

NEXCOM International Co., Ltd.

# Network and Communication Solutions Desktop Fixed Wireless Access Appliance DFA1163 User Manual

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# PREFACE

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# Disclaimer

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The information in this document is subject to change without prior notice and does not represent commitment from NEXCOM International Co., Ltd. However, users may update their knowledge of any product in use by constantly checking its manual posted on our website: http://www.nexcom.com. NEXCOM shall not be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of any product, nor for any infringements upon the rights of third parties, which may result from such use. Any implied warranties of merchantability or fitness for any particular purpose is also disclaimed.

# **Acknowledgements**

DFA1163 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 B devices and describes how to keep the system CE compliant.

# **Declaration of Conformity**

### FCC

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

#### CE

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



# **RoHS Compliance**



#### NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with

European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2011/65/EU, to be your trusted green partner and to protect our environment.

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

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

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

#### How to recognize NEXCOM RoHS Products?

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

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



# Warranty and RMA

#### **NEXCOM Warranty Period**

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

#### **NEXCOM Return Merchandise Authorization (RMA)**

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

### **Repair Service Charges for Out-of-Warranty Products**

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

#### **Repair Service Charges for Out-of-Warranty Products**

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

#### System Level

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

#### **Board Level**

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

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#### Warnings

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

#### Cautions

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



# **Safety Information**

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

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

# **Installation Recommendations**

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

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

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

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



# **Safety Precautions**

- 1. Read these safety instructions carefully.
- 2. Keep this User Manual for later reference.
- 3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
- 4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
- 5. Keep this equipment away from humidity.
- 6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.
- 7. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- 8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- 9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
- 10. All cautions and warnings on the equipment should be noted.
- 11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
- 12. Never pour any liquid into an opening. This may cause fire or electrical shock.
- 13. Never open the equipment. For safety reasons, the equipment should be opened only by skilled person.

- 14. If one of the following situations arises, get the equipment checked by service personnel:
  - a. The power cord or plug is damaged.
  - b. Liquid has penetrated into the equipment.
  - c. The equipment has been exposed to moisture.
  - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
  - e. The equipment has been dropped and damaged.
  - f. The equipment has obvious signs of breakage.
- 15. Do not place heavy objects on the equipment.
- 16. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
- 17. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

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

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

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

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

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

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



# **Technical Support and Assistance**

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

#### Warning!

- 1. Handling the unit: carry the unit with both hands and handle it with care.
- 2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.

# **Conventions Used in this Manual**



#### Warning:

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



### Caution:

Information to avoid damaging components or losing data.

#### Note:

Provides additional information to complete a task easily.



# **Global Service Contact Information**

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# **Package Contents**

Before continuing, verify that the DFA1163 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	50311F0100X00	(H)Round Head Screw w/Spring+Flat Washer Long Fei:P3x6L	P3x6 iso/SW6x0.5 NI	6
2	50311F0111X00	(H)Flat Head Screw Long Fei:F3x5ISO+Nylok Black	F3x5 Black Nylok	15
3	50311F0144X00	I Head Screw Long Fei:	M3x4mm NI Nylok	4
4	50311F0162X00	(H)Round Head Screw GW/Washer Long Fei	P4x8 iso/w NI	1
5	50311F0181X00	(H)P Head Screw Long Fei	M3X8L Nilok	5
6	50311F0245X00	Flat Head Screw Long Fei	F4X8L-Tap Cut Black	8
7	50311T0050X00	I Head Screw Long Fei	ISO I3x8mm Black	2
8	50322C0028X00	NXG50 NUT S.C.:GE4N2SN10800 (Must be used with DC JACK)	10.00x(5/16x32W) T=2.10mm	1
9	50333F0008X00	NXG50 Washer S.C.:GJ4W1SN10800 (Must be used with DC JACK)	10.10x8.10mm T=0.3mm	1
10	50344C0112X00	Copper Post Long Fei:Copper Post 8x5xM3	With Male/Female(Female)8mmx(Male)5mmxM3	5
11	5044440031X00	Rubber Foot Kang Yang:RF20-5-4P	19.8x18x5.0mm	4
12	50501A1295X00	(N)Chassis for DFA1163M VER:A CHYUAN-JYH	254x226x44mm SGCC T=0.8mm Painting:PANTONE 8403C	1
13	5050200114X00	Fan for vDNA1160 VER:A SUN TAI:AD204020MBPA08	40x40x20mm 8000RPM 12V 2510 4Pin L=100mm	2
14	5060200394X00	Thermal Pad for vDNA1160 VER:A E-LIN	31x25x1mm K=15W/m-k	1
15	5060600038X00	NICE3120 Diamter Hole Plugs 康揚:MHD-7	7.2xDiameter:9xH:5.7mm Black	7
16	5061711373X00	(N)SFP+ 2x1 Cage Chant Sincere:902GHB1BCTA2N1A3	w/EMI & Light Pipe Press-fit Type 63.25x14.75x26.95mm	1
17	5061711600X00	(N)54V Power Cover for DFA1163M VER:A CHYUAN-JYH	30.8x24x19mm SGCC T=1.0mm	1
18	5061711601X00	(N)Fan Bracket for DFA1163M VER:A CHYUAN-JYH	42x40x15.8mm SGCC T=1.0mm	2
19	60110A0235X00	Pizza Box PCB VER:A YI GIA	333x264x82mm B Flute 14kg	1
20	60111A0457X00	Outside Carton for NPA-1610-M (B3) VER:A YI GI	O/D:380x320x232mm AB Flute 18kg	1
21	6012200052X00	PE Zipper Bag #8 炎洲:印刷由任袋8號	170x240mm,w/China RoHS Symbol	1
22	6012200062X00	PE Bag for DNA730/840 PANADVANCE	350x330mm T:0.08mm With RoHS Symbol	1

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# Package Contents Cont.

