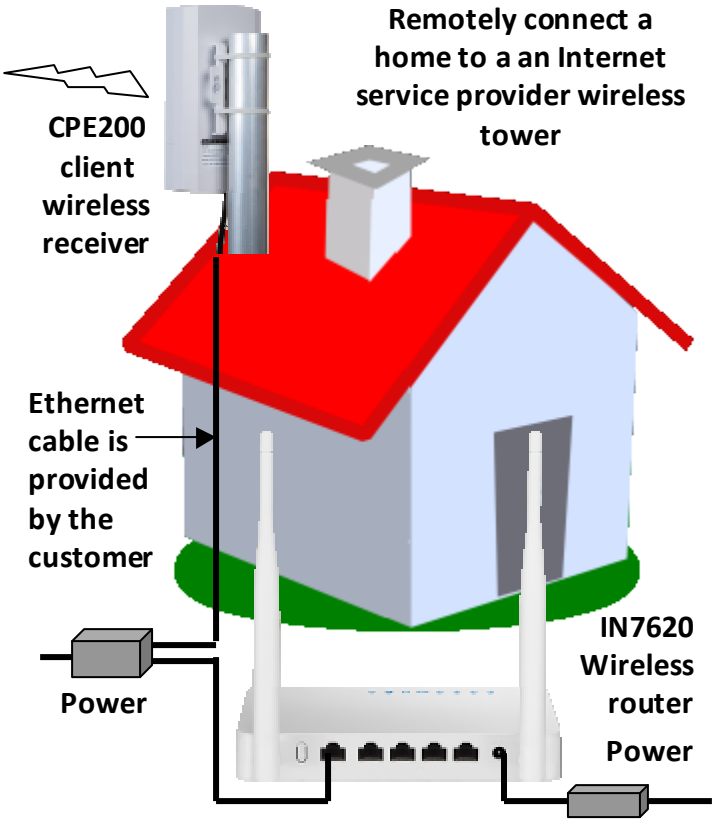
STAR-16:
Community WiFi Internet kit

STAR-16
Home installation kit for remote Internet



Two products in the STAR-16 kit

CPE200 5.8GHz client wireless receiver

Kit Contents:
CPE200 client 5.8GHz wireless receiver
Power over Ethernet power supply
IN7620 wireless router
Router power supply
Ethernet cables
Installation instructions

You provide the ISP or Starlink service for the Internet access, and use Guest Internet products to share the service with your community.

STAR-16 is a remote home Internet kit that can connect wirelessly to any STAR kit that has a 5.8GHz central antenna.

- Share or sell an Internet service to a community using Guest Internet to manage the WiFi Internet service.
- Everything you need in one kit to start providing a community Internet service using your ISP service such as Starlink.
- Easy self-install and management of the Internet service, you do not depend on others.
- Full installation instructions included.
- GIS software is multi-language: English and Spanish.
- Print vouchers with access codes to give people access: duration, data speed and data limits.
- Monitor users of the Internet service.
- Monitor the service for failures: get alerts.
- Protection from abuse of the Internet service; prevents unauthorized Internet access.
- No other fees, maintenance, license, software, services or contracts.
- Free support, free upgrades.
- Free cloud service; manage the Internet from anywhere.
- Branding is easy to customize your Internet service.

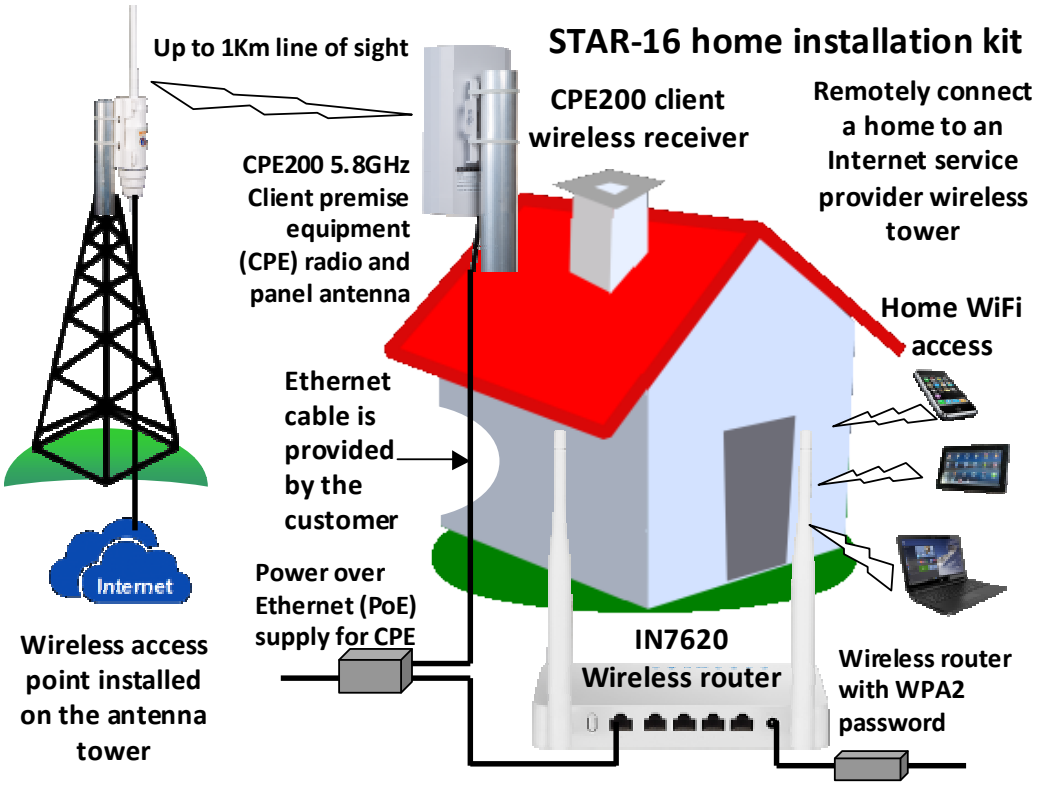
The Internet service is not included with the kit.

For more information contact: support@guest-internet.com

STAR-16: Home Internet Kit Configuration

Introduction

The STAR series of kits are designed to share any Internet service (such as Starlink) with a community and provide wireless connections for homes up to 1 Km from the location of the central wireless antenna. The Internet service is connected to the Guest Internet controller and a powerful wireless access point connects to the Guest Internet controller. There are three STAR kits that operate at 2.4GHz and 5.8GHz that can be connected to the ISP, the STAR-6, -7 and -8. The difference between these kits is the performance and the number of people that can be connected. Each home that requires an Internet connection has a STAR-16 kit installed that communicates with the central wireless access point up to 1Km distant, with line of sight to the antenna.



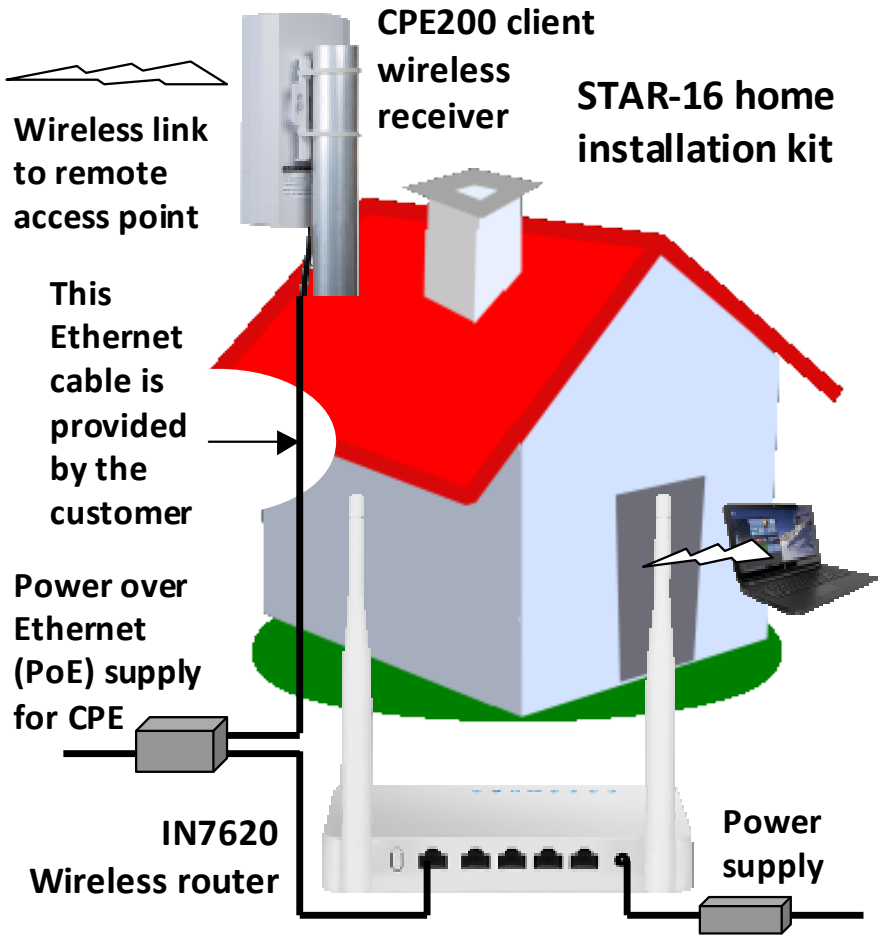
The pre-configured STAR-16 kit has two parts, the CPE200 5.8 GHz wireless receiver that is installed on the home roof. This receiver must have a clear line of sight to the central 5.8 GHz wireless antenna. The CPE200 wireless receiver is connected to the IN7620 wireless router inside the home. The home residents connect WiFi devices to the IN7620 WiFi to get Internet access. The installer must provide the Ethernet cable that connects the CPE200 to the PoE power inside the home.

