



# **NX-9600/NX-9610 Series Integrated Services Controller**

*Installation Guide*

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## Support

For product support, phone the Global Technical Assistance Center (GTAC) at 1-800-998-2408 (toll-free in U.S. and Canada) or +1-408-579-2826. For the support phone number in other countries, visit: [www.extremenetworks.com/support/contact/](http://www.extremenetworks.com/support/contact/)

For product documentation online, visit: [www.extremenetworks.com/documentation/](http://www.extremenetworks.com/documentation/)

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# 1 Introduction

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The NX-9600 Series Integrated Services Controller lets you centrally administer networks up to 10,000 WLAN Access Points geographically dispersed over numerous telecommuter and small or medium sized enterprise locations.

WiNG Access Points intelligently manage traffic, Quality of Service (QoS), mobility, and security at remote locations, while the NX-9600 and NX-9610 provide a single point for configuration, provisioning, monitoring/analytics, and remote troubleshooting. Hotspot configuration, security policy management, and statistics aggregation are also administered through the NX-9600 series integrated services controller. The efficient WLAN architecture supports easy network configuration, and reduces the hardware expense required to support large networks.

## Warnings

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- Read all installation instructions and site survey reports, and verify correct equipment installation before connecting the appliance to its power source.
- Remove jewelry and watches before installing this equipment.
- Verify the unit is grounded before connecting it to the power source.
- Verify any device connected to this unit is properly wired and grounded.
- Connect all power cords to a properly wired and grounded electrical circuit.
- Verify the electrical circuits have appropriate overload protection.
- With a fiber optic module installed, this device emits Class I (or 1) output with fiber cable disconnected.
- Attach only approved power cords to the device.
- Verify the power connector and socket are accessible at all times during operation of the equipment.
- Do not work with power circuits in dimly lit spaces.
- Do not install equipment or work with its power circuits during thunderstorms, or other weather conditions that could cause a power surge.
- Verify adequate ventilation around the device.
- Ensure ambient temperatures meet equipment operation specifications.

## Site Preparation

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- Consult your site survey and network analysis reports to determine specific equipment placement, power drops, and so on.
- Assign installation responsibility to appropriate personnel.
- Identify and document where all installed components are located.
- Provide a sufficient number of power drops for your equipment.
- Ensure adequate, dust-free ventilation to all installed equipment.
- Identify and prepare Ethernet and console port connections.

- Verify cable lengths are within the maximum allowable distances for optimal signal transmission.

## Installation Checklist

### *Location & Equipment*

NX-9600 or NX 9610 shipping container contents:

- NX-9600/NX-9610 Series Integrated Services Controller
- Locking front bezel with keys
- Hard Disc Drive (HDD) tray keys
- Four-post mounting rail kit
- NX-9600/NX-9610 Series Integrated Services Controller Installation Guide (this document)



#### **NOTE**

Keep the front bezel keys and HDD keys in a secure location which can only be accessed by authorized personnel.

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### *Additional Recommended Equipment*

- Standard, grounded 100-240 VAC 50/60 Hz connection
- Uninterruptable Power Supply (UPS)
- Standard 19-inch rack (2U height) with mounting rails

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## Cautionary Statements

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**CAUTION**

There are no user-serviceable components inside the NX-9600 series controller. Opening the chassis will void the warranty.

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**CAUTION**

BIOS settings on the NX-9600 series controller should not be changed. Changing any settings in the BIOS will void the warranty.

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**CAUTION**

To prevent the controller from overheating, never install in an enclosed area not properly ventilated or cooled. For proper airflow, keep the front and back sides of the controller clear of obstructions and away from the exhaust of other equipment.

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**CAUTION**

The recommended/ambient operating temperature is 0°C to 40°C. Installation in a closed or multi-rack assembly may raise the immediate ambient temperature above the average room temperature. Exercise due caution.

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**CAUTION**

Ensure the electrical circuit through which the services controller is powered can safely accommodate an 800 Watt power supply.

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**CAUTION**

It is highly recommended to connect a NX-9600 series controller to an Uninterruptible Power Supply (UPS). There are instances in which the system software could become corrupt and un-recoverable, such as a power loss, a system upgrade, database backup, or database restore operation.

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## Safety Instructions for Rack Mount Installations

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**WARNING**

An NX-9600 series controller requires a two man lift. Use all appropriate cautions.

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- Rack Mount Brackets - Do not lift the NX-9600 series controller using the rack mount

brackets.

