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> WAVLINK AX3000 Outdoor WiFi 6 Extender/Access Point User Manual (Model WN588HX3)

WAVLINK WN588HX3

WAVLINK AX3000 Outdoor WiFi 6 Extender/Access Point User Manual

Model: WN588HX3

1. INTRODUCTION

This manual provides detailed instructions for the installation, configuration, and operation of your WAVLINK AX3000 Outdoor WiFi 6 Extender/Access Point (Model WN588HX3). This device is designed to provide robust and extended wireless coverage in outdoor environments, supporting various operating modes including Router, Access Point, Repeater, and Mesh.

Please read this manual thoroughly before using the device to ensure proper setup and optimal performance.

2. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any item is missing or damaged, please contact your retailer.

- 1 × WAVLINK AX3000 WiFi 6 Outdoor WiFi Extender
- 6 × 7dBi Omnidirectional Antennas
- 1 × PoE Converter
- 1 × 54V Power Adapter
- 1 × Ethernet Cable (1m)
- 1 × Main Body Holder
- 4 × Plastic Cable Ties
- 1 × PWM M3×5×6MM Screw
- 6 × KA M3×20×5.2MM Screws
- 6 × Φ6.5x25MM Screw Plugs
- 1 × Quick Start Guide

WAVLINK
see the world

Excellent for:
Park, Street &
Swimming Pool

Dual Band
2.4GHz+5GHz

802.3at/af
Active & Passive PoE

6x7dBi
Antennas

IP67
Waterproof

AX3000
WiFi 6

AX3000 Wi-Fi 6 Outdoor Access Point

AERIAL HD9S |

PoE x1
802.3at/af

LAN/WAN x1
1 Gbps

Product Name: AX3000 WiFi6 Mesh Router
Model: WS-WN588HX3 HVIN: WS-WN588HX3
IC: 1142BA-VN0007

SN: 2028042900206 Made in China

Figure 3.1: Front view of the WAVLINK AX3000 Outdoor WiFi 6 Extender with antennas attached.



Figure 3.2: Detailed view of the Gigabit WAN/LAN PoE Port and Reset/Pair Button.

3.2 Ports and Buttons

- **Gigabit WAN/LAN PoE Port:** This port supports both Power over Ethernet (PoE) for power supply and data transmission. It functions as either a WAN port (for connecting to a modem/router in Router mode) or a LAN port (for connecting to a network device in AP/Repeater mode).
- **Reset/Pair Button:**
 - **Reset:** Press and hold for approximately 10 seconds until the LEDs flash to restore factory default settings.
 - **Pair:** Used for WPS pairing or Mesh network setup (refer to specific mode instructions).

4. INSTALLATION

4.1 Antenna Installation

1. Carefully screw each of the six 7dBi omnidirectional antennas onto the corresponding connectors on the device. Ensure they are finger-tight to establish a secure connection.

2. Orient the antennas for optimal signal coverage. For most outdoor scenarios, a vertical orientation is recommended.

4.2 Mounting Options

The WAVLINK AX3000 can be mounted on a wall or a pole. Choose a location that provides the best line-of-sight to the desired coverage area and is within 100 meters (328 feet) of the PoE injector.

4.2.1 Pole Mounting

1. Attach the main body holder to the back of the device using the provided screws.
2. Secure the device to a pole using the plastic cable ties through the slots on the main body holder. Tighten the ties firmly.

4.2.2 Wall Mounting

1. Mark the positions for drilling holes on the wall using the main body holder as a template.
2. Drill holes and insert the screw plugs.
3. Attach the main body holder to the wall using the provided screws.
4. Slide the device onto the main body holder until it clicks into place.

4.3 Powering the Device (PoE)

The device is powered via Power over Ethernet (PoE), which allows both power and data to be transmitted over a single Ethernet cable. The PoE converter is **not waterproof** and must be installed indoors or in a protected, weatherproof enclosure.

1. Connect one end of an Ethernet cable (CAT5e or higher recommended) to the Gigabit WAN/LAN PoE port on the WAVLINK AX3000.
2. Connect the other end of this Ethernet cable to the "PoE" port on the PoE converter.
3. Connect another Ethernet cable from your router/modem/switch to the "LAN" port on the PoE converter.
4. Connect the 54V power adapter to the PoE converter and plug it into a power outlet.
5. The device will power on, and the LEDs will indicate its status.

5. SETUP AND CONFIGURATION

The WAVLINK AX3000 can be configured via a web browser. The default IP address for initial setup is **192.168.30.1**.

5.1 Initial Access

1. Ensure your computer is connected to the same network as the WAVLINK AX3000 (either directly via Ethernet to the LAN port of the PoE converter, or wirelessly to its default SSID: WAVLINK-AX_XXXX or WAVLINK-AX_5G_XXXX).
2. Open a web browser (e.g., Chrome, Firefox, Edge).
3. Type 192.168.30.1 into the address bar and press Enter.
4. You will be prompted to create a new password for the administrator account. Set a strong password and remember it.
5. Follow the on-screen setup wizard to select your desired operating mode and configure network settings.

