

# **WAVLINK**

see the world

**User Manual**

**N300 Outdoor Access Point**

**Model: AERIAL HS3E**

**@WavlinkOfficial**

**@WavlinkTechSupport**

# Table of contents:

- About This Guide
  - Conventions
  - More Info
  - Speed/Coverage Disclaimer
  - Safety Instructions
  - Copyright Statement
  - WEEE Directive & Product Disposal
- Chapter 1 Overview
  - Hardware Overview
  - Default Parameters
  - LED Indicators
  - Wi-Fi Signal
- Chapter 2 How to Use
  - Installation
  - Connection
  - Configuration Wizard
    - Login & System Configuration
    - Mode Selection
      - AP Mode
      - Repeater Mode
      - Router Mode
  - Lightning and ESD Protection
- Chapter 3 Network Management
  - Network Settings
    - Advanced Settings
  - LAN Settings
  - Setting Static IP Binding
  - MAC Filter
- Chapter 4 Managing Wireless Network
  - Wireless
    - Band Steering
    - SSID(Wi-Fi Name) and Password
    - Advanced
    - WiFi Schedule (Wireless Timer Switch)
  - Guest Wi-Fi

- Parental Control
- Signal Adjustment
- Chapter 5 Network Security
  - Security Settings
- Chapter 6 Remote Control
  - Remote Control
- Chapter 7 Net Tools
  - Network Diagnostics
- Chapter 8 System Setting
  - Firmware Upgrade
    - Local Upgrade
    - Online Upgrade
  - Change Password
  - Set System Time
  - LED Control
  - Backup and Restore
    - Backup the Current Configuration of the Router
    - Restore the Router's Configuration
    - Reset Router to Default Factory Settings
    - Timing Reboot
- Chapter 9 FAQ
  - FAQ
  - GNU General Public License Notice
  - After-sale Service
- Chapter 10 Safety and Emission Statement
- Chapter 11 FAT AP and FIT AP
  - FAT AP and FIT AP

# About This Guide

This guide is a complement to Quick Installation Guide. The Quick Installation Guide provides instructions for quick internet setup, while this guide contains details of each function and demonstrates how to configure them.

When using this guide, please notice that features of the router may vary slightly depending on the model and software version you have, and on your location, language, and internet service provider. All screenshots, images, parameters and descriptions documented in this guide are used for demonstration only.

## Conventions

In this guide the following conventions are used :

Convention	Description
<u>Underlined</u>	Underlined words or phrases are hyperlinks. You can click to redirect to a website or a specific section.
<b>Teal</b>	The content and text that needs to be emphasized on the web page is the theme color <b>#1D428A</b> , including menus, items, buttons, etc.
>	The menu structures to show the path to load the corresponding page. For example, <b>More &gt; Network &gt; Mode Selection</b> means the Mode Selection function page is under the Network menu that is located in the More tab.
Note:	Do not ignore this type of comment, it is to remind you to better use the device, to avoid the operation of the error that will cause the function to be invalid.
Tips:	Indicates important information that helps you make better use of your device.

## More Info

The latest software, management app and utility are available from the Download Center at <https://docs.wavlink.xyz/Firmware/> .

A quick installation guide can be found in this guide.

Specifications can be found on the product page at <https://docs.wavlink.xyz/>.

If you encounter any issues, please don't hesitate to email

[contact@wavlink.com](mailto:contact@wavlink.com)/[techsupport@wavlink.com](mailto:techsupport@wavlink.com)/[postsales@wavlink.com](mailto:postsales@wavlink.com) to provide feedbacks or contact online customer service, thank you !

## Speed/Coverage Disclaimer

\*Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput and wireless coverage are not guaranteed and will vary as a result of 1) environmental factors, including building materials, physical objects, and obstacles, 2) network conditions, including local interference, volume and density of traffic, product location, network complexity, and network overhead, and 3) client limitations, including rated performance, location, connection, quality, and client condition.

Information in this document is subject to change without notice. The manufacturer does not make any representations or warranties (implied or otherwise) regarding the accuracy and completeness of this document and shall in no event be liable for any loss of profit or any commercial damage, including but not limited to special, incidental, consequential, or other damage.

## Safety Instructions

Always read the safety instructions carefully.

Keep this Quick Start Guide for future reference.

Keep this equipment away from humidity.

If any of the following situation arises, get the equipment checked by a service technician:

The equipment has been exposed to moisture.

The equipment has been dropped and damaged.

The equipment has an obvious sign of breakage.

The equipment has not been working well or you cannot get it work according to Quick start Guide.

## Copyright Statement

No part of this publication may be reproduced in any form by any means without the prior written permission.

Other trademarks or brand names mentioned herein are trademarks or registered trademarks of their respective companies.

## **WEEE Directive & Product Disposal**

At the end of its serviceable life, this product should not be treated as household or general waste. It should be handed over to the applicable collection point for the recycling of electrical and electronic equipment, or returned to the supplier for disposal.

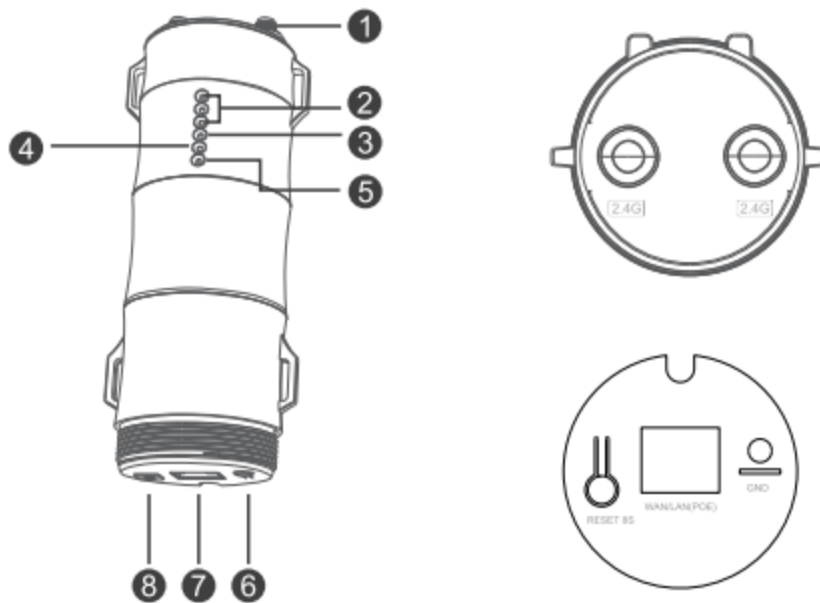


# Chapter 1 Overview

This chapter contains the following sections:

- [Hardware Overview](#)
- [Default Parameters](#)
- [LED Indicators](#)
- [Wi-Fi Signal](#)

## Hardware Overview



- ① RP-SMA Antenna Connectors
- ② 3 x Wi-Fi Signal LEDs
- ③ Wi-Fi LED
- ④ WAN/LAN LED
- ⑤ POWER LED
- ⑥ Reset Button
- ⑦ WAN/LAN Port (POE)
- ⑧ Grounding Terminal

# Default Parameters

Web : <http://waplogin.link>




Default IP: 192.168.10.1

2.4G SSID: WAVLINK-N\_XXXX

## LED Indicators

Position	LED Status	Description
Power	ON	The device is powered on.
Power	OFF	The device is not receiving electrical power.
WAN/LAN	ON	The Ethernet port is connected.
WAN/LAN	OFF	The Ethernet port is disconnected.
WAN/LAN	Flashing	Transferring data to/from a network device.

## Wi-Fi Signal

Mode				Description
AP/Router	ON	ON	ON	Wi-Fi signal output power 100%
Repeater	ON	ON	ON	Better reception: signal 81%-100%.
Repeater	ON	ON	OFF	Good reception: signal 60%~80%.
Repeater	ON	OFF	OFF	Weak reception: signal below 0%~59%.
Repeater	Flashing	OFF	OFF	Disconnected.



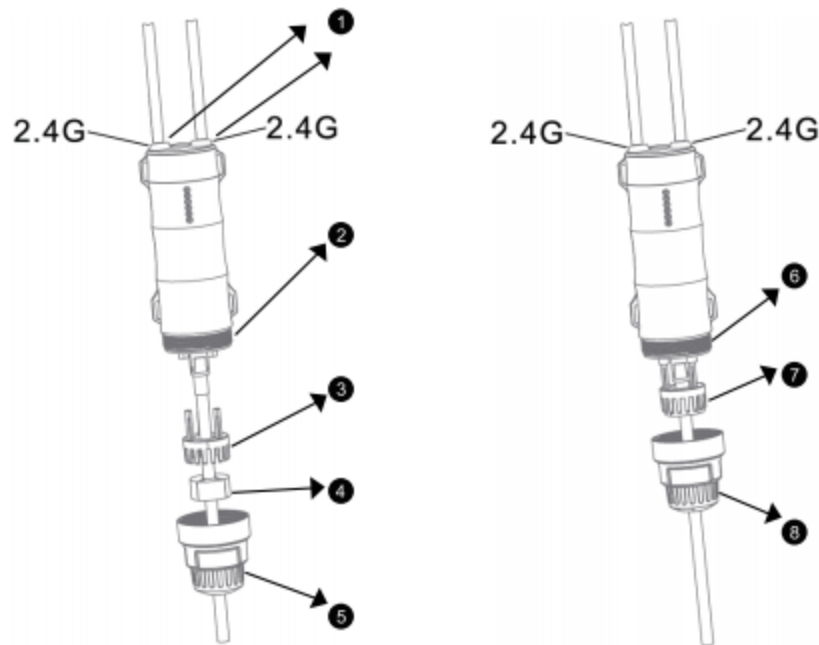
# Chapter 2 How to Use

This chapter contains the following sections :

- [Installation](#)
- [Connection](#)
- [Configuration-Wizard](#)
- [Lightning-and-ESD-Protection](#)

## Installation

1. Please follow the installation steps when assembling the device.



- ① Screw the connecting antenna cable into the 2.4G antenna connector and screw up the connector.
- ② Connect the RJ45 cable to WAN/LAN port.
- ③ Pass the RJ45 cable through the holder.
- ④ Pass the RJ45 cable through the rubber seal.
- ⑤ Pass the RJ45 cable through the spiral cover.
- ⑥ Plug the holder.
- ⑦ Plug the rubber seal to the holder.
- ⑧ Plug the spiral cover to the holder.

