

User Manual of ST5816H



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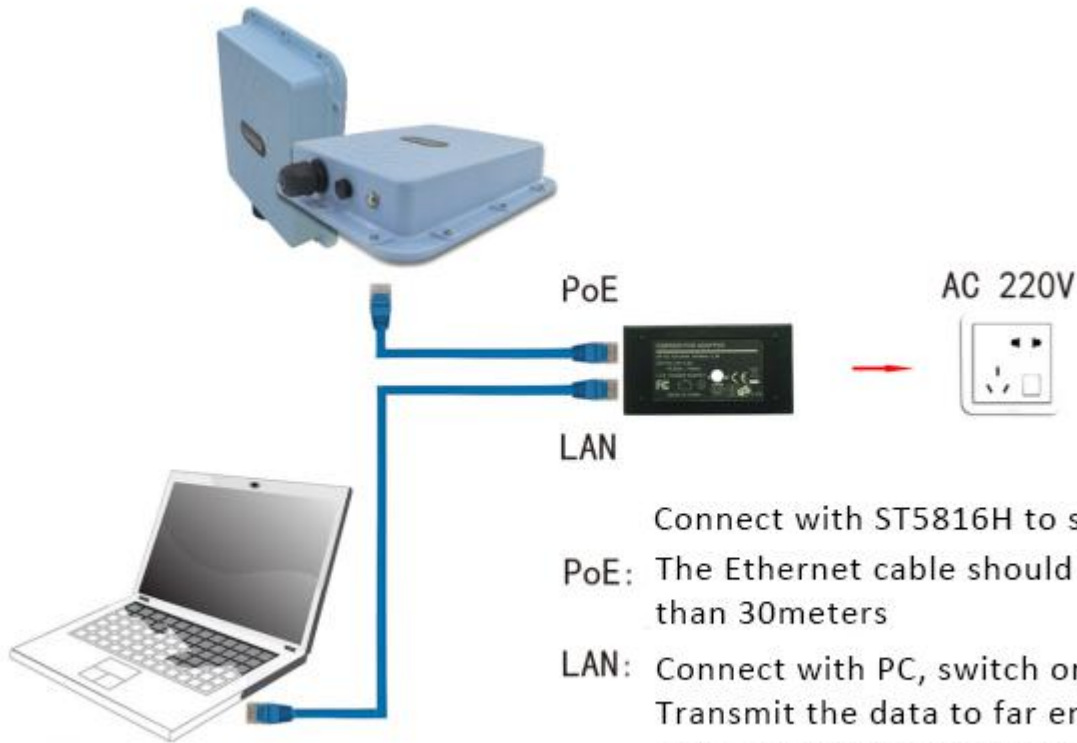
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SUNTOR ELECTRONICS CO., Limited

V.1.2

1. Installation

1.1. Connect with POE



Connect with ST5816H to supply power.

PoE: The Ethernet cable should be not longer than 30meters

LAN: Connect with PC, switch or IP Camera. Transmit the data to far end and send the received data to PC or switch

Note:

1. The Ethernet cable should be Cat5 or Cat6.
2. The ethernet cable length for POE to ST5813H should less than 30meters. Or the power voltable will not enough.
2. The ethernet cable length for LAN should less than 60meters
3. During working please make sure the voltage is stable. Frequent power outages will eaily cause the equipment to restore factory Settings

During installaion, please make the Tx and Rx face to face. And no barriers between them in order to achieve best performance.



1.2. Bracket

The equipment standard fixing bracket can fix the equipment on the pole, and the diameter is about 3-5CM. It can support all-round adjustment of up, down, left and right. The installation is simple and quick.



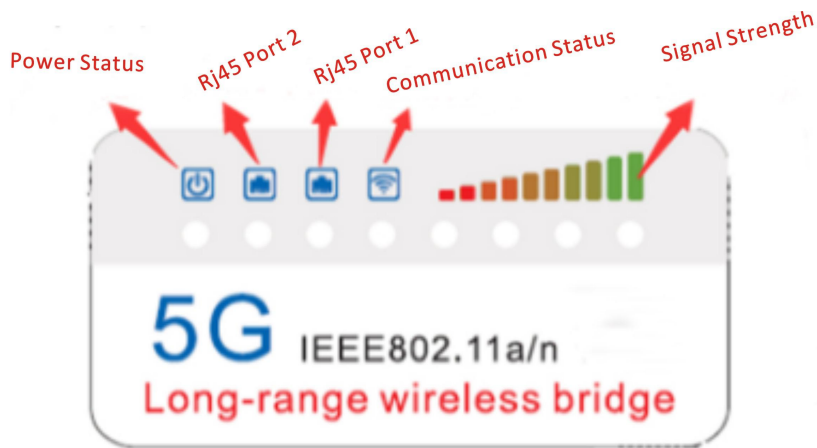
1.3. Waterproof Connectors



ST568 (B)

| | | | |
|------------------|----------|----------------|---------|
| 1:Orange & white | 2:Orange | 3. Green&White | 4.Blue |
| 5.Blue & White | 6.Green | 7.Brown&White | 8.Brown |

