



NEXCOM International Co., Ltd.

**Multi-Media Solutions**  
**Digital Signage Platform**  
**NDiS 111**  
User Manual

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# Preface

## Copyright

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## Disclaimer

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## Acknowledgements

NDiS 111 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 2002/95/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 2006 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 40°C 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](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.
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.

# Global Service Contact Information

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Fax: +39 02 9286 9215  
Email: nexcomitalia@nexcom.eu  
www.nexcomitalia.it

# Package Contents

Before continuing, verify that the NDiS 111 package that you received is complete. Your NDiS 111 package should have all the items listed in the following table.

Item	P/N	Name	Qty
1	5044440197X00	RUBBER FOOT KANG YANG:RF9-3.5	4
2	601111A120X00	OUTSIDE CARTON FOR NDiS111 YI GIA	1
3	6012200049X00	ASG110 PE BAG 24x38cm	1
4	6012200052X00	PE ZIPPER BAG #8	1
5	6012200053X00	PE ZIPPER BAG #3	1
6	602DCD0354X00	NDiS111 MANUAL/DRIVER CD VER:1.0	1
7	7400060007X00	POWER ADAPTER FSP:FSP060-DBAB1(N09001)	1

# Ordering Information

The following provides ordering information for NDiS 111

- **NDiS 111 (P/N: 10W00011101X0)**
  - Intel® Atom™ E620 600 MHz CPU onboard
  - Intel® EG20T PCH
  - Intel® Integrated Graphic Engine
  - Fanless System

# Chapter 1: Product Introduction

## Overview



- Powered by Intel® Atom™ E620, NDiS 111 can play rich multi-media contents with low power consumption.
- NDiS 111 is enclosed in a compact chassis and can be easily integrated to display devices, such as LCD TV or PDP at site installation with DVI display, Giga LAN, TV tuner and WLAN support.
- NDiS 111 is suitable as an entry level digital signage player for advertising, messaging, and brand promotion.

## Key Features

### CPU

- Intel® Atom™ E620 600 MHz CPU onboard

### Chipset

- Intel® EG20T PCH
- Intel® Integrated Graphic Engine

### Memory

- DDR 2 1GB memory onboard

### Audio Controller

- Integrated HD Audio Controller & Realtek ALC886 CODEC

### Gigabit Ethernet Controller

- RTL8211CL External RGMII GbE PHY

### USB

- 2 x external USB ports

### SATA

- Integrated two SATA 1.0/2.0 Ports with 1 AHCI Controller
- Data rate up to 3.0GB/s (300MB/s)

## System Specifications

### CPU Support

- Intel® Atom™ E620 600 MHz CPU onboard

### Chipset

- Intel® EG20T PCH

### Graphics

- Intel® Integrated Graphic Engine

### Main Memory

- 1GB DDR 2 memory onboard

### I/O Interface-Front

- 1 x LED Power-On
- 1 x LED Storage
- 1 x On/ Off Power Switch

### I/O Interface-Rear

- 12V DC Power In
- 1 x DVI-D
- 2 x USB 2.0
- 1 x RJ45 with LEDs for 10/100/1000Mbps Ethernet
- 1 x Audio-out
- 1 x antenna hole for Wi-Fi or TV tuner

### Storage

- One 2.5" HDD drive bay

### Dimensions

- 180 mm (W) x 112 mm (D) x 38 mm(H) w/o mounting bracket

### Power Supply

- 1 x External 60W AC/DC power adaptor
- Input: 100~240VAC
- Output: +12VDC

### Expansion

- 1 x Mini-PCIe for optional TV tuner or WLAN module

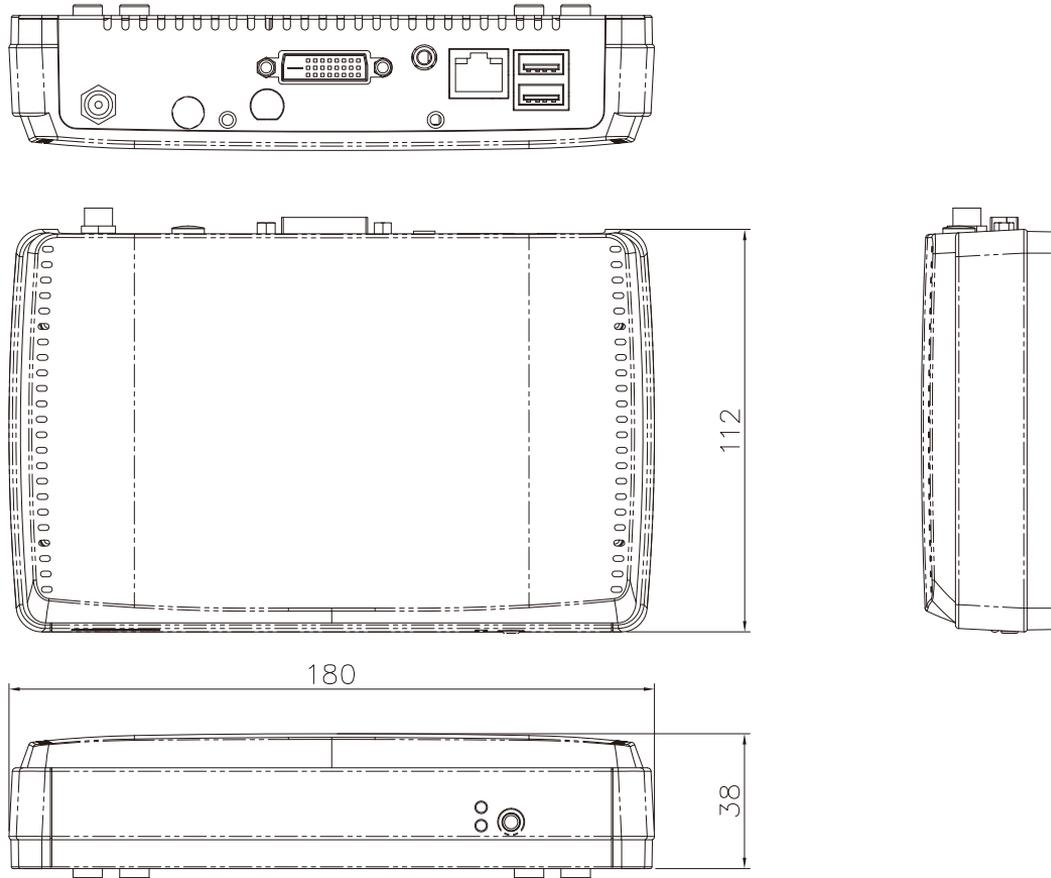
### Environment

- Operating Temperature: Ambient with air flow from 0°C to 40°C (HDD inside)
- Storage Temperature: -20°C to 80°C
- Humidity: 10 to 90% (Non-condensing)

