

# RXi2 – LP Industrial PC

## HARDWARE REFERENCE MANUAL



# Contents

<b>Section 1:</b>	<b>Getting Started .....</b>	<b>1</b>
1.1	Revisions to this Manual.....	1
1.2	Features .....	1
1.3	Specifications.....	1
1.4	RXi2 – LP Industrial PC .....	4
<b>Section 2:</b>	<b>Hardware.....</b>	<b>5</b>
2.1	Key Features .....	5
2.2	Motherboard Specifications .....	5
2.2.1	Specifications.....	5
2.2.2	I/O and Connectors .....	6
2.2.3	Battery.....	11
2.3	LED Indicators .....	11
2.3.1	Ethernet Port Operation LEDs .....	11
<b>Section 3:</b>	<b>BIOS Setup.....</b>	<b>12</b>
3.1	BIOS Setup .....	12
3.1.1	Submenu .....	12
3.2	AMI BIOS Setup Utility .....	13
3.2.1	Accessing the BIOS .....	13
3.2.2	Main Menu .....	13
3.2.3	System Language.....	14
3.2.4	Advanced.....	14
3.2.5	ACPI Settings.....	15
3.2.6	Trusted Computing.....	16
3.2.7	Wakeup Configuration .....	17
3.2.8	CPU Configuration .....	18
3.2.9	IDE Configuration .....	19
3.2.10	USB Configuration .....	20
3.2.11	NCT61120 Super IO Configuration .....	21
3.2.12	NCT 6112D HW Monitor.....	22
3.2.13	NCT 6112D Super IO Features .....	23

3.2.14 Network Stack Configuration .....	24
3.3 Chipset .....	25
3.3.1 Boot Configuration .....	27
3.4 Security .....	29
3.4.1 Key Management .....	30
3.5 Save & Exit .....	31
3.5.1 Menu Options.....	31
3.5.2 Updating the BIOS .....	32
<b>Section 4: Installation of Drivers .....</b>	<b>33</b>
4.1 Express Installation .....	33
4.2 Custom Installation.....	34
<b>Section 5: Mounting Information .....</b>	<b>35</b>
5.1 Wall Mount Dimensions (using included mounting bracket) .....	35
5.2 DIN Rail Mounting Dimensions (Includes Mounting Bracket) .....	36
5.3 DIN Rail Mounting Installation.....	37
5.4 Minimum Clearances for DIN Rail Mounting .....	38
General Contact Information .....	39
Technical Support .....	39

## Warnings and Caution Notes as Used in this Publication

### **WARNING**

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.

---

### **CAUTION**

Caution notices are used where equipment might be damaged if care is not taken.

---

**Note:** Notes merely call attention to information that is especially significant to understanding and operating the equipment.

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met during installation, operation, and maintenance. The information is supplied for informational purposes only, and Emerson makes no warranty as to the accuracy of the information included herein. Changes, modifications, and/or improvements to equipment and specifications are made periodically and these changes may or may not be reflected herein. It is understood that Emerson may make changes, modifications, or improvements to the equipment referenced herein or to the document itself at any time. This document is intended for trained personnel familiar with the Emerson products referenced herein.

Emerson may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not provide any license whatsoever to any of these patents.

Emerson provides the following document and the information included therein as-is and without warranty of any kind, expressed or implied, including but not limited to any implied statutory warranty of merchantability or fitness for particular purpose.

# Section 1: Getting Started

## 1.1 Revisions to this Manual

Revision	Date	Description
D	April 2023	Updated Section 1.3 Specifications to show compliance with BIS certification
C	Aug 2022	Adds a note to caution user against vertical mounting.
B	Aug 2021	Adds support for PACEdge 2.1
A	Aug 2019	Initial Release

## 1.2 Features

### Primary technical features:

AMD Embedded G-Series SOC Processor  
 Onboard DDR3L, up to 8GB (Soldered with ECC)  
 1 x SSD Slot  
 Fanless Design  
 24V DC Wide Range Power Input

## 1.3 Specifications

Item	Form Factor	Small (Dual Core)	Large (Quad Core)
Processor	Chipset	AMD Embedded G-Series SOC	
	Processor	GX-210HL	GX-412GC
	# of cores/TDP	2/7W	4/15W
	CPU frequency/L2 Cache	1.0Ghz/1MB	1.2Ghz/2MB
	GPU frequency	267Mhz	300Mhz
Memory	Capacity	4GB or 8GB DDR3L (Soldered with ECC, -40°C ~ 85°C)	
Storage	Internal	32 / 64 / 128GB MLC SSD	64 / 128GB MLC SSD

Item	Form Factor	Small (Dual Core)	Large (Quad Core)
		(SATA Slim, -40°C ~ 85°C)	(SATA Slim, -40°C ~ 85°C)
	External Slot	1 x External Micro SD/ SDHC Card Slot (up to 32GB)	
Watchdog Timer	Timer Levels	255 timer levels, set up by software	
Status Indicators	On-board Buzzer	Yes (85dB sound level with 80mA mean current)	
Power-Supply	Voltage [V]	+24 VDC ±20% (19.2 V to 28.8 V, 3-Pin Connector, Isolated)	
Protection-Class	Computing Unit	IP20	
Interfaces	Port 1	2 x 10/100/1000 Base T Ethernet RJ45	4 x 10/100/1000 Base T Ethernet RJ45
	Port 2	1 x RS-232 COM Port (5-Pin Connector, Isolated) 1 x RS-485 COM Port (5-Pin Connector, Isolated)	
	Port 3	2 x USB 3.0 (Type-A)	2 x USB 3.0 (Type-A) 2 x USB 2.0 (Type-A)
	Port 4	1 x DisplayPort	
	Port 5	1 x Mic In (Mono) (3.5mm Jack)	
	Port 6	1 x Line Out (Stereo) (3.5mm Jack)	
Operating System	Installed Standard	Windows 10 IOT Enterprise LTSC	
Software Tools	Tool 1	Secure & Trusted Boot Capability	
	Tool 2	DHCP-Client, Web Browser (IE or FireFox), Java JRE Capability	
Secure & Trusted Boot	Item 1	On-Board TPM2.0	
Design	Housing	Aluminum Die Casting (Front)	
	Construction Type	Modular (Detachable Modules; Computer, Monitor, Touch Display, DIO)	
	Cooling	Natural Convection (Fanless Passive Cooling)	
Environment	Operating Temperature	-20°C to +65°C	
	Storage Temperature	-30°C to +70°C	
	Operating Humidity	85% RH (non- condensing) @ 30°C	
	Operating Altitude	10000 ft. (3.000 m)	
	Vibration	1Grms / 5 ~ 500Hz (Random) / Operation IEC 60068-2-64 10G peak acceleration (11 msec. duration)/operation IEC 60068-2-27	

<b>Item</b>	<b>Form Factor</b>	<b>Small (Dual Core)</b>	<b>Large (Quad Core)</b>
	Protection/Installation	IP20/Open Type product for mounting in an ultimate enclosure Pollution Degree 2 environment	
Compliance	Certifications	<p><b>UL and cUL Information Technology Equipment</b> (UL/CSA 62368-1)</p> <p><b>UL and cUL Class 1 Division 2: Programmable Controllers for Use in Hazardous Locations</b> (UL/CSA 61010-2-201, UL 121201, CSA C22.2 No. 213)</p> <p><b>IECEx &amp; ATEX Zone 2/22 Hazardous Locations</b> (IEC/EN 60079-0, IEC/EN 60079-7, IEC/EN 60079-31)</p> <p><b>IECEE CB Scheme</b> (IEC 61010-2-201)</p> <p><b>Marine: ABS, BV, DNVGL, LR</b></p> <p><b>Bureau of Indian Standards</b> (IS 13252 Part 1/IEC60950-1)</p> <p><b>CE Mark, UKCA, CMIM, CCC</b></p>	
Physical Specification	Mounting Hole Dimensions (mm)	199.5 (L) x 70 (W)	313.8 (L) x 88 (W)
	Net Weight (kg)	1.7	2.4
	Dimensions (mm) (bracket included)	214 (L) x 119 (W) x 36.7 (H)	328.3 (L) x 160 (W) x 33.7 (H)

## 1.4 RXi2 – LP Industrial PC

The RXi2 – LP Industrial PC comes with a Dual Core 1.0 GHz processor or a Quad Core 1.2GHz Processor with 4GB or 8GB of available DDR3 RAM with Windows 10 IOT Enterprise LTSC OS installed, or without an operating system. The RXi2 – LP Industrial PC can run up to two displays simultaneously through the following options:

- (1) Two external displays (such as RXi – Industrial Monitor) through included Display Port
- (2) One external display (RXi – Industrial Monitor) through included Display Port & one native display (screen) through included display connector baseplate

See **Section 5.2: Baseplate Exchange** for more details

The operating temperature rating ranges as high as 65°C and as low as -20°C. With Marine and ATEX/IECEX, the RXi2 – LP Industrial PC is a solution that is designed to go where you need it to.

---

**Figure 1: Rear View of Small Box (Dual Core)**



---

**Figure 2: Rear View of Large Box (Quad Core)**



# Section 2: Hardware

## 2.1 Key Features

- Watchdog Timer
- DDR3
- Graphics
- Serial ATA
- Gigabit LAN
- Power Failure Recovery
- USB
- Wake-On-LAN
- Wake-On-USB
- ACPI-STR
- RTC Timer

## 2.2 Motherboard Specifications

### 2.2.1 Specifications

Item	Specification
Board Size	170mm x 113mm
CPU Support	AMD® Embedded G-Series AMD® GX-210HL, Dual Core, 1M Cache, 1.0GHz, 7W AMD® GX-412GC, Quad Core, 2M Cache, 1.2GHz, 15W
Memory Support	On board 4GB/8GB DDR3L Memory with ECC Supports Single Channel DDR3 1066/1333MHz
Graphics	AMD Radeon™ R3E GPU DirectX® 11.2, OpenGL 4.3, OpenCL™ 1.2 graphics support 1 x DP++ 1 x LVDS DP++: resolution up to 4096x2160 @ 30Hz LVDS: dual channel 24-bit, resolution up to 1920x1200 @ 60Hz
BIOS	AMI SPI 64Mbit
Storage	1 x Micro SD 1 x SATA 3.0 (7+15 pin)
Ethernet	2 x Intel® I210IT, -40 to 105°C PCIe (10/100/1000Mbps)

