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PREFACE

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Acknowledgements

NISE 4300 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 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.

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.

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.

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace 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 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 equipment is intended to be supplied by DC mains, it will not tolerate voltage supplied below 24Vdc, and without PE connection.

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

18. 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.

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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 NISE 4300 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Description	Qty
1	60177A0725X00	NISE 4300 Series Quick Reference Guide VER:A	1
2	50311F0326X00	Screw for HDD/SSD (Flat Head Screw Long Fei:F3x5 Nylok Ni+Heat Treatment)	4
3	50311F0294X00	Screw for Mini-PCIe Card (I Head Screw Long Fei:I2x4 Nylok NIGP)	1
4	50311F0530X00	Screw for M.2 Module (I Head Screw Long Fei:I3x6 ISO ISO w/ Spring+Washer NI)	1
5	4NCPM00302X00	Terminal Blocks 3P Phoenix Contact:1777992 5.08mm Male DIP Green	1

Ordering Information

The following information below provides ordering information for NISE 4300.

NISE 4300-6300U System (P/N: 10J00430001X0)
6th generation Intel® Core™ i5-6300U fanless system

NISE 4300-6100U System (P/N: 10J00430000X0)
6th generation Intel® Core™ i3-6100U fanless system

24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120026X00)

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CHAPTER 1: PRODUCT INTRODUCTION

Overview

Front View

Rear View

Key Features

▪ Support 6th generation Intel® Core™ i5/i3 BGA type processor

▪ Support 1 x 2.5" SATA HDD

▪ 2 x DP, and 1 x LVDS (internal) with independent display support

▪ 2 x Intel® GbE LAN ports

▪ 1 x M.2 B Key socket and 1 x mini-PCIe socket

▪ 2 x USB 3.0, 2 x USB 2.0, 2 x RS232, 1 x RS232/422/485 with auto flow control

▪ Support +24VDC input; ATX power mode

▪ Panel PC adaptable (by request)

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Hardware Specifications

CPU Support

- Support 6th generation Intel® Core™ i5/i3 BGA type processor
  - Intel® Core™ i5-6300U, 3M Cache, up to 3.00 GHz
  - Intel® Core™ i3-6100U, 3M Cache, up to 2.3 GHz
- Turbo-boost disabled by default
  (Intel® Core™ i3-6100U does not support turbo boost function)

Main Memory

- 2 x DDR3L 1866 SO-DIMM sockets, support up to 16GB with un-buffered and non-ECC (pre-installation is necessary for users who require more than 8GB memory)

Display Option

- Box PC only, DP1 + DP2, two independent displays
- With panel PC, LVDS + DP1 + DP2, three independent displays (by request)

Front I/O Interface Status LEDs

- 1 x Power LED
- 1 x GPIO programmable LED
- 1 x SATA LED

Front I/O Interface

- 1 x ATX power on/off switch
- 1 x 3-pin 24V DC input
- 2 x Intel® I210-IT GbE LAN
- 1 x Dual USB 2.0 ports (500mA/per port)
- 1 x Dual USB 3.0 ports (900mA/per port)
- 2 x DP1.2
- 2 x RS232 COM port

- 1 x RS232/422/485 COM port
- GPIO

Rear I/O Interface

- 2 x Antenna holes

Storage Device

- 1 x M.2 slot, supports optional 2242 B or B+M key
- 1 x 2.5" HDD or SSD

Expansion Slot

- 1 x Internal mini-PCIe socket, supports optional Wi-Fi and LTE modules

Power Requirements

- AT/ATX power mode (default: ATX power mode)
- Power input: +24V DC
- Power adapter: optional 24V 120W

Dimensions

- With wall mount bracket: 259 mm (W) x 145 mm (D) x 60 mm (H)
- Without wall mount bracket: 238 mm (W) x 145 mm (D) x 54 mm (H)

Construction

- Aluminum and metal chassis with fanless design

Environment

- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - M.2: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection with HDD condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6

Certifications

- CE approval - EN61000-6-2, EN61000-6-4
- FCC Class A

OS Support List

- Windows 10 IoT 64-bit
- Windows 7 Pro 64-bit
- WES7P 64-bit

Weight Information

- Gross weight: 2.3kg
- Net weight: 1.8kg

Knowing Your NISE 4300

Front Panel
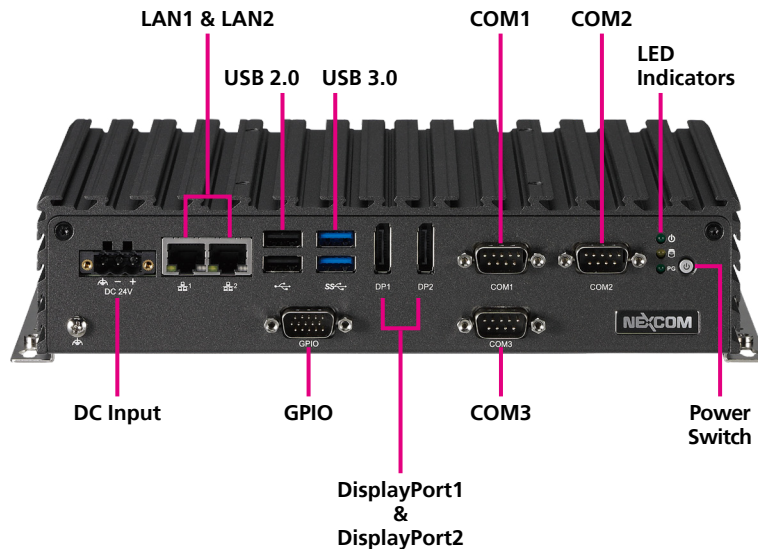
DC Input
Used to plug a DC power cord.

LAN1 and LAN2
Used to connect the system to a local area network.

USB 2.0
USB 2.0 ports to connect the system with USB 2.0/1.1 devices.

USB 3.0
USB 3.0 ports to connect the system with USB 3.0/2.0 devices.

COM1 and COM2
DB9 port used to connect RS232 compatible devices.

COM3
DB9 port used to connect RS232/422/485 compatible devices.

LED Indicators
Two LED indicators for displaying the power status and storage activity of the system, and one LED for programming GPIO.

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

GPIO
The GPIO connector supports 4-channel GPO and 4-channel GPI.

DisplayPort1 and DisplayPort2
Used to connect DisplayPort interface displays.

Rear Panel

Antenna Holes

The external antenna mounting holes are used to mount and connect optional Wi-Fi antennas.