### Certification

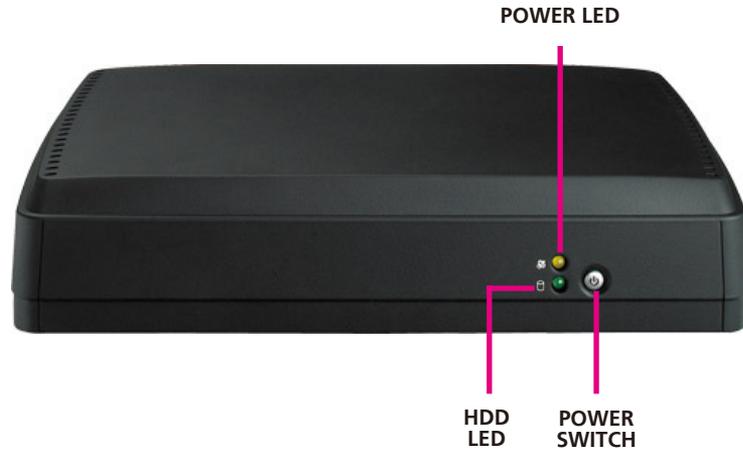
- CE approval
- FCC Class A

## Mechanical Dimensions

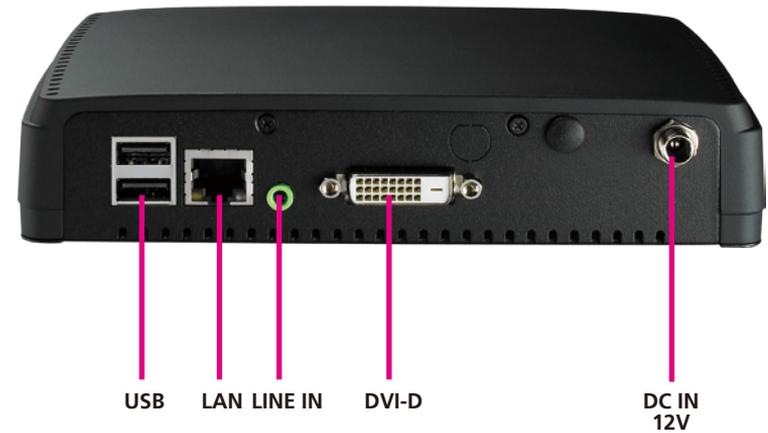


# Chapter 2: Hardware Functionality

## Front Panel



## Rear Panel



# 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.

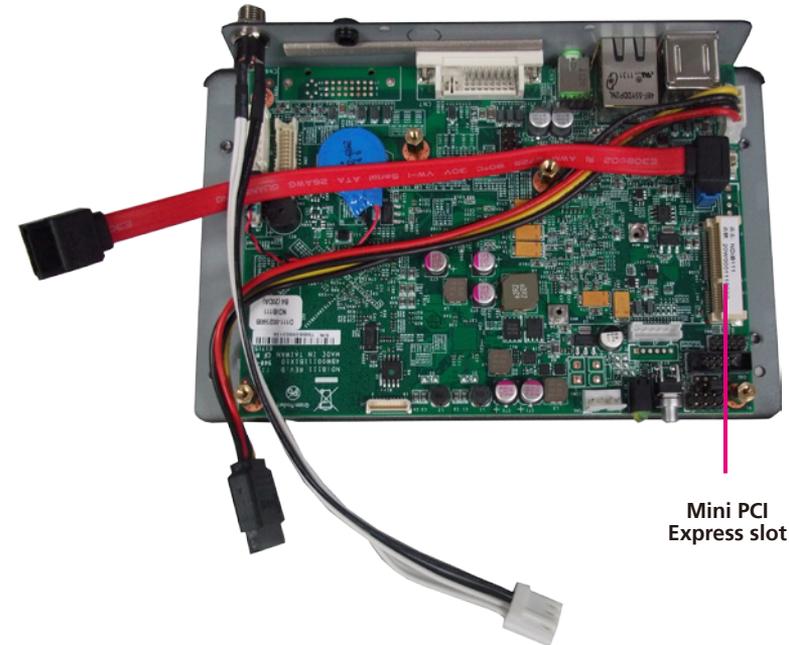
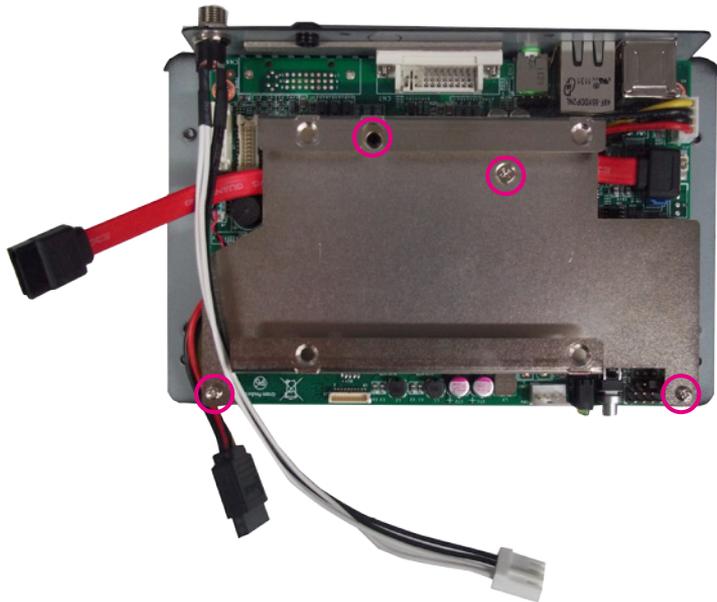
1. The screws on the bottom of cover are used to secure the cover to the chassis. Remove these screws and put them in a safe place for later use.



## Installing a Wireless LAN Module

1. Unmount screws and remove HDD bay. Then put them in a safe place for later use

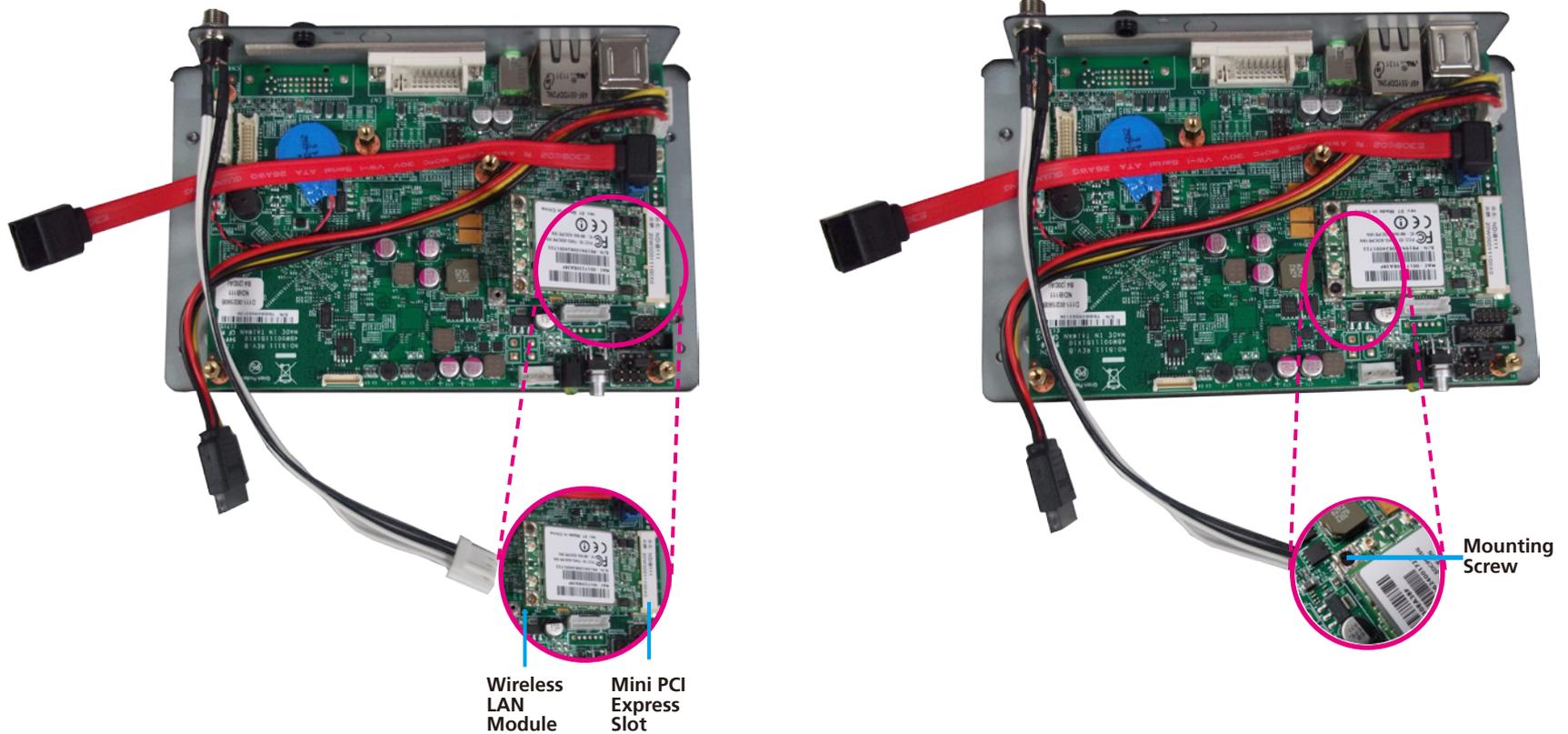
2. Locate for the Mini PCI Express slot on the board.