This document explains how to install and configure the STAR-16 kit.

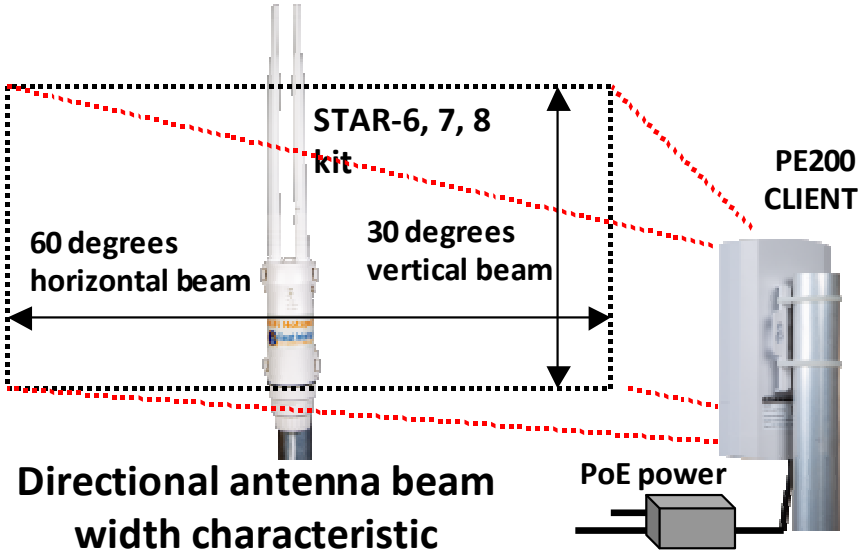
Alignment of the CPE200 5.8 GHz antenna

Each STAR-16 kit contains two wireless products, the CPE200 wireless 5.8GHz receiver and the IN7620 wireless router.

The CPE200 is a wireless antenna installed on the home roof that communicates with the STAR-6, 7 or 8 kit that is located at a central location. The CPE200 must have a clear line of sight to the STAR kit antenna. The CPE200 is connected to the IN7620 wireless router in the home that provides the WiFi Internet for the WiFi devices. The installer must provide the outdoor Ethernet cable that connects the CPE200 to the power over Ethernet supply inside the home.



The CPE200 product is configured first. The antenna is directional and must point towards the STAR wireless access point antenna. The distance should be less than 1Km with line of sight. The direction of antenna transmission is shown in the figure.



Directional antenna beam width characteristic

The STAR-16 kit products are already configured to extend the STAR-6, 7 and 8 kits to homes

Most installations of the STAR-16 kits with the STAR-1, 2, 6, 7 and 8 kits do not require configuration as the products are configured for the default settings. The installer can skip the configuration steps and proceed to the test steps.

When the STAR-16 kit will be used with any other manufacturers wireless access point product then the CPE200 will require configuration to connect to the wireless signal.

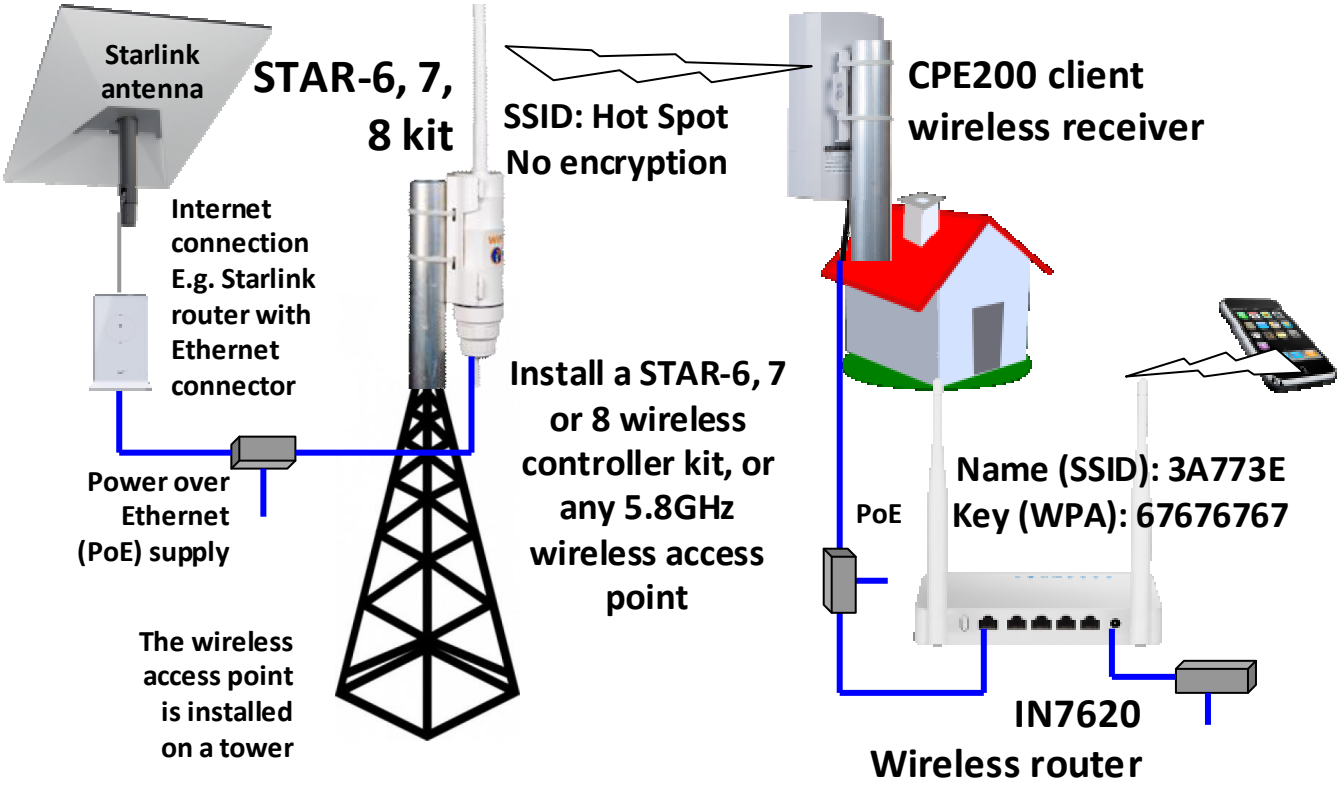
The STAR-16 kit CPE200 wireless receiver default configuration characteristics are as follows.

- The CPE200 wireless receiver connects to a wireless name (SSID) of: **Hot Spot.** The STAR-1, 2, 6, 7 and 8 kits are pre-configured to broadcast the SSID Hot Spot without encryption. If the configuration of the STAR-1, 2, 6, 7 or 8 kit SSID is changed then the CPE200 will also require configuring for the new SSID.

The STAR-16 kit IN7620 wireless router default configuration characteristics are as follows.

- The IN7620 broadcasts the SSID of: **3A773E**
- The IN7620 encryption key (WPA) is: **67676767**

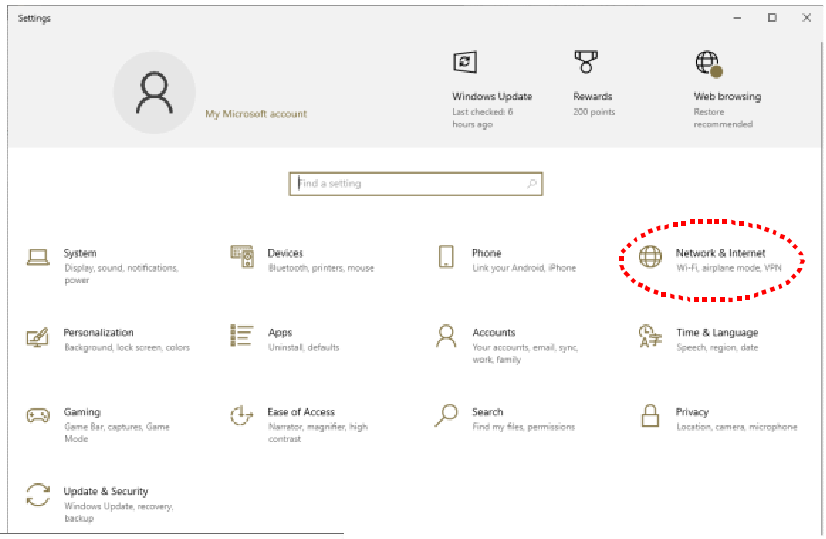
If the installer wishes to change any parameter then the IN7620 must be configured. If there is no change then proceed to the test section.

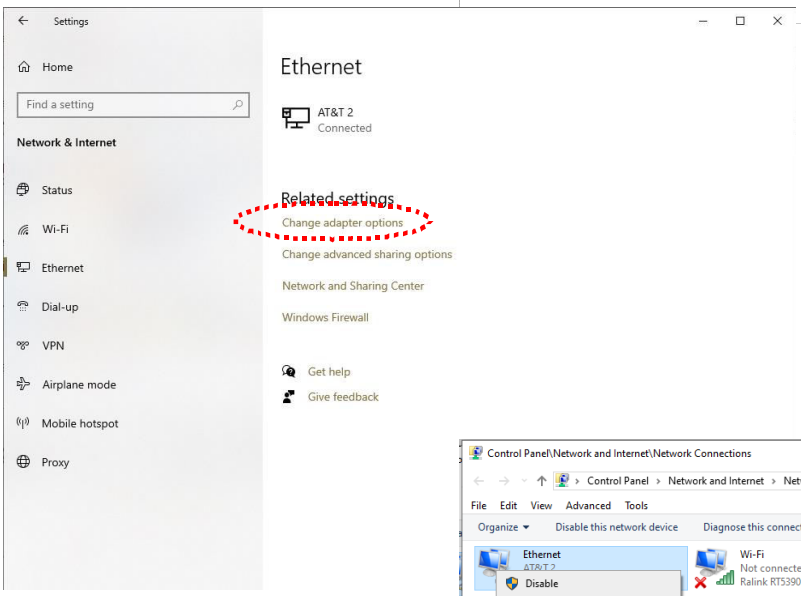


How to set a Windows computer to a static IP address

The CPE200 and IN7620 products are shipped pre-configured, however it may be necessary to configure them. To configure the CPE200 and IN7620 products it is necessary to set the computer LAN port for a static IP address.

