

# **MX370QD**

**Intel® Q370 support 8<sup>th</sup> generation Core™ i7/ i5 /i3,  
Pentium, Celeron CPU Mini-ITX Motherboard**

## **User's Manual**

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**Ver. 1.0**

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## 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.

## CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

“Perchlorate Material-special handling may apply, see [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)”

## 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. 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 visit the BCM Advanced Research website for further guidance: <http://www.BCMCOM.com>

#### 2. 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](http://www.bcmcom.com/bcm_support_drivers.htm)

### 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.

# Typography

<b>Bold text</b>	Indicates a menu or an item to select
<i>Italics</i>	Used to emphasize a word or a phrase
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key Example: <Enter> means that you must press the Enter or Return key
<Key1>+<Key2>+<Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+) Example: <Ctrl>+<Alt>+<D>
<b>Command</b>	Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets Example: At the DOS prompt, type the command line: <b>AfuEfix64.efi [filename] /p /b /n /x</b> <b>AfuEfix64.efi 71631100.ROM /p /b /n /x</b>

## **Packing List**

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

- 1 x MX370QD mini-ITX Main board
- 1 x I/O Shield
- 1 x 2x2-to-barrel type DC-In power cable
- 1 x SATA power cable



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



# Revision History

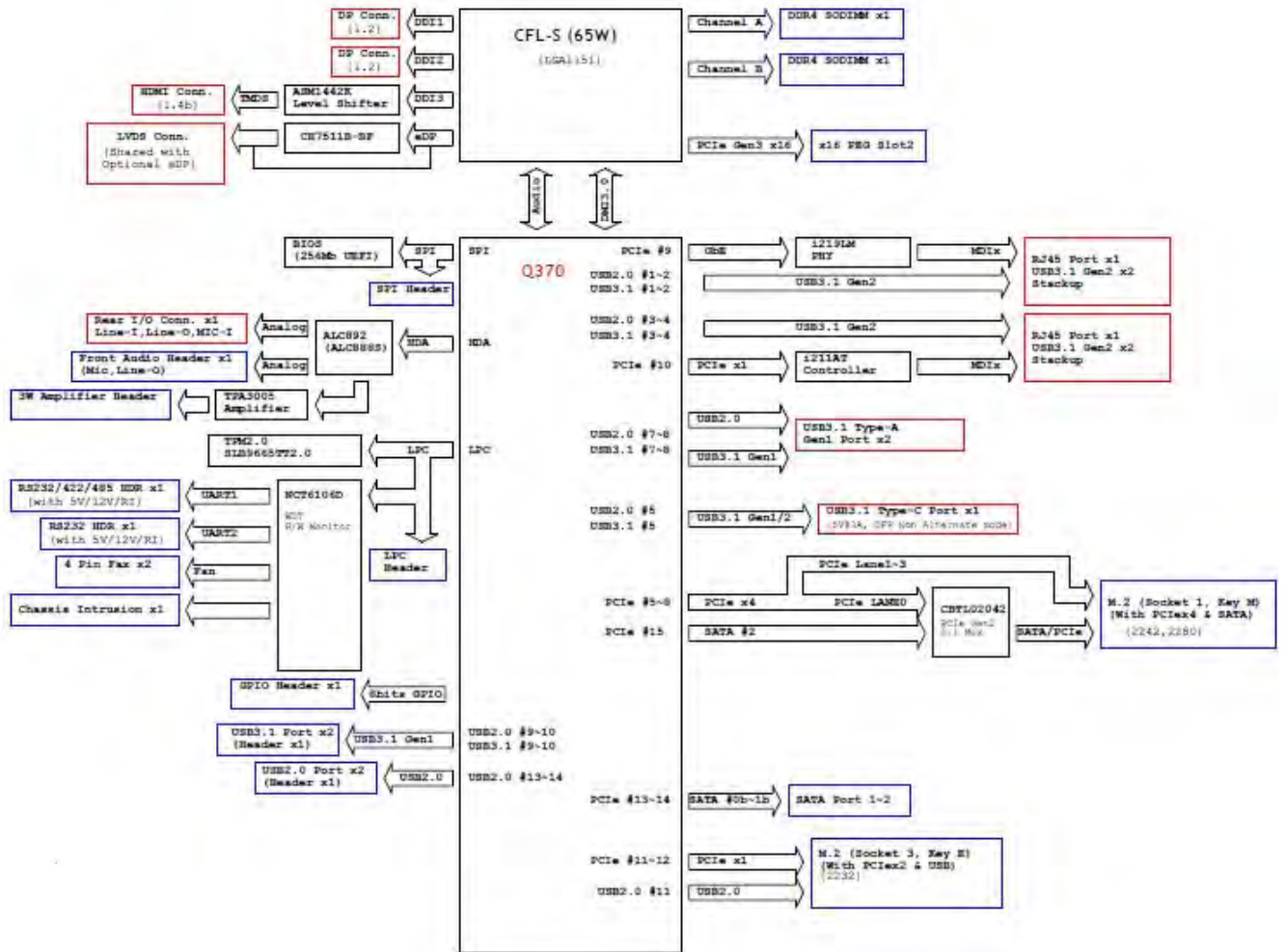
Revision	Revision History	Date
1.0	First release version	2019/12

# Specifications Summary

Specifications	
<b>System</b>	
<b>CPU</b>	Intel® Coffee Lake CPU supports 2C/4C/6C Core i3, i5, i7, Pentium, Celeron Up to 65W TDP
<b>BIOS</b>	AMI 256Mb SPI
<b>System Chipset</b>	Intel® Q370
<b>Memory</b>	2 x 30μ Gold Plated SoDIMM Up to 32GB Dual Channel DDR4 2400Mhz Vertical Type Memory Sockets
<b>Watchdog Timer</b>	1 ~ 255 sec timer
<b>H/W Status Monitor</b>	CPU & system temperature monitoring Voltages monitoring
<b>Expansion Slots</b>	1 x PCIe x16 Slot 1 x M.2 Type M 2242, 2280 Slot (with PCIe x4 & SATA III) 1 x M.2 Type A/E 2230 (with USB & PCIe x2)
<b>Smart Fan Control</b>	Yes
<b>Display</b>	
<b>Chipset</b>	Intel® Integrated Graphic (CPU Dependent)
<b>Display Memory</b>	Shared Memory
<b>Ethernet</b>	
<b>LAN1</b>	Intel® i219-LM PHY LAN Controller
<b>LAN2</b>	Intel® i211-AT PCIe LAN Controller
<b>Back I/O Port</b>	
<b>Back Panel</b>	1 x DC-In barrel type connector 1 x Dual USB 3.1 Gen1 Ports 1 x Dual DisplayPort Connector 1 x HDMI Connector 1 x USB USB3.1 Gen2 Type-C Connectors 2 x RJ45+Dual USB 3.1 Gen 2 (Stacked)(4 x USB 3.1 Ports) 1 x 3 Jacks Audio Connector
<b>Internal I/O Connector</b>	
<b>Internal I/O</b>	2 x SATAIII connectors(RED) & 1 x SATA power connectors 1 x USB 2.0 2.54mm Box headers support 2 ports 1 x USB 3.1 Gen1 2.00mm Box header support 2 ports 1 x RS232 2.00mm Wafer header with RI/Voltage Selection 1 x RS-232/422/485 2.00mm Wafer header with RI/Voltage Selection 1 x LPC 2.00mm header 1 x SPI 2.54mm header 1 x Front Audio 2.54mm Box header

	<p>1 x Amplifier 2.00mm Wafer header</p> <p>1 x CPU Fan Wafer connector</p> <p>1 x Chassis Fan Wafer connector</p> <p>1 x Front panel 2.54mm Box header</p> <p>1 x 8 bits GPIO 2.00mm Wafer header</p> <p>1 x Cable Type CMOS Battery</p> <p>1 x Chassis Intrusion Wafer header</p> <p>1 x LVDS 1.25mm Wafer header</p> <p>1 x Backlight 2.00mm Wafer header</p> <p>1 x 2x2 Pin Mini-Fit Jr DC-Input Connector</p>
<b>Mechanical &amp; Environmental</b>	
<b>Power Type</b>	12V-24VDC Wide Range Input
<b>AC-DC Adapter Type</b>	DC Jack Barrel Type: 5.5mm(OD) x 2.5mm(ID) Maximum Input current 10A
<b>Operating Temperature</b>	0~60°C (32~140°F)
<b>Operating Humidity</b>	5%~90% relative humidity, non-condensing
<b>Size (L x W)</b>	6.7 inch x 6.7 inch

# 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 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.

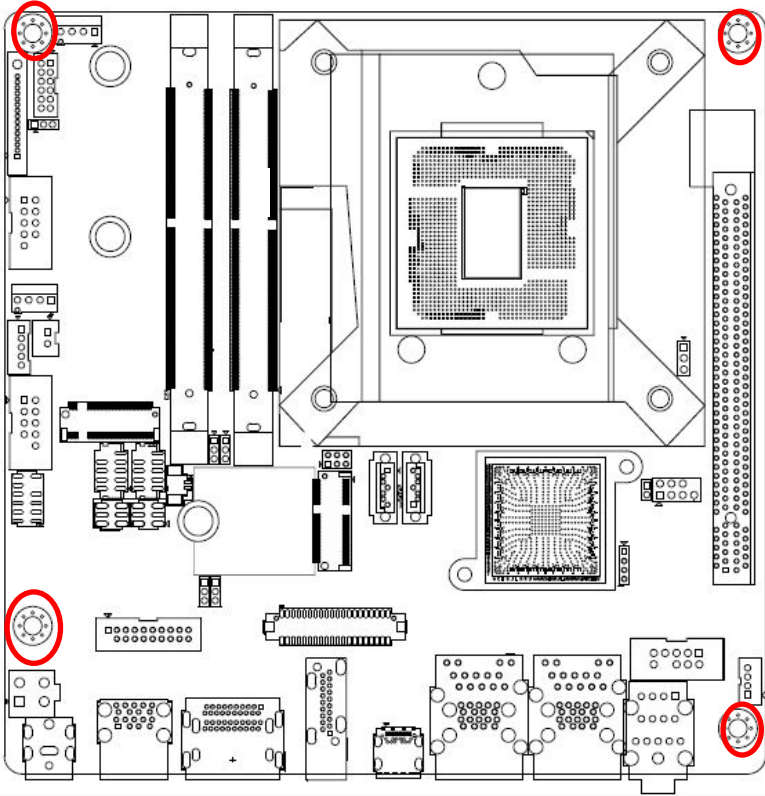
### 1.2.2 Screw Holes

Place four (4) screws into the holes indicated by circles to secure the motherboard to the chassis.

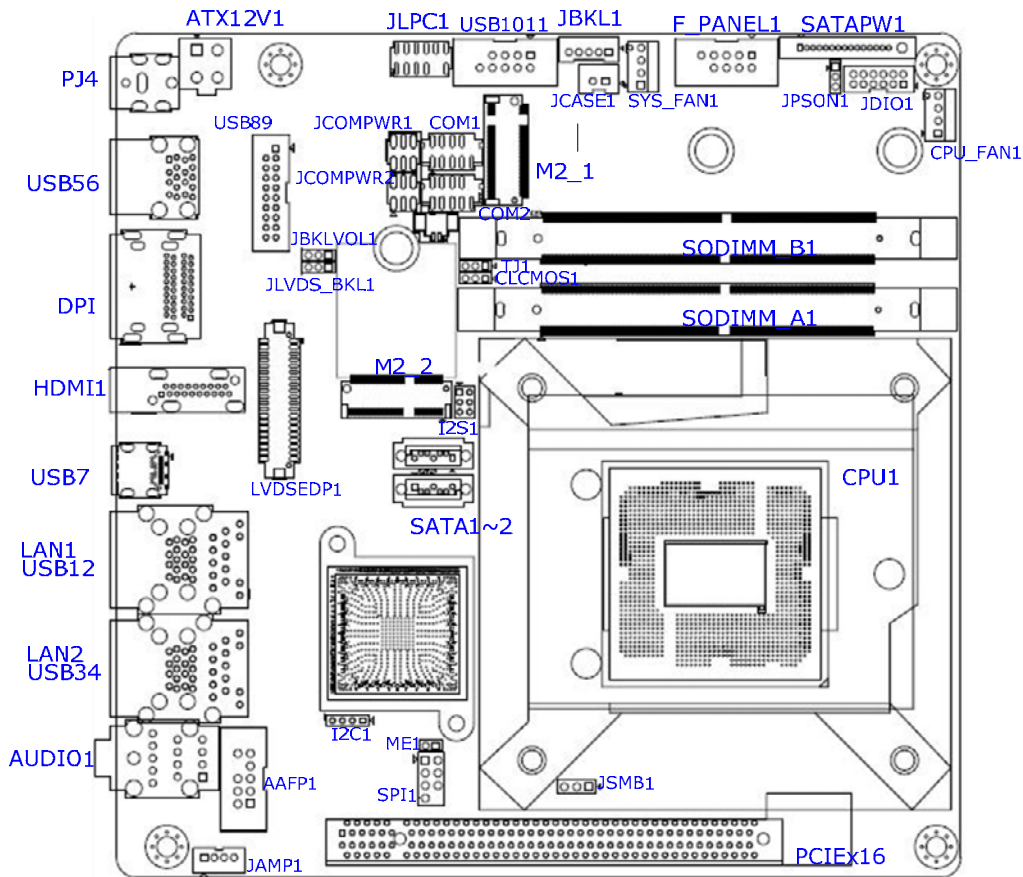


Do not over tighten the screws! Doing so can damage the motherboard.

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## 1.2.3 Motherboard Layout



## 1.2.4 Layout Content List

Slots & socket			
Label	Function	Note	
CPU1	LGA1151 socket		
SODIMM_A1~B1	DDR4 SODIMM Slot A1~B1		
PCIEX16_1	PCI Express x16 Slot		
M2_1	M.2 Type M 2242, 2280 Slot		
M2_2	M.2 Type A/E 2230 slot		
Jumpers			
Label	Function	Note	
CLCMOS1	Clear CMOS	3 x 1 header, pitch 2.00mm	
JPSON1	AT/ATX Mode Select	3 x 1 header, pitch 2.00mm	
JBKLVOL1	LVDS panel voltage Selection	3 x 1 header, pitch 2.00mm	
JLVDS_BKL1	LVDS brightness control mode Selection	3 x 1 header, pitch 2.00mm	
JCOMPWR1~2	COM1~2 POWER SETTING	3 x 2 header, pitch 2.00mm	

Rear Panel Connector			
Label	Function	Note	
PJ4	DC-In connector	Current limit 10A @12V~24V	
USB56	USB 3.1 port connector x2		
DP1	Display port connector x1		
HDMI1	HDMI connector x1		
USB7	USB 3.1 Type-C connector x1		
LAN1_USB12	RJ-45 Ethernet Connector x 1 USB 3.1 Gen1 Connector x 2		
LAN2_USB34	RJ-45 Ethernet Connector x 1 USB 3.1 Gen1 Connector x 2		
AUDIO1	3 audio phone jack		

Internal Connector			
Label	Function	Note	
CPU_FAN1	CPU Fan Connector	4 x 1 wafer, pitch 2.54mm	
SYS_FAN1	Chassis FAN connector	4 x 1 wafer, pitch 2.54mm	
F_PANEL1	Intel Front Panel connector	5 x 2 header, pitch 2.54mm	
ATX12V1	12V-24VDC power input connectors	2 x 2 wafer	

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COM1 ~ 2	Serial Port Connector	5 x 2 header, pitch 2.00mm
SATA1 ~ 2	SATA Data Connector	7 Pin Male connector
USB1011	USB Connector	5 x 2 header, pitch 2.54mm
SATAPW1	SATA power connector	15 Pin connector
USB89	USB 3.0 header	10 x 2 wafer, pitch 2.00mm
JDIO1	8bit GPIO connector	2 x 6 wafer, pitch 2.00mm
JLPC1	LPC connector	2 x 6 header, pitch 2.00mm
JBKL1	LVDS panel backlight connector	1 x 5 wafer, pitch 2.00mm
JSMB1	SM bus connector	3 x 1 header, pitch 2.00mm
AAFP1	Audio connector	5 x 2 wafer, pitch 2.54mm
LVDS1	LVDS panel connector	2 x 20 wafer 2.00mm
JCASE1	Chassis intrusion connector	2 x 1 wafer, pitch 2.5mm
JAMP1	Amplifier Locking Type connector	1 x 4 wafer, pitch 2.00mm
I2C1	I2C header	1 x 4 header, pitch 2.00mm
I2S1	I2S header	2 x 3 header, pitch 2.00mm

### 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.



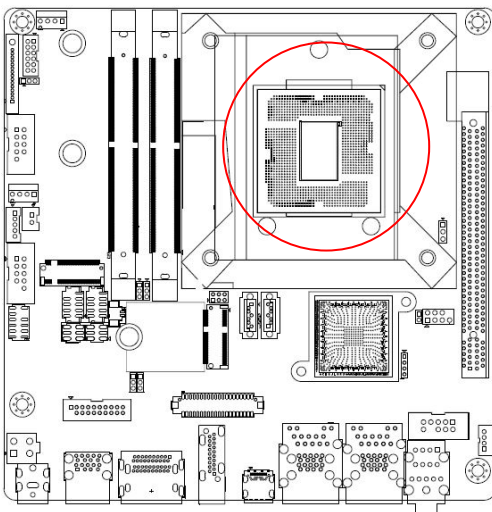




- If you purchased a separate CPU heatsink and fan assembly, make sure that you have properly applied Thermal Interface Material to the CPU heatsink or CPU before you install the heatsink and fan assembly.
- To support i7 CPU, we suggest to use at least 150w adapter or above. For i5 CPU, 120w or above is suggested.

### 1.3.1 Installing the CPU

1. Locate the CPU socket on the motherboard.

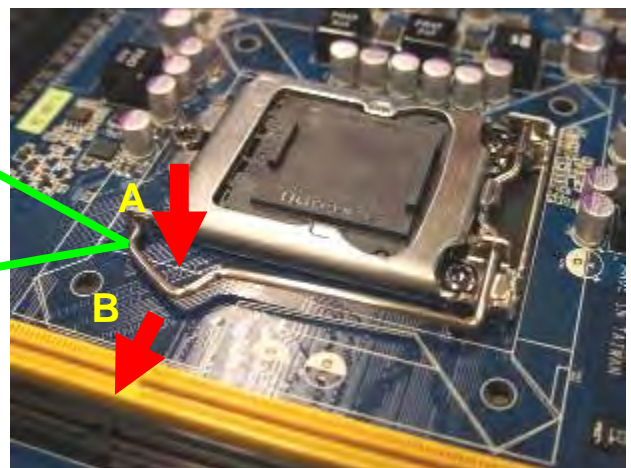
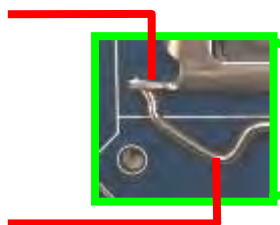


Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

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

**Retention tab**

**Load lever**





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

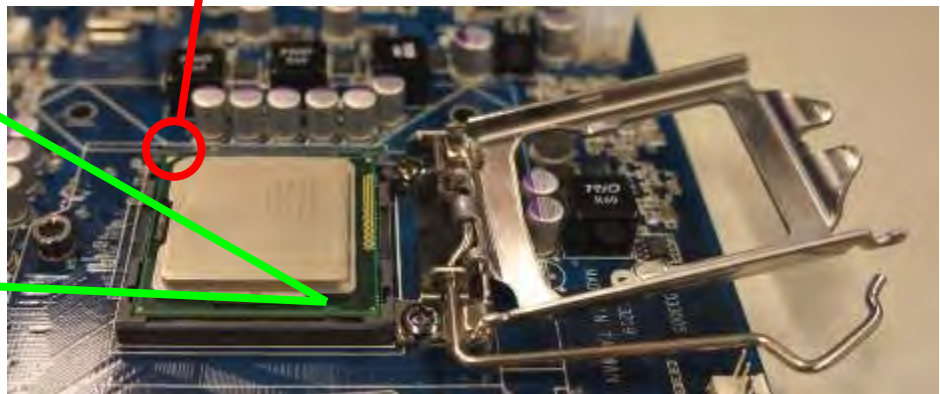
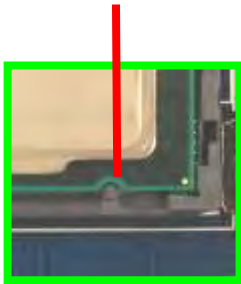
3. Lift the Load lever with your thumb and forefinger to around 180° angle (A), then pull the PnP cap from the CPU socket to remove (B).



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.

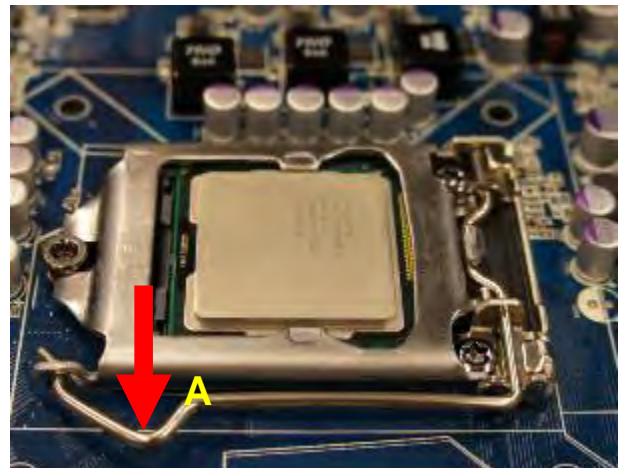
CPU notch

Gold triangle



Alignment key

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.



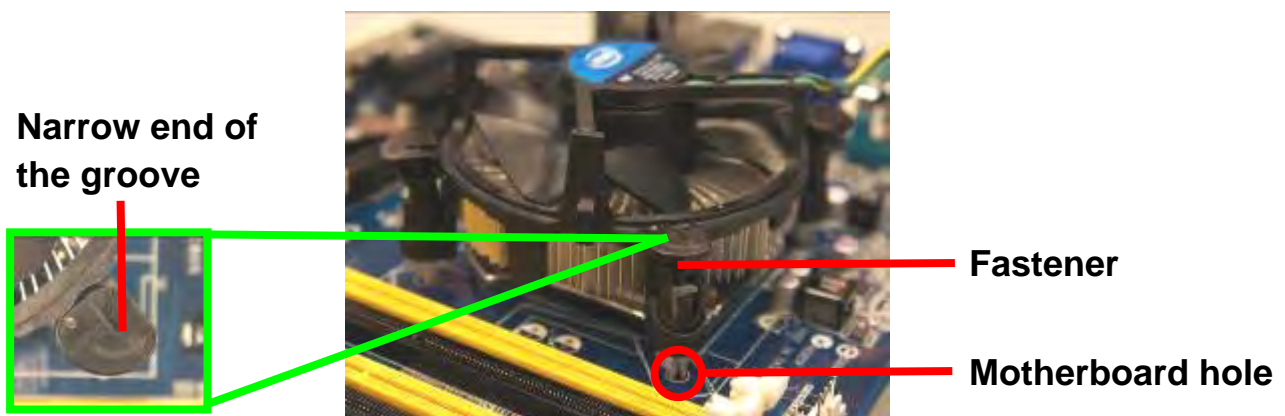
- Install the motherboard to the chassis before you install the CPU fan and heatsink assembly.
- When you buy a boxed Intel® Core™ i7/ i5/ i3 LGA1151 processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel® certified multi-directional 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. You also need to choose proper CPU heatsink and fan based on different CPU TDP.

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.

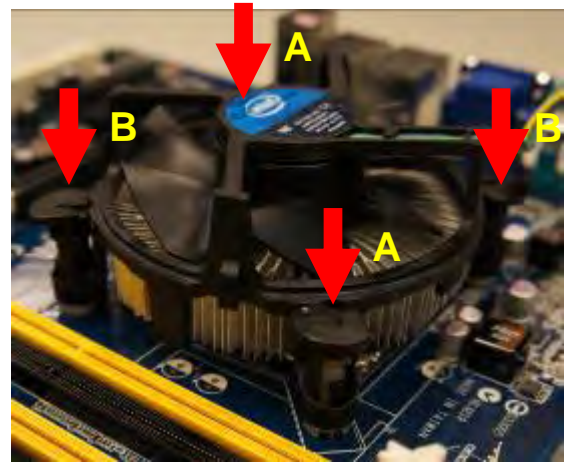
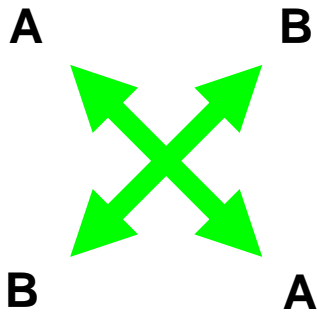


Orient the heatsink and fan assembly such that the CPU fan cable is closest to the CPU fan connector.

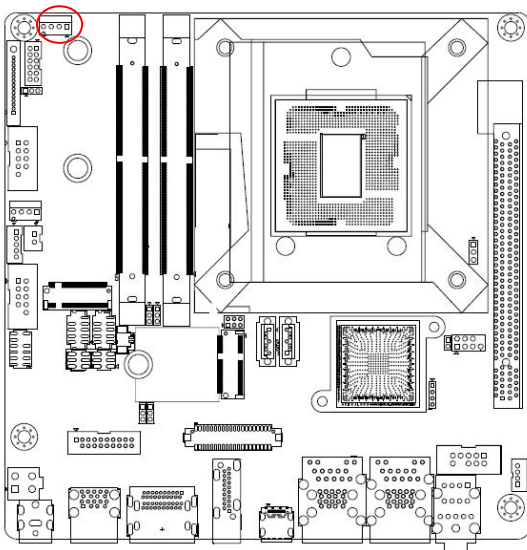


- Make sure each fastener is oriented as shown, with the narrow groove directed outward.

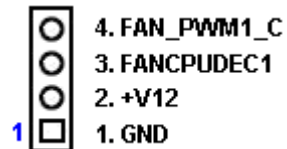
2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.



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



FAN 1  
CPU FAN



- 4. FAN\_PWM1\_C
- 3. FANCPUDEC1
- 2. +V12
- 1. GND

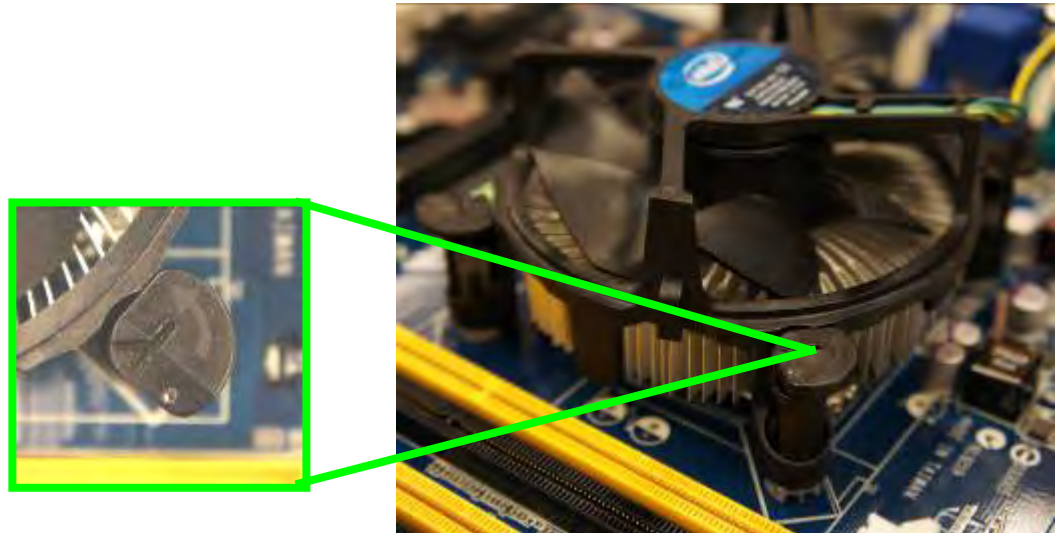


Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors.