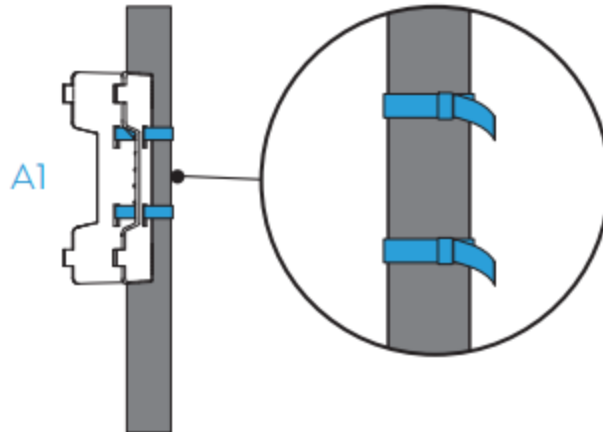
⑧ Screw up the spiral cover.

## 2. Installation

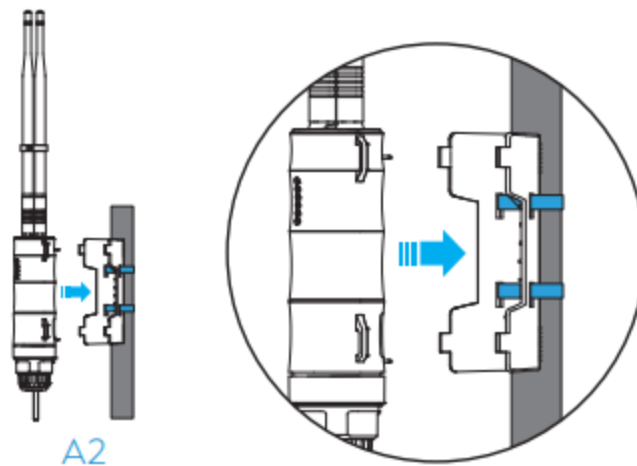
Fix the device to the pole with cable ties, or fix the device to the wall with screws.

### 1.1 Pole Mounting

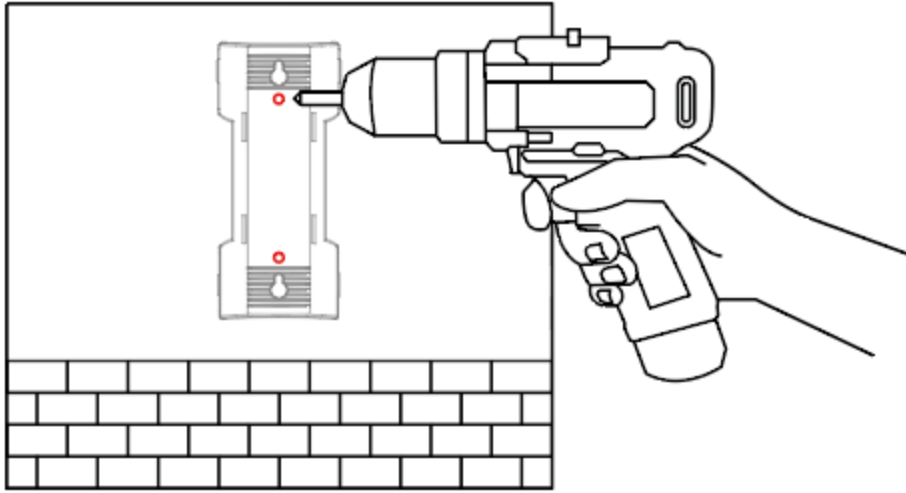
Step 1. Fasten the main body holder to the pole with two cable ties.



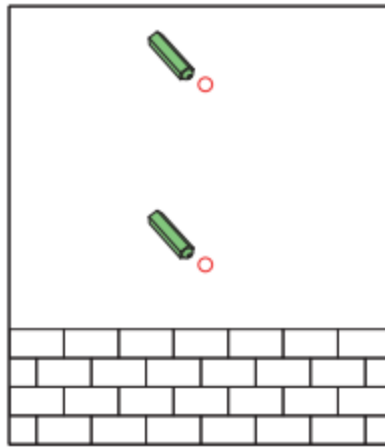
Step 2. Plug the AP into the holder.



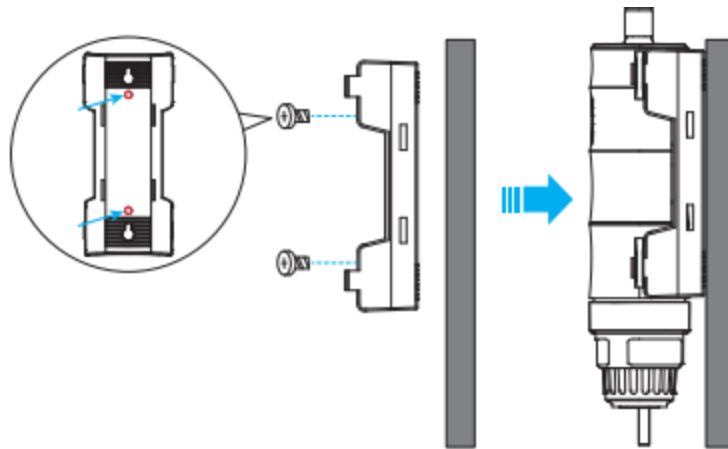
1.2 Wall Mounting Step 1. Attach the holder onto the wall, then use the drill to make two holes on the wall at the position designated by the holes from the body holder.



Step 2. Insert the screws into the holes.



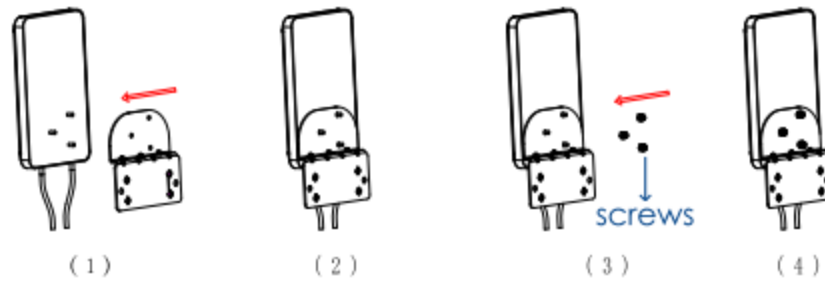
Step 3. Fix the body holder with the wall screws, then plug the AP into the holder.



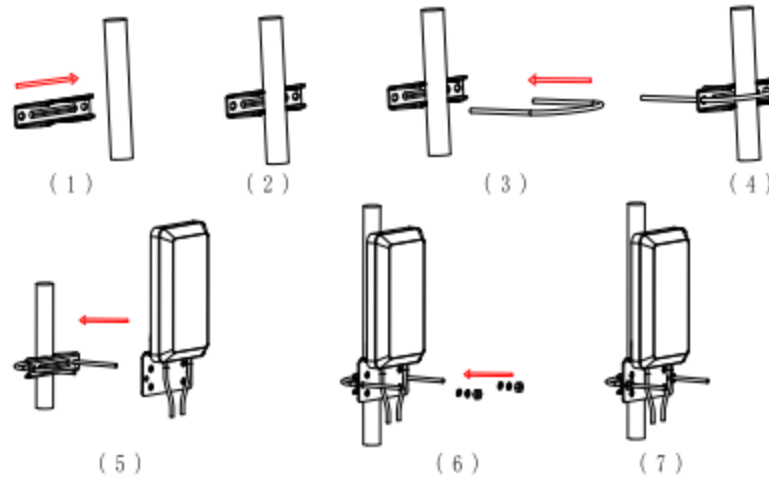
Steps for Installing a Panel Antenna

I :Fasten the holder to the round pole

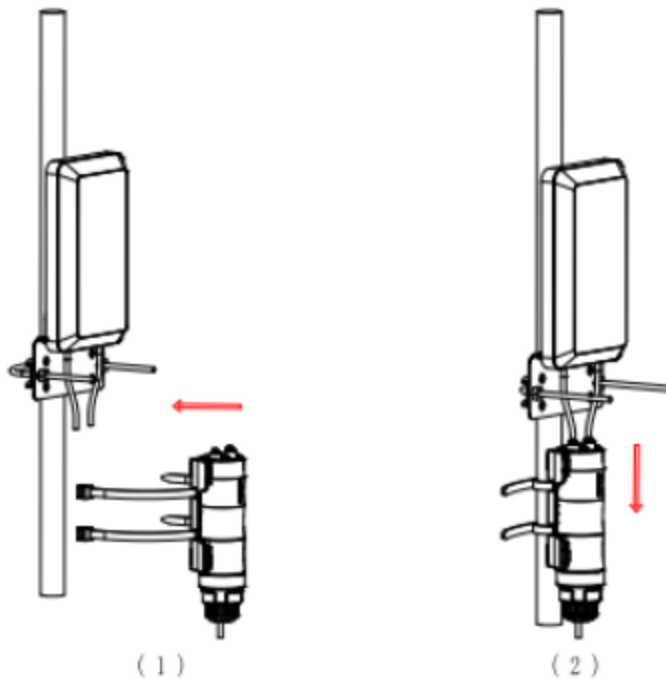
Step 1: Fix the bracket base plate to the antenna base plate with screws.



Step 2: Fasten the fixed antenna bracket plate to the round pole.



Step 3: Fasten the router to the round pole and connect the antenna.

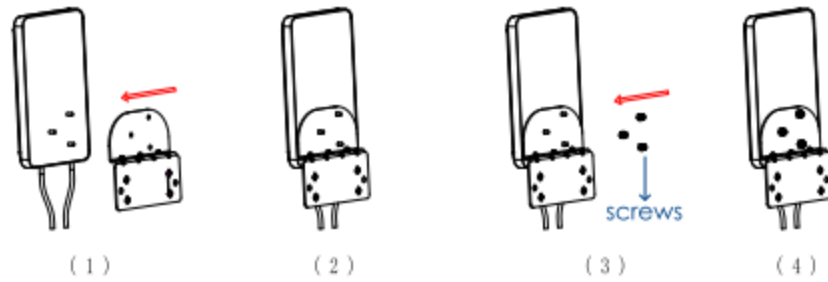


(1) Fasten the router to the round pole with the cable ties.

(2) Connect the connecting cable to the antenna connector and tighten it.