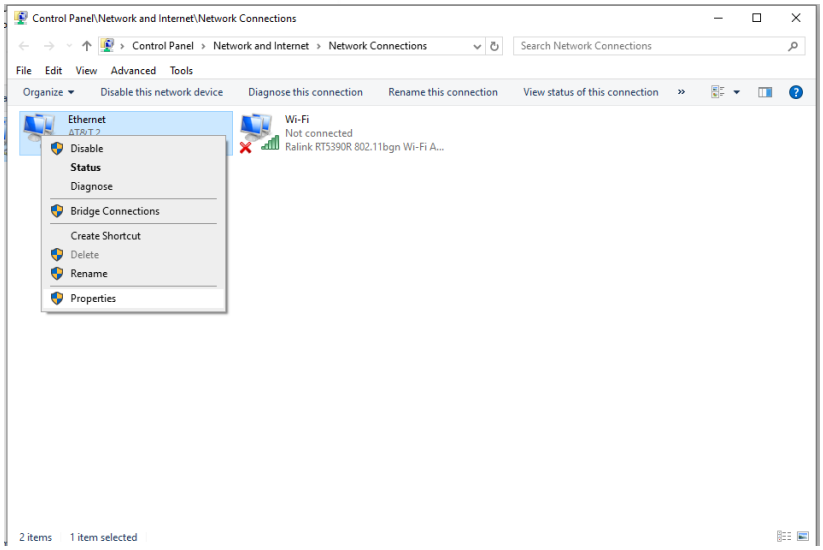
Open the settings page, select network and Internet.



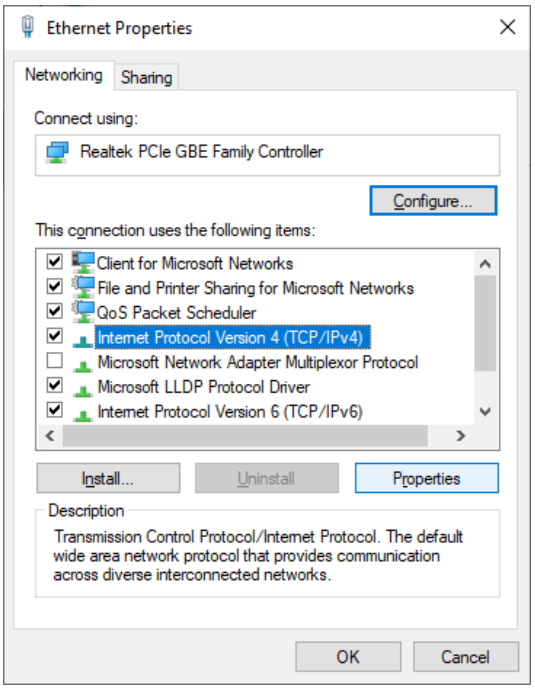


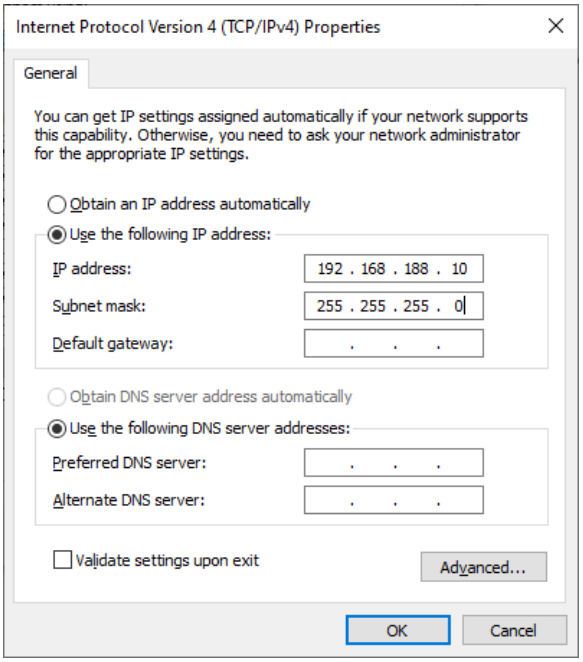
Select Ethernet then change adapter options.

Right click on Ethernet then select properties.



Select Internet protocol version 4 then click properties.





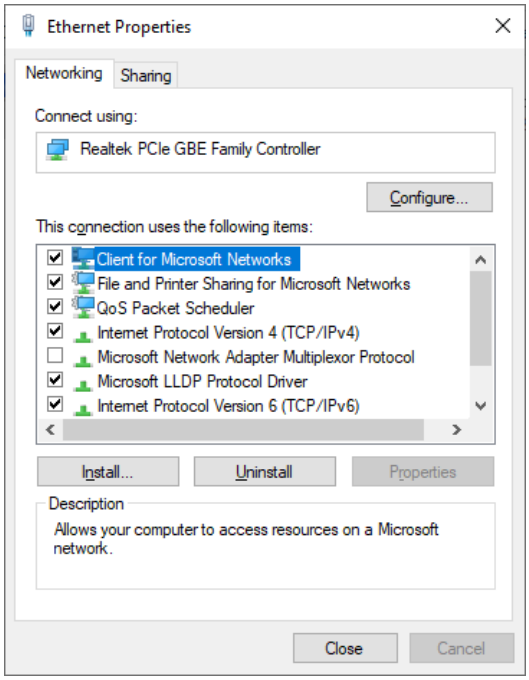
Select use the following IP address

Enter the IP address: **192.168.188.10**

Enter the subnet mask: 255.255.255.0

Click the OK button.

Finally click close. The LAN port can now be connected to the CPE200 and IN7620 products to configure them.



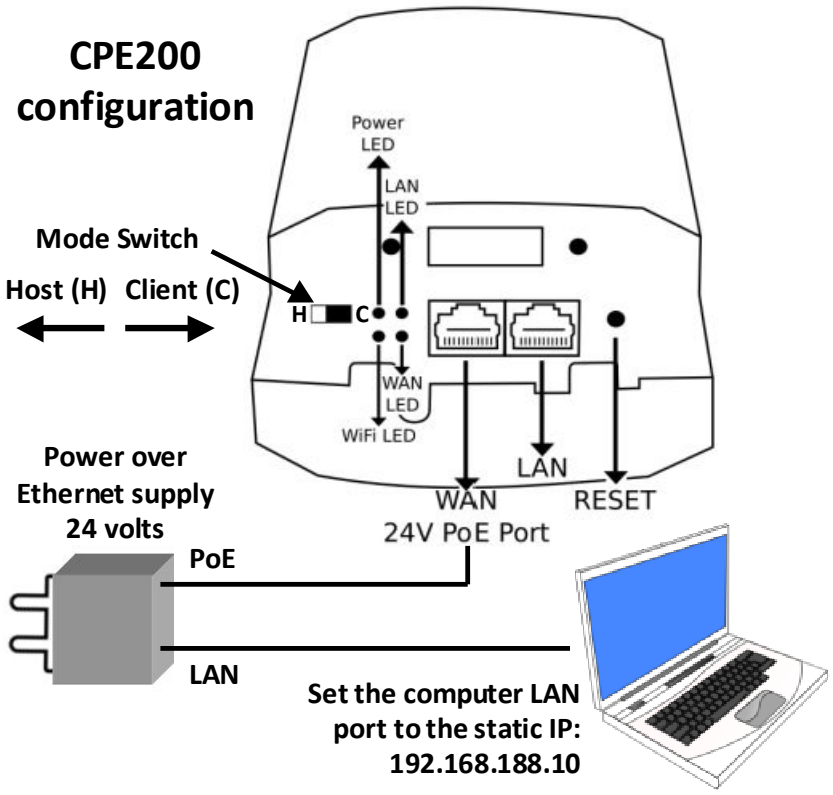
CPE200 Configuration

The CPE200 is pre-configured for use with the STAR-1, 2, 6, 7 or 8 kit.

To configure the CPE200 to connect to other wireless access points, set the Mode switch to ‘C', (CLIENT), power the CPE200 via the PoE supply provided.

Install on the roof.

