Intelligent Platform & Services Business Unit
Digital Signage Platform
NDiS M537
User Manual

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PREFACE

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Acknowledgements

NDiS M537 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. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the "NEXCOM RMA Service Form" with the returned packages.

- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NEXCOM RMA Service Form" for the RMA number apply process.

- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.

- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."

- Any products returned by NEXCOM to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

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

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System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.

- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.

- Replace with 3rd party products if needed.

- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.

- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Warnings

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

Cautions

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

Safety Information

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

▪ Read all instructions carefully.

▪ Do not place the unit on an unstable surface, cart, or stand.

▪ Follow all warnings and cautions in this manual.

▪ When replacing parts, ensure that your service technician uses parts specified by the manufacturer.

▪ Avoid using the system near water, in direct sunlight, or near a heating device.

▪ The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.

▪ The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Installation Recommendations

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

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

▪ A Philips screwdriver

▪ A flat-tipped screwdriver

▪ A grounding strap

▪ An anti-static pad

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

Safety Precautions

1. Read these safety instructions carefully.

2. Keep this User Manual for later reference.

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

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

5. Keep this equipment away from humidity.

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

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

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

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

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

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

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

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

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

15. Do not place heavy objects on the equipment.

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

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

Technical Support and Assistance

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

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

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

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

Conventions Used in this Manual

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

Caution:
Information to avoid damaging components or losing data.

Note:
Provides additional information to complete a task easily.

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Package Contents

Before continuing, verify that the NDiS M537 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Name	Description	Qty
1	50311F0111X00	Flat Head Screw Long Fei:F3x5ISO+Nylok Black	F3x5 Black Nylok	2
2	5060200082X00	Thermal Pad NDiS B533 VER:A EAPUS	25x25x0.2mm	2
3	5060200187X00	Thermal Pad for G100 VER:A S.W.	10x10x1mm K=3w/mk	2
4	6013300521X00	NDiS M533 Cable kit EPE VER:A SENTENEL	230x200x15mm	1
5	6013300709X00	EPE FOR NDiS M335 VER:A SENTENEL	227x200x75mm	1
6	602DCD1509X00	NDiS M537 DVD Driver Manual VER:A	JCL	1

Ordering Information

The following below provides ordering information for NDiS M537.

NDiS M537 (P/N: 10W00M53700X0)
7th/6th generation Intel® Core™ LGA1151 type processor OPS PLUS, Intel®
Q170 chipset

CHAPTER 1: PRODUCT INTRODUCTION

Overview

NDiS M537 is an OPS PLUS-compliant media player powered by 7th/6th generation Intel® Core™ processors. Following open pluggable standard, NDiS M537 can perfectly fit into a myriad of OPS PLUS-panels and is compact in size. Yet, NDiS M537 has high scalability, allowing for easy storage capacity expansion through pluggable M.2 storage unit and effortless functional extension through FX18-60P (PCIe x4, DP1.2) expansion modules. Changing system memory is also made simple. In addition, NDiS M537 leverages the future generation Intel® Core™ processors to deliver outstanding graphics support 3 independent 4K2K video output. The superb but power-efficient NDiS M537 can therefore maximize visual impacts for digital signage applications.

Key Features

- 7th/6th generation Intel® Core™ processor

- Intel® integrated HD 630 graphics engine

- Support 3 independent 4K2K video out

- Dual DDR4 SO-DIMM support

- Support Wi-Fi module

- DirectX® 12 support

Physical Features

Front Panel

Antenna Hole

Antenna Hole

USB 3.0

ANT

ANT

Line-out

Mic-in

Power Button

Reset Button

Storage LED

COM

Mini DisplayPort

LAN

Rear Panel

HRS FX18 60Pin

JAE TX25 80Pin
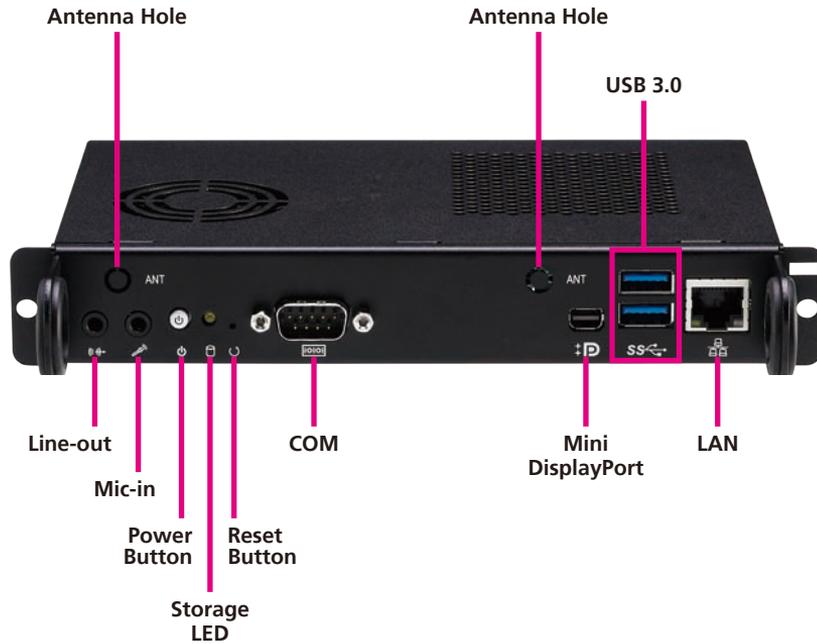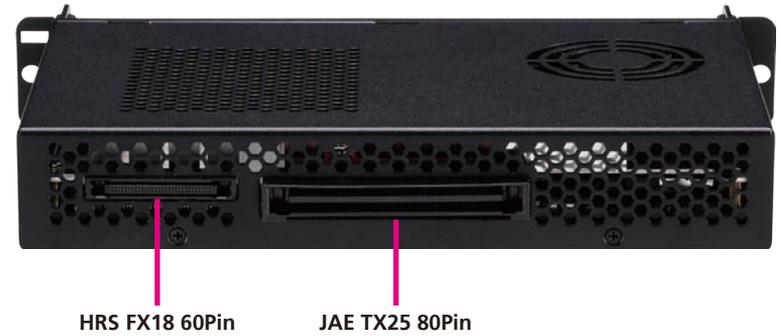
Hardware Specifications

CPU Support

- 7th generation Intel® Core™ processor (LGA1151), 35W
- 6th generation Intel® Core™ processor (LGA1151), 35W

Chipset

- Intel® Q170 PCH

Graphics

- Integrated Intel® HD 630 graphics

Main Memory

- 2 x 260-pin SO-DIMM sockets, support DDR4 2133/2400 MHz non-ECC, un-buffered memory up to 32G (single socket max. 16GB).