1.4. Indicators



- Signal Strength Lights**
More lights bright, better signal strength
- Communication Status Light**
When two devices or many device normally communicate, the light keep bright
- Rj45 Port 1 and Rj45 port 2**
When input data or connect with POE, the light will keep bright
- Power Status Light**
When connect with power supply, the light keep bright

2. Software Configuration

2.1. Default information

Before configuration, ensure that the IP of the PC and the bridge are in the same network segment.

ST5816H default configuration:

IPv4: 192.168.1.20

Subnet Mask: 255.255.255.0

User Name: admin

Password: admin

Your PC IP address should be: 192.168.1.X (X=2---253, any number between 2 to 253 and not conflict with ST5812H IP address)

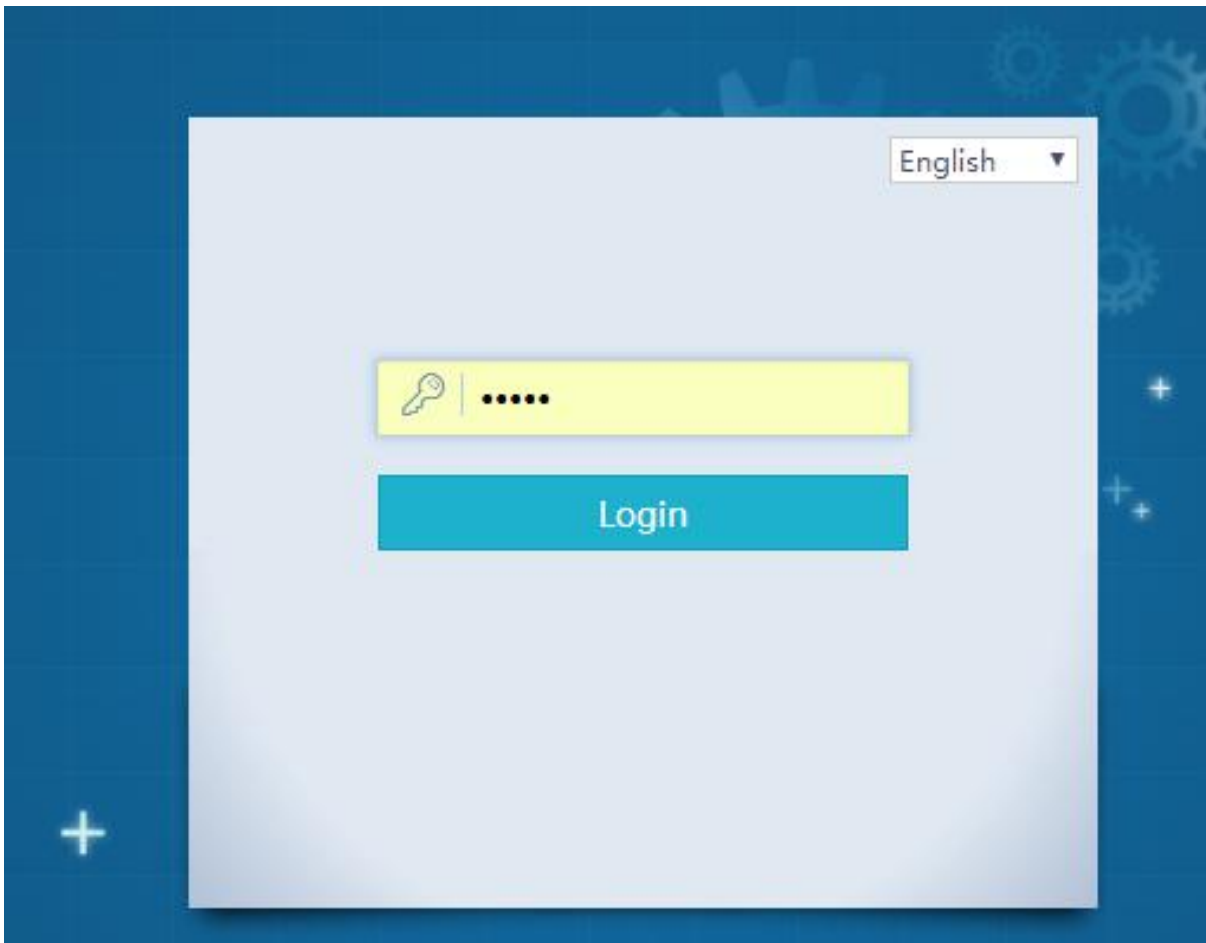
Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

