NEXCOM International Co., Ltd.

Network and Communication Solutions

Network Security Appliance

NSA 7130

User Manual

NEXCOM International Co., Ltd.
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Contents

Chapter 3: System Setup

Chapter 4: BIOS Setup

PREFACE

Copyright

Disclaimer

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Acknowledgements

NSA 7130 is a trademark of NEXCOM International Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance

NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2011/65/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force in to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2013 will be RoHS compliant. They will use the usual NEXCOM naming convention.

Warranty and RMA

NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the "NEXCOM RMA Service Form" with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NEXCOM RMA Service Form" for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."
- Any products returned by NEXCOM to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

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System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Safety Precautions

1. Read these safety instructions carefully.

2. Keep this User Manual for later reference.

3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.

4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.

5. Keep this equipment away from humidity.

6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.

7. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.

9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.

12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.

14. If one of the following situations arises, get the equipment checked by service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well, or you cannot get it to work according to the user's manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of breakage.

15. Do not place heavy objects on the equipment.

16. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.

17. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   - Product name and serial number
   - Detailed information of the peripheral devices
   - Detailed information of the installed software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.

2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.

Conventions Used in this Manual

Warning:
Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution:
Information to avoid damaging components or losing data.

Note:
Provides additional information to complete a task easily.

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Package Contents

Before continuing, verify that the NSA 7130 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Name	Description	Qty
1	19S00713002X0	NSA 7130A ASSY		1
2	50311F0095X00	(H)Flat Head Screw Long Fei:F6#32Tx5 NYLOK NIGP	F6#32Tx5 NI NYLOK	8
3	50311F0100X00	(H)Round Head Screw w/Spring+Flat Washer Long Fei:P3x6L	P3x6 iso/SW6x0.5 NI	1
4	50311F0162X00	(H)Round Head Screw GW/Washer Long Fei	P4x8 iso/w NI	1
5	5041110028X00	AL-Handle for UTM625 VER:A TENG-JYE	105x64x10.5mm Color: Sophos White	1
6	5044440031X00	Rubber Foot Kang Yang:RF20-5-4P	19.8x18x5.0mm	4
7	6012200052X00	PE Zipper Bag #8	170x240mm, w/China RoHS Symbol	1
8	6012200053X00	PE Zipper Bag #3	100x70mm, w/China RoHS Symbol	1
9	6023309081X00	Cable EDI:232091081804-RS	COM Port. DB9 Female to RJ45 8P8C L:1800mm	1

Ordering Information

The following information below provides ordering information for NSA 7130.

Barebone

NSA 7130 (P/N: 10S00713002X0)

Support Intel® Xeon® E5 series processors V3, 16 DDR4 memory slots, On board 16G LAN + 4 x 10G LAN ports, two LAN module slots, CFast Socket, VGA, USB port, with LCM

NSK 5150R-F8

PCIe 1GbE module with 8 SFP ports based on Intel® i350 chipset

NSK 5199R-F2

PCIe 10GbE module with 2 SFP+ ports based on Intel® 82599EB chipset

NSK-CVCK

PCIe 1GbE module with 4 Copper ports based on Intel® CAVE CREEK SKU4 DH8920CC

NSK-CTCK

PCIe 1GbE module based on Intel® chipset Coleto Creek: DH8925CL

	P/N	Interface	Interface	Port number	Bypass/segment	Expansion Slot	Location Slot
NSK 5150R-F8	10SK0515002X0	Intel® i350	PCIe x8	8 SFP	None	None	All Slot
NSK 5199R-F2	10SK0519909X0	Intel® 82599	PCIe x8	2 SFP+	None	None	All Slot
NSK-CVCK	10SK0CVCK00X0	DH8920CC	PCIe x8	4 Copper	Dual Latch/2	None	All Slot
NSK-CTCK	10SK0CTCK03X0	DH8925CL	PCIe x8	None	None	None	All Slot

Chapter 1: Product Introduction

Overview

Key Features

- Dual Intel® Xeon® E5-2600 V3 Processors
- Support DDR4 1866/2133 ECC & REG, up to 512GB
- On-board 16G LAN Copper/Fibre + 4x 10G SFP+
- Two LAN Module Slots
- Support Two Swappable 3.5" SATA/SAS HDDs
- Support CRPS (1 + 1) Redundant Power Supply
- 2U, 450mm depth chassis design

Hardware Specifications

Main Board

- NSB 7130
- Dual Intel® Xeon® Processors E5-2600 V3
- Support 9.6 GT/s QPI Speed
- Intel® C612
- Support IPMI 2.0

Main Memory

- 16x 284-pin DDR4 1866/2133 DIMM Sockets, up to 512GB ECC & REG SDRAM

LAN Features

- Onboard 16x 1G LAN, Intel® i350, support Copper/Fibre ports
- Onboard 4x 10G SFP + Intel® XL710
- Support 10/100/1000/10G link speed
- LAN Bypass: 4 pairs bypass support
- Two LAN Module slots

I/O Interface-Front

- 8x RJ45, 8x SFP port, 4x SFP + ports
- Support 2x 20 Characters LCD module, SIO interface
- Power status/HDD status/LAN status/Bypass status LEDs
- 2x 3.5" HDD Swappable bays
- 2x LAN Module bays
- 2x USB 2.0 ports
- 1x RJ45 type Console port
- 1x Software button
- 2x Management LAN ports

I/O Interface-Rear

- 3x Swappable System FANs
- 1x VGA Port
- 2x USB 2.0 ports

Devices

- 1x onboard CFast socket

Power Input

- 700W 1+1 CRPS Redundant Power Supply

Chassis Dimensions

- Chassis Dimension: 430mm x 450mm x 88mm
- Carton Dimension: 640mm x 640mm x 310mm

Weight

- Without packing: 19kg
- With packing: 25kg

Environment

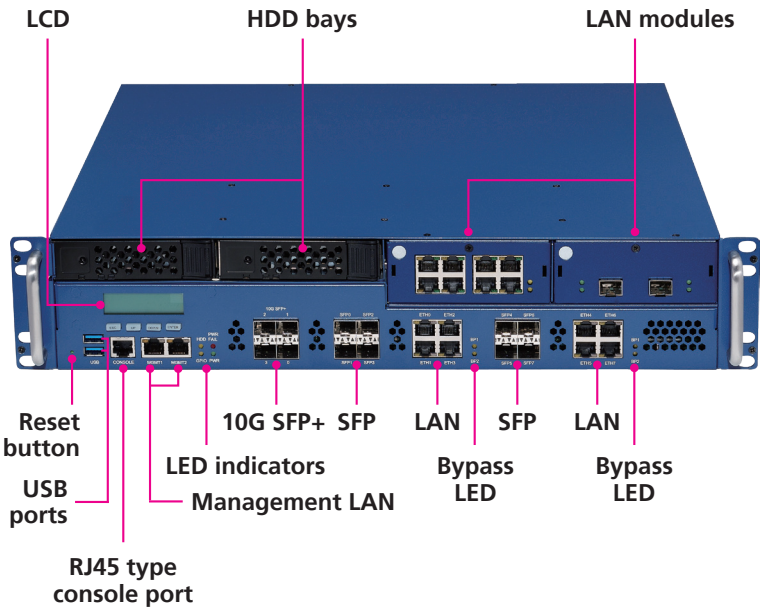
- Operating temperatures : 0°C~40°C
- Storage temperature : -20°C~75°C
- Relative humidity : 10%~90% non-condensing

Certifications

- CE approval
- FCC Class A
- UL

Knowing Your NSA 7130

Front Panel



LCD
2x20 characters LCD module, SIO interface.

HDD Bays
2x 3.5" HDD swappable bays.

LAN Modules
2 LAN module bays.

Reset Button
Press to restart the system.

USB Ports
Used to connect USB 2.0/1.1 devices.

Console Port
Used to connect RJ45 type console port.

Management LAN Ports
2 LAN ports used for managing the system.

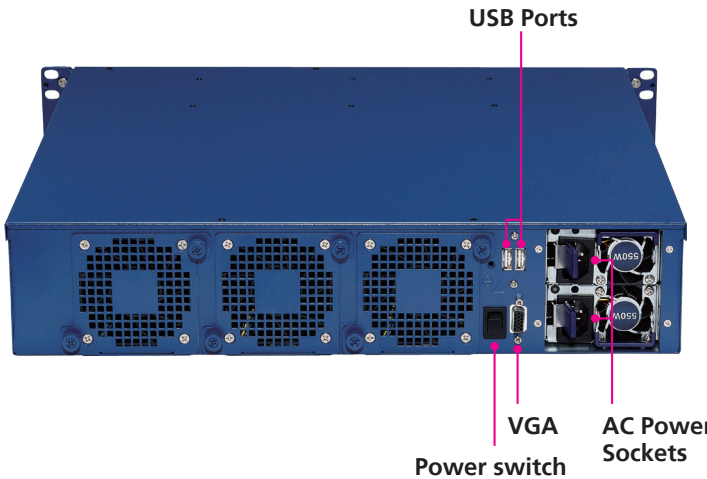
10G SFP+ and SFP Ports
Used to connect SFP+ and SFP modules for connecting fiber optic network devices.

Copper LAN Ports
Used to connect LAN network devices.

LED Indicators
Indicates the power, hard drive, and GPIO activity of the system.

Bypass LEDs
Indicates the status of the LAN bypass.

Rear Panel



USB Ports
Used to connect USB 2.0/1.1 devices.

Power Switch
Press to power-on or power-off the system.

VGA
Used to connect an analog VGA monitor.

AC Power Sockets
Dual redundant power supply sockets, plug an AC power cord here before turning on the system.

Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers and connectors on the NSA 7130 motherboard.

Before You Begin

- Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.
- Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:
  - A Philips screwdriver
  - A flat-tipped screwdriver
  - A set of jewelers screwdrivers
  - A grounding strap
  - An anti-static pad
- Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.
- Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environments tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous.

Follow the guidelines below to avoid damage to your computer or yourself:

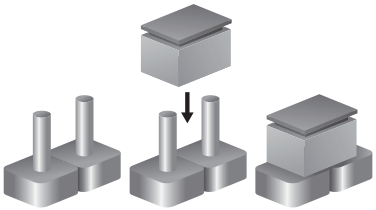
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- Use correct screws and do not over tighten screws.

Jumper Settings

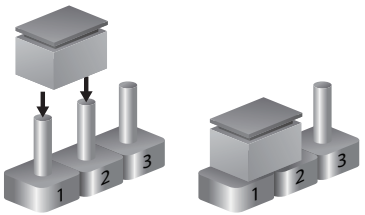
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is open.

Refer to the illustrations below for examples of what the 2-pin and 3-pin jumpers look like when they are short (on) and open (off).

Two-Pin Jumpers: Open (Left) and Short (Right)

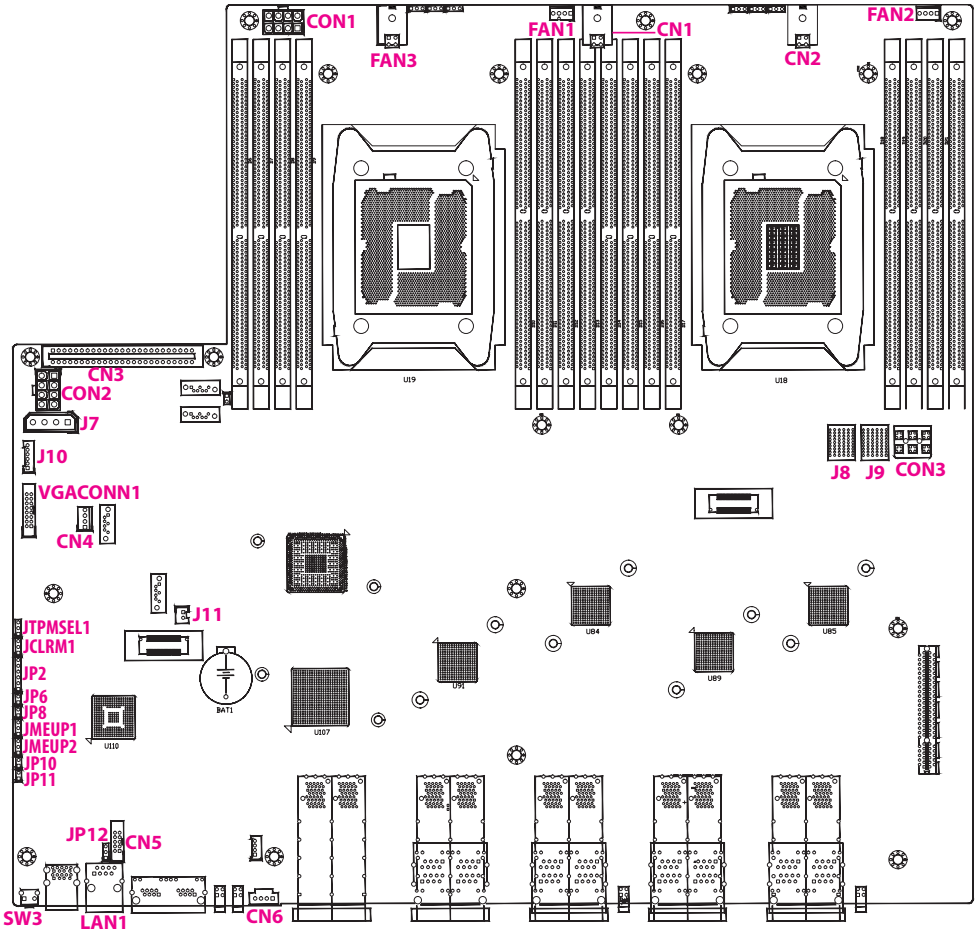


Three-Pin Jumpers: Pins 1 and 2 are Short



Locations of the Jumpers and Connectors

The figure below shows the location of the jumpers and connectors.