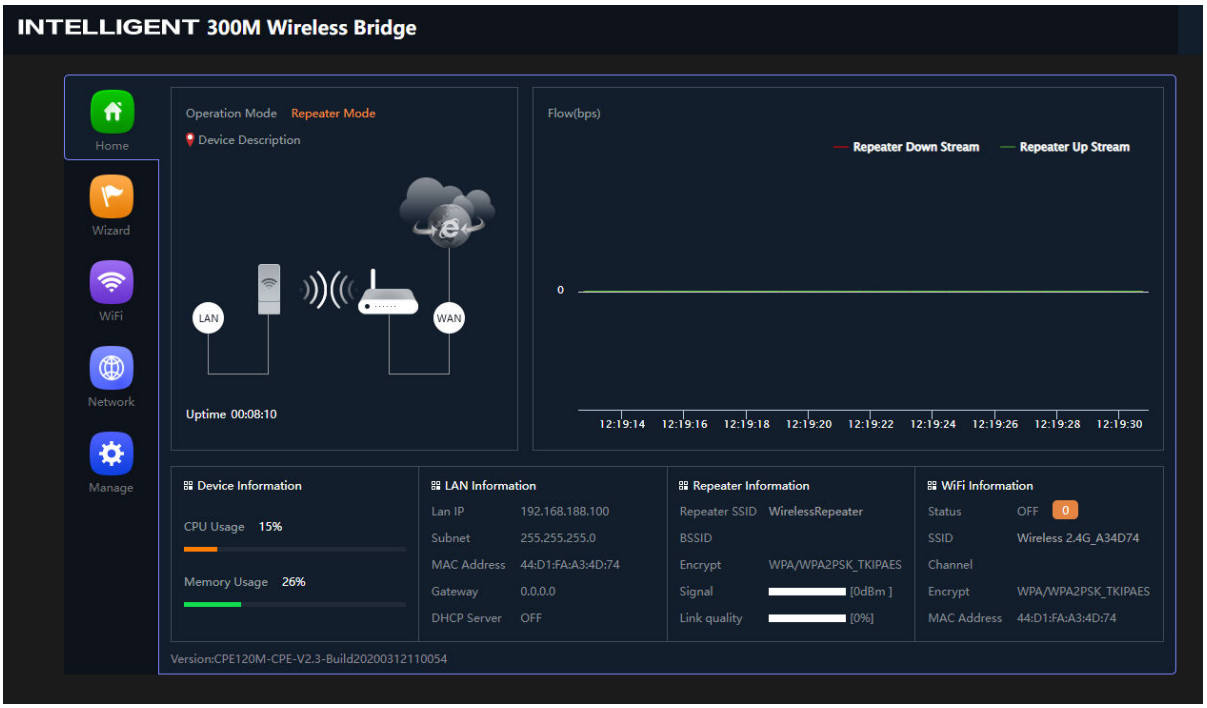
Point the CPE200 Client antenna to the central wireless access point antenna



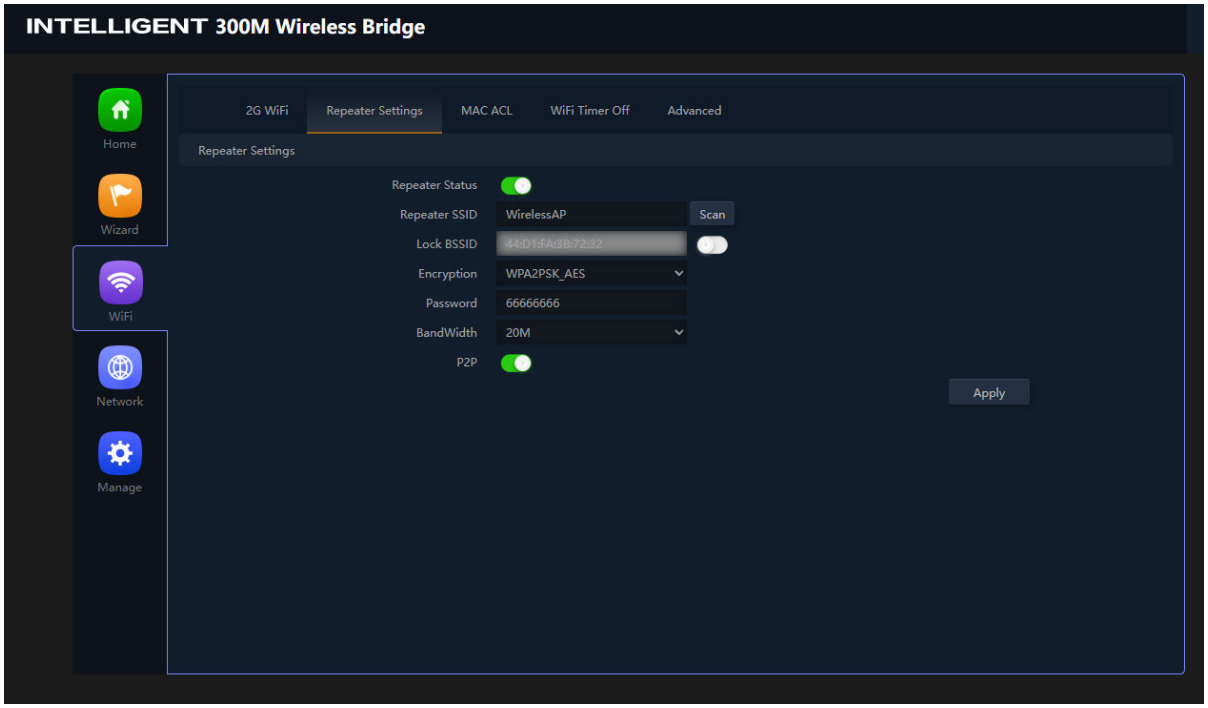
Configure the computer to a static IP address: **192.168.188.10**. Open a new browser tab on the configuration computer. Type the following IP address in the browser tab then press enter.

192.168.188.100

A box will open for the **username** and **password**, the default password is ‘**admin’**, enter the password and click login. The home page is displayed below.

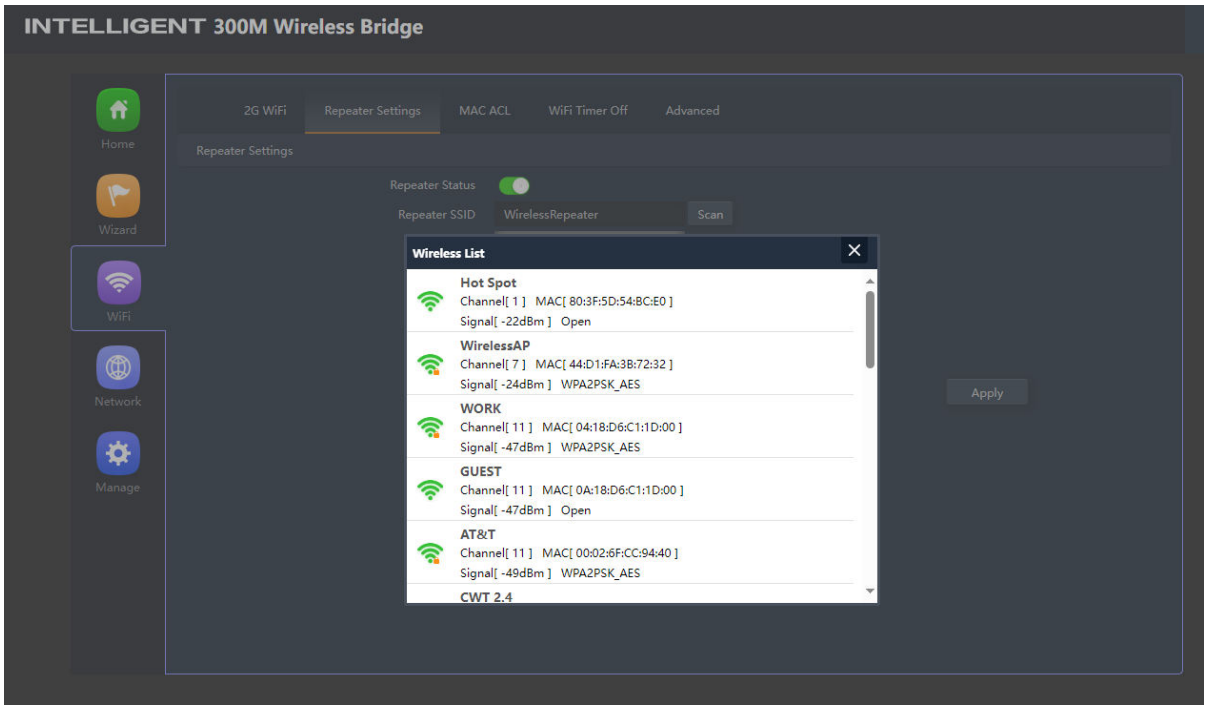


Click the **WiFi page icon**, the display is shown in the next figure.

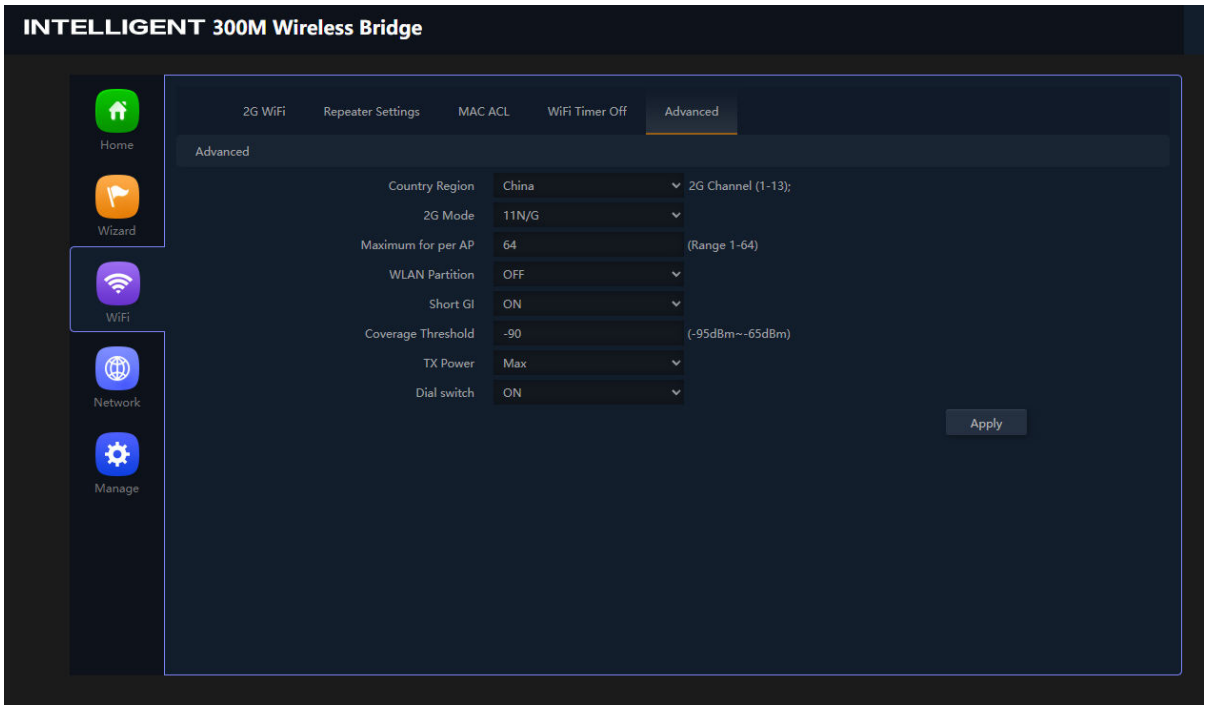


Click the tab **repeater settings**. Click the **scan** button, select the **SSID** of the STAR wireless access point from the list by clicking it. The default SSID is **Hot Spot**