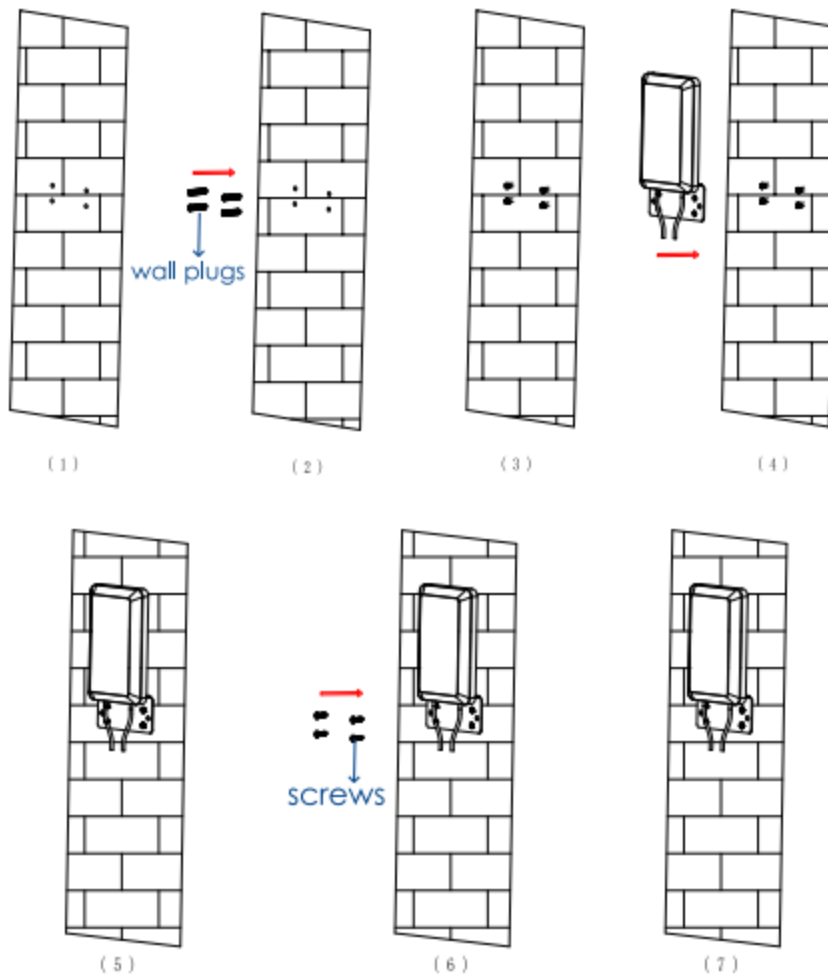
II : Fasten the holder to the wall

Step 1: Fix the bracket base plate to the antenna base plate with screws.



Step 2: Fix the fixed antenna bracket plate to the wall with the screws.

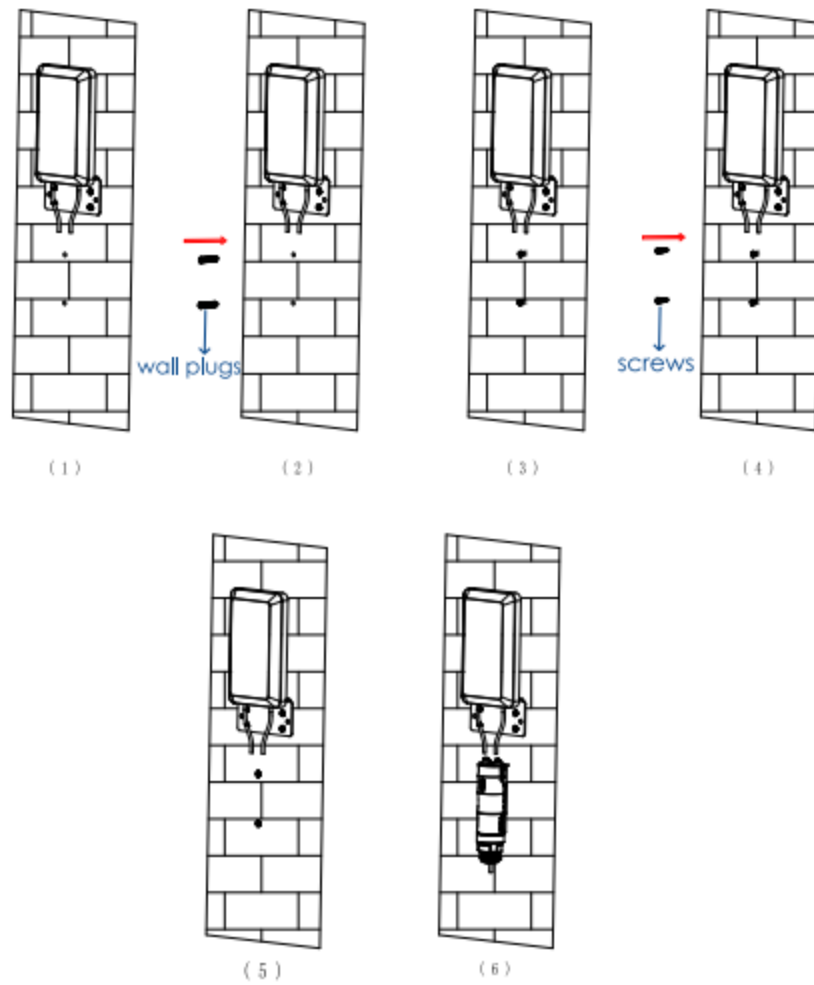
- (1) Find four points to punch four holes in the wall.
- (2) Attach the wall plugs to the holes.
- (3) Attach the antenna bracket plate to the wall plugs.
- (4) Use the screw to tighten it.



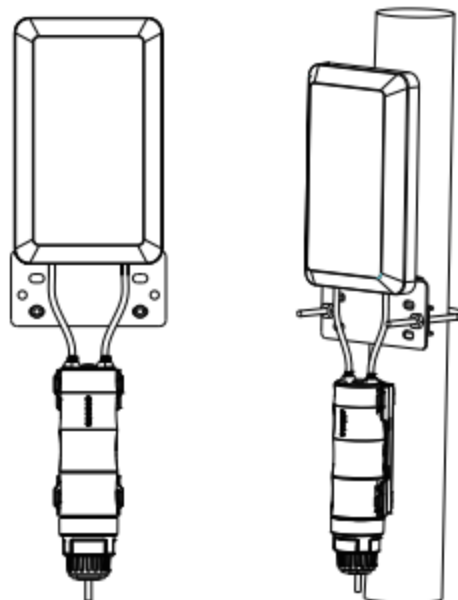
Step 3: Fix the router to the wall and connect the antenna.

- (1) Find two points to punch two holes in the wall.
- (2) Attach the wall plugs into the holes.
- (3) Attach the screws to the wall plugs.

(4) Attach the router to the screws.



Step 4: Complete



### ATTENTION

1. Make sure you are using a certified CAT5e/CAT6 Ethernet cable with RJ45 connectors.

2. Make sure the Ethernet cable length is less than 60 meters (196 feet).

3. Please make sure that the diameter of the pillar of the fixed device is between 0.025m and 0.1m, otherwise the enclosed accessories cannot help to fix the device.

4. Supports PoE passive power supply over Ethernet cable.

## Connection

### 1. Via Wireless

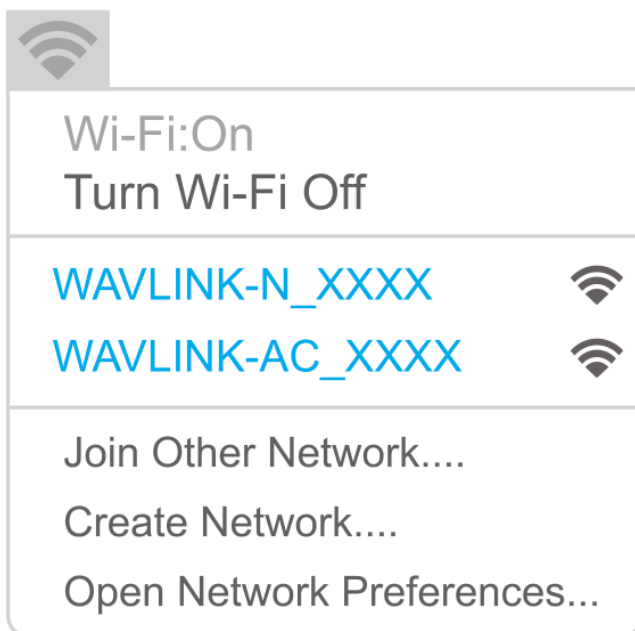
1.1 Disconnect the Ethernet cable from your computer (if you have one). If you try to connect the WiFi signal of the WAVLINK device by your PC, please make sure your PC is not connected to the router/switch via Ethernet cable.

1.2 Turn on your WiFi, find the SSID of this product on your wireless devices (smartphone, tablet computer, laptop, etc.) and place a connection.

For Mac: Click the WiFi icon on the top right corner of the screen, and connect to the Device's network: **WAVLINK-N\_XXXX**. For Windows: Click the WiFi icon on the taskbar and connect to the Device's network: **WAVLINK-N\_XXXX**.

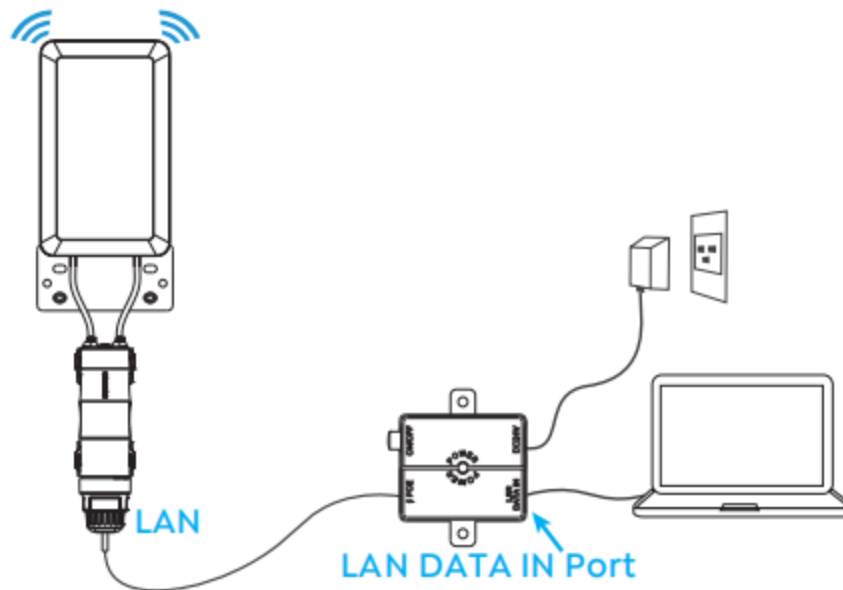


For Windows users



For Mac users

### 2. Via Cable



2.1 Please connect one end of the Ethernet cable to your computer or laptop, and the other end to the LAN DATA IN port on the PoE converter. Once connected, you can proceed with the device configuration.