5.2 Operating Modes

The device supports multiple operating modes to suit various networking needs:

- **Router Mode:** Creates a new private network, acting as the main router for your internet connection.
- **Access Point (AP) Mode:** Extends an existing wired network wirelessly, creating a new Wi-Fi network.
- **Repeater Mode:** Extends the coverage of an existing wireless network by relaying its signal.
- **Mesh Router/Extender Mode:** Creates a seamless mesh Wi-Fi network with other compatible WAVLINK mesh devices.

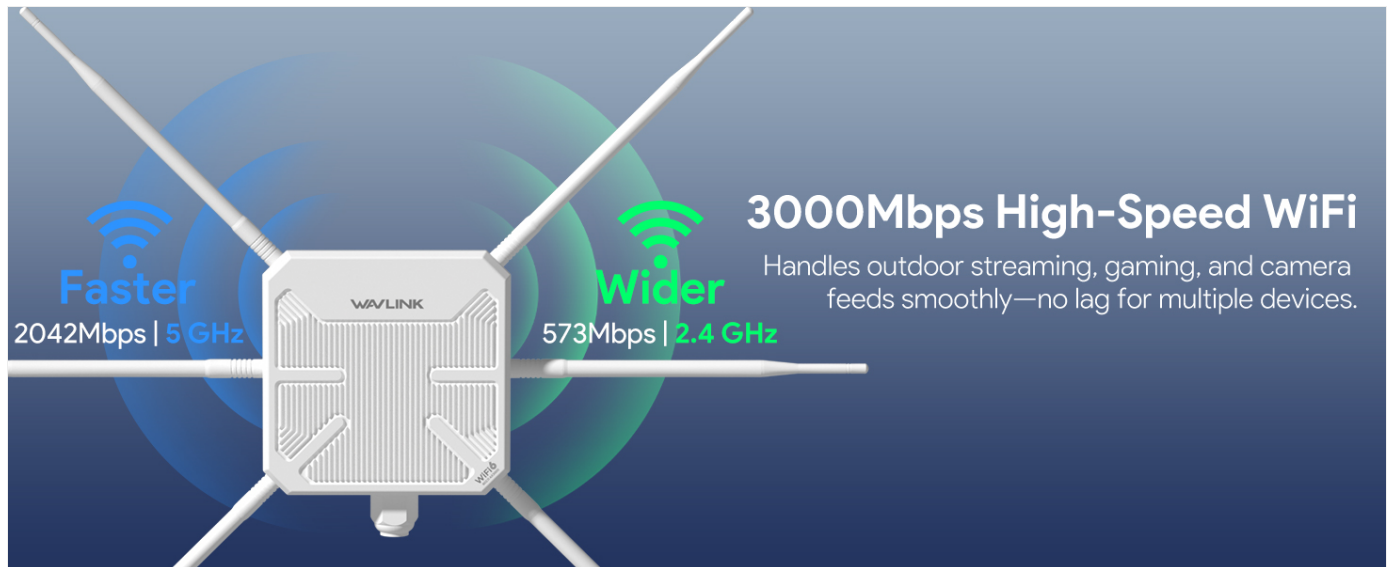


Figure 5.1: Diagram illustrating the various operating modes of the WAVLINK AX3000.

6. OPERATING MODE DETAILS

6.1 Router Mode

In Router Mode, the device connects to your modem and creates a new wireless network. It provides DHCP services and acts as a firewall.

1. Connect the Ethernet cable from your modem to the Gigabit WAN/LAN PoE port of the WAVLINK AX3000 (via the PoE converter).
2. Access the web interface (192.168.30.1).
3. Select "Router Mode" in the setup wizard.
4. Configure your WAN connection type (e.g., PPPoE, Dynamic IP, Static IP) as provided by your Internet Service Provider.
5. Set your desired Wi-Fi network name (SSID) and password for both 2.4GHz and 5GHz bands.
6. Save settings and reboot the device if prompted.

6.2 Access Point (AP) Mode

In AP Mode, the device connects to your existing wired network and broadcasts a new Wi-Fi signal, extending your network's wireless coverage.

1. Connect an Ethernet cable from your existing router/switch to the Gigabit WAN/LAN PoE port of the WAVLINK AX3000 (via the PoE converter).
2. Access the web interface (192.168.30.1).
3. Select "AP Mode" in the setup wizard.
4. Configure your desired Wi-Fi network name (SSID) and password for both 2.4GHz and 5GHz bands. You can choose to use the same SSID as your main network for seamless roaming or a different one.

5. Ensure the device's IP address is compatible with your existing network's subnet or set it to obtain an IP automatically (DHCP Client).
6. Save settings and reboot the device if prompted.

6.3 Repeater Mode

In Repeater Mode, the device wirelessly connects to an existing Wi-Fi network and re-broadcasts it, extending its range without requiring an Ethernet cable connection to the main router.

