

USER'S MANUAL

iNA110 Series

Din Rail Network Appliance

User's Manual



www.axiomtek.com

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Safety Approvals

- ◆ CE Marking
- ◆ FCC Class A

◆ FCC Compliance

This equipment has been tested and complies with the limits for a Class A 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 **iNA110** 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 **iNA110** 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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Table of Contents

| | | |
|------------------|---|-----------|
| Section 1 | Introduction..... | 1 |
| 1.1 | General Description | 1 |
| 1.2 | Features..... | 1 |
| 1.3 | Specifications | 2 |
| 1.4 | Dimensions and Outlines..... | 3 |
| 1.4.1 | Din-Rail Bracket Dimensions | 4 |
| 1.5 | I/O Outlets..... | 5 |
| Section 2 | Hardware and Installation..... | 7 |
| 2.1 | Check List..... | 7 |
| 2.2 | Placement..... | 8 |
| 2.3 | Connectors | 9 |
| 2.3.1 | Mini PCIe full connector (CN5) | 10 |
| 2.3.2 | Mini PCIe half connector (CN1) | 11 |
| 2.3.3 | LAN Port (CN9~CN12)..... | 12 |
| 2.3.4 | Power (CN2)..... | 12 |
| 2.3.5 | Serial Port1 (Console)..... | 12 |
| 2.3.6 | Serial Port2 (COM)..... | 13 |
| 2.4 | Restore BIOS Optimal Defaults (SW1)..... | 13 |
| | · Pressing the tact switch (10 seconds) can restore BIOS optimal defaults. | 13 |
| 2.5 | Memory Module (SO-DIMM)..... | 14 |
| 2.6 | Installing the Hard Disk Drive..... | 16 |
| 2.7 | Installing the mSATA Module..... | 17 |
| 2.8 | Installing Din-rail Mount..... | 18 |
| Section 3 | AMI BIOS Setup Utility | 20 |
| 3.1 | Starting | 20 |
| 3.2 | Navigation Keys..... | 20 |
| 3.3 | Main Menu | 21 |
| 3.4 | Advanced Menu | 23 |
| 3.5 | Chipset Menu | 42 |
| 3.7 | Boot Menu..... | 46 |

| | |
|---|-----------|
| 3.8 Save & Exit Menu..... | 52 |
| Appendix A LAN Bypass Configuration | 63 |
| About LAN Bypass..... | 63 |
| Appendix B WDT Timer for System Reset..... | 66 |
| WDT (Watchdog Timer)..... | 66 |
| Appendix C Warning..... | 68 |

Section 1

Introduction

This chapter contains general information and detailed specifications of the iNA110 Series Network Appliance Server. It contains the following sections:

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

1.1 General Description

The iNA110 is a DIN rail cybersecurity security network appliance platform for VPN, firewall and other network security applications, which can support Intel® Apollo Lake processor. This platform supports one DDR3L-1600 SO-DIMM memory slot, expandable up to 8GB. In the meantime, the platform also offers four Gigabit Ethernet ports which can provide the best throughput. For storage, it also provides one 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

The iNA110 series offers a compact size, high compatibility with Intel® Apollo Lake processors, and low power consumption, perfect for network security applications.

- **Intel® Apollo Lake Processor**
- **Supports up to 8GB DDR3L-1600 SO-DIMM system memory**
- **Supports up to four 10/100/1000 Mbps Ethernet ports with 1-pair LAN Bypass**
- **Supports two mini-PCIe slot for Wireless/3G/LTE and mSATA**
- **Supports Windows 10 and Linux operating system**

1.3 Specifications

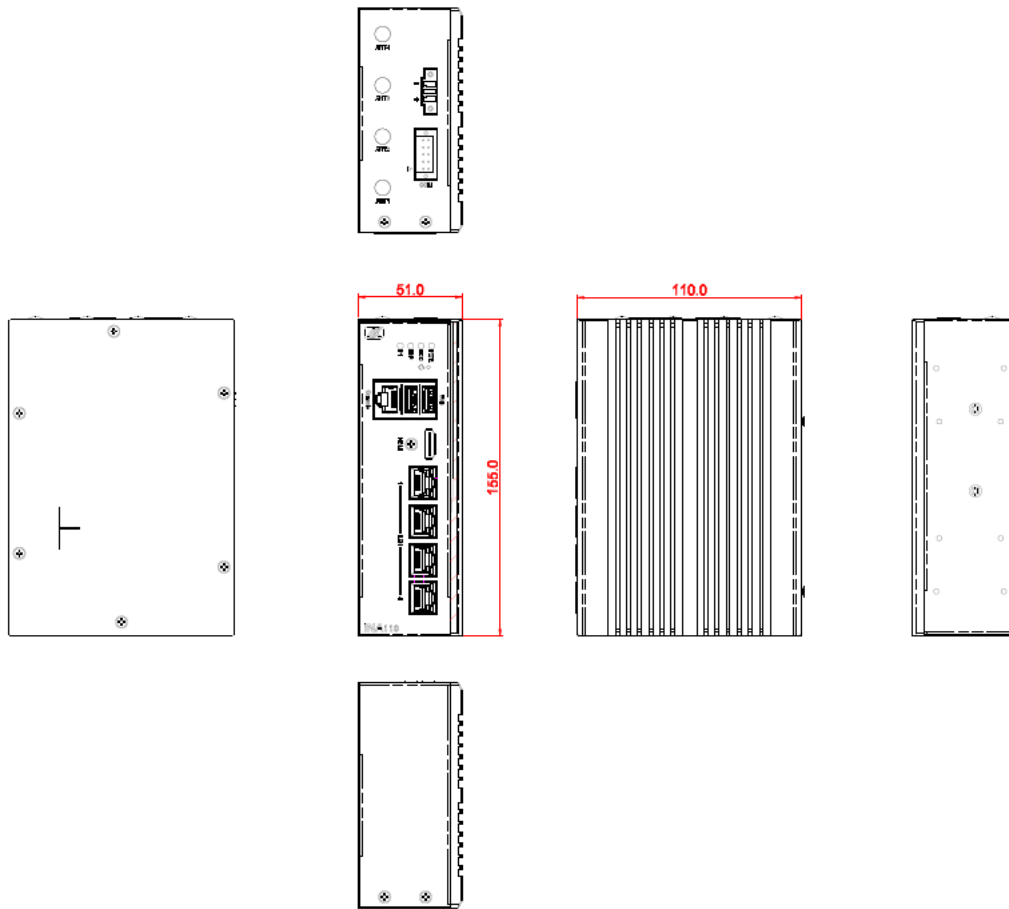
| | |
|---------------------------|--|
| Model | iNA110 |
| SBCs | NAB210 |
| Form Factor | Din Rail |
| Chassis Material | Steel |
| Chipset | SoC integrated |
| Processor/Cache | Intel® Atom® x5-E3930 1.3GHz/2C/2M/6.5W Intel® Atom® x5-E3940 1.6GHz/4C/2M/9.5W |
| BIOS | AMI 128Mbits Flash ROM |
| System Memory | 1 x DDR3L-1600 SO-DIMM, up to 8GB non-ECC memory 1 x DDR3L SO-DIMM socket, up to 8GB none-buffer none-ECC / ECC, up to 1866MHz |
| Super I/O | Fintek F81804 |
| Processor Graphic | Intel® HD Graphics 500 Integrated |
| Storage | 1 x Half-size PCIe Mini Card slot with SATA/USB signal 1 x Full-size PCIe Mini Card slot with USB signal (with 1 x SIM slot) |
| Ethernet | 4 x GbE RJ45 (Intel® i210IT) (1-pair LAN Bypass on LAN 3 & 4) |
| System I/O | 4 x GbE RJ45 1 x Console port (RJ45 type) 1 x COM port (RS232/422/485) with terminal block 2 x USB 3.0 ports 1 x HDMI 1 x Tact switch for Reset 4 x Antenna holes 1 x Power input connector |
| Expansion slot | 1 x Half-size PCIe Mini Card slot with SATA/USB signal 1 x Full-size PCIe Mini Card slot with USB signal (with 1 x SIM slot) |
| Power | 1 x 3 pin terminal block for 9-36V |
| PCBA Dimensions | 102.5mm x 151 mm |
| System Dimensions | 51 mm (2.01") (W) x 110 mm (4.33") (D) x 155 mm (6.10") (H) |
| Weight (Net/Gross) | 0.862 kg / 1.164 kg |
| Form Factor | DIN-rail Wall-mount (Optional) |
| Other | 4 x antenna holes for Wireless/LTE |
| Certifications | CE/FCC Class A |
| OS | Linux kernel 4.8 or above ;Yocto 2.2;Windows 10 |
| Environmental | Operating temperature: -40°C ~ 70°C Storage temperature: -40°C ~ 85°C 10% ~ 90% non-condensing |



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

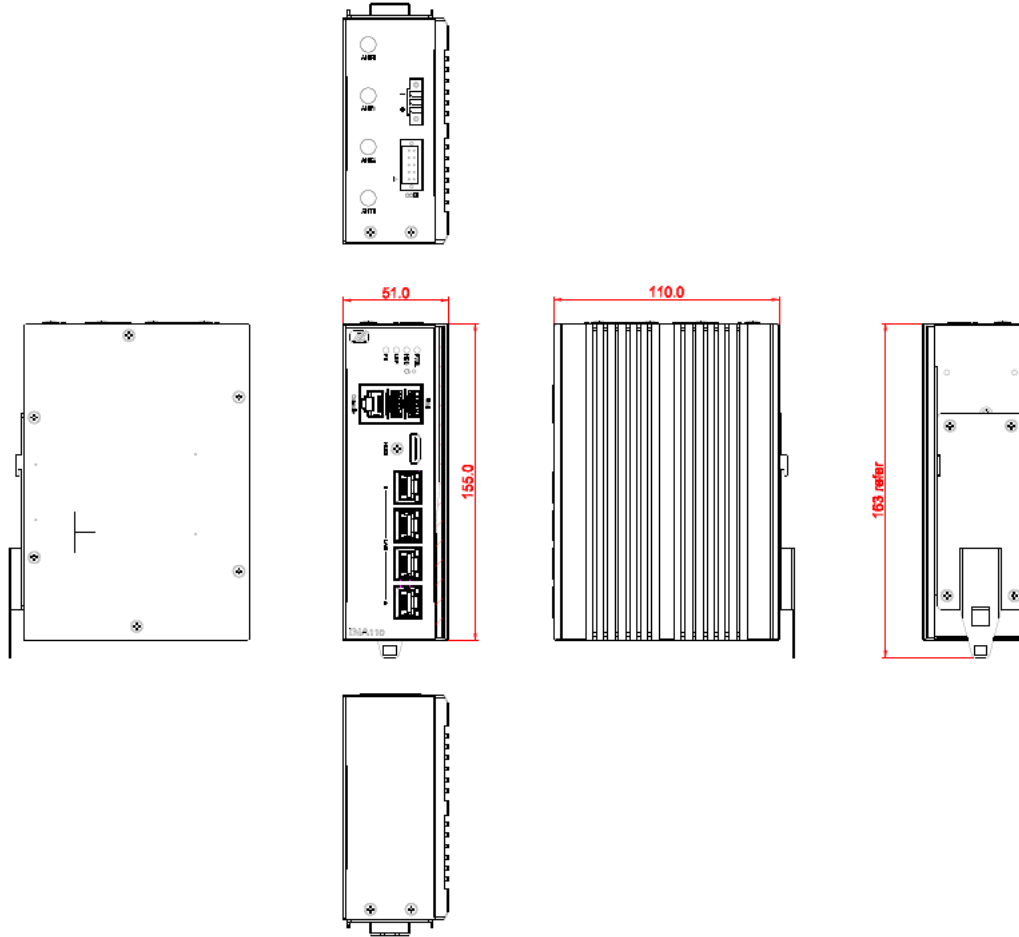
1.4 Dimensions and Outlines

The following diagram shows you dimensions and outlines of the iNA110 Series.



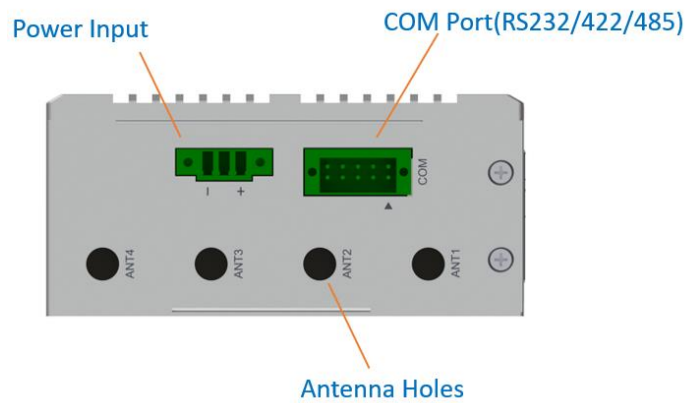
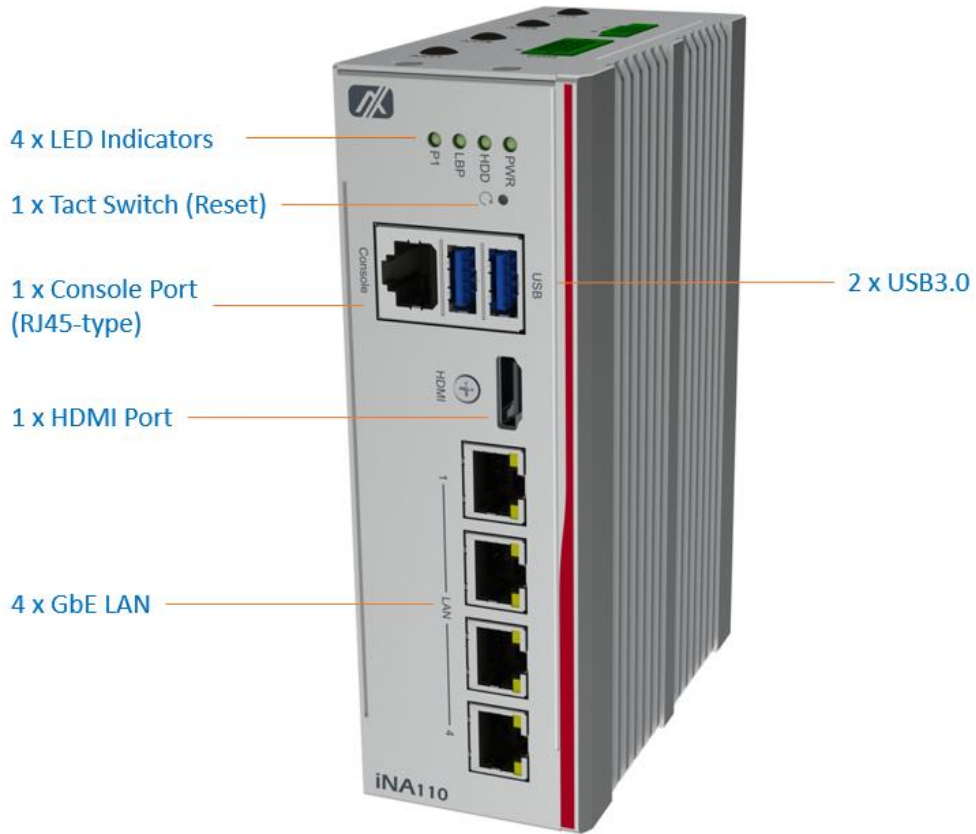
1.4.1 Din-Rail Bracket Dimensions

Users get 4pcs of M3*6L screws for fixing the din-rail kit from the accessory box.



1.5 I/O Outlets

Locate front and rear panel I/O outlets on the iNA110 Series network appliance to connect serial and Ethernet interface devices.



- **Power LED**
- The power LED will illuminate when the network appliance is powered on to perform diagnostic tests and check the operation.
- **HDD LED**
The LED flashes when transmitting or receiving any signals.
- **Programmable LED**
A sample code will be provided that allows 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.
- **Active LED (Single color) for LAN port #1, port#2, port#3, port#4**
 1. The orange LED illuminates when the LAN port connection is active.
 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 illuminating, it indicates 1000Mbps transfer rate at this moment.
 3. When the green LED light is illuminating, it indicates 100Mbps transfer rate at this moment
 4. If the LED is dark and Link/Active LED is illuminating or flashing, it indicates 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 |

Section 2

Hardware and Installation

The iNA110 Series offers flexible hardware configuration options to accommodate your diverse needs. This chapter will help you get familiar with the hardware.

