



**NEXCOM International Co., Ltd.**

# **Intelligent Platform & Services Business Unit**

## **Digital Signage Platform**

### **NDiS B537**

#### User Manual

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# PREFACE

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## Acknowledgements

NDiS B537 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. The unit is intended only for use in a RESTRICTED ACCESS AREA for Standard 60950-1 used only.
18. **ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebus les batteries usagées selon les instructions.**  
  
**CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.**
19. The instructions shall require connection of the equipment protective earthing conductor to the installation protective earthing conductor (for example, by means of a power cord connected to a socket-outlet with earthing connection).
20. This product is intended to be supplied by a Listed (Certificate) power adapter, rated 12Vdc minimum, 8A minimum Tma 45 degree C minimum and altitude 2000m, if further assistance is needed, please contact NEXCOM International Co., Ltd. further information.

## Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at [www.nexcom.com](http://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 B537 package that you received is complete. Your package should have all the items listed in the following table.

Item	Name	Description	Qty
1	Round Head Screw w/Spring+Flat Washer Long Fei:P3x6L	P3x6 iso/SW6x0.5 NI	4
2	Round Head Screw Long Fei:P6#32Tx 1/4/SW7*0.8	w/Spring+Flat Washer P6#32Tx 1/4/SW7x0.8 NI	4
3	Flat Head Screw Long Fei:F3x5ISO+Nylok NIGP	F3x5 NI Nylok	4
4	Thermal Pad APUS:3A2020002001500	20x20x1.5mm XR-PE	2
5	NISE3122-LX8 Wall Mount Bracket CHYUAN-JYH:L10Z332	115x30x6mm SPCC NI t=1.2mm	2
6	Mini-Card Bracket for NDiS M323 VER:A CHYUAN-JYH	29x30x2.1mm t=1.0mm SPCC+NI	1
7	Manual Driver DVD	JCL	1
8	Power Adapter FSP:FSP096-AHBN2	96W DC12V/8A DC Plug 4-pin Power Molding Type	1
9	Thermal Pad APUS:3A2015001001500	15x10x1.5mm XR-PE	2
10	Rubber Foot Kang Yang:RF20-5-4P	19.8x18x5.0mm	4
11	HDD Bracket for NDiS B537 VER:B SHYUNG SHUHN	84x10.2x8mm T=1mm SPCC NI	2
12	Flat Head Screw Long Fei:F2x4 Nylok NIGP	F2x4 NIGP Nylok	2



Power Adapter



HDD Bracket



Screws

## Ordering Information

The following information below provides ordering information for NDiS B537.

- **Barebone**

**NDiS B537 (P/N: 10W00B53700X0)**

7th Generation Intel® Core™ Processor Slim and Fanless System

- **Optional**

**VESA Mount Kit**

- 1x VESA Mount Bracket
- 8x Screws

**Wall Mount Kit**

- 2x Wall Mount Bracket
- 4x Screws



VESA Mount Kit



Wall Mount Kit

# CHAPTER 1: PRODUCT INTRODUCTION

## Overview



Powered by the 7th generation Intel® Core™ processor, the NDiS B537 fanless embedded player can handle powerful multimedia content. In addition, the 7th generation Intel® Core™ processor delivers up to two-and-a-half times the performance in graphics, offering stunning visuals for striking 4K entertaining content creation, media playback, and image processing. The NDiS B537 manages in-store traffic analytics, simultaneously engaging “calls to action” with virtual interactions in order to increase product interest and dwell time.

The NDiS B537, supporting multiple HDMI 2.0 displays and USB 3.0 ports, and a RS232 interface, is an ideal high-end embedded player to optimize information visualization, convey brand messages, customer engagement, and smart retail management efficiencies to increase in-store traffic and sales. The slim fanless design with extended durability further covers usages like endless aisles, QSRs, drive-thru kiosks, bus stops, digital transit information signs, and information stands.

## Key Features

- 7th Generation Intel® Core™ Processor
- Support HDMI 2.0 Output (4K2K/60Hz support)
- Compact and Slim Design (H: 33mm)
- NGFF/ mini-PCIe Slot Support Wi-Fi and 4G Module
- Fanless Design

## Hardware Specifications

### CPU Support

- 7th Gen Intel® Core™ Processor

### Chipset

- Intel® PCH H110

### Graphics

- Intel® HD Graphics 500 series

### Main Memory

- 2x 260-pin SO-DIMM sockets, support DDR4 1866/2133 MHz Non ECC, Un-buffered memory up to 32G (Single Socket Max. 16GB)

### I/O Interface-Front

- 1x Power Button with LED
- 1x Power LED/ HDD LED
- 2x USB 3.0
- 2x HDMI
- 1x RJ45 with LEDs for Gigabit LAN
- 2x COM Port
- 1x 4pin Mini-Din with Lock

### I/O Interface-Rear

- 2x USB 3.0
- 3x Antenna Holes
- 1x Mic-in
- 1x Line-out

### Storage

- 1x 2.5" HDD/SSD

### Dimensions

- 295mm (W) x 189.9mm (D) x 33mm (H), w/o mounting bracket

### Construction

- Top cover made by aluminum for main heat exchange

### Power Supply

- 1x External 96W AC/DC power adapter  
Input: 100VAC to 240VAC  
Output: DC+12VDC