Before continuing, verify that the DFA1163 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Name	Description	Qty
23	6013301556X00	EPE for DFA1163 VER:A SENTENEL	304x198x101mm	2
24	6019900289X00	Paper Plate for NSK6301 4 IN 1 Pack VER:A YI GIA	324x254mm AB Flute 14kg	1
25	6019900290X00	Paper Partition for NSK6301 4 IN 1 PACK VER:A YI GIA	253x151mm B Flute 14kg	1
26	6019900291X00	Carton Lining for NSK6301 4 IN 1 PACK VER:A YI GIA	577x330mm B Flute 14kg	1
27	6023309081X00	Cable EDI:232091081804-RS	COM Port. DB9 Female To RJ45 8P8C L:1800mm	1
28	7400090005X00	Power Adapter DELTA:DPS-90AB-3 D	DC 90W 12V/7.5A 150x60x30.5mm	1
29	CE01000338X00	C Eeprom Of I211(Intel) VER:0.6 Color:A	File:I211_DNB1160.txt	1
30	50311F0100X00	(H)Round Head Screw w/Spring+Flat Washer Long Fei:P3x6L	P3x6 iso/SW6x0.5 NI	6
31	50311F0111X00	(H)Flat Head Screw Long Fei:F3x5ISO+Nylok Black	F3x5 Black Nylok	15
32	50311F0144X00	I Head Screw Long Fei:	M3x4mm NI Nylok	4
33	50311F0162X00	(H)Round Head Screw GW/Washer Long Fei	P4x8 iso/w NI	1
34	50311F0181X00	(H)P Head Screw Long Fei	M3X8L Nilok	5
35	50311F0245X00	Flat Head Screw Long Fei	F4X8L-Tap Cut Black	8
36	50311T0050X00	I Head Screw Long Fei	ISO I3x8mm Black	2
37	50322C0028X00	NXG50 Nut S.C.:GE4N2SN10800 (Must be used with DC JACK)	10.00x(5/16x32W) T=2.10mm	1
38	50333F0008X00	NXG50 Washer S.C.:GJ4W1SN10800 (Must be used with DC JACK)	10.10x8.10mm T=0.3mm	1
39	50344C0112X00	Copper Post Long Fei:Copper Post 8x5xM3	With Male/Female(Female)8mmx(Male)5mmxM3	5
40	5044440031X00	Rubber Foot Kang Yang:RF20-5-4P	19.8x18x5.0mm	4
41	50501A1295X00	(N)Chassis for DFA1163M VER:A CHYUAN-JYH	254x226x44mm SGCC T=0.8mm PAINTING:PANTONE 8403C	1
42	5050200114X00	Fan for vDNA1160 VER:A SUN TAI:AD204020MBPA08	40x40x20mm 8000RPM 12V 2510 4Pin L=100mm	2
43	5060200394X00	Thermal Pad for vDNA1160 VER:A E-LIN	31x25x1mm K=15W/m-k	1
44	5060600038X00	NICE3120 Diameter Hole Plugs 康揚:MHD-7	7.2xDiameter:9xH:5.7mm Black	7

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# Package Contents Cont.

Before continuing, verify that the DFA1163 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Name	Description	Qty
45	5061711373X00	(N)SFP+ 2x1 Cage Chant Sincere:902GHB1BCTA2N1A3	w/EMI & Light Pipe Press-fit Type 63.25x14.75x26.95mm	1
46	5061711600X00	(N)54V Power Cover for DFA1163M VER:A CHYUAN-JYH	30.8x24x19mm SGCC T=1.0mm	1
47	5061711601X00	(N)Fan Bracket for DFA1163M VER:A CHYUAN-JYH	42x40x15.8mm SGCC T=1.0mm	2
48	60110A0235X00	Pizza Box for AGX5000 Switch PCB VER:A YI GIA	333x264x82mm B Flute 14kg	1
49	60111A0457X00	Outside Carton for NPA-1610-M (B3) VER:A YI GIA	O/D:380x320x232mm AB Flute 18kg	1
50	6012200052X00	PE Zipper Bag #8 炎洲:印刷由任袋8號	170x240mm,w/China RoHS Symbol	1
51	6012200062X00	PE Bag for DNA730/840 Panadvance	350x330mm T:0.08mm With RoHS Symbol	1
52	6013301556X00	EPE for DFA1163 VER:A SENTENEL	304x198x101mm	2
53	6019900289X00	Paper Plate for NSK6301 4 IN 1 Pack VER:A YI GIA	324x254mm AB Flute 14kg	1
54	6019900290X00	Paper Partition for NSK6301 4 IN 1 Pack VER:A YI GI	253x151mm B Flute 14kg	1
55	6019900291X00	Carton Lining for NSK6301 4 IN 1 Pack VER:A YI GIA	577x330mm B Flute 14kg	1
56	6023309081X00	Cable EDI:232091081804-RS	COM Port. DB9 Female to RJ45 8P8C L:1800mm	1
57	7400090005X00	Power Adapter Delta:DPS-90AB-3 D	DC 90W 12V/7.5A 150x60x30.5mm	1



# **Ordering Information**

The following below provides ordering information for DFA1163.

#### • DFA 1163 (P/N: 10FA0116300X0)

Intel Atom<sup>®</sup> Processor C3558R, BGA type 4 cores/2.4 GHz, 2 x DDR4-2400 DIMM ECC memory, max. 64 GB

#### DFA 1163A (P/N: 10FA0116301X0)

Intel Atom<sup>®</sup> Processor C3758R, BGA type 8 cores/2.4 GHz, 2 x DDR4-2400 DIMM ECC memory, max. 64 GB

#### • DFA 1163M (P/N: 10FA0116302X0)

Intel Atom<sup>®</sup> Processor C3758R, BGA type 8 cores/2.4 GHz, 2 x DDR4-2400 DIMM ECC memory, max. 64 GB, TSN support, 5G FR1/FR2 support



# CHAPTER 1: PRODUCT INTRODUCTION

# **Overview**



# **Key Features**

- Intel Atom<sup>®</sup> processor C3000R
- 2 x DDR4 ECC RDIMM/UDIMM
- 1 x 10GbE SFP+ port
- 12 x RJ45 ports (with optional PoE+ support)



- Supports Wi-Fi 6
- Supports 4G LTE and 5G FR1 SA/NSA modes
- Supports 5G FR2 NSA mode (DFA 1163M only)
- Supports TSN (DFA 1163M only)

![](_page_17_Picture_1.jpeg)

# **Hardware Specifications**

### Main Board

- Intel Atom<sup>®</sup> processor C3000R
  - Intel Atom<sup>®</sup> processor C3558R, BGA type, 4 cores/ 2.4 GHz for DFA 1163
  - Intel Atom<sup>®</sup> processor C3758R, BGA type, 8 cores/ 2.4 GHz for DFA 1163A
  - Intel Atom<sup>®</sup> processor C3758R, BGA type, 8 cores/ 2.4 GHz for DFA 1163M
- TPM 2.0 onboard