2.1 Check List

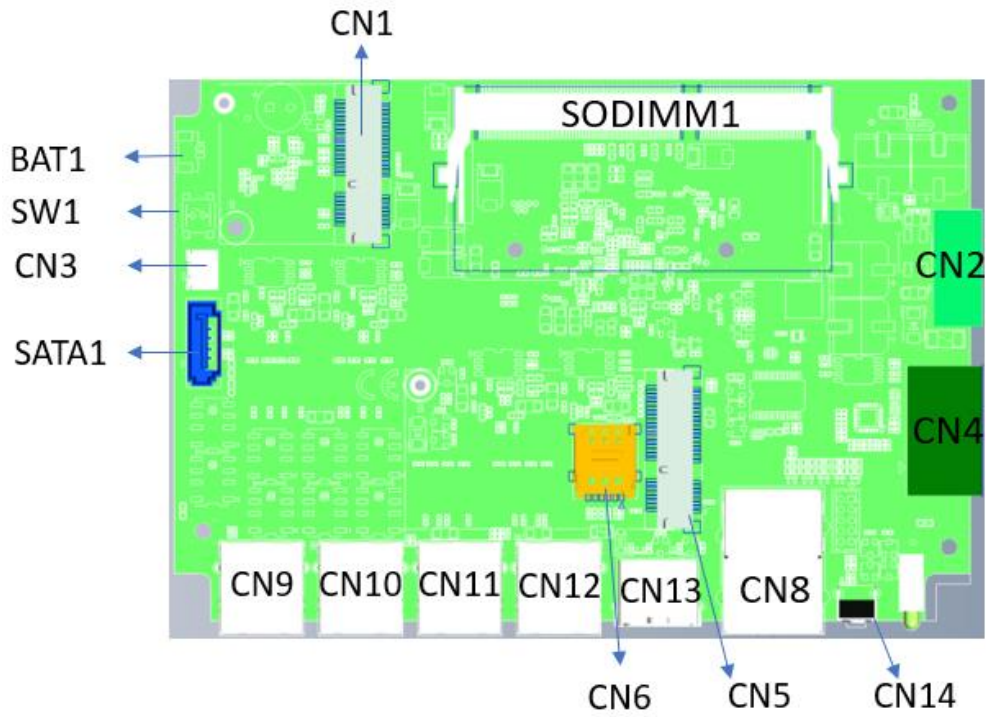
The package bundled with your iNA110 Series should contain the following items:

- **1 x The iNA110 Series network appliance platform**
- **1 x Din-rail Kit**
- **1 x Power terminal block**

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 Placement

NAB210 TOP View



2.3 Connectors

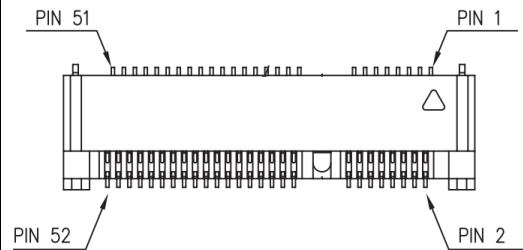
Signals go to other parts of the system through connectors. Loose or improper connection might cause problems, please make sure all connectors are properly and firmly connected. Here is a summary table which shows all connectors on the hardware.

| Connectors | Label |
|---|----------|
| 3 pin terminal block for 12VDC Power Input | CN2 |
| SATA Connector | SATA1 |
| Battery Connector | BAT1 |
| DDR3L SODIMM Socket | SODIMM1 |
| HDMI output Connector | CN13 |
| USB3.0 *2 Connector+ Console/Serial Port1 with RS232 | CN8 |
| LAN connector | CN9~CN12 |
| Mini PCIe full connector (USB, SIM signal) | CN5 |
| Mini PCIe half connector (SATA/USB signal) | CN1 |
| Nano SIM card slot | CN6 |
| 10 pin terminal block for Serial Port2 with RS232/422/485 | CN4 |
| Tact switch for clear CMOS | SW1 |
| Tact switch for Reset | CN14 |

2.3.1 Mini PCIe full connector (CN5)

The CN5 is a Mini-PCIe Rev 1.2 connector. It supports USB2.0/SIM signal.

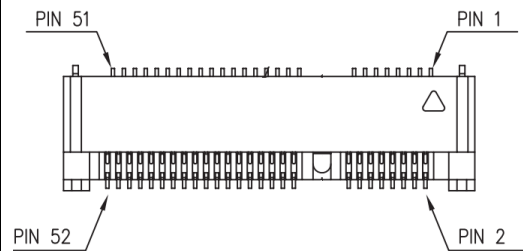
| Pin | Signal | Pin | Signal |
|-----|--------------|-----|--------------|
| 1 | No use | 2 | +3.3VSB |
| 3 | No use | 4 | Ground (GND) |
| 5 | No use | 6 | +1.5V |
| 7 | Ground (GND) | 8 | SIM_PWR |
| 9 | Ground (GND) | 10 | SIM_DATA |
| 11 | No use | 12 | SIM_CLK |
| 13 | No use | 14 | SIM_REST |
| 15 | Ground (GND) | 16 | SIM_VPP |
| 17 | No use | 18 | Ground (GND) |
| 19 | No use | 20 | +3.3VSB |
| 21 | Ground (GND) | 22 | PLTRST_N |
| 23 | No use | 24 | +3.3VSB |
| 25 | No use | 26 | Ground (GND) |
| 27 | Ground (GND) | 28 | +1.5V |
| 29 | Ground (GND) | 30 | SMB_CLK |
| 31 | No use | 32 | SMB_DATA |
| 33 | No use | 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 |



2.3.2 Mini PCIe half connector (CN1)

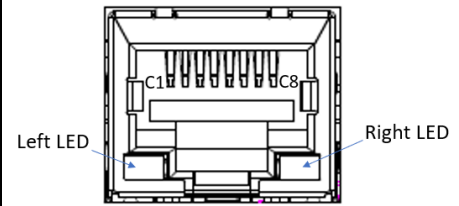
The CN1 is a Mini-PCIe Rev 1.2 connector. it supports SATA/USB2.0 signal.

| Pin | Signal | Pin | Signal |
|-----|--------------|-----|--------------|
| 1 | PCIE_WAKE0_N | 2 | +3.3VSB |
| 3 | No use | 4 | Ground (GND) |
| 5 | No use | 6 | +1.5V |
| 7 | Ground (GND) | 8 | No use |
| 9 | Ground (GND) | 10 | No use |
| 11 | No use | 12 | No use |
| 13 | No use | 14 | No use |
| 15 | Ground (GND) | 16 | No use |
| 17 | No use | 18 | No use |
| 19 | No use | 20 | +3.3VSB |
| 21 | Ground (GND) | 22 | PLTRST_N |
| 23 | SATA1_RP | 24 | +3.3VSB |
| 25 | SATA1_RN | 26 | Ground (GND) |
| 27 | Ground (GND) | 28 | +1.5V |
| 29 | Ground (GND) | 30 | SMB_CLK |
| 31 | SATA1_TN | 32 | SMB_DATA |
| 33 | 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 |



2.3.3 LAN Port (CN9~CN12)

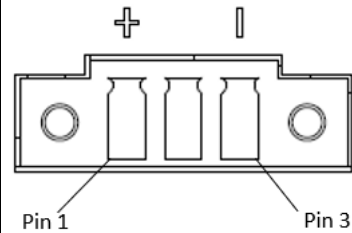
| | |
|-----------|---|
| Right LED | 100 LAN LED (Green)/ 1000 LAN LED (Amber) |
| Left LED | Active LED (Orange) |



2.3.4 Power (CN2)

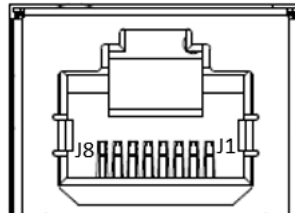
Wide-range 12 - 24V DC power input with terminal block.

| Pin | Signal |
|-----|--------|
| 1 | Power |
| 2 | N/A |
| 3 | GND |



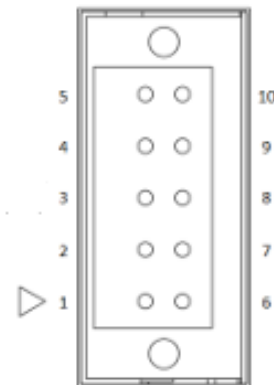
2.3.5 Serial Port1 (Console)

| Pin | RS-232 |
|-----|--------|
| 1 | RTS1 |
| 2 | DTR1 |
| 3 | TX1 |
| 4 | GND |
| 5 | GND |
| 6 | RX1 |
| 7 | DSR1 |
| 8 | CTS1 |



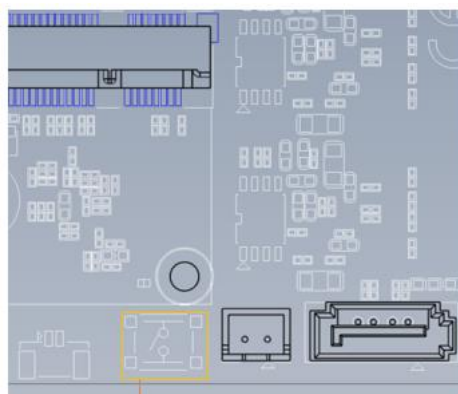
2.3.6 Serial Port2 (COM)

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

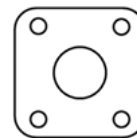


2.4 Restore BIOS Optimal Defaults (SW1)

- Pressing the tact switch (10 seconds) can restore BIOS optimal defaults.



SW1



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2.5 Memory Module (SO-DIMM)

The main board supports one DDR3L-1600 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.



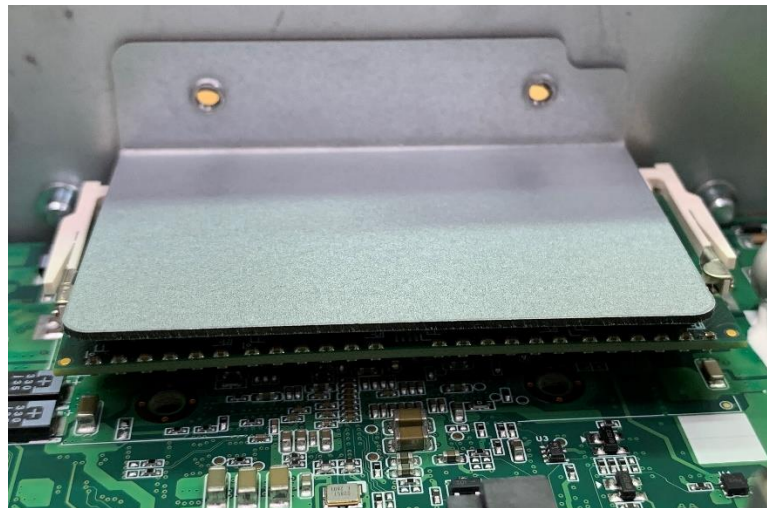
3. Install the DDR3 memory module into the designated slot and firmly push it downwards until it clicks into place. The slot latches will automatically clip onto the edges of the fully seated module.



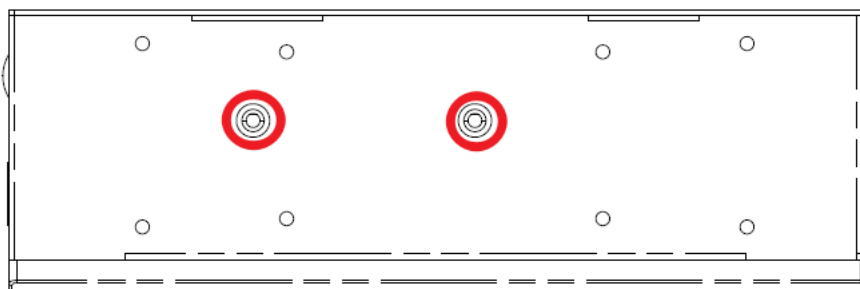
4. Stick thermal pad onto DDR.



5. Install DDR bracket.



8. Tighten the screws to fix the bracket.



2.6 Installing the Hard Disk Drive

1 Turn off the system.

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



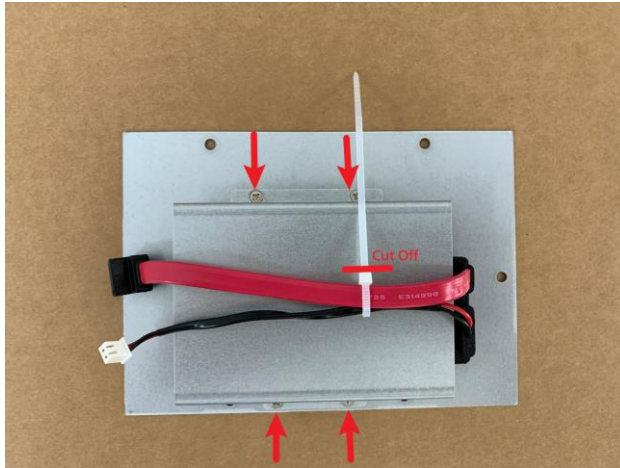
3 Loosen 4pcs of screws of the HDD tray, and fix the HDD into tray with screws.



4 Place the SSD bracket on the designated location on the cover. Secure the SSD bracket using the provided 4 screws. Tighten them firmly.

Secure the SSD bracket using the provided 4 screws. Tighten them firmly but avoid over-tightening. Connect the SATA+Power SSD cable to the SSD.

Secure the cable to the SSD bracket using the included cable tie. Cut the excessive cable tie.



5. Connect the SATA+Power SSD cable to the motherboard connector. Ensure the SATA connector is plugged in first, followed by the power connector.



6. Put the cover on the system and securely tighten the screws. Close the chassis.

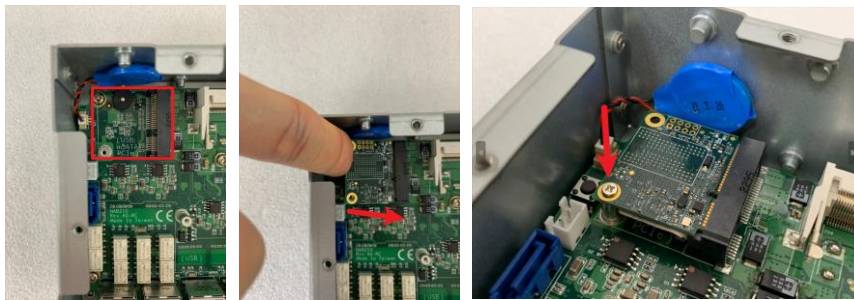
2.7 Installing the mSATA Module

1 Turn off the system.

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



3 Insert the mSATA module to the socket and fasten it with the screw.



4 Put the cover back to the system, and tighten the screws to lock the chassis.

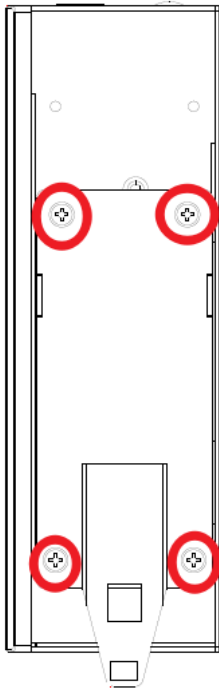
2.8 Installing Din-rail Mount

The iNA110 provides Din-rail Mount. Please follow the instruction below.