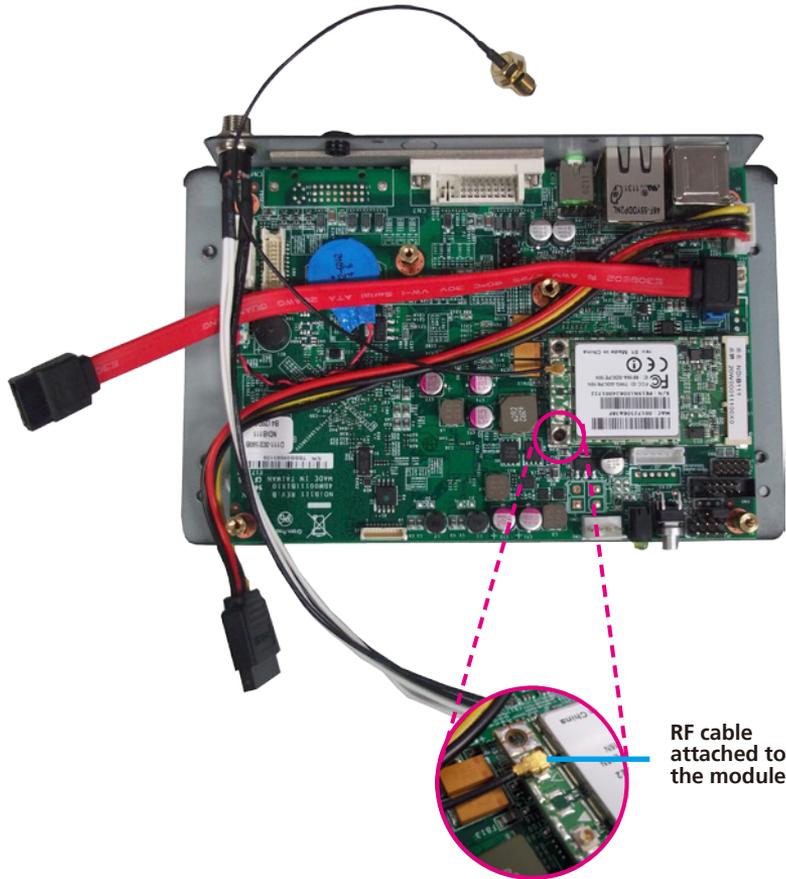
Mini PCI Express slot

3. Insert the Wireless LAN module into the Mini PCI Express slot at a 45 degrees angle until the gold-plated connector on the edge of the module completely disappears inside the slot

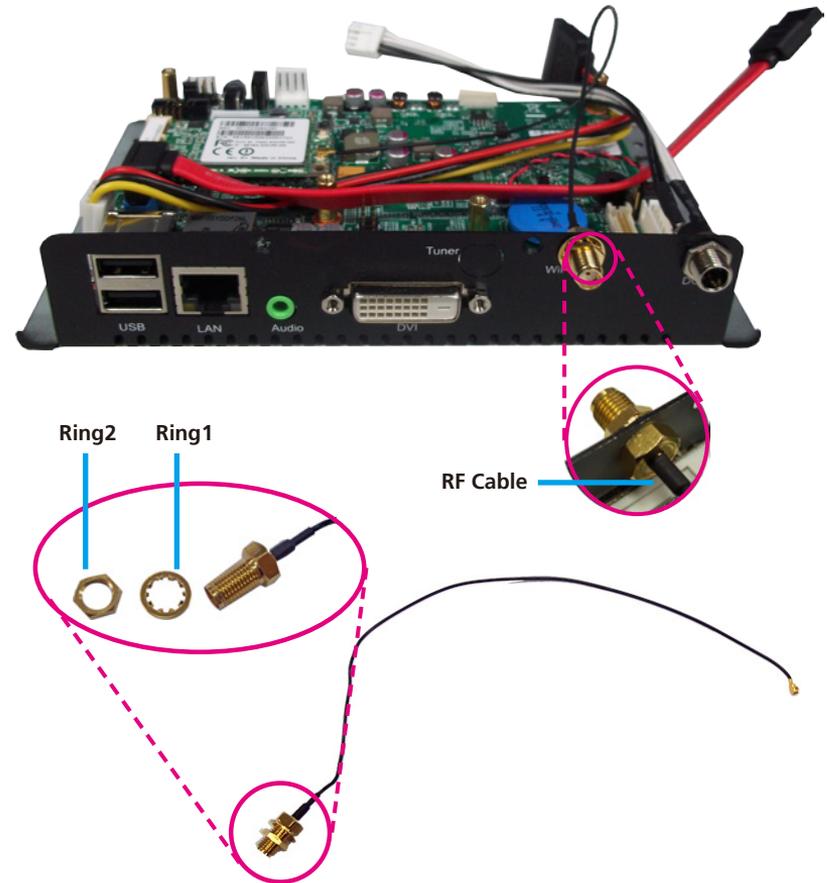
4. Push the module down then secure it with mounting screws.



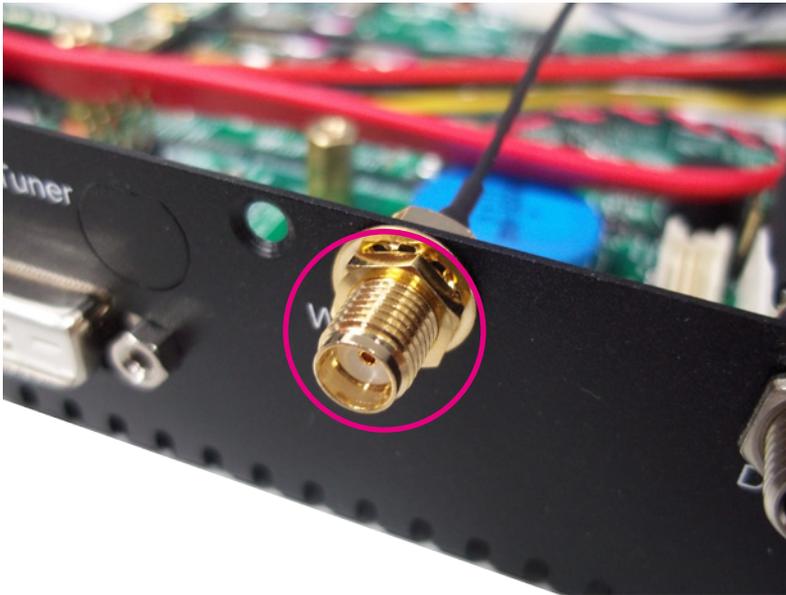
5. Attach one end of the RF cable onto the WiFi module.