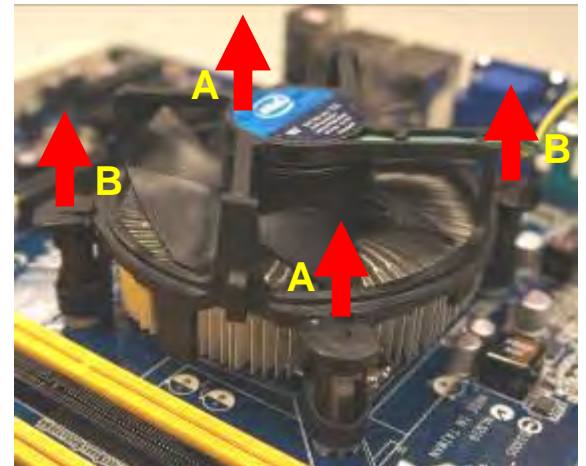
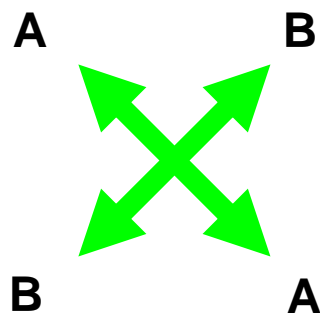
### 1.3.3 Uninstalling the CPU Heatsink and Fan

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.

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

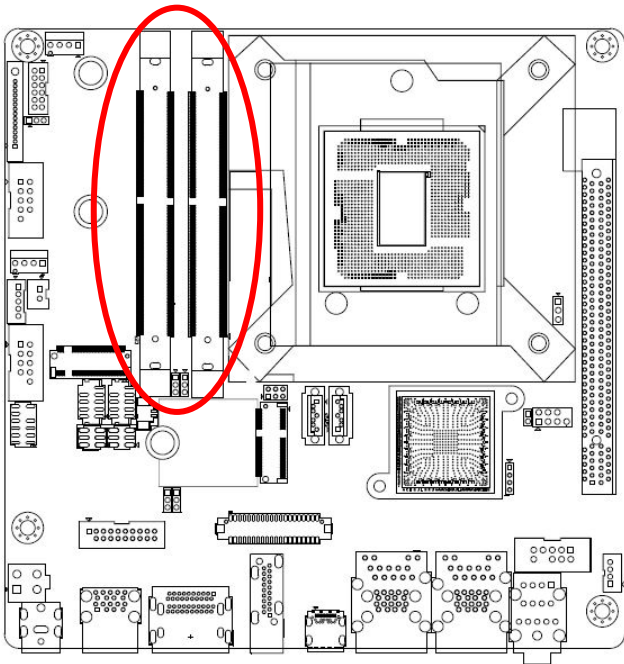


## 1.4 System Memory

### 1.4.1 Overview

The motherboard comes with two Double Data Rate 4 (DDR4) Small Outline Dual Inline Memory Modules (SODIMM) 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 SODIMM sockets

## 1.4.2 Installing a DDR4 SODIMM



---

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

---

1. Locate the SODIMM socket on the board.
2. Hold two edges of the SODIMM 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 SODIMM module in with extra force as the SODIMM module only fits in one direction.



- 
- The DDR4 SODIMM sockets do not support DDR/DDR2/DDR3 SODIMMs. DO NOT install DDR/DDR2/DDR3 SODIMMs to the DDR4 SODIMM socket.
- 

## 1.4.3 Removing a DDR4 SODIMM

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



---

Support the SODIMM lightly with your fingers when pressing the ejector tabs. The SODIMM 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

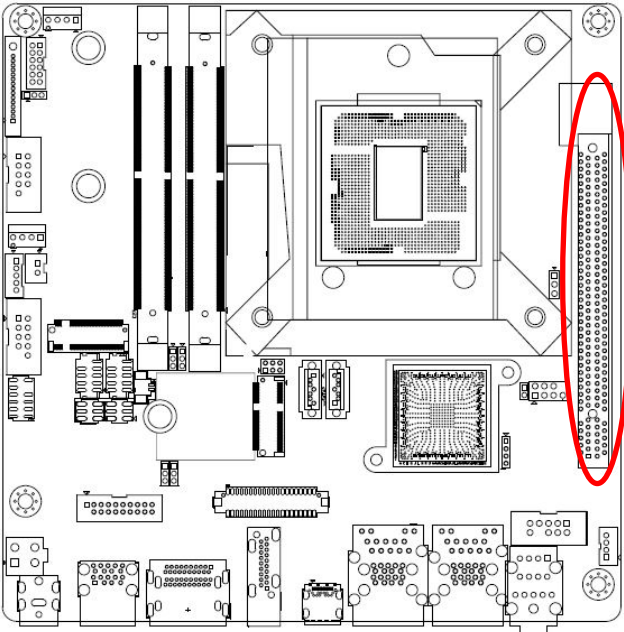
After installing the expansion card, configure it by adjusting the software settings.

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 x16 slot

This motherboard supports one PCI Express x16 slot that complies with the PCI Express specifications.



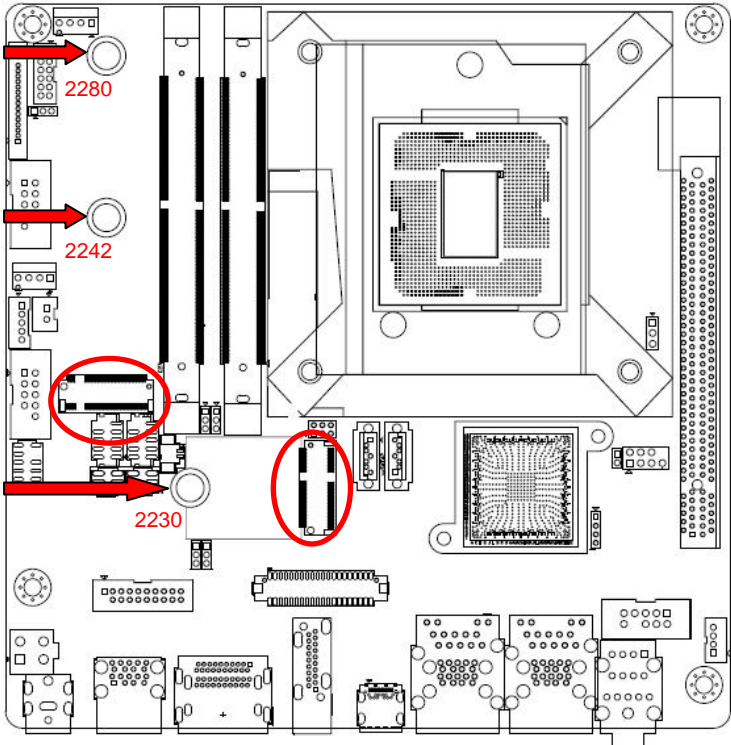


### 1.5.4 M.2 connector

Support PCIe and SATA interface of this connector.

- M2\_1 Slot supports M-Key Type 2242, 2280 M.2 Device
- M2\_2 Slot supports A/E-Key Type 2230 M.2 Device

Red arrow indicate M.2 screw standoff.



To install M.2 device: (1) Locate the M.2 connector on the motherboard. (2) Remove screw on the standoff. (3) Align and insert the M.2 card into the M.2 connector and lock down screw back into standoff.

## 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 such as system passwords.

To erase the RTC RAM:

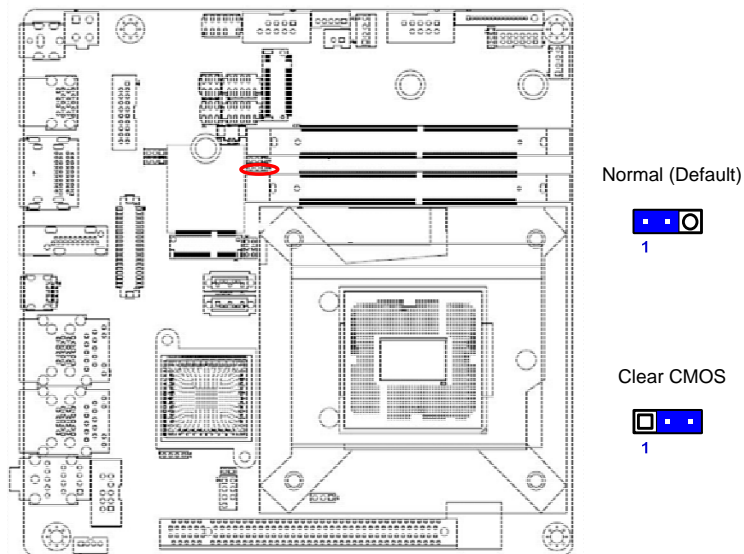
1. Turn OFF the computer and unplug the power cord.
2. Remove the onboard battery.
3. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
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 CLRTC jumper default position. Removing the cap will cause system boot failure!

---



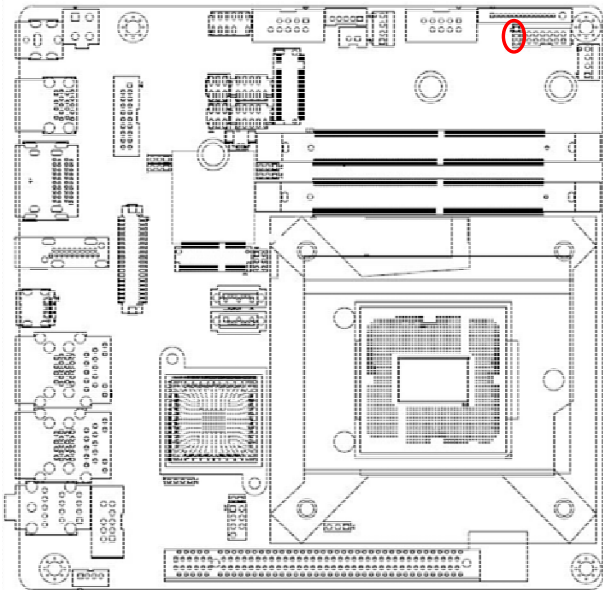
---

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



AT mode



1

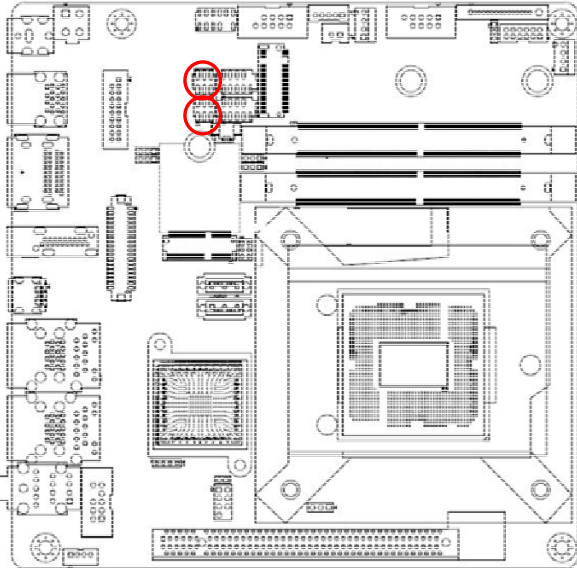
ATX mode (Default)



1

### 1.6.3 COM POWER SETTING (JCOMPWR1~2)

This jumper allows you to select COM1/COM2 to support Ring/+12V/+5V



Ring (Default)



1

2

+12V



1

2

+5V

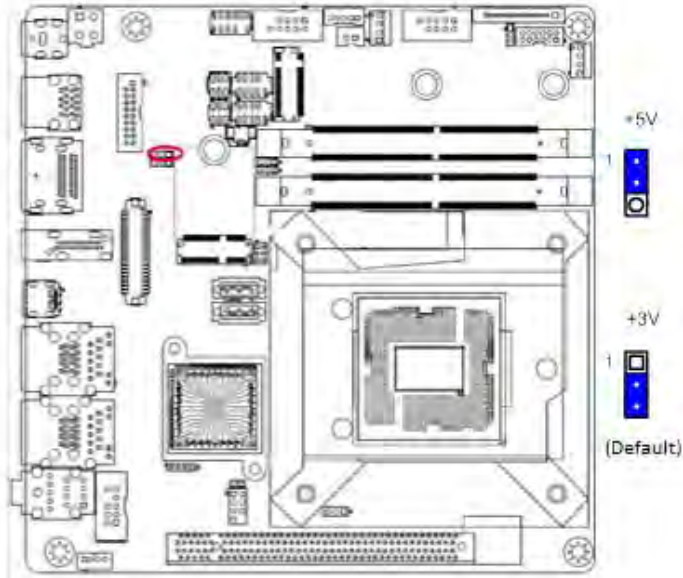


1

2

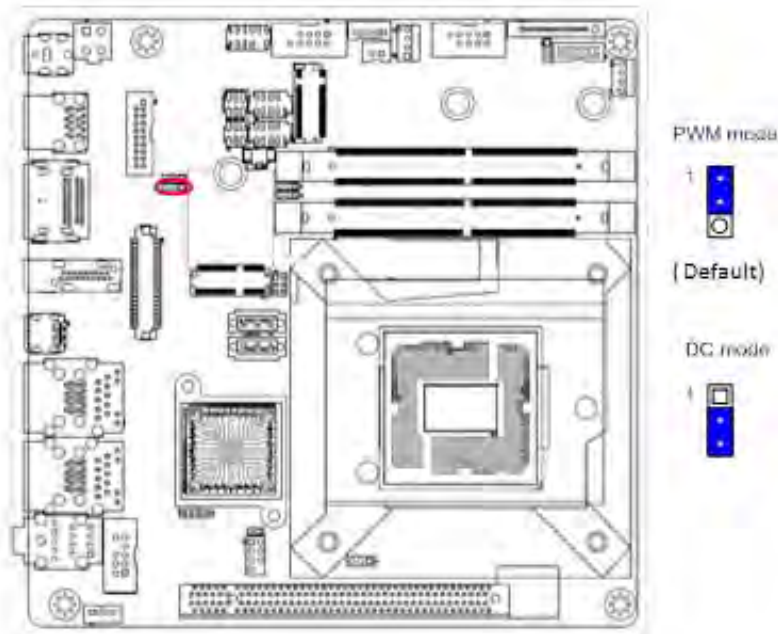
### 1.6.4 LVDS panel voltage Selection (JBKLVOL1)

This jumper allows you to select the voltage of LVDS panel backlight.



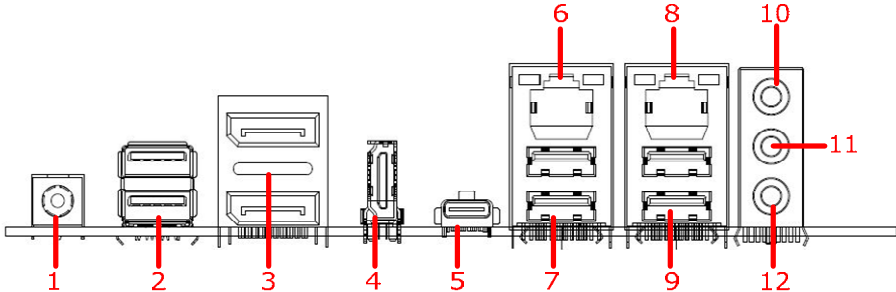
### 1.6.5 brightness control mode Selection: (JLVDS\_BKL1)

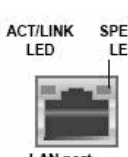
This jumper allows you to select the control mode of LVDS panel backlight.



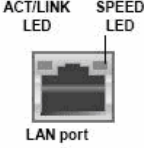
# 1.7 Connectors

## 1.7.1 Rear panel connectors



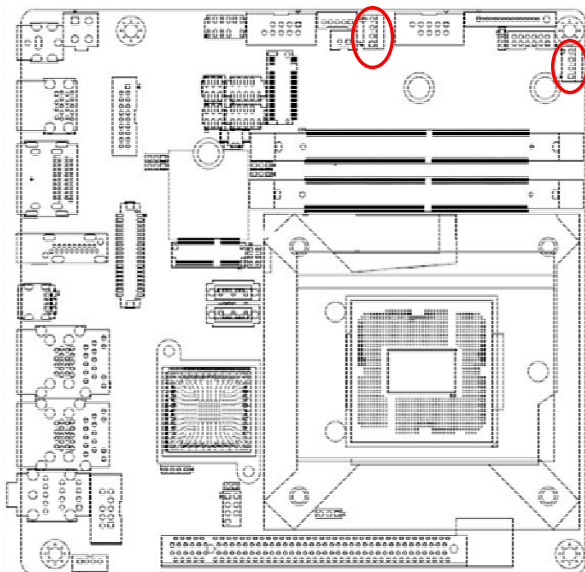
Item	Name	Function	Description																				
1	PJ4	DC-in connector	The connector is for DC-in (12-24V). Note: Max input current 10A.																				
2	USB56	USB 3.1 port	These two Universal Serial Bus (USB) ports are available for connecting USB 3.1 Gen1 devices.																				
3	DP1	Display Port	The Dual Display port Connector																				
4	HDMI1	HDMI port	This HDMI port connector																				
5	USB7	USB 3.1 type C port	This one Universal Serial Bus (USB) ports are available for connecting USB 3.1 Gen2 devices.																				
6	LAN1	Gigabit LAN (RJ-45) Connectors	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 border="1"> <thead> <tr> <th colspan="2">ACT/Link LED</th> <th colspan="2">Speed LED</th> </tr> <tr> <th>Status</th> <th>Description</th> <th>Status</th> <th>Description</th> </tr> </thead> <tbody> <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> </tbody> </table>	ACT/Link LED		Speed LED		Status	Description	Status	Description	OFF	No link	OFF	10Mbps connection	Orange	Linked	Green	100Mbps connection	Blinking	Data activity	Orange	1Gbps connection
ACT/Link LED		Speed LED																					
Status	Description	Status	Description																				
OFF	No link	OFF	10Mbps connection																				
Orange	Linked	Green	100Mbps connection																				
Blinking	Data activity	Orange	1Gbps connection																				
7	USB12	USB 3.1 Connectors	These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 3.1 Gen2 devices.																				

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8	LAN2.	Gigabit LAN (RJ-45) Connectors 	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.				
				ACT/Link LED		Speed LED	
				Status	Description	Status	Description
				OFF	No link	OFF	10Mbps connection
				Orange	Linked	Green	100Mbps connection
Blinking	Data activity	Orange	1Gbps connection				
9	USB34	USB 3.1 Connectors	These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 3.1 Gen2 devices.				
10	AUDIO1	Line-in port (Light blue)	This port connects a tape, CD, DVD player, or other audio sources.				
11	AUDIO1	Line-out port (Lime)	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.				
12	AUDIO1	Microphone port (Pink)	This port connects a microphone.				

### 1.7.2 CPU and System fan connectors (CPU\_FAN1, SYS\_FAN1)

The fan connectors support cooling fans of 280mA (3.36 W max.) at 4800rpm or a total of 1A~2.22A (26.64W max.) at +12V. 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.



- CPU\_FAN1
- 4. FAN\_PWM1
  - 3. FAN\_SPEED2
  - 2. +V12
  - 1. GND

- SYS\_FAN1
- 4. FAN\_PWM2
  - 3. FAN\_SPEED2
  - 2. +V12
  - 1. GND

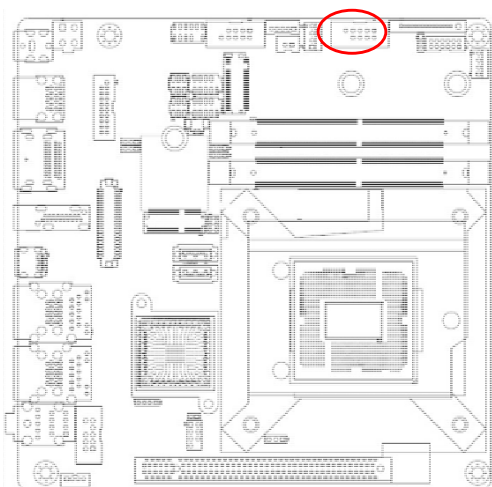


Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components.

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

### 1.7.3 System Panel (F\_PANEL1)

This connector is for a chassis-mounted front panel. The functions are as following.



- 1
- 
- 2
- 1. HDD LED+
  - 2. +3.3V
  - 3. HDD LED#
  - 4. PWR LED#
  - 5. GND
  - 6. PANSWIN#
  - 7. RST
  - 8. GND
  - 9. N/A

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- **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)**

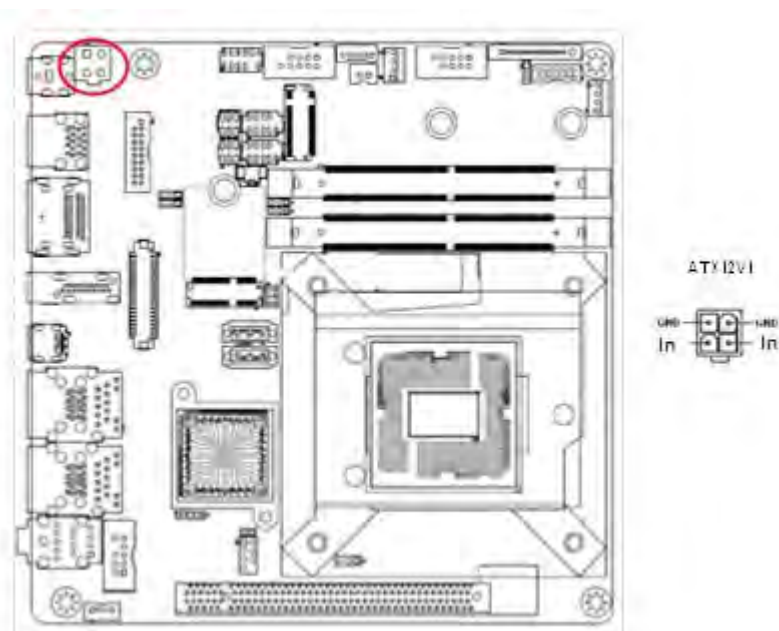
This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **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 DC-In power connectors (ATX12V1, 4pin)

The connector is for 12V-24VDC input 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.



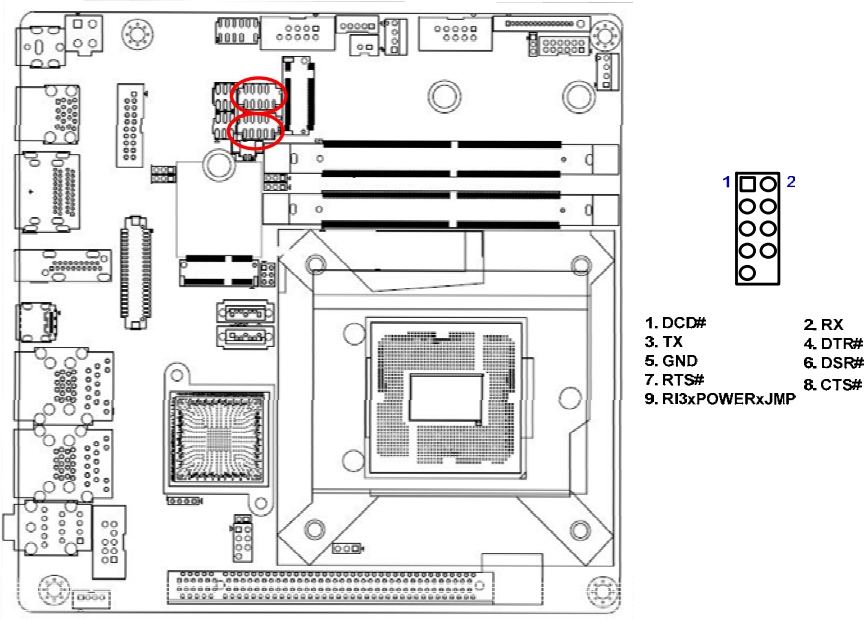




- Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate. **Maximum current limit is 10A.**
- Make sure that your power supply unit (PSU) can provide at least the minimum power required by your system.

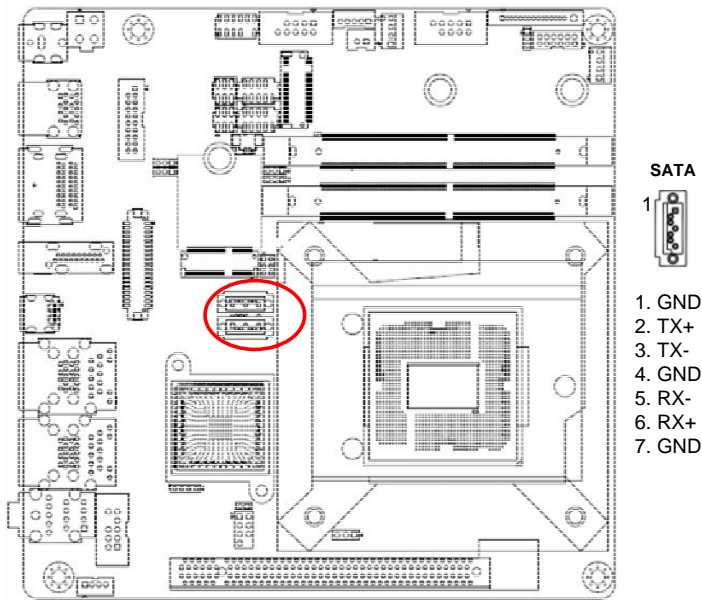
**1.7.5 Serial Port connectors (COM1~2)**

This connector is for a serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.



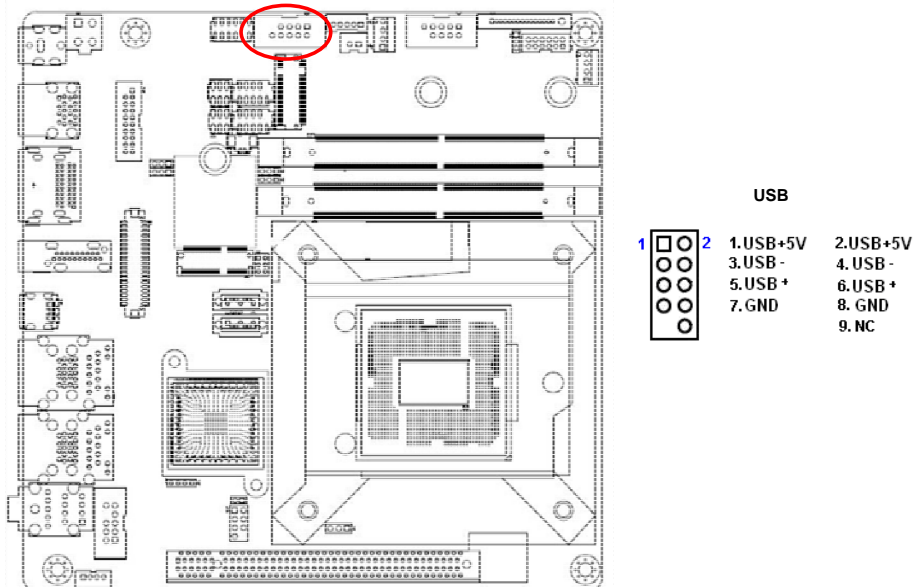
**1.7.6 Serial ATA Connector (SATA1~2)**


SATA 1~2 support SATA 3.0. These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.