Item	Specification
Outside I/O	2 x USB 3.0 1 x RS-232 1 x RS-485 1 x Line-out 1 x Mic-in 2 x GbE (RJ-45) 1 x DP++ 1 x Power Button
Internal I/O	1 x LVDS LCD Panel Connector 1 x AIO/DIO 1x30pin Connector (JAE TX24-30R-10ST-H1E)
Battery	CR2032 Coin Cell
Audio	Codec:92HD73C
Expansion	1 x Mini PCIe (PCIe/USB 2.0) 1 x M.2 E key 2230 (PCIe/USB 2.0)
Security	TPM2.0
Watchdog Timer	System Reset Programmable via Software from 1 to 255 Seconds/Minutes
Temperature	Operating: -30 to 85°C Storage: -30 to 85°C
Humidity	Operating: 10 to 90% RH Storage: 10 to 90% RH
OS Support	Windows 10 IoT Enterprise (64-bit)

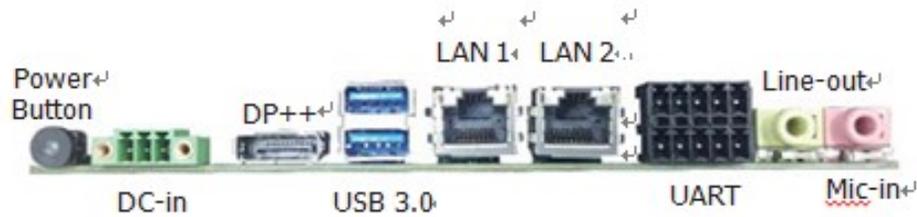
## 2.2.2 I/O and Connectors

### Outside I/O

The rear panel I/O port arrangement consists of the following:

- 1 power button
- 1 24V DC-in 3-pin power connector
- 1 DP++
- 2 USB 3.0 ports
- 2 RJ45 LAN ports
- 1 UART terminal-block
- 1 Line-out jack
- 1 Mic-in jack

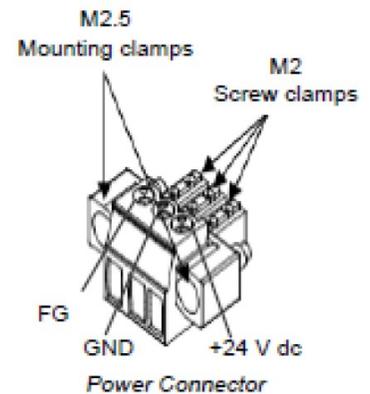
Figure 3: Rear Panel Arrangement



### Connecting Input Power (24V DC-in)

To connect to power, follow these steps:

1. Verify that the power cable is not energized.
2. Loosen the screw clamps on the mating power connector.
3. Strip the insulation from the power cables.
4. Secure the power cable to the mating connector, noting polarity, and tighten the screw clamps. The torque for the attaching screws is 0.3 Nm (2.26 in-lb).
5. Apply dc power to the unit. During normal startup and operation, the LED status indicator displays as follows:
  - Solid amber while the RXi - Industrial Display unit is starting up
  - Solid green during normal operation
6. Once power is applied, the unit begins initializing. The first thing to display is the splash screen.



Be sure to connect a DC power cord to this 3-pin power connector. Using a voltage out of the range may fail to boot the system or cause damage to the system board.

## Graphics Interface

The display port consists of the following:

### **DP++ Port**

The DP++ is a digital display interface used to connect a display device such as a computer monitor. It is used to transmit audio and video simultaneously. The interface, which is developed by VESA, delivers higher performance features than any other digital interface.

### **BIOS Setting**

Configure the display device in the Chipset menu (“DISPLAY control” submenu) of the BIOS. Refer to chapter 3 for more information.

## RJ45 LAN Ports

### **Features**

2 Intel® I210IT PCI Express Gigabit Ethernet controllers (4 on larger box module)

The LAN ports allow the system board to connect to a local area network through a network hub or router.

### **BIOS Setting**

Configure the onboard LAN in the Advanced menu (“Wakeup Configuration” submenu) of the BIOS.

## USB Ports

The USB ports allow for data exchange between your computer and a wide range of simultaneously accessible external Plug and Play peripherals. The RXi – Panel PC is equipped with 2 onboard USB 3.0 ports (USB 0-1) in the small configuration with an additional 2 USB 2.0 ports (USB 4-5) in the large box configuration.

## BIOS Setting

Configure the onboard USB in the Advanced menu (“Wakeup Configuration” submenu) of the BIOS. Refer to chapter 3 for more information.

## Wake-On-USB Keyboard/Mouse

The Wake-On-USB Keyboard/Mouse function allows you to use a USB keyboard or USB mouse to wake up a system from the S3 (STR - Suspend To RAM) state.

## Serial Ports (UART)

Serial Connection	Pin	Function
RS232	1	TXD
	2	RXD
	3	RTS
	4	CTS
	5	GND
RS485	6	TX+
	7	TX-
	8	RX+
	9	RX-
	10	GND



## Audio

### Rear Audio

The system board is equipped with 2 audio jacks (Line-out and Mic-in). A jack is a one-hole connecting interface for inserting a plug.

- Line-out Jack (Lime)

This jack is used to connect a headphone or external speakers.

- Mic-in Jack (Pink)

This jack is used to connect an external microphone.

## BIOS Setting

Configure the onboard Audio device in the Chipset menu (“SB HD Azalia Configuration” submenu) of the BIOS.

## I/O Connectors

### Serial ATA (SATA) Connector

#### Features

- 1 Serial ATA 3.0 port with data transfer rate up to 6Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller

The Serial ATA connector is used to connect the Serial ATA device. Connect one end of the Serial ATA data connector to a SATA connector on the other end to your Serial ATA device.

#### BIOS Setting

Configure the Serial ATA drive in the Chipset menu (“SB SATA Configuration” submenu) of the BIOS. Refer to chapter 3 for more information.

## Expansion Slots

### Micro SD Socket

The micro SD socket allows you to install a micro SD card for the expansion of available storage.

### LVDS LCD Panel Connector

The system board allows you to connect an LCD Display Panel with the LVDS LCD panel connector. This connector transmits video signals and power from the system board to the LCD Display Panel.

Refer to the right side for the pin functions of the LVDS connector.

#### BIOS Setting

Configure the LCD panel in the Chipset menu (“DISPLAY control” submenu) of the BIOS. Refer to Chapter 3 for more information.

### AIO/DIO Connector

AIO/DIO connector provides functionality to external devices that are connected to the connector. **(FOR FUTURE USE)**

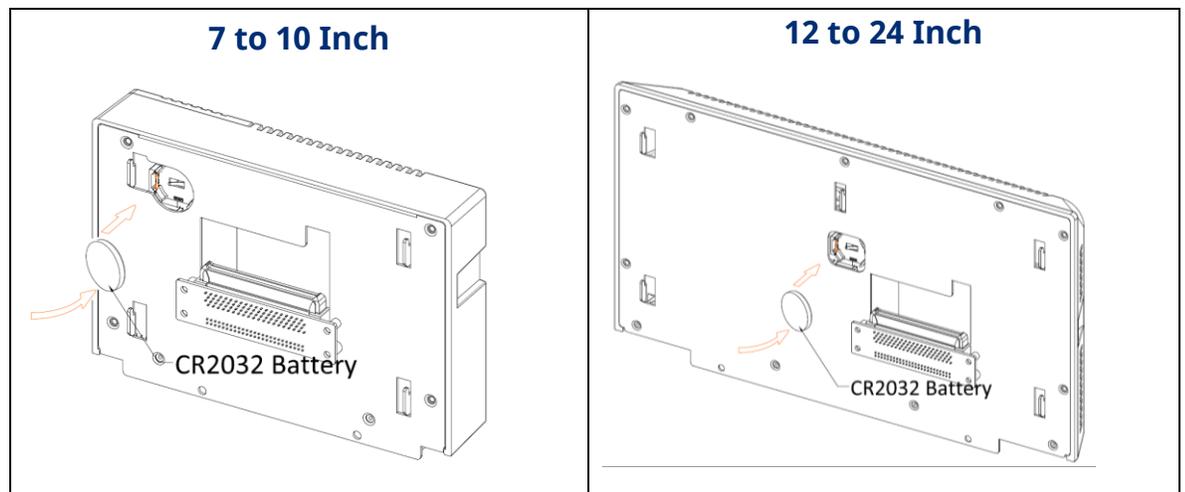
## 2.2.3 Battery

The lithium-ion battery powers the real-time clock and CMOS memory. It is an auxiliary source of power when the main power is shut off or disconnected. It is a standard CR2032 battery and is accessible on the bottom of the computing module when separated from the screen (as shown below)

### Safety Measures

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to local ordinances.

**Figure 4: C2032 Battery**



## 2.3 LED Indicators

### 2.3.1 Ethernet Port Operation LEDs

	LED	LED State	Operating State
	Speed	Yellow, ON	10/100/1000
	Link Activity	Green, ON	Link Status

# Section 3: BIOS Setup

## 3.1 BIOS Setup

The BIOS is a program that handles of the basic levels of communication between the CPU and peripherals. It contains codes for various advanced features found in this system board. The BIOS allows you to configure the system and save the configuration in a battery-backed CMOS so that the data is retained even when the power is off. In general, the information stored in the CMOS RAM of the EEPROM will stay unchanged unless a configuration change has been made, such as a replacement of a hard drive, or addition of a device.

It is possible for the CMOS battery to fail over time, causing CMOS data loss. If this happens, you need to install a new CMOS battery and reconfigure the BIOS settings.

Keys	Function
Right and Left arrows	Moves the highlight left or right to select a menu.
Up and Down arrows	Moves the highlight up or down between submenu or fields.
<Enter>	Press <Enter> to enter the highlighted submenu or item.
+ (plus key)	Scrolls forward through the values or options of the highlighted field.
- (minus key)	Scrolls backward through the values or options of the highlighted field.
<F1>	Displays general help
<F2>	Pervious values
<F3>	Load Optimized Defaults
<F4>	Saves and resets the setup program.
<Esc>	Exit to the BIOS Setup Utility.

### 3.1.1 Submenu

When “□” appears on the left of a particular field, it indicates that a submenu which contains additional options is available for that field. To display the submenu, move the highlight to that field and press <Enter>.

## 3.2 AMI BIOS Setup Utility

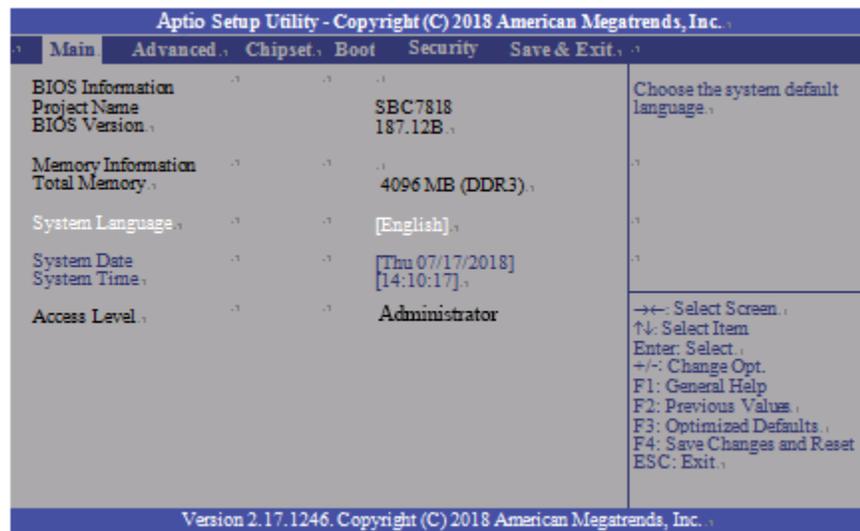
### 3.2.1 Accessing the BIOS

To access the BIOS, you must attach a USB keyboard to the computing unit and repeatedly press F2 during the startup sequence until it brings you to the Main Menu

### 3.2.2 Main Menu

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.