Jumpers

Console CTS Strap

Connector type: 1x3 3-pin header, 2.54mm pitch
Connector location: JP12

Pin	Function
1-2	RTS to CTS
2-3*	CTS

2-3 On: default

TPM Select

Connector type: 1x3 3-pin header, 2.54mm pitch
Connector location: JTPMSEL1

Pin	Function
1-2	Enable some special commands
2-3*	Disable some special commands

2-3 On: default

RTC Clear

Connector type: 1x3 3-pin header, 2.54mm pitch
Connector location: JCLRM1

Pin	Function
1-2*	No Clear CMOS
2-3	Clear CMOS

1-2 On: default

Password Clear

Connector type: 1x3 3-pin header, 2.54mm pitch
Connector location: JMEUP1

Pin	Function
1-2*	No Clear Password
2-3	Clear Password

1-2 On: default

ME Firmware Update

Connector type: 1x3 3-pin header, 2.54mm pitch
Connector location: JMEUP2

Pin	Function
1-2*	Disable ME Force Update
2-3	ME Force Update

1-2 On: default

PERST Strap

Connector type: 1x2 2-pin header, 2.54mm
Connector location: JP6

Pin	Function
NC*	PCIE Device RST signal refer PCH PLTRST
1-2	PCIE Device RST signal refer PCH PROCPWRGD

NC: default

BMC Strap

Connector type: 1x2 2-pin header, 2.54mm
Connector location: JP10

Pin	Function
NC*	Enable BMC
1-2	Disable BMC

NC: default

Console UART Controller Strap

Connector type: 1x2 2-pin header, 2.54mm
Connector location: JP11

Pin	Function
NC*	System UART Controller
1-2	BMC Debug UART Controller

NC: default

FM_PLD_DEBUG

Connector type: 1x2 2-pin header, 2.54mm
Connector location: JP8

Pin	Function
NC*	Disable CPLD Debug Mode
1-2	Enable CPLD Debug Mode

NC: default

Connector Pin Definitions

External Connectors

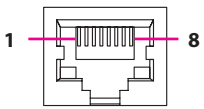
System Reset Button

Connector location: SW3

Pin	Definition
1	GND
2	RST_BTN_N

RJ45 Console Port

Connector location: LAN1

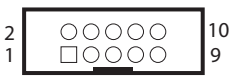


Pin	Definition	Pin	Definition
1	SP_RTS1_R	2	SP_DTR1_R
3	SP_TXD1_R	4	GND
5	SP_DCD1_R	6	SP_RXD1_R
7	SP_DSR1_R	8	SP_CTS1_CON

Internal Connectors

COM 2 Connector

Connector type: 2x5 10-pin header
Connector location: CN5



Pin	Definition	Pin	Definition
1	SP_DCD2	2	SP_RXD2
3	SP_TXD2	4	SP_DTR2
5	GND	6	SP_DSR2
7	SP_RTS2	8	SP_CTS2
9	SP_RI2	10	GND

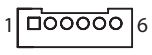
CPLD JTAG Pin Header

Connector type: 1x6 6-pin header, 2.54mm
Connector location: JP2

Pin	Definition	Pin	Definition
1	P3V3_AUX	2	GND
3	JTAG_ TCK	4	JTAG_TDO
5	JTAG_TDI	6	JTAG_TMS

USB 2.0 JST Connector

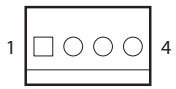
Connector type: 1x6 6-pin header, 2.0mm
Connector location: J10



Pin	Definition	Pin	Definition
1	P5V	2	USB2_L_DN2-
3	USB2_L_DP2	4	USB2_L_DN2-
5	USB2_L_DP2	6	GND

CF Module Power

Connector type: 1x4 4-pin Wafer
Connector location: CN4



Pin	Definition	Pin	Definition
1	P12V	2	GND
3	GND	4	P5V

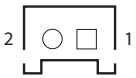
SATA HDD Power Connector

Connector type: 1x4 4-pin header
Connector location: J7

Pin	Definition	Pin	Definition
1	P12V	2	GND
3	GND	4	P5V

SATA DOM Power Connector

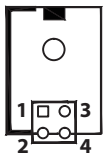
Connector type: 1x2 JST, 2-pin header
Connector location: J11



Pin	Definition
1	P5V
2	GND

System Fan Connectors

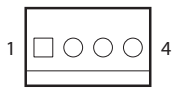
Connector type: 2x2 4-pin header
Connector location: CN1, CN2 and FAN3



Pin	Definition	Pin	Definition
1	GND	2	P12V
3	TACH	4	PWM

CPU Fan Connectors

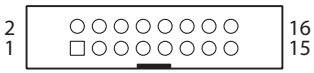
Connector type: 1x4 4-pin Wafer
Connector location: FAN1 and FAN2



Pin	Definition	Pin	Definition
1	GND	2	P12V
3	TACH	4	PWM

VGA Connector

Connector type: 2x8 16-pin header
Connector location: VGACONN1



Pin	Definition	Pin	Definition
1	DACROA_B	2	DACGOA_B
3	DACBOA_B	4	NC
5	GND	6	GND
7	GND	8	GND
9	VGA_VCC	10	GND
11	NC	12	AVSYNCO_B
13	AHSYNCO_B	14	AVSYNCO_B
15	DDC_CLKO_B	16	NC

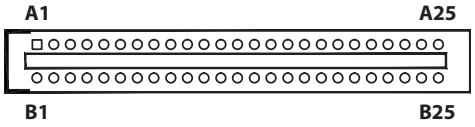
I2C Debug Header

Connector type: 1x4 4-pin header
Connector location: CN6

Pin	Definition	Pin	Definition
1	SMB_IPMB_STBY_C_DATA	2	GND
3	SMB_IPMB_STBY_C_CLK	4	P5V_AUX

PDB Connector

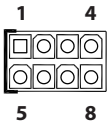
Connector type: 2x25 50-pin header
Connector location: CN3



Pin	Definition	Pin	Definition
A1-A9	GND	B1-B9	GND
A10-A18	P12V	B10-B18	P12V
A19	PSU_SMB_DATA	B19	GND
A20	PSU_SMB_CLK	B20	PS_EN_PSU_N
A21	GND	B21	P12V_STBY
A22	IRQ_SML1_PMBUS_ ALERT_N	B22	RETURN_SENSE
A23	PWRGD_PS_PWROK	B23	PRESEND1
A24	AC_FAIL_PSU	B24	12V_REMOTE_SENSE
A25	P3V3_AUX	B25	PRESEND2

Internal Power Connectors

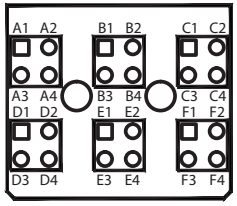
Connector type: 2x4 8-pin header
Connector location: CON1 and CON2



Pin	Definition	Pin	Definition
1	GND	2	GND
3	GND	4	GND
5	P12V	6	P12V
7	P12V	8	P12V

Riser Card Power Connector

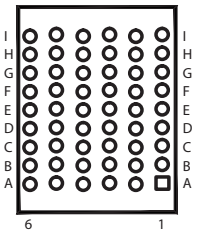
Connector type: 2x3 6-pin header
Connector location: CON3



Pin	Definition	Pin	Definition
A1	P3V3	D1	P3V3_AUX
A2	P3V3	D2	P3V3_AUX
A3	P3V3	D3	P3V3_AUX
A4	P3V3	D4	P3V3_AUX
B1	P5V	E1	GND
B2	P5V	E2	GND
B3	P5V	E3	GND
B4	P5V	E4	GND
C1	P12V	F1	GND
C2	P12V	F2	GND
C3	P12V	F3	GND
C4	P12V	F4	GND

Riser Card Signals Connector

Connector type: 6x9 54-pin header
Connector location: J9

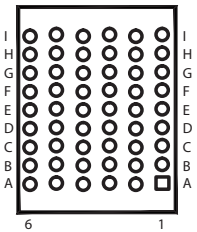


Pin	Definition	Pin	Definition
A1	LPC_LAD0	A2	LPC_LAD1
A3	LPC_LAD2	A4	LPC_LAD3
A5	LPC_FRAME_N	A6	CK_33M_PCIE3
B1	GND	B2	CON2_RX_DN7
B3	CON2_RX_DN6	B4	CON2_RX_DN5
B5	CON2_RX_DN4	B6	GND
C1	PWRGD_PCH_PWROK	C2	CON2_RX_DP7
C3	CON2_RX_DP6	C4	CON2_RX_DP5
C5	CON2_RX_DP4	C6	RST_PERST1_N
D1	GND	D2	GND
D3	GND	D4	GND
D5	GND	D6	GND
E1	CON2_TX_DN0	E2	CON2_RX_DN0
E3	CON2_RX_DN1	E4	CON2_RX_DN2
E5	CON2_RX_DN3	E6	CON2_TX_DN6

Pin	Definition	Pin	Definition
F1	CON2_TX_DP0	F2	CON2_RX_DP0
F3	CON2_RX_DP1	F4	CON2_RX_DP2
F5	CON2_RX_DP3	F6	CON2_TX_DP6
G1	GND	G2	GND
G3	GND	G4	GND
G5	GND	G6	GND
H1	CON2_TX_DN1	H2	CON2_TX_DN2
H3	CON2_TX_DN3	H4	CON2_TX_DN4
H5	CON2_TX_DN5	H6	CON2_TX_DP7
I1	CON2_TX_DP1	I2	CON2_TX_DP2
I3	CON2_TX_DP3	I4	CON2_TX_DP4
I5	CON2_TX_DP5	I6	CON2_TX_DN7

Riser Card Signals Connector

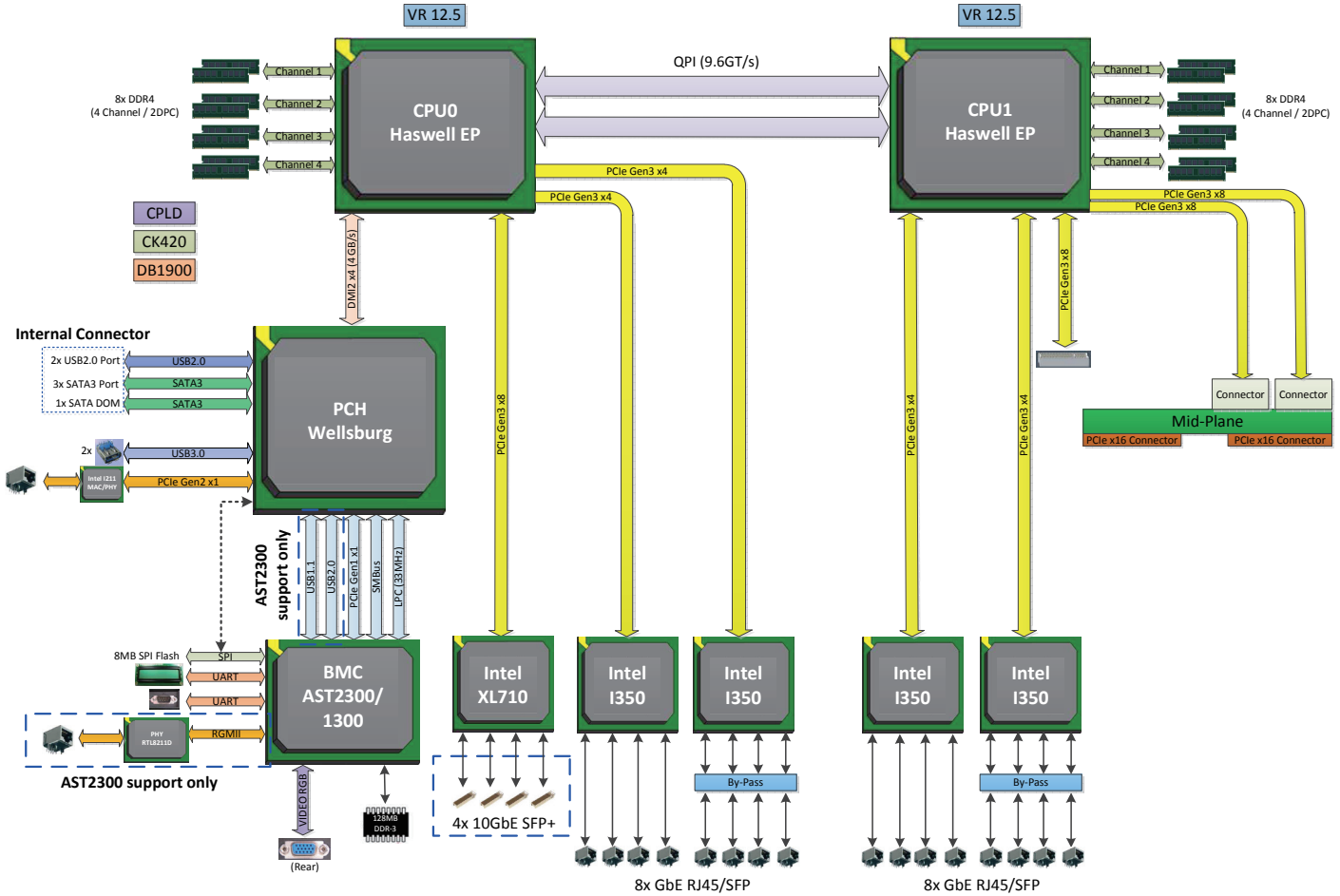
Connector type: 6x9 54-pin header
Connector location: J8



Pin	Definition	Pin	Definition
A1	CLK_33K_SUSCLK	A2	SMB _CLK
A3	SMB _DATA	A4	NC
A5	GND	A6	GND
B1	RISER_FAN_TAC	B2	CON1_RX_DN7
B3	CON1_RX_DN6	B4	CON1_RX_DN5
B5	CON1_RX_DN4	B6	CLK_100M _DN
C1	PWRGD	C2	CON1_RX_DP7
C3	CON1_RX_DP6	C4	CON1_RX_DP5
C5	CON1_RX_DP4	C6	CLK_100M _DP
D1	GND	D2	GND
D3	GND	D4	GND
D5	GND	D6	GND
E1	CON1_TX_DN0	E2	CON1_RX_DN0
E3	CON1_RX_DN1	E4	CON1_RX_DN2
E5	CON1_RX_DN3	E6	CON1_TX_DN6

Pin	Definition	Pin	Definition
F1	CON1_TX_DP0	F2	CON1_RX_DP0
F3	CON1_RX_DP1	F4	CON1_RX_DP2
F5	CON1_RX_DP3	F6	CON1_TX_DP6
G1	GND	G2	GND
G3	GND	G4	GND
G5	GND	G6	GND
H1	CON1_TX_DN1	H2	CON1_TX_DN2
H3	CON1_TX_DN3	H4	CON1_TX_DN4
H5	CON1_TX_DN5	H6	CON1_TX_DP7
I1	CON1_TX_DP1	I2	CON1_TX_DP2
I3	CON1_TX_DP3	I4	CON1_TX_DP4
I5	CON1_TX_DP5	I6	CON1_TX_DN7