### 1.7.7 USB connectors (USB1011)

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.



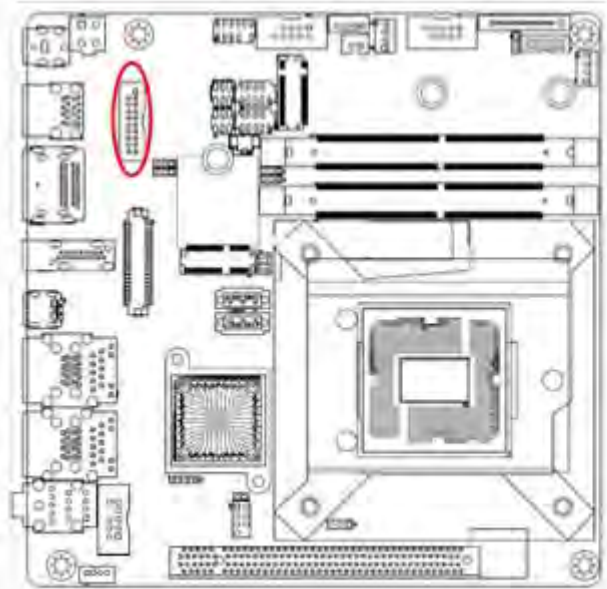
	<p>Never connect a <b>1394 cable</b> to the USB connectors. Doing so will damage the motherboard!</p>
---	---



The USB module is purchased separately.

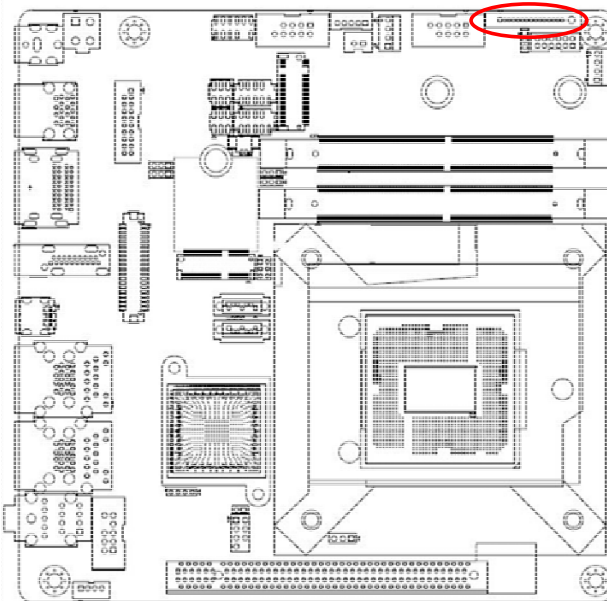
1.7.8 USB connectors (USB89)

These connectors are for two USB 3.0 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.



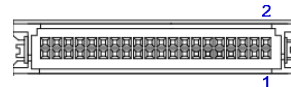
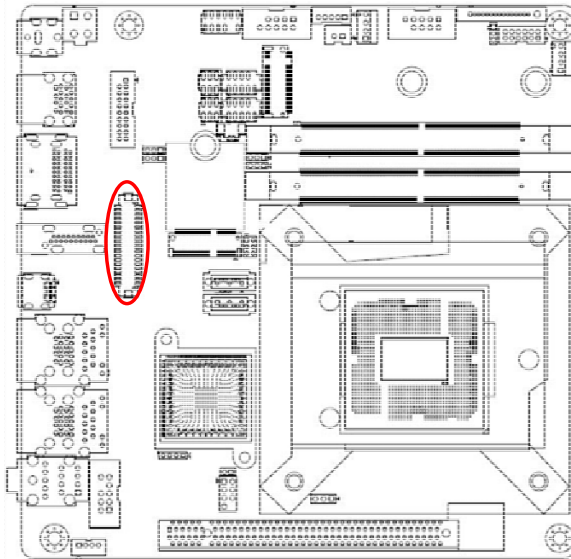
1	15 -2V	2 USB3_RX-
2	16 USB3_RX-	3 USB3_RX+
3	17 USB3_RX+	4 GND
4	18 GND	5 USB3_TX-
5	19 USB3_TX-	6 USB3_TX+
6	20 USB3_TX+	7 GND
7	13 GND	8 USB-
8	12 USB-	9 USB+
9	11 USB+	10 NC

1.7.9 SATA power connector (SATAPW1)



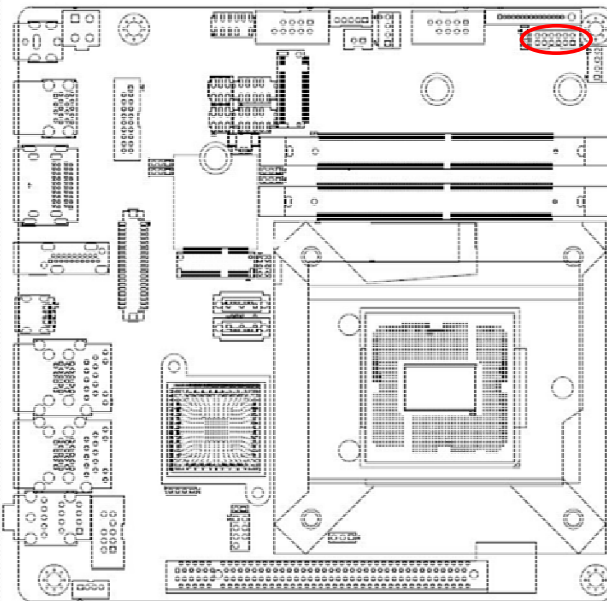
1	+3.3V
2	+3.3V
3	+3.3V
4	GND
5	GND
6	GND
7	+5V
8	+5V
9	+5V
10	GND
11	GND
12	GND
13	+12V
14	+12V
15	+12V

1.7.10 LVDS panel connector (LVDS1)



- |                 |                 |
|-----------------|-----------------|
| 39. VDD_+12V    | 40. VDD_+12V    |
| 37. GND         | 38. GND         |
| 35. LVDS_B_CLK- | 36. LVDS_A_CLK- |
| 33. LVDS_B_CLK+ | 34. LVDS_A_CLK+ |
| 31. GND         | 32. GND         |
| 29. LVDS_B3-    | 30. LVDS_B2-    |
| 27. LVDS_B3+    | 28. LVDS_B2+    |
| 25. GND         | 26. GND         |
| 23. LVDS_B1-    | 24. LVDS_B0-    |
| 21. LVDS_B1+    | 22. LVDS_B0+    |
| 19. GND         | 20. GND         |
| 17. LVDS_A3-    | 18. LVDS_A2-    |
| 15. LVDS_A3+    | 16. LVDS_A2+    |
| 13. GND         | 14. GND         |
| 11. LVDS_A1-    | 12. LVDS_A0-    |
| 9. LVDS_A1+     | 10. LVDS_A0+    |
| 7. GND          | 8. GND          |
| 5. DDC_CLK      | 6. DDC_DATA     |
| 3. VDD_+3.3V    | 4. VDD_+5V      |
| 1. VDD_+3.3V    | 2. VDD_+5V      |

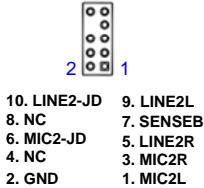
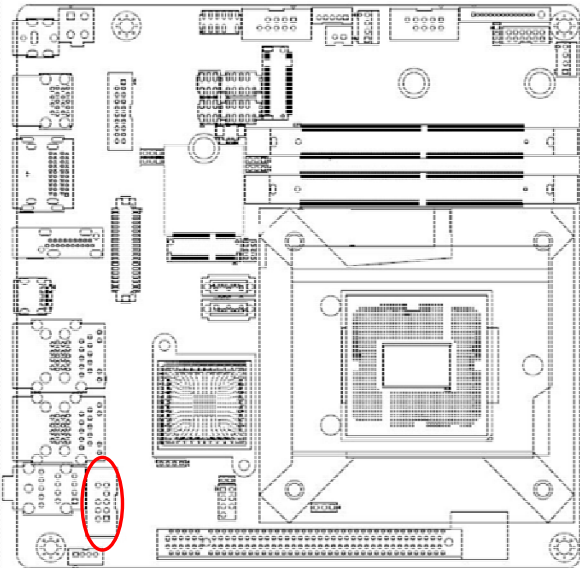
1.7.11 8 bit GPIO header (JDIO1)



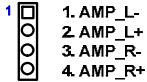
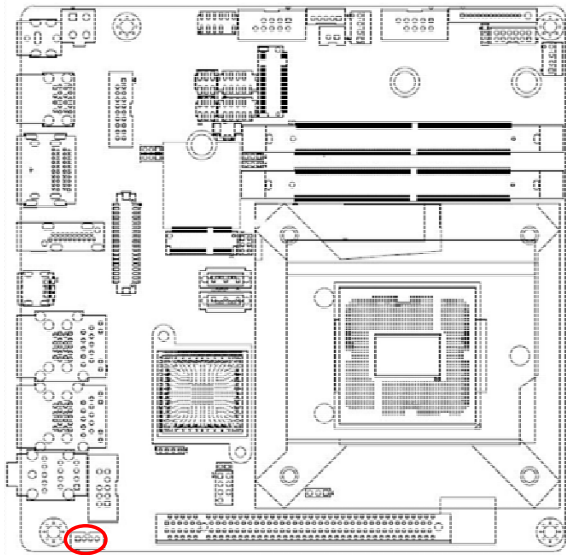
- |              |               |
|--------------|---------------|
| 1. SIO_GPIO0 | 2. SIO_GPIO4  |
| 3. SIO_GPIO1 | 4. SIO_GPIO5  |
| 5. SIO_GPIO2 | 6. SIO_GPIO6  |
| 7. SIO_GPIO3 | 8. SIO_GPIO7  |
| 9. SMB_CLK_  | 10. SMB_DATA_ |
| RESUME       | RESUME        |
| 11. GND      | 12. +5Vsb     |

### 1.7.12 Front Audio connector (AAFP1)

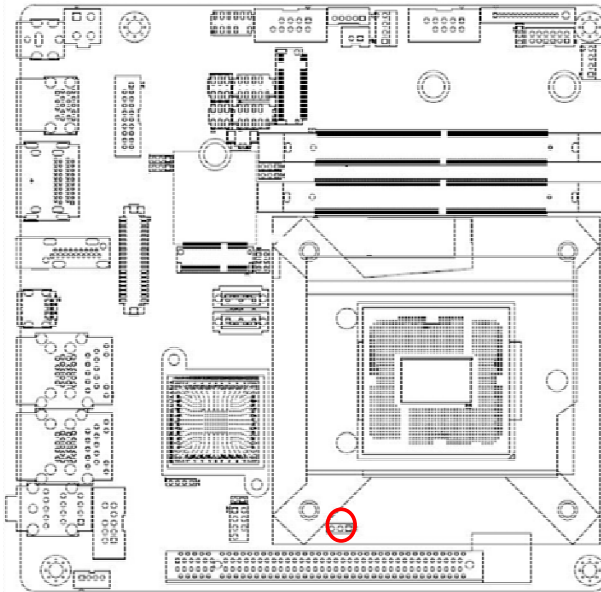
This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC '97 (optional) audio standard.



### 1.7.13 Amplifier Connector (JAMP1)

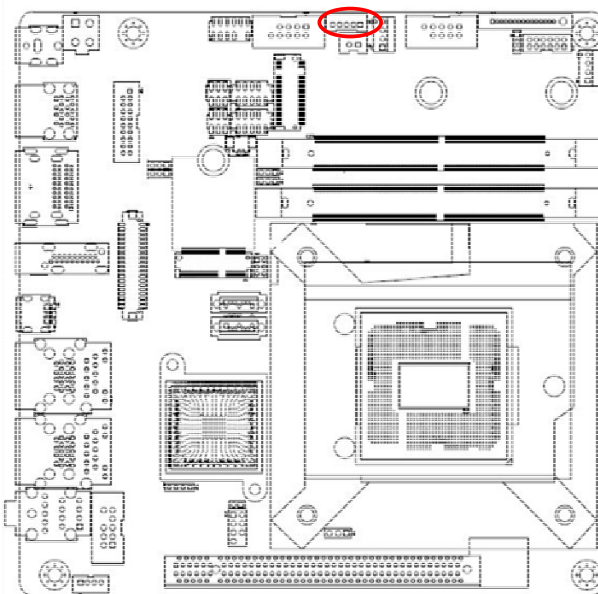


### 1.7.14 SM bus connector (JSMB1)



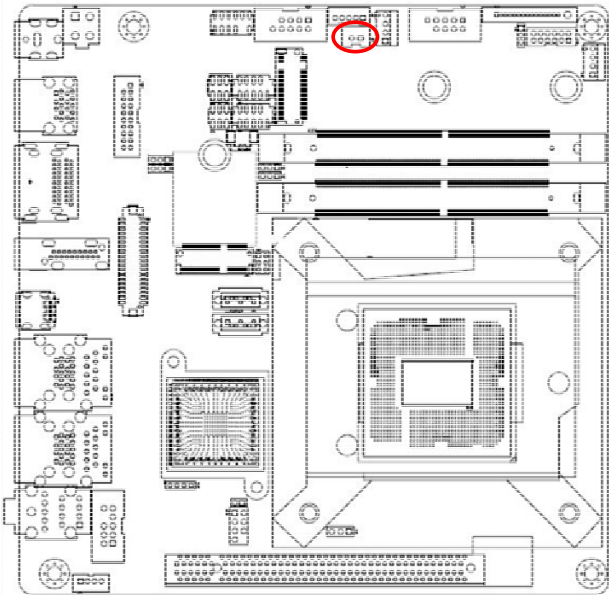
- 1. SMBCLK
- 2. SMBDATA
- 3. GND

### 1.7.15 LVDS panel backlight connector (JBKL1)



- 1. +12V\_BL
- 2. GND
- 3. BL\_EN
- 4. BRIGHT1
- 5. +5V\_BL

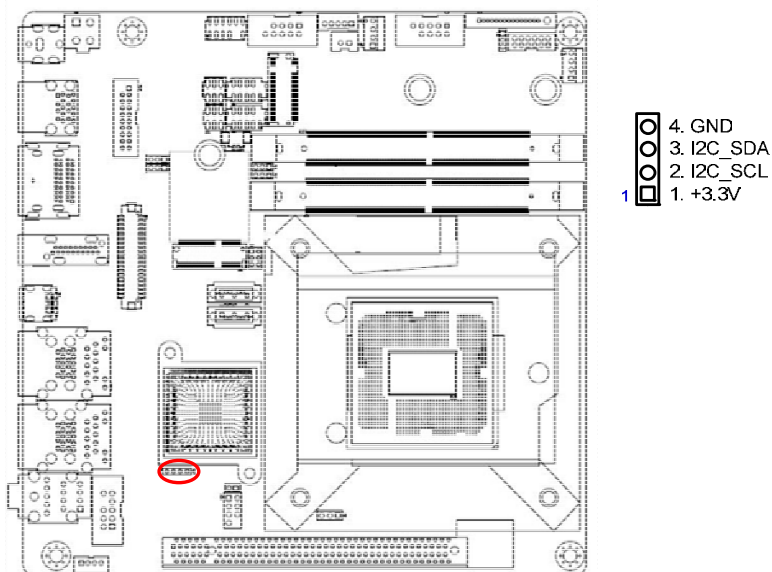
1.7.16 Chassis Intrusion Connector(JCASE1)



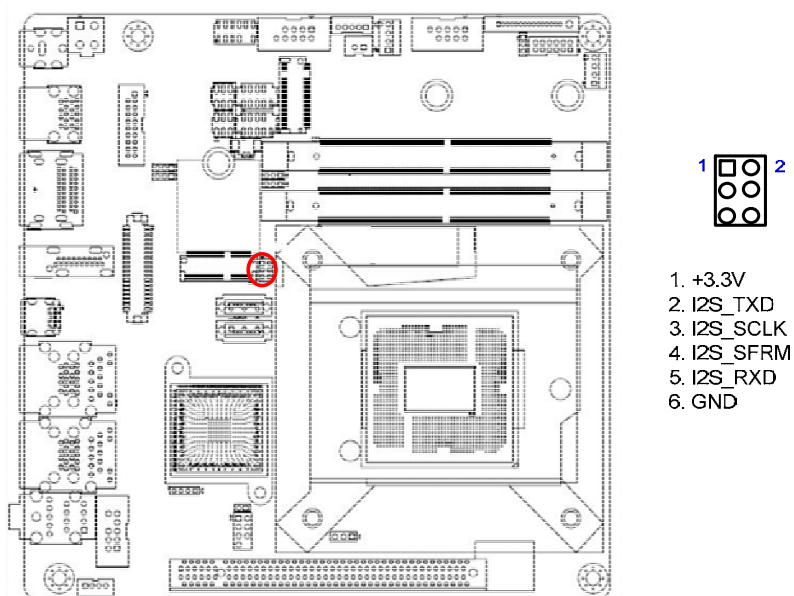
- 1. SIO\_CASEOPEN#
- 2. GND

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## 1.7.17 I2C connector (I2C1)



## 1.7.18 I2S connector(I2S1)





This chapter tells how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.



## **BIOS Step**

## Chapter 2 - BIOS Setup

### 2.1 BIOS Setup Program

This motherboard supports a programmable firmware chip that you can update using the provided utility. Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Del> during the Power-On-Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.



- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** from the BIOS menu screen.
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the system builder's website to download the latest BIOS file for this motherboard

### 2.1.1 Legend Box


The keys in the legend bar allow you to navigate through the various setup menus

Key(s)	Function Description
→←	Select Screen
↑↓	Select Item
Enter	Select
+ -	Change Opt.
F1	General Help
F2	Previous Values
F3	Optimal Defaults
F4	Save and Exit
ESC	Exit

### 2.1.2 List Box

This box appears only in the opening screen. The box displays an initial list of configurable items in the menu you selected.

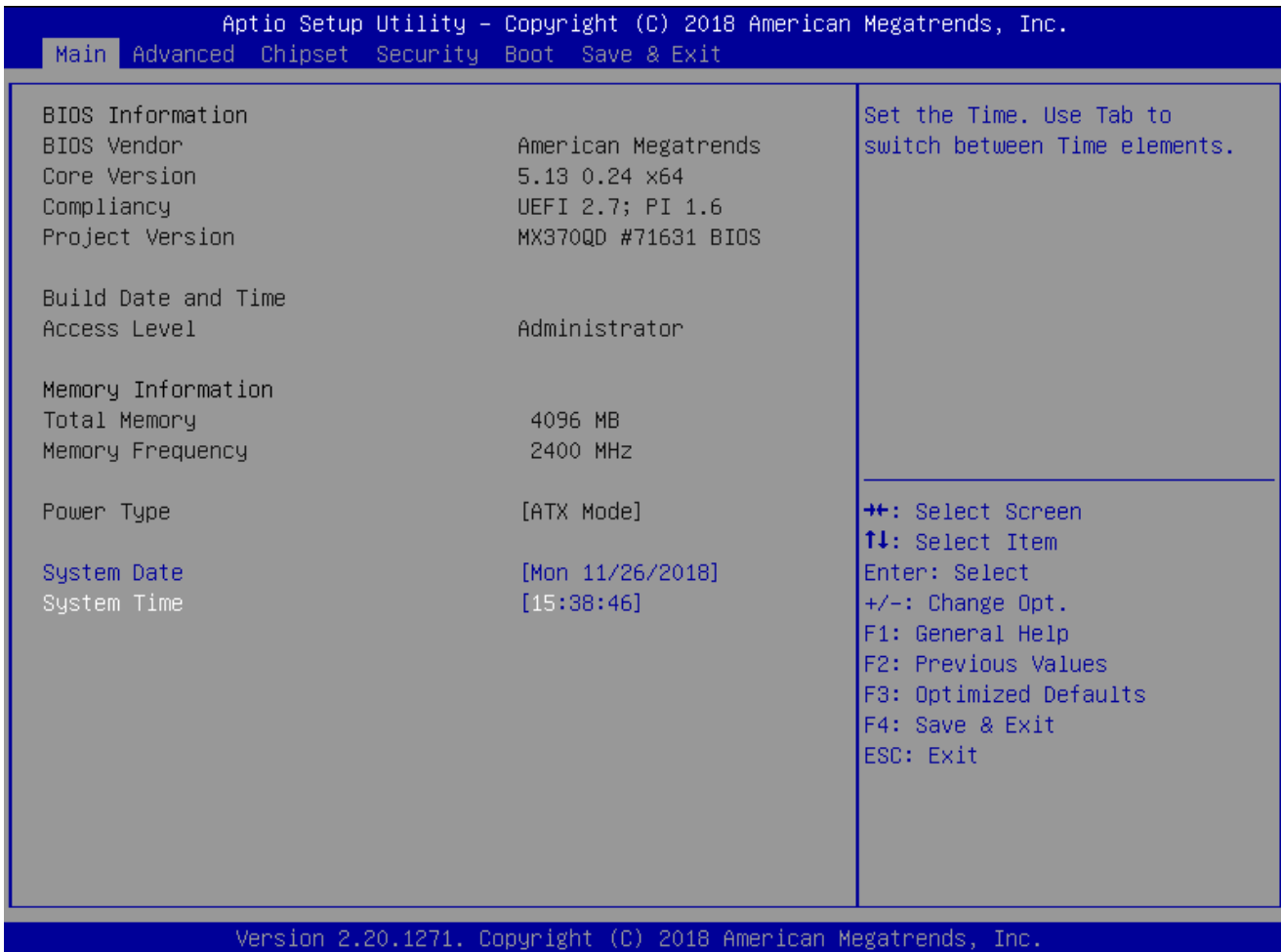
### 2.1.3 Sub-menu

Note that a right pointer symbol  appears to the left of certain fields. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press <Enter>. The sub-menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the <Esc> key to return to the main menu.

Take some time to familiarize yourself with the legend keys and their corresponding functions. Practice navigating through the various menus and submenus. If you accidentally make unwanted changes to any of the fields, press <F3> to load the optimal default values. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

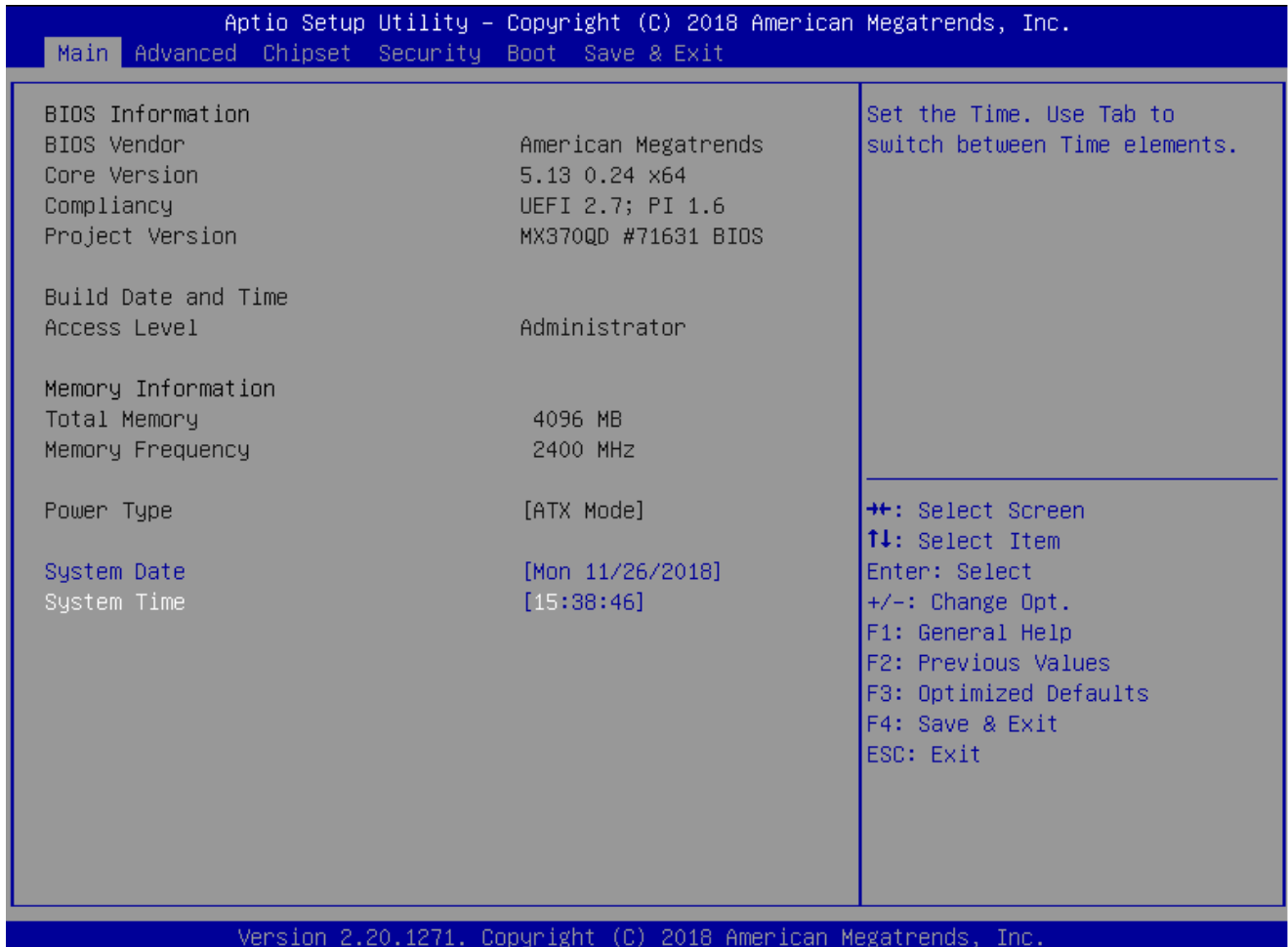
## 2.2 BIOS Menu Screen

When you enter the BIOS, the following screen appears. The BIOS menu screen displays the items that allow you to make changes to the system configuration. To access the menu items, press the up/down/right/left arrow key on the keyboard until the desired item is highlighted, then press [Enter] to open the specific menu.



## 2.3 Main Setup

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu. Use this menu for basic system configurations, such as time, date etc.



### BIOS Information

Displays the auto-detected BIOS information.