Antenna Holes

Mechanical Dimensions
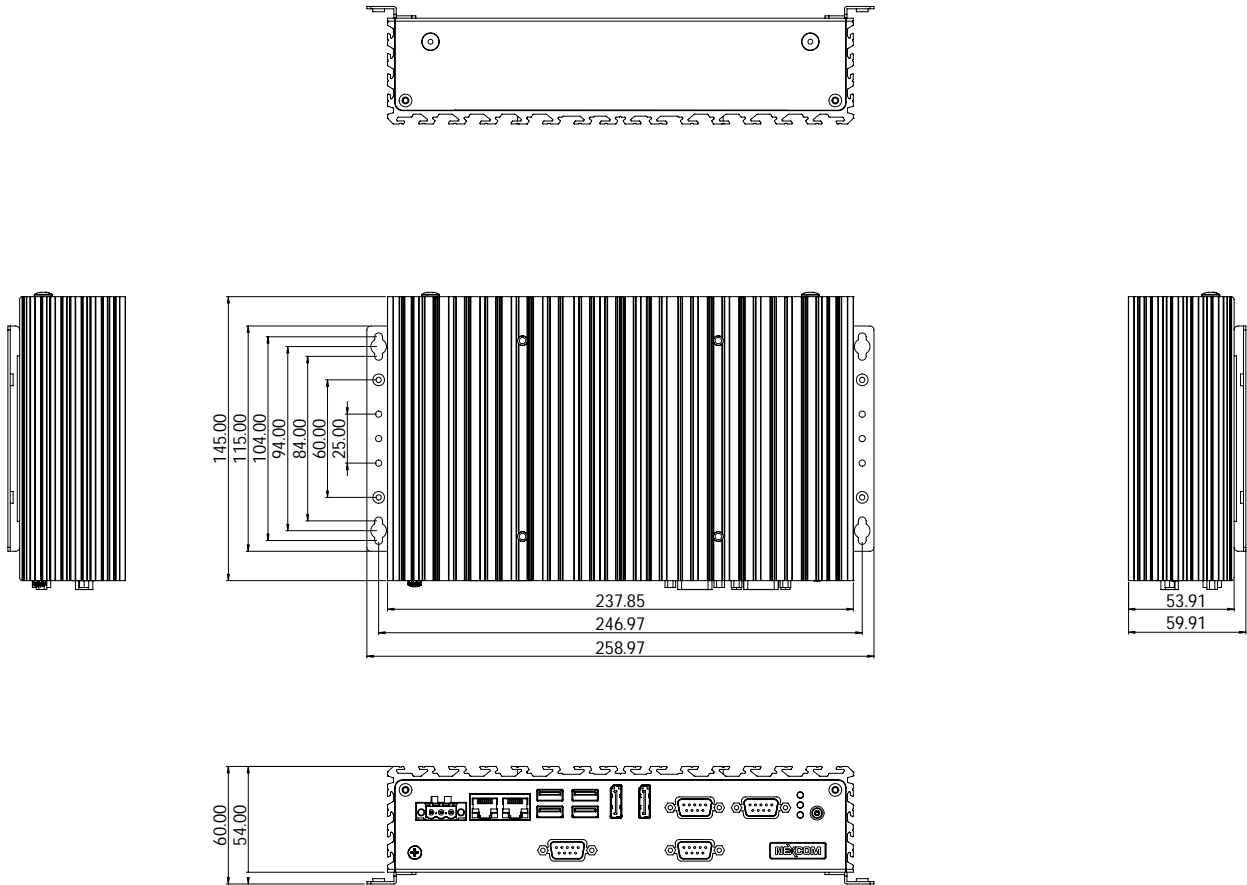
Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers and connectors on the NISE 4300 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)
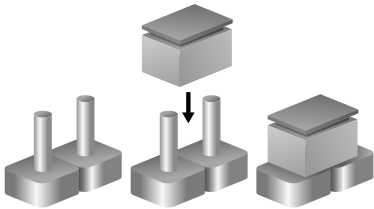
Three-Pin Jumpers: Pins 1 and 2 are Short
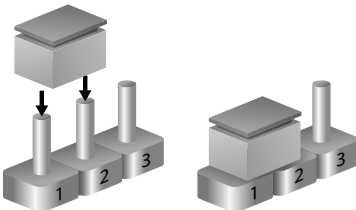
Locations of the Jumpers and Connectors for NISB 4300

NISB 4300

The following figures are the top and bottom view of the NISB 4300 main board which is the main board used in NISE 4300. It shows the locations of the jumpers and connectors.

Top View
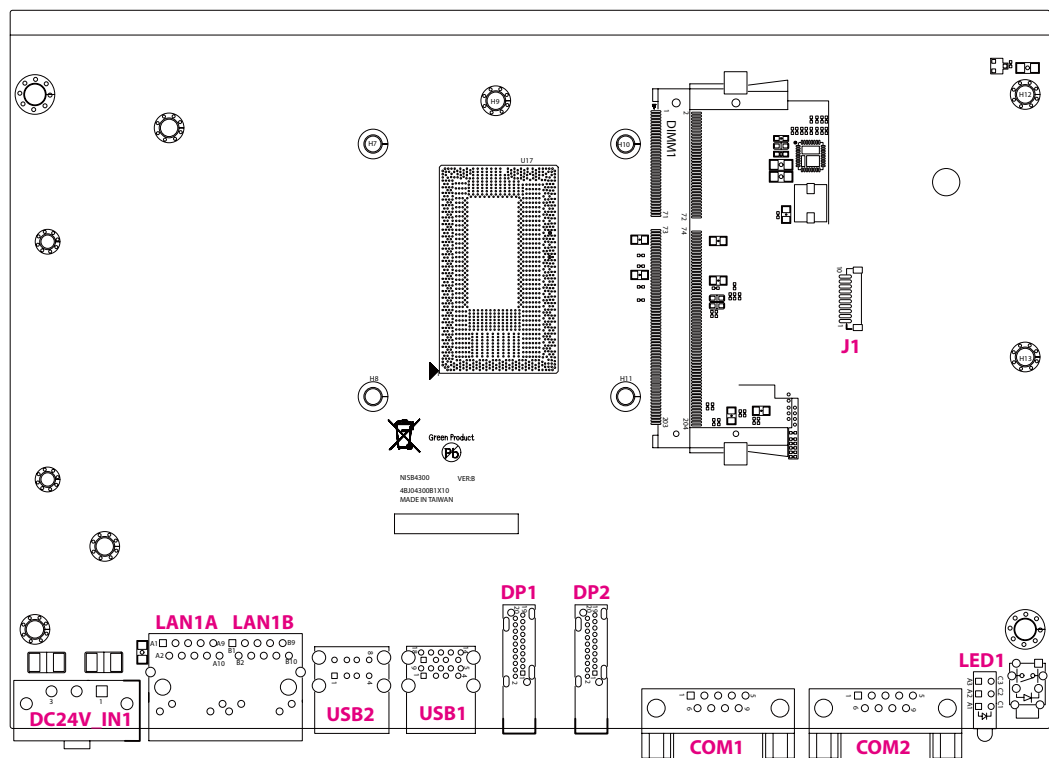
Bottom View
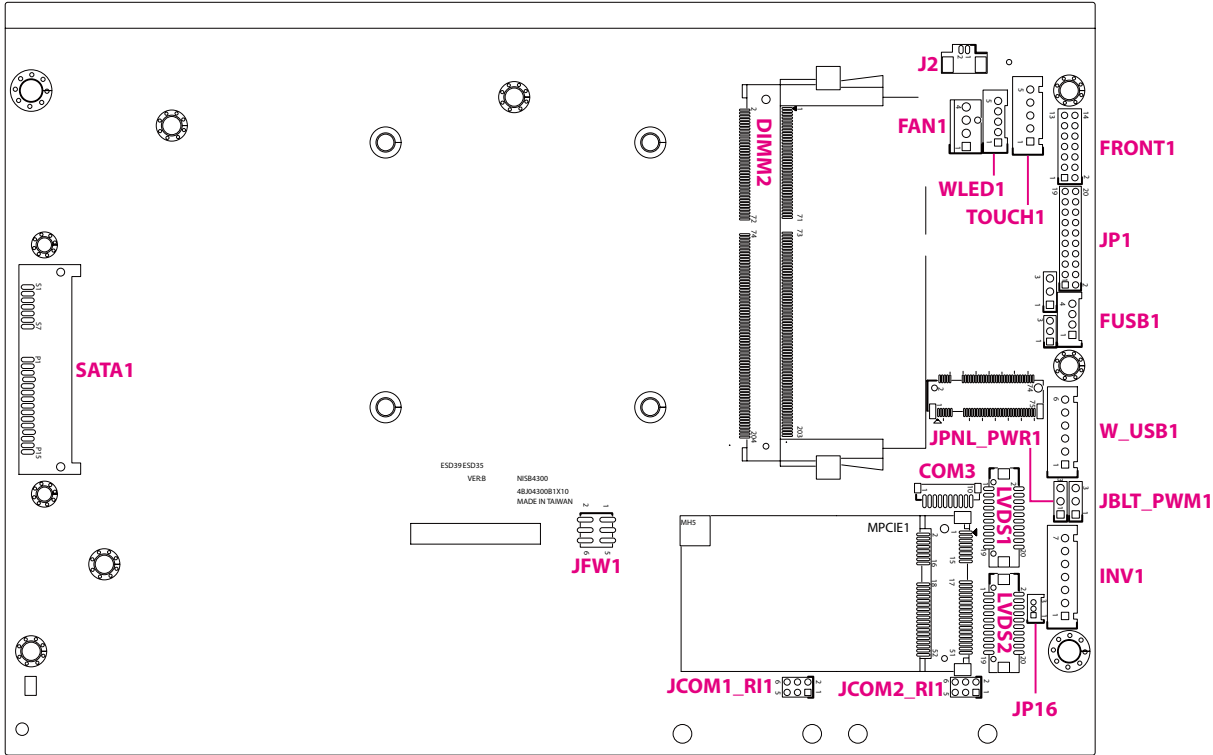
Jumpers

