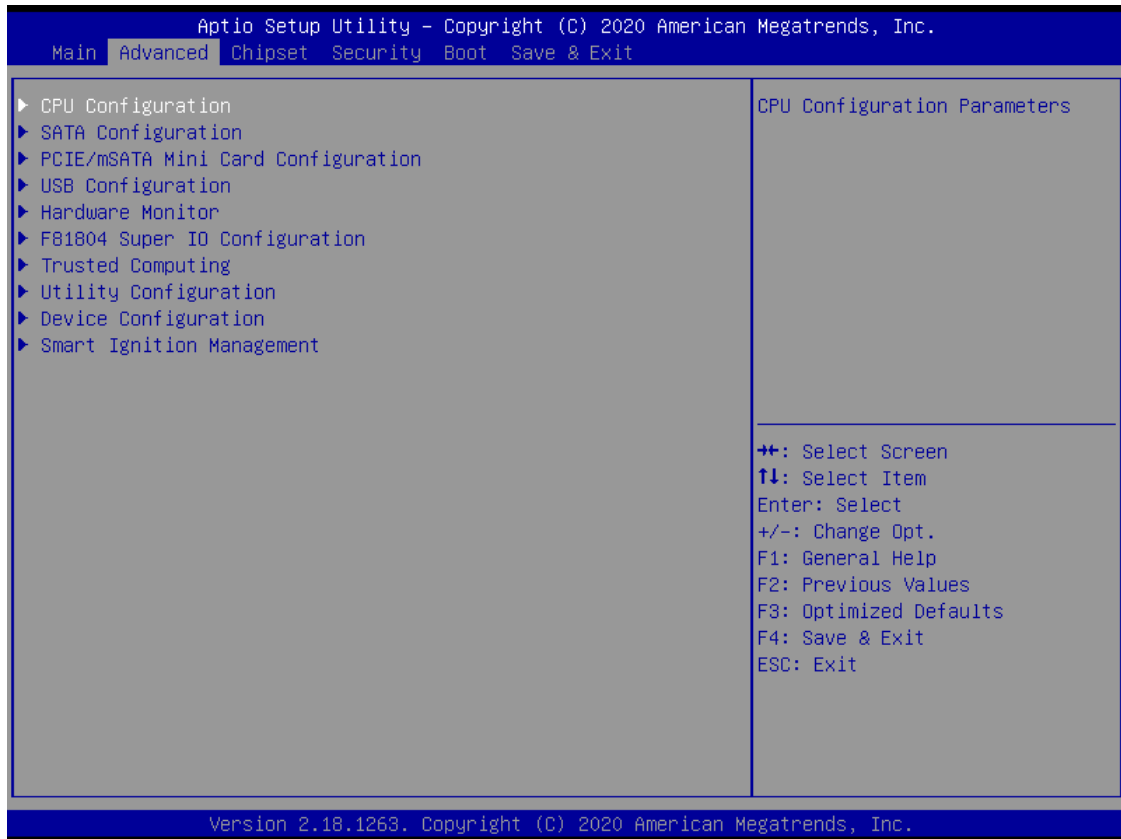
The date format is <day> <month> <date> <year>.

System Time

This item shows current time of your system with the format <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

3.3 Advanced Features

This Advanced menu allows users to configure and improve your system, or to set up some system features according to your preference. You can select any of the items in the left frame of the screen to go to the sub menus:



CPU Configuration

Scroll to this item and press <Enter> to view the CPU Configuration information.

(Please refer below graphics.)

Aptio Setup Utility - Copyright (C) 2020 American Megatrends, Inc.

Advanced

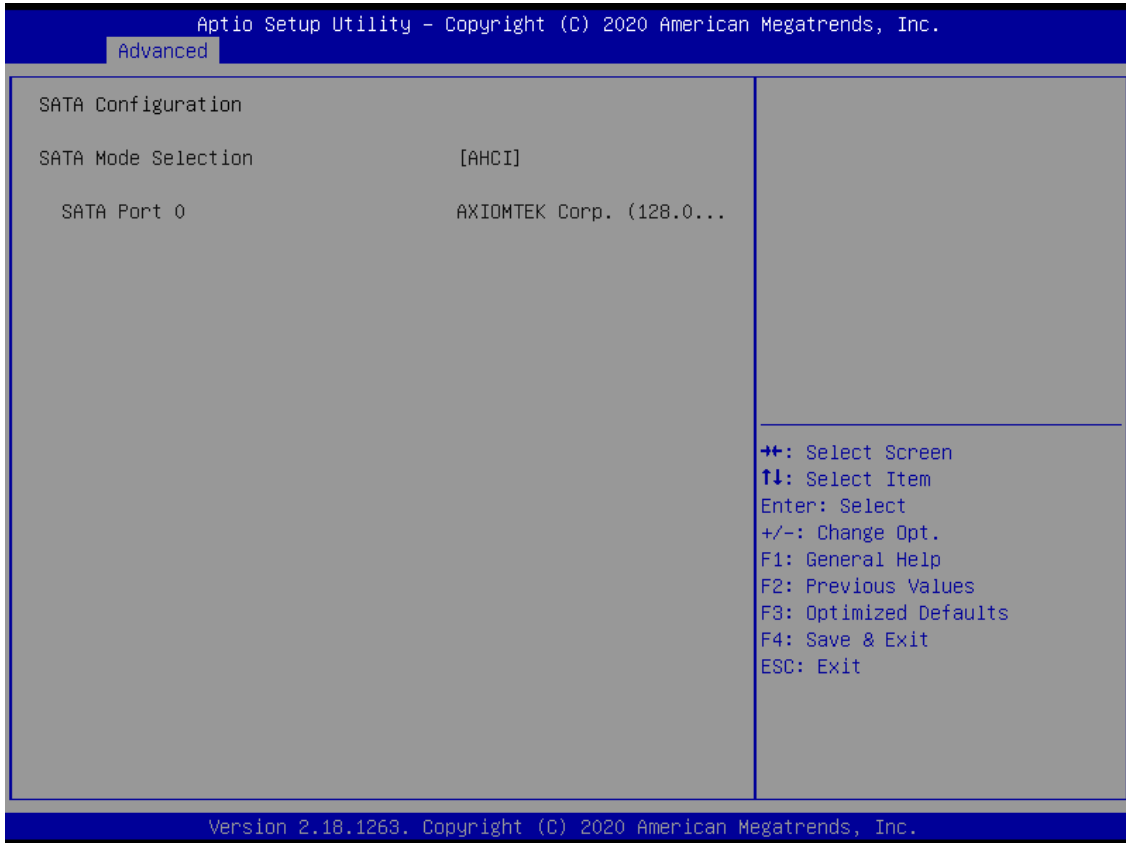
<p>CPU Configuration</p> <p>Intel(R) Atom(TM) Processor E3930 @ 1.30GHz CPU Signature 506CA Microcode Patch 1A Max CPU Speed 1300 MHz Min CPU Speed 800 MHz Processor Cores 2 Intel HT Technology Not Supported Intel VT-x Technology Supported 64-bit Supported</p> <hr/> <p>L1 Data Cache 24 kB x 2 L1 Code Cache 32 kB x 2 L2 Cache 1024 kB x 2 L3 Cache Not Present</p> <p>Intel Virtualization Technology [Enabled]</p>	<p>When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology</p> <hr/> <p>←→: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>
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SATA Configuration

Scroll to this item to view the SATA Configuration information.

(Please refer to below graphics.)



PCIe/mSATA Mini Card Configuration

You can choose the PCIe or mSATA function for the Mini Card mode, selectable via the BIOS menu. The default setting is mSATA mode.

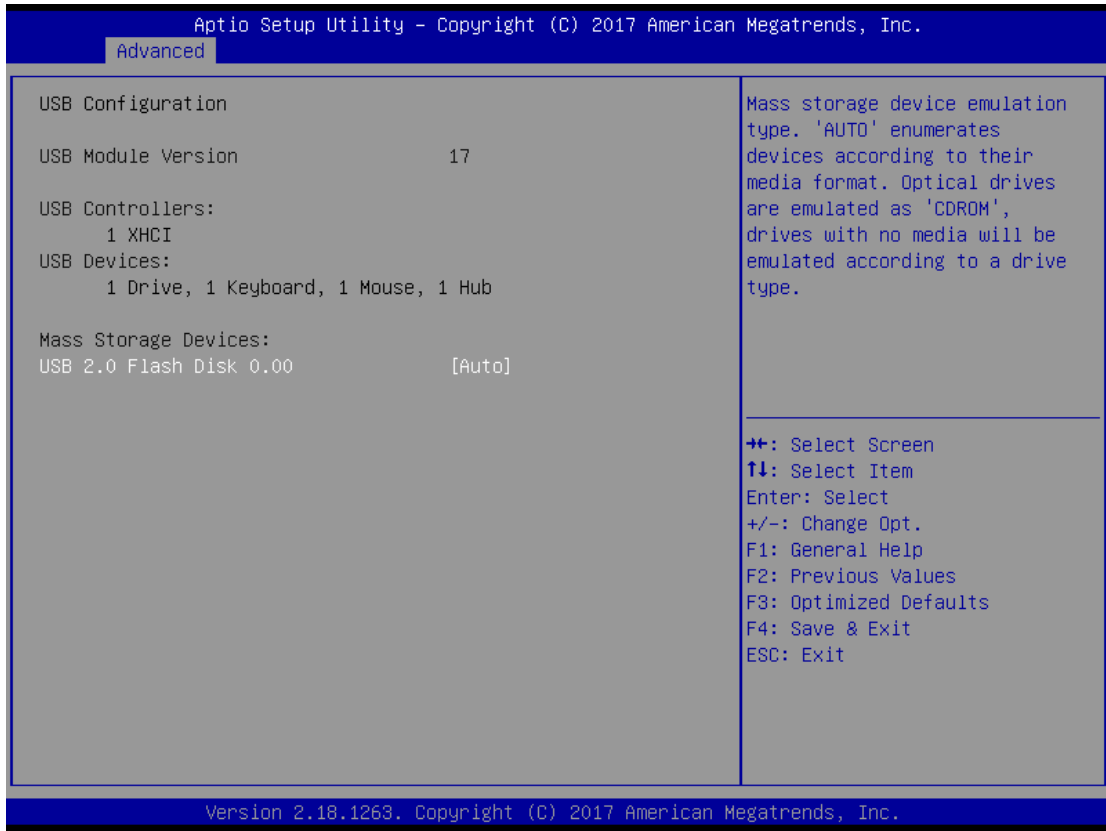
(Please refer below graphics.)