- **System Date**

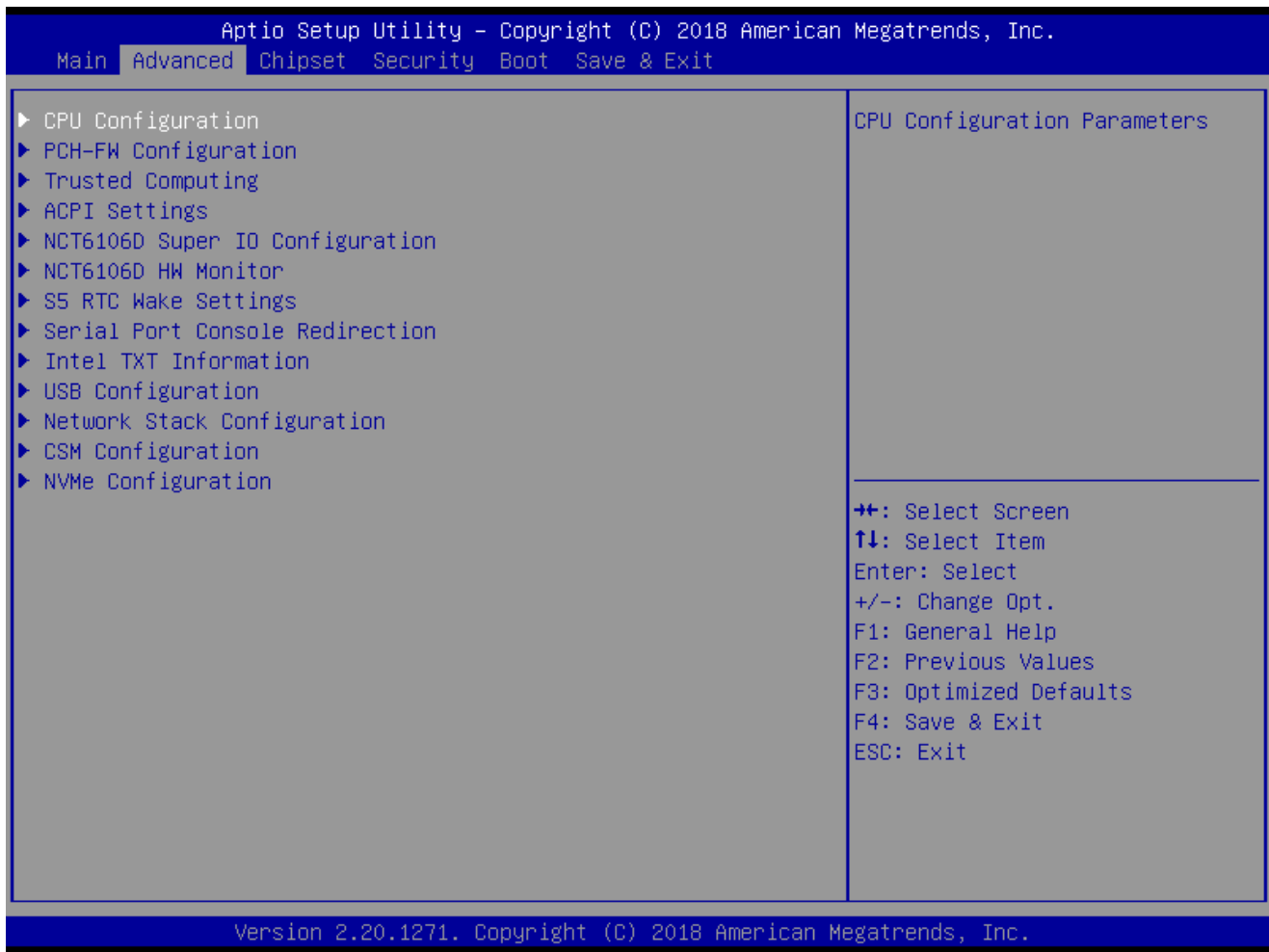
The date format is <Date>,<Month>,<Day>,<Year>.

- **System Time**

The time format is <Hour>,<Minute>,<Second>.

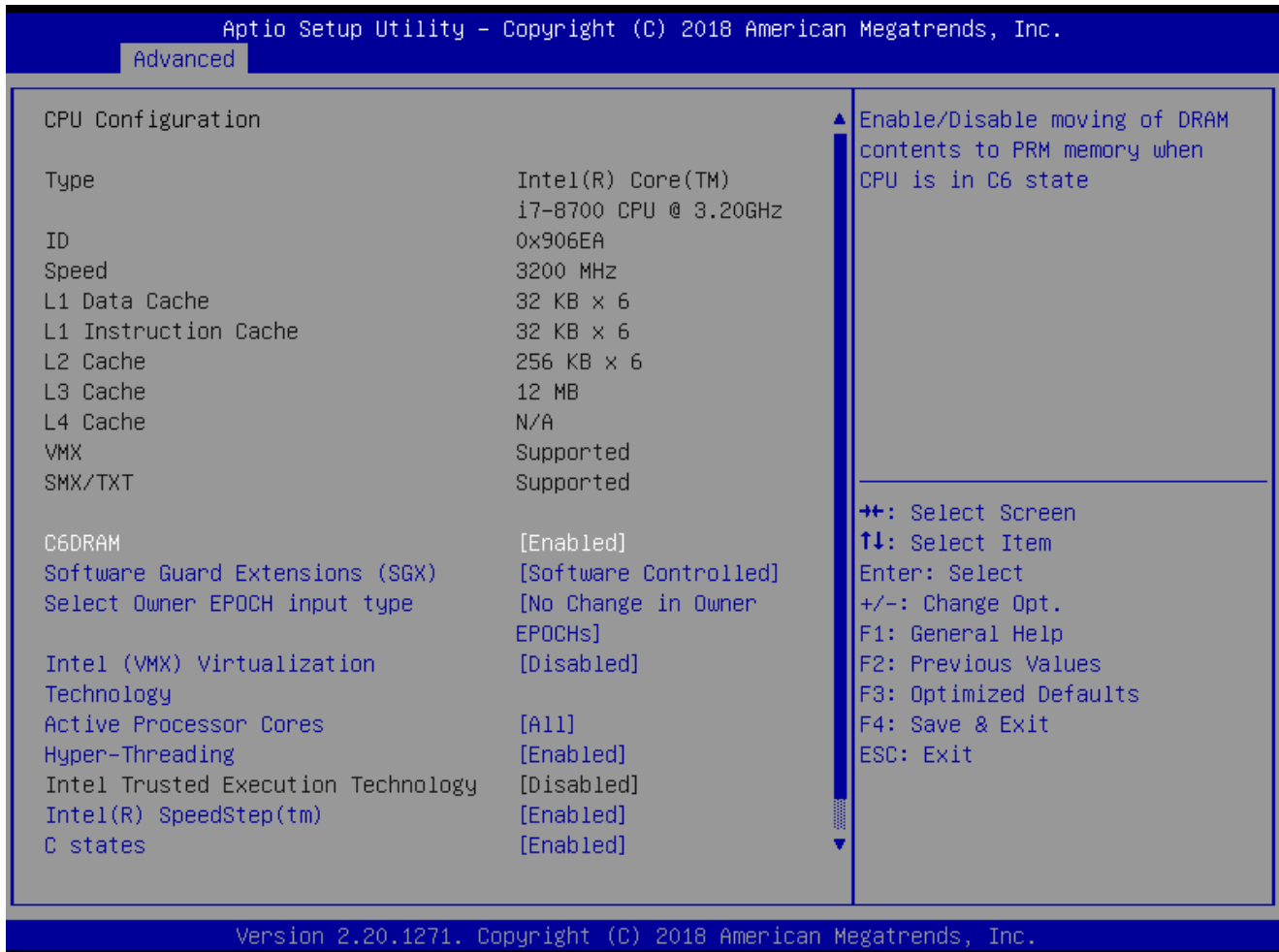
## 2.4 Advanced BIOS Setup

Select the Advanced tab from the setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as Chipset configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.



Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

## 2.4.1 CPU configuration



These options may differ to each CPU. It depends on the feature and items of each CPU models. This screenshot is for reference only.

- **C6DRAM [Enabled]**

Enabled or Disabled moving DRAM content to PRM memory when CPU is in C6 state.

Configuration options: [Disabled][Enabled]

This depends on CPU sku.

- **SW Guard Extensions(SGX) [software controlled]**

Enable or disables Guard Extensions

Configuration options:[Disabled][Enabled][Software Controlled]

- **Select owner EPOCH input type [No change in owner EPOCHs]**

After user enters EPOCH values manually, the values will not be visible for security reasons

Configuration options:[No change in owner EPOCHs][change to new random owner EPOCHs][Manual user defined owner EPOCHs]

- **Intel Virtualization Technology [Enabled]**

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

Configuration options: [Disabled][Enabled]

## MX370QD User's Manual

- **Active Processor Core [All]**

Number of Cores to enable in each processor package

Configuration options: [all] [1][2][3][4]

This depends on CPU sku.

- **Hyper-Threading [Enabled]**

Enabled or Disabled the hyper threading of Intel CPU

Configuration options: [Disabled][Enabled]

This depends on CPU sku.

- **Intel® SpeedStep™ [Enabled]**

Allow more than two frequency ranges to be supported.

Configuration options: [Disabled][Enabled]

- **Turbo mode [Enabled]**

Enable or disable Turbo mode

Configuration options: [Enabled] [Disabled]

- **C states [Enabled]**

Enable or disable CPU C states

Configuration options: [Enabled] [Disabled]

- **Enhanced C-states [Enabled]**

Enable or disable C1E. When enabled, CPU will switch to minimum speed when all cores enter C-state.

Configuration options: [Enabled] [Disabled]

- **Package C state limit [Auto]**

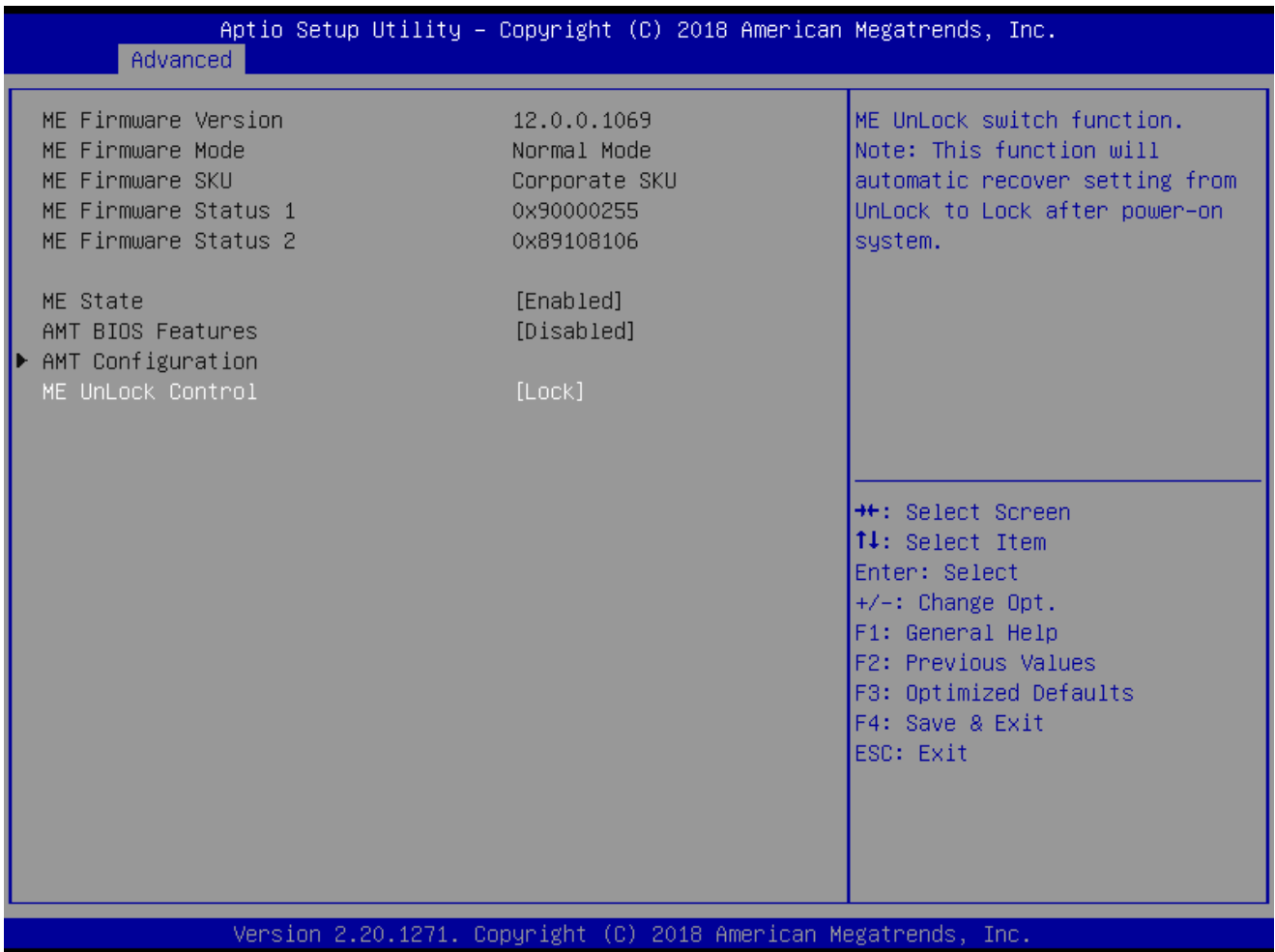
Package C state limit. Suggest to leave to factory default value.

Configuration options: [C0/C1][C2][C3][C6][C7][C7S][C8][C9][C10][Cpu default][Auto]



## 2.4.2 PCH-FW Configuration

It shows ME version and ME status.



- **ME State [Enable]**  
Enable or Disable Intel ME.  
Configuration options: [Enable] [Disable]
- **ME Unlock Control [Lock]**  
ME unlock switch function. This function will automatically recover setting from Unlock to Lock after power-on system.  
Configuration options: [Lock] [Unlock]

## 2.4.3 Trusted Computing

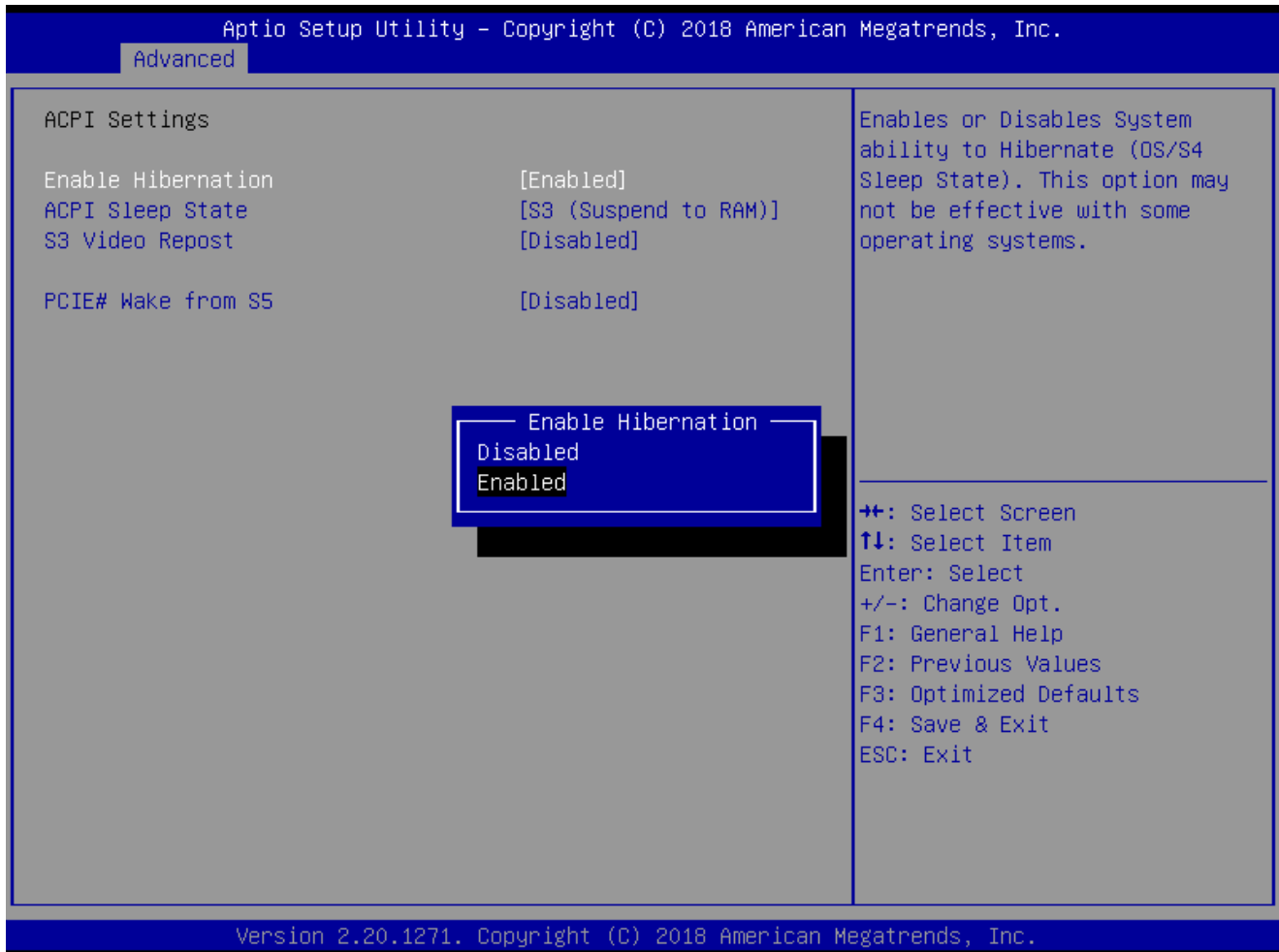
Security device settings

## MX370QD User's Manual



- **Security Device Support [Disabled]**  
Enable or Disable BIOS support for security device.  
Configuration options: [Enable] [Disable]
- **SHA-1 PCR Bank [Enable]**  
Enable or Disable SHA-1 PCR Bank.  
Configuration options: [Enable] [Disable]
- **SHA256 PCR Bank [Disable]**  
Enable or Disable SHA256 PCR Bank.  
Configuration options: [Enable] [Disable]
- **Pending Operation [None]**  
Schedule and operation for the Security Device.  
Configuration options: [None] [TPM clear]

## 2.4.4 ACPI Settings

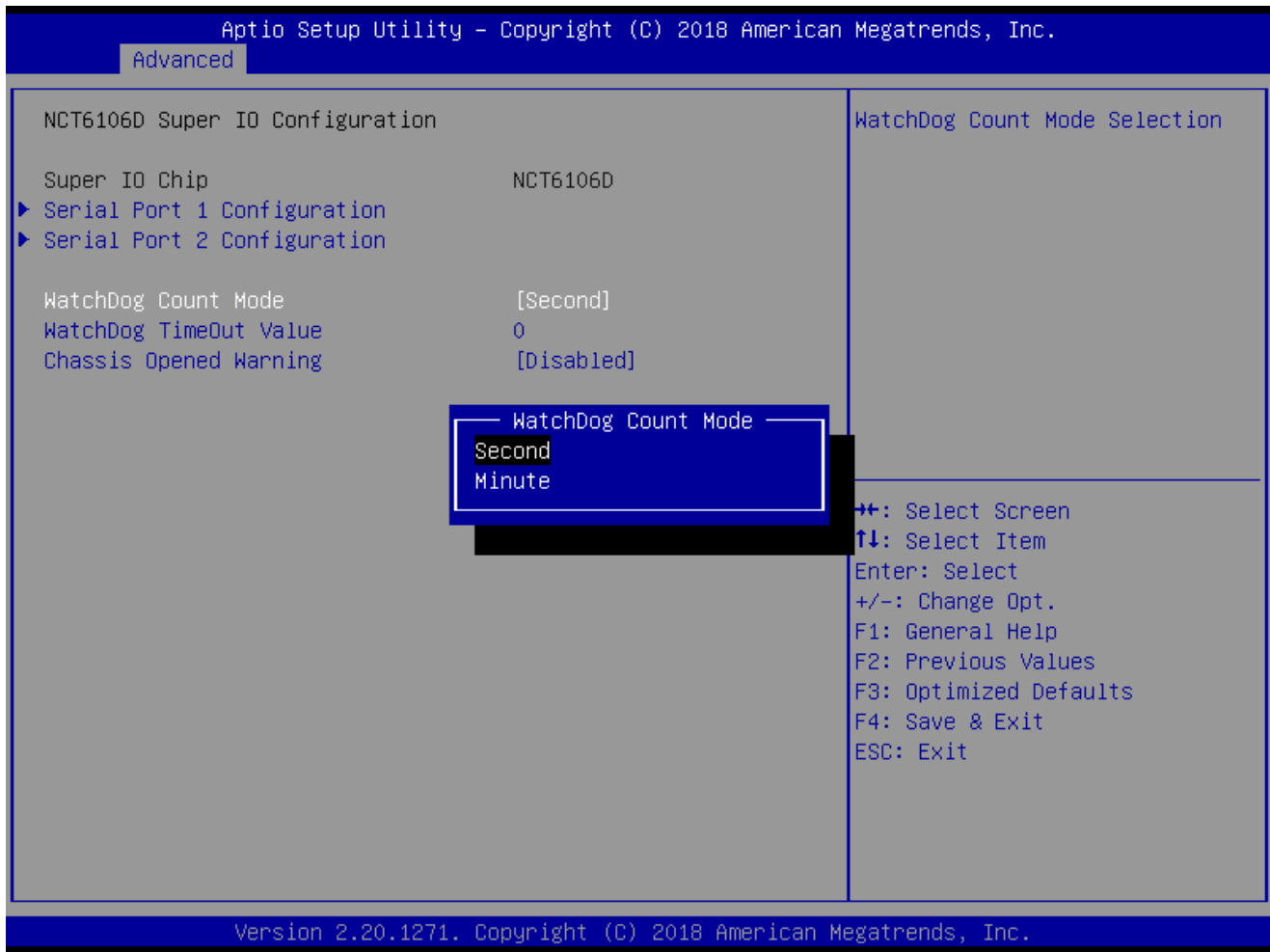


- **Enable Hibernation [Enable]**  
Enable or Disable system ability to Hibernation.  
Configuration options: [Enable] [Disable]
- **ACPI Sleep State [S3 only (Suspend to RAM)]**  
Select the highest ACPI sleep state the system will enter the SUSPEND button is press.  
Configuration options: [Suspend Disable] [S3 only(suspend to RAM )]
- **S3 Video Repost [Disabled]**  
Enable or disable S3 video repost  
Configuration options: [Disabled] [Enabled]
- **PCIE# wake from S5 [Disabled]**  
Enable or disable PCIE wake the system from S5.  
Configuration options: [Disabled] [Enabled]

## MX370QD User's Manual

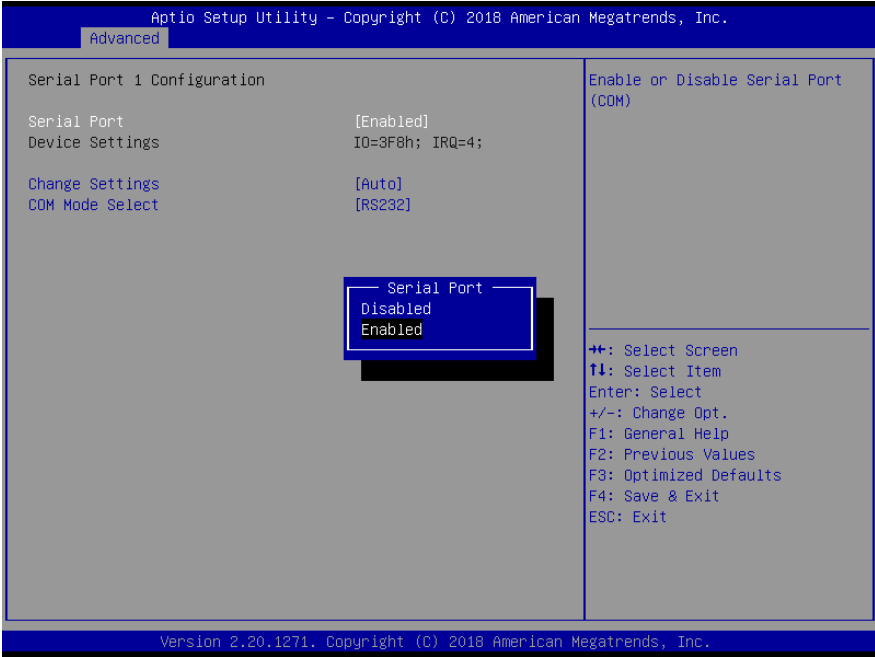
### 2.4.5 NCT6106D Super IO configuration

Provide NCT6106D super IO configuration settings

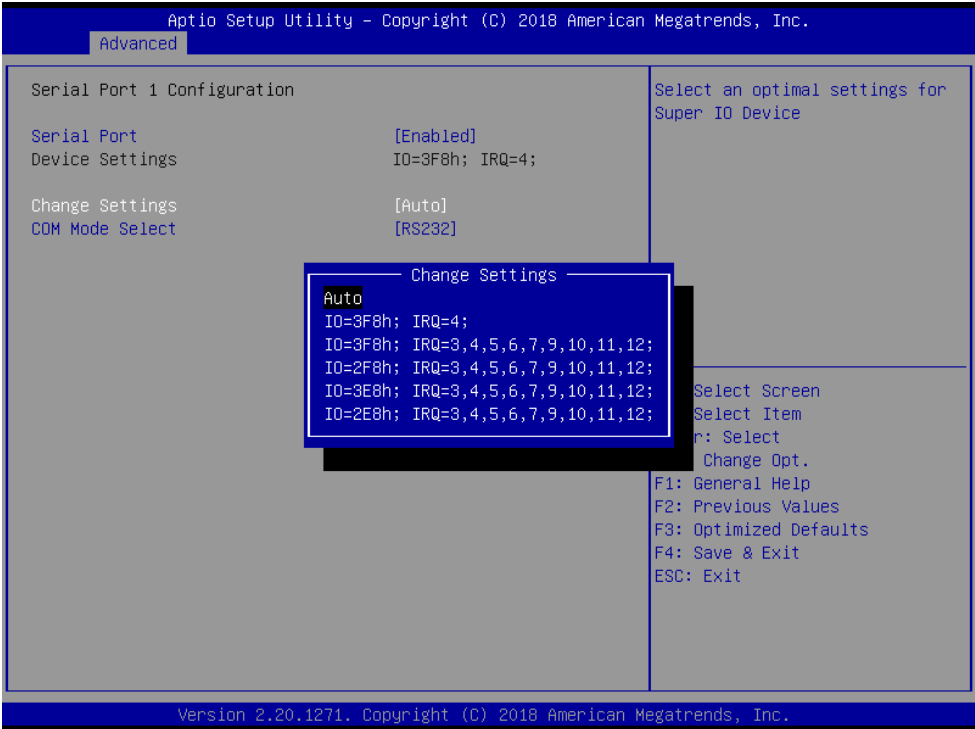


- **WatchDog count mode [Second]**  
WatchDog count mode Selection  
Configuration options: [Second] [Minute]
- **WatchDog Timeout value**  
Fill watchdog timeout value, 0 means disables
- **Chassis opened warning [Disabled]**  
Select chassis intrusion enabled to Disabled  
Configuration options: [Disabled] [Enabled]

### 2.4.5.1 Serial Port 1 Configuration

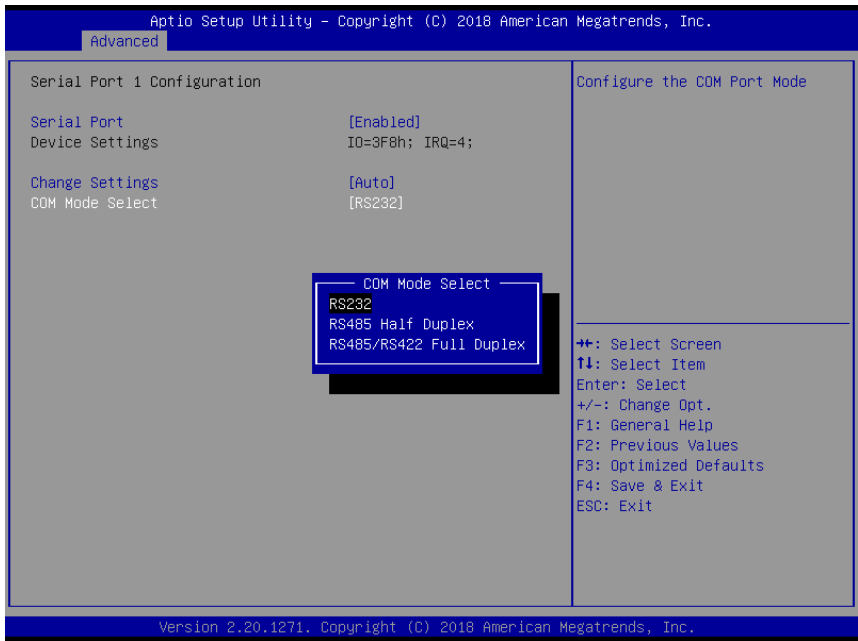


- **Serial Port [Enabled]**  
Enable or Disable serial Port (COM)  
Configuration options: [Disabled] [Enabled]
- **Change Setting [Auto]**  
Select an optimal settings for super IO device  
Configuration options: as below