1 Prepare Din-rail Mount components (screws and bracket).



2 Assemble the bracket to the system and fasten screws tight.



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 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 Date/Time



● System Date/Time

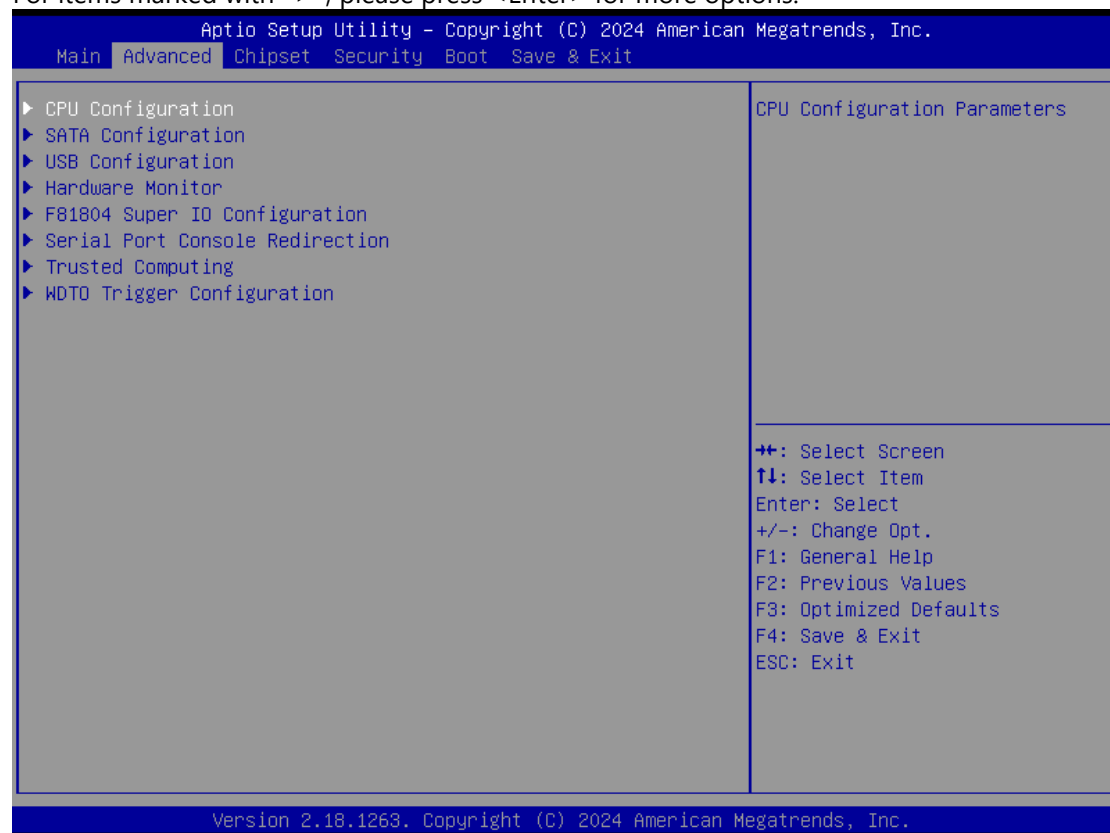
Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

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:

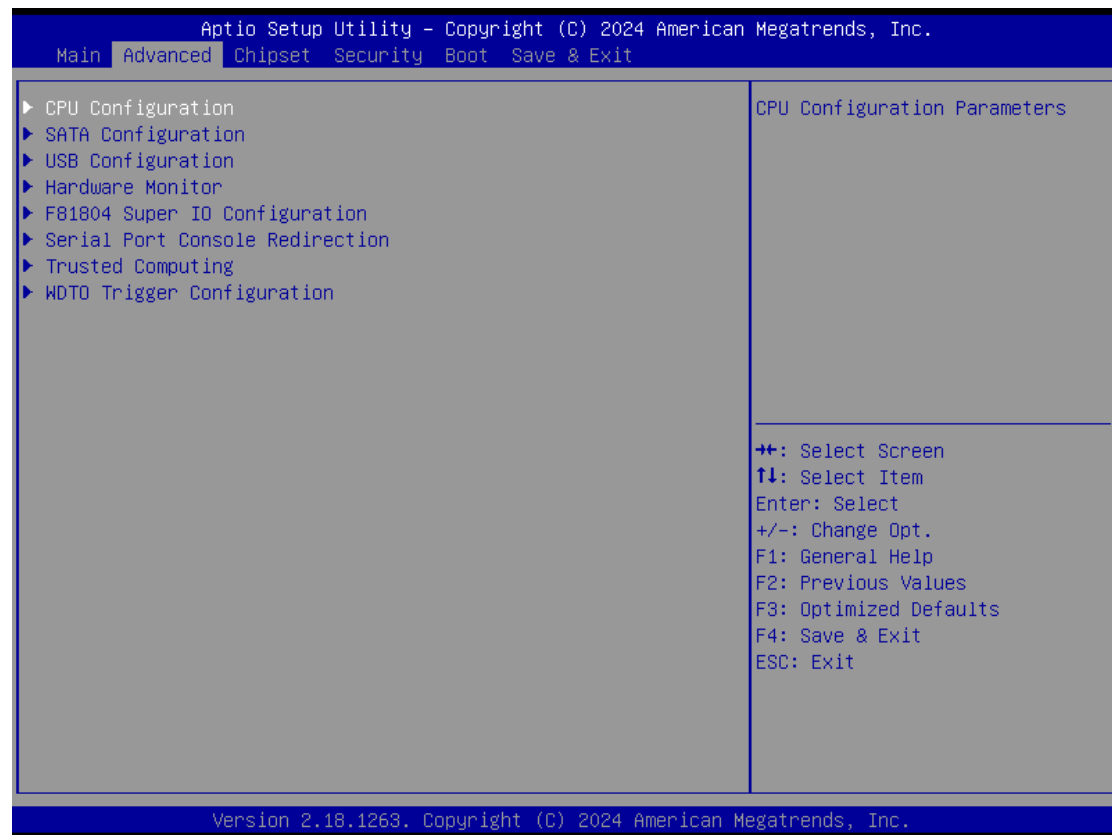
- CPU Configuration
- SATA Configuration
- USB Configuration
- Hardware Monitor
- F81804 Super IO Configuration
- Serial Port Console Redirection
- Trusted Computing
- WDTO Trigger Configuration

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



- **CPU Configuration**

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



Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Aptio Setup Utility - Copyright (C) 2024 American Megatrends, Inc.

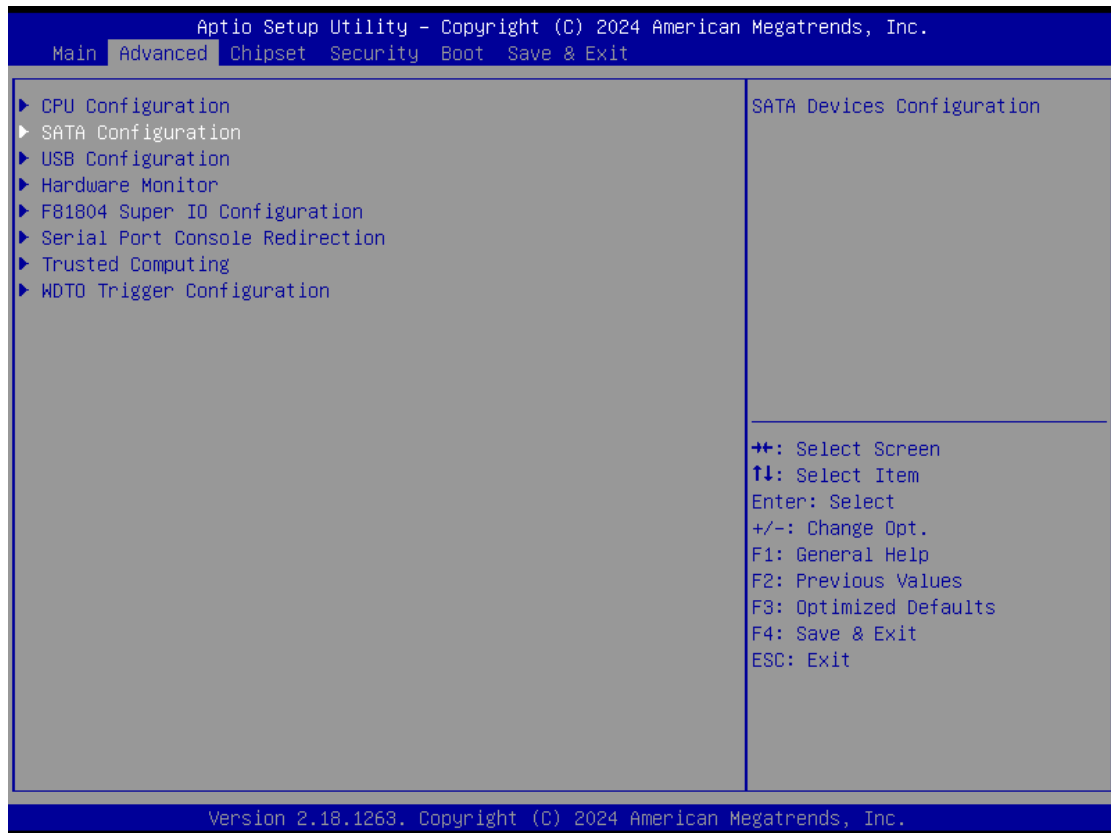
Advanced

| | |
|---|---|
| <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> <p>L1 Data Cache 24 kB x 2 L1 Code Cache 32 kB x 2 L2 Cache 1024 kB x 1 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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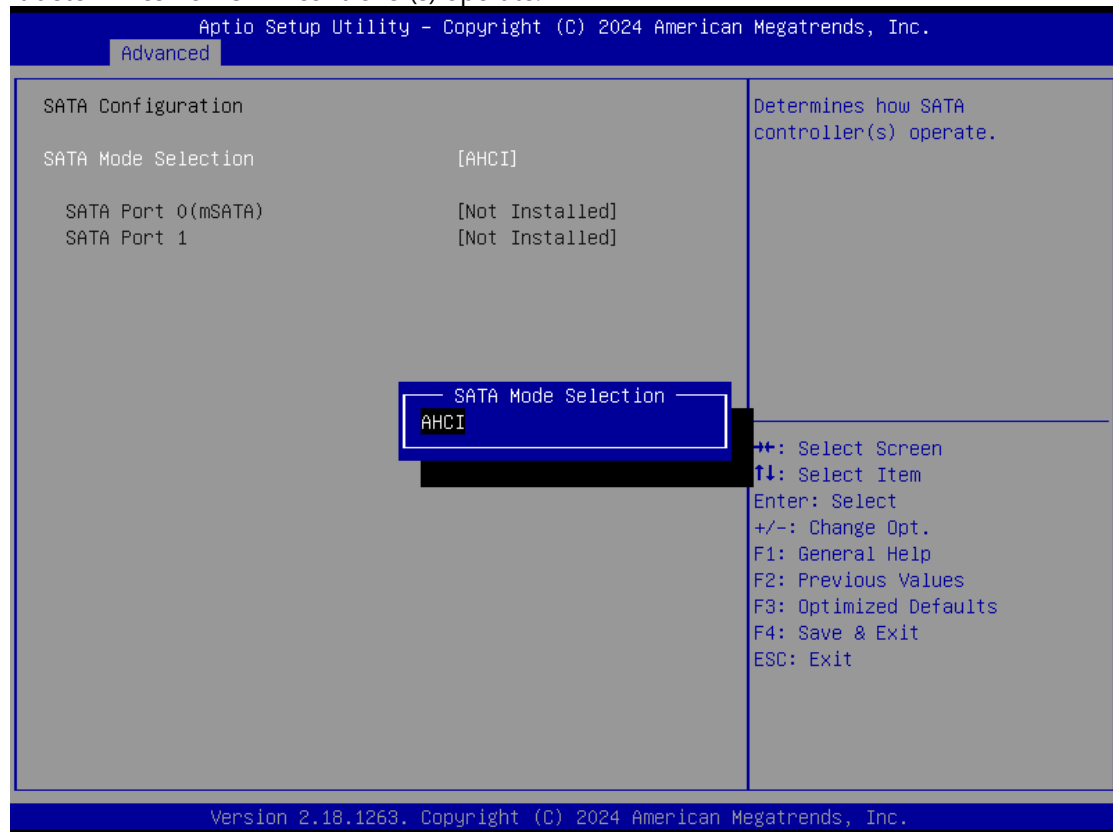
- **SATA Configuration**

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



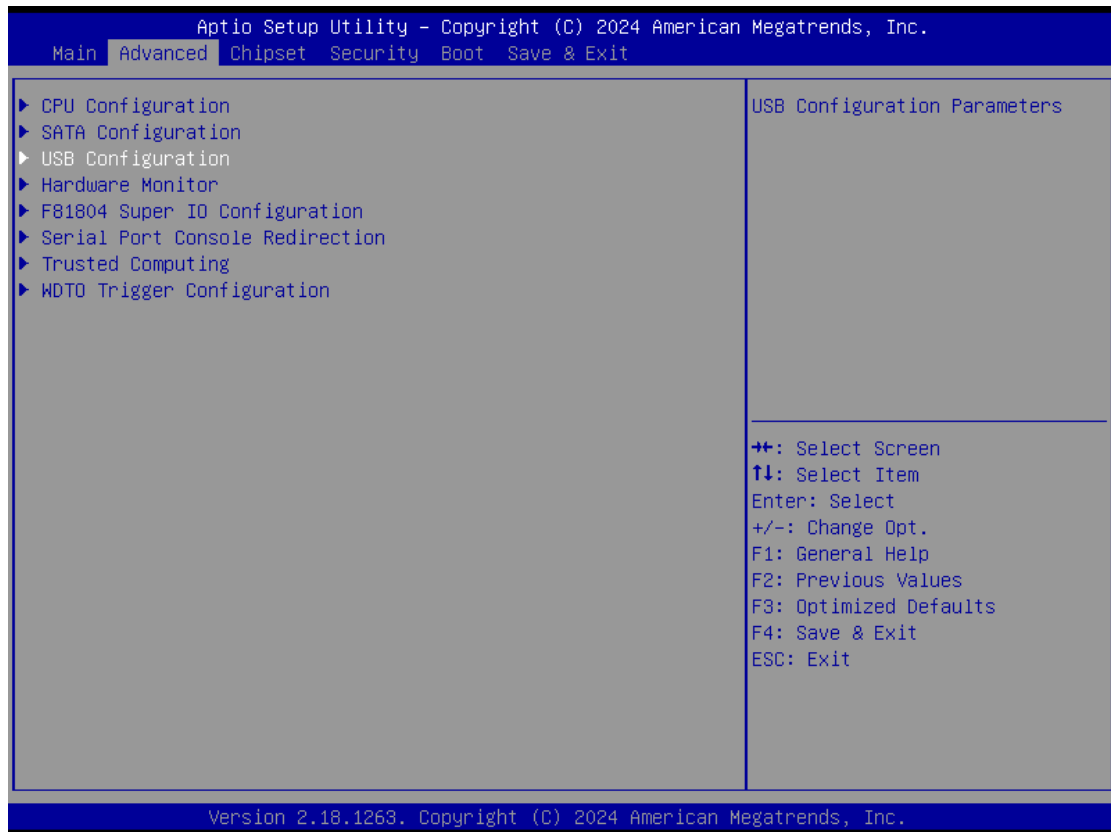
SATA Mode Selection

It determines how SATA controller(s) operate.



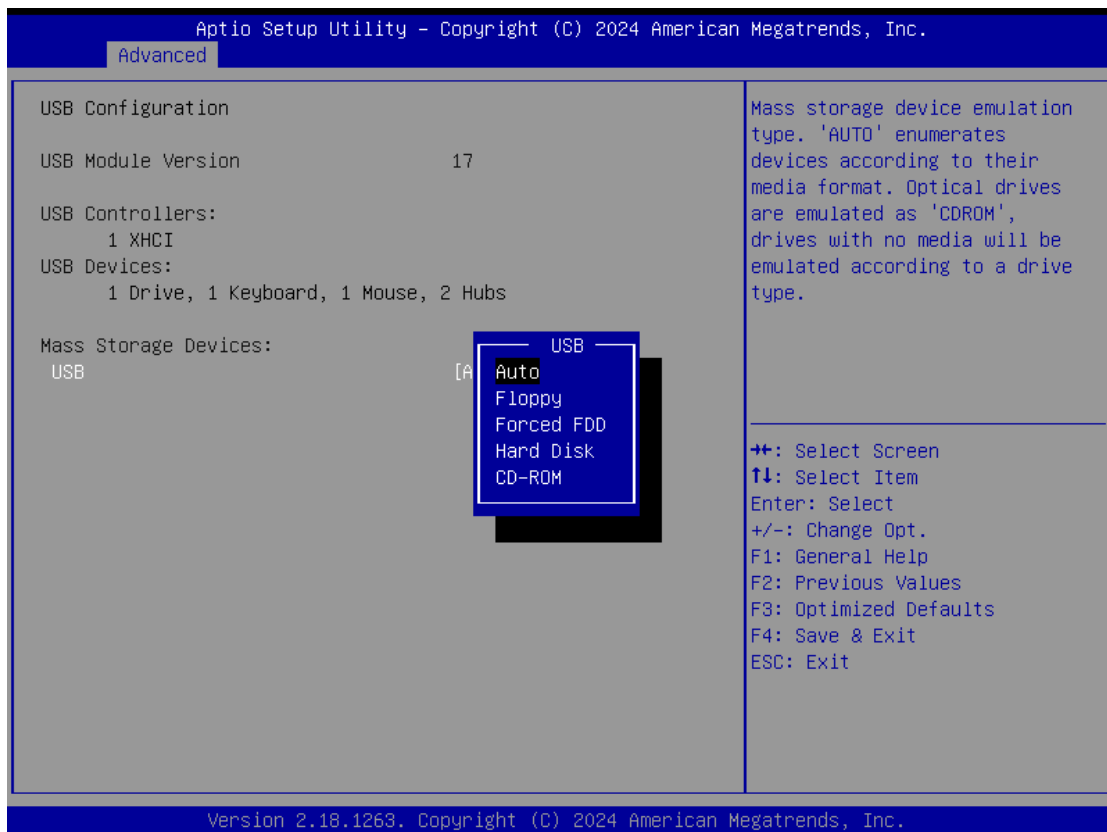
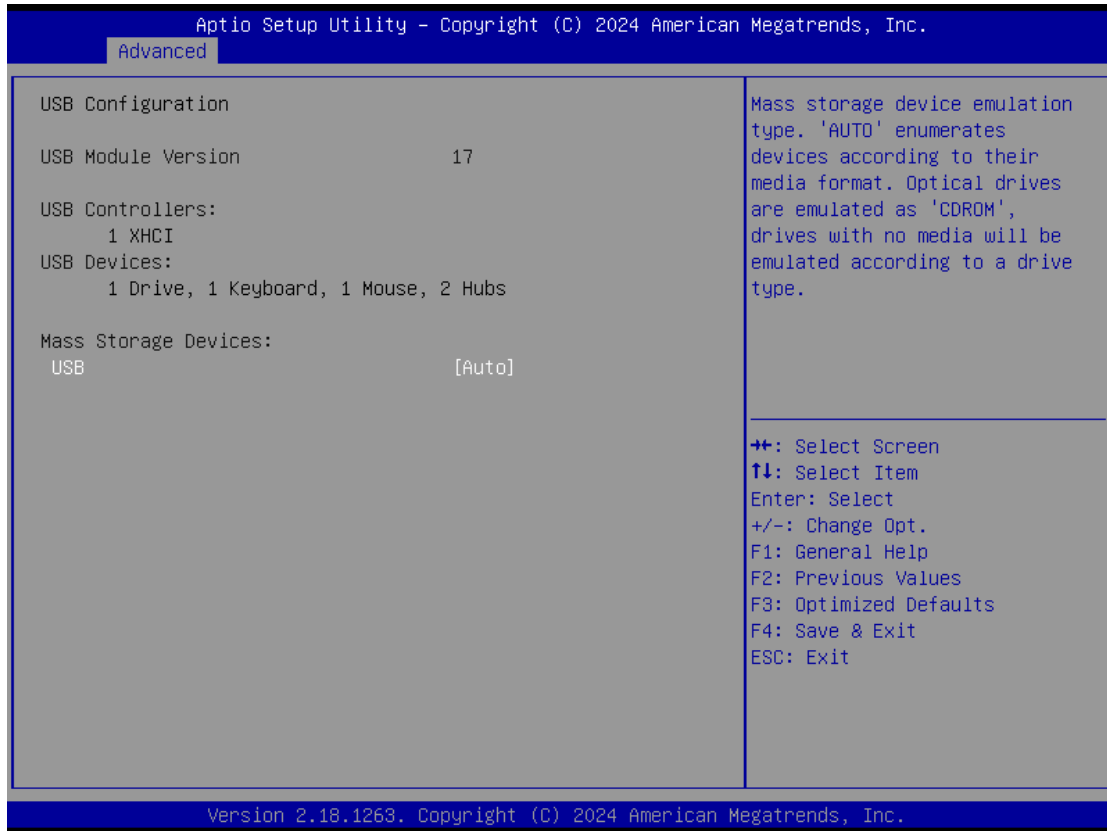
- **USB Configuration**