USB Configuration

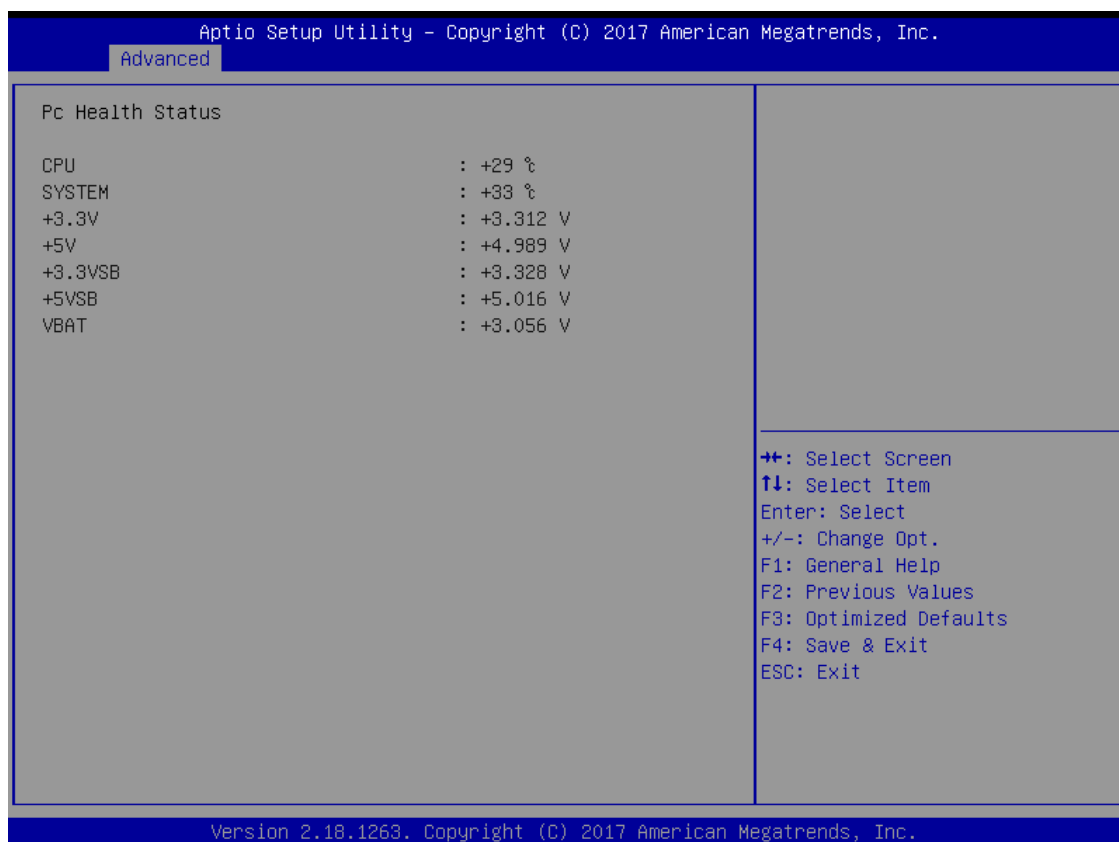
Scroll to this item and press <Enter> to view the USB Configuration information.

(Please refer below graphics.)



H/W Monitor

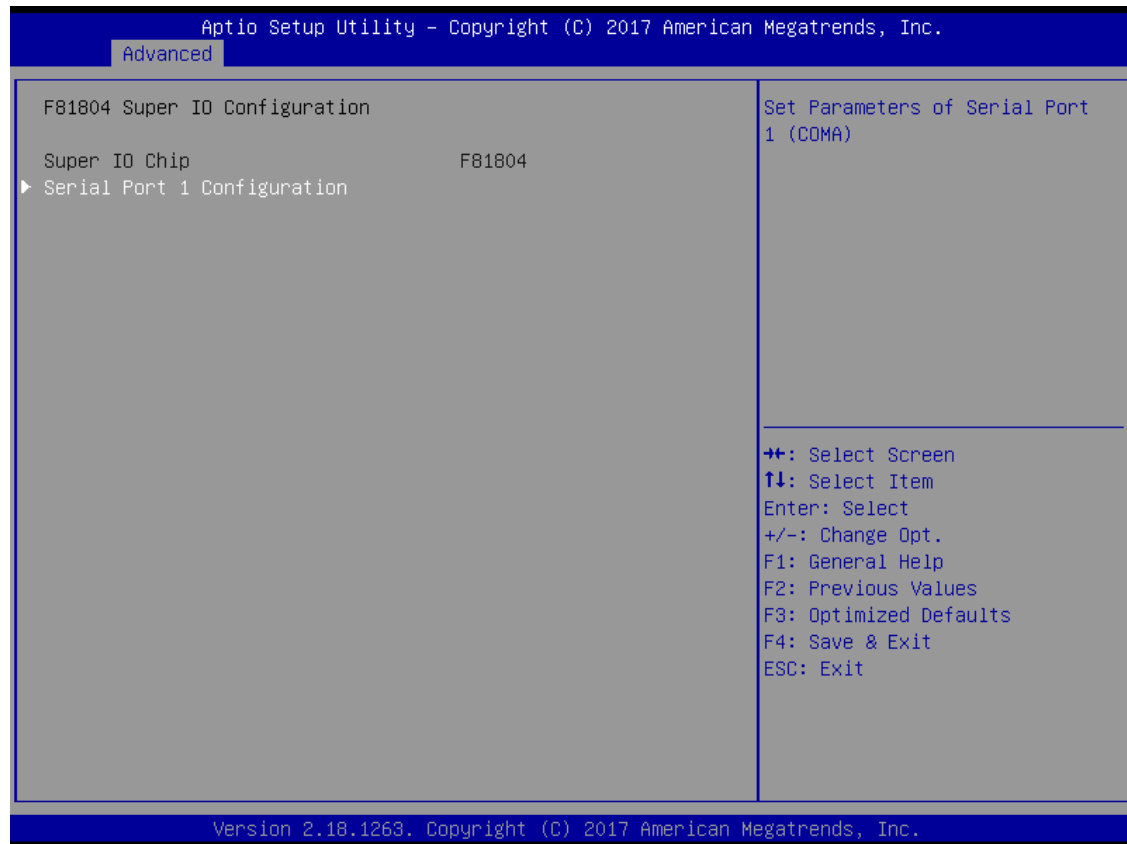
Scroll to this item and press <Enter> to view the hardware status items under monitoring (please refer below graphics).

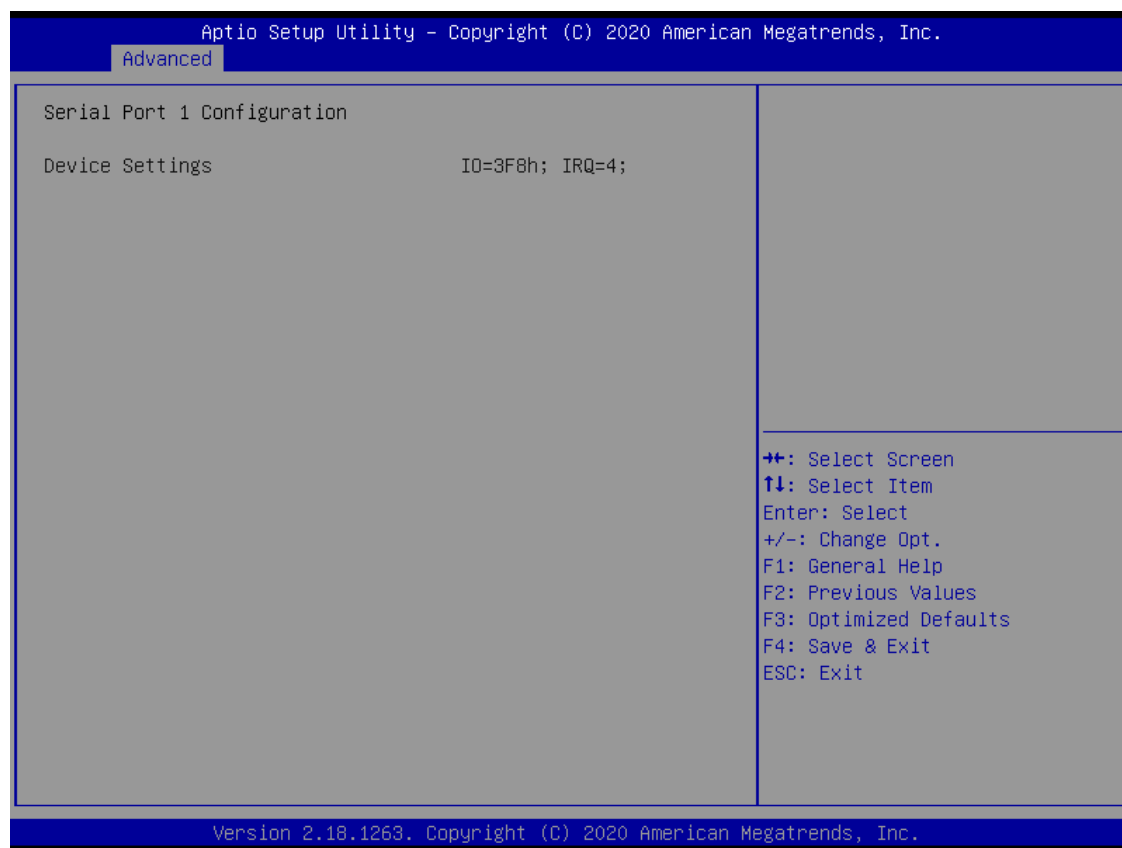


F81804 Super IO Configuration

The default setting for Serial Port 1 is CAN.