LVDS Panel Power Selection

Connector type: 1x3 3-pin header
Connector location: JPNL_PWR1

1 □ ○ ○ 3

Pin	Settings
1-2 On	+3V3
2-3 On	+5V

Backlight Volume Selection

Connector type: 1x3 3-pin header
Connector location: JBLT_PWM1

1 □ ○ ○ 3

Pin	Settings
1-2 On	+3V3
2-3 On	+5V

COM1 Port Power Setting

Connector type: 2x3 6-pin header
Connector location: JCOM1_RI1
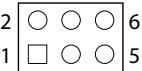
Pin	Settings
1-2 On	+12V
3-4 On	RING
5-6 On	+5V

COM2 Port Power Setting

Connector type: 2x3 6-pin header
Connector location: JCOM2_RI1
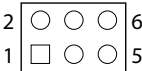
Pin	Settings
1-2 On	+12V
3-4 On	RING
5-6 On	+5V

Connector Pin Definitions

External I/O Interfaces - Front Panel

DC Power Input

Connector type: 3-pin terminal block
Connector location: DC24V_IN1

LAN1 and LAN2 Ports

Connector type: RJ45 port
Connector location: LAN1A and LAN1B
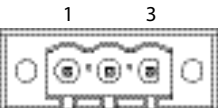
Pin	Definition
1	+24V
2	GND
3	CHASSIS GND
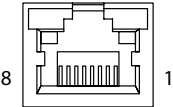
Pin	Definition	Pin	Definition
1	LAN_MDI0P	2	LAN_MDI0N
3	LAN_MDI1P	4	LAN_MDI1N
5	LAN_MDI2P	6	LAN_MDI2N
7	LAN_MDI3P	8	LAN_MDI3N
9	LAN_VCC	10	GND
11	LAN_LINK1G#	12	LAN_LINK100#
13	LAN_ACT#_	14	LAN_ACTPW

USB 2.0 Ports

Connector type: Dual USB 2.0 ports
Connector location: USB2

USB 3.0 Ports

Connector type: Dual USB 3.0 ports
Connector location: USB1
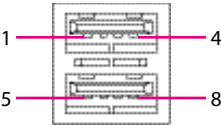
Pin	Definition	Pin	Definition
1	+5V	2	USB2_3N
3	USB2_3P	4	GND
5	+5V	6	USB2_4N
7	USB2_4P	8	GND
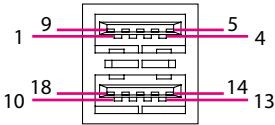
Pin	Definition	Pin	Definition
1	+5V	2	USB2_1N
3	USB2_1P	4	GND
5	USB3_RX1_N	6	USB3_RX1_P
7	GND	8	USB3_TX1_N
9	USB3_TX1_P	10	+5V
11	USB2_2N	12	USB2_2P
13	GND	14	USB3_RX2_N
15	USB3_RX2_P	16	GND
17	USB3_TX2_N	18	USB3_TX2_P

DisplayPort

Connector type: DisplayPort
Connector location: DP1 and DP2

COM1 and COM2 Ports

Connector type: DB-9 port, 9-pin D-Sub
Connector location: COM1 and COM2
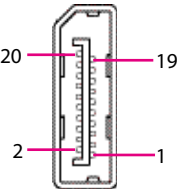
Pin	Definition	Pin	Definition
1	LANE0_P	2	GND
3	LANE0_N	4	LANE1_P
5	GND	6	LANE1_N
7	LANE2_P	8	GND
9	LANE2_N	10	LANE3_P
11	GND	12	LANE3_N
13	CONFIG1	14	CONFIG2
15	AUX_P	16	GND
17	AUX_N	18	HPD
19	DP_RETURN	20	DP_PWR

Pin	Definition	Pin	Definition
1	COM_DCD#	2	COM_RXD
3	COM_TXD	4	COM_DTR#
5	GND	6	COM_DSR#
7	COM_RTS#	8	COM_CTS#
9	RI#		

LED Indicators

Connector location: LED1

Pin	Definition
C1	GPIO LED (Green) (Customer Defined)
C2	SATA LED (Yellow)
C3	POWER LED (Green)

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Internal Connectors

Debug Connector

Connector type: 1x10 10-pin header
Connector location: J1

LED Connector

Connector type: 1x5 5-pin header
Connector location: WLED1

Pin	Definition	Pin	Definition
1	GND	2	LPC_PLTRST#
3	LPC_CLK	4	LPC_LFRAME#
5	LPC_LAD3	6	LPC_LAD2
7	LPC_LAD1	8	LPC_LAD0
9	LPC_SERIRQ	10	VCC3
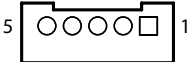
Pin	Definition	Pin	Definition
1	HDD_LED-	2	HDD_LED+
3	GND	4	STBY_LED+
5	POWER_LED+		