### API

- NEXCOM Xcare

### Expansion

- 1x Mini-PCIe Slot (Full Size)
- 1x NGFF (M.2) 2230 for Optional WLAN
- 1x SIM Slot

### Environment

- Operating Temperature: 0°C to 45°C
- Storage Temperature: -20°C to 80°C
- Humidity: 10 to 90% (Non-condensing)

### Certifications

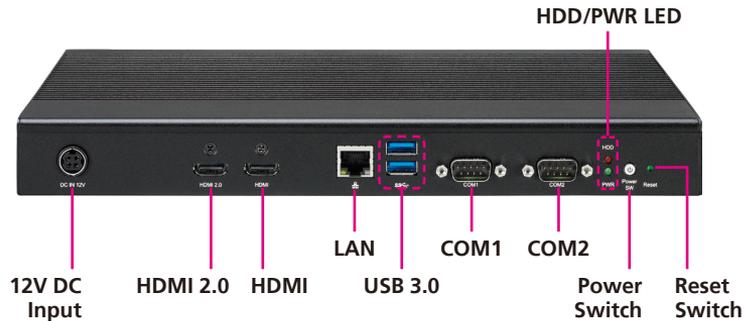
- CE approval
- FCC Class A

### Operating System

- Windows 10/Linux

# Knowing Your NDiS B537

## Front Panel



### 12V DC Input

Used to plug a DC power cord.

### HDMI 2.0/HDMI Port

Used to connect an HDMI 2.0/HDMI interface monitor.

### LAN Port

Used to connect the system to a local area network.

### Dual USB 3.0

Used to connect USB 3.0/2.0/1.1 devices.

### COM1/COM2 Port

The COM ports support RS232 compatible serial devices.

### HDD/PWR LED

Displays the HDD activity and power status of the system.

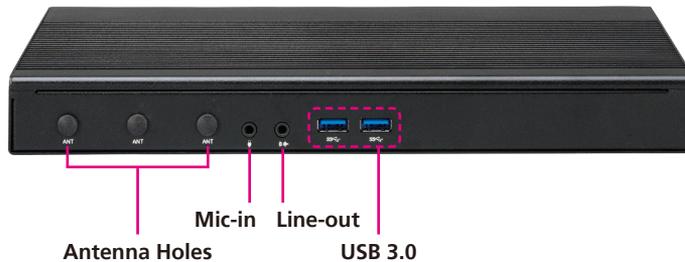
### Power Switch Button (LED)

Power switch to power on/off the system and display power status.

### Reset Button (LED)

Push button for system reset.

## Rear Panel



### Antenna Holes for Optional Wi-Fi

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

### Mic-in

Used to connect an external microphone.