I/O Interface-Front

- 1 x Power button with LED
- 1 x Reset button
- 1 x RJ45 with LEDs for Gigabit LAN
- 1 x Mini DP connector for DisplayPort++
- 2 x USB 3.0
- 1 x Storage active LED
- 2 x Antenna holes
- 1 x Mic-in phone jack
- 1 x Line-out phone jack
- 1 x DB9 for RS232 (COM3)

I/O Interface-Rear (TX25)

- 1 x TMDS (HDMI 2.0)
- 1 x USB 3.0
- 2 x USB 2.0
- 1 x UART (3.3V TTL) (COM2)
- 1 x Audio out L/R

- DC input +12V~+19V
- Control signals (PWR_STATUS, PS_ON#, PB_DET, CEC, SYS_FAN)

I/O Interface-Rear (FX18)

- 1 x GPIO signal
- 2 x I2C signal
- LAN managements signals
- 1 x DP1.2 signal
- PCIe x4 signal

Storage Device

- 1 x M.2 2242, SATA signal

Expansion

- 1 x M.2 2230 for optional Wi-Fi module

Dimensions

- 200mm (W) x 119mm (D) x 30mm (H) (7.8" x 4.7" x 1.1")

Power Supply

- DC power input +12V~+19V

Environment

- Operating temperature: ambient with air flow from 0°C to 45°C
- Storage temperature: -20°C to 80°C
- Humidity: 95% (non-condensing)

Certification

- CE/FCC Class A

Operating System

- 7th generation Intel® Core™: Windows 10 (64-bit)
- 6th generation Intel® Core™: Windows 7 (32/64-bit)/Windows 10 (64-bit)

Mechanical Dimensions
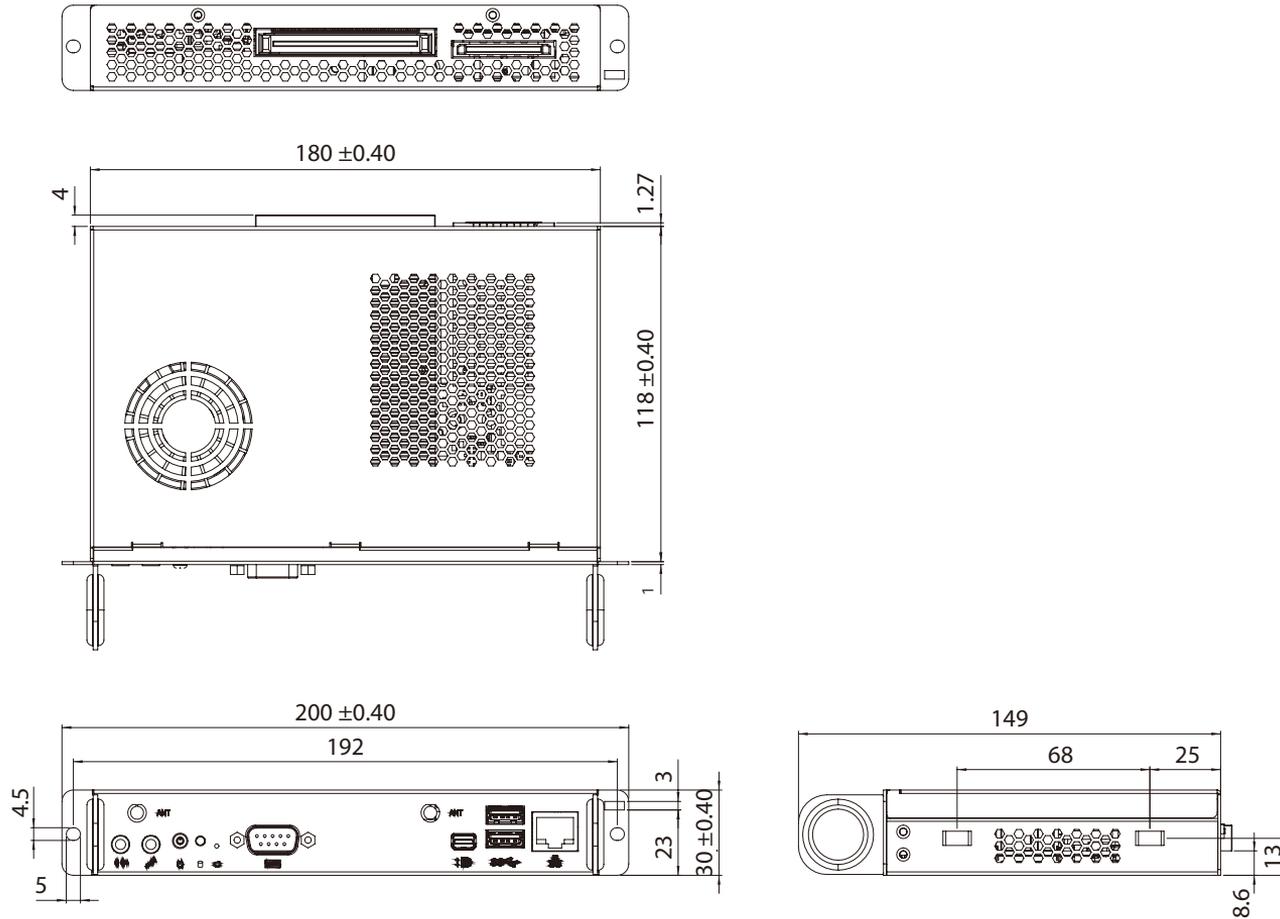
CHAPTER 2: JUMPERS AND CONNECTORS

This chapter describes how to set the jumpers and connectors on the NDiS M537 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.

Locations of the Jumpers and Connectors for NDiB M537

The figure below is the top and bottom view of the NDiB M537 mainboard which is the mainboard used in NDiS M537. It shows the locations of the jumpers and connectors.

Top View
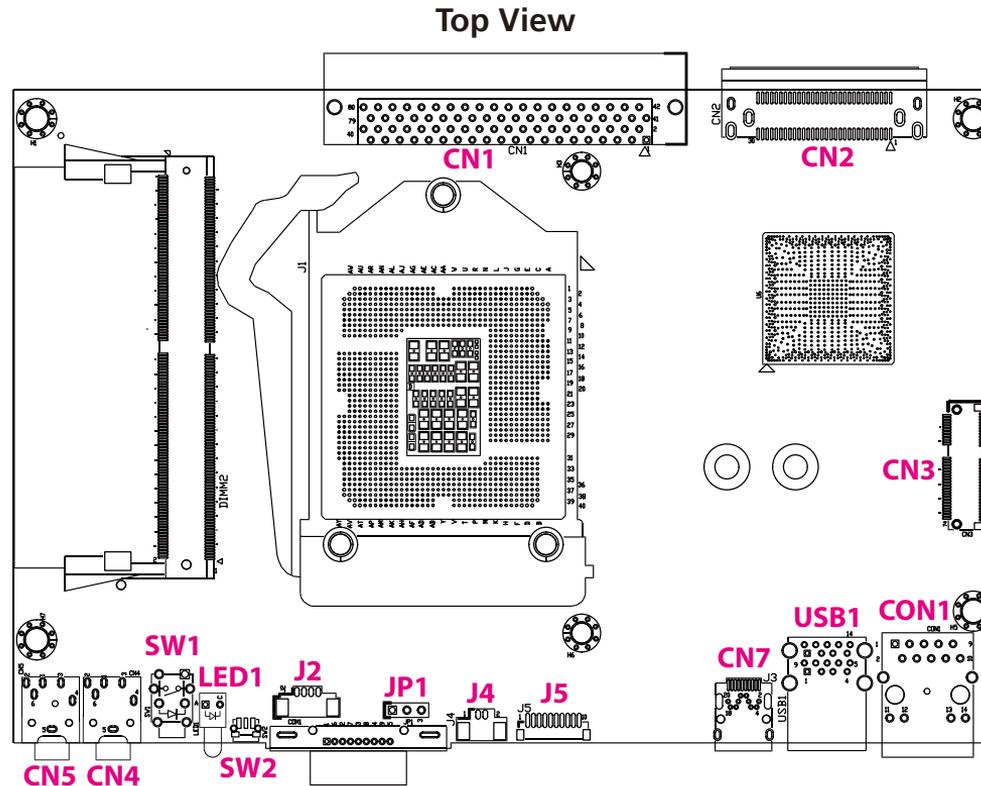
Bottom View
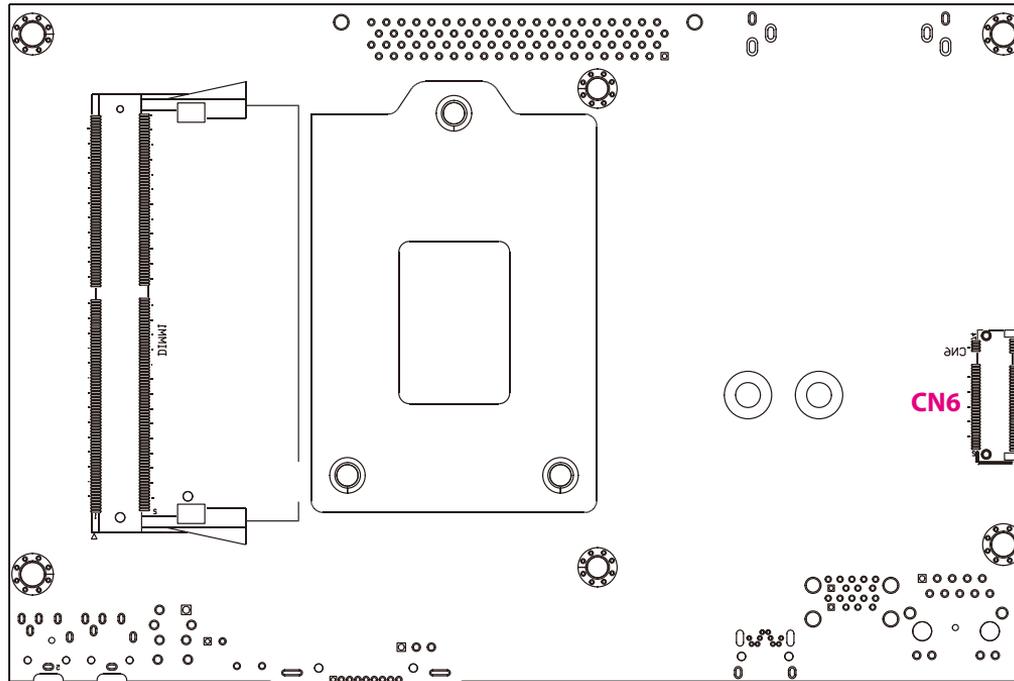
Jumper Settings