**Figure 5: Main Menu**



BIOS Parameter	Description
System Language	Choose the system default language.
System Date	The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from 01 to 12. Date displays the date, from 01 to 31. Year displays the year, from 1980 to 2099.
Time	The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

### 3.2.3 System Language

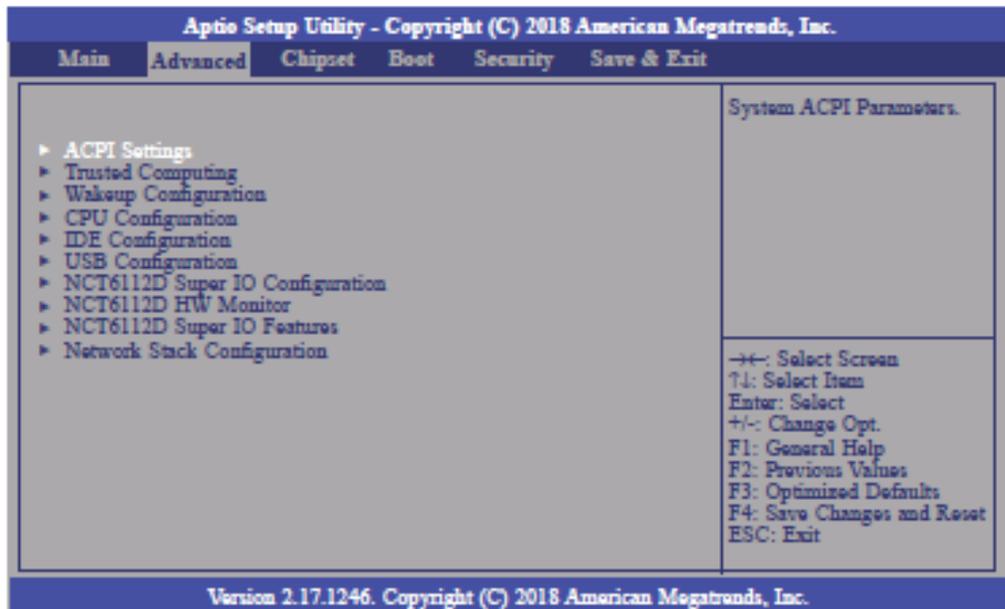
The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to

23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

### 3.2.4 Advanced

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or allow the user to set some features according to their preference.

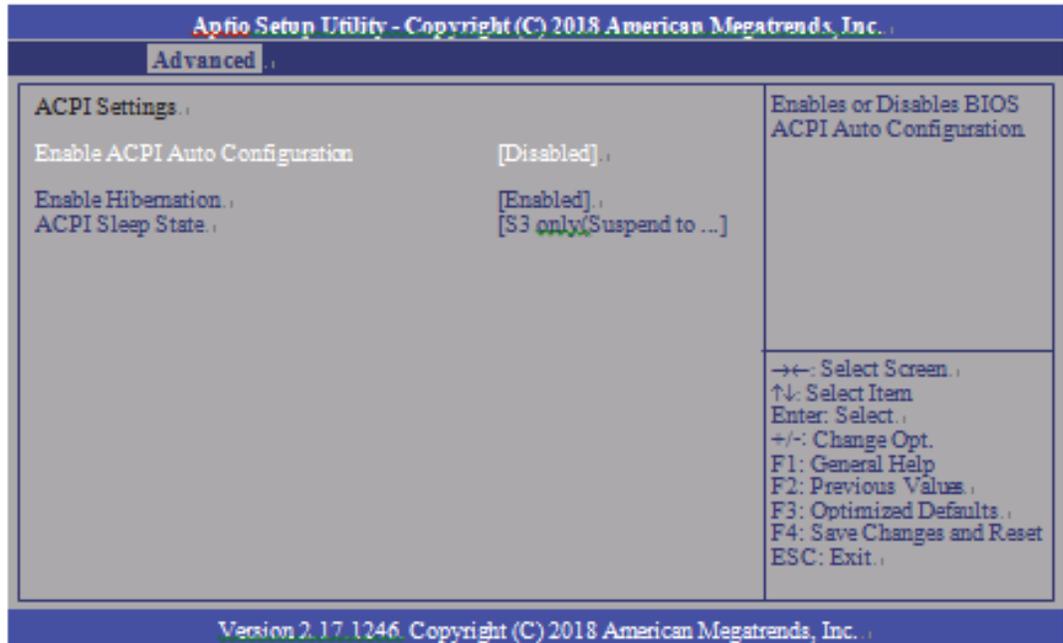
Figure 6: Advanced Menu



### 3.2.5 ACPI Settings

This section configures system ACPI parameters.

**Figure 7: ACPI Settings**

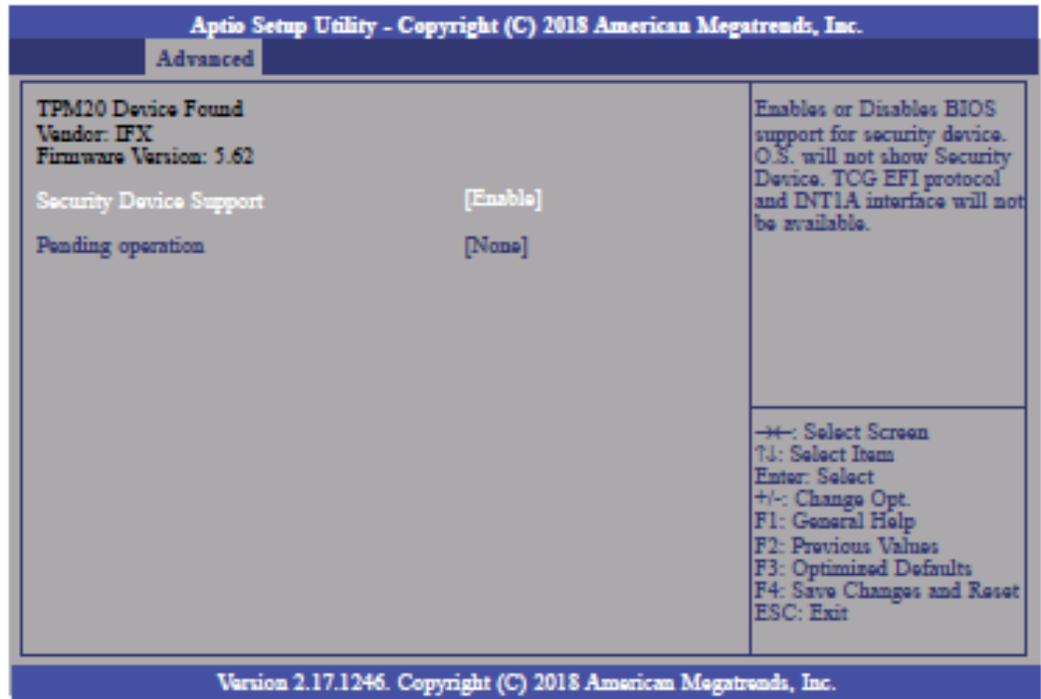


BIOS Parameter	Description
ACPI Auto Configuration	This field is used to enable or disable BIOS ACPI auto configuration.
Enable Hibernation	This field is used to enable or disable the system’s ability to hibernate (OS/S4 Sleep State). This option may not be functional with all operating systems.
ACPI Sleep State	This field is used to select ACPI sleep state the system will enter when the SUSPEND button is pressed.

### 3.2.6 Trusted Computing

This section is used to configure the Trusted Computing settings.

**Figure 8: Trusted Computing Settings**

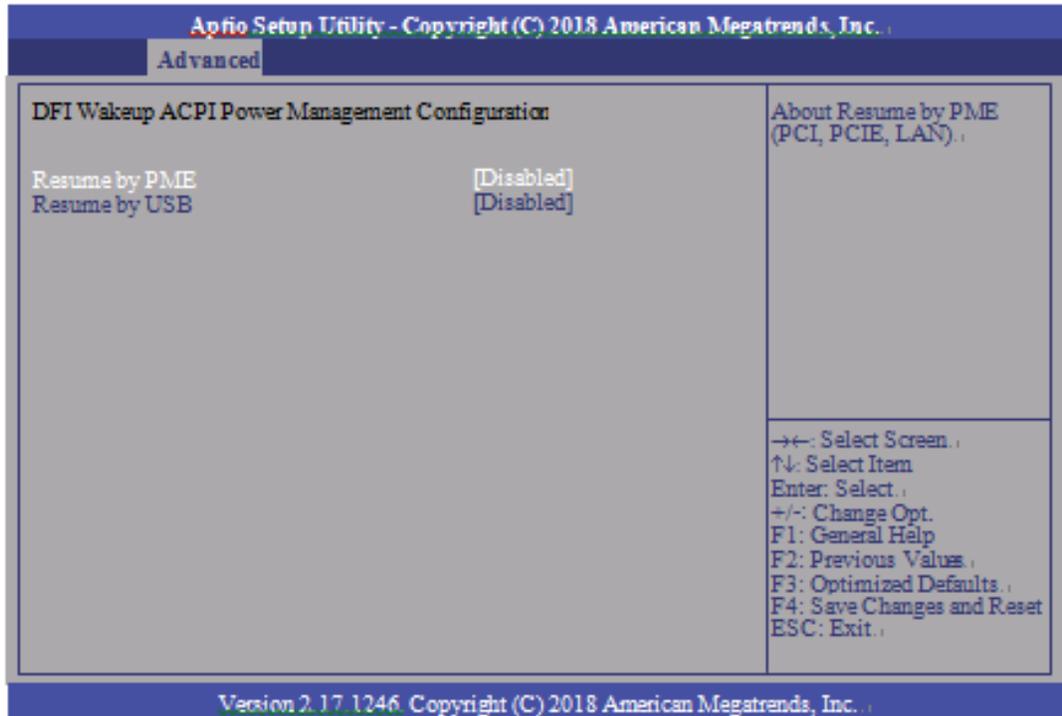


BIOS Parameter	Description
Security Device Support	Enable or disable BIOS support for a security device. The Operating System will not show a security device. TCG EFI protocol and INT1A interface will not be available.
Pending Operation	Schedule an operation for the security device. Your computer will reboot during restart to change the state of the security device.