LVDS Connector

Connector type: 2x10 20-pin header
Connector location: LVDS1
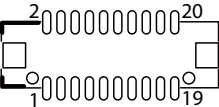
Pin	Definition	Pin	Definition
1	CH7511_GPIO0	2	CH7511_GPIO1
3	+VCC_LCD	4	LVDSA_LDC0P
5	LVDSA_LDC3P	6	LVDSA_LDC0N
7	LVDSA_LDC3N	8	+VCC_LCD
9	GND	10	LVDSA_LDC1P
11	LVDSA_LL1CP	12	LVDSA_LDC1N
13	LVDSA_LL1CN	14	GND
15	GND	16	+V_INV
17	LVDSA_LDC2P	18	+V_INV
19	LVDSA_LDC2N	20	LVDS_DISABLE#

LVDS Connector

Connector type: 2x10 20-pin header
Connector location: LVDS2
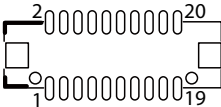
Pin	Definition	Pin	Definition
1	CH7511_GPIO2	2	CH7511_GPIO3
3	+VCC_LCD	4	LVDSB_LDC4P
5	LVDSB_LDC7P	6	LVDSB_LDC4N
7	LVDSB_LDC7N	8	+VCC_LCD
9	GND	10	LVDSB_LDC5P
11	LVDSB_LL2CP	12	LVDSB_LDC5N
13	LVDSB_LL2CN	14	GND
15	GND	16	+V_INV
17	LVDSB_LDC6P	18	+V_INV
19	LVDSB_LDC6P	20	GND

LVDS Inverter Connector

Connector type: 1x7 7-pin header
Connector location: INV1
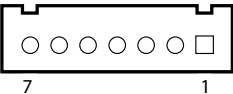
Pin	Definition	Pin	Definition
1	+5V	2	+12V
3	+12V	4	BKCTRL
5	GND	6	GND
7	BKLEN		

Front Panel Connector

Connector type: 2x7 14-pin header
Connector location: FRONT1
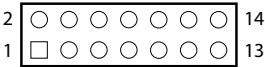
Pin	Definition	Pin	Definition
1	PWR_LED#	2	PWR_LED
3	HDD_LED#	4	HDD_LED
5	MAIN_SMBCLK	6	MAIN_SMBDATA
7	3VSB	8	GND
9	SLP_S3#	10	PS_ON
11	PWR_BTN#	12	GND
13	RST _BTN#	14	GND

Internal USB 2.0 Connector

Connector type: 1x6 6-pin header
Connector location: W_USB1
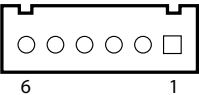
Pin	Definition	Pin	Definition
1	+5V	2	USB_8N_C
3	USB_8P_C	4	
5		6	GND

Touch Screen Connector

Connector type: 1x5 5-pin header
Connector location: TOUCH1
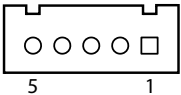
Pin	Definition	Pin	Definition
1	TOUCH_YD	2	TOUCH_XR
3	SENSE	4	TOUCH_YU
5	TOUCH_XL		

Front USB

Connector type: 1x4 4-pin header
Connector location: FUSB1

4 | □○○○□ | 1

GPIO Connector

Connector type: 2x10 20-pin header
Connector location: JP1

Internal Connector

2 | ○○○○○○○○○○ | 20
1 | □○○○○○○○○○ | 19

External Connector

1 3 5 7 9

20 4 6 8 10

Pin	Definition	Pin	Definition
1	+5V	2	USB2N7_L
3	USB2P7_L	4	GND
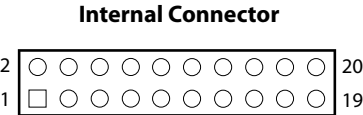
Pin	Definition	Pin	Definition
1	+5V	2	+5V
3	GPO_0	4	GPI_0
5	GPO_1	6	GPI_1
7	GPO_2	8	GPI_2
9	GPO_3	10	GPI_3
11	GPO_4	12	GPI_4
13	GPO_5	14	GPI_5
15	GPO_6	16	GPI_6
17	GPO_7	18	GPI_7
19	GND	20	GND
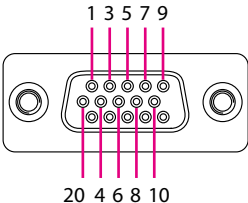
COM3 Connector (RS232/422/485)

Connector type: 1x10 10-pin header
Connector location: COM3

Internal Connector

External Connector
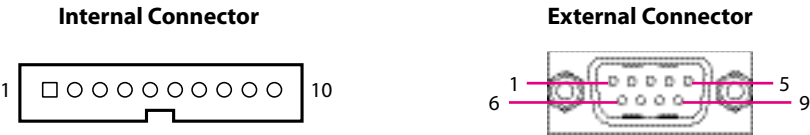
Internal Connector

RS232		RS422		RS485	
Pin	**Definition**	**Pin**	**Definition**	**Pin**	**Definition**
1	DCD#	1	TX-	1	RTX-
2	RXD	2	TX+	2	RTX+
3	TXD	3	RX+	3	
4	DTR#	4	RX-	4	
5	GND	5	GND	5	GND
6	DSR#	6		6	
7	RTS#	7		7	
8	CTS#	8		8	
9	RI#	9		9	

External Connector

Pin	Definition	Pin	Definition
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	GND

SATA Connector (7-pin and 15-pin)

Connector type: Standard Serial ATA 7P and 15P
Connector location: SATA1

Battery Connector

Connector type: 1x2 2-pin header
Connector location: J2
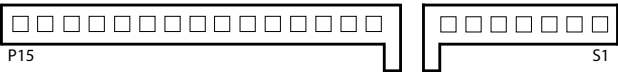
Pin	Definition	Pin	Definition
S1	GND	S2	SATA1_TXP
S3	SATA1_TXN	S4	GND
S5	SATA1_RXN	S6	SATA1_RXP
S7	GND		
P1	VCC3	P2	VCC3
P3	VCC3	P4	GND
P5	GND	P6	GND
P7	VCC5	P8	VCC5
P9	VCC5	P10	GND
P11	VCC5	P12	GND
P13	VCC12	P14	VCC12
P15	VCC12		
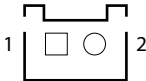
Pin	Definition
1	GND
2	+3V

EC Debug

Connector type: 1x3 3-pin header
Connector location: JP16

Pin	Definition
1	GPIO LED (Green) (Customer Defined)
2	SATA LED (Yellow)
3	POWER LED (Green)

Fan Connector

Connector type: 1x4 4-pin header
Connector location: FAN1
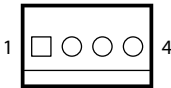
Pin	Definition
1	GND
2	VCC12
3	FAN1TACH
4	FAN1PWM

BIOS FW

Connector type: 2x3 6-pin header
Connector location: JFW1

```
2 | ○ ○ ○ | 6
1 | □ ○ ○ | 5
```
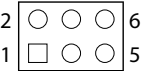
Pin	Definition	Pin	Definition
1	3VSB	2	GND
3	BIOS_CS#	4	BIOS_CLK
5	BIOS_SO	6	BIOS_SI

CHAPTER 3: SYSTEM SETUP

Removing the Chassis Bottom Cover

CAUTION! Prior to removing the chassis bottom 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 six mounting screws from the bottom cover.
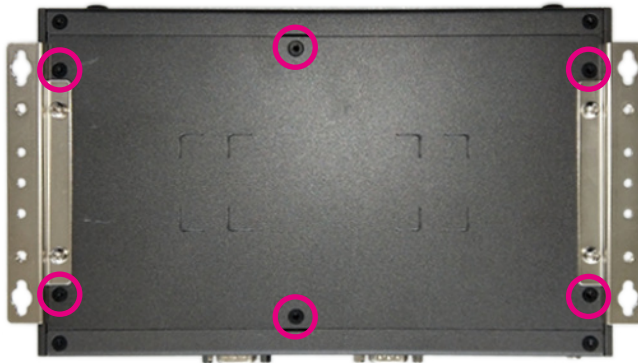
2. With the screws removed, lift up the cover and remove it from the chassis.

