RX370Q

User's Manual

Ver 1.3

Intel® Q370 Micro-ATX Motherboard supports 14nm Intel® Core™ i7/i5/i3

8th and 9th generation Desktop Processors (Coffee Lake / Coffee Lake Refresh Platform)

Contents

Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

The symbol of the crossed out wheeled bin indicates that the product

(electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

Safety Declaration

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This manual contains the following parts:

- **Chapter 1: Product introduction**
  This chapter describes the features of the motherboard and the new technology it supports. This chapter also lists the hardware setup procedures that you have to perform when installing system components. It includes description of the jumpers and connectors on the motherboard.

- **Chapter 2: BIOS setup**
  This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. Motherboard User's Manual and Device Drivers
Motherboard User's Manual and Device Drivers can be downloaded at BCM Advanced Research website: ***http://www.bcmcom.com/bcm_support_drivers.htm***

2. Technical Support
If a problem arises with your system and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please try the following help resources for further guidance. Visit the BCM Advanced Research website: ***http://www.BCMCOM.com***

Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 x RX370Q Micro-ATX Main board
- 1 x I/O Shield

If any of the above items is damaged or missing, please contact your retailer.

Revision History

Revision	Revision History	Date
V1.0	First release version	12/27/2018
V1.1	CPU support Iccmax :140A	01/14/2019
V1.2	Supporting 9th CPUs Supporting DCH drivers for Windows 10	07/26/2019

RX370Q Motherboard Features

This chapter briefly describes the features of Board RX370Q.
The Table summarizes the major features of this board as below:

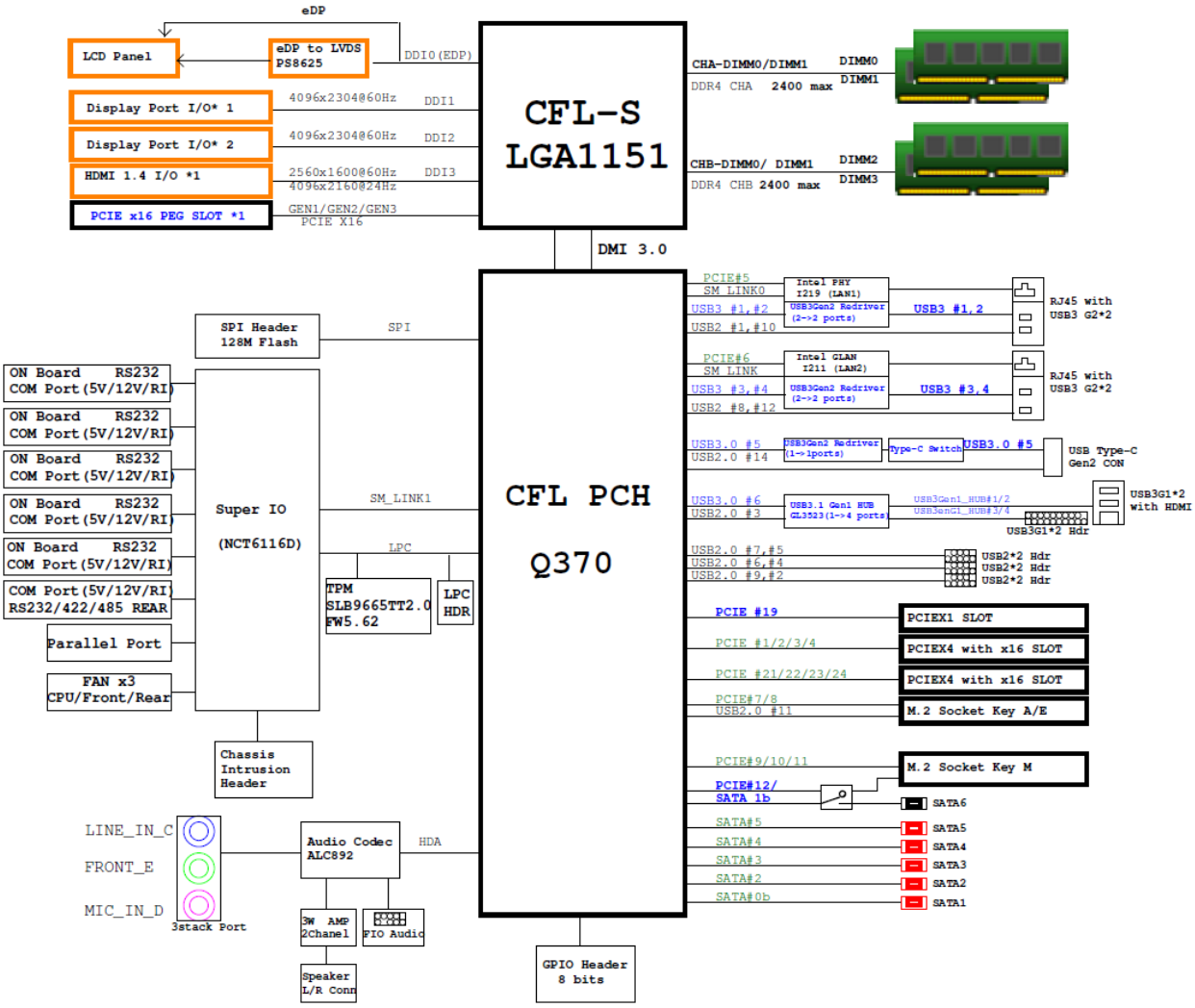
Specifications Summary

General SPEC	
Processor	**Intel® Coffee Lake Processor**
	Supports 8th/9th LGA1151 2C/4C/6C Core i, Pentium, Celeron Up to 95W TDP Supports 9th LGA1151 8C Core i Up to 35W TDP **Note: CPU Iccmax <= 138A**
Memory	4 x 30µ Gold Plated DIMM Up to 64GB Dual Channel DDR4 2400Mhz /2666Mhz
PCI Express	1 x PCI Express x 16
Graphic	Intel® Integrated Graphic (CPU Dependent)
Platform Controller Hub	**Intel® Q370**
HDMI	1 x HDMI
DisplayPort	2 x DisplayPort
LVDS/eDP	LVDS converter PS8625 (eDP Optional)
SATA	6 x SATA III Supports 6.0 Gb/s
RAID	Supports SATA RAID 0, 1, 5 and 10
Audio	Intel® HD Audio
iAMT	Intel® iAMT v.12
PCI Express	24 x PCIex1 Channel Available
TPM	**Infineon® SLB 9665 (FW version 5.63)**
Type	TPM 2.0 Controller
Super I/O Controller	**Nuvoton® NCT6116**
Serial Ports	1 x RS232/422/485 port (with 5V/12V/RI)
	5 x RS-232 (with 5V/12V/RI)
Watch Dog Timer	1 ~ 255 sec timer
HW Monitor	Yes
USB 3.1 Hub Gen1	**Genesys Logic® GL3523**
Type	4 Ports USB 3.1 Gen 1 Hub
Audio	**Realtek® ALC892**
Type	HD Audio Codec

Amplifier	3W Per Channel Amplifier
LAN	**Intel® i219-LM PHY LAN Controller**
Type	1 x Gigabit LAN
LAN	**Intel® i211-AT PCIe LAN Controller (Co-Lay Intel® i210-AT)**
Type	1 x Gigabit LAN
BIOS	**AMI® UEFI BIOS**
Type	256Mb SPI BIOS
Expansion Slot	
PCI-E	1 x PCIe x 16 Slot (Slot One) (30µ Gold Plated) (Black)
	2 x PCIe x 4 Slot (x16 Physical Slot) (Slot Three & Four) (30µ Gold Plated) (Yellow)
	1 x PCIe x 1 Slot Open End (Slot Two) (30µ Gold Plated)
M.2	1 x M.2 Type M 2242, 2260, 2280 Slot (with USB, PCIe x4 & SATA III) (30µ Gold Plated)
	1 x M.2 Type A/E 2232 (with USB & PCIe x2) (30µ Gold Plated)
Onboard I/O Headers	
SATA	5 x SATA III Vertical Connectors (Red) (30µ Gold Plated)
	1 x SATA III Vertical Connector (Black, shared with M.2)
LPT	1 x LPT Header with Shroud (2.0mm Pitch)
USB	3 x USB 2.0 Headers with Shroud (6 Ports on Header) (30µ Gold Plated)
	1 x USB 3.1 Gen 1 Header with Shroud (2 Ports On Header) (30µ Gold Plated)
COM	5 x RS-232 Headers with Voltage Selection (2.0mm Pitch Locking Type)
LVDS/eDP	1 x LVDS Header (Gold Plated)(Optional eDP)
Backlight	1 x Backlight Locking Type Header (Gold Flashed)
LPC	1 x LPC Header (2.0mm Pitch)
SPI	1 x SPI Header (2.0mm Pitch)
Front Audio	1 x Front Audio Header with Shroud (2.54mm Pitch) (30µ Gold Plated)
Amplifier	1 x Amplifier Locking Type Header (2.0mm Pitch)
Front Panel	1 x Front Panel Headers with Shroud (2.54mm Pitch) (30µ Gold Plated)
GPIO	1 x 8 bits GPIO Header with Shroud (2.0mm Pitch)
Fan	1 x 4 Pin CPU Fan Header (4 Pin PWM)
	2 x 4 Pin Chassis Fan Header (4 Pin PWM)
LAN Status LED	2 x LAN Status LED Headers
CMOS Battery	1 x Horizontal Socket Type CMOS Battery Holder
Buzzer	1 x Onboard Buzzer
Chassis Intrusion	1 x Chassis Intrusion Locking Type Header

Back I/O Panel	
COM	1 x RS-232/422/485 Connector (Gold Plated)
HDMI	1 x HDMI Connector (30µ Gold Plated)
DP	2 x DisplayPort Connector (30µ Gold Plated) (4k/2k Capable)
LAN & USB	2 x RJ45 & Dual USB 3.1 Gen 2 (Stacked)
USB	2 x USB 3.1 Gen 1 Ports
	1 x USB Type-C (USB 3.1 Gen 2 Speed)
Audio	1 x 3 Jacks Audio Connector (30mm Height)
Power & Connector	1 x Std. 24 pin ATX Connector (30µ Gold Plated)
	1 x 4 pin ATX 12 Connector (30µ Gold Plated)
	AT/ATX Mode Jumper
Operating System	Windows 10, Ubuntu Linux
Form Factor	µATX 9.6" x 9.6"
Layer	6 Layer Board
Color	BCM Standard Blue
Regulatory Compliance	FCC Class B/CE/UL 62368-1 Second Edition
	RoHS Compliant
Operation Environment	
Temperature	0 C to 60 C
Humidity	5% to 90% non-condensing
Storage Environment	
Temperature	-20 C to 80 C
Humidity	5% to 90% non-condensing
Accessories	
I/O Shield	1 x I/O Shield

Block Diagram



Chapter 1 - Product Introduction

1.1 Before you Proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.

- Unplug the power cord from the wall socket before touching any component.
- Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that came with the component.
- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1.2 Motherboard Overview

Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it. Refer to the chassis documentation before installing the motherboard.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so can cause you physical injury and damage motherboard components.

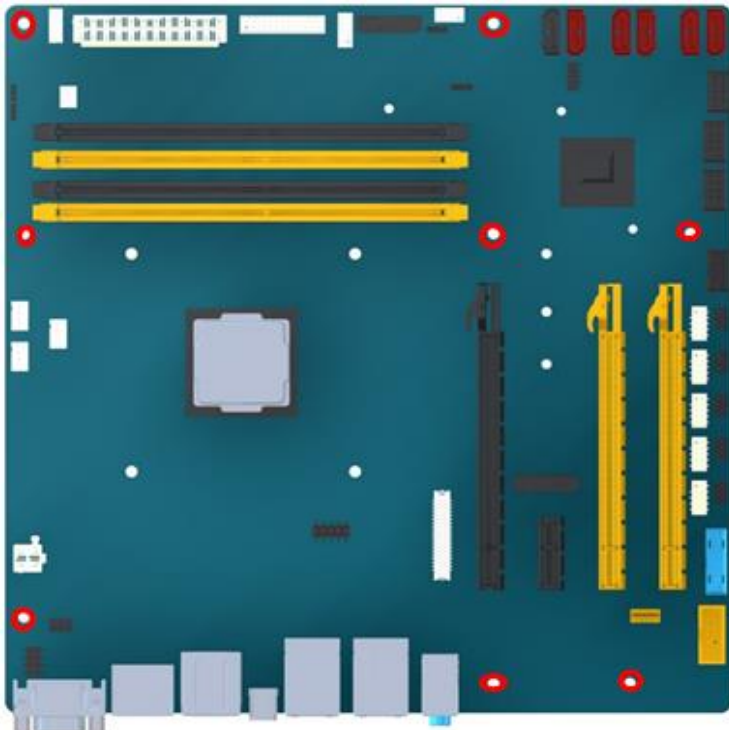
1.2.1 Placement Direction

When installing the motherboard, make sure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below.

1.2.2 Screw Holes

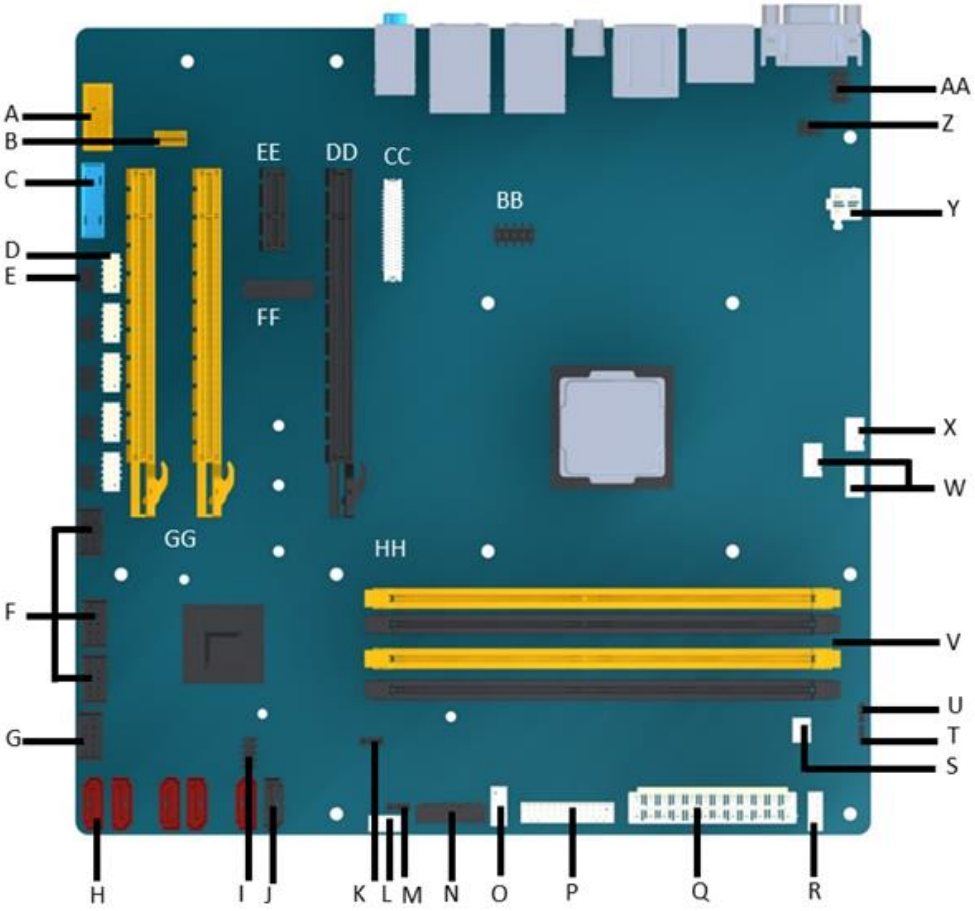
Place eight (8) screws into the holes indicated by circles to secure the motherboard to the chassis.

Do not over tighten the screws! Doing so can damage the motherboard.



Place this side towards the rear of the chassis.

1.2.3 Motherboard Layout



1.2.4 Layout Content List

Item	Description	Item	Description
A	Front Audio Header	**R**	Backlight Header
B	Speaker Header	**S**	Chassis Intrusion Header
C	USB3.1 Gen1 Header (2x port)	**T**	LVDS PWM Control Selection
D	5x RS232 Header	**U**	Backlight Voltage Jumper
E	5x RS232 Voltage Selection Header	**V**	4x DDR4 288pin Slot
F	3x USB2 Header (2x port)	**W**	System Fan
G	Front Panel Header	**X**	CPU Fan
H	5x SATA III Connectors	**Y**	4 pin ATX 12 Connector
I	LPC Header	**Z**	Powered RS232 Jumper
J	1x SATA III Connectors **(Shared with M.2)**	**AA**	RS422/485 Mode Selection Jumper
K	Clear CMOS Header	**BB**	LAN LED Header
L	SPI Header	**CC**	LVDS/eDP Header
M	AT/ATX Mode Selection	**DD**	PCIe X16 Slot (x16 lanes)
N	M.2 Type A/E 2232 (with USB & PCIe x2)	**EE**	PCIe X1 Slot
O	8 bits GPIO Header	**FF**	M.2 Type M 2242/60/80 Slot (with USB, PCIe x4 & SATA III)
P	LPT Header	**GG**	2x PCIe X16 Slot (x4 lanes)
Q	24 pin ATX Connector		

1.3 Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA1151 socket designed for the Intel® Core™ i7/ i5/ i3 processor in the 1151-land package.

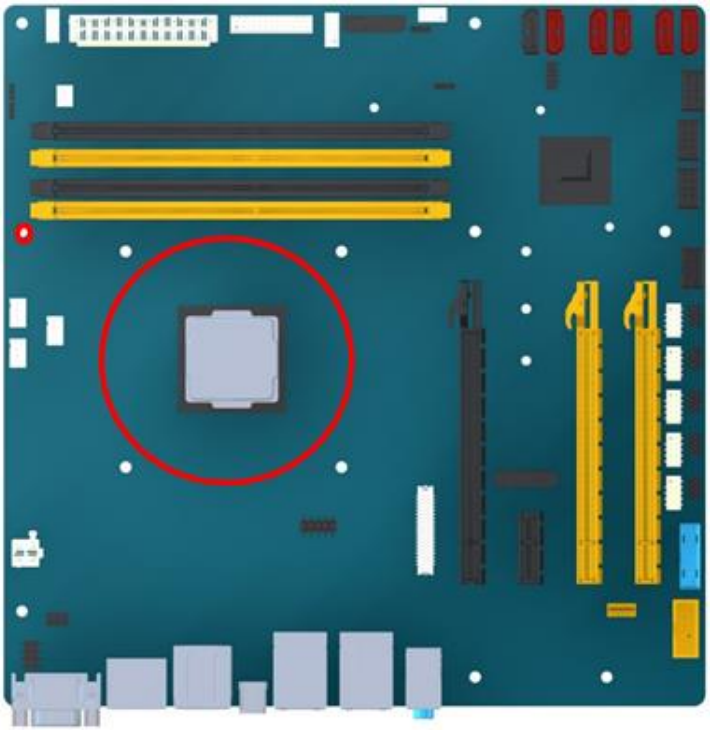
- Your boxed Intel® Core™ i7/ i5/ i3 LGA1151 processor package should come with installation instructions for the CPU, fan and heatsink assembly. If the instructions in this section do not match the CPU documentation, follow the latter.
- Upon purchase of the motherboard, make sure that the PnP cap is on the socket and the socket pins are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket pins/motherboard components. XXXXXX will shoulder the cost of repair only if the damage is shipment/transit-related.
- Keep the cap after installing the motherboard. XXXXXX will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA1151 socket.

- The product warranty does not cover damage to the socket pins resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.
- Install the CPU fan and heatsink assembly before you install motherboard to the chassis.

If you purchased a separate CPU heatsink and fan assembly, make sure that you have properly applied Thermal Interface Material to the CPU heatsink or CPU before you install the heatsink and fan assembly.

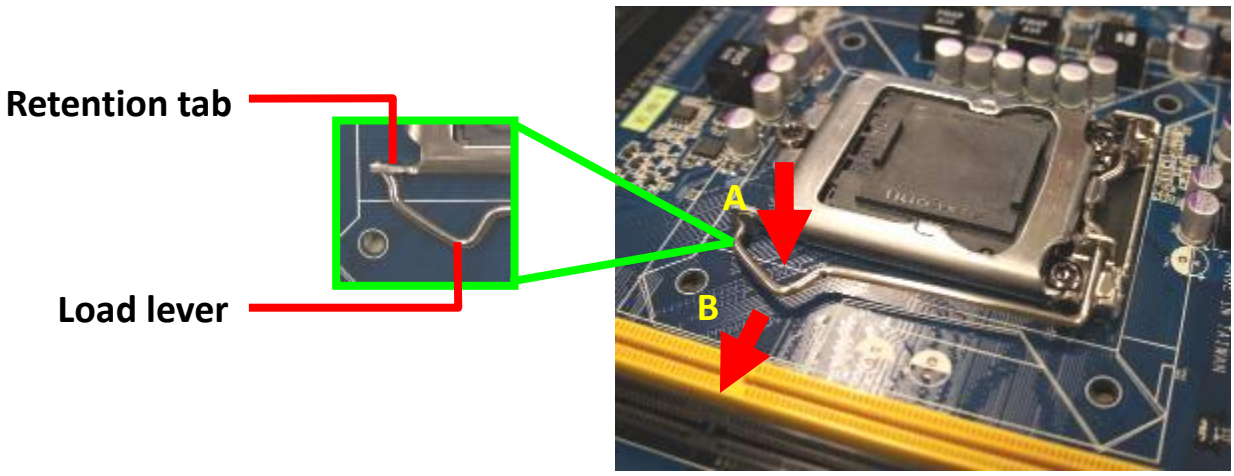
1.3.1 Installing the CPU

1. Locate the CPU socket on the motherboard.



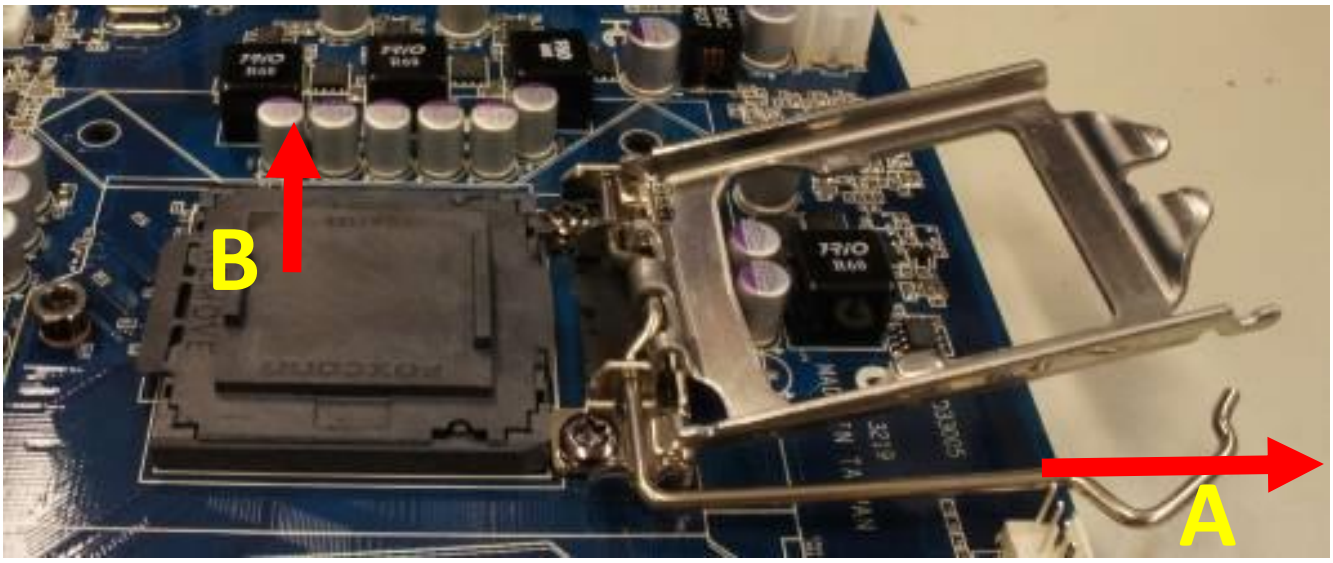
Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

2. Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab.

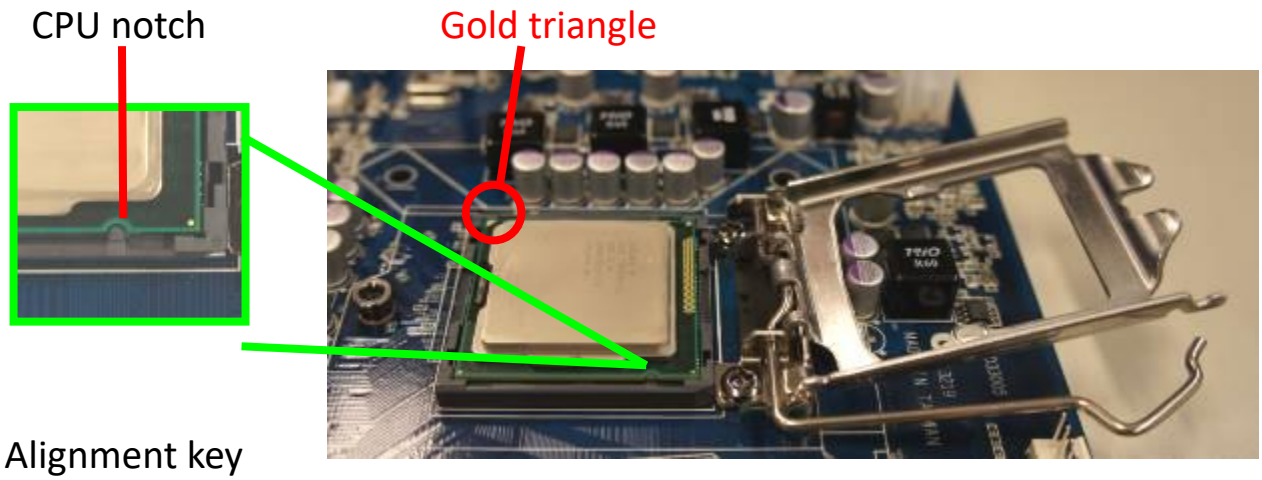


To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU.

3. Lift the Load lever with your thumb and forefinger to around 180º angle (A), then pull the PnP cap from the CPU socket to remove (B).



4. Position the CPU over the socket, making sure that the gold triangle is on the top-left corner of the socket then fit the socket alignment key into the CPU notch.



5. Pull back the load lever , then push the load lever (A) until it snaps into the retention tab.

The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!

1.3.2 Installing the CPU Heatsink and Fan

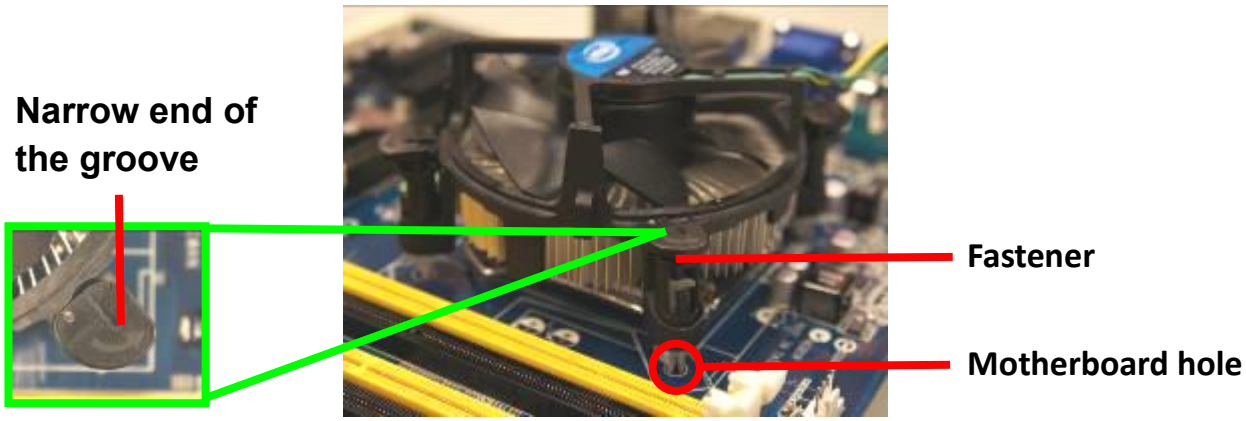
Intel® Core™ i7/ i5/ i3 LGA1151 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance.

- Install the motherboard to the chassis before you install the CPU fan and heatsink assembly.
- When you buy a boxed Intel® Core™ i7/ i5/ i3 LGA1151 processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel® certified multi-directional heatsink and fan.
- Your Intel® Core™ i7/ i5/ i3 LGA1151 processor LGA1151 heatsink and fan assembly comes in a push-pin design and requires no tool to install.

If you purchased a separate CPU heatsink and fan assembly, make sure that you have properly applied Thermal Interface Material to the CPU heatsink or CPU before you install the heatsink and fan assembly.

To install the CPU heatsink and fan:

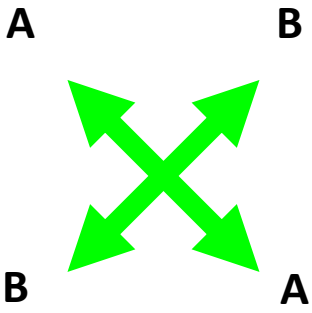
1. Place the heatsink on top of the installed CPU, making sure that the four fasteners match the holes on the motherboard.

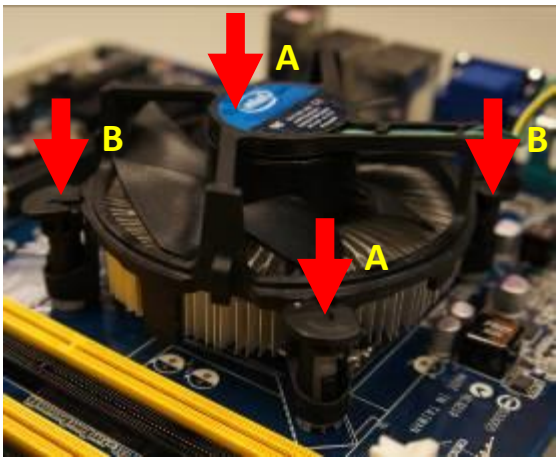


Orient the heatsink and fan assembly such that the CPU fan cable is closest to the CPU fan connector.

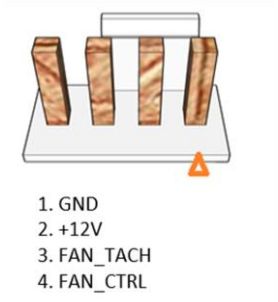
- Make sure each fastener is oriented as shown, with the narrow groove directed outward.

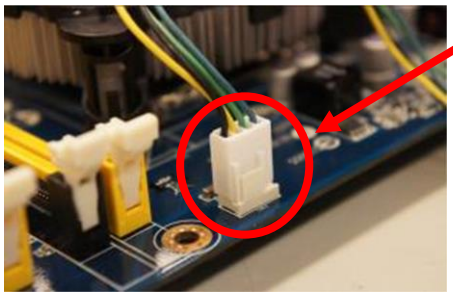
2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.

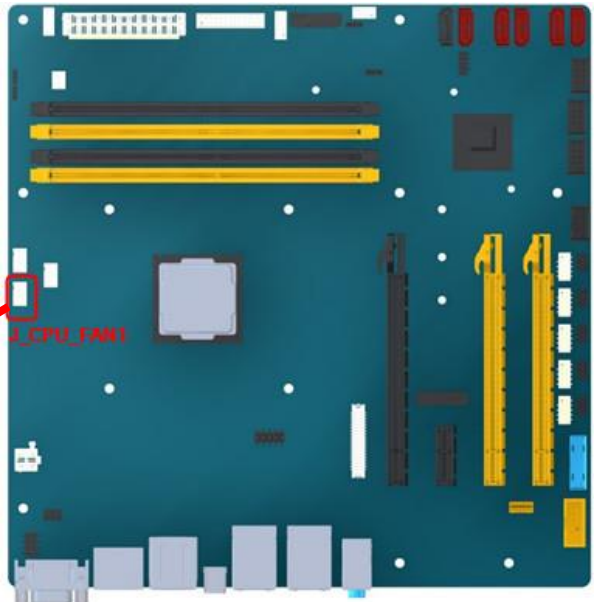




3. Connect the CPU fan cable to the connector on the motherboard labeled J_CPU_FAN1.







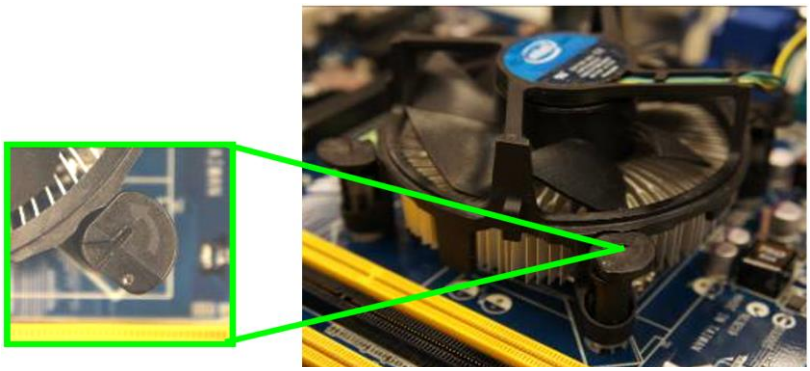
Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components.

These are not jumpers! DO NOT place jumper caps on the fan connectors.

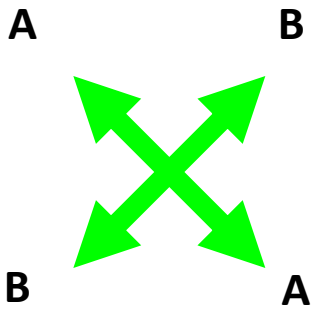
1.3.3 Uninstalling the CPU Heatsink and Fan

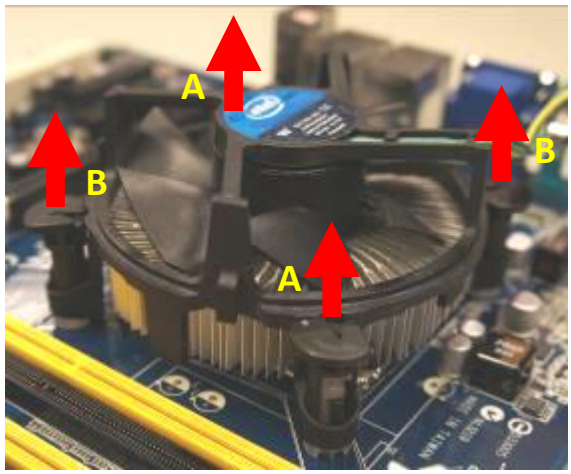
To uninstall the CPU heatsink and fan:

1. Disconnect the CPU fan cable from the connector on the motherboard.
2. Rotate each fastener counterclockwise



3. Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard.