### 3.2.7 Wakeup Configuration

This section is used to configure the Wakeup ACPI Power Management.

**Figure 9: Wakeup Configuration**

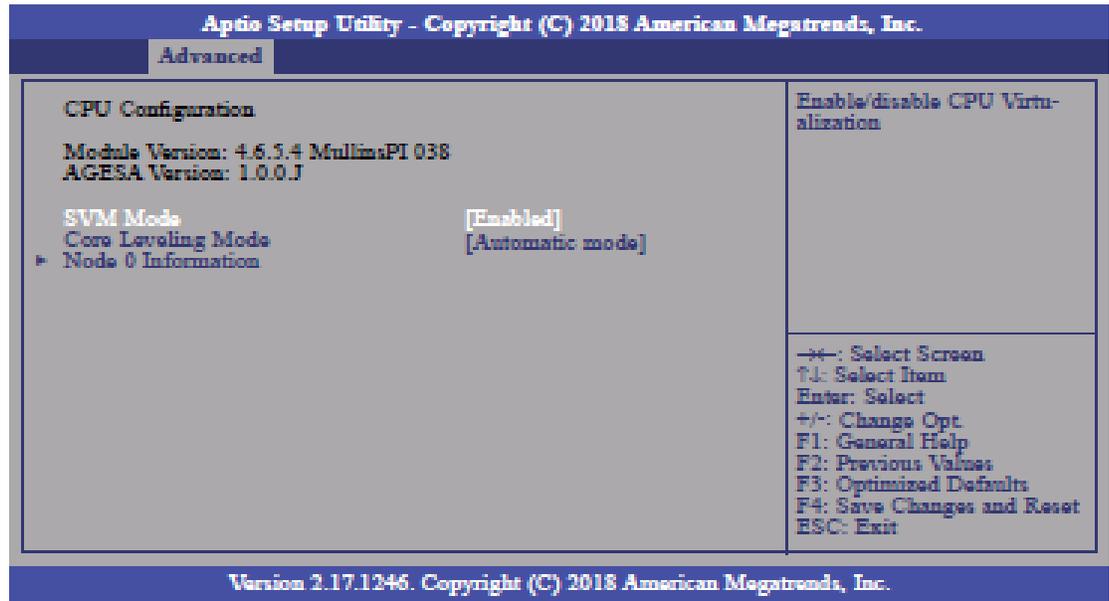


BIOS Parameter	Description
Resume by PME	Enable or disable to resume by PME (PCI, PCIe, LAN, etc.)
Resume by USB	Enable or disable to resume by USB.

### 3.2.8 CPU Configuration

This section is used to configure the CPU. It will also display the detected CPU information.

**Figure 10: CPU Configuration**

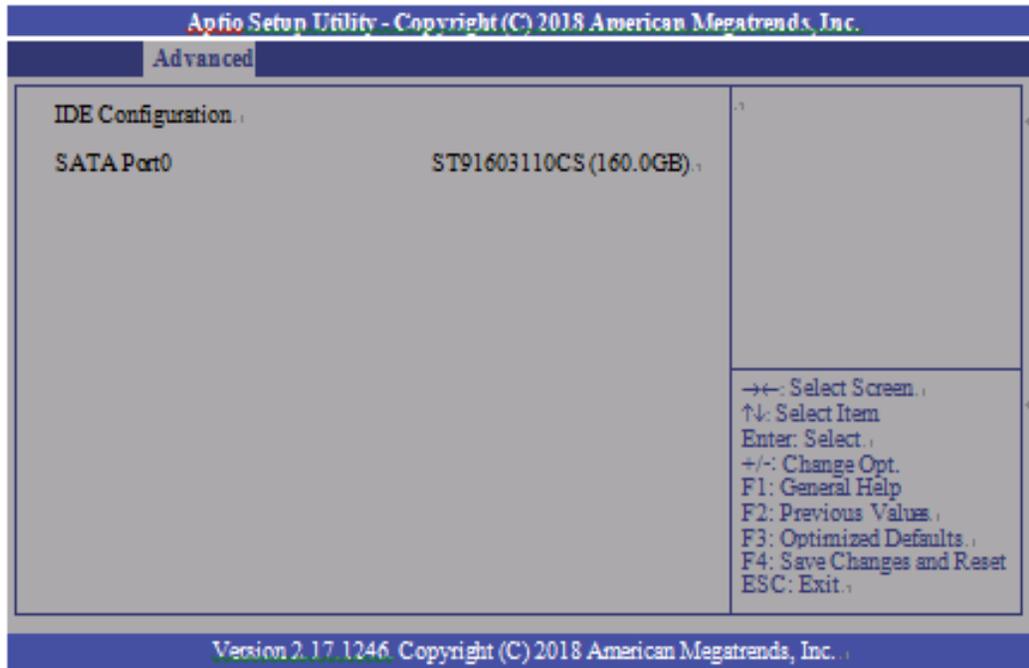


BIOS Parameter	Description
SVM Mode	Enable or disable CPU Virtualization.
Core Leveling Mode	Select the number of cores in the system: Automatic mode, Three cores per processor, Two cores per processor, or One core per processor.
Node 0 Information	View Memory Information related to Node 0.

## 3.2.9 IDE Configuration

This section is used to configure the IDE Devices. It will also display the detected information.

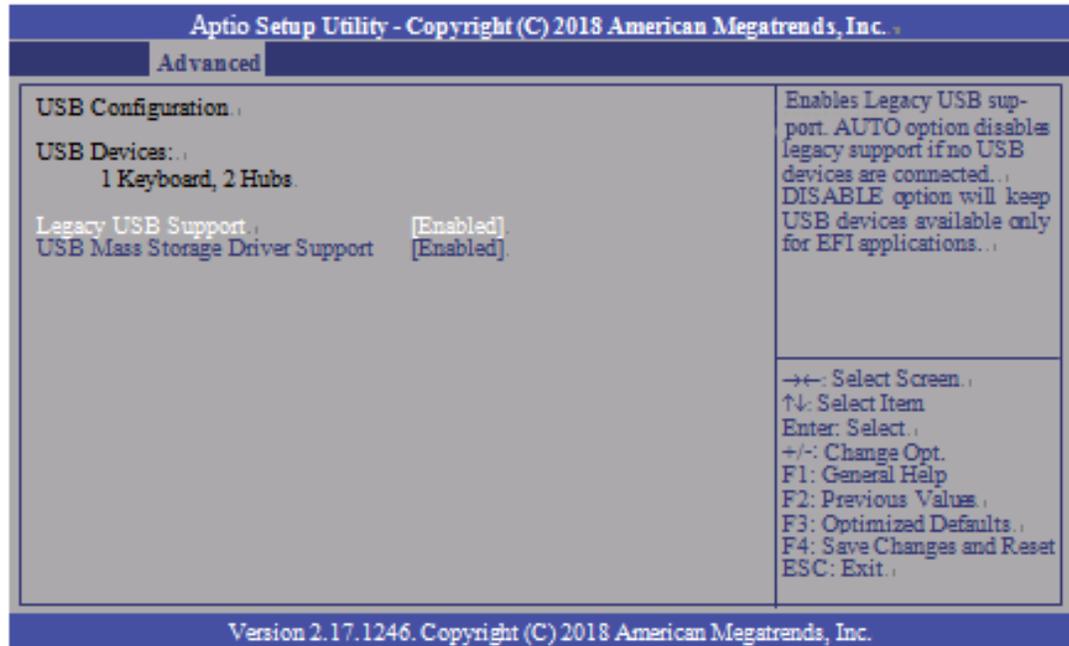
**Figure 11: IDE Configuration**



### 3.2.10 USB Configuration

This section is used to configure the parameters of USB Device.

**Figure 12: USB Configuration**

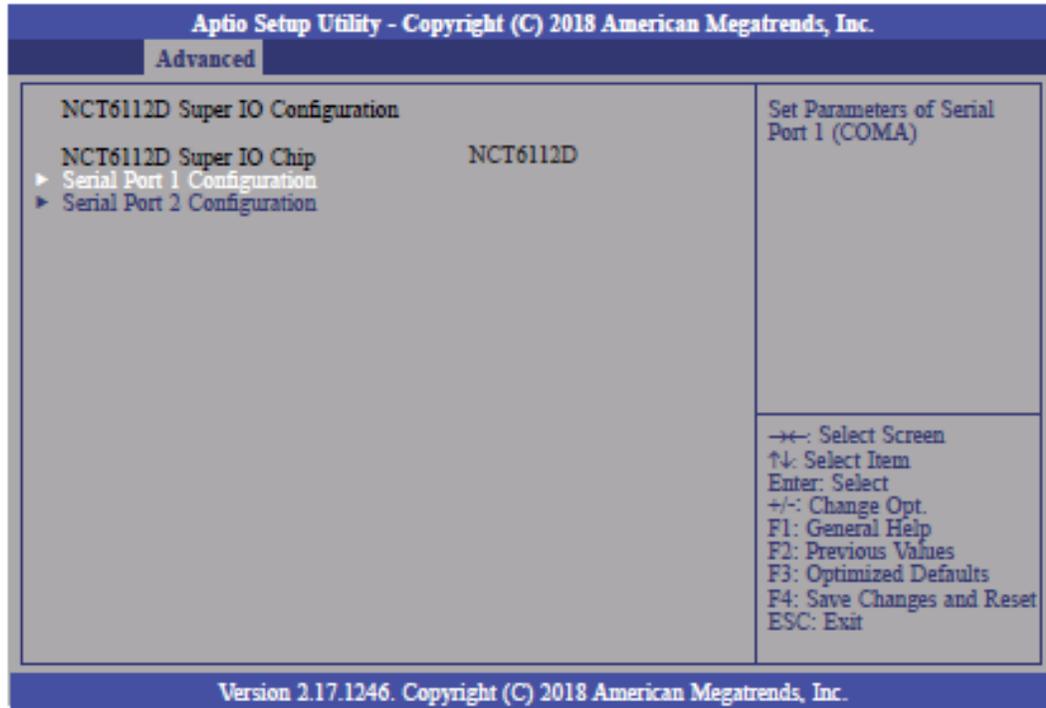


BIOS Parameter	Description
Legacy USB Support	<p><b>Enabled</b> – Enabled Legacy USB</p> <p><b>Disabled</b> – Keep USB devices available only for EFI applications</p> <p><b>Auto</b> – Disable support for legacy when no USB devices are connected</p>
USB Mass Storage Driver Support	Enable or disable the support of the USB Mass Storage Driver.

### 3.2.11 NCT61120 Super IO Configuration

This section is used to configure the parameters of the system super IO chip.