- Rack Mount Rails - Use only industry-standard mounting kits when installing the NX-9600 series controller, as improper mounting may result in hardware failure and hazardous conditions. Use the mounting rails included with the controller.
- Elevated Operating Ambient Temperature - If installing a NX-9600 series controller in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Consideration should be given to installing the appliance in an environment compatible with the maximum ambient temperature ( $T_{ma}$ ) specified by the manufacturer.
- Reduced Air Flow - Installation of a NX-9600 series controller in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading - Mounting a NX-9600 series controller in a rack should be such that uneven mechanical loading results in a hazardous condition.
- Circuit Overloading - Consideration should be given when connecting a NX-9600 series controller to the supply circuit so that protection is provided to a NX-9600 series controller and supply wiring if any circuit overloads occur. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing - Reliable earthing (grounding) of a rack mounted NX-9600 series controller should be maintained.
- Particular attention should be given to power connections other than direct connections to the branch circuit (e.g., use of power strips)



# 2 NX-9600 Specifications

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## Mechanical Specifications

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A NX-9600 Series controller has the following mechanical specifications:

Size	Width: 19 inches Depth: 28 inches Height: 4 inches
Weight	50.2 lbs

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## Environmental Specifications

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A NX-9600 Series controller has the following environmental specifications:

Operational Temperature Range	0°C to 40°C
Storage Temperature Range	-40°C to 70°C
Operational Humidity Range	10% to 85% RH (non-condensing) @ 40°C
Storage Humidity Range	10% to 95% RH (non-condensing) @ 40°C
Operational Altitude	Maximum 10,000 feet @ 25°C

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## Power Specifications

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A NX-9600 Series controller has the following power specifications:

Input Voltage	1100 to 240VAC (+/- 10%), 50/60Hz, 10-5 Amps
Output Voltage	+3.3 V @ 32 A, +5V @ 32 A, 5 Vsb @ 3.5 A, +12 V @ 65 A, -12 V @ 0.8 A



### CAUTION

A power cord is not supplied with a NX-9600 series controller. Use only a properly rated power cord certified (as appropriate) for the country of operation.

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## Power Protection

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- If possible, use a circuit dedicated to data processing equipment. Commercial electrical contractors familiar with wiring for data processing equipment can help with the load balancing of these circuits.

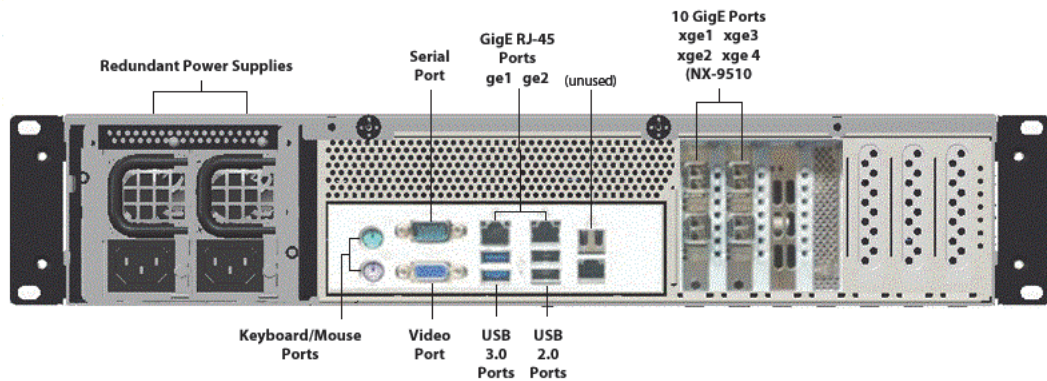
- Install adequate surge protection. Be sure to use a surge protection device between the power source and a NX-9600 series controller.
- Install an Uninterruptable Power Supply (UPS). A UPS of the proper capacity for the data processing equipment must be purchased. A UPS provides continuous power during a power outage. Some UPS devices have integrated surge protection. UPS equipment requires periodic maintenance to ensure reliability.

# 3 Hardware Installation

The following sections describe the hardware installation for a NX-9600 series controller:

## Installing the NX-9600 Series Controller

- 1 Complete the instructions supplied with the rail kit to mount the NX-9600 in an equipment rack.
- 2 Connect the power cords for both power supplies.



- 3 Connect the Ethernet cables, and connect the controller to the network. Connect all other cables as appropriate for your required configuration.
- 4 Using a console cable, connect the serial port to an RS-232 (DB-9) serial port on a separate computer (the “configuration computer”).



### NOTE

If a power supply failure occurs, an audible alarm will sound. To silence the power supply alarm, press and hold the red reset button next to the power supplies.



