OPEN
Industry Standard, Flexible Architecture

GREEN
Less Heat, Less Power Consumption

STABLE
Robust Design, Quality Parts

Stable and
Reliable Solution

Server/Workstation
Motherboard

C236 WS

User Manual

English

Version 1.1
Published May 2017
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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

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"

ASRock Rack's Website: www.ASRockRack.com

Contact Information

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Contents

Chapter 1 Introduction

Thank you for purchasing ASRock Rack ***C236 WS*** motherboard, a reliable motherboard produced under ASRock Rack's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock Rack's commitment to quality and endurance.

In this manual, chapter 1 and 2 contains introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contains the configuration guide to BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock Rack website without further notice. You may find the latest memory and CPU support lists on ASRock Rack website as well. ASRock Rack's Website: www.ASRockRack.com

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.
http://www.asrockrack.com/support/

1.1 Package Contents

- ASRock Rack C236 WS Motherboard
  (ATX Form Factor: 12-in x 9.6-in, 30.5 cm x24.4 cm)
- Support CD
- User Manual
- 4 x SATA3 Cables (50cm)
- 2 x SATA3 Cables (60cm)
- 1 x I/O Shield

If any items are missing or appear damaged, contact your authorized dealer.

English

1.2 Specifications

C236 WS	
MB Physical Status	
Form Factor	ATX
Dimension	12" x 9.6" (30.5 cm x24.4 cm)
Processor System	
CPU	Intel® Xeon® E3-1200 v5/v6 Series Processors* **BIOS version 2.0 or above is required for v4 series.*
Chipset	Intel® C236
System Memory	
Capacity	4 x DDR4 DIMM slots
Type	- Dual Channel memory technology - Supports DDR4 2400*/2133/1866/1600 ECC/non-ECC** UDIMM memory **Only E3-1200 v6 CPUs can support DDR4 2400* ***Non-ECC UDIMM support Client OS only.*
DIMM Size Per DIMM	ECC and non-ECC UDIMM : 16GB, 8GB, 4GB
Voltage	1.2V
Expansion Slot	
PCIe 3.0 x16	2 slots (PCIE7/PCIE5: x16/x0 or x8/x8)
PCIe 3.0 x8	1 slot
PCIe 3.0 x1	2 slots
PCI	2 slots
Storage	
SATA Controller	C236: 8 x SATA3 6Gb/s, support RAID 0, 1, 5, 10
Audio	
Audio Codec	Realtek ALC1150
Ethernet	
Interface	1000 /100 /10 Mbps
LAN	2 x RJ45 GLAN by Intel® i210+Intel® i219 - Supports Wake-On-LAN - Supports Energy Efficient Ethernet 802.3az - Supports PXE
Graphics	
Controller	Intel® HD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated
Rear Panel I/O	
PS/2 KB/mouse	1
VGA Port	1 x D-Sub
USB 3.0 Port	4

Lan Port	- RJ45: 2x GLAN(by Intel® i210+ Intel® i219) - LAN Ports with LED (ACT/LINK LED and SPEED LED)
HDMI	1
Audio	3 Jack
DVI	1
SPDIF	1
Internal Connector	
Auxiliary Panel Header	1 (include chassis intrusion , location button & LED , front LAN LED)
COM header	1
SATA DOM	1
Speaker	1
TR1	1
TPM Header	1
Fan Header	6 Fans (CPU/3Front/2Rear)
ATX power	1x (24-pin) + 1x (8-pin)
Type A USB 3.0 Port	1
USB 3.0 Header	2 (support 4 USB3.0)
USB 2.0 Header	1 (supports 2 USB3.0)
ClearCMOS	1 (short pin)
NMI button	1
SGPIO	2
Front Panel	1
Buzzer	1
SATA Express	1
System BIOS	
BIOS Type	128 Mb AMI UEFI Legal BIOS
BIOS Features	- Plug and Play (PnP) - ACPI 2.0 Compliance Wake Up Events - SMBIOS 2.8.0 Support - ASRock Rack Instant Flash
Hardware Monitor	
Temperature	- CPU Temperature Sensing - MB Temperature Sensing - Card side Temperature Sensing - System TR Temperature Sensing
Fan	- CPU/Rear/Front Fan Tachometer - CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) - CPU/Rear/Front Fan Multi-Speed Control
Voltage	Voltage Monitoring: +12V, +5V, +3V, CPU Vcore,3VSB, VBAT, GT_CPU,+VCCSA,VCCM,+V1.0M,+VCCIO,VCCST_SFR

Support OS	
OS	Microsoft® Windows® - Windows 7 (32 / 64 bit) - Windows 8.1 (64 bit) - Windows 10 (64 bit) * Please refer to our website for the latest OS support list.
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C

NOTE: Please refer to our website for the latest specifications.

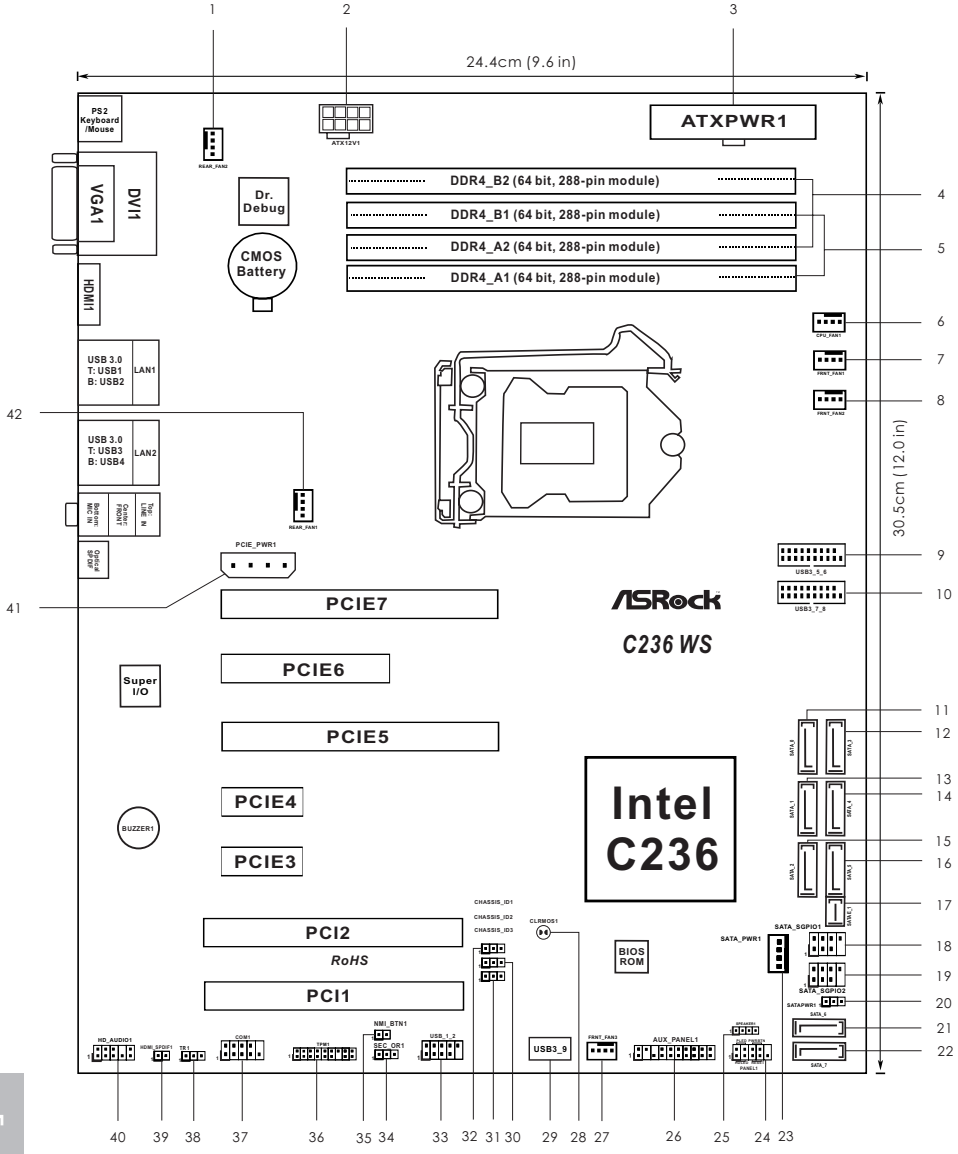
This motherboard supports Wake from on Board LAN. To use this function, please make sure that the "Wake on Magic Packet from power off state" is enabled in Device Manager > Intel® Ethernet Connection > Power Management. And the "PCI Devices Power On" is enabled in UEFI SETUP UTILITY > Advanced > ACPI Configuration. After that, onboard LAN1&2 can wake up S5 under OS.

If you install Intel® LAN utility or Marvell SATA utility, this motherboard may fail Windows® Hardware Quality Lab (WHQL) certification tests. If you install the drivers only, it will pass the WHQL tests.

1.3 Unique Features

ASRock Rack Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, you can press the <F6> key during the POST or the <F2> key to enter into the BIOS setup menu to access ASRock Rack Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