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)
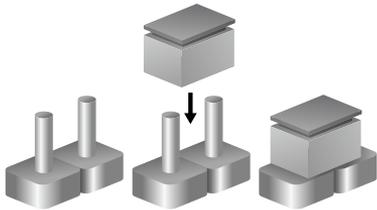
Three-Pin Jumpers: Pins 1 and 2 are Short
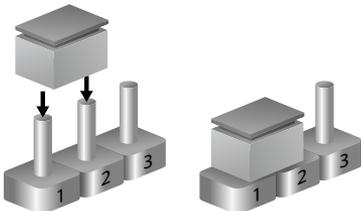
Jumpers

RTC Clear Jump

Connector type: 1x3 3-pin header, 2.54mm pitch, MALE 180D
Connector location: JP1

1 □ ○ ○ 3

Pin	Settings
1-2 On	Normal
2-3 On	Clear CMOS

1-2 On: default

Connector Pin Definitions

External I/O Interfaces

Power Switch

Connector location: SW1

Power	LED Definition
ON	Blue
OFF	Red

System Reset Switch

Connector location: SW2
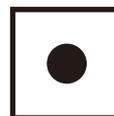
Pin	Definition
1-2	System Reset

LAN Connector

Connector type: RJ45 port with LEDs
Connector location: CON1

USB 3.0 Connectors

Connector type: USB 3.0 port, Type A
Connector location: USB1
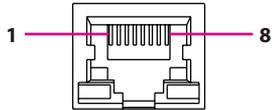
Pin	Definition	Pin	Definition
1	TCT	2	TD4-
3	TD4+	4	TD3-
5	TD3+	6	TD2-
7	TD2+	8	TD1-
9	TD1+	10	TCTG
11	Left_LED+	12	Left_LED-
13	Right_LED+	14	Right_LED-
Left-LED: Link/Active:Green		Right-LED: 1G/100:Green/Orange	
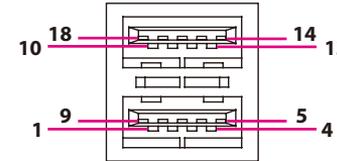
Pin	Definition	Pin	Definition
1	VCC	2	USB0_N
3	USB0_P	4	GND
5	USB3_RX0_N	6	USB3_RX0_P
7	GND	8	USB3_TX0_N
9	USB3_TX0_P	10	VCC
11	USB1_N	12	USB1_P
13	GND	14	USB3_RX1_N
15	USB3_RX1_P	16	GND
17	USB3_TX1_N	18	USB3_TX1_P

Mini DisplayPort Connector

Connector type: Mini DisplayPort
Connector location: CN7

LED

Connector location: LED1

HDD
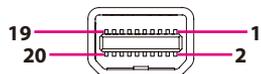
Pin	Definition	Pin	Definition
1	PWR_IN	2	HPD_GND
3	TBT_HD2CA_0+	4	TBT_CA2HD_0+
5	TBT_HD2CA_0-	6	TBT_CA2HD_0-
7	GND1	8	GND2
9	LSTX	10	RESERVED1
11	LSRX	12	RESERVED2
13	GND3	14	GND4
15	TBT_HD2CA_1+	16	TBT_CA2HD_1+
17	TBT_HD2CA_1-	18	TBT_CA2HD_1-
19	RETURN	20	PWR_OUT

LED	LED Definition
HDD	Yellow

Mic-in Connector

Connector type: 3.5mm TRS
Connector location: CN4

Line-out Connector

Connector type: 3.5mm TRS
Connector location: CN5

Pin	Definition	Pin	Definition
1	IN/OUT_R	2	JD
3	GND	4	IN/OUT_L
5	GND	6	GND

Pin	Definition	Pin	Definition
1	IN/OUT_R	2	JD
3	GND	4	IN/OUT_L
5	GND	6	GND

JAE-TX25 Connector

Connector location: CN1
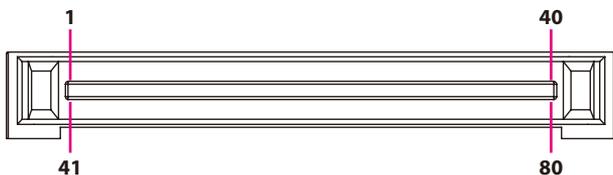
Pin	Definition	Pin	Definition
1	DDP_3N	18	HDMI0_CLK_P
2	DDP_3P	19	GND
3	GND	20	HDMI0_TX0N
4	DDP_2N	21	HDMI0_TX0P
5	DDP_2P	22	GND
6	GND	23	HDMI0_TX1N
7	DDP_1N	24	HDMI0_TX1P
8	DDP_1P	25	GND
9	GND	26	HDMI0_TX2N
10	DDP_0N	27	HDMI0_TX2P
11	DDP_0P	28	GND
12	GND	29	HDMI0_SDA
13	DDP_AUXN	30	HDMI0_SCL
14	DDP_AUXP	31	HDMI0_HPD
15	DDP_HPD	32	GND
16	GND	33	VIN_M
17	HDMI0_CLK_N	34	VIN_M

Pin	Definition	Pin	Definition
35	VIN_M	58	USB_TX2P
36	VIN_M	59	GND
37	VIN_M	60	USB_DN2
38	VIN_M	61	USB_DP2
39	VIN_M	62	GND
40	VIN_M	63	USB_DN7
41	NC	64	USB_DP7
42	NC	65	GND
43	NC	66	USB_DN6
44	NC	67	USB_DP6
45	NC	68	GND
46	NC	69	SKPR_LOUT 44
47	NC	70	SKPR_ROUT 44
48	NC	71	HDMI0_CEC 40
49	NC	72	GND
50	SYS_FAN_EN# 46	73	PS_ON# 19
51	COM1_RXD 46	74	PWR_STATUS
52	COM1_TXD 46	75	GND
53	GND	76	GND
54	USB_RX2N	77	GND
55	USB_RX2P	78	GND
56	GND	79	GND
57	USB_TX2N	80	GND
MH1	GND	MH2	GND