**Figure 13: NCT61120 Super IO Configuration**

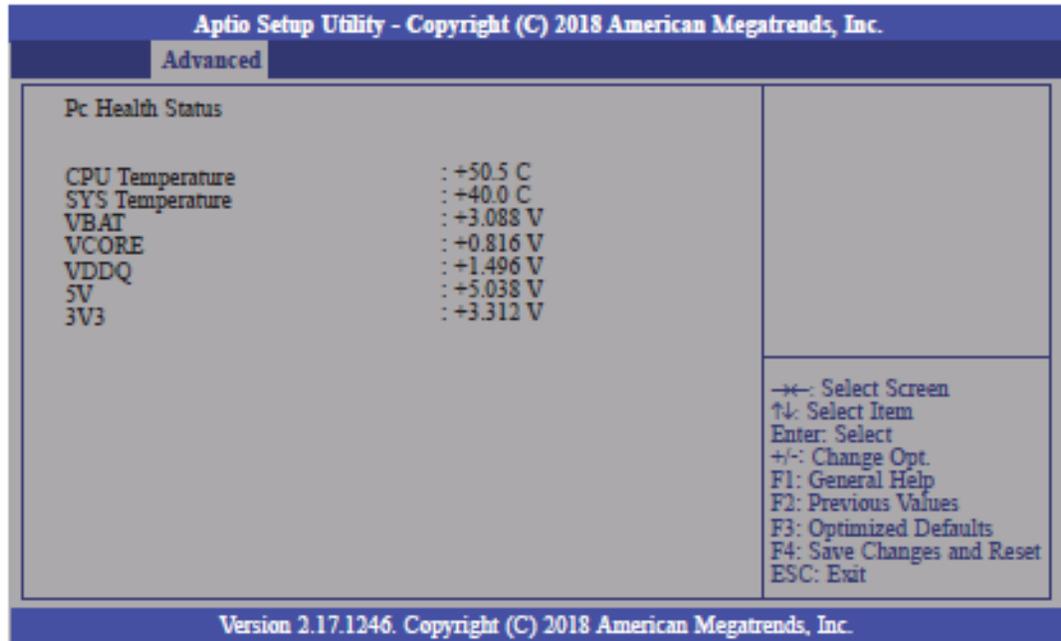


BIOS Parameter	Description
Serial Port	Enable or disable the serial COM port.
RS485 Auto Flow Support	Enable or disable the RS485 auto flow support.

### 3.2.12 NCT 6112D HW Monitor

This section is used to monitor the hardware status.

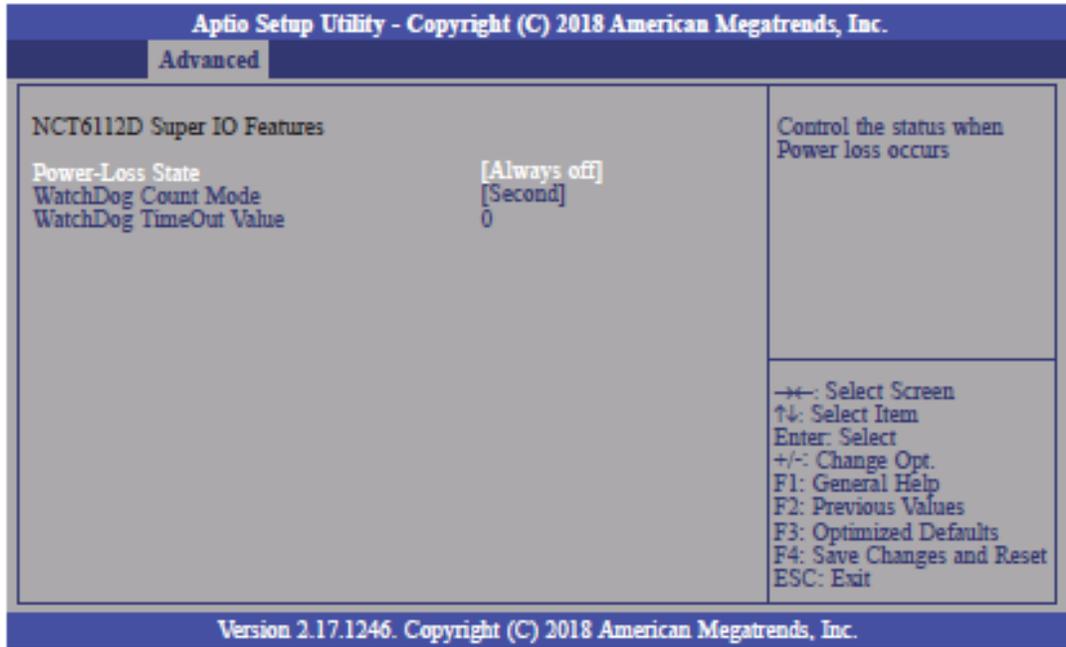
Figure 14: NCT 6112D HW Monitor



### 3.2.13 NCT 6112D Super IO Features

This section is used to configure some control functions of the system super IO chip.

**Figure 15 NCT 6112D Super IO Features**

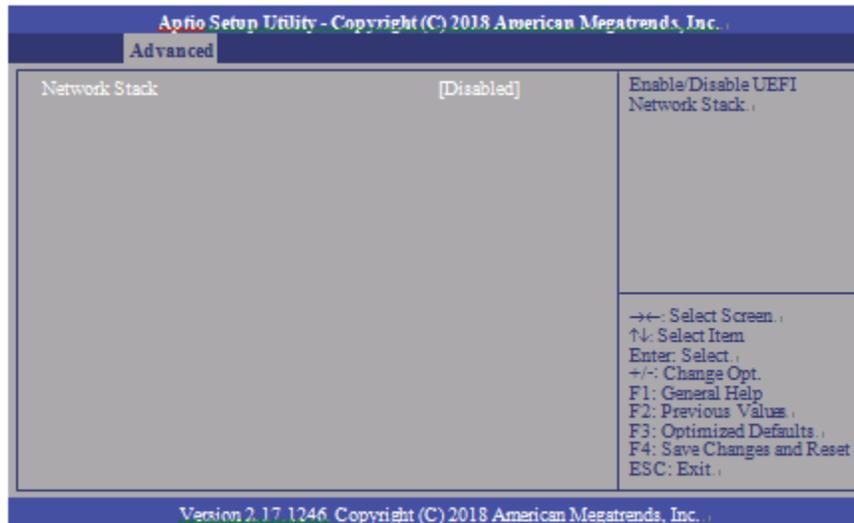


BIOS Parameter	Description
WatchDog Count Mode	A WatchDog timer (WDT) is a hardware timer that automatically generates a system reset if the main program neglects to periodically service it. It is often used to automatically reset an embedded device that hangs because of a software or hardware fault. Use this menu to select the WatchDog Timer Unit: second or minute.
WatchDog TimeoutValue	Enter the value to set the Super IO WatchDog timer. 0 means disabled.

## 3.2.14 Network Stack Configuration

This section is used to enable or disable network stack settings.

**Figure 16: Network Stack Configuration**

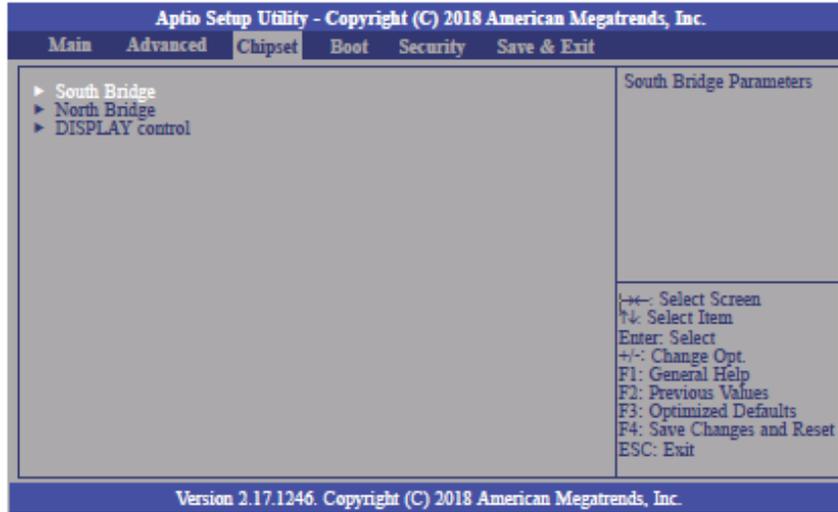


BIOS Parameter	Description
Network Stack	Enable or disable the UEFI network stack. When Network Stack is set to enabled, the screen will be displayed as below.
Ipv4 PXE Support	When enabled, Ipv4 PXE boot supports. When disabled, the Ipv4 PXE boot option will not be available.
Ipv6 PXE Support	When enabled, Ipv6 PXE boot supports. When disabled, the Ipv6 PXE boot option will not be available.
PXE Boot Wait Time	Enter the wait time value to abort the PXE boot.
Media Detect Time	Enter the wait time in seconds to detect media.

## 3.3 Chipset

This section configures relevant chipset functions.

Figure 17: Chipset

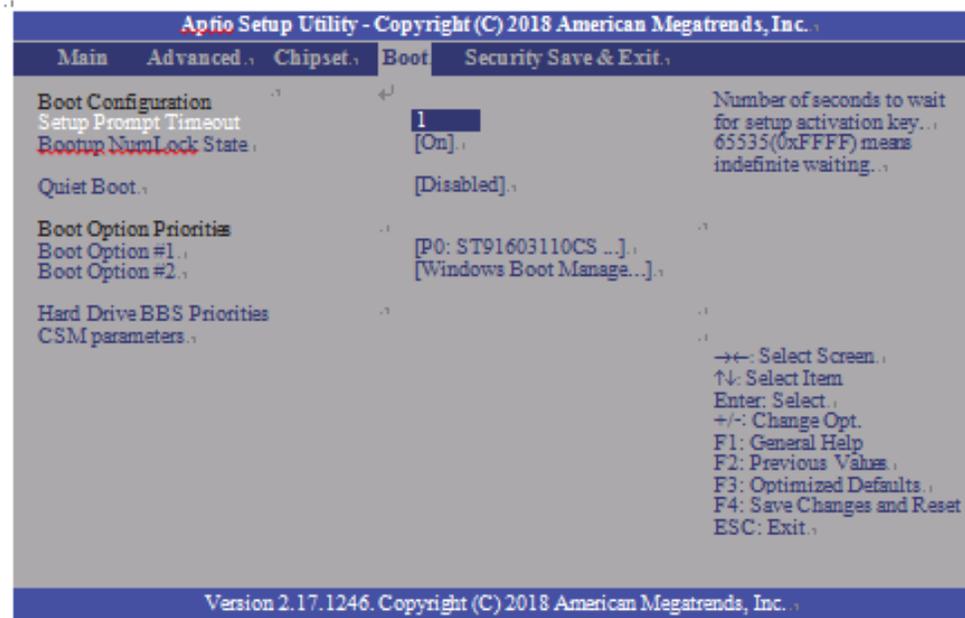


BIOS Parameter	Description
OnChip SATA Channel	Enable or disable Serial ATA
OnChip SATA Type	Select OnChip SATA Type: Native IDE, AHCI, or Legacy IDE.
SD Mode	Enable or disable Secure Digital (SD) Mode configuration.
SD Host Controller Version	Select Secure Digital (SD) host controller version: SD2.0 or SD3.0.
HD Audio	HD Audio will be enabled if present, disabled otherwise.
Restore on AC Power Loss	<b>Power On</b> - When Power returns after an AC power failure, the system will automatically power-on.
	<b>Power Off</b> - When power returns after an AC power failure, the system will remain off. You must press the Power button to power on the system.
	<b>Last State</b> - When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns.
GPP2 Hotplug Mode Control	Enable or Disable GPP2 Hotplug Mode Control
GPP3 Hotplug Mode Control	Enable or disable GPP3 hotplug mode control.