1.4 Motherboard Layout

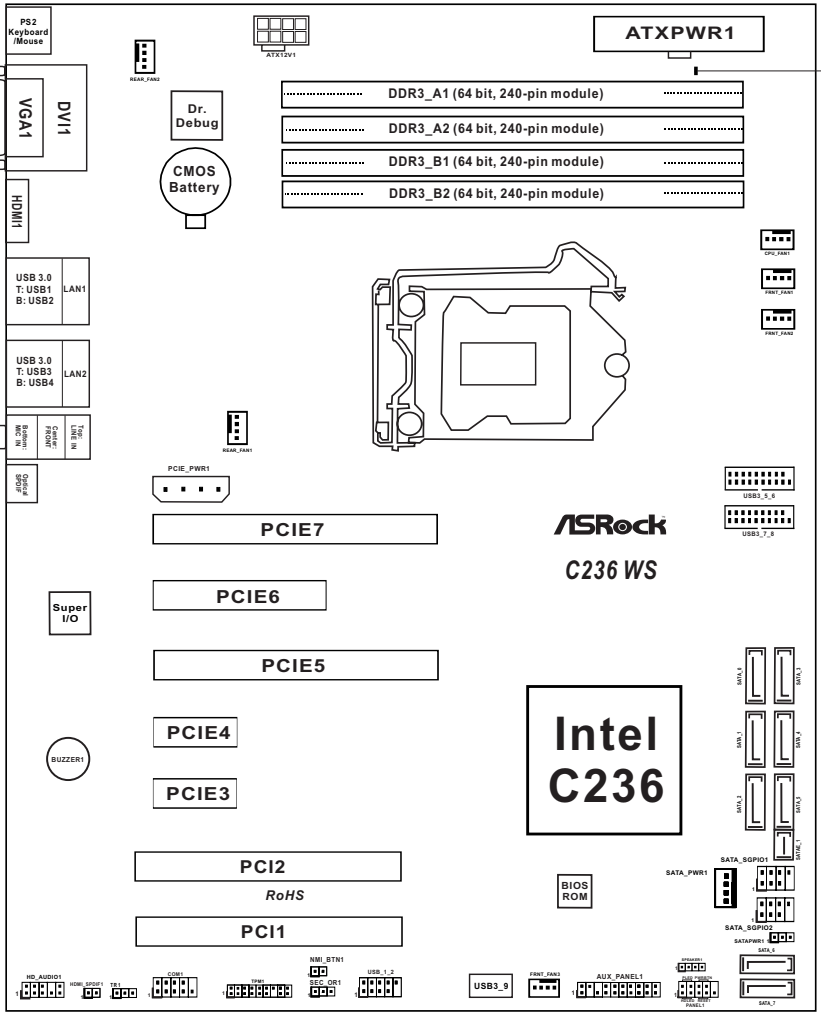


No.	Description
1	Rear Fan Connector (REAR_FAN2)
2	ATX 12V Power Connector (ATX12V1)
3	ATX Power Connector (ATXPWR1)
4	2 x 288-pin DDR4 DIMM Slots (DDR4_A2, DDR4_B2, Blue)*
5	2 x 288-pin DDR4 DIMM Slots (DDR4_A1, DDR4_B1, White)*
6	CPU Fan Connector (CPU_FAN1)
7	Front Fan Connector (FRNT_FAN1)
8	Front Fan Connector (FRNT_FAN2)
9	USB 3.0 Header (USB3_5_6)
10	USB 3.0 Header (USB3_7_8)
11	SATA3 Connector (SATA_0)
12	SATA3 Connector (SATA_3)
13	SATA3 Connector (SATA_1)
14	SATA3 Connector (SATA_4)
15	SATA3 Connector (SATA_2)
16	SATA3 Connector (SATA_5)
17	SATA Express Connector (SATAE_1, White, from PCH)
18	SATA SGPIO Connector (SATA_SGPIO1)
19	SATA SGPIO Connector (SATA_SGPIO2)
20	SATA DOM Power Header (SATA_PWR1)
21	SATA3 DOM Connector (SATA_6), Red
22	SATA3 Connector (SATA_7)
23	SATA DOM Power Jumper (SATAPWR1)
24	System Panel Header (PANEL1)
25	Speaker Header (SPEAKER1)
26	Auxiliary Panel Header (AUX_PANEL1)
27	Front Fan Connector (FRNT_FAN3)
28	Clear CMOS Pad (CLRMOS1)
29	Vertical Type A USB 3.0 (USB3_9)
30	Chassis ID2 Jumper (CHASSIS_ID2)
31	Chassis ID3 Jumper (CHASSIS_ID3)
32	Chassis ID1 Jumper (CHASSIS_ID1)
33	USB 2.0 Header (USB_1_2)

No.	Description
34	Flash Descriptor Security Override Jumper (SEC_OR1)
35	Non Maskable Interrupt Button (NMI_BTN1)
36	TPM Header (TPM1)
37	COM Port Header (COM1)
38	Thermal Sensor Header (TR1)
39	HDMI SPDIF Header (HDMI_SPDIF1)
40	Front Panel Audio Header (HD_AUDIO1)
41	PCIe Power Connector (PCIE_PWR1)
42	Rear Fan Connector (REAR_FAN1)

For DIMM installation and configuration instructions, please see p.19 (Installation of Memory Modules (DIMM)) for more details.

1.5 Onboard LED Indicators

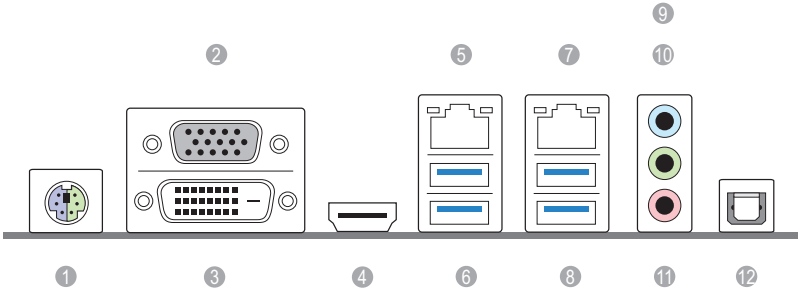


1

No.	Item	Status	Description
1	SB_PWR1	Green	STB PWR ready

English

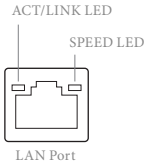
1.6 I/O Panel



No.	Description	No.	Description
1	PS/2 Mouse/Keyboard Port	7	LAN RJ-45 Port (LAN2)*
2	VGA Port (VGA1)	8	USB 3.0 Ports (USB3_3_4)
3	DVI Port (DVI1)	9	Line In (Light Blue)
4	HDMI Port (HDMI1)	10	Front Speaker (Lime)*
5	LAN RJ-45 Port (LAN1)*	11	Microphone (Pink)
6	USB 3.0 Ports (USB3_1_2)	12	Optical SPDIF Out Port (SPDIF1)

LAN Port LED Indications

*There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

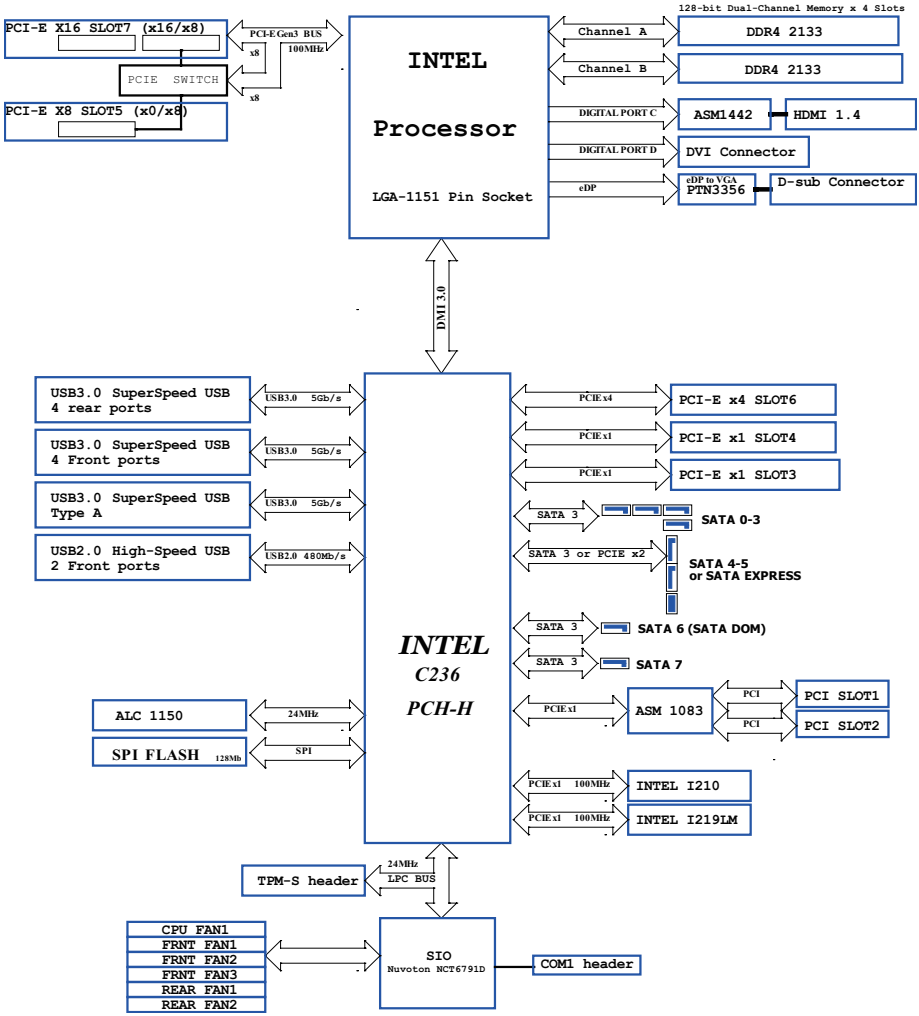


LAN Port LED Indications

Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10M bps connection or no link
Blinking Yellow	Data Activity	Yellow	100M bps connection
On	Link	Green	1Gbps connection

English

1.7 Block Diagram



Chapter 2 Installation

This is an ATX form factor (12" x 9.6", 30.5 cm x 24.4 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.1 Screw Holes

Place screws into the holes indicated by circles to secure the motherboard to the chassis.

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

2.2 Pre-installation Precautions

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

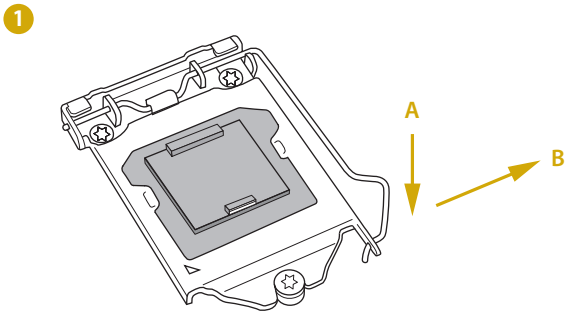
1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the motherboard's components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

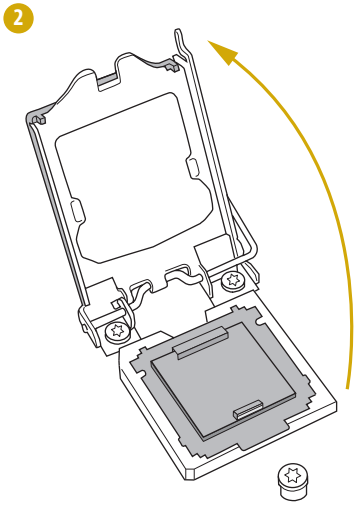
Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

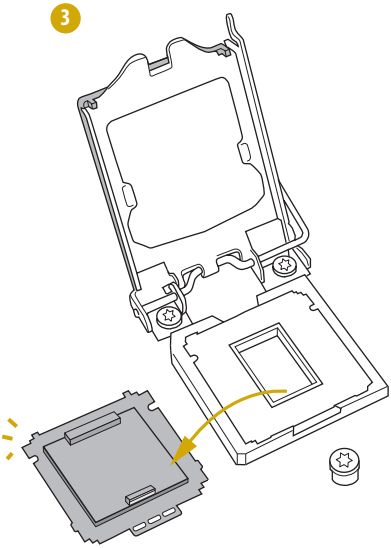
2.3 Installing the CPU

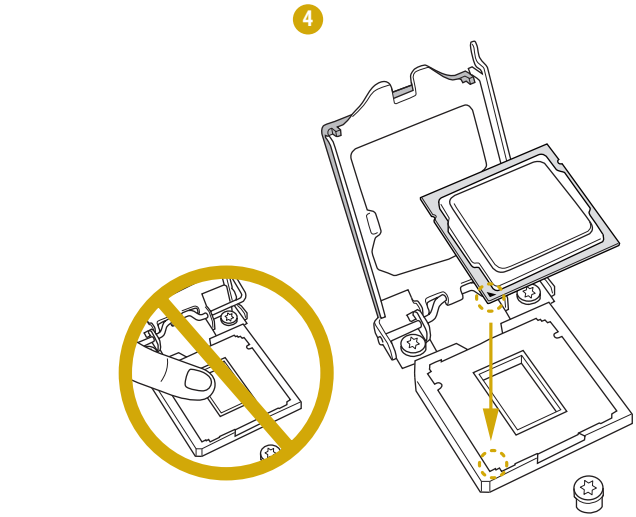
1. *Before you insert the 1151-Pin CPU into the socket, please check if the PnP cap is on the socket, if the CPU surface is unclean, or if there are any bent pins in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.*
2. *Unplug all power cables before installing the CPU.*

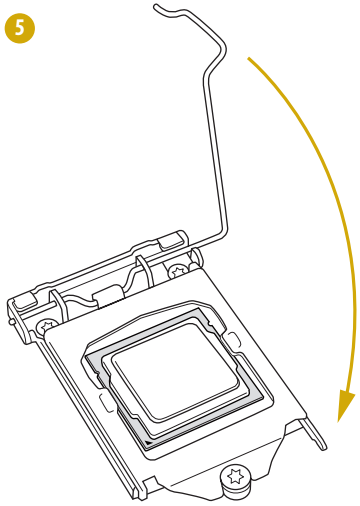
Illustrations in this User Manual are provided for reference only and may slightly differ from actual product appearances.