**(i) NOTE**

The above steps are the operations for the FAT AP mode. For the operation of FIT AP mode, please go to **the last chapter** for the details.

**If you plan to use the AP/Router function of this device:**

After completing the initial mode configuration, please connect the LAN DATA IN port of this device to a LAN port on your main upper router.


# Configuration Wizard


## Login & System Configuration

1. The login page will pop up when the router is connected to your devices for the first time. You can also launch a browser from your computer or smart phone and enter <http://waplogin.link> or **192.168.10.1** into the address bar(not search bar).



### Set a new local management password

New Password 

Confirm New Password 

Apply

2. Select your **Country/Region** and **Time Zone**. For your network security, we suggest that you set a new login password.

The screenshot shows the WAVLINK configuration interface. At the top, there is a blue header with the WAVLINK logo and tagline. Below the header, there are two tabs: 'System' (selected) and 'Network'. The 'System' tab contains the following fields:

- Country/Region: A dropdown menu with 'Country/Region' selected.
- Time Zone: A dropdown menu with '(UTC-00:00) Dublin, Edinburgh, Lisbon, London' selected.
- Admin Password: A text input field with a strength indicator showing three colored bars (red, yellow, green) and the text 'Not less than 6 characters'.
- Confirm Password: A text input field with the text 'Not less than 6 characters'.

At the bottom of the form, there is a blue 'Next' button. To the right of the Country/Region dropdown, there is a 'Switch mode' link with a circular arrow icon.

**Note:** The three colored bars in **Password** area indicates the strength of the login password.

## Mode Selection

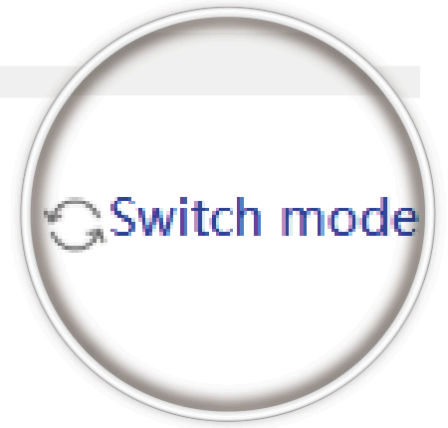
This product supports 3 modes. Click



to select corresponding mode.

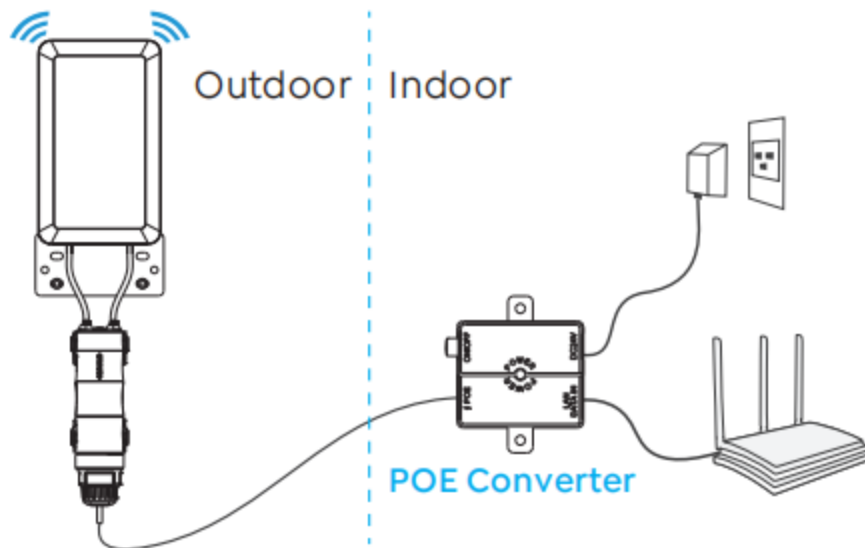
Country/Region	<input type="text" value="Country/Region"/>
Time Zone	<input type="text" value="(UTC-00:00) Dublin, Edinburgh, Lisbon, London"/>
Admin Password	<input type="text" value="Not less than 6 characters"/>
Confirm Password	<input type="text" value="Not less than 6 characters"/>

Next



## AP Mode

**The purpose of AP mode:** AP mode can help you convert existing wired signals into wireless signals.



1. The system selects AP mode by default, there is no need to select the AP mode manually. Click on **Next**.
2. Connect the WAN/LAN port of this product to the PoE and connect the LAN DATA IN port of the poe box to the host router via Ethernet cable.
3. Then you can change the SSID, the encryption mode recommend is WPA2-PSK. For your network security, please create a new **Password** according to the rule. Then click on **Save** and wait for the setting process to complete.

Smart DHCP  
Services

Help

SSID

WAVLINK-N\_8312

Encryption  
Method

WPA2-PSK

Password

Between 8~63 characters

Back

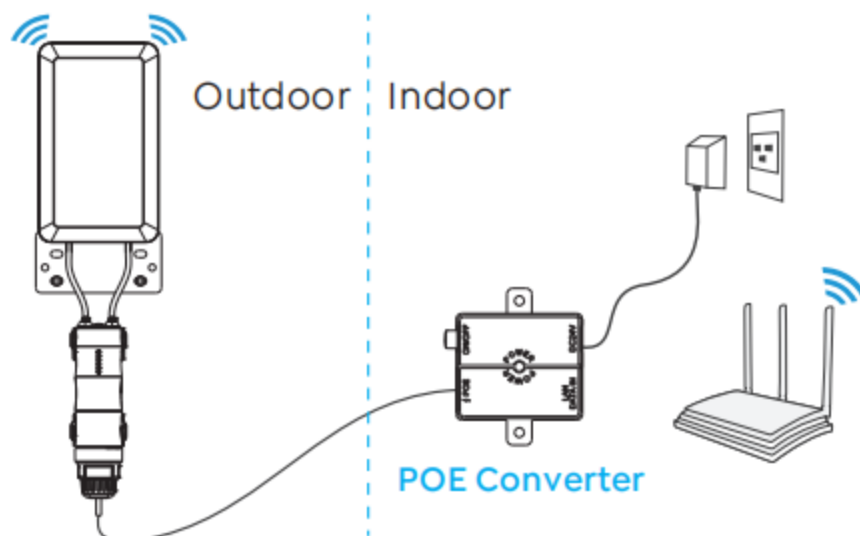
Save

## Note

- **For Smart DHCP Service:** With smart DHCP service being enabled, if the upstream device is not been connected or the upstream device is unable to provide IP, the router will assign the IP automatically. If no automatical IP assignment is needed, it is recommended to disable it.
- After configuration in AP mode. To log in the management page again, please connect the WiFi signal of WAVLINK device and use <http://waplogin.link> to log in. (<http://192.168.10.1> might not work)

## Repeater Mode

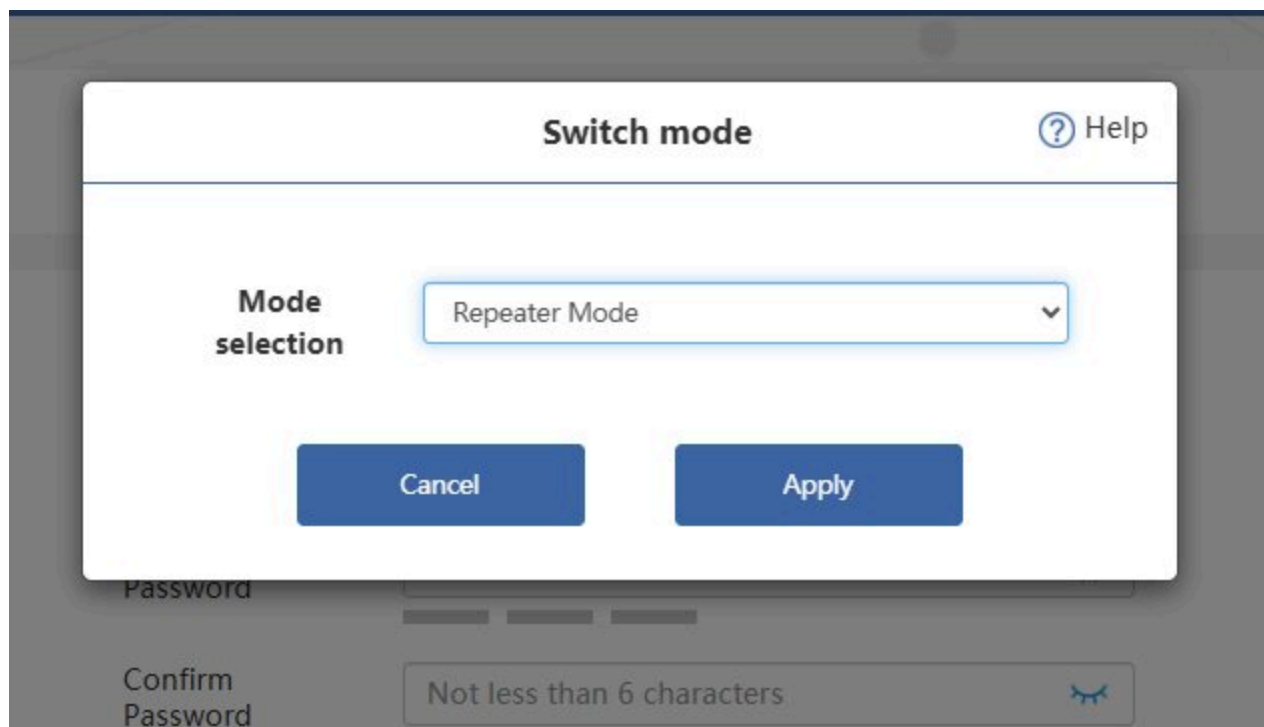
**The purpose of repeater mode:** In repeater mode, the WAVLINK device can establish a wireless connection with the upstream router. And it will create one or two new WiFi signals to cover a larger area.