<b>BIOS Parameter</b>	<b>Description</b>
DP0 Output Mode	Select NB PCIe to connect type (display device): EDP or Disabled.
Dp1 Output Mode	Select NB PCIe connect type (display device): DP or Disabled
Auto Backlight Dimming	Enable or disable dimming backlight by TB573D.
Minimum Dimming Level	Set the minimum dimming level control. The range is 1~20%.

### 3.3.1 Boot Configuration

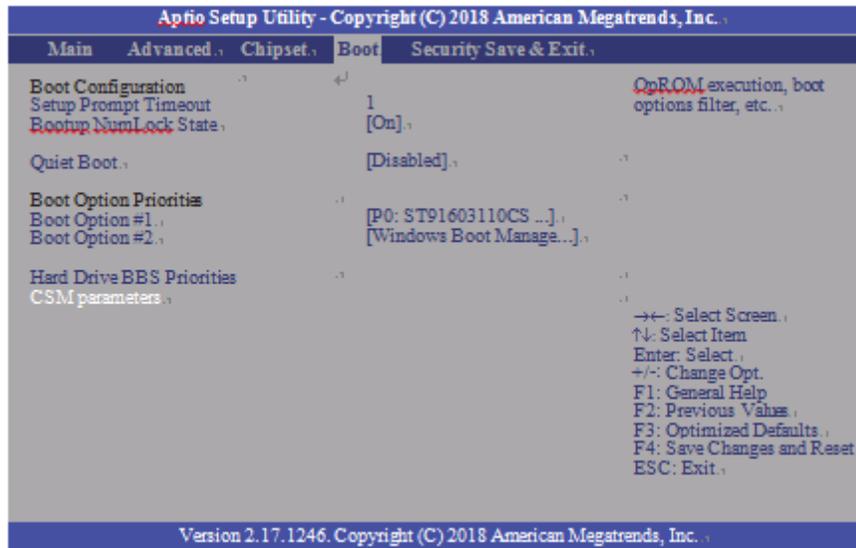
Figure 18: Boot Configuration



BIOS Parameter	Description
Setup Prompt Timeout	Select the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.
Bootup NumLock State	This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.
Quiet Boot	Enable or disable the Quiet Boot option.
Boot Option #1/#2	Select the system boot order.

Set the order of the legacy devices in this group.

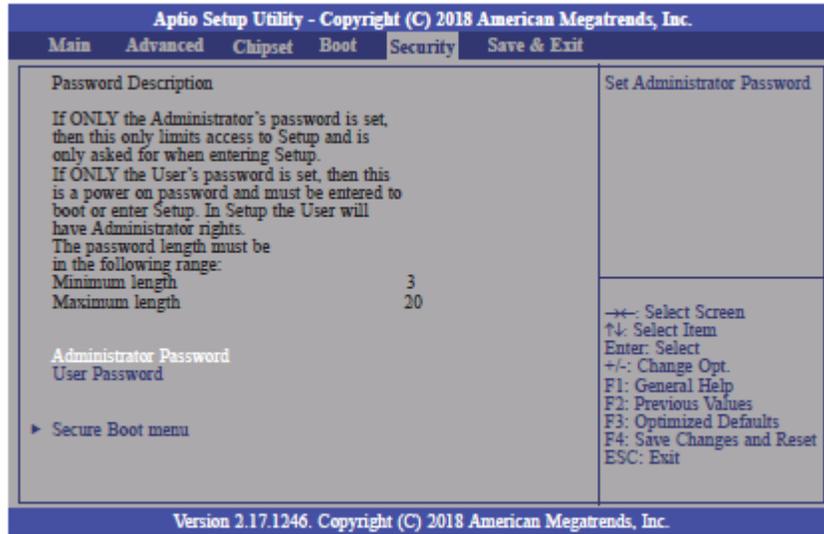
**Figure 19: Hard Drive BIOS Boot Specification**



BIOS Parameter	Description
Launch CSM	This field is used to enable or disable to launch of CSM.
Boot Option Filter	This option controls what device(s) the system will boot to.
Launch PXE OpROM Policy	This field controls the execution of UEFI and Legacy PXE OpROM.
Launch Storage OpROM Policy	This field controls the execution of UEFI and Legacy Storage OpROM.
Launch Video OpROM Policy	This field controls the execution of UEFI and Legacy Video OpROM.

## 3.4 Security

Figure 20: Security

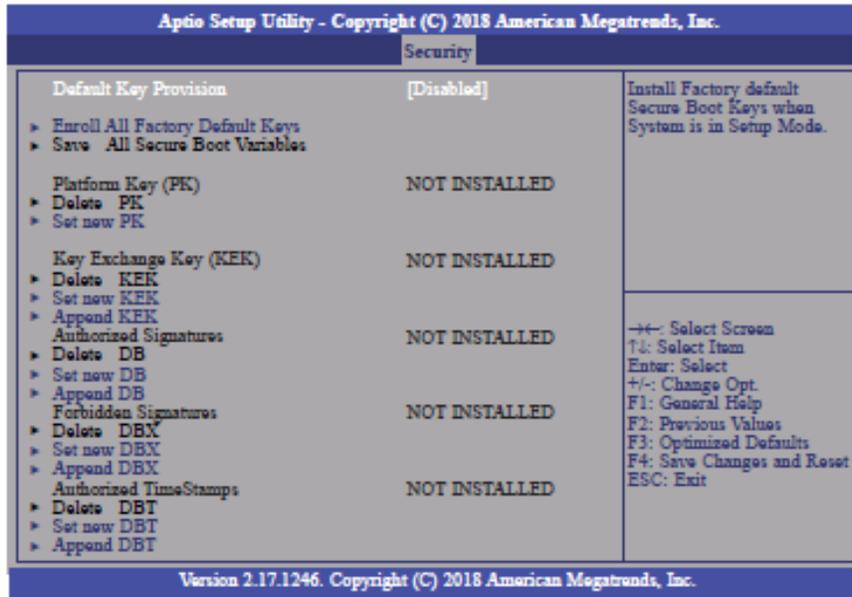


BIOS Parameter	Description
Administrator Password	Set the administrator password.
User Password	Set the user password.
Secure Boot Menu	This section is used to configure customizable secure boot settings.
Secure Boot	Enable or disable secure boot. Secure Boot can be enabled if 1. System running in user mode with enrolled platform key (PK); 2. CSM function is disabled.
Secure Boot Mode	Select secure boot mode: standard or custom. Custom mode enables users to change image execution policy and manage secure boot keys.

### 3.4.1 Key Management

This section enables experienced users to modify secure boot variables.

**Figure 21: Key Management**



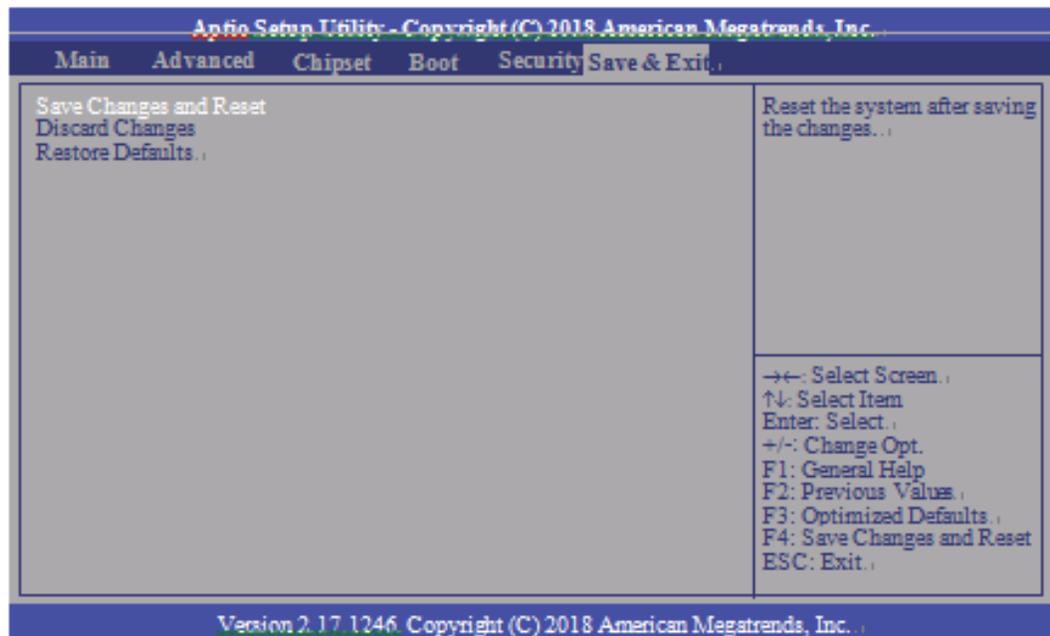
BIOS Parameter	Description
Default Key Provision	Enable or disable to install factory default secure boot keys when the system is in setup mode. When enabled, a pop-up window will display. Select <b>Yes</b> and press <b>Enter</b> to install factory default keys.
Enroll All Factory Default Keys	Select <b>Yes</b> and press <b>Enter</b> to install ALL factory default keys, including PK, KEK, DB, DBX, and DBT. Change takes effect after reboot.
Set New PK	Select <b>Yes</b> and press <b>Enter</b> to set a new PK or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.
Set new KEK	Select <b>Yes</b> and press <b>Enter</b> to set a new KEK or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.
Append KEK	Select <b>Yes</b> and press <b>Enter</b> to set a new KEK or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.
Set new DB	Select <b>Yes</b> and press <b>Enter</b> to set a new DB or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.
Append DB	Select <b>Yes</b> and press <b>Enter</b> to set a new DB or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.

BIOS Parameter	Description
Set new DBX	Select <b>Yes</b> and press <b>Enter</b> to set a new DBX or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.
Set new DBT	Select <b>Yes</b> and press <b>Enter</b> to set a new DBT or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.
Append DBT	Select <b>Yes</b> and press <b>Enter</b> to set a new DBT or select <b>No</b> and press <b>Enter</b> to load it from a file on external media.