Block Diagram

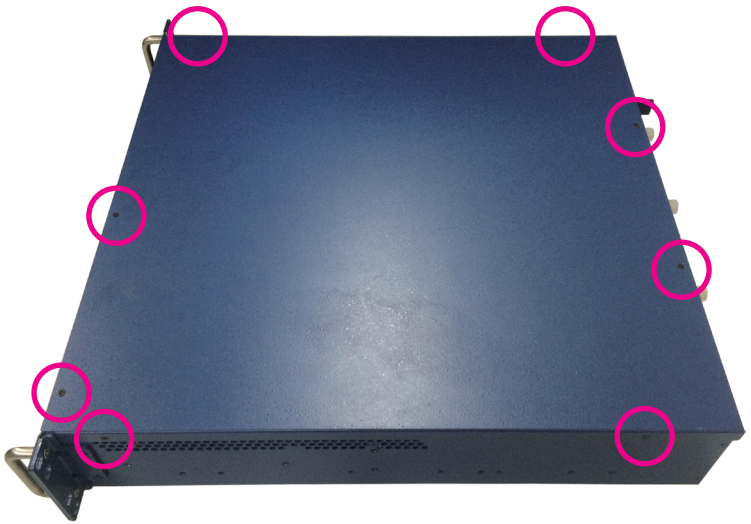


Chapter 3: System Setup

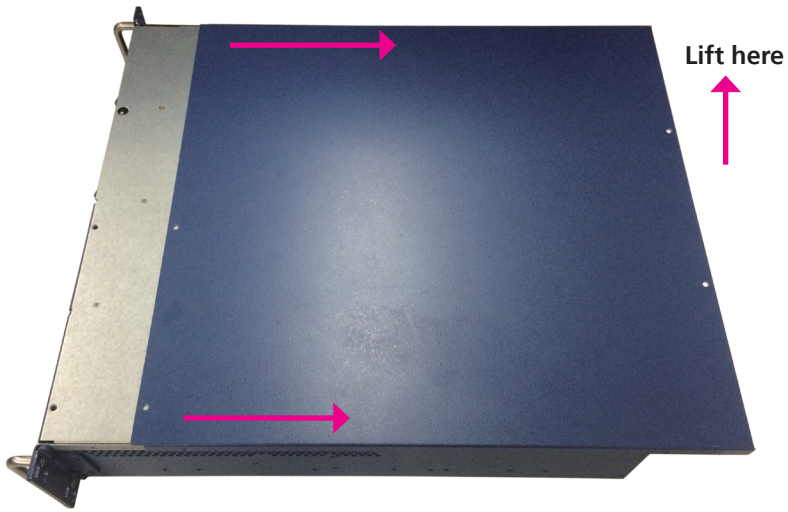
Removing the Chassis Cover

Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

1. Remove the screws on the chassis cover then put them in a safe place for later use.



2. Gently slide the cover outwards, then lift up the cover to remove it.

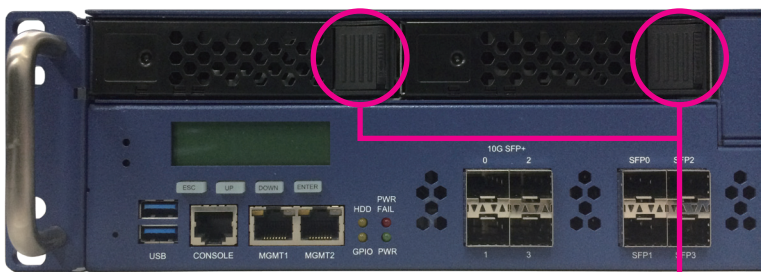


Installing an External SATA Hard Drive

The system is equipped with 2 external SATA 3.5" HDD drive bays. To install a SATA HDD, please follow the instructions below.

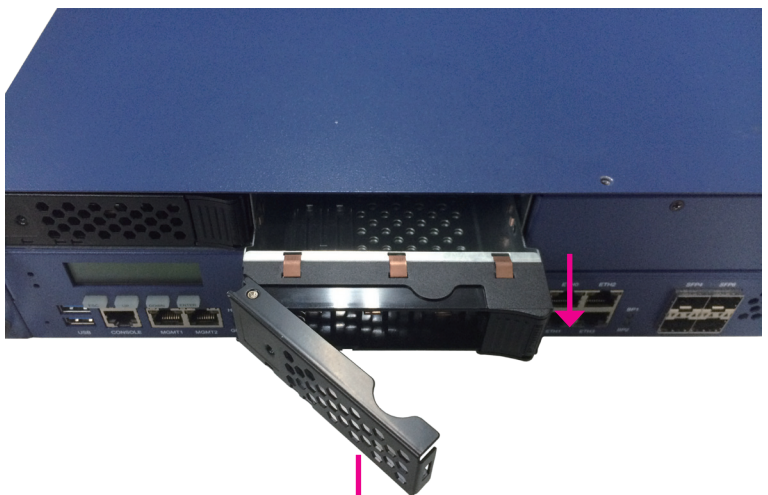
Please correctly follow the below instructions and noted items to avoid making unnecessary damages.

1. Push the eject button on the desired HDD drive bay to release the latch.



Eject button

2. Grab on the latch and pull the drive tray out gently.

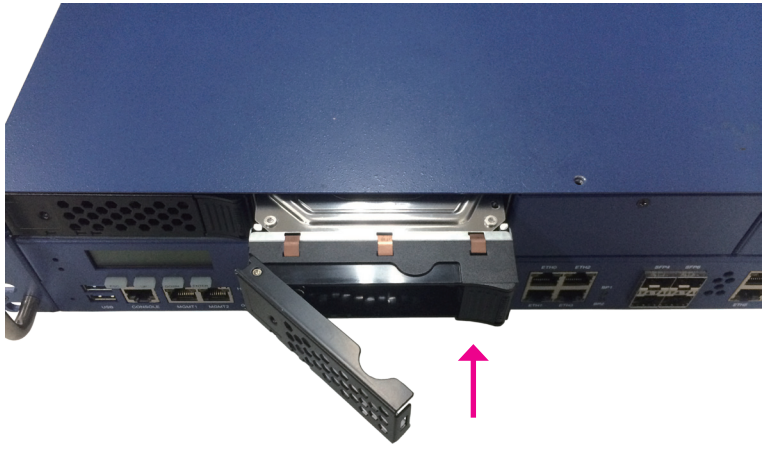


Latch

3. Place the SATA drive onto the tray and align the mounting holes on the drive with the mounting holes on the tray, then use the provided mounting screws to secure the drive in place.

4. Repeat step 3 for securing the screws on the other side of the HDD tray.

5. Slide the tray back into the drive bay, and push firmly until you hear a distinctive click sound.

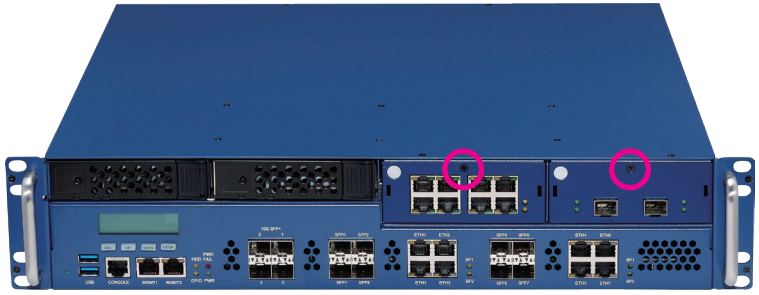


Installing a LAN Module

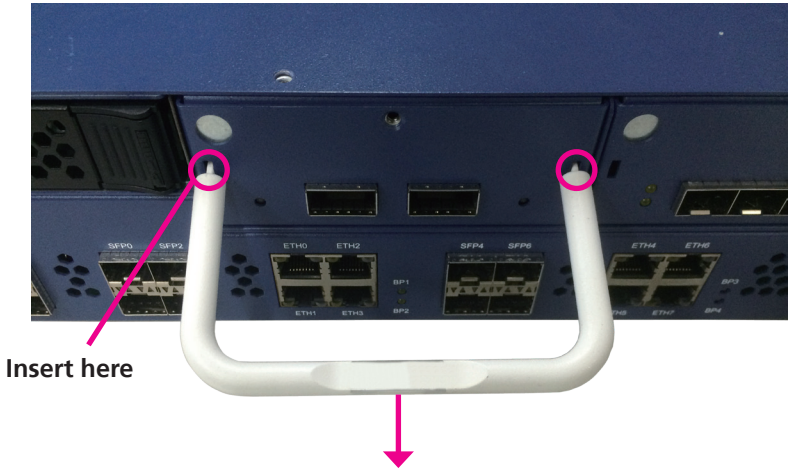
The system is equipped with 2 LAN module bays. To install a LAN module, please follow the instructions below.

Please correctly follow the below instructions and noted items to avoid making unnecessary damages. Make sure the power supply is switched off and disconnected from the power sources before replacing or adding LAN modules to prevent electric shock or system damage.

1. Remove the screw on the LAN module then put them in a safe place for later use.

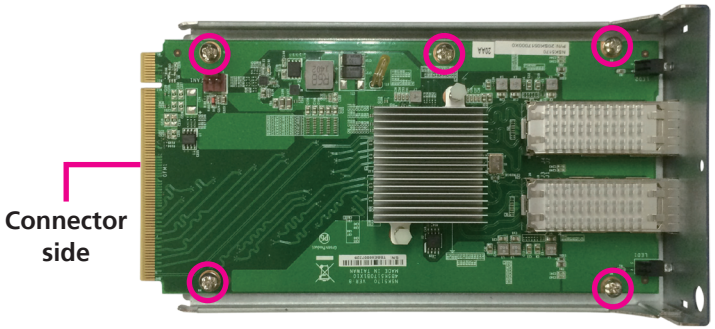


2. Use the handle provided, and insert the handle into the two holes on the LAN module.



3. Once the handle is firmly secured in position, pull the handle outwards to remove the LAN module bay.

4. Place the LAN module into the tray making sure the connector side of the module is at the rear side of the tray.



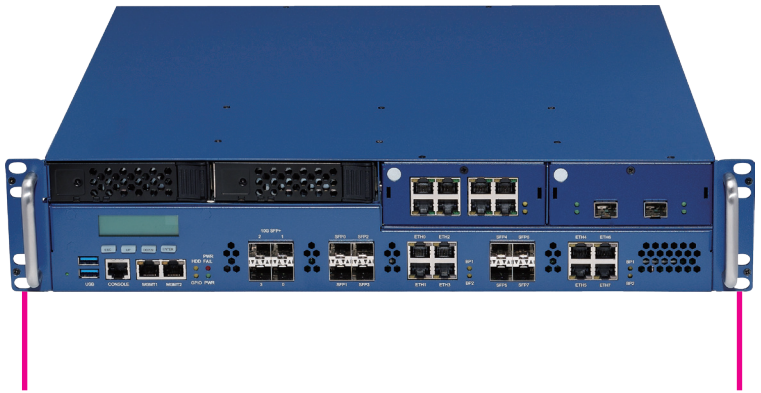
5. Secure the module in place with screws, and slide the tray back into the bay.

Important:

Before using Optical fiber for transferring data, make sure you have connected an approved Optical Transceiver Module. User needs to install appropriate and UL approved Laser Class I Transceivers, rated 3.3Vdc, max. 1W.

Installing the Rackmount Rails

The system comes with rack ears installed on the front panel. The rack ears are used to support the system in a rack cabinet.



Rack ear

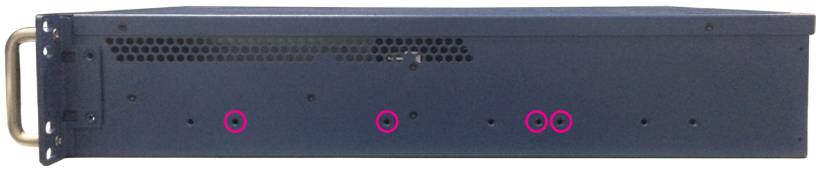
Rack ear

1. Extend the rackmount rail to its maximum length.

Slide here

Fully extended rail

2. Align the mounting holes on the rackmount rail with the mounting holes on one side of the system then secure the rackmount rail with mounting screws.



Rackmount rail

3. Repeat steps 1 and 2 to secure the other rackmount rail to the other side.

Rackmount Instructions

1. Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

2. Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

3. Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

4. Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

5. Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for the NSA 7130. The BIOS screens provided in this chapter are for reference only and may change if the BIOS is updated in the future.

To check for the latest updates and revisions, visit the NEXCOM website at www.nexcom.com.tw.

About BIOS Setup

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters.

These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure such items as:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the setup program affect how the computer performs. It is important, therefore, first to try to understand all the setup options, and second, to make settings appropriate for the way you use the computer.

When to Configure the BIOS

- This program should be executed under the following conditions:
- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the setup program
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Default Configuration

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions. There are a few settings that you may need to change depending on your system configuration.

Entering Setup

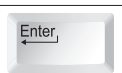
When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing 

allows you to enter Setup.

Legends

Key	Function
	Moves the highlight left or right to select a menu.
	Moves the highlight up or down between sub-menu or fields.
	Exits the BIOS Setup Utility.
	Scrolls forward through the values or options of the highlighted field.
	Scrolls backward through the values or options of the highlighted field.
	Selects a field.
	Displays General Help.
	Load previous values.
	Load optimized default values.
	Saves and resets the system.
	Press <Enter> to enter the highlighted sub-menu

Scroll Bar

When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

Submenu

When "▶" appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press 

.

BIOS Setup Utility

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. The main menu allows you to select from several setup functions and one exit. Use arrow keys to select among the items and press Enter to accept or enter the submenu.

Main

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

System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Monday to Sunday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1999 to 2099.

System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

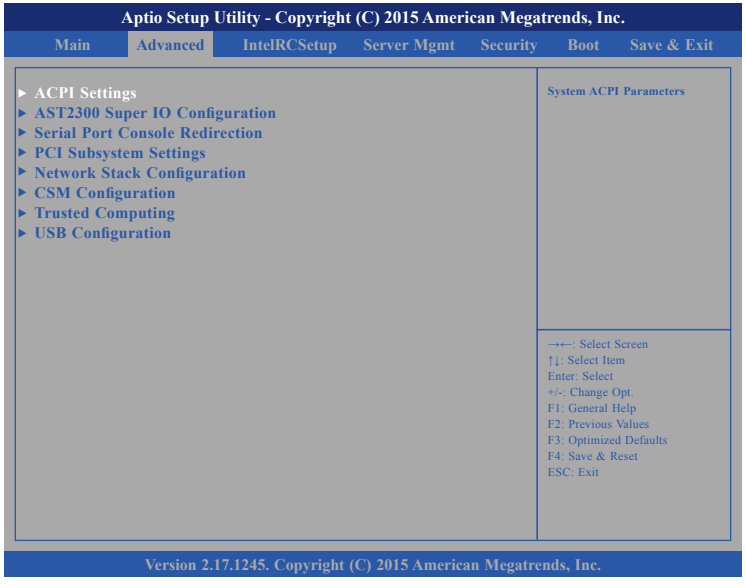
Access Level

Displays the access level of the current user in the BIOS.