4. Carefully remove the heatsink and fan assembly from the motherboard.

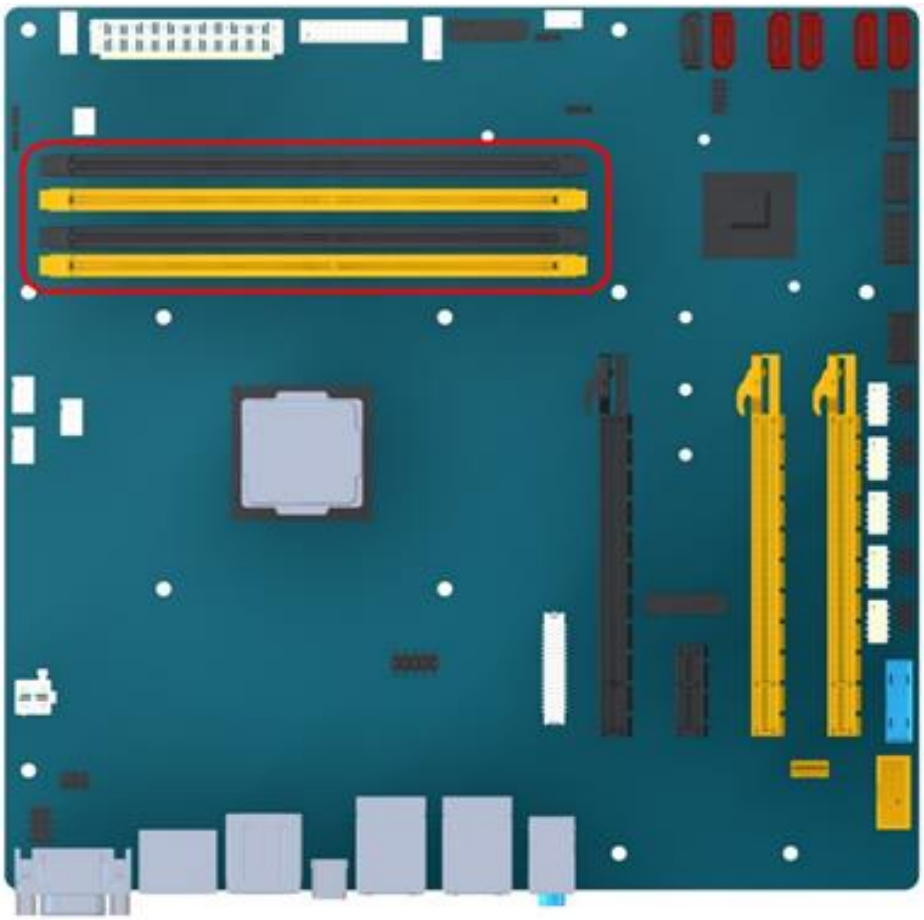
5. Rotate each fastener clockwise to ensure correct orientation when reinstalling.

1.4 System Memory

1.4.1 Overview

The motherboard comes with four 288-pin Double Data Rate 4 (DDR4) Dual Inline Memory Modules (DIMM) sockets.

DDR4 SDRAM, an abbreviation for double data rate fourth generation synchronous dynamic random-access memory, is a type of synchronous dynamic random-access memory (SDRAM) with a high bandwidth ("double data rate") interface. The primary advantages of DDR4 over its predecessor, DDR3, include higher module density and lower voltage requirements, coupled with higher data rate transfer speeds. DDR4 memory comes in 288-pin DIMM modules, similar in size to 240-pin DDR3 DIMMs. The pins are spaced more closely (0.85 mm instead of 1.0) to fit the increased amount within the same 5¼ inch (133.35 mm) standard DIMM length but, the height is increased slightly (31.25 mm/1.23 in instead of 30.35 mm/1.2 in) to make signal routing easier, and the thickness is also increased (to 1.2 mm from 1.0) to accommodate more signal layers.DDR4 DIMM modules have a slightly curved edge connector so not all of the pins are engaged at a time during module insertion, lowering the insertion force.

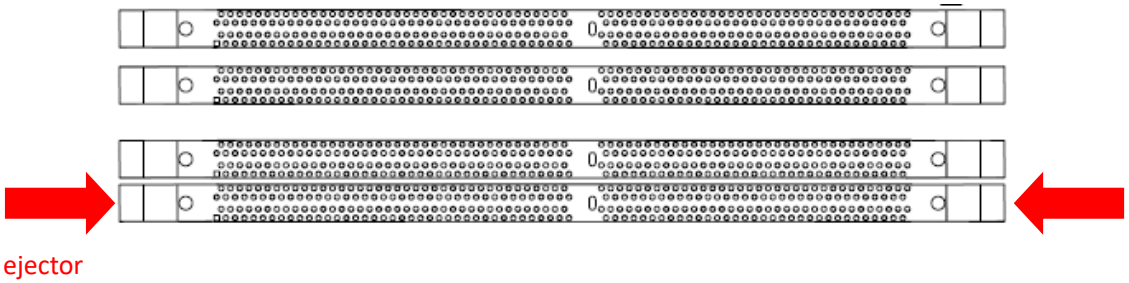


288-Pin DDR4 DIMM slots

1.4.2 Installing a DIMM

Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

1. Locate the DIMM socket on the board.
2. Hold two edges of the DIMM module carefully, and keep away of touching its connectors.
3. Align the notch key on the module with the rib on the slot.
4. Firmly press the modules into the socket which will automatically snap into the mounting notch. Do not force the DIMM module in with extra force as the DIMM module only fits in one direction.



- A DDR4 DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket to avoid damaging the DIMM.
- The DDR4 DIMM sockets do not support DDR/DDR2/DDR3 DIMMs. DO NOT install DDR/DDR2/DDR3 DIMMs to the DDR4 DIMM socket.

1.4.3 Removing a DDR4 DIMM

1. Press the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.

Support the DIMM lightly with your fingers when pressing the ejector tabs. The DIMM might get damaged when it flips out with extra force.

1.5 Expansion Card

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.

Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

1.5.1 Installing an Expansion Card

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

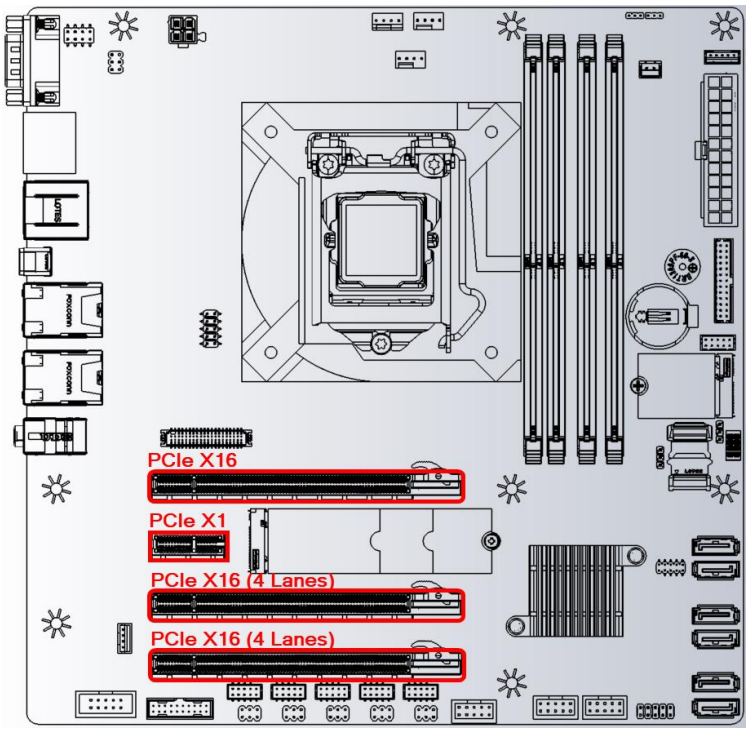
1.5.2 Configuring an Expansion Card

After installing the expansion card, configure it by adjusting the software settings.

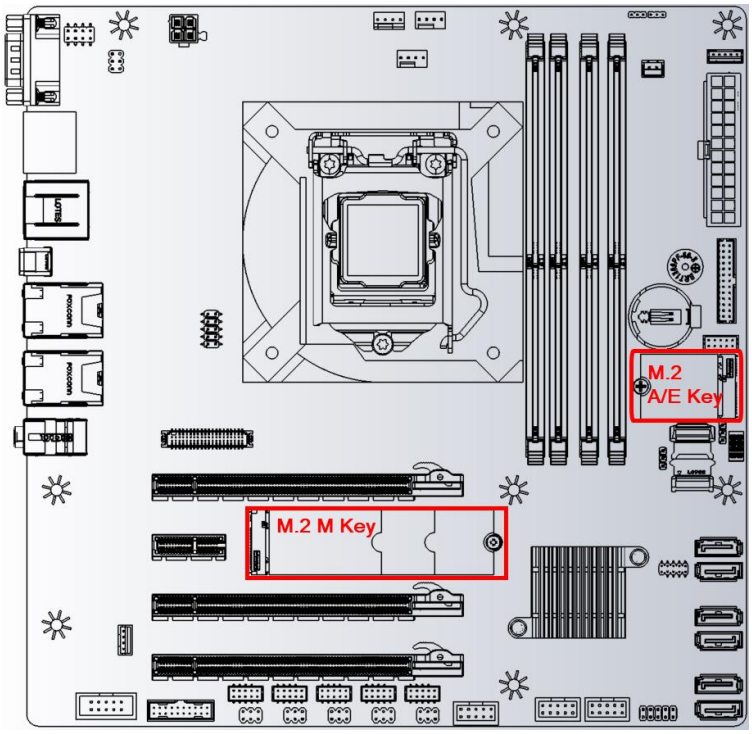
1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 2 for information on BIOS setup.
2. Assign an IRQ to the card if needed. Refer to the tables on the next page.
3. Install the software drivers for the expansion card.

1.5.3 PCI Express slot

This motherboard supports **1x PCIe x16 slot** that complies with the PCI Express specifications.
1x PCIe x1 slot
2x PCIe x16 slot (4 Lanes)



1.5.4 M.2 connector



- M.2 A/E Key 2232 Slot
  (with USB & PCIe x2)
- M.2 M Key 2242, 2260, 2280 Slot
  (with USB, PCIe x4 & SATA III)

1.6 Jumpers

1.6.1 Clear CMOS (CLCMOS1)

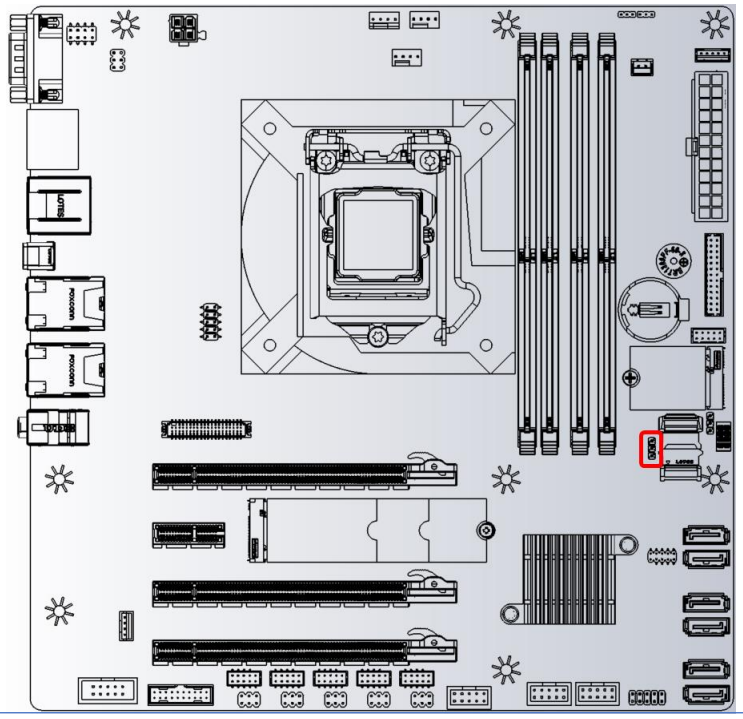
This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which includes system setup information.

Note: Clear CMOS will still keeping the BIOS's passwords. .

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Remove the onboard battery.
3. Move the jumper cap from pins 2-3 (default) to pins 1-2. Keep the cap on pins 1-2 for about 5~10 seconds, then move the cap back to pins 2-3.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.

Except when clearing the RTC RAM, never remove the cap on CLCMOS1 jumper default position. Removing the cap will cause system boot failure



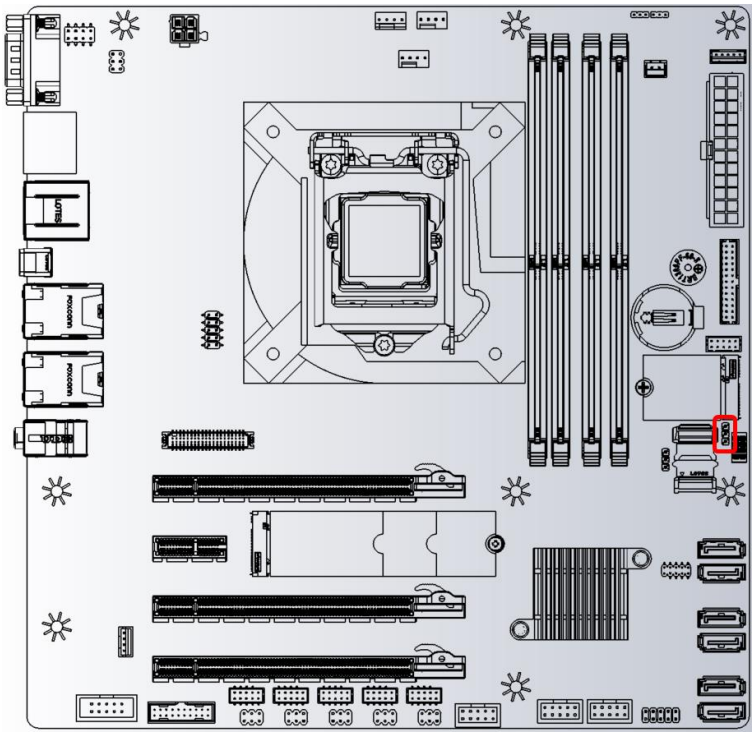
Normal (Default)

Clear CMOS

You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.P.R. (CPU Parameter Recall) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values.

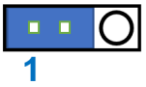
1.6.2 AT/ATX Power Mode Select (JPSON1)

This jumper allows you to select ATX Mode or AT mode



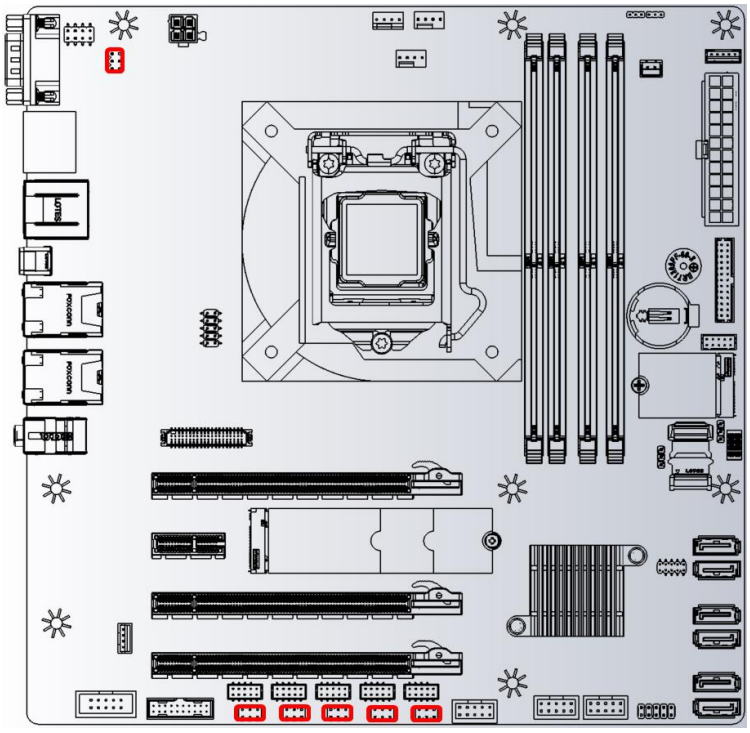
ATX Mode (Default)

AT Mode

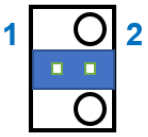


1.6.3 COM POWER SETTING (J27,J25,J33,J42,J40,J44)

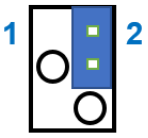
This jumper allows you to select COM1~6 to support Ring/+12V/+5V



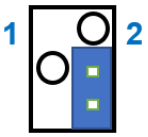
Ring (Default)



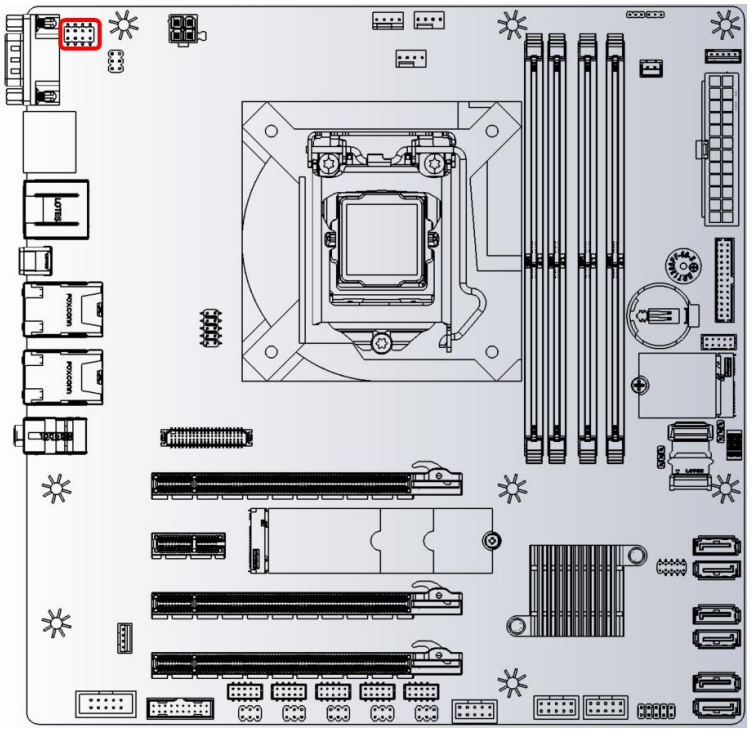
+12V (RS232)



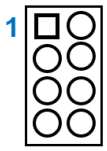
+5V (RS232)



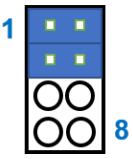
1.6.4 COM6 Termination Mode Selection (J45)



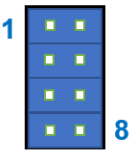
Default (RS232)



RS422



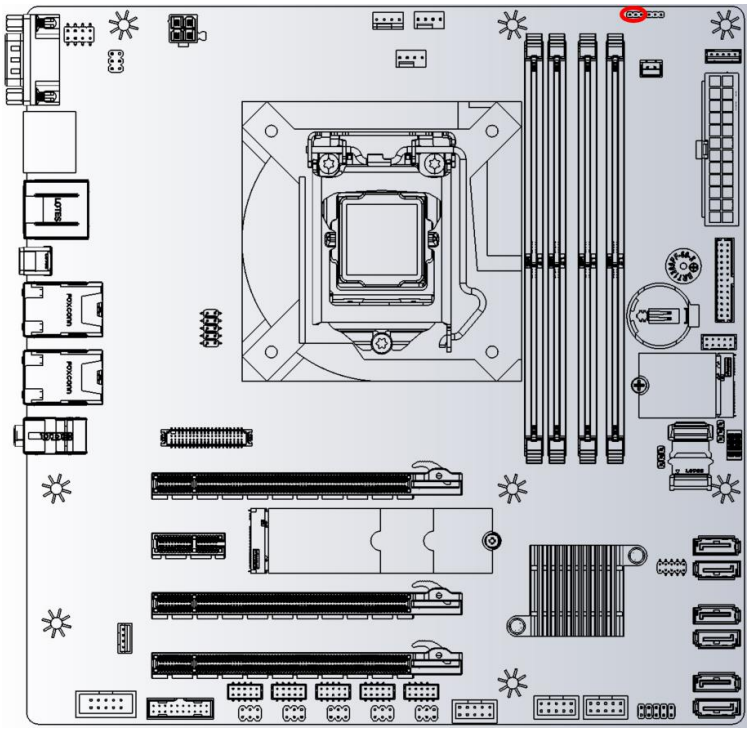
RS485



Jumpers (Optional):

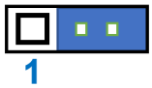
- Digi-Key reference part =>S9337-ND
- 2Pin,2.54mm pitch

1.6.5 LVDS Blacklight PWM Voltage Selection (BKLVOL1)

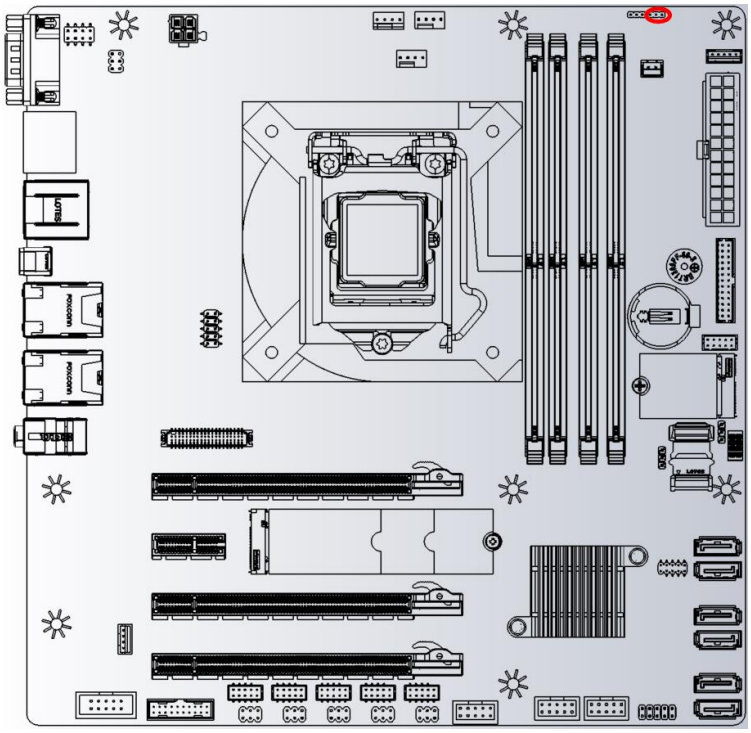


+5V (Default)

+3V



1.6.6 LVDS Backlight PWM Source Selection (LVDSBKL1)



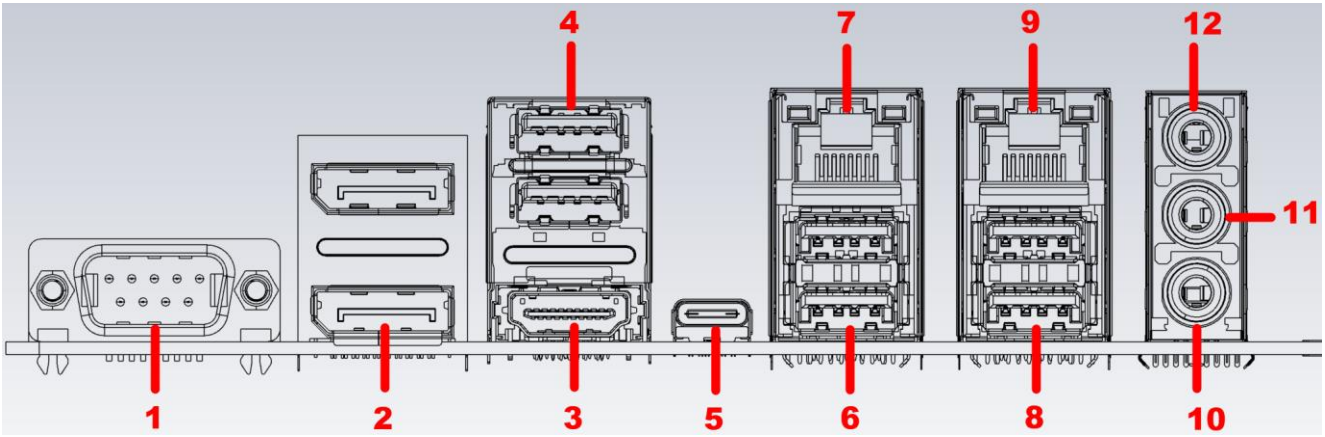
PCH (Default)

AD5258

1.6 Connectors

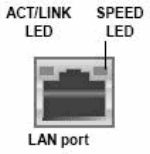
DO NOT recommend mix matching GOLD plated connectors with TIN one.

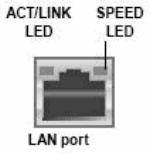
1.7.1 Rear panel connectors



Item	Name	Function	Description
1	COM6	Serial COM Port	The Serial COM port 6 supports RS-232/422/485
2	DDP_1	Display Port	These two display port Connectors are available for connecting display port devices.

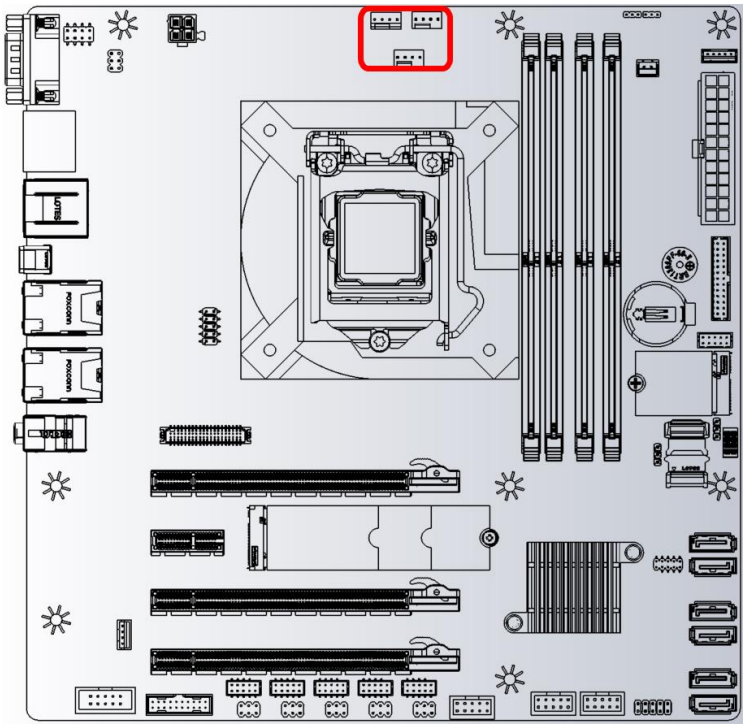
<table>
<tr><td>3</td><td>HDMI</td><td>HDMI Port</td><td>The HDMI port Connector</td></tr>
<tr><td>4</td><td>DUSB_HD_1</td><td>USB 3.1 Gen1 port</td><td>These two Universal Serial Bus (USB) ports are available for connecting USB 3.1 devices</td></tr>
<tr><td>5</td><td>USBC_1</td><td>USB 3.1 Gen2 port</td><td>This is USB 3.1 Gen2 Type-C connector</td></tr>
<tr><td>6</td><td>LAN_DUSB_2</td><td>USB 3.1 Gen2 port</td><td>These two Universal Serial Bus (USB) ports are available for connecting USB 3.1 devices</td></tr>
<tr><td>7</td><td>LAN2</td><td>Gigabit LAN

(RJ-45) Connectors
 
</td><td>This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.
<table><tr><td colspan="2">ACT/Link LED</td><td colspan="2">Speed LED</td></tr><tr><td>Status</td><td>Description</td><td>Status</td><td>Description</td></tr><tr><td>OFF</td><td>No link</td><td>OFF</td><td>10Mbps connection</td></tr><tr><td>Orange</td><td>Linked</td><td>Green</td><td>100Mbps connection</td></tr><tr><td>Blinking</td><td>Data activity</td><td>Orange</td><td>1Gbps connection</td></tr></table></td></tr>
<tr><td>8</td><td>LAN_DUSB_1</td><td>USB 3.1 Gen2 port</td><td>These two Universal Serial Bus (USB) ports are available for connecting USB 3.1 devices</td></tr>
<tr><td>9</td><td>LAN1</td><td>Gigabit LAN

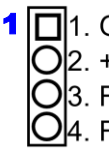
(RJ-45) Connectors
 
</td><td>This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.
<table><tr><td colspan="2">ACT/Link LED</td><td colspan="2">Speed LED</td></tr><tr><td>Status</td><td>Description</td><td>Status</td><td>Description</td></tr><tr><td>OFF</td><td>No link</td><td>OFF</td><td>10Mbps connection</td></tr><tr><td>Orange</td><td>Linked</td><td>Green</td><td>100Mbps connection</td></tr><tr><td>Blinking</td><td>Data activity</td><td>Orange</td><td>1Gbps connection</td></tr></table></td></tr>
<tr><td>10</td><td>AUDIO1</td><td>Microphone port (Pink)</td><td>This port connects a microphone.</td></tr>
<tr><td>11</td><td>AUDIO1</td><td>Line-out port (Lime)</td><td>This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configuration, the function of this port becomes Front Speaker Out.</td></tr>
<tr><td>12</td><td>AUDIO1</td><td>Line-in port (Light blue)</td><td>This port connects a tape, CD, DVD player, or other audio sources.</td></tr>
</table>

1.7.2 CPU and System fan connectors (J_CPU_FAN1, J_FIO_FAN1, J_RIO_FAN1)

Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.



J_CPU_FAN1, J_FOP_FAN1, J_RIO_FAN1

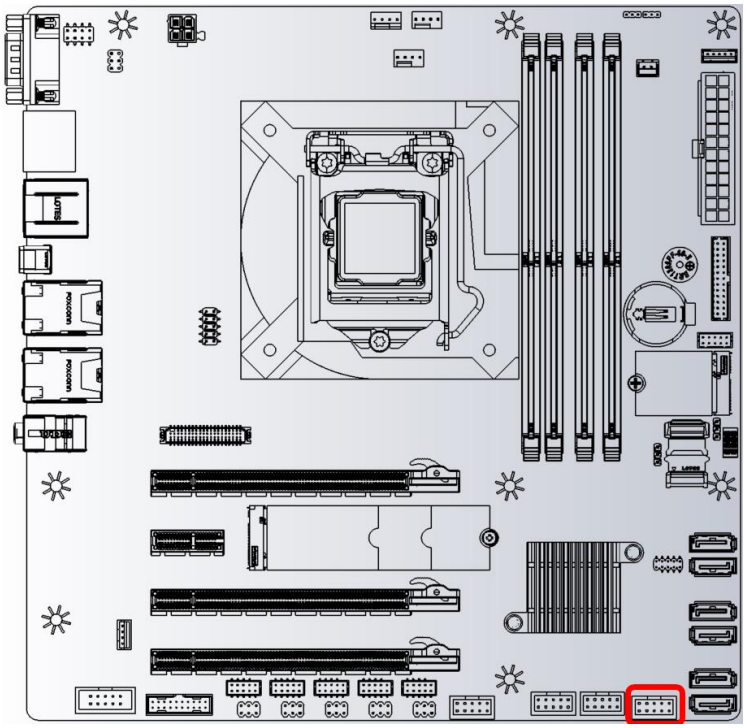


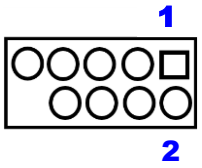
Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors

Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors

1.7.3 Front Panel connector (J_FIO_1)

This Connector is for a chassis-mounted front panel. The function are as following.





1. HHD LED+	2. PWR LED+
3. HHD LED-	4. PWR LED-
5. GND	6. PWR_BTN
7. RST	8. GND
9. +5V	10. KEY

- **ATX Power Button/Soft-off Button (Pin 6-8)**
  This 2-pin connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the BIOS settings. Pressing the power switch and holding it for more than four seconds while the system is ON turns the system OFF.

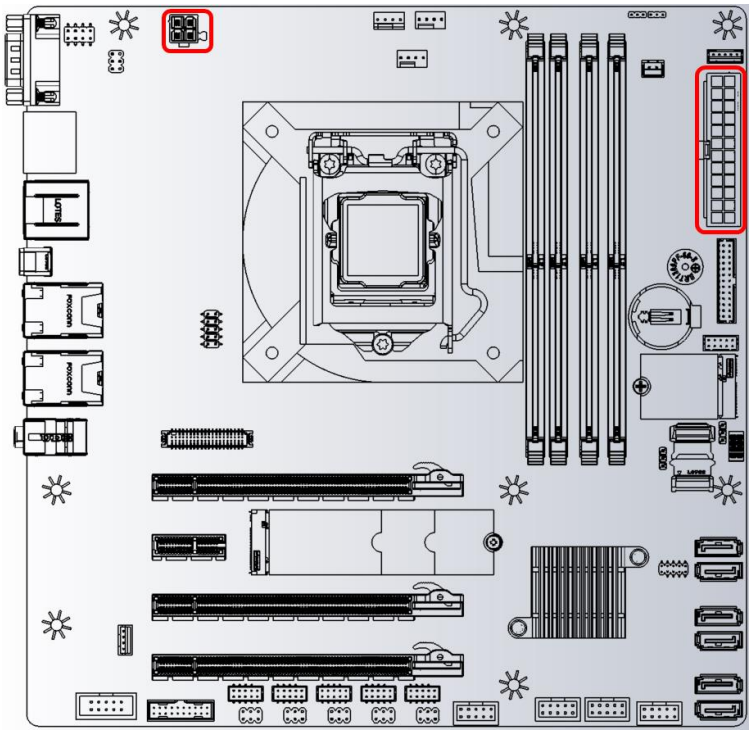
- **Reset Button (Pin 5-7)**
  This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

- **Power LED (Pin 2-4)**
  This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

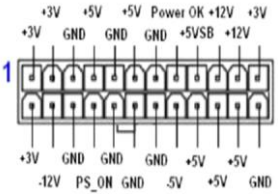
- **Hard Disk Drive Activity LED (Pin 1-3)**
  This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.

1.7.4 ATX power connectors (ATX24P_1 & ATX4P_1)

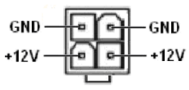
The connector is for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



ATX24P_1

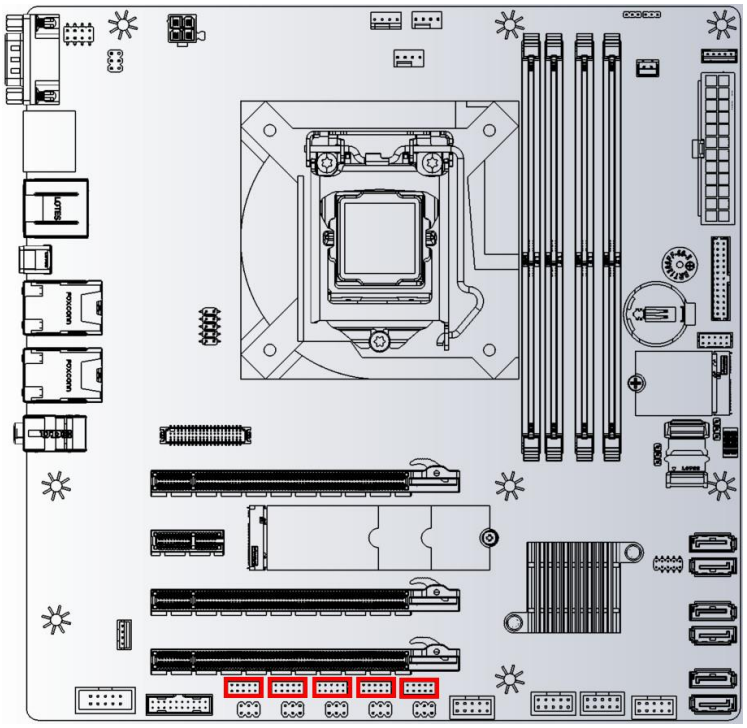


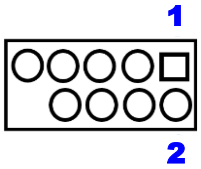
ATX4P_1



- Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- Make sure that your power supply unit (PSU) can provide at least the minimum power required by your system. See the table below for details.