Installing a SO-DIMM Memory Module

Remove the bottom cover before installing a SO-DIMM.

1. Locate the SO-DIMM socket.

SO-DIMM Socket

2. Insert the module into the socket at an approximately 30-degree angle. The ejector tabs at the ends of the socket will automatically snap into the locked position to hold the module in place.

Memory Module

27 NISE 4300 User Manual
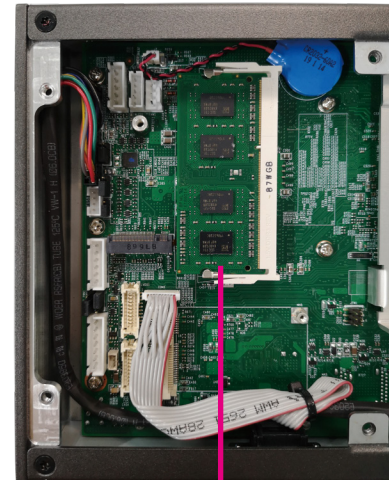
Installing an M.2 Storage Module

1. Locate the M.2 B key slot on the board.
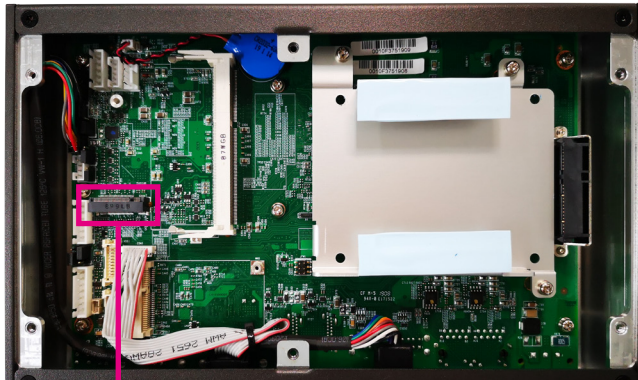
M.2 B Key Slot

2. Insert the M.2 module into the M.2 slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears into the slot.
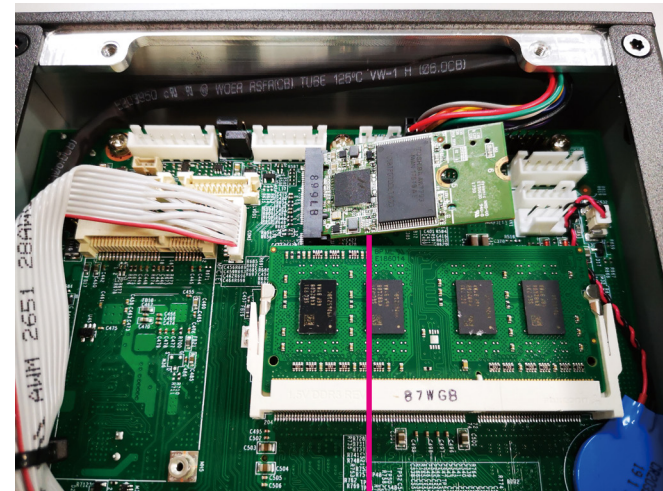
M.2 Module

3. Push the module down and secure it with a screw.

Installing a Mini-PCIe Storage/Wi-Fi/LTE Module

1. Locate the mini-PCIe slot on the board.

Mini-PCIe Slot

2. Insert the mini-PCIe module into the mini-PCIe slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears inside the slot.
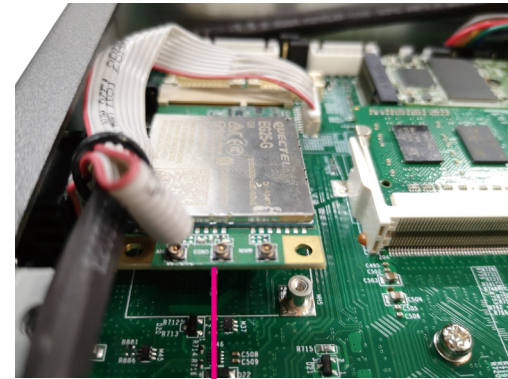
Mini-PCIe Module

3. Push the module down and then secure it with a mounting screw.

Installing a Storage Drive

1. With the bottom side of the chassis facing up, unscrew the six mounting screws from the bottom cover.

2. With the screws removed, lift up the cover and remove it from the chassis.
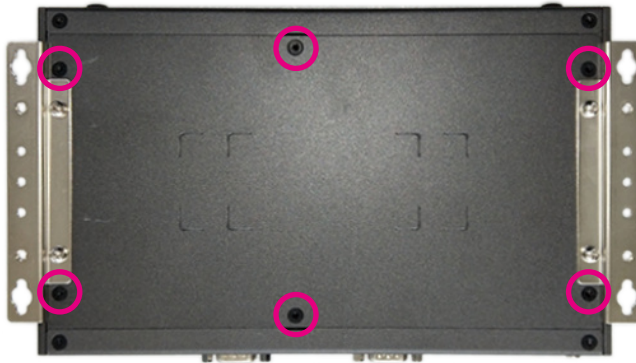
3. Unscrew the three screws securing the storage bracket, then remove the bracket.

4. Before installing the storage drive and storage bracket, please take note of the orientation of the SATA connector.
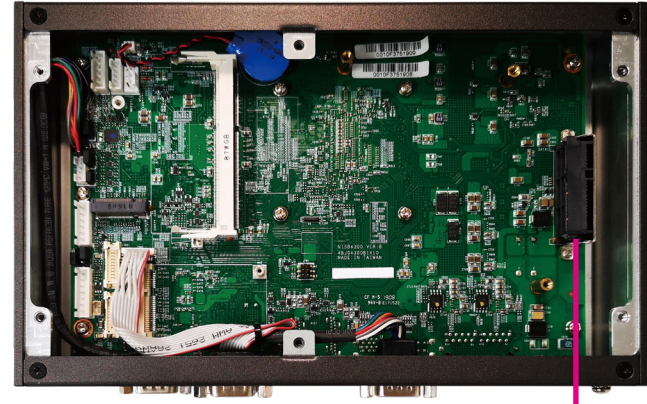
SATA Connector
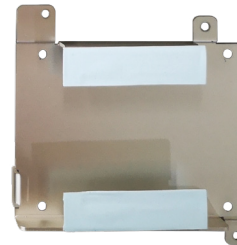
SSD Gold-Plated Connector

5. Place the storage drive onto the bracket, and align the mounting holes on the storage drive with the mounting holes on the storage bracket.