### **Main Memory**

• 2 x DDR4-2400 ECC RDIMM/UDIMM, up to 64GB

### Storage

- 1 x 8G onboard eMMC
- 1 x PCle3x 4 M.2 2280 Key M SSD

### Interface External

- Button: power and reset
- LAN ports LED indicators: active/link speed
- 8 x LED indicators: power/PoE/MGMT/SSD/WLAN/5G LTE
- 1 x USB 3.0 connector combined with RJ45 console port
- 1 x USB 3.0 connector combined with RJ45 management port
- 1 x Dual Micro SIM slot
- 2 x 2.5GbE RJ45 ports ports (with optional PoE+ support)
- 2 x 1GbE RJ45 ports ports (with optional PoE+ support)
- 8 x 1GbE RJ45 Switch ports (with optional PoE+ support)
- 1 x 1GbE SFP port

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- 1 x 10GbE SFP+ port
- 2 x Fixed smart fans
- 2 x Power inlets (1 x 12V, 1 x 54V)
- 6 x Antenna holes (4 x for 4G LTE/5G antennas, 2 x for Wi-Fi 6 antennas)

### Interface-Internal

- 1 x M.2 3080 Key M slot for Wi-Fi 6 module
- 1 x M.2 3042/3052 Key B slot for 4G LTE/5G module

### **Power Input**

- 65W 12V AC power adapter
- 280W 54V PoE power adapter (optional)

### **Dimensions and Weight**

- Chassis dimension (mm): 253.5mm x 226mm x 44mm (W x D x H)
- Package dimension (mm): 380mm x 320mm x 232mm (W x D x H)
- Without package: 3.81 kg
- With package: 4.98 kg

### Environment

- Operating temperature: 0°C~40°C
- Storage temperature: -20°C~80°C
- Relative humidity: 10%~90% non-condensing

### Certifications

CE/FCC Class B

![](_page_18_Picture_1.jpeg)

# Knowing Your DFA1163 Front Panel

![](_page_18_Picture_3.jpeg)

**Reset Button** Press to restart the system.

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

**SIM Slot** Used to insert a SIM card.

Ethernet LED Indicators Displays Ethernet activity Link activity: Green for link; Flashing green for activity. GbE speed: Green for 1G; Amber for 100M; Off for 10M 2.5GbE: Green for 2.5G; Amber for 1G; Off for 100M/10M SFP: Green for 1G; Off for others SFP+: Green for 10G; Off for others

#### LED Indicators (PWR/PoE0/PoE1/PoE2/5G LTE/WLAN/SSD/MGMT)

Power LED: Green for on; Red for off PoE0~2: Green for active; Off for inactive 5G LTE: Green for module installation; Off for module non-installation WLAN: Green for module installation; Off for module non-installation SSD: Green for active; Flashing green for data transferring; Off for inactive MGMT: Green for active; Off for inactive

![](_page_19_Picture_1.jpeg)

### **Rear Panel**

![](_page_19_Figure_3.jpeg)

12V DC Input/54V DC Input

12V: Used to plug a DC power cord. (For x86 system) 54V: Used to plug a DC power cord. (For PoE)

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

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

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

**MGMT Port** For the remote management and configuration of a networking device.

**SFP Port** Used to connect SFP transceivers/modules.

# **Gigabit PoE Ports** Used to connect the system to Powered Device (PD) compliant devices, such as IP cameras.

**GbE Ethernet switch with PoE+** Used for connection with multiple network devices.

**Ground Screw** Used for chassis grounding.

#### Antenna Holes Used to mount and connect external antennas.

![](_page_20_Picture_1.jpeg)

# Mechanical Dimensions

DFA 1163

![](_page_20_Figure_4.jpeg)

![](_page_20_Figure_5.jpeg)

![](_page_21_Picture_1.jpeg)

# CHAPTER 2: JUMPERS AND CONNECTORS

This chapter describes how to set the jumpers and connectors on the DFA1163 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.

![](_page_22_Picture_1.jpeg)

# **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)

![](_page_22_Picture_6.jpeg)

Three-Pin Jumpers: Pins 1 and 2 are Short

![](_page_22_Picture_8.jpeg)

![](_page_23_Picture_1.jpeg)

# Locations of the Jumpers and Connectors

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

![](_page_23_Figure_4.jpeg)

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![](_page_24_Picture_1.jpeg)

# Jumpers

### **RTC Clear**

Connector type: 1x3 3-pin header Connector location: JP9

![](_page_24_Picture_5.jpeg)

## **PMC Clear**

Connector type: 1x3 3-pin header Connector location: JP10

![](_page_24_Picture_8.jpeg)

Pin	Description
1-2	Normal
2-3	Clear CMOS

Pin	Description	
1-2	Normal	
2-3	Clear PMC	

![](_page_25_Picture_1.jpeg)

# **Connector Pin Definitions**

## **External I/O Interfaces**

# **DC-12V Power Connector**

Connector type: 12V for x86 system Connector location: CN1

![](_page_25_Picture_6.jpeg)

Pin	Description	
1	GND	
2	GND	
3	DC_IN	

# +54V DC IN

Connector type: 54V for PoE Connector location: CN8

![](_page_25_Figure_10.jpeg)

Pin	Signal	Pin	Signal
1	Vmain_54V	5	NA-
2	POE_AGND	6	NA
3	NA	7	POE_AGND
4	P54V_PG	8	POE_AGND

![](_page_26_Picture_1.jpeg)

# System Power Button

Connector location: SW1

![](_page_26_Picture_4.jpeg)

Pin	Function	
2	GND	
1	PWR_BTN_CAL_N	

# USB 3.0

Connector type: USB 3.0 Connector location: CN7

![](_page_26_Picture_8.jpeg)

Pin	Signal	Pin	Signal
1	P5V_USB	6	USB3_RX_D0+
2	USB2_PO-	7	GND
3	USB2_P0+	8	USB3_TX_D0-
4	GND	9	USB3_TX_D0+
5	USB3_RX_DO-		

![](_page_27_Picture_1.jpeg)