Advanced

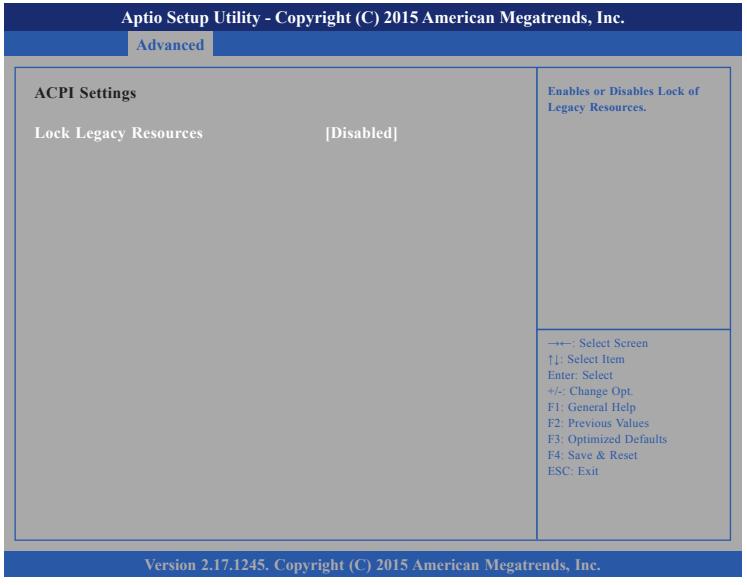
The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

Setting incorrect field values may cause the system to malfunction.



ACPI Settings

This section is used to configure ACPI settings.



Lock Legacy Resources

Enables or disables lock of legacy resources.

AST2300 Super IO Configuration

This section is used to configure the I/O functions supported by the onboard Super I/O chip.

Super IO Chip
Displays the Super I/O chip used on the board.

Serial Port 1 Configuration
Configuration settings for serial port 1.

Serial Port 2 Configuration
Configuration settings for serial port 2.

Serial Port 1 Configuration

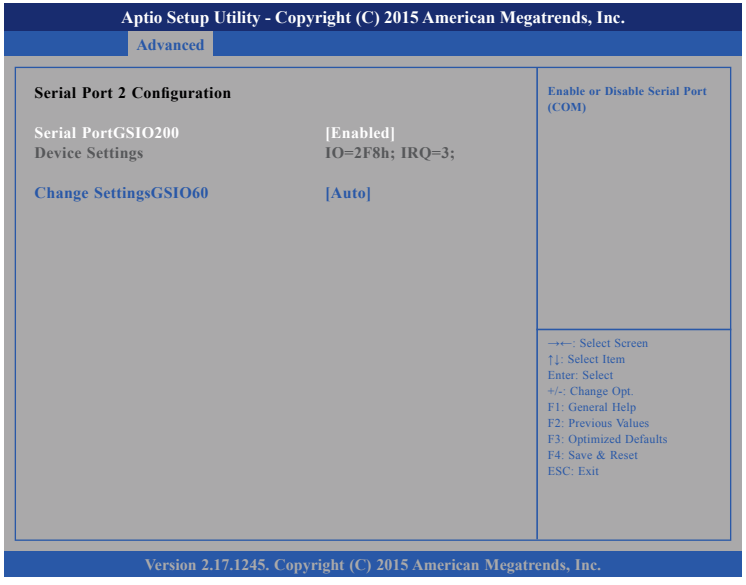
This section is used to configure serial port 1.

Serial PortGSIO200
Enables or disables the serial port.

Change SettingsGSIO60
Selects an optimal setting for the Super IO device.

Serial Port 2 Configuration

This section is used to configure serial port 2.



Serial PortGSIO200

Enables or disables the serial port.

Change SettingsGSIO60

Selects an optimal setting for the Super IO device.

Serial Port Console Redirection

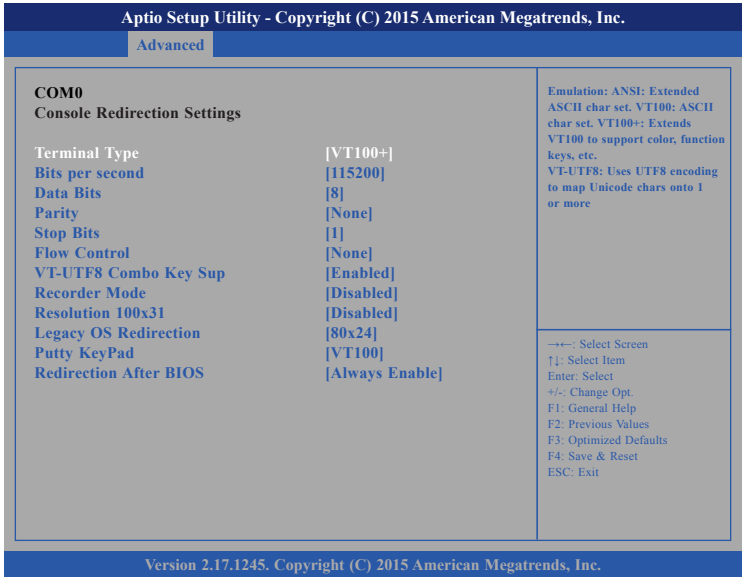
This section is used to configure the serial port that will be used for console redirection.

Console Redirection

Enables or disables the console redirection.

Console Redirection Settings

Specifies how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.



Terminal Type

ANSI	Extended ASCII character set.
VT100	ASCII character set.
VT100+	Extends VT100 to support color, function keys, etc.
VT-UTF8	Uses UTF8 encoding to map Unicode characters onto 1 or more bytes.

Data Bits
The options are 7 and 8.

Bits Per Second
Selects the serial port transmission speed. The speed must match the other side. Long or noisy lines may require a lower speed.

Parity
A parity bit can be sent with the data bits to detect some transmission errors.

Even	Parity bit is 0 if the number of 1's in the data bits is even.
Odd	Parity bit is 0 if number of 1's in the data bits is odd.

Stop Bits
Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

Flow Control
Flow control can prevent data loss from buffer overflow. When sending data and the receiving buffers are full, a "stop" signal can be sent to stop the data flow.

VT-UTF8 Combo Key Support
Enables or disables VT-UTF8 combination key support for ANSI/VT100 terminals.

Recorder Mode
When this field is enabled, only text will be sent. This is to capture the terminal data.

Resolution 100x31
Enables or disables extended terminal resolution.

Legacy OS Redirection
Selects the number of rows and columns that support redirection.

Putty Keypad
Selects the Putty keyboard emulation type.

Redirection After BIOS
The settings specify if BootLoader is selected, then Legacy console redirection is disabled before booting to Legacy OS. Default value is Always Enable which means Legacy Console Redirection is enabled for Legacy OS.

PCI Subsystem Settings

This section is used to configure the PCI.

PERR# Generation
Enables or disables the PCI device to generate PERR#.

SERR# Generation
Enables or disables the PCI device to generate SERR#.

Above 4G Decoding
Enables or disables decoding of 64bit devices in 4G address space.

SR-IOV Support
Enables or disables SR-IOV support.

PCI Express Settings

Relaxed Ordering
Enables or disables the PCI Express device's relaxed ordering.

Extended Tag
When this function is enabled, it allows a device to use 8-bit tag field as a request.

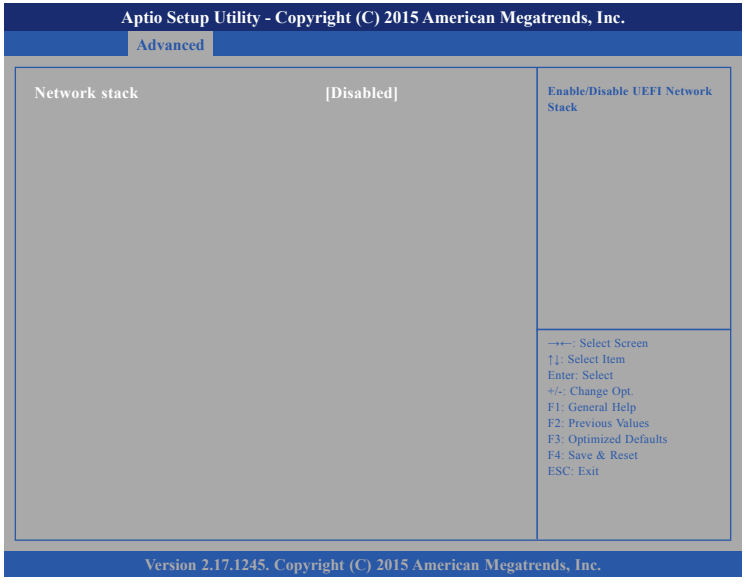
No Snoop
Enables or disables the PCI Express device's no snoop option.

Maximum Payload
Selects the maximum TLP payload size of the PCI Express devices.

Extended Synch
When this function is enabled, it allows generation of extended synchronization patterns.

Network Stack

This section is used to configure the network stack.



Network Stack

Enables or disables UEFI network stack.

CSM Configuration

This section is used to configure the compatibility support module features.

CSM Support

This field is used to enable or disable CSM support, if Auto option is selected, based on OS, CSM will be enabled or disabled automatically.

GateA20 Active

Upon Request	GA20 can be disabled using BIOS services.
Always	Do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.

Option ROM Messages
This field is used to set display mode for Option ROM. The options are Force BIOS and Keep Current.

Boot Option Filter
Configures which drives the system can boot from.

Network
Enables or disables the boot option for legacy network devices.

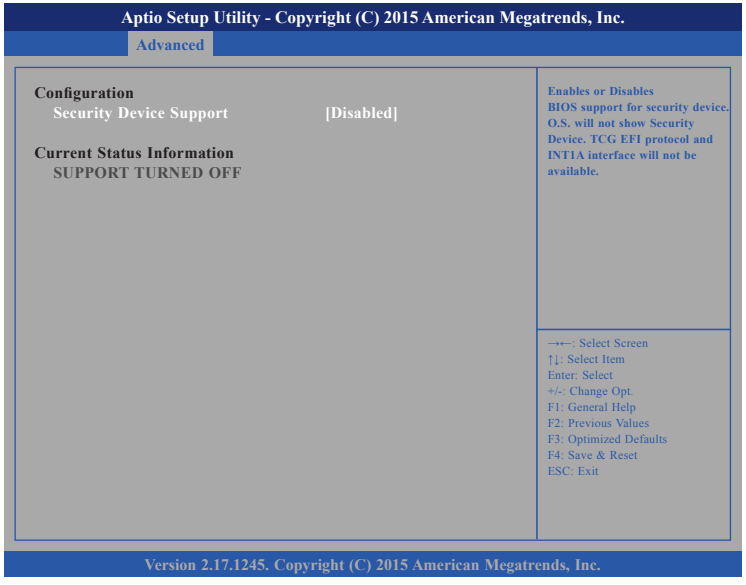
Storage
Enables or disables the boot option for legacy storage devices.

Video
Enables or disables the boot option for legacy video devices.

Other PCI Devices
Enables or disables the boot option for legacy PCI devices.

Trusted Computing

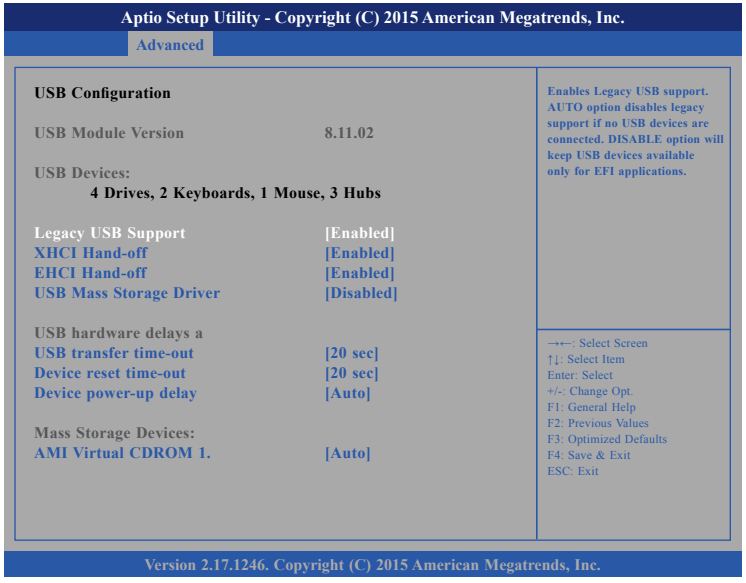
This section is used to configure trusted computing settings.



Security Device Support
Enables or disables BIOS support for security device. O.S. will not show security device. TCG EFI protocol and INT1A interface will not be available.

USB Configuration

This section is used to configure the USB.



Legacy USB Support

Enable Enables Legacy USB.
Auto Disables support for Legacy when no USB devices are connected.
Disable Keeps USB devices available only for EFI applications.

XHCI Hand-off

This is a workaround for OSs that does not support XHCI hand-off. The XHCI ownership change should be claimed by the XHCI driver.

EHCI Hand-Off

This is a workaround for OSs that does not support EHCI hand-off. The EHCI ownership change should be claimed by the EHCI driver.

USB Mass Storage Driver

Enables or disables USB mass storage device driver support.

USB Transfer Time-out

The time-out value for control, bulk, and Interrupt transfers.

Device Reset Time-out

Selects the USB mass storage device's start unit command timeout.

Device Power-up Delay

Maximum time the value will take before it properly reports it self to the Host Controller. "Auto" uses default value: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor.

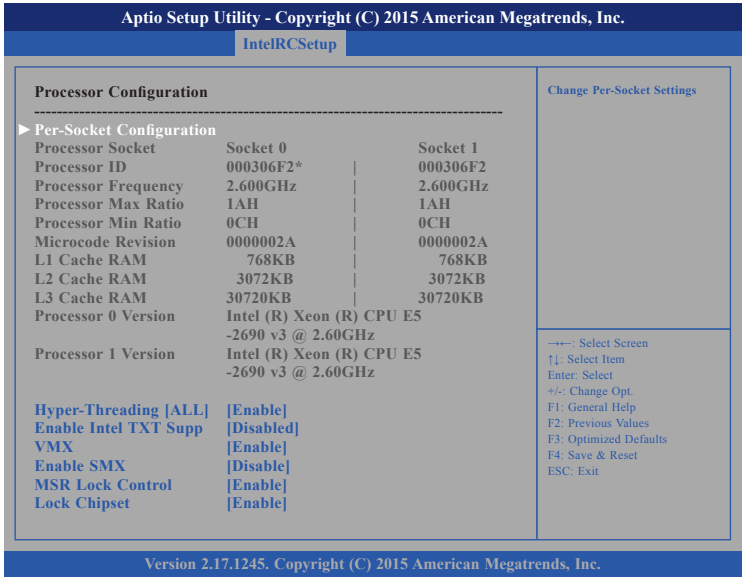
Mass Storage Devices:

Selects the mass storage device emulation type.