1. Click

 Switch mode

and select **Repeater Mode**.



## Select Wi-Fi

2. After scanning, please make sure the Wi-Fi you want to select is listed, and click **Next**, if it isn't, please click **Rescan**.



System



Network

Select WI-FI

Manual Input

Please select the wireless signal to be relayed

5G/2.4G

	WAVLINK_Guest_5G	<input type="radio"/>
	WAVLINK-AC_5854	<input type="radio"/>
	WAVLINK-Mesh_2366	<input type="radio"/>
	WAVLINK_Guest	<input type="radio"/>
	Wireless-AC_8294	<input type="radio"/>
	WAVLINK-AC_6532	<input type="radio"/>
	MeshGo_0808	<input type="radio"/>

Back

Rescan

Next

3. Enter the WiFi password for the wireless network that you have selected. Set the wireless network encryption mode and password for this device. Click **Save**.





System



Network

Select WI-FI

Manual Input

**Please input the wireless signal to be relayed**

Target Network  
Name

Frequency band

2.4G



Channel

Automatic(Recommend)



Encryption  
Method

OPEN



Back

Next

2. Set the wireless network encryption mode and password for this device. Click **Save**.

 Select WI-Fi Manual Input**Wireless network information of this device**

Connection Type	<input type="text" value="WISP-Recommend"/>
2.4G Wi-Fi Name	<input type="text" value="WAVLINK-AC_5854_EXT2.4G"/>
2.4G Encryption	<input type="text" value="WPA2-PSK(Recommend)"/>
2.4G Wi-Fi password	<input type="text" value="Between 8~63 characters"/>
5G Wi-Fi Name	<input type="text" value="WAVLINK-AC_5854_EXT5G"/>
5G Encryption	<input type="text" value="WPA2-PSK(Recommend)"/>
5G Wi-Fi password	<input type="text" value="Between 8~63 characters"/>

Back

Save

## Router Mode

**The purpose of router mode:** Router mode can help you convert existing wired signals to wireless signals, supports wired connections, Wi-Fi networking, and internet sharing among multiple devices.

1. Click on



, then choose **Router Mode**.

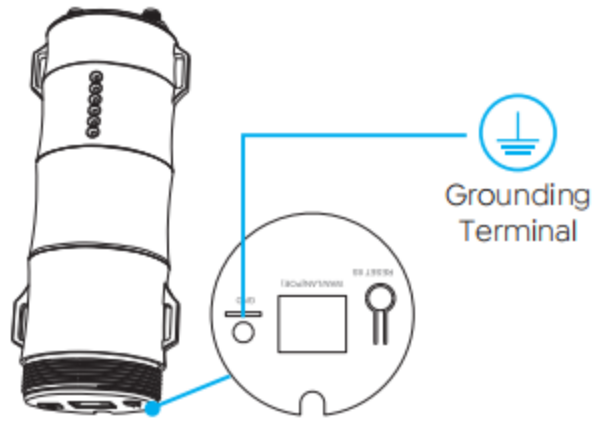
2. Choose **Router Mode**, configuring the corresponding **WAN Type**, **SSID**(Wi-Fi name), **Encryption Method** and **Password**, then click **Save**.



- ① If you choose **DHCP**, you will need to decide whether to enable the MAC clone. Some ISPs register the MAC address of your computer when you firstly access the Internet through their cable modem, we need to clone the MAC address of your computer to the router. The **Custom MTU(Maximum Transmission Unit)** is the largest size of a data packet that can be transmitted over the network. If your ISP requires you to adjust the MTU size, enable this option. Otherwise, we recommend you to keep it disabled for optimal network performance.
- ② If you choose **PPPoE**, enter the **Username** and **Password** provided by your ISP. PPPoE is usually designed for such as DSL or fiber optics.
- ③ If you choose **Static IP**, enter a specified IP parameters including IP address, Subnet Mask, Gateway, DNS1 and DNS2 provided by your ISP.

## Lightning and ESD Protection

It is recommended to install a grounding wire to enhance the equipment's protection against lightning and static electricity, thereby ensuring the product's service life, please use a suitable grounding wire to connect the grounding terminal to the grounding facility before installing this product. And the grounding wire should meet the local installation requirements. You should use screws to secure the grounding wire to the grounding terminal.



# Chapter 3 Network Management

This chapter contains the following sections :

- [Network Settings](#)
- [LAN Settings](#)
- [Setting Static IP Binding](#)
- [MAC Filter](#)

## Network Settings

The way of network access can be changed as your requirement through configuring the network setting. Choose the **WAN Type** according to the method provided by the ISP.

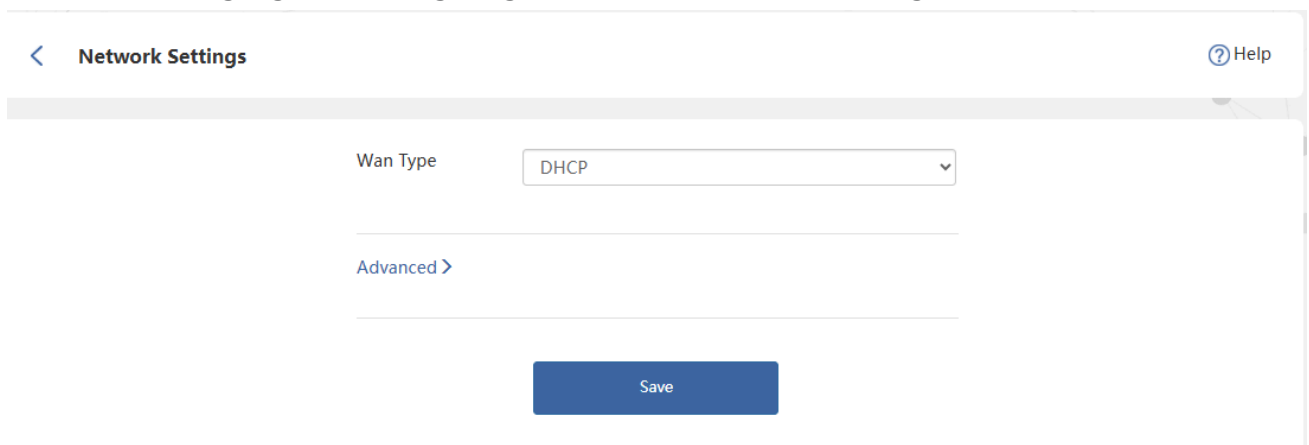
- **DHCP:** Network parameters configured automatically by your ISP
- **Static IP:** Requires manual entry of IP address, Subnet Mask, Gateway, DNS1 and DNS2
- **PPPoE:** Requires ISP-provided Username and Password.

1. **Advanced > Network Settings.**

2. Select **Wan Type** from the list.

### 1) DHCP(Dynamic Host Configuration Protocol)

- It assigns network information including IP, Subnet Mask, default Gateway and others, managing and assigning IP without manual configuration.



The screenshot shows a web interface for 'Network Settings'. At the top left is a back arrow and the text 'Network Settings'. At the top right is a 'Help' icon. Below this is a 'Wan Type' dropdown menu with 'DHCP' selected. Underneath the dropdown is a link labeled 'Advanced >'. At the bottom of the form is a blue 'Save' button.

### 2) PPPoE(Point-to-Point Protocol over Ethernet)

- It is designed for broadband access methods such as ADSL, fiber optics and others to provide a secure network connection.
- The **Name** and **Password** provided by your ISP is required.

Wan Type

Name

Password

[Advanced >](#)

Save

### 3) Static IP

- It assigns fixed IP address for the computer automatically. It is designed for servers, remote access, etc., which require long-term stability to ensure the stability of network connections.
- Correct **IP Address**, **Subnet Mask**, **Gateway**, **DNS1** and **DNS2** is required.

Wan Type

IP Address

Subnet Mask

Gateway

DNS1

DNS2

[Advanced >](#)

Save

## Advanced Settings

- **Custom MTU(Maximum Transmission Unit)**

The MTU(Maximum Transmission Unit) is the largest size of a data packet that can be transmitted over the network. If your ISP requires you to adjust the MTU size,

enable this option. Otherwise, we recommend you to keep it disabled for optimal network performance.

- **MAC Clone**

If the network operator only permits single device to access the internet, you can enable **MAC Clone** and spoof the MAC address of the originally connected device. This allows other devices connected to the router to access the internet normally.

- **Custom DNS**

If the network operator assigned fixed DNS address for you, you can enable **Custom DNS** and input the address provided. Otherwise, manual activation is unnecessary—the router will automatically obtain DNS addresses.

The screenshot shows the 'Network Settings' page. At the top left is a back arrow and the text 'Network Settings'. At the top right is a 'Help' icon. The main content area is divided into sections. The first section is 'Wan Type' with a dropdown menu set to 'DHCP'. Below this is an 'Advanced' section with a dropdown arrow. Under 'Advanced', there are several settings: 'Custom MTU' with a toggle switch turned on and a text input field containing '1500'; 'MAC Clone' with a toggle switch turned on and a dropdown menu set to 'Custom MAC address' with a text input field below it containing '80:3F:5D:86:E7:26'; 'Custom DNS' with a toggle switch turned on; 'DNS1' with an empty text input field; and 'DNS2' with an empty text input field. At the bottom center is a blue 'Save' button.