## **LAN Connector**

Connector type: GbE Ethernet switch with PoE+ Connector location: CN4

ACT LINK			
8 1	8 1	8 1	8 1
8	1 8	8	1 8

# **LAN Connector**

Connector type: 2.5GbE RJ45 port with PoE+ Connector location: CON1

![](_page_27_Picture_7.jpeg)

Pin	Signal	Pin	Signal
A1	P_LAN2_MDIOP	B1	P_LAN1_MDIOP
A2	P_LAN2_MDION	B2	P_LAN1_MDION
A3	P_LAN2_MDI1P	B3	P_LAN1_MDI1P
A4	P_LAN2_MDI1N	B4	P_LAN1_MDI1N
A5	P_LAN2_MDI2P	B5	P_LAN1_MDI2P
A6	P_LAN2_MDI2N	B6	P_LAN1_MDI2N
A7	P_LAN2_MDI3P	Β7	P_LAN1_MDI3P
A8	P_LAN2_MDI3N	B8	P_LAN1_MDI3N
A9	GND	B9	GND
A10	GND	B10	GND
AL4	P3V3	BL4	P3V3
AL3	PORT2_ACT_N	BL3	PORT1_ACT_N
AL1	PORT2_L100_N	BL1	PORT1_L100_N
AL2	PORT2_L1000_N	BL2	PORT1_L1000_N
MH1	CGND	MH4	CGND
MH2	CGND	MH5	CGND
MH3	CGND	MH6	CGND

Pin	Signal	Pin	Signal
A1	LAN1_MDIN0	B1	LAN2_MDIN0
A2	LAN1_MDIP0	B2	LAN2_MDIP0
A3	LAN1_MDIN1	B3	LAN2_MDIN1
A4	LAN1_MDIP1	B4	LAN2_MDIP1
A5	LAN1_MDIN2	B5	LAN2_MDIN2
A6	LAN1_MDIP2	B6	LAN2_MDIP2
A7	LAN1_MDIN3	Β7	LAN2_MDIN3
A8	LAN1_MDIP3	B8	LAN2_MDIP3
A9	GND	B9	GND
A10	GND	B10	GND
AL4	P3V3	BL4	P3V3
AL3	LAN1_LED_ACT_N	BL3	LAN2_LED_ACT_N
AL1	LAN1_LED_LINK1000_N	BL1	LAN1_LED_LINK1000_N
AL2	LAN1_LED_LINK2500_N	BL2	LAN2_LED_LINK2500_N

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![](_page_28_Picture_1.jpeg)

# **LAN Connector**

Connector type: SFP and 10G SFP+ Connector location: J3

![](_page_28_Picture_4.jpeg)

Pin	Signal	Pin	Signal
T1	GND	T20	GND
T2	TxFault1	T19	1_SFP+_TD-
T3	TxDisable1	T18	1_SFP+_TD+
T4	P10G_Sda1	T17	GND
T5	P10G_Scl1	T16	3P3V_SFP1_T
T6	ModABS1_L	T15	3P3V_SFP1_R
T7	1_RS0	T14	GND
T8	RxLOS1	T13	1_SFP+_RD+
T9	1_RS1	T12	1_SFP+_RD-
T10	GND	T11	GND
L1	GND	L20	GND
L2	TxFault2	L19	2_SFP+_TD-
L3	TxDisable2	L18	2_SFP+_TD+
L4	P10G_Sda2	L17	GND

Pin	Signal	Pin	Signal
L5	P10G_Scl2	L16	3P3V_SFP2_T
L6	ModABS2_L	L15	3P3V_SFP2_R
L7	2_RS0	L14	GND
L8	RxLOS2	L13	2_SFP+_RD+
L9	2_RS1	L12	2_SFP+_RD-
L10	GND	L11	GND

![](_page_29_Picture_1.jpeg)

## **LAN Connector**

Connector type: GbE with PoE+ Connector location: CON2

![](_page_29_Picture_4.jpeg)

-

Pin	Signal	Pin	Signal
A1	Port3_TX0N	B1	LAN2_MDIN0
A2	Port3_TX0P	B2	LAN2_MDIP0
A3	Port3_TX1N	B3	LAN2_MDIN1
A4	Port3_TX1P	B4	LAN2_MDIP1
A5	Port3_TX2N	B5	LAN2_MDIN2
A6	Port3_TX2P	B6	LAN2_MDIP2
A7	Port3_TX3N	Β7	LAN2_MDIN3
A8	Port3_TX3P	B8	LAN2_MDIP3
A9	GND	B9	GND
A10	GND	B10	GND
AL4	P3V3	BL4	P3V3
AL3	P1_LED2	BL3	P3_LED2
AL1	P1_LED1	BL1	P3_LED1
AL2	P1_LED0	BL2	P3_LED0

# Console Port & USB 3.0

Connector type: RJ45 console port & USB 3.0 Connector location: J1

![](_page_29_Picture_8.jpeg)

Pin	Signal	Pin	Signal
1	USB_PORT1_VBUS	P1	SP_RTS1_R
2	USB2_P1-	P2	SP_DTR1_R
3	USB2_P1+	P3	SP_TXD1_R
4	GND	P4	SP_DCD1_R
5	USB3_RX_D1-	P5	GND
6	USB3_RX_D1+	P6	SP_RXD1_R
7	GND	P7	SP_DSR1_R
8	USB3_TX_D1-	P8	SP_CTS1_CON
9	USB3_TX_D1+		

![](_page_30_Picture_1.jpeg)

### MGMT Port & USB 3.0

Connector type: RJ45 management port & USB 3.0 Connector location: J2

![](_page_30_Figure_4.jpeg)

Pin	Signal	Pin	Signal
1	USB_PORT2_VBUS	11	LAN3_TX0P
2	USB2_P2-	12	LAN3_TX0N
3	USB2_P2+	13	LAN3_TX1P
4	GND	14	LAN3_TX1N
5	USB3_RX_D2-	15	LAN3_TX2P
6	USB3_RX_D2+	16	LAN3_TX2N
7	GND	17	LAN3_TX3P
8	USB3_TX_D2-	18	LAN3_TX3N
9	USB3_TX_D2+		
L1	LAN3_LED_LINK100#	L3	LAN3_LED_ACT#
L2	LAN3_LED_LINK1G#	L4	P3V3_STBY