1.7.5 Serial Port Connectors (COM1~5)

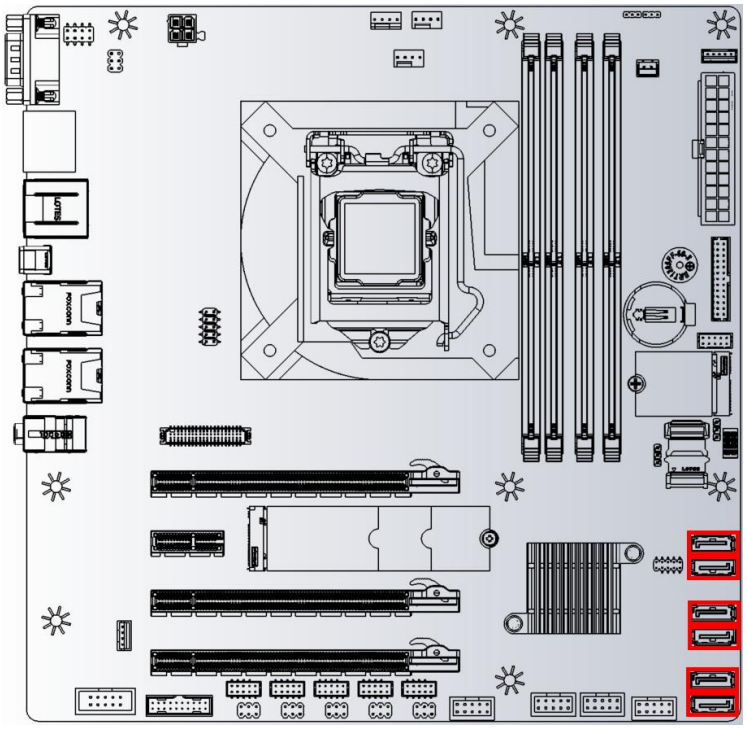


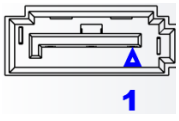


1. DCD	2. RXD#
3. TXD#	4. DTR
5. GND	6. DSR
7. RST	8. CTS
9. RI	10. KEY

1.7.6 Serial ATA Connector (SATA1~6)

SATA 1~6 support SATA 3.0. These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.



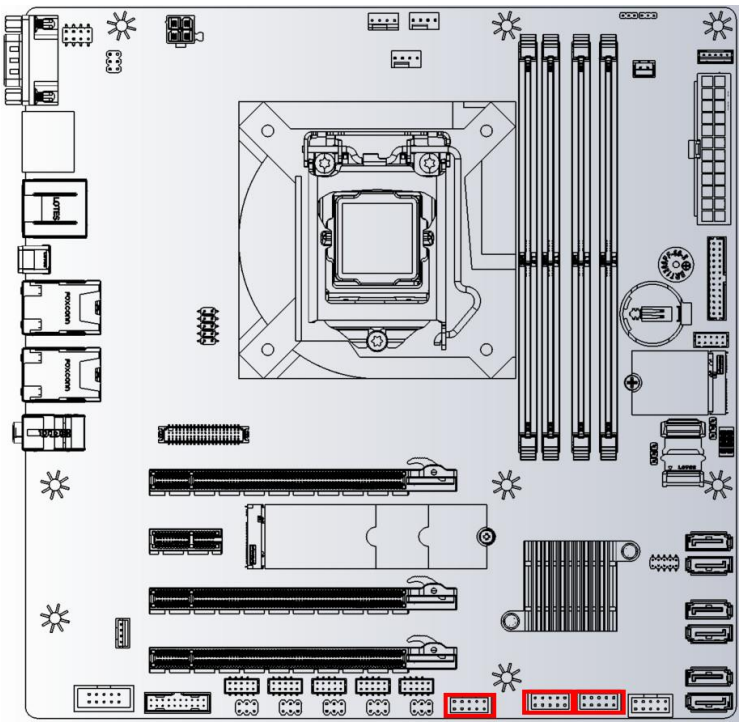


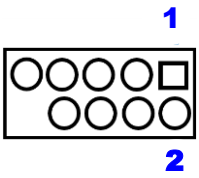
1. GND
2. TX+
3. TX-
4. GND
5. RX-
6. RX+
7. GND

Note: SATA6 port share with M.2 M Key.

1.7.7 USB connectors (FP_USB2_1, FP_USB2_2, FP_USB2_3)

These connectors are for USB 2.0 ports. Connect the optional USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

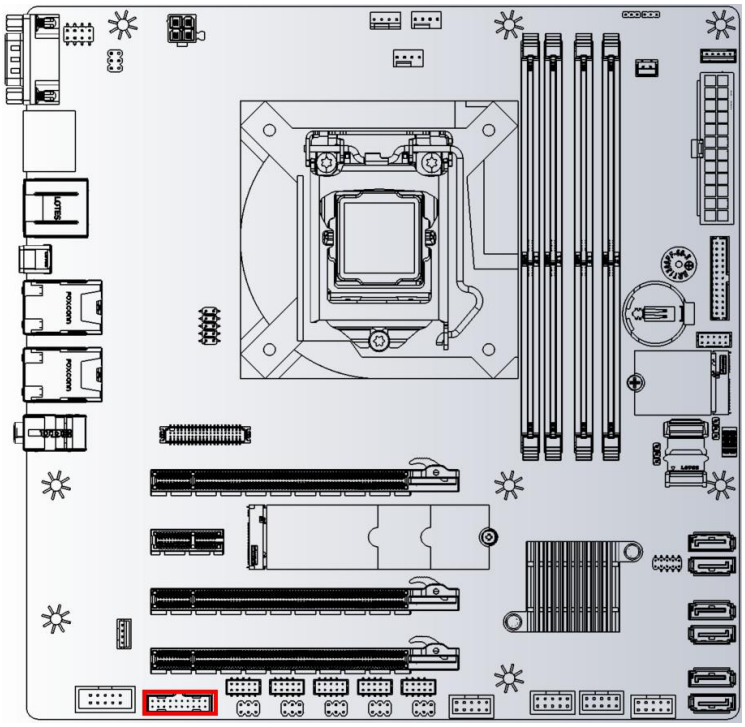


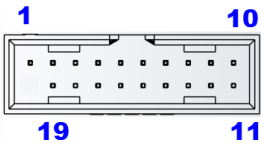


1. +5V USB	2. +5V USB
3. USB2 D-	4. USB2 D-
5. USB2 D+	6. USB2 D+
7. GND	8. GND
9. NC	10. KEY

1.7.8 USB connectors (FP_USB3_1)

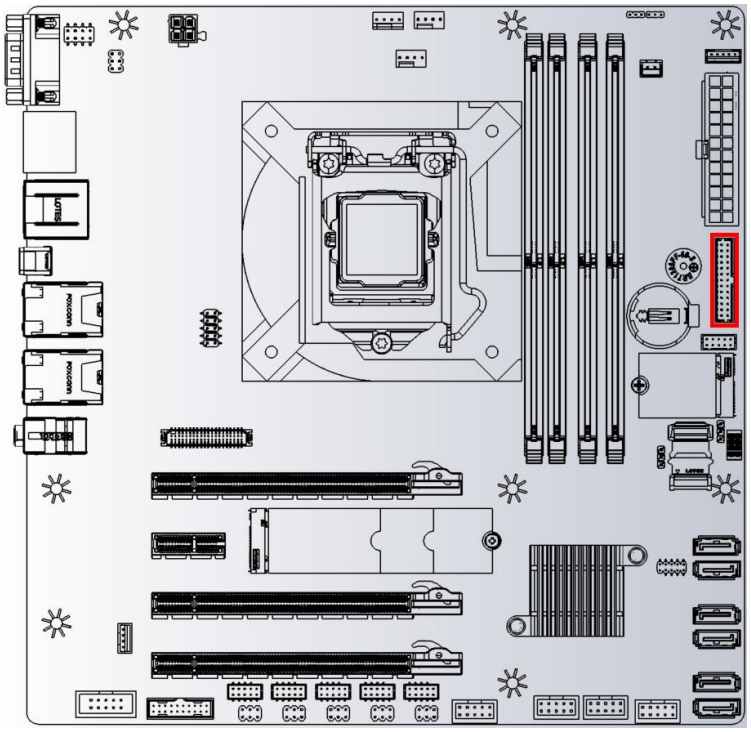
These connectors are for two USB 3.1 Gen1 ports. Connect the optional USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis.

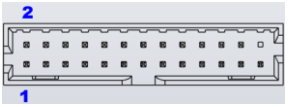




1. +5V USB	20. KEY
2. USB3 RX-	19. +5V USB
3. USB3 RX+	18. USB3 RX-
4. GND	17. USB3 RX+
5. USB3 TX-	16. GND
6. USB3 TX+	15. USB3 TX-
7. GND	14. USB3 TX+
8. USB2 D-	13. GND
9. USB2 D+	12. USB2 D-
10. NC	11. USB2 D+

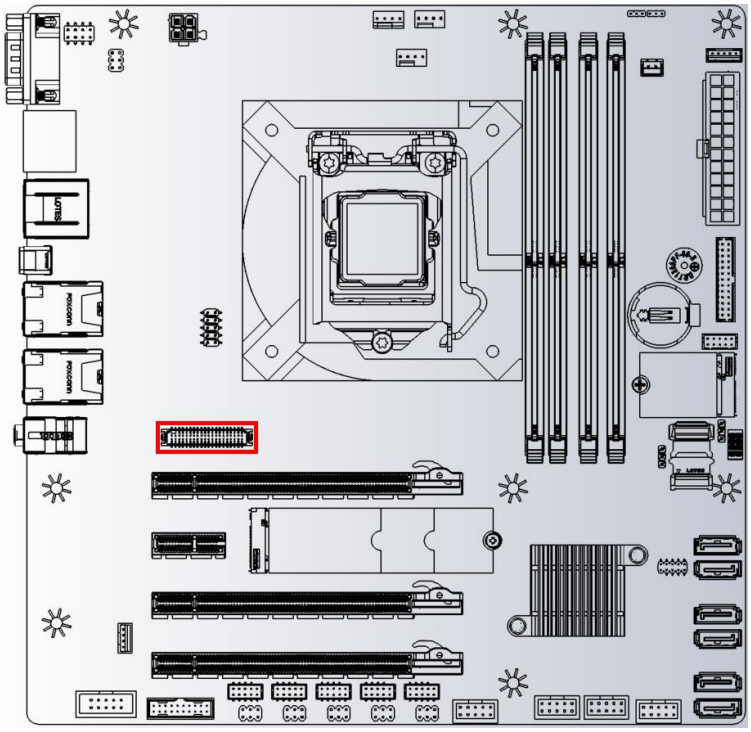
1.7.9 LPT Port Connector (LPT1)

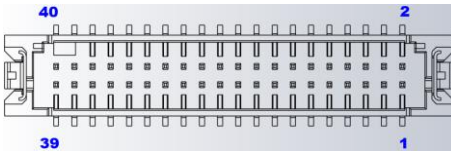




1. STROB#	2. AUTOFD#
3. PD0	4. FUALT#
5. PD1	6. INT#
7. PD2	8. SLCTIN#
9. PD3	10. GND
11. PD4	12. GND
13. PD5	14. GND
15. PD6	16. GND
17. PD7	18. GND
19. ACK#	20. GND
21. BUSY	22. GND
23. PERROR	24. GND
25. SELECT	26. KEY

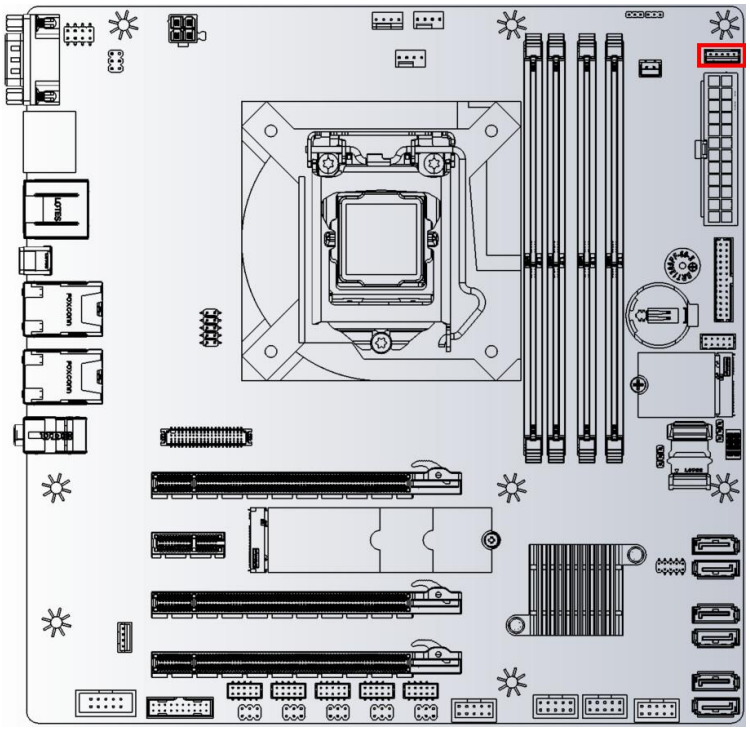
1.7.10 LVDS (Default) / eDP (Optional) connector (J5)

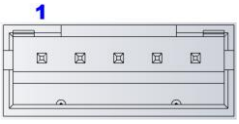




1. +3V		2. +5V	
3. +3V		4. +5V	
5. LS_SCL	(AUX-)	6. LS_SDA	(AUX+)
7. GND		8.GND	(HPDET)
9. LS0_L1_D+	(eDP1+)	10. LS0_L0_D+	(eDP0+)
11. LS0_L1_D-	(eDP1-)	12. LS0_L0_D-	(eDP0-)
13. GND		14.GND	
15. LS0_L3_D+	(eDP3+)	16. LS0_L2_D+	(eDP2+)
17. LS0_L3_D-	(eDP3-)	18. LS0_L2_D-	(eDP2-)
19. GND		20.GND	
21. LS1_L1_D+	(BK_EN)	22. LS1_L0_D+	(BK_PWM)
23. LS1_L1_D-		24. LS1_L0_D-	
25. GND		26.GND	
27. LS1_L3_D+		28. LS1_L2_D+	
29. LS1_L3_D-		30. LS1_L2_D-	
31. GND		32.GND	
33. LS1_CLK_D+		34. LS0_CLK_D+	
35. LS1_CLK_D-		36. LS0_CLK_D-	
37. GND		38.GND	
39. BKLT_+12V		40. BKLT_+12V	

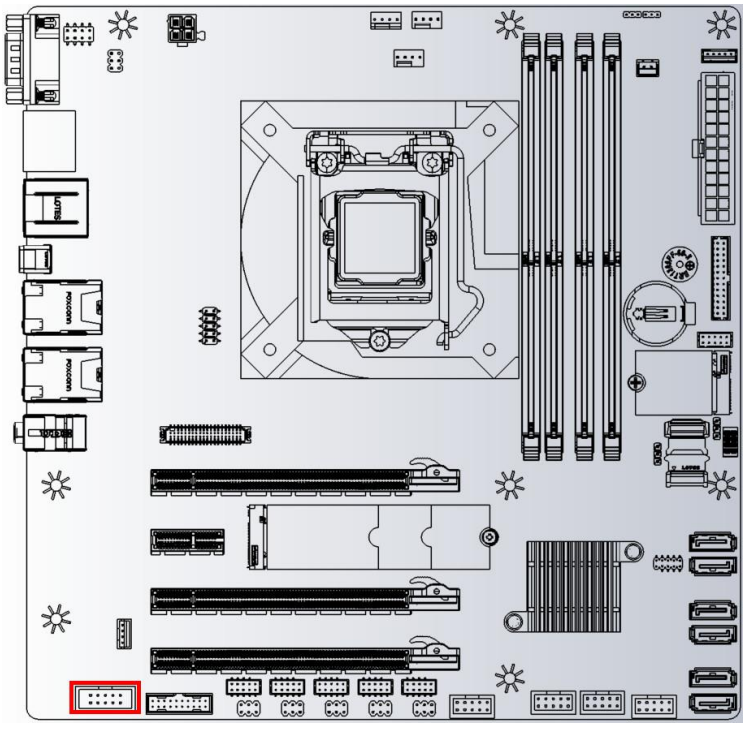
1.7.11 LVDS Backlight Connector (JBKL1)

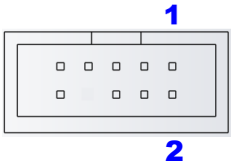




1. +12V_BL
2. GND
3. BKLT_EN
4. BKLT_PWM
5. +5V_BL

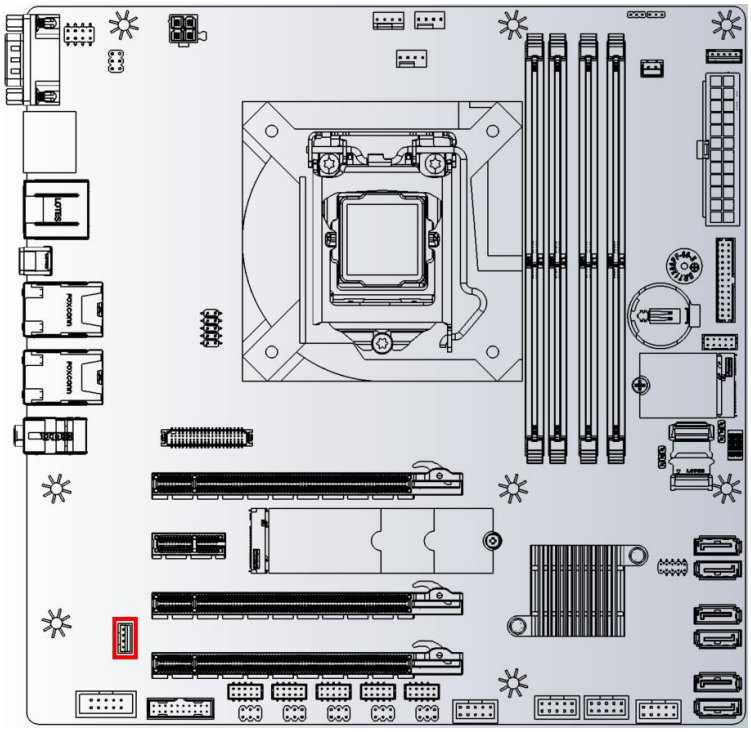
1.7.12 Front Audio connector (J_HDA_1)

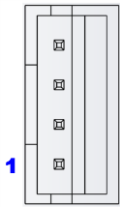




1. MIC2_L
2. AGND
3. MIC2_R
4. FP_HDADET
5. LINE2_R
6. MIC2_JD
7. FR-IO-SENSE
8. KEY
9. LINE2_L
10. LINE2_JD

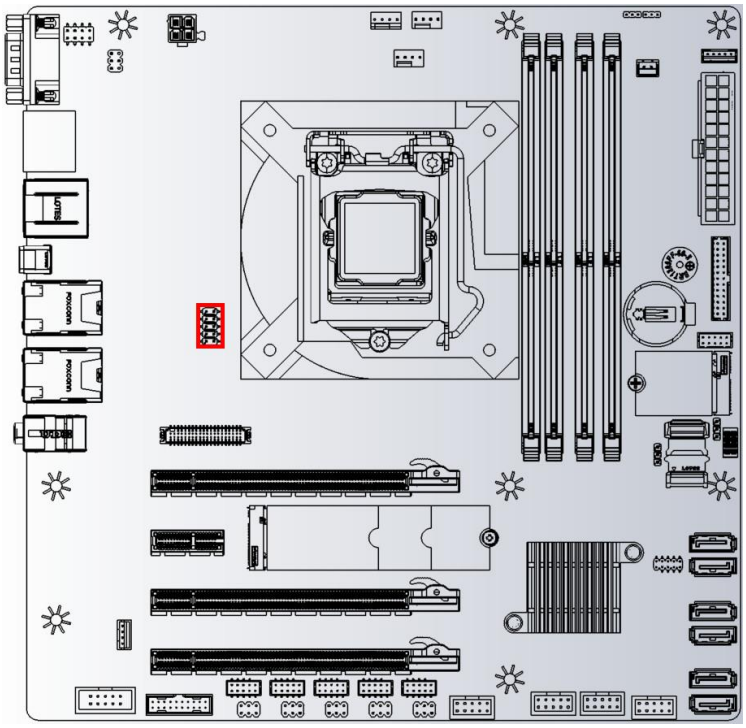
1.7.13 AMP speaker Connector (JAMP1)

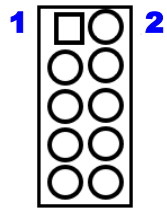




4. Lout+
3. Lout-
2. Rout+
1. Rout-

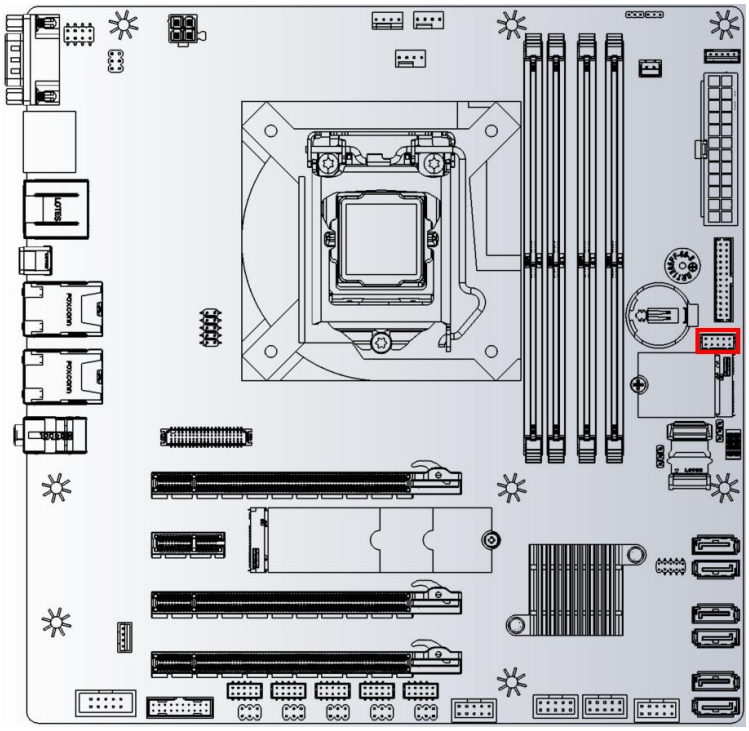
1.7.14 LAN LED status connector (LAN_LED1)

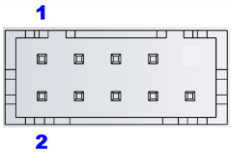




1. LAN1 100	2. LAN2 100
3. NC	4. NC
5. LAN1 1G	6. LAN2 1G
7. LAN1 ACT	8. LAN2 ACT
9. LAN1 LED	10. LAN2 LED

1.7.15 8 bits GPIO connector (GPIO_HDR1)

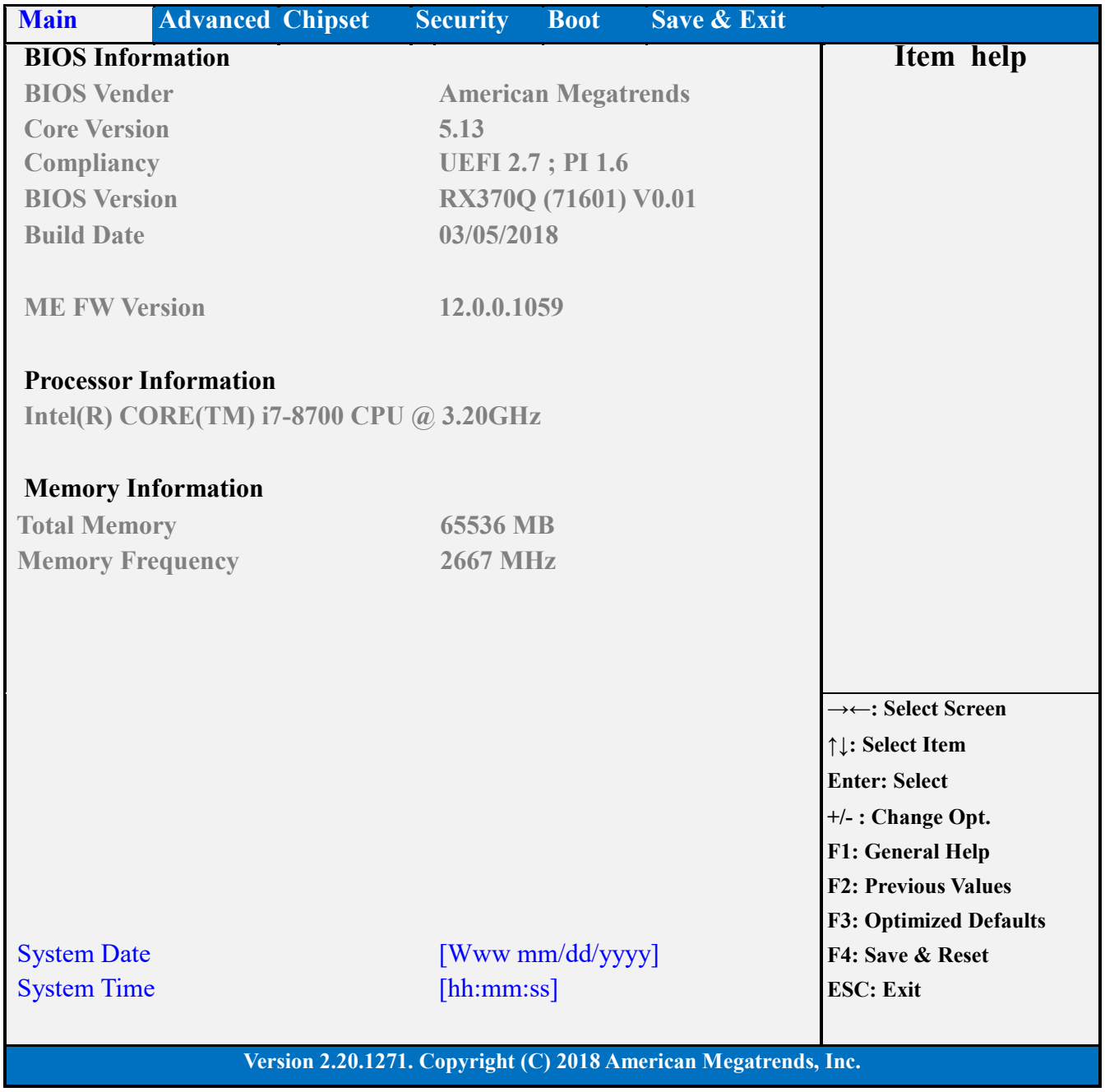




1. GPIO 1	2. GPIO 5
3. GPIO 2	4. GPIO 6
5. GPIO 3	6. GPIO 7
7. GPIO 4	8. GPIO 8
9. KEY	10. GND

Chapter 2 - BIOS Setup

2.1 BIOS Menu Page



Field Name	**BIOS Vender**
Default Value	American Megatrends
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Core Version**
Default Value	5.13
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Compliancy**
Default Value	UEFI 2.7 ; PI 1.6
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**BIOS Version**
Default Value	Display the version of the BIOS
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Build Date**
Default Value	Display build date of the BIOS
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**ME FW Version**
Value	ME Firmware Version.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Processor Information**
Value	Display the installed CPU brand.
Comment	This field is not selectable. There is no help text associated with it.

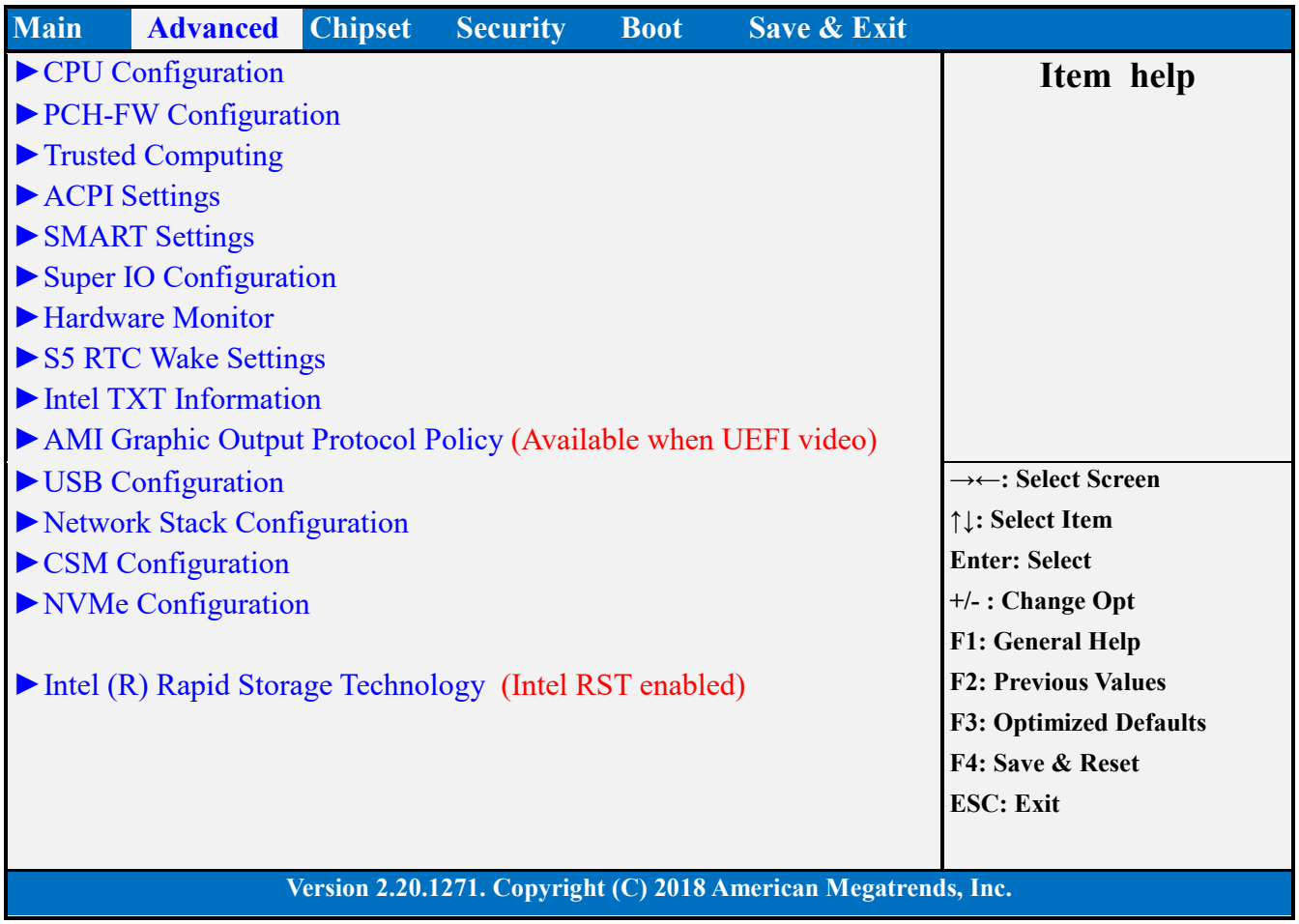
Field Name	**Total Memory**
Value	Display the installed memory size.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Memory Frequency**
Value	Display the installed memory frequency.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**System Date**
Default Value	[Www mm/dd/yyyy]
Possible Value	Www : Mon/Tue/Wed/Thu/Fri/Sat/Sun mm : 1-12 dd : 1-31 yyyy : 1998-9999
Help	Set the Date. Use Tab to switch between Date elements.

Field Name	**System Time**
Default Value	[hh :mm :ss]
Possible Value	hh : 0-23 mm : 0-59 ss : 0-59
Help	Set the Time. Use Tab to switch between Time elements.

2.2 Advanced Page



Field Name	**CPU Configuration**
Help	CPU Configuration Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**PCH-FW Configuration**
Help	Configure Management Engine Technology Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Trusted Computing**
Help	Trusted Computing Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**ACPI Settings**
Help	System ACPI Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**SMART Settings**
Help	System SMART Settings.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Super IO Configuration**
Help	System Super IO Chip Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Hardware Monitor**
Help	Monitor hardware status
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**S5 RTC Wake Settings**
Help	Enable system to wake from S5 using RTC alarm
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Intel TXT Information**
Help	Display Intel TXT information
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**AMI Graphic Output Protocol Policy (Available when UEFI video)**
Help	User Select Monitor Output by Graphic Output Protocol.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**USB Configuration**
Help	USB Configuration Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

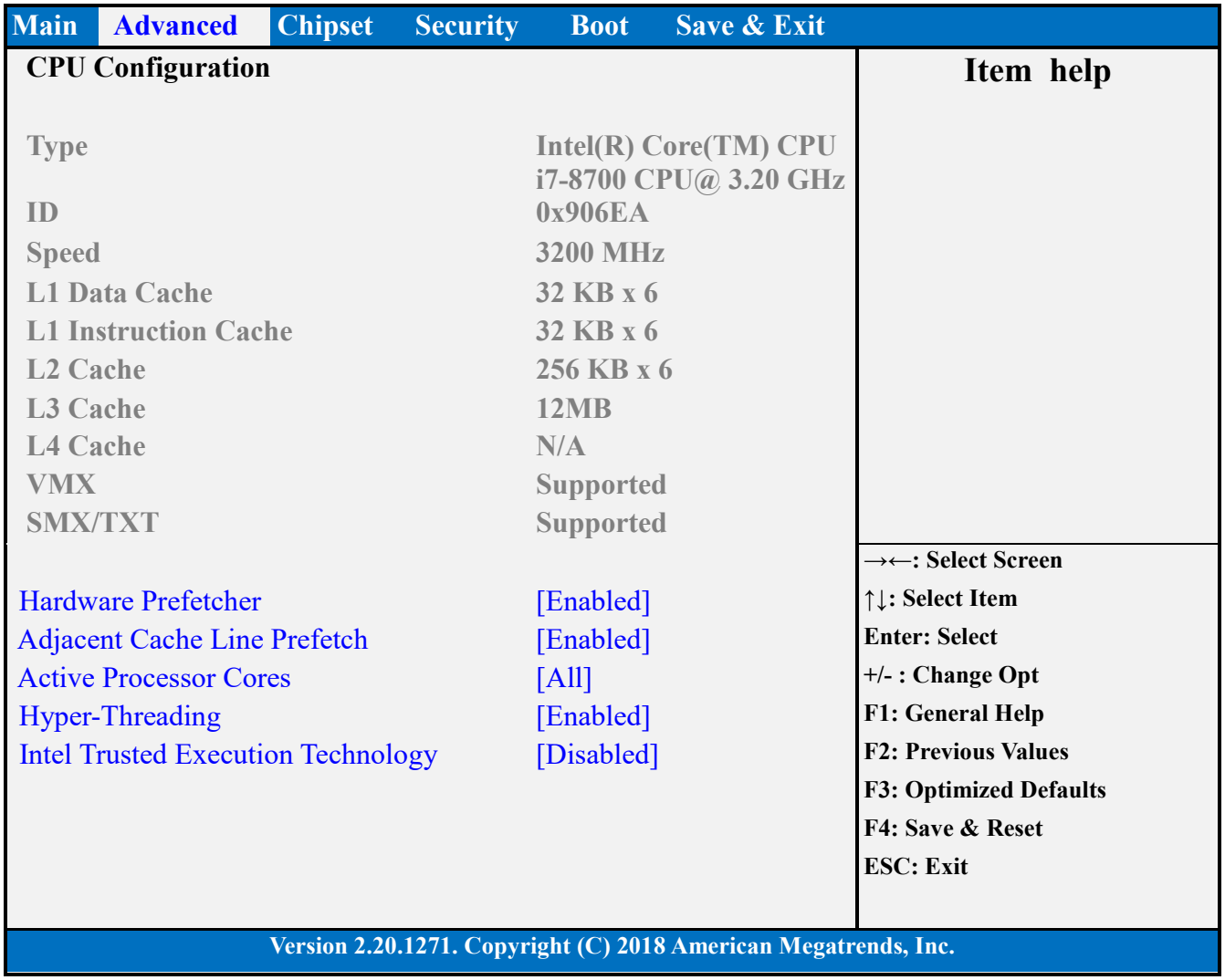
Field Name	**Network Stack Configuration**
Help	Network Stack Settings.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**CSM Configuration**
Help	CSM configuration: Enable/Disable, Option ROM execution settings, etc.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**NVMe Configuration**
Help	NVMe Device Options Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Intel (R) Rapid Storage Technology**
Help	This formset allow the user to manage RAID volumes on the Intel(R) RAID Controller.
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.2.1 CPU Configuration



Field Name	**Type**
Default Value	[Intel CPU Brand String]
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**ID**
Default Value	Displays CPU Signature
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Speed**
Default Value	Displays the CPU Speed
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**L1 Data Cache**
Default Value	L1 Data Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**L1 Instruction Cache**
Default Value	L1 Instruction Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**L2 Cache**
Default Value	L2 Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**L3 Cache**
Default Value	L3 Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**L4 Cache**
Default Value	L4 Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**VMX**
Default Value	VMX Supported or Not
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**SMX/TXT**
Default Value	SMX/TXT Supported or Not
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Hardware Prefetcher**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	To turn on/off the MLC streamer prefetcher.