HRS-FX18-60S Connector

Connector location: CN2
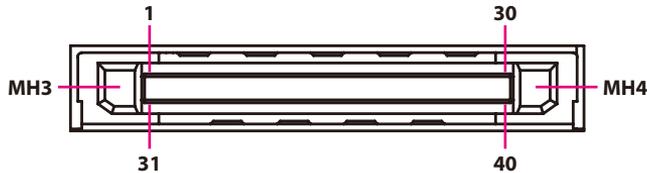
Pin	Definition	Pin	Definition
1	PCIE-RXN0	16	GND
2	PCIE-RXP0	17	PCIE_CLK_N
3	GND	18	PCIE_CLK_P
4	GND	19	GND
5	PCIE-RXN1	20	I2C1_CLK
6	PCIE-RXP1	21	I2C1_DATA1
7	GND	22	GND
8	GND	23	DDP1_AUNX
9	PCIE-RXN2	24	DDP1_AUNP
10	PCIE-RXP2	25	GND
11	GND	26	DDP1_1N
12	GND	27	DDP1_1P
13	PCIE-RXN3	28	GND
14	PCIE-RXP3	29	DDP1_0N
15	GND	30	DDP1_0P
MH1	GND	MH3	NC
MH2	GND	MH4	NC

Pin	Definition	Pin	Definition
31	PCIE_WAKE	46	PCIE-TXP3
32	GND	47	GND
33	PCIE-TXN0	48	I2C_CLK_LAN
34	PCIE-TXP0	49	I2C_DATA_LAN
35	GND	50	LAN_DISABLE
36	GND	51	SLEEP_S3
37	PCIE-TXN1	52	PICe_RST
38	PCIE-TXP1	53	GPIO
39	GND	54	GND
40	GND	55	DDP1_3N
41	PCIE-TXN2	56	DDP1_3P
42	PCIE-TXP2	57	GND
43	GND	58	DDP1_2N
44	GND	59	DDP1_2P
45	PCIE-TXN3	60	GND
MH5	GND		
MH6	GND		

Internal Connectors
RTC Battery Connector

Connector type: 1x2 2-pin header
Connector location: J4
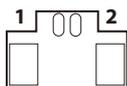
Pin	Definition
1	GND
2	3V

Fan Connector

Connector type: 1x4 4-pin header
Connector location: J2
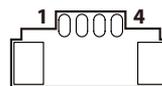
Pin	Definition	Pin	Definition
1	GND	2	VCC
3	SPEED	4	CONTROL

Debug 80 Port Connector

Connector type: 1x10 10-pin header
Connector location: J5

Pin	Definition	Pin	Definition
1	GND	2	PCIRST#
3	33M_CLK	4	LPC_FRAME#
5	LPC_AD3	6	LPC_AD2
7	LPC_AD1	8	LPC_AD0
9	3.3V	10	3.3V

M.2 E Key Connector

Connector location: CN3

Pin	Definition	Pin	Definition
1	GND	MHx	GND
3	USB_D+	2	3.3V
5	USB_D-	4	3.3V
7	GND	6	LED
9	SOIO_CLK	8	PCM_CLK
11	SOIO_CMD	10	PCM_SYNC
13	SOIO_DATA	12	PCM_IN
15	SOIO_DATA	14	PCM_OUT
17	SOIO_DATA	16	LED
19	SOIO_DATA	18	GND
21	SOIO_WAKE#	20	WAKE
23	SOIO_RESET#	22	RXD
HW Latch			
33	GND	32	TXD
35	PETp0	34	CRS
37	PETn0	36	RTS
39	GND	38	VENDOR
41	PERp0	40	VENDOR

Pin	Definition	Pin	Definition
43	PERn0	42	VENDOR
45	GND	44	COEX
47	REFCLKp0	46	COEX
49	REFCLKn0	48	COEX
51	GND	50	SUSCLK
53	CLKREQ0	52	PERST
55	PEWAKE0	54	W_DISABLE
57	GND	56	W_DISABLE
59	PETp1	58	I2C_DATA
61	PETn1	60	I2C_CLK
63	GND	62	ALERT
65	PERp1	64	RESERVED
67	PERn1	66	PERST
69	GND	68	CLKREQ
71	REFCLKp1	70	PEWAKE
73	REFCLKn1	72	3.3V
75	GND	74	3.3V

M.2 M Key Connector

Connector location: CN6
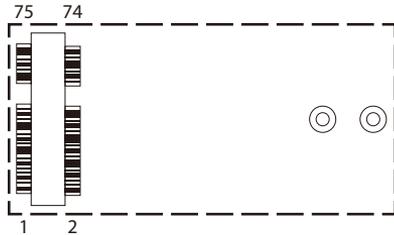
Pin	Definition	Pin	Definition
1	GND1	2	3.3V_1
3	GND2	4	3.3V_2
5	PERN3	6	NC
7	PERP3	8	NC1
9	GND3	10	DAS
11	PETN3	12	3.3V_6
13	PETP3	14	3.3V_7
15	GND4	16	3.3V_8
17	PERN2	18	3.3V_9
19	PERP2	20	NC2
21	GND5	22	NC3
23	PETN2	24	NC4
25	PETP2	26	NC5
27	GND6	28	NC6
29	PERN1	30	NC7
31	PERP1	32	NC8
33	GND7	34	NC9
35	PETN1	36	NC10

Pin	Definition	Pin	Definition
37	PETP1	38	DEVSLP
39	GND8	40	NC11
41	PERN0	42	NC12
43	PERP0	44	NC13
45	GND9	46	NC14
47	PETN0	48	NC15
49	PETP0	50	PERST
51	GND10	52	CLKREQ
53	REFCLKN	54	PEWAKE
55	REFCLKP	56	NC16
57	GND11	58	NC17
HW Latch			
67	NC26	68	SUSCLK
69	PEDET	70	3.3V_3
71	GND12	72	3.3V_4
73	GND13	74	3.3V_5
75	GND14		

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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 back 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 back

2. With the screws removed, push back the cover and remove it from the chassis.

Installing the CPU (Socket Type)

1. Remove the chassis cover, then loosen all the five screws and unplug the fan power connector to remove the cooler and access the CPU socket.