![](_page_31_Picture_1.jpeg)

## Internal Connectors Fan Connector

Connector type: 1x4 4-pin header Connector location: CN9 & CN10

![](_page_31_Picture_4.jpeg)

Pin	Description		
1	GND		
2	P12V		
3	TACH		
4	PWM		

## GPIO

Connector type: 2x5 10-pin header Connector location: JP5

![](_page_31_Picture_8.jpeg)

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

![](_page_32_Picture_1.jpeg)

## TPM

Connector type: 2x7 14-pin header Connector location: TPM

 $\begin{array}{c|c} 2 & \bigcirc & 0 \\ 1 & \bigcirc & 13 \end{array}$ 

Pin	Signal	Pin	Signal
1	GND	8	LPC_LAD3
2	LPC_CLKOUT1_BK	9	GND
3	NC	10	LPC_LAD0
4	LPC_FRAME_N	11	LPC_SERIRQ
5	LPC_LAD2	12	P3V3
6	CPLD_TPM_PLTRST_N	13	GND
7	LPC_LAD1	14	GND

![](_page_33_Picture_1.jpeg)

**Block Diagram** 

-

![](_page_33_Figure_3.jpeg)

![](_page_34_Picture_1.jpeg)

# CHAPTER 3: SYSTEM SETUP

# **Removing the Chassis Cover**

![](_page_34_Picture_4.jpeg)

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

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

![](_page_34_Picture_7.jpeg)

Screws on the bottom

![](_page_34_Picture_9.jpeg)

![](_page_34_Picture_10.jpeg)

Screws on the sides

![](_page_35_Picture_1.jpeg)

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

![](_page_35_Picture_3.jpeg)

![](_page_36_Picture_1.jpeg)

# Installing a DIMM Memory Module

1. Locate the DIMM socket on the motherboard and push the ejector tabs which are at the ends of the socket outward. This indicates that the socket is unlocked.

![](_page_36_Picture_4.jpeg)

2. Seat the module vertically, pressing it down firmly until it is completely seated in the socket. The ejector tabs at the ends of the socket will automatically snap into the locked position to hold the module in place.

![](_page_36_Picture_6.jpeg)

![](_page_37_Picture_1.jpeg)

# Installing the M.2 Module

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

![](_page_37_Picture_4.jpeg)

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

![](_page_37_Picture_6.jpeg)

![](_page_38_Picture_1.jpeg)

# Installing Both the 5G and Wi-Fi Module

1. Locate the 5G slot on the motherboard.

![](_page_38_Picture_4.jpeg)

2. Insert the 5G module into the 5G slot at a 45 degrees angle until the gold-plated connector on the edge of the module completely disappears inside the slot. Push the 5G module down and fasten the mounting screw into the mounting hole to secure the module.

![](_page_38_Picture_6.jpeg)

- 3. Take out the thermal pad from the accessory bad and remove the release paper on both sides of the thermal pad. Fix the thermal pad in the center of the module.
- 4. Locate the Wi-Fi slot on the motherboard.

![](_page_39_Picture_4.jpeg)

Wi-Fi Slot

![](_page_39_Picture_8.jpeg)

![](_page_39_Picture_9.jpeg)

![](_page_39_Picture_10.jpeg)

![](_page_40_Picture_1.jpeg)

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

![](_page_40_Picture_3.jpeg)

![](_page_41_Picture_1.jpeg)

# CHAPTER 4: BIOS SETUP

This chapter describes how to use the BIOS setup program for DFA1163. 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.

![](_page_42_Picture_1.jpeg)

# **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  $\int_{\text{Del}}$  allows you to enter Setup.

# Legends

Кеу	Function
← →	Moves the highlight left or right to select a menu.
	Moves the highlight up or down between sub-menu 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</enter>

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### 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 " $\blacktriangleright$ " 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  $\blacksquare$ .

![](_page_44_Picture_1.jpeg)

# **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.

Main	Advanced	IntelRCSetup	Security	Boot	Save	& Exit
BIOS Info BIOS Vend Core Versi Complianc Project Ven Build Date Access Lev Aemory In Datal Mem	rmation lor on yy rsion and Time rel formation		American M 5.13 UEFI 2.6; PI G158T 0.41 x 07/22/2021 0 Administrato 4096 MB (DI	egatrends 1.4 664 9:35:43 0r DR4)		Set the Date. Use Tab to switch between Date elements. Default Ranges: Year: 2005-2099 Months: 1-12 Days: dependent on month
ystem Da ystem Tir	te ne		[Thu 08/19/2 [09:29:49]	021]	_	: Select Screen 1: Select Item Enter: Select +/ Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### Access Level

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

#### System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Monday to Sunday. Month displays the month, from 1 to 12. Date displays the date, from 1 to 31. Year displays the year, from 2005 to 2099.

#### System Time

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

![](_page_45_Picture_1.jpeg)

### **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.

![](_page_45_Picture_4.jpeg)

Setting incorrect field values may cause the system to malfunction.

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.					
Main	Advanced	IntelRCSetup	Security	Boot	Save & Exit
<ul> <li>Trusted Con</li> <li>NCT6683D 3</li> <li>Hardware M</li> <li>Serial Port G</li> <li>PCI Subsyst</li> <li>Network Sta</li> <li>CSM Config</li> <li>SDIO Config</li> <li>USB Configt</li> </ul>	nputing Super IO Co Ionitor Console Redi em Settings ek Configur uration guration ıration	nfiguration rection ation			Trusted Computing Settings
WWAN Rad GNSS Radie MINI PCIe	io ) Slot		Enabled] Enabled] Enabled]		→→-: Select Screen 1): Select Item Enter: Select +/: Change Opt. E1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & EXit ESC: Exit
	Version 2.	19.1266. Copyrig	sht (C) 2021 A	American M	legatrends, Inc.

#### **Trusted Computing**

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

ends, Inc.
nables or Disables BIOS apport for security device. O.S. ill not show Security Device. CG EFI protocol and INTIA tterface will not be available.
+: Select Screen [: Select Item nter: Select /- Change Opt. I: General Help 2: Previous Values 3: Optimized Defaults 4: Save & Exit SC: Exit

#### **Security Device Support**

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

#### SHA-1 PCR Bank

Enables or disables SHA-1 PCR Bank.