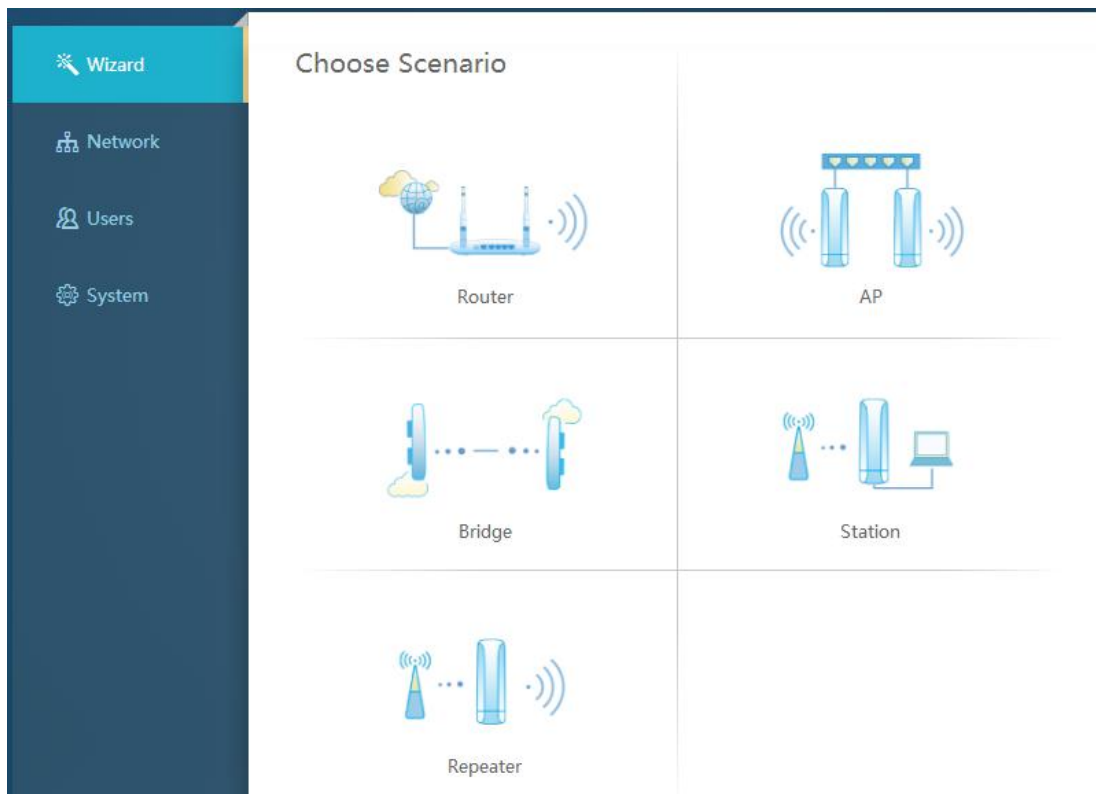
2.2. Software settings

2.2.1. Login

Open IE browser → Input IP: 192.168.1.20 → Login

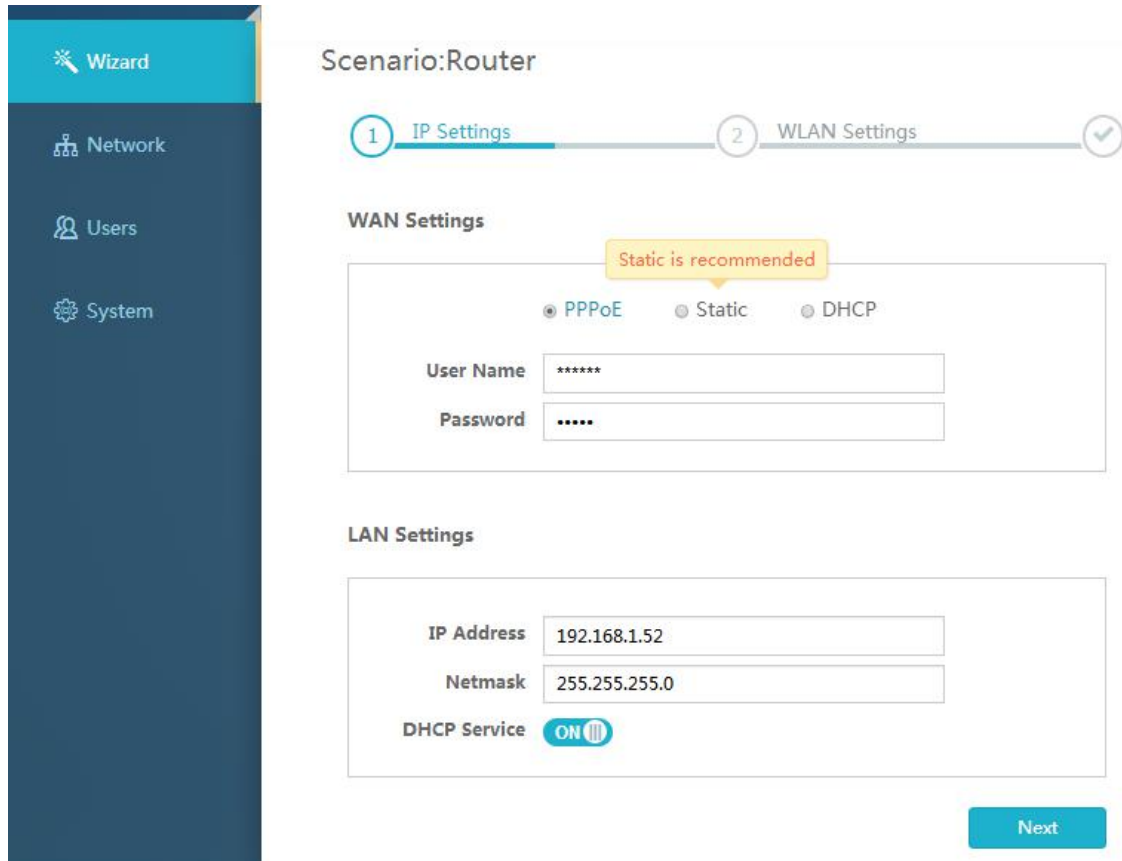


After login you can see Wizard, Network, Users and System.



2.2.2. Router Mode

Click Router → Input your network user name and password. Then it can work as a router.



2.2.3. AP mode

Connect ST5816H with WLAN then it can work as a AP to do wifi covering.

Click AP → Choose Static IP or dynamic IP (We suggest static IP) → Set SSID and Password

Then ST5816H can work as a AP (Only for terminal devices supporting 5G band)