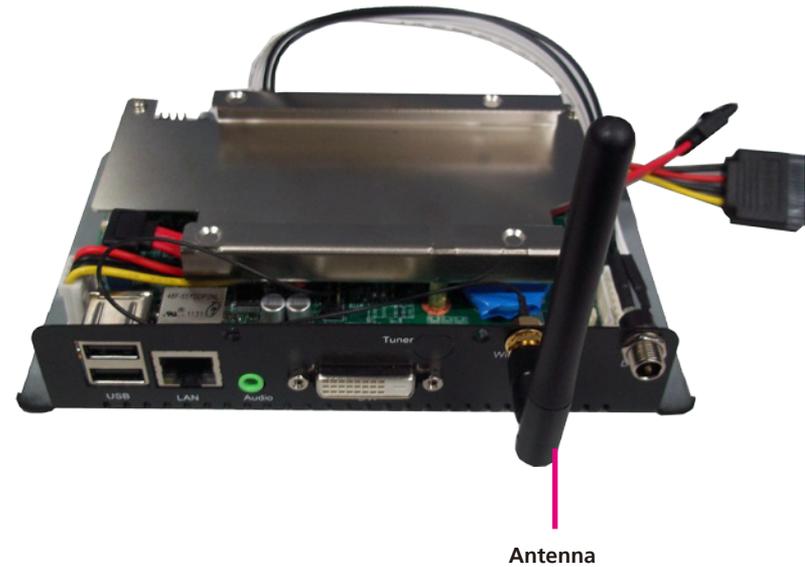
6. Insert the 2 rings (ring 1 then ring 2) into the WiFi antenna jack. Now mount the WiFi antenna jack to the WiFi antenna hole located at the rear panel of the chassis then tighten the rings.



7. The photo below shows the WiFi antenna jack attached at the rear panel of the chassis.

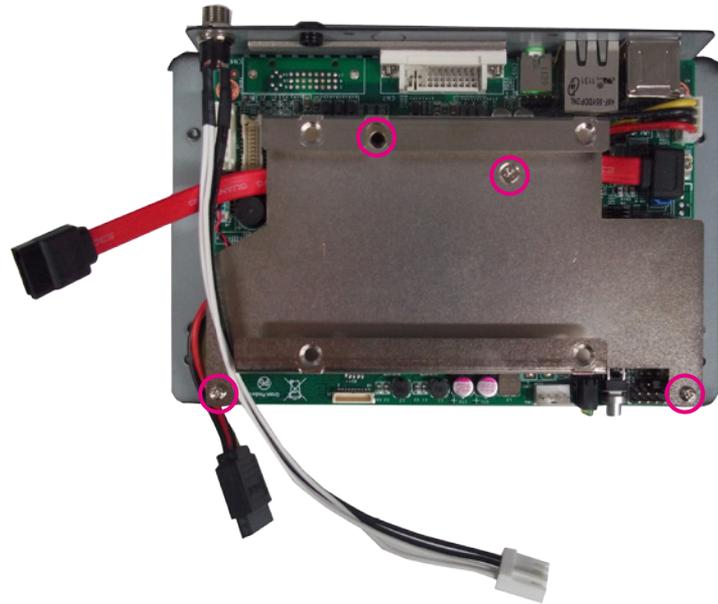


8. Now connect an external antenna to the WiFi antenna jack and place HDD Bay with mounting screw.

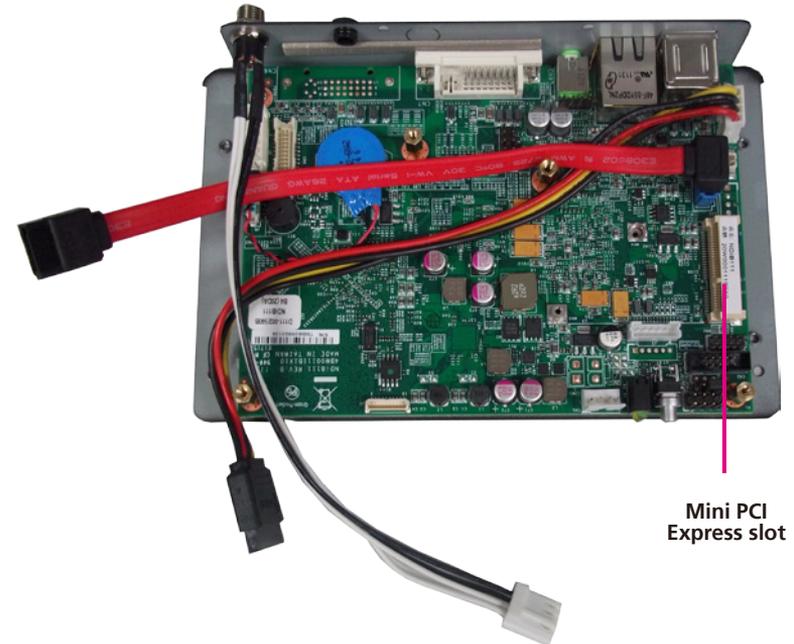


## Installing a TV Tuner Module

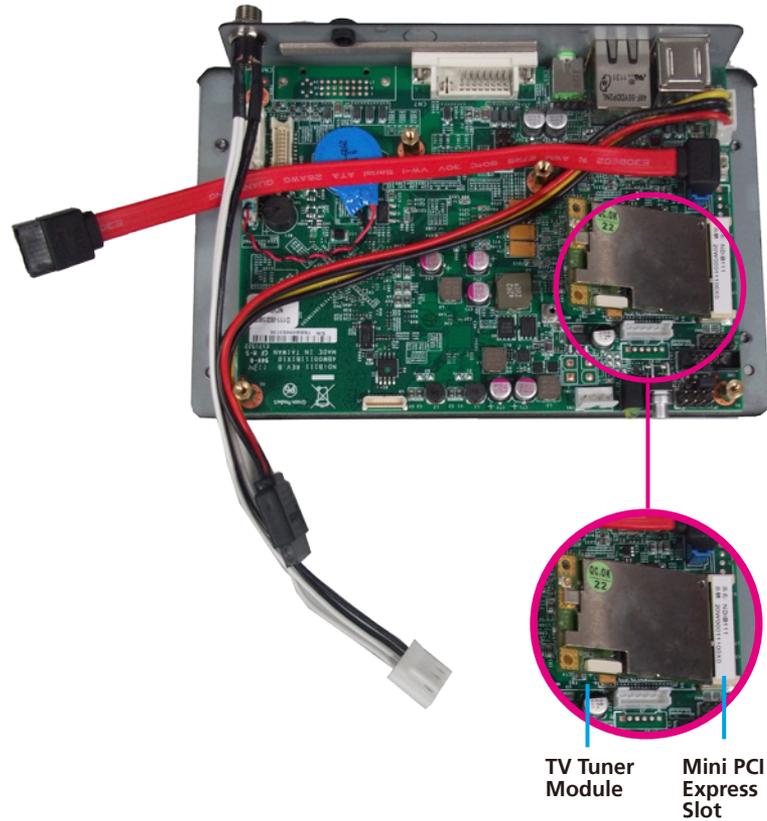
1. Unmount screws and remove HDD bay. Then put them in a safe place for later use.