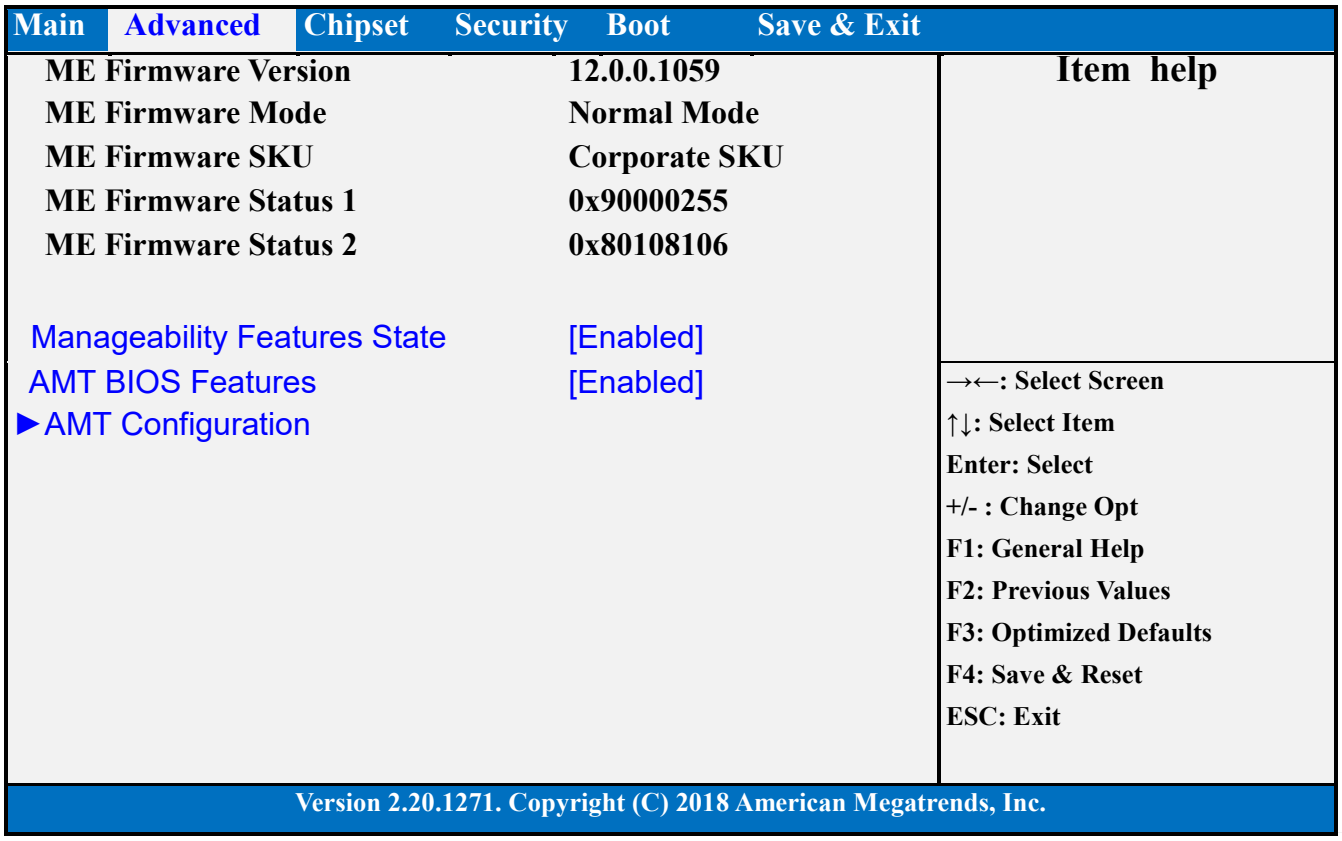
Field Name	**Adjacent Cache Line Prefetch**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	To turn on/off the prefetching of adjacent cache lines.

Field Name	**Active Processor Cores**
Default Value	[All]
Possible Value	All 1-5 (by CPU Model)
Help	Number of cores to enable in each processor package.

Field Name	**Hyper-Threading**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology).

Field Name	**Intel Trusted Execution Technology**
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enables utilization of additional hardware capabilities provided by Intel (R) Trusted Execution Technology. Changes require a full power cycle to take effect.

2.2.2 PCH-FW Configuration



Field Name	**ME Firmware Version**
Default Value	ME version value by BIOS release
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**ME Firmware Mode**
Default Value	ME Mode
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**ME Firmware SKU**
Default Value	ME SKU by BIOS release
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**ME Firmware Status 1**
Default Value	0x90000255
Comment	This field is not selectable. There is no help text associated with it.

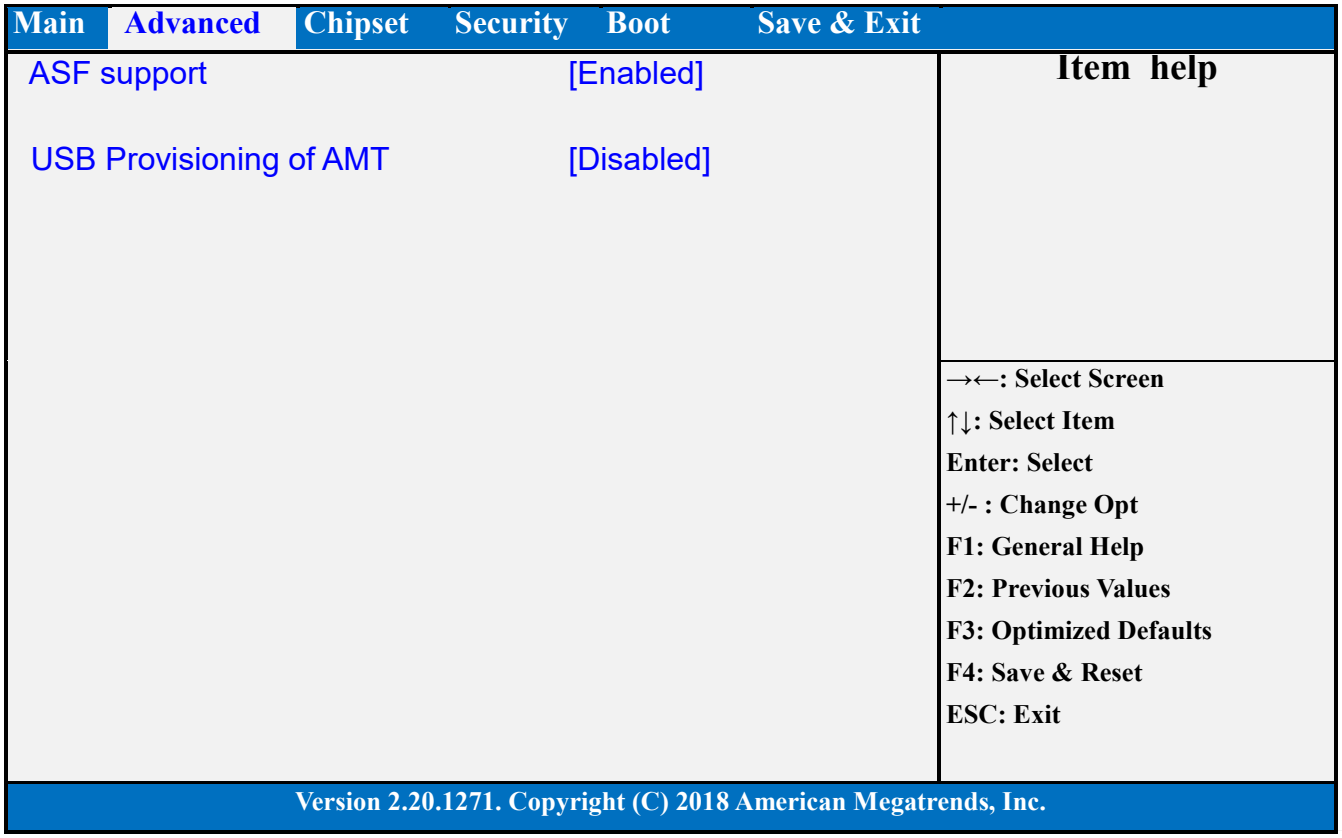
Field Name	**ME Firmware Status 2**
Default Value	0x80108106
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Manageability Features State**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable/Disable Intel(R) Manageability features. NOTE:This option disables/enables Manageability Features support in FW. To disable support platform must be in an unprovisioned state first.

Field Name	**AMT BIOS Features**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	When disabled AMT BIOS Features are no longer supported and user is no longe able to access MEBx Setup.Note:This option does not disable Manageability Features in FW.

Field Name	**AMT Configuration**
Help	Configure Intel (R) Active Management Technology Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

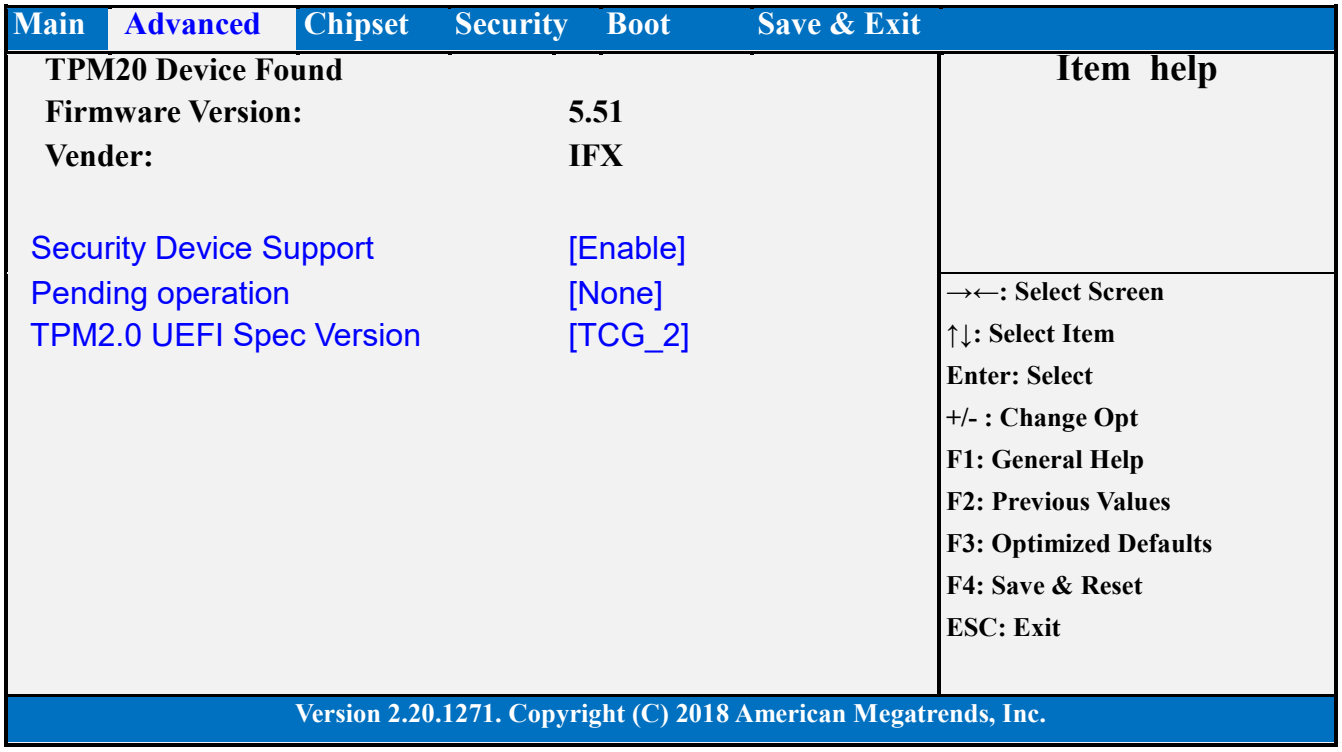
2.2.2.1 AMT Configuration



Field Name	**ASF support**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable/Disable Alert Standard Format support.

Field Name	**USB Provisioning of AMT**
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enable/Disable of AMT USB Provisioning.

2.2.3 Trusted Computing

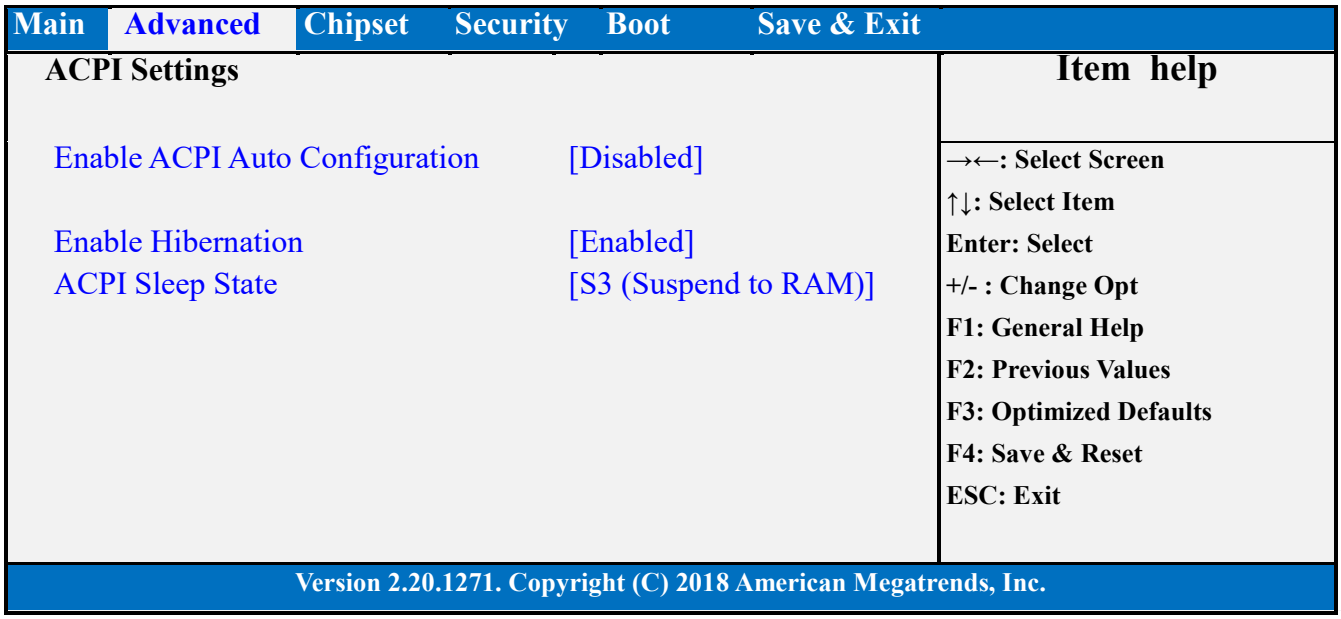


Field Name	**Security Device Support**
Default Value	[Enable] Security Device
Possible Value	Enable Disable
Help	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

Field Name	**Pending operation**
Default Value	[None]
Possible Value	None TPM Clear
Help	Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device.

Field Name	**TPM2.0 UEFI Spec Version**
Default Value	[TCG_2]
Possible Value	TCG_1_2 TCG_2
Help	Select the TCG2 Spec Version Support,TCG_1_2: the Compatible mode for Win8/Win10,TCG_2: Support new TCG2 protocol and event format for Win10 or later.

2.2.4 ACPI Settings

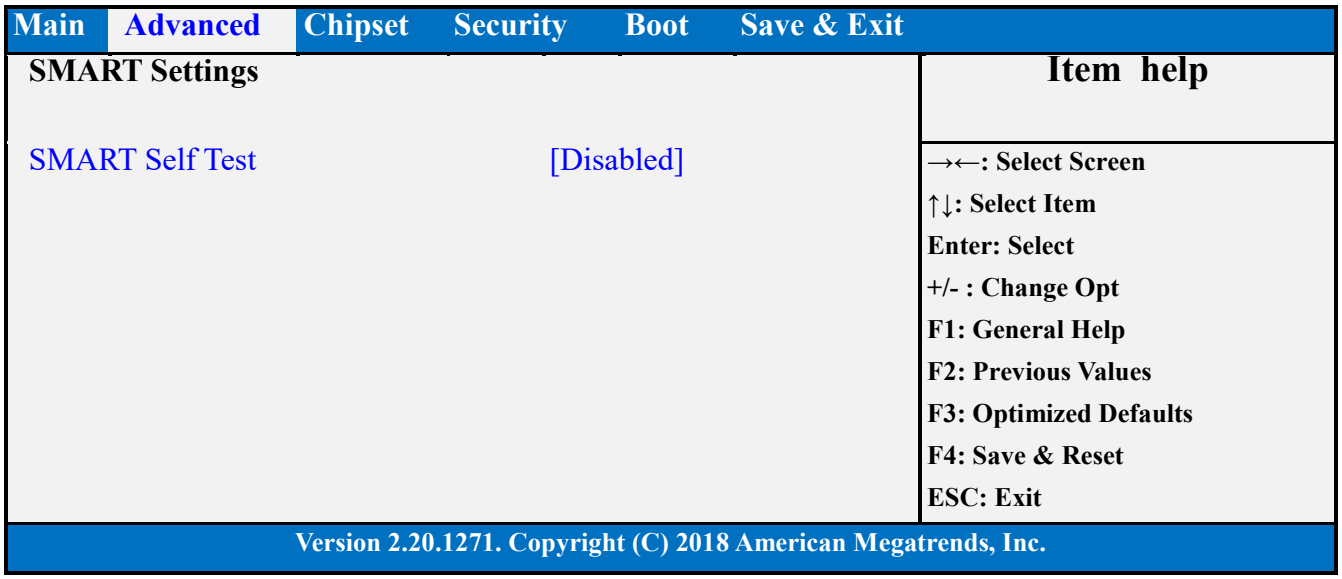


Field Name	**Enable ACPI Auto Configuration**
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enables or Disables BIOS ACPI Auto Configuration.

Field Name	**Enable Hibernation**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some operating systems.

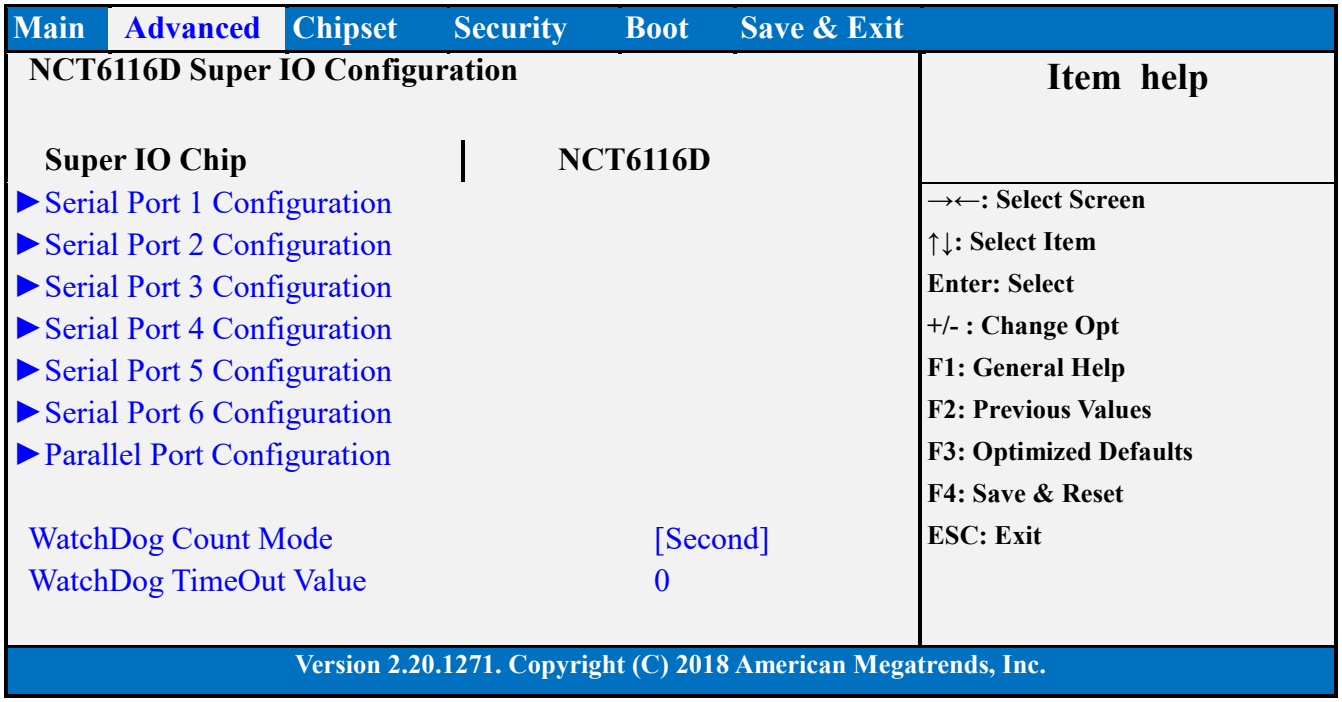
Field Name	**ACPI Sleep State**
Default Value	[S3 (Suspend to RAM)]
Possible Value	Suspend Disabled S3 (Suspend to RAM)
Help	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.

2.2.5 SMART Settings



Field Name	**SMART Self Test**
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Run SMART Self Test on all HDDs during POST.

2.2.6 Super IO Configuration



Field Name	**Serial Port 1 Configuration**
Help	Set Parameters of Serial Port 1 (COMA)
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Serial Port 2 Configuration**
Help	Set Parameters of Serial Port 2 (COMB)
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Serial Port 3 Configuration**
Help	Set Parameters of Serial Port 3 (COMC)
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Serial Port 4 Configuration**
Help	Set Parameters of Serial Port 4 (COMD)
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Serial Port 5 Configuration**
Help	Set Parameters of Serial Port 5 (COME)
Comment	Press Enter when selected to go into the associated Sub-Menu.

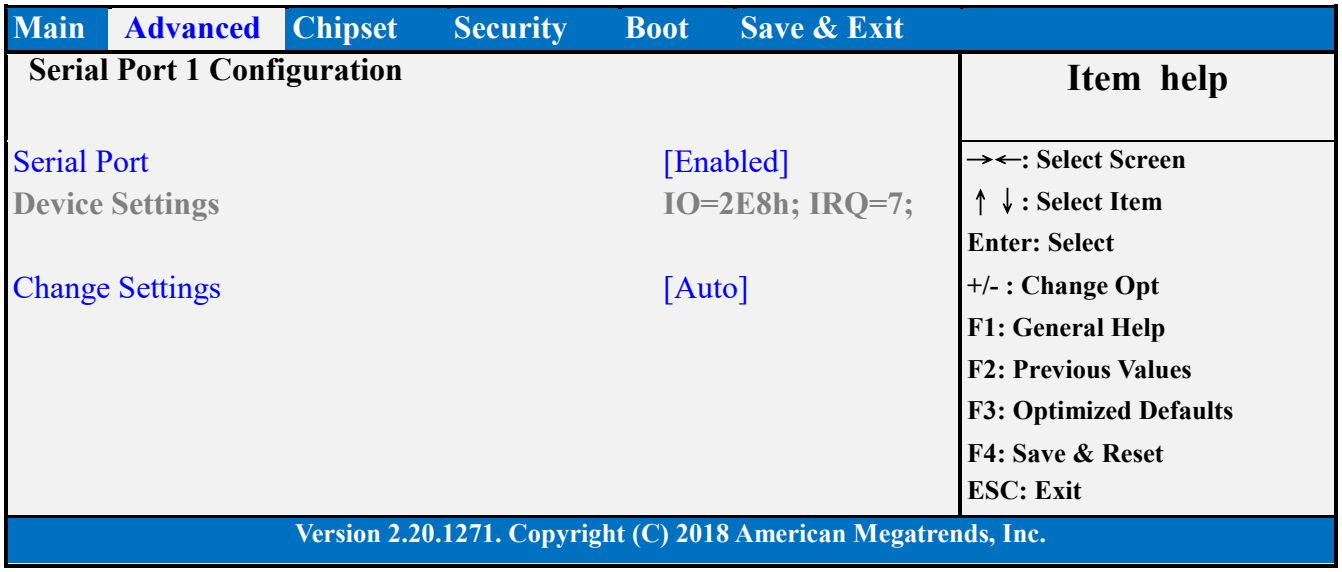
Field Name	**Serial Port 6 Configuration**
Help	Set Parameters of Serial Port 6 (COMF)
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Parallel Port Configuration**
Help	Set Parameters of Parallel Port (LPT/LPTE)
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**WatchDog Count Mode**
Default Value	[Second]
Possible Value	Second Minute
Help	Configure watchdog count mode

Field Name	**WatchDog TimeOut Value**
Default Value	0
Possible Value	0-255
Help	Configure watchdog TimeOut Value

2.2.6.1 Serial Port 1 Configuration

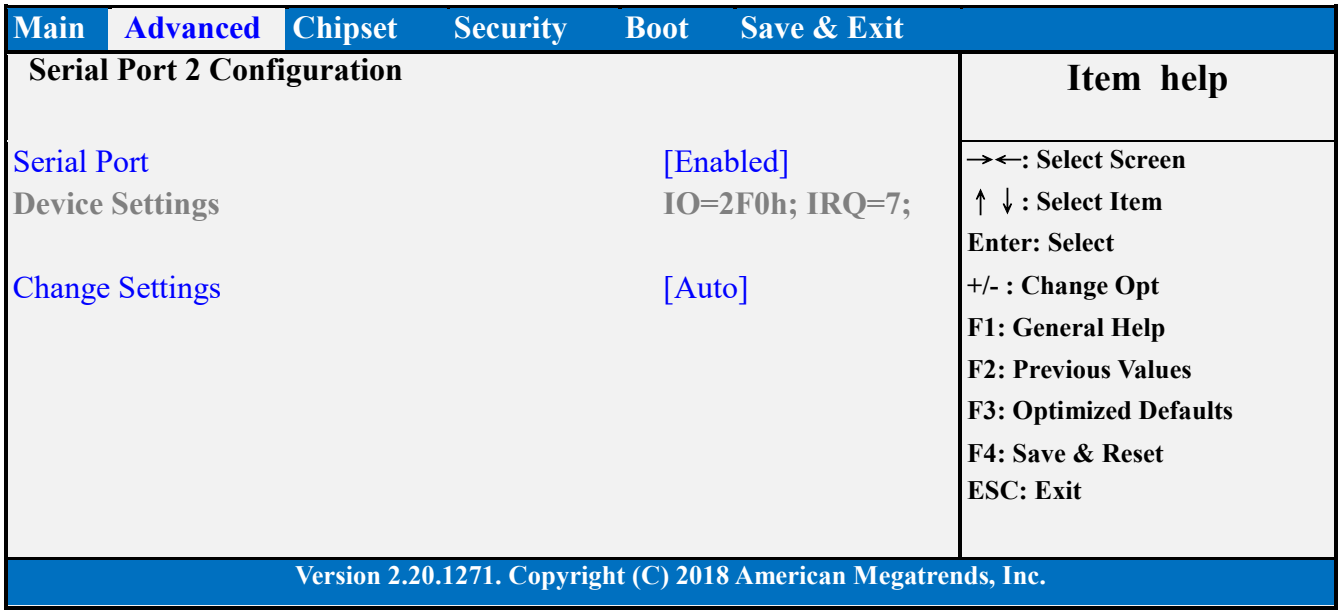


Field Name	**Serial Port**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	**Device Settings**
Default Value	Device Super IO COM1 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Change Settings**
Default Value	[Auto]
Possible Value	Auto IO=2E8h; IRQ=7; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F0h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E0h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

2.2.6.2 Serial Port 2 Configuration

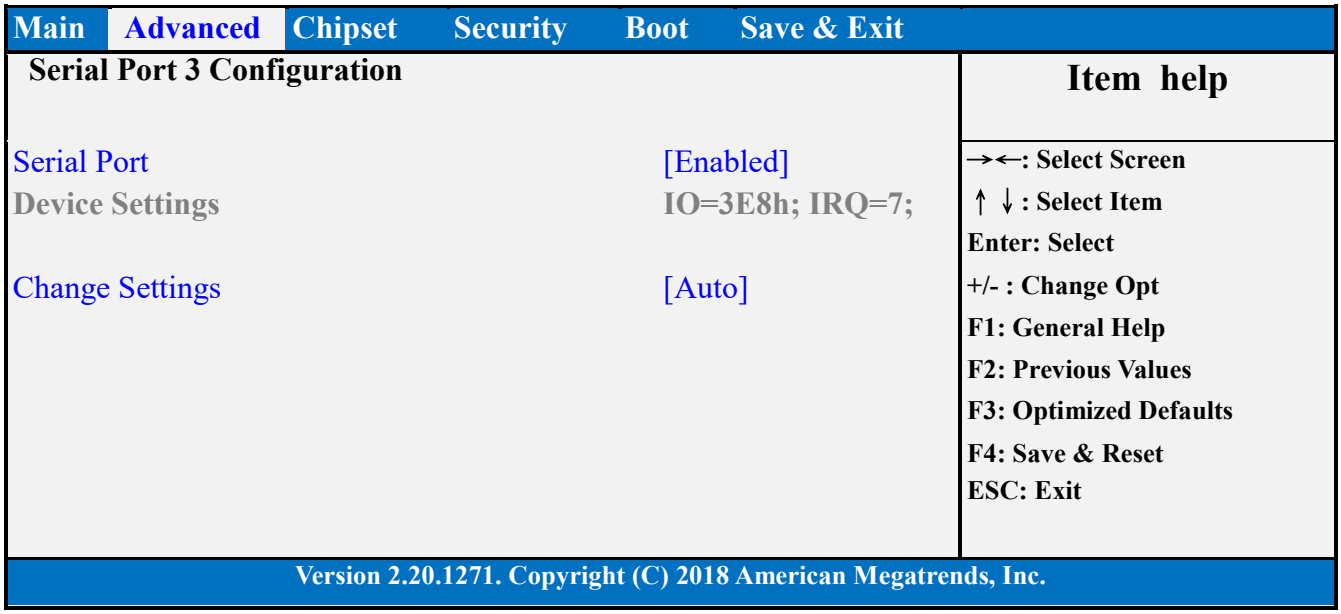


Field Name	**Serial Port**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	**Device Settings**
Default Value	Device Super IO COM2 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Change Settings**
Default Value	[Auto]
Possible Value	Auto IO=2E0h; IRQ=7; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F0h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E0h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

2.2.6.3 Serial Port 3 Configuration

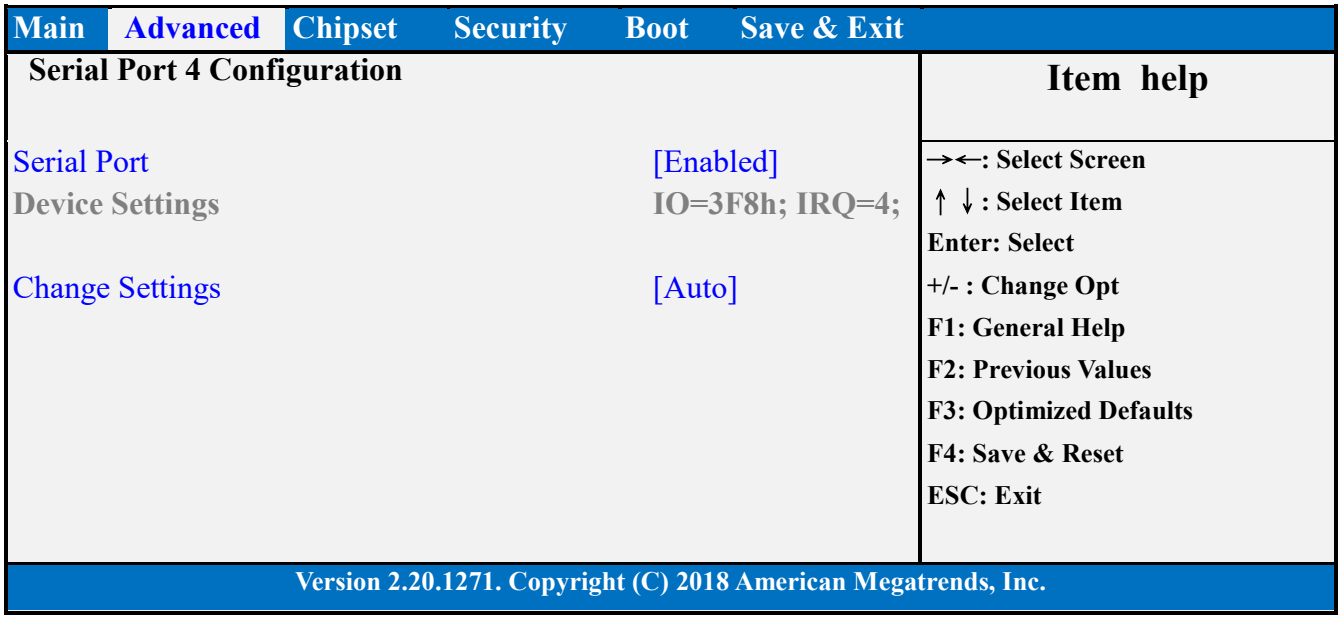


Field Name	**Serial Port**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	**Device Settings**
Default Value	Device Super IO COM3 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Change Settings**
Default Value	[Auto]
Possible Value	Auto IO=3E8h; IRQ=7; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F0h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E0h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