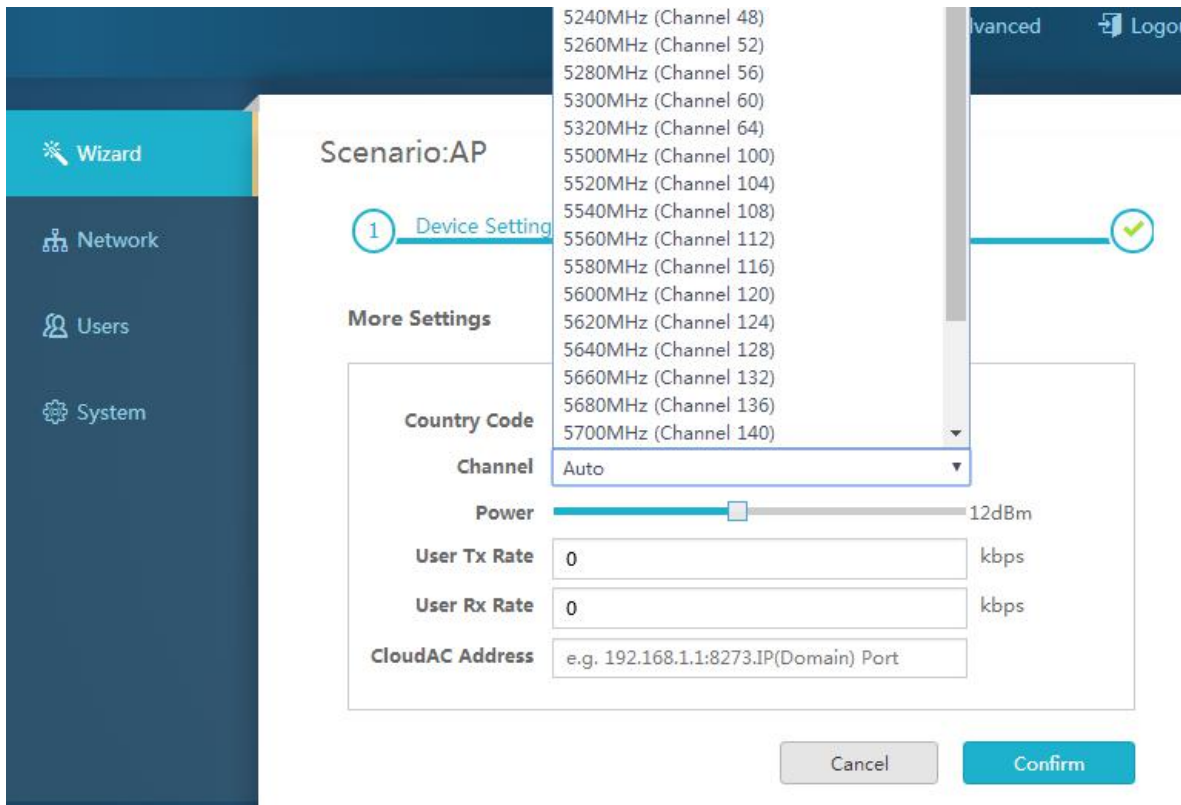
The screenshot shows the 'Scenario:AP' wizard interface. The left sidebar contains 'Wizard', 'Network', 'Users', and 'System'. The top right has 'Advanced' and 'Logout' links. The main area shows a progress bar with '1 Device Settings' and '2 WLAN Settings'. The 'Device Settings' section includes radio buttons for 'Static' (selected) and 'DHCP'. Below are input fields for IP Address (192.168.1.52), Netmask (255.255.255.0), Gateway (192.168.1.1), and DNS (202.96.128.86). A 'Next' button is at the bottom right.

