NEXCOM International Co., Ltd.

Network and Communication Solutions

Desktop Telecom Appliance

DTA1162 Series

User Manual

NEXCOM International Co., Ltd.
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PREFACE

Copyright

Disclaimer

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Acknowledgements

DTA1162A and DTA1162B are trademarks 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 B 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 B 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.

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.

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 skilled person.

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.

    "ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebus les batteries usagées selon les instructions."

18. This equipment is not suitable for use in locations where children are likely to be present.

    Cet équipement ne convient pas à une utilisation dans des lieux pouvant accueillir des enfants.

19. Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

    Peut être installé dans des salles de matériel de traitement de l'information conformément à l'article 645 du National Electrical Code et à la NFPA 75.

20. Use certified and rated Laser Class I for Optical Transceiver product.

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 DTA1162A/DTA1162B package that you received is complete. Your DTA1162A/DTA1162B package should have all the items listed in their respective tables below.

DTA1162A

Item	Part Number	Name	Description	Qty
1	19TA0116201X0	DTA1162A ASSY		1
2	7400040013X00	Power Adapter FSP:FSP040-RHAN2(9NA0404934)	DC 40W 12V/3.33A 110x50x32mm Plug:2.5/5.5/7.5(mm)	1
3	5044440031X00	Rubber Foot Kang Yang:RF20-5-4P	19.8x18x5.0mm	4
4	6012200052X00	PE Zipper Bag #8	170x240mm, w/China RoHS Symbol	1
5	6012200053X00	PE Zipper Bag #3	100x70mm, w/China RoHS Symbol	1
6	6023309081X00	Cable EDI:232091081804-RS	COM Port. DB9 Female to RJ45 8P8C L:1800mm	1
7	50344C0298X00	Iron Post Long Fei:5.5Q4.15x4-M2xM3	With Male/Female (Female) M2 x 4.15mm x (Male) M3x4mm	1
8	50344C0297X00	Iron Post Long Fei:5.0Q3.35x4-M2xM3	With Male/Female (Female) M2 x 3.35mm x (Male) M3x4mm	1
9	50311F0654X00	I Head Screw Long Fei	I2x3ISO NI	1
10	6012200169X00	PE Bag for SG 105/115 Series VER:A FULPAK PE	300x320x0.08mm	1
11	6014605641X00	Outside Carton Label for DTA1162A VER:A LABEL JET	60x60mm Art Paper	1

DTA1162B

Item	Part Number	Name	Description	Qty
1	19TA0116200X0	DTA1162B ASSY		1
2	7400040013X00	Power Adapter FSP:FSP040-RHAN2(9NA0404934)	DC 40W 12V/3.33A 110x50x32mm PLUG:2.5/5.5/7.5(mm)	1
3	5044440031X00	Rubber Foot Kang Yang:RF20-5-4P	19.8x18x5.0mm	4
4	6012200052X00	PE Zipper Bag #8	170x240mm, w/China RoHS Symbol	1
5	6012200053X00	PE Zipper Bag #3	100x70mm, w/China RoHS Symbol	1
6	6023309081X00	Cable EDI:232091081804-RS	COM Port. DB9 Female to RJ45 8P8C L:1800mm	1
7	50344C0298X00	Iron Post Long Fei:5.5Q4.15x4-M2xM3	With Male/Female (Female) M2x4.15mm x (Male) M3x4mm	1
8	50344C0297X00	Iron Post Long Fei:5.0Q3.35x4-M2xM3	With Male/Female (Female) M2x3.35mm x (Male) M3x4mm	1
9	50311F0654X00	I Head Screw Long Fei	I2x3ISO NI	1
10	6012200169X00	PE Bag for SG 105/115 Series VER:A FULPAK PE	300x320x0.08mm	1
11	6014605642X00	Outside Carton Label for DTA1162B VER:A LABEL JET	60x60mm Art Paper	1

Ordering Information

The following below provides ordering information for the DTA1162 series.

Barebone

DTA1162A (P/N: 10TA0116201X0)

Intel Denverton SoC Atom® C3338, BGA type, 1 x DDR4 memory slot, 6 x Copper LAN ports, 2 x USB 3.0, 1 x SIM slot for LTE Module

DTA1162B (P/N: 10TA0116200X0)

Intel Denverton SoC Atom® C3558, BGA type, 1 x DDR4 memory slot, 4 x Copper LAN ports, 2 x SFP Fiber ports, 2 x USB 3.0, 1 x SIM slot for LTE module

Chapter 1: Product Introduction

Overview

DTA1162A

DTA1162B

Key Features

- Intel Atom® processor C3000 series SoC, BGA type
- Quick assist: up to 20Gbps crypto
- DDR4-2133 ECC or non-ECC memory SO-DIMM, max. 32GB
- Support 4 x 1GbE LAN ports, 2 x 1GbE SFP ports for DTA 1162B/2 x 1GbE LAN ports for DTA1162A
- One internal M.2 2242 socket, on-board eMMC 5.0
- 2 x USB 3.0 connectors
- TPM 1.2/2.0 supported

Hardware Specifications

Main Board

- DTB1162 series
- Intel Atom® processor C3000 series, BGA type

Main Memory

- 1 x DDR4-2133 SO-DIMM ECC or non-ECC memory, max. 32GB

LAN Features

- 4 x Copper ports
- 2 x Fiber ports for DTB1162B/2 x copper ports for DTB1162A
- 2 x LAN controllers: Intel® i210-AT for DTB1162B/Intel® i211-AT for DTB1162A
- 4 x Marvell PHY: 88E1543
- Support 10/100/1000 link speed

I/O Interface-Front

- Power status/HDD status/LAN status
- 1 x SIM slot

I/O Interface-Rear

- 1 x DC IN
- 1 x Power button
- 2 x USB 3.0
- 1 x RJ45 type console port
- 4 x Copper ports
- 2 x Fiber ports for DTA1162B/2 x copper ports for DTA1162A
- 1 x Reset button
- 3 x SMA connector holes for RF cables

Storage

- 1 x on-board eMMC flash 8GB
- 1 x M.2 2242 M-key socket (SATA)

Expansion

- 1 x M.2 2230 for Wi-Fi module (E-key)
- 1 x M.2 3042 supporting LTE module with SIM slot on-board (B-key)

Power Input

- 40W power adapter

Dimensions

- Chassis dimension: 225 x 150 x 44 (mm)
- Carton dimension: 268 x 223 x 170 (mm)

Weight

- Without packing: 1.5kg
- With packing: 2.5kg

Certifications

- CE approval
- FCC Class B
- UL

Knowing Your DTA1162 Series

Front Panel

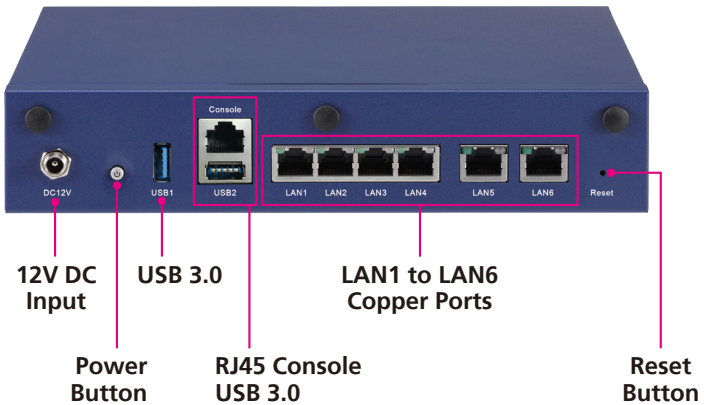
SIM Slot
Used to insert a SIM card.

LAN LED Indicators
Indicates the data activity and link status of LAN1 to LAN6 ports.

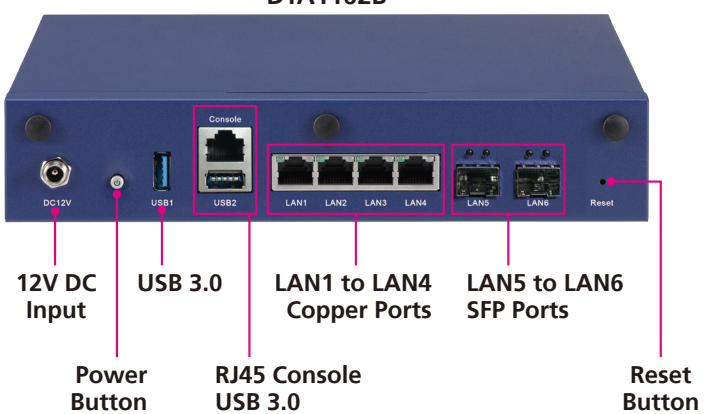
LED Indicators (HDD/SYS/PWR)
Indicates the hard drive (HDD), system status (SYS) and power status (PWR) of the system.

Rear Panel

DTA1162A



DTA1162B



12V DC Input
Used to plug a DC power cord.

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

USB 3.0 Ports
Used to connect USB 3.0/2.0 devices.

RJ45 Console Port
Used to connect to devices with RJ45 type console connection.

LAN 1 to LAN 6 Copper Ports (DTA1162A)
Used to connect network devices.

LAN 1 to LAN 4 Copper Ports (DTA1162B)
Used to connect network devices.

LAN 5 to LAN 6 SFP Ports (DTA1162B)
Used to connect SFP modules for connecting fiber optic network devices.

Reset Button
Press to restart the system.

Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers and connectors on the DTA1162 series 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:

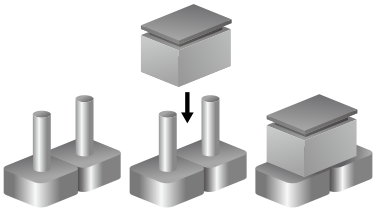
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal 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

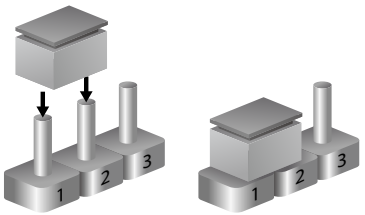
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just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

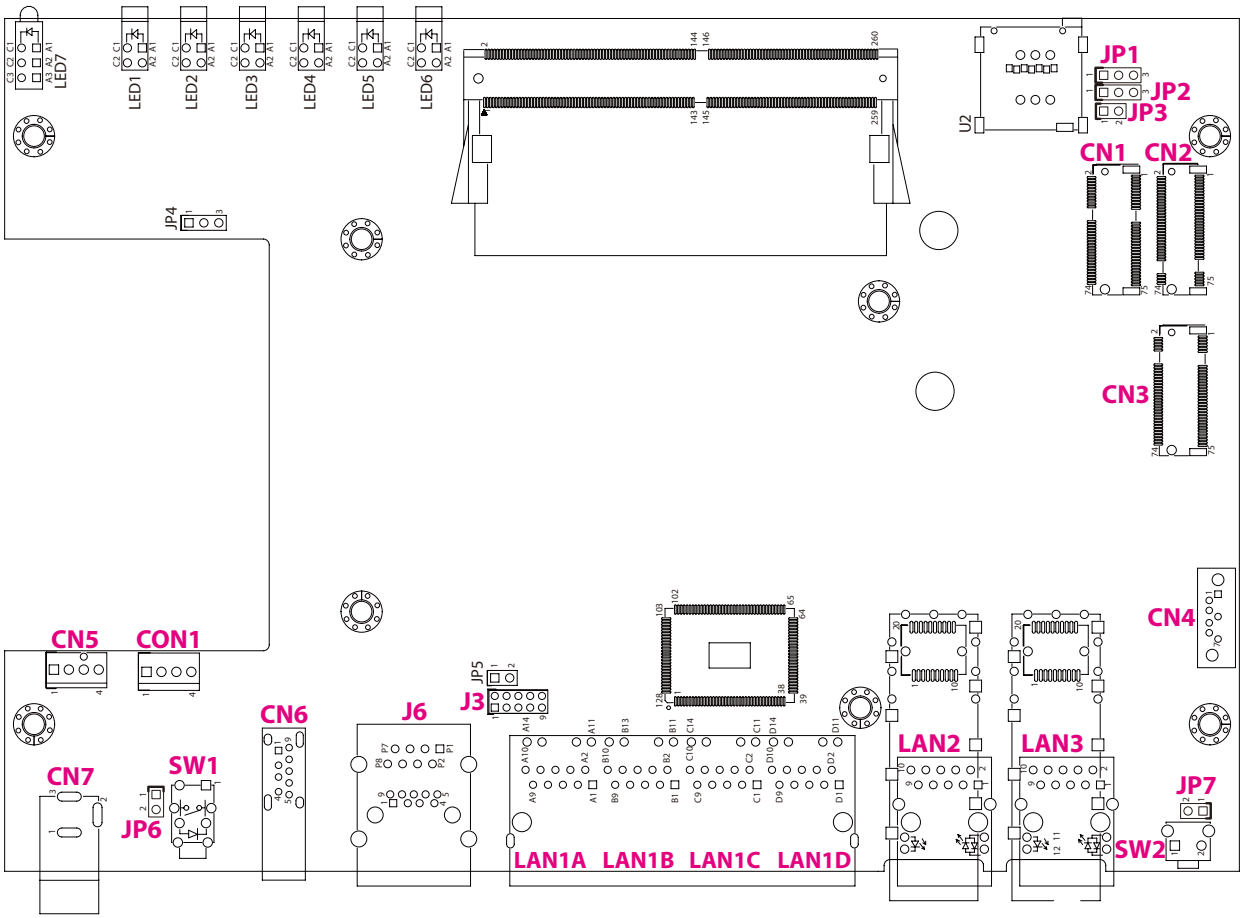


Three-Pin Jumpers: Pins 1 and 2 are Short



Locations of the Jumpers and Connectors

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



Jumpers

RTC Clear

Connector type: 1x3 3-pin header, 2.54mm pitch
Connector location: JP2

Pin	Function
1-2	Normal
2-3	Clear CMOS

1-2 On: Default

PMC Clear

Connector type: 1x3 3-pin header, 2.54mm pitch
Connector location: JP1

Pin	Function
1-2	Normal
2-3	Clear RTC

1-2 On: Default

ME Recover Mode

Connector type: 1x2 2-pin header, 2.54mm pitch
Connector location: JP3

Pin	Function
NC	Normal (Default)
1-2	ME Recover Mode

NC: Default

Connector Pin Definitions

External I/O Interfaces

12V DC Input

Connector location: CN7

Pin	Definition
1	GND
2	GND
3	V12_DC

Power Button

Connector location: SW1 (External) and JP6 (Internal)

SW1

JP6

SW1

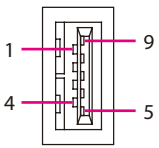
Pin	Definition	Pin	Definition
1	GND	2	PWRBTN#_IN
3	PWRBTN#_IN	4	GND
A1	PWRON_R	C1	PWRON_R2
HM1	GND	HM2	GND

JP6

Pin	Definition
1	PWRBTN#_IN
2	GND

USB 3.0 Port

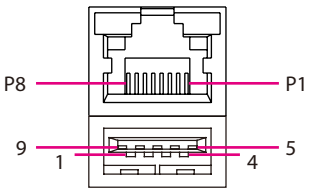
Connector type: USB 3.0 port, Type A
Connector location: CN6



Pin	Definition	Pin	Definition
1	P5V	2	USB2_DN
3	USB2_DP	4	GND
5	USB3_RX_DN	6	USB3_RX_DP
7	GND	8	USB3_TX_DN
9	USB3_TX_DP	MH1	GND_chassis
MH2	GND_chassis	MH3	NC
MH4	NC		

RJ45 Console Port (RS232) and USB 3.0 Port

Connector type: RJ45 port and USB 3.0 port, Type A
Connector location: J6



RJ45 Console

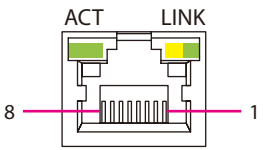
Pin	Definition	Pin	Definition
P1	SP_RTS0_R	P2	SP_DTR0_R
P3	SP_TXD01_R	P4	GND
P5	SP_DCD0_R	P6	SP_RXD0_R
P7	SP_DSR0_R	P8	SP_CTS0_R
MH4	GND_chassis	MH5	GND_chassis
MH6	GND_chassis		

USB 3.0

Pin	Definition	Pin	Definition
1	P5V	2	USB2_DN
3	USB2_DP	4	GND
5	USB3_RX_DN	6	USB3_RX_DP
7	GND	8	USB3_TX_DN
9	USB3_TX_DP	MH1	GND_chassis
MH2	GND_chassis	MH3	GND_chassis

LAN1 Port

Connector type: RJ45 port with LEDs
Connector location: LAN1A



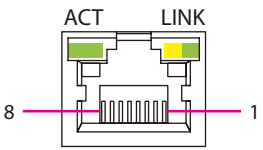
Act	Status
Flashing Green	Data activity
Off	No activity

Link	Status
Steady Green	1G network link
Steady Yellow	100Mbps network link
Off	10Mbps or no link

Pin	Definition	Pin	Definition
1	PORT1_TX0_P	2	PORT1_TX0_N
3	PORT1_TX1_P	4	PORT1_TX1_N
5	PORT1_CT1	6	PORT1_CT2
7	PORT1_TX2_P	8	PORT1_TX2_N
9	PORT1_TX3_P	10	PORT1_TX3_N
11	PORT1_LINK_1000M_N	12	PORT1_LINK_100M_N
13	P3V3_LED	14	PORT1_ACT_N

LAN2 Port

Connector type: RJ45 port with LEDs
Connector location: LAN1B



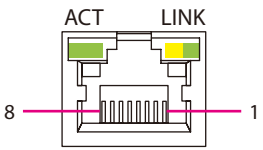
Act	Status
Flashing Green	Data activity
Off	No activity

Link	Status
Steady Green	1G network link
Steady Yellow	100Mbps network link
Off	10Mbps or no link

Pin	Definition	Pin	Definition
1	PORT2_TX0_P	2	PORT2_TX0_N
3	PORT2_TX1_P	4	PORT2_TX1_N
5	PORT2_CT1	6	PORT2_CT2
7	PORT2_TX2_P	8	PORT2_TX2_N
9	PORT2_TX3_P	10	PORT2_TX3_N
11	PORT2_LINK_1000M_N	12	PORT2_LINK_100M_N
13	P3V3_LED	14	PORT2_ACT_N

LAN3 Port

Connector type: RJ45 port with LEDs
Connector location: LAN1C



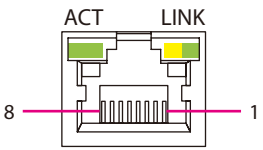
Act	Status
Flashing Green	Data activity
Off	No activity

Link	Status
Steady Green	1G network link
Steady Yellow	100Mbps network link
Off	10Mbps or no link

Pin	Definition	Pin	Definition
1	PORT3_TX0_P	2	PORT3_TX0_N
3	PORT3_TX1_P	4	PORT3_TX1_N
5	PORT3_CT1	6	PORT3_CT2
7	PORT3_TX2_P	8	PORT3_TX2_N
9	PORT3_TX3_P	10	PORT3_TX3_N
11	PORT3_LINK_1000M_N	12	PORT3_LINK_100M_N
13	P3V3_LED	14	PORT3_ACT_N

LAN4 Port

Connector type: RJ45 port with LEDs
Connector location: LAN1D



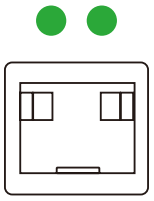
Act	Status
Flashing Green	Data activity
Off	No activity

Link	Status
Steady Green	1G network link
Steady Yellow	100Mbps network link
Off	10Mbps or no link

Pin	Definition	Pin	Definition
1	PORT4_TX0_P	2	PORT4_TX0_N
3	PORT4_TX1_P	4	PORT4_TX1_N
5	PORT4_CT1	6	PORT4_CT2
7	PORT4_TX2_P	8	PORT4_TX2_N
9	PORT4_TX3_P	10	PORT4_TX3_N
11	PORT4_LINK_1000M_N	12	PORT4_LINK_100M_N
13	P3V3_LED	14	PORT4_ACT_N

LAN5 SFP Port (DTA1162B)

Connector type: RJ45 port with LEDs
Connector location: LAN2



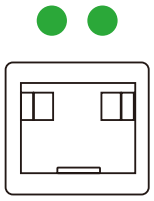
Left LED	Status
Steady Green	Link active
Flashing Green	Data activity

Right LED	Status
Steady Green	1G network link

Pin	Definition	Pin	Definition
1	PORT5_TX0_P	2	PORT5_TX0_N
3	PORT5_TX1_P	4	PORT5_TX1_N
5	PORT5_CT1	6	PORT5_CT2
7	PORT5_TX2_P	8	PORT5_TX2_N
9	PORT5_TX3_P	10	PORT5_TX3_N
11	P3V3_LED	12	PORT5_ACT_N
13	PORT5_LINK_100M_N	14	PORT5_LINK_1000M_N

LAN6 SFP Port (DTA1162B)

Connector type: RJ45 port with LEDs
Connector location: LAN3



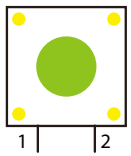
Left LED	Status
Steady Green	Link active
Flashing Green	Data activity