1. Place the WAVLINK AX3000 within range of your existing Wi-Fi network.
2. Access the web interface (192.168.30.1).
3. Select "Repeater Mode" in the setup wizard.
4. The device will scan for available Wi-Fi networks. Select your desired network from the list.
5. Enter the password for your existing Wi-Fi network.
6. You can choose to use the same SSID as your main network or create a new one for the extended network.
7. Save settings and reboot the device if prompted.

6.4 Mesh Mode

Mesh Mode allows you to create a unified Wi-Fi network with seamless roaming across multiple WAVLINK mesh-compatible devices. Refer to the specific instructions for your mesh system for detailed pairing procedures.

1. Ensure you have at least two WAVLINK mesh-compatible devices.
2. Configure one device as the "Mesh Router" (connected to your modem/router).
3. Configure other devices as "Mesh Extenders" and follow the pairing instructions, often involving pressing the "Pair" button on both devices within a short timeframe.
4. The devices will automatically configure to form a single, seamless Wi-Fi network.

7. MAINTENANCE

7.1 Firmware Upgrade

Regularly check for firmware updates on the official WAVLINK website (www.wavlink.com) to ensure optimal performance, security, and access to new features.

1. Download the latest firmware file for your WN588HX3 model from the WAVLINK support page.
2. Access the device's web interface.
3. Navigate to the "System Tools" or "Firmware Upgrade" section.
4. Upload the downloaded firmware file and follow the on-screen instructions. Do not power off the device during the upgrade process.

7.2 Factory Reset

If you forget your password or encounter persistent issues, you can restore the device to its factory default settings.

- **Via Web Interface:** Navigate to "System Tools" > "Factory Defaults" and confirm the reset.
- **Via Reset Button:** With the device powered on, press and hold the "Reset/Pair" button for approximately 10 seconds until the LEDs flash. Release the button, and the device will reboot with factory settings.

7.3 Cleaning

Wipe the device with a soft, dry cloth. Do not use liquid cleaners or aerosol sprays.

8. TROUBLESHOOTING

8.1 Cannot Access the Web Management Page

- Ensure your computer is connected to the device's network (either directly via Ethernet or wirelessly to its default SSID).
- Verify that your computer's IP address is in the same subnet as the device (e.g., if the device is 192.168.30.1, your computer should be 192.168.30.x).
- Try clearing your browser's cache or using a different browser.
- Temporarily disable any firewall or antivirus software on your computer.
- Perform a factory reset on the device and try again.

8.2 No Internet Access After Setup

- **Router Mode:** Check your WAN settings (PPPoE username/password, Dynamic/Static IP configuration). Ensure your modem is working correctly.
- **AP Mode:** Verify that the Ethernet cable from your main router/switch is connected properly and that your main router has internet access.
- **Repeater Mode:** Ensure the device is within good range of your main Wi-Fi network and that you entered the correct Wi-Fi password during setup.
- Check the status LEDs on the device for any error indications.
- Reboot both the WAVLINK AX3000 and your main router/modem.

8.3 Poor Signal Strength or Coverage

- Adjust the orientation of the antennas.
- Relocate the device to a more central position or higher elevation, ensuring minimal obstructions (e.g., thick walls, metal objects).
- In Repeater mode, ensure the device is placed where it receives a strong signal from the main router, not at the edge of the existing coverage.
- Check for sources of interference (e.g., cordless phones, microwave ovens, Bluetooth devices).

9. SPECIFICATIONS

Feature	Description
Model	WN588HX3
Wireless Standard	IEEE 802.11ax/ac/a/b/g/n
Frequency Bands	2.4GHz and 5GHz (Dual-Band)
Data Rate	Up to 3000Mbps (573Mbps on 2.4GHz, 2402Mbps on 5GHz)
Antennas	6 x 7dBi Omnidirectional Detachable Antennas
Ports	1 x Gigabit WAN/LAN PoE Port
Power Supply	802.3AF/AT Active PoE & Passive PoE (via included PoE converter)

Security	WPA3-SAE, WPA2-PSK, WPA/WPA2-Enterprise
Weather Resistance	IP67 Waterproof Enclosure
Protection	15kV ESD Protection, 6kV Lightning Protection
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Dimensions (L x W x H)	17.3 x 5.1 x 17 cm (excluding antennas)
Weight	0.52 kg

10. SAFETY INFORMATION

- Install a ground wire to prevent static electricity or lightning from damaging the device.
- The PoE converter is not waterproof and must be protected from moisture.
- Do not open or attempt to repair the device yourself. Refer all servicing to qualified personnel.
- Keep the device away from heat sources and direct sunlight.
- Use only the power adapter and accessories provided by the manufacturer.
- Ensure proper ventilation around the device.

11. WARRANTY AND SUPPORT

WAVLINK provides a **2-Year Warranty** for this product. For technical support, firmware updates, and further assistance, please visit the official WAVLINK website or contact their customer service.

WAVLINK Official Website: www.wavlink.com

For any questions or issues, please feel free to contact WAVLINK customer support. Life-long technical support is provided.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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