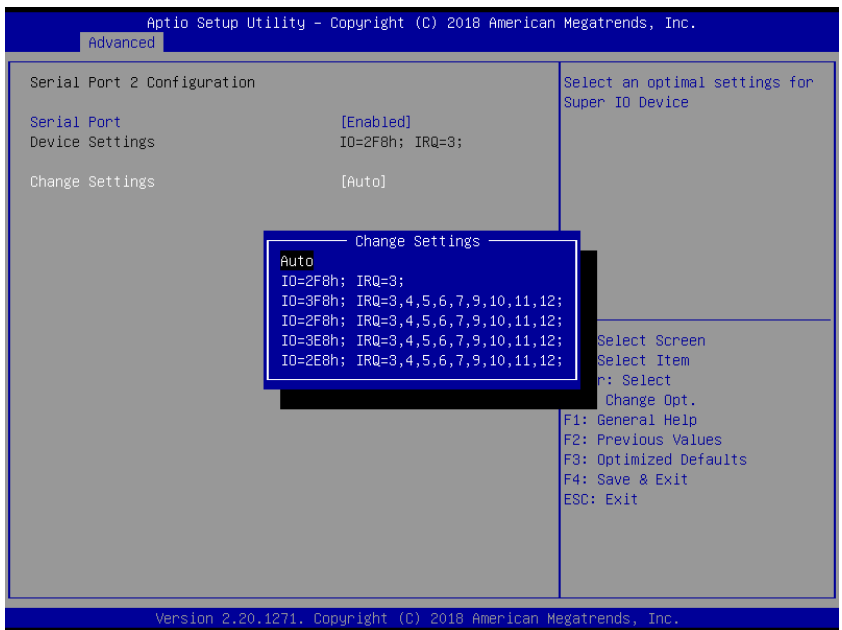
- **COM mode Select [RS232]**  
Configure the Com port mode  
Configuration options: as below

# MX370QD User's Manual



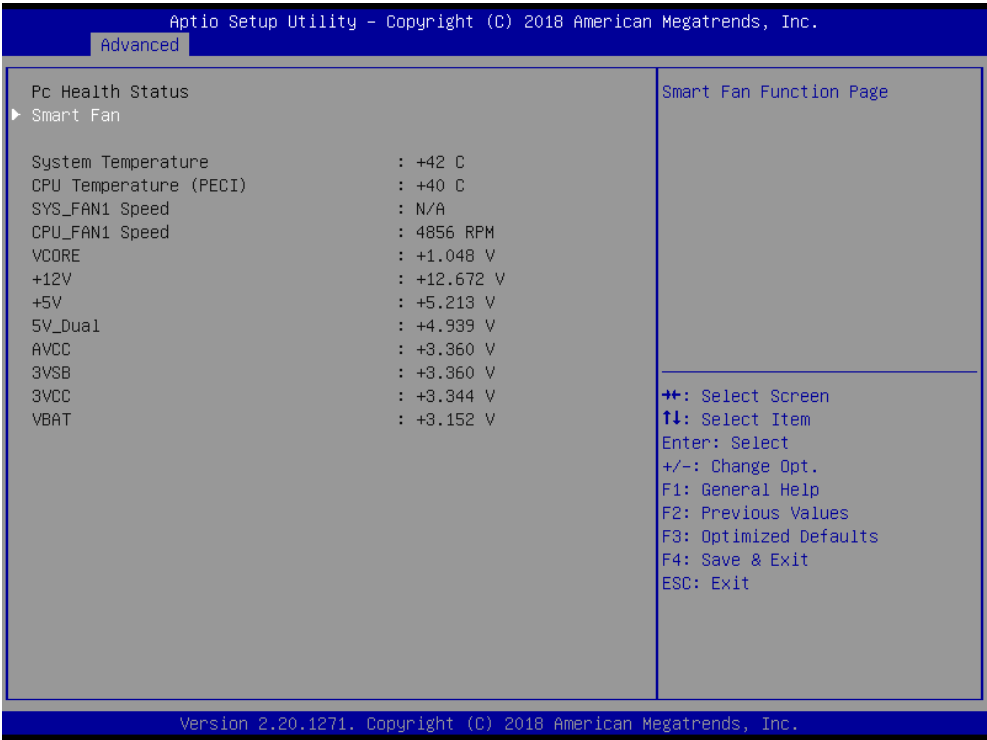
## 2.4.5.2 Serial Port 2 Configuration

- **Serial Port [Enabled]**  
Enable or Disable serial Port (COM)  
Configuration options: [Disabled] [Enabled]
- **Change Settings [Auto]**  
Select an optimal settings for super IO device  
Configuration options: as below

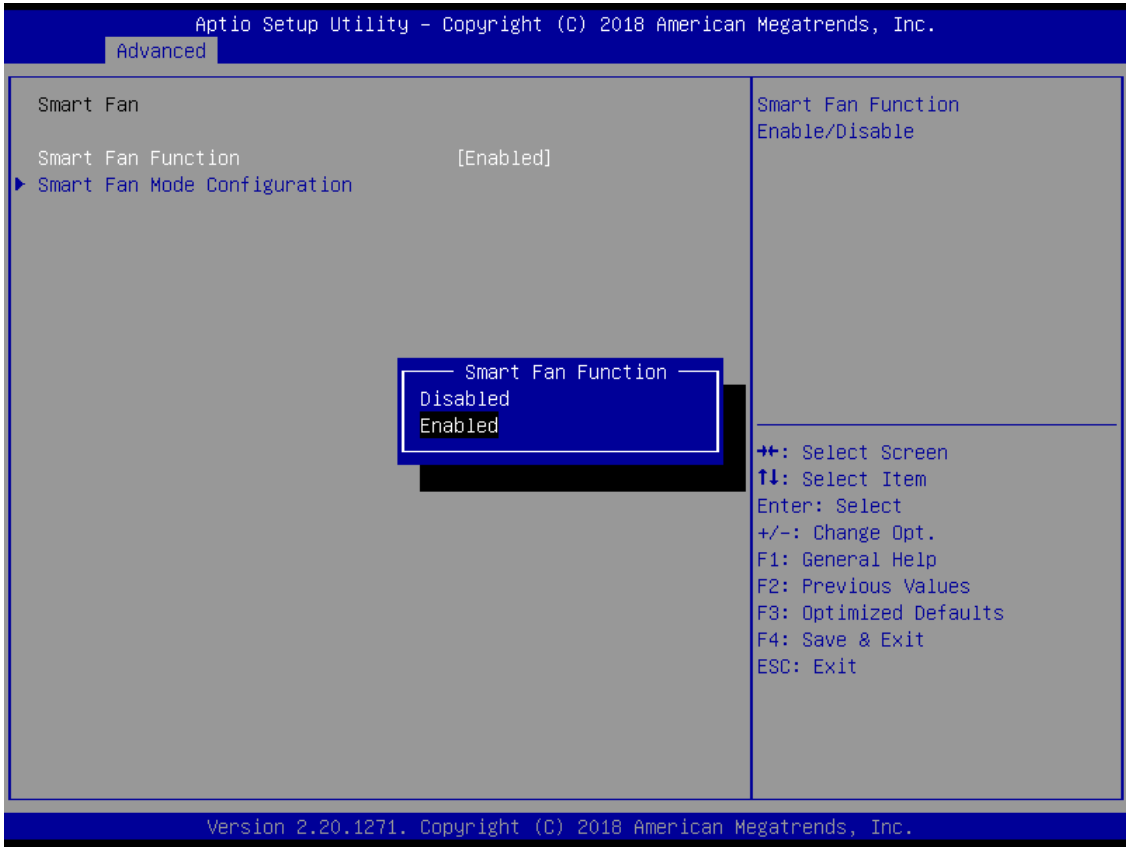


### 2.4.6 NCT6106D HW monitor

Display Hardware monitor information



#### 2.4.6.1 Smart FAN



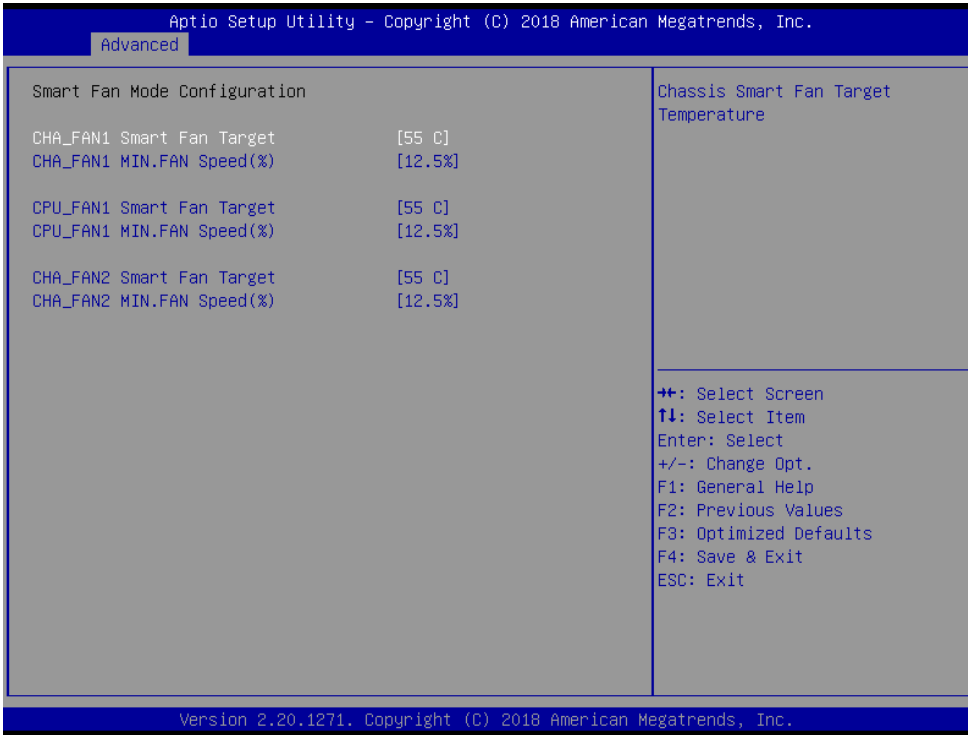
- **Smart FAN Function [Enabled]**  
Smart fan function Enable/Disabled

# MX370QD User's Manual

Configuration options: [Enabled] [Disabled]

## 2.4.6.1.1 Smart FAN mode Configuration

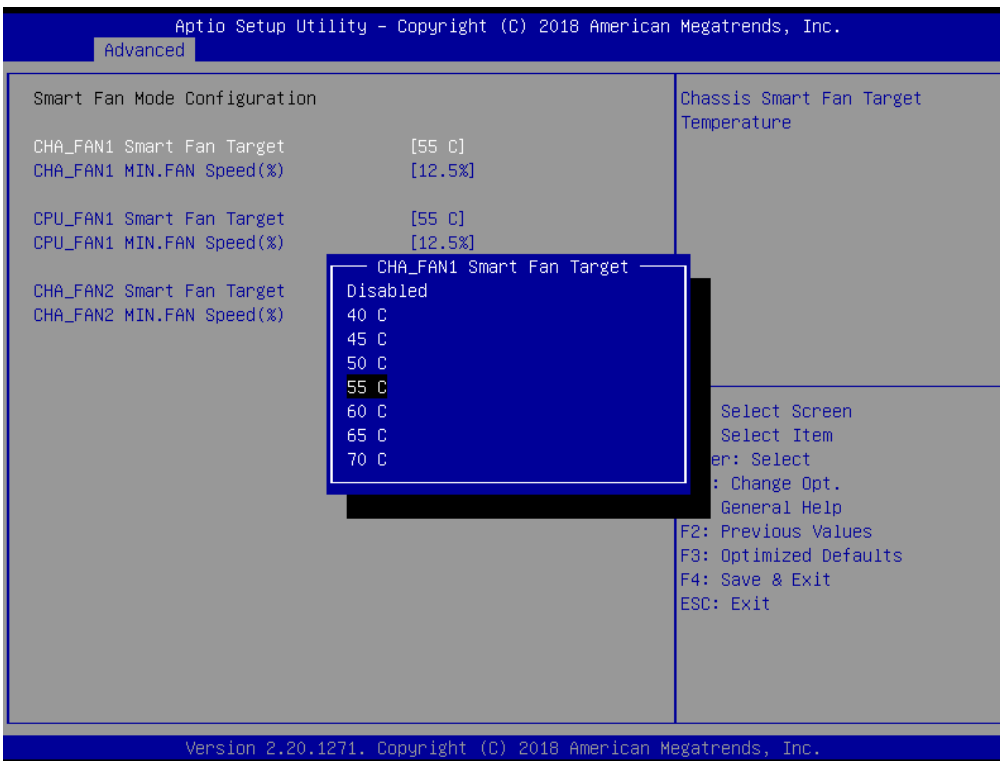
Setting different FAN on this motherboard



- **CHA\_FAN1/CHA\_FAN1 Target [Disabled]**

Smart FAN target temperature

Configuration options: Please see below picture

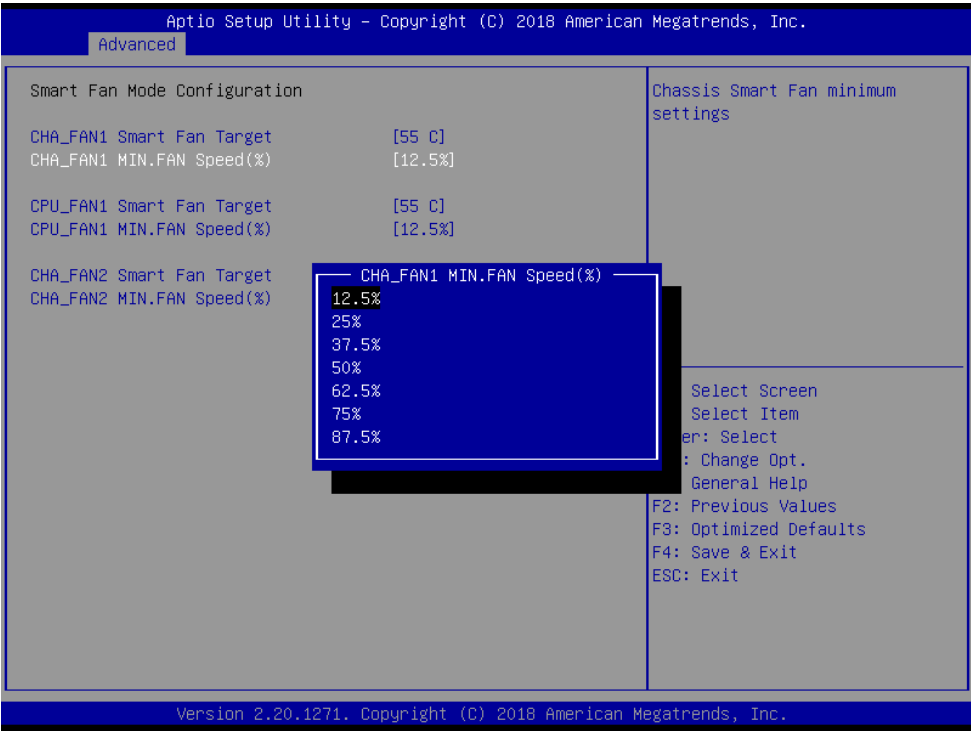


- **CHA\_FAN1/CPU\_FAN1 FAN Speed(%) [50%]**

Smart FAN minimum settings

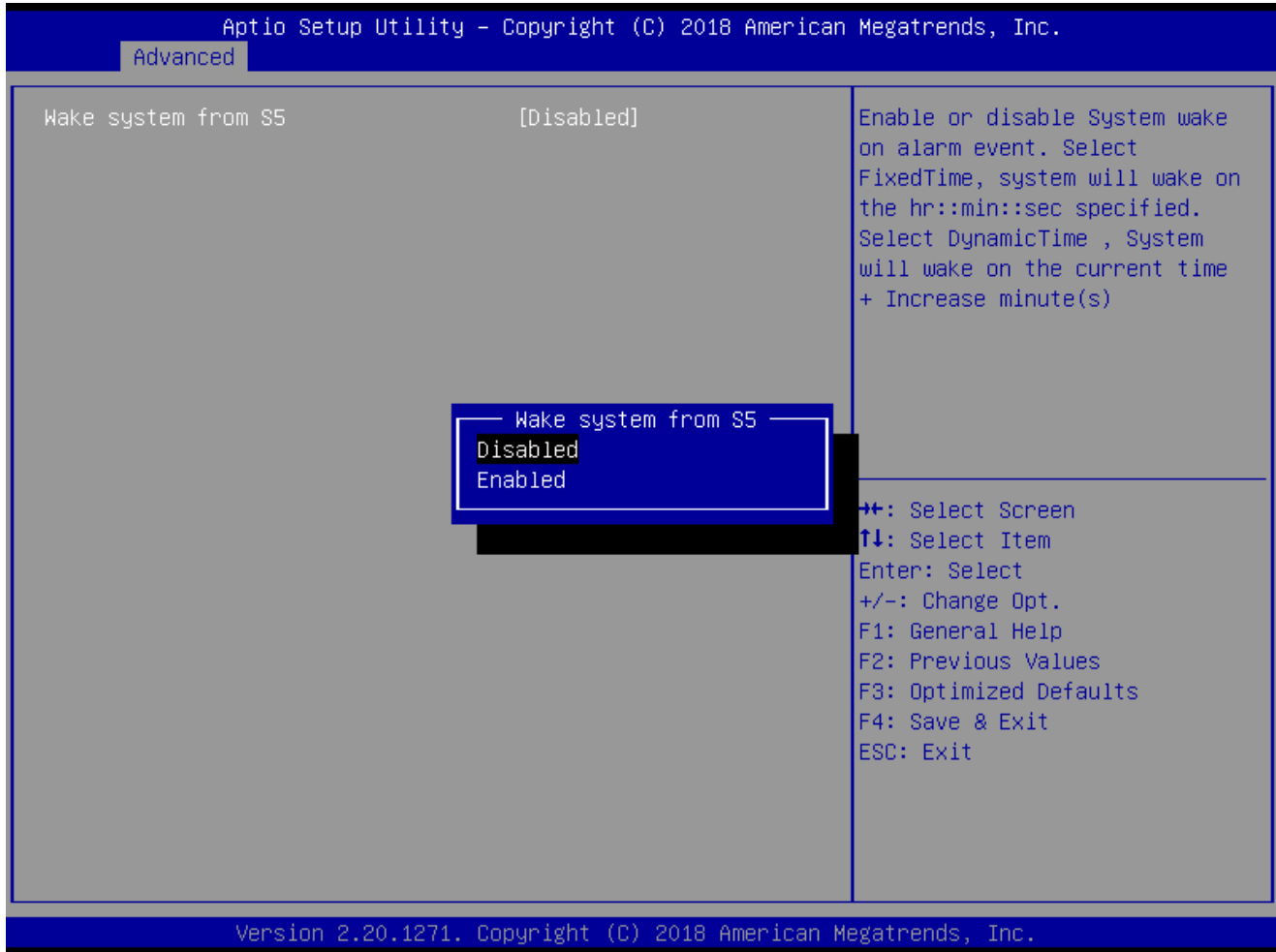


Configuration options: Please see below picture



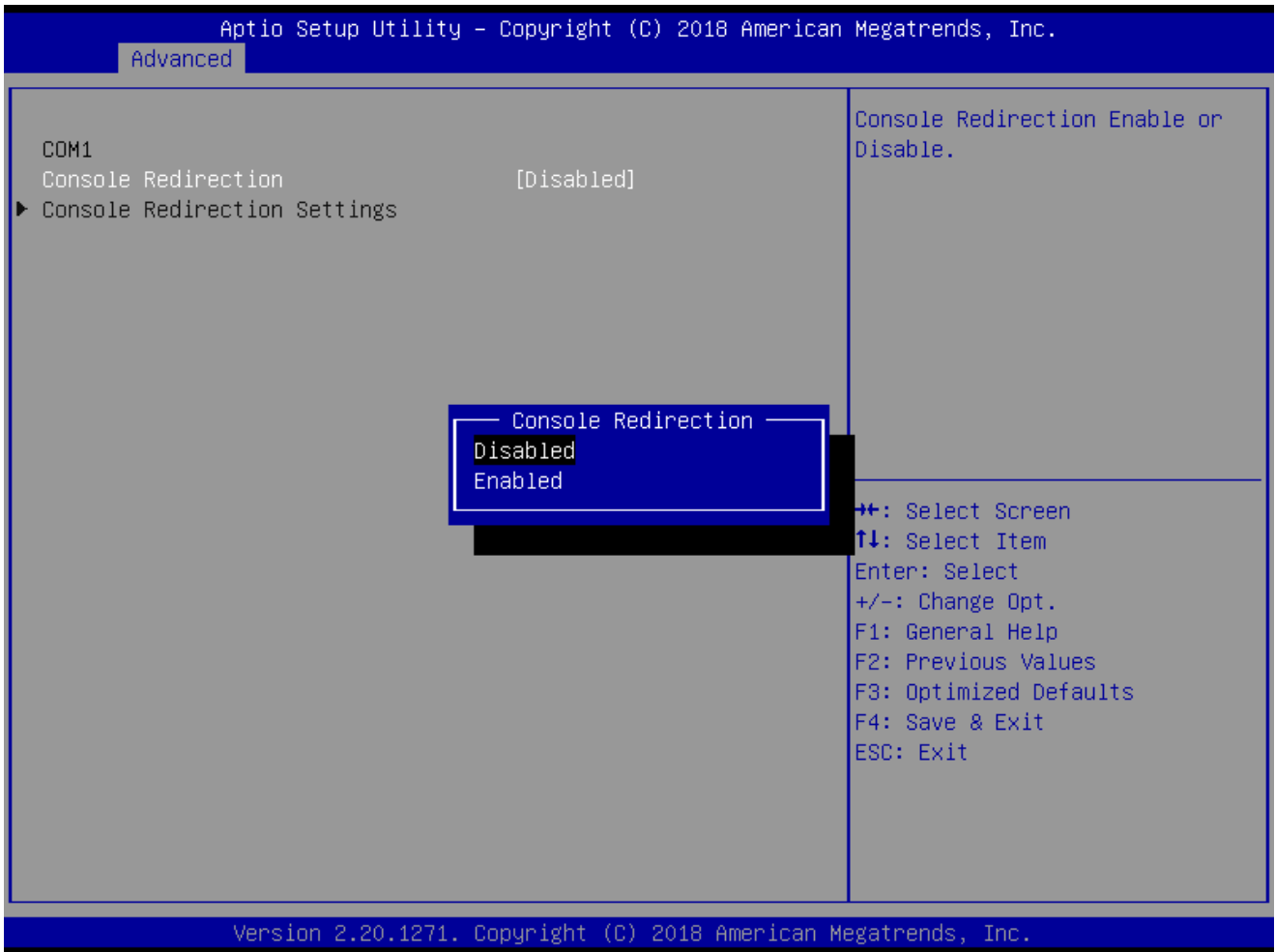
## MX370QD User's Manual

### 2.4.7 S5 RTC wake settings



- **Wake system from S5 [Disabled]**  
Enabled or Disabled system wake on alarm event  
Configuration options: [Enabled] [Disabled]

## 2.4.8 Serial Port Console Redirection



- **Console Redirection [Disabled]**  
 Enabled or Disabled Console Redirection  
 Configuration options: [Enabled] [Disabled]

### ■ 2.4.9 Intel TXT information

Display Intel TXT information

## MX370QD User's Manual

Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.

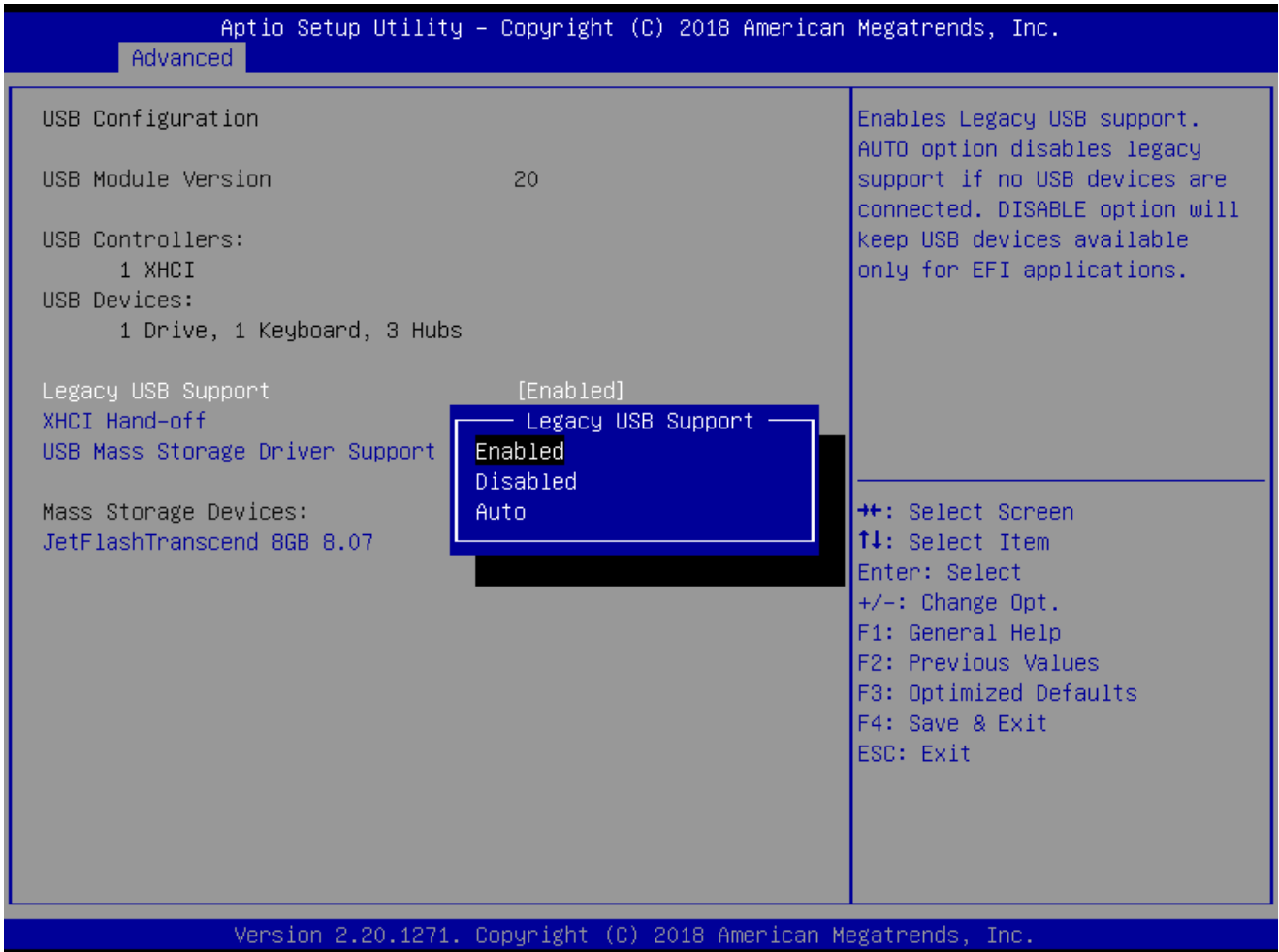
Advanced

Intel TXT Information	
Chipset	Production Fused
BiosAcm	Production Fused
Chipset Txt	Supported
Cpu Txt	Supported
Error Code	None
Class Code	None
Major Code	None
Minor Code	None

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

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## 2.4.10 USB Configuration



- **Legacy USB Support [Enabled]**

Enabled Legacy USB Support. Auto Option disables legacy support if no USB devices are connected. Disabled option will keep USB devices available only for EFI application.