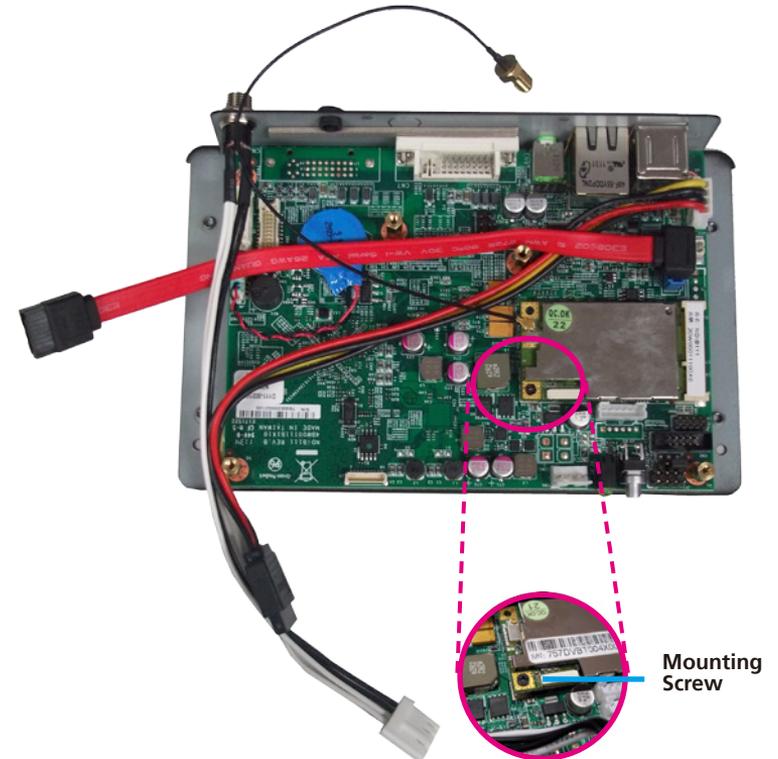
2. Locate for the Mini PCI Express slot on the board.



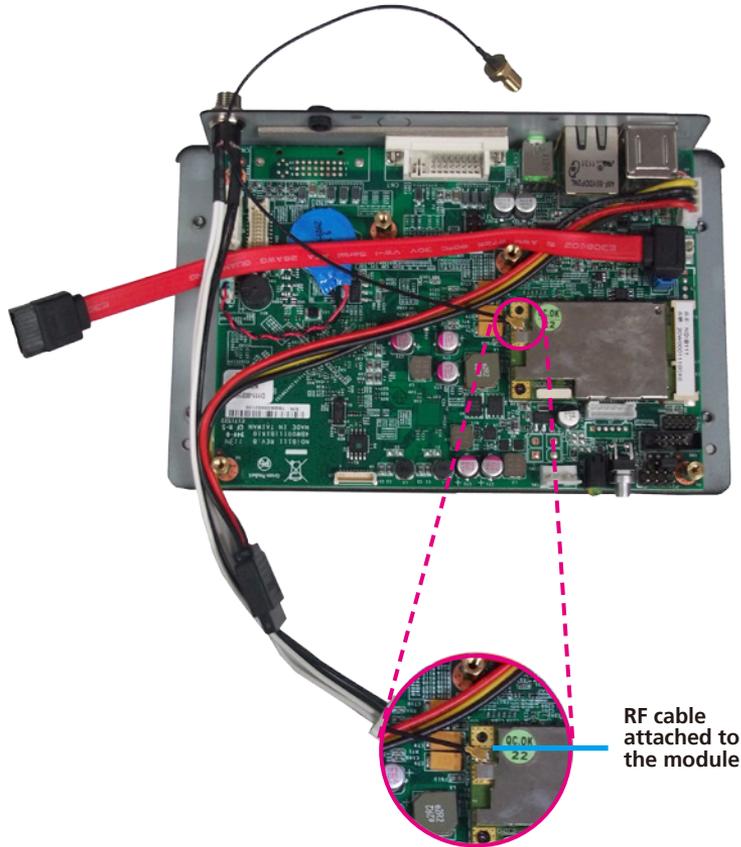
3. Insert the TV Tuner module into the Mini PCI Express slot at a 45 degrees angle until the gold-plated connector on the edge of the module completely disappears inside the slot.



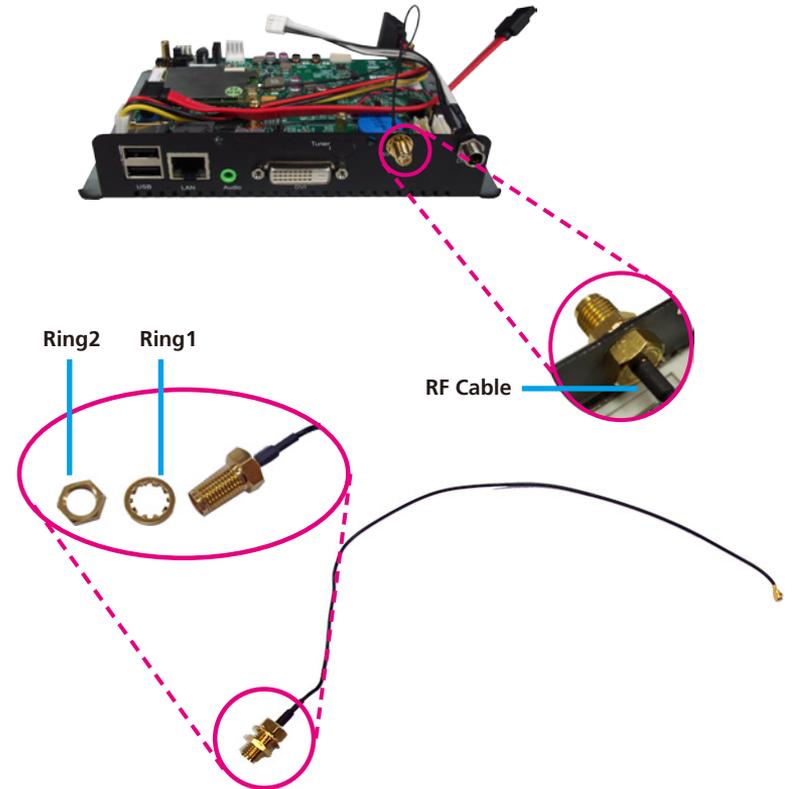
4. Push the module down then secure it with mounting screws.



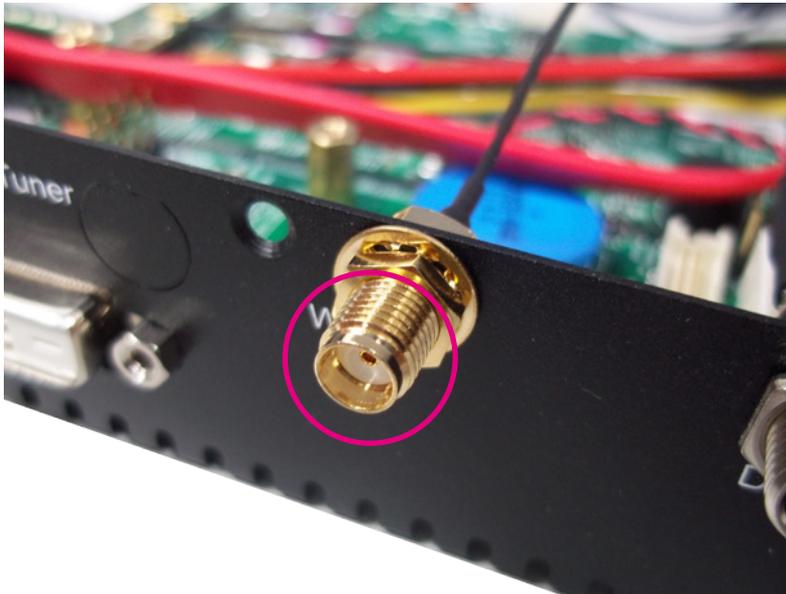
5. Attach one end of the RF cable onto the TV Tuner module.