#### SHA256 PCR Bank

Enables or disables SHA256 PCR Bank.

#### Pending operation

Schedules an operation for the security device.

![](_page_46_Picture_1.jpeg)

**Platform Hierarchy** Enables or disables platform hierarchy.

**Storage Hierarchy** Enables or disables platform hierarchy.

**Endorsement Hierarchy** Enables or disables endorsement hierarchy.

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

**Physical Presence Spec Version** Configures the physical presence spec version.

#### **NCT6683D Super IO Configuration**

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

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. Advanced			
NCT6683D Super IO Configuration	n	Set Parameters of Serial Port 1 (COMA)	
Super IO Chip ▶ Serial Port 1 Configuration	NCT6683D	→: Select Screen	
		11: Select Item Enter: Select +/-: Change Opt. F1: General Holp F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	

#### **Super IO Chip**

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

#### **Serial Port 1 Configuration**

Configures the IO/IRQ settings of serial port 1.

![](_page_47_Picture_1.jpeg)

#### Serial Port 1 Configuration

This section is used to configure serial port 1.

![](_page_47_Picture_4.jpeg)

#### **Serial Port**

Enables or disables the serial port.

#### **Change Settings**

Selects an optimal setting for the Super IO device.

#### **Hardware Monitor**

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

Pc Health Status		
CPU temperature System temperature 1 System temperature 2 CN9 Fan Speed CN10 Fan Speed CPU VCORE PV VORE PVDDR P3V3 P5V P12V	: +30 C : +27 C : +27 C : 8633 RPM : N/A : +1.088 V : +1.200 V : +3.286 V : +5.140 V : +12.288 V	→-: Select Screen 1: Select Item Entre: Select +/: Change Opt. F: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### **CPU** Temperature

Detects and displays the current CPU temperature.

#### System Temperature 1 and System Temperature 2

Detects and displays the current temperature of the system.

#### CN9 Fan Speed and CN10 Fan Speed

Detects and displays the fan speed of CN4 and CN5.

#### CPU VCORE to P12V

Detects and displays the output voltages.

![](_page_48_Picture_1.jpeg)

#### **Serial Port Console Redirection**

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

Aptio Setup Utility - C	opyright (C) 2021 Ameri	can Megatrends, Inc.
Advanced		
COM0 Console Redirection ► Console Redirection Settings	[Enabled]	Console Redirection Enable or Disable
		→→ Select Screen 1: Select Item Entir: Select +/- Change Opt F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19.1266. C	opyright (C) 2021 America	n Megatrends, Inc.

#### **Console Redirection**

Enables or disables the console redirection.

#### **Console Redirection Settings**

Enables or disables the console redirection. When enabled, Console Redirection Settings will be available.

#### **COM0** Console Redirection Settings

COM0 Console Redirection Settings		Emulation: ANSI: Extended ASCII char set. VT100
Terminal Type Bits per second Data Bits Parity Stop Bits Flow Control VT-UTF8 Combo Key Sup Recorder Mode Resolution 100x31	[ANSI] [115200] [8] [None] [1] [None] [Enabled] [Disabled]	ASCII char set. V1100+: Exter V1100 to support color, functi keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode
Putty KeyPad	[VT100]	→ → : Select Screen 1: Select Item Enter: Select +/-: Change Opt F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### **Terminal Type**

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

#### **Bits Per Second**

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

![](_page_49_Picture_1.jpeg)

#### **Data Bits**

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The options are 7 and 8.

#### Parity

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

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

#### **Stop Bits**

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

#### **Flow Control**

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

#### VT-UTF8 Combo Key Support

Enables or disables VT-UTF8 combo key support.

#### **Recorder Mode**

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

#### Resolution 100x31

Enables or disables extended terminal resolution.

#### **Putty Keypad**

Selects the Putty keyboard emulation type.

### **PCI Subsystem Settings**

This section is used to configure the PCI.

Aptio Setup Utility - C Advanced	opyright (C) 2021 American N	Megatrends, Inc.
PCI Bus Driver Versio	A5.01.12	Value to be programmed into PCI Latency Timer Register.
PCI Devices Common Settings:		
PCI Latency Timer	[32 PCI Bus Clocks]	
VGA Palette Snoop	[Disable]	
PERR# Generation	[Disable]	
SERR# Generation	[Disable]	
Above 4G Decoding	[Disable]	
SR-IOV Support	[Disable]	
BME DMA Mitigation	[Disable]	
► PCI Express Settings		
► PCI Express GEN 2 Settings		→→→ Select Screen 11: Select Item Enter: Select 4→< Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### **PCI Latency Timer**

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

#### VGA Palette Snoop

Enables or disables the VGA palette registers snooping.

#### **PERR#** Generation

Enables or disables the PCI device to generate PERR#.

![](_page_50_Picture_1.jpeg)

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

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

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

#### **BME DMA Mitigation**

Enables or disables the function to re-enable bus master attribute during PCI enumeration for PCI bridges after SMM is locked.

#### **PCI Express Settings**

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.		
Advanced		
PCI Express Device Register Sett Relaxed Ordering Extended Tag No Snoop Maximum Payload Maximum Read Request PCI Express Link Register Settin ASPM Support WARNING: Enabling ASPM mg	ings [Enabled] [Disable] [Enabled] [1024 Bytes] [256 Bytes] gs [Disable]	Enables or Disables PCI Express Device Relaxed Ordering.
PCI-E devices to fai	y cause some I	
Extended Synch Link Training Retry Link Training Timeout Unpopulated Links	[Disable] [5] 1000 [Keep Link ON]	→+- Select Screen 1: Select Item Enter: Select +/- Change Opt. FI: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19.1266.	Copyright (C) 2021 American M	legatrends, Inc.

#### **Relaxed Ordering**

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

#### **Extended** Tag

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

#### No Snoop

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

![](_page_51_Picture_1.jpeg)

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

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

**ASPM Support** Selects the ASPM level.

ForceL0 Forces all links to L0 state.AutoThe BIOS automatically selects an ASPM level.DisableDisables ASPM.