Screw

Fan Power Connector

21
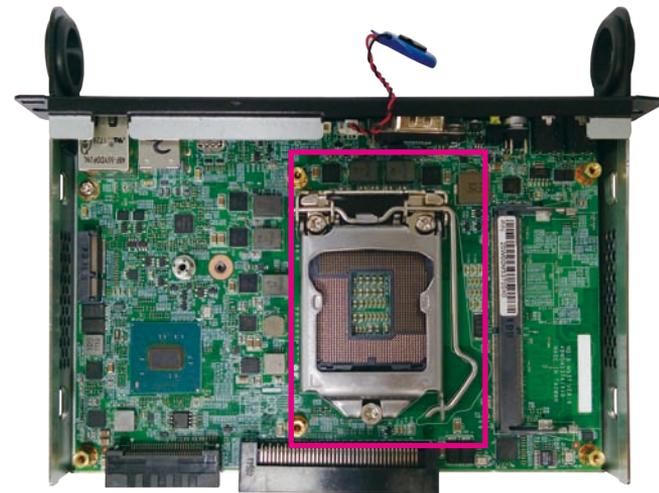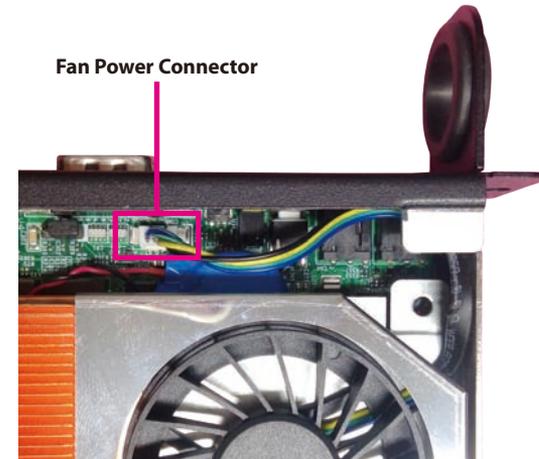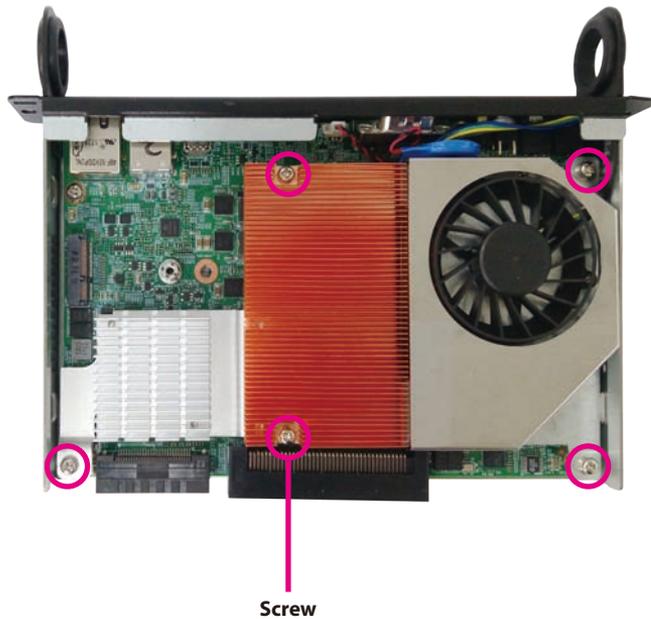
2. Unlock the socket by pushing the load lever down, moving it sideways until it is released from the retention tab; then lift the load lever up.

3. Insert the CPU into the socket. The triangular edge on the CPU must align with the corner of the CPU socket shown on the photo.
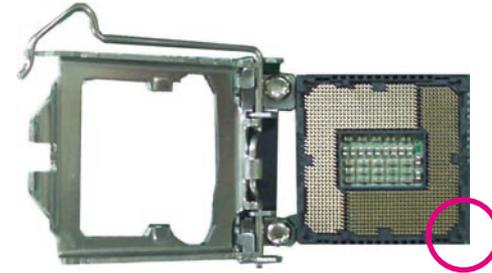
The CPU's notch will at the same time fit into the socket's alignment key.

Alignment key

Alignment key

CAUTION!
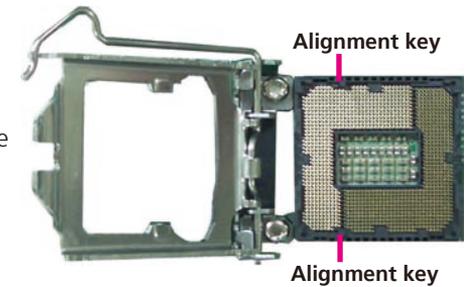
- Handle the CPU by its edges and avoid touching the pins.
- The CPU will fit in only one orientation and can easily be inserted without exerting any force.

4. Close the load plate and then hook the load lever under the retention tab.

CAUTION! Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.

5. Remove the adhesive film on the thermal pad and place it onto the CPU.

CAUTION! Please install the thermal pad and make sure the adhesive film on the thermal pad is removed before placing it on the heat sink.

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6. Put the cooler back to its original location and apply all the five screws and fan power connector to secure it in place.

Installing a SO-DIMM Memory Module

1. There are two SO-DIMM sockets in NDiS M537. One is on the top side and the another is on the bottom. With the chassis cover and cooler removed, install a memory module in the SO-DIMM socket.

DIMM2

2. Push the ejector tabs which are at the ends of the socket outward. This indicates that the socket is unlocked.

Note how the module is keyed to the socket. Grasping the module by its edges, align the module with the socket so that the "notch" on the module is aligned with the "key" on the socket. The key ensures the module can be plugged into the socket in only one direction.

Ejector tab

Key

Notch
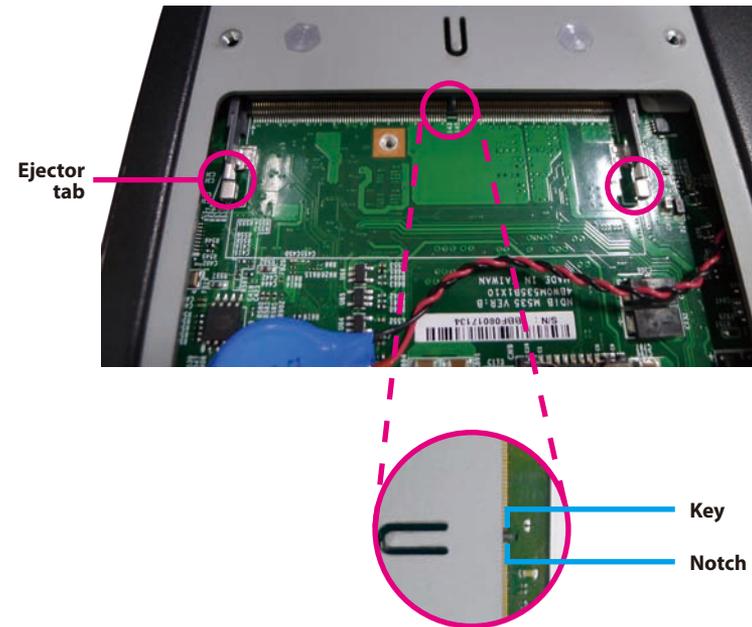
3. Insert the module into the socket at an approximately 30 degree angle. Apply firm even pressure to each end of the module until it slips down into the socket. The contact fingers on the edge of the module will almost completely disappear inside the socket.

   The ejector tabs at the ends of the socket will automatically snap into the locked position to hold the module in place.