Use this item for further setting USB port configuration.



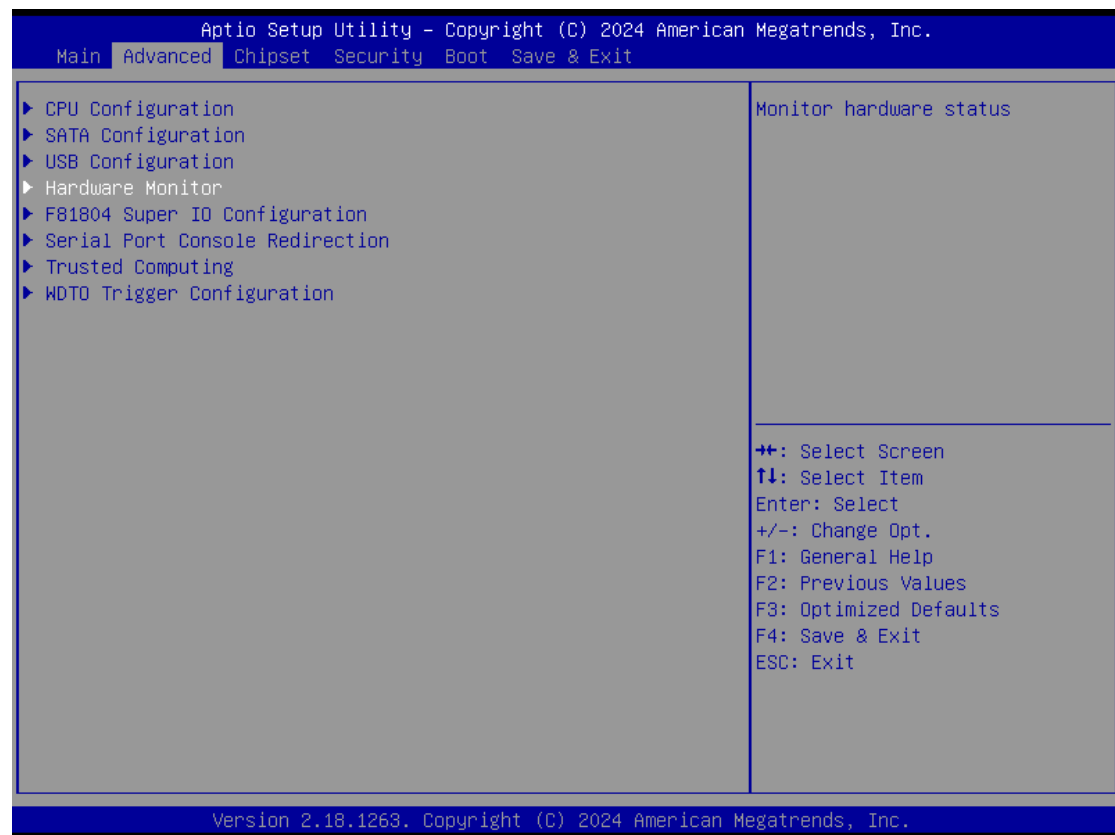
Mass Storage Devices

Mass storage device emulation type. "AUTO" enumerates devices according to their media format. Optical drives are emulated as "CDROM", drives with no media will be emulated according to a drive type.



- **Hardware Monitor**

This screen monitors hardware health status.



The screen shows the system temperature (power-in area), CPU temperature and system voltages (+5VSB, VBAT and +5V).

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Advanced

Pc Health Status

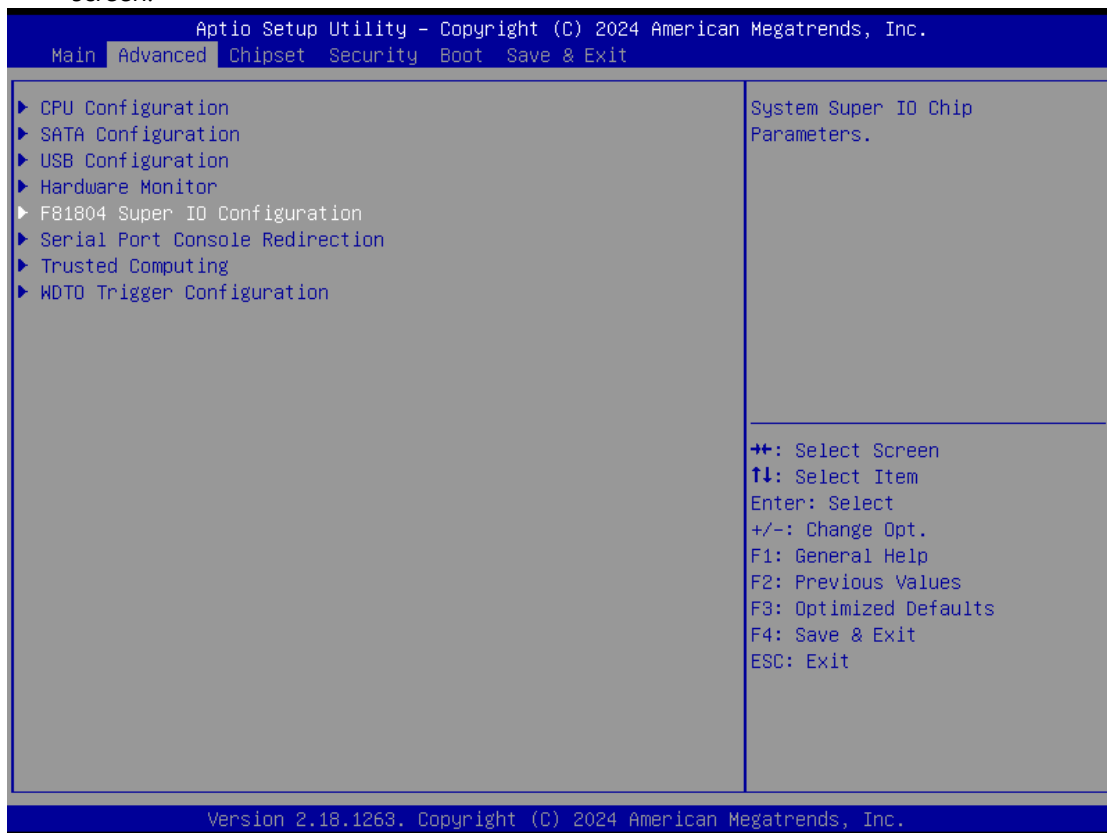
| | |
|---------|------------|
| CPU | : +48 % |
| SYSTEM | : +40 % |
| +3.3V | : +3.328 V |
| +5V | : +4.989 V |
| +3.3VSB | : +3.344 V |
| +5VSB | : +4.968 V |
| VBAT | : +2.927 V |

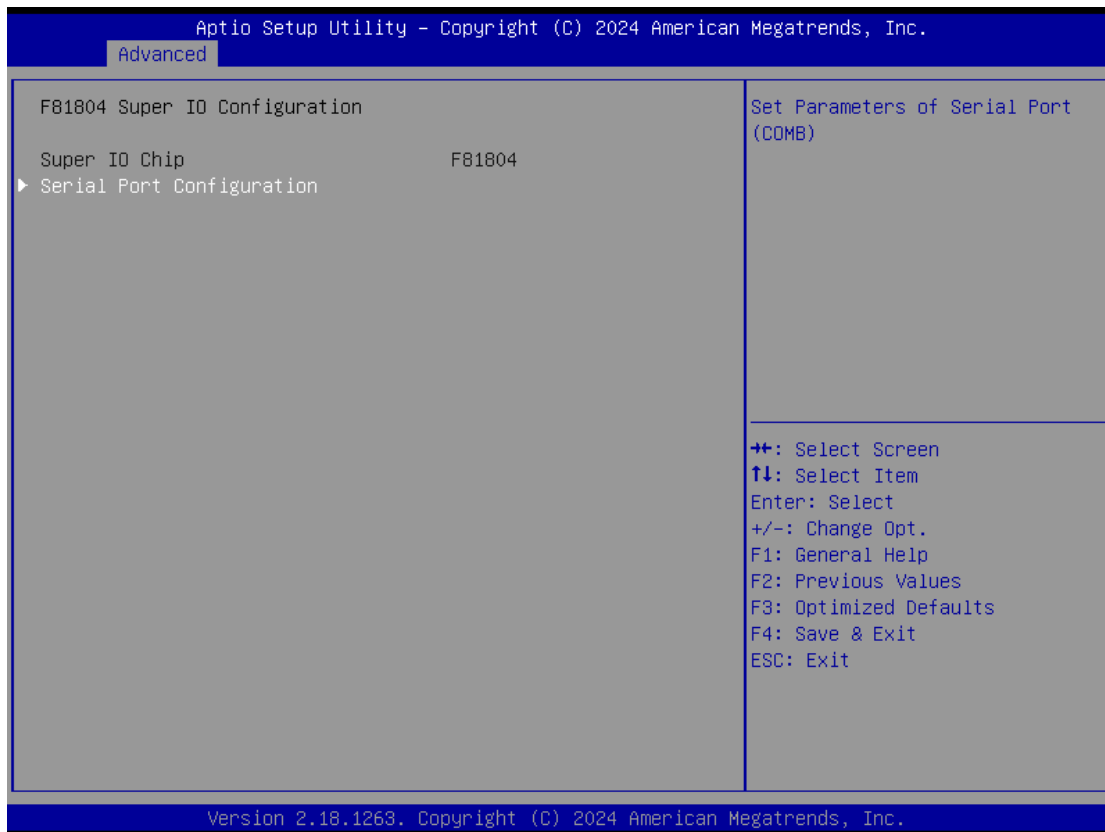
⇐⇐: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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- **F81804 Super IO Configuration**

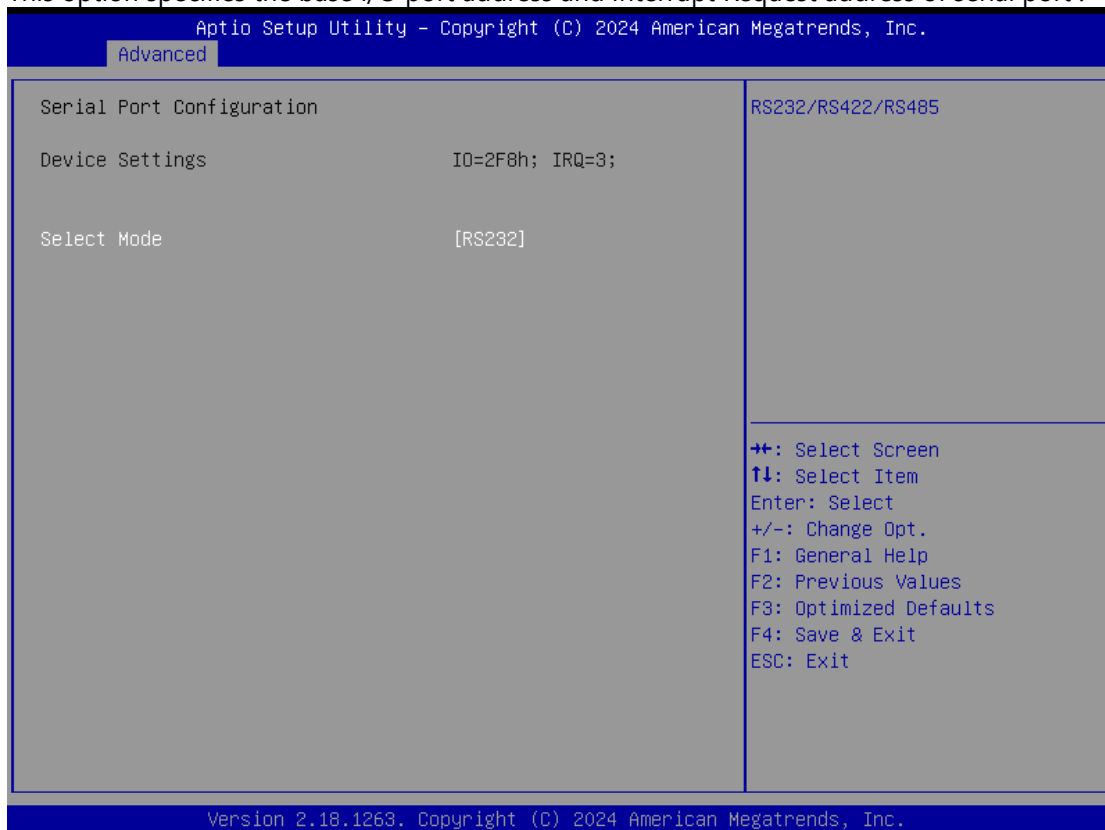
In this screen you can select options for the Super IO Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.





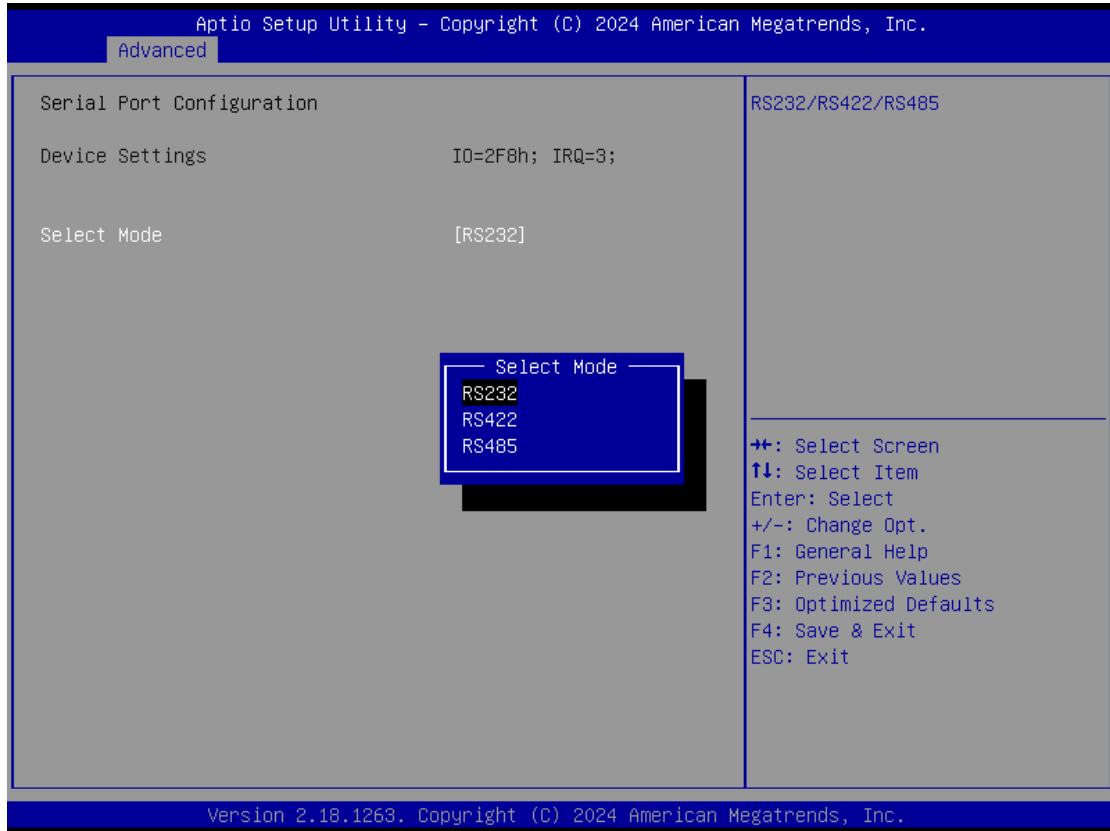
Serial Port Configuration

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



Select Mode

The default setting for all Serial Ports is RS232.
You can change the setting by selecting the value you want in each COM Port Type.
It Supports RS422 & RS485 mode.
(Please refer below graphics.)



