NEXCOM

NEXCOM International Co., Ltd.

Multi-Media Solutions
Digital Signage Platform
NDiS 102
User Manual

www.nexcom.com

Contents

Preface

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Acknowledgements

NDiS 102 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 describes how to keep the system CE compliant.

Declaration of Conformity

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.

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 needlenose 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. Do not leave this equipment in either an unconditioned environment or in a above 40ºC storage temperature as this may damage the equipment.

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

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

10. 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.

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

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

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

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

15. 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.

16. Do not place heavy objects on the equipment.

17. 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.

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

19. The computer is provided with CD drives that comply with the appropriate safety standards including IEC 60825.

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.

3. CompactFlash: Turn off the unit's power before inserting or removing a CompactFlash storage card.

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 102 package that you received is complete. Your NDiS 102 package should have all the items listed in the following table.

Item	P/N	Name	Specification	Qty
1	5044440031X00	RUBBER FOOT KANG YANG:RF20-5-4P	19.8x18x 5.0mm	4
2	601111A120X00	OUTSIDE CARTON FOR NDiS111 YI GIA	220x200x100mm(INSIDE) B FLUTE	1
3	6012200049X00	ASG110 PE BAG	240x380x0.08mm	1
4	6012200053X00	PE ZIPPER BAG #3	100x70mm,W/China RoHS SYMBOL	1
5	6012200052X00	PE ZIPPER BAG #8	170x240mm,W/China RoHS SYMBOL	1
6	602DCD0580X00	NDiS102 SDK DVD	JCL	1
7	7400036002X00	POWER ADAPTER FSP:FSP036-RAB	J36W 12V/3A	1

Ordering Information

The following provides ordering information for NDiS 102

- **NDiS 102 (P/N: 10W00010200X0)**
  - On board TI DM8148 1GHz ARM Cortex-A8 RISC MPU Up to 750-MHz c674x VLIM DSP
  - Support DDR3-1333 1GB memory on board
  - Full HD video support
  - Dual HDMI output

Chapter 1: Product Introduction

Overview

- Powered by ARM Cortex-A8 RISC MPU, NDiS 102 can play rich multi-media contents with low power consumption.

- NDiS 102 is enclosed in a compact chassis and can be easily integrated to display devices, such as LCD TV or PDP at site installation with dual HDMI display output, Giga LAN and WLAN support.

- NDiS 102 is suitable as an entry level digital signage player for advertising, messaging, and brand promotion.

Key Features

- On board Cortex-A8 SOC
- Full HD video support
- Fanless and slim design
- Dual HDMI output
- Mini-PCIe slot support WiFi module

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System Specifications

Processor

- On board TI DM8148 1GHz ARM Cortex-A8 RISC MPU Up to 750-MHz c674x VLIM DSP

Memory

- Support DDR3-1333 1GB memory on board

Multi-Media

- Support SGX530 Graphic Accelerator
- Codec Engine: HDVICP2
- Media Format Support: MPEG1/2/4 ASP/SP, H.264 BL/MP/HP, VC-1 SP MP/AP, RV9/10, AVS-1.0 and ON2 VP6.2/VP7

I/O Interface-Front

- Power Button
- Power/HDD LED
- miniPCIe LED

I/O Interface-Rear

- 2x HDMI
- 2x USB2.0
- 1x RJ45 with LED, Gigabit LAN port
- 1x RJ45 for RS232
- +12V DC-in
- 1x Line-in
- 1x Line-out

Storage

- 1x SATA 3.0 connector
- 1x 4-pin + 1x 2 pin SATA power connector
- 1x microSD socket