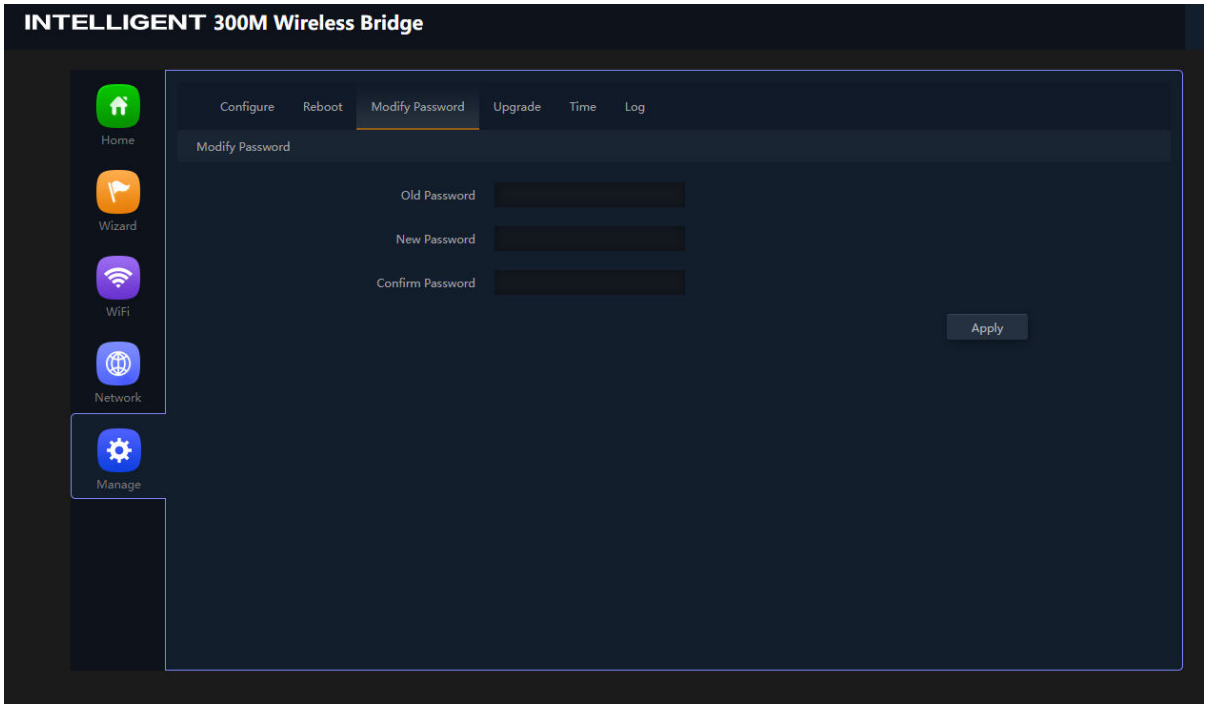
Go to the password box, enter the **WPA** key that is configured in the Host. Click apply.



Continue with the WiFi page, click the **advanced** tab. Set the **country**. Click **apply**.



Click the manage icon, click the modify password tab. Enter the new **password**, make a note of the password. Click apply.



Configuration of CPE200 Client is complete.

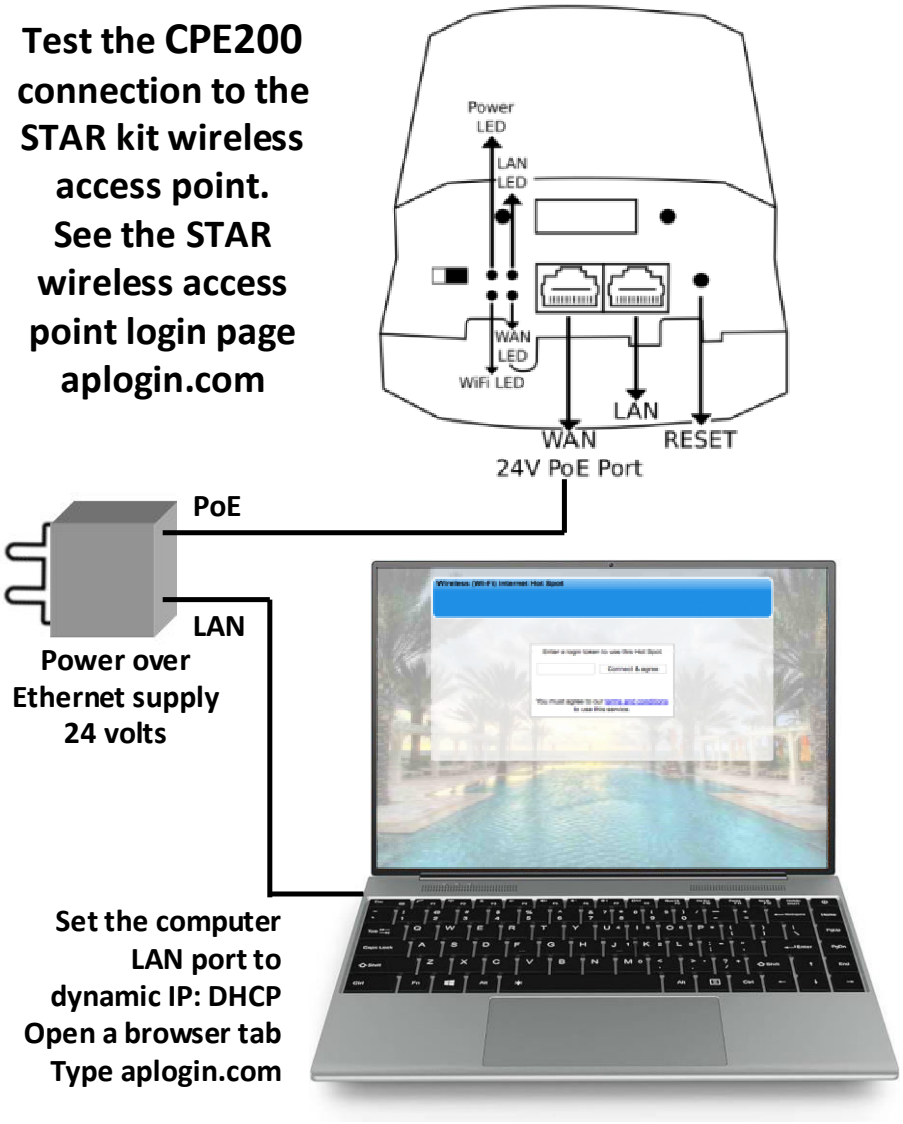
Test the CPE200 connection to the central antenna: The wireless connection to the STAR-6, 7 or 8 kit

At this point the CPE200 antenna is installed on the home roof, and the configuration shows that the wireless is connected to the STAR wireless access point antenna. The next step is to test the Internet connection to the STAR wireless access point using a computer.

Set computer LAN port to DHCP using the instructions provided at the beginning of this document. Connect the computer LAN port as shown in the diagram.

Open a browser window then open a new tab and type: **aplogin.com**

The login page from the STAR-1, 2, 6, 7 or 8 kit should open, this is shown in the figure. If this page does not open then check the STAR-1, 2, 6, 7 or 8 WiFi connections using a mobile device to check that the login page opens. If it does then repeat the CPE200 configuration process to connect to: **Hot Spot**

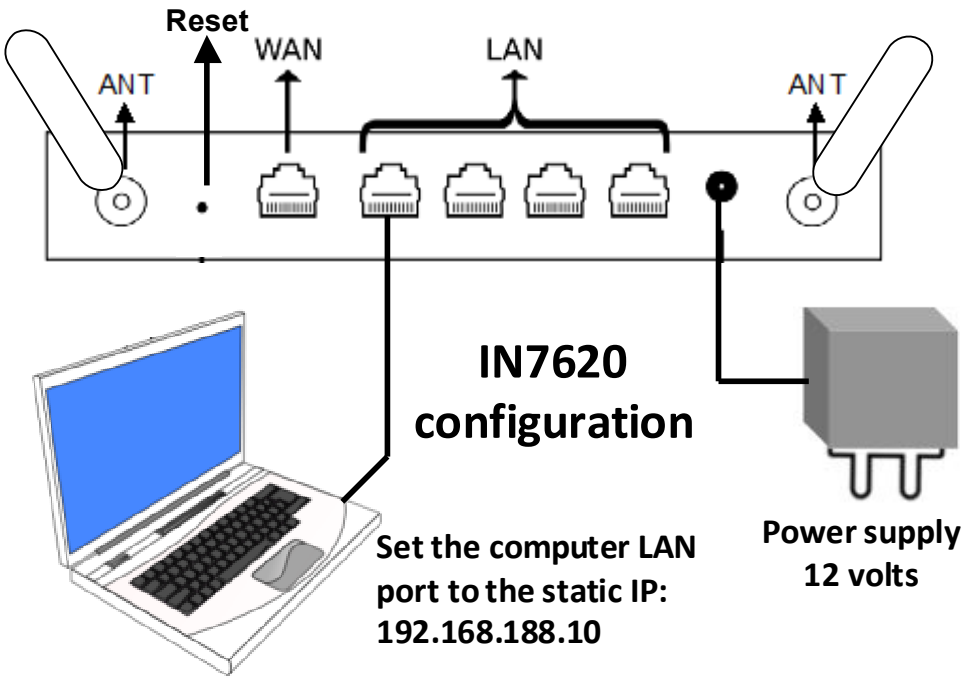


IN7620 Wireless Router Configuration

When the CPE200 wireless receiver has been installed and tested the IN7620 wireless router can be configured and installed. The IN7620 is pre-configured with the following characteristics.