COM Term

When you select Mode RS422 & RS485 .This item allows you to enable RS-422/485 receiver termination.
(Please refer below graphics.)

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Advanced

| | | |
|---------------------------|-----------------|--|
| Serial Port Configuration | | Enable RS-422/485 receiver termination |
| Device Settings | IO=2F8h; IRQ=3; | |
| Select Mode | [RS422] | |
| COM Term | [Enabled] | |

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

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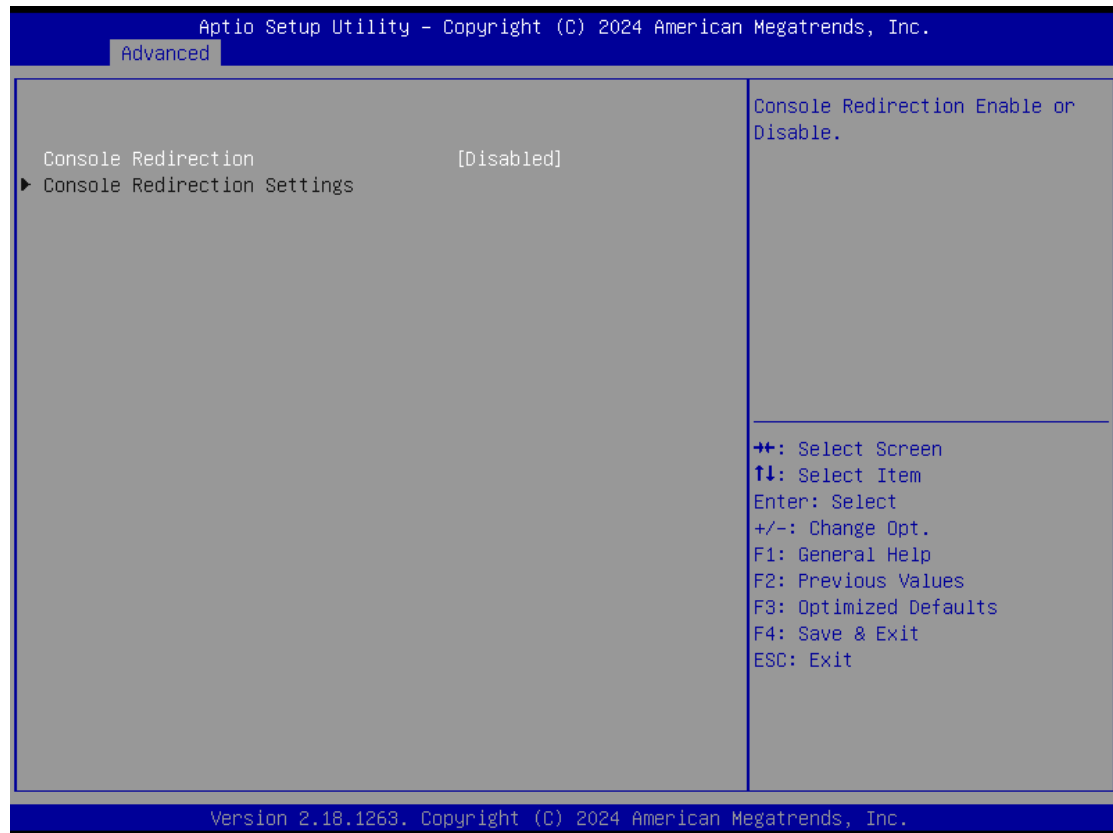
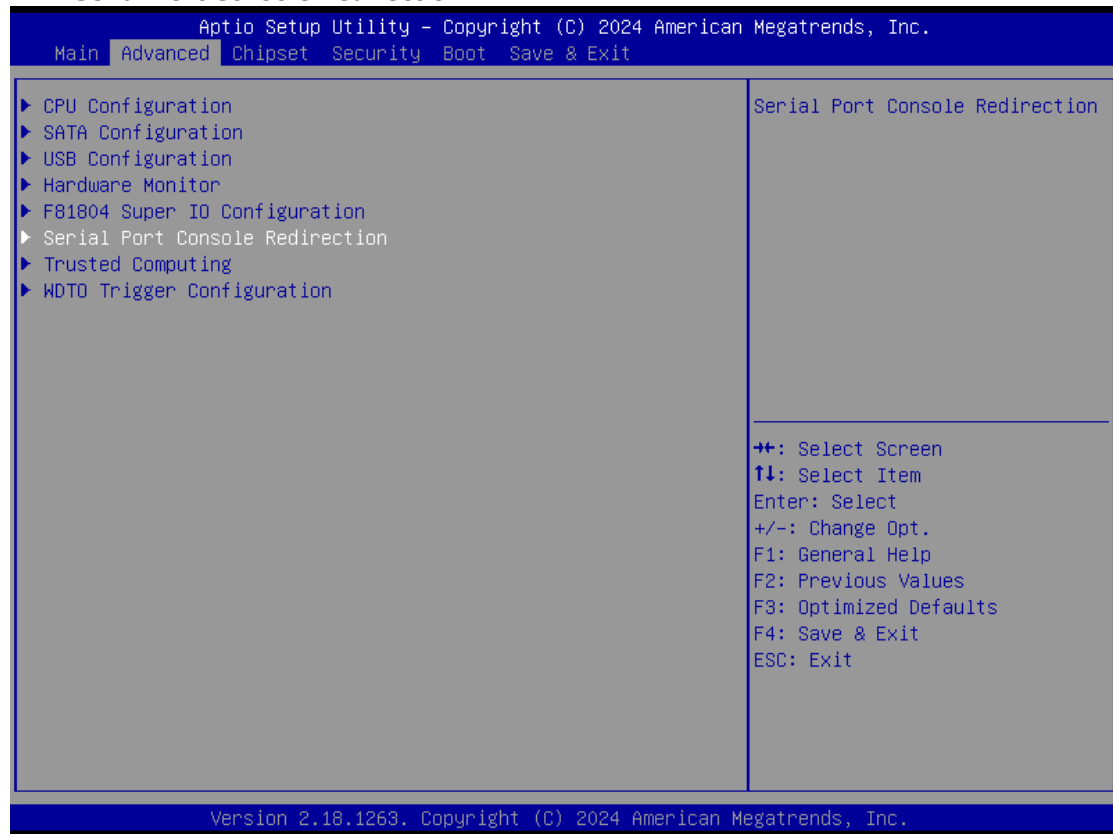
Advanced

| | | |
|---------------------------|-----------------|--|
| Serial Port Configuration | | Enable RS-422/485 receiver termination |
| Device Settings | IO=2F8h; IRQ=3; | |
| Select Mode | [RS485] | |
| COM Term | [Enabled] | |

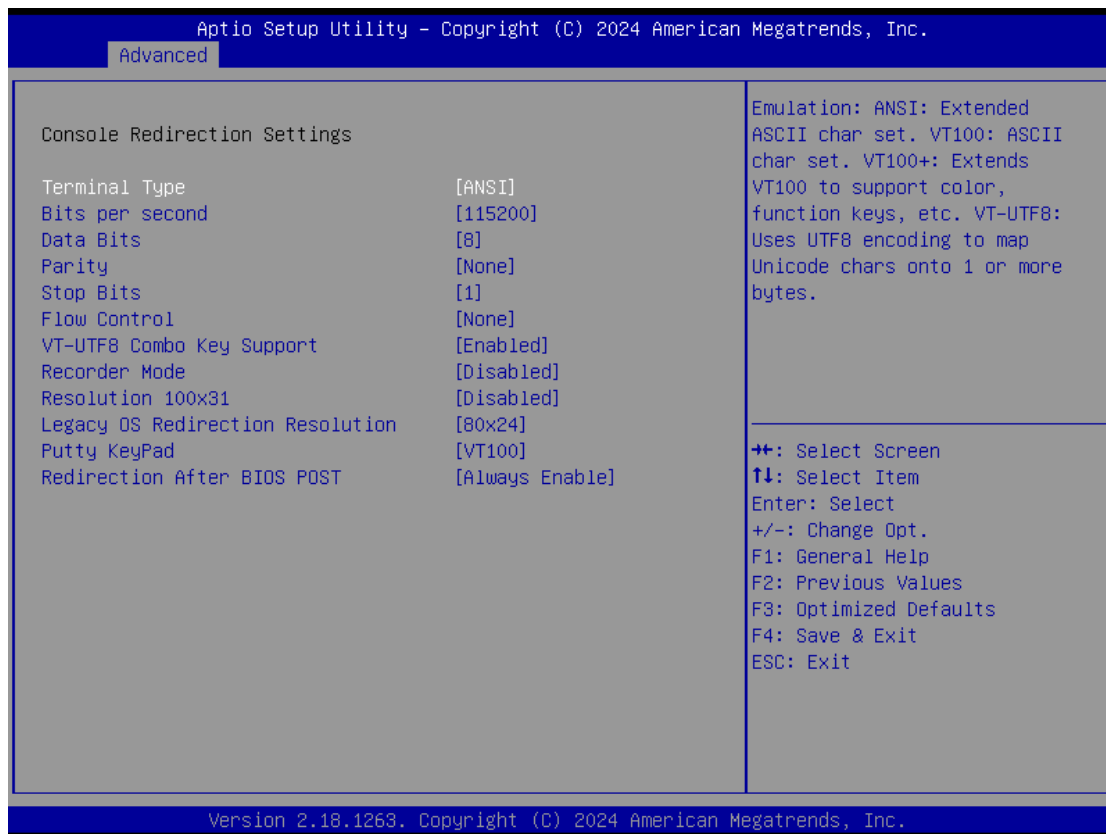
++: Select Screen
 ↑↓: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help
 F2: Previous Values
 F3: Optimized Defaults
 F4: Save & Exit
 ESC: Exit

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● **Serial Port Console Redirection**



Console Redirection Settings



Terminal Type

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

Resolution 100x31

This Item allows you to enable or disable extended terminal resolution.

Redirection Legacy OS

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

Putty KeyPad

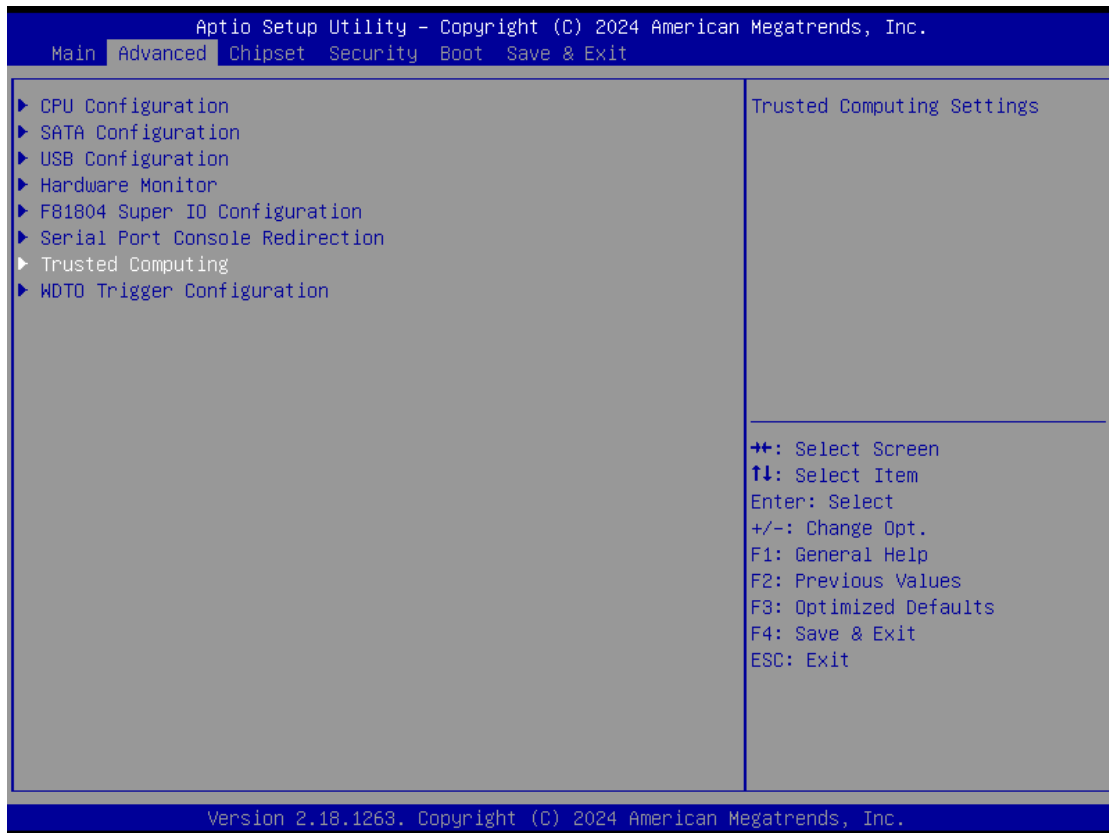
This item allows you to select the putty keypad. The configuration options: VT100, Intel Linux, XTERMR6, SCO, ESCN and VT400.

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.

- **Trusted Computing**

This screen provides the function for specifying the TPM settings.



Security Device Support

Use this item to enable or disable control TPM function.