(Please refer to below graphics.)





Trust Computing

This sub-menu will allow you to enable/disable Trusted Platform Module (TPM) support, and to configure the TPM State. Select Trusted Computing and press Enter to access the sub-menu. Select Security Device Support item to Enable the TPM device

Aptio Setup Utility - Copyright (C) 2020 American Megatrends, Inc.

Advanced

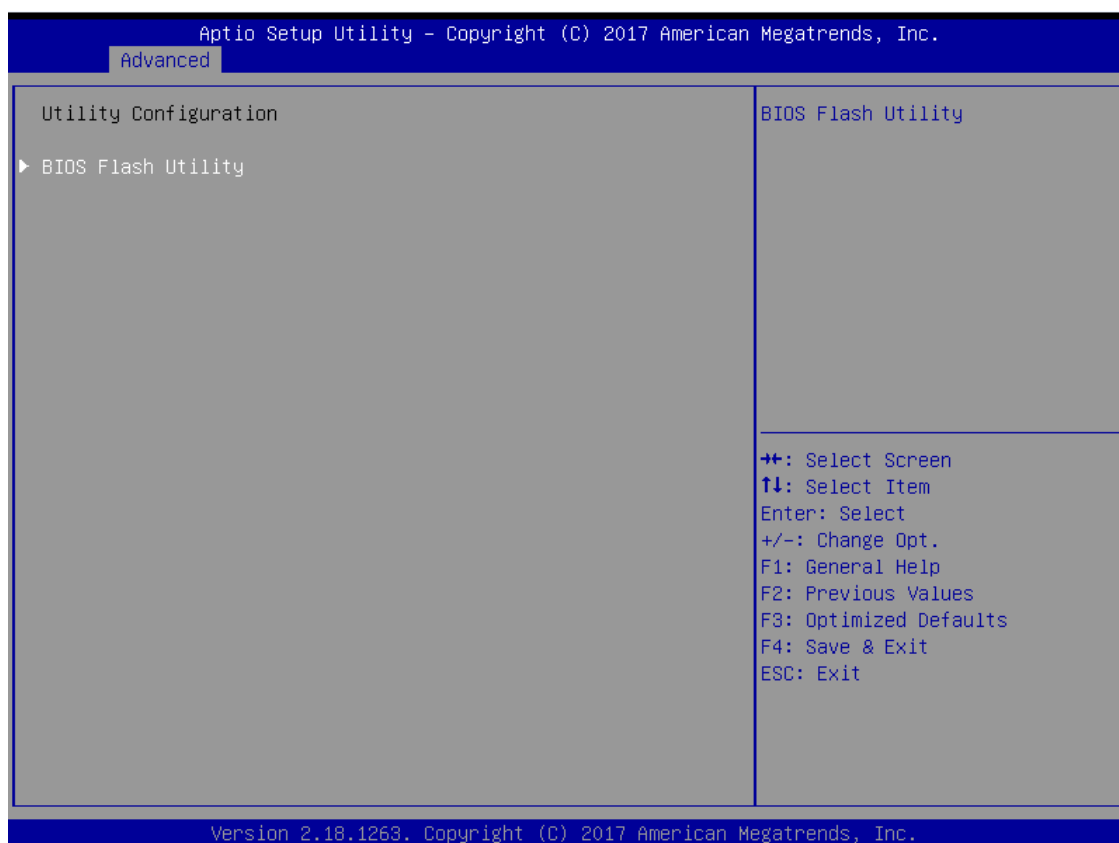
<p>TPM20 Device Found</p> <p>Security Device Support [Enable] Active PCR banks SHA-1 Available