Intel RC Setup

This section is used to configure the processor and chipset settings.

Processor Configuration



Hyper-Threading [ALL]
Enables or disables hyper-threading technology.

Enable Intel® TXT Support
Enables or disables Intel TXT support.

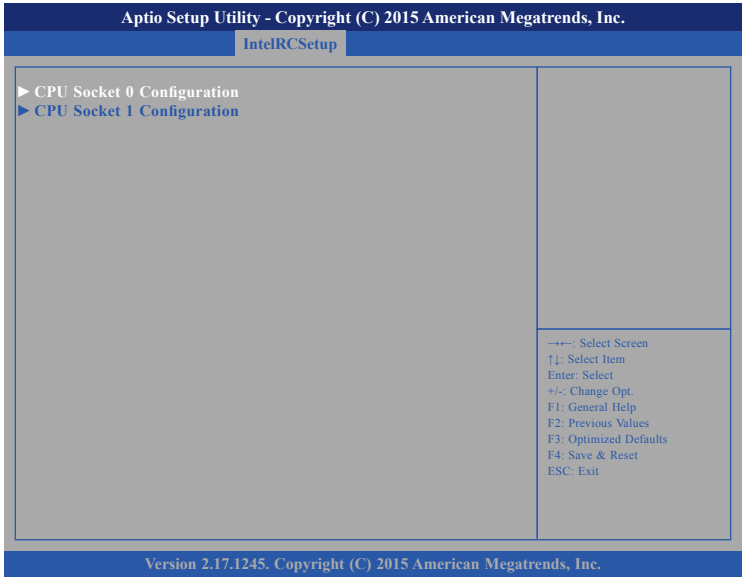
VMX
Enables or disables Virtual Machine Extensions.

Enable SMX
Enables or disables Secure Mode Extensions.

MSR Lock Control
Enables or disables locked MSR.

Lock Chipset
Locks or unlocks the chipet.

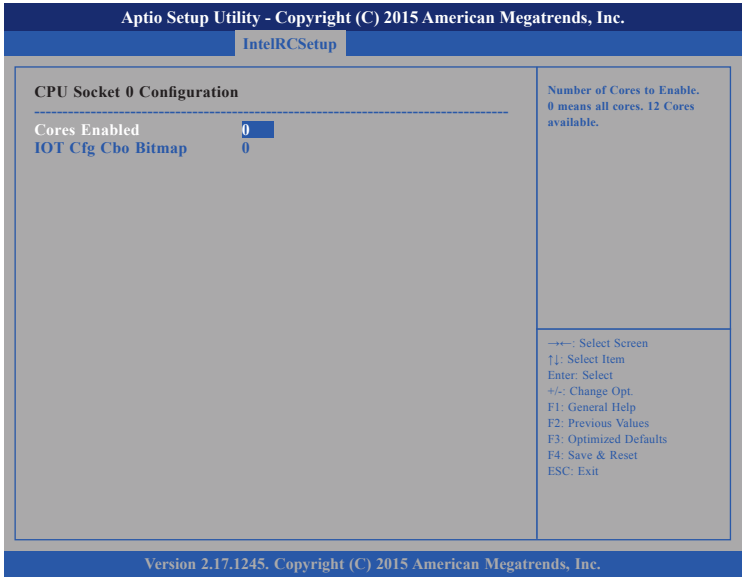
Processor Configuration



CPU Socket 0 Configuration
Processor settings for the CPU on socket 0.

CPU Socket 1 Configuration
Processor settings for the CPU on socket 1.

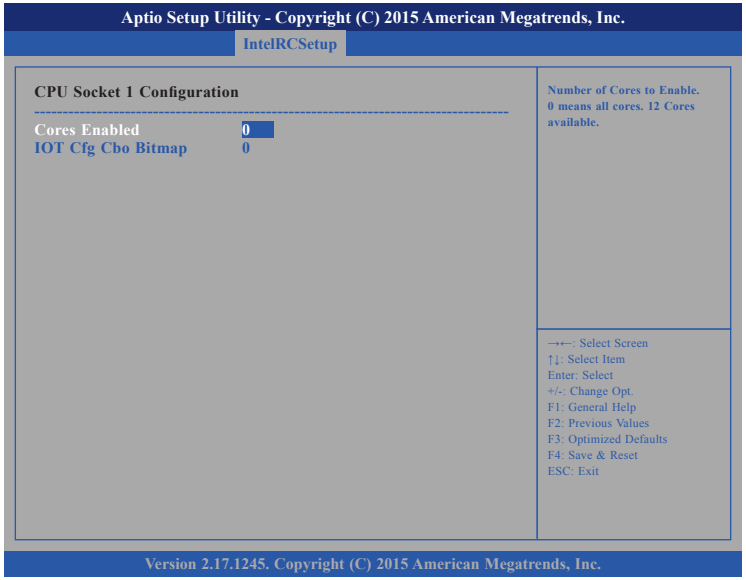
CPU Socket 0 Configuration



Cores Enabled
Configures the number of cores to enable. 0 means all cores.

IoT Cfg Cbo Bitmap
Configures the bit to enable IOT/OCLA.

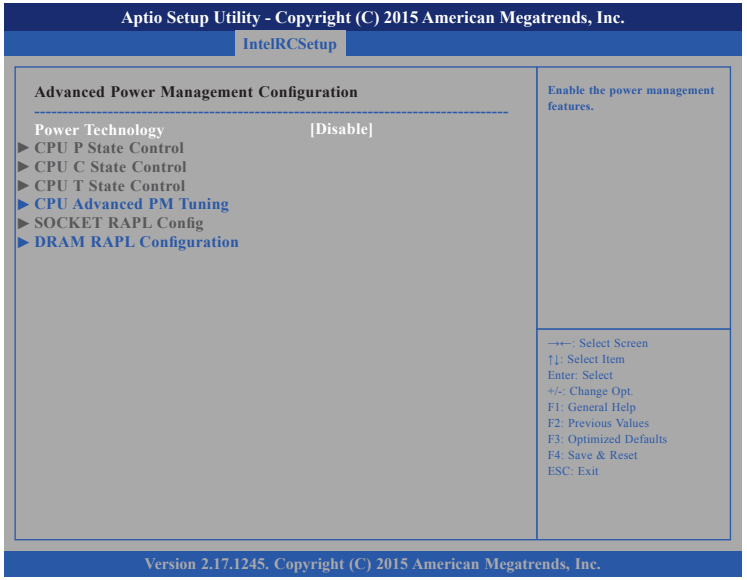
CPU Socket 1 Configuration



Cores Enabled
Configures the number of cores to enable. 0 means all cores.

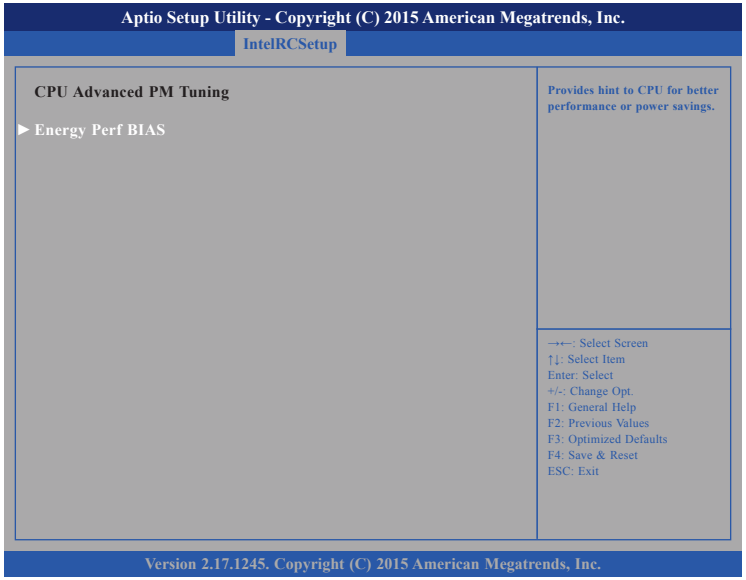
IOT Cfg Cbo Bitmap
Configures the bit to enable IOT/OCLA.

Advanced Power Management Configuration



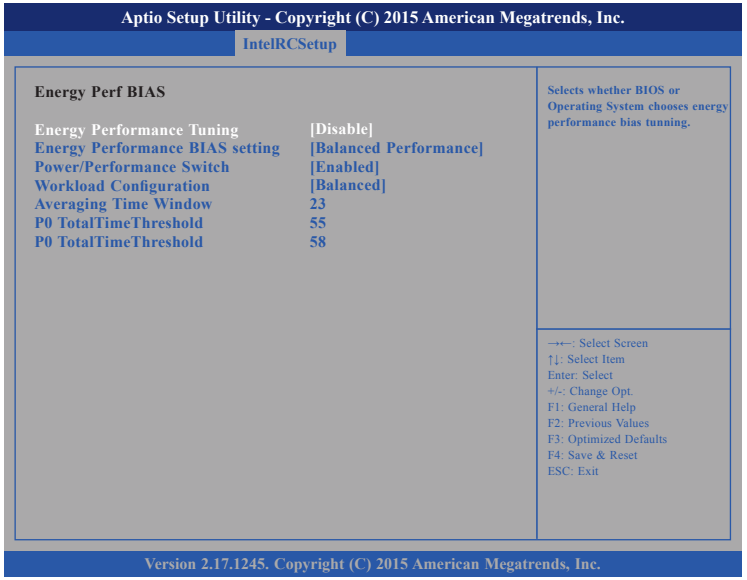
Power Technology
Enables or disables power management features.

CPU Advanced PM Tuning



Energy Perf BIAS
CPU performance and power saving settings.

Energy Perf BIAS



Energy Performance Tuning
Selects whether the BIOS or the operating system will enable energy performance BIAS tuning.

Energy Performance BIAS Setting
Configures the energy performance mode.

Power/Performance Switch
Enables or disables automatic switching between power and performance mode.

Workload Configuration
Selects the workload optimization mode.

Averaging Time Window
Configures the average time for C0 and P0.

P0 TotalTimeThreshold (Minimum)
Configures the minimum threshold time for P0 to disable hardware switching.

P0 TotalTimeThreshold (Maximum)
Configures the maximum threshold time for P0 to disable hardware switching.

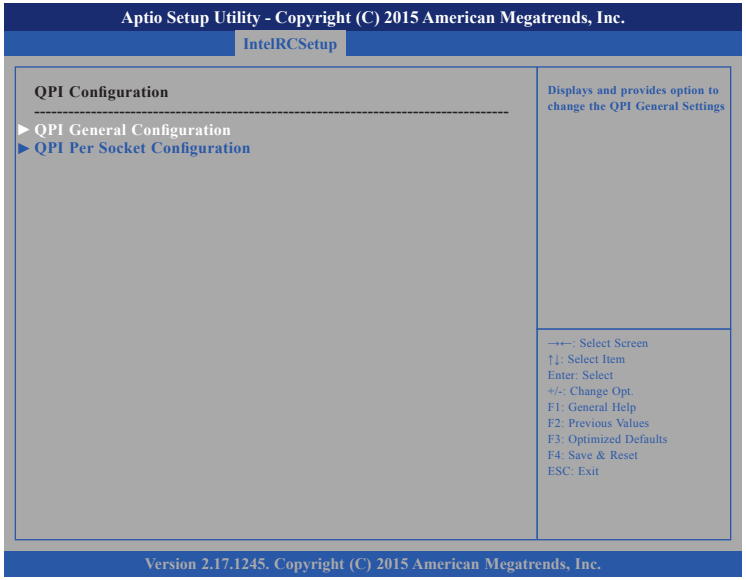
DRAM RAPL Configuration

DRAM RAPL Baseline
Configures the DRAM running average power limit mode.

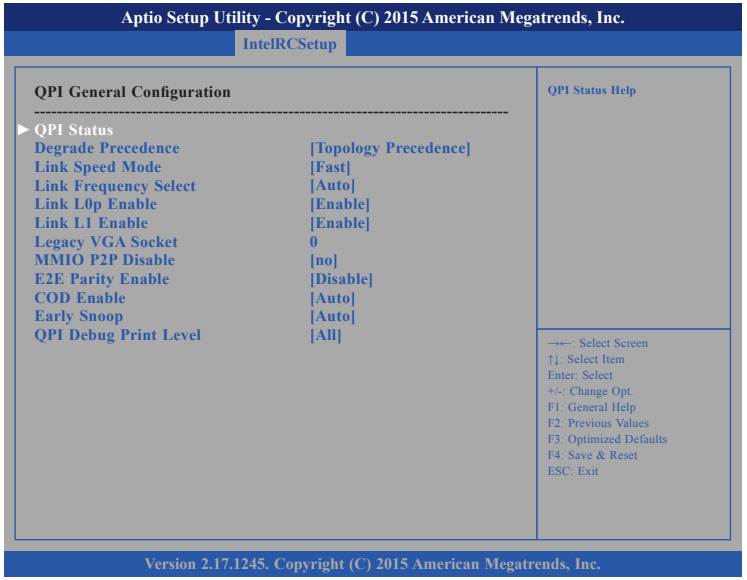
Override BW_LIMIT_TF
Enables or disables Override BW_LIMIT_TF.

DRAM RAPL Extended
Enables or disables extended range for the DRAM RAPL.

QPI Configuration



QPI General Configuration



Degrade Precedence
If system options are in conflict, choose Topology Precedence to degrade features, or Feature Precedence to degrade topology.

Link Speed Mode
Configures the link speed mode.

Link Frequency Select
Configures the QPI frequency.

Link L0p Enable
Enables or disables QPI Link0p.

Link L1 Enable
Enables or disables QPI Link1.

Legacy VGA Socket
Configures which CPU socket (0 or 1) the legacy VGA socket is set to use.

MMIO P2P Disable
Enables or disables MMIO P2P.

E2E Parity Enable
Enables or disables E2E parity check.