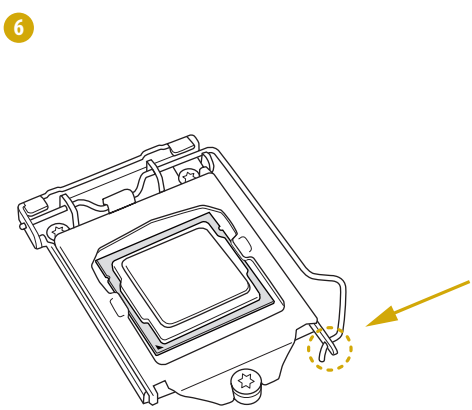






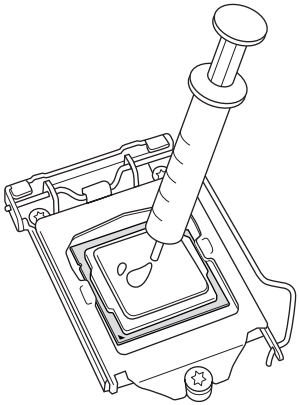


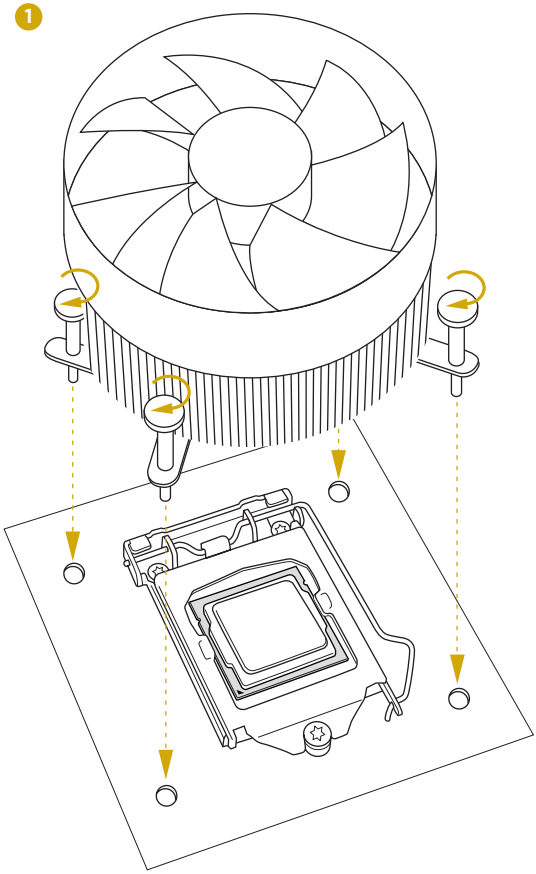


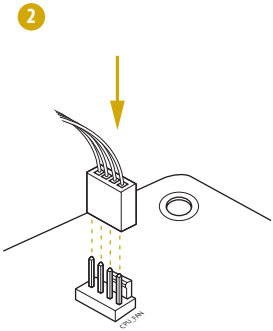


Please save and replace the cover if the processor is removed. The cover must be placed if you wish to return the motherboard for after service.

2.4 Installing the CPU Fan and Heatsink







2.5 Installation of Memory Modules (DIMM)

This motherboard provides four 288-pin DDR4 (Double Data Rate 4) DIMM slots, and supports Dual Channel Memory Technology.

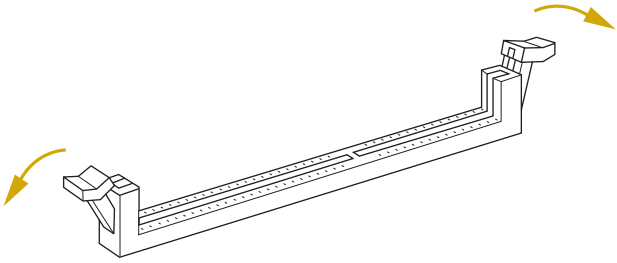
1. *For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR4 DIMM pairs.*
2. *It is unable to activate Dual Channel Memory Technology with only one or three memory module installed.*
3. *It is not allowed to install a DDR, DDR2 or DDR3 memory module into a DDR4 slot; otherwise, this motherboard and DIMM may be damaged.*

Dual Channel Memory Configuration

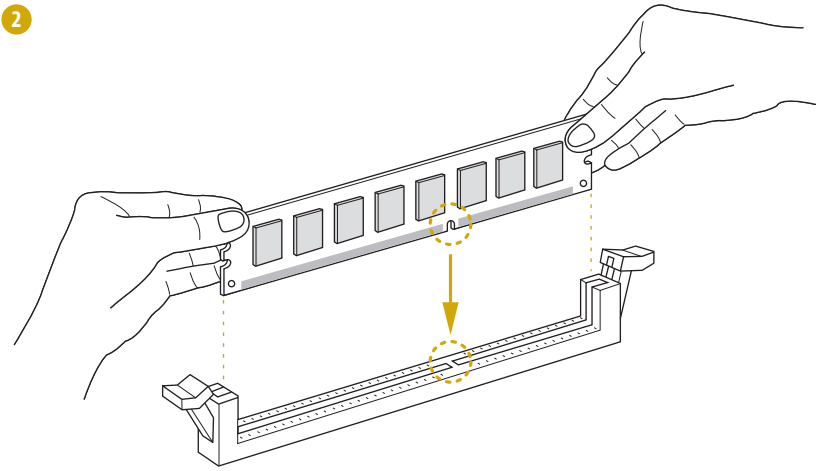
Priority	DDR4_A1	DDR4_A2	DDR4_B1	DDR4_B2
1	Populated	Populated	Populated	Populated
2	Populated		Populated	
3		Populated		Populated

The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

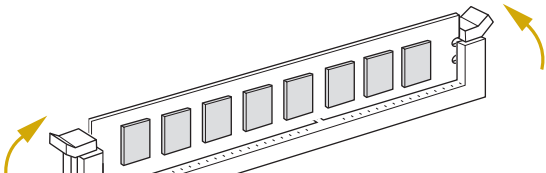
1



2



3



The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

2.6 Expansion Slots (PCI and PCI Express Slots)

There are 2 PCI slots and 5 PCI Express slots on this motherboard.

PCI slots:

The PCI1 and PCI2 slot are used to install expansion cards that have 32-bit PCI interface.

PCIE slots:

PCIE3 (PCIe 3.0 x1 slot) is used for PCI Express x1 lane width cards.
PCIE4 (PCIe 3.0 x1 slot) is used for PCI Express x1 lane width cards.
PCIE5 (PCIe 3.0 x16 slot) is used for PCI Express x8 lane width cards.
PCIE6 (PCIe 3.0 x4 slot) is used for PCI Express x4 lane width cards.
PCIE7 (PCIe 3.0 x16 slot) is used for PCI Express x16 lane width cards.

Slot	Generation	Mechanical	Electrical	Source
PCIE 7	3.0	x16	x16	CPU
PCIE 6	3.0	x4	x4	PCH
PCIE 5	3.0	x16	x8	CPU
PCIE 4	3.0	x1	x1	PCH
PCIE 3	3.0	x1	x1	PCH
PCI 2		N/A		ASM1083
PCI 1		N/A		ASM1083

PCI Express Slot Configuration

	PCIE 5	PCIE7
Single PCIE Card	x0	x16
Two PCIE Cards	x8	x8

Installing an expansion card

Step 1. Before installing an expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

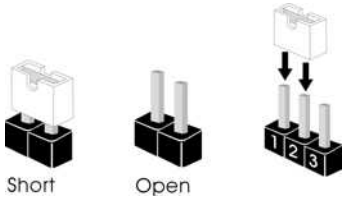
Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

2.7 Jumper Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.



Flash Descriptor Security Override Jumper (3-pin SEC_OR1) (see p.6, No. 34)	1_2  Flash Descriptor Security Override	2_3  Not Override (Default)
SATA DOM Power Jumper (3-pin SATAPWR1) (see p.6, No. 20)	1_2  SATA DOM (SATA_6) requires 5V power supply	2_3  SATA DOM (SATA_6) does NOT require 5V power supply (Default)

Consult the documentation that comes with your SATA DOM and check whether or not Pin 7 requires 5V power supply.

If the connected SATA DOM requires 5V power supply, move the jumper caps placed on the SATA DOM Power Jumper (SATAPWR_SEL) from pins 2-3 (default) to pins 1-2.

If the connected SATA DOM does NOT require 5V power supply, connect the SATA DOM power cable to the SATA DOM power header (SATA_PWR1) and there is no need to change the default jumper setting of the SATA DOM Power Jumper (pins 2-3).

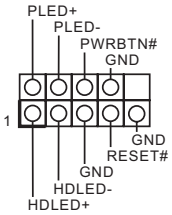
Warning! Incorrect setting of the SATA DOM Power Jumper (SATAPWR1) may cause damage to the motherboard or your SATA DOM.

Chassis ID1 Jumper (3-pin CHASSIS_ID1) (see p.6, No. 32) Chassis ID2 Jumper (3-pin CHASSIS_ID2) (see p.6, No. 30) Chassis ID3 Jumper (3-pin CHASSIS_ID3) (see p.6, No. 31)	 Single motherboard indication (Default)

2.8 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard.

System Panel Header
(9-pin PANEL1)
(see p.6, No. 24)



Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments. Particularly note the positive and negative pins before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

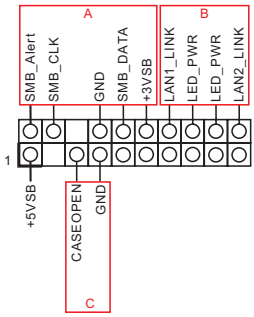
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED is off when the system is in S4 sleep state or powered off (S5).

HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

Auxiliary Panel Header
(18-pin AUX PANEL_1)
(see p.6, No. 26)



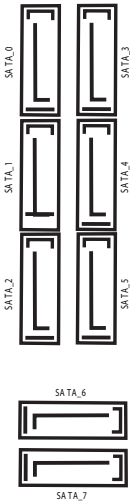
This header supports multiple functions on the front panel, including the front panel SMB, internet status indicator and chassis intrusion pin.