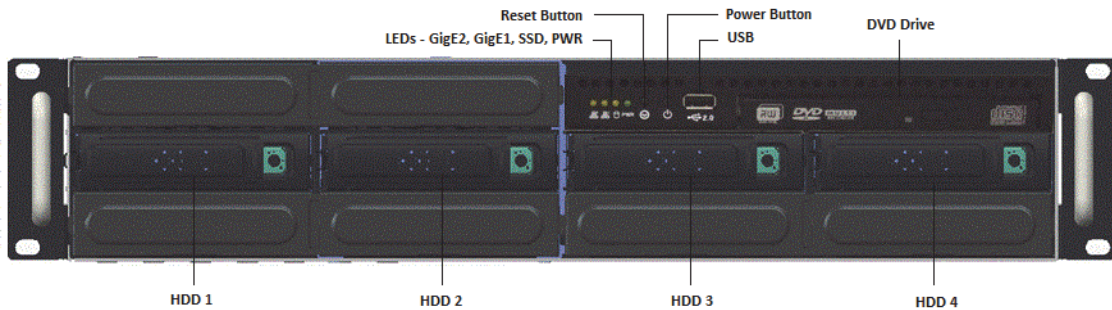
### NOTE

The 10GigE ports (xge1-xge4) are only available for NX-9610.

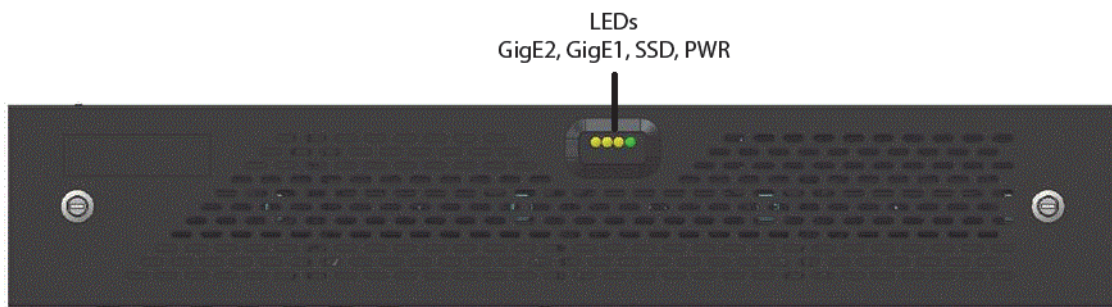
The NX-9600 series controller serial port functions as a console port, and can be used to access the Command Line Interface (CLI) for system configuration.

## Applying Power to the Controller

- 1 Gently press and hold the power button to apply power to the services controller.



- 2 Attach the front bezel between the rack mount brackets on the sides of the services controller.



- 3 Lock the front bezel.



### NOTE

Keep the front bezel keys and HDD keys in a secure location which can only be accessed by authorized personnel.

# 4 LED Information

## Front Panel LEDs

LEDs for the front of the controller are as follows

LED	Color	State
Gigabit Ethernet 2	Blinking Amber	Activity on GE2 Interface
Gigabit Ethernet 1	Blinking Amber	Activity on GE1 Interface
SSD	Blinking Amber	Activity on Solid State Drive
Power	Solid Green	Power is on for device
HDD 0-3	Blinking Blue Solid Red Blinking Blue/Red	Activity on HDD Drive Location On Rebuild

## Power Supply Status LED

Each power supply module has a single bi-color LED to indicate power supply status. The LED is visible on the rear of each installed power supply.

The LED functionality for the power supply is as follows:

LED	Port/Connector	Color	State
Redundant power supplies	Grounded AC	Green Off	Power available No power available (failed)



### NOTE

In the event of a PSU failure, an audible alarm will sound indicating replacement of the PSU is required.

## Gigabit Ethernet Card LEDs

The LED functionality for the Gigabit Ethernet card is as follows:

LED	Connector	Color	State
Gigabit Ethernet cards	10Mbps 100Mbps: 1000Mbps:	Green Blinking Green	Link Active

## NX-9610 Expansion Module LED

The NX-9610 controller supports two 10GigE Peripheral Component Interconnect Express (PCIe) cards, and a hardware cryptography engine for superior encryption/decryption performance. The LED functionality for the PCIe cards and hardware cryptography engine is as follows:

LED	Port/Connector	Color	State
10 Gigabit Ethernet cards (NX-9610 only)	Top LED (Link Speed)	Green Solid Green	Link Active Link Present
	Bottom LED (Activity)	Blinking Green	Link Active
Cryptographic accelerator card (NX-9610 only)	-	Green On/Red Off	Normal Function
		Green Off/Red On	Power Fault

# 5 Using the NX-9600 Series Command Line Interface

Once the NX-9600 series hardware is installed, complete the following to access the Command Line Interface (CLI) on the controller:

- 1 On the configuration computer, configure a terminal emulation application as follows:

<b>Terminal Type</b>	VT-100
<b>Port</b>	COM Port
<b>Terminal Settings</b>	19200bps transfer rate 8 data bits no parity 1 stop bit no flow control no hardware compression

- 2 Apply power to the device.
- 3 When the prompt is displayed in the terminal window, login using the username `admin` and password `admin123`.
- 4 For increased security, you are prompted to enter a new password. Enter the new password then enter it again to confirm it.