- Wireless name (SSID): **3A773E**
- Wireless WPA key (encryption): **67676767**

To change the configuration of the IN7620, connect the IN7620 product to the power supply and computer as shown in the diagram.



Configure computer for static IP using the instructions provided previously.

- Set Static IP to: 192.168.188.10
- Set Netmask to: 255.255.255.0

Connect the computer LAN port to the IN7620 LAN port

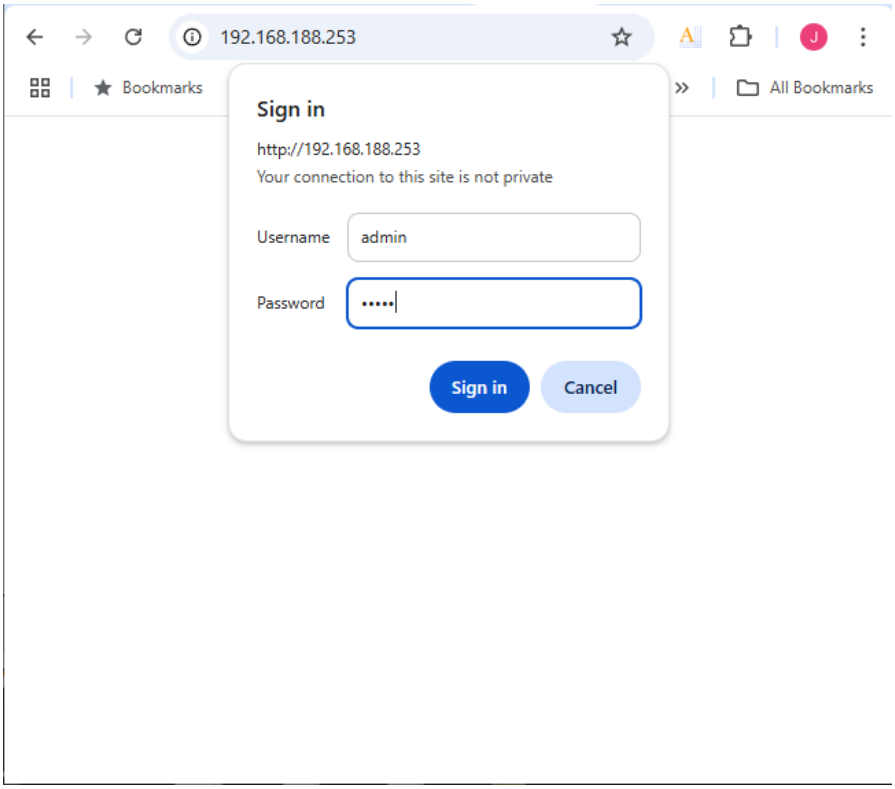
Open a new browser tab on the computer, type the following IP into the browser tab:

- 192.168.188.253

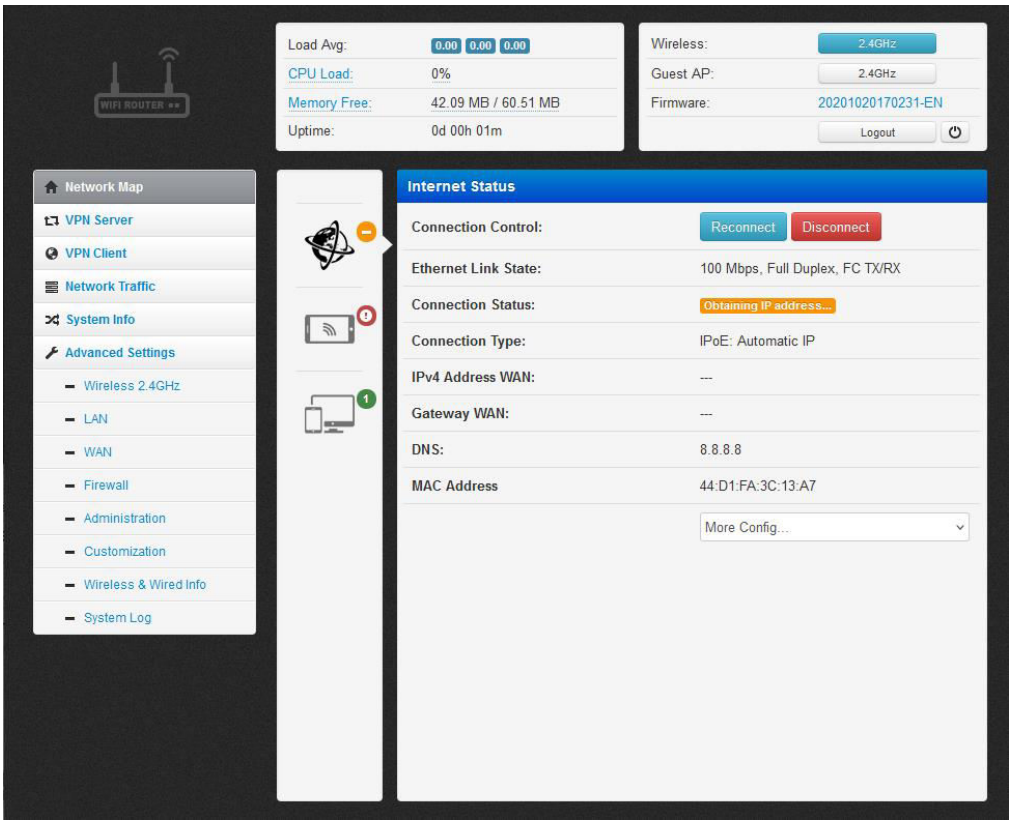
The login box will open, provide the username and password.

- ***username: admin***
- ***password: admin***

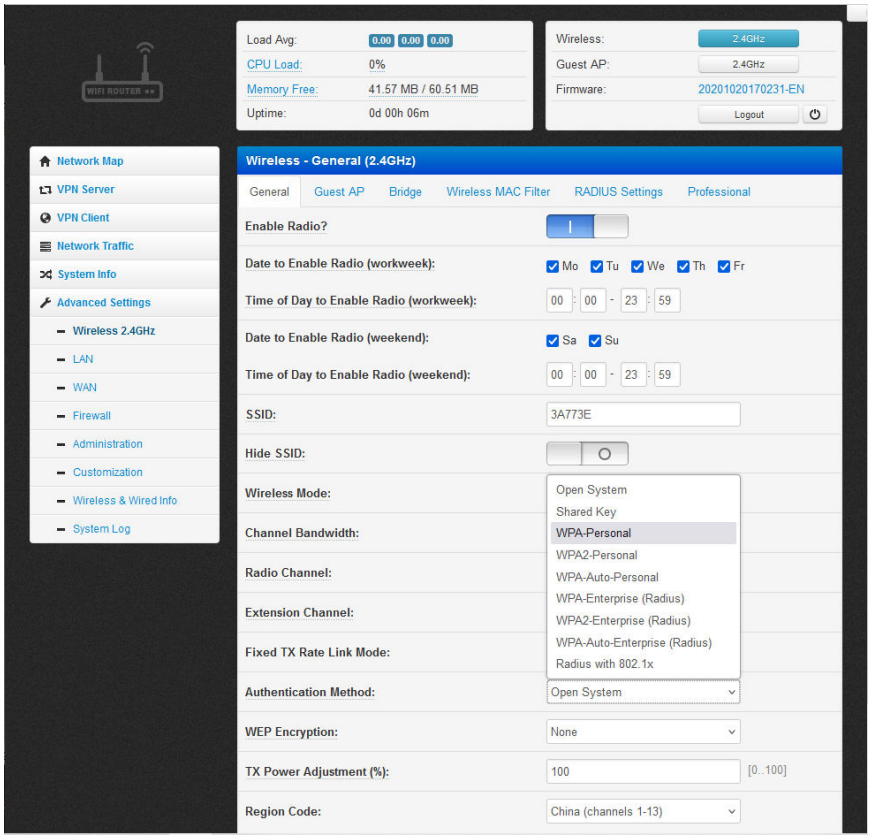
Click the login button, shown on the next screen.