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Advanced

| | |
|---|---|
| <p>TPM20 Device Found Vendor: STM Firmware Version: 1.769</p> <p>Security Device Support [Disable]</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> |
| <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p>Security Device Support</p> <p>Disable</p> <p>Enable</p> </div> | <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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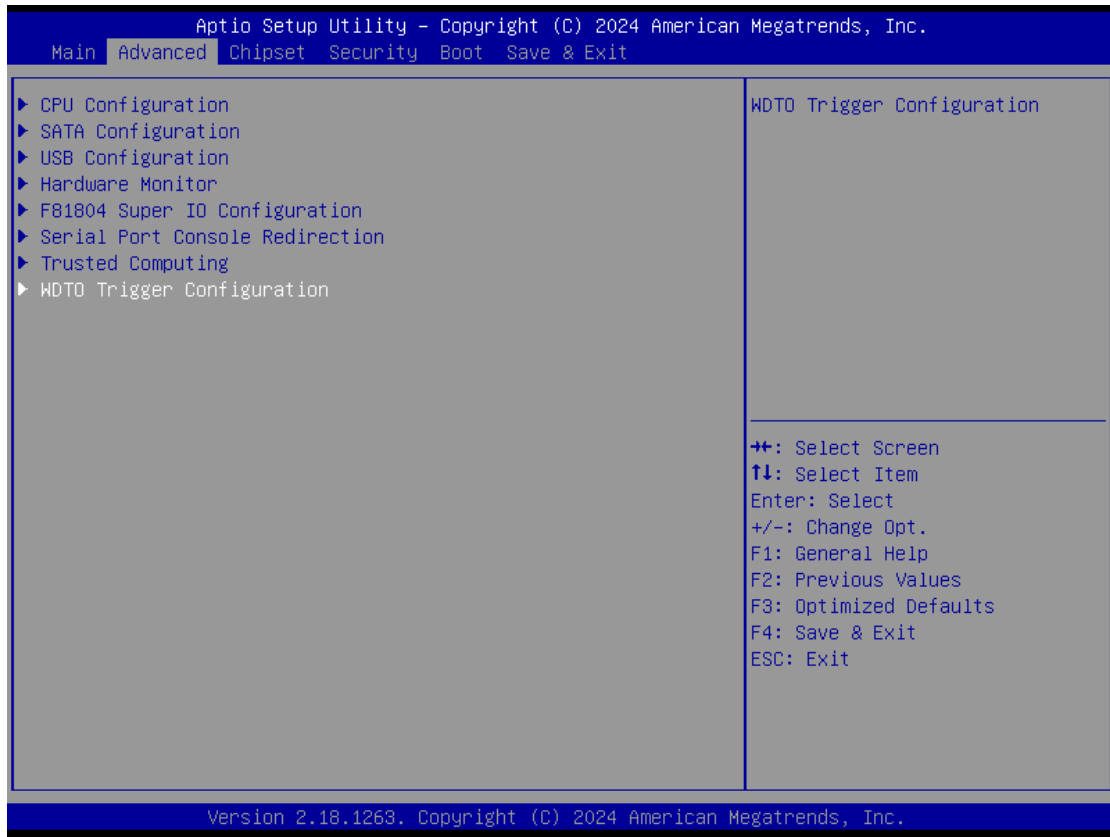
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Advanced

| | |
|---|---|
| <p>TPM20 Device Found Vendor: STM Firmware Version: 1.769</p> <p>Security Device Support [Enable] Active PCR banks SHA-1,SHA256 Available PCR banks SHA-1,SHA256,SHA384</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> |
| | <p>⇧⇧: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p> |

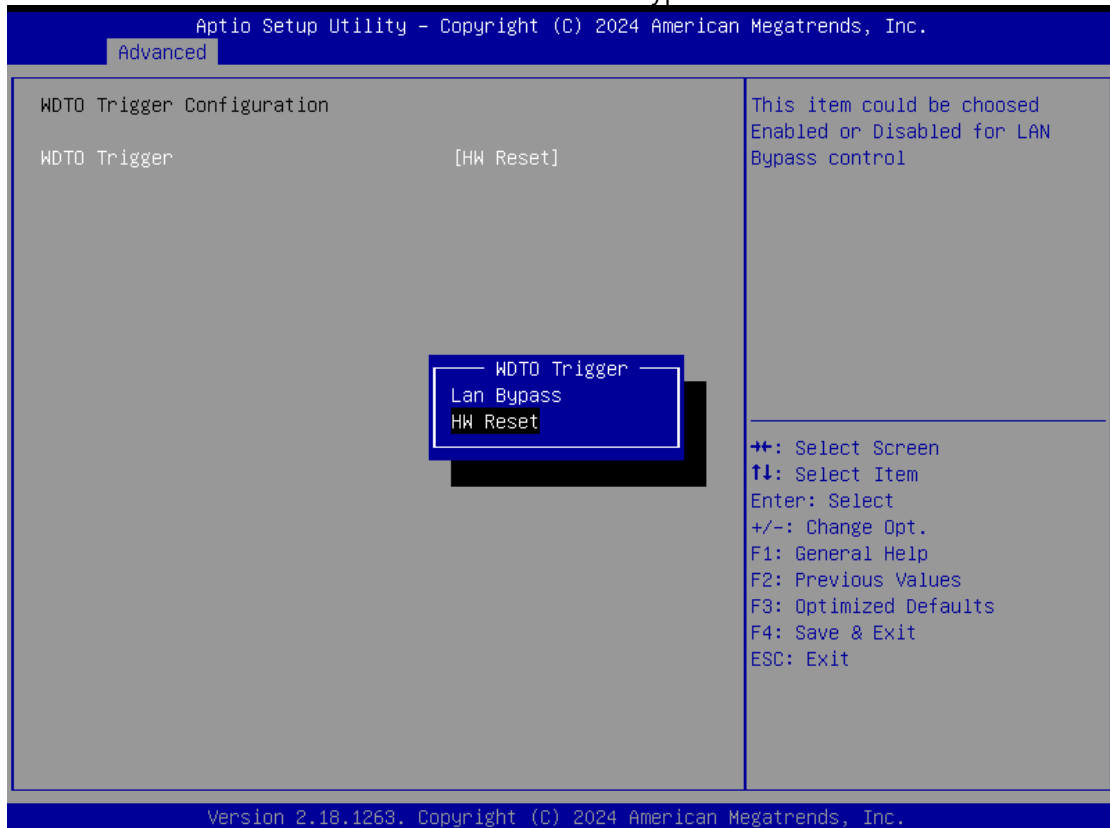
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● **WDTO Trigger Configuration**



WDTO Trigger

This item could be choose enable or disabled for Lan bypass control



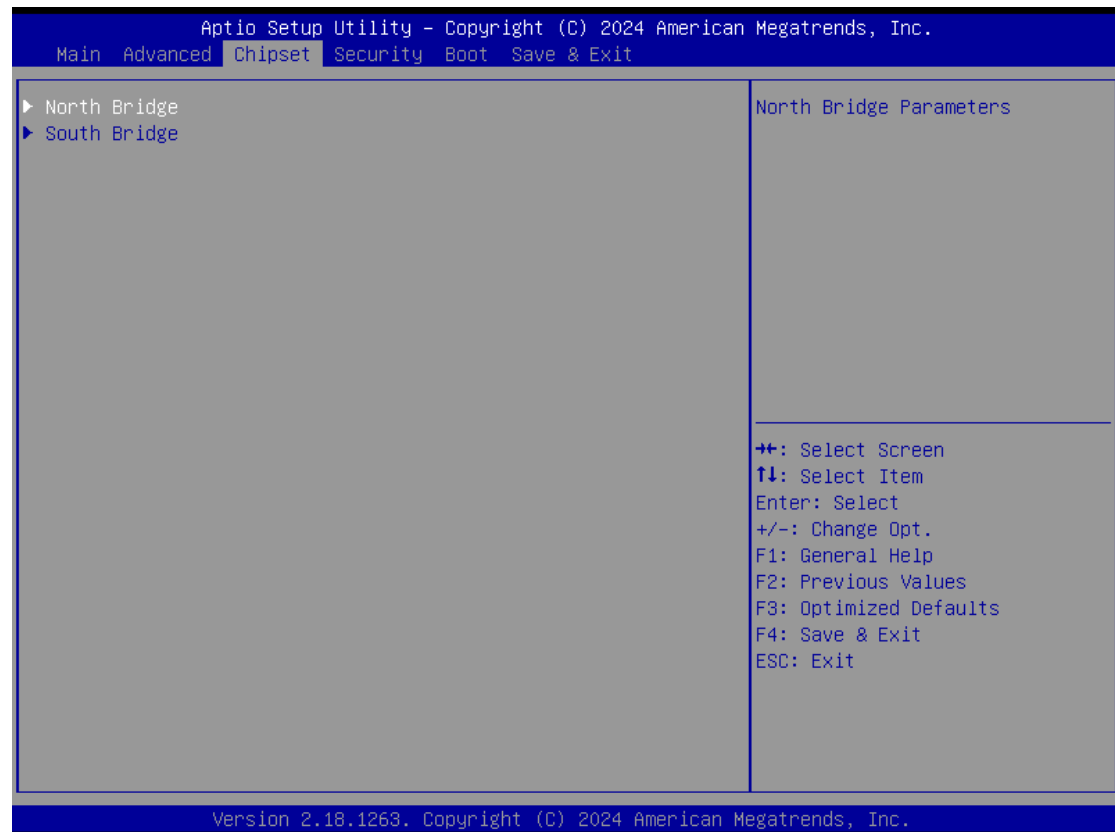
3.5 Chipset Menu

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 Bridge

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

- **North Bridge**



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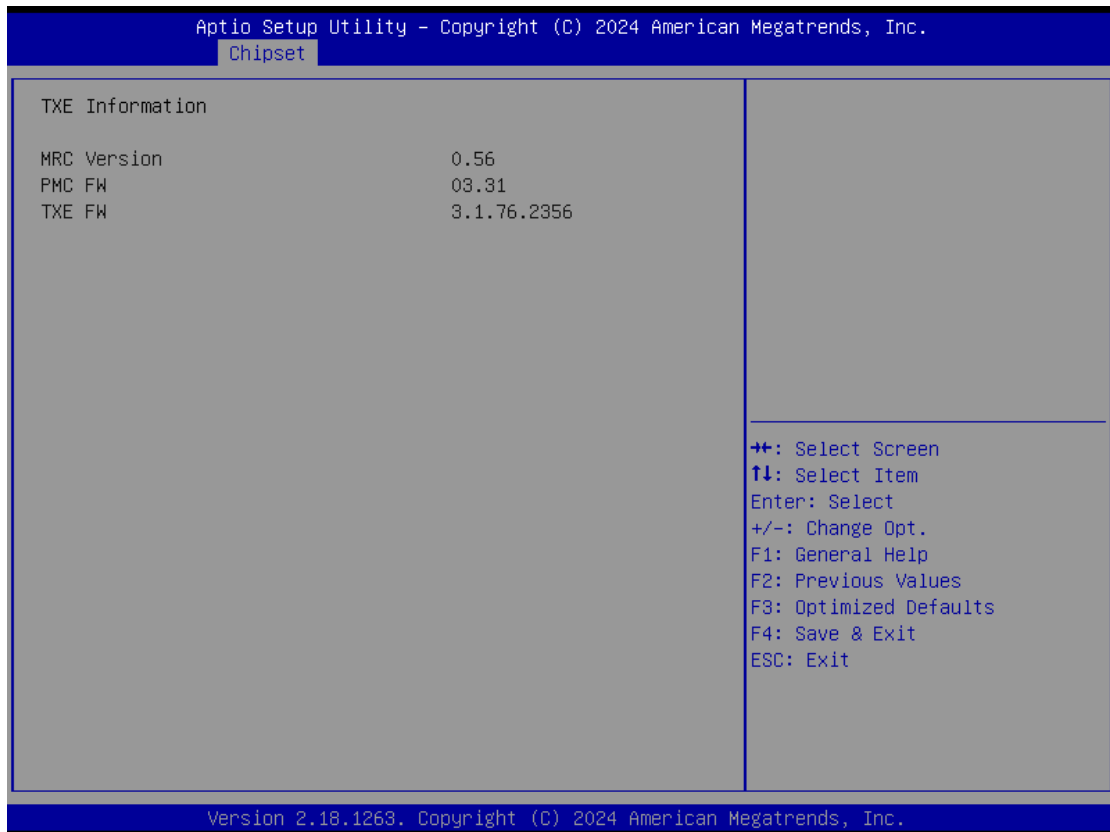
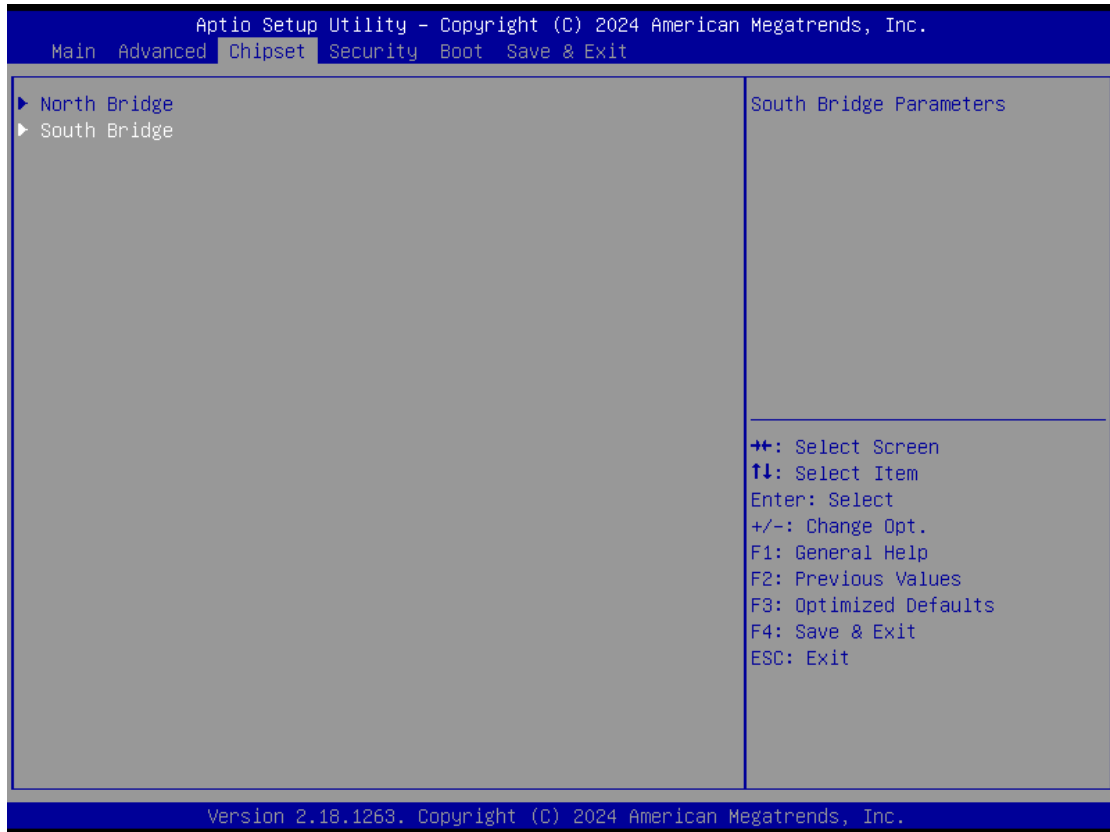
Chipset

| | |
|--------------------|------------|
| Memory Information | |
| Total Memory | 4096 MB |
| Memory Slot0 | 4096 MB |
| Memory Frequency | [1600 MHZ] |

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

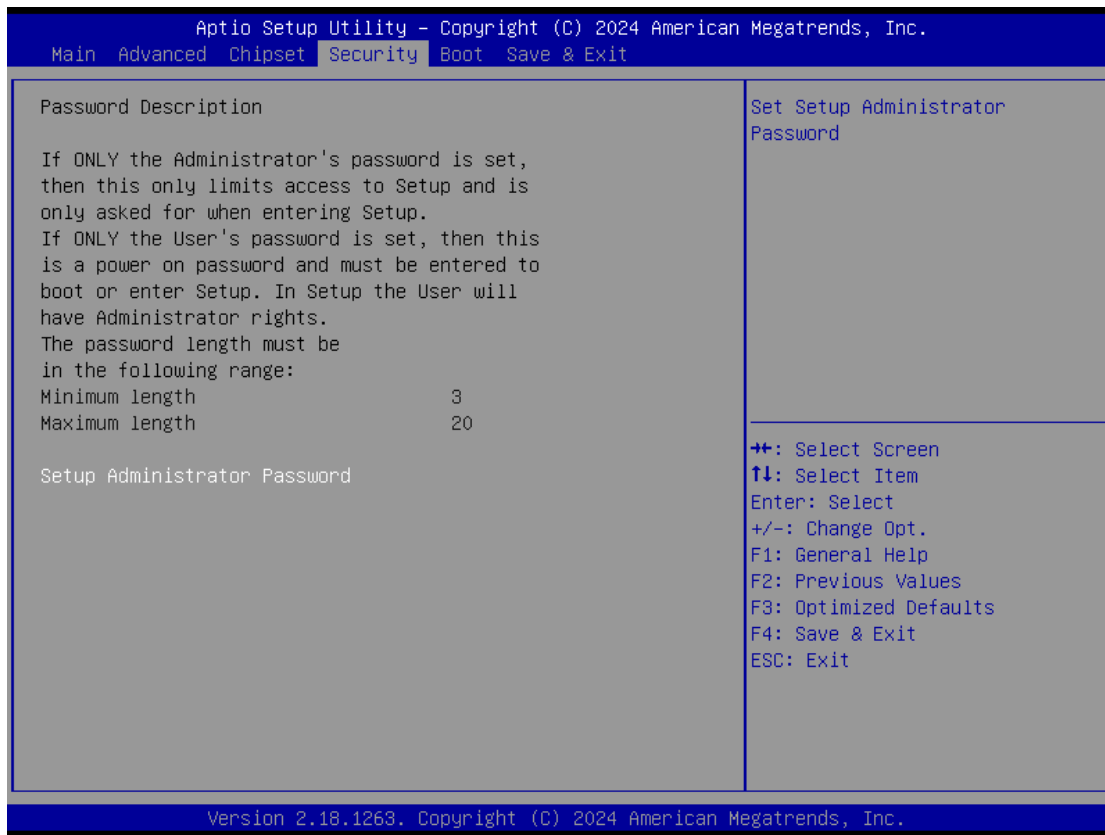
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- **South Bridge**



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).