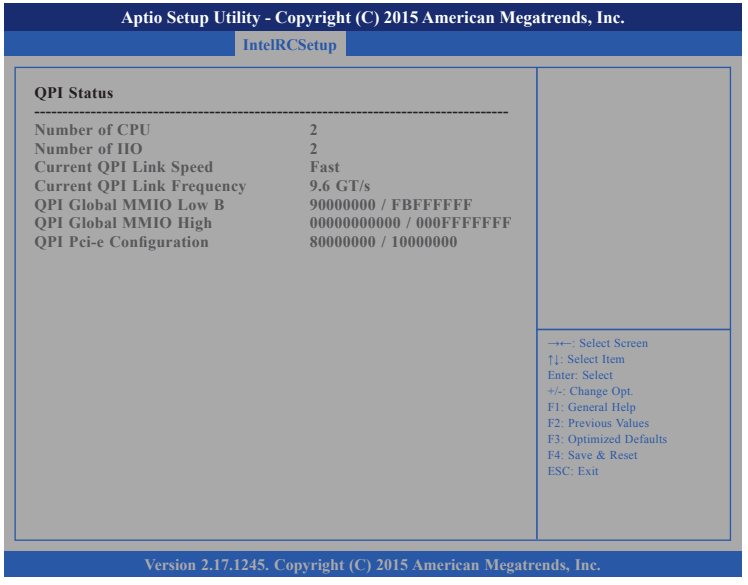
COD Enable
Enables or disables cluster-on-die technology.

Early Snoop
Enables or disables Early Snoop support.

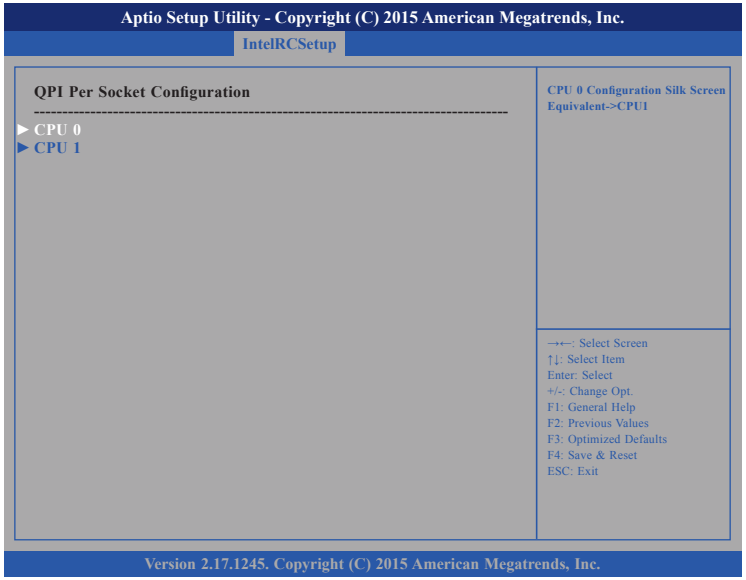
QPI Debug Print Level
Configures the QPI debug print level.

QPI Status

Displays information on the current QPI configuration.



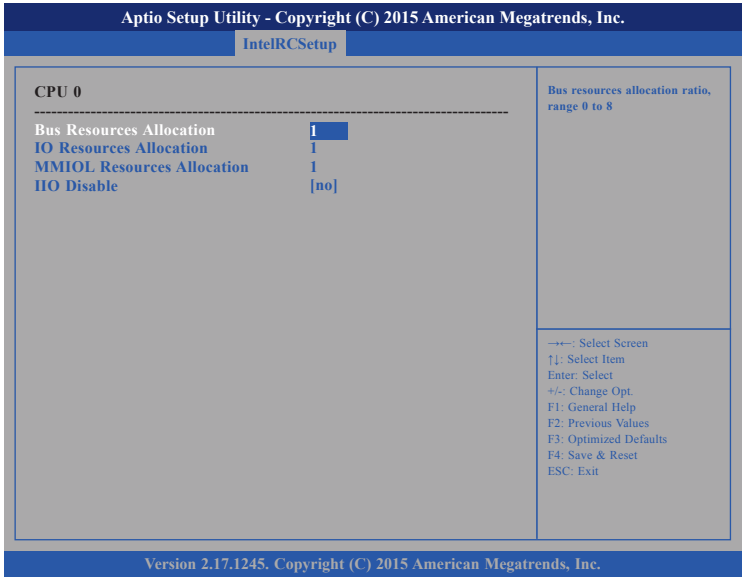
QPI Per Socket Configuration



CPU 0
QPI configuration for CPU socket 0.

CPU 1
QPI configuration for CPU socket 1.

CPU 0



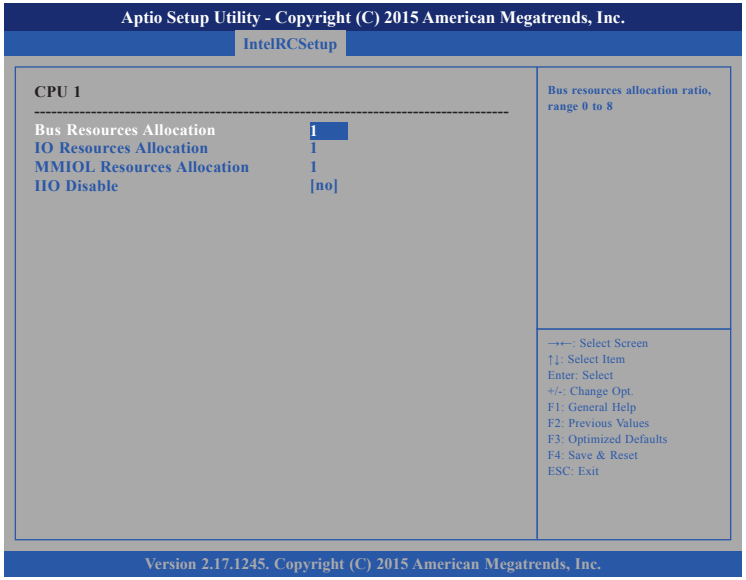
Bus Resources Allocation
Configures the bus resource allocation ratio.

IO Resources Allocation
Configures the IO resource allocation ratio.

MMIOL Resources Allocation
Configures the MMIOL resource allocation ratio.

IIO Disable
Enables or disables IIO.

CPU 1



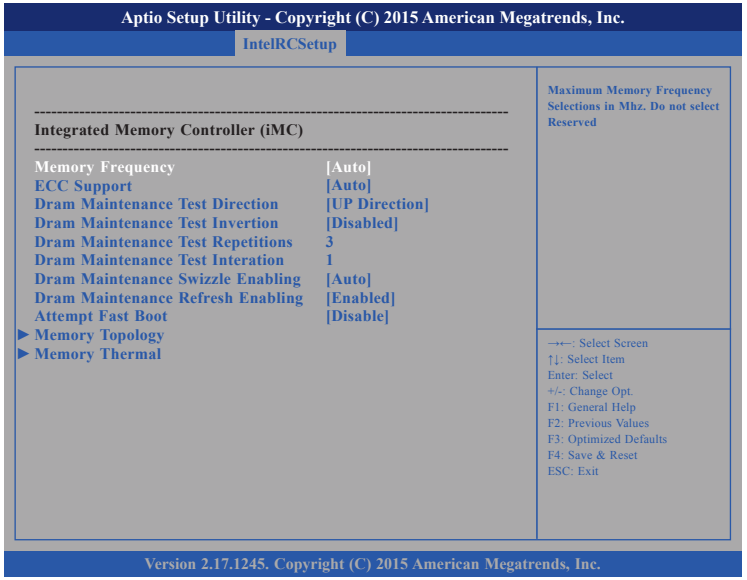
Bus Resources Allocation
Configures the bus resource allocation ratio.

IO Resources Allocation
Configures the IO resource allocation ratio.

MMIOL Resources Allocation
Configures the MMIOL resource allocation ratio.

IIO Disable
Enables or disables IIO.

Memory Configuration



Memory Frequency
Configures the maximum frequency of the memory. Do not select Reserved.

ECC Support
Enables or disables ECC RAM support.

DRAM Maintenance Test Direction
Configures the DRAM maintenance test direction.

DRAM Maintenance Test Invertion
Configures the DRAM maintenance test invertion.

DRAM Maintenance Test Repetitions
Configures the DRAM maintenance test repetitions.

DRAM Maintenance Test Interation on Row
Configures the DRAM maintenance test interation on row.

DRAM Maintenance Swizzle Enabling
Enables or disables DRAM maintenance swizzle.

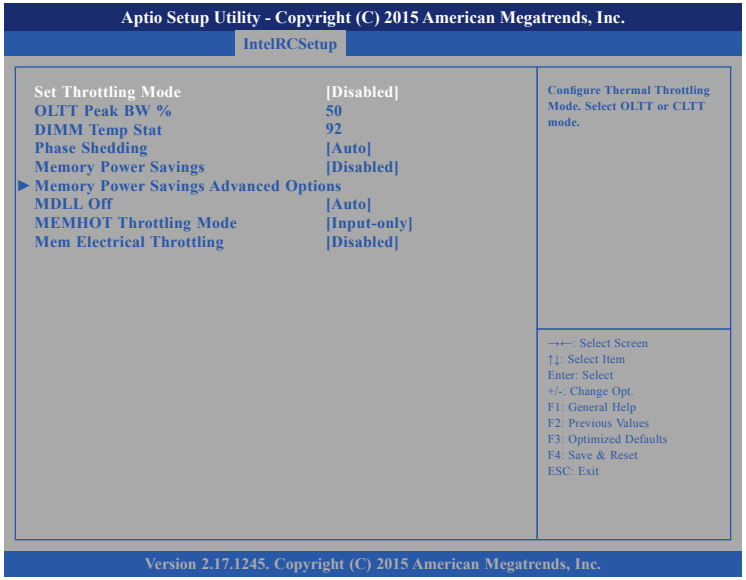
DRAM Maintenance Refresh Enabling
Enables or disables DRAM maintenance refresh.

Attempt Fast Boot
Enables or disables fast boot to speed up the system boot time.

Memory Topology

Detects and displays the information on the memory installed.

Memory Thermal



Set Throttling Mode
Configures the thermal throttling mode. The options are OLTT or CLTT mode.

OLTT Peak BW %
Configures the peak bandwidth for OLTT.

DIMM Temp Stat
Configures the DIMM temp stat.

Phase Shedding
Enables or disables Phase Shedding.

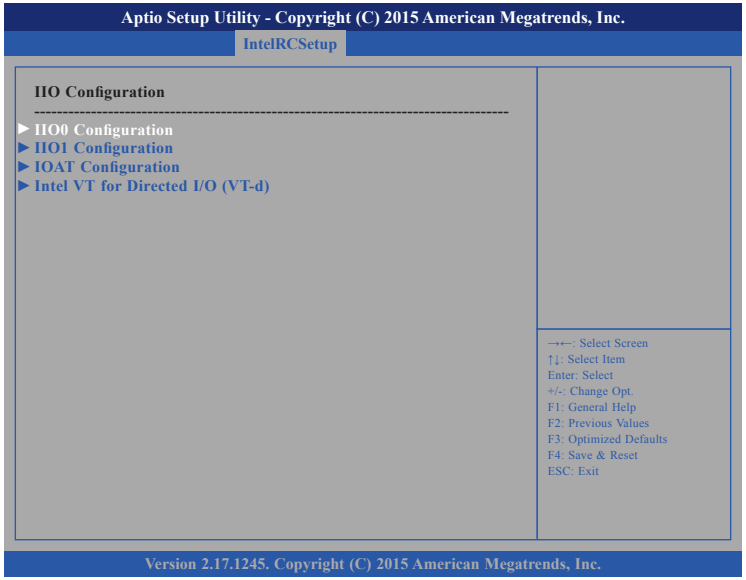
Memory Power Savings
Configures the memory power saving settings.

MDLL Off
Enables or disables MDLL Off.

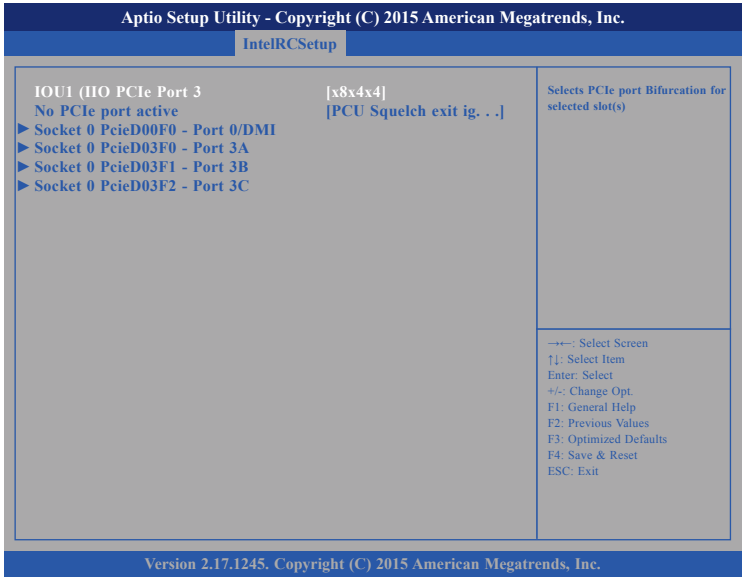
MEMHOT Throttling Mode
Configures the MEMHOT throttling mode.

Mem Electrical Throttling
Configures the memory electrical throttling.

IIO Configuration



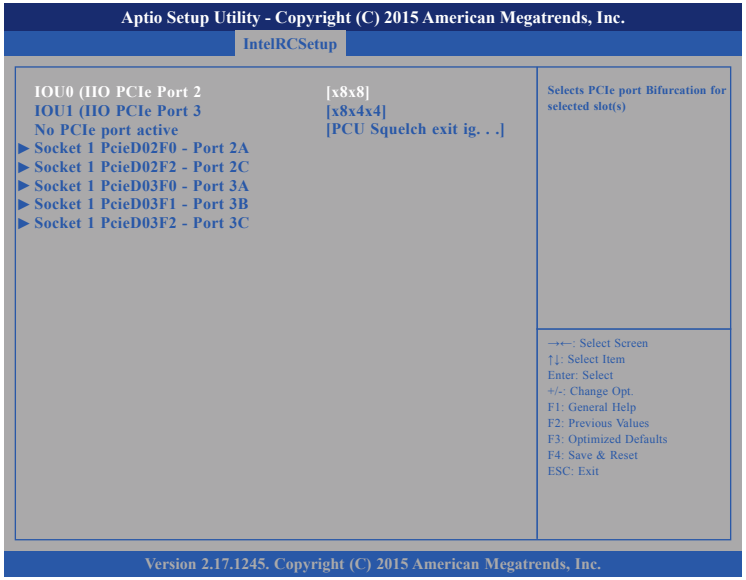
IIO0 Configuration



IOU1 (IIO PCIe Port 3)
Port Bifurcation settings for IOU 1.

No PCIe Port Active
Configures the workaround solution for ECO when the PCIe ports are not active.