PCR banks SHA-1,SHA256</p> <p>TPM 20 InterfaceType [TIS]</p>	<p>Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.</p> <hr/> <p> ⇧⇧: Select Screen ⇩⇩: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit </p>
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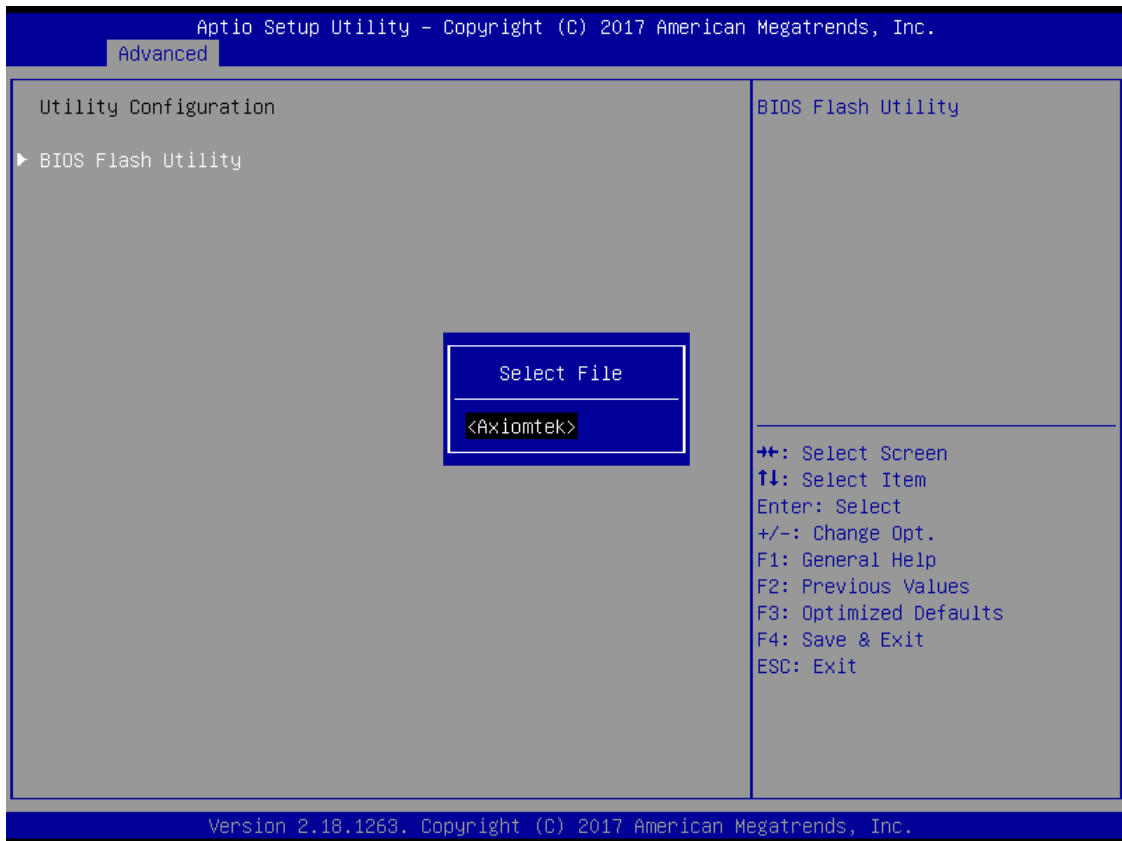
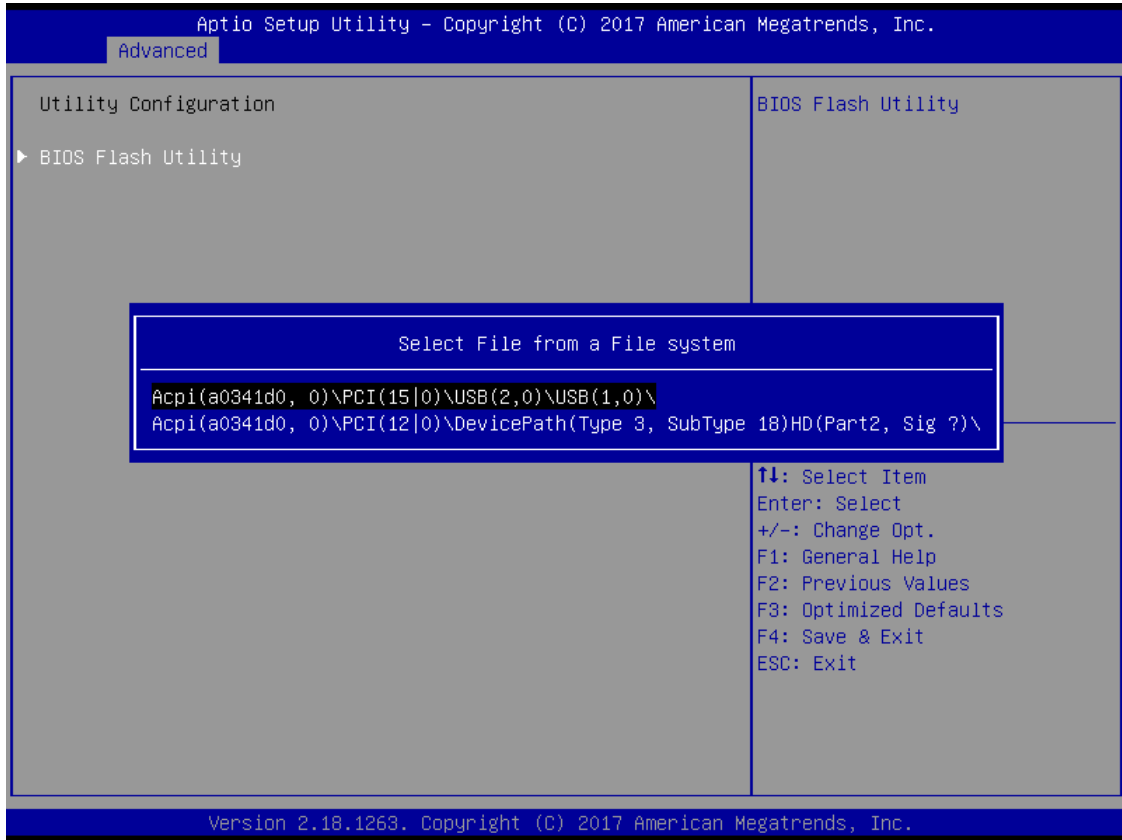
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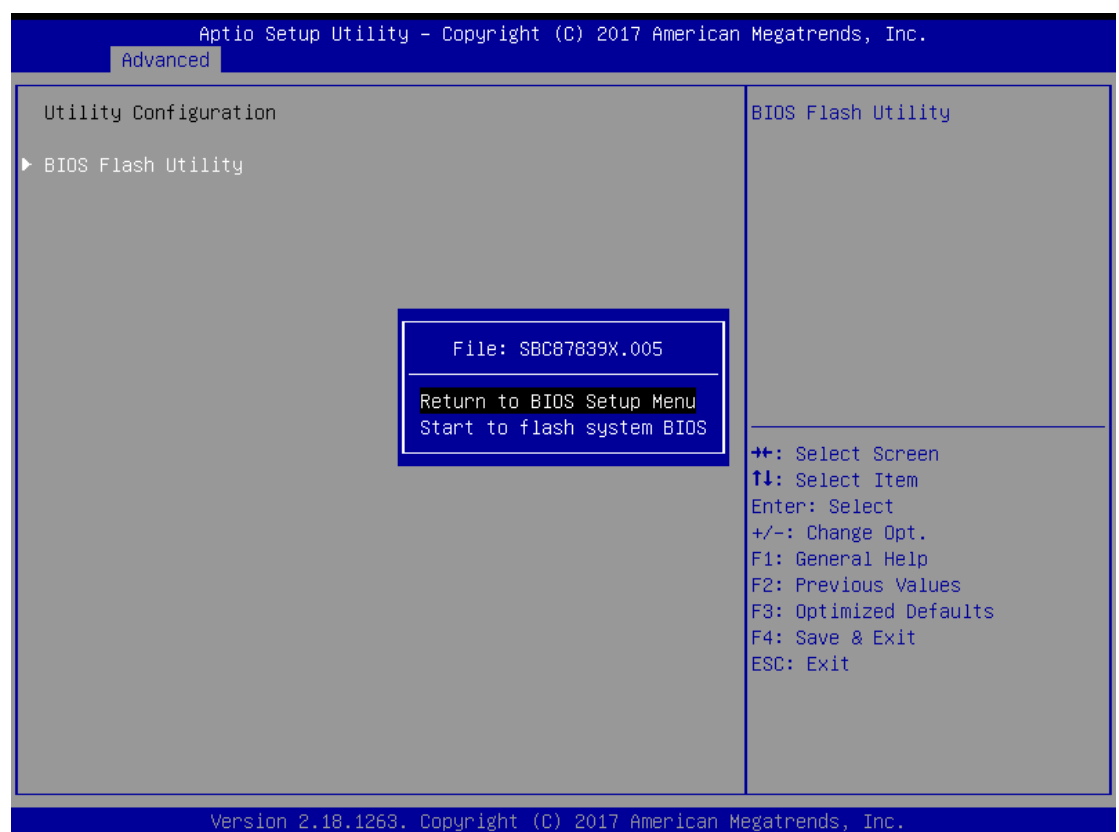
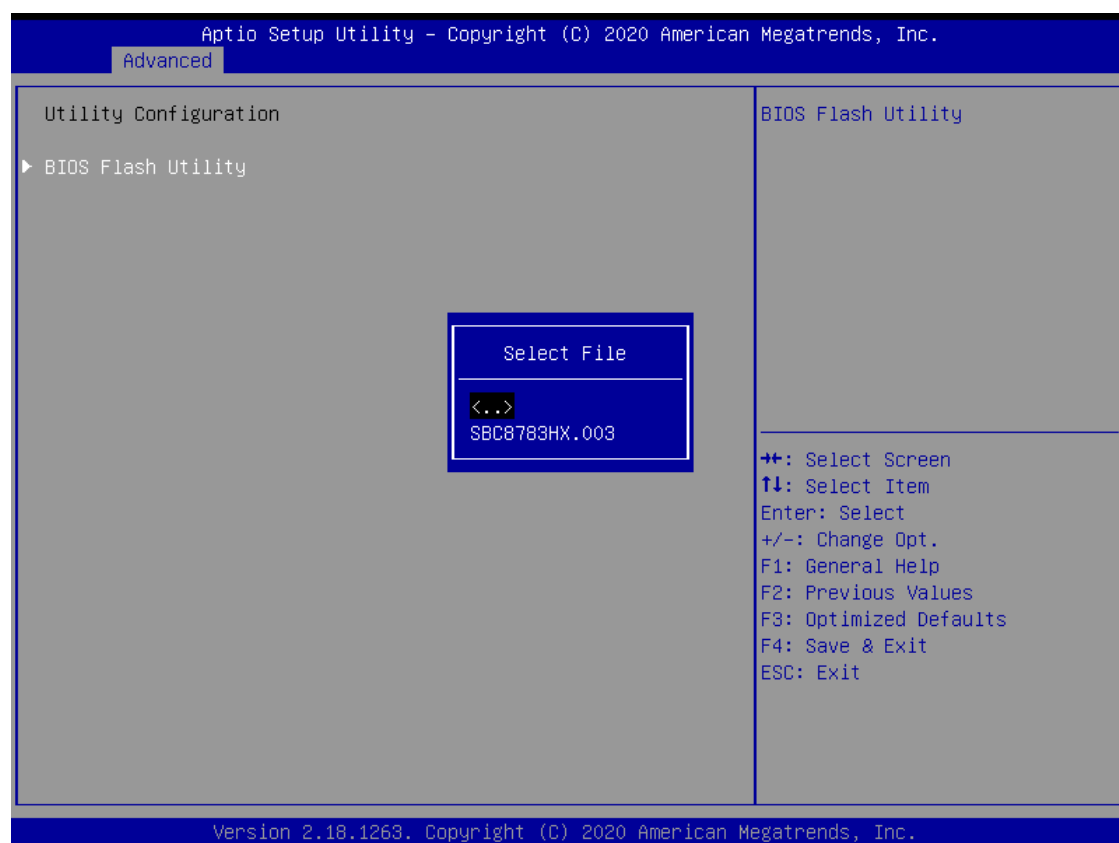
Utility Configuration