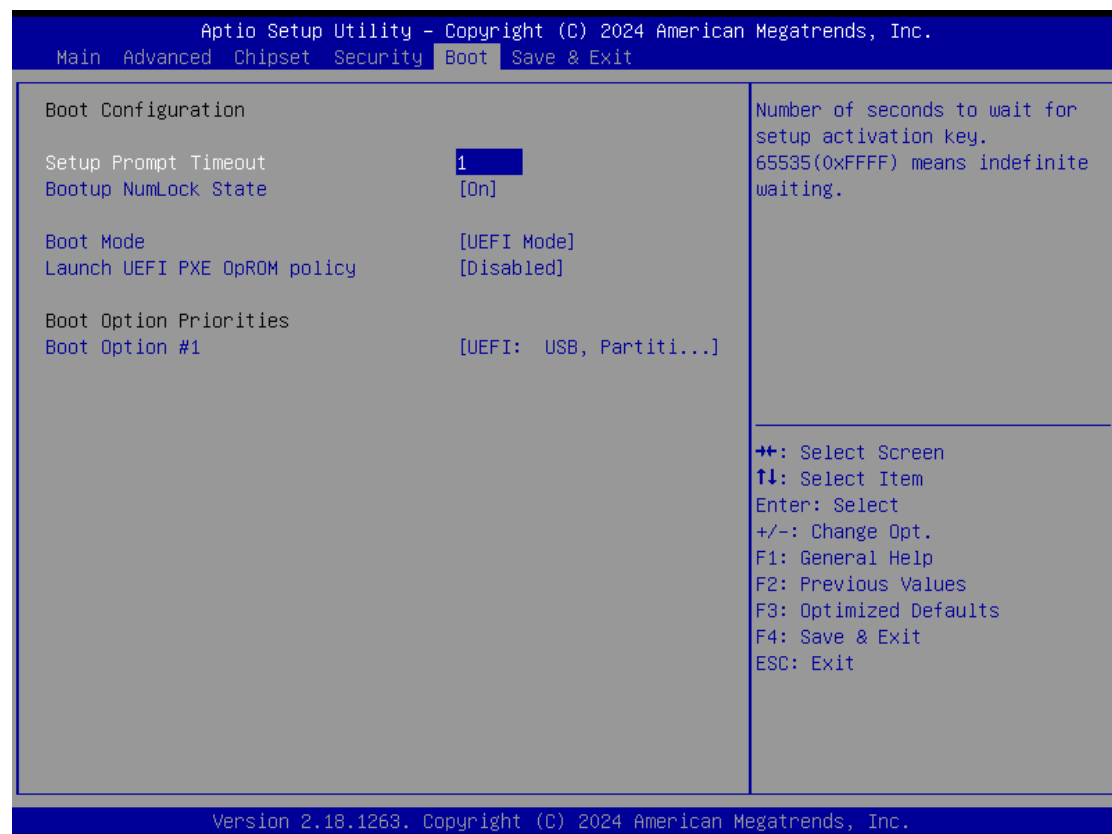
3.7 Boot Menu

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

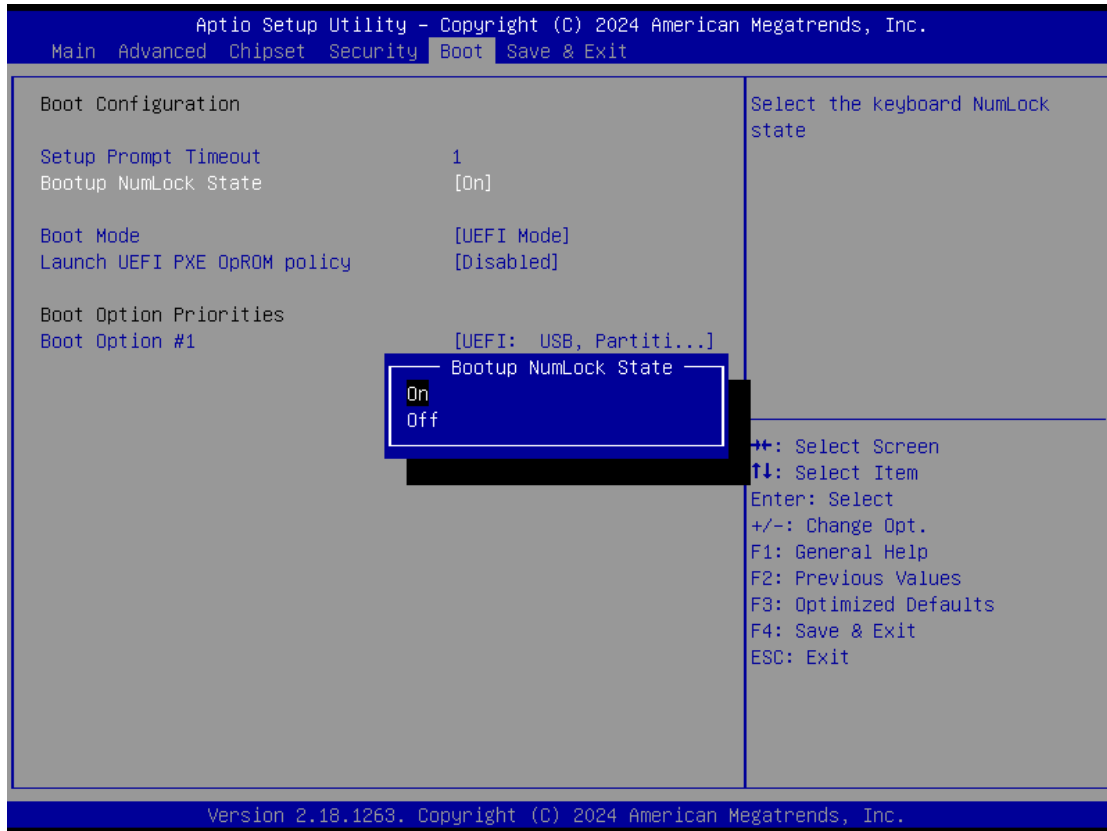
For items marked with “▶”, please press <Enter> for more options.

- **Boot Configuration**



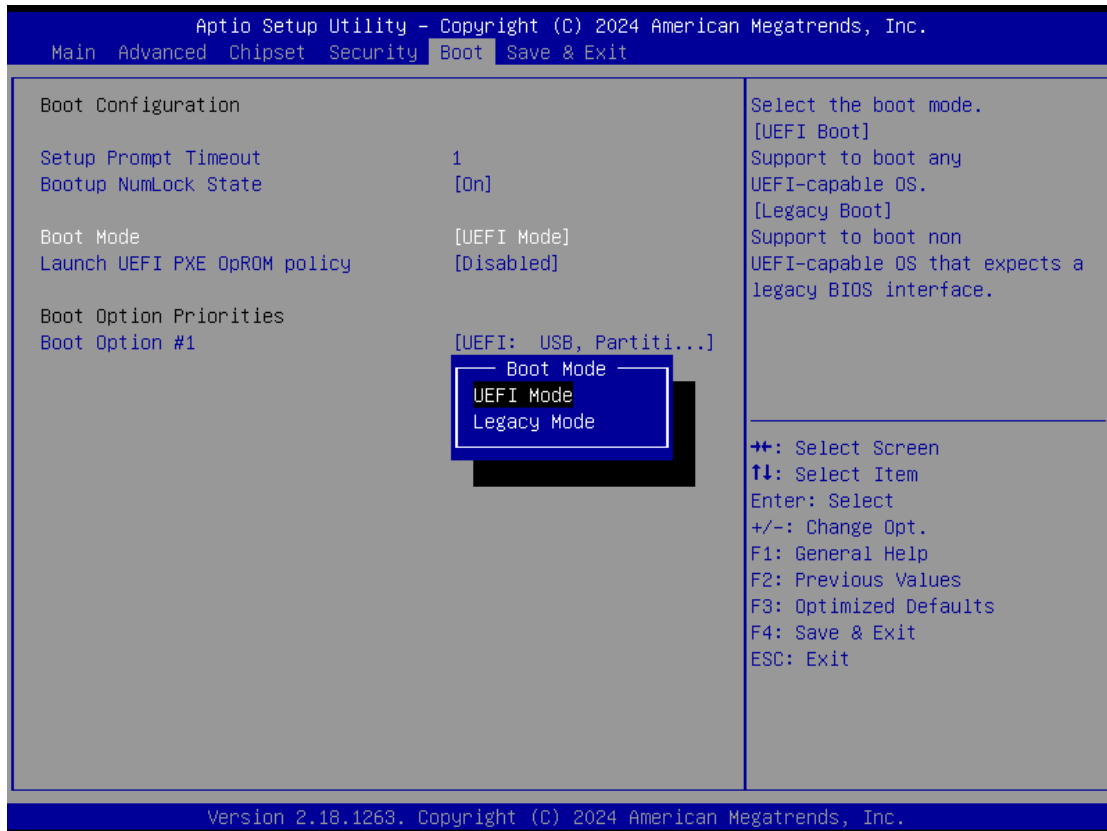
Boot NumLock State

Number of seconds to wait for setup activation key.65535(0Xffff) means indefinite waiting.



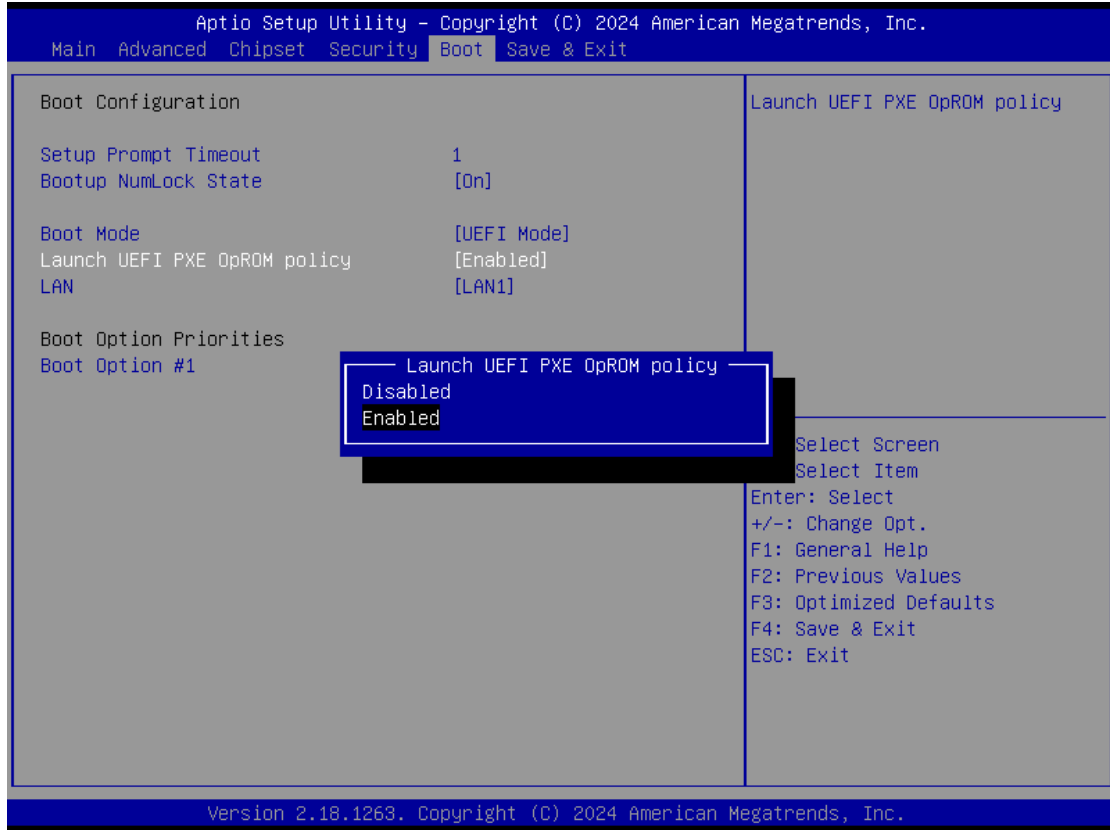
Boot Mode

Select the Boot Mode



Launch UEFI PXE OpROM policy

When this item enable will show Lan port to select.



LAN

Select PXE Lan port

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Main Advanced Chipset Security **Boot** Save & Exit

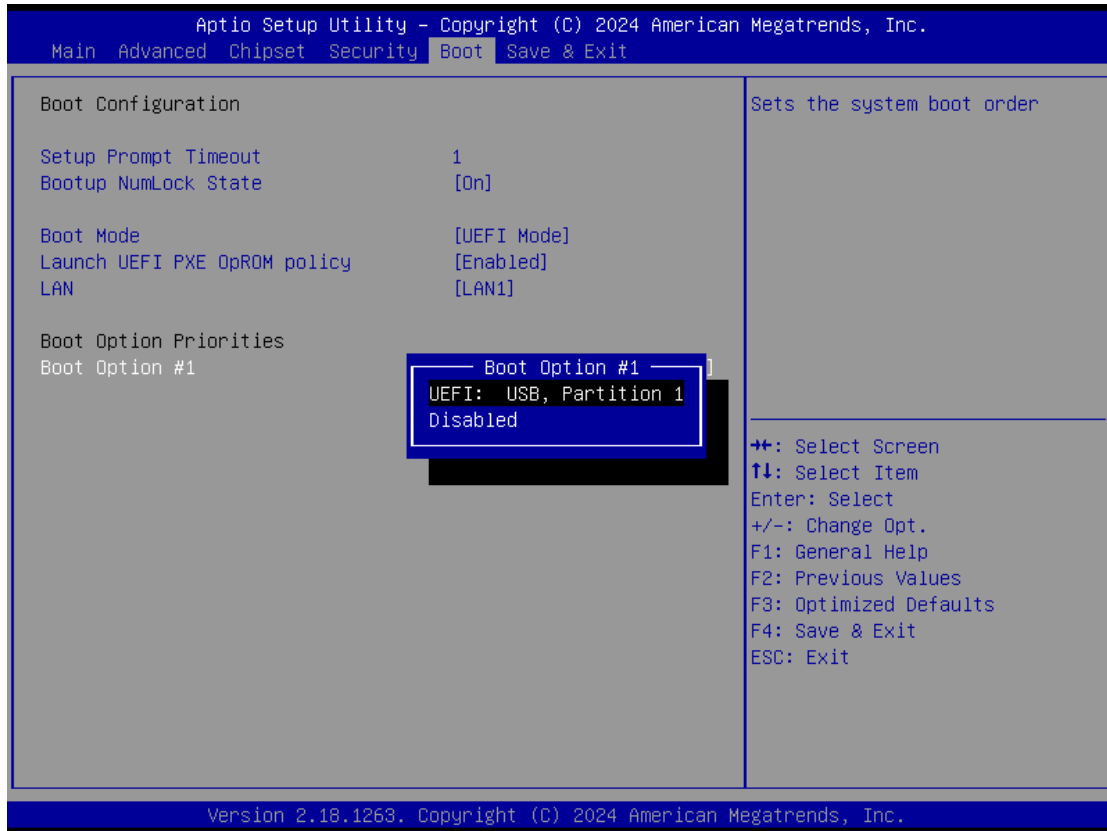
| | |
|---|--|
| <p>Boot Configuration</p> <p>Setup Prompt Timeout 1</p> <p>Bootup NumLock State [On]</p> <p>Boot Mode [UEFI Mode]</p> <p>Launch UEFI PXE OpROM policy [Enabled]</p> <p>LAN [LAN1]</p> <p>Boot Option Priorities</p> <p>Boot Option #1 [U LAN1 i...]</p> | <p>Select PXE LAN port</p> <hr/> <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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- **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.





3.8 Save & Exit Menu

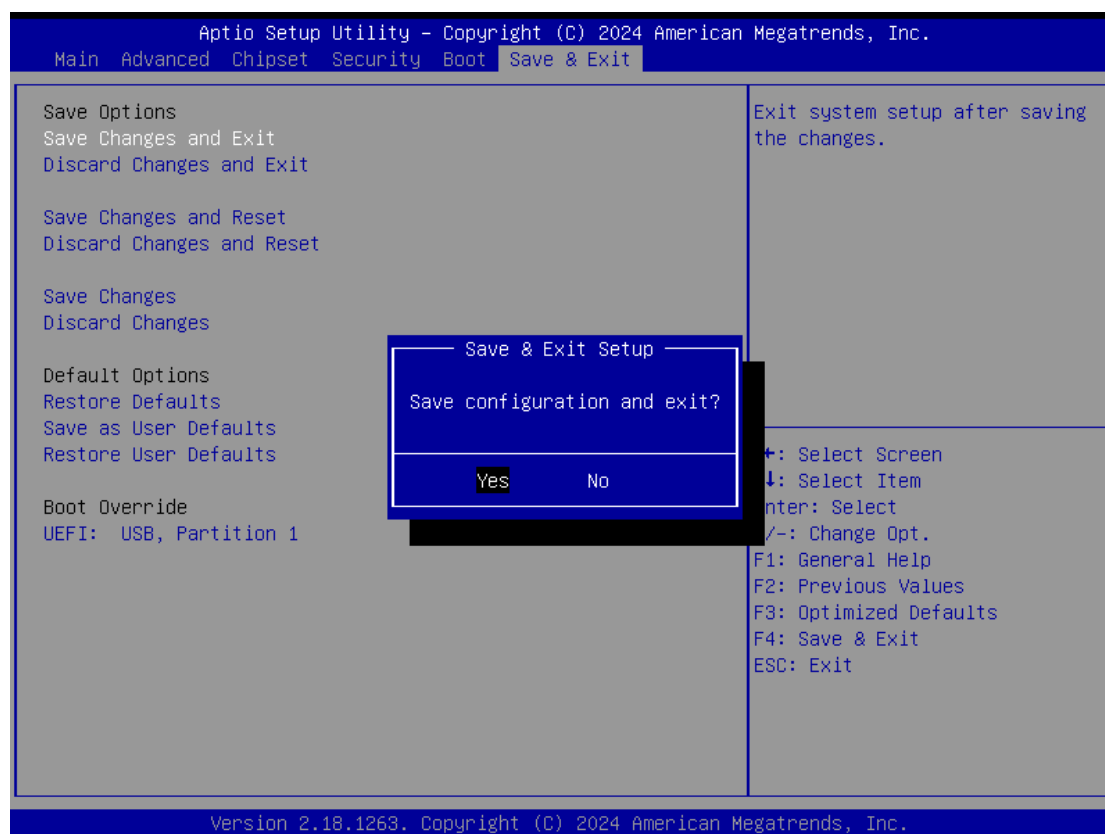
The Save & Exit menu allows users to load your system configuration with optimal or fail-safe default values.