4. At the bottom of the system, loosen the screws on the bottom cover, then remove the cover from the chassis to install another memory module.
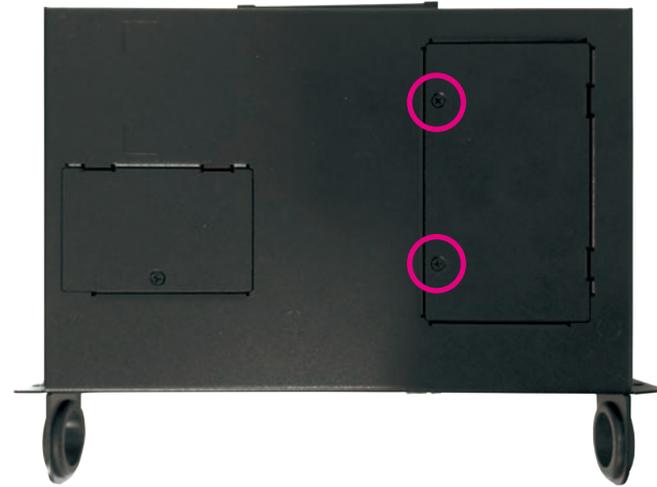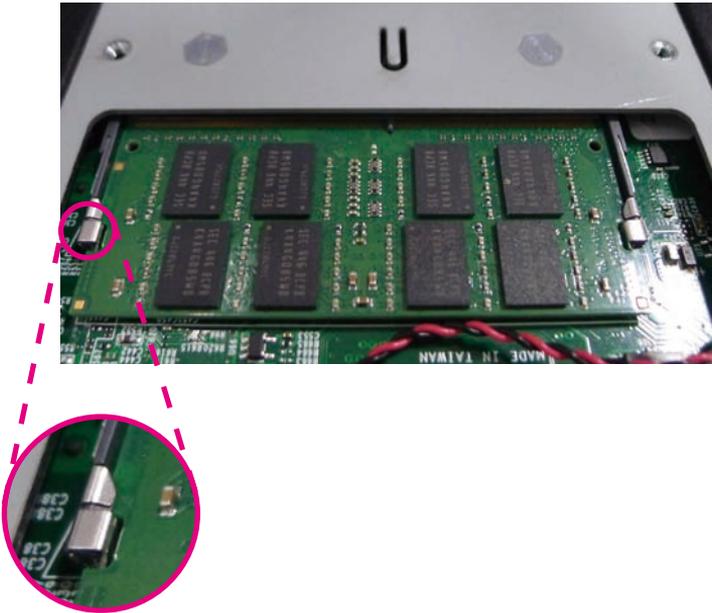
5. Follow the instructions in step 2 and step 3 above to install the memory module.
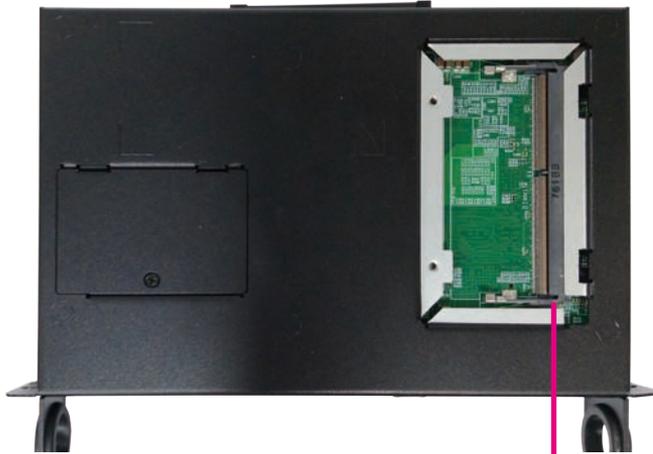
DIMM1

Installing an M.2 SSD Storage Module

The system is equipped with an M.2 M Key connector. To install an M.2 SSD module, please follow the instructions below.

1. At the bottom of the system, loosen the screws on the bottom cover, then remove the cover from the chassis.
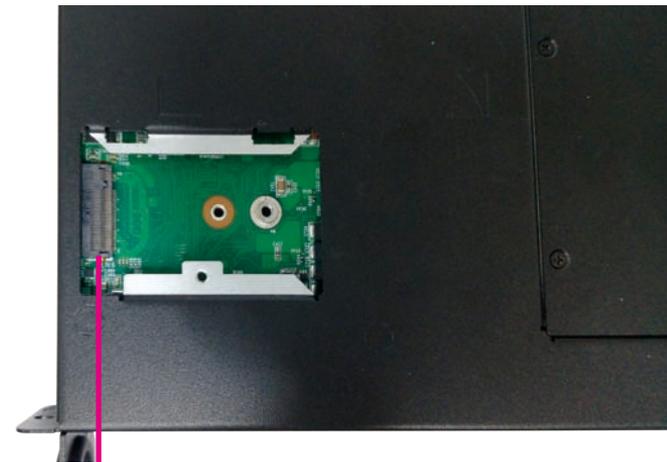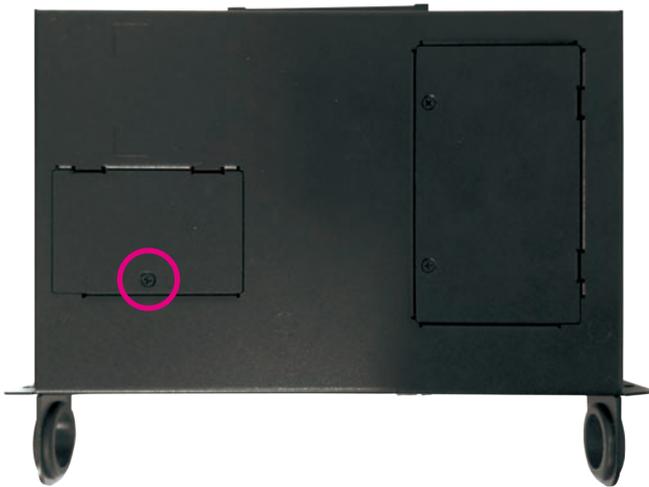
M.2 M Key Slot

2. Insert the M.2 SSD module into the M.2 slot at a 45 degree angle until the gold-plated connector on the edge of the module completely disappears inside the slot.
3. With the module fully inserted, tighten a screw into the mounting hole on the module to secure it.

Screw
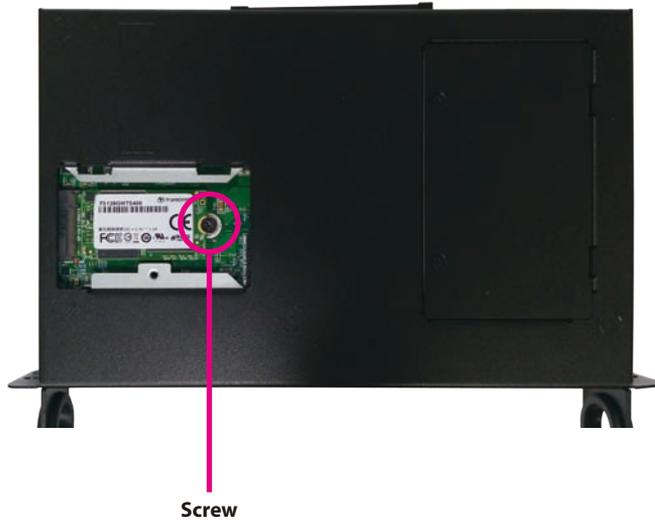
Installing a Wireless LAN Module

The system is equipped with an M.2 E Key connector. To install an M.2 Wireless LAN module, please follow the instructions below.

1. With the chassis cover removed, locate the M.2 E key slot on the mainboard.

M.2 E Key Slot

2. Insert the Wi-Fi module into the M.2 E key slot at a 45 degree angle until the gold-plated connector on the edge of the module completely disappears inside the slot.
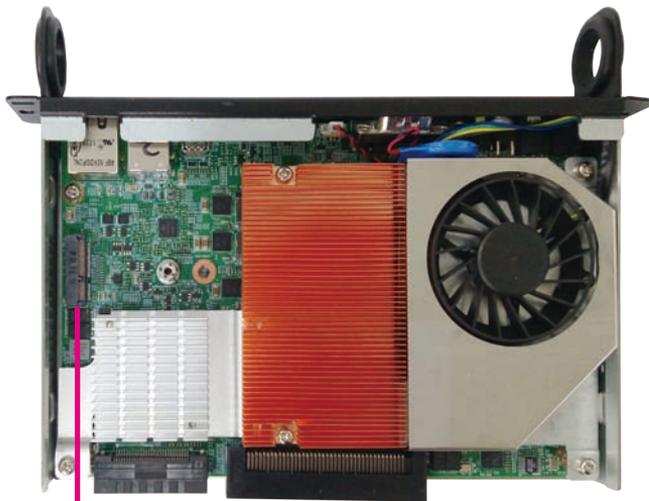
3. With the module fully inserted, tighten a screw into the mounting hole on the module to secure it.