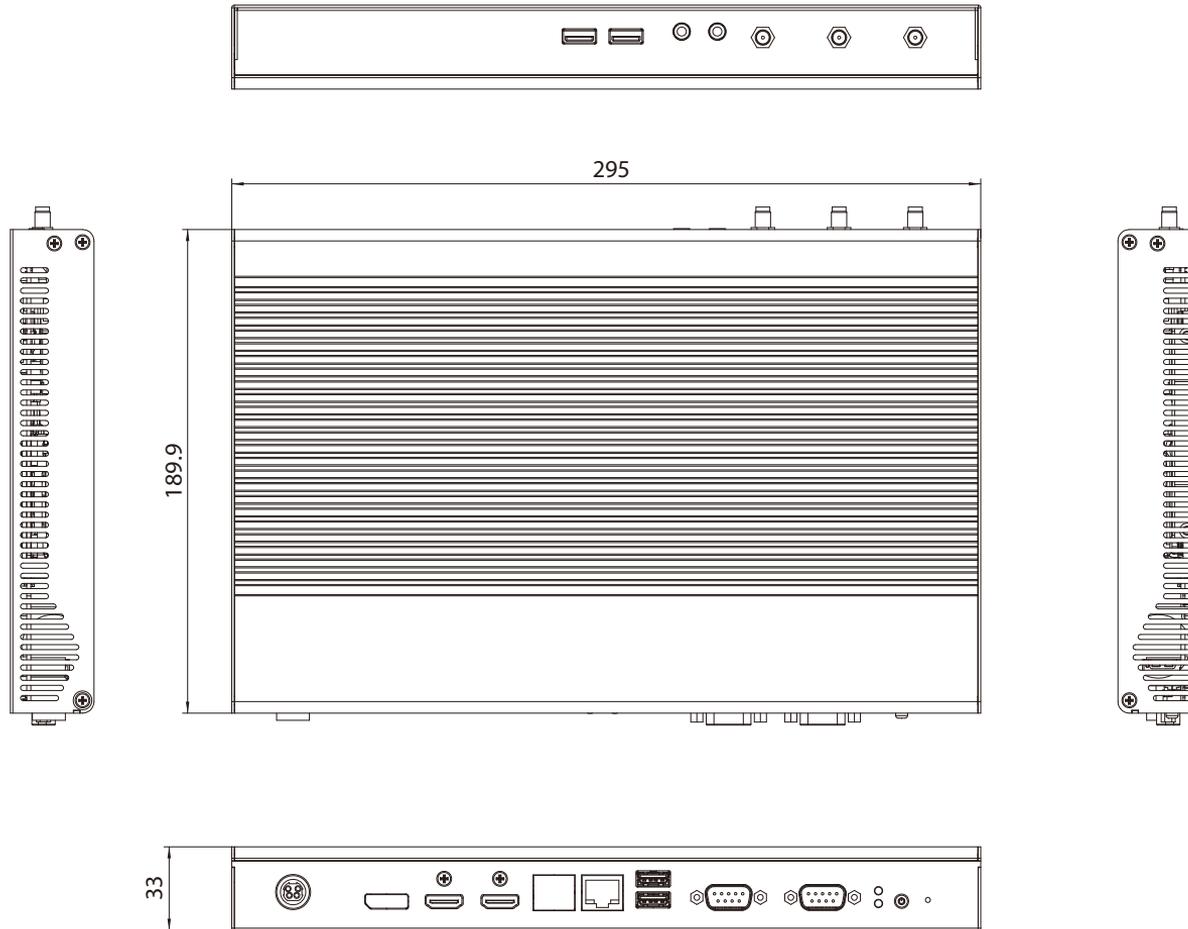
### Line-out

Used to connect a headphone or a speaker.

### USB 3.0 Ports

Used to connect USB 3.0/2.0/1.1 devices.

# Mechanical Dimensions



## CHAPTER 2: JUMPERS AND CONNECTORS

This chapter lists the locations of the jumpers and connectors for NDiS B537.

### 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:

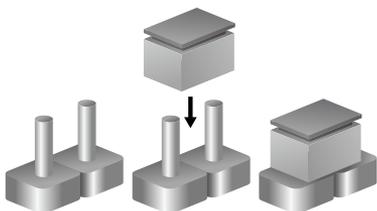
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal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

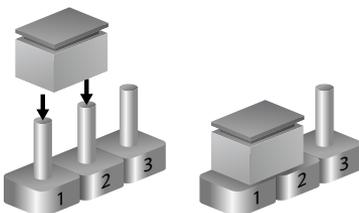
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just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