6. While supporting the storage drive, turn the bracket to the other side. From the outside of the storage bracket, secure the drive in place with screws.
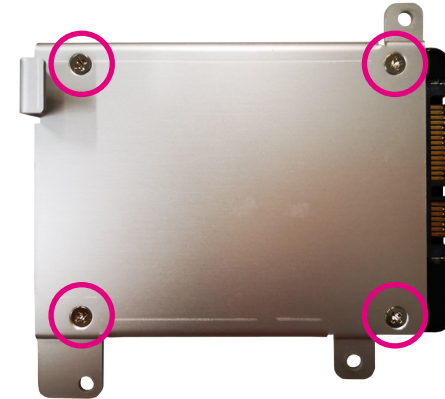
7. Plug the SSD gold-plated connector to the SATA connector, and secure the bracket with the three screws removed earlier.
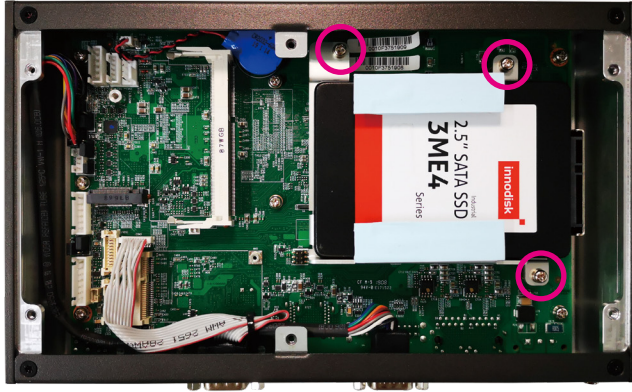
8. Secure the bottom cover to the chassis with the six screws.
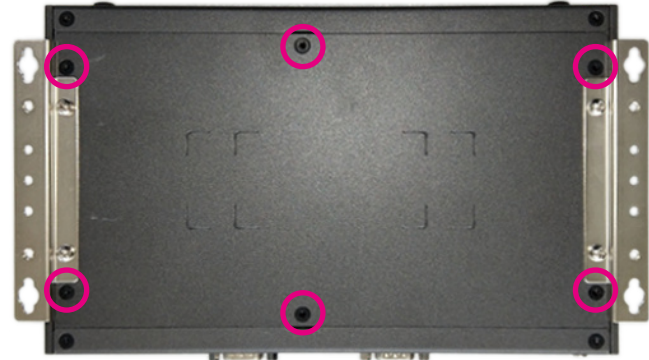
Note: If the system memory requirements are greater than 8GB, the memory will need to be pre-installed during factory assembly.

Wall Mounting Instructions

To mount the system on to a wall or some other surface using the two mounting brackets, please follow the steps below.

1. Turn the system over. Align the two retention screw holes in each bracket with the retention screw holes on the sides of the bottom surface.

2. Secure the brackets to the system by inserting two retention screws into each bracket.

3. Drill holes in the intended installation surface.

4. Align the mounting holes on the sides of the mounting brackets with the predrilled holes on the mounting surface.

5. Insert four retention screws, two in each bracket, to secure the system to the wall.

Wall Mount Bracket

Fasten screws to mount the system to the wall

Specification of the wall mount screw:
Four Round Head Screw Long Fei:P6#32Tx 1/4/SW7*0.8
w/Spring+Flat Washer

CHAPTER 4: BIOS SETUP

This chapter describes how to use the BIOS setup program for NISE 4300. 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
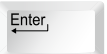
When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- 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 <Del> allows you to enter Setup.

Press the Del key to enter Setup:

Legends

Key	Function
← →	Moves the highlight left or right to select a menu.
↑ ↓	Moves the highlight up or down between sub-menus or fields.
Esc	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.
Tab	Selects a field.
F1	Displays General Help.
F2	Load previous values.
F3	Load optimized default values.
F4	Saves and exits the Setup program.
Enter	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 ⏎ Enter .

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.

```
          Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
    Main    Advanced    Chipset    Security    Boot    Save & Exit

   BIOS Information                                        Choose the system default
   BIOS Vendor             American Megatrends             language
   Core Version            5.12
   Compliancy              UEFI 2.7; PI 1.6
   Project Version         N430A 0.10 x64
   Build Date and Time     09/12/2019 09:51:38
   EC Version              T 00 7
   Access Level            Administrator

   Board Information
   Board ID                Basicline BL2 3100 /
                           7100 / 9100

   Processor Information
   Name                    Skylake ULT
   Type                    Intel(R) Core(TM)
                           i7-6600U CPU @ 2.60GHz       →←: Select Screen
   Speed                   2800 MHz                     ↑↓: Select Item
   ID                      0x406E3                      Enter: Select
   Stepping                D0/K0                        +/-: Change Opt.
   Number of Processors    2Core(s) / 4Thread(s)        F1: General Help
   Microcode Revision      C6                           F2: Previous Values
   GT Info                 GT2 (0x1916)                 F3: Optimized Defaults
                                                        F4: Save & Exit
   Memory RC Version       2.0.0.6                      ESC: Exit
   Total Memory             2048 MB

          Version 2.20.1271. Copyright (C) 2019 American Megatrends, Inc.
```

System Language
Selects the language of the system.

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.

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.

```
            Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
   Main      Advanced    Chipset    Security    Boot     Save & Exit

 ▶ CPU Configuration                              CPU Configuration Parameters
 ▶ Power & Performance
 ▶ F81216SEC Super IO Configuration
 ▶ IT8528 H/W Monitor
 ▶ Network Stack Configuration
 ▶ CSM Configuration
 ▶ USB Configuration




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


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```

CPU Configuration

This section is used to configure the CPU.

```
            Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
            Advanced

   CPU Configuration                                   When enabled, a VMM can
                                                       utilize the additional
   Type                       Intel(R) Core(TM)        hardware capabilities provided
                              i7-6600U CPU @ 2.60GHz   by Vanderpool Technology.
   ID                         0x406E3
   Speed                      2800 MHz
   L1 Data Cache              32 KB x 2
   L1 Instruction Cache       32 KB x 2
   L2 Cache                   256 KB x 2
   L3 Cache                   4  MB
   L4 Cache                   N/A
   VMX                        Supported
   SMX/TXT                    Supported
                                                       →←: Select Screen
   Intel (VMX) Virtualization  [Enabled]               ↑↓: Select Item
   Technology                                          Enter: Select
   Active Processor Cores     [All]                    +/-: Change Opt.
   Hyper-Threading            [Enabled]                F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit


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```

Intel® (VMX) Virtualization Technology
Enables or disables Intel Virtualization technology.

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

Hyper-Threading
Enables or disables hyper-threading technology.

Power & Performance

This section is used to configure the CPU power management features.

```
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   Advanced

   Power & Performance                              CPU - Power Management
                                                    Control Options
 ▶ CPU - Power Management Control




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


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```

CPU - Power Management Control
Enters the CPU - Power Management Control submenu.

CPU - Power Management Control

```
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   Advanced

   CPU - Power Management Control                   Allows more than two frequency
                                                    ranges to be supported.
   Intel(R) SpeedStep(tm)          [Disabled]
   C states                        [Disabled]




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


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```

Intel® SpeedStep™
Enables or disables Intel SpeedStep technology.