After login the status page is displayed



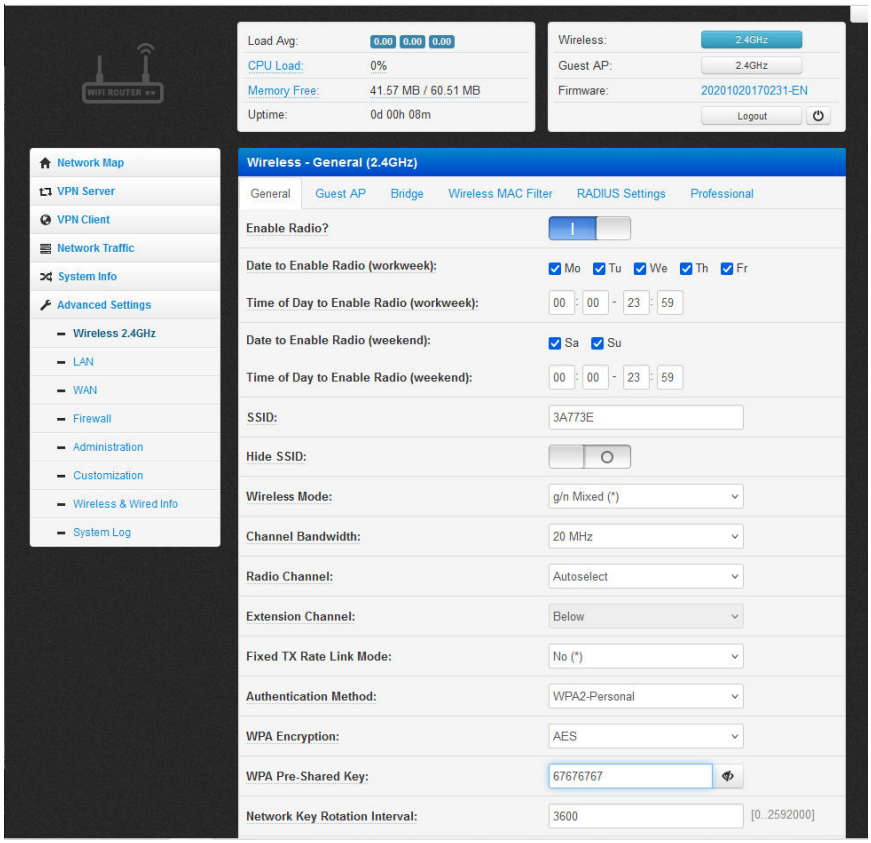
Click the advanced settings – wireless 2.4G menu and click



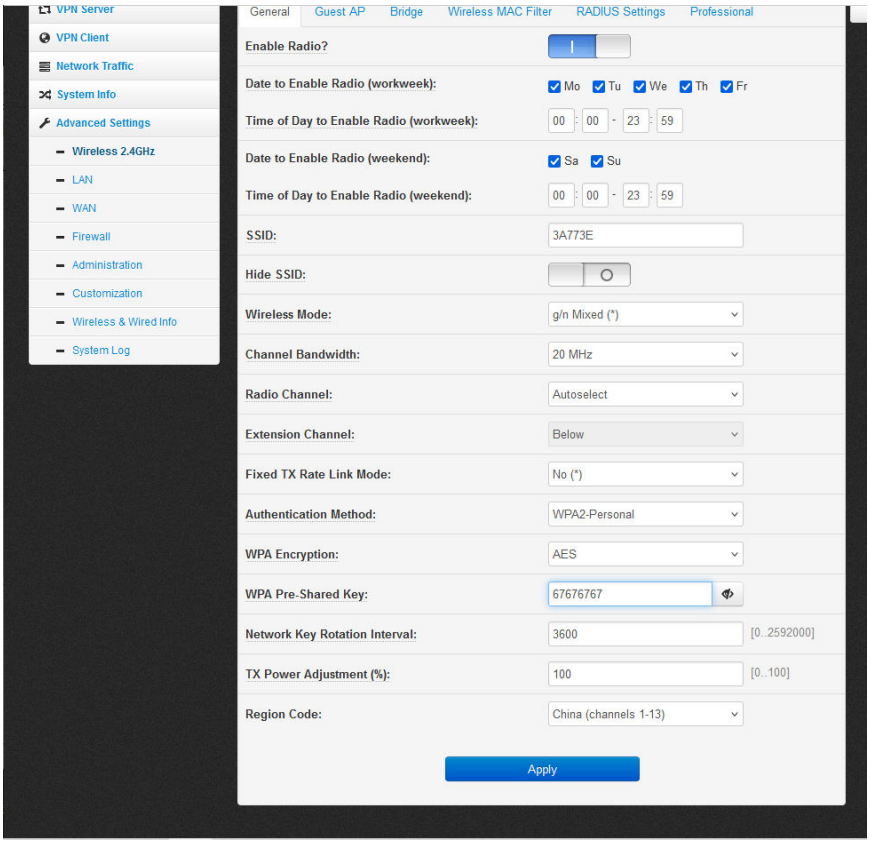
The wireless name (called **ESSID**) is set to the default of **3A773E**

This can be changed to any other name. This name will appear when people search for WiFi networks.

The default WPA-personal key is **67676767**



When a change is made click **apply.**

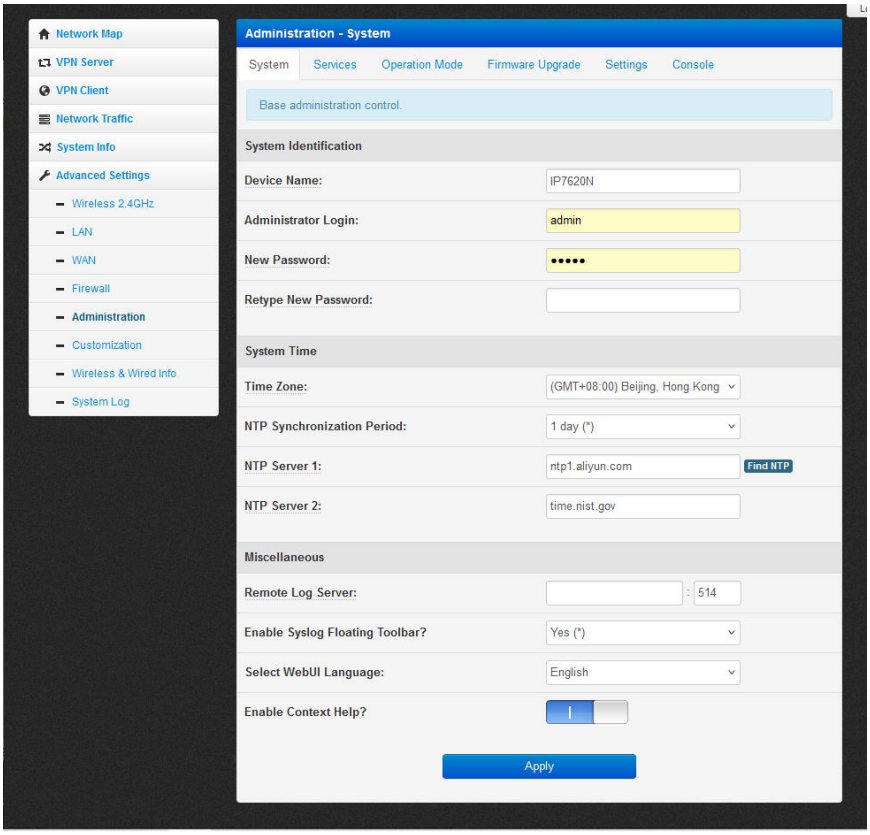


The default password is **admin**

Change the password for security.

When a change is made click **apply.**

Configuration of the IN7620 is complete.

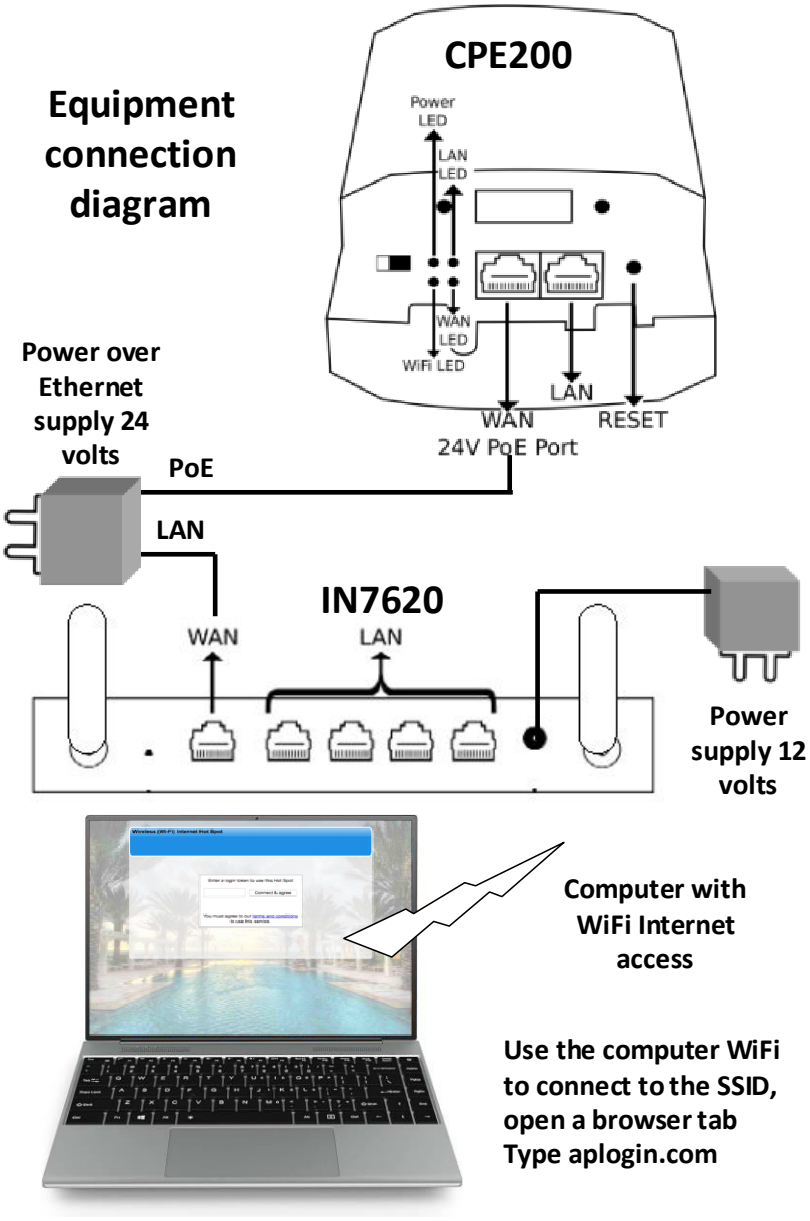


Proceed to the next section; verify that a device connecting to the IN7620 WiFi can open the login screen of the STAR-1, 2, 6, 7 or 8-kit controller.