Right LED	Status
Steady Green	1G network link

Pin	Definition	Pin	Definition
1	PORT6_TX0_P	2	PORT6_TX0_N
3	PORT6_TX1_P	4	PORT6_TX1_N
5	PORT6_CT1	6	PORT6_CT2
7	PORT6_TX2_P	8	PORT6_TX2_N
9	PORT6_TX3_P	10	PORT6_TX3_N
11	P3V3_LED	12	PORT6_ACT_N
13	PORT6_LINK_100M_N	14	PORT6_LINK_1000M_N

Reset Button

Connector location: SW2 (External) & JP7 (Internal)



SW2

JP7

SW2

Pin	Definition
1	GND
2	RST_BTN_CAL_N

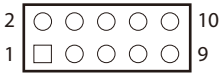
JP7

Pin	Definition
1	RW_SW_RST
2	GND

Internal Connectors

GPIO Header

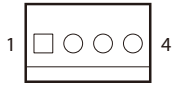
Connector type: 2x5 10-pin header
Connector location: J3



Pin	Definition	Pin	Definition
1	P5V	2	GND
3	SIO_GPIN1	4	SIO_GPOUT1
5	SIO_GPIN2	6	SIO_GPOUT2
7	SIO_GPIN3	8	SIO_GPOUT3
9	SIO_GPIN4	10	SIO_GPOUT4

CPU Fan Connector

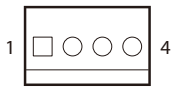
Connector type: 1x4 4-pin wafer
Connector location: CN5



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

SATA Power Connector

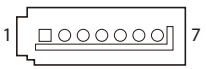
Connector type: 1x4 4-pin wafer
Connector location: CON1



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

SATA Connector

Connector type: Standard Serial ATA 7P (1.27mm, SATA-M-180)
Connector location: CN4



Pin	Definition	Pin	Definition
1	GND	2	SATA_TX_DP
3	SATA_TX_DN	4	GND
5	SATA_RX_DN	6	SATA_RX_DP
7	GND		

M.2 SSD M-Key SATA Connector

Connector location: CN2

Pin	Definition	Pin	Definition
1	GND	2	P3V3
3	GND	4	P3V3
5	NC	6	NC
7	NC	8	NC
9	GND	10	NC
11	NC	12	P3V3
13	NC	14	P3V3
15	GND	16	P3V3
17	NC	18	P3V3
19	NC	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	NC
31	NC	32	NC
33	GND	34	NC
35	NC	36	NC
37	NC	38	NGFF_DEVSLP (Always Low)
39	GND	40	NC

Pin	Definition	Pin	Definition
41	SATA_RX_DP	42	NC
43	SATA_RX_DN	44	NC
45	GND	46	NC
47	SATA_TX_DN	48	NC
49	SATA_TX_DP	50	SOC_PLTRST_N
51	GND	52	CLKREQ_PCIE _N
53	CLK_100M_DN	54	NC
55	CLK_100M_DP	56	NC
57	GND	58	NC
59	M KEY	60	M KEY
61	M KEY	62	M KEY
63	M KEY	64	M KEY
65	M KEY	66	M KEY
67	NC	68	SOC_SUSCLK
69	NC	70	P3V3
71	GND	72	P3V3
73	GND	74	P3V3
75	GND		

M.2 Wi-Fi E-Key Connector

Connector location: CN1

Pin	Definition	Pin	Definition
1	GND	2	P3V3
3	USB2_DP	4	P3V3
5	USB2_DN	6	NC
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	GND
19	NC	20	NC
21	NC	22	NC
23	NC	24	E KEY
25	E KEY	26	E KEY
27	E KEY	28	E KEY
29	E KEY	30	E KEY
31	E KEY	32	NC
33	GND	34	NC
35	PCIE_TX_DP	36	NC
37	PCIE_TX_DN	38	NC
39	GND	40	NC

Pin	Definition	Pin	Definition
41	PCIE_RX_DP	42	NC
43	PCIE_RX_DN	44	M2_COEX3 (NC)
45	GND	46	M2_COEX2 (NC)
47	CLK_100M_DP	48	M2_COEX1 (NC)
49	CLK_100M_DN	50	SOC_SUSCLK
51	GND	52	SOC_PLTRST_N
53	CLKREQ_PCIE _N	54	W_DISABLE2_N (Always High)
55	PCIE_WAKE_N (Always High)	56	W_DISABLE1_N
57	GND	58	SMBUS_DATA
59	NC	60	SMBUS_CLK
61	NC	62	NC
63	GND	64	NC
65	NC	66	NC
67	NC	68	NC
69	GND	70	NC
71	NC	72	P3V3
73	NC	74	P3V3
75	GND		

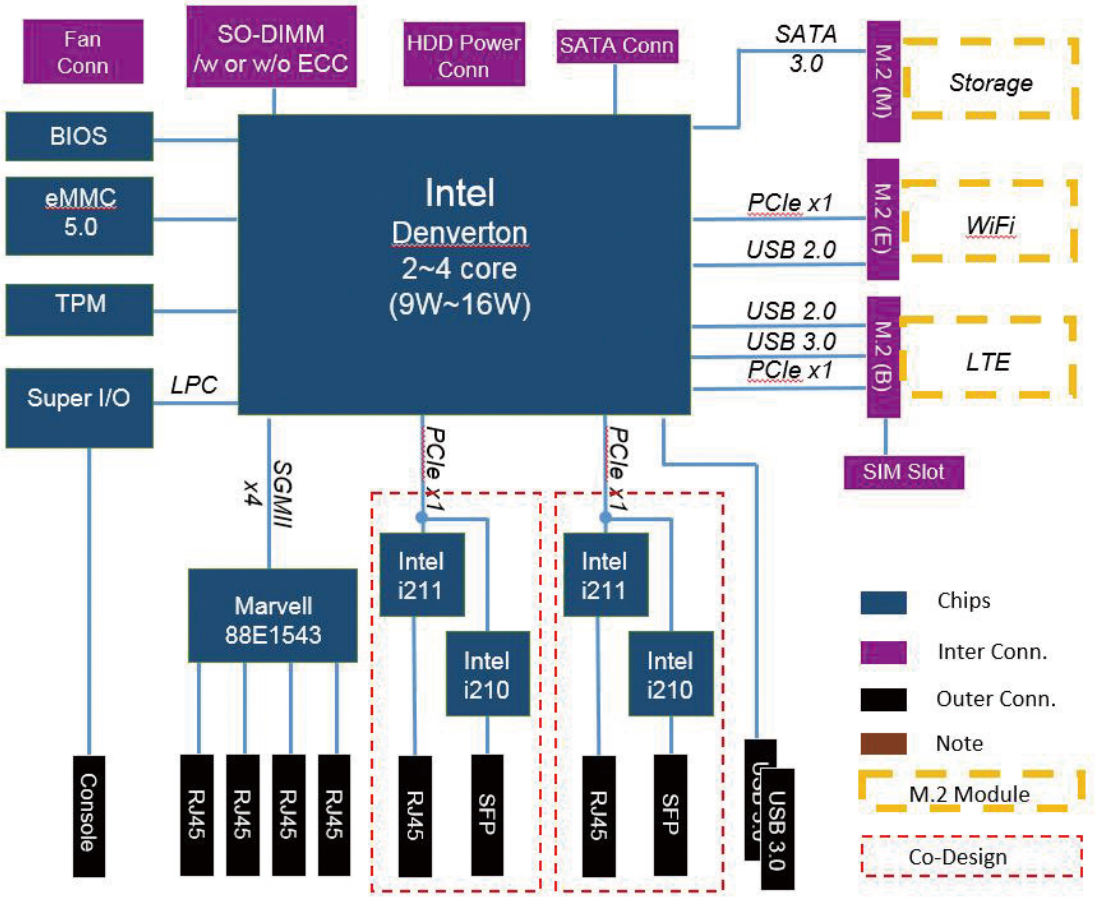
M.2 LTE B-Key Connector

Connector location: CN3

Pin	Definition	Pin	Definition
1	NC	2	P3V3
3	GND	4	P3V3
5	GND	6	POWER_OFF_N (Always High)
7	USB2_DP	8	W_DISABLE1_N
9	USB2_DN	10	NC
11	GND	12	B KEY
13	B KEY	14	B KEY
15	B KEY	16	B KEY
17	B KEY	18	B KEY
19	B KEY	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	USB3_RX_DN	30	SIM_RST
31	USB3_RX_DP	32	SIM_CLK
33	GND	34	SIM_DATA
35	USB3_TX_DN	36	SIM_PWR
37	USB3_TX_DP	38	NC
39	GND	40	NC

Pin	Definition	Pin	Definition
41	PCIE_RX_DP	42	NC
43	PCIE_RX_DN	44	NC
45	GND	46	NC
47	PCIE_TX_DP	48	NC
49	PCIE_TX_DN	50	SOC_PLTRST_N
51	GND	52	CLKREQ_PCIE_N
53	CLK_100M_DN	54	NC
55	CLK_100M_DP	56	NC
57	GND	58	NC
59	NC	60	M2_COEX3 (NC)
61	NC	62	M2_COEX2 (NC)
63	NC	64	M2_COEX1 (NC)
65	NC	66	SIM_DET
67	SOC_PLTRST_N	68	SOC_SUSCLK
69	NC	70	P3V3
71	GND	72	P3V3
73	GND	74	P3V3
75	NC		

Block Diagram

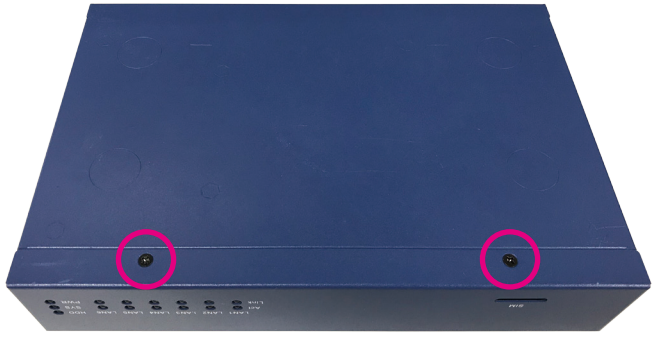


Chapter 3: System Setup

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. The screws on the bottom and sides of the cover are used to secure the cover to the chassis. Remove these screws and put them in a safe place for later use.