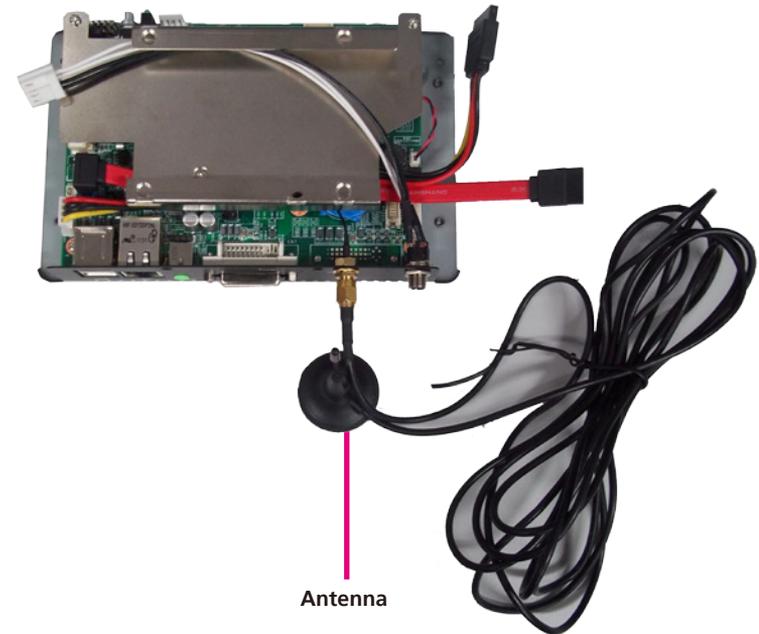
6. Insert the 2 rings (ring 1 then ring 2) into the TV Tuner antenna jack. Now mount the WiFi antenna jack to the WiFi antenna hole located at the rear panel of the chassis then tighten the rings.



7. The photo below shows the TV Tuner antenna jack attached at the rear panel of the chassis.

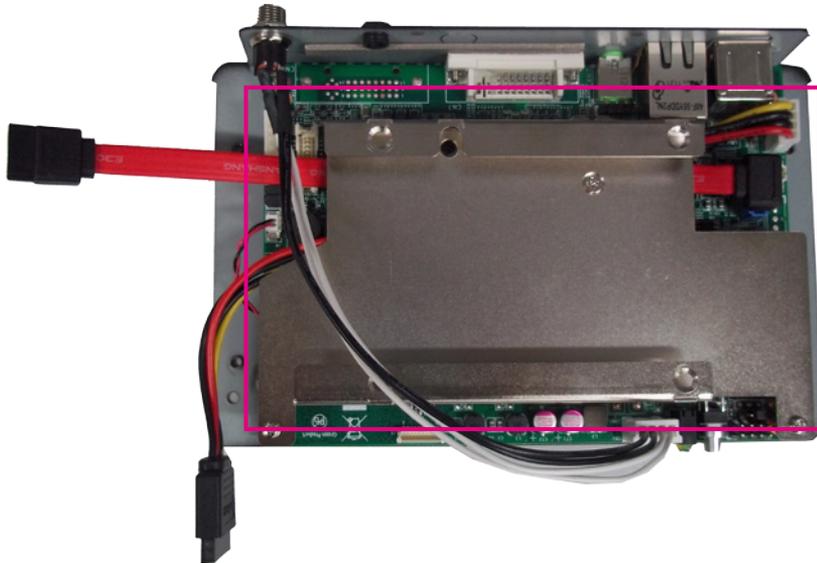


8. Now connect an external antenna to the TV Tuner antenna jack and place HDD Bay with mounting screw.

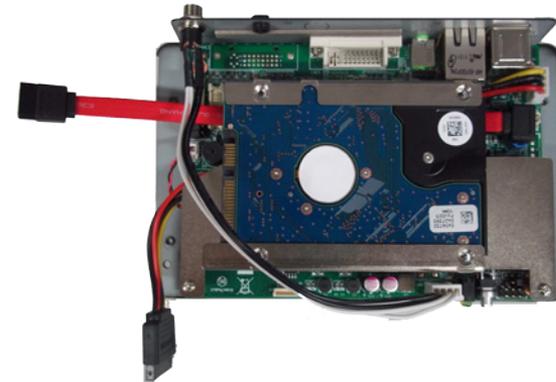
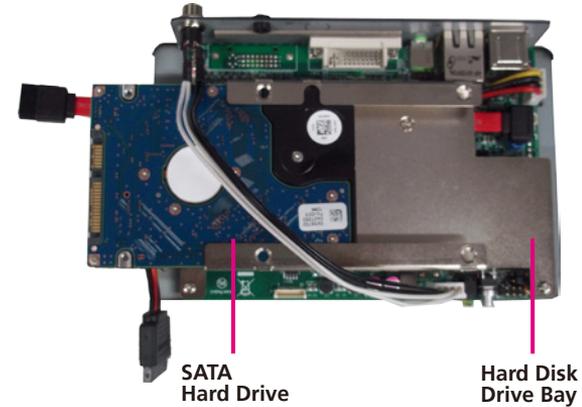


## Installing a SATA Hard Drive

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

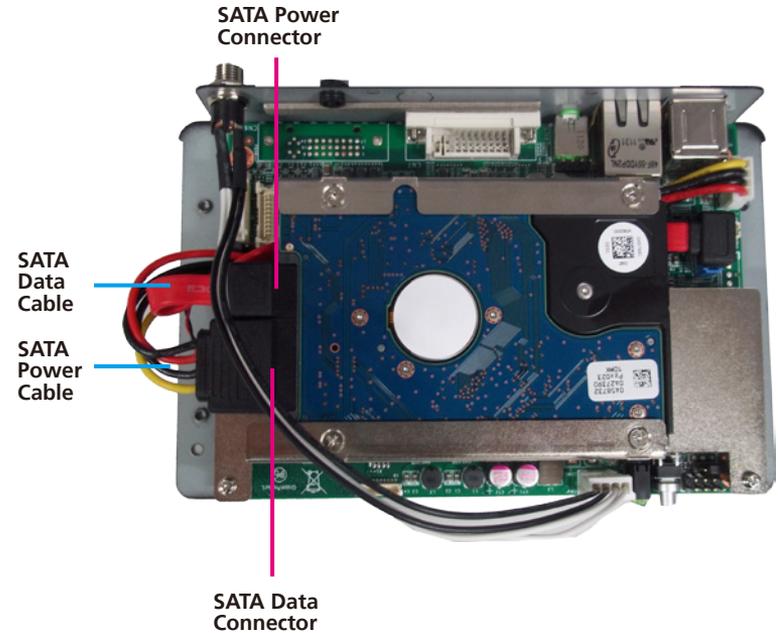
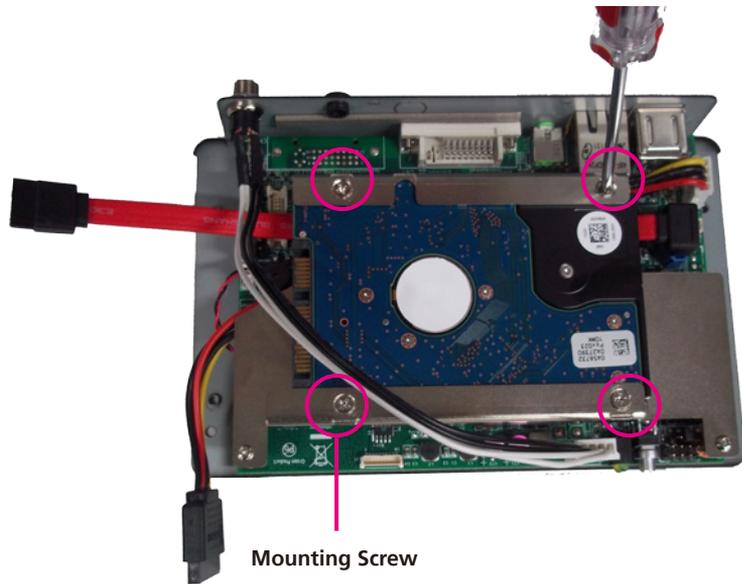


2. Place the SATA hard drive onto the drive bracket. Align the mounting holes that are on the sides of the SATA drive with the mounting holes on the drive bracket.