2.2.6.4 Serial Port 4 Configuration

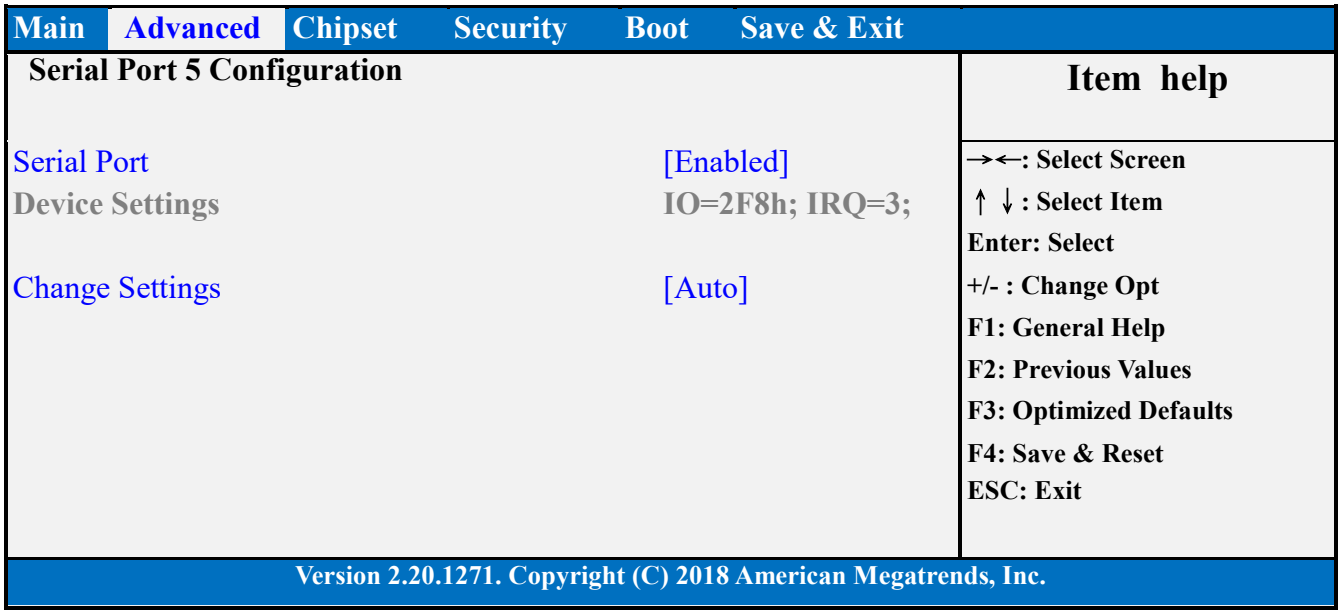


Field Name	**Serial Port**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	**Device Settings**
Default Value	Device Super IO COM4 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Change Settings**
Default Value	[Auto]
Possible Value	Auto IO=3F8h; IRQ=4; IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

2.2.6.5 Serial Port 5 Configuration

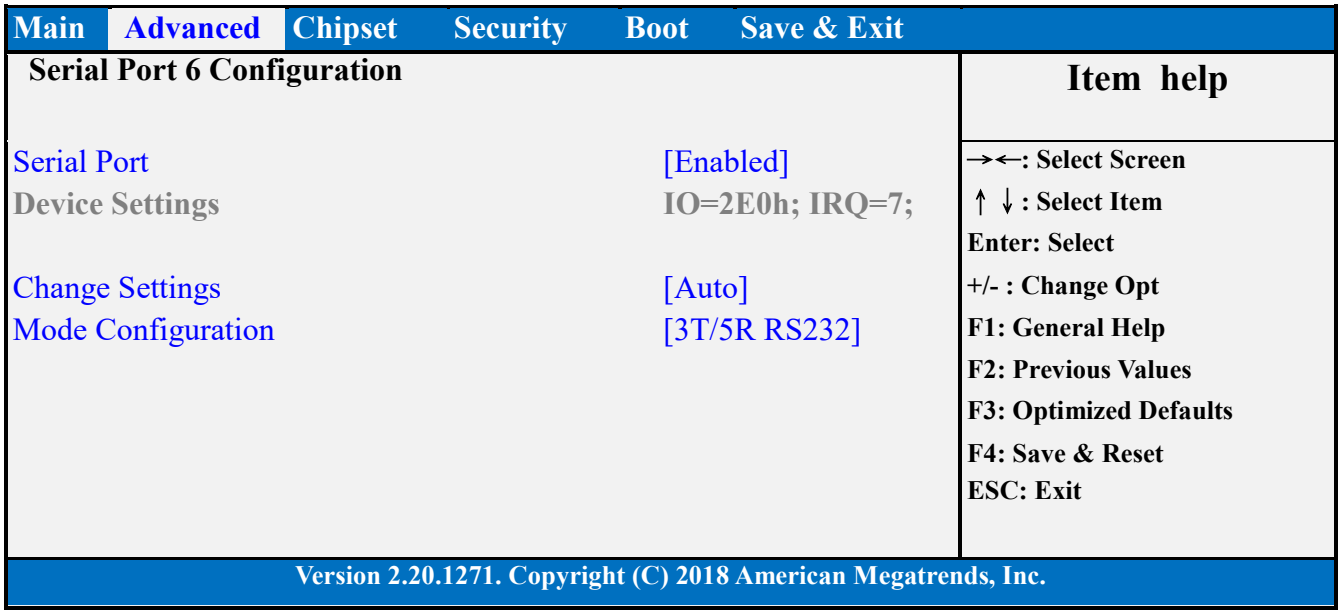


Field Name	**Serial Port**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	**Device Settings**
Default Value	Device Super IO COM5 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Change Settings**
Default Value	[Auto]
Possible Value	Auto IO=2F8h; IRQ=3; IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

2.2.6.6 Serial Port 6 Configuration



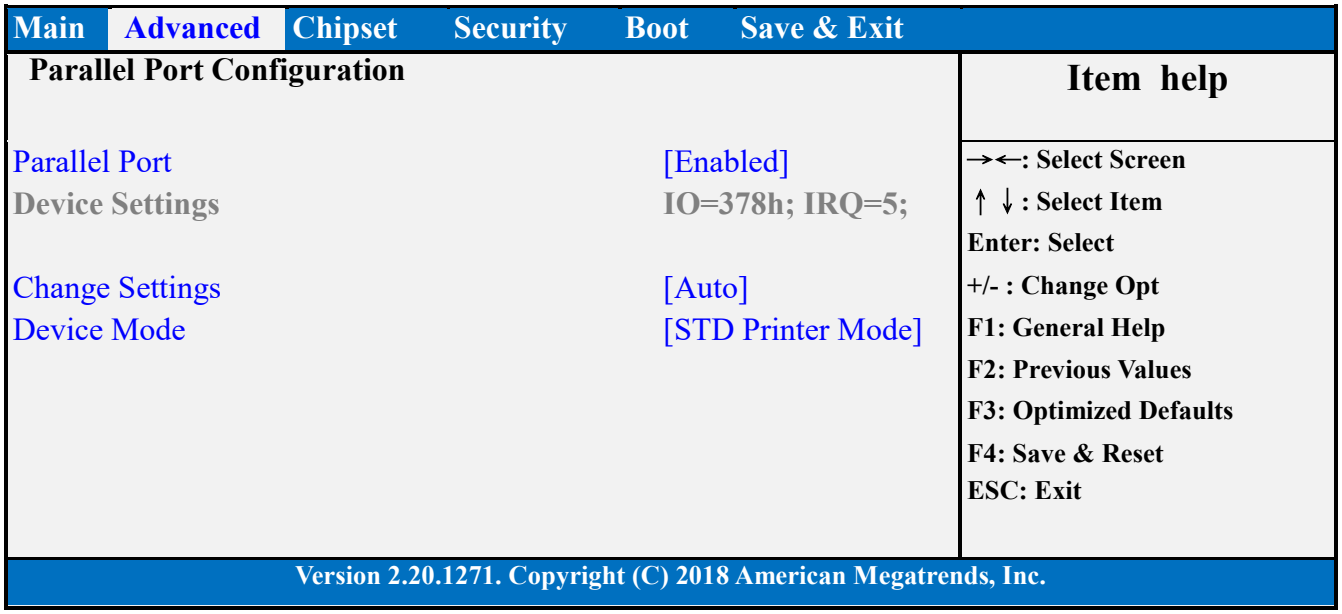
Field Name	**Serial Port**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	**Device Settings**
Default Value	Device Super IO COM6 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Change Settings**
Default Value	[Auto]
Possible Value	Auto IO=2F0h; IRQ=7; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F0h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E0h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

Field Name	**Mode Configuration**
Default Value	[3T/5R RS232]
Possible Value	1T/1R RS422 3T/5R RS232 1T/1R RS485 TX ENABLE Low Active 1T/1R RS422 with termination resistor 1T/1R RS485 with termination resistor TX ENABLE Low Active Disabled
Help	Configure serial port as RS232/RS422/RS485.

2.2.6.7 Parallel Port Configuration



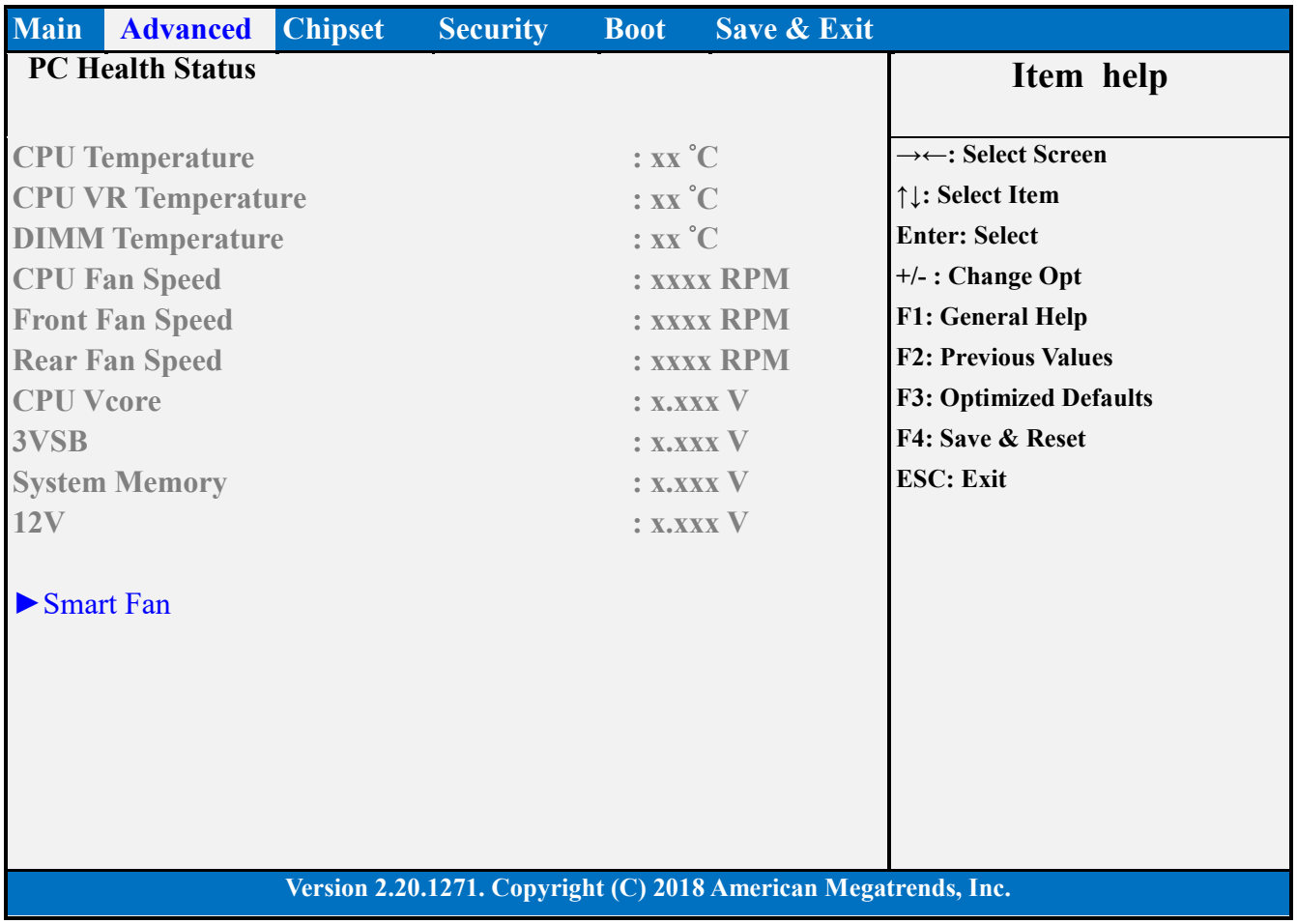
Field Name	**Parallel Port**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Parallel Port(LPT/LPTE)

Field Name	**Device Settings**
Default Value	Device Super IO LPT/LPTE Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Change Settings**
Default Value	[Auto]
Possible Value	Auto IO=378h; IRQ=5; IO=378h; IRQ=5,6,7,9,10,11,12; IO=278h; IRQ=5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

Field Name	**Device Mode**
Default Value	[STD Printer Mode]
Possible Value	STD Printer Mode SPP Mode EPP-1.9 and SPP Mode EPP-1.7 and SPP Mode ECP Mode ECP and EPP 1.9 Mode ECP and EPP 1.7 Mode
Help	Change the Printer Port mode.

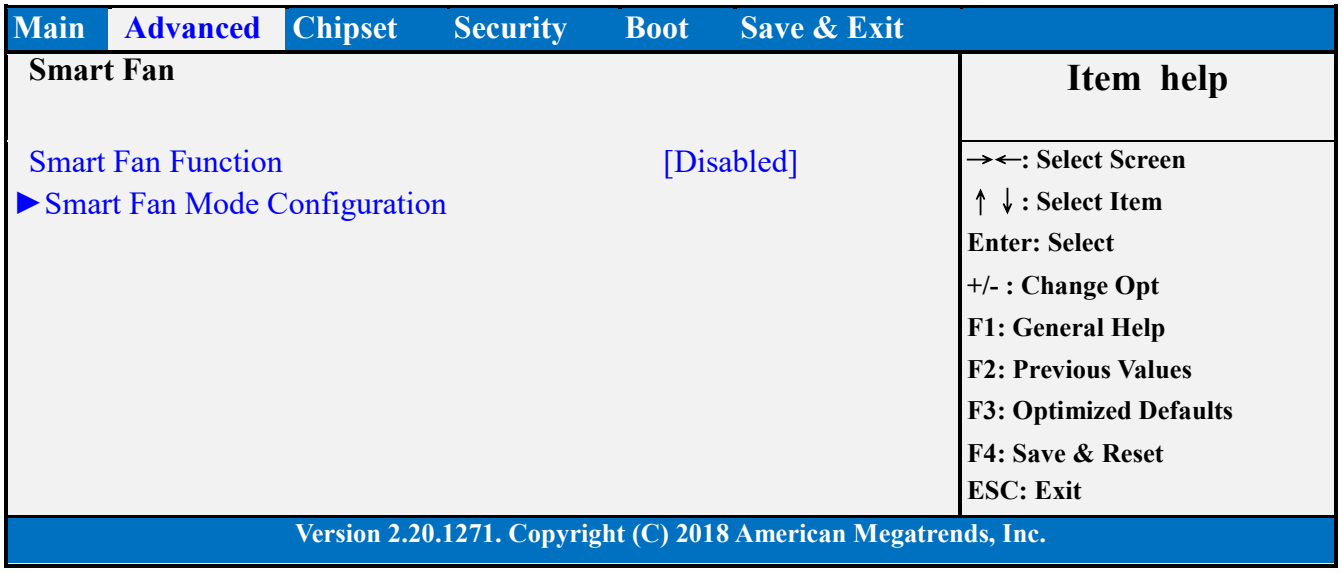
2.2.7 Hardware Monitor



Type	Range
CPU Temperature	-20 ~ (By Processor Tjmax) °C
CPU VR Temperature	-20 ~ 120 °C
DIMM Temperature	-20 ~ 120 °C
CPU Fan Speed	There are many kinds of the fan could be installed into the system, so we could only set 0 RPM for the failed fan speed, and there is also no high RPM limitation.
Front Fan Speed	
Rear Fan Speed	
CPU Vcore	0~1.52V
3VSB	3.135~3.465V
System Memory	1.14~1.26V
12V	11.4~12.6V

Field Name	Smart Fan
Help	Smart Fan Setting
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.2.7.1 Smart Fan



Field Name	**Smart Fan Function**
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Smart Fan Function setting

Field Name	Smart Fan Mode Configuration
Help	Smart Fan Mode Configuration Setting
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.2.7.1.1 Smart Fan Mode Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit	
						Item help
CPU Fan Setting						
Temperature 1				50		
Temperature 2				60		
Temperature 3				70		
Temperature 4				75		
FD/RPM 1				127		
FD/RPM 2				178		
FD/RPM 3				229		
FD/RPM 4				255		
Front Fan Setting						
Temperature 1				50		
Temperature 2				60		
Temperature 3				70		
Temperature 4				75		
FD/RPM 1				127		
FD/RPM 2				178		
FD/RPM 3				229		
FD/RPM 4				255		
Rear Fan Setting						
Temperature 1				50		→←: Select Screen
Temperature 2				60		↑ ↓ : Select Item
Temperature 3				70		Enter: Select
Temperature 4				75		+/- : Change Opt
FD/RPM 1				127		F1: General Help
FD/RPM 2				178		F2: Previous Values
FD/RPM 3				229		F3: Optimized Defaults
FD/RPM 4				255		F4: Save & Reset
						ESC: Exit
Version 2.20.1271. Copyright (C) 2018 American Megatrends, Inc.						

Field Name	**Temperature 1**
Default Value	By thermal fan profile.
Possible Value	By temperature.
Help	The value of temperature 1

Field Name	**Temperature 2**
Default Value	By thermal fan profile.
Possible Value	By temperature.
Help	The value of temperature 2

Field Name	**Temperature 3**
Default Value	By thermal fan profile.
Possible Value	By temperature.
Help	The value of temperature 3

Field Name	**Temperature 4**
Default Value	By thermal fan profile.
Possible Value	By temperature.
Help	The value of temperature 4

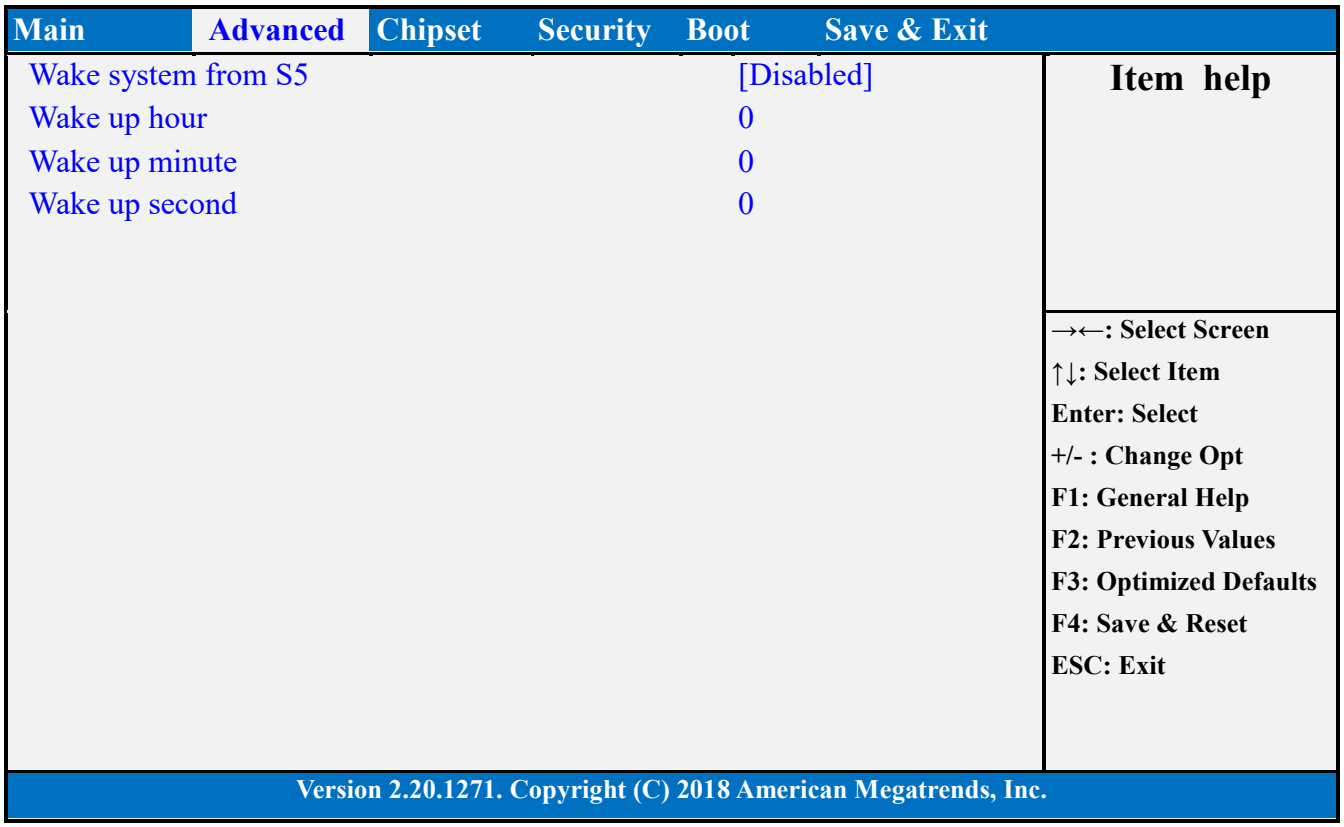
Field Name	**FD / RPM 1**
Default Value	By thermal fan profile.
Possible Value	By Fan Duty.
Help	The value of Fan Duty/RPM 1 when temperature is T1

Field Name	**FD / RPM 2**
Default Value	By thermal fan profile.
Possible Value	By Fan Duty.
Help	The value of Fan Duty/RPM 2 when temperature is T2

Field Name	**FD / RPM 3**
Default Value	By thermal fan profile.
Possible Value	By Fan Duty.
Help	The value of Fan Duty/RPM 3 when temperature is T3

Field Name	**FD / RPM 4**
Default Value	By thermal fan profile.
Possible Value	By Fan Duty.
Help	The value of Fan Duty/RPM 4 when temperature is T4

2.2.8 S5 RTC Wake Settings



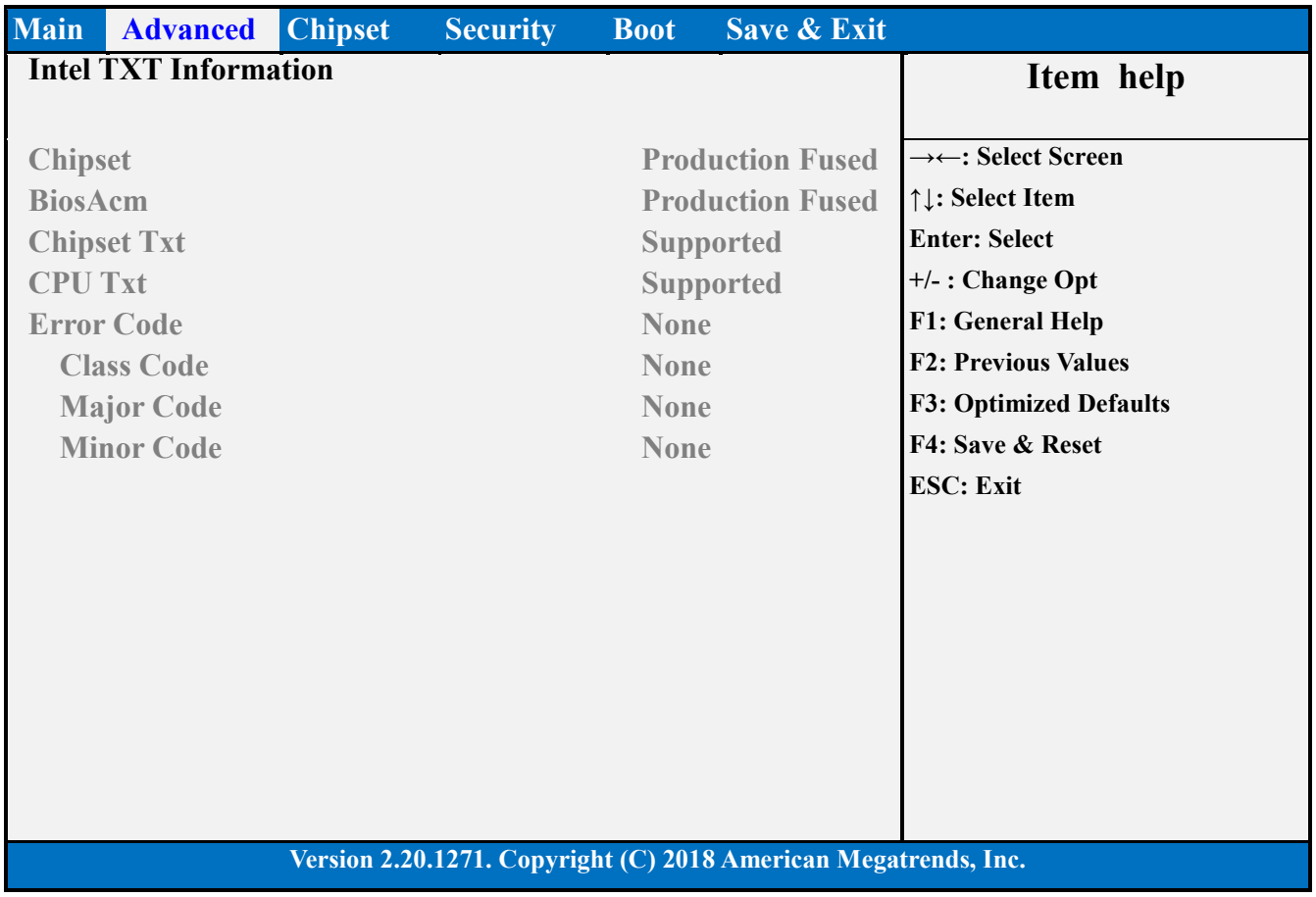
Field Name	Wake system from S5
Default Value	[Disabled]
Possible Value	Disabled Fixed Time
Help	Enabler or disable System wake on alarm event, Select FixedTime, system will wake on the hr::min::sec specified.

Field Name	Wake up hour(Show when Wake system from S5 set to Fixed Time)
Default Value	0
Possible Value	0-23
Help	Select 0-23 For example enter 3 for 3am and 15 for 3pm

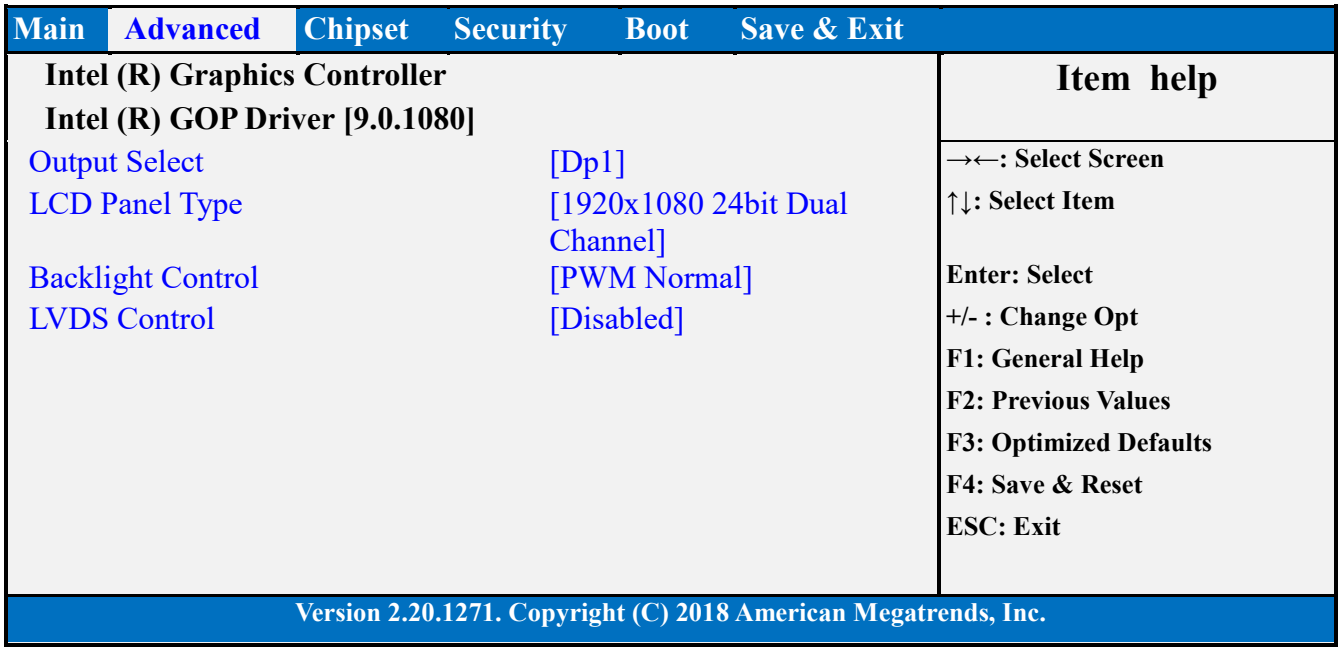
Field Name	Wake up minute(Show when Wake system from S5 set to Fixed Time)
Default Value	0
Possible Value	0-59
Help	Select 0 – 59 for Minute

Field Name	Wake up second(Show when Wake system from S5 set to Fixed Time)
Default Value	0
Possible Value	0 - 59
Help	Select 0 – 59 for Second

2.2.9 Intel TXT Information



2.2.10 AMI Graphic Output Protocol Policy (Available when UEFI video)



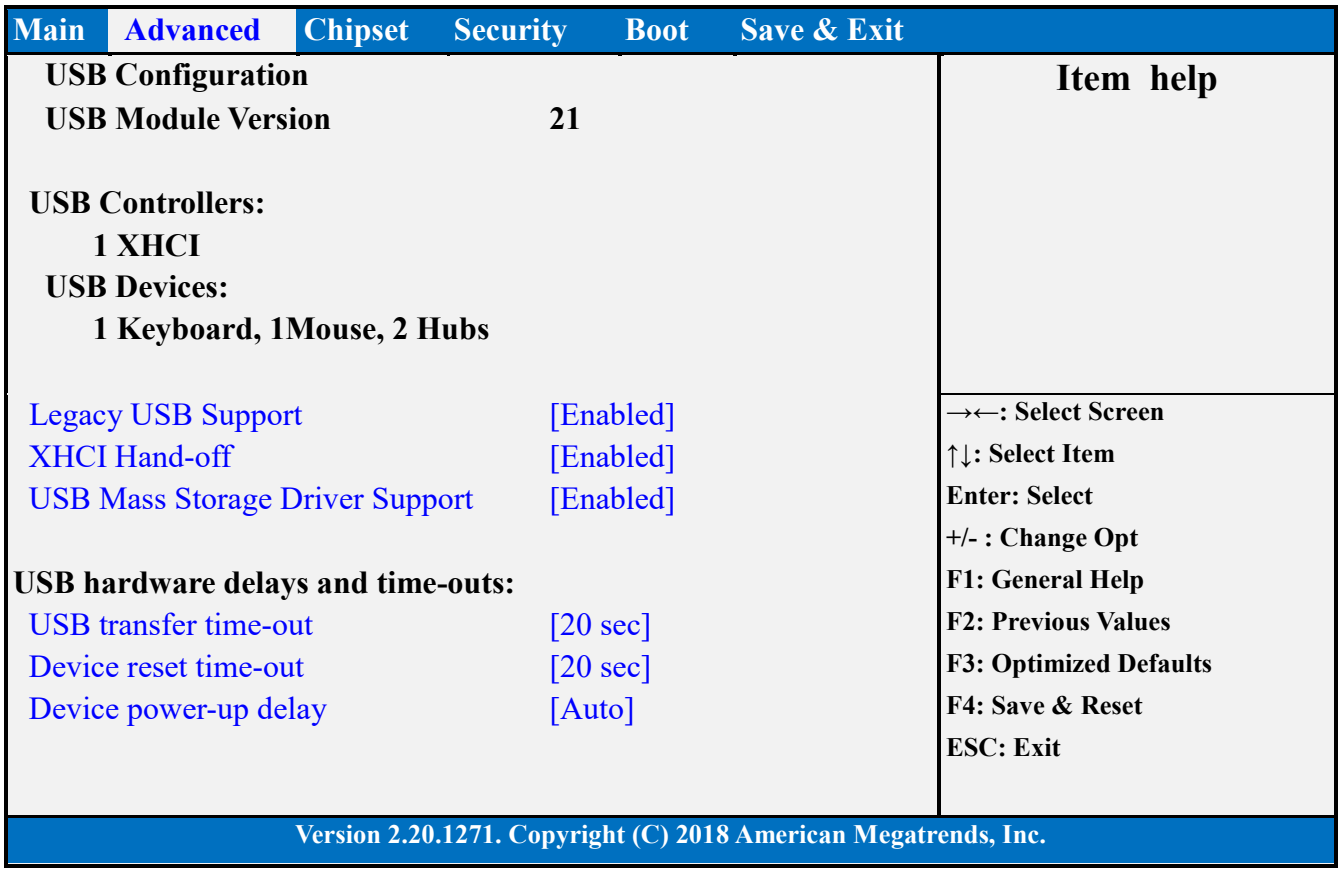
Field Name	**Output Select**
Default Value	By attached device.
Possible Value	eDP(LVDS Control enabled) / DP1 / DP2 / HDMI3
Help	Output Interface

Field Name	**LCD Panel Type**
Default Value	[1920x1080 24bit Dual Channel]
Possible Value	800x600 18bit Single Channel 1024x768 18bit Single Channel 1024x768 24bit Single Channel 1280x768 18bit Single Channel 1280x800 24bit Single Channel 1280x960 18bit Single Channel 1280x1024 24bit Dual Channel 1366x768 18bit Single Channel 1366x768 24bit Single Channel 1440x900 24bit Dual Channel 1440x1050 24bit Dual Channel 1600x900 24bit Dual Channel 1680x1050 24bit Dual Channel 1600x1200 24bit Dual Channel 1920x1080 24bit Dual Channel 1920x1200 24bit Dual Channel
Help	Select LCD panel used by Internal Graphics Device by selecting the appropriate setup item.

Field Name	**Backlight Control**
Default Value	[PWM Normal]
Possible Value	PWM Inverted PWM Normal
Help	Back Light Control Setting

Field Name	**LVDS Control**
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enabled/Disabled the LVDS.

2.2.11 USB Configuration



Field Name	**Legacy USB Support**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.

Field Name	**EHCI Hand-off**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

Field Name	**USB Mass Storage Driver Support**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable/Disable USB Mass Storage Driver Support.