Serial Port

- 2x COM port pin header

USB

- 1x USB pin header

Connectivity

- One internal accessible SIM card slot for WWAN

Expansion

- Mini-PCIe x1, support Wireless LAN module

Dimension

- 179.9mm (W) x 114.9mm (D) x 37.5mm (H) w/o mounting bracket

Environment

- Operating temperature: ambient with air flow from 0°C to 40°C
- Storage temperature: -20°C to 80°C
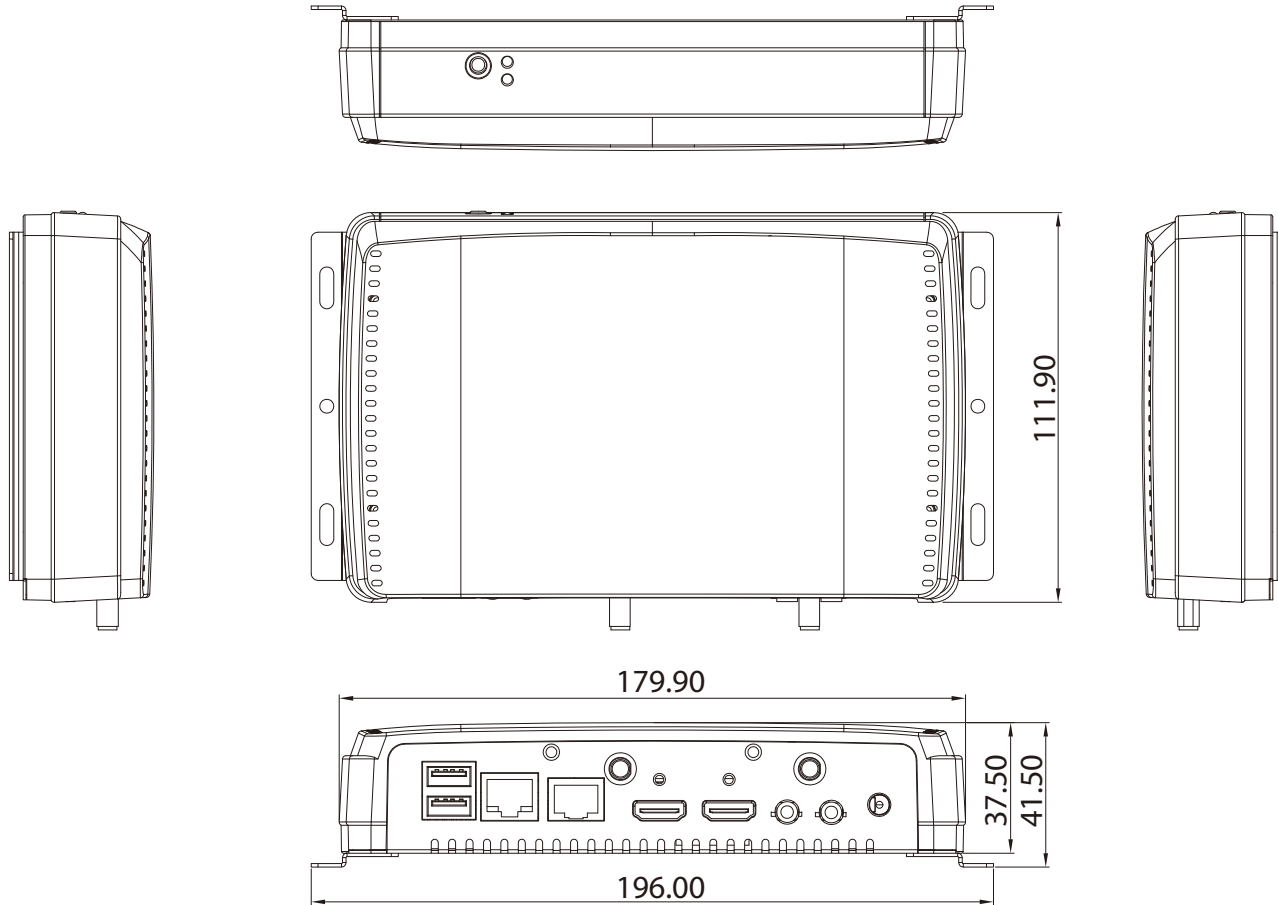- Humidity: 10 to 90% (non-condensing)

Certification
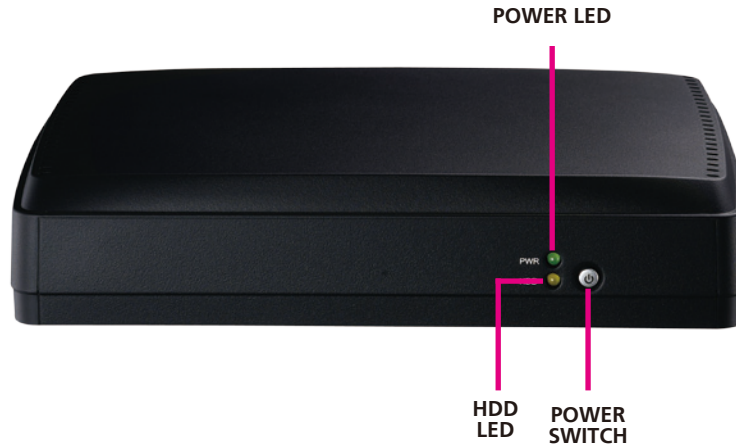
- CE approval
- FCC Class A