Configuration options: [Disabled] [Enabled][Auto]

- **XHCI Hand-off [Enabled]**

This is a workaround for OSES without XHCI hand-off support. This XHCI ownership change should be claimed by XHCI drivers

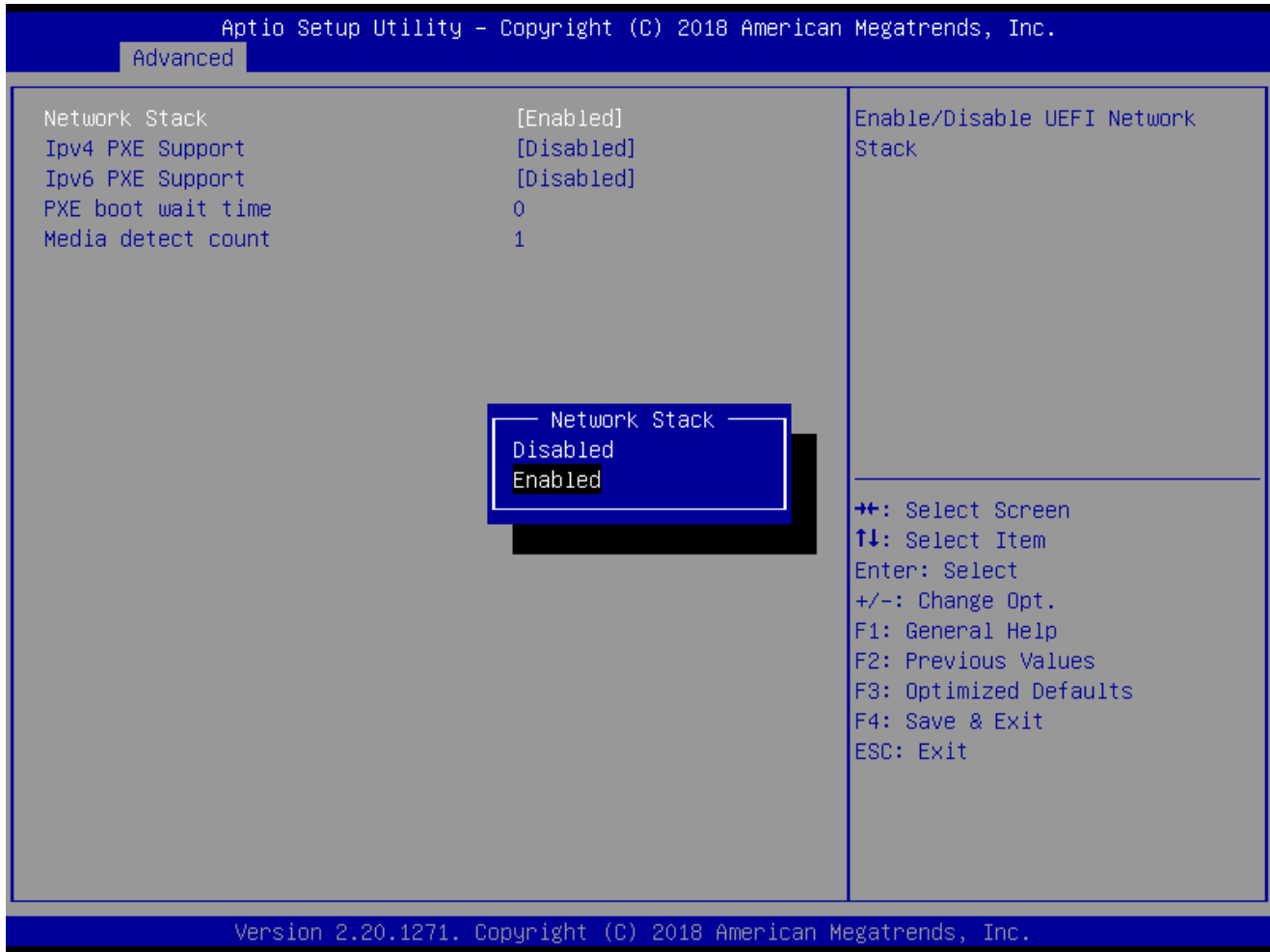
Configuration options: [Disabled] [Enabled]

- **USB Mass storage Driver Support[Enabled]**

Enabled or Disabled USB Mass storage driver support.

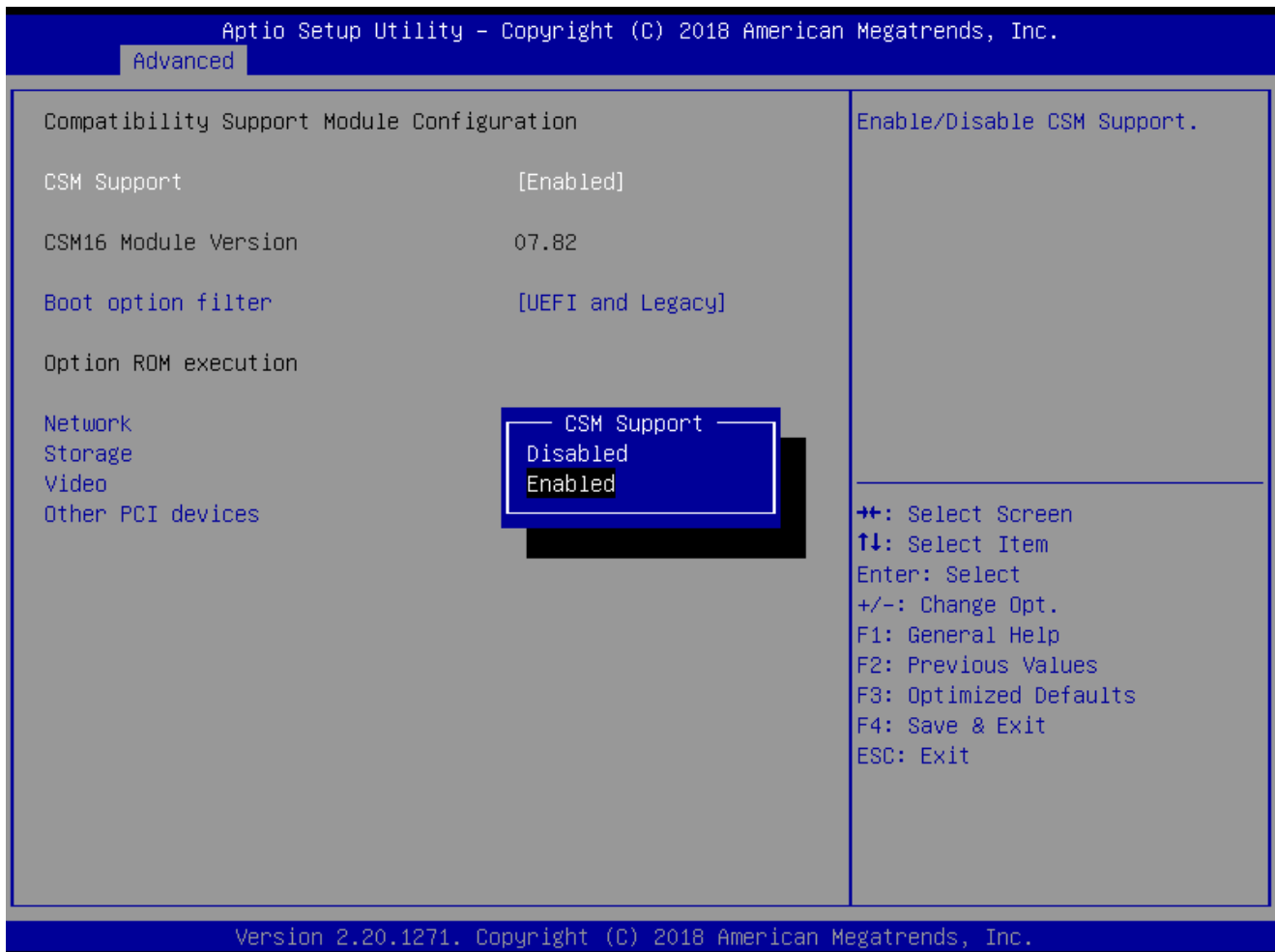
Configuration options: [Disabled] [Enabled]

## 2.4.11 Network Stack Configuration



- **Network Stack [Disabled]**  
Enabled or disabled UEFI Network Stack  
Configuration options: [Disabled] [Enabled]
- **Ipv4 PXE Support [Enabled]**  
Enabled IPv4 PXE boot support  
Configuration options: [Disabled] [Enabled]
- **Ipv6 PXE Support [Enabled]**  
Enabled IPv6 PXE boot support  
Configuration options: [Disabled] [Enabled]
- **PXE boot wait time**  
Wait time to press ESC to abort the PXE boot
- **Media Detect Count**  
Number of times presence of media will be checked

## 2.4.12 Compatibility Support Module Configuration



- **CSM Support [Enabled]**

Enabled or disabled CSM Support

Configuration options: [Disabled] [Enabled]

- **Boot option Filter [UEFI Only]**

This option controls Legacy/UEFI ROMs Priority

Configuration options: [UEFI and Legacy] [Legacy Only][UEFI Only]

- **Network [UEFI]**

Control the execution of UEFI and Legacy PXE OpROM

Configuration options: [Do not launch] [UEFI][Legacy]

- **Storage [UEFI]**

Control the execution of UEFI and Legacy Storage OpROM

Configuration options: [Do not launch] [UEFI][Legacy]

- **Video [UEFI]**

Control the execution of UEFI and Legacy Video OpROM

Configuration options: [Do not launch] [UEFI][Legacy]

- **Other PCI devices [UEFI]**

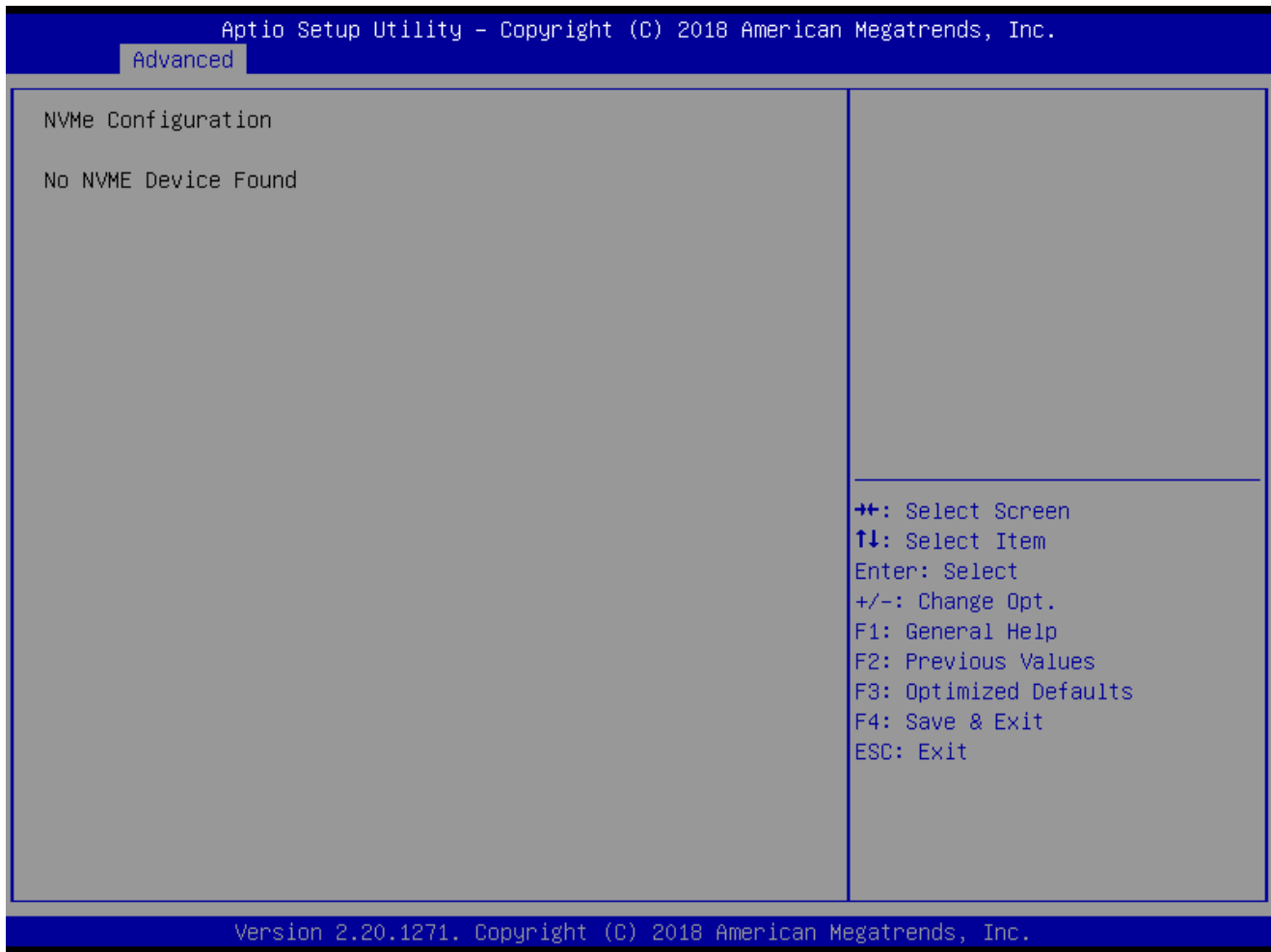
Determines OpROM execution policy for devices other than Network, Storage, or Video.

Configuration options: [Do not launch] [UEFI][Legacy]

## MX370QD User's Manual

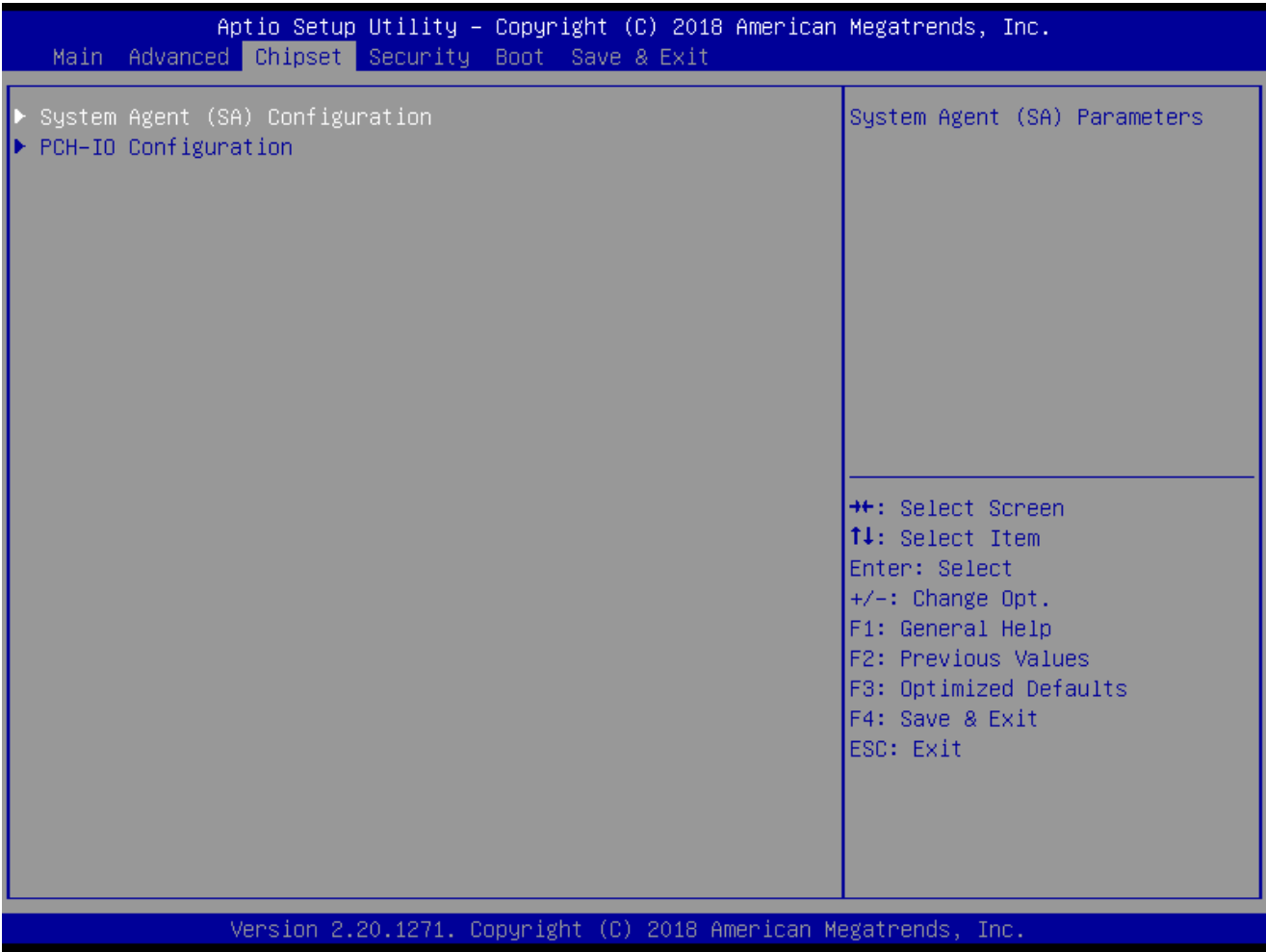
### 2.4.13 NVMe Configuration

#### Display NVMe controller or Drive information



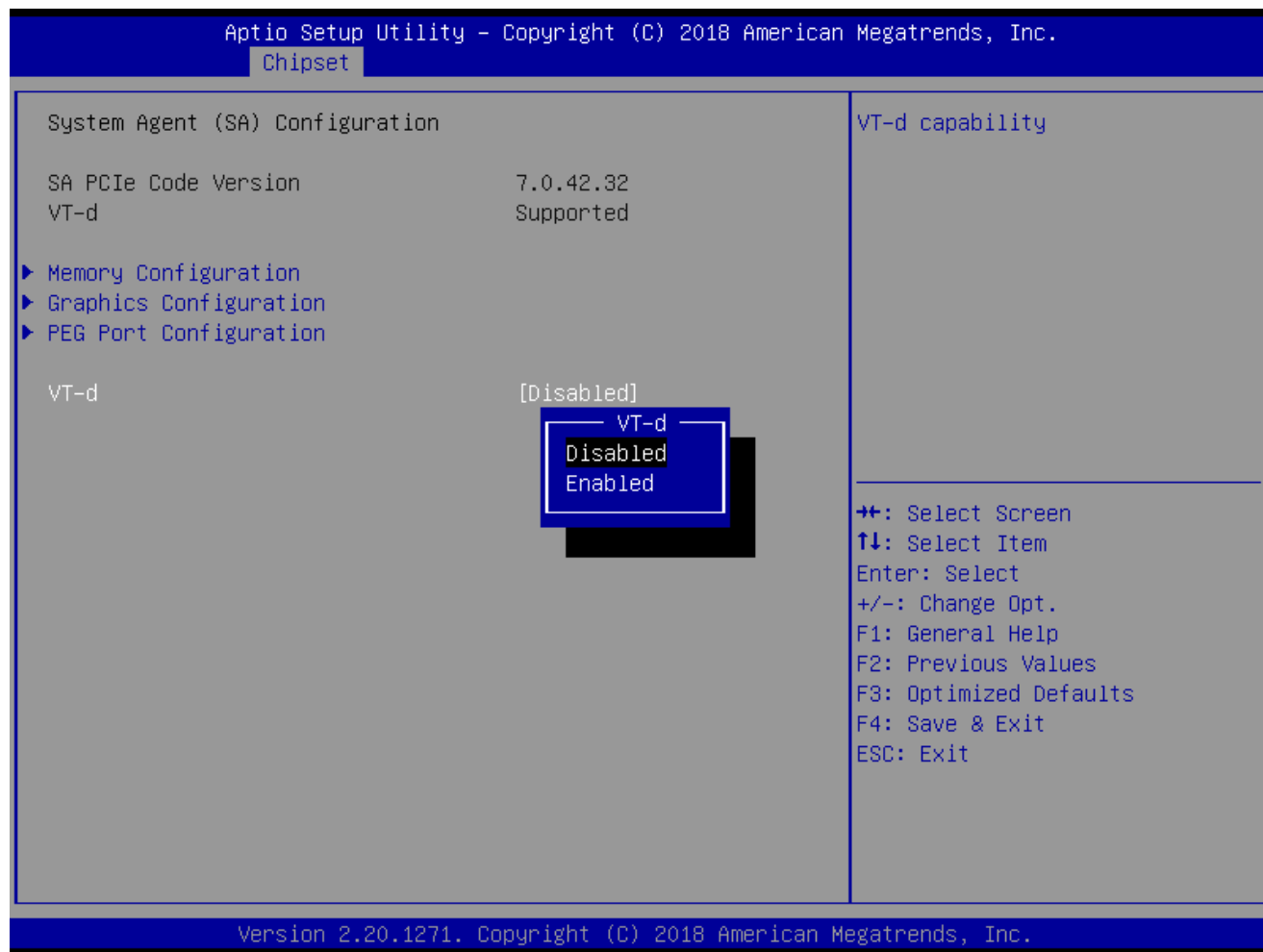


## 2.5 Chipset



## MX370QD User's Manual

### 2.5.1 System Agent (SA) Configuration



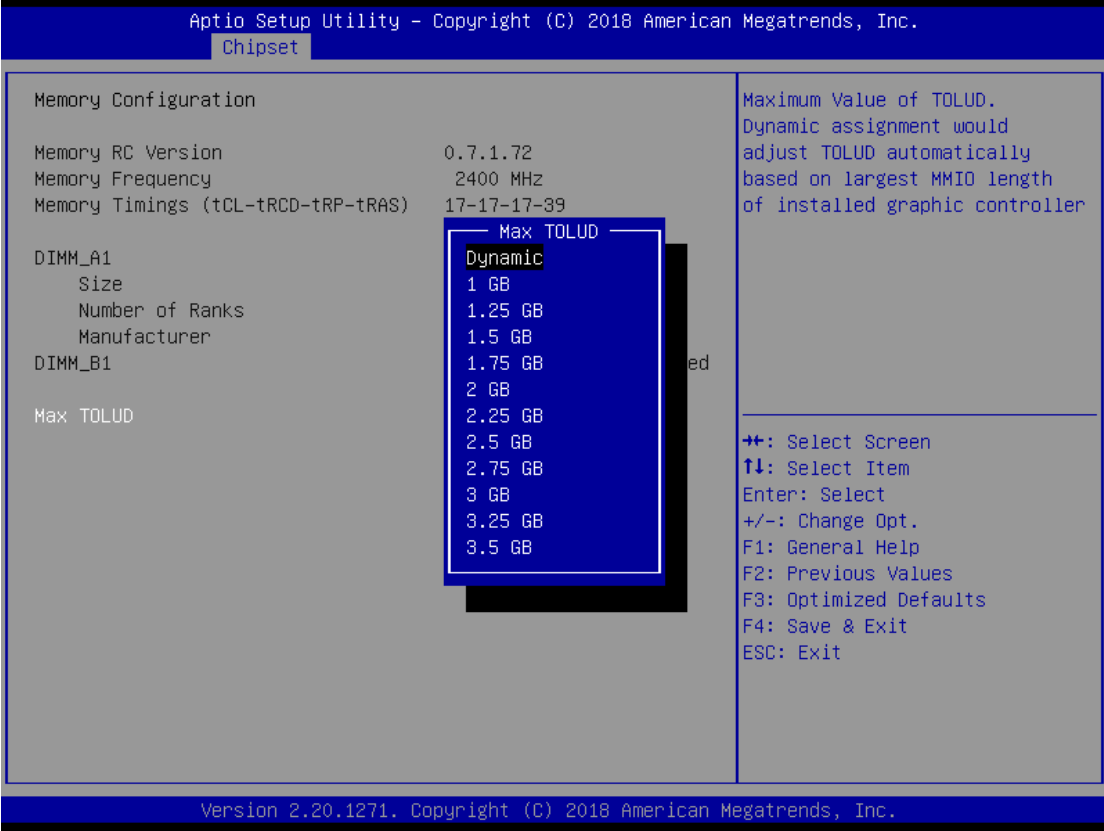
#### ● VT-d [Enabled]

VT-d capability

Configuration options: [Disabled] [Enabled]

#### 2.5.1.1 Memory configuration

Display memory information



- **Max TOLUD [Dynamic]**  
Maximum value of TOLUD.  
Configuration options: As above picture

### 2.5.1.2 Graphic Configuration

Graphic configuration settings



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- **Primary Display[Auto]**

Select which of IGFX/PEG/PCI graphic device should be primary display or select SG for switchable GFx.

Configuration options: [Auto] [IGFX][PEG][PCIE][SG]

- **Internal Graphics [Auto]**

Keep IGFX enabled based on the setup options

Configuration options: [Auto] [disabled][enabled]

- **PSMI Support [Disabled]**

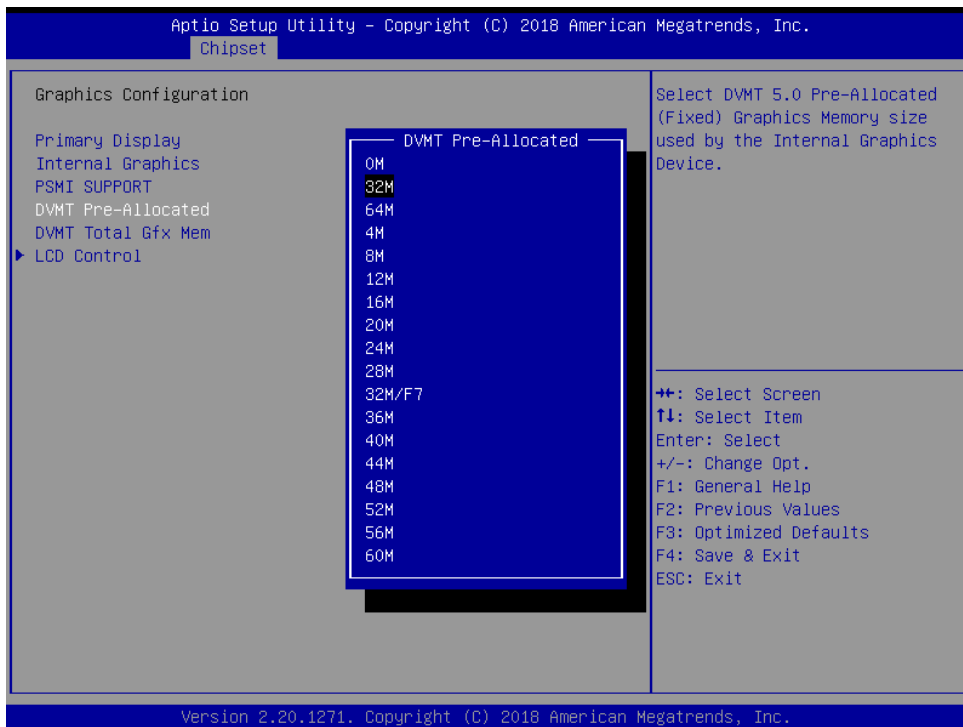
Enable or disable PSMI

Configuration options: [disabled][enabled]

- **DVMT Pre-allocated [32M]**

Select DVMT 5.0 Pre-allocated (Fixed) Graphics memory size used by the internal graphics device.