IIO1 Configuration

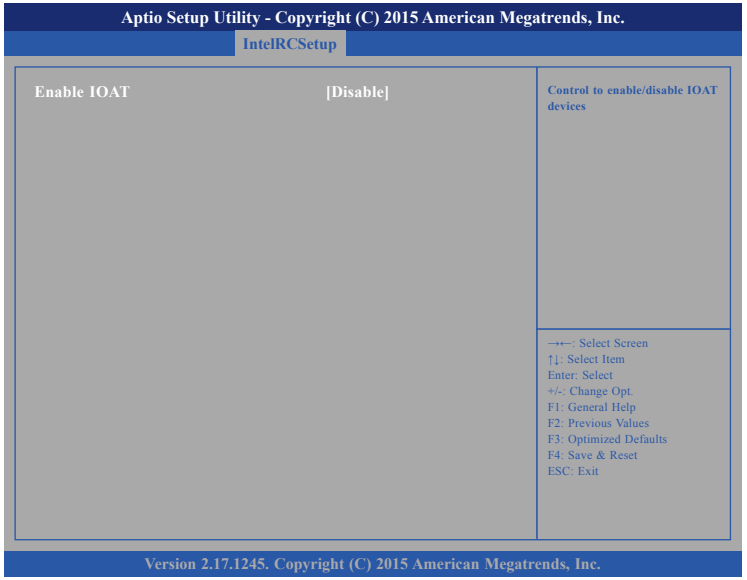


IOU0 (IIO PCIe Port 2)
Port Bifurcation settings for IOU 0.

IOU1 (IIO PCIe Port 3)
Port Bifurcation settings for IOU 1.

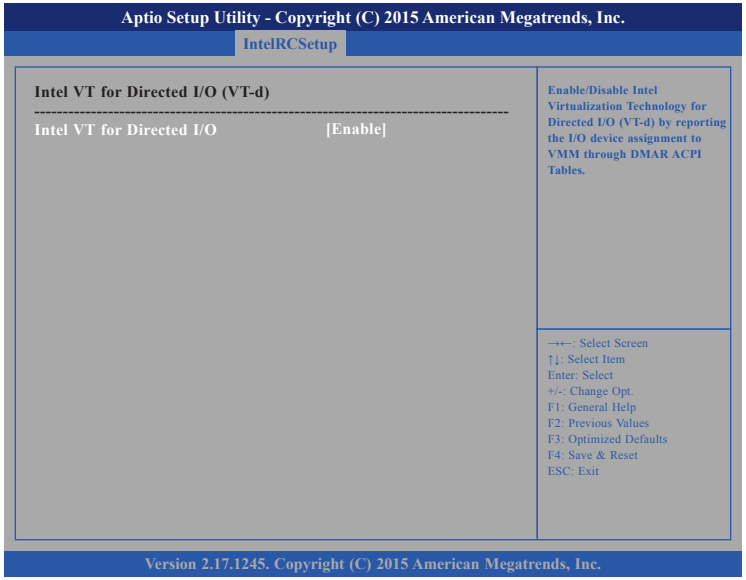
No PCIe Port Active
Configures the workaround solution for ECO when the PCIe ports are not active.

IOAT Configuration



Enable IOAT
Enables or disables the Intel® I/O Acceleration Technology.

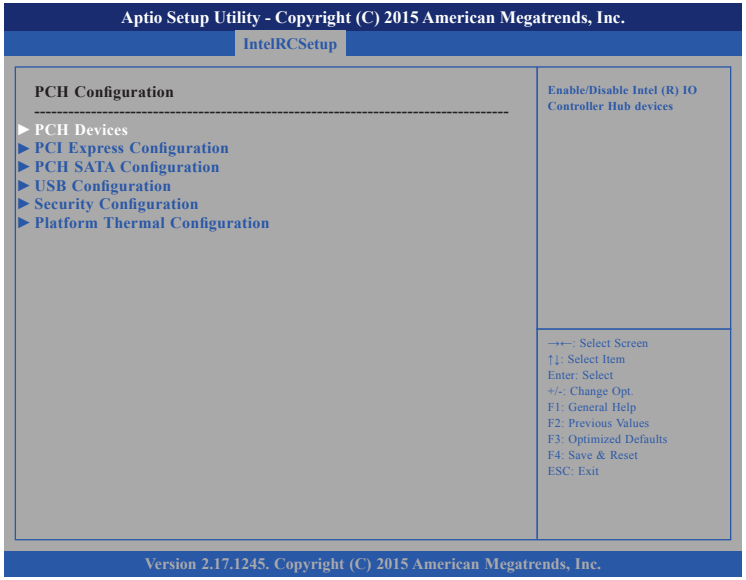
Intel VT for Directed I/O (VT-d)



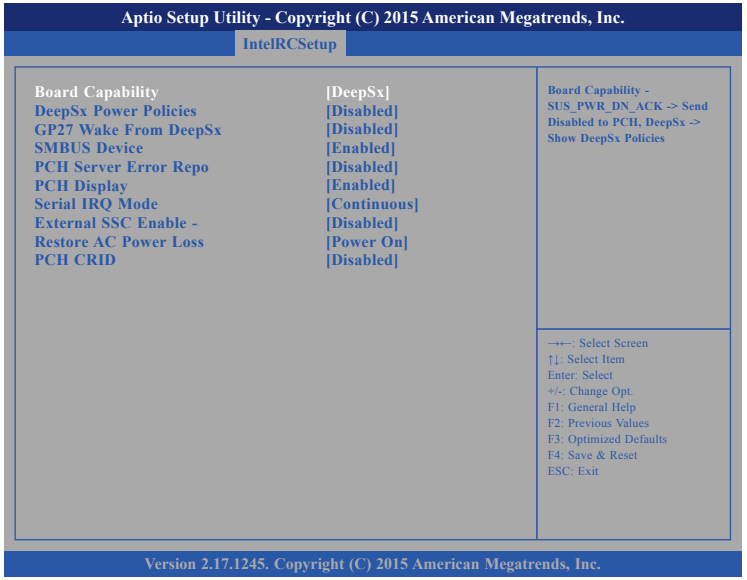
Intel VT for Directed I/O

Enables or disables Intel® Virtualization Technology for Directed I/O (VT-d) by reporting the I/O device assignment to VMM through DMAR ACPI tables.

PCH Configuration



PCH Devices



Board Capability
Board Capability - SUS_PWR_DN_ACK -> Send Disabled to PCH, DeepSx -> Show DeepSx Policies.

DeepSx Power Policies
Configures DeepSx power policies.

GP27 Wake From DeepSx
Enables or disables GP27 to wake from DeepSX.

SMBUS Device
Enables or disables SMBUS device.

PCH Server Error Repo
Enables or disables whether MCH is the final target of all errors. When disabled, SPCH is the final target of all errors.

PCH Display
Enables or disables the PCH Display.

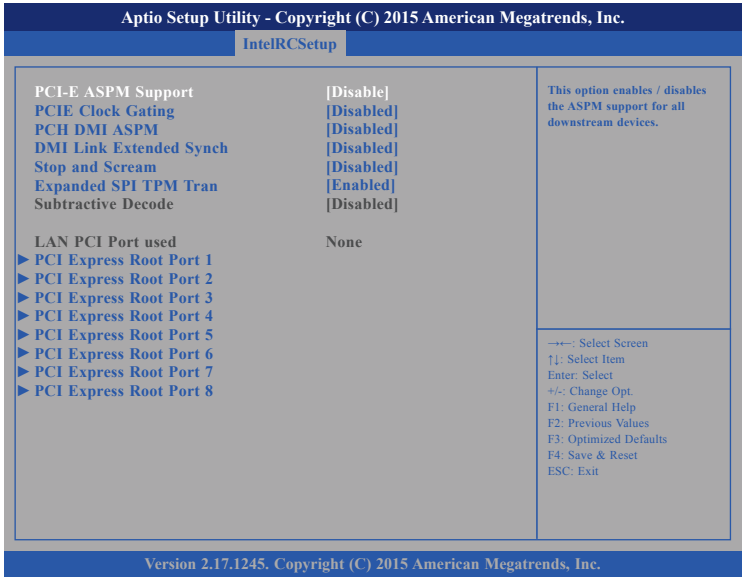
Serial IRQ Mode
Configures the Serial IRQ mode.

External SSC Enable
Enables or disables External SSC.

Restore AC Power Loss
Select AC power state when power is re-applied after a power failure.

PCH CRID
Enables or disables Compatibility Revision ID (CRID) function.

PCI Express Configuration



PCI-E ASPM Support
This option enables or disables ASPM support for all downstream devices.

PCIE Clock Gating
Enables or disables PCIe clock gating for each root port.

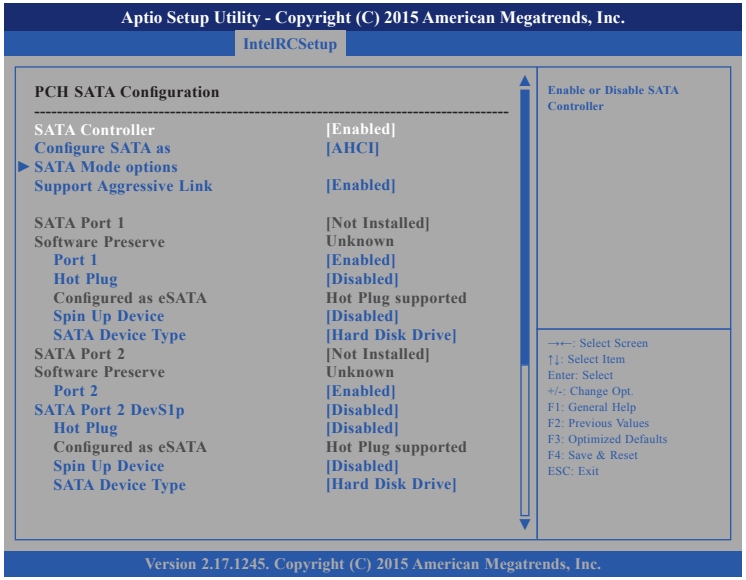
PCH DMI ASPM
Enables or disables ASPM for PCH DMI.

DMI Link Extended Synch
Enables or disables DMI Link Extended Synch.

Stop and Scream
Enables or disables Intel® Stop and Scream function.

Expanded SPI TPM Tran
Enables or disables SPI TPM transactions of up to 64 bytes.

PCH SATA Configuration



SATA Controller
Enables or disables the SATA controller.

Configure SATA as
Configures the SATA as IDE or AHCI.

IDE This option configures the Serial ATA drives as Parallel ATA physical storage device.

AHCI This option configures the Serial ATA drives to use AHCI (Advanced Host Controller Interface). AHCI allows the storage driver to enable the advanced Serial ATA features which will increase storage performance.

Support Aggressive Link
Enables or disables Aggressive Link Power Management.

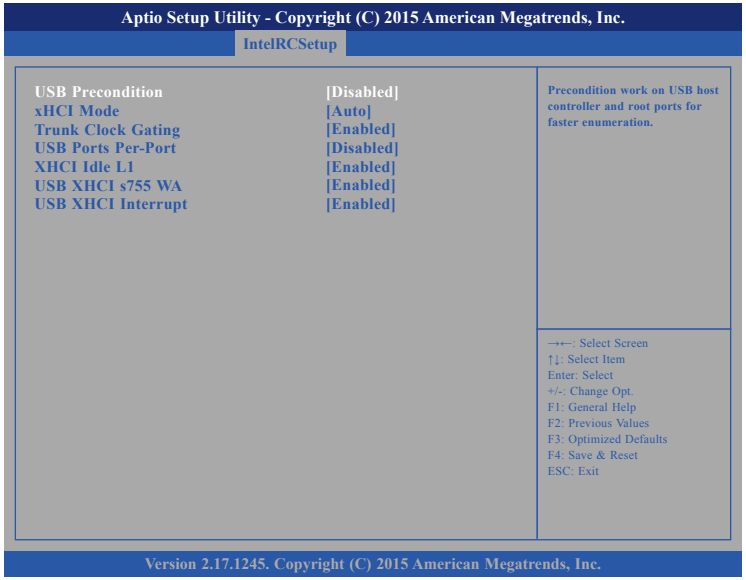
Port 1 to Port 3 and Port 5
Enables or disables Serial ATA port 0 to port 3, and Port 5.

Hot Plug
Enables or disables hot plugging feature on Serial ATA port 1 to port 3, and Port 5.

Spin Up Device
Enables or disables staggered spin up on devices connected to Serial ATA port 1 to port 3, and port 5.

SATA Device Type
Identifies what type of SATA device is connected.

USB Configuration



USB Precondition
Enables or disables USB precondition on USB host controller and root ports for faster enumeration.

xHCI Mode
Configures the XHCI mode.

Trunk Clock Gating
Enables or disables Trunk Clock Gating.

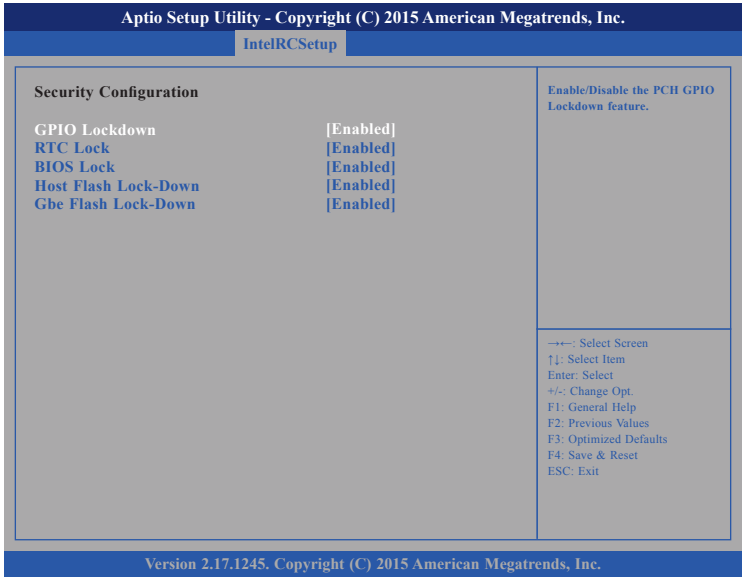
USB Ports Per-Port
Enables or disables control of each USB port.

XHCI Idle L1
Enables or disables XHCI Idle L1.

USB XHCI s755
Only for WBG < B1!
Enable or disable USB XHCI s755 WA to avoid CATERRs.

USB XHCI Interrupt Remap WA
Enables or disables USB XHCI s116 WA. When enabled, MSI capability will be hidden on XHCI.

Security Configuration



GPIO Lockdown
Enables or disables the PCH GPIO lockdown feature.