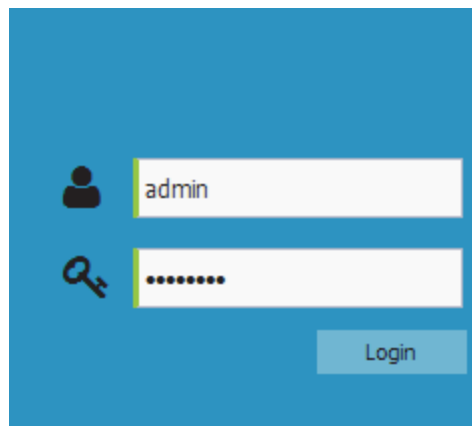




# 6 Basic Configuration Using the Management Interface

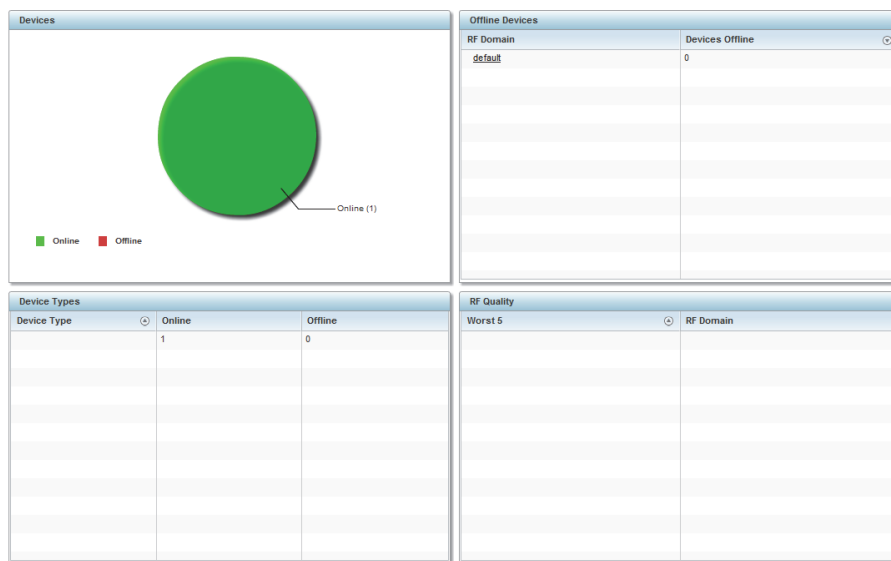
Once the NX 9600 series controller hardware is installed and powered on, complete the following to access the Management Interface functions:

- 1 Connect one end of an Ethernet cable to one of the ports on the back of the NX-9600 series controller, and connect the other end to a computer with a working Web browser.
- 2 Set the computer to use an IP address between 192.168.0.10 and 192.168.0.254 on the connected port. Set a subnet /network mask of 255.255.255.0.
- 3 Once the computer has an IP address, point the Web browser to: <https://192.168.0.1>. The following login screen displays:



- 4 Enter the default username `admin` in the **Username** field.
- 5 Enter the default password `admin123` in the **Password** field.
- 6 Select the **Login** button to load the management interface.

The NX-9600 Dashboard displays.



You have now established a connection to the NX-9600 Management Interface.

For software configuration, please see the current WiNG Controller and Service Platform System Reference Guide available from the documentation site at [www.extremenetworks.com/documentation/](http://www.extremenetworks.com/documentation/).

# 7 Regulatory Information

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## Regulatory Information

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This guide applies to the following Model Number: NX-96

All Extreme Networks devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required.

Local language translations are available at the following Website:  
[www.extremenetworks.com/support](http://www.extremenetworks.com/support)

Any changes or modifications to Extreme Networks equipment, not expressly approved by Extreme Networks could void the user's authority to operate the equipment.

Extreme Networks devices are professionally installed, the Radio Frequency Output Power will not exceed the maximum allowable limit for the country of operation.

Declared maximum operating temperature: 40°C.

## Radio Frequency Interference Requirements—FCC

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

## Radio Frequency Interference Requirements - Canada

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

**CAN ICES-3 (A)/NMB-3(A)**

## Battery Information



**Risk of explosion if battery is replaced by an incorrect type.**

Dispose of batteries according to instructions.