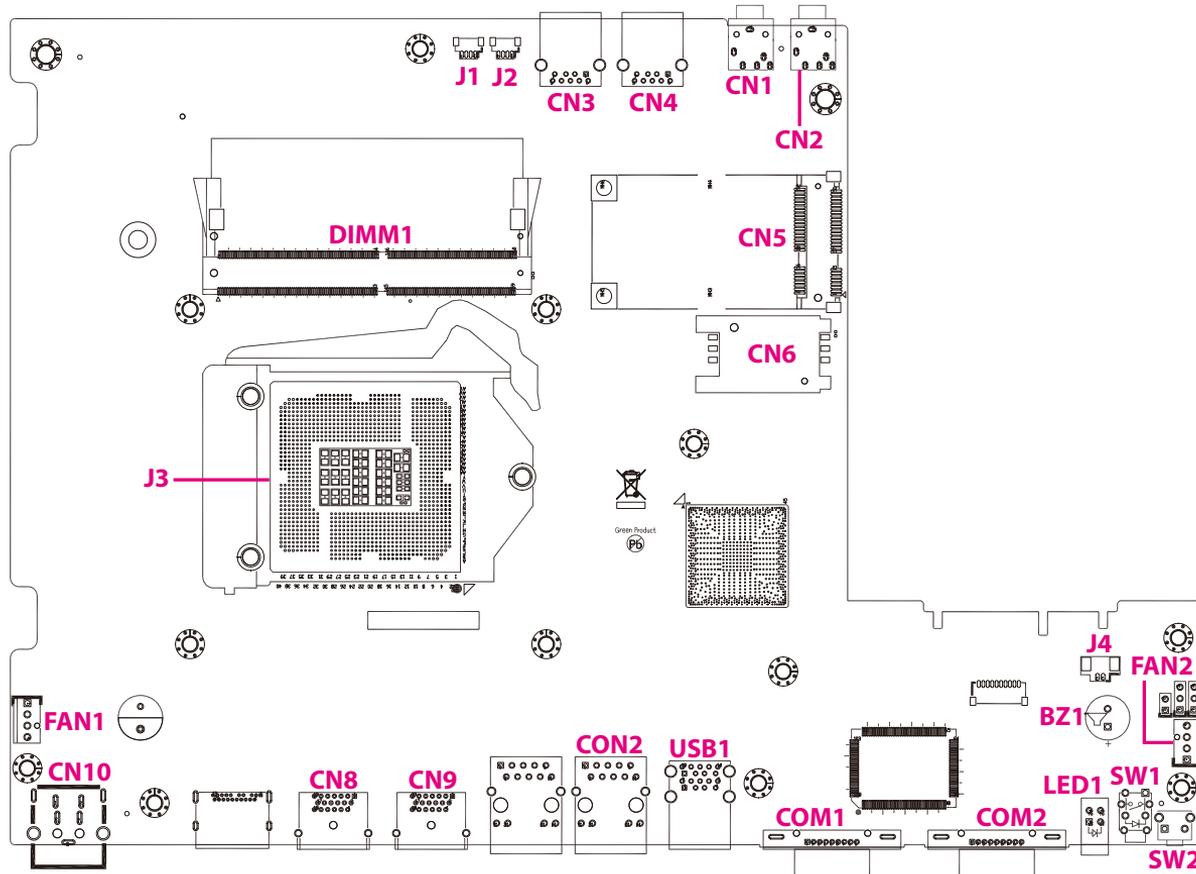


Three-Pin Jumpers: Pins 1 and 2 are Short

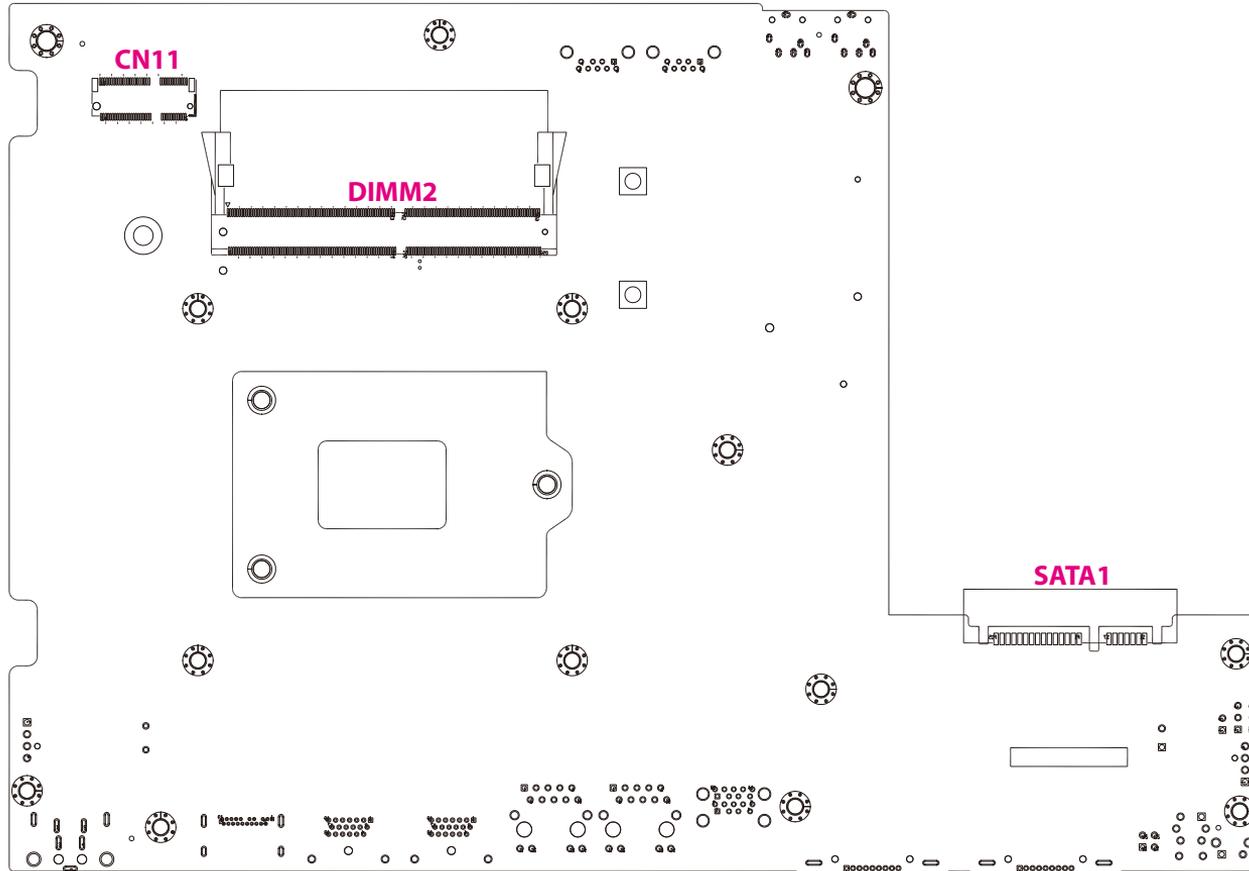


# Location of the Jumpers and Connectors

## Top View



## Bottom View



## Connector/Button Table

Connector	Name
CN10	DC 12V Power-in Connector
CN8	HDMI 2.0 Connector
CN9	HDMI Connector
CON2	RJ45 GbE Connector
USB1	Dual USB 3.0 Connector
COM1	COM Port Connector 1
COM2	COM Port Connector 2
SW1	Power Button
SW2	Reset Button
SATA1	SATA HDD Connector

Connector	Name
CN6	SIM Card Slot
CN5	Mini-PCIe Slot (Full)
CN11	NGFF M.2 Slot (2230)
J3	LGA1151 CPU Socket
DIMM1	DDR4 SO-DIMM Slot 1
DIMM2	DDR4 SO-DIMM Slot 2
CN2	Microphone Input Connector
CN1	Audio Line-out Connector
CN4	Single USB 3.0 Connector
CN3	Single USB 3.0 Connector

## Header/Wafer Table

Connector	Name
LED1	HDD/PWR LED
FAN1	FAN Wafer 1
FAN2	FAN Wafer 2
BZ1	Buzzer
JP1	CMOS Clear Jumper
J1	USB 2.0 Pin Header
J2	USB 2.0 Pin Header
J4	RTC Battery Wafer

# CHAPTER 3: SYSTEM SETUP

## Installing a SATA HDD



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

1. Remove the mounting screws around the chassis cover and then remove the cover.



2. Align the mounting holes that are on the sides of the SATA drive with the mounting holes on the drive bay and then use the provided mounting screws to secure the drive in place.



3. Place the SATA drive in the chassis and connect the SATA data connector, then use screws to secure the drive in the chassis.