C states
Enables or disables CPU C states support for power saving.

F81216SEC Super IO Configuration

This section is used to configure the serial ports.

```
              Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
   Advanced

   F81216SEC Super IO Configuration                          Set Parameters of Serial Port
                                                             1 (COMA)
   Super IO Chip                    F81216SEC
 ▶ Serial Port 1 Configuration
 ▶ Serial Port 2 Configuration
 ▶ Serial Port 3 Configuration




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


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```

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

Serial Port 1 Configuration

This section is used to configure serial port 1.

```
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   Advanced

   Serial Port 1 Configuration                               Enable or Disable Serial Port
                                                             (COM)
   Serial Port                      [Enabled]
   Device Settings                  IO=3F8h; IRQ=4;




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


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```
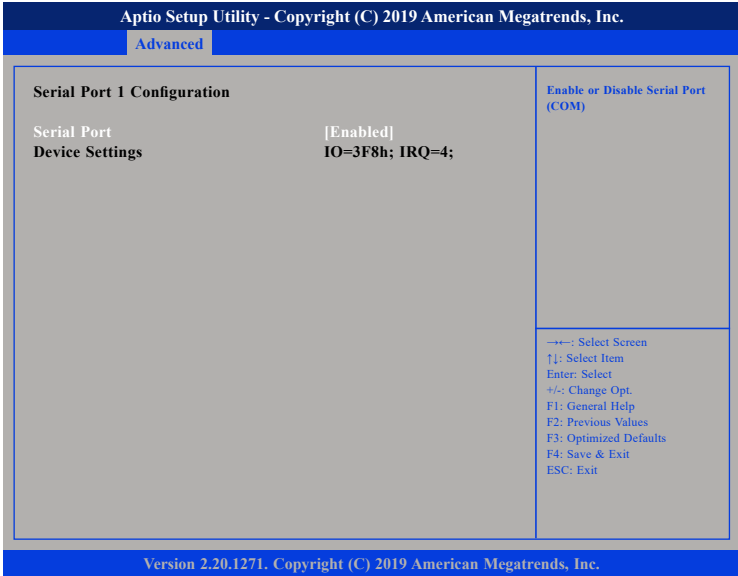
Serial Port
Enables or disables the serial port.

Serial Port 2 Configuration

This section is used to configure serial port 2.

```
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  Advanced

Serial Port 2 Configuration                          Enable or Disable Serial Port
                                                     (COM)
Serial Port                       [Enabled]
Device Settings                   IO=2F8h; IRQ=3;




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


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```

Serial Port
Enables or disables the serial port.

Serial Port 3 Configuration

This section is used to configure serial port 3.

```
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  Advanced

Serial Port 3 Configuration                          Enable or Disable Serial Port
                                                     (COM)
Serial Port                       [Enabled]
Device Settings                   IO=3E8h; IRQ=11;

Onboard Serial Port Mode          [RS232]
Terminal resistor                 [Enabled]


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


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```

Serial Port
Enables or disables the serial port.

Onboard Serial Port Mode
Configures the serial port mode to RS232, RS422, RS485 or RS485 Auto.

Terminal resistor
Enables or disables the terminal resistor

IT8528 H/W Monitor

This section is used to monitor hardware status such as temperature, fan speed and voltages.
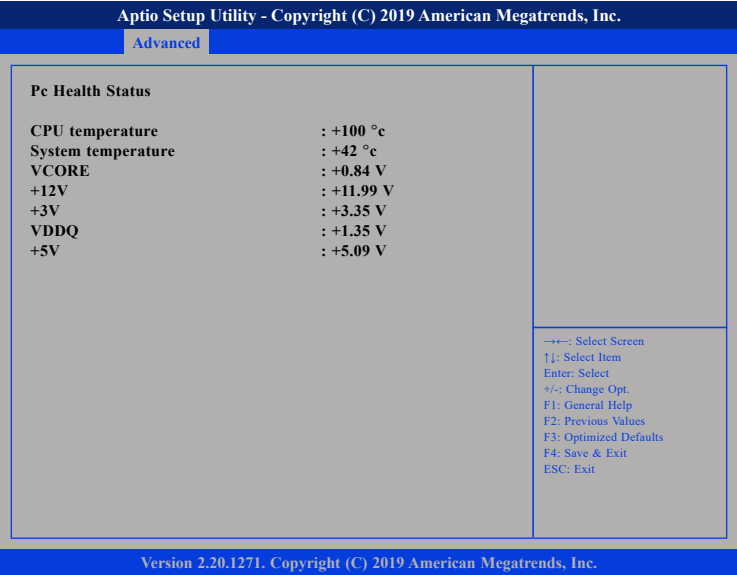
CPU temperature
Detects and displays the current CPU temperature.

System temperature
Detects and displays the current system temperature.

VCORE to +5V
Detects and displays the output voltages.

Network Stack Configuration

This section is used to configure the network stack settings.

Network Stack
Enables or disables UEFI network stack.

CSM Configuration

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

```
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  Advanced

  Compatibility Support Module Configuration          Enable/Disable CSM Support.

  CSM Support                    [Disabled]


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


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```

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.

USB Configuration

This section is used to configure the USB.

```
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  Advanced

  USB Configuration                                   Enables Legacy USB support.
                                                      AUTO option disables legacy
  USB Module Version           19                     support if no USB devices are
                                                      connected. DISABLE option will
  USB Controllers:                                    keep USB devices available
       1 XHCI                                         only for EFI applications.
  USB Devices:
       1 Keyboard, 2 Mice

  Legacy USB Support           [Enabled]
  XHCI Hand-off                [Enabled]

  USB hardware delays and time-outs:
  Device reset time-out        [20 sec]               →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit


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```

Legacy USB Support

Enabled   Enables Legacy USB.
Auto   Disables support for Legacy when no USB devices are connected.
Disabled   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.

Device reset time-out

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

Chipset

This section gives you functions to configure the system based on the specific features of the chipset. The chipset manages bus speeds and access to system memory resources.

```
            Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
    Main      Advanced    Chipset    Security    Boot     Save & Exit

  ► System Agent (SA) Configuration                     System Agent (SA) Parameters
  ► PCH-IO Configuration




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


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```

System Agent (SA) Configuration
System Agent (SA) parameters.

PCH-IO Configuration
PCH-IO parameters.

System Agent (SA) Configuration

This section is used to configure the System Agent (SA) configuration.

```
            Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
                              Chipset

  System Agent (SA) Configuration                       Graphics Configuration

  SA PCIe Code Version         3.6.2.0
  VT-d                         Supported

  ► Graphics Configuration

  VT-d                         [Enabled]




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

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```

VT-d
Enables or disables VT-d function on MCH.