Setting SSID

The screenshot shows the 'WLAN Settings' step in the 'Scenario:AP' wizard. The progress bar now highlights '2 WLAN Settings'. The 'WLAN Settings' section contains input fields for 'Name(SSID)' (masked with asterisks) and 'Password' (masked with asterisks). 'Previous' and 'Next' buttons are located at the bottom right.

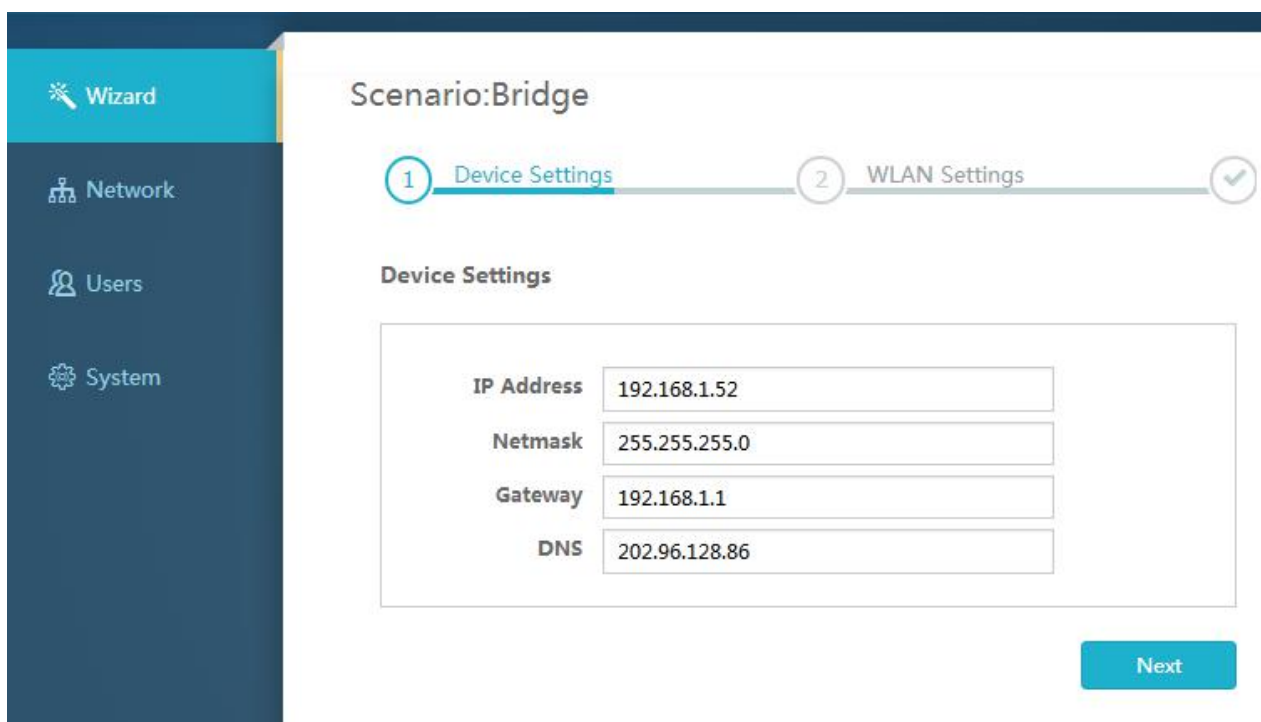
Click Next---More Settings

You can choose the frequency, RF Power and Country



2.2.4. Bridge (How to set it to make two devices communicate with each other)

When you want to make many sets device to communicate with each, please click bridge → set or change bridge ip address → Next



If two devices need to communicate, we need set one device **central** (Receiver), and set another device

If two

remote(Transmitter)→Next

Set Cental (Receiver)