## Installing a SO-DIMM Memory Module

1. Insert the module into the socket at an approximately 30 degrees angle. Apply firm even pressure to each end of the module until it slips into the socket. The gold-plated connector on the edge of the module will almost completely disappear inside the socket.
2. Push the module down until the clips on both sides of the socket lock into position. You will hear a distinctive “click” sound, indicating the module is correctly locked into position.



Memory module



3. Open the bottom cover for installing the 2nd SO-DIMM memory module.

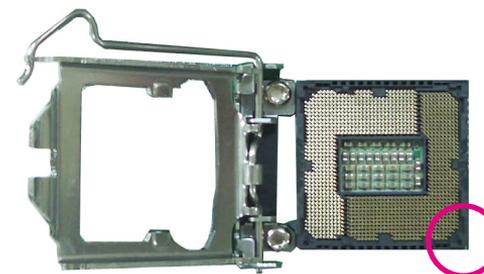


## Installing the CPU (Socket Type)

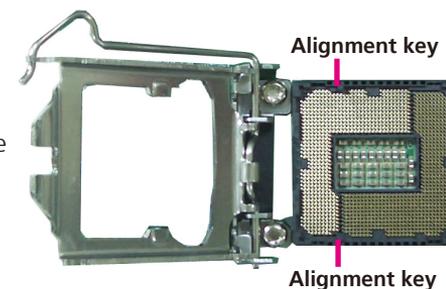
1. Unlock the socket by pushing the load lever down, moving it sideways until it is released from the retention tab; then lift the load lever up.



2. 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.



- 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.

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



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



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



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

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



## Installing a NGFF M.2 Wi-Fi Module (Optional)

1. The NGFF M.2 Wi-Fi module package includes the following items.



**NGFF M.2 Wi-Fi Module**

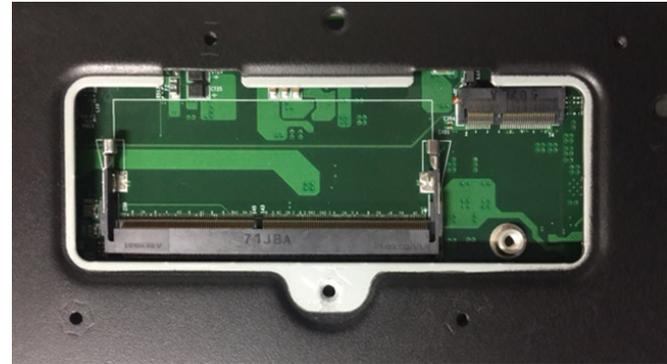


**Antennas**



**RF Cables**

2. Remove the access cover for the NGFF M.2 slot.



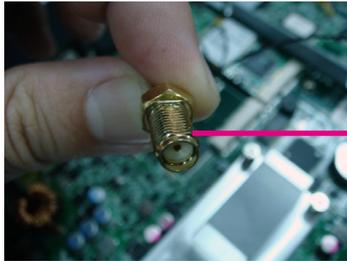
3. Insert the NGFF M.2 Wi-Fi module into the NGFF M.2 slot at a 45 degrees angle until the gold-plated connector on the edge of the module completely disappears inside the slot.



4. Secure the module with mounting screws and attach one end of the RF cables onto the module.



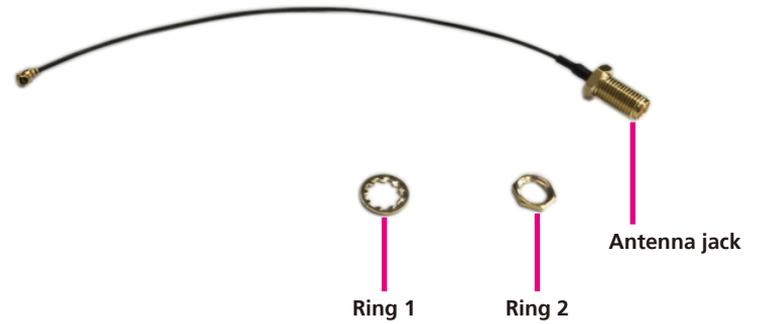
5. Insert the antenna jack end of the cable through the antenna hole.