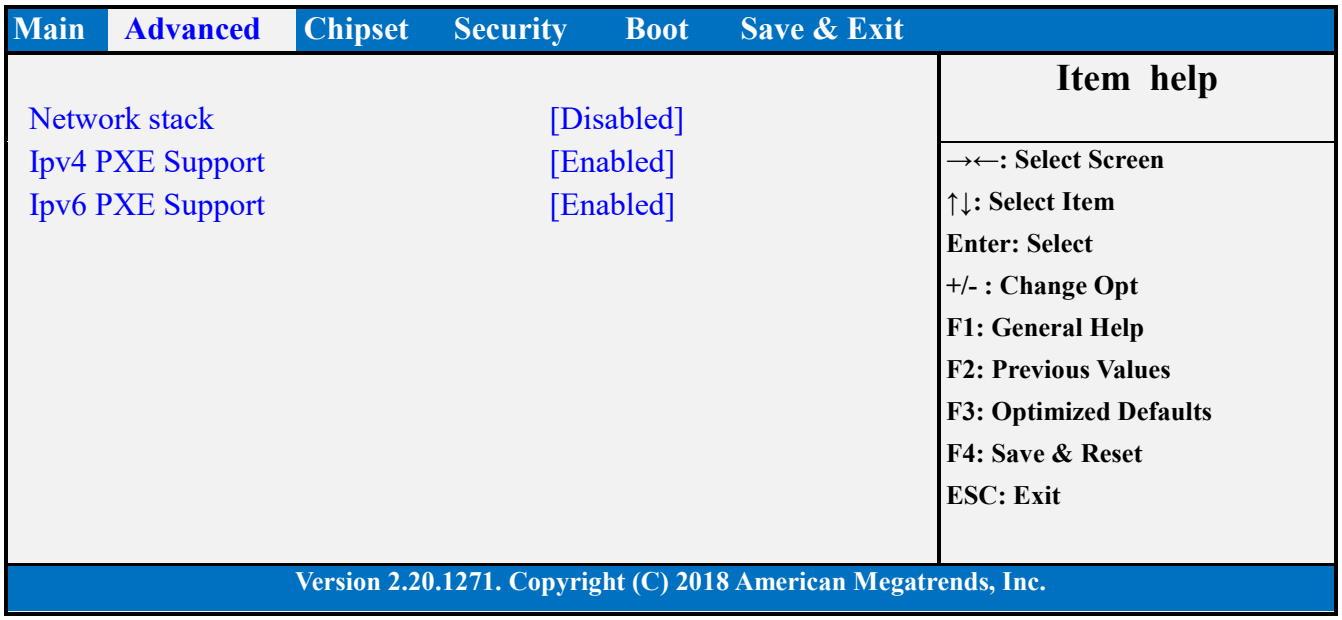
Field Name	**USB transfer time-out**
Default Value	[20 sec]
Possible Value	1 sec

	5 sec 10 sec 20 sec
Help	The time-out value for Control, Bulk, and Interrupt transfers.

Field Name	**Device reset time-out**
Default Value	[20 sec]
Possible Value	10 sec 20 sec 30 sec 40 sec
Help	USB mass storage device Start Unit command time-out.

Field Name	**Device power-up delay**
Default Value	[Auto]
Possible Value	Auto Manual
Help	Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor.

2.2.12 Network Stack Configuration



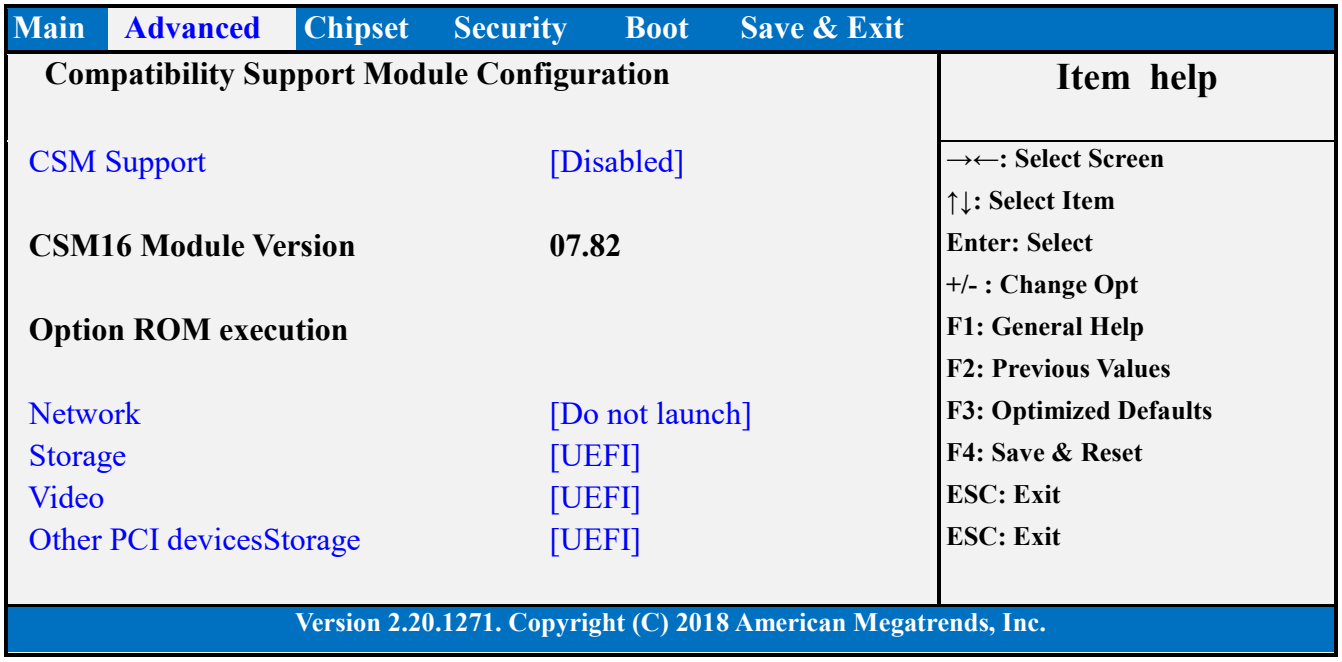
Field Name	**Network stack**
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enable/Disable UEFI Network stack.

Field Name	**Ipv4 PXE Support** (Available when Network stack Enabled)
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable/Disable Ipv4 PXE Boot Support. If disabled IPV4 PXE boot support will no

	be available.

Field Name	**Ipv6 PXE Support (Available when Network stack Enabled)**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable/Disable Ipv6 PXE Boot Support. If disabled IPV6 PXE boot support will no be available.

2.2.13 CSM Configuration



Field Name	**CSM Support**
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enable/Disable CSM Support.

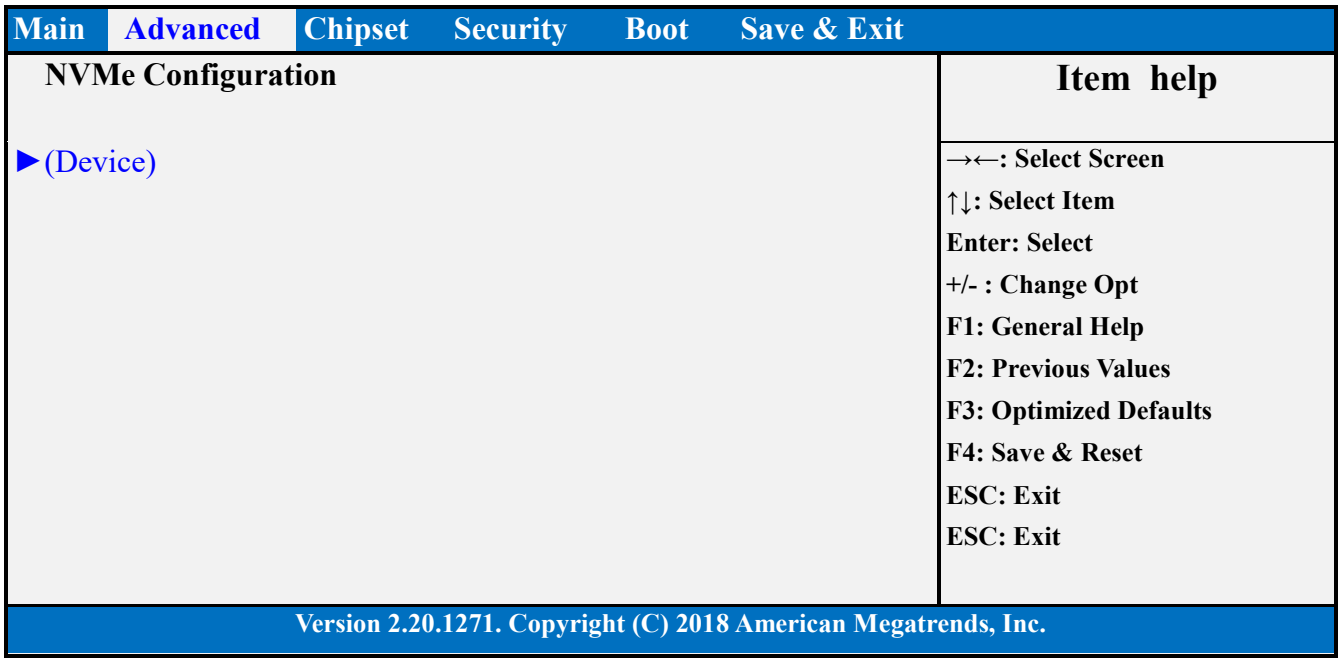
Field Name	**Network (Available when CSM Support Enabled)**
Default Value	[Do not launch]
Possible Value	Do not launch UEFI Legacy
Help	Controls the execution of UEFI and Legacy Network OpROM

Field Name	**Storage (Available when CSM Support Enabled)**
Default Value	[UEFI]
Possible Value	Do not launch UEFI Legacy
Help	Controls the execution of UEFI and Legacy Storage OpROM

Field Name	**Video** (Available when CSM Support Enabled)
Default Value	[UEFI]
Possible Value	Do not launch UEFI Legacy
Help	Controls the execution of UEFI and Legacy Video OpROM

Field Name	**Other PCI devices** (Available when CSM Support Enabled)
Default Value	[UEFI]
Possible Value	Do not launch UEFI Legacy
Help	Determines OpROM execution policy for devices other than Network, Storage, or Video

2.2.14 NVMe Configuration



Field Name	**(Device)**
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.2.15 Intel (R) Rapid Storage Technology

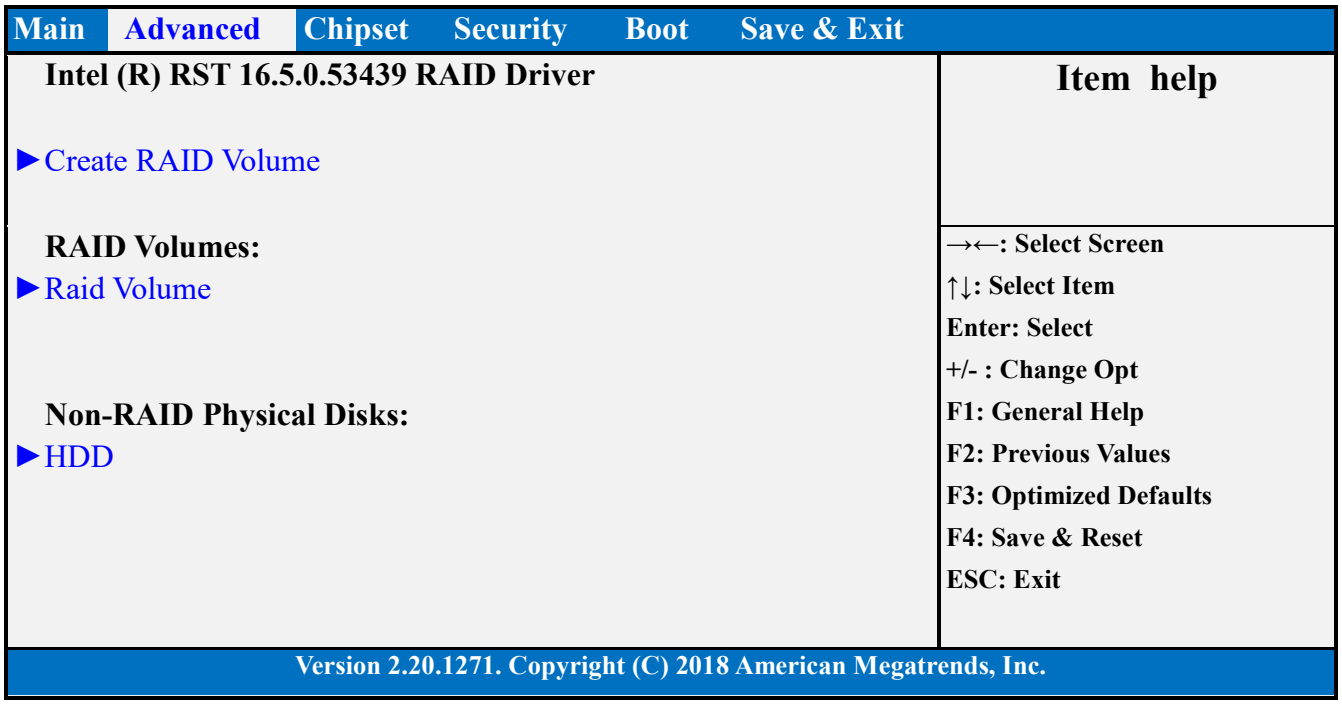
Available configure the RST as down below and after system reboot.

Chipet->PCH-IO-Configuration

->SATA amd RSTT configuration

-> SATA Mode Selection

-> Intel RST Premium With Intel Optane System Acceleration **(selected)**

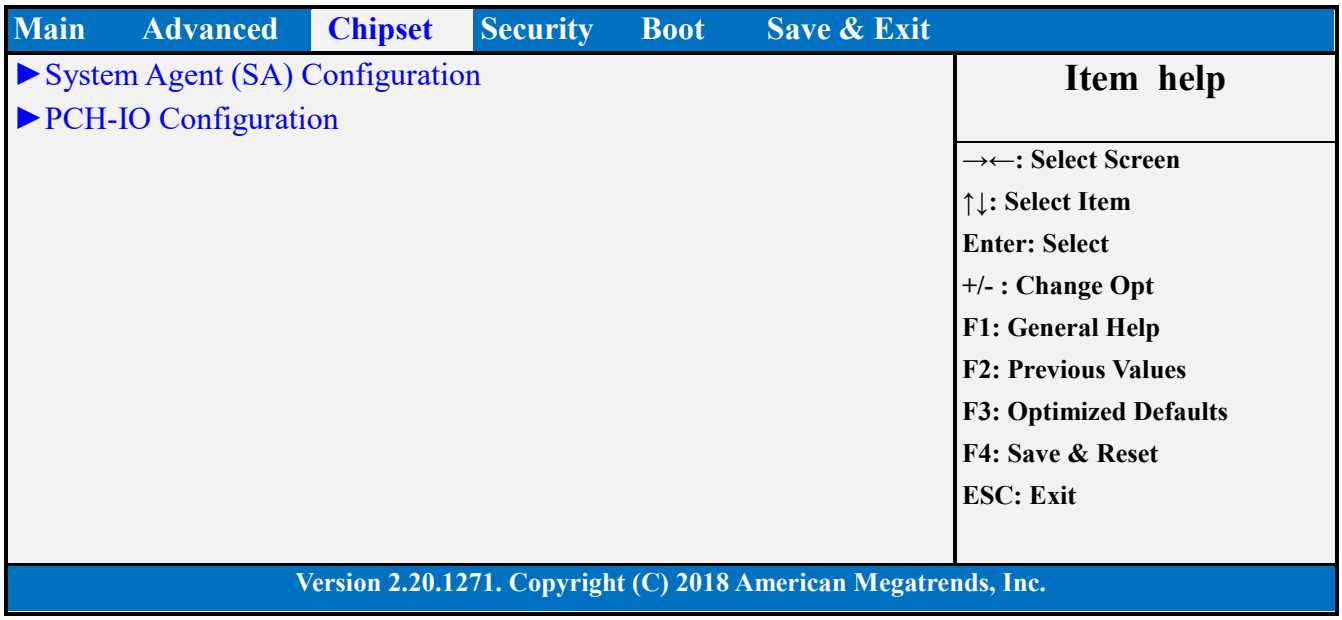


Field Name	**Create RAID Volume**
Help	
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Raid Volume**
Help	Select to see more information about the RAID Volume.

Field Name	**HDD**
Help	Select to see more information about the disk.

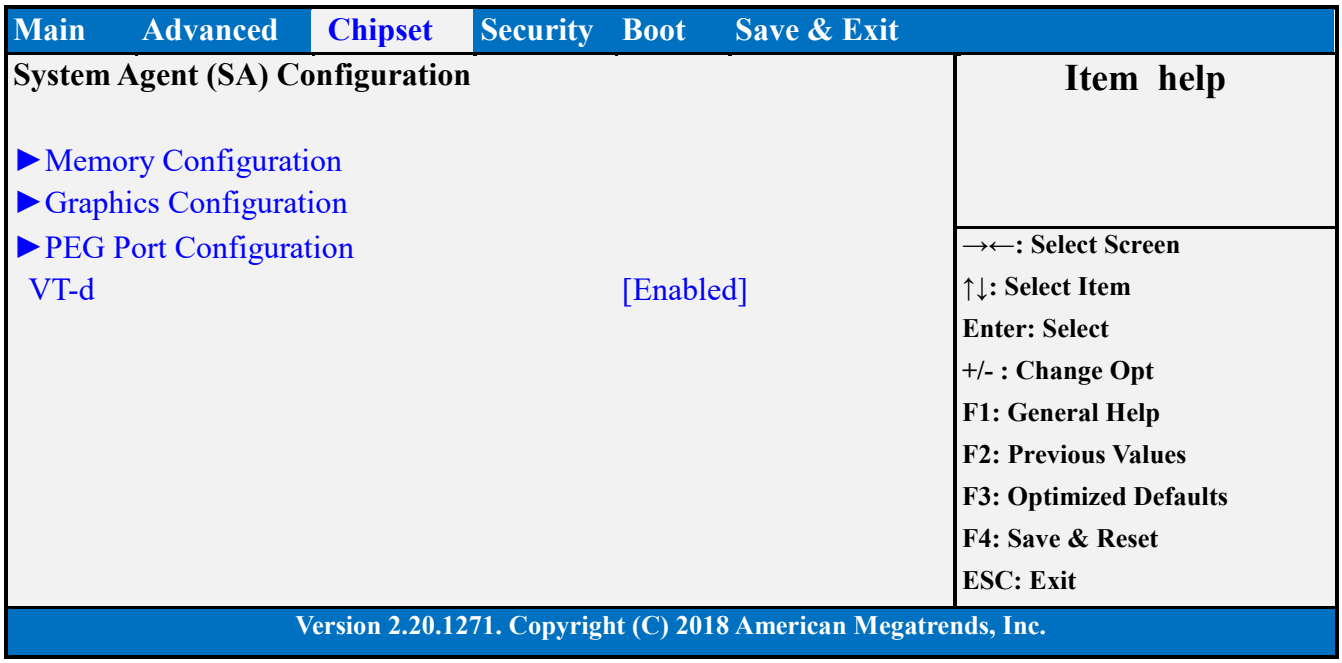
2.3 Chipset Page



Field Name	**System Agent (SA) Configuration**
Help	System Agent (SA) Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**PCH-IO Configuration**
Help	PCH Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.3.1 System Agent (SA) Configuration



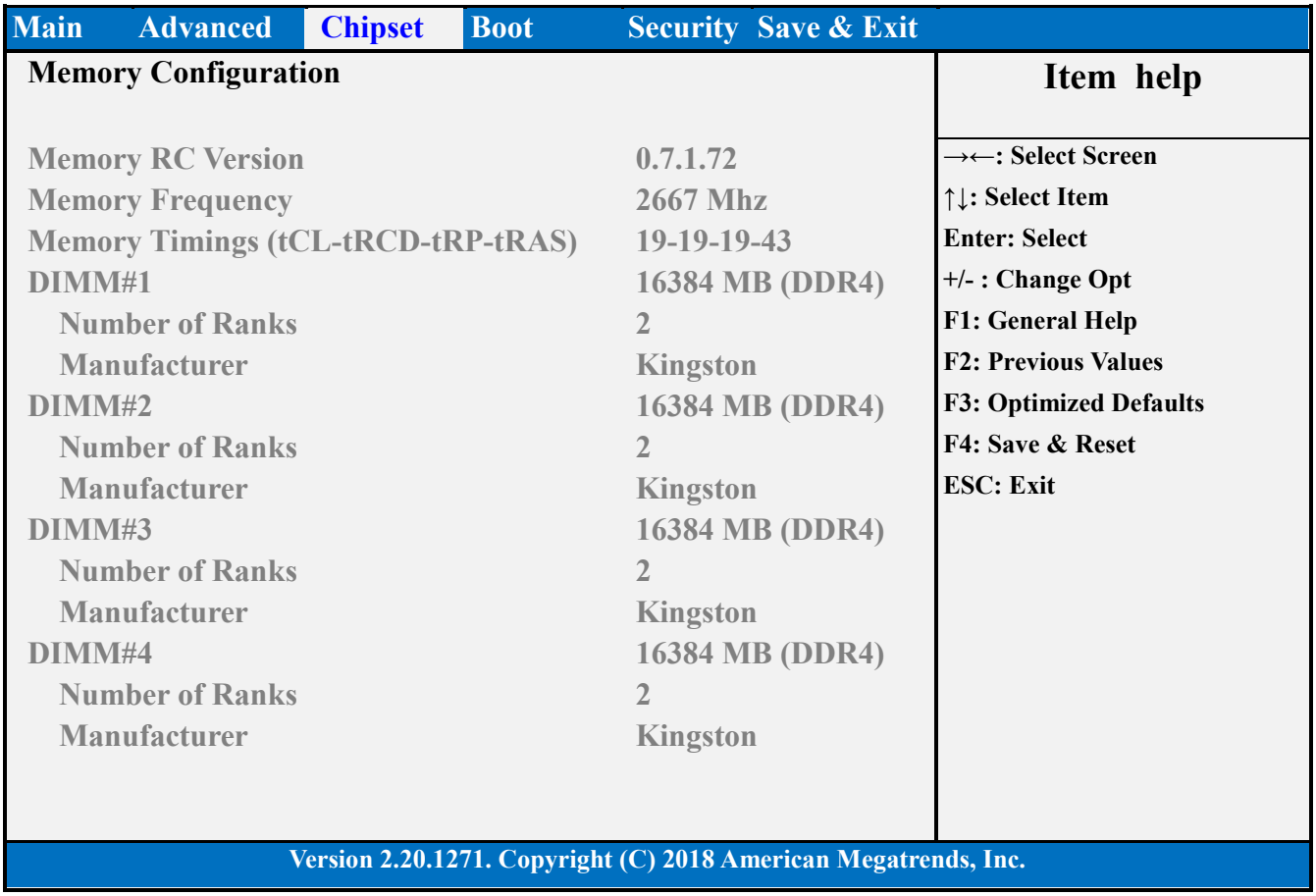
Field Name	**Memory Configuration**
Help	Memory Configuration Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Graphics Configuration**
Help	Graphics Configuration
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**PEG Port Configuration**
Help	PEG Port Options
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**VT-d**
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	VT-d capability

2.3.1.1 Memory Configuration



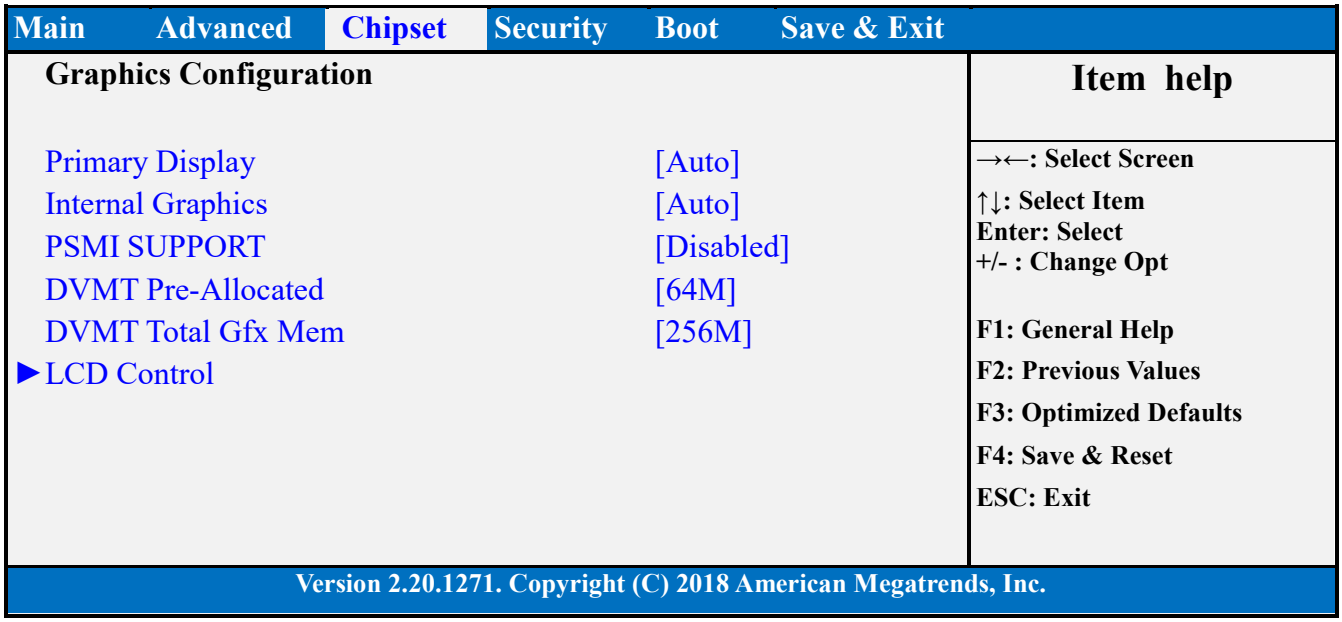
Field Name	**Memory RC Version**
Help	Memory Reference Code version
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Memory Frequency**
Help	Memory speed
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**Memory Timings (tCL-tRCD-tRP-tRAS)**
Help	Memory detail timings
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**DIMM#[1:4]**
Help	Memory size/ranks/manufacturer in the DIMM.
Comment	This field is not selectable. There is no help text associated with it.

2.3.1.2 Graphics Configuration



Field Name	**Primary Display**
Default Value	[Auto]
Possible Value	Auto / IGFX / PEG
Help	Select which of IGFX/PEG/PCI Graphics device should be Primary Display Or select SG for Switchable Gfx.

Field Name	**Internal Graphics**
Default Value	[Auto]
Possible Value	Auto / Disabled / Enabled
Help	Keep IGFX enabled based on the setup options.

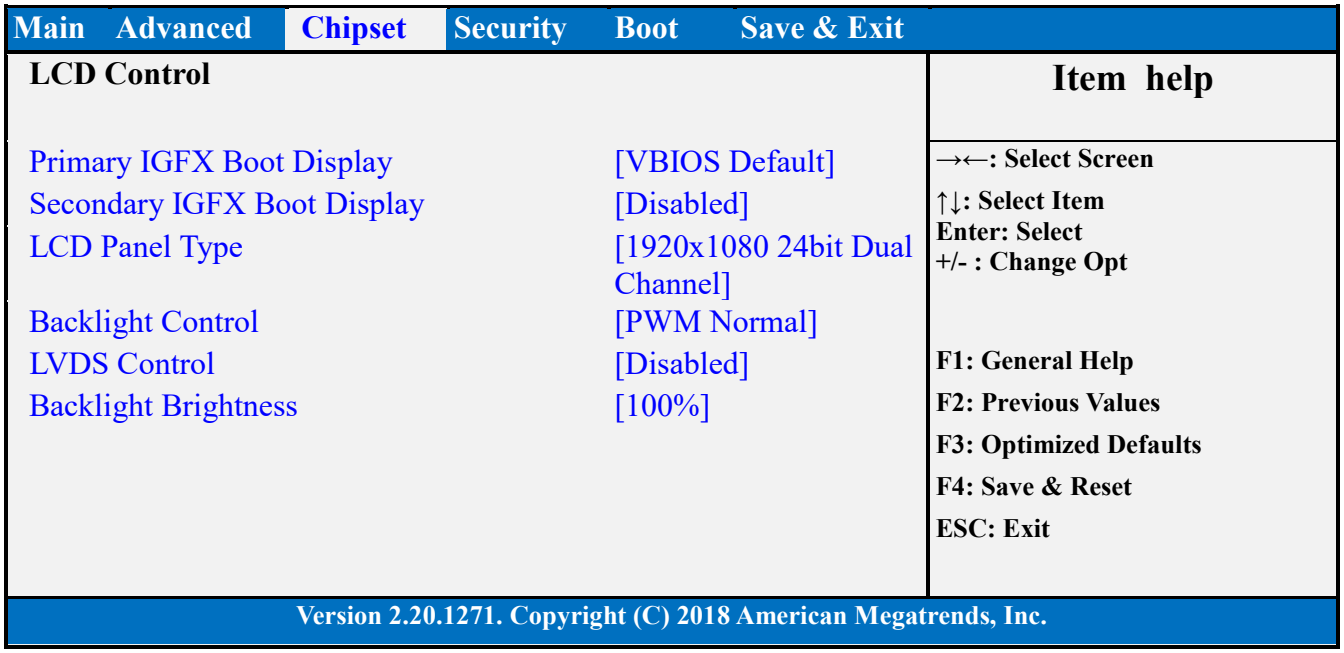
Field Name	**PSMI SUPPORT**
Default Value	[Disabled]
Possible Value	Disabled / Enabled
Help	PSMI Enable/Disable

Field Name	**DVMT Pre-Allocated**
Default Value	[64M]
Possible Value	64M / 12M/ 16M/ 20M/ 24M/ 28M/ (32M/F7)/ 36M/ 40M/ 44M/ 48M/ 52M/ 56M/ 60M
Help	Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Interna Graphics Device.

Field Name	**DVMT Total Gfx Mem**
Default Value	[256M]
Possible Value	128MB / 256MB / MAX
Help	Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device

Field Name	**LCD Control**
Help	LCD Control
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.3.1.2.1 LCD Control



Field Name	**Primary IGFX Boot Display**
Default Value	[VBIOS Default]
Possible Value	VBIOS Default / LVDS(LVDS Control enabled) / DP1 / DP2 / HDMI
Help	Select the Video Device which will be activated during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection. VGA modes will be supported only on primary display

Field Name	**Secondary IGFX Boot Display (Available when Primary IGFX Boot Display not VBIOS Default)**
Default Value	[Disabled]
Possible Value	Disabled / LVDS(LVDS Control enabled) / DP1 / DP2 / HDMI3
Help	Select Secondary Display Device

Field Name	**LCD Panel Type**
Default Value	[1920x1080 24bit Dual Channel]
Possible Value	800x600 18bit Single Channel 1024x768 18bit Single Channel 1024x768 24bit Single Channel 1280x768 18bit Single Channel 1280x800 24bit Single Channel 1280x960 18bit Single Channel 1280x1024 24bit Dual Channel 1366x768 18bit Single Channel 1366x768 24bit Single Channel 1440x900 24bit Dual Channel 1440x1050 24bit Dual Channel 1600x900 24bit Dual Channel 1680x1050 24bit Dual Channel 1600x1200 24bit Dual Channel 1920x1080 24bit Dual Channel 1920x1200 24bit Dual Channel
Help	Select LCD panel used by Internal Graphics Device by selecting the appropriate

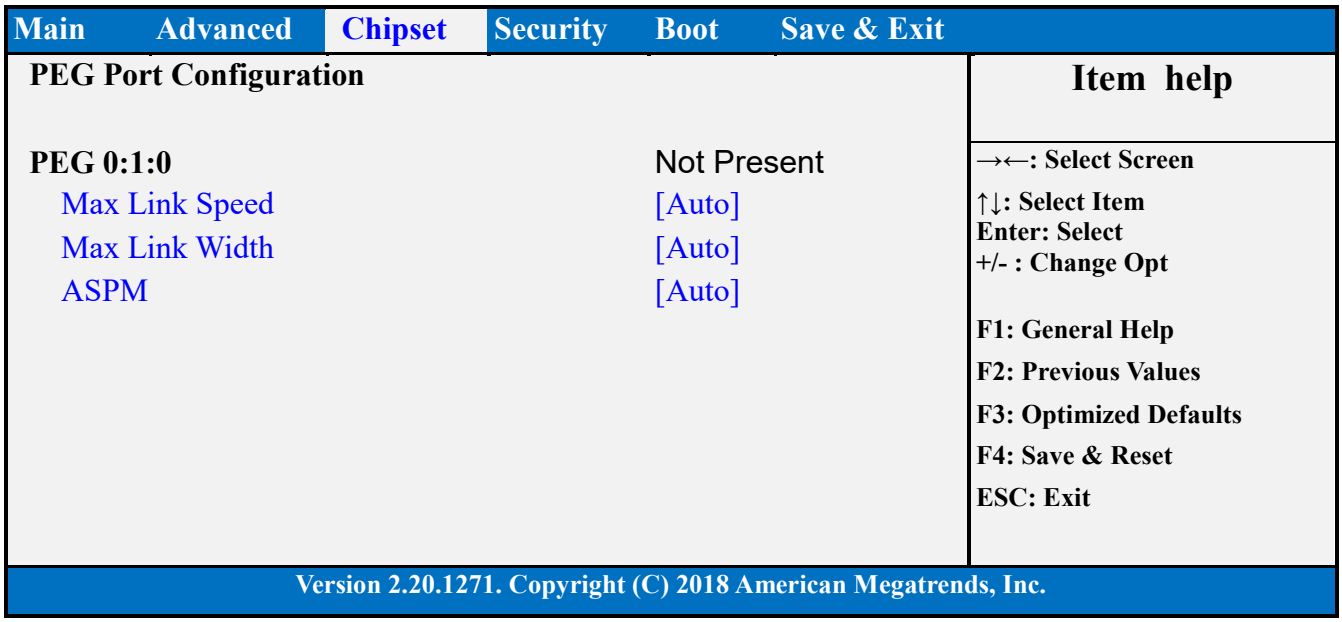
	setup item.

Field Name	**Backlight Control**
Default Value	[PWM Normal]
Possible Value	PWM Inverted PWM Normal
Help	Back Light Control Setting

Field Name	**LVDS Control**
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enabled/Disabled the LVDS.

Field Name	**Backlight Brightness**
Default Value	[100%]
Possible Value	10% / 20% / 30% / 40% / 50% / 60% / 70% / 80% / 90% / 100%
Help	Set VBIOS Brightness.

2.3.1.3 PEG Port Configuration



Field Name	**PEG 0:1:0**
Default Value	By detect.
Possible Value	Not Present / Gen1 / Gen2 / Gen3
Comment	This field is not selectable. There is no help text associated with it.