Screws on the bottom

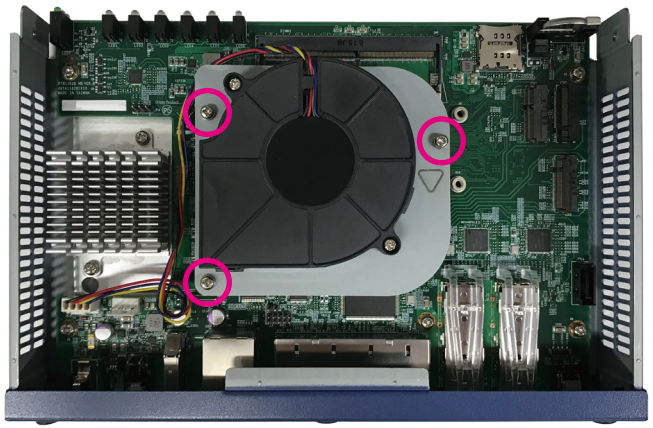
Screws on the sides

2. With the screws removed, gently slide the cover outwards then lift up the cover to remove it.

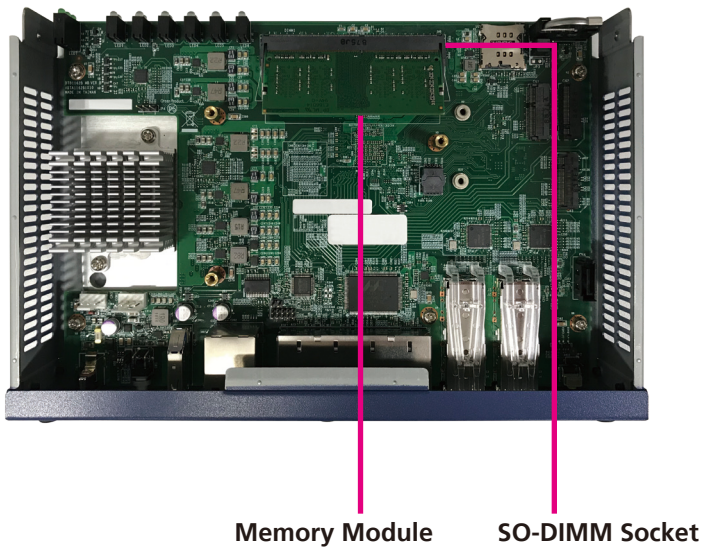
Installing a SO-DIMM Memory Module

For DTA1162B

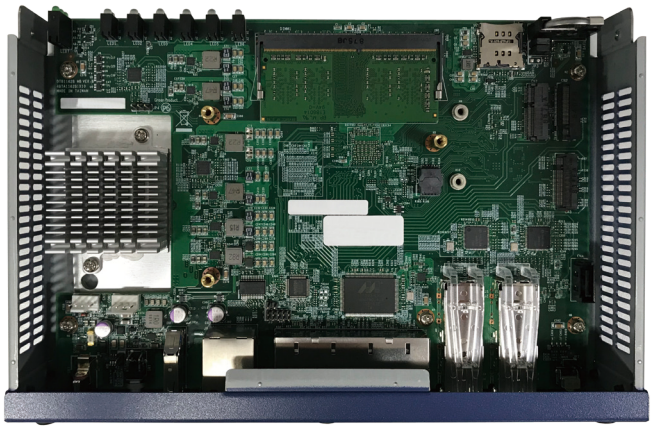
Loosen the 3 screws on the heatsink fan and remove it from the motherboard to access the SO-DIMM slot.



1. Locate the SO-DIMM socket on the motherboard and insert the module into the socket at an approximately 30 degrees angle. Apply firm even pressure to each end of the module until it slips into the socket. The gold-plated connector on the edge of the module will almost completely disappear inside the socket.



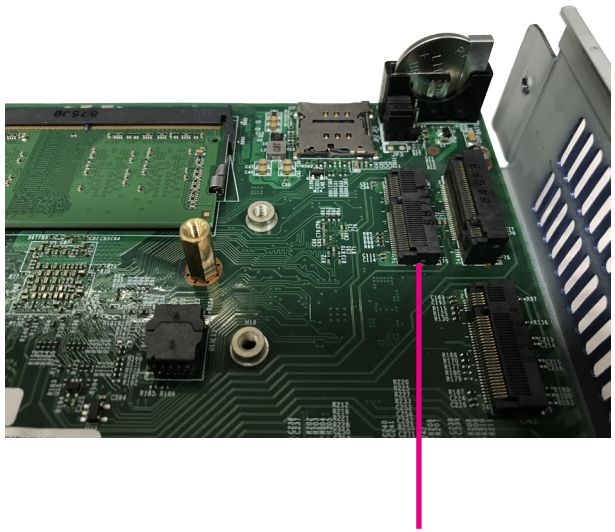
2. Push the module down until the clips on both sides of the socket lock into position. You will hear a distinctive “click” sound, indicating the module is correctly locked into position.



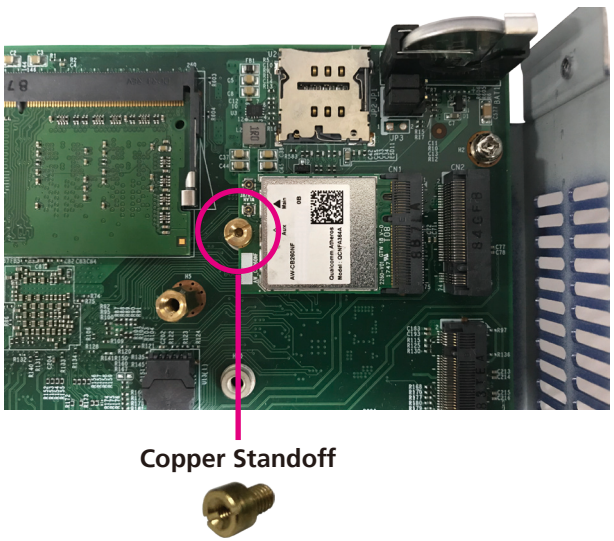
Installing Both the Wi-Fi and M.2 Module

When installing both the Wi-Fi and M.2 module, please install the Wi-Fi module first.

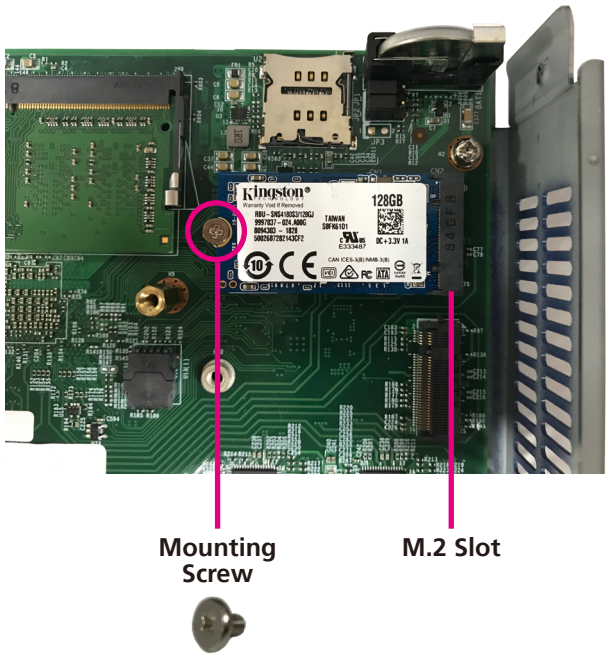
1. Locate the Wi-Fi slot on the motherboard.



2. Insert the Wi-Fi module into the Wi-Fi slot at a 45 degrees angle until the gold-plated connector on the edge of the module completely disappears inside the slot. Push the Wi-Fi module down and fasten a copper standoff to the mounting hole to secure the module.

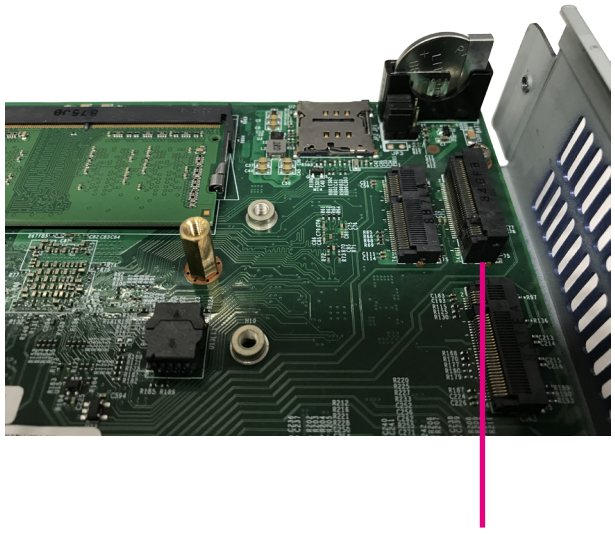


3. Insert the M.2 module into the M.2 slot at a 45 degrees angle until the gold-plated connector on the edge of the module completely disappears inside the slot. Push the M.2 module down and fasten a screw into the copper standoff to secure the module.

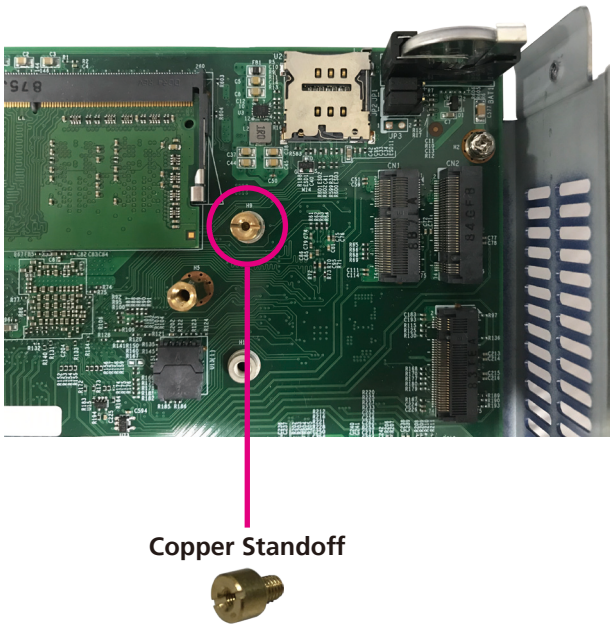


Installing an M.2 Module

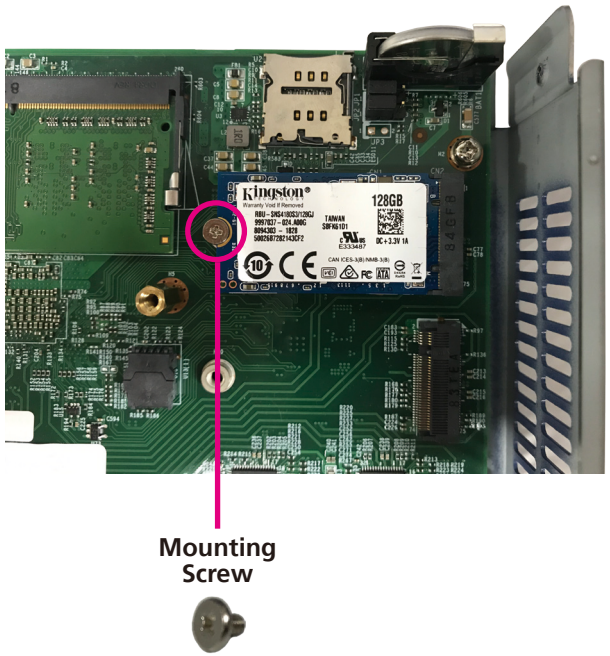
1. Locate the M.2 slot on the motherboard.