- **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.



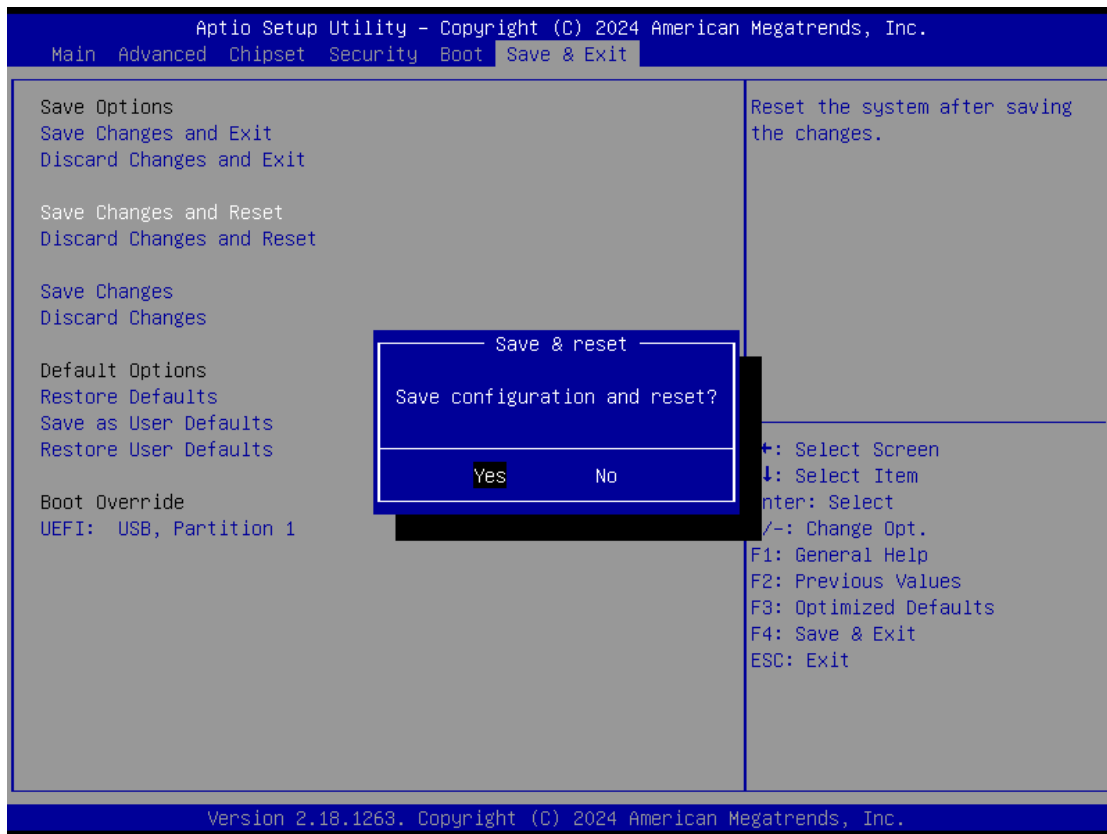
Discard Changes and Exit

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.



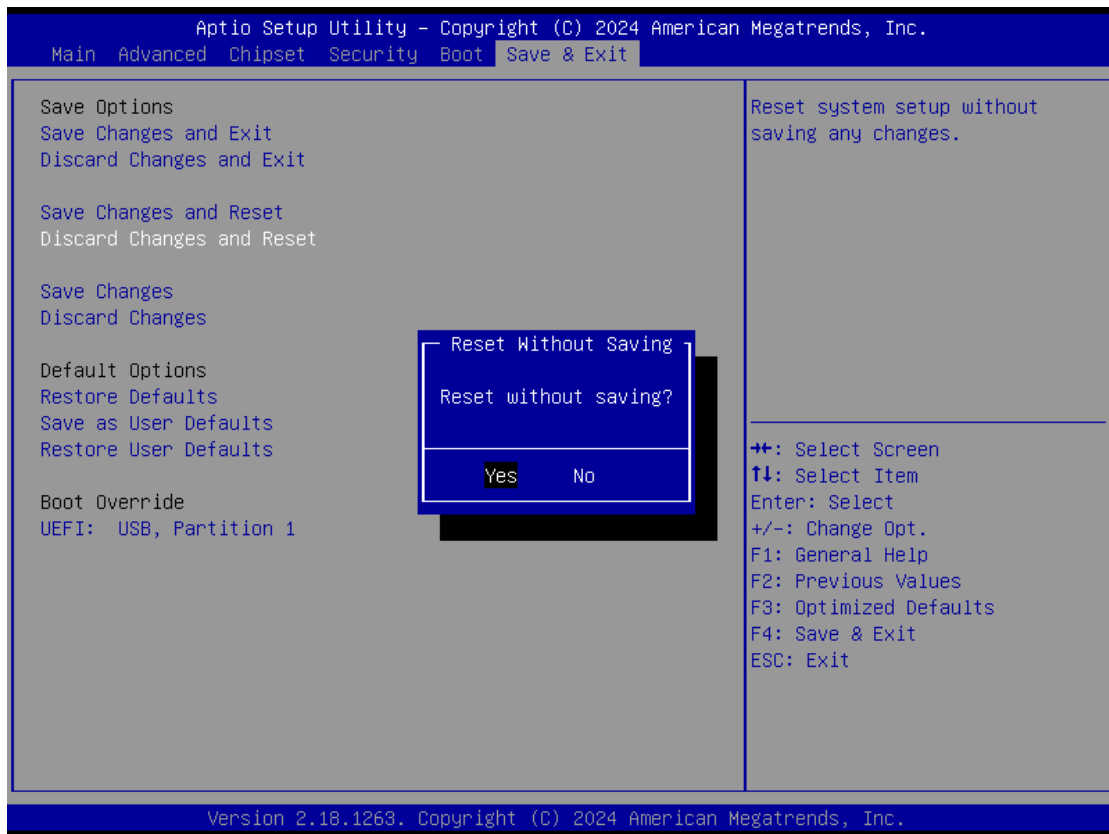
Save Changes and Reset

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.



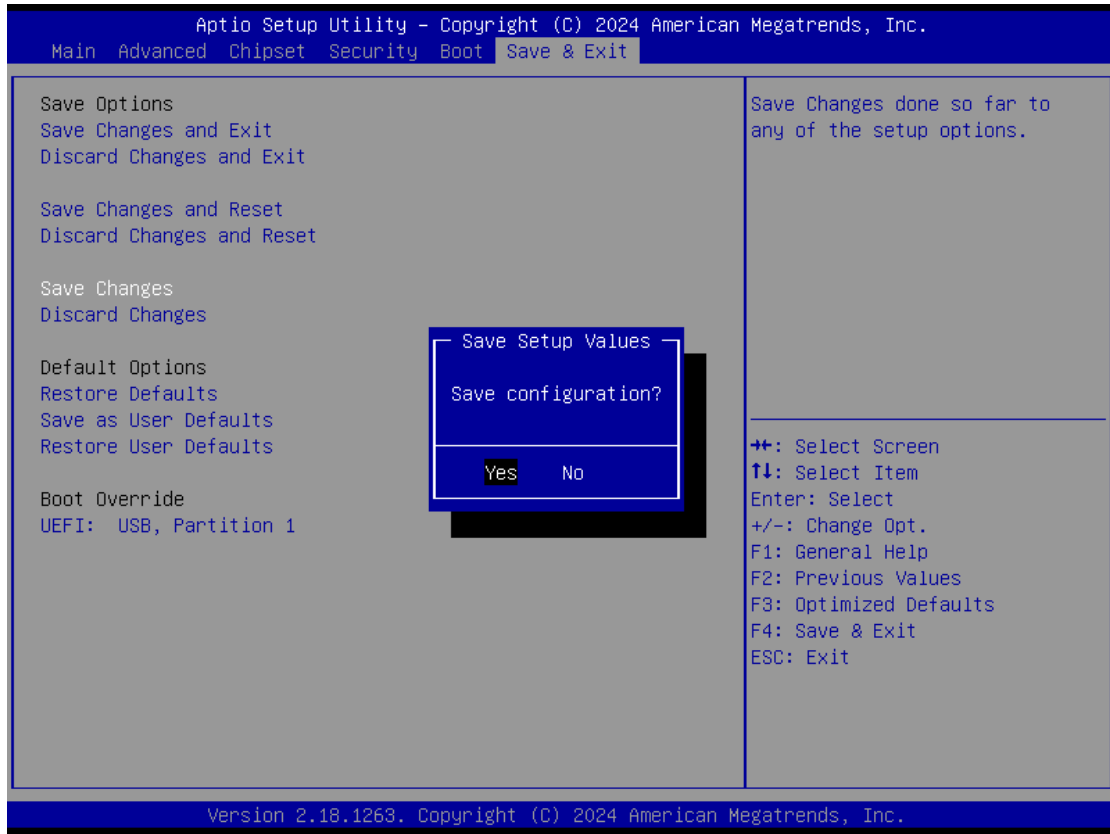
Discard Changes and Reset

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.

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Main Advanced Chipset Security Boot **Save & Exit**

Save Options
Save Changes and Exit
Discard Changes and Exit

Save Changes and Reset
Discard Changes and Reset

Save Changes
Discard Changes

Default Options
Restore Defaults
Save as User Defaults
Restore User Defaults

Boot Override
UEFI: USB, Partition 1

Discard Changes done so far to any of the setup options.

Load Previous Values
Load Previous Values?
Yes No

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

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Default Options

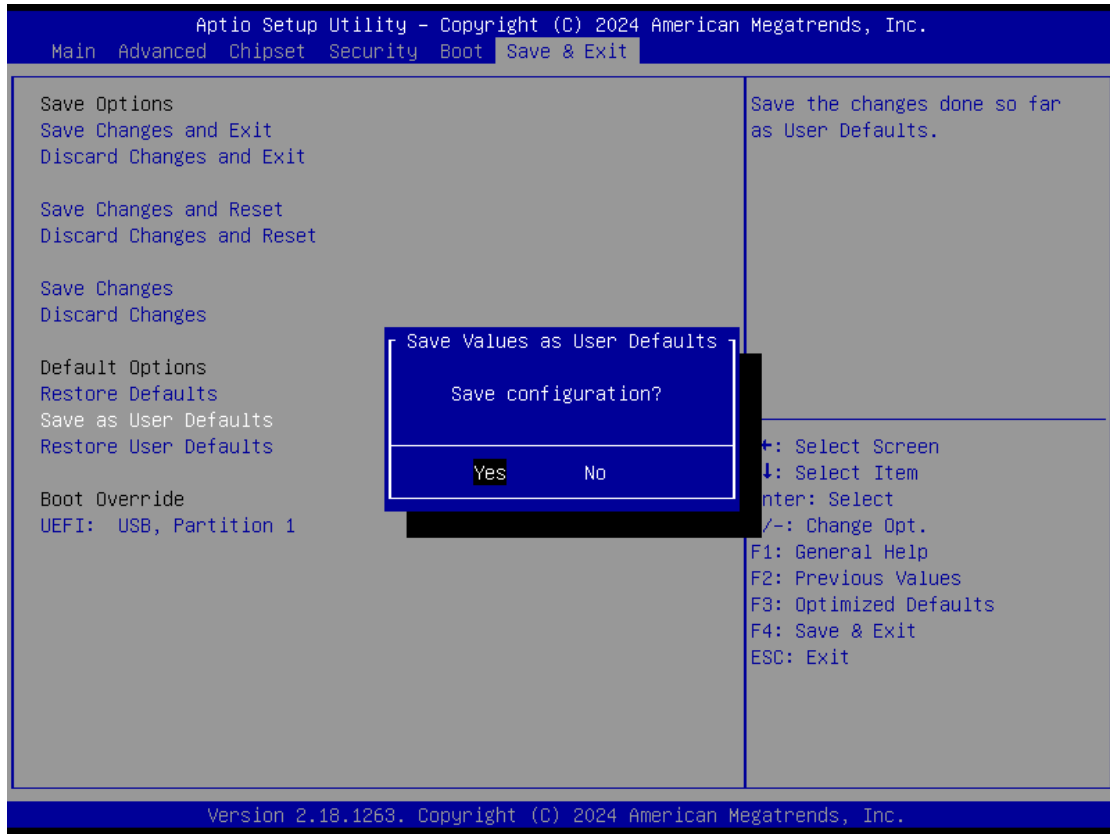
Restore Defaults

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

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Main Advanced Chipset Security Boot **Save & Exit**

Save Options
Save Changes and Exit
Discard Changes and Exit

Save Changes and Reset
Discard Changes and Reset

Save Changes
Discard Changes

Default Options
Restore Defaults
Save as User Defaults
Restore User Defaults

Boot Override
UEFI: USB, Partition 1

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

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Appendix A

LAN Bypass Configuration

About LAN Bypass

The iNA110 Series features a LAN bypass functionality designed to ensure uninterrupted network connectivity for LAN3 and LAN4 ports even if the device encounters unexpected errors. This feature automatically redirects network traffic around the device, minimizing downtime and maintaining network resilience for the connected segments.

The LAN Bypass feature covers three levels as below:

1. Power loss

While the AC power loss occurs to this device, the LAN3 and LAN4 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.

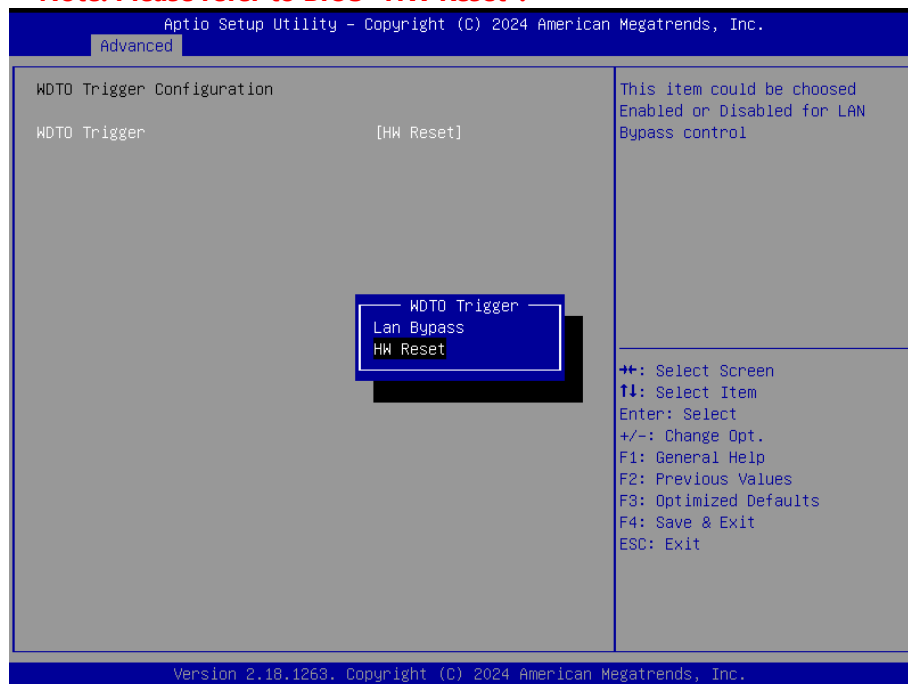
2. GPO control

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 "HW Reset".



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 iNA110 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 "HW Reset".



Note: *If you need sample codes, please feel free contact our FAE. The codes 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 system has to be installed in an environment with maximum ambient temperature below 60°C
- The openings on the enclosure are for air convection, which helps protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- Lay this equipment on a reliable surface when install. A drop or fall could cause damage.
- The equipment shall be installed according to specification as the tag. 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.