Choose country(Default US)→Choose Channel→Set range(Coverage)(The actual distance that you need)→SSID and Password

Scenario: Bridge

1 Device Settings 2 WLAN Settings

WLAN Settings

Work Mode Central Remote

Country Code US(United States)

Channel Auto

Coverage 5.5km

Name(SSID) *****

Password *****

Previous Next

Set Remote (Transmitter)

Choose same country code as receiver→Click Scan to find the receiver's SSID→Select→Input Central password. Now these two devices will communicate with each other.

Note:1. If the central need communicate with many remote device, all the remote device need be set remote and set them with same way. Then you can get Point to Multi-point transmission.

2. ST5816H at most support 1 receiver to 8 transmitter

Scenario: Bridge

1 Device Settings 2 WLAN Settings

WLAN Settings

Work Mode Central Remote

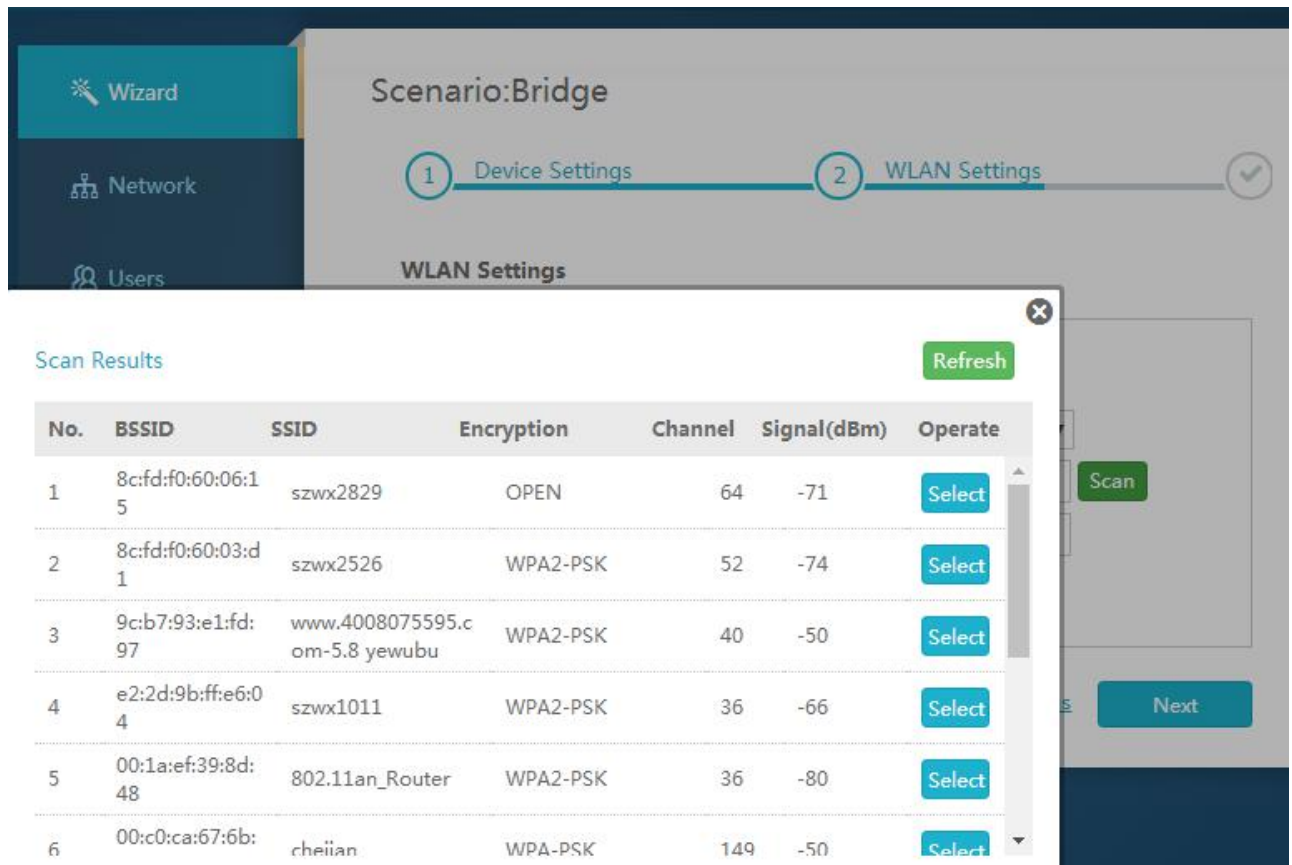
Country Code US(United States)