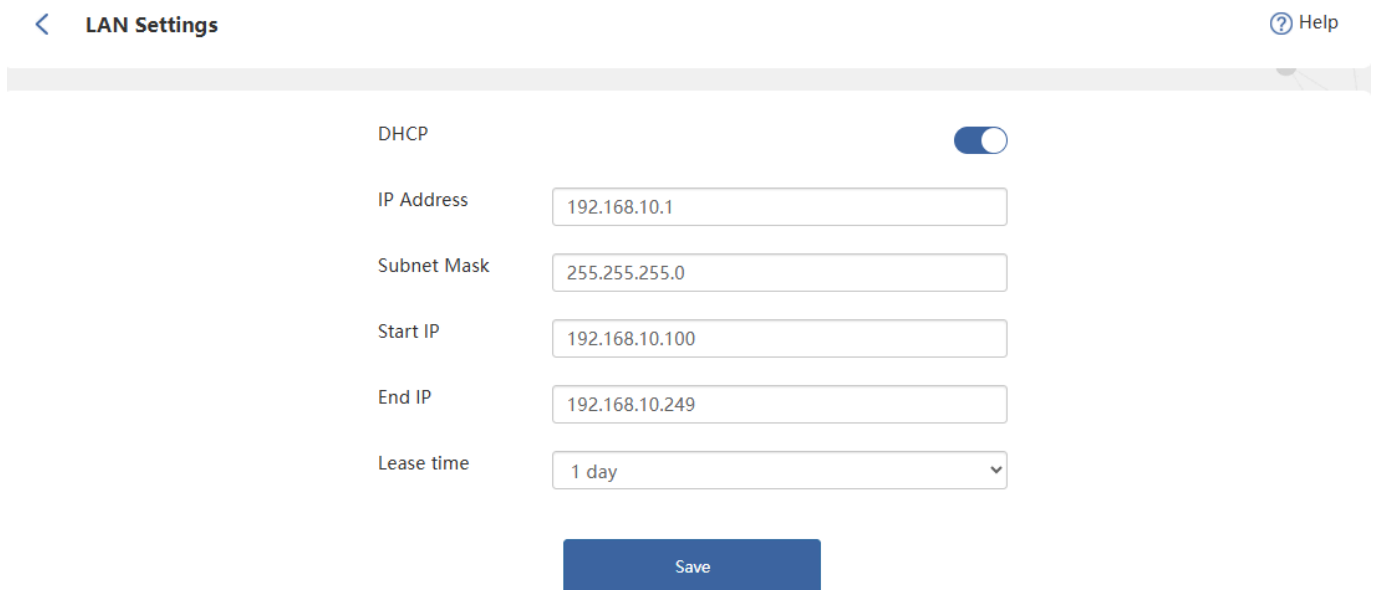
## LAN Settings

DHCP(Dynamic Host Configuration Protocol) server automatically assigns IP addresses to devices on the LAN. To modify DHCP settings, refer to the instructions below.

1. Click **Advanced** > **LAN Settings**.
2. Click to enable DHCP, and configure the corresponding information.

- **IP Address:** The IP address from which the router connects to the LAN. This can be used to log in to the router's network management page.
- **Subnet Mask:** The subnet mask that the router connects to the LAN.
- **Start IP, End IP:** The range of IP addresses that can be allocated by the router to connected devices.
- **Lease time:** This is the lease time of the IP address that the device obtains when accessing the router. If you need to modify it, please select it again in the Lease Time drop-down list.

3. Click **Save** to finish the setup.



The screenshot shows the 'LAN Settings' page. At the top left, there is a back arrow and the text 'LAN Settings'. At the top right, there is a 'Help' icon. The main content area has a light gray background. On the left side, there are labels for 'DHCP', 'IP Address', 'Subnet Mask', 'Start IP', 'End IP', and 'Lease time'. On the right side, there is a toggle switch for 'DHCP' which is turned on. Below the labels are input fields: 'IP Address' contains '192.168.10.1', 'Subnet Mask' contains '255.255.255.0', 'Start IP' contains '192.168.10.100', 'End IP' contains '192.168.10.249', and 'Lease time' is a dropdown menu showing '1 day'. At the bottom center, there is a blue 'Save' button.

## Setting Static IP Binding

It allows you to link the specific IP to the MAC address of customer devices. Using it, you can assign a fixed IP for the specific device.

1. Click **Advanced** > **Static IP**.
2. Click **Add a new rule** at the top right corner.
3. Input the **IP Address** and **MAC Address** from the binding device, then click **Bind**.

IP Address	MAC Address	Operate
<input type="text" value="192.168.10.248"/>	<input type="text" value="42:3D:E5:0F:7A:2F"/>	<input type="button" value="Bind"/> <input type="button" value="Cancel"/>

## MAC Filter

MAC address filtering applies to both wired and wireless devices. Devices were added have no access to the Internet properly, and also cannot access to router's management interface, but can get the IP address assigned by router.

**Note:** MAC Filter may not apply to the terminals using random MAC address.

1. Click **Advanced**>**MAC Filter**.
2. Click to enable to **MAC Filter**.
3. If the **Guest Network Exception** is enabled, those devices from the guest wifi will not limited by the function of MAC filter.

MAC Filter	<input checked="" type="checkbox"/>
Guest Network Exception	<input checked="" type="checkbox"/>

Device Name	MAC Address	Operate
MI14U	A6:42:E6:18:F7:9A	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

4. Click **Add a new rule**, then select the **Device Name** and **MAC Address** to add.

Add Device ×

Select from List ▼

<input type="checkbox"/>	Device Name	MAC Address
<input type="checkbox"/>	Xiaomi-14-Ultra	EE:63:E7:83:EB:A0
<input type="checkbox"/>	other	B6:50:66:92:83:D1

5. Or you can manually enter the **Device Name** and **MAC Address** to add.

Add Device ×

Manual Input ▼

**Device Name**

**MAC Address**

6. The device added has been in the list. It is available to edit or delete it.

Add a new rule +

Device Name	MAC Address	Operate
MI14U	A6:42:E6:18:F7:9A	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

# Chapter 4 Managing Wireless Network


This chapter contains the following sections:

- [Wireless](#)
- [Guest Wi-Fi](#)
- [Parental Control](#)
- [Signal Adjustment](#)

## Wireless

In **Wireless**, you can configure the **SSID**(Wi-Fi name), **Encryption Method**, **Password**, and other wireless parameters for both the 2.4G and 5G networks.

Enable it to make 2.4G and 5G Wi-Fi dual bands in one SSID. The router will automatically select the faster Wi-Fi band for you. If you disable it, you can set up the dual bands separately.  [? Help](#)

<b>Wi-Fi</b>	SSID	<input type="text" value="WAVLINK-AX_E640"/>
	Encryption Method	<input type="text" value="WPA2-PSK(Recommend)"/>
	Password	<input type="password" value="....."/> 

**Advanced** >

**WIFI schedule** >

## Band Steering

When enabled **Band Steering**, both 2.4GHz and 5GHz wireless networks share the same Wi-Fi name. The router will dynamically assign devices to the optimal frequency

band based on real-time network conditions. When disabled, you may configure separate Wi-Fi names and settings for the 2.4GHz and 5GHz bands.

Enable it to make 2.4G and 5G Wi-Fi dual bands in one SSID. The router will automatically select the faster Wi-Fi band for you. If you disable it, you can set up the dual bands separately.



## SSID(Wi-Fi Name) and Password

1. Create a new Wi-Fi name in the **SSID** input field.
2. Select the **Encryption Method** from the dropdown list(WPA3-SAE/WPA2-PSK is recommended.)
3. Create a new Wi-Fi password in **Password**.

Enable it to make 2.4G and 5G Wi-Fi dual bands in one SSID. The router will automatically select the faster Wi-Fi band for you. If you disable it, you can set up the dual bands separately.



### 2.4G WiFi

SSID

WAVLINK-AX\_E640

Encryption Method

WPA2-PSK(Recommend)

Password

.....



### 5G WiFi

SSID

WAVLINK-AX\_E640\_5G

Encryption Method

WPA2-PSK(Recommend)

Password

.....



**Note:** Using the new password to reconnect to the Wi-Fi network after setting up a new network.

## Advanced

1. Click **Wireless > Advanced**.

### 2.4G WiFi Settings

Channel	<input type="text" value="Automatic"/>
Bandwidth	<input type="text" value="20/40MHz"/>
Disable Wi-Fi	<input type="checkbox"/>
Hide SSID	<input type="checkbox"/>
TWT	<input type="checkbox"/>
MU-OFDMA	<input type="checkbox"/>

### 5G WiFi Settings

Channel	<input type="text" value="Automatic"/>
Bandwidth	<input type="text" value="20/80/160MHz"/>
Disable Wi-Fi	<input type="checkbox"/>
Hide SSID	<input type="checkbox"/>
DFS	<input checked="" type="checkbox"/>
TWT	<input type="checkbox"/>
MU-OFDMA	<input type="checkbox"/>

- **Channel** and **Bandwidth** :

1. From the **Channel** dropdown list, select the operating channel for your wireless network. (If you are unsure about which channel to choose, it is recommended to select **Automatic**, so the device can automatically select the optimal channel based on the surrounding environment for your better network experience.)
2. From the **Bandwidth** dropdown list, select the bandwidth for the router's wireless data transmission.

- **Disable Wi-Fi:**

1. If enabling this feature, the corresponding Wi-Fi signal will be closed.

- **Hide SSID:**

1. After enabling this, the wireless signal for the corresponding network will be hidden.

- **DFS:**

1. After enabling this, the device will automatically avoid channels that are restricted in your region.

- **TWT:**

1. After enabling this feature, the router will automatically optimize resource scheduling between devices, negotiate target wake time to reduce contention, increase device sleep time, and ultimately extend the lifespan of the router.

**Note:** TWT compatibility issues may occur with certain terminal devices.

- **MU-OFDMA**

1. Once enabled, the router will implement multi-user channel resource sharing, enhancing transmission efficiency in multi-device environments and reducing network latency.

## WiFi Schedule (Wireless Timer Switch)

The schedule function allows you to customize the date and time to control the wireless network switch, with up to three rules definable for the 2.4G and 5G separately. This feature only takes effect after obtaining the network time and only affects the main network. For the guest network, you need to manually enable or disable this feature or define separate rules within the **Guest Network** settings.

1. Navigate to **Wireless > WiFi Schedule**.
2. Click on **Rule 1/2/3** under either the **2.4G wireless schedule** or **5G Wireless Schedule** to set the timing rules.
3. Click **Save** to complete the settings.

**2.4G wireless schedule**

Rule 1



	Blocking Start Time			Blocking End Time			
Internet Blocking Period	00	:	00	~	00	:	00
Internet Blocking Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Rule 2



Rule 3

**5G Wireless Schedule**

Rule 1



	Blocking Start Time			Blocking End Time			
Internet Blocking Period	00	:	00	~	00	:	00
Internet Blocking Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Rule 2



Rule 3

**Note:**

- The schedule is based on the router's time. You can modify the time in **Advanced > Time Zone**.