BIOS flash utility is a tool used for flashing BIOS on setup menu, follow the step to flash BIOS.

1. Create a folder and rename it to Axiomtek on the root of USB storage (Ex: X:\Axiomtek).
2. Copy the BIOS file to the Axiomtek folder (Ex: X:\Axiomtek\SBC8783HX.003).
(Note : The BIOS file name must contain the word SBC8783H)
3. Enter the BIOS flash utility and locate the BIOS file.
4. Select "Start flash system BIOS".





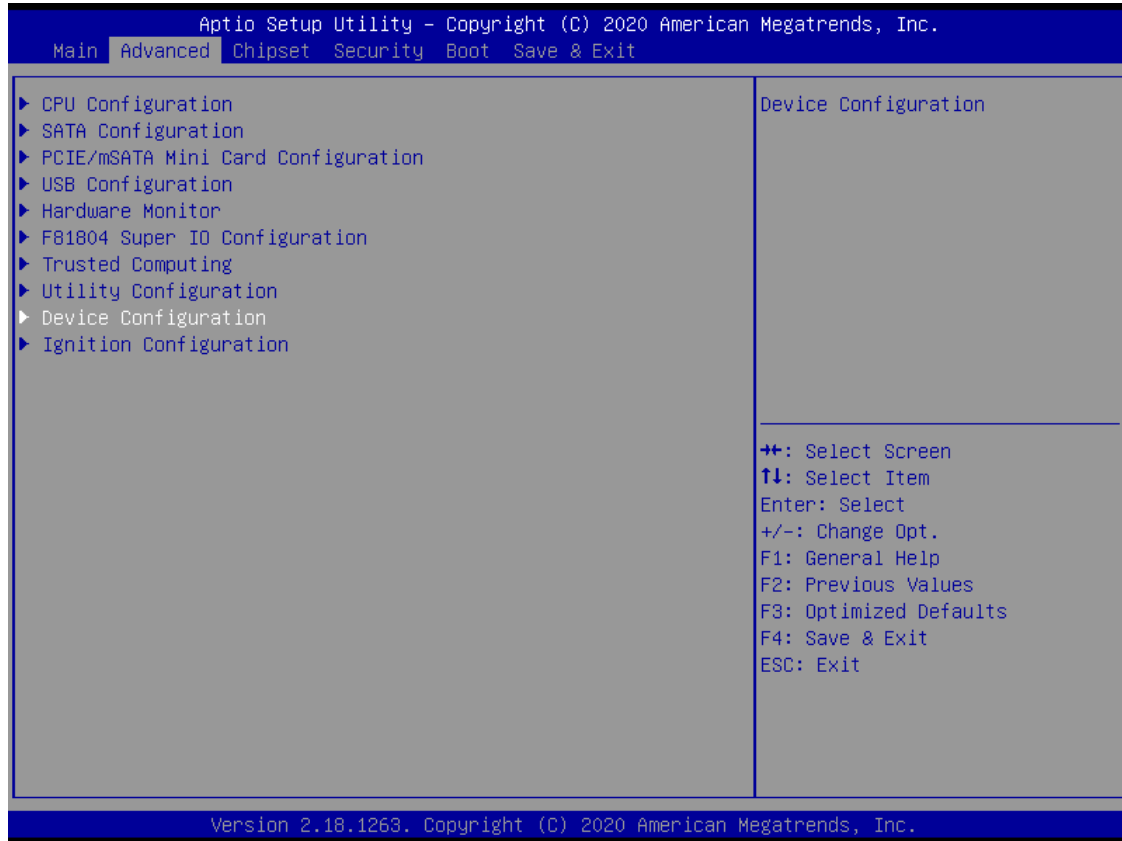


Device Configuration

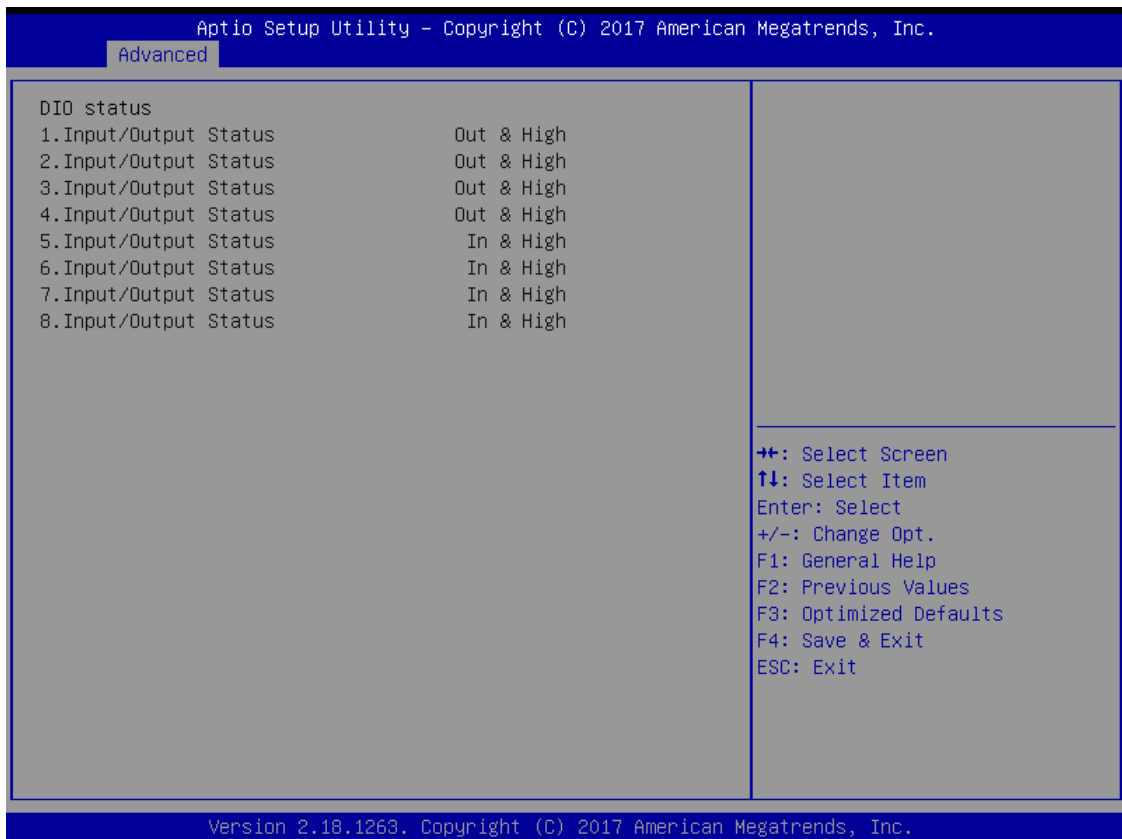
The DIO Modification default setting is “disable”.

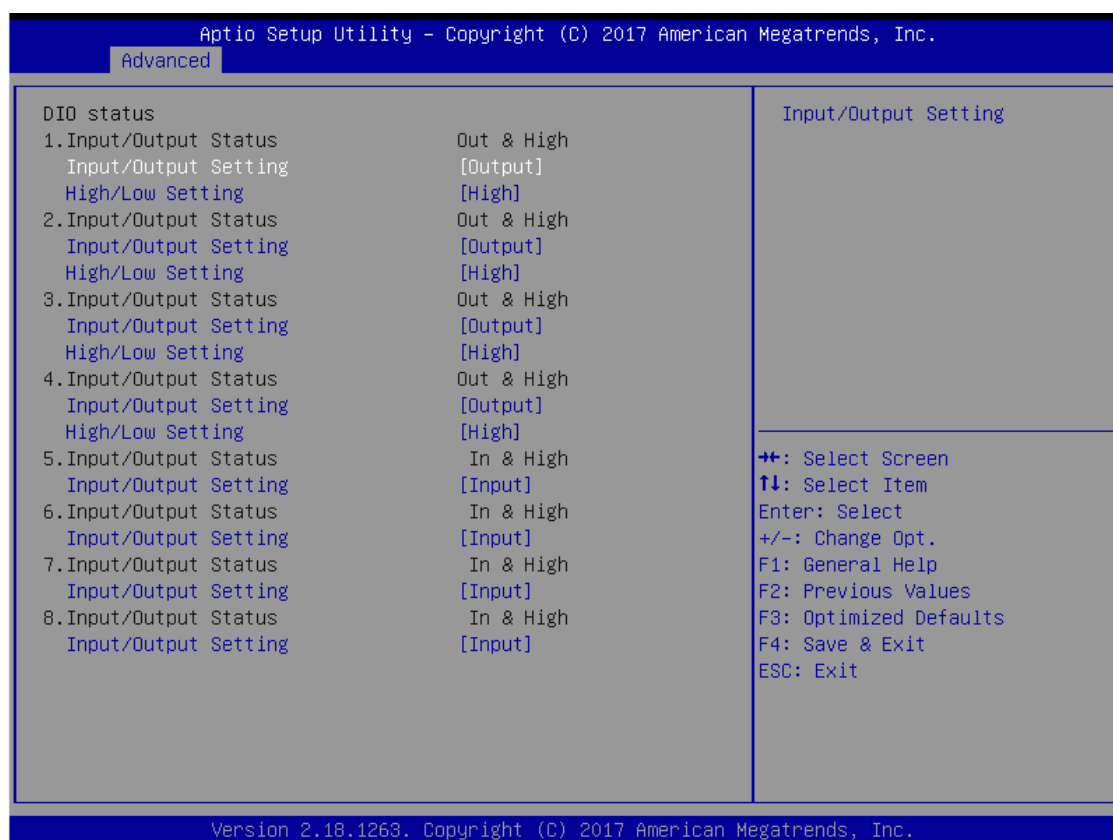
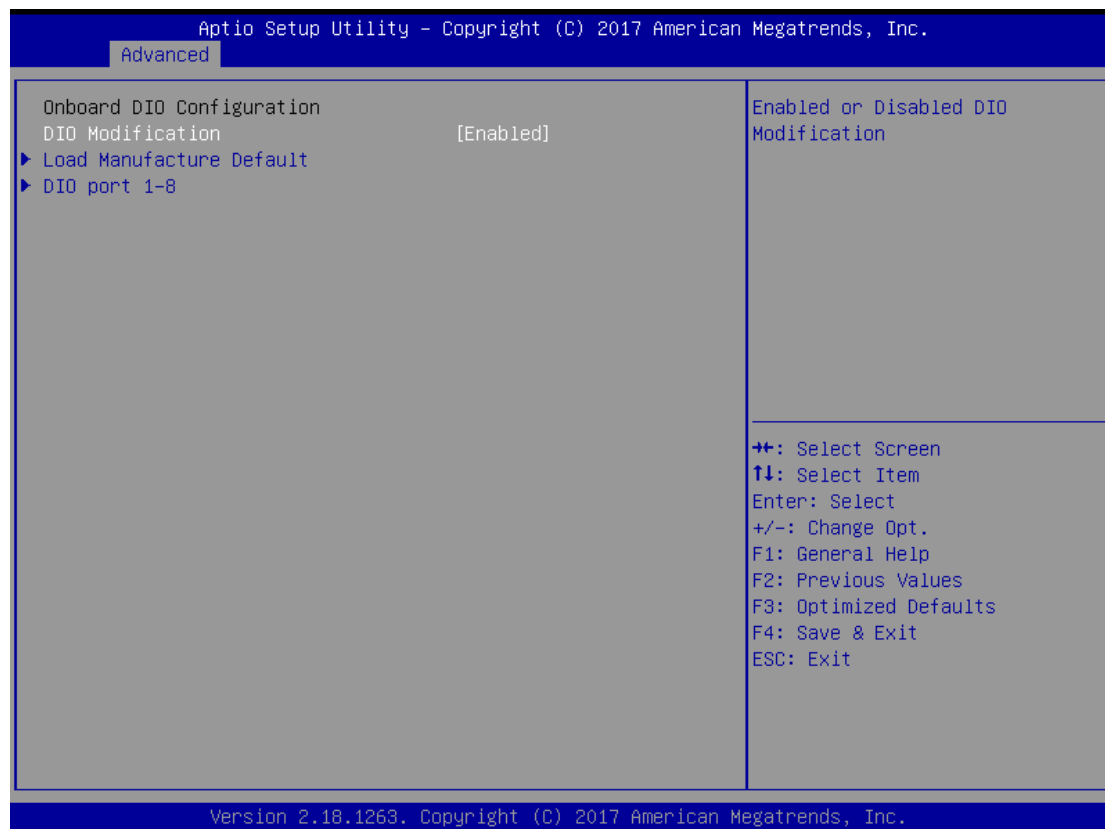
If the setting is changed to “enable”, you can load manufacture default and program DIO setting.