Test the WiFi network connection of the STAR-16 kit

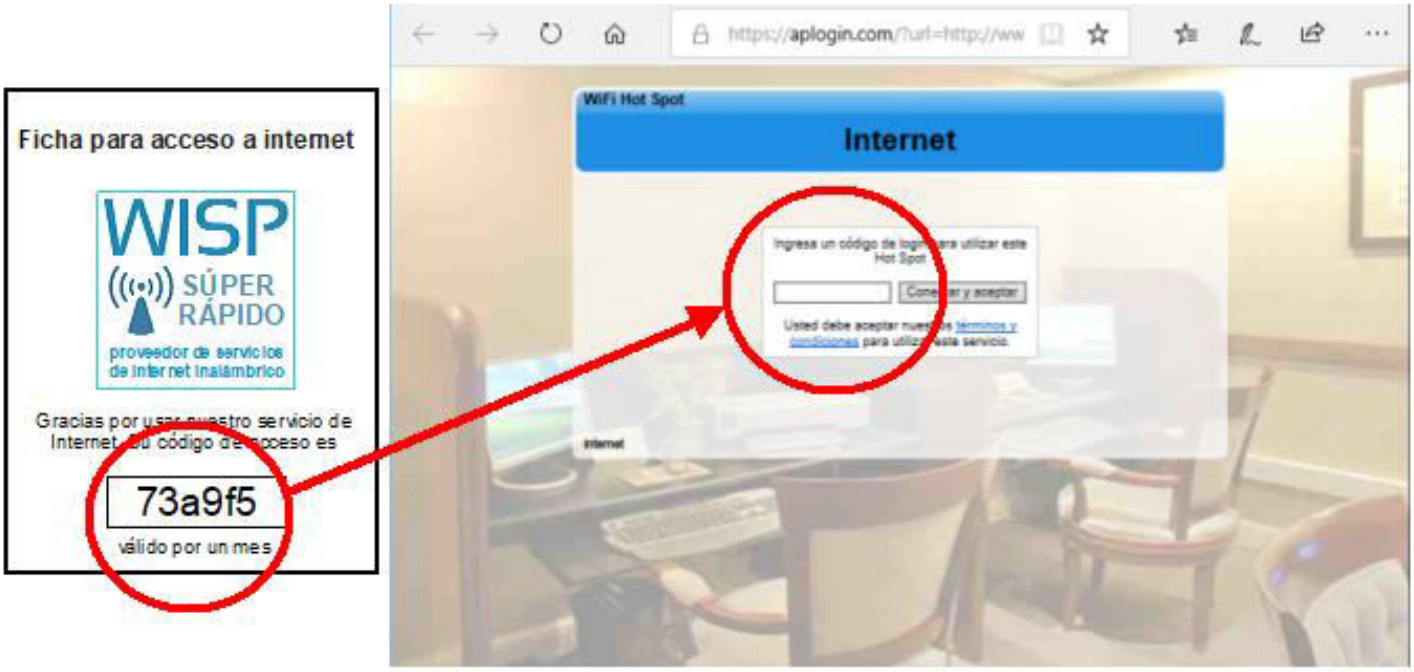
Connect the equipment as shown in the figure. Connect the computer or mobile device to the IN7620 WiFi signal, name (SSID): **2A773E** and key: **67676767.**

The CPE200 should already be configured to communicate with the Guest Internet STAR kit. Now open a computer browser then open a new browser tab. Type the name of the Guest Internet controller: **aplogin.com** then the login page should open. If the login page does not open then go back a few steps to the beginning. Test the CPE200 connection to the STAR kit antenna, and then proceed to repeat the test with the IN7620 connected to the CPE200.



Test the Internet access using an access code generated using the Guest Internet controller.

With the computer or mobile device connected to the WiFi of the IN7620, open a browser to see the login page, an example of a login page is shown in the next figure.



The code on the voucher is typed into the login page then the button is clicked. If the code is valid then the computer will have access to the Internet.

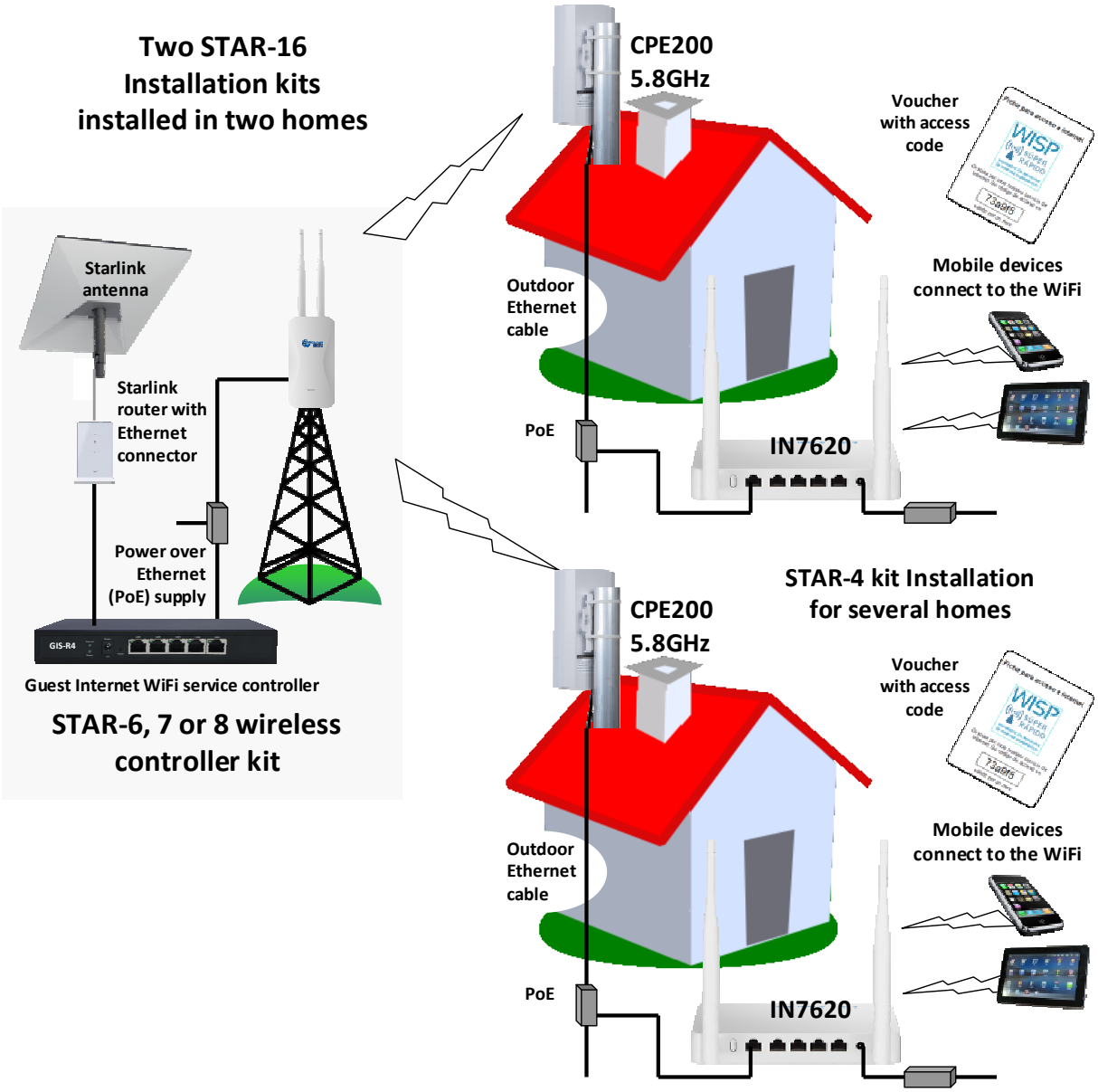
If the login page opens but the code is not accepted then test that the access is available at the STAR-1, 2, 6, 8 or 8 kit as shown in the next figure.

Connect to the SSID on the voucher
Open a browser to see the login page
Type the access code on the voucher

Add a second home to WiFi network configuration with a second STAR-16 kit

When the first home has been installed and is providing Internet access proceed to install the second home using a second STAR-16 kit. The procedure is identical to the first home.

Provide each home with an access code printed onto a voucher. The procedure for printing vouchers with access codes is included with the STAR-1, 2, 6, 7 and 8 kit information.



Expand your network by adding more homes

After successfully installing the first home and connecting it to a STAR access point kit, proceed to install more homes. Each STAR-16 kit has the equipment to install two homes. There is a limit to the number of homes that is determined by the STAR kit wireless access point capacity, the bandwidth of the Starlink antenna, and the maximum data speed allocated to each home. The STAR kit capacity is as follows

- STAR-6: no limit but 75 homes is suggested maximum
- STAR:7: no limit but 150 homes is suggested maximum
- STAR:8: no limit but 150 homes is suggested maximum

Calculate the bandwidth or maximum data speed by dividing the maximum speed of the Starlink antenna by the number of homes. The Starlink antenna provides 200Mb/s so for 50 homes:

- 200 / 50 = 4Mb/s maximum speed limit set for each home access code

The diagram shows 4 homes connecting to a STAR kit wireless access point.