## 3.5 Save & Exit

### 3.5.1 Menu Options

Figure 22: Menu Options



BIOS Parameter	Description
Save Changes and Reset	To save the changes, select this field and then press <b>Enter</b> . A dialog box will appear. Select Yes to reset the system after saving all changes made.
Discard Changes	To discard the changes, select this field and then press <b>Enter</b> . A dialog box will appear. Select Yes to reset the system setup without saving any changes.

BIOS Parameter	Description
Restore Defaults	<b>Enter.</b> A dialog box will appear. Select Yes to restore the default values of all the setup options.

## 3.5.2 Updating the BIOS

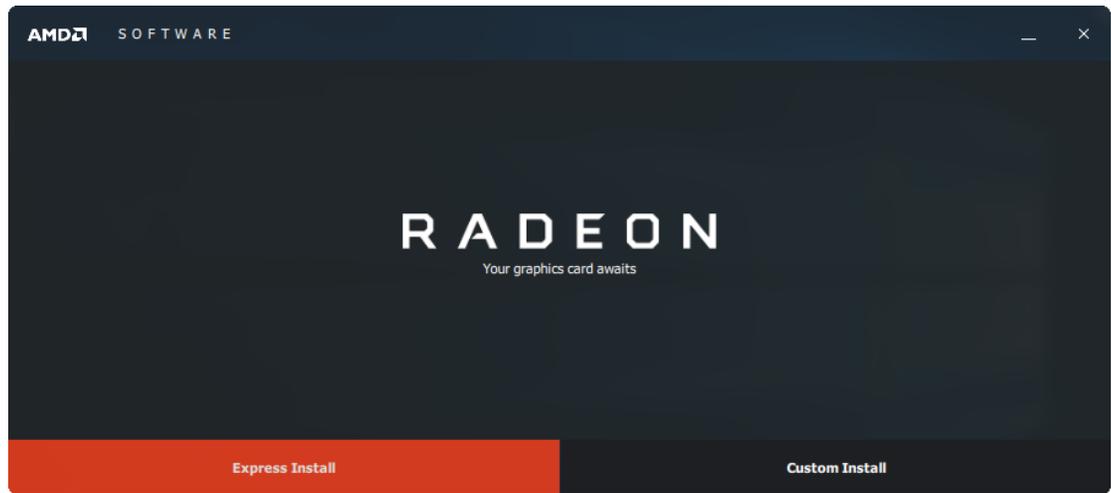
To update the BIOS, you will need the BIOS file and a flash utility. Please contact technical support or your sales representative for the files. The contact information is located at the end of this document.

# Section 4: Installation of Drivers

## 4.1 Express Installation

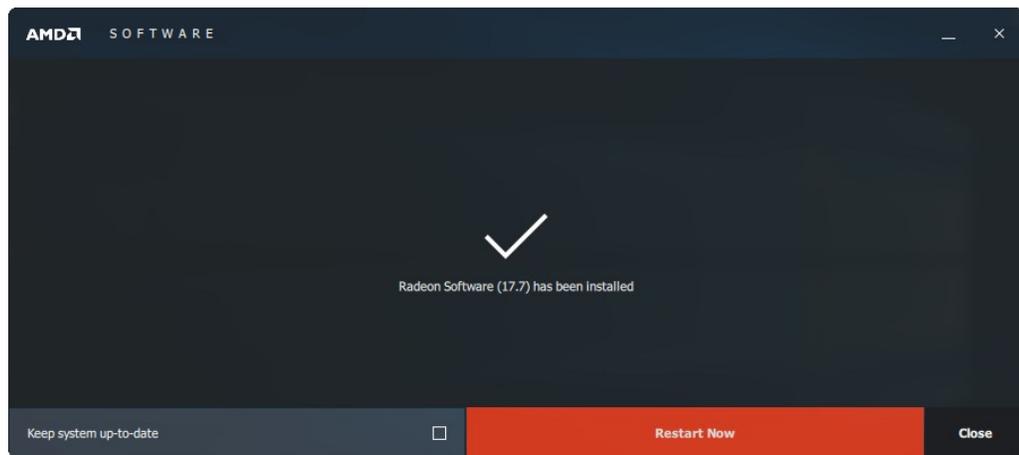
1. Select **Express Install**.

Figure 23: Express Intstallation



2. Radeon Software (17.7) has been installed. Select **Restart Now**.

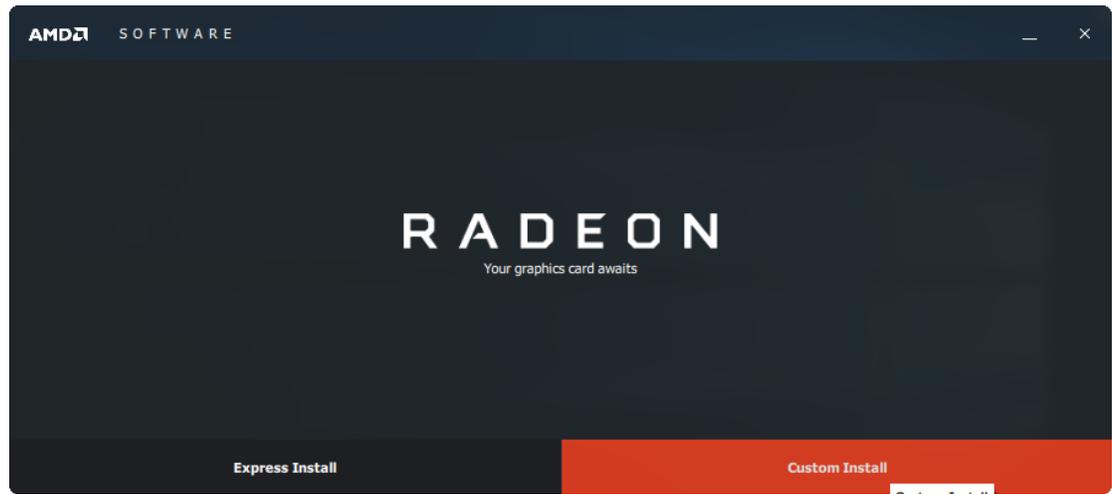
Figure 24: Restart After Installation



## 4.2 Custom Installation

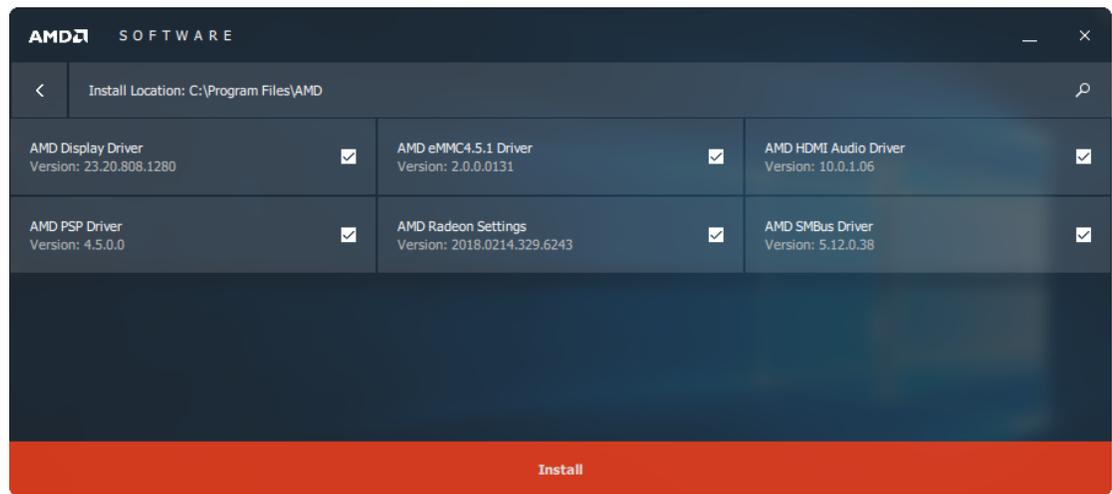
1. Select Custom Installation

Figure 25: Custom Installation



2. Select your requirements of this installation. Check all that apply and click **Install**.

Figure 26: Check all that apply.



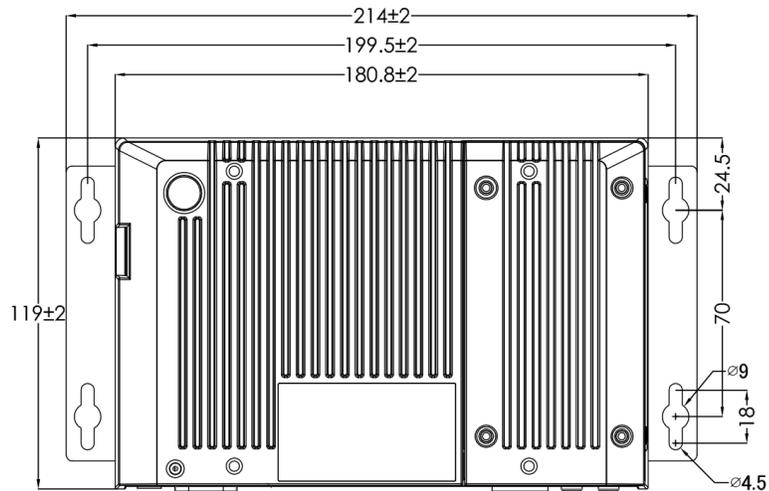
3. After installation has completed, restart the CPU.

# Section 5: Mounting Information

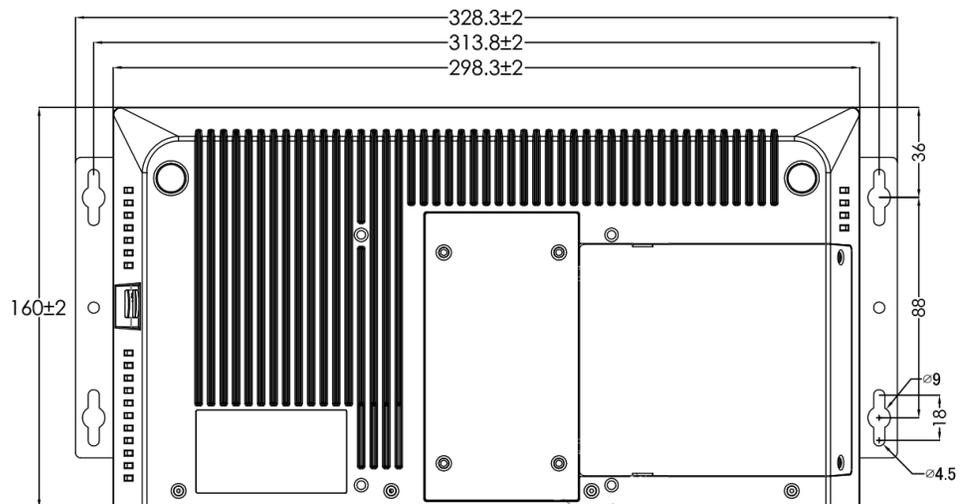
## 5.1 Wall Mount Dimensions (using included mounting bracket)

All RXi2 - LP Industrial PC units ship with the wall mount bracket attached to the CPU base.