2. Fasten a copper standoff to the mounting hole.



3. Insert the M.2 module into the M.2 slot at a 45 degrees angle until the gold-plated connector on the edge of the module completely disappears inside the slot. Push the M.2 module down and fasten a screw into the copper standoff to secure the module.



Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for the DTA1162 series. 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

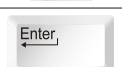
When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- 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 exits the Setup program.
	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.

Access Level

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

System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Monday to Sunday. Month displays the month, from 1 to 12. Date displays the date, from 1 to 31. Year displays the year, from 2005 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.

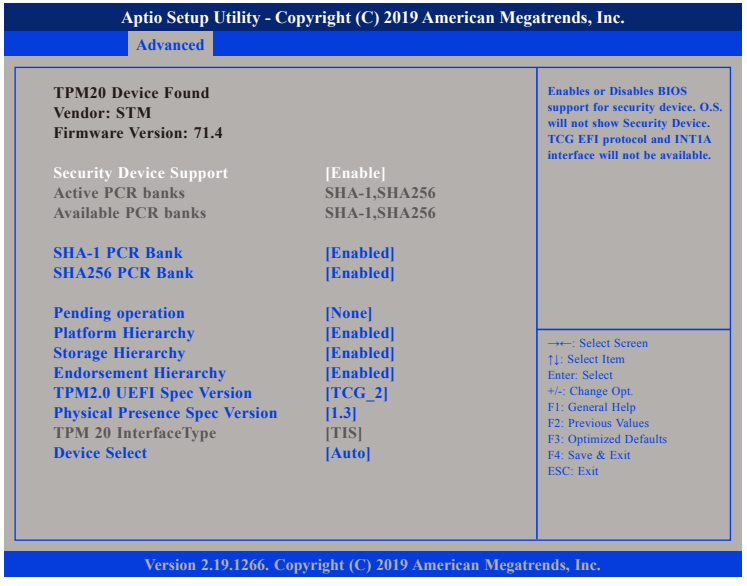
Advanced

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.

Trusted Computing

This section is used to configure Trusted Platform Module (TPM) 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.

SHA-1 PCR Bank

Enables or disables SHA-1 PCR Bank.

SHA256 PCR Bank

Enables or disables SHA256 PCR Bank.

Pending operation
Schedules an operation for the security device.

Platform Hierarchy
Enables or disables platform hierarchy.

Storage Hierarchy
Enables or disables storage hierarchy.

Endorsement Hierarchy
Enables or disables endorsement hierarchy.

TPM2.0 UEFI Spec Version
Configures the TPM2.0 UEFI spec version.

Physical Presence Spec Version
Configures the physical presence spec version.

Device Select
Configures the TPM version. TPM 1.2 will restrict support to TPM 1.2 devices and TPM 2.0 will restrict support to TPM 2.0 devices. Auto will support both TPM 1.2 and 2.0 devices with the default set to TPM 2.0 devices if not found, and TPM 1.2 devices will be enumerated.

NCT6683D Super IO Configuration

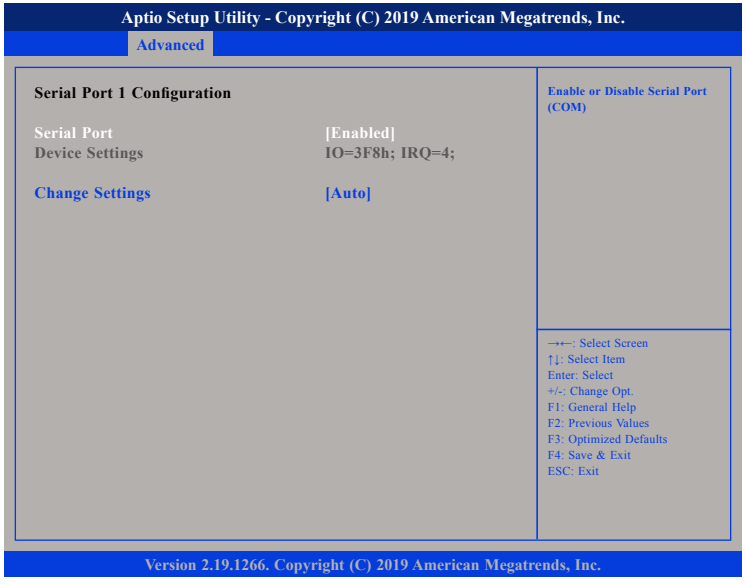
This section is used to configure the serial port of the super IO.

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

Serial Port 1 Configuration
Configures the IO/IRQ settings of serial port 1.

Serial Port 1 Configuration

This section is used to configure serial port 1.



Serial Port

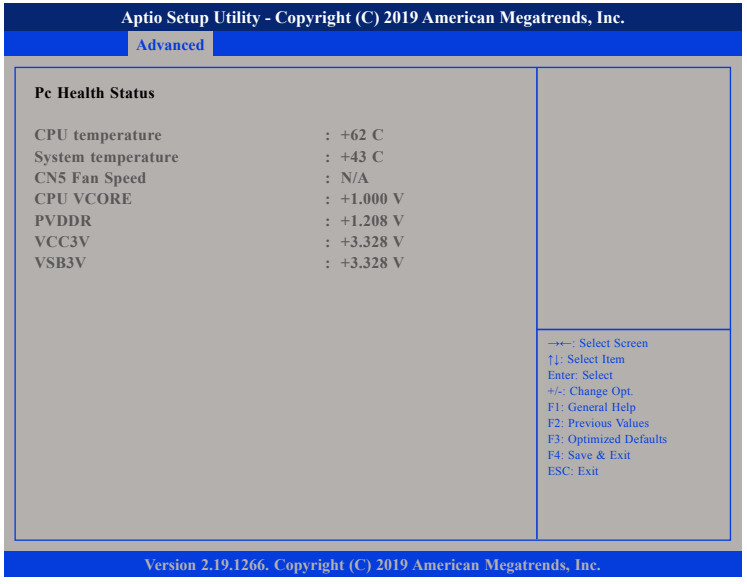
Enables or disables the serial port.

Change Settings

Selects an optimal setting for the Super IO device.

Hardware Monitor

This section is used to monitor hardware status such as temperature, fan speed and voltages.



CPU temperature

Detects and displays the current CPU temperature.

System temperature

Detects and displays the current temperature of the system.

CN5 Fan Speed

Detects and displays the fan speed of CN5.

CPU VCORE to VSB3V

Detects and displays the output voltages.

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

When console redirection is enabled, Console Redirection Settings will be available.

COM0 Console Redirection 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.

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.

Data Bits
The options are 7 and 8.

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 combo key support.

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.

Putty Keypad
Selects the Putty keyboard emulation type.

PCI Subsystem Settings
This section is used to configure the PCI.

PCI Latency Timer
Configures the length of time allowed for the PCI device to control the bus before another takes over.

VGA Palette Snoop
Enables or disables the VGA palette registers snooping.

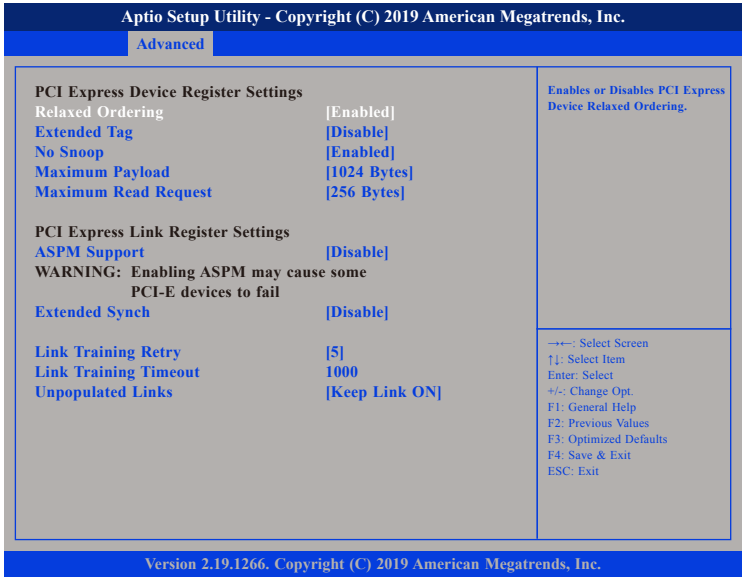
PERR# Generation
Enables or disables the PCI device to generate PERR#.

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

Above 4G Decoding
Enables or disables decoding of 64-bit 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.

Maximum Read Request
Selects the maximum read request size of the PCI Express devices.

ASPM Support
Selects the ASPM level.

Force L0 Forces all links to L0 state.
Auto The BIOS automatically selects an ASPM level.
Disable Disables ASPM.

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

Link Training Retry
Selects the number of retry attempts.

Link Training Timeout
Selects the timeout period of link training in microseconds.

Unpopulated Links
Enables or disables unpopulated PCI Express links.

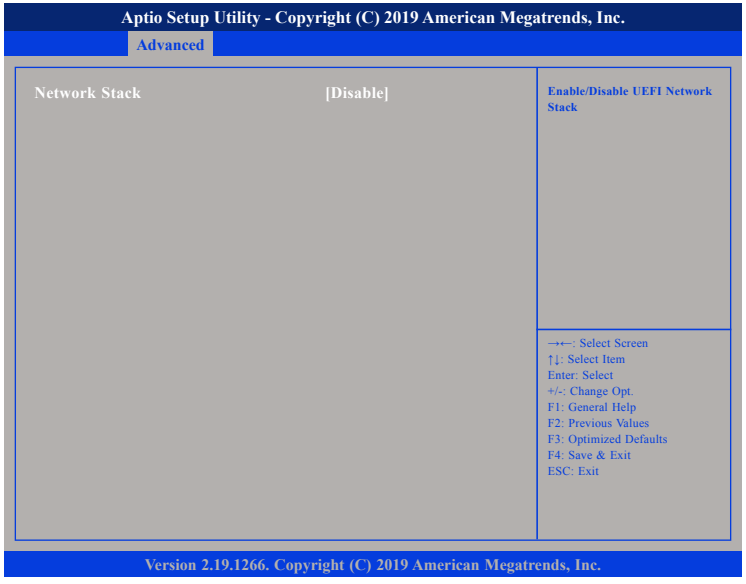
PCI Express GEN 2 Settings

Completion Timeout
Configures the completion timeout value.