(Please refer to below graphics.)



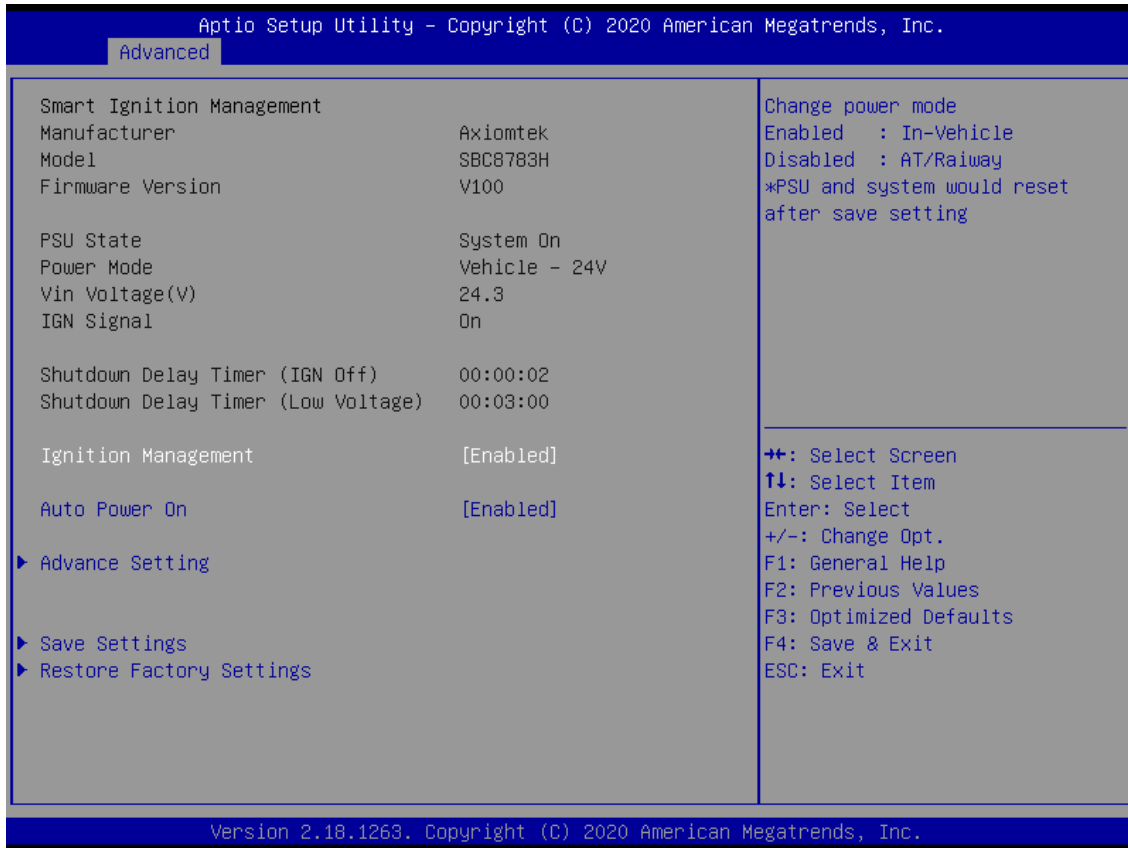






Smart Ignition Management

The Smart Ignition Management setting includes Axiomtek's latest techniques in ignition management. Please read the description below with pictures.



BIOS menu item	Description
Ignition Management	<p>Enabled Switch to In-Vehicle mode</p> <p>Disabled Switch to AT/Railway mode *PSU and system will reset after setting is saved</p>
Auto Power On	<p>Enabled System will turn on automatically under below conditions: - Manually disconnect and reconnect system power - Power interruption: power resumes after power fail</p> <p>Disabled System will not turn on automatically when power is connected or power resumes from a power failure</p>
Advance Setting	Set system on/off timing and voltage threshold levels
Save Settings	Save the current settings to PSU
Restore Factory Settings	Restore factory defaults to remove any incorrect or corrupt settings preventing the system from properly powering on/off

Aptio Setup Utility - Copyright (C) 2020 American Megatrends, Inc.

Advanced

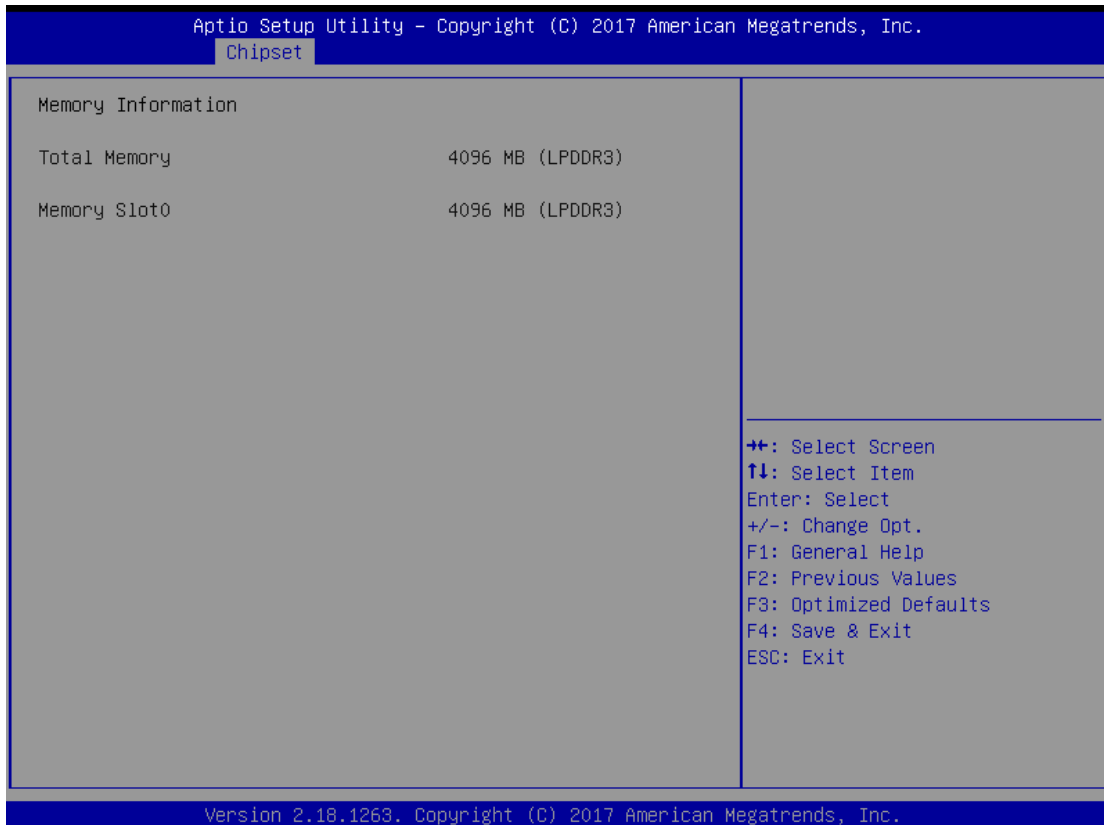
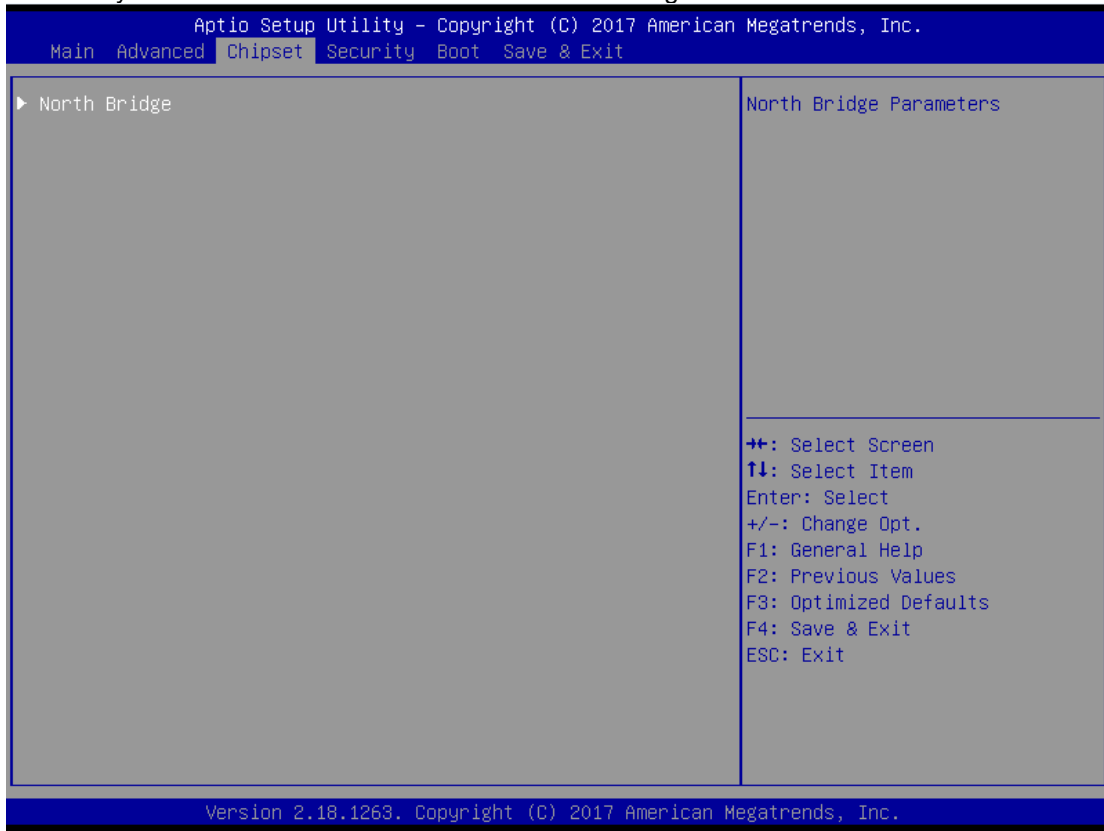
<pre> ===== Voltage ===== Activate Voltage Trigger(V) 9 Low Voltage Trigger(V) 8 Shutdown Delay Timer (Low Voltage) Minium Timer 00:01:00 Maximum Timer 03:00:00 Hour 0 Minute 3 Second 0 ===== IGN Function ===== IGN Trigger [Enabled] System Turn On Delay Timer(IGN On) Minium Timer 00:00:02 Maximum Timer 00:30:00 Hour 0 Minute 0 Second 2 Shutdown Delay Timer (IGN Off) Minium Timer 00:00:01 Maximum Timer 06:00:00 Hour 0 Minute 0 Second 2 </pre>	<p>Enable : IGN signal would trigger [System Turn On Delay] and [Shutdown Delay] Disable: IGN signal would not affect any power managment</p> <hr/> <p> ++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit </p>
--	--