**Figure 27: Wall Mount Dimensions (Small Box / Dual Core)**

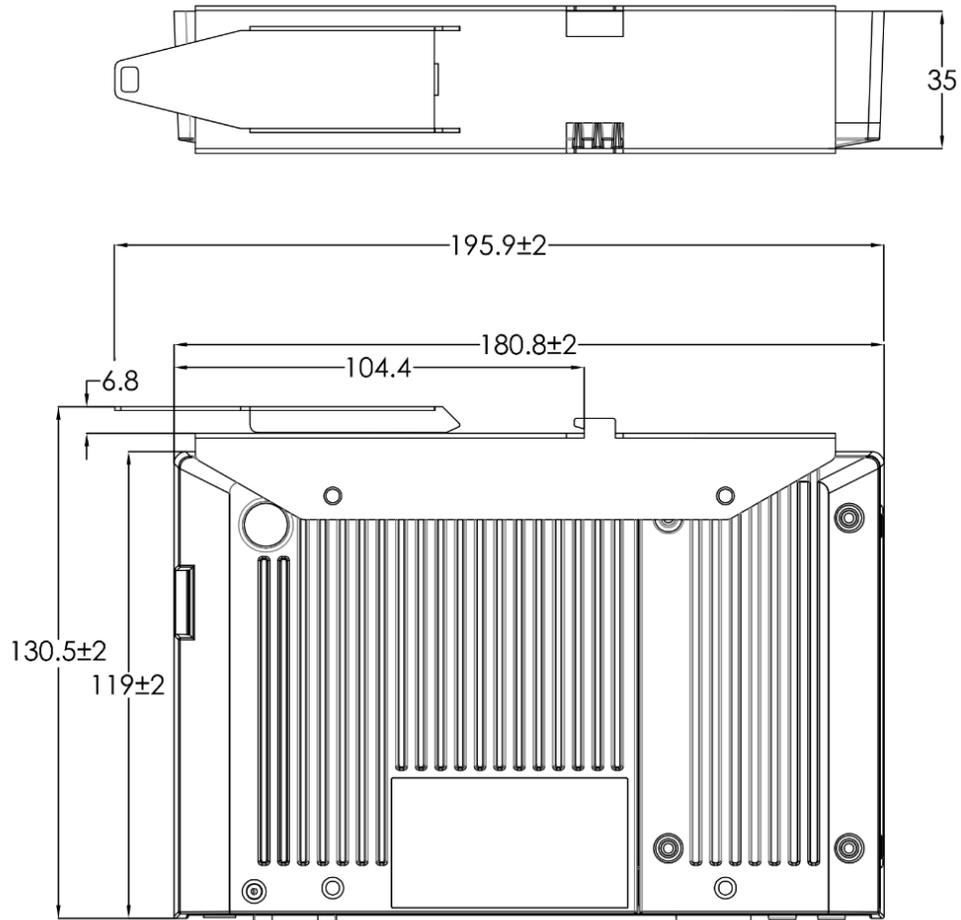


**Figure 28: Wall Mount Dimensions (Large Box / Quad Core)**



## 5.2 DIN Rail Mounting Dimensions (Includes Mounting Bracket)

Figure 29: DIN Rail Mounting Dimensions

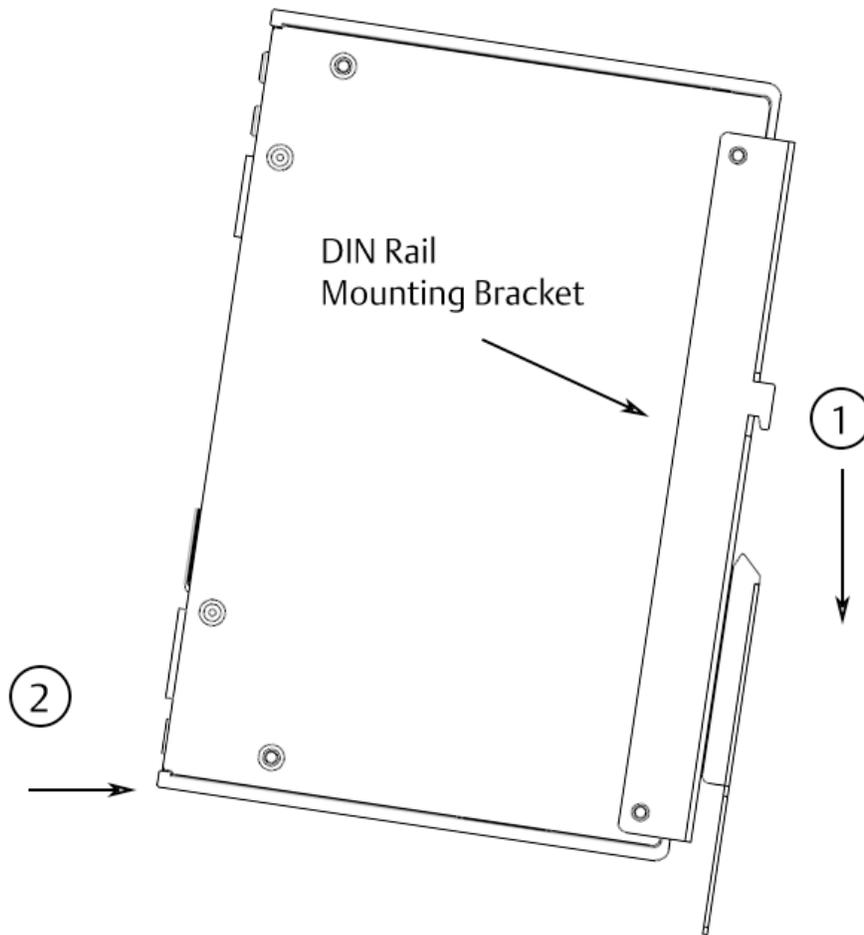


## 5.3 DIN Rail Mounting Installation

If installing the Small Box/Dual-Core RXi2-LP with the optional DIN rail mount system that came pre-installed:

1. Hook the DIN rail bracket to the DIN rail. (Item 1, Figure 30)
2. Push the bottom face of the IPC until the module clicks into place. (Item 2, Figure 30)

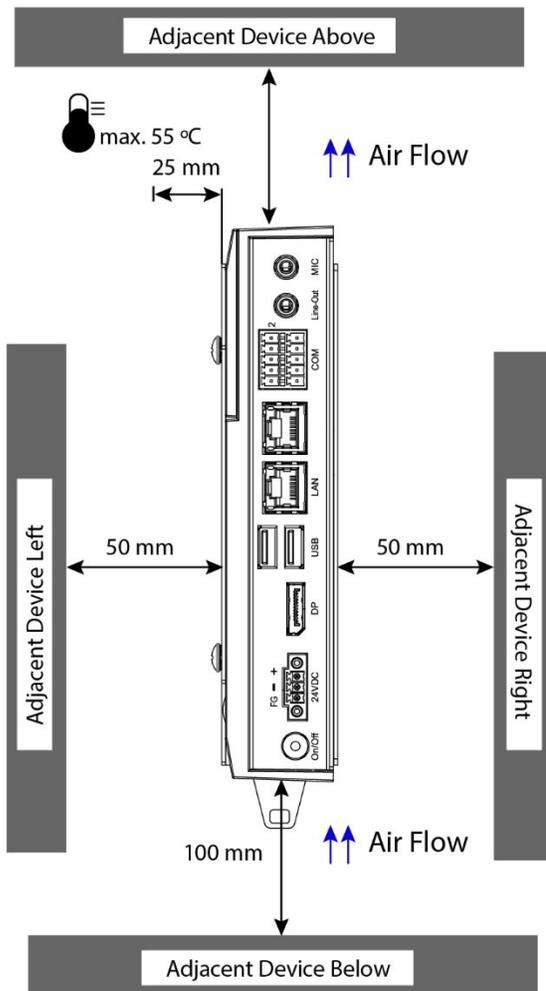
**Figure 30: Pre-Installed DIN Rail Mounting Bracket**



## 5.4 Minimum Clearances for DIN Rail Mounting

Figure 31 illustrates the optimal clearances required for the RXi2-LP to operate within the thermal specifications for both DIN rail and panel mount options. Any deviation in requested clearance will result in reduced thermal performance and must be evaluated by the user as a final setup.

**Figure 31: Minimum Clearances to Meet Operational Temperature Specification**



### ⚠ CAUTION

**Installation of the RXi2-LP in a vertical orientation is not advised.**

Due to the orientation of the fins on the housing's heatsink, convection cooling would be negatively impacted when vertically mounted.

# General Contact Information

Home link: <http://www.emerson.com/industrial-automation-controls>

Knowledge Base: <https://www.emerson.com/industrial-automation-controls/support>

## Technical Support

### Americas

Phone: 1-888-565-4155  
1-434-214-8532 (If toll free option is unavailable)

Customer Care (Quotes/Orders>Returns): [customercare.mas@emerson.com](mailto:customercare.mas@emerson.com)  
Technical Support: [support.mas@emerson.com](mailto:support.mas@emerson.com)

### Europe

Phone: +800-4444-8001  
+420-225-379-328 (If toll free option is unavailable)  
+39-0362-228-5555 (from Italy - if toll-free 800 option is unavailable or dialing from a mobile telephone)

Customer Care (Quotes/Orders>Returns): [customercare.emea.mas@emerson.com](mailto:customercare.emea.mas@emerson.com)  
Technical Support: [support.mas.emea@emerson.com](mailto:support.mas.emea@emerson.com)

### Asia

Phone: +86-400-842-8599  
+65-6955-9413 (All other Countries)

Customer Care (Quotes/Orders>Returns): [customercare.cn.mas@emerson.com](mailto:customercare.cn.mas@emerson.com)  
Technical Support: [support.mas.apac@emerson.com](mailto:support.mas.apac@emerson.com)

Any escalation request should be sent to [mas.sfdcescalation@emerson.com](mailto:mas.sfdcescalation@emerson.com)

**Note:** If the product is purchased through an Authorized Channel Partner, please contact the seller directly for any support.

Emerson reserves the right to modify or improve the designs or specifications of the products mentioned in this manual at any time without notice. Emerson does not assume responsibility for the selection, use, or maintenance of any product. Responsibility for proper selection, use, and maintenance of any Emerson product remains solely with the purchaser.

© 2023 Emerson. All rights reserved.

Emerson Terms and Conditions of Sale are available upon request. The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their respective owners.