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

4. Connect the SATA data cable and SATA power cable to the SATA drive.



# Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for NDiS 111. 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 Web site 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. Another way to enter Setup is to power on the computer and waits for the following message during the POST:

```
TO ENTER SETUP BEFORE BOOT
```

```
PRESS <CTRL-ALT-ESC>
```

```
Press the <Del> key to enter Setup:
```

## Legends

Key	Function
 	Moves the highlight left or right to select a menu.
 	Moves the highlight up or down between sub-menus or fields.
	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

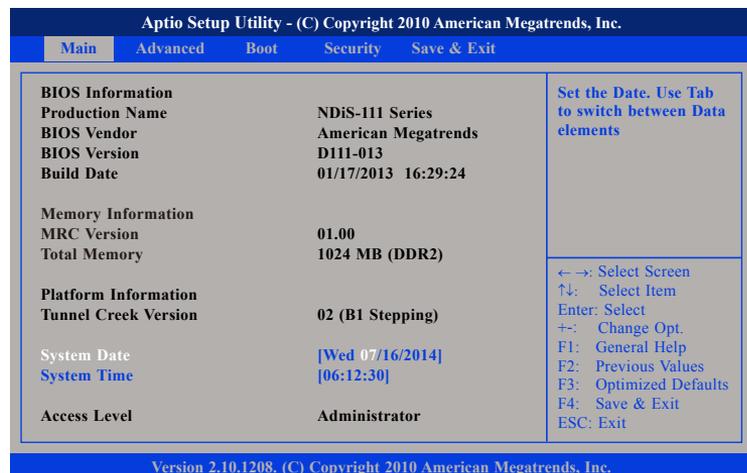
When "▶" appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press <Enter>.

## BIOS Setup Utility

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. The main menu allows you to select from six setup functions and one exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the submenu.

### Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



### System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. 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.



## ACPI Settings

This section is used to configure ACPI settings.

## CPU Configuration

This section is used to view detailed CPU specifications and configure the CPU.

## USB Configuration

This section is used to enable or disable the USB controller.

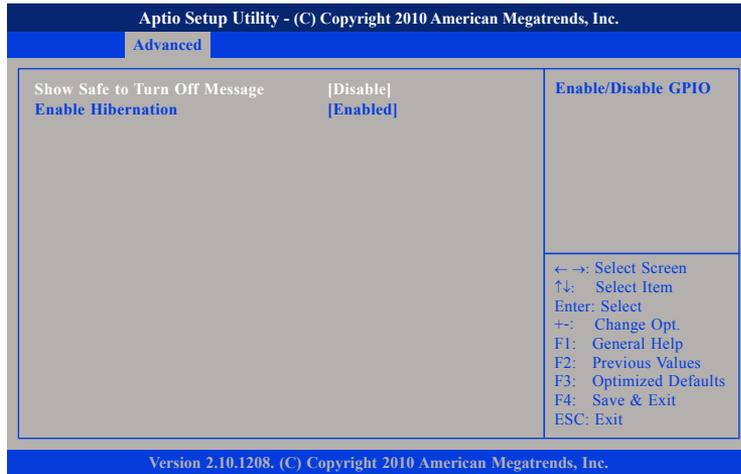
## Super IO Configuration

This section is used to configure the Super IO device.

## H/W Monitor

This section is used to configure the hardware monitoring events such as temperature, fan speed and voltages.

## ACPI Settings



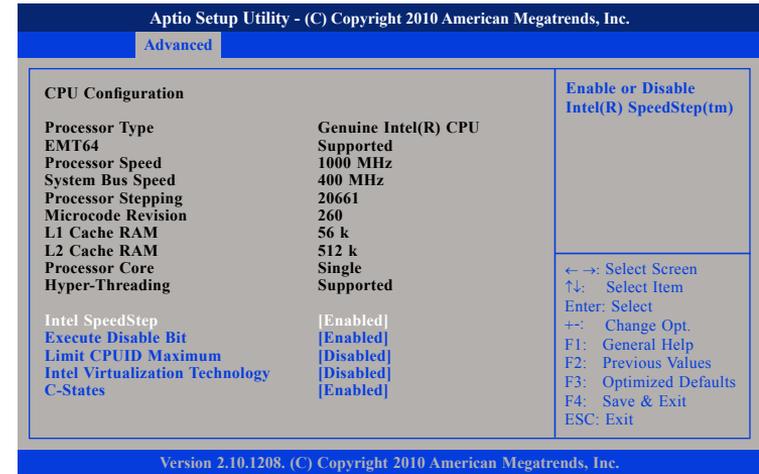
### Show Safe to Turn Off Message

Show safe to turn off message when powering off an ACPI OS.

### Enable Hibernation

This section is used to enable or disable system ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

## CPU Configuration



### Intel® SpeedStep

Enables or disables Intel® SpeedStep

### Execute Disable Bit

When this field is set to Disabled, it will force the XD feature flag to always return to 0. XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3).

### Limit CPUID Maximum

The CPUID instruction of some newer CPUs will return a value greater than 3. The default is Disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem may occur. To avoid this problem, enable this field to limit the return value to 3 or lesser than 3.

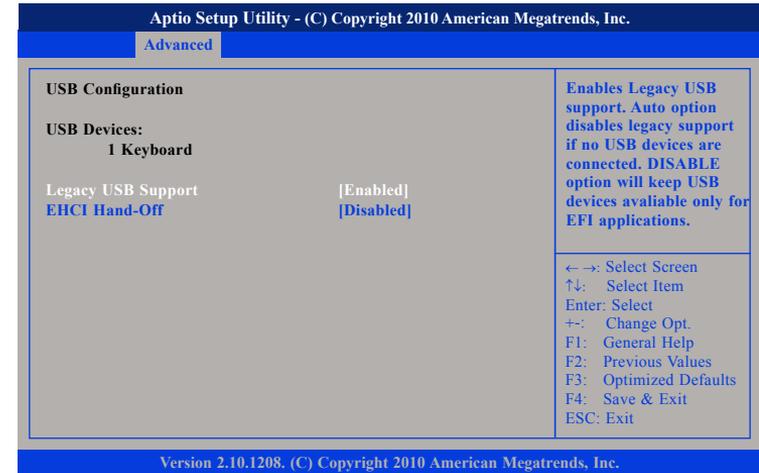
### Intel® Virtualization Technology

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

### C-States

Enables or disables CPU C states.

## USB Configuration



### Legacy USB Support

Enables Legacy USB support. Auto option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.