A. Front panel SMBus connecting pin (6-1 pin FPSMB)
This header allows you to connect SMBus (System Management Bus) equipment. It can be used for communication between peripheral equipment in the system, which has slower transmission rates, and power management equipment.

B. Internet status indicator (2-pin LAN1_LED, LAN2_LED)
These two 2-pin headers allow you to use the Gigabit internet indicator cable to connect to the LAN status indicator. When this indicator flickers, it means that the internet is properly connected.

C. Chassis intrusion pin (2-pin CHASSIS)
This header is provided for host computer chassis with chassis intrusion detection designs. In addition, it must also work with external detection equipment, such as a chassis intrusion detection sensor or a microswitch. When this function is activated, if any chassis component movement occurs, the sensor will immediately detect it and send a signal to this header, and the system will then record this chassis intrusion event. The default setting is set to the CASEOPEN and GND pin; this function is off.

Serial ATA3 Connectors
(SATA_0)
(see p.6, No. 11)
(SATA_1)
(see p.6, No. 13)
(SATA_2)
(see p.6, No. 15)
(SATA_3)
(see p.6, No. 12)
(SATA_4)
(see p.6, No. 14)
(SATA_5)
(see p.6, No. 16)
(SATA_6)
(see p.6, No. 21)
(SATA_7)
(see p.6, No. 22)



These SATA3 connectors support SATA data cables for internal storage devices with up to 6.0 Gb/s data transfer rate.

Serial ATA Express Connector
(SATAE_1_
(see p.6, No. 17)

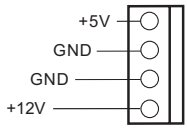
Please connect either SATA or PCIe storage devices to this connector.

Serial ATA3 DOM Connector
(SATA_6)
(see p.6, No. 21)

The SATA3 DOM connector supports both a SATA DOM (Disk-On-Module) and a SATA data cable for internal storage device.

English

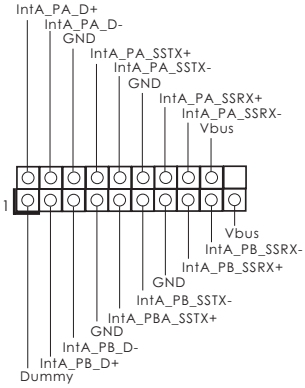
SATA Power Connectors
(4-pin SATA_PWR1)
(see p.6, No. 20)



Please connect a SATA power cable.

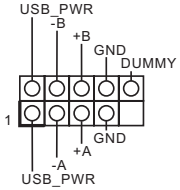
USB 3.0 Connector
(USB3_7)
(see p.6, No. 29)

USB 3.0 Headers
(19-pin USB3_5_6)
(see p.6, No. 9)
(19-pin USB3_7_8)
(see p.6, No. 10)



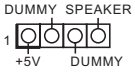
Besides four default USB 3.0 ports on the I/O panel, there are two USB 3.0 headers on this motherboard. Each USB 3.0 header can support two USB 3.0 ports.

USB 2.0 Header
(9-pin USB_1_2)
(see p.6, No. 33)



There is one USB 2.0 header on this motherboard. Each USB 2.0 header can support two ports.

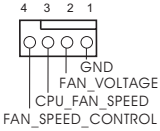
Chassis Speaker Header
(4-pin SPEAKER1)
(see p.6, No. 25)



Please connect the chassis speaker to this header.

English

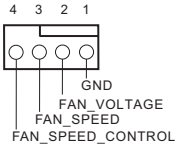
CPU Fan Connector
(4-pin CPU1_FAN1)
(see p.6, No. 6)



This motherboard provides one 4-Pin CPU fan (Quiet Fan) connectors. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3.

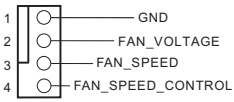
**For more details, please refer to the Cooler QVL list on the ASRock Rack website.*

Front and Rear Fan Connectors
(4-pin FRNT_FAN1)
(see p.6, No. 7)
(4-pin FRNT_FAN2)
(see p.6, No. 8)
(4-pin FRNT_FAN3)
(see p.6, No. 27)

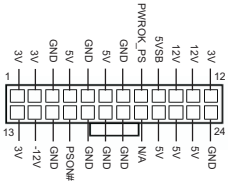


Please connect fan cables to the fan connectors and match the black wire to the ground pin. All fans support Fan Control.

(4-pin REAR_FAN1)
(see p.6, No. 42)
(4-pin REAR_FAN2)
(see p.6, No. 1)

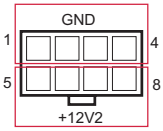


ATX Power Connector
(24-pin ATXPWR1)
(see p.6, No. 3)



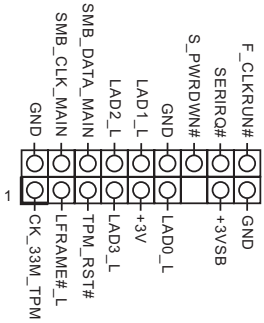
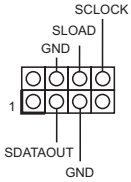
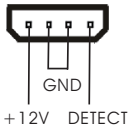
This motherboard provides a 24-pin ATX power connector. To use a 20-pin ATX power supply, please plug it along Pin 1 and Pin 13.

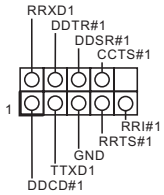
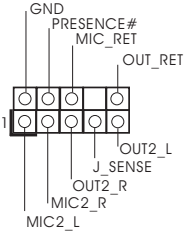
ATX 12V Power Connector
(8-pin ATX12V1)
(see p.6, No. 2)



This motherboard provides two 8-pin ATX 12V power connectors.

English

TPM Header (17-pin TPM1) (see p.6, No. 36)		This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.
Serial General Purpose Input/Output Headers (7-pin SATA_SGPIO1) (see p.6, No. 18) (7-pin SATA_SGPIO2) (see p.6, No. 19)		The headers support Serial Link interface for onboard SATA connections.
Non Maskable Interrupt Button Header (NMI_BTN1) (see p.6, No. 35)		Please connect a NMI device to this header.
Thermal Sensor Header (3-pin TR1) (see p.6, No. 38)		Please connect the thermal sensor cable to either pin 1-2 or pin 2-3 and the other end to the device which you wish to monitor its temperature.
PCIe Power Connector (4-pin PCIE_PWR1) (see p.6, No. 41)		Please connect a 4 pin molex power cable to this connector when more than three PCI Express cards are installed.

Serial Port Header (9-pin COM1) (See p.6, No.37)		This COM header supports a serial port module.
HDMI SPDIF Header (2-pin HDMI_SPDIF1) (See p.6, No.39)		HDMI SPDIF header, providing audio output to HDMI VGA card, allows the system to connect HDMI Digital TV/ projector/LCD devices. Please connect the HDMI_SPDIF connector of HDMI VGA card to this header.
Front Panel Audio Header (9-pin HD_AUDIO1) (see p.6, No. 40)		This header is for connecting audio devices to the front audio panel.

1. *High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instructions in our manual and chassis manual to install your system.*
2. *If you use an AC'97 audio panel, please install it to the front panel audio header by the steps below:*
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for the HD audio panel only. You don't need to connect them for the AC'97 audio panel.
   E. To activate the front mic, go to the "FrontMic" Tab in the Realtek Control panel and adjust "Recording Volume".

Clear CMOS Pad
(CLRMOS1)
(see p.6, No. 28)

CLRMOS1 allows you to clear the data in CMOS. To clear CMOS, take out the CMOS battery and short the Clear CMOS Pad.

2.9 Dr. Debug

Dr. Debug is used to provide code information, which makes troubleshooting even easier. Please see the diagrams below for reading the Dr. Debug codes.

Code	Description
00	Please check if the CPU is installed correctly and then clear CMOS.
0d	Problem related to memory, VGA card or other devices. Please clear CMOS, re-install the memory and VGA card, and remove other USB, PCI devices.
01 - 54 (except 0d), 5A- 60	Problem related to memory. Please re-install the CPU and memory then clear CMOS. If the problem still exists, please install only one memory module or try using other memory modules.
55	The Memory could not be detected. Please re-install the memory and CPU. If the problem still exists, please install only one memory module or try using other memory modules.
61 - 91	Chipset initialization error. Please press reset or clear CMOS.
92 - 99	Problem related to PCI-E devices. Please re-install PCI-E devices or try installing them in other slots. If the problem still exists, please remove all PCI-E devices or try using another VGA card.
A0 - A7	Problem related to IDE or SATA devices. Please re-install IDE and SATA devices. If the problem still exists, please clear CMOS and try removing all SATA devices.
b0	Problem related to memory. Please re-install the CPU and memory. If the problem still exists, please install only one memory module or try using other memory modules.
b4	Problem related to USB devices. Please try removing all USB devices.
b7	Problem related to memory. Please re-install the CPU and memory then clear CMOS. If the problem still exists, please install only one memory module or try using other memory modules.
d6	The VGA could not be recognized. Please clear CMOS and try re-installing the VGA card. If the problem still exists, please try installing the VGA card in other slots or use other VGA cards.
d7	The Keyboard and mouse could not be recognized. Please try re-installing the keyboard and mouse.
d8	Invalid Password.
FF	Please check if the CPU is installed correctly and then clear CMOS.

2.10 Driver Installation Guide

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

Chapter 3 UEFI Setup Utility

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY; otherwise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctrl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Item	Description
Main	To set up the system time/date information
Advanced	To set up the advanced UEFI features
Boot	To set up the default system device to locate and load the Operating System
Security	To set up the security features
Event Logs	For event log configuration
Exit	To exit the current screen or the UEFI SETUP UTILITY

Use < > key or < > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen.

English

3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

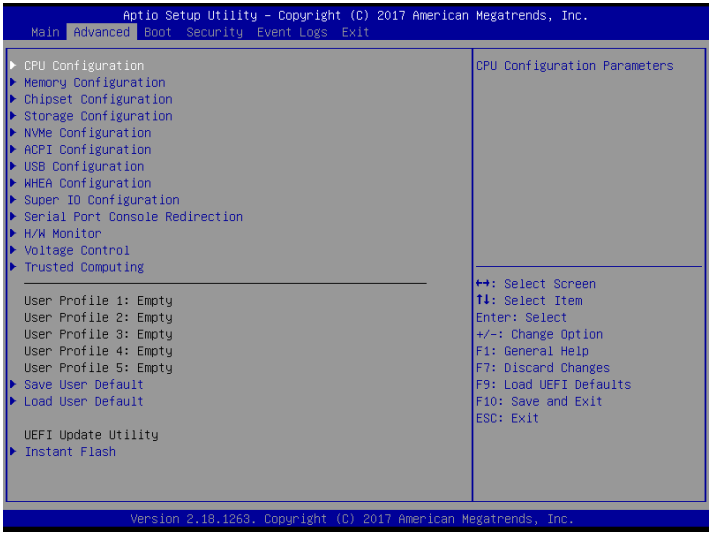
Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Tab>	Switch to next function
<Enter>	To bring up the selected screen
<PGUP>	Go to the previous page
<PGDN>	Go to the next page
<HOME>	Go to the top of the screen
<END>	Go to the bottom of the screen
<F1>	To display the General Help Screen
<F7>	Discard changes and exit the UEFI SETUP UTILITY
<F9>	Load optimal default values for all the settings
<F10>	Save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	Jump to the Exit Screen or exit the current screen

3.2 Main Screen

Once you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview. The Main screen provides system overview information and allows you to set the system time and date.