Antenna jack  
end of the cable

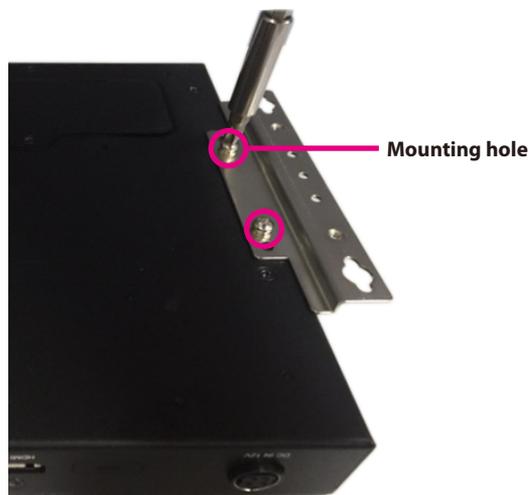


6. Insert the rings onto the antenna jack end of the cable.



## Installing the Wall Mount Kit

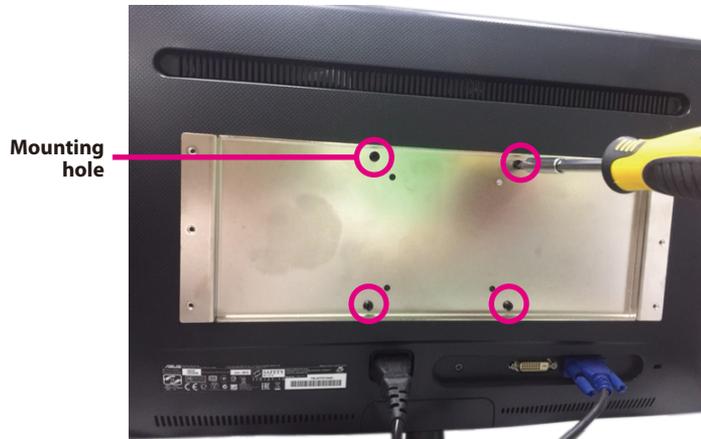
1. Align the mounting holes on the wall mount brackets to the mounting holes on both sides of the system, then secure the brackets with screws.
2. Fasten screws to mount the system to the wall.



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

## Installing the VESA Mount Kit

1. Align the mounting holes on the VESA mount kit to the VESA mounting holes on the back of the monitor, then secure the VESA mount kit with screws.
2. Secure the system to the VESA mount bracket with screws.



## CHAPTER 4: BIOS SETUP

This chapter describes how to use the BIOS setup program for the NDiS B537. 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](http://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  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.
	Exits the BIOS Setup Utility.
	Scrolls forward through the values or options of the highlighted field.
	Scrolls backward through the values or options of the highlighted field.
	Selects a field.
	Displays General Help.
	Load previous values.
	Load optimized default values.
	Saves and exits the Setup program.
	Press <Enter> to enter the highlighted sub-menu

## Scroll Bar

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

## Submenu

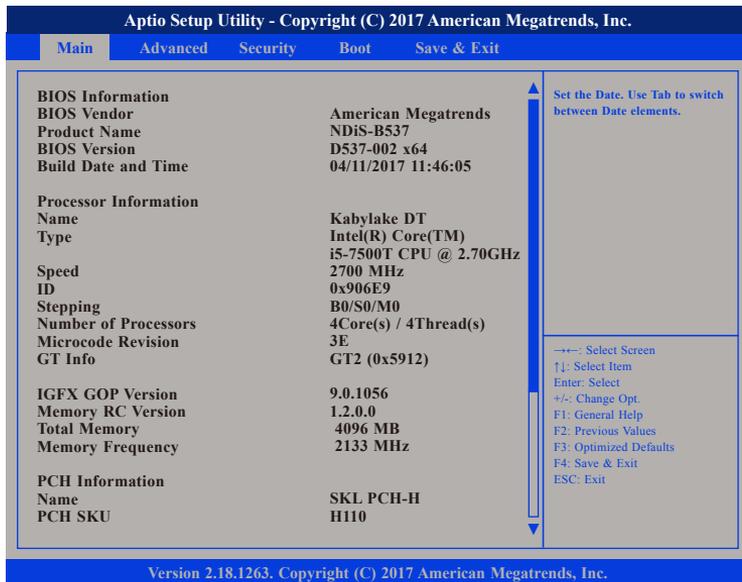
When “▶” appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press  .

## BIOS Setup Utility

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. The main menu allows you to select from several setup functions and one exit. Use arrow keys to select among the items and press  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) 2017 American Megatrends, Inc.				
Main	Advanced	Security	Boot	Save & Exit
<b>BIOS Information</b>				
BIOS Vendor	American Megatrends			
Product Name	NDiS-B537			
BIOS Version	D537-002 x64			
Build Date and Time	04/11/2017 11:46:05			
<b>Processor Information</b>				
Name	Kabylake DT			
Type	Intel(R) Core(TM) i5-7500T CPU @ 2.70GHz			
Speed	2700 MHz			
ID	0x906E9			
Stepping	B0/S0/M0			
Number of Processors	4Core(s) / 4Thread(s)			
Microcode Revision	3E			
GT Info	GT2 (0x5912)			
<b>IGFX GOP Version</b>				
IGFX GOP Version	9.0.1056			
Memory RC Version	1.2.0.0			
Total Memory	4096 MB			
Memory Frequency	2133 MHz			
<b>PCH Information</b>				
Name	SKL PCH-H			
PCH SKU	H110			

Set the Date. Use Tab to switch between Date elements.

← 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) 2017 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.

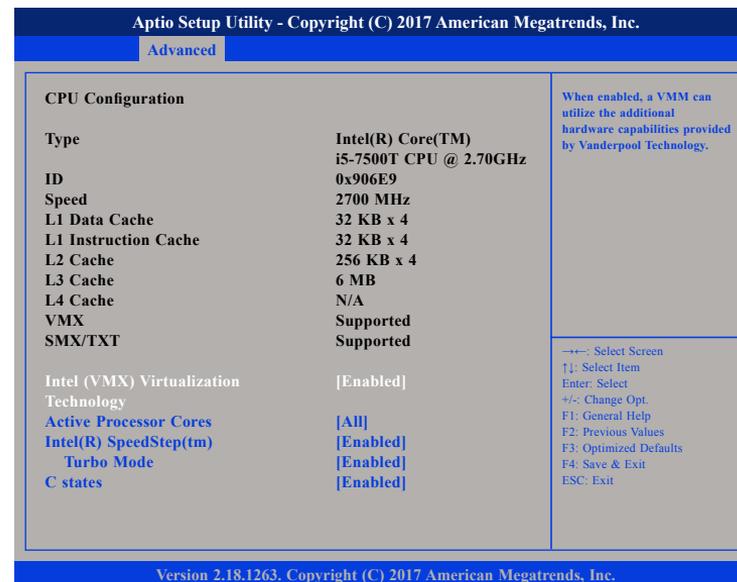


### State After G3

Configures which state to enter 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.