Graphics Configuration

Chipset	
Graphics Configuration	Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.
DVMT Total Gfx Mem [256M]	
	→←: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
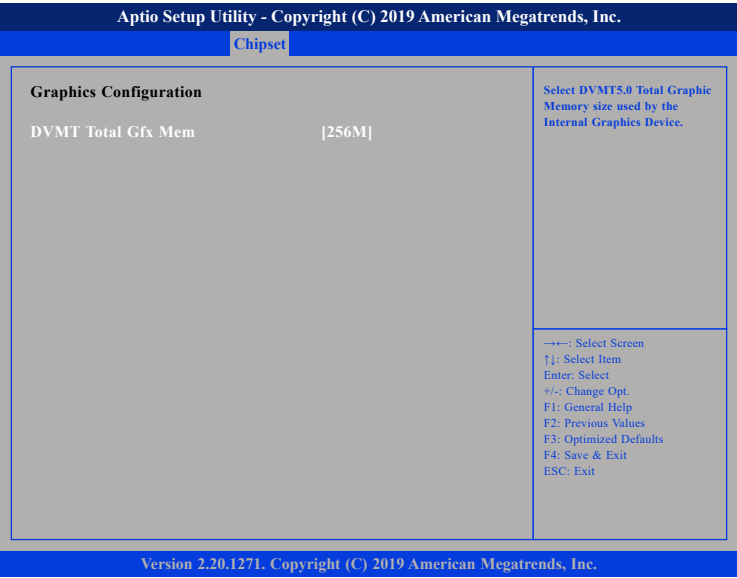
DVMT Total Gfx Mem
Selects the DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.

PCH-IO Configuration

This section is used to configure PCH-IO configuration.

Chipset	
PCH-IO Configuration	SATA Device Options Settings
► SATA And RST Configuration ► Security Configuration	
State After G3 [S0 State] **USB2.0 Power State in Standby** [Power Off] **USB3.0 Power State in Standby** [Power On] **Front USB Power State in Standby** [Power Off]	
LAN1(UP) [Enabled] **LAN1(DOWN)** [Enabled] **M.2** [Enabled] **MINIPCIE** [Enabled]	→←: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

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

USB2.0 Power State in Standby
Configures the USB 2.0 power state in standby mode.

USB3.0 Power State in Standby
Configures the USB 3.0 power state in standby mode.

Front USB Power State in Standby
Configures the front USB power state in standby mode.

LAN1(UP)

Enables or disables the top LAN1 controller.

LAN1(DOWN)

Enables or disables the bottom LAN1 controller.

M.2 and MINIPCIE

Enables or disables the M.2 or mini-PCIe slots.

SATA And RST Configuration

SATA Controller(s)

Enables or disables SATA device.

SATA Mode Selection

Configures the SATA controller as AHCI mode or Intel RST Premium mode.

Port 1 (SATA1)

Enables or disables SATA port 1.

Port 0 (M2_1)

Enables or disables the M.2 slot.

Security Configuration

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Chipset

Security Configuration

RTC Lock   [Enabled]

Enable will lock bytes 38h-3Fh
in the lower/upper 128-byte
bank of RTC RAM

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

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

Security

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Main   Advanced   Chipset   Security   Boot   Save & Exit

Password Description

If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length   3
Maximum length   20

Administrator Password
User Password

Set Administrator Password

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

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

User Password
Select this to reconfigure the user's password.

Boot

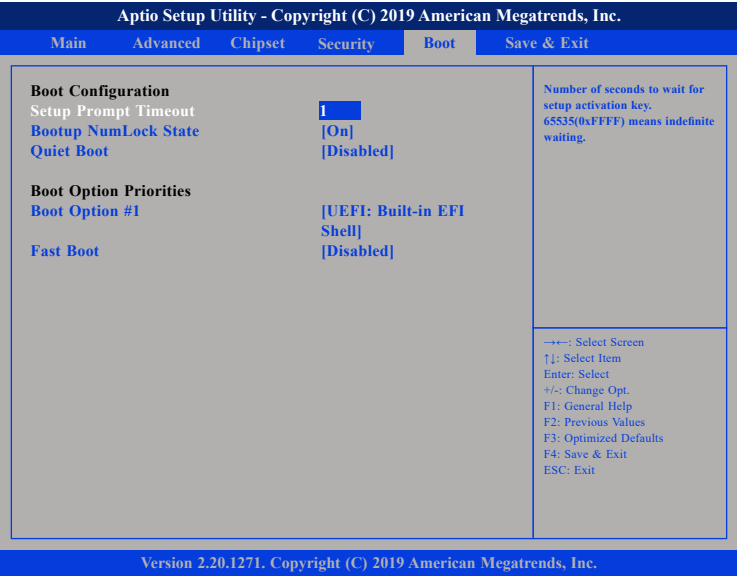| Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.					
Main	**Advanced**	**Chipset**	**Security**	**Boot**	**Save & Exit**

```
Boot Configuration                                    Number of seconds to wait for
Setup Prompt Timeout             1                     setup activation key.
Bootup NumLock State             [On]                  65535(0xFFFF) means indefinite
Quiet Boot                       [Disabled]            waiting.

Boot Option Priorities
Boot Option #1                   [UEFI: Built-in EFI
                                 Shell]
Fast Boot                        [Disabled]




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

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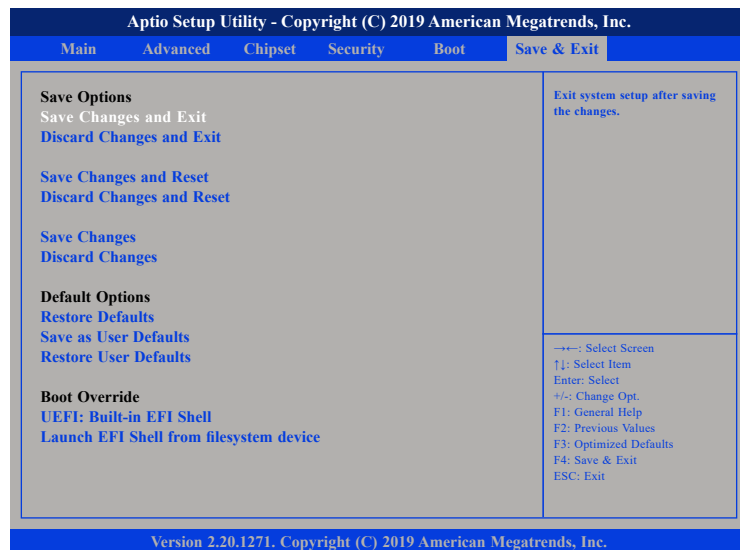| Enabled	Displays OEM logo instead of the POST messages.
Disabled	Displays normal POST messages.

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

Fast Boot
Enables or disables fast boot technology to speed up the system boot time. This is achieved by skipping specific tests during BIOS POST routine.

Save & Exit

```
             Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
    Main       Advanced      Chipset      Security       Boot     Save & Exit

  Save Options                                          Exit system setup after saving
  Save Changes and Exit                                 the changes.
  Discard Changes and Exit

  Save Changes and Reset
  Discard Changes and Reset

  Save Changes
  Discard Changes

  Default Options
  Restore Defaults
  Save as User Defaults                                →←←: Select Screen
  Restore User Defaults                                ↑↓: Select Item
                                                       Enter: Select
  Boot Override                                        +/-: Change Opt.
  UEFI: Built-in EFI Shell                             F1: General Help
  Launch EFI Shell from filesystem device              F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

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```

Save Changes and Exit
To save the changes and exit the Setup utility, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes. You can also press <F4> to save and exit Setup.

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

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.

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

Discard Changes
To discard the changes, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes to discard all changes made and restore the previously saved settings.

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

Save as User Defaults
To use the current configurations as user default settings for the BIOS, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

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