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BIOS menu item	Description
Activate Voltage Trigger	The system only turns on when the power source delivers the voltage higher than the value you set here.
Low Voltage Trigger	The system will begin countdown stage once voltage drops below the value you set here. If the power source voltage does not come back above the value of [Activate Voltage Trigger] within the time you set for [Shutdown Delay Time(Low Voltage)], the system will shut down and remain off.
Shutdown Delay Timer (Low Voltage)	The counter will be activated once power source voltage drops below the value defined in [Low Voltage Trigger]. The system will be forced to turn off once timer completes countdown.
IGN Trigger	Enable IGN signal will trigger [System Turn On Delay] and [Shutdown Delay]. Disable IGN signal will not affect any power management.
System Turn On Delay Timer (IGN On)	When receiving the IGN signal, the system will be turned on after setup time is counted down. The counter will be reset if IGN is off and on during the system countdown time.
Shutdown Delay Timer (IGN Off)	When the system is on, IGN voltage goes off, and the system will be gracefully shut down from operating system after setup timer signal trigger within the time you set. Additionally, if power source voltage is lower than the setup value it will cause the system to turn off as well.

3.4 Chipset Feature

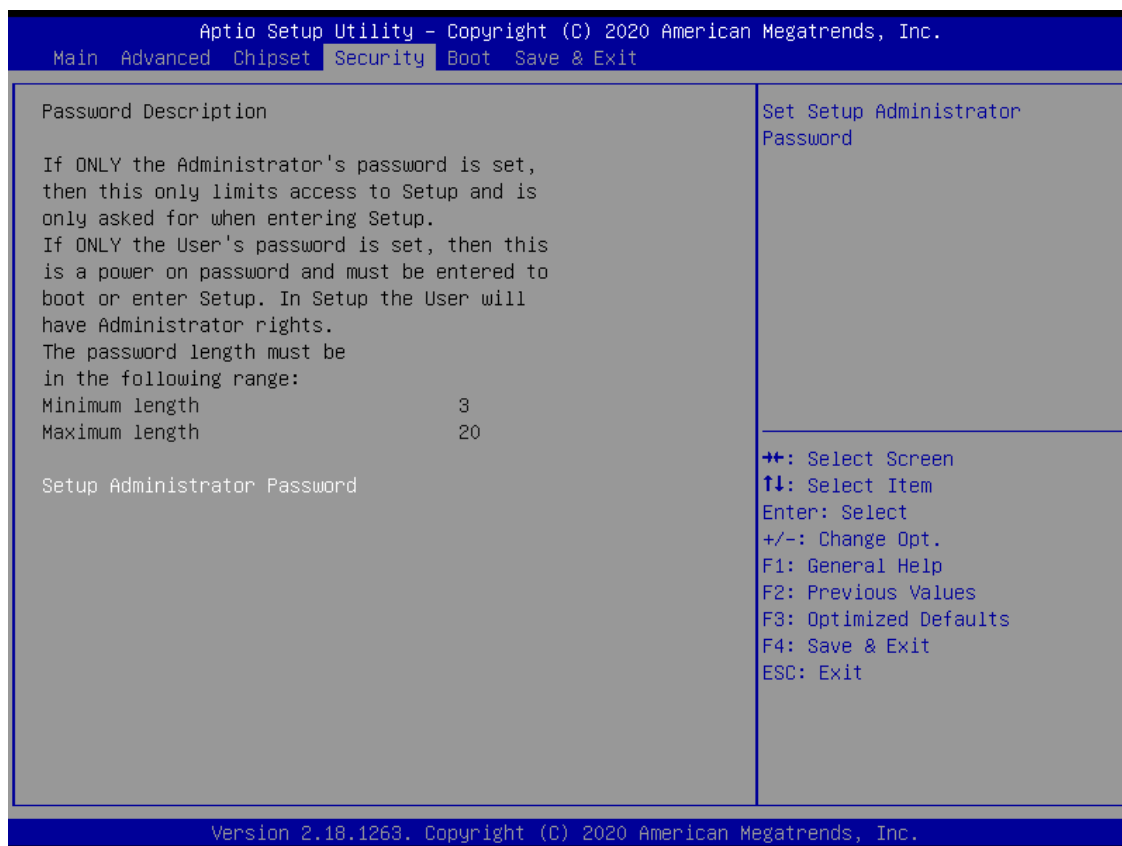
The Chipset menu allows users to change the advanced chipset settings. Users can select any of the items in the left frame of the screen to go to the sub menus



3.5 Security

The Security menu allows users to enhance system security by setting an administrator password. No password has been set in the default setting.

(Please refer to below graphics.)



Note: The BIOS default has no password. The user must remember the password after creating one. If the user forgets the password RMA is the only solution.

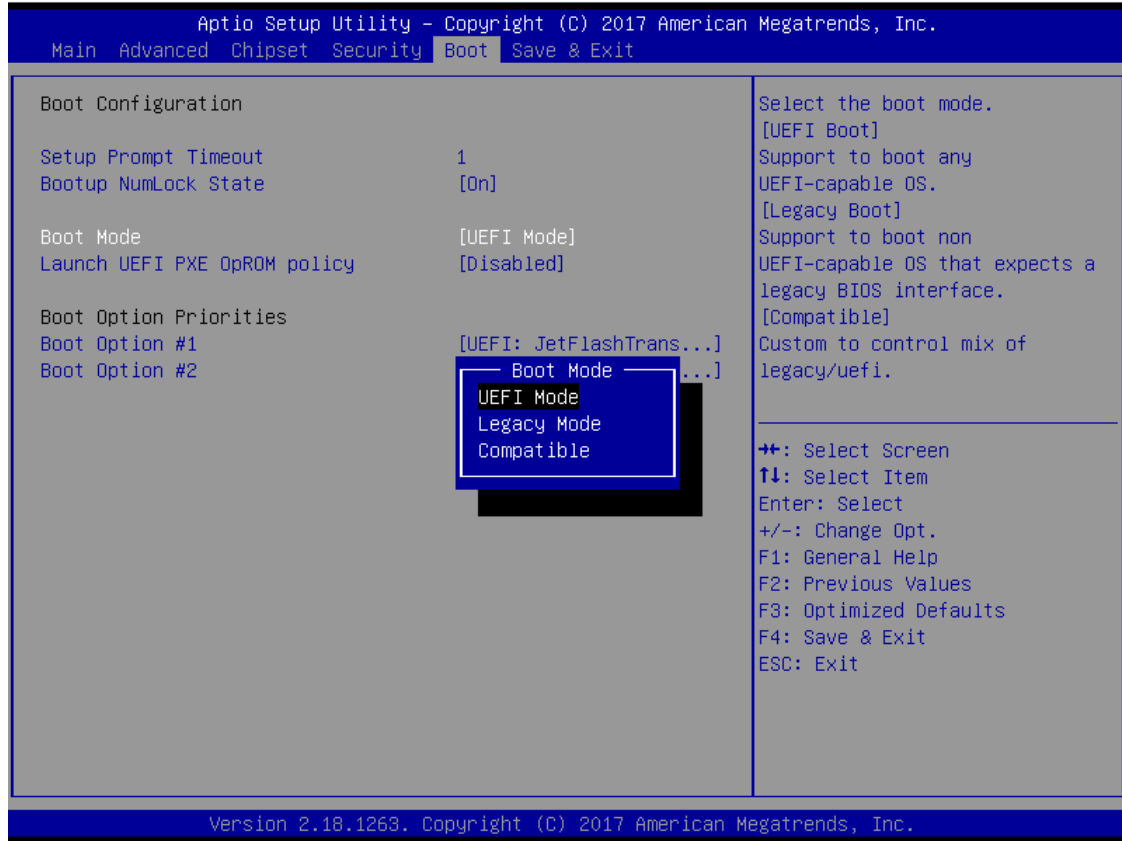
3.6 Boot Mode

The Boot menu allows users to change boot options of the system, providing UEFI, Legacy, and Compatible modes to select from.

The default setting boot mode is [UEFI Mode].

The default setting for Launch UEFI PXE OpROM policy is [Disabled].

(Please refer to below graphics.)