## Guest Wi-Fi

This feature allows you to provide Wi-Fi to guests without exposing your main network. When you have visitors at your home, apartment, or workplace, you can create a guest Wi-Fi for them. Additionally, you can customize guest Wi-Fi settings to ensure security and privacy.

1. Navigate to **Advanced > Guest Wi-Fi**.
2. Click to enable **Guest Wi-Fi**.
3. Set the **SSID(Wi-Fi Name)**.
4. Set the encryption method in the **Guest Wi-Fi Mode**, you need create a password if choosing **encrypted mode**; You do not need a password to access the network if choosing **Unencrypted mode**.
5. If enable the **Device Isolation**, the devices will not support mutual access.
6. Set the opening time of guest Wi-Fi in the **WIFI schedule**.

7. Click **Save** to complete the settings.

< Guest Wi-Fi

Guest Wi-Fi

Guest Wi-Fi SSID WAVLINK\_Guest

Guest Wi-Fi Mode Unencrypted mode

Device Isolation Turn On

Wi-Fi Schedule

Rule 1

Rule 2

Rule 3

Save

## Parental Control

Parental Wi-Fi allows you to set up a separate wireless network for family members. You can configure its SSID, encryption method, and rules.

1. Navigate to **Advanced** > **Parental Control**.
2. Click to enable **Parental Control**.
3. Set the **SSID**, **Encryption Method**, and **Password**.
4. Set the **Internet Blocking Period** and **Internet Blocking Day** in **Rule 1/2/3** to control internet access time.
5. Click **Save** to complete the settings.

Parental Control



Wi-Fi

SSID

Parental-Wi-Fi

Encryption Method

WPA2-PSK(Recommend)

Password

Please enter your password



WIFI schedule

Rule 1



Rule 2



Rule 3



Save

## Signal Adjustment

In environments with different areas, the requirements for the signal transmission strength of routers also vary. Given that signal quality is ensured, larger areas and more obstacles necessitate higher signal strength. In smaller environments, relatively lower signal strength can be configured, which not only saves energy and reduces radiation but also decreases the risk of unauthorized access.

1. Click **Advanced>Signal Adjustment**.
2. Select the signal strength from the list of **Signal Adjustment**.

Signal Adjustment

High

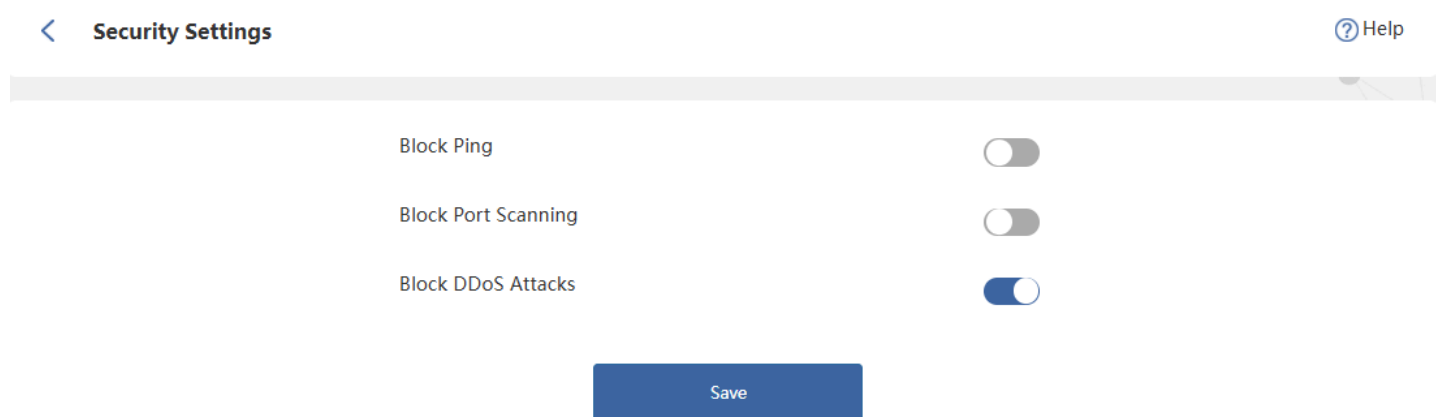
Save



# Chapter 5 Network Security

## Security Settings

1. Navigate to **Advanced > Security Settings**.
2. **Block Ping**: It can prevent ping attacks and scanning and reduce the risk of network attacks on this device.
3. **Port Scan Blocking**: It can protect server ports on devices from attacks.
4. **Block DDoS Attacks**: It enables the router to avoid the massive resource consumption caused by DDoS attacks, and ensures normal services.
5. Click **Save** to finish the configuration.

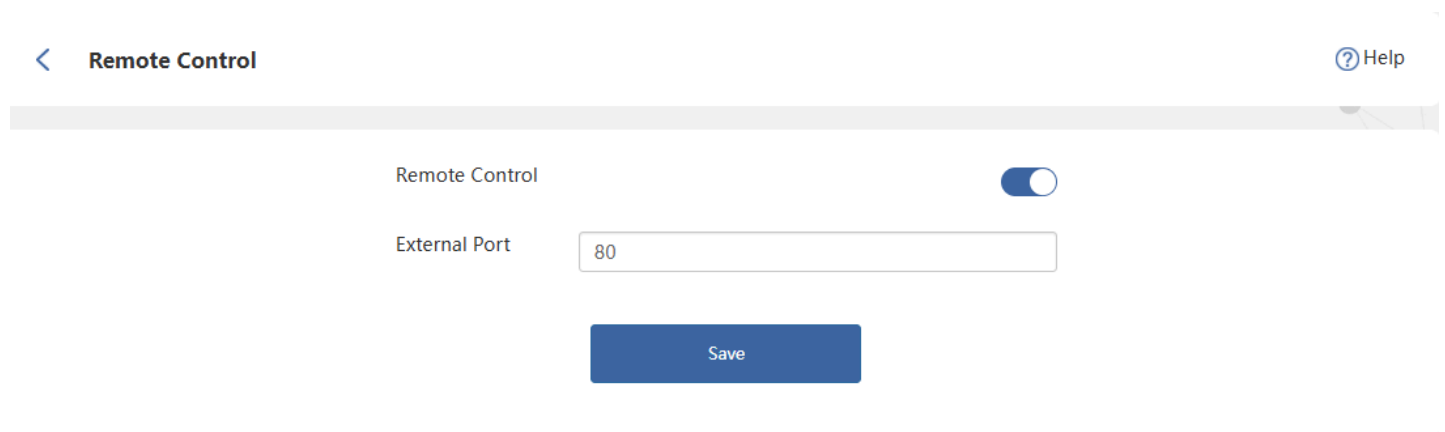


# Chapter 6 Remote Control

## Remote Control

With this function, you can manage this router remotely via the Internet. Input **http://WAN IP: port number** for remotely accessing this device. We recommend you write this router's WAN port number down before using this function.

1. Access to **Advanced > Remote Control**.
2. Click to enable **Remote Control**.
3. Set **External Port**.
4. Click **Save** to complete settings.



The screenshot shows the 'Remote Control' settings page. At the top left, there is a back arrow and the text 'Remote Control'. At the top right, there is a 'Help' icon. The main content area has a light gray background. It features a 'Remote Control' toggle switch that is currently turned on. Below the toggle is an 'External Port' label and a text input field containing the number '80'. At the bottom of the form is a blue 'Save' button.

# Chapter 7 Net Tools

## Network Diagnostics

The network diagnosis will check the status of the upstream network, router network status, and device's system status. The test results may be affected by the environment where the router is located and the upstream network, therefore the test results are for reference only.

1. Access to **Advanced** > **Network Diagnostics**.
2. Click **Start Testing**.

Item	Description	Status
WAN Status	Check WAN port status, IP acquisition, and port rate limit	Not detected
Internet status	Detect the connectivity status between devices and gateways and networks	Not detected
Wi-Fi status	Detect Wi-Fi signal interference status	Not detected
Memory detection	Check memory and CPU usage	Not detected

3. When the testing is done, click **One-click fix**, or follow the prompt to optimize the network.

< Network Diagnostics

Help



Detection completed. The results are as follows

One-click fix

WAN Status Check WAN port status, IP acquisition, and port rate limit !

WAN Port and Network Cable Connection Status	<span>✓</span>
WAN IP Address Status	Contact your carrier to troubleshoot or check if the network cable is connected correctly <span>!</span>
WAN Port Network Link Speed	Link rate:1000M Full duplex

Internet status Detect the connectivity status between devices and gateways and networks !

Ping Testing Status	Ping WAN gateway is incorrect, please contact the carrier to solve it <span>!</span>
Network connection status	DNS resolution error, please contact the carrier to solve it <span>!</span>

Wi-Fi status Detect Wi-Fi signal interference status !

2.4G Wi-Fi Signal Status	<span>✓</span>
5G Wi-Fi Signal Status	Wi-Fi signal interference is strong <span>!</span>

Memory detection Check memory and CPU usage ✓

--	--

# Chapter 8 System Setting

This chapter contains the following sections:

- [Firmware Upgrade](#)
- [Change Password](#)
- [Set System Time](#)
- [LED Control](#)
- [Backup and Restore](#)
- [Timing Reboot](#)

## Firmware Upgrade

Regular firmware upgrade can obtain the newest functions and security patches, improving the performance and stability of the router, and fixing possible bugs and security risks.

WAVLINK provides two methods to upgrade your firmware: **Local Upgrade** and **Online Upgrade**. You can choose one of them to update your firmware.

Access to **Advanced** > **Firmware Upgrade**.

### Local Upgrade

1. Access to WAVLINK official website: [www.wavlink.com](http://www.wavlink.com). Download the upgrade software corresponding to your current device version.
2. Select the device that needs to be updated.
3. Click on **Choose File** or **File** icon, and select the firmware file that needs to be uploaded. Click on **Upload**.
4. Wait for the upgrade process to complete.

### Local Upgrade

Manually download files on WAVLINK official website, and upload and upgrade locally. The following devices are of the same model.

<input type="checkbox"/>	Mesh Node Name	Current SW Version
<input type="checkbox"/>	Router	M83AX3_V241109
<input type="checkbox"/>	Extender_C1B2	M83AX3_V241109
<input type="checkbox"/>	Extender_0187	M83AX3_V241109

Upgrade File

Choose File



Upload

Manually download files on WAVLINK official website, and upload and upgrade locally. The following devices are of the different model and need to be upgraded after clicking on the link.