Screw

4. Attach the RF cables onto the Wi-Fi module and insert the antenna jack end of the cable through the antenna hole.
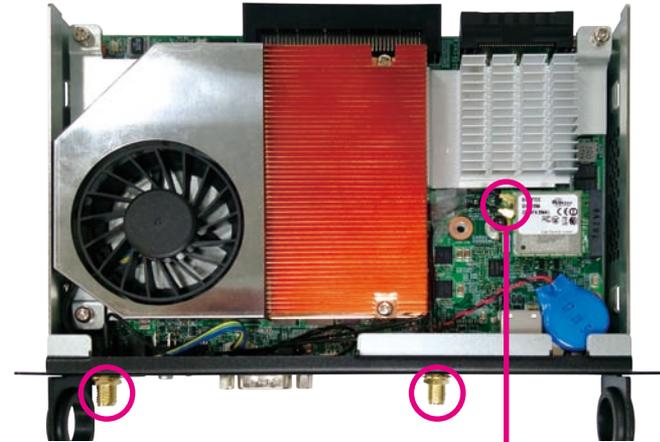
RF Cable

5. Insert the 2 rings (ring 1 then ring 2) into the Wi-Fi antenna jacks.

Ring1

Ring2

6. Connect the external antennas to the Wi-Fi antenna jacks.

Antenna
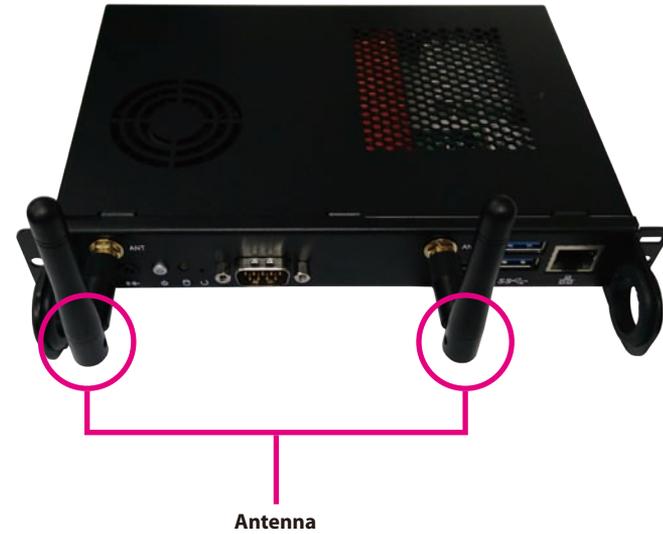
Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for NDiS M537. 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) 2018 American Megatrends, Inc.
  Main     Advanced    Chipset     Security       Boot     Save & Exit

  BIOS Information                                        Set the Date. Use Tab to
  BIOS Vendor             American Megatrends            switch between Date elements.
  Product Name            NDiS-M537
  BIOS Version            D537A019 x64
  Build Date and Time     08/20/2018 09:48:52

  Processor Information
  Name                    Kabylake DT
  Type                    Intel(R) Celeron(R)  CPU
                          G3930TE @ 2.70GHz
  Speed                   2700 MHz
  ID                      0x906E9
  Stepping                B0/S0/M0
  Number of Processors    2Core(s) / 2Thread(s)
  Microcode Revision      84
  GT Info                 GT1 (0x5902)                   →←: Select Screen
                                                         ↑↓: Select Item
  IGFX GOP Version        N/A                            Enter: Select
  Memory RC Version       1.2.0.0                        +/-: Change Opt.
  Total Memory             8192 MB                       F1: General Help
  Memory Frequency         2133 MHz                      F2: Previous Values
                                                         F3: Optimized Defaults
  PCH Information                                        F4: Save & Exit
  Name                    SKL PCH-H                      ESC: Exit
  PCH SKU                 Q170

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```

```
         Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
  Main     Advanced    Chipset     Security       Boot     Save & Exit

  Speed                       2700 MHz                  Set the Time. Use Tab to
  ID                          0x906E9                   switch between Time elements.
  Stepping                    B0/S0/M0
  Number of Processors        2Core(s) / 2Thread(s)
  Microcode Revision          84
  GT Info                     GT1 (0x5902)

  IGFX GOP Version            N/A
  Memory RC Version           1.2.0.0
  Total Memory                 8192 MB
  Memory Frequency             2133 MHz

  PCH Information
  Name                        SKL PCH-H
  PCH SKU                     Q170                       →←: Select Screen
  Stepping                    D1                         ↑↓: Select Item
  TXT Capability of Platform/PCH   Unsupported           Enter: Select
  Production Type             Production                 +/-: Change Opt.
                                                         F1: General Help
  ME FW Version               11.6.0.1126                F2: Previous Values
  ME Firmware SKU             Corporate SKU              F3: Optimized Defaults
                                                         F4: Save & Exit
  System Date                 [Mon 10/01/2018]           ESC: Exit
  System Time                 [08:43:48]

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```

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) 2018 American Megatrends, Inc.
     Main        Advanced      Chipset      Security       Boot      Save & Exit

 ► CPU Configuration                                      CPU Configuration Parameters
 ► SATA And RST Configuration
 ► AMT Configuration
 ► Trusted Computing
 ► ACPI Settings
 ► NCT6106D Super IO Configuration
 ► NCT6106D HW Monitor
 ► S5 RTC Wake Settings
 ► CSM Configuration
 ► NVMe Configuration
 ► USB Configuration

    State After G3                       [S0 State]
                                                         →←: 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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```

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

CPU Configuration

This section is used to view CPU status and configure CPU parameters.

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

    CPU Configuration                                    When enabled, a VMM can
                                                         utilize the additional
    Type                       Intel(R) Celeron(R)  CPU  hardware capabilities provided
                               G3930TE @ 2.70GHz         by Vanderpool Technology.
    ID                         0x906E9
    Speed                      2700 MHz
    L1 Data Cache              32 KB x 2
    L1 Instruction Cache       32 KB x 2
    L2 Cache                   256 KB x 2
    L3 Cache                   2 MB
    L4 Cache                   N/A
    VMX                        Supported
    SMX/TXT                    Not Supported
                                                         →←: Select Screen
    Intel (VMX) Virtualization [Enabled]                 ↑↓: Select Item
    Technology                                           Enter: Select
    Active Processor Cores     [All]                     +/-: Change Opt.
    Intel(R) SpeedStep(tm)     [Enabled]                 F1: General Help
    C states                   [Enabled]                 F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit

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```

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

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

Intel® SpeedStep™
Enables or disables Intel SpeedStep.

CPU C States
Enables or disables CPU C states.

SATA and RST Configuration

This section is used to configure the SATA device option settings.

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

  SATA And RST Configuration                              Determines how SATA
                                                          controller(s) operate.
  SATA Mode Selection          [AHCI]
  SATA Test Mode               [Disabled]

  Serial ATA Port 0            Empty
    Software Preserve          Unknown
    Port 0                       [Enabled]
    Hot Plug                     [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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```

SATA Mode Selection
Configures the SATA as AHCI mode.

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

SATA Test Mode
Enables or disables SATA test mode.

Port 0
Enables or disables SATA port 0.

Hot Plug
Enables or disables hot plugging feature on SATA port 0.

AMT Configuration

This section is used to configure AMT settings.

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

  Intel AMT                        [Enabled]          OEMFLag Bit 1:
  MEBx hotkey Pressed              [Disabled]         Enable automatic MEBx hotkey
  MEBx Selection Screen            [Disabled]         press.












                                                     →←: 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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```

MEBx hotkey Pressed
Enables or disables automatic MEBx hotkey press.

MEBx Selection Screen
Enables or disables MEBx selection screen.

Trusted Computing

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

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

  Configuration                                       Enables or Disables BIOS
  Security Device Support          [Enable]           support for security device.
    NO Security Device Found                          O.S. will not show Security
                                                      Device. TCG EFI protocol and
                                                      INT1A interface will not be
                                                      available.








                                                     →←: 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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```

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.

ACPI Settings

This section is used to configure ACPI settings.

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

```
ACPI Settings                                              Enables or Disables System
                                                           ability to Hibernate (OS/S4
Enable Hibernation           [Enabled]                     Sleep State). This option may
ACPI Sleep State             [S3 (Suspend to RAM)]         not be effective with some
                                                           operating systems.