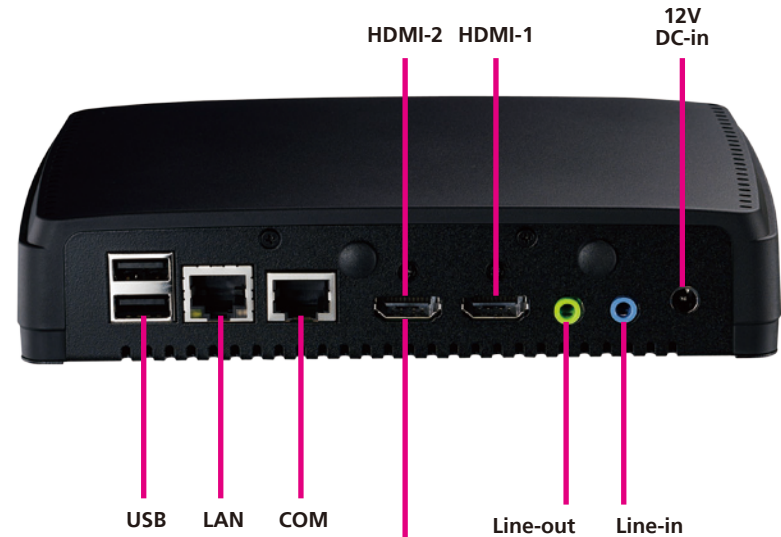### Operating System

- Linux 2.6.x

Mechanical Dimensions

179.90

111.90

37.50

41.50

196.00

Chapter 2: Hardware Functionality

Front Panel

POWER LED

PWR

HDD
LED

POWER
SWITCH

Rear Panel

HDMI-2   HDMI-1

12V
DC-in

USB   LAN   COM

Line-out   Line-in

Note: There's no HDMI-2 HD audio output. By default, user need to connect to HDM1-1 port

Chapter 3: System Setup

Removing the Chassis Cover

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

1. Remove the two screws on the rear of the device and put them in a safe place for later use.

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

Installing Micro SD Card
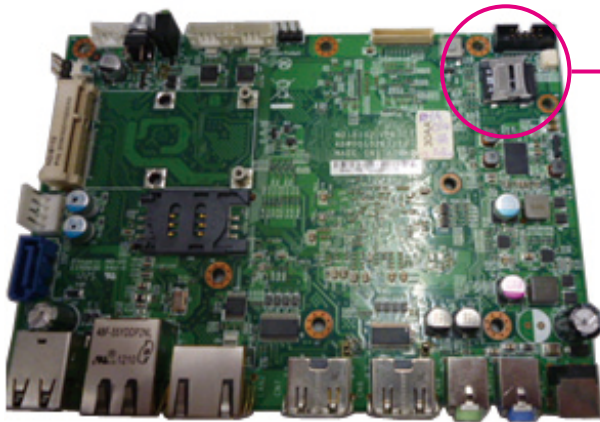
The default 8GB Micro SD card is installed in NDiS 102 with pre-configured Uboot and filesystem. User can also use their own Micro CD card to build different configuration files according to their development environment.
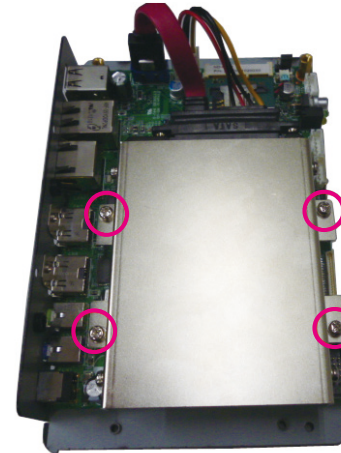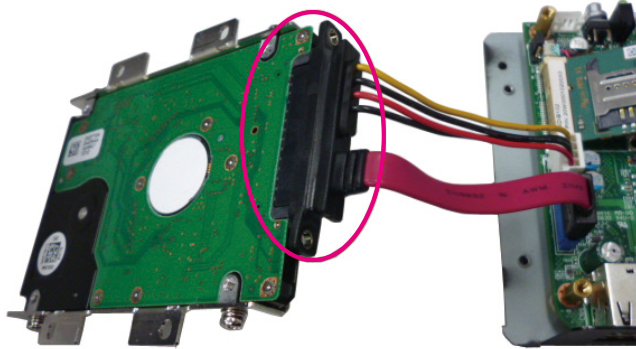
Installing a SATA Hard Drive

1. The Hard Disk Drive bay included in the system is used to hold a SATA hard drive.

2. Place the SATA hard drive onto the drive bracket. Align the mounting holes that are on the sides of the SATA drive with the mounting holes on the drive bracket.
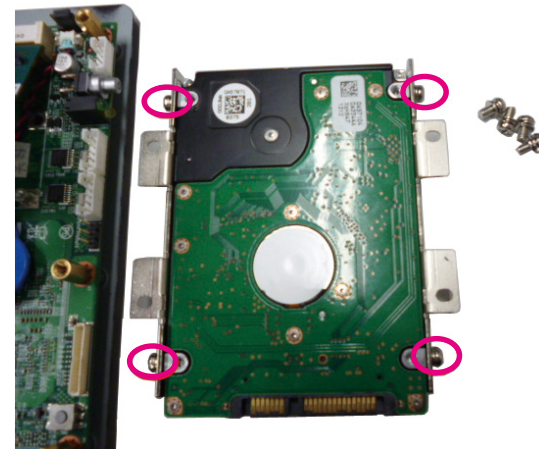
3. Connect the SATA data cable and SATA power cable to the SATA drive.

4. Use the provided screws to secure the SATA drive in place and secure the SATA Drive with the provided mounting screw.