Target Link Speed
Configures the PCIe link speed.

Network Stack Configuration

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 of 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.

INT19 Trap Response
Allows Option ROMs to trap Interrupt 19 when enabled.

Immediate	Execute the trap right away.
Postponed	Execute the trap during legacy boot.

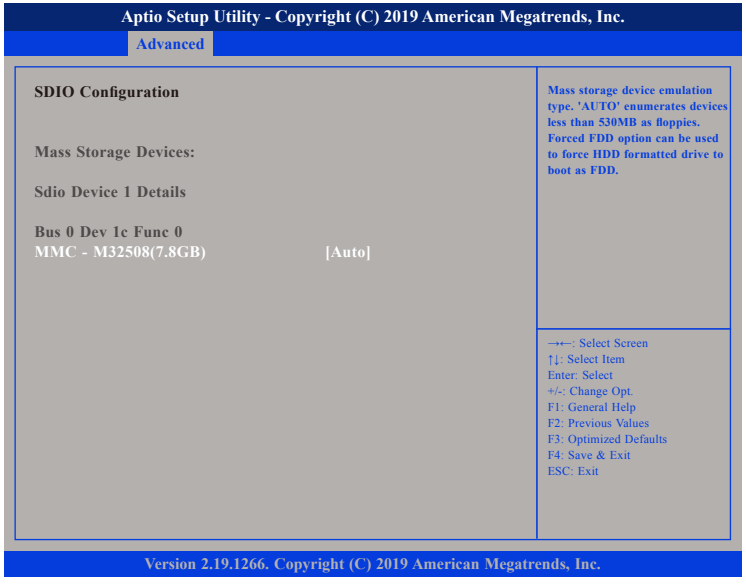
Network
Enables or disables the boot option for legacy network devices.

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.

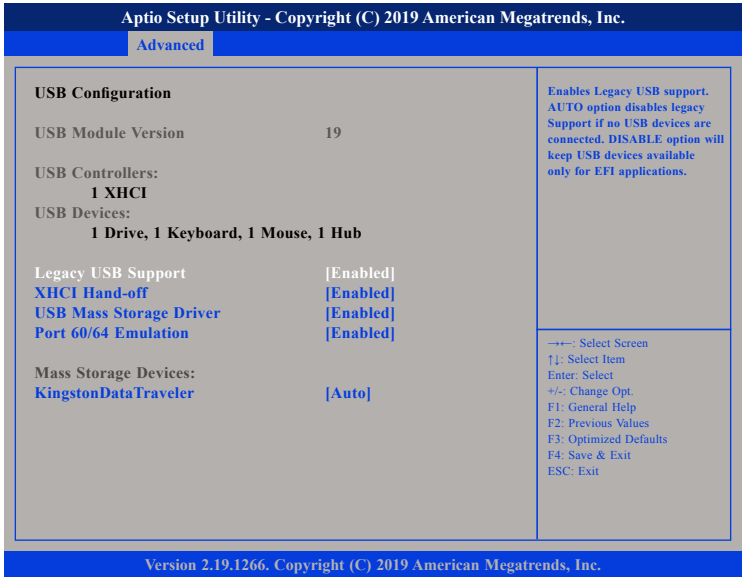
SDIO Configuration



MMC - M32508(7.8GB)
Configures the mass storage device emulation type. 'AUTO' enumerates devices less than 530MB as floppies. Forced FDD option can be used to force HDD formatted drive to boot as FDD.

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 OSes that does not support XHCI hand-off. The XHCI ownership change should be claimed by the XHCI driver.

USB Mass Storage Driver Support

Enables or disables USB mass storage driver support.

Port 60/64 Emulation

Enables the 60h/64h I/O port emulation. You must enable this to fully support USB keyboard legacy for non-USB OSes.

Mass Storage Devices:

Selects the mass storage device emulation type.

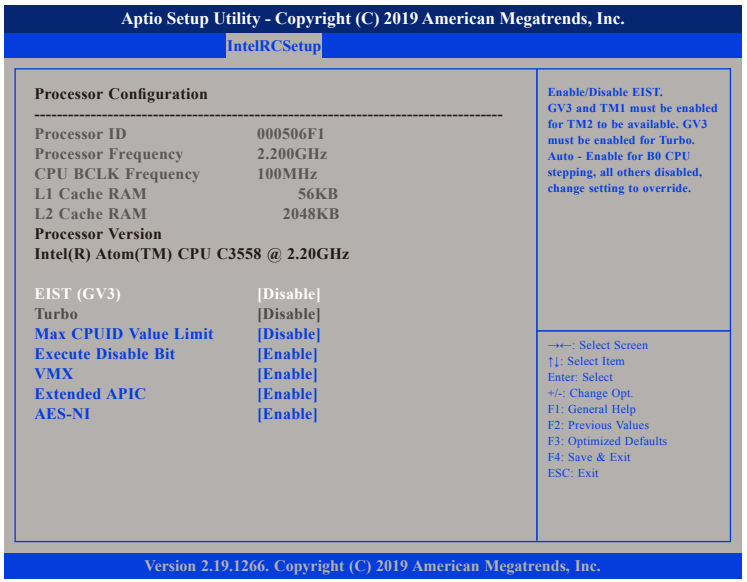
Intel RC Setup

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

Relax Security Config

Enables or disables the security configuration to be able to use BIOS update tools.

Processor Configuration



EIST (GV3)

Enables or disables Intel® SpeedStep. GV3 and TM1 must be enabled for TM2 to be available. GV3 must be enabled for Turbo.

Auto - Enable for B0 CPU stepping, all others will be disabled, change setting to override.

Max CPUID Value Limit

Set this field to Disable when using Windows XP. Set this field to Enable when using legacy operating systems so that the system will boot even when it doesn't support CPUs with extended CPUID function.

Execute Disable Bit
When this field is set to Disable, it will force the XD feature flag to always return to 0.

VMX
When this field is set to Enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

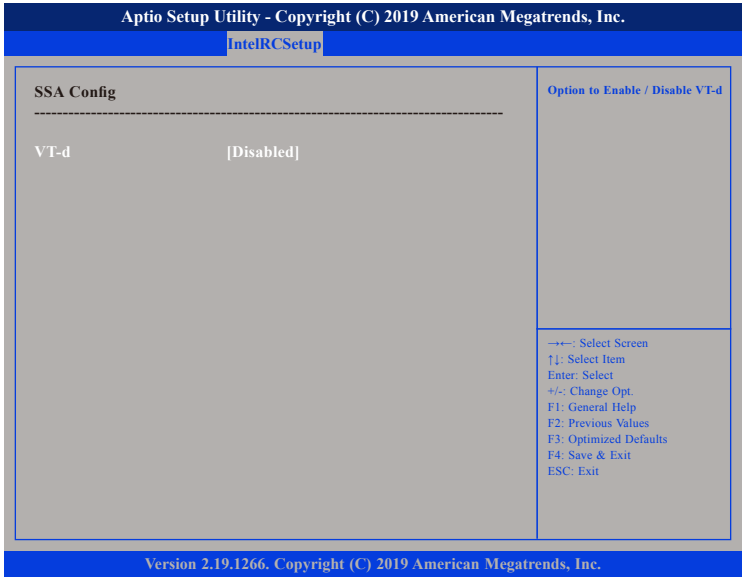
Extended APIC
Enables or disables extended APIC support.

AES-NI
Enables or disables Intel® AES-NI support.

North Bridge Chipset Configuration

Memory Frequency
Configures the DDR memory frequency.

SSA Config

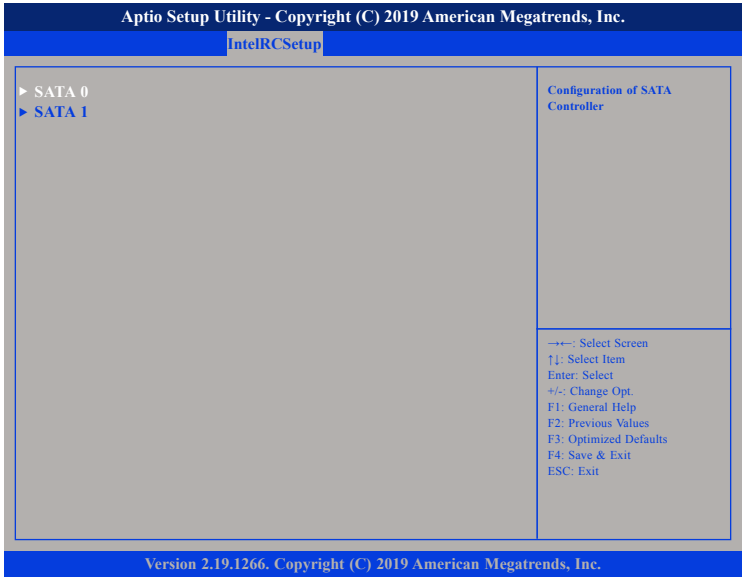


VT-d
Enables or disables Intel® VT-d technology.

South Bridge Chipset Configuration

State After G3
Configures which state to use when power is re-applied after a power failure (G3 state).

SATA Configuration



SATA 0
Enters the sub-menu of SATA 0 configuration.

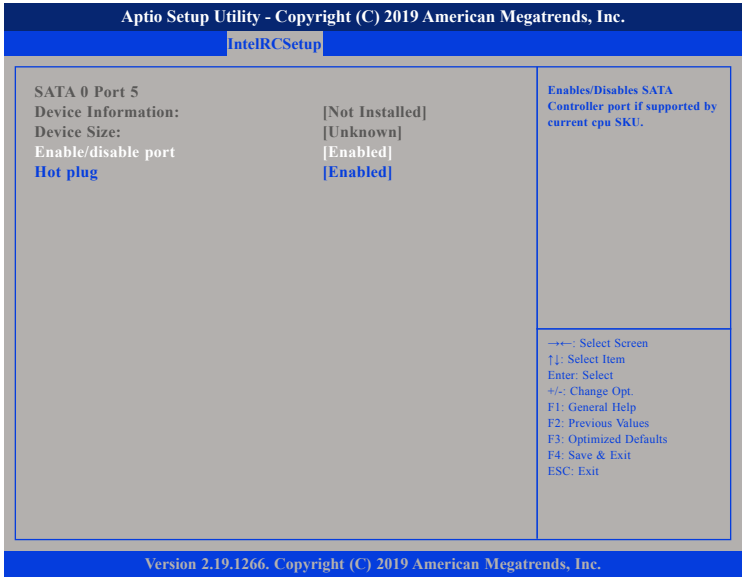
SATA 1
Enters the sub-menu of SATA 1 configuration.

SATA 0

Enable controller
Enables or disables the SATA controller if supported by the current CPU SKU.

Speed limit
Configures the speed limit of the SATA controller.