                                                           →←: 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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```

Enable Hibernation

Enables or disables system ability to hibernate (OS/S4 Sleep State). This option may not be effective with some operating systems.

ACPI Sleep State

Select the highest ACPI sleep state the system will enter when the suspend button is pressed. The options are Suspend Disabled and S3 (Suspend to RAM).

NCT6106D Super IO Configuration

This section is used to configure the front and rear serial ports.

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Advanced	

```
NCT6106D Super IO Configuration                            Set Parameters of Rear COM

Super IO Chip                    NCT6106D
► REAR COM Configuration
► FRONT COM 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.

REAR COM Configuration

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Advanced	

REAR COM Configuration		Enable or Disable Serial Port (COM)
Serial Port	[Enabled]	
Device Settings	IO=2F8h; IRQ=3;	
Change 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 rear serial COM port.

Device Settings
Displays the IO address and IRQ of the rear serial COM port.

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

FRONT COM Configuration

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

FRONT COM Configuration		Enable or Disable Serial Port (COM)
Serial Port	[Enabled]	
Device Settings	IO=3E8h; IRQ=7;	
Change Settings	[Auto]	

→←: 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 front serial COM port.

Device Settings
Displays the IO address and IRQ of the front serial COM 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.

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

  PC Health Status                                       Enable or Disable Smart Fan

  Smart Fan Function            [Disabled]

  CPU temperature              : +62 ºc
  CPU FAN Speed                : 4115 RPM

  System Fan Mode              [Enable]

  VCORE                        : +0.872 V
  VCC5                         : +5.100 V
  VCC3                         : +3.312 V
                                                         →←: 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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```

Smart Fan Function
Enables or disables the smart fan function.

System Fan Mode
Configures the operating mode of the system fan.

S5 RTC Wake Settings

This section is used to configure system to wake from S5 using RTC alarm.

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

  Wake system from S5          [Disabled]          Enable or disable System wake
                                                   on alarm event. Select
                                                   FixedTime, system will wake on
                                                   the hr::min::sec specified.
                                                   Select DynamicTime , System
                                                   will wake on the current time
                                                   + Increase minute(s)

                                                   →←: 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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```

Wake System from S5
Enables or disables system wake on alarm event. When FixedTime is selected, system will wake on the hr::min::sec specified. When DynamicTime is selected, system will wake on the current time + Increase minute(s).

CSM Configuration

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

Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.	
Advanced	
Compatibility Support Module Configuration	Enable/Disable CSM Support.
CSM Support　　　　　　　　[Enabled]	
CSM16 Module Version　　　　07.80	
Boot option filter　　　　　　[UEFI only]	
Option ROM execution	
Network　　　　　　　　　　[Do not launch]	
Video　　　　　　　　　　　[UEFI]	
	→←: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Copyright (C) 2018 American Megatrends, Inc.	

NVMe Configuration

This section is used to display information on the NVMe devices installed.

Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.	
Advanced	
NVMe controller and Drive information	
No NVME Device Found	
	→←: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Copyright (C) 2018 American Megatrends, Inc.	

CSM Support
Enables or disables Compatibility Support Module (CSM).

Boot Option Filter
This option filters which devices the system can boot to.

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

USB Configuration

This section is used to configure USB parameters.

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

 USB Configuration                                        Enables Legacy USB support.
                                                          AUTO option disables legacy
 USB Module Version            16                         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

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

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.

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) 2018 American Megatrends, Inc.
   Main      Advanced    Chipset    Security     Boot     Save & Exit

▶ System Agent (SA) Configuration                        System Agent (SA) Parameters




                                                         →←: 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.

System Agent (SA) Configuration

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

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

  System Agent (SA) Configuration                        Graphics Configuration

  SA PCIe Code Version              1.2.0.0
  VT-d                              Supported

▶ Graphics 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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```
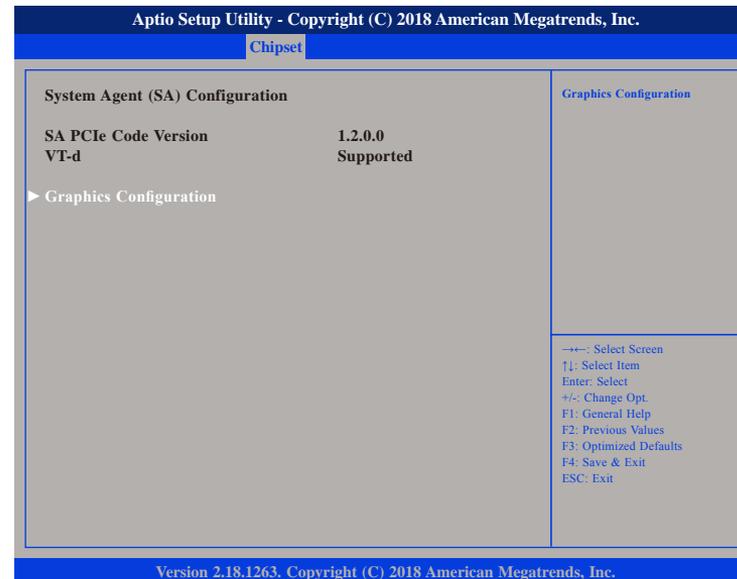
Graphics Configuration

Enters the Graphics Configuration submenu.

Security

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Main	**Advanced**	**Chipset**	**Security**	**Boot**	**Save & Exit**

```
Password Description                              Set Administrator Password

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
                                                 →←: Select Screen
                                                 ↑↓: Select Item
Administrator Password                           Enter: Select
User Password                                    +/-: 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

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Main	**Advanced**	**Chipset**	**Security**	**Boot**	**Save & Exit**

```
Boot Configuration                               Select the keyboard NumLock
Bootup NumLock State          [On]               state

Boot Option Priorities
Boot Option #1                [Windows Boot Manager
                              (P0:  TS64GMTS400SD)]


                                                 →←: 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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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.

Boot Option Priorities
This allows you to adjust 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.

Save & Exit

```
                Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
   Main      Advanced     Chipset     Security     Boot    Save & Exit

 Save Options                                    Reset the system after saving
 Save Changes and Reset                          the changes.
 Discard Changes and Reset

 Default Options
 Restore Defaults

 Boot Override



                                                 →←: 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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```

Save Changes and Reset
To save the changes and restart the system, 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 Reset
To exit the Setup utility without saving the changes and restart the system, 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.

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>.

APPENDIX A: WATCHDOG PROGRAMMING GUIDE

NDiS M537 features a watchdog timer that resets the CPU or generates an interrupt if the processor stops operating for any reason. This feature ensures system reliability in industrial standalone or unmanned environments.

```
#define SUPERIO_PORT    0x2E
#define WDT_SET         0xF0
#define WDT_VALUE       0xF1

void main(void)
{
  #Enter SuperIO Configuration
        outportb(SUPERIO_PORT, 0x87);
        outportb(SUPERIO_PORT, 0x87);

  # Set LDN
        outportb(SUPERIO_PORT, 0x07);
        outportb(SUPERIO_PORT+1 ,0x08);

  # Set WDT setting
        outportb(SUPERIO_PORT, WDT_SET);
        outportb(SUPERIO_PORT+1, 0x00)          # Use the second
                                                # Use the minute, change value to 0x08
  # Set WDT sec/min
        outportb(SUPERIO_PORT, WDT_VALUE);
        outportb(SUPERIO_PORT+1, 0x05);         #Set 5 seconds
}
```