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

**Link Training Retry** Selects the number of retry attempts.

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

**Unpopulated Links** Enables or disables unpopulated PCI Express links.

#### **PCI Express GEN 2 Settings**

Aptio Setup Utilit Advanced	ty - Copyright (C) 2021 Amer	ican Megatrends, Inc.
PCI Express GEN2 Device Re Completion Timeout PCI Express GEN2 Link Regi	gister Settings [Default]	In device Functions that support Completion Timeout programmability, allows system software to modify the Completion Timeout value
Target Link Speed	[Auto]	'Default' 50us to 50ms.
		→ ←: Select Screen ↑1: Select Item Enter: Select +/- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19.12	66. Copyright (C) 2021 <u>Americ</u>	an Megatrends, Inc.

Completion Timeout

Configures the completion timeout value.

**Target Link Speed** Configures the PCIe link speed.

![](_page_52_Picture_1.jpeg)

#### **Network Stack Configuration**

This section is used to configure the network stack.

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. Advanced		
Network Stack	[Disable]	Enable/Disable UEF1 Network Stack Stack →+-: Select Screen 11: Select Item Enter: Select Item Enter: Select +/: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19	.1266. Convright (C) 2021 Americ:	n Megatrends, Inc.

#### Network Stack

NEXCOM

Enables or disables UEFI network stack.

### **CSM** Configuration

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

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.		
Advanced		
Compatibility Support Module Configuration		Enable/Disable CSM Support.
CSM Support	[Enabled]	
CSM16 Module Version	07.81	
GateA20 Active Option ROM Messages	[Upon Request] [Force BIOS]	
INT19 Trap Response	[Immediate]	
Option ROM execution		
Network	[Do not launch]	→←: Select Screen
Storage	[Do not launch]	↑↓: Select Item
Other PCI devices	[Legacy]	+/-: Change Opt.
other ror defices	[megacy]	F1: General Help
		F2: Previous Values F3: Ontimized Defaults
		F4: Save & Exit
		ESC: Exit

#### **CSM Support**

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

#### GateA20 Active

Upon Request Always GA20 can be disabled using BIOS services. Do not allow disabling of GA20; this option is useful when

any RT code is executed above 1MB.

![](_page_53_Picture_1.jpeg)

#### **Option ROM Messages**

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

#### **INT19 Trap Response**

Allows Option ROMs to trap Interrupt 19 when enabled.

ImmediateExecute the trap right away.PostponedExecute the trap during legacy boot.

#### Network

Enables or disables the boot option for legacy network devices.

#### Storage

Enables or disables the boot option for legacy storage devices.

#### Video

Enables or disables the boot option for legacy video devices.

#### **Other PCI Devices**

Enables or disables the boot option for legacy PCI devices.

#### **SDIO Configuration**

This section is used to configure the SDIO access mode.

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.		
Advanced		
SDIO Configuration SDIO Access Mode	[Auto]	Auto Option: Access SD device in DMA mode if controller supports it, otherwise in PIO mode. DMA Option: Access SD device in DMA mode PIO Option: Access SD
Mass Storage Devices:		device in PIO mode.
Sdio Device 1 Details		
Bus 0 Dev 1c Func 0 MMC - 008GB0 (7.8GB)	[Auto]	
		: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19.1266	. Copyright (C) 2021 Ameri	can Megatrends, Inc.

#### **SDIO Configuration**

Auto Option:	Access SD device in DMA mode if controller support it,
	otherwise in PIO mode.
DAM Option:	Access SD device in DMA mode.
PIO Option:	Access SD device in PIO mode

![](_page_54_Picture_1.jpeg)

#### **USB** Configuration

This section is used to configure the USB.

![](_page_54_Picture_4.jpeg)

#### 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.

#### **USB Mass Storage Driver Support**

Enables or disables USB mass storage driver support.

#### Port 60/64 Emulation

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

#### **Mass Storage Devices**

Configures the mass storage device emulation type. AUTO enumerates devices according to their media format. Optical drives are emulated as CDROM, drives with no media will be emulated according to a drive type.

![](_page_55_Picture_1.jpeg)

### **Intel RC Setup**

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

![](_page_55_Picture_4.jpeg)

#### **Relax Security Config**

NEXCOM

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

### **Processor Configuration**

Processor Configuration		Enable/Disable EIST. GV3 and TM1 must be enabled
Processor ID Processor Frequency CPU BCLK Frequency L1 Cache RAM L2 Cache RAM Processor Version Intel(R) Atom(TM) CPU C3	000506F1 2,400GHz 100MHz 56KB 2048KB	for TM2 to be available. GV3 must be enabled for Turbo. Auto - Enable for B0 CPU stepping, all others disabled, change setting to override.
EIST (GV3) Turbo Max CPUID Value Limit Execute Disable Bit VMX Extended APIC AES-NI	Disable   Disable   Disable   Enable   Enable   Enable   Enable	: Select Screen 1: Select Item Enter: Select +/- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### EIST (GV3)

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

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

#### Max CPUID Value Limit

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

![](_page_56_Picture_1.jpeg)

#### **Execute Disable Bit**

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

#### VMX

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

#### **Extended APIC**

Enables or disables extended APIC support.

#### **AES-NI**

Enables or disables Intel® AES-NI support.

#### North Bridge Chipset Configuration

DDR memory frequency: DDR4 up to DDR-2666 DDR3 up to DDR-1867
0 MHz
+: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
 0.0

#### Memory Frequency

41

Configures the DDR memory frequency.

![](_page_57_Picture_1.jpeg)

### SSA Config

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. IntelRCSetup		
SSA Config		Option to Enable / Disable VT-d
VT-d	[Enabled]	
		→→→ Select Screen ↑↓: Select Item Enter: Select +/< Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Ver	sion 2.19.1266. Convright (C) 2021 A	merican Megatrends. Inc.

### VT-d

Enables or disables Intel<sup>®</sup> VT-d technology.

#### South Bridge Chipset Configuration

![](_page_57_Picture_7.jpeg)

#### State After G3

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

![](_page_58_Picture_1.jpeg)

#### South Bridge USB Configuration

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. IntelRCSetup	
<ul> <li>▶ USB SS Configuration</li> <li>▶ USB HS Configuration</li> </ul>	USB super speed configuration
	: Select Screen 11: Select Item Enter: Select +/-: Change Opt F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19.1266. Copyright (C) 2021 American Megatrends, Inc.	

#### **USB SS Configuration**

Enters the sub-menu for USB super speed configuration.

#### **USB HS Configuration**

Enters the sub-menu for USB high speed configuration.