Name(SSID) ***** Scan

Password *****

Lock Off

Previous Next

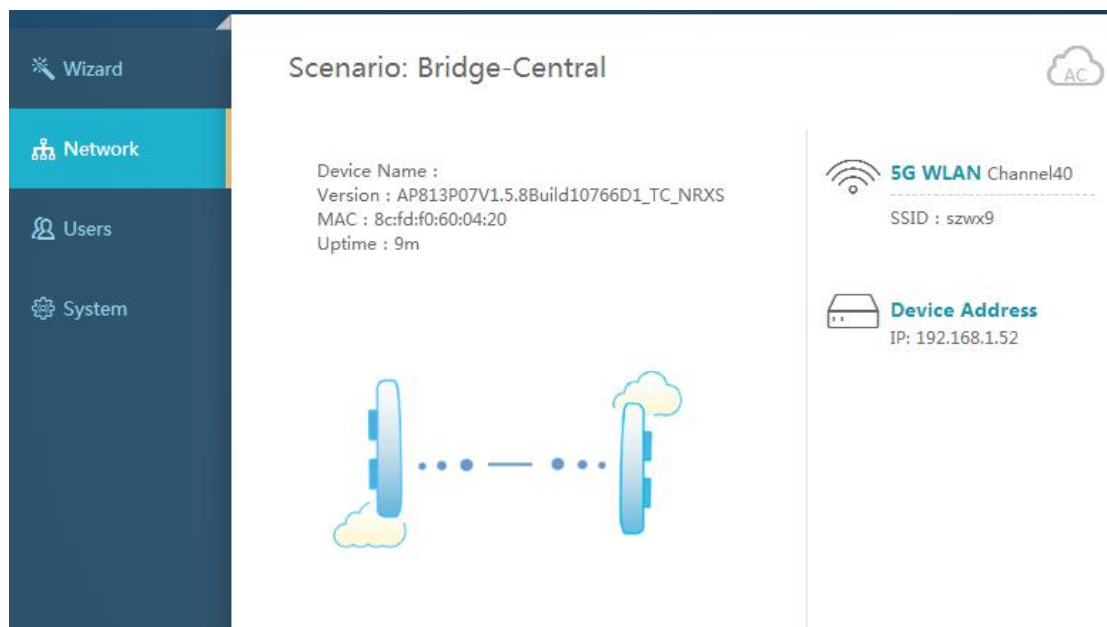


2.2.5.Repeater Mode

In order to achieve a better and more stable transmission performance, it is not recommended to use one device as a relay, which has a bad impact on transmission rate and stability. If the distance is longer, you can choose our longer distance mode.

2.3.Network

In Network page you can get the device working mode, version information, running time, and other parameters.



Client the right **5G WLAN**, you can do some changing of the device for example network security: you can hide the central SSID not allow other device except the remote devices to scan it. This way only remote and central device that you set can communicate with each other. At same time you can set many SSID to support more remote device.

The screenshot shows the '5G WLAN' configuration page. On the left is a navigation menu with 'Wizard', 'Network', 'Users', and 'System'. The main area is titled 'Scenario: Bridge-Central' and contains the following settings:

- Country Code:** US(United States)
- Bandwidth:** 20MHz / 20/40MHz
- Channel:** 5200MHz (Channel 40)
- Power:** 27dBm
- Name(SSID):** szwx9
- Password:** Empty or 8-32 char (with a Reset button)
- User Tx/Rx Rate:** 0 / 0 kbps
- Options:** SSID Hide (unchecked), Isolation (unchecked)

On the right side, there is a summary box for '5G WLAN Channel40' with SSID: szwx9 and a 'Device Address' box showing IP: 192.168.1.52. At the bottom, there are 'Add WLAN', 'Apply', and 'Scan' buttons.