### 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.

### Turbo Mode

Enables or disables turbo mode.

### CPU C States

Enables or disables CPU C states.

## SATA and RST Configuration

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



### 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 Serial ATA port 0.

### Hot Plug

Enables or disables hot plugging feature on Serial ATA port 0.

## ACPI Settings

This section is used to configure ACPI settings.



### Enable Hibernation

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

### 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).

## IT8728F Super IO Configuration

This section is used to configure serial ports 1 and 2.



### Super IO Chip

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

## Serial Port 1 Configuration

Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.	
Advanced	
<b>Serial Port 1 Configuration</b>	
Serial Port	[Enabled]
Device Settings	IO=3F8h; IRQ=4;
Change Settings	[IO=3F8h; IRQ=4;]
Enable or Disable Serial Port (COM)	
→←: 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) 2017 American Megatrends, Inc.	

### Serial Port

Enables or disables the serial port.

### Device Settings

Displays the IO address and IRQ of serial port 1.

### Change Settings

Selects an optimal setting for the Super IO device.

## Serial Port 2 Configuration

Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.	
Advanced	
<b>Serial Port 2 Configuration</b>	
Serial Port	[Enabled]
Device Settings	IO=2F8h; IRQ=3;
Change Settings	[IO=2F8h; IRQ=3;]
Enable or Disable Serial Port (COM)	
→←: 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) 2017 American Megatrends, Inc.	

### Serial Port

Enables or disables the serial port.

### Device Settings

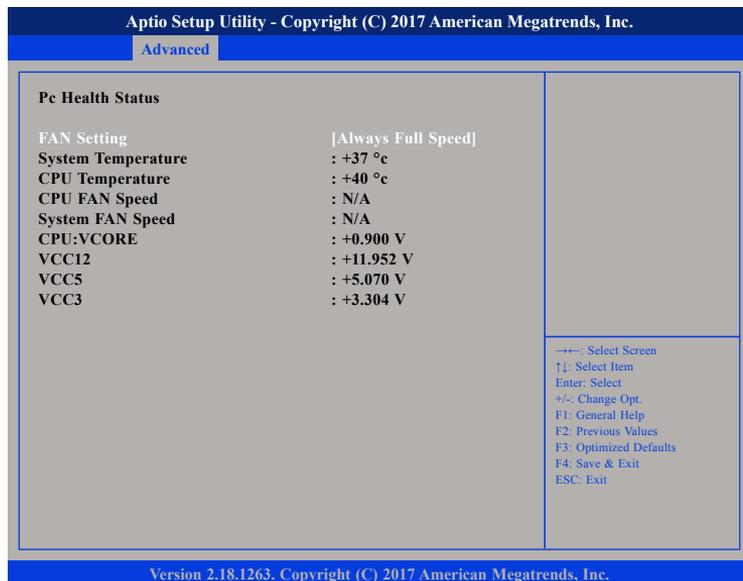
Displays the IO address and IRQ of serial port 2.

### 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.



### FAN Setting

Controls the speed of the fan, the options are Always Full Speed and Enable Smart Fan.

### System Temperature

Detects and displays the internal temperature of the system.

### CPU Temperature

Detects and displays the current CPU temperature.

### CPU FAN Speed

Detects and displays the current CPU fan speed.

### System FAN Speed

Detects and displays the current system fan speed.

### CPU:V CORE to VCC3

Detects and displays the output voltages.

## S5 RTC Wake Settings

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

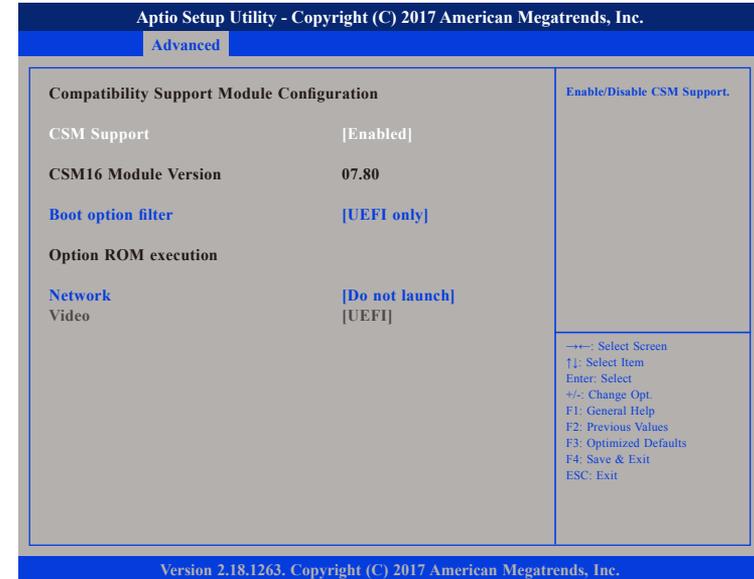


### Wake System from S5

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.



### CSM Support

Enables or disables Compatibility Support Module (CSM).