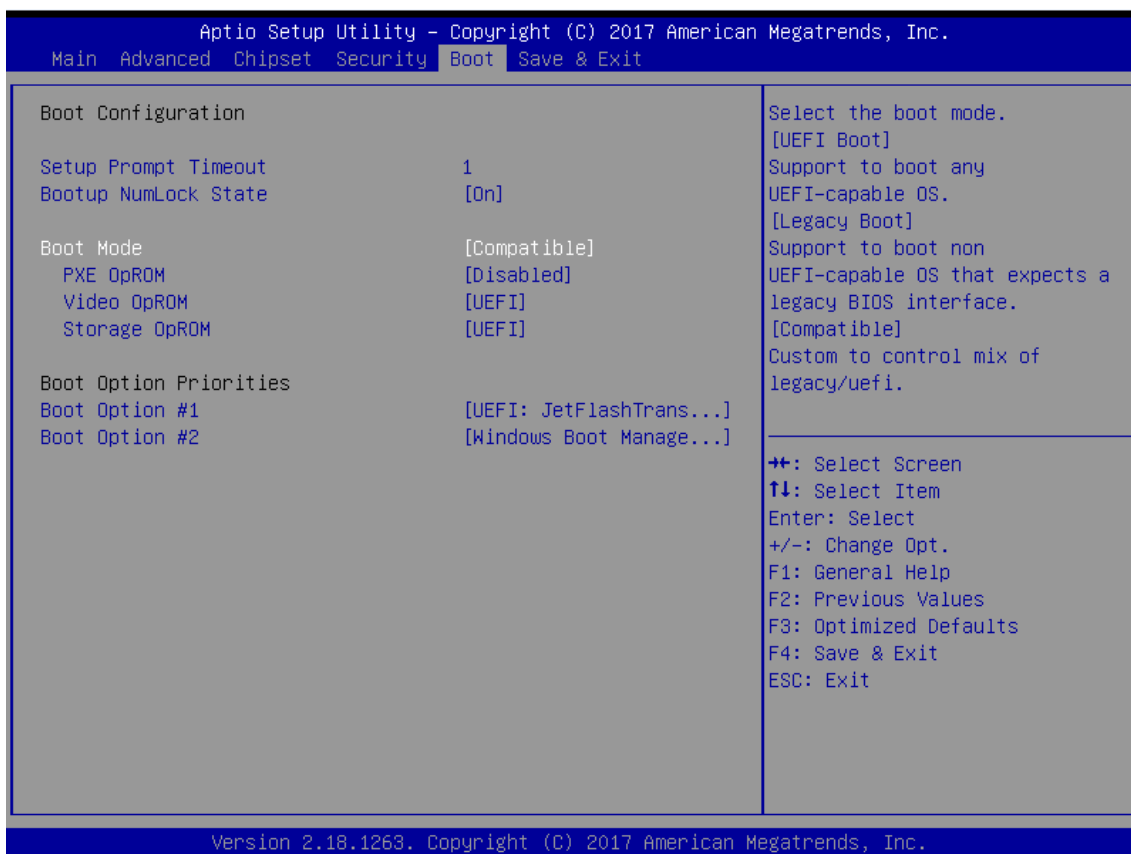
Compatible Mode: When using PCIe to SATA device, option ROM can use this mode setting.

When selecting the Compatible mode:

The default setting for PXE OpROM is [Disable]

The default setting for Video OpROM is [UEFI]

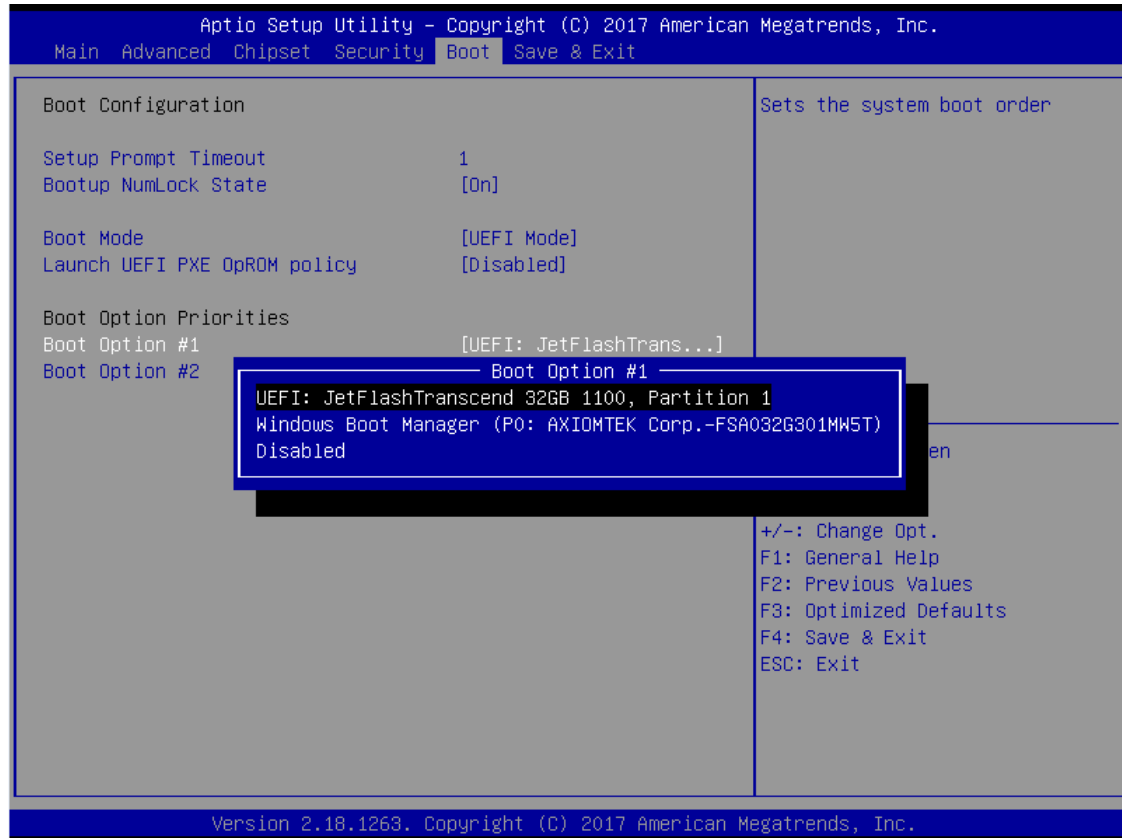
The default setting for Storage OpROM is [UEFI]



Boot Option Priorities

Boot Option Priorities allows the user to specify the boot device priority sequence among the available devices, if the user is using a USB device. Specify an available device for a boot option number (Boot Option #1, #2...) to set boot priorities.

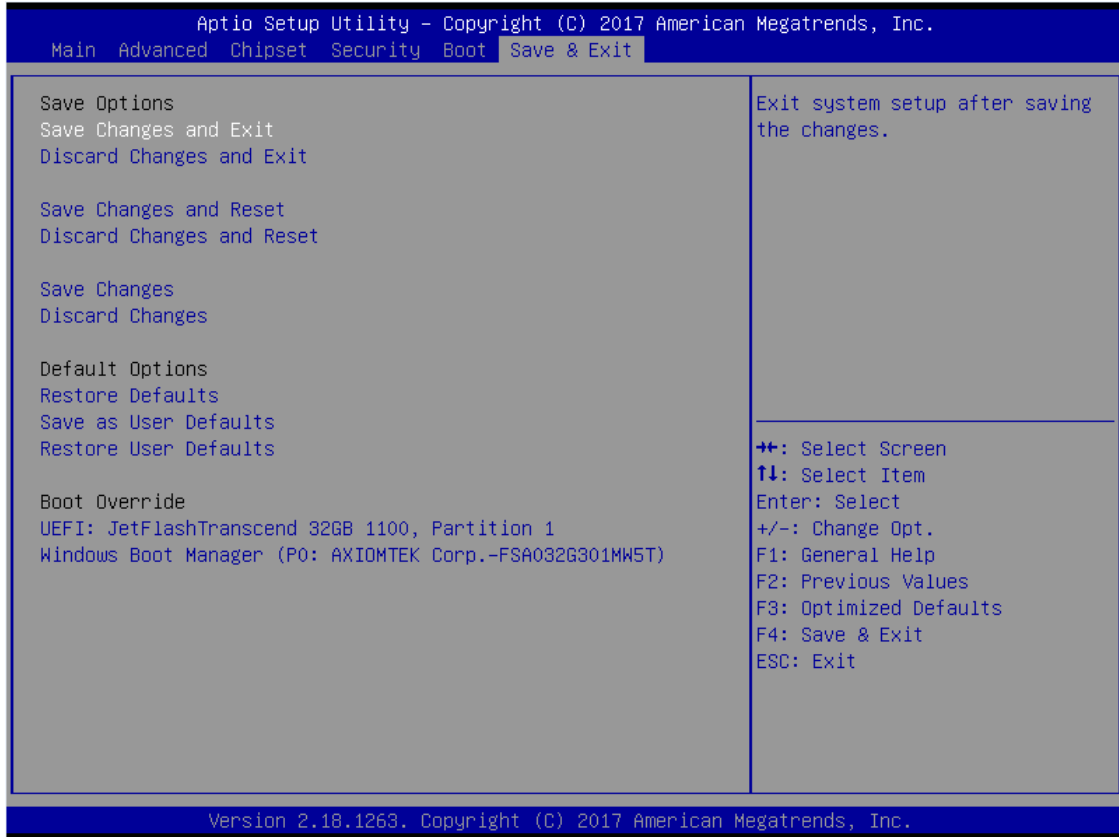
(Please refer below graphics.)



3.7 Save & Exit

The Save & Exit menu allows users to determine whether or not to accept their modifications to the system configuration, or to keep default values for optimal fail-safe performance.

(Please refer to below graphics.)



Save Changes and Exit

When users 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

After completing the system configuration changes, select this option to leave Setup and reboot the computer so the new system configurations will take effect. Select Save Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to save changes and reset.

Discard Changes and Reset

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

Save Changes

After completing 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.

Restore Defaults

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

Boot Override

Select a drive to immediately boot that device regardless of the current boot order.