2.4.Users

From users page you can see the numbers of online users. If you find some users are not yours, You can blacklist them. This way those users can not to access to the central station device and the network transmission will be more secure.

The screenshot shows the 'Users Manage' page. The navigation menu on the left highlights 'Users'. The main area shows:

- 5G Users (0)** and **Users Manage** tabs.
- Refresh** button.
- SSID: szwx9
- A table with the following columns: MAC, Signal(dBm), Data Rate(bps) (Send, Rece), Total(byte) (Send, Rece), and Online Time.
- The table content shows 'No User'.

The screenshot shows the 'Users Manage' page. On the left is a navigation menu with 'Wizard', 'Network', 'Users', and 'System'. The main content area has a 'Refresh' button in the top right. Below the title, there are two tabs: '5G Users (0)' and 'Users Manage'. A form for adding a new user is present, with fields for 'MAC Address' and 'Alias (optional)', and an 'Add' button. Below this is a table with columns for 'MAC', 'Alias(0)', and 'Black List(0)'. The table currently contains one row with the text 'No Black MAC Or Alias'. At the bottom right of the table area are three buttons: 'Del.', 'Black', and 'Del Black'.

2.5. System

In system page, you can change the login password, check or download the device work log, import or export device parameters, factory reset, firmware upgrade and so on.

The screenshot shows the 'System Setting' page. The left navigation menu is the same as in the previous screenshot, with 'System' highlighted. The main content area has a 'Reboot' button in the top right. The settings are organized into sections:

- Administrator**: Change Password
- Log**: View, Download (with a note: 'Please use the browser to download')
- Configuration**: Restore Factory Defaults, Import Export
- Firmware**: Upgrade

 Below these sections are input fields for:

- Mobile Numbers**: A text input field with the placeholder 'Please enter mobile number' and a 'Please bind' label.
- Industry**: A dropdown menu with the placeholder 'please select'.

 An 'Apply' button is located below these fields.

 The bottom section contains:

- CloudAC Address**: A text input field with the placeholder 'e.g. 192.168.1.1:8273.IP(Domain) Port'.
- NTP Server**: A text input field with the placeholder 'cn.pool.ntp.org, us.pool.ntp.org'.
- Timezone**: A dropdown menu with the placeholder '(GMT+08:00) Beijing, Chongqing, Urumqi, ▼'.
- Command Shell**: Radio buttons for 'Telnet' (unchecked) and 'SSH' (checked).

 An 'Apply' button is located at the bottom of this section.

Note:

1. Please check if the work model, RF Power, Frequency and distance are same.
2. Tx and Rx need to be face to face to achieve better performance
3. Please make sure the input voltage is stable
4. Check if central and remote SSID are same
5. Do not entangle the network cable with the power line, otherwise there will be magnetic field interference.
6. Do not make the network cable or power cable more than 100meters, otherwise the power supply can not work normally.
7. Set the software distance to 110%~120% of the actual distance

3. FAQ

3.1. Video or data suddenly lost or communication suddely stop. Please check the device as the following steps:

Hardware Faults

- Check if the power supply work normal. You can judge the power supply working status via the indicators on POE and LED lights on the back of ST5813H.
- Check if the network cable and the network cable connectors are broken or aging. If yes, replace them by a new one.

Network Faults

- If it is network faults, please use PC to access with switch to visit device, run CMD and input Ping192.168.1.xx(Default IP: 192.168.1.xx) to check if the device is online or not. You can use same way to check the remote device. If the remote device returns the request timeout or fails to access the host, the remote device is offline. In this case, you need to check that device's power supply and the hardware.

3.2. Video or data stuck or lost packet. Please check the device as the following steps:

- Please check if the weather or mechanical vibration causes the Tx and Rx antenna not face to face. Antennas dont have right angle will lead to the bandwidth is not enough to watch the video smoothly or packet loss.

To resolve this problem, the antenna angle need to be corrected. You can refer to the RSSI value to adjust the angle. The Larger of RSSI absolute value, the better. If there is no communication, the RSSI is -1

- Please check if there is interference frequency around the device. You can access the device with PC to change the frequency channel to avoid the interference.
- If the device parameters were changed, the tx and rx will not communicate. You can adjust the parameters as the user manual or reset it.