3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Memory Configuration, Chipset Configuration, Storage Configuration, NVMe Configuration, ACPI Configuration, USB Configuration, WHEA Configuration, Super IO Configuration, Serial Port Console Redirection, H/W Monitor, Voltage Control, Trusted Computing, and Instant Flash.



Setting wrong values in this section may cause the system to malfunction.

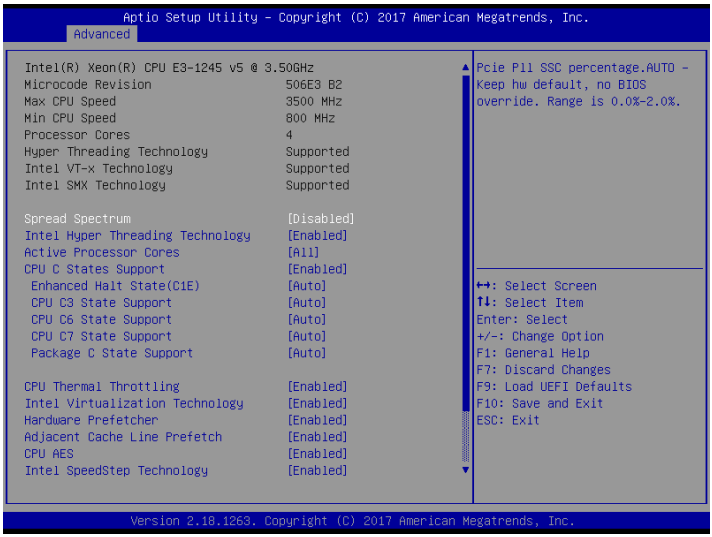
Save User Default

Type a profile name and press enter to save your settings as user default.

Load User Default

Load previously saved user defaults.

3.3.1 CPU Configuration



Spread Spectrum

Use this to enable and disable Spread Spectrum.

Intel Hyper Threading Technology

Intel Hyper Threading Technology allows multiple threads to run on each core, so that the overall performance on threaded software is improved.

Active Processor Cores

Select the number of cores to enable in each processor package.

CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3, C6 and C7 all enabled for better power saving.

Enhanced Halt State (C1E)

Enable Enhanced Halt State (C1E) for lower power consumption.

CPU C3 State Support

Enable C3 sleep state for lower power consumption.

CPU C6 State Support

Enable C6 deep sleep state for lower power consumption.

CPU C7 State Support

Enable C7 deep sleep state for lower power consumption.

Package C State Support

Enable CPU, PCIe, Memory, Graphics C State Support for power saving.

CPU Thermal Throttling

Enable CPU internal thermal control mechanisms to keep the CPU from overheating.

Intel Virtualization Technology

Intel Virtualization Technology allows a platform to run multiple operating systems and applications in independent partitions, so that one computer system can function as multiple virtual systems.

Hardware Prefetcher

Automatically prefetch data and code for the processor. Enable for better performance.

Adjacent Cache Line Prefetch

Automatically prefetch the subsequent cache line while retrieving the currently requested cache line. Enable for better performance.

CPU AES

Use this to enable or disable CPU Advanced Encryption Standard instructions.

Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Processors can switch between multiple frequencies and voltage points to enable power saving. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.

Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

Intel Turbo Boost Technology

Use this item to enable or disable Intel Turbo Boost Mode Technology. Turbo Boost Mode allows processor cores to run faster than marked frequency in specific conditions. The default value is [Enabled].

Intel TXT(LT) Support

Use this to enable or disable Intel Trusted Execution Technology.

Long Duration Power Limit

Configure Package Power Limit 1 in watts. When the limit is exceeded, the CPU ratio will be lowered after a period of time. A lower limit can protect the CPU and save power, while a higher limit may improve performance.

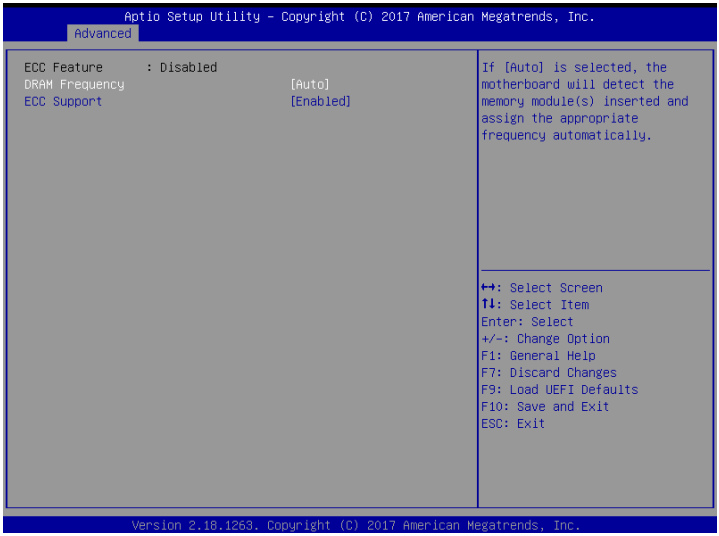
Long Duration Maintained

Configure the period of time until the CPU ratio is lowered when the Long Duration Power Limit is exceeded

Short Duration Power Limit

Configure Package Power Limit 2 in watts. When the limit is exceeded, the CPU ratio will be lowered immediately. A lower limit can protect the CPU and save power, while a higher limit may improve performance.

3.3.2 Memory Configuration



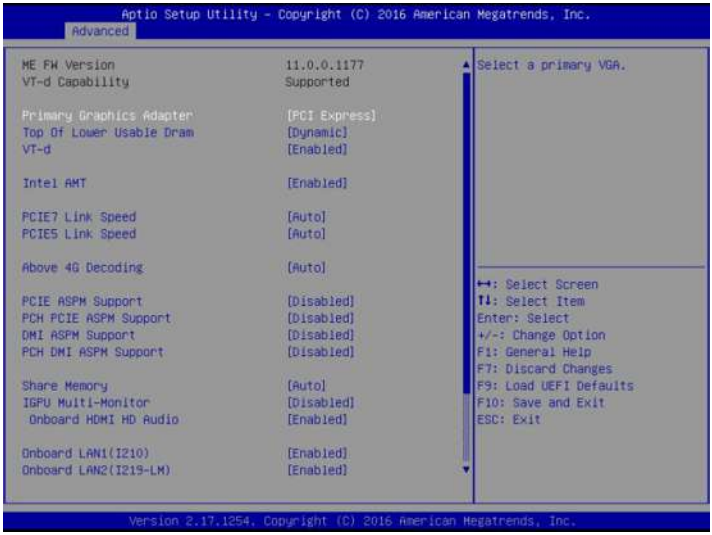
DRAM Frequency

If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assign the appropriate frequency automatically.

ECC Support

Use this item to enable or disable DDR ECC Support.

3.3.3 Chipset Configuration



Primary Graphics Adapter

If PCI Express graphics card is installed on the motherboard, you may use this option to select PCI Express or Onboard as the primary graphics adapter.

Top of Lower Usable Dram

Maximum Value of TOLUD. Dynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller.

VT-d

Intel Virtualization Technology for Directed I/O helps your virtual machine monitor better utilize hardware by improving application compatibility and reliability, and providing additional levels of manageability, security, isolation, and I/O performance.

Intel AMT

Use this option to enable or disable Intel(R) Active Management Technology BIOS Extension. Please be noted that the iAMT H/W is always enabled. This option just controls the BIOS extension execution. If enabled, this requires additional firmware in the SPI device.

PCIE7 Link Speed

This allows you to select PCIE7 Link Speed. The default value is [Auto].

PCIE5 Link Speed

This allows you to select PCIE5 Link Speed. The default value is [Auto].

Above 4G Decoding

Enable or disable 64bit capable Devices to be decoded in Above 4G Address Space (only if the system supports 64 bit PCI decoding).

PCI-E ASPM Support

This option enables or disables the ASPM support for all CPU downstream devices.

PCH PCI-E ASPM Support

This option enables or disables the ASPM support for all PCH downstream devices.

DMI ASPM Support

This option enables/disables the control of ASPM on CPU side of the DMI Link.

PCH DMI ASPM Support

This option enables/disables the ASPM support for all PCH DMI devices.

Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

IGPU Multi-Monitor

Select disable to disable the integrated graphics when an external graphics card is installed. Select enable to keep the integrated graphics enabled at all times.

Onboard HDMI HD Audio

This allows you to enable or disable the Onboard HDMI HD Audio feature.

Onboard LAN1 (I210)

This tem allows you to enable or disable the Onboard LAN 1 feature.

Onboard LAN2 (I219-LM)

This allows you to enable or disable the Onboard LAN 2 feature.

Onboard HD Audio

Enable/disable onboard HD audio. Set to Auto to enable onboard HD audio and automatically disable it when a sound card is installed.

Front Panel

Enable/disable front panel HD audio.

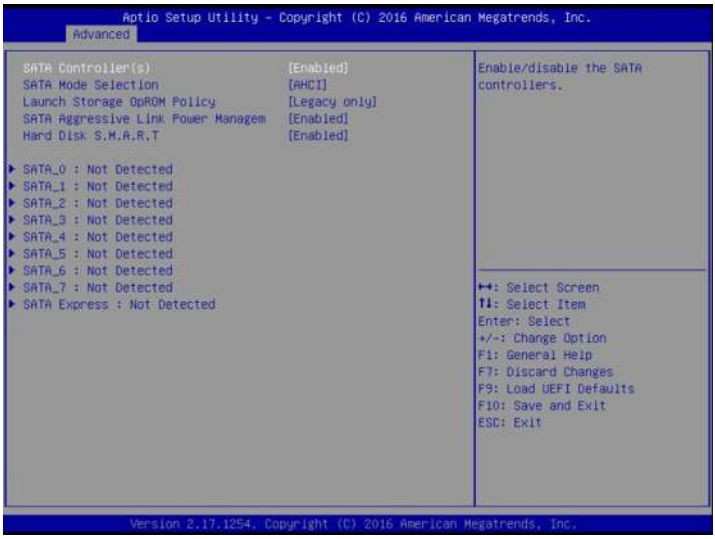
Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers. If [Last State] is selected, it will recover to the state before AC/power loss.

Onboard Debug Port LED

Use this item to turn on or off Onboard Debug Port LED.

3.3.4 Storage Configuration



SATA Controller(s)

Use this item to enable or disable SATA Controllers.

SATA Mode Selection

Identify the SATA port is connected to Solid State Drive or Hard Disk Drive. Press <Ctrl+I> to enter RAID ROM during UEFI POST process.

Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

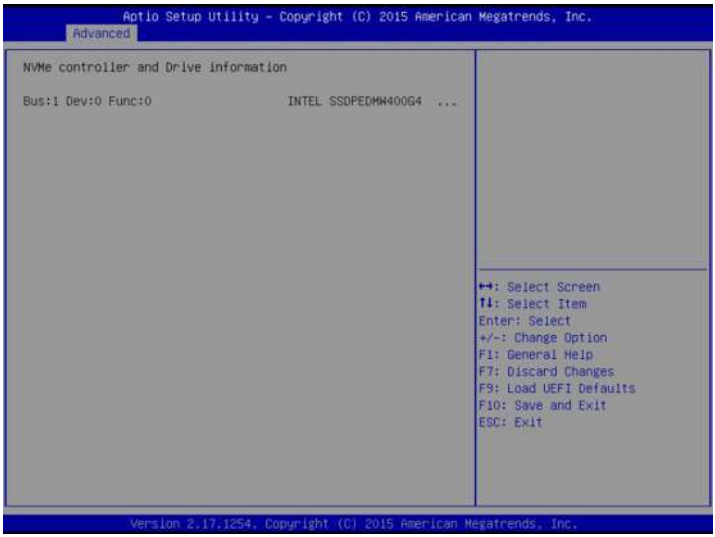
SATA Aggressive Link Power Mgmt

Use this item to enable or disable SALP.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

3.3.5 NVMe Configuration



The NVMe Configuration displays the NVMe controller and Drive information.

3.3.6 ACPI Configuration

Suspend to RAM

Select disable for ACPI suspend type S1. It is recommended to select auto for ACPI S3 power saving.

ACPI HEPT Table

Enable the High Precision Event Timer for better performance.

PS/2 Keyboard Power On

Use this item to enable or disable PS/2 Keyboard to turn on the system from the power-soft-off mode.

PCIE Devices Power On

Use this item to enable or disable PCIE devices to turn on the system from the power-soft-off mode.

Ring-In Power On

Use this item to enable or disable Ring-In signals to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

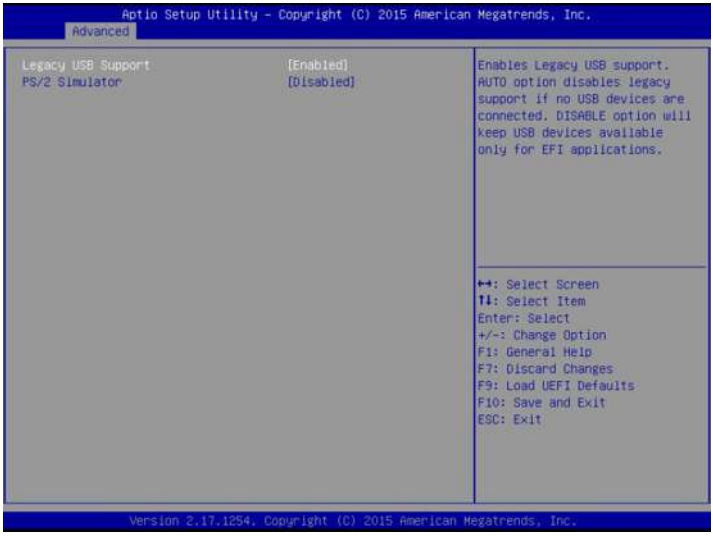
USB Keyboard/Remote Power On

Allow the system to be waked up by an USB keyboard or remote controller.

USB Mouse Power On

Allow the system to be waked up by an USB mouse.

3.3.7 USB Configuration



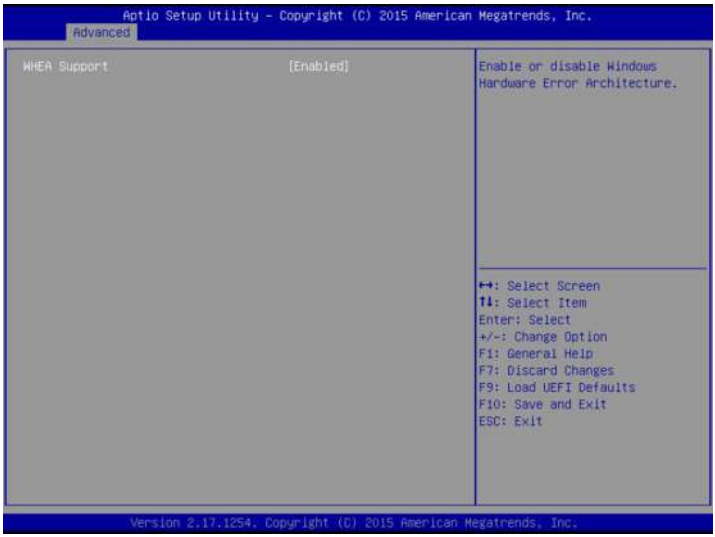
Legacy USB Support

Use this option to enable or disable legacy support for USB devices. The default value is [Enabled].

PS/2 Simulator

Enable PS/2 Simulator. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.
*Enable this option if you install Windows 7 or Server 2008 R2.

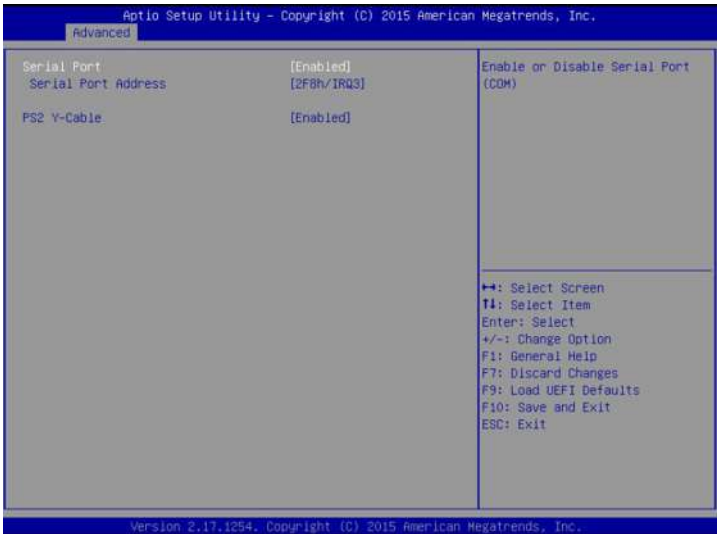
3.3.8 WHEA Configuration



WHEA Support

Use this item to enable or disable Windows Hardware Error Architecture.

3.3.9 Super IO Configuration



Serial Port

Use this item to enable or disable the onboard serial port.

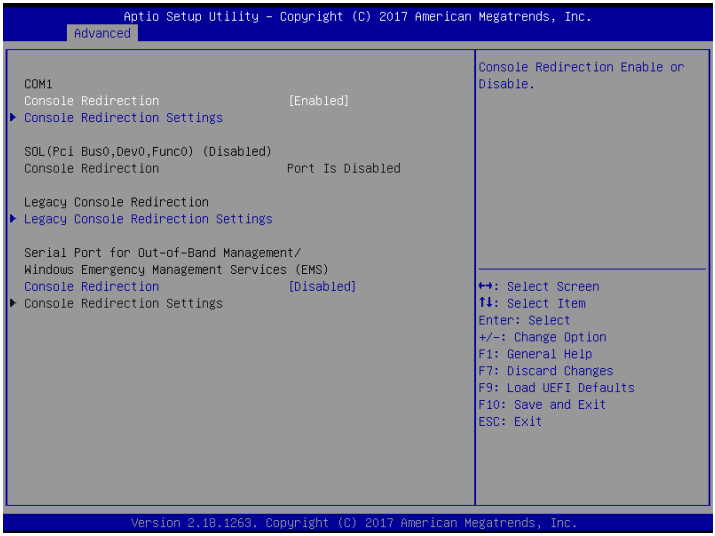
Serial Port Address

Use this item to select an optimal setting for Super IO device.

PS2 Y-Cable

Enable the PS2 Y-Cable or set this option to Auto.

3.3.10 Serial Port Console Redirection



COM1

Console Redirection

Use this option to enable or disable Console Redirection. If this item is set to Enabled, you can select a COM Port to be used for Console Redirection.

Console Redirection Settings

Use this option to configure Console Redirection Settings, and specify how your computer and the host computer to which you are connected exchange information.

Terminal Type

Use this item to select the preferred terminal emulation type for out-of-band management. It is recommended to select [VT-UTF8].

Option	Description
VT100	ASCII character set
VT100+	Extended VT100 that supports color and function keys
VT-UTF8	UTF8 encoding is used to map Unicode chars onto 1 or more bytes
ANSI	Extended ASCII character set

Bits Per Second
Use this item to select the serial port transmission speed. The speed used in the host computer and the client computer must be the same. Long or noisy lines may require lower transmission speed. The options include [9600], [19200], [57600] and [115200].

Data Bits
Use this item to set the data transmission size. The options include [7] and [8] (Bits).

Parity
Use this item to select the parity bit. The options include [None], [Even], [Odd], [Mark] and [Space].

Stop Bits
The item indicates the end of a serial data packet. The standard setting is [1] Stop Bit. Select [2] Stop Bits for slower devices.

Flow Control
Use this item to set the flow control to prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a "stop" signal can be sent to stop the data flow. Once the buffers are empty, a "start" signal can be sent to restart the flow. Hardware flow uses two wires to send start/stop signals. The options include [None] and [Hardware RTS/CTS].

VT-UTF8 Combo Key Support
Use this item to enable or disable the VT-UTF8 Combo Key Support for ANSI/VT100 terminals.

Recorder Mode
Use this item to enable or disable Recorder Mode to capture terminal data and send it as text messages.

Resolution 100x31
Use this item to enable or disable extended terminal resolution support.

Legacy OS Redirection Resolution
Use this item to select the number of rows and columns used in legacy OS redirection.

Putty Keypad
Use this item to select Function Key and Keypad on Putty.

Redirection After BIOS POST
If the [LoadBooster] is selected, legacy console redirection is disabled before booting to legacy OS. If [Always Enabled] is selected, legacy console redirection is enabled for legacy OS. The default value is [Always Enabled].

Legacy Console Redirection

Legacy Console Redirection Settings

Use this option to configure Legacy Console Redirection Settings, and specify how your computer and the host computer to which you are connected exchange information.

Legacy Serial Redirection Port

Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages.

Serial Port for Out-of-Band Management/Windows Emergency Management Services (EMS)

Console Redirection

Use this option to enable or disable Console Redirection. If this item is set to Enabled, you can select a COM Port to be used for Console Redirection.

Console Redirection Settings

Use this option to configure Console Redirection Settings, and specify how your computer and the host computer to which you are connected exchange information.

Terminal Type

Use this item to select the preferred terminal emulation type for out-of-band management. It is recommended to select [VT-UTF8].

Option	Description
VT100	ASCII character set
VT100+	Extended VT100 that supports color and function keys
VT-UTF8	UTF8 encoding is used to map Unicode chars onto 1 or more bytes
ANSI	Extended ASCII character set

Bits Per Second

Use this item to select the serial port transmission speed. The speed used in the host computer and the client computer must be the same. Long or noisy lines may require lower transmission speed. The options include [9600], [19200], [57600] and [115200].