Port 5



Enable/disable port
Enables or disables the SATA controller port if supported by the current CPU SKU.

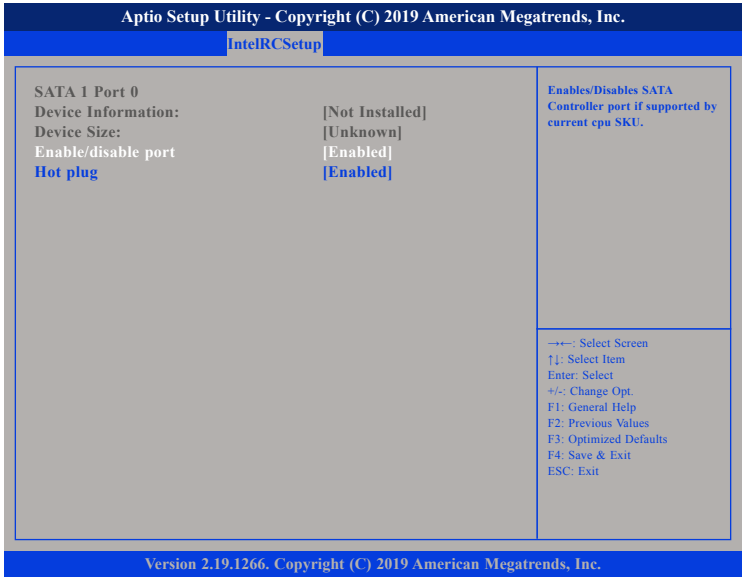
Hot plug
Enables or disables hot plugging feature.

SATA 1

Enable controller
Enables or disables the SATA controller if supported by the current CPU SKU.

Speed limit
Configures the speed limit of the SATA controller.

Port 0



Enable/disable port
Enables or disables the SATA controller port if supported by the current CPU SKU.

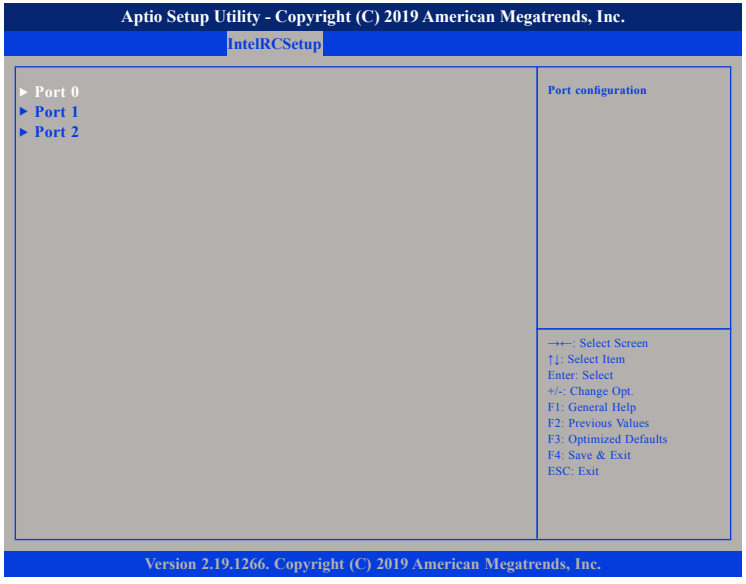
Hot plug
Enables or disables hot plugging feature.

USB Configuration

USB SS Configuration
Enters the sub-menu for USB super speed configuration.

USB HS Configuration
Enters the sub-menu for USB high speed configuration.

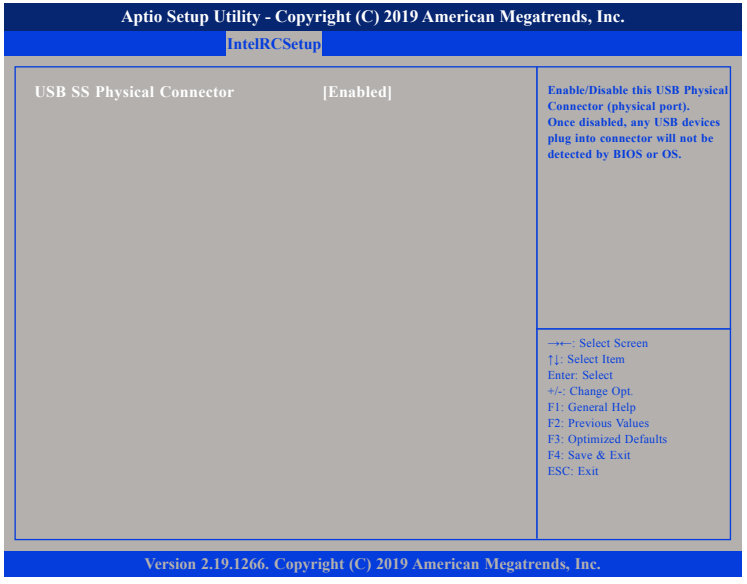
USB SS Configuration



Port 0 to Port 2

Enters the sub-menu for port 0, port 1 and port 2 configuration.

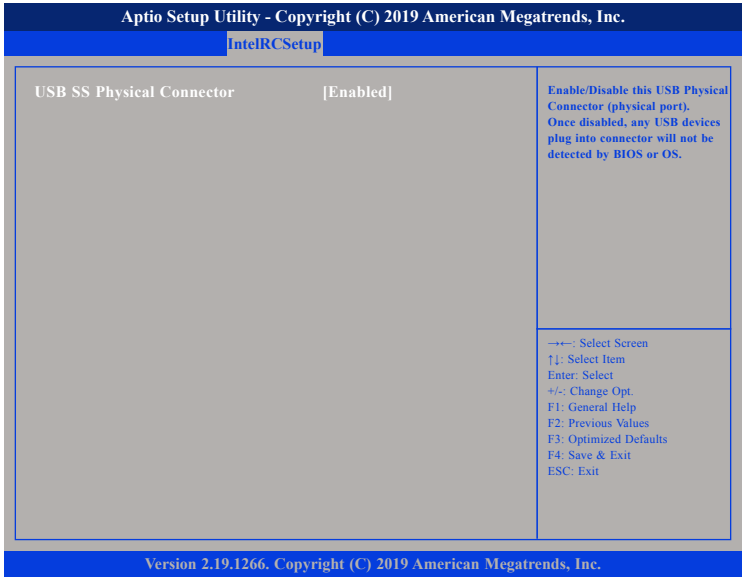
USB SS Port 0



USB SS Physical Connector

Enables or disables the USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

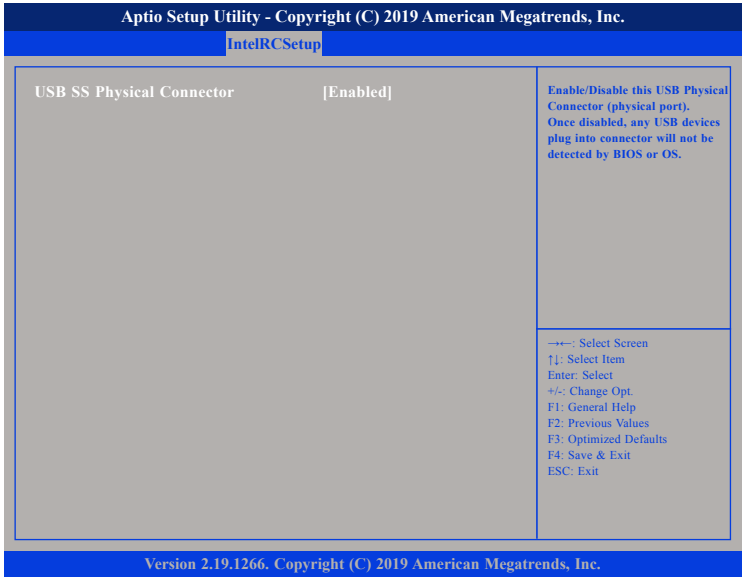
USB SS Port 1



USB SS Physical Connector

Enables or disables the USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

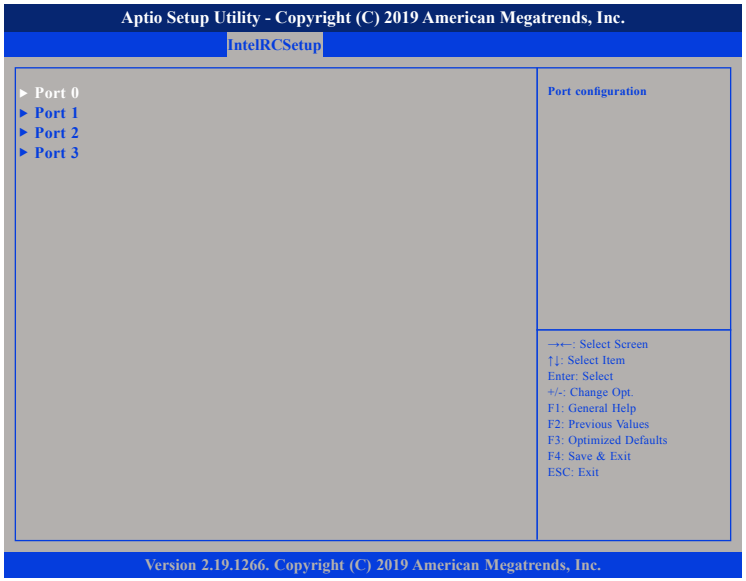
USB SS Port 2



USB SS Physical Connector

Enables or disables the USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

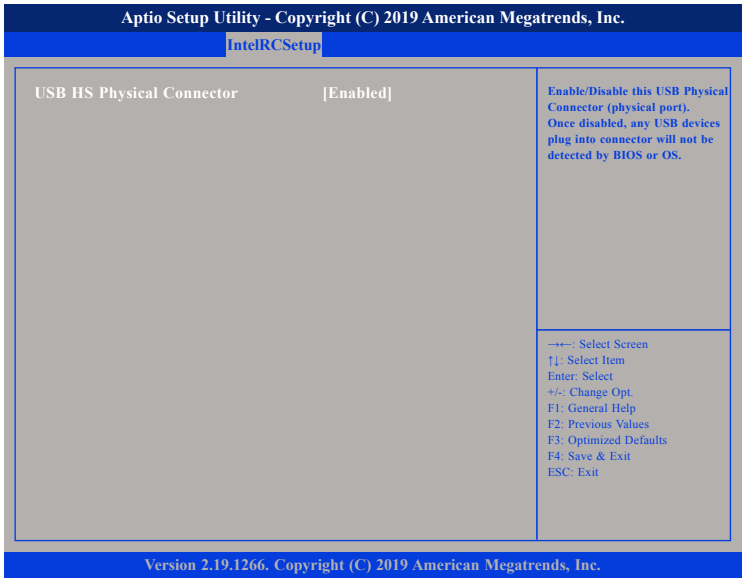
USB HS Configuration



Port 0 to Port 3

Enters the sub-menu for port 0 to port 3 configuration.