Mesh Node Name	Current SW Version	Upgrade Link
----------------	--------------------	--------------

## Online Upgrade

1. Tick the device that needs to be updated.
2. Click on **Check New Version** to view the upgradable version to update.
3. Click **One-Click Upgrade**.
4. Wait for the upgrade process to complete.

### Online Upgrade

In the case of connecting to the network, then check the device that needs to be upgraded, after checking the latest software version, click one-click upgrade to upgrade.

<input type="checkbox"/>	Mesh Node Name	MAC Address	Current SW Version	Latest Software Version	Status
<input type="checkbox"/>	Router	8*:*:*:*:E6:42	M83AX3_V241109	No New Version	Non-Upgradable
<input type="checkbox"/>	Extender_C1B2	8*:*:*:*:C1:B2	M83AX3_V241109	No New Version	Non-Upgradable
<input type="checkbox"/>	Extender_0187	8*:*:*:*:01:87	M83AX3_V241109	No New Version	Non-Upgradable

Check New Version

One-Click Upgrade

### Note:

- After updating, the router will automatically reboot to apply new firmware. The process will take few minutes to complete, please wait patiently.

- During updating, the router can't be powered off in case the firmware gets damaged.

## Change Password

1. Access to **Advanced** > **Password**.
2. Input the current one on the **Old Password** text field.
3. Input the new one on the **New Password** and **Confirm New Password** text field, ensuring the inputted password is the same.
4. Click on **Save** to complete password changing.

< Admin Password



The screenshot shows a web interface for changing the admin password. It features three text input fields: 'Old Password', 'New Password', and 'Confirm New Password'. The 'New Password' and 'Confirm New Password' fields have a placeholder text 'Not less than 6 characters' and a strength indicator below them. A blue 'Save' button is positioned below the fields.

Old Password	<input type="password"/>
New Password	<input type="password" value="Not less than 6 characters"/>
Confirm New Password	<input type="password" value="Not less than 6 characters"/>

Save

## Set System Time

The system time is the time displayed during device runtime. The system time configured here will be used for other time-dependent functions, such as Wi-Fi schedules and timing reboot.

1. Access to **Advanced** > **Time Zone**.
2. Select the time zone from the dropdown list of **Time Zone**.
3. Enable **Daylight Time**(optional).
4. Click on **Save** to complete the configuration.

Current Time 2024/11/09 09:19:42

Time Zone (UTC-00:00) Dublin, Edinburgh, Lisbon, London ▼

Daylight Time

Save

## LED Control

The router's LED provide real-time feedback on the device's operational status. By observing the light color, flashing patterns, or illumination status, you can quickly determine whether the router is functioning properly and help identify potential issues. If needed, you may also enable or disable the LED indicator in the settings.

1. Access to **Advanced** > **LED Control**.
2. Enable/Disable **LED Status**.
3. Click on **Save** to complete the configuration.

LED Status

Save

## Backup and Restore

Access to **Advanced** > **Backup and Restore**.

### Backup the Current Configuration of the Router

The system will automatically create a backup file containing all current configuration settings. The configuration file will then be downloaded to your computer via your browser. Please confirm saving the file when prompted in the browser dialog.

## Restore the Router's Configuration

If you accidentally forget previous settings after modifying certain configuration options, you may upload a previously saved backup file to the system and click **Restore Configuration** to revert to earlier settings. Please note that this operation will overwrite all current configuration settings, so carefully consider before proceeding.

1. Click the file icon in the backup file field, then select the configuration file you wish to restore.
2. Click on **Restore Configuration**, and wait a few minutes to restore the configuration and restart the router.

## Reset Router to Default Factory Settings

1. Click on **Restore factory settings** to reset the router.
2. Wait a few minutes for the reset and reboot.

< Backup and Restore

? Help

Generate Backup File

Upload File

Please select a backup file



Restore Configuration

Restore factory settings

## Timing Reboot

Automatic reboots can help clear unnecessary data from your router and automatically select optimal wireless channels. Before enabling **Reboot plan**, ensure the system time is accurate. When router uptime is less than 60 minutes, the device will skip non-essential reboots after reaching the scheduled reboot time.

1. Access to **Advanced > Timing Reboot**.
2. Click to enable **Reboot plan**.

3. Configure **Reboot time** and **Reboot date**.

4. Click **Save** to complete the configurations.

< Timing Reboot

? Help

Reboot plan



Current Time 2024/11/09 09:19:42

Reboot time 00 : 00

Reboot date Su Mo Tu We Th Fr Sa

Save

# Chapter 9 FAQ

This chapter contains the following sections :

- [FAQ](#)
- [GNU General Public License Notice](#)
- [After-sale-Service](#)

## FAQ

### **Q1. What should I do if I cannot access the management page?**

Connect Correctly: Ensure your device is connected to the Wavlink Wi-Fi signal.

Login URL: Enter <http://waplogin.link> or <http://192.168.30.1> in the address bar not search bar.

On Mobile: Turn off your mobile data (4G/5G) before logging in.

On PC: If connecting via Wi-Fi, unplug the Ethernet cable.

Troubleshoot: Try a different browser or device (PC/Phone) to log in the management page.

### **Q2. What should I do if I have no Internet access after configuration?**

- Repeater Mode:

1. Verify you entered the correct Wi-Fi password for the host router.
2. Ensure the host router has enabled DHCP and disabled MAC Filtering.

- AP Mode:

1. Connect the PC to the host router via Ethernet cable to check if you could get internet.
2. Ensure the host router has DHCP enabled and MAC Filtering disabled.

### **Q3. Why does Wi-Fi not reach the advertised distance?**

- Line of sight: The advertised range (approx. 100m for 2.4G) requires no obstacles between the device and the target area.
- Environment: Walls, trees, and interference will LAN significantly reduce the actual range.

#### **Q4. Are the power adapter and PoE box waterproof?**

- No. Please keep the power adapter and PoE injector indoors or in a waterproof enclosure.

#### **Q5. Is the Ground Wire necessary?**

- Yes. We recommend that install the ground wire to prevent damage from lightning strikes and static electricity.

#### **Q6. Does this device work with a Starlink router?**

- Yes. Repeater Mode: Connects wirelessly to the Starlink Wi-Fi.
- Router/AP Mode: Connects to the Starlink router via Ethernet cable.

## **GNU General Public License Notice**

This product includes software codes developed by the third parties. These software codes are subject to either the GNU General Public License (GPL), Version 2, June 1991 or the GNU Lesser General Public License (LGPL), Version 2.1, February 1999. You can copy, distribute, and/or modify in accordance with the terms and conditions of GPL or LGPL. The source code should be complete, if you want us to provide any additional source code files under GNU General Public License (GPL), please contact us in these matters. We are committed to meeting the requirements of the GNU General Public License (GPL). You are welcome to contact our local office to get the corresponding software and licenses. Please inform us your contact details (full address) and the product code. We will send you a software package with the software and license for free. The respective programs are distributed WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY Or FITNESS FOR A PARTICULAR PURPOSE. Please refer to the GNU General Public License Website for further information. <http://www.gnu.org/licenses/old-licenses/lgpl-2.0.html> <http://www.gnu.org/licenses/gpl.html>

## **After-sale Service**

# Need help?

We're here for you!



**Online support: wavlink.com**

Available Mon-Fri 8:30 am-5:30pm (UTC+8)



**support@wavlink.com**

Available Mon-Fri 8:30 am-5:30pm (UTC+8)



**+1 8889730883**

Mon-Fri 9:00 am - 6:00 pm (UTC-5)

[www.wavlink.com](http://www.wavlink.com)



**Thank you for purchasing  
WAVLINK product!**

# Chapter 10

## Safety and Emission Statement

### CE Mark Warning

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

### NOTE:

(1)The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2)To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

**Declaration of Conformity** Hereby, Winstars Technology Limited, declares that the radio equipment type Greenwood 5 1200G is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following Internet address:[https://www.wavlink.com/en\\_us/ce.html](https://www.wavlink.com/en_us/ce.html)

**FCC Statement** This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

— Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

#### Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

**NOTE:** (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

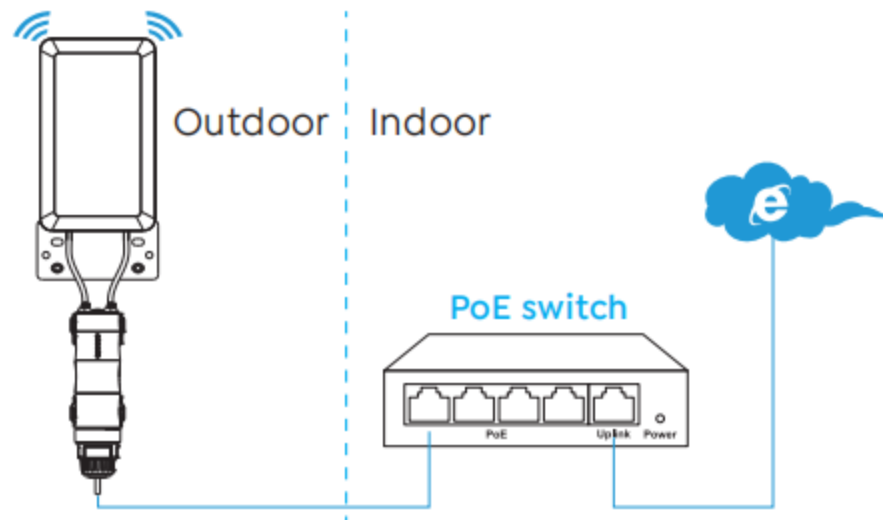
# Chapter 11 FAT AP and FIT AP

This chapter contains the following sections :

- [FAT AP and FIT AP](#)

## FAT AP and FIT AP

This product supports FAT AP and FIT AP mode. In **FAT mode**, the AP operates with its own management interface and can be configured independently, similar to a standard wireless access point; this mode is primarily employed in small-scale networks that do not use an AC controller.



In **FIT mode**, the AP is centrally managed by a WAVLINK AC(Wireless Access Point Controller). As a Fit AP, it primarily handles data transmission and basic radio frequency, while all network configurations, security policies, and traffic controls are managed by the AC. Fit APs are used in an AC+AP architecture and must operate in conjunction with a WAVLINK AC. FIT mode is ideal for larger networks characterized by extensive coverage, a high density of users, and requirements for high-performance and secure operations.