Flow Control

Use this item to set the flow control to prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a "stop" signal can be sent to stop the data flow. Once the buffers are empty, a "start" signal can be sent to restart the flow. Hardware flow uses two wires to send start/stop signals. The options include [None], [Hardware RTS/CTS], and [Software Xon/Xoff].

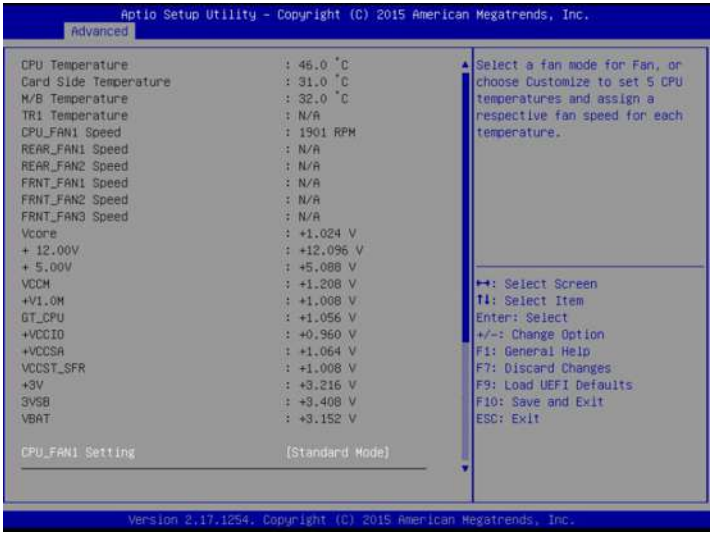
Data Bits

Parity

Stop Bits

3.3.11 H/W Monitor

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.



CPU_FAN1 Setting

Select a fan mode for Fan, or choose Customize to set 5 CPU temperatures and assign a respective fan speed for each temperature.

REAR_FAN1 Setting

Select a fan mode for Fan, or choose Customize to set 5 CPU temperatures and assign a respective fan speed for each temperature.

REAR_FAN2 Setting

Select a fan mode for Fan, or choose Customize to set 5 CPU temperatures and assign a respective fan speed for each temperature.

FRNT_FAN1 Setting

Select a fan mode for Fan, or choose Customize to set 5 CPU temperatures and assign a respective fan speed for each temperature.

FRNT_FAN2 Setting

Select a fan mode for Fan, or choose Customize to set 5 CPU temperatures and assign a

respective fan speed for each temperature.

FRNT_FAN3 Setting

Select a fan mode for Fan, or choose Customize to set 5 CPU temperatures and assign a respective fan speed for each temperature.

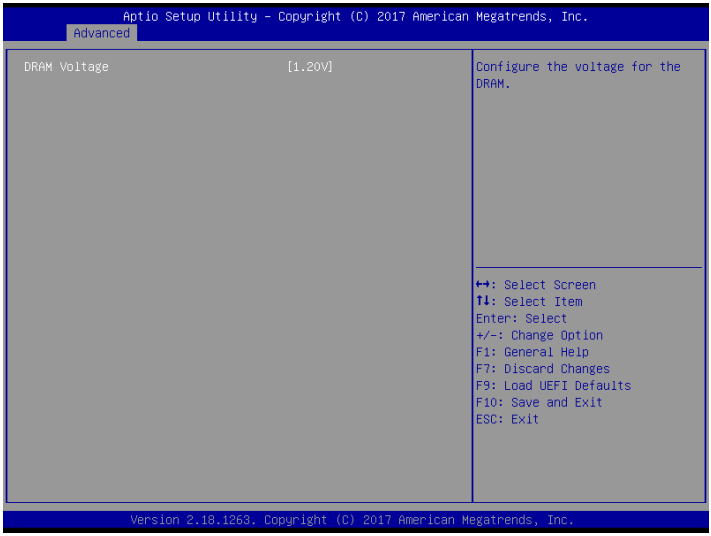
Watch Dog Timer

This allows you to enable or disable the Watch Dog Timer. The default value is [Disabled].

Case Open Feature

Enable or disable Case Open Feature to detect whether the chassis cover has been removed.

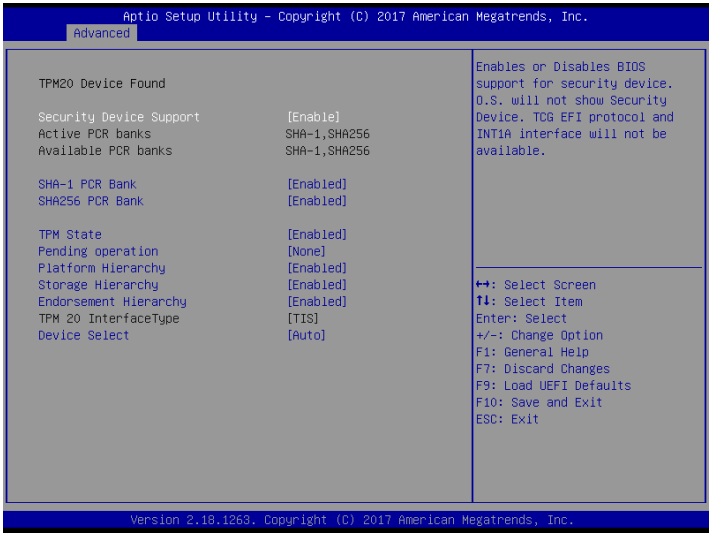
3.3.12 Voltage Control



DRAM Voltage

Configure the voltage for the DRAM.

3.3.13 Trusted Computing



NOTE: Options vary depending on the version of your connected TPM module.

Security Device Support

Use this item to enable or disable BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

SHA-1 PCR Bank

Use this item to enable or disable SHA-1 PCR Bank.

SHA256 PCR Bank

Use this item to enable or disable SHA256 PCR Bank.

TPM State

Use this item to enable or disable Security Device.
NOTE: Your computer will reboot during restart in order to change State of the Device.

Pending Operation

Schedule an Operation for the Security Device.
NOTE: Your computer will reboot during restart in order to change State of the Device.

Platform Hierarchy

Use this item to enable or disable Platform Hierarchy.

Storage Hierarchy

Use this item to enable or disable Storage Hierarchy.

Endorsement Hierarchy

Use this item to enable or disable Endorsement Hierarchy.

Device Select

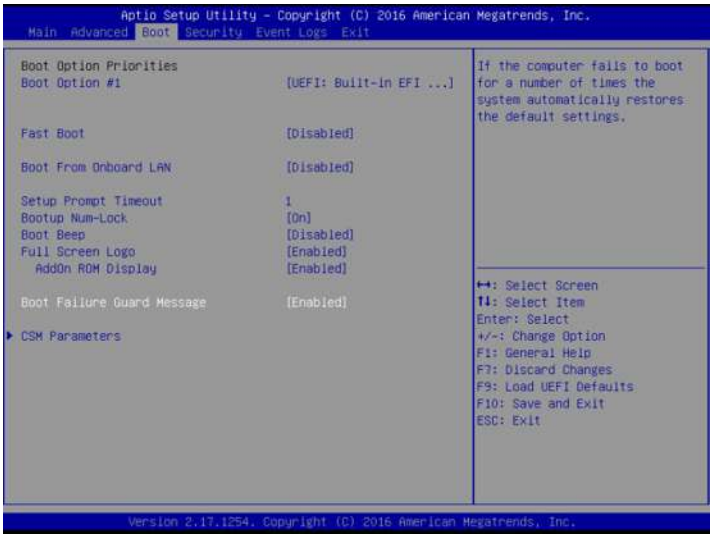
Use this item to select the TPM device to be supported. TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support to TPM 2.0 devices. Auto will support both with the default set to TPM 2.0 devices. If TPM 2.0 devices are not found, TPM 1.2 devices will be enumerated.

3.3.14 Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just save the new UEFI file to your USB flash drive, floppy disk or hard drive and launch this tool, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after the UEFI update process is completed.

3.4 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



Boot Option #1

Use this item to set the system boot order.

Fast Boot

Fast Boot minimizes your computer's boot time. In fast mode you may not boot from an USB storage device. Ultra Fast mode is only supported by Windows 8.1 and the VBIOS must support UEFI GOP if you are using an external graphics card. Please notice that Ultra Fast mode will boot so fast that the only way to enter this UEFI Setup Utility is to Clear CMOS or run the Restart to UEFI utility in Windows.

Boot From Onboard LAN

Use this item to enable or disable the Boot From Onboard LAN feature.

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key. 65535(0XFFFF) means indefinite waiting.

Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

Boot Beep

Select whether the Boot Beep should be turned on or off when the system boots up. Please note that a buzzer is needed.

Full Screen Logo

Use this item to enable or disable OEM Logo. The default value is [Enabled].

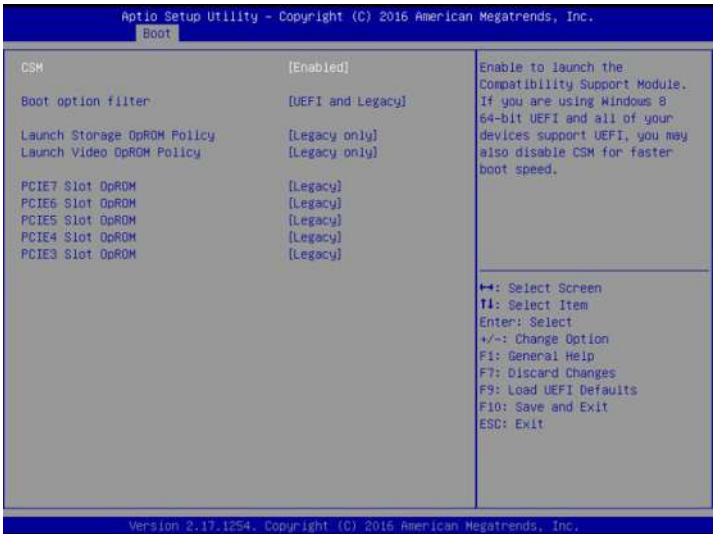
AddOn ROM Display

Use this option to adjust AddOn ROM Display. If you enable the option "Full Screen Logo" but you want to see the AddOn ROM information when the system boots, please select [Enabled]. Configuration options: [Enabled] and [Disabled]. The default value is [Enabled].

Boot Failure Guard Message

If the computer fails to boot for a number of times the system automatically restores the default settings.

3.4.1 CSM Parameters



CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using Windows 8.1 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

Boot Option Filter

This option controls Legacy/UEFI ROMs priority.

Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

Launch Video OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

PCIE7 Slot OpROM

This option controls Legacy/UEFI ROMs priority.

PCIE6 Slot OpROM

This option controls Legacy/UEFI ROMs priority.

PCIE5 Slot OpROM

This option controls Legacy/UEFI ROMs priority.

PCIE4 Slot OpROM

This option controls Legacy/UEFI ROMs priority.

PCIE3 Slot OpROM

This option controls Legacy/UEFI ROMs priority.

3.5 Security

In this section, you may set or change the supervisor/user password for the system. For the user password, you may also clear it.

Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

Secure Boot

Use this to enable or disable Secure Boot Control. The default value is [Disabled].