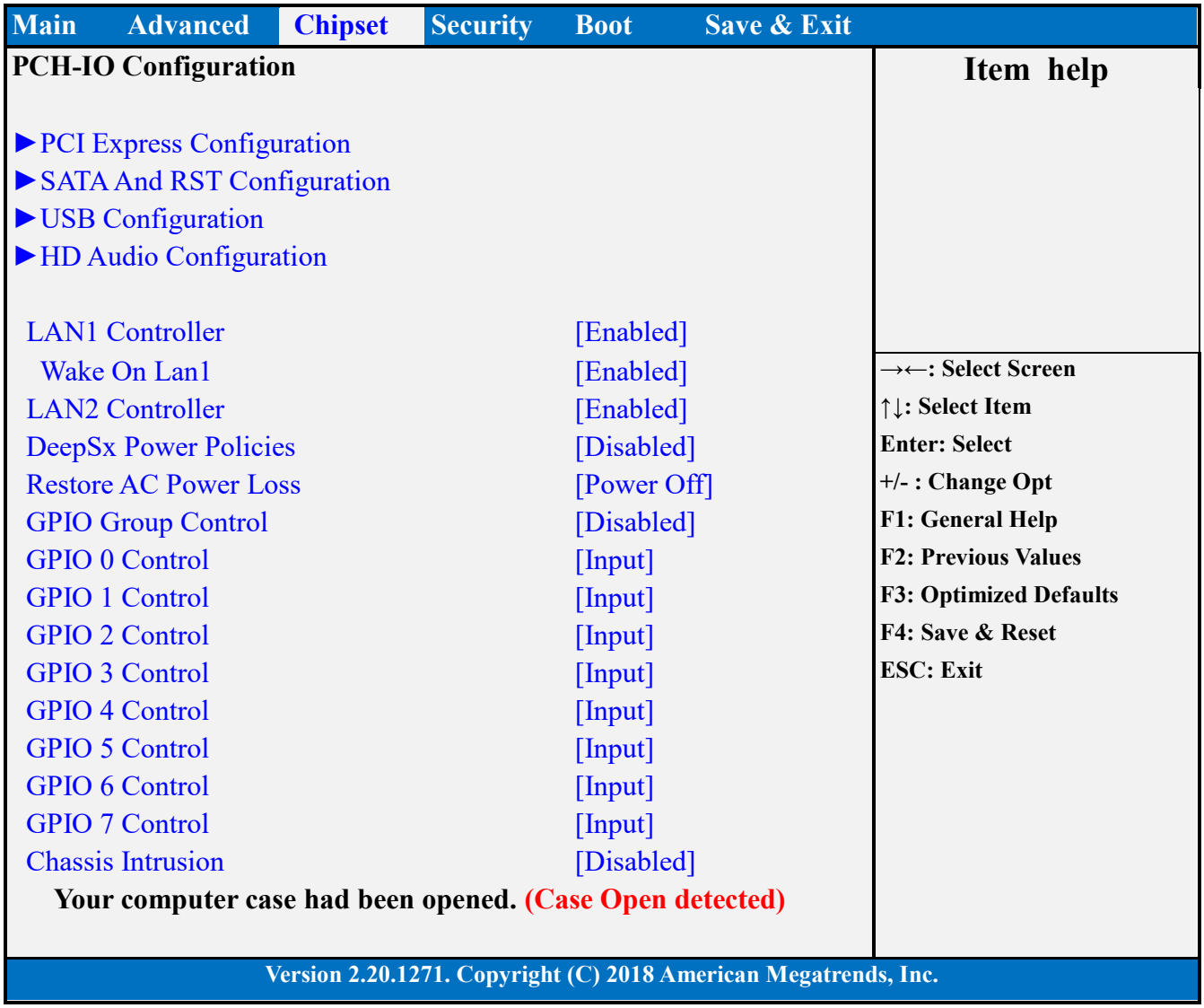
Field Name	**Max Link Speed**
Default Value	[Auto]
Possible Value	Auto / Gen1 / Gen2 / Gen3
Help	Configure PEG 0:1:0 Max Speed

Field Name	**Max Link Width (Suppress if no card detected)**
Default Value	[Auto]

Possible Value	Auto / Force X1 / Force X2 / Force X4 / Force X8
Help	Force PEG link to retrain to X1/2/4/8

Field Name	**ASPM (Suppress if no card detected)**
Default Value	[Auto]
Possible Value	Disabled / Auto / ASPM L0s / ASPM L1 / ASPM L0sL1
Help	Control ASPM support for the PEG 0. This has no effect if PEG is not the currently active device.

2.3.2 PCH-IO Configuration



Field Name	**PCIE Express Configuration**
Help	PCIE Express Configuration settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**SATA And RST Configuration**
Help	SATA Device Options Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**USB Configuration**
Help	USB Configuration settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**HD Audio Configuration**
Help	HD Audio Subsystem Configuration Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**LAN1 Controller**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable/Disable onboard NIC i219

Field Name	**Wake On Lan1**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable/Disable integrated LAN to wake the system.

Field Name	**LAN2 Controller**
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable/Disable onboard NIC i211

Field Name	**DeepSx Power Policies**
Default Value	[Disabled]
Possible Value	Enabled in S4-S5 Disabled
Help	configure the DeepSx Mode configuration.

Field Name	**Restore AC Power Loss**
Default Value	[Power Off]
Possible Value	Power On Power Off
Help	Specify what state to go to when power is re-applied after a power failure (G3 state).

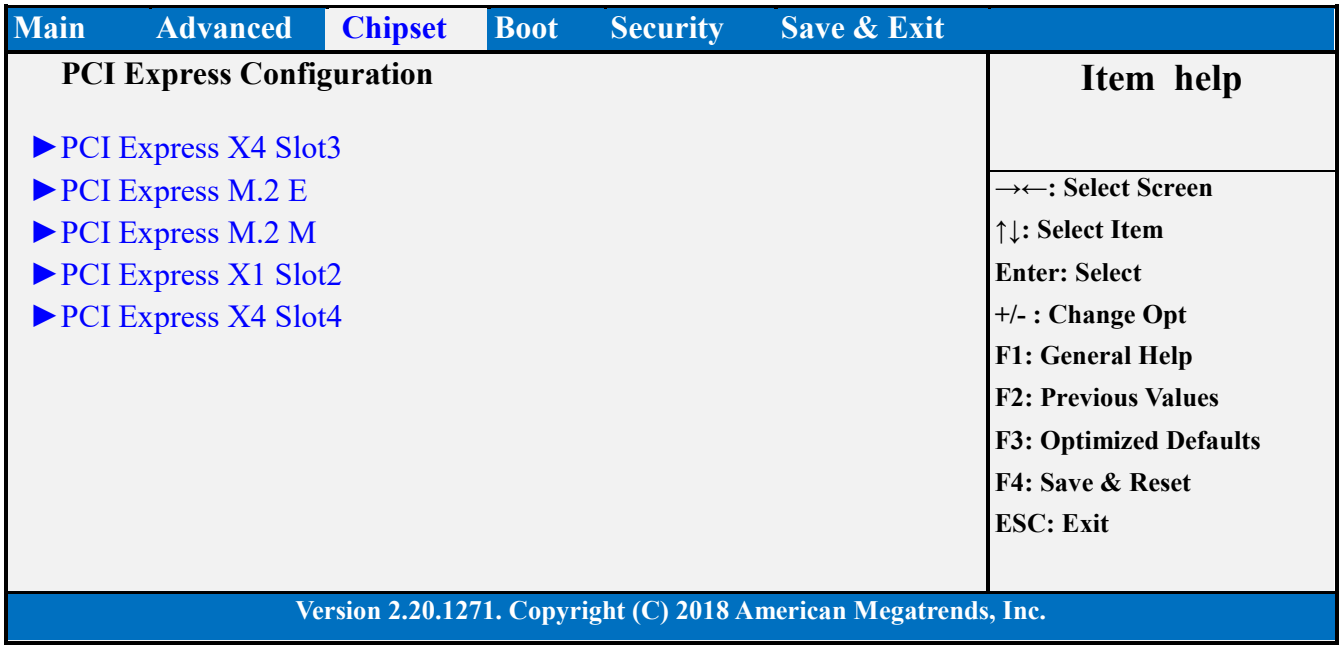
Field Name	**GPIO Group Control**
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	GPIO Header Control Enable/Disable

Field Name	**GPIO 0-7 Control (Available when GPIO Group Control Enabled)**
Default Value	[Input]
Possible Value	Input / Output High / Output Low
Help	GPIO Header Per-Pin Control

Field Name	**Chassis Intrusion**

Default Value	[Disabled]
Possible Value	Enabled / Disabled / Reset
Help	Configure Chassis Intrusion

2.3.2.1 PCI Express Configuration



Field Name	**PCI Express X4 Slot3**
Help	PCI Express Root Port Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

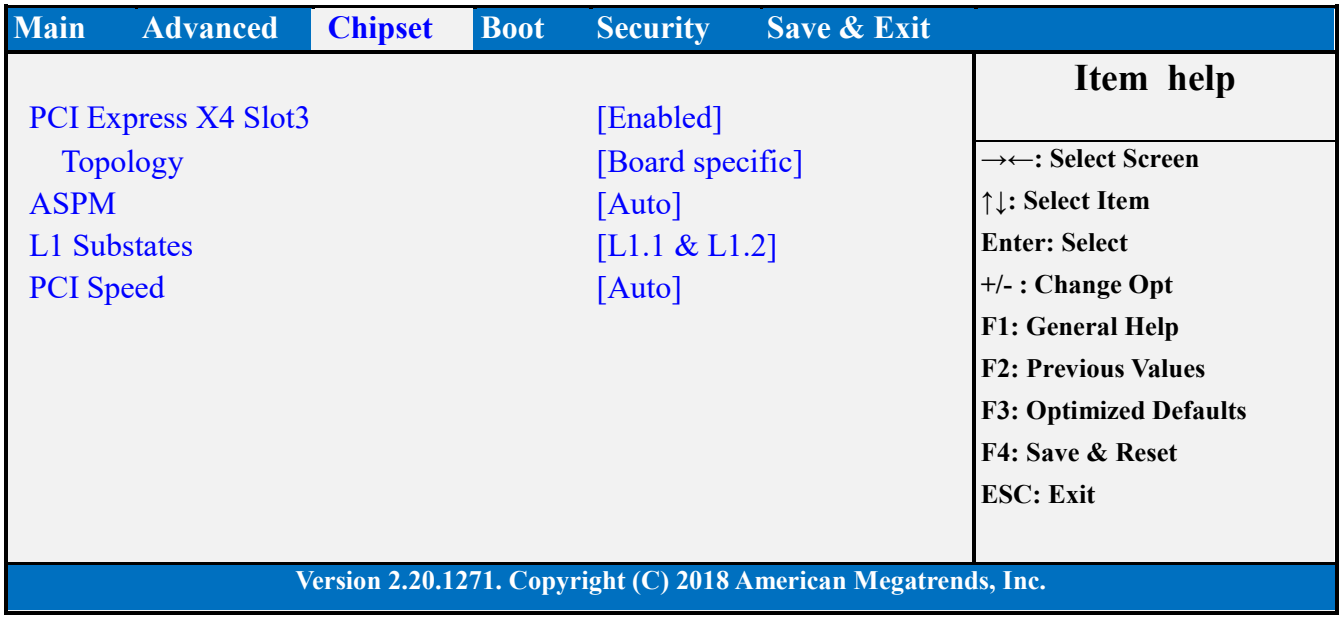
Field Name	**PCI Express M.2 E**
Help	PCI Express Root Port Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**PCI Express M.2 M**
Help	PCI Express Root Port Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**PCI Express X1 Slot2**
Help	PCI Express Root Port Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**PCI Express X4 Slot4**
Help	PCI Express Root Port Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.3.2.1.1 PCI Express X4 Slot3



Field Name	**PCI Express X4 Slot3**
Default Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Control the PCI Express Root Port.

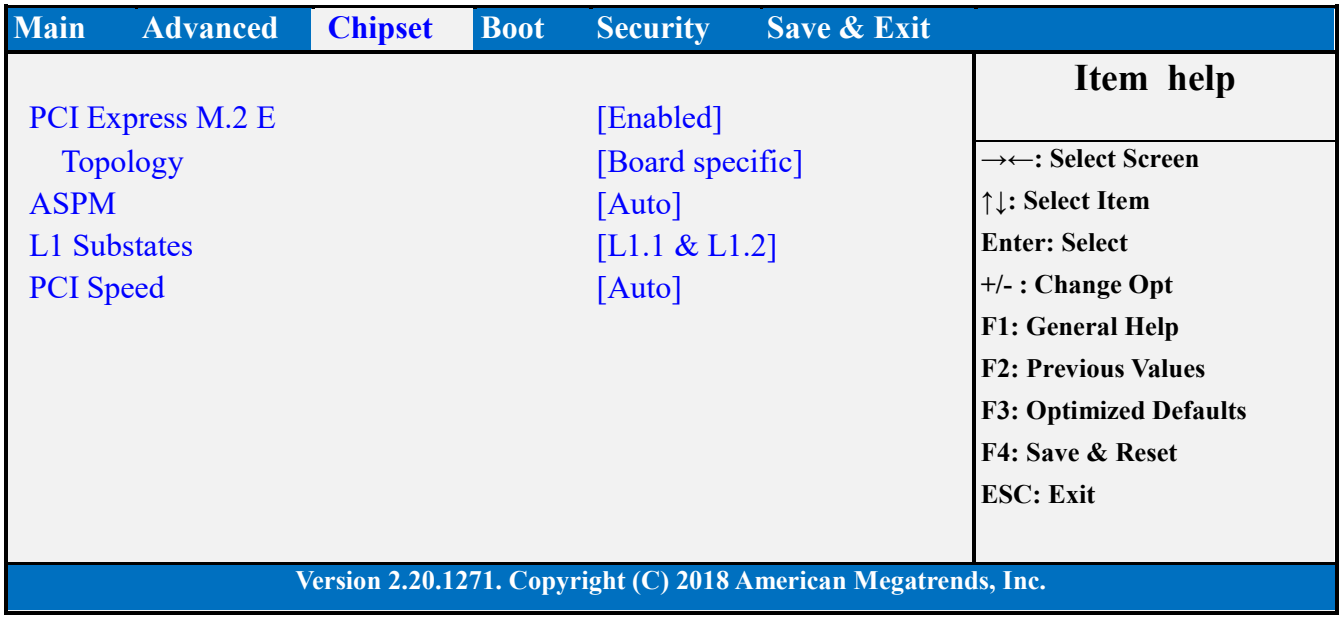
Field Name	**Topology**
Default Value	[Board specific]
Possible Value	Board specific / Unknown / x1 / x4 / Sata Express / M2
Help	Identify the SATA Topology if it is Default or ISATA or Flex or DirectConnect or M2

Field Name	**ASPM**
Default Value	[Auto]
Possible Value	Disabled / L0s / L1 / L0sL1 / Auto
Help	Set the ASPM Level:Force L0s - Force all links to L0s State AUTO - BIOS auto configure DISABLE - Disables ASPM

Field Name	**L1 Substates**
Default Value	[L1.1 & L1.2]
Possible Value	Disabled / L1.1 / L1.1 & L1.2
Help	PCI Express L1 Substates settings.

Field Name	**PCIe Speed**
Default Value	[Auto]
Possible Value	Auto / Gen1 / Gen2 / Gen3
Help	Configure PCIe Speed

2.3.2.1.2 PCI Express M.2 E



Field Name	**PCI Express M.2 E**
Default Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Control the PCI Express Root Port.

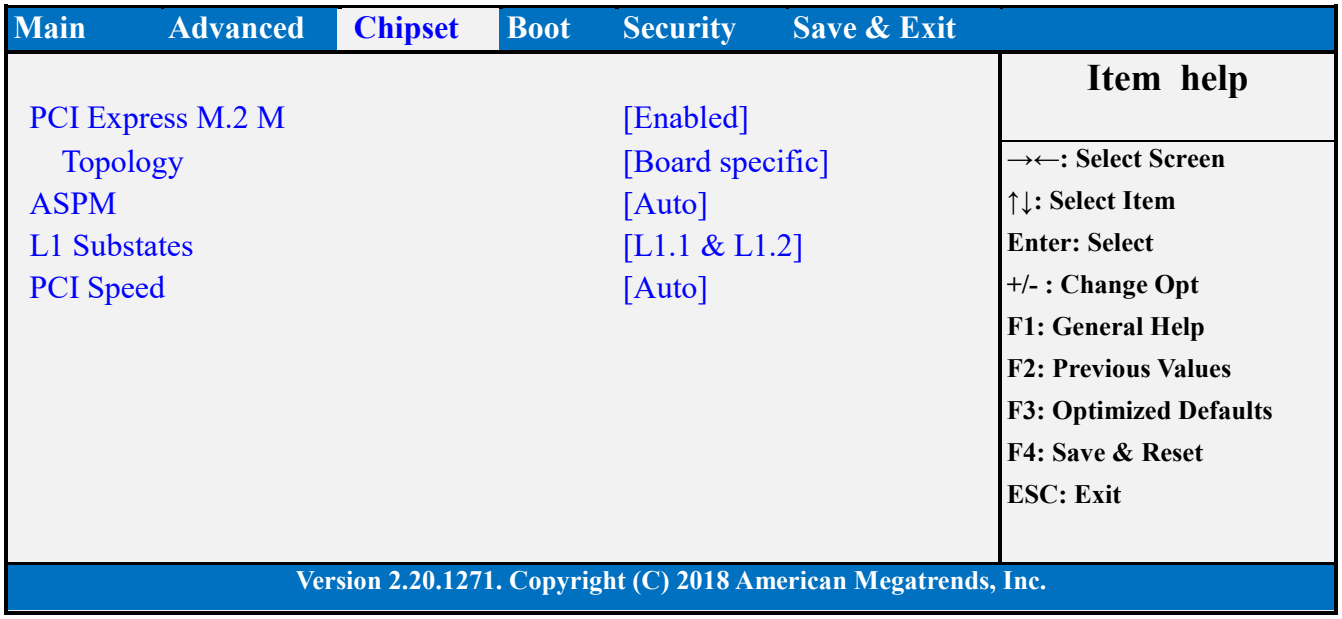
Field Name	**Topology**
Default Value	[Board specific]
Possible Value	Board specific / Unknown / x1 / x4 / Sata Express / M2
Help	Identify the SATA Topology if it is Default or ISATA or Flex or DirectConnect or M2

Field Name	**ASPM**
Default Value	[Auto]
Possible Value	Disabled / L0s / L1 / L0sL1 / Auto
Help	Set the ASPM Level:Force L0s - Force all links to L0s State AUTO - BIOS auto configure DISABLE - Disables ASPM

Field Name	**L1 Substates**
Default Value	[L1.1 & L1.2]
Possible Value	Disabled / L1.1 / L1.1 & L1.2
Help	PCI Express L1 Substates settings.

Field Name	**PCIe Speed**
Default Value	[Auto]
Possible Value	Auto / Gen1 / Gen2 / Gen3
Help	Configure PCIe Speed

2.3.2.1.3 PCI Express M.2 M



Field Name	**PCI Express M.2 M**
Default Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Control the PCI Express Root Port.

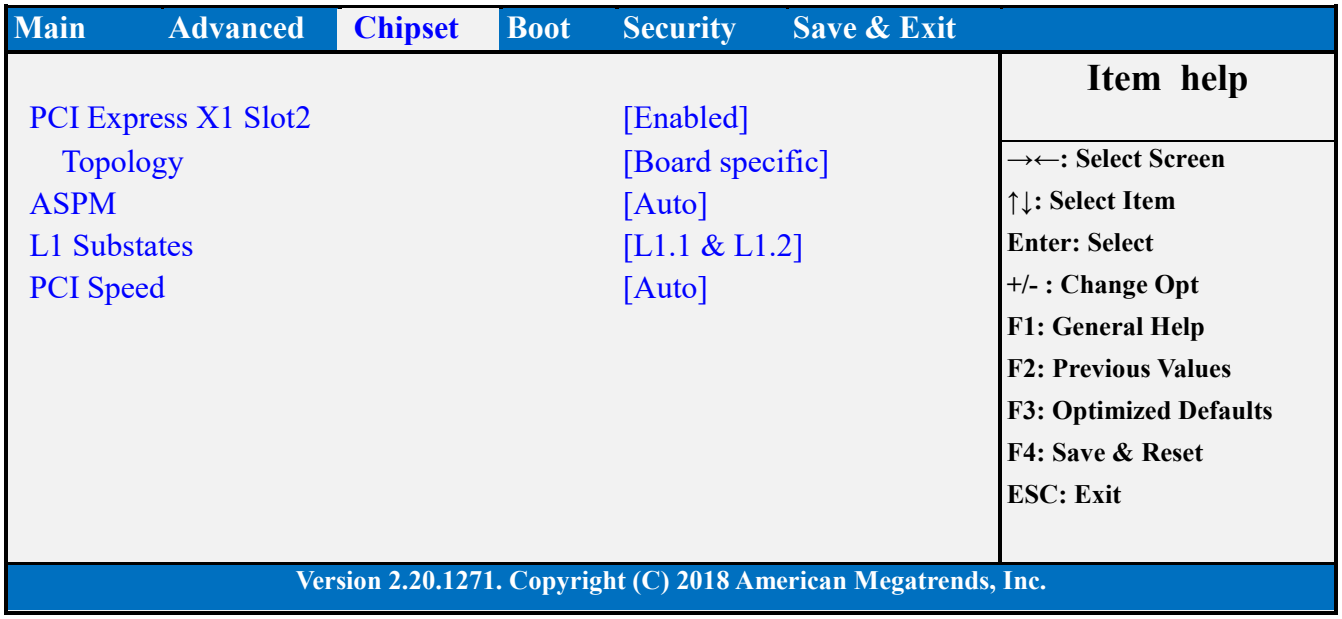
Field Name	**Topology**
Default Value	[Board specific]
Possible Value	Board specific / Unknown / x1 / x4 / Sata Express / M2
Help	Identify the SATA Topology if it is Default or ISATA or Flex or DirectConnect or M2

Field Name	**ASPM**
Default Value	[Auto]
Possible Value	Disabled / L0s / L1 / L0sL1 / Auto
Help	Set the ASPM Level:Force L0s - Force all links to L0s State AUTO - BIOS auto configure DISABLE - Disables ASPM

Field Name	**L1 Substates**
Default Value	[L1.1 & L1.2]
Possible Value	Disabled / L1.1 / L1.1 & L1.2
Help	PCI Express L1 Substates settings.

Field Name	**PCIe Speed**
Default Value	[Auto]
Possible Value	Auto / Gen1 / Gen2 / Gen3
Help	Configure PCIe Speed

2.3.2.1.4 PCI Express X1 Slot2



Field Name	**PCI Express X1 Slot2**
Default Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Control the PCI Express Root Port.

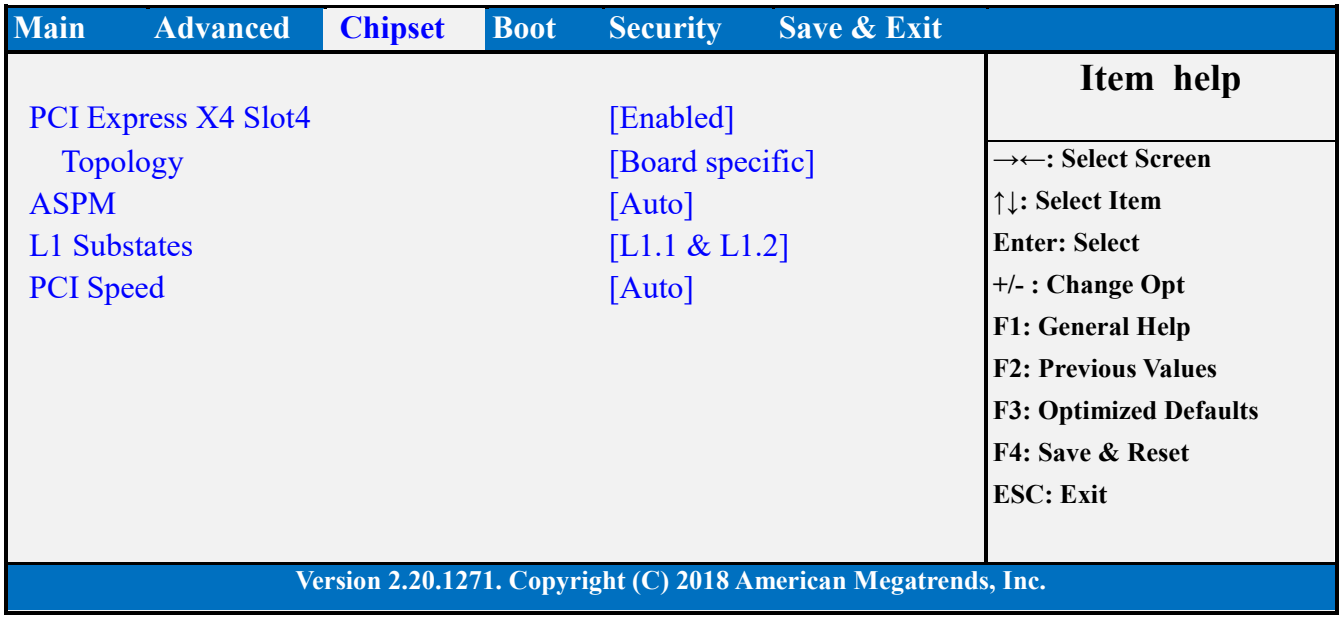
Field Name	**Topology**
Default Value	[Board specific]
Possible Value	Board specific / Unknown / x1 / x4 / Sata Express / M2
Help	Identify the SATA Topology if it is Default or ISATA or Flex or DirectConnect or M2

Field Name	**ASPM**
Default Value	[Auto]
Possible Value	Disabled / L0s / L1 / L0sL1 / Auto
Help	Set the ASPM Level:Force L0s - Force all links to L0s State AUTO - BIOS auto configure DISABLE - Disables ASPM

Field Name	**L1 Substates**
Default Value	[L1.1 & L1.2]
Possible Value	Disabled / L1.1 / L1.1 & L1.2
Help	PCI Express L1 Substates settings.

Field Name	**PCIe Speed**
Default Value	[Auto]
Possible Value	Auto / Gen1 / Gen2 / Gen3
Help	Configure PCIe Speed

2.3.2.1.5 PCI Express X4 Slot4



Field Name	**PCI Express X4 Slot4**
Default Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Control the PCI Express Root Port.

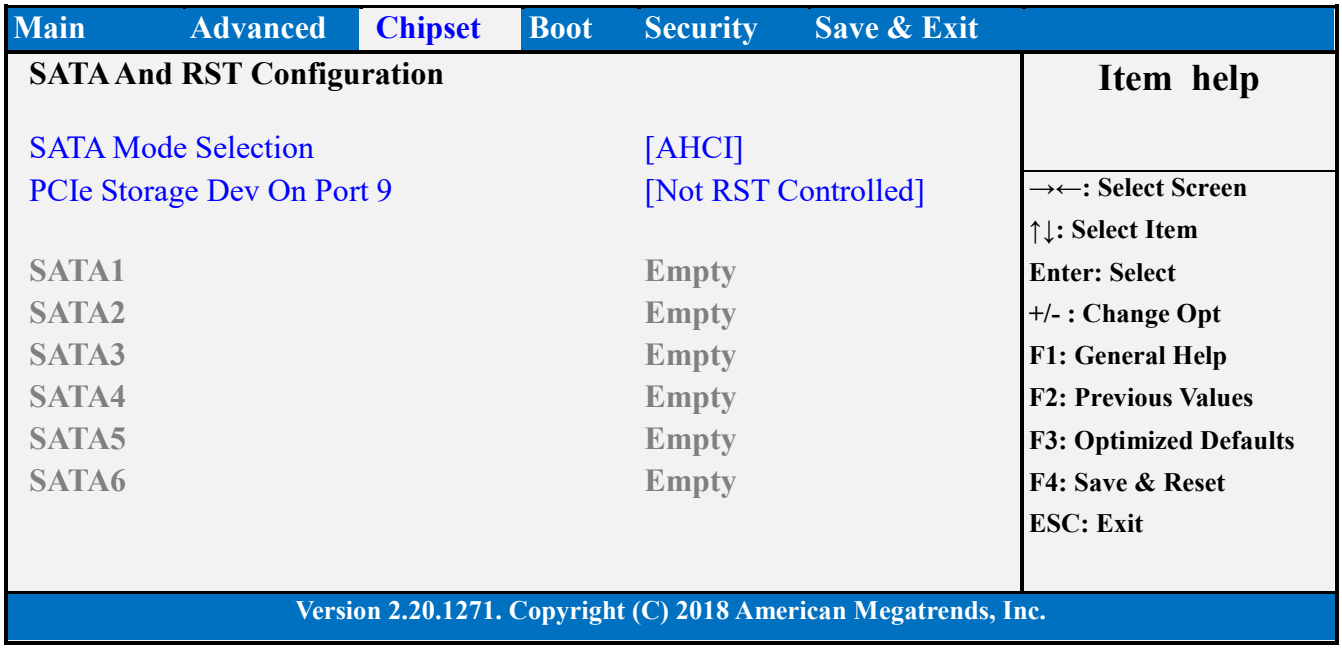
Field Name	**Topology**
Default Value	[Board specific]
Possible Value	Board specific / Unknown / x1 / x4 / Sata Express / M2
Help	Identify the SATA Topology if it is Default or ISATA or Flex or DirectConnect or M2

Field Name	**ASPM**
Default Value	[Auto]
Possible Value	Disabled / L0s / L1 / L0sL1 / Auto
Help	Set the ASPM Level:Force L0s - Force all links to L0s State AUTO - BIOS auto configure DISABLE - Disables ASPM

Field Name	**L1 Substates**
Default Value	[L1.1 & L1.2]
Possible Value	Disabled / L1.1 / L1.1 & L1.2
Help	PCI Express L1 Substates settings.

Field Name	**PCIe Speed**
Default Value	[Auto]
Possible Value	Auto / Gen1 / Gen2 / Gen3
Help	Configure PCIe Speed

2.3.2.2 SATA And RST Configuration



Field Name	**SATA Mode Selection**
Value	[AHCI]
Possible Value	AHCI / Intel RST Premium With Intel Optane System Acceleration
Help	Determines how SATA controller(s) operate.

Field Name	**PCIe Storage Dev On Port 9**
Value	[Not RST Controlled]
Possible Value	Not RST Controlled / RST Controlled
Help	Enable/Disable RST Pcie Storage Remapping.

Field Name	**SATA1**
Value	Display the installed SATA port device.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**SATA2**
Value	Display the installed SATA port device.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**SATA3**
Value	Display the installed SATA port device.
Comment	This field is not selectable. There is no help text associated with it.

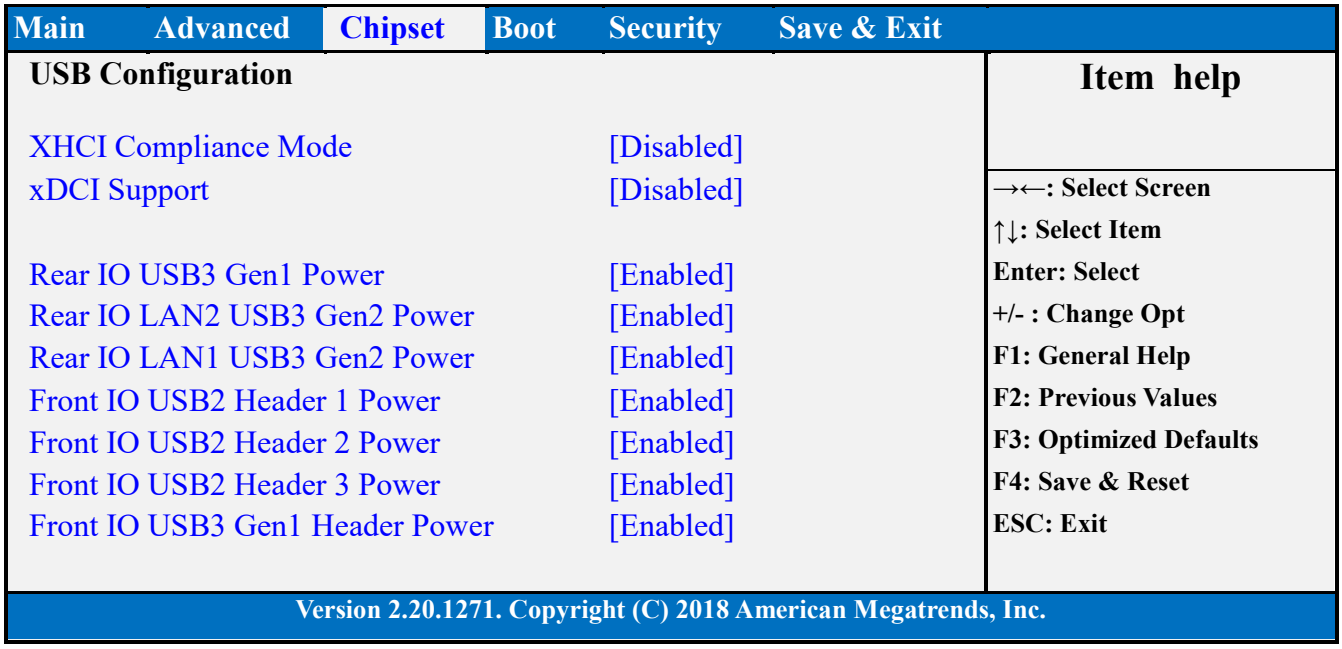
Field Name	**SATA4**
Value	Display the installed SATA port device.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**SATA5**
Value	Display the installed SATA port device.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	**SATA6**

Value	Display the installed SATA port device.
Comment	This field is not selectable. There is no help text associated with it.

2.3.2.3 USB Configuration



Field Name	**XHCI Compliance Mode**
Value	[Disabled]
Possible Value	Disabled / Enabled
Help	Option to enable Compliance Mode. Default is to disable Compliance Mode. Change to enabled for Compliance Mode testing.

Field Name	**xDCI Support**
Value	[Disabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable xDCI (USB OTG Device).

Field Name	**Rear IO USB3 Gen1 Power**
Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable Upper/Lower USB ports of HDMI Rack.

Field Name	**Rear IO LAN2 USB3 Gen2 Power**
Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable Upper/Lower USB ports of i211 RJ45 Rack.

Field Name	**Rear IO LAN1 USB3 Gen2 Power**
Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable Upper/Lower USB ports of i219 RJ45 Rack.

Field Name	**Front IO USB2 Header 1 Power**

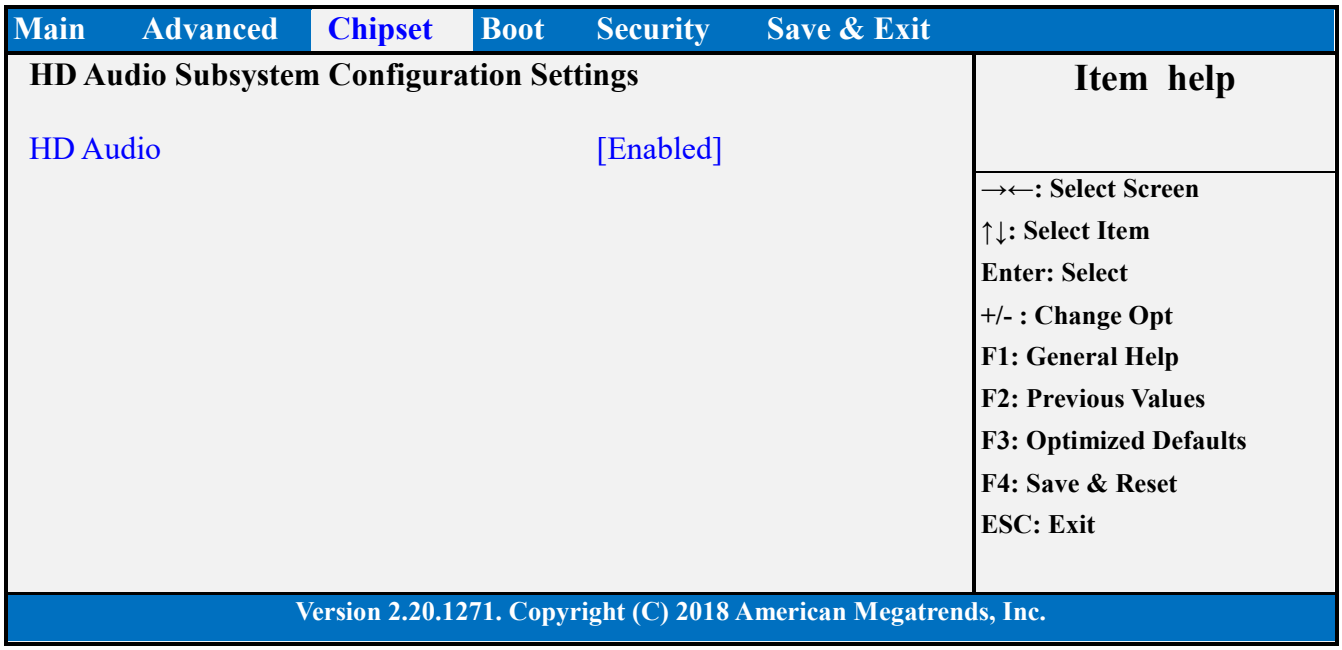
Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable USB ports of USB2 Header 1.