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Use only approved batteries.

Extreme Networks uses batteries designed and constructed to the highest standards within the industry.

However, there are limitations to how long a battery can operate or be stored before needing replacement. Many factors affect the actual life cycle of a battery pack, such as heat, cold, harsh environmental conditions and severe drops.

When batteries are stored over six (6) months, some irreversible deterioration in overall battery quality may occur. Store batteries at half of full charge in a dry, cool place, removed from the equipment to prevent loss of capacity, rusting of metallic parts and electrolyte leakage. When storing batteries for one year or longer, the charge level should be verified at least once a year and charged to half of full charge.

Replace the battery when a significant loss of run time is detected.

Standard warranty period for batteries is 30 days, regardless if the battery was purchased separately or included with the device.

## Battery Safety Guidelines

- Follow battery usage, storage, and charging guidelines found in this guide.
- Improper battery use may result in a fire, explosion, or other hazard.
- To charge the device battery, the battery and charger temperatures must be between +32 °F and +104 °F (0 °C and +40 °C)
- Do not use incompatible batteries and chargers. Use of an incompatible battery or charger may present a risk of fire, explosion, leakage, or other hazard. If you have any questions about the compatibility of a battery or a charger, contact Support.
- For devices that utilize a USB port as a charging source, the device shall only be connected to products that bear the USB-IF logo or have completed the USB-IF compliance program.
- Do not short circuit a battery or allow metallic or conductive objects to contact the battery terminals.
- Do not modify or re-manufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard.
- Do not leave or store the equipment in or near areas that might get very hot. Do not place battery into a microwave oven or dryer.
- Please follow local regulations to promptly dispose of used re-chargeable batteries.
- Do not dispose of batteries in fire.
- Seek medical advice immediately if a battery has been swallowed.

## Laser Devices



### **CAUTION**

Class 1 laser devices are not considered hazardous when used for their intended purpose.

## LED Devices

For LED devices which have been evaluated to IEC 62471 and comply with the Exempt Risk Group, no product labeling requirements apply. However, the following statement is required to comply with US and international regulations:

LED Compliance Statement:

Classified as "EXEMPT RISK GROUP" according to IEC 62471:2006 and EN 62471:2008

## Fiber Optic Module

With fiber optic module installed, emits Class I (or 1) output with fiber cable disconnected.

## CE Marking and European Economic Area (EEA)



WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

The use of RFID Devices has varying restrictions for use within the EEA; please refer to the Declaration of Conformity (DoC) for details at <http://www.extremenetworks.com/>.

## Statement of Compliance

Extreme Networks hereby declares that this device is in compliance with all the applicable Directives, 2004/108/EC, 2006/95/EC and 2011/65/EU. A Declaration of Conformity (DoC) may be obtained from <http://www.extremenetworks.com/>.

## Japan (VCCI) Voluntary Control Council for Interference

### Class A ITE

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

## Korea Warning Statement for Class A ITE

기종별	사용자안내문
A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

## Chinese Warning Statement for Class A ITE

### 警告

此为A级产品，在生活环境中，该产品可能会造成无形电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施

## Ukraine

Дане обладнання відповідає вимогам технічного регламенту №1057, № 2008 на обмеження щодо використання деяких небезпечних речовин в електричних та електронних пристроях.

## European Waste Electrical and Electronic Equipment (WEEE) Notice



In accordance with Directive 2012/19/EU of the European Parliament on waste electrical and electronic equipment (WEEE):

The symbol above indicates that separate collection of electrical and electronic equipment is required.

When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.

It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.


It is the users' responsibility to utilize the available collection system to ensure WEEE is properly treated.

For information about the available collection system, please contact Extreme Customer Support at +353 61 705500 (Ireland).

## Turkish WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

# 8 NX-96 Series China RoHS Compliance

部件名称 (Parts)	有害物质 					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 (Metal Parts)	X	0	0	0	0	0
电路模块 (Circuit Modules)	X	0	0	0	0	0
电缆及电缆组件 (Cables and Cable Assemblies)	0	0	0	0	0	0
塑料和聚合物部件 (Plastic and Polymeric Parts)	0	0	0	0	0	0
光学和光学组件 (Optics and Optical Components)	0	0	0	0	0	0
电池 (Batteries)	0	0	0	0	0	0

本表格依据SJ/T 11364 的规定编制。

0: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量 要求以下。

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。(企业可在此处，根据实际情况对上表中打“x”的技术原因进 行进一步说明。 )

This table was created to comply with China RoHS requirements.