Intel(R) Platform Trust Technology

Use this item to enable or disable Intel PTT in ME. Disable this option to use discrete TPM Module.

3.6 Event Logs

Change Smbios Event Log Settings

This allows you to configure the Smbios Event Log Settings.

When entering the item, you will see the followings:

Smbios Event Log
Use this item to enable or disable all features of the SMBIOS Event Logging during system boot.

Erase Event Log
The options include [No], [Yes, Next reset] and [Yes, Every reset]. If Yes is selected, all logged events will be erased.

When Log is Full
Use this item to choose options for reactions to a full Smbios Event Log. The options include [Do Nothing] and [Erase Immediately].

MECI (Multiple Event Count Increment)
Use this item to enter the increment value for the multiple event counter. The valid range is from 1 to 255.

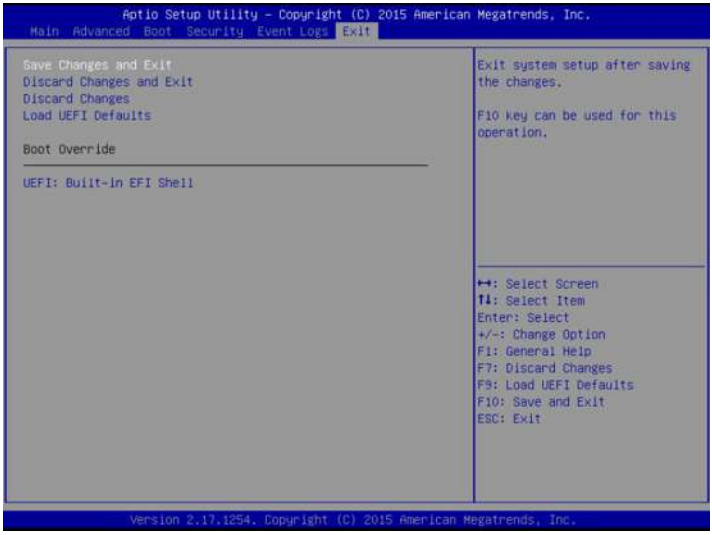
METW (Multiple Event Time Window)
Use this item to specify the number of minutes which must pass between duplicate log entries which utilize a multiple-event counter. The value ranges from 0 to 99 minutes.

View Smbios Event Log

Press <Enter> to view the Smbios Event Log records.

All values changed here do not take effect until computer is restarted.

3.7 Exit Screen



Save Changes and Exit

When you select this option, the following message "Save configuration changes and exit setup?" will pop-out. Press <F10> key or select [Yes] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, the following message "Discard changes and exit setup?" will pop-out. Press <ESC> key or select [Yes] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, the following message "Discard changes?" will pop-out. Press <F7> key or select [Yes] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Boot Override

These items displays the available devices. Select an item to start booting from the selected device.

Chapter 4 Software Support

4.1 Install Operating System

This motherboard supports various Microsoft® Windows® 7 / 8 / 8.1 / 10 compliant. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

**Please download the Intel® SATA Floppy Image driver from the ASRock Rack's website (www.asrockrack.com) to your USB drive or simply install the SATA driver from the Support CD while installing OS in SATA RAID mode.*

4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file "ASRSetup.exe" from the root folder in the Support CD to display the menu.

4.2.2 Drivers Menu

The Drivers Menu shows the available device's drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

4.2.3 Utilities Menu

The Utilities Menu shows the application softwares that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

4.2.4 Contact Information

If you need to contact ASRock Rack or want to know more about ASRock Rack, welcome to visit ASRock Rack's website at http://www.ASRockRack.com; or you may contact your dealer for further information.

Chapter 5 Troubleshooting

5.1 Troubleshooting Procedures

Follow the procedures below to troubleshoot your system.

Always unplug the power cord before adding, removing or changing any hardware components. Failure to do so may cause physical injuries to you and damages to motherboard components.

1. Disconnect the power cable and check whether the PWR LED is off.
2. Unplug all cables, connectors and remove all add-on cards from the motherboard. Make sure that the jumpers are set to default settings.
3. Confirm that there are no short circuits between the motherboard and the chassis.
4. Install a CPU and fan on the motherboard, then connect the chassis speaker and power LED.

If there is no power...

1. Confirm that there are no short circuits between the motherboard and the chassis.
2. Make sure that the jumpers are set to default settings.
3. Check the settings of the 115V/230V switch on the power supply.
4. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if it does not.

If there is no video...

1. Try replugging the monitor cables and power cord.
2. Check for memory errors.

If there are memory errors...

1. Verify that the DIMM modules are properly seated in the slots.
2. Use recommended DDR4 2133 R-DIMMs.
3. If you have installed more than one DIMM modules, they should be identical with the same brand, speed, size and chip-type.
4. Try inserting different DIMM modules into different slots to identify faulty ones.
5. Check the settings of the 115V/230V switch on the power supply.

Unable to save system setup configurations...

1. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if it does not.
2. Confirm whether your power supply provides adaquate and stable power.

Other problems...

1. Try searching keywords related to your problem on ASRock Rack's FAQ page: http://www.asrockrack.com/support

5.2 Technical Support Procedures

If you have tried the troubleshooting procedures mentioned above and the problems are still unsolved, please contact ASRock Rack's technical support with the following information:

1. Your contact information
2. Model name, BIOS version and problem type.
3. System configuration.
4. Problem description.

You may contact ASRock Rack's technical support at:
http://www.asrockrack.com/support/tsd.asp

5.3 Returning Merchandise for Service

For warranty service, the receipt or a copy of your invoice marked with the date of purchase is required. By calling your vendor or going to our RMA website (http://event.asrockrack.com/tsd.asp) you may obtain a Returned Merchandise Authorization (RMA) number.
The RMA number should be displayed on the outside of the shipping carton which is mailed prepaid or hand-carried when you return the motherboard to the manufacturer. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

This warranty does not cover damages incurred in shipping or from failure due to alteration, misuse, abuse or improper maintenance of products.

Contact your distributor first for any product related problems during the warranty period.

Chapter 6 Net Framework Installation Guide

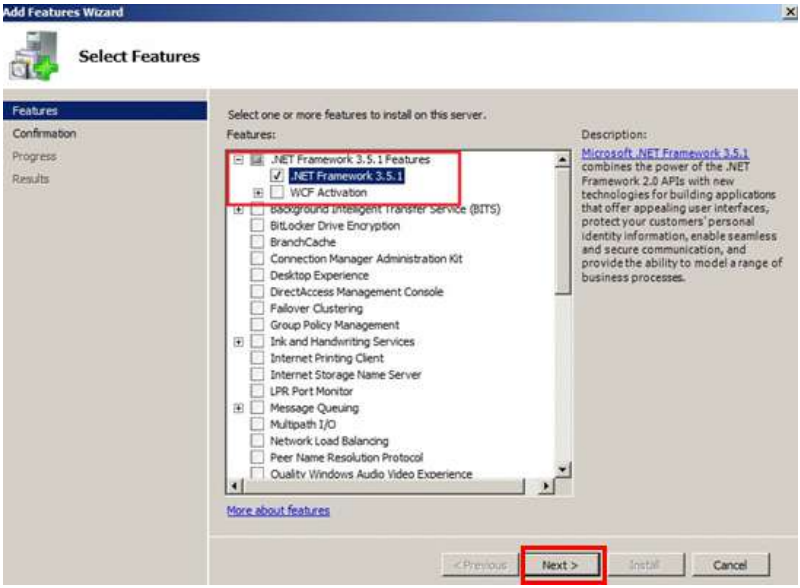
To let Intel® RSTe works properly, it is required to install Net Framework. Please follow the steps below to enable ".Net Framework" feature on Microsoft® Windows® Server 2008 R2.

6.1 Installing .Net Framework 3.5.1 (For Server 2008 R2)

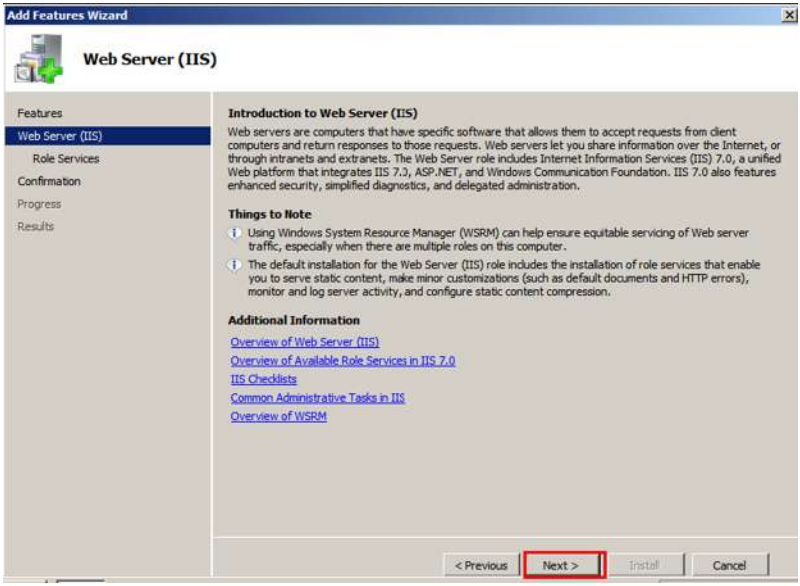
1. Double-click the Server Manager icon in the Windows system tray.

2. Click Add Features in the right hand pane.

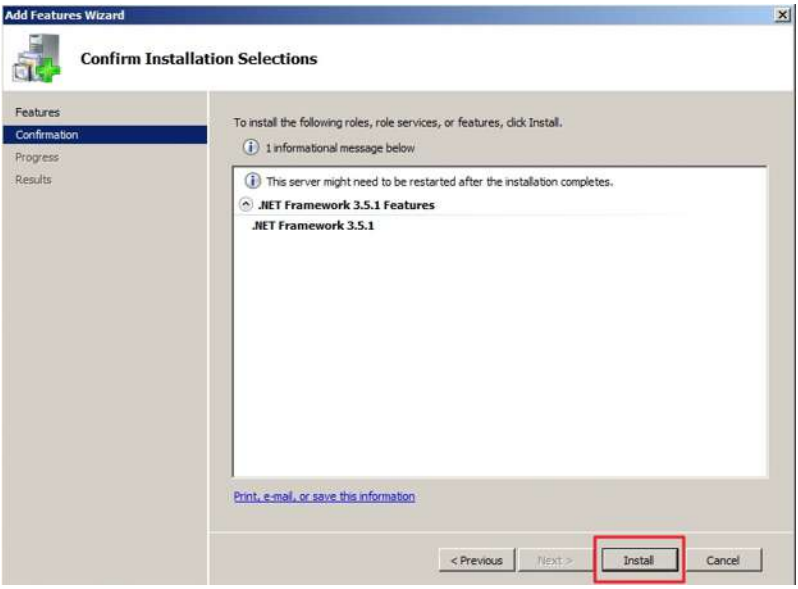
3. Check the box next to .Net Framework 3.5.1 and then click **Next.**



4. Click **Next** to continue.



5. Click **Install** to start installing .Net Framework 3.5.1.



6. After the installation completes, click **Close.**