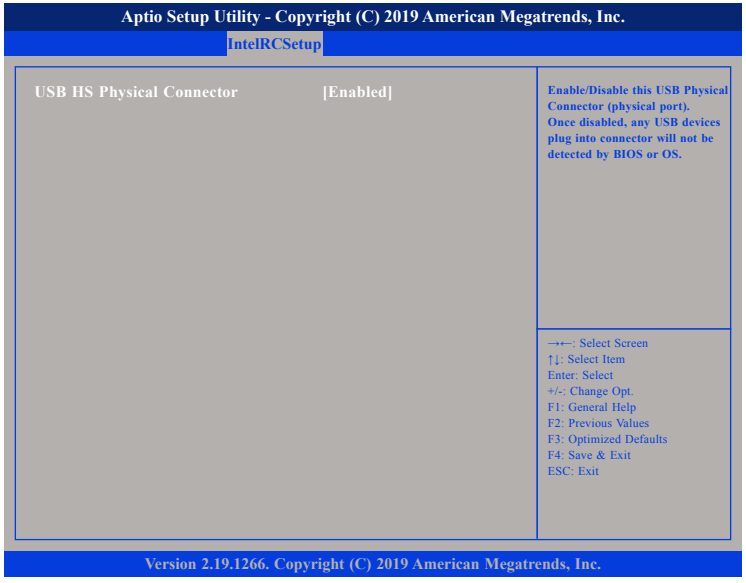
USB HS Port 0



USB HS Physical Connector

Enables or disables the USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

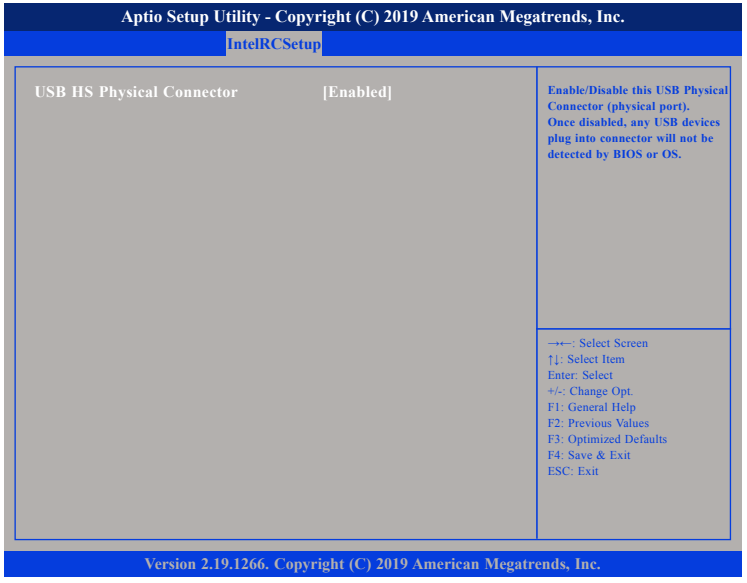
USB HS Port 1



USB HS Physical Connector

Enables or disables the USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

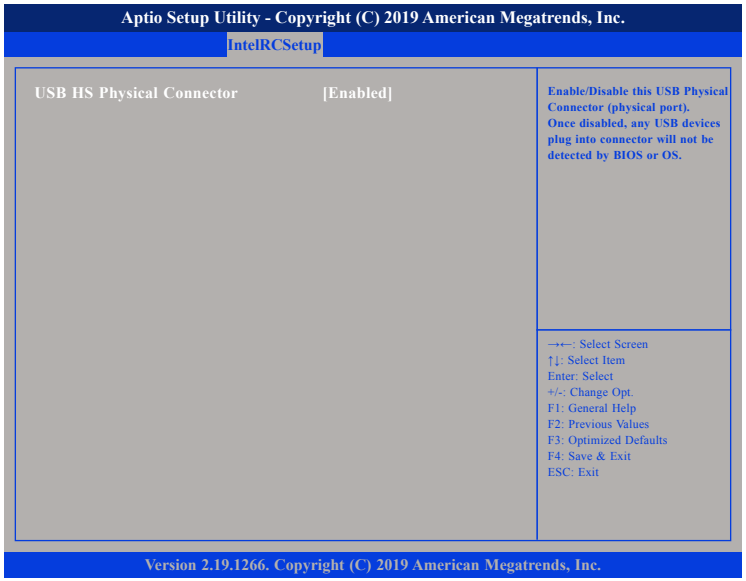
USB HS Port 2



USB HS Physical Connector

Enables or disables the USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

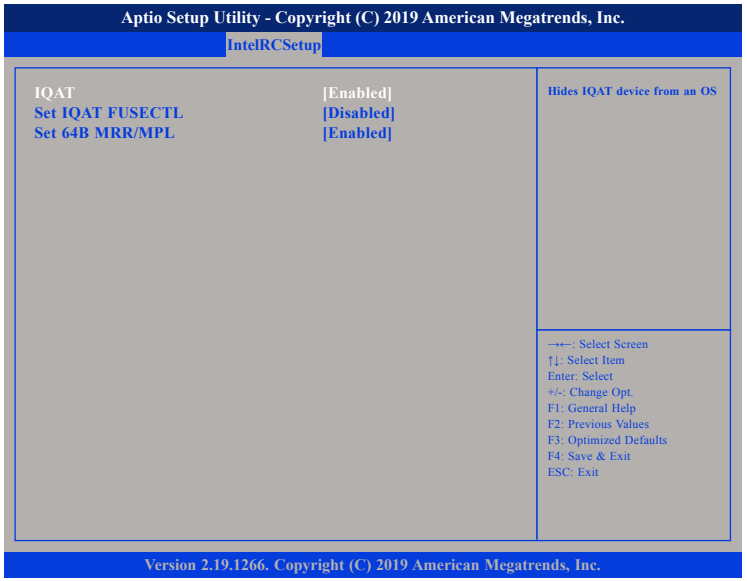
USB HS Port 3



USB HS Physical Connector

Enables or disables the USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

IQAT Configuration



IQAT

Enables or disables hiding of IQAT device from an OS.

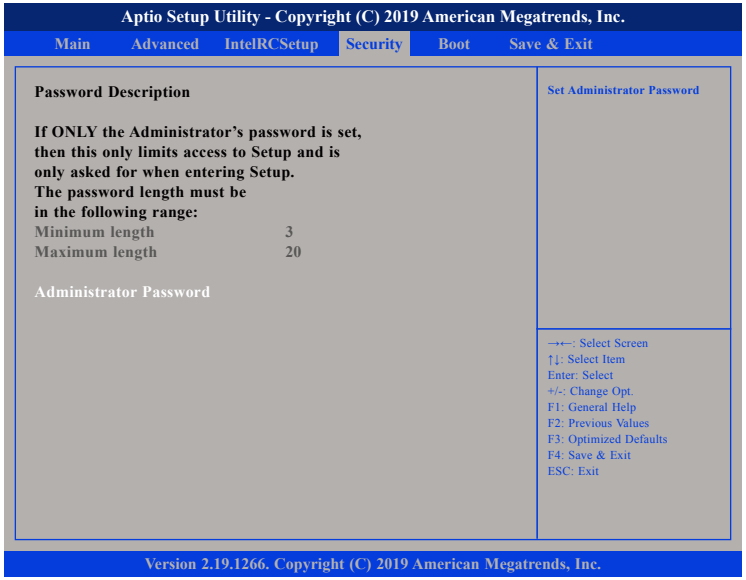
Set IQAT FUSECTL

Enables or disables the configuration of IQAT FUSECTL register.

Set 64B MRR/MPL

Enables or disables the configuration of 64B MRR/MPL in IQAT DevCTL register.

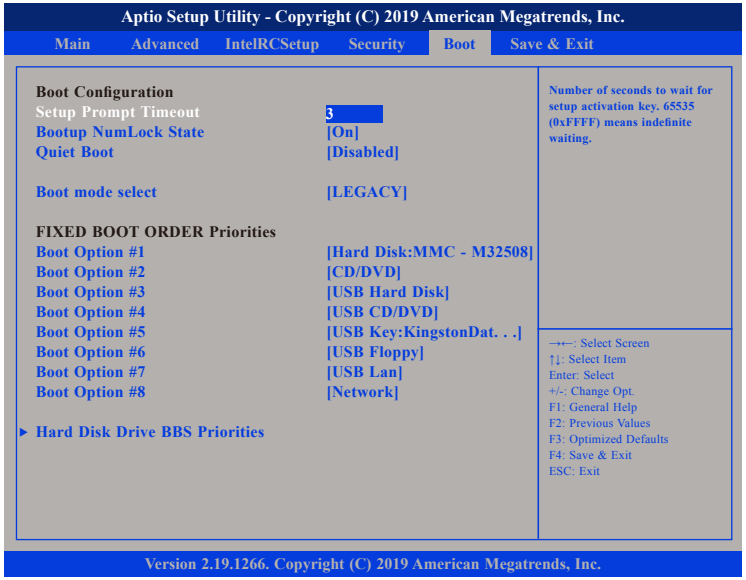
Security



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.

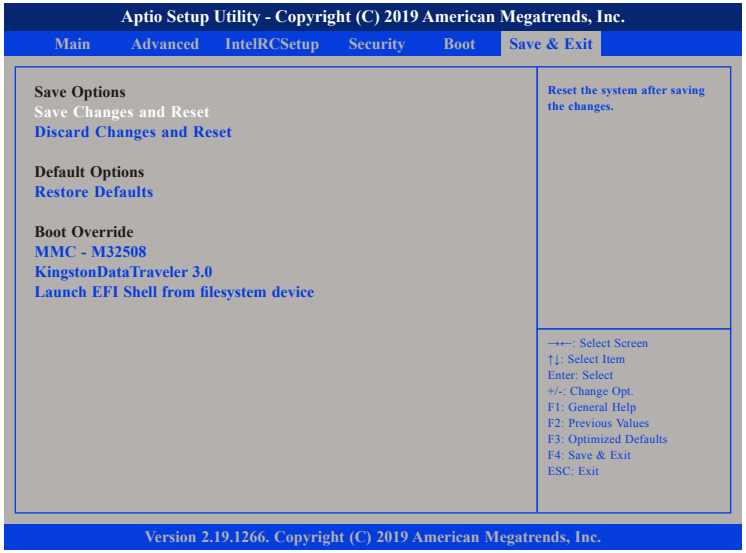
Boot Mode Select

Configures the boot mode option.

Boot Option #1 to Boot Option #8

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 and reset 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>.

Launch EFI Shell from filesystem device
To launch EFI shell from a filesystem device, select this field and press <Enter>.