### Boot Option Filter

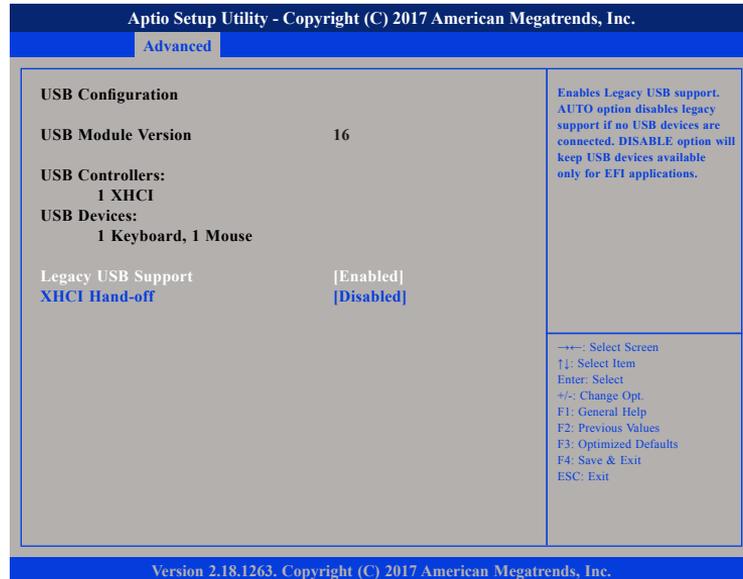
This option filters which devices system can boot to.

### Network

Enables or disables the boot option for legacy network devices.

## USB Configuration

This section is used to configure USB parameters.



### Legacy USB Support

Enable Enables Legacy USB.

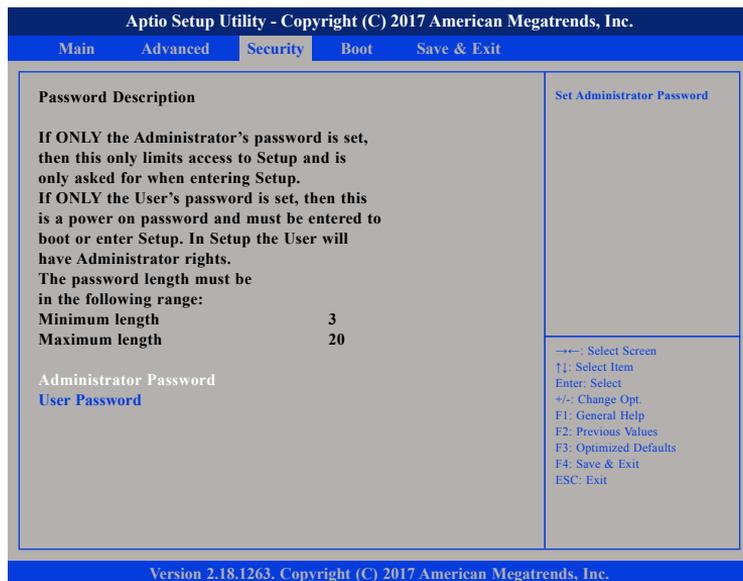
Auto Disables support for Legacy when no USB devices are connected.

Disable Keeps USB devices available only for EFI applications.

### XHCI Hand-off

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

## Security



### Administrator Password

Select this to reconfigure the administrator's password.

### User Password

Select this to reconfigure the user's password.

## Boot



### 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



### 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 TIMER

NDiS B537 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.

## Watchdog Timer Control Register (Index=71h, Default=00h)

Bit	Description
7	WDT is reset upon a CIR interrupt.
6	WDT is reset upon a KBC (Mouse) interrupt.
5	WDT is reset upon a KBC (Keyboard) interrupt.
4	<b>Reserved</b>
3-2	<b>Reserved</b>
1	<b>Force Time-out</b> This bit is self-cleared.
0	<b>WDT Status</b> 1: WDT value is equal to 0. 0: WDT value is not equal to 0.

## Watchdog Timer Configuration Register (Index=72h, Default=001s0000b)

Bit	Description
7	<b>WDT Time-out Value Select 1</b> 1: Second 0: Minute
6	<b>WDT Output through KRST (pulse) Enable</b> 1: Enable 0: Disable
5	<b>WDT Time-out Value Extra Select</b> 1: 64ms x WDT Timer-out value (default = 4s) 0: Determined by WDT Time-out value select 1 (bit 7 of this register)
4	<b>WDT Output through PWRGD Enable</b> 1: Enable 0: Disable <i>During LRESET# this bit is selected by JP2 power-on strapping option.</i>
3-0	<b>Interrupt Level Select for WDT</b> Please refer to Interrupt Level Mapping Table.

## Watchdog Timer Time-out Value (LSB) Register (Index=73h, Default=38h)

Bit	Description
7-0	WDT Time-out Value 7-0

## Watchdog Timer Time-out Value (MSB) Register (Index=74h, Default=00h)

Bit	Description
7-0	WDT Time-out Value 15-8

**SMI# Control Register 2 (Index=F1h, Default=00h)**

Bit	Description
7	<b>Reserved</b>
6	0: Edge trigger 1: Level trigger
5-3	<b>Reserved</b>
2	This bit enables the generation of a SMI# due to WDT's IRQ (EN_WDT).
1	This bit enables the generation of a SMI# due to CIR's IRQ (EN_CIR).
0	This bit enables the generation of a SMI# due to PBD's IRQ (EN_PBD).