Field Name	**Front IO USB2 Header 2 Power**
Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable USB ports of USB2 Header 2.

Field Name	**Front IO USB2 Header 3 Power**
Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable USB ports of USB2 Header 3.

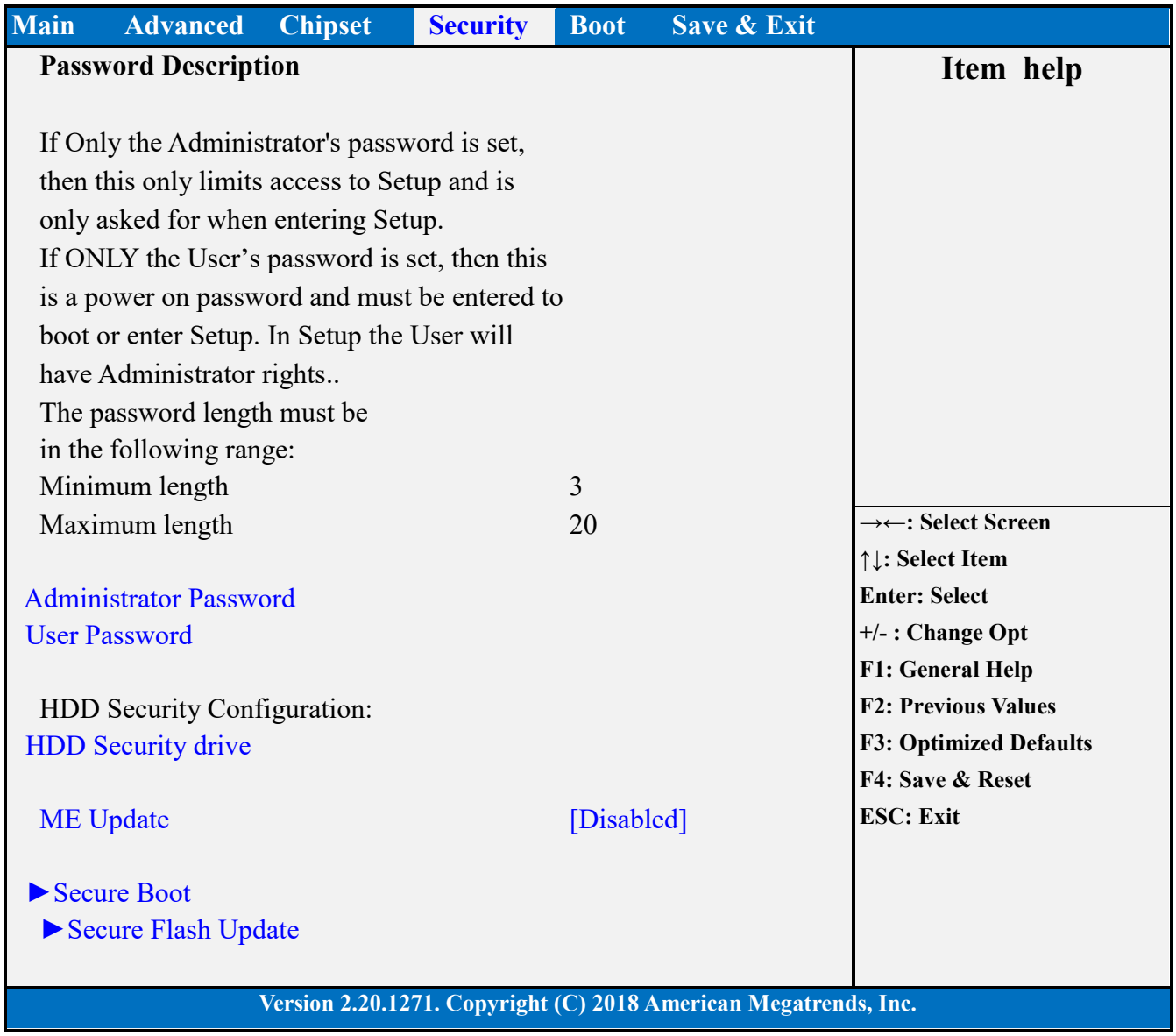
Field Name	**Front IO USB3 Gen1 Header Power**
Value	[Enabled]
Possible Value	Disabled / Enabled
Help	Enable/Disable USB3 Gen1 ports of USB3 Header.

2.3.2.4 HD Audio Configuration



Field Name	**HD Audio**
Value	[Enabled]
Possible Value	Enabled / Disabled
Help	Control Detection of HD-Audio device. Disabled = HDA will be unconditionally disabled Enabled = HDA will be unconditionally enabled

2.4 Security Page



Field Name	**Administrator Password**
Help	Set Administrator Password

Field Name	**User Password**
Help	Set User Password.

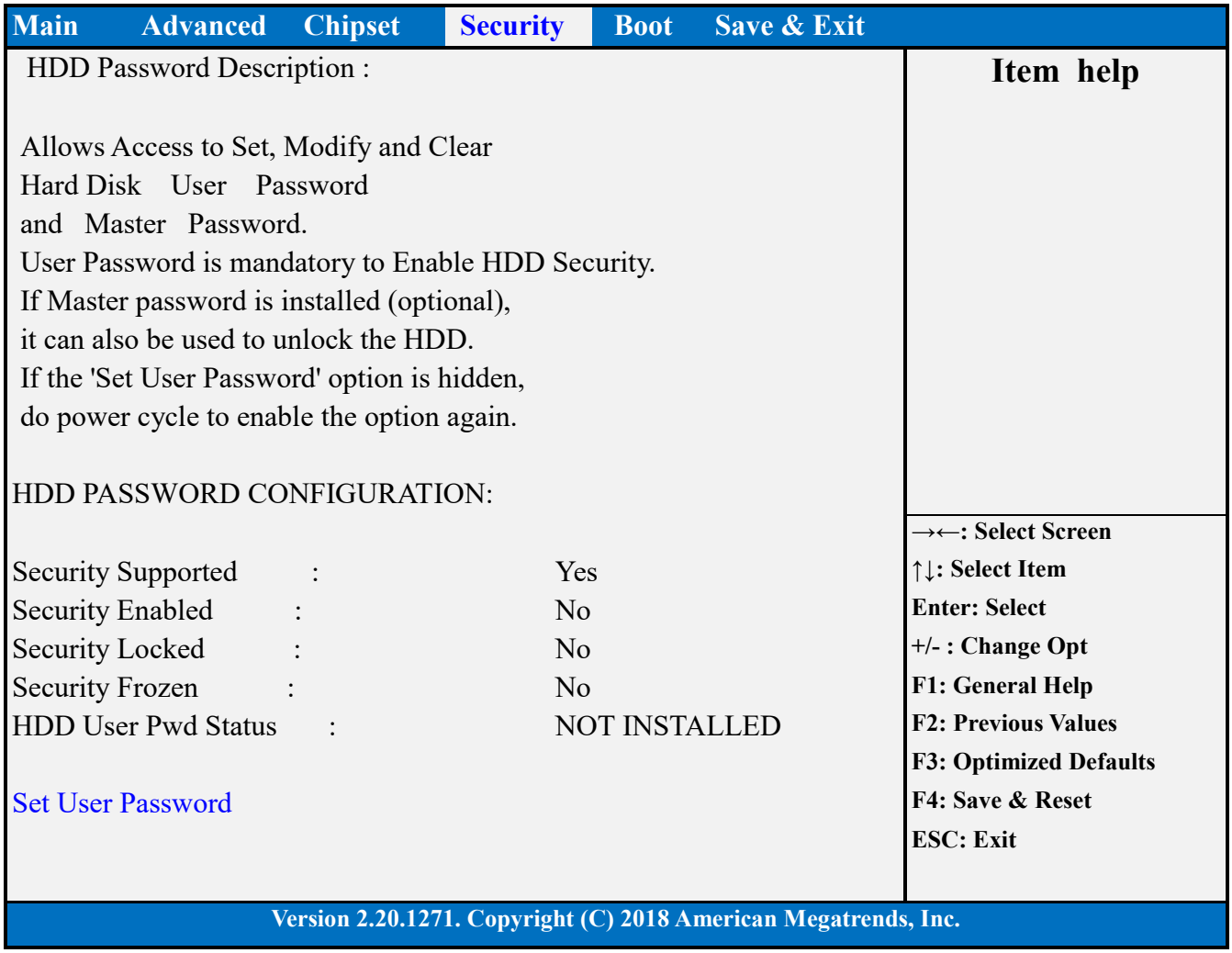
Field Name	**HDD Security drive**
Help	HDD Security Configuration for selected drive
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**ME Update**
Value	[Disabled]
Possible Value	Disabled / Enabled
Help	Flash Security Override.

Field Name	**Secure Boot**
Help	Secure Boot Configuration
Comment	Press Enter when selected to go into the associated Sub-Menu.

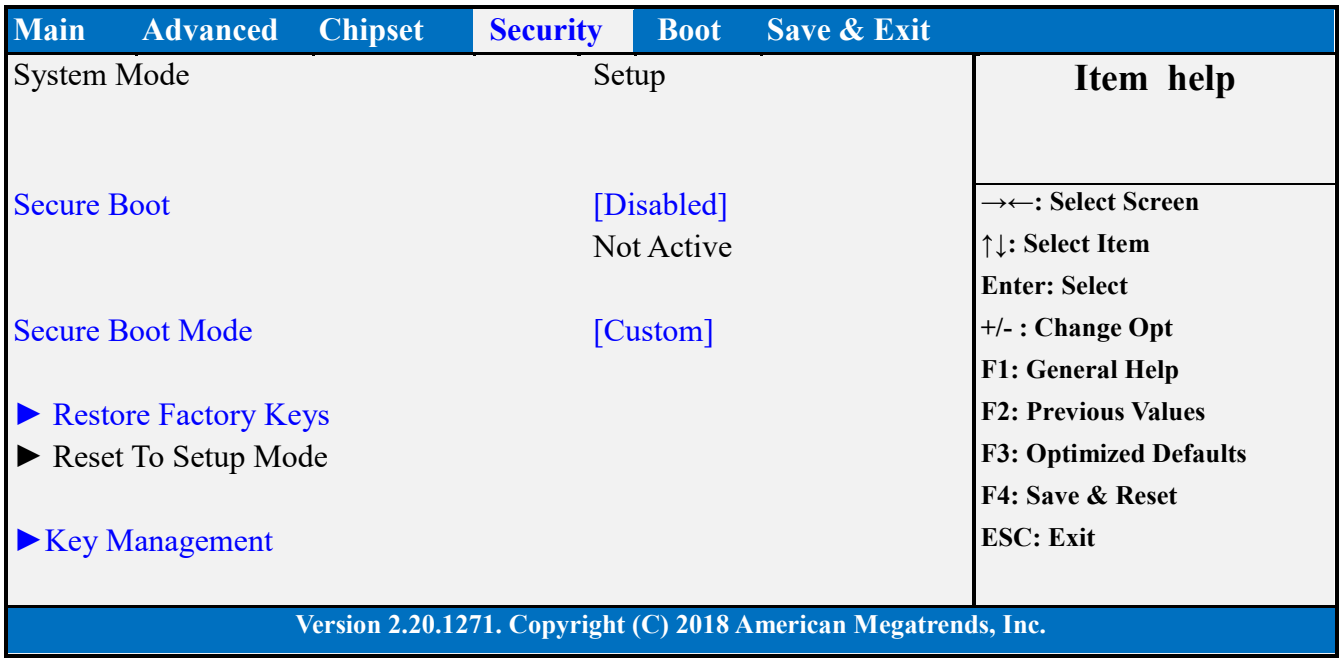
Field Name	**Secure Flash Update**
Help	Secure Flash Update support
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.4.1 HDD Security



Field Name	**Set User Password**
Help	Set HDD User Password. *** Advisable to Power Cycle System after Setting Hard Disk Passwords ***.Discard or Save changes option in setup does not have any impact on HDD when password is set or removed. If the 'Set HDD User Password' option is hidden, do power cycle to enable the option again

2.4.2 Secure Boot



Field Name	**Secure Boot**
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Secure Boot feature is Active if Secure Boot is Enabled,Platform Key(PK) is enrolled and the System is in User mode.The mode change requires platform reset

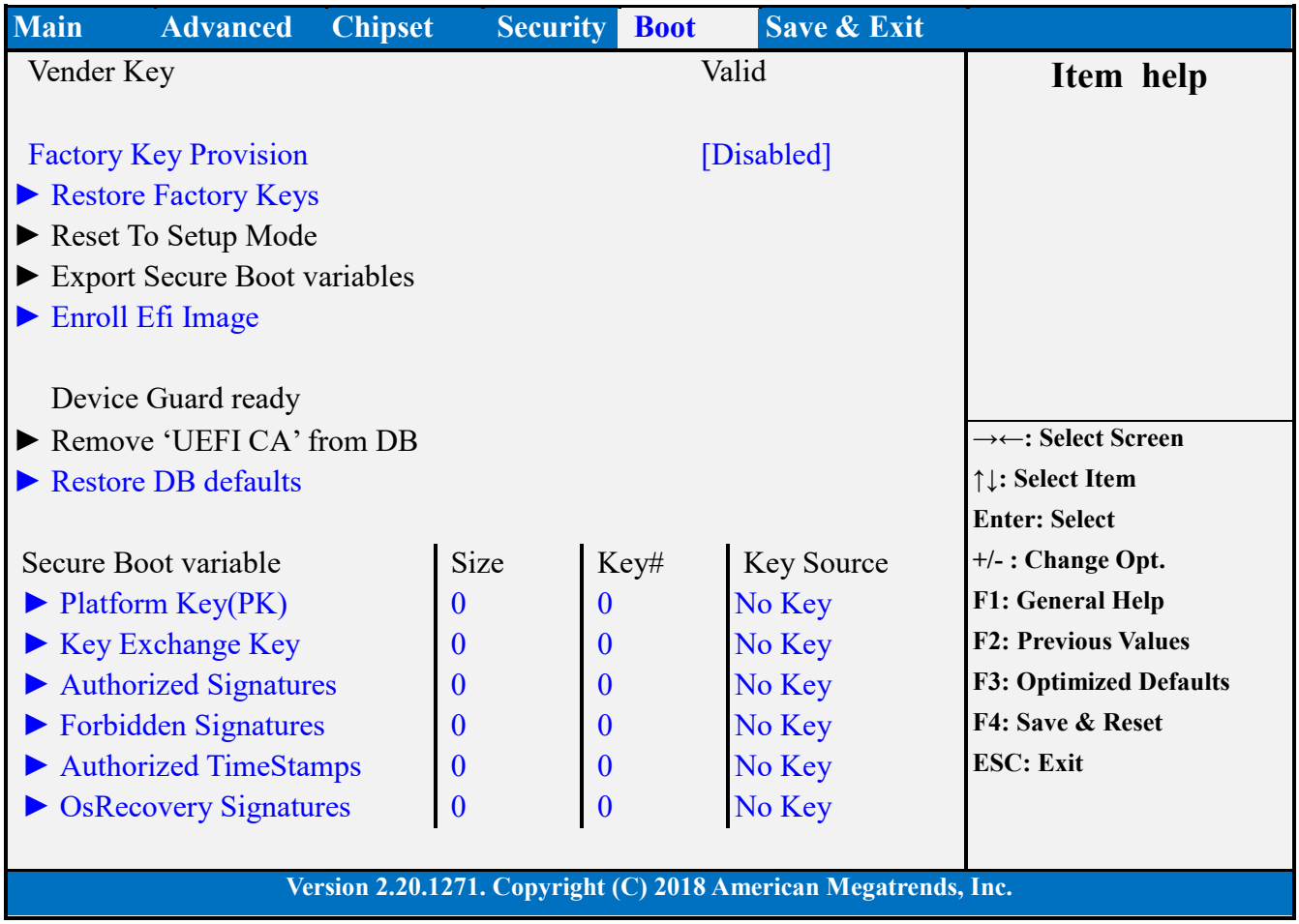
Field Name	**Secure Boot Mode**
Default Value	[Custom]
Possible Value	Standard Custom
Help	Secure Boot mode options:Standard or Custom.In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication

Field Name	**Restore Factory Keys**
Help	Force System to User Mode. Install factory default Secure Boot key databases

Field Name	**Reset to Setup Mode**
Help	Delete all Secure Boot key databases from NVRAM

Field Name	**Key Management**
Help	Enables expert users to modify Secure Boot Policy variables without full authentication
Comment	Enables expert users to modify Secure Boot Policy variables without full authentication

2.4.2.1 Key Management



Field Name	**Factory Key Provision**
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode

Field Name	**Restore Factory Keys**
Help	Force System to User Mode. Install factory default Secure Boot key databases

Field Name	**Reset to Setup Mode**
Help	Delete all Secure Boot key databases from NVRAM

Field Name	**Export Secure Boot variables**
Help	Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device

Field Name	**Enroll Efi Image**
Help	Allow the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db)

Field Name	**Remove 'UEFI CA' from DB**
Help	Device Guard ready system must not list 'Microsoft UEFI CA' Certificate in Authorized Signature database (db)

Field Name	**Restore DB defaults**
Help	Restore DB variable to factory defaults

Field Name	**Platform Key (PK)**
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu "Key Management".

Field Name	**Key Exchange Keys**
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**Authorized Signatures**
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

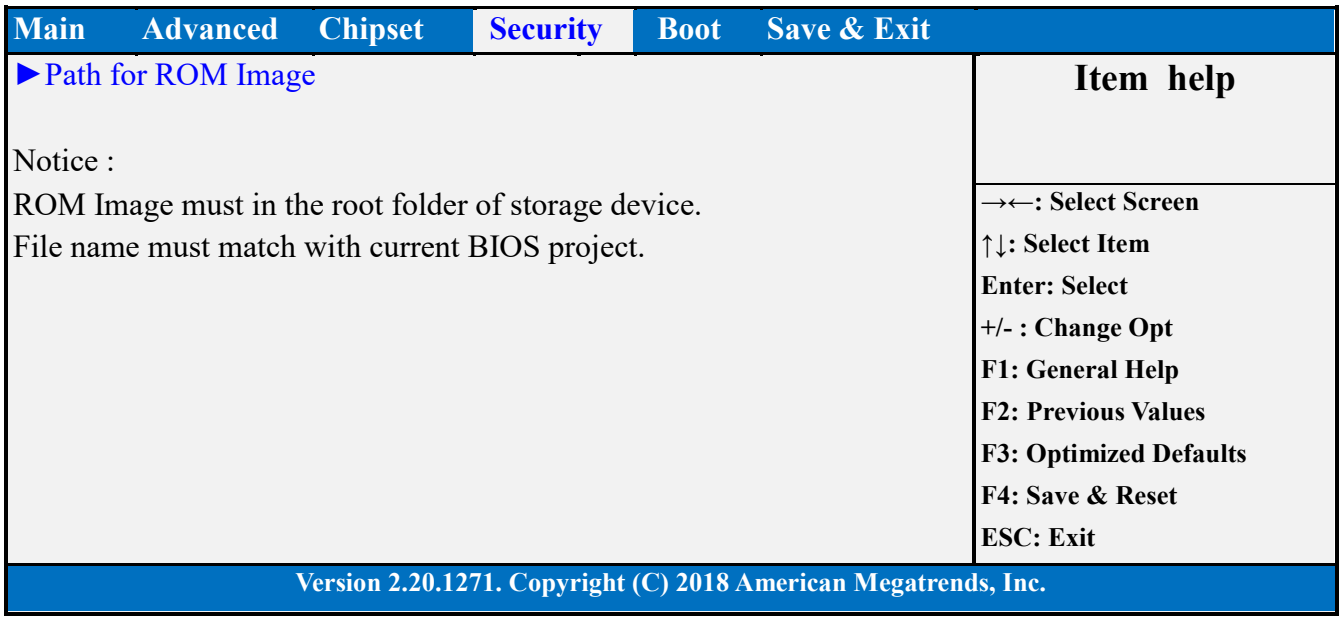
Field Name	**Forbidden Signatures**
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

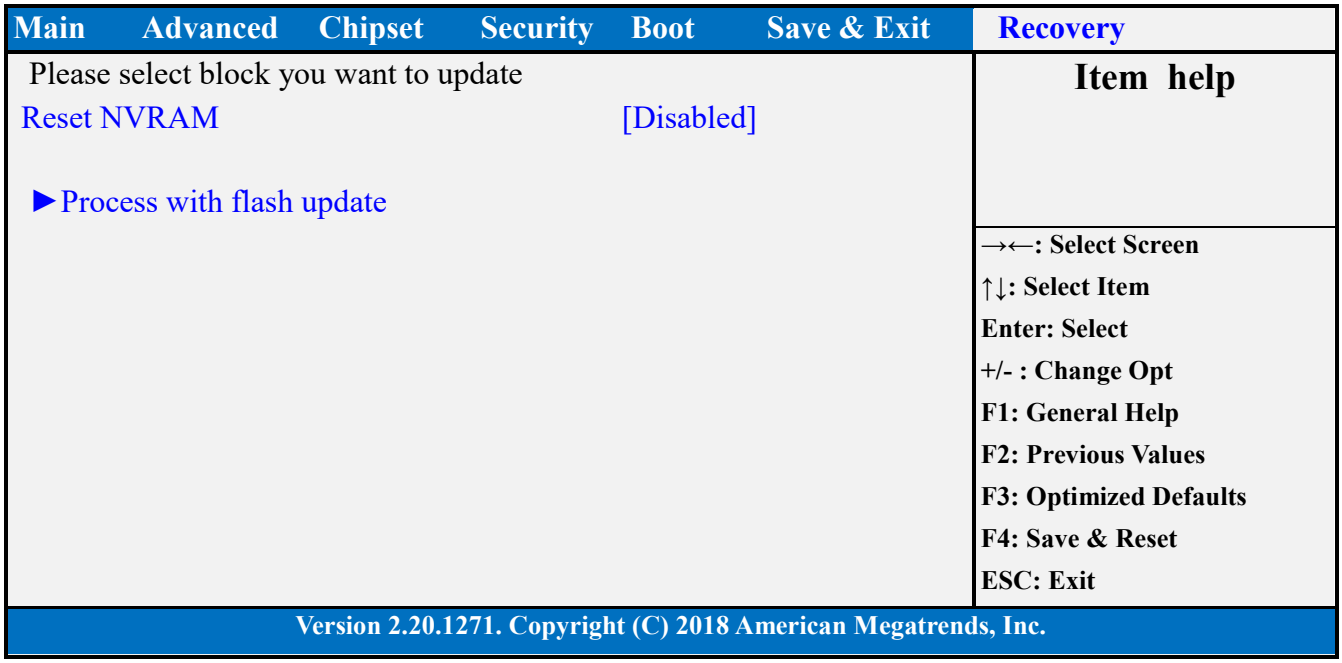
Field Name	**Authorized TimeStamps**
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**OsRecovery Signatures**
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

2.4.3 Secure Flash Update

Built-In BIOS flash tool. To store RX370Q ROM file into the USB drive and select the ROM file path along with the "Path for ROM image".The system will reboot to the "Flash BIOS" page. Select the configuration and get to the "Process with flash update".

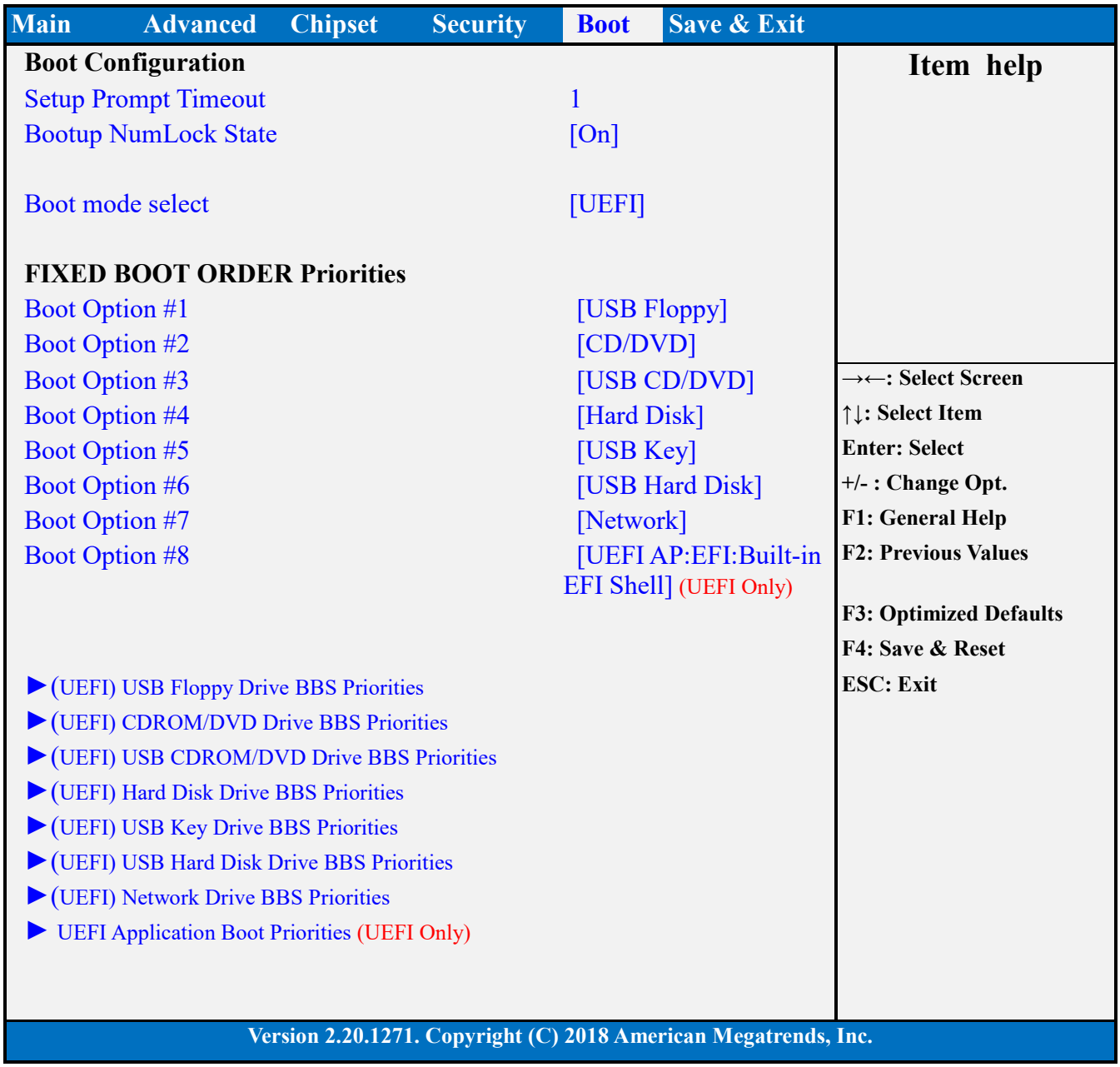




Field Name	**Reset NVRAM**
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Set this option to reset NVRAM to default values

Field Name	**Process with flash update**
Help	Select this to start flash update

2.5 Boot Page



Field Name	**Setup Prompt Timeout**
Default Value	1
Possible Value	1~65535
Help	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Field Name	**Bootup NumLock State**
Default Value	[On]
Possible Value	On Off
Help	Select the keyboard NumLock state

Field Name	**Boot mode select**
Default Value	[UEFI]
Possible Value	LEGACY UEFI
Help	BIOS boot mode. Windows 10 select [UEFI] DOS select [Legacy]

Field Name	**Boot Option #1**
Default Value	[USB Floppy]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**Boot Option #2**
Default Value	[CD/DVD]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**Boot Option #3**
Default Value	[USB CD/DVD]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**Boot Option #4**
Default Value	[Hard Disk]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**Boot Option #5**
Default Value	[USB Key]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**Boot Option #6**
Default Value	[USB Hard Disk]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**Boot Option #7**
Default Value	[Network]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**Boot Option #8 (UEFI Only)**
Default Value	[UEFI AP:EFI:Built-in EFI Shell]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , Network, Disabled, **(UEFI Only)**UEFI AP:UEFI: Build-in EFI Shell
Help	Sets the system boot order

Field Name	**(UEFI) USB Floppy Drive BBS Priorities**
Help	Specifies the Boot Device Priority sequence from available USB Floppy Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**(UEFI) CDROM/DVD ROM Drive BBS Priorities**
Help	Specifies the Boot Device Priority sequence from available CDROM/DVD Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**(UEFI) USB CDROM/DVD ROM Drive BBS Priorities**
Help	Specifies the Boot Device Priority sequence from available USB CDROM/DVD Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**(UEFI) Hard Disk Drive BBS Priorities**
Help	Specifies the Boot Device Priority sequence from available Hard Disk Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

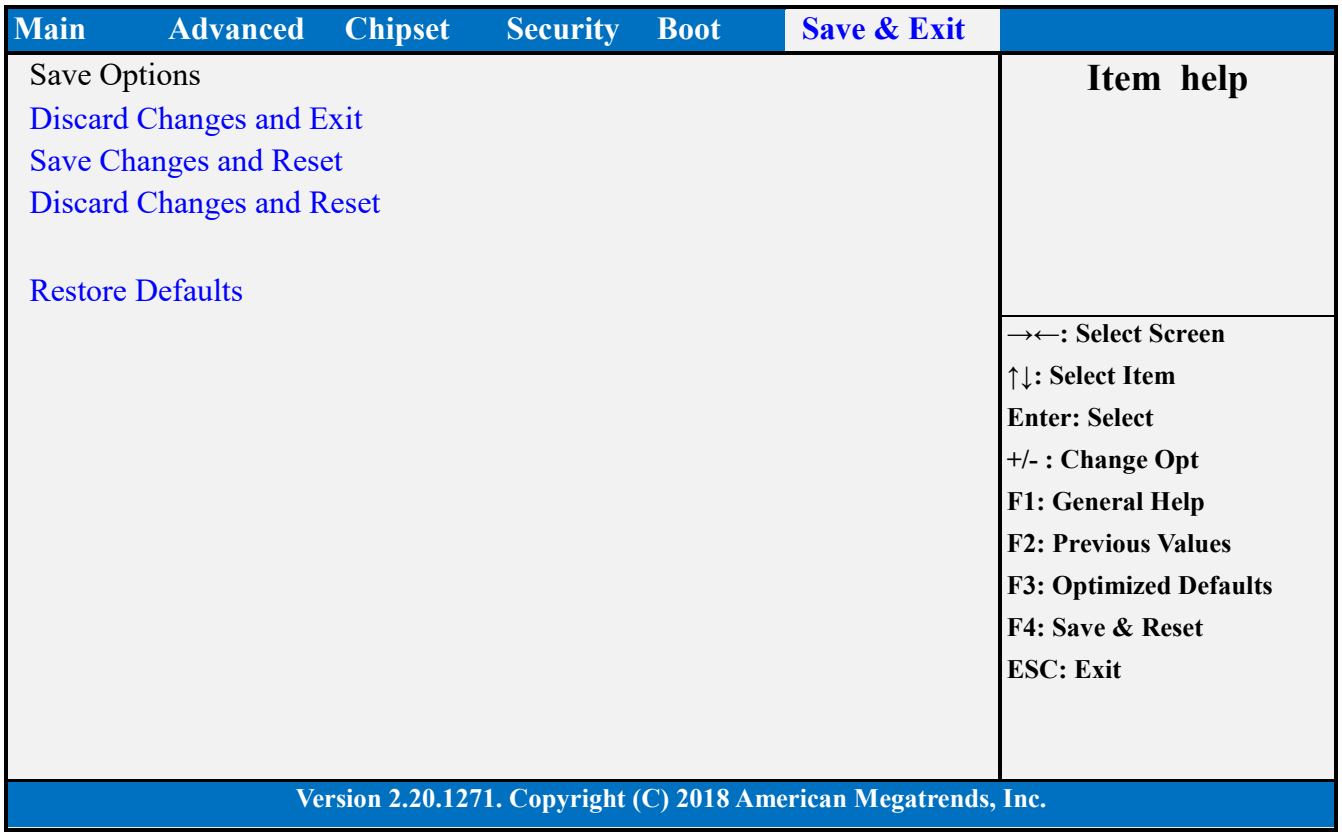
Field Name	**(UEFI) USB KEY Drive BBS Priorities**
Help	Specifies the Boot Device Priority sequence from available USB Key Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**(UEFI) USB Hard Disk Drive BBS Priorities**
Help	Specifies the Boot Device Priority sequence from available USB Hard Disk Drives
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**(UEFI) NETWORK Drive BBS Priorities**
Help	Specifies the Boot Device Priority sequence from available NETWORK Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	**UEFI Application Boot Priorities (UEFI Only)**
Help	Specifies the Boot Device Priority sequence from available UEFI Application.
Comment	Press Enter when selected to go into the associated Sub-Menu.

2.6 Save & Exit Page



Field Name	**Discard Changes and Exit**
Help	Exit system setup with without saving any changes.

Field Name	**Save Changes and Reset**
Help	Reset the system after saving the changes.

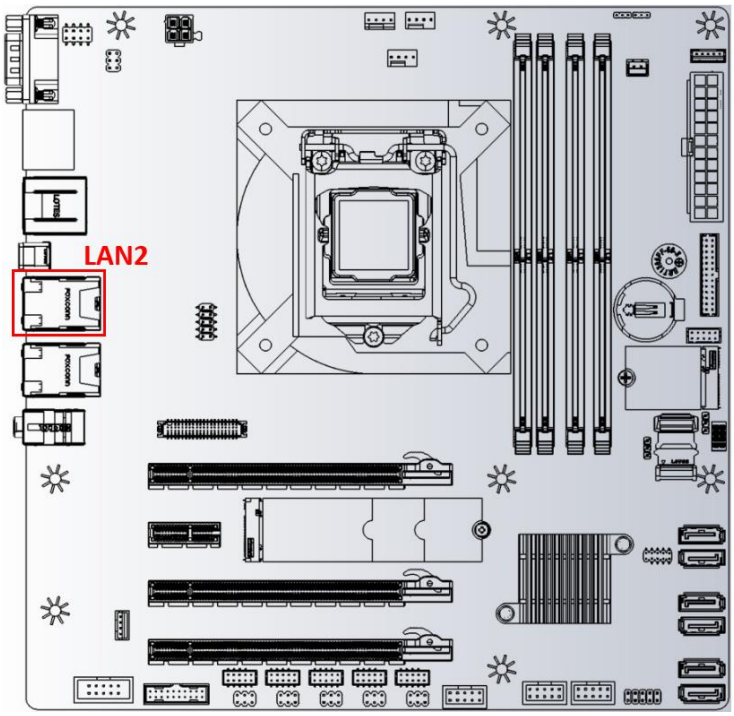
Field Name	**Discard Changes and Rest**
Help	Reset system setup without saving any changes.

Field Name	**Restore Defaults**
Help	Restore/Load Default values for all the setup options.

Drivers Installing Note

DCH drivers support for windows 10 (and later)

- After a driver has been updated to a Windows DCH Driver, it isn't recommended rolling back to old drivers as it involves a complex process that could result in system instability or installing failure issue and especially pertinent to graphics drivers.
- DCH drivers have no longer supported application in drivers' package. You could check on "**Microsoft Store"** if need it.



1 : **Microsoft Windows update.**
DO the **Microsoft Windows update** before to install BCM drivers for RX370Q or you might experience failure on some drivers installation .

2 : **How to do that.**
You could through the **LAN2** port for the **Microsoft Windows update** .