Configuration options: As below picture

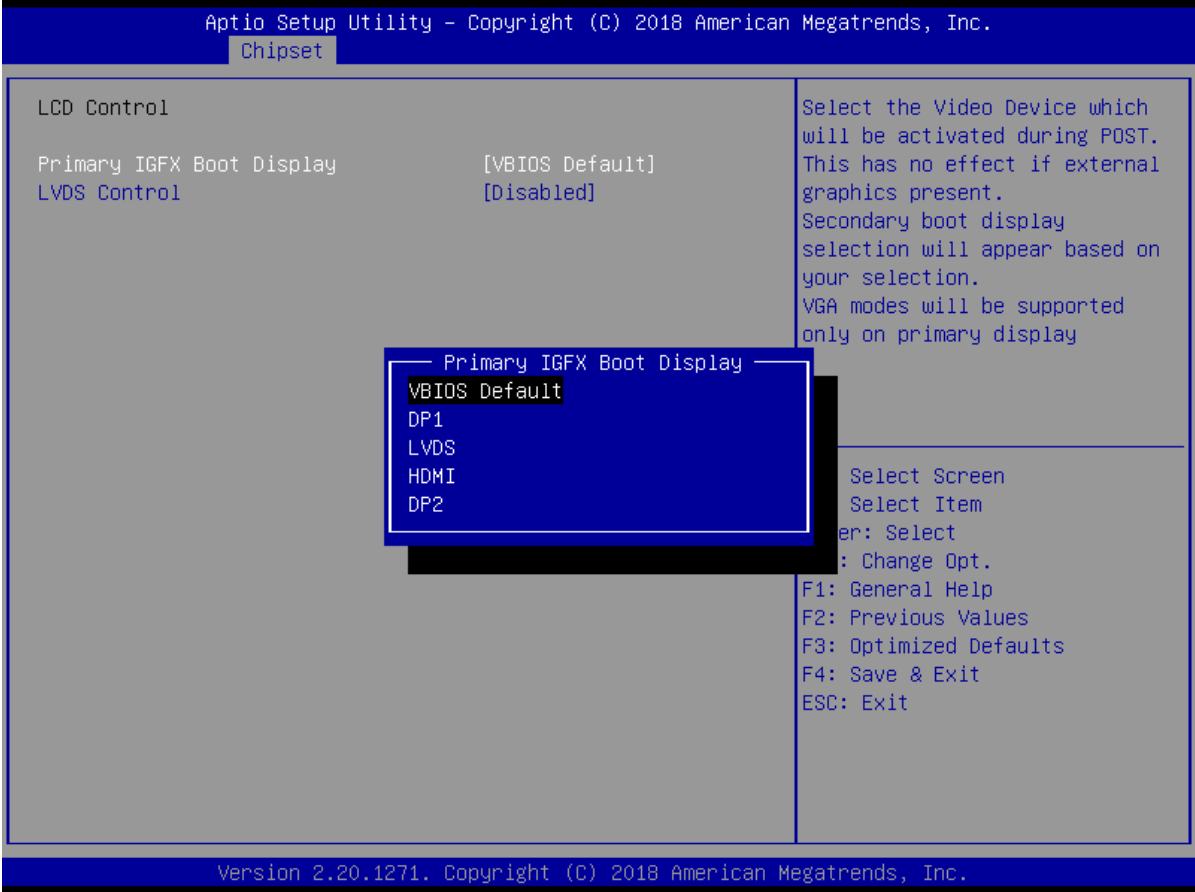


- **DVMT total Gfx Mem [256M]**

Select DVMT 5.0 Total graphic memory size used by the internal graphic device

Configuration options: [128M][256M][Max]

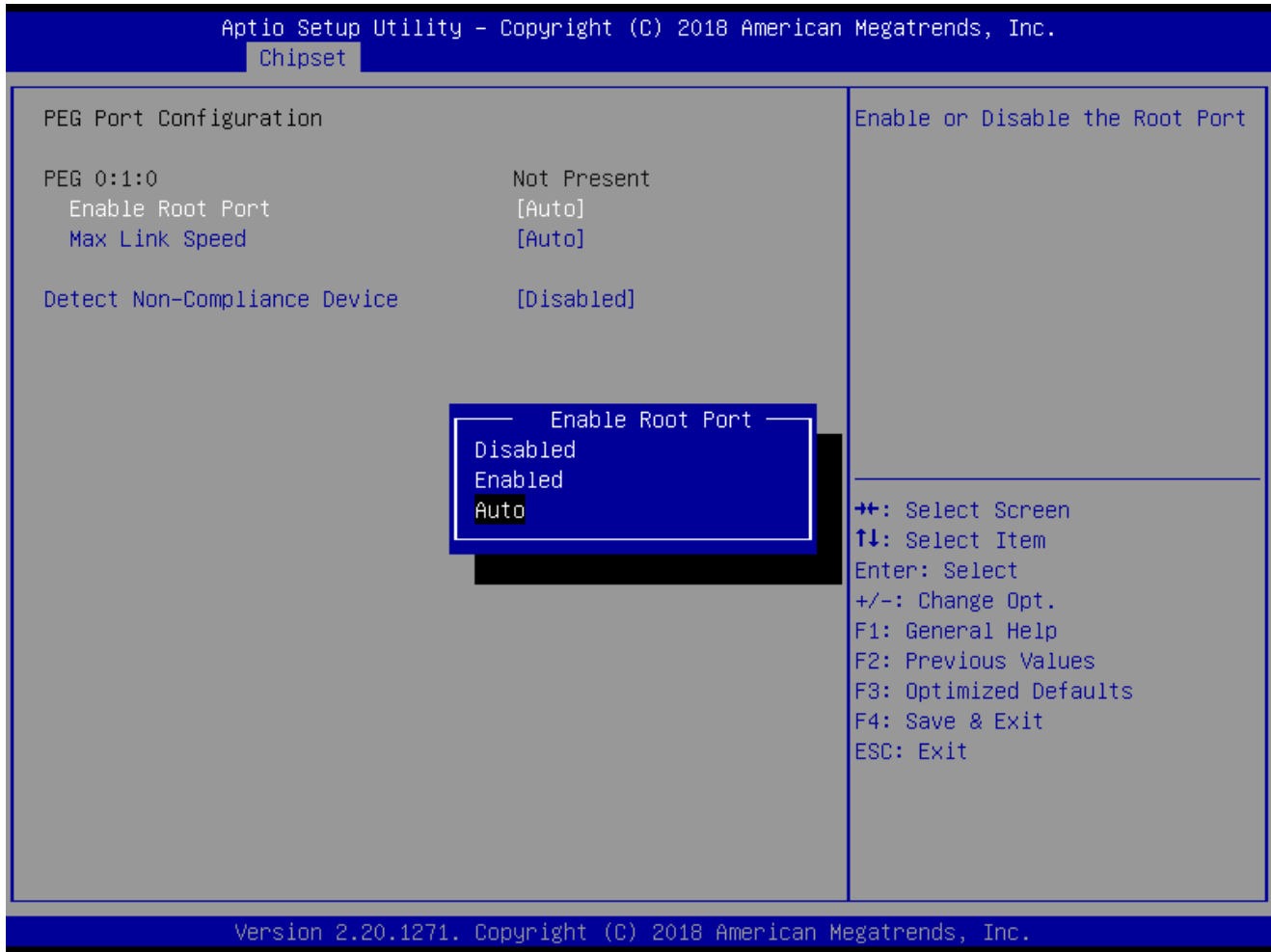
### 2.5.1.3 LCD Control



- **Primary IGFX Boot Display [VBIOS default]**  
Select the video device which will be activated during POST.  
Configuration options: [VBIOS default][DP1][LVDS][HDMI][DP2]
- **LVDS Control [Disable]**  
Configuration options: [disabled][enabled]

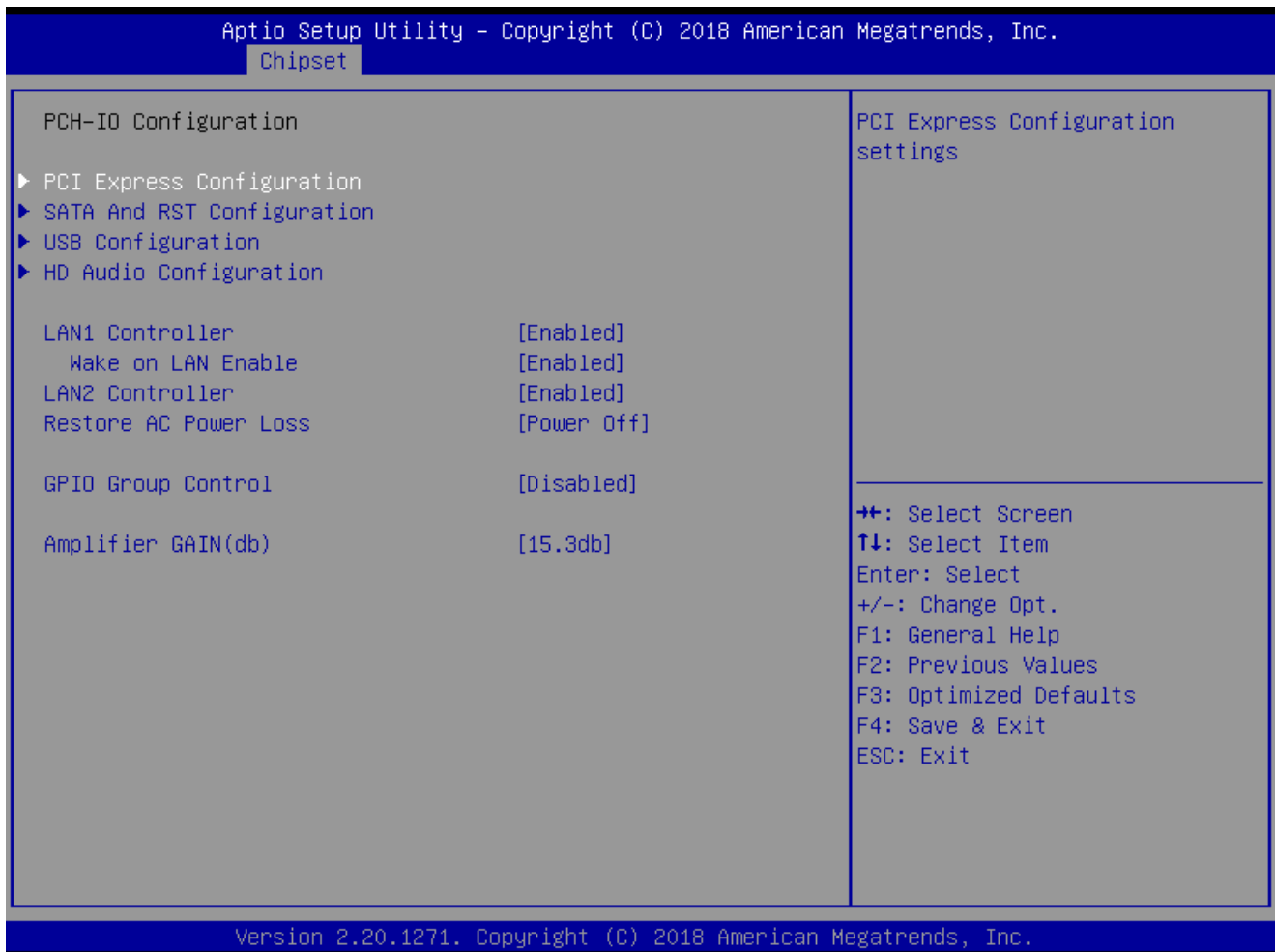
## MX370QD User's Manual

### 2.5.1.4 PEG Port Configuration



- **Enable root Port [Auto]**  
Enable or Disable the root port  
Configuration options: [Disabled][Enabled][Auto]
- **Max Link Speed [Auto]**  
Configure PEG 0:1:0 Max Speed  
Configuration options: [Auto][Gen1][Gen2][Gen3]
- **Detect Non-Compliance Device [Disabled]**  
Detect non-compliance PCI express Device in PEG  
Configuration options: [Disabled][Enabled]

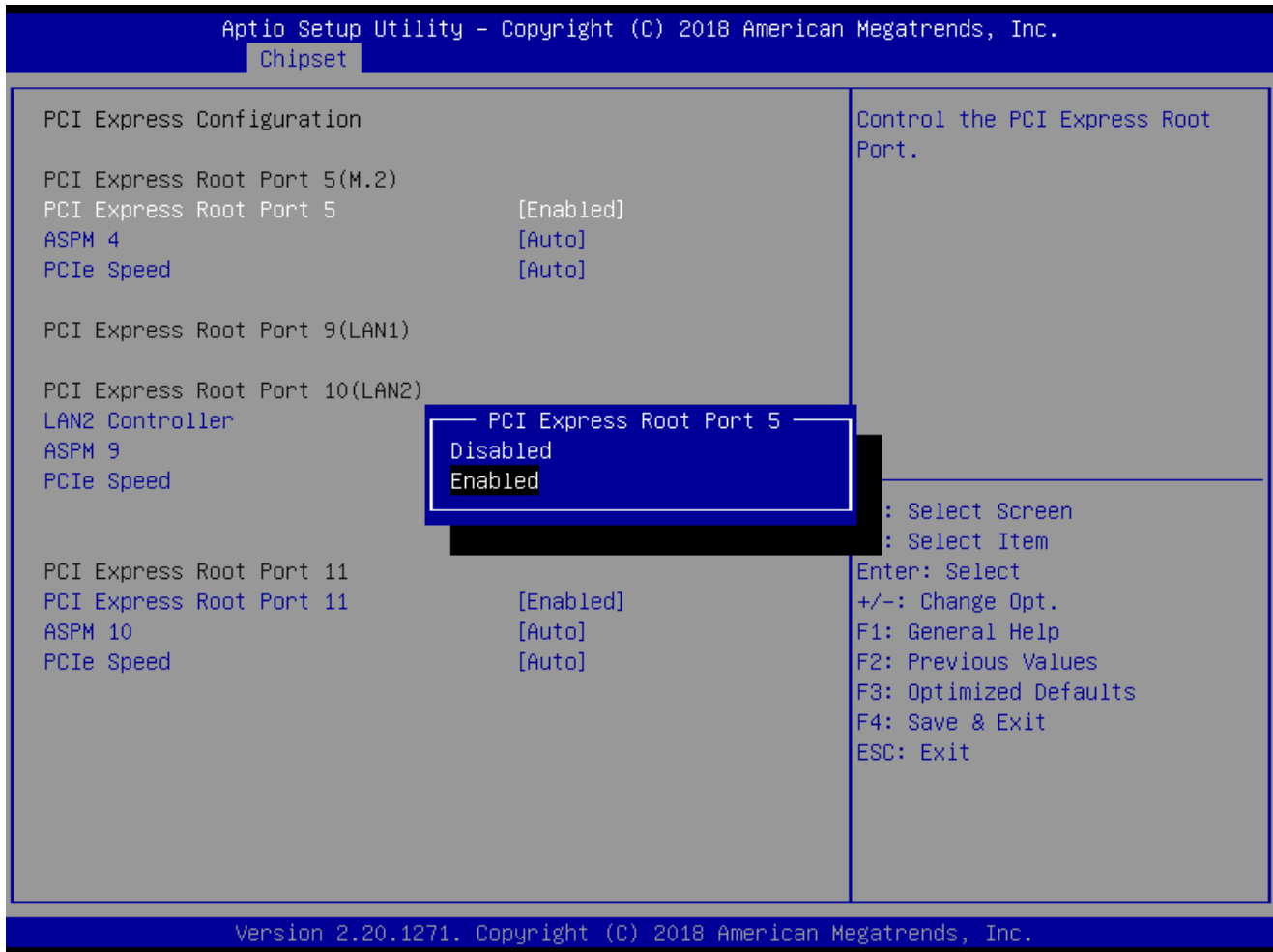
## 2.5.2 PCH-IO configuration



- **Lan1 Controller [Enabled]**  
 Enable or Disable onboard Lan1  
 Configuration options: [Disabled][Enabled]
- **Wake on lan Eanble[Auto]**  
 Enable or Disable integrated LAN to wake the system  
 Configuration options: [Disabled][Enabled]
- **Lan2 Controller [Enabled]**  
 Enable or Disable onboard Lan2  
 Configuration options: [Disabled][Enabled]
- **Restore AC power Loss [Power off]**  
 Specify what state to go to when power is re-applied after a power failure.  
 Configuration options: [Power on][Power off][Last State]
- **GPIO Group Control [Enabled]**  
 Configure the digital GPIO pins  
 Configuration options: [Disabled][Enabled]
- **Amplifier GAIN(db) [15.3db]**  
 Select Amplifier GAIN value  
 Configuration options: [15.3db][21.2db][27.2db][31.8db]

## 2.5.2.1 PCI Express configuration

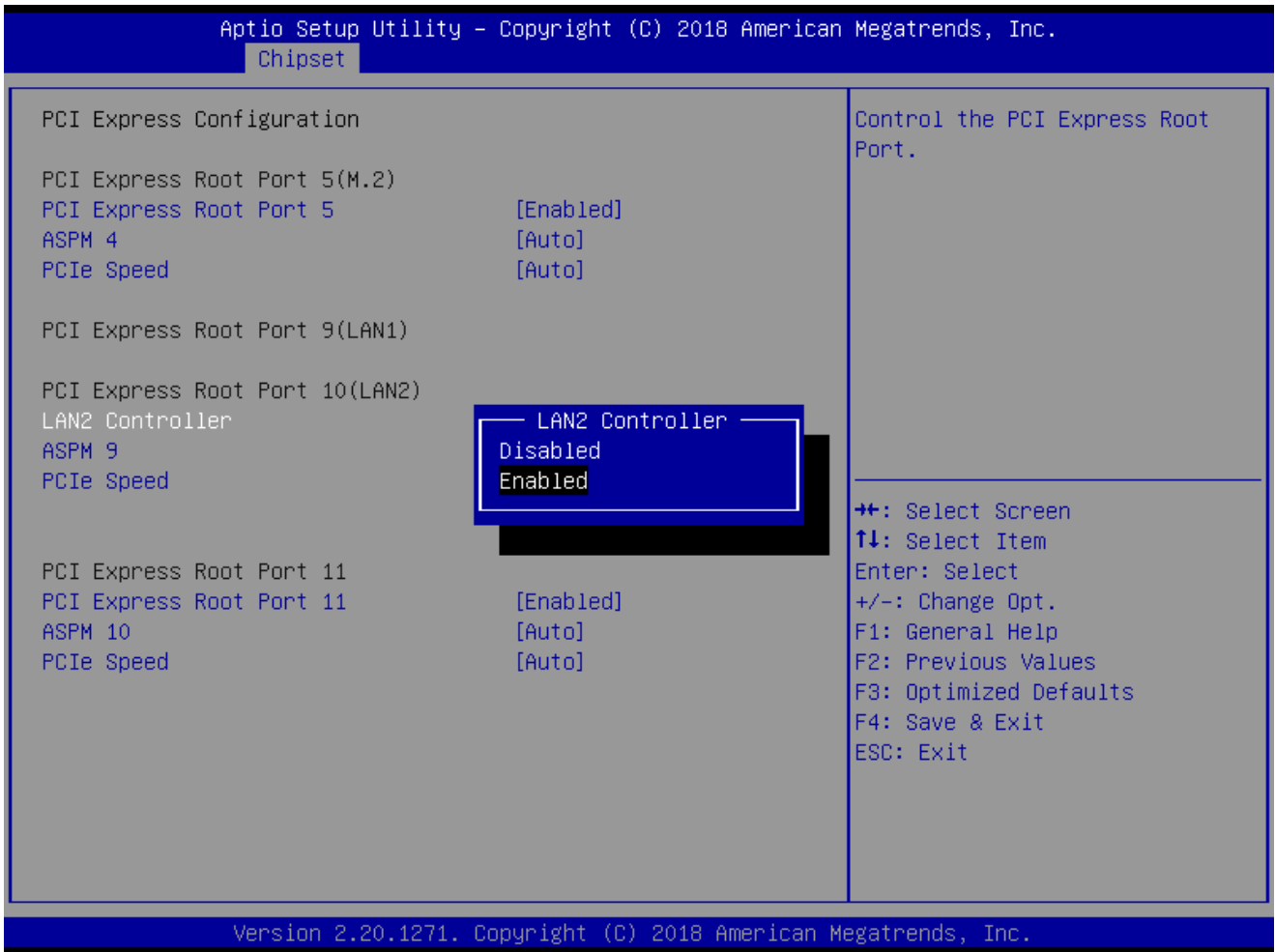
### 2.5.2.1.1 PCI Express Root Port 5(M.2)



- **PCI Express Root Port 5 [Enabled]**  
Control the PCI Express Port  
Configuration options: [Disabled][Enabled]
- **ASPM Support [Disabled]**  
Set the ASPM level: Force L0s- Force all links to L0s State; Auto- BIOS auto configure; Disabled- Disables ASPM  
Configuration options: [Disabled][L0s][L1][L0sL1][Auto]
- **PCIe Speed [Auto]**  
Select PCI Express Port speed  
Configuration options: [Auto][Gen1][Gen2][Gen3]



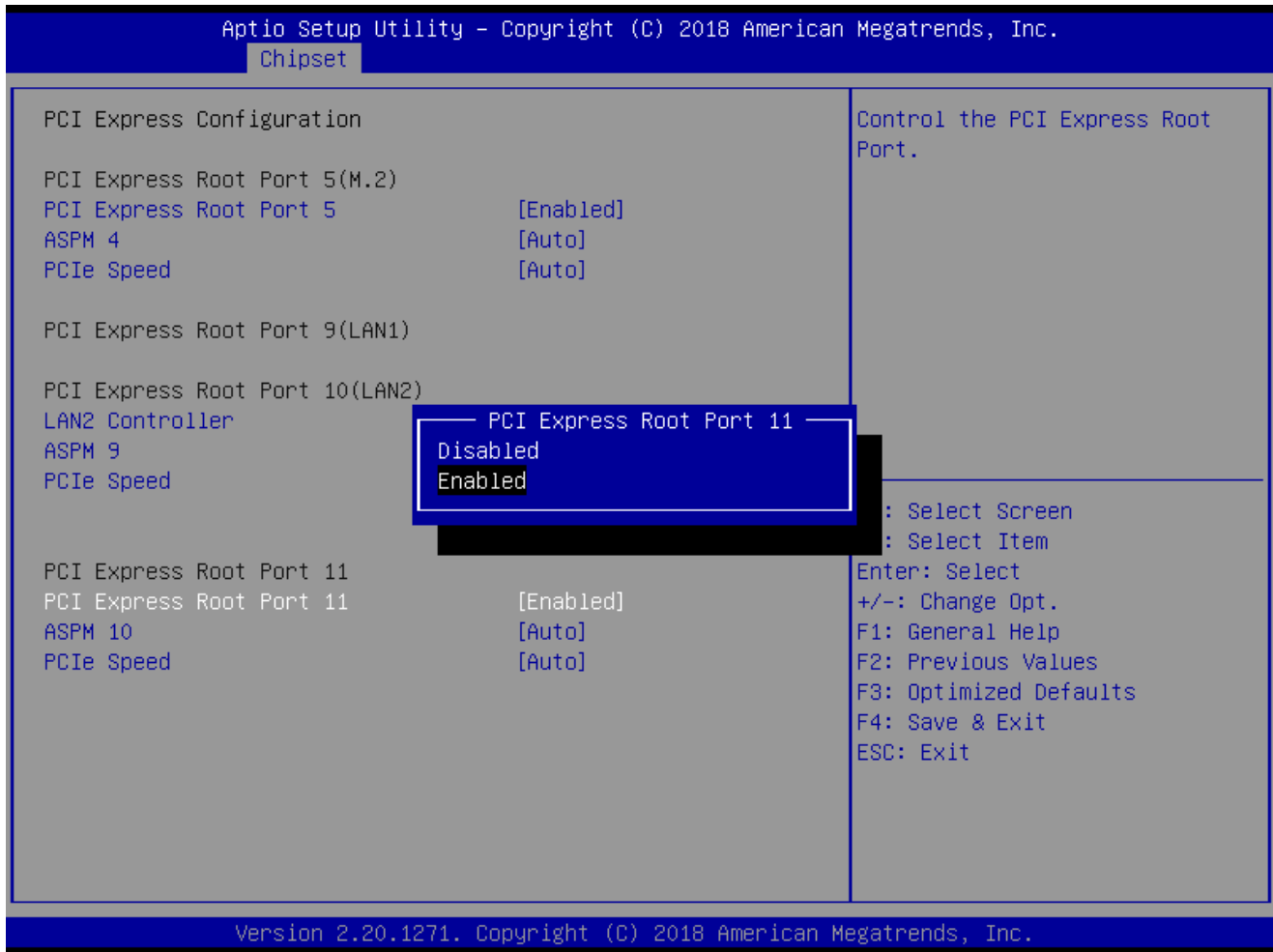
### 2.5.2.1.2 PCI Express Root Port 10(LAN2)



- **LAN2 Controller [Enabled]**  
Control the PCI Express Port  
Configuration options: [Disabled][Enabled]
- **ASPM 9 Support [Disabled]**  
Set the ASPM level: Force L0s- Force all links to L0s State; Auto- BIOS auto configure;  
Disabled- Disables ASPM  
Configuration options: [Disabled][L0s][L1][L0sL1][Auto]
- **PCIe Speed [Auto]**  
Select PCI Express Port speed  
Configuration options: [Auto][Gen1][Gen2][Gen3]

## MX370QD User's Manual

### 2.5.2.1.3 PCI Express Root Port 11



- **PCI Express Root Port 11 [Enabled]**

Control the PCI Express Port

Configuration options: [Disabled][Enabled]

- **ASPM 10 Support [Disabled]**

Set the ASPM level: Force L0s- Force all links to L0s State; Auto- BIOS auto configure; Disabled- Disables ASPM