### **USB SS Configuration**

![](_page_58_Picture_9.jpeg)

#### Port 0 to Port 3

Enters the sub-menu for port 0, port 1, port 2 and port 3 configuration.

![](_page_59_Picture_1.jpeg)

#### USB SS Port 0

-

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. IntelRCSetup		
USB SS Physical Connector	[Enabled]	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS. →→=: Select Screen 11: Select Item Enter. Select 4%- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults
Version 2.19.1266. C	opyright (C) 2021 Americs	ESC: Exit

#### **USB SS Physical Connector**

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

### USB SS Port 1

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.		
IntelRCSetup		
USB SS Physical Connector	[Enabled]	Enable/Dirable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS.
		→→ Select Screen 1: Select Item Enter: Select +/- Change Opt. FI: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19.1266. Copyright (C) 2021 American Megatrends, Inc.		

#### **USB SS Physical Connector**

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

![](_page_60_Picture_1.jpeg)

#### USB SS Port 2

-

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. IntelRCSetup				
USB SS Physical Connector	[Enabled]	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS.		
		→ ←: Select Sereen 11: Select Item Enter: Select 4/: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		

#### **USB SS Physical Connector**

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

### USB SS Port 3

Aptio Setup Utility - ( IntelRC	Copyright (C) 2021 Ameri <mark>CSetup</mark>	can Megatrends, Inc.
USB SS Physical Connector	[Enabled]	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS.
		11: Select Item Enter: Select +/- Change Opt F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.19.1266.	Copyright (C) 2021 America	n Megatrends, Inc.

#### **USB SS Physical Connector**

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

-

![](_page_61_Picture_1.jpeg)

### **USB HS Configuration**

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.			
IntelRCSetup			
<ul> <li>Port 0</li> <li>Port 1</li> <li>Port 2</li> <li>Port 3</li> </ul>	Port configuration		
	→→→ Select Screen 11: Select Item Enter: Select +/> Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
Version 2.19.1266. Copyright (C) 202	1 American Megatrends, Inc.		

#### Port 0 to Port 3

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

### USB HS Port 0

Aptio Setup Utility - C IntelRC	Copyright (C) 2021 Ameri <mark>Setup</mark>	ican Megatrends, Inc.
USB HS Physical Connector	[Enabled]	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS. → Select Screen 1; Select Rem Enter Select Rem Enter Select Hem Enter Select Hem Enter Select Hep E1: General Help E2: Previous Values E3: Optimized Defaults E3: Soptimized Defaults E4: Save & Exit ESC: Exit
Version 2.19.1266. C	Copyright (C) 2021 America	m Megatrends, Inc.

#### **USB HS Physical Connector**

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

![](_page_62_Picture_1.jpeg)

#### USB HS Port 1

-

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. IntelRCSetup				
USB HS Physical Connector	[Enabled]	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS. →→→→ Select Screen 11: Select Item Enter: Select Item Enter: Select +/< Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
Version 2.19.1266. C	Copyright (C) 2021 America	n Megatrends, Inc.		

#### **USB HS Physical Connector**

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

### USB HS Port 2

Aptio Setup Utility - C	Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.				
IntelRC	Setup				
USB HS Physical Connector	[Enabled]	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS.			
		→ ←: Select Screen ↑1: Select Tem Enter: Select +/: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit			
Version 2.19.1266. C	Copyright (C) 2021 America	n Megatrends, Inc.			

#### **USB HS Physical Connector**

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

![](_page_63_Picture_1.jpeg)

### USB HS Port 3

-

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. IntelRCSetup				
USB HS Physical Connector [Enabled]	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into connector will not be detected by BIOS or OS.			
	→→-: Select Screen 1: Select Hem Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit			

#### **USB HS Physical Connector**

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

### **IQAT Configuration**

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc. IntelRCSetup			
IQAT Set IQAT FUSECTL Set 64B MRR/MPL	[Enabled] [Disabled] [Enabled]	Hides IQAT device from an O	
		: Selact Screen 1: Selact Item Enter: Select +	

#### IQAT

Enables or disables hiding of IQAT device from an OS.

#### Set IQAT FUSECTL

Enables or disables the configuration of IQAT FUSECTL register.

#### Set 64B MRR/MPL

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

![](_page_64_Picture_1.jpeg)

## Security

Aptio S	Setup U	tility - Copyrig	ght (C) 2021	American	Mega	atrends, Inc.
Main Advar	nced 1	IntelRCSetup	Security	Boot	Save	e & Exit
Password Descripti	ion					Set Administrator Password
If ONLY the Admin then this only limit only asked for whe The password lengt	nistrator s access n enteri th must	r's password is to Setup and i ng Setup. be	s set, is			
Minimum length	iige.	3				
Maximum length		20				
Administrator Pass	sword					→ ← Select Screen 1: Select Item Enter: Select +/: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Vers	sion 2.19	.1266. Copyrig	ht (C) 2021 .	American M	1egatro	ends, Inc.

#### Administrator Password

Select this to reconfigure the administrator's password.

### Boot

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.					
Main Advanced	IntelRCSetup	Security	Boot	Save	& Exit
Boot Configuration Setup Prompt Timeout Bootup NumLock State Quiet Boot	!	3 [On] [Disabled]			Number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting.
Boot mode select		[LEGACY]			
FIXED BOOT ORDER I Boot Option #1 Boot Option #2 Boot Option #3 Boot Option #4 Boot Option #5 Boot Option #6 Boot Option #7 Boot Option #8 Hard Disk Drive BBS Pr	Priorities	[Hard Disk:M [CD/DVD] [USB Hard D [USB CD/DV [USB Key:Ki [USB Floppy] [USB Lan] [Network]	IMC - 00 isk] D] ngstonDa	8GB0] t]	→←- Select Screen †1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### Setup Prompt Timeout

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

#### Bootup NumLock State

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

![](_page_65_Picture_1.jpeg)

#### **Quiet Boot**

Enabled Disabled

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

#### **Boot Mode Select**

Configures the boot mode option.

#### Boot Option #1 to Boot Option #8

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

# Save & Exit

![](_page_65_Picture_10.jpeg)

#### Save Changes and Reset

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

#### **Discard Changes and Reset**

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

#### **Restore Defaults**

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

# NECOM

#### **Boot Override**

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

#### Launch EFI Shell from filesystem device

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