### EHCI Hand-Off

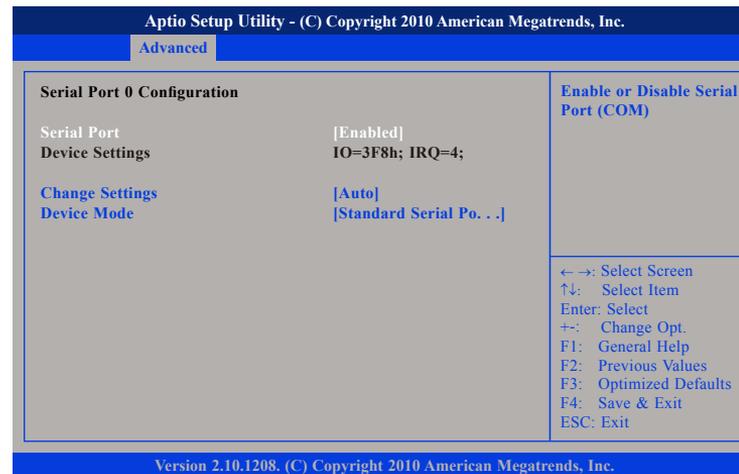
This is a workaround for OSeS without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.

## Super IO Configuration



This field is used to set parameters fo serial port 0.

## Serial Port 0 Configuration



### Serial Port

Enables or disables the serial port.

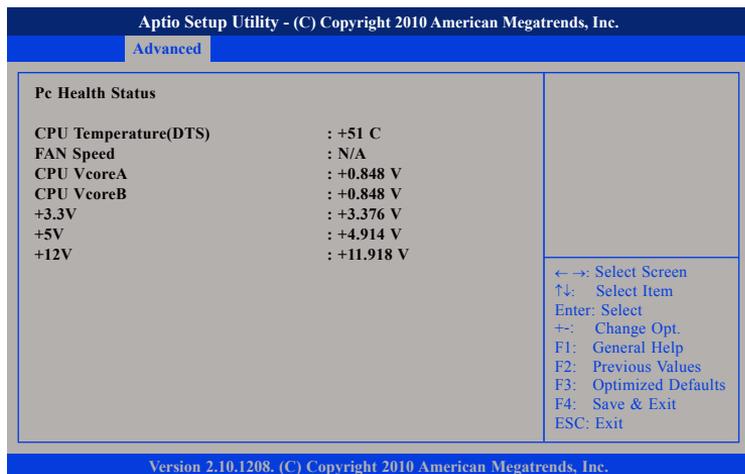
### Change Settings

Selects an optimal setting for the Super IO device.

### Device Mode

Configures the operating mode of the serial port.

## H/W Monitor



### CPU Temperature(DTS)

Detects and displays the CPU temperature of the system.

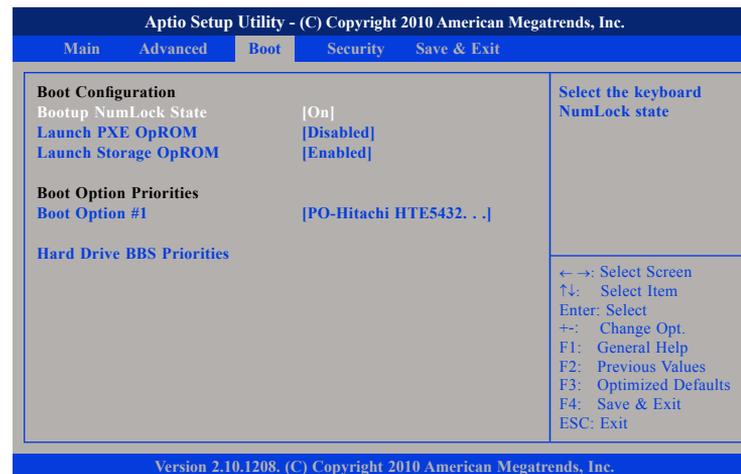
### FAN Speed

Detects and displays the fan speed.

### CPU VcoreA to 12V

Detects and displays the output voltages.

## 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.

### Launch PXE OpROM

Enables or disables the boot option for legacy network devices.

### Launch Storage OpROM

Enables or disables the boot option for legacy storage devices.

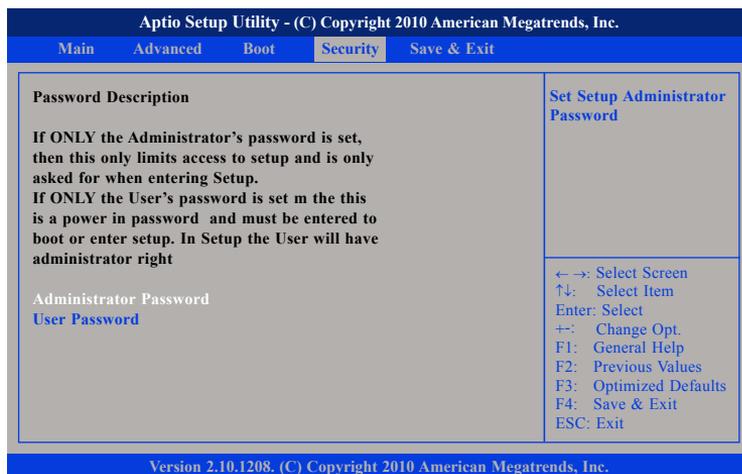
### Boot Option Priorities

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

### Hard Drive BBS Priorities

Sets the order of the legacy devices in this group..

## Security



### Change Supervisor Password

This field is used to set or change the supervisor password. To set a new password:

1. Select the Change Supervisor Password field then press <Enter>.
2. Type your password in the dialog box then press <Enter>. You are limited to eight letters/numbers.
3. Press <Enter> to confirm the new password.
4. When the Password Installed dialog box appears, select OK.

To change the password, repeat the same steps above.

To clear the password, select Change Supervisor Password then press <Enter>.

The Password Uninstalled dialog box will appear.

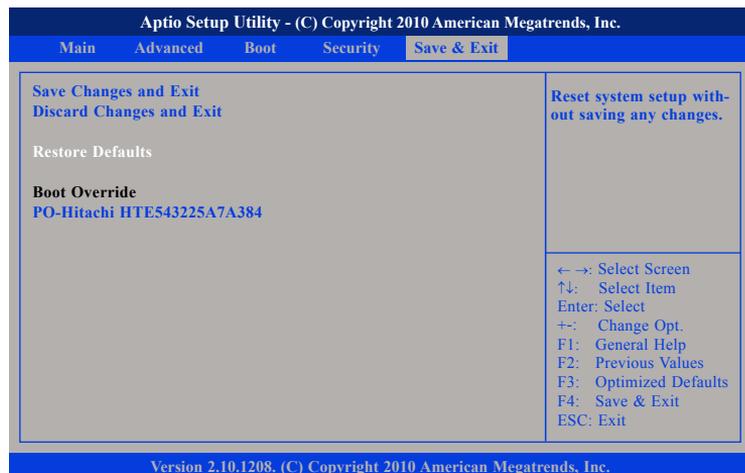
### Change User Password

This field is used to set or change the user password. To set a new password:

1. Select the Change User Password field then press <Enter>.
2. Type your password in the dialog box then press <Enter>. You are limited to eight letters/numbers.
3. Press <Enter> to confirm the new password.
4. When the Password Installed dialog box appears, select OK.

To change the password, repeat the same steps above.

## Exit



### Save Changes and Exit

To save the changes and exit the Setup utility, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes. You can also press <F10> to save and exit Setup.

### Discard Changes and Exit

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

### Restore Defaults

Loads the optimal default values from the BIOS ROM.