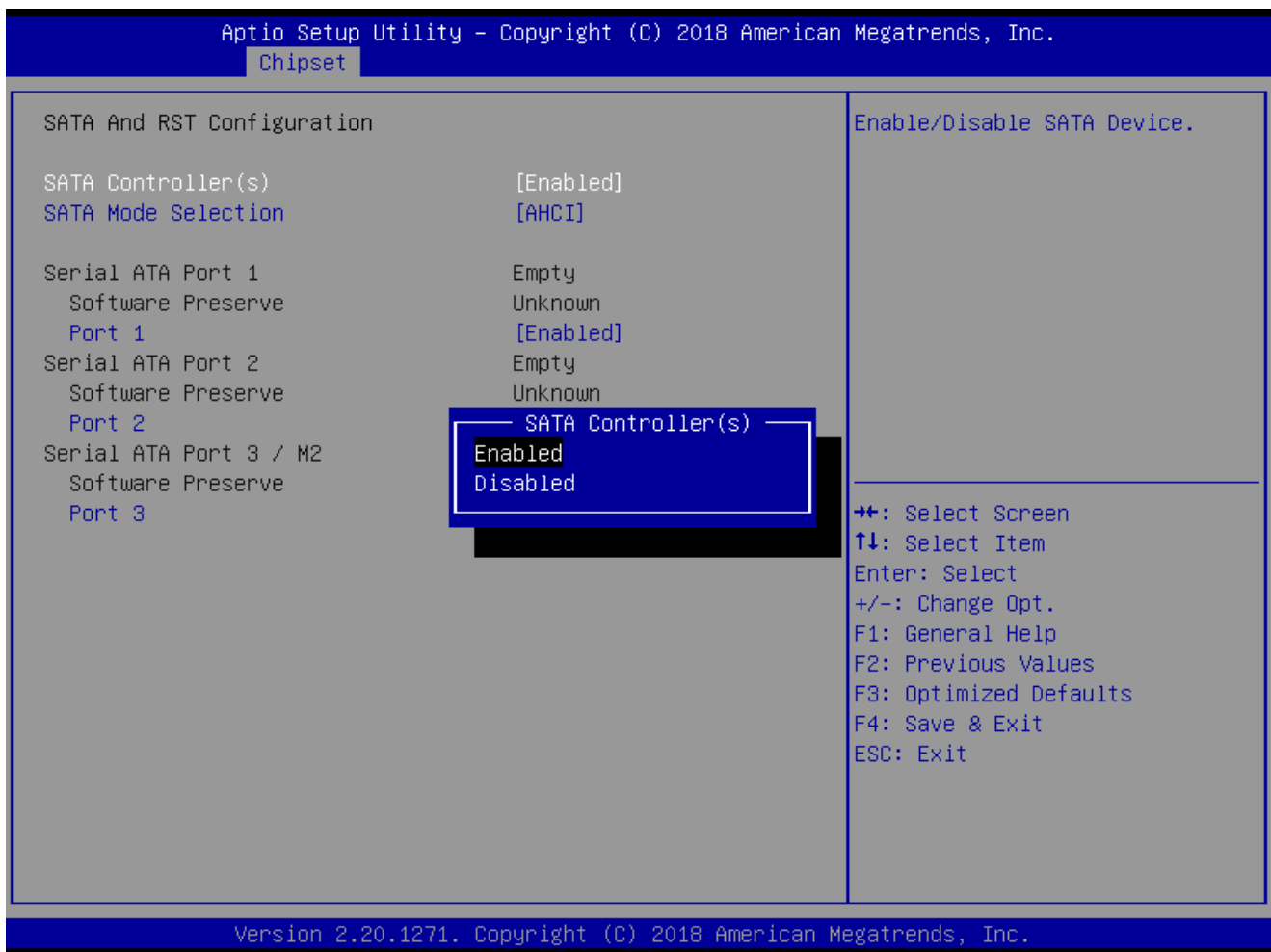
Configuration options: [Disabled][L0s][L1][L0sL2][Auto]

- **PCIe Speed [Auto]**

Select PCI Express Port speed

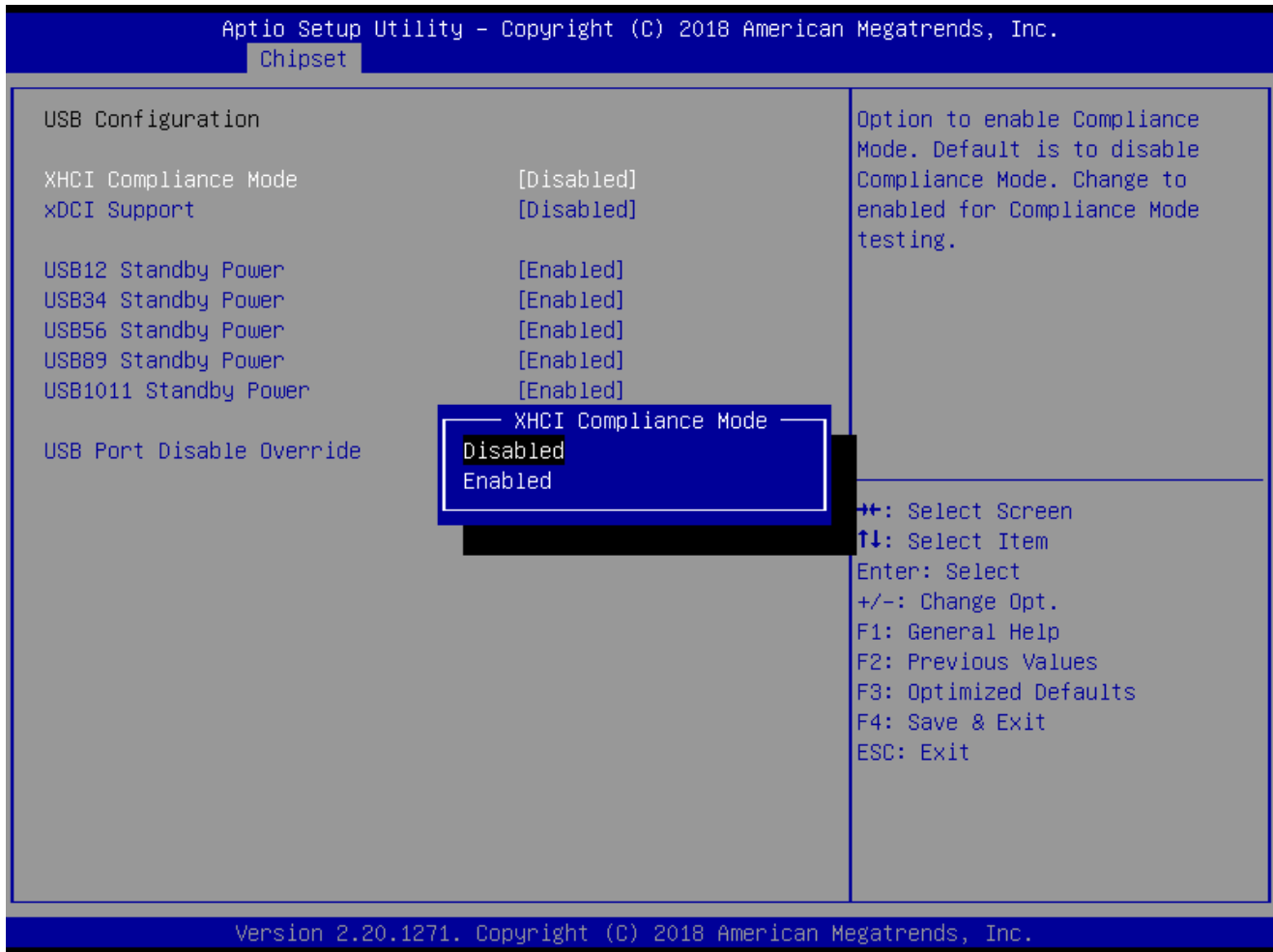
Configuration options: [Auto][Gen1][Gen2][Gen3]

## 2.5.2.2 SATA and RST configuration



- **SATA Controller [Enabled]**  
Enable or Disable SATA device  
Configuration options: [Enabled][Disabled]
- **SATA Mode Selection [AHCI]**  
Determines how SATA controller operate  
Configuration options: [AHCI][Intel RST Premium with Intel optane System Acceleration]
- **Port 1 [Enabled]**  
Enable or Disable SATA port 1  
Configuration options: [Enabled ][Disabled]
- **Port 2 [Enabled]**  
Enable or Disable SATA port 2  
Configuration options: [Enabled ][Disabled]
- **Port 3 [Enabled]**  
Enable or Disable SATA port 3  
Configuration options: [Enabled ][Disabled]  
Configuration options: [Enabled ][Disabled]

### 2.5.2.3 USB configuration



- **XHCI Compliance Mode [Disabled]**  
Options to disable compliance mode.  
Configuration options: [Disabled] [Enabled]
- **XDCI Support [Disabled]**  
Enable or Disable xDCI(USB OTG Device)  
Configuration options: [Disabled] [Enabled]
- **USB12 Standby Power[Enabled]**  
Enable or Disable USB standby power  
Configuration options: [Disabled] [Enabled]
- **USB34 Standby Power[Enabled]**  
Enable or Disable USB standby power  
Configuration options: [Disabled] [Enabled]
- **USB56 Standby Power[Enabled]**  
Enable or Disable USB standby power  
Configuration options: [Disabled] [Enabled]
- **USB89 Standby Power[Enabled]**

Enable or Disable USB standby power  
 Configuration options: [Disabled] [Enabled]

- **USB1011 Standby Power[Enabled]**

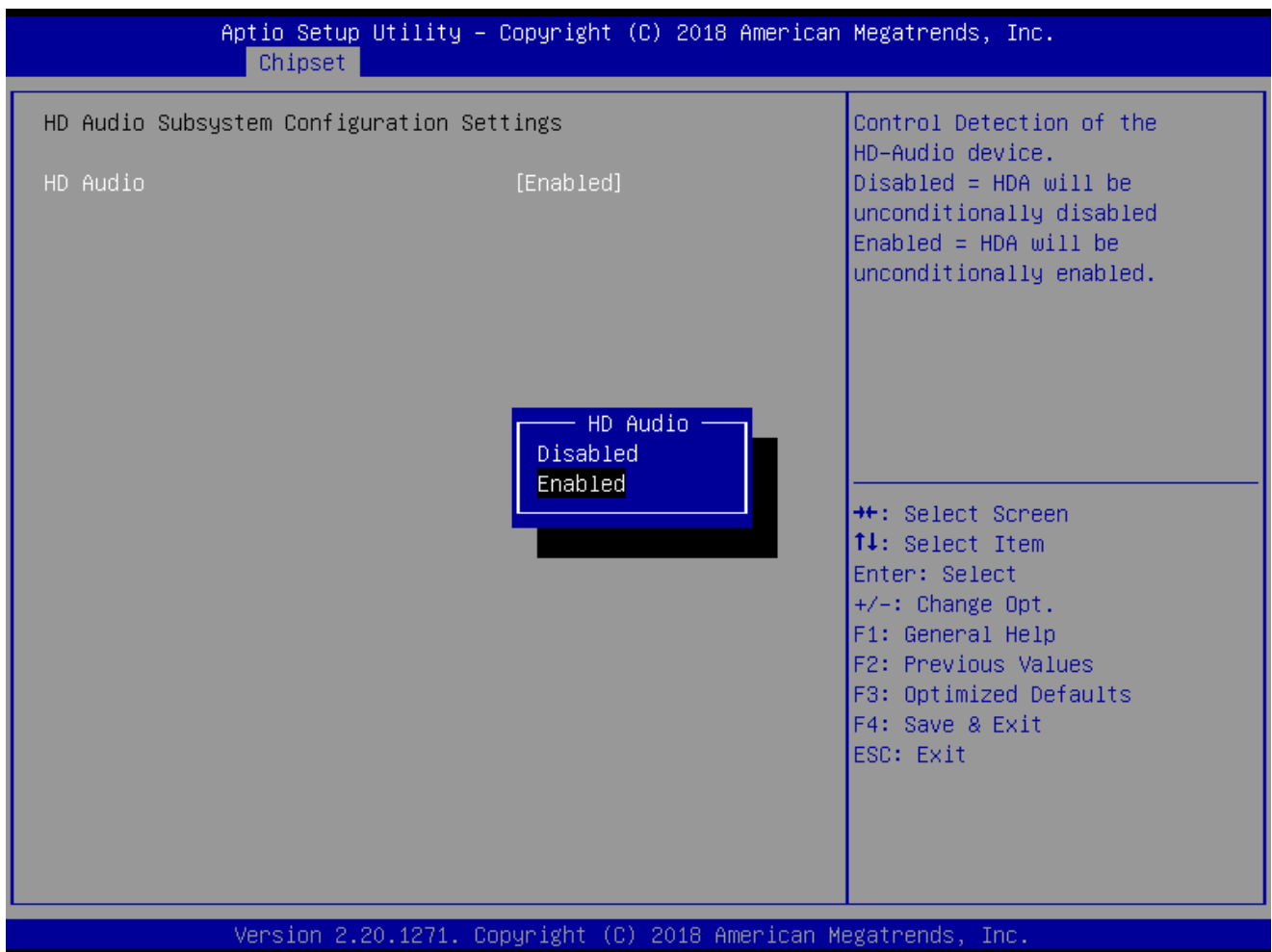
Enable or Disable USB standby power  
 Configuration options: [Disabled] [Enabled]

- **USB Port Disable override [Disabled]**

Selectively Enabled/Disabled the corresponding USB port from reporting a device connection to the controller.

Configuration options: [Disabled] [Select Per-Pin]

### 2.5.2.4 HD audio Configuration

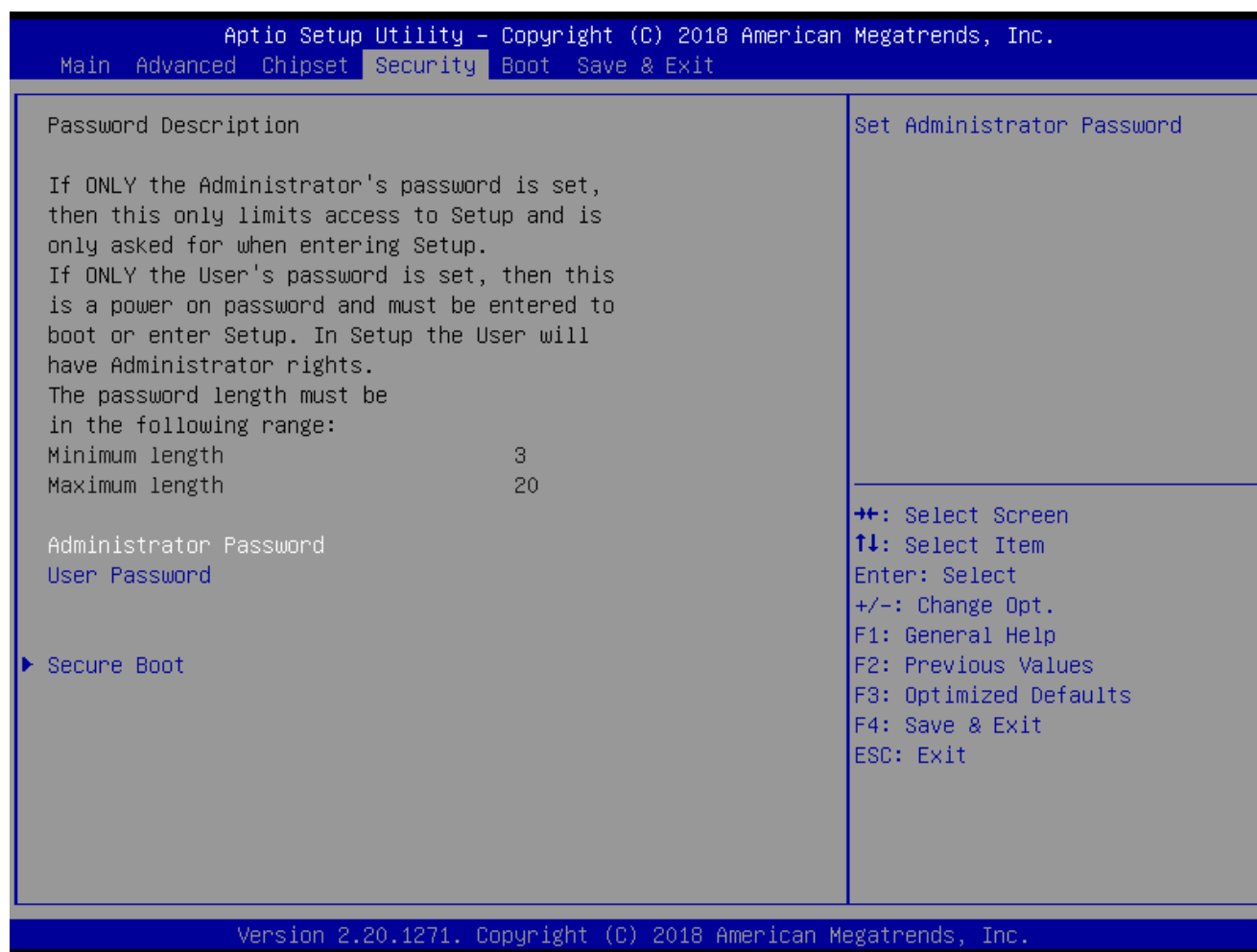


- **HD audio[Enabled]**

Control Detection of the HD-Audio device.

Configuration options: [Disabled] [Enabled]

## 2.6 Security



- **Administrator Password**  
Set setup Administrator Password
- **User Password**  
Set User Password

## 2.6.1 Secure boot



- **Secure Boot[Disabled]**  
Enable or Disable system secure boot.  
Configuration options: [Disabled] [Enabled]
- **Secure Boot mode[Custom]**  
Secure boot mode option  
Configuration options: [Custom] [standard]
- **Restore Factory keys**  
Force system to user mode. Install factory default secure boot key database.
- **Reset to Setup Mode**  
Secure boot mode option  
Configuration options: [Custom] [standard]

## MX370QD User's Manual

### 2.6.1.1 Key management

This sheet describe keys installation and status for secure boot. We suggest user do not change these default setting if you are not familiar with secure boot setting.

The screenshot shows the Aptio Setup Utility interface with the Security menu open. The 'Factory Key Provision' option is highlighted, and a sub-menu is displayed showing 'Disabled' as the selected option. The background menu includes 'Vendor Keys' (Valid), 'Factory Key Provision' ([Disabled]), 'Device Guard Ready', and a table of 'Secure Boot variable' settings. A legend on the right side of the screen lists navigation keys: '+' for Select Screen, '↓' for Select Item, 'Enter' for Select, '+/-' for Change Opt., 'F1' for General Help, 'F2' for Previous Values, 'F3' for Optimized Defaults, 'F4' for Save & Exit, and 'ESC' for Exit.

```
Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
Security

Vendor Keys                               Valid
Factory Key Provision                       [Disabled]
▶ Restore Factory Keys
▶ Reset To Setup Mode
▶ Export Secure Boot variables
▶ Enroll Efi Image

Device Guard Ready
▶ Remove 'UEFI CA' from DB
▶ Restore DB defaults

Secure Boot variable | Size | Ke
▶ Platform Key(PK)   | 0 |
▶ Key Exchange Keys | 0 |
▶ Authorized Signatures | 0 | No Keys
▶ Forbidden Signatures | 0 | No Keys
▶ Authorized TimeStamps | 0 | No Keys
▶ OsRecovery Signatures | 0 | No Keys

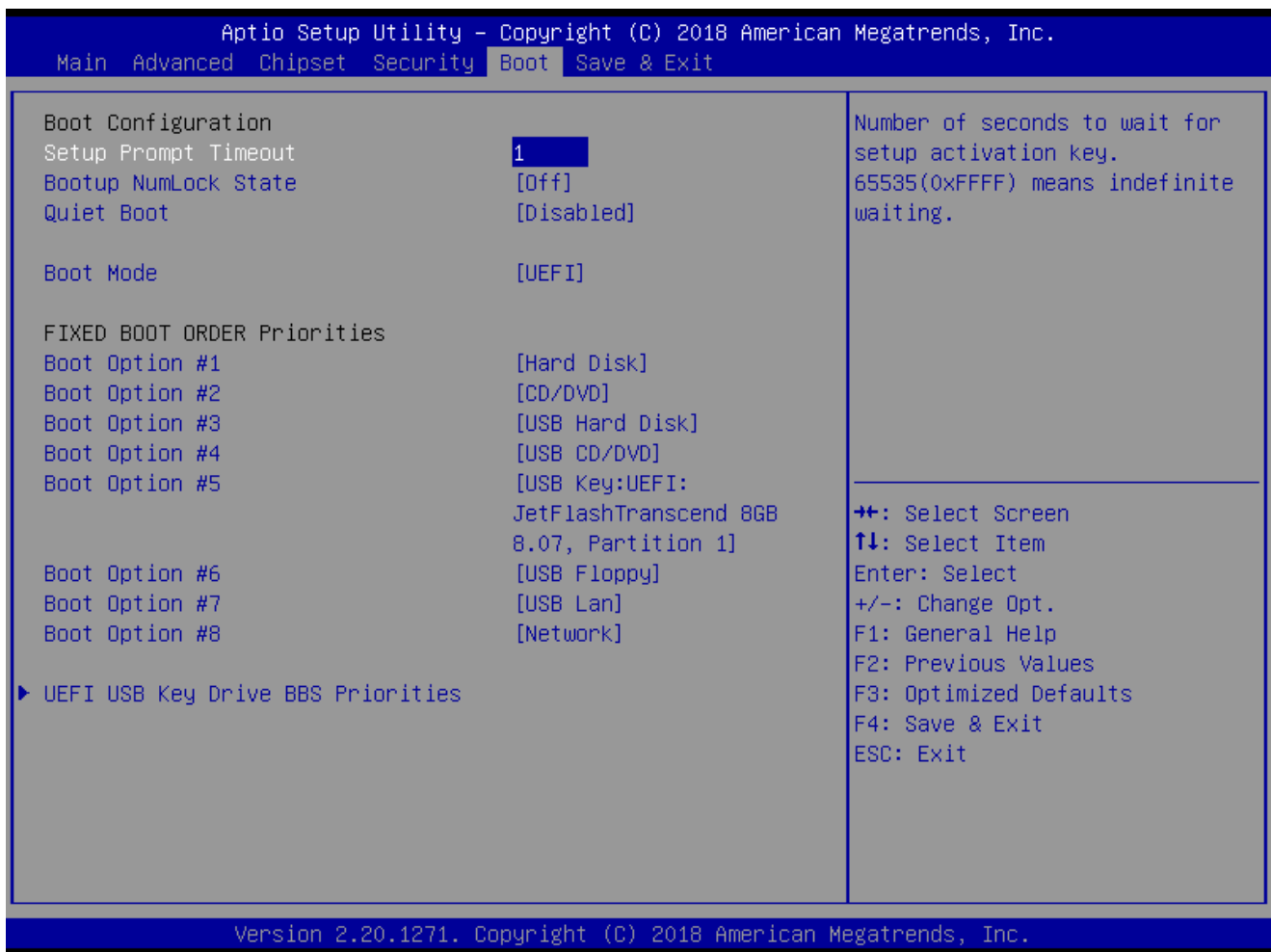
Factory Key Provision
Disabled
Enabled

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

Version 2.20.1271. Copyright (C) 2018 American Megatrends, Inc.
```

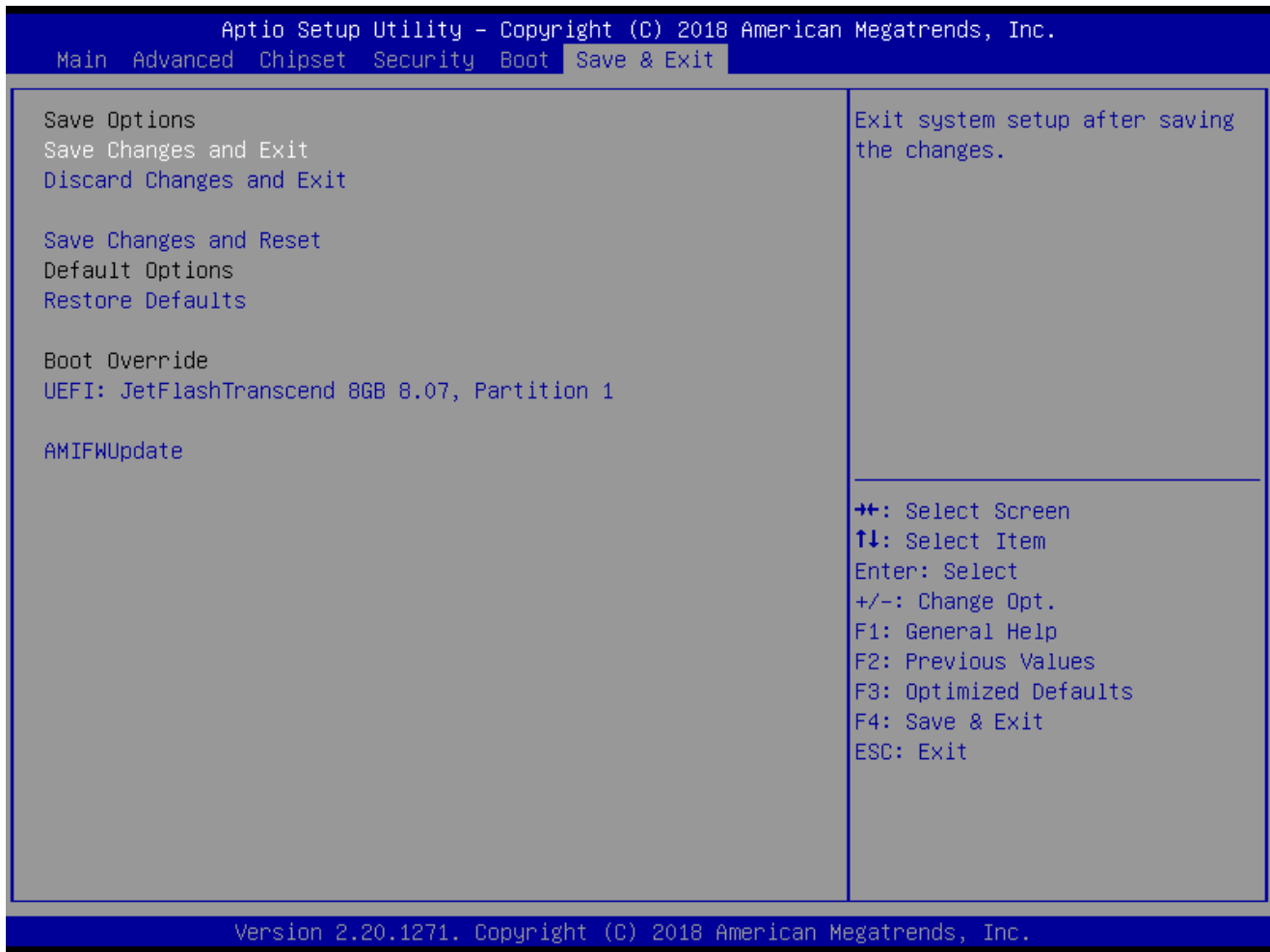


## 2.7 Boot



- **Setup Prompt Timeout [1]**  
Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
- **Bootup NumLock State [off]**  
Select the keyboard NumLock state  
Configuration options: [On] [Off]
- **Quick Boot [Disable]**  
Enable or disable Quick Boot option  
Configuration options: [Disabled] [Enabled]
- **Boot mode [UEFI]**  
Select boot mode LEGACY/UEFI  
Configuration options: [LEGACY] [UEFI]
- **UEFI USB Key Drive BBS Priorities**  
Specifies the boot device priority sequence from available UEFI USB key Drives.

## 2.8 Save & Exit



- **Save changes and Exit**  
Exit system setup after saving the changes.
- **Discard changes and Exit**  
Exit system setup without saving the changes.
- **Save changes and Reset**  
Reset the system after saving the changes.
- **Restore Defaults**  
Restore/Load default values for all the setup option.
- **AMIFWUpdate**  
Launch AMIFWupdate