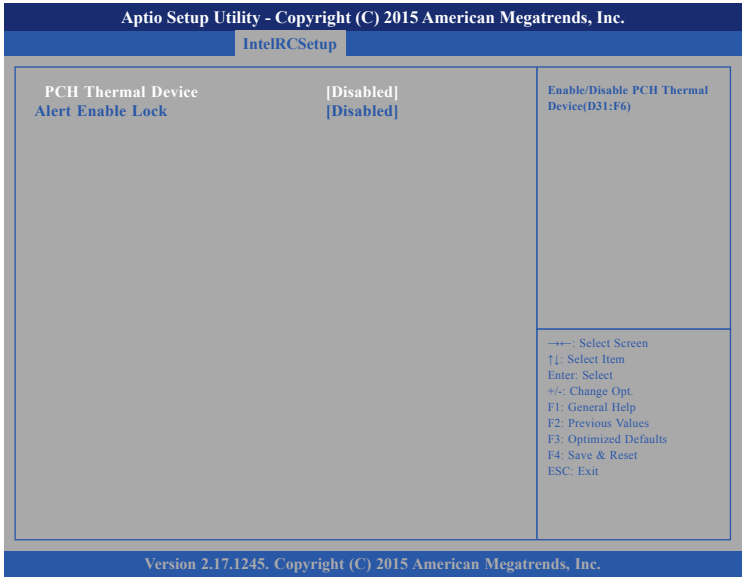
RTC Lock
Enables or disables bytes 38h-3Fh in the upper and lower 128-byte bank of RTC RAM lockdown.

BIOS Lock
Enables or disables the PCH BIOS lock feature.

Host Flash Lock-Down
Enable or disables Host Flash Lock-Down.

GbE Flash Lock-Down
Enable or disables GbE Flash Lock-Down.

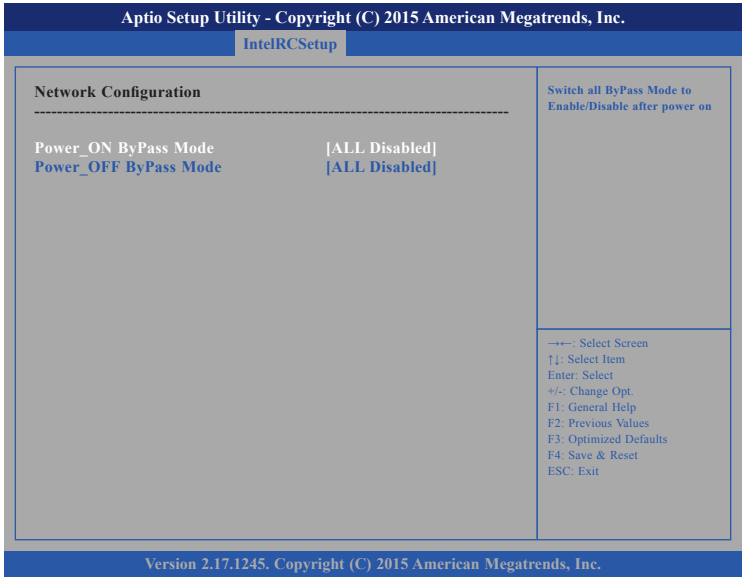
Platform Thermal Configuration



PCH Thermal Device
Enables or disables PCH thermal device (D31:F6).

Alert Enable Lock
Enables or disables locking of alert related functions.

Network Configuration



Power_ON ByPass Mode
Enables or disables the LAN module bypass mode after the system powers on.

Power_OFF ByPass Mode
Enables or disables the LAN module bypass mode after the system powers off.

Server Mgmt

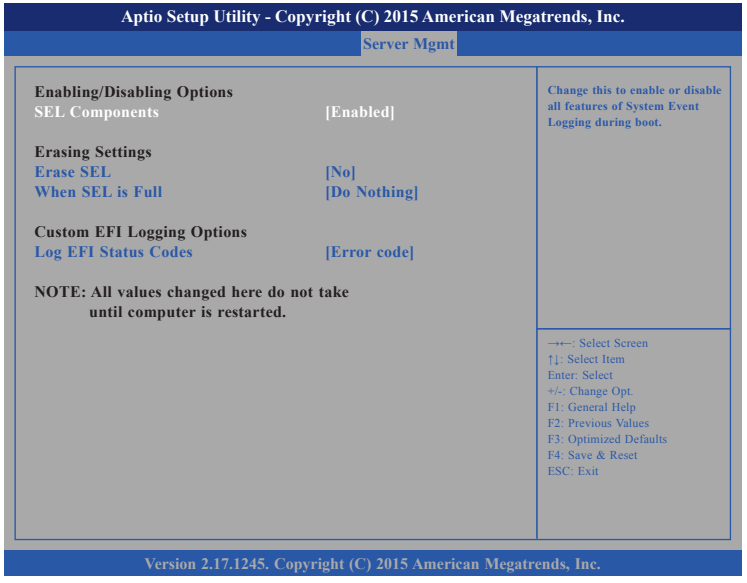
BMC Support
Enables or disables interfaces to communicate with BMC.

Wait for BMC
Enables or disables waiting for BMC.

Serial MUX
Enables or disables MUX on the serial connection.

BMC Warm Reset
To perform a BMC warm reset, select this field then press <Enter>.

System Event Log



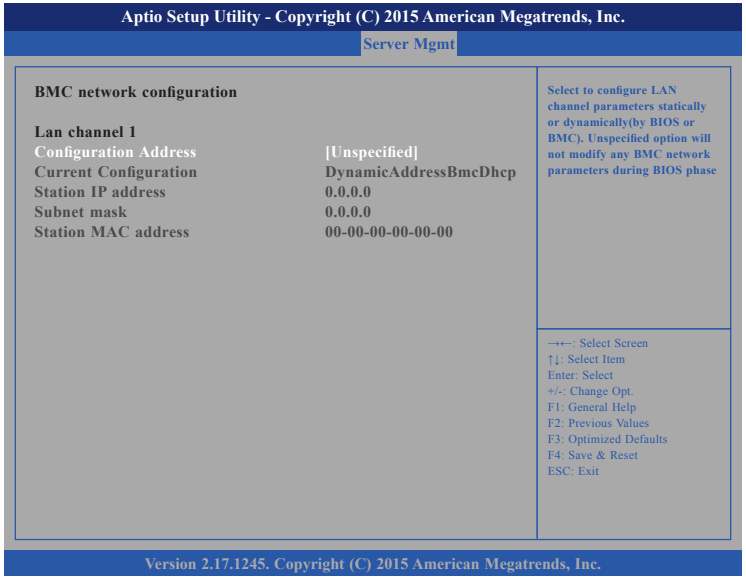
SEL Components
Enables or disables all the features of system event logging during boot.

Erase SEL
Configures the options for erasing SEL.

When SEL is Full
Configures the action to perform when SEL is full.

Log EFI Status Codes
Configures the options for logging EFI status codes.

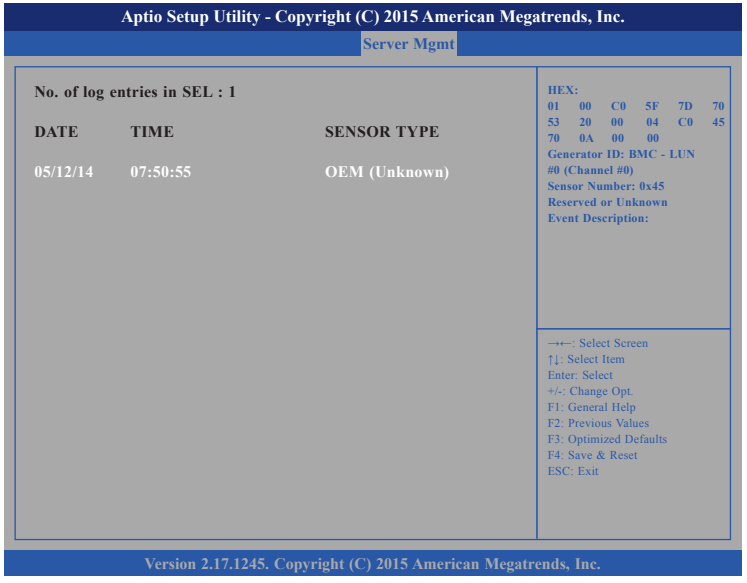
BMC Network Configuration



Configuration Address

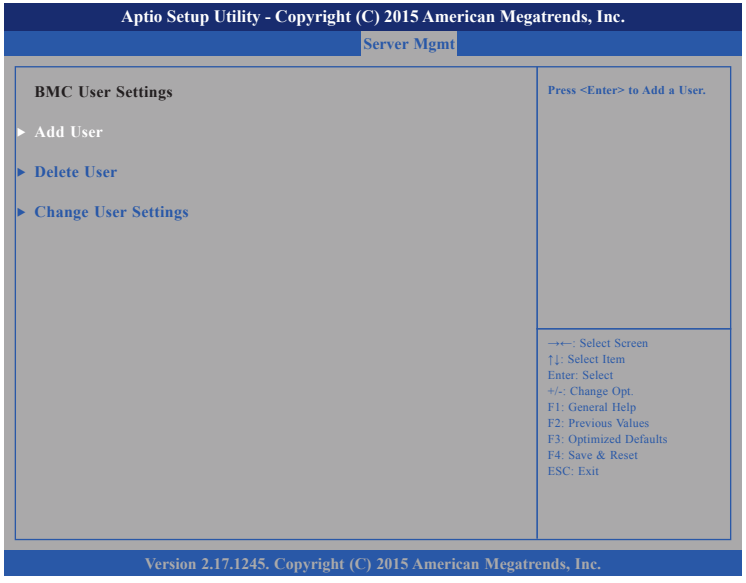
Select to configure LAN channel parameters statically or dynamically (by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase.

View System Event Log



Displays system event log information including date, time and sensor type.

BMC User Settings

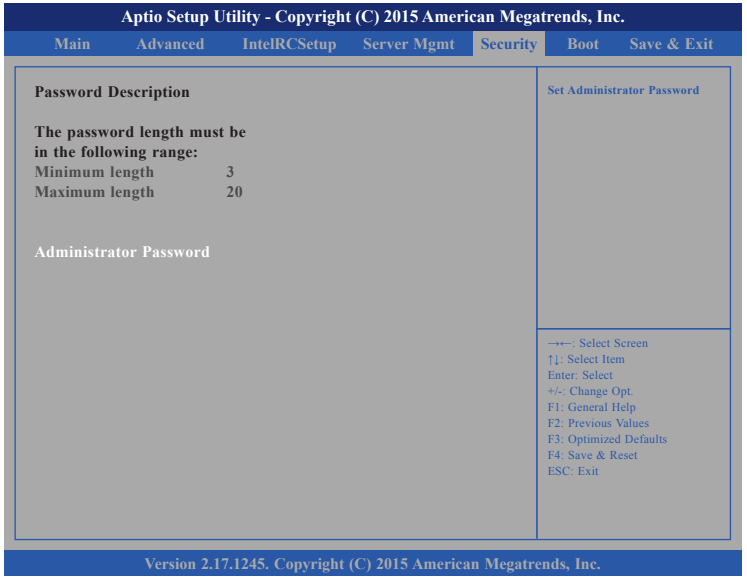


Add User
Option to add a user.

Delete User
Option to delete a user.

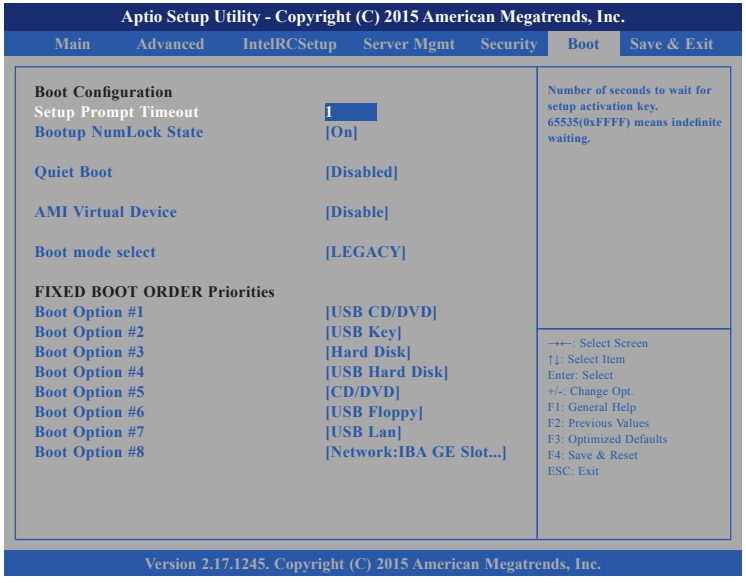
Change User Settings
Option to change user settings.

Security



Administrator Password
Select this to reconfigure the administrator's password.

Boot



Setup Prompt Timeout
Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

Bootup NumLock State
This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

Quiet Boot

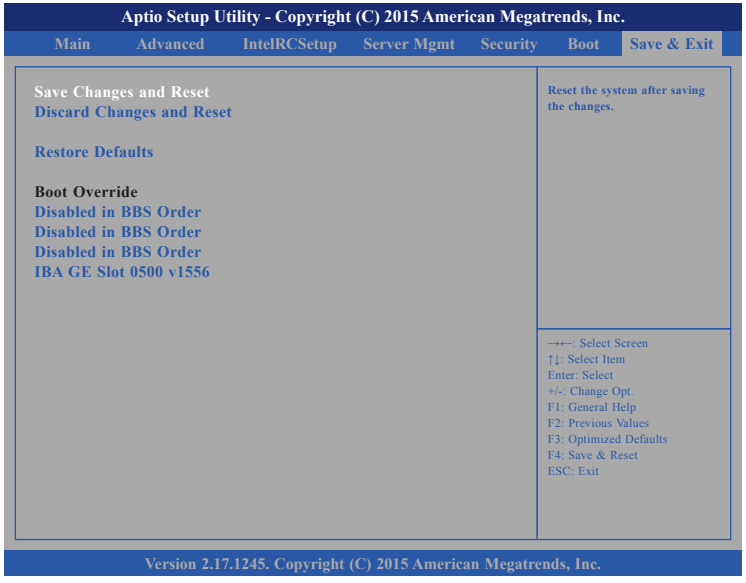
Enabled	Displays OEM logo instead of the POST messages.
Disabled	Displays normal POST messages.

AMI Virtual Device
Enables or disables AMI virtual device.

Boot Mode Select
Configures the boot mode option.

Fixed Boot Order Priorities
Adjust the boot sequence of the system. Boot Option #1 is the first boot device that the system will boot from, next will be Boot Option #2 and so forth.

Save & Exit



Save Changes and Reset
To save the changes and reset, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes and Reset
To exit the Setup utility without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting.

Restore Defaults
To restore the BIOS to default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Boot Override
To bypass the boot sequence from the Boot Option List and boot from a particular device, select the desired device and press <Enter>.