USER MANUAL

PROLiNK® Wireless-N 300Mbps Range Extender
PEN1201

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FCC Interface

This equipment has been tested and found to comply with the limits for a Class B digital device under Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency energy and, if not installed and used following the instructions in this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, requires to take whatever measures are necessary to correct the interference.

CE Declaration of Conformity

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B.

PREFACE

Revision	Date	Descriptions
1.0	26 June 2019	Initial release
1.1	5 June 2020	Updated content and Formatting

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1 Introduction

This chapter introduces the packaging contents of Extender PEN1201, the product overview regarding all the main features available and the appearance of the product included the LED indicator.

1.1 Package Contents

	Quantity (unit)	Item Description
1	1	PEN1201 Range Extender
2	1	Quick Installation Guide
3	1	RJ45 Ethernet Cable

1.2 Product Overview

The PROLiNK Wireless-N 300Mbps Range Extender II PEN1201 is a 3-in-1 device which by default functions as a Repeater and can easily be switched to be an Access Point or Router depending on the user's needs. Besides reaching out to Wi-Fi dead zones with its improved connectivity and speed, it also introduces new user-friendly and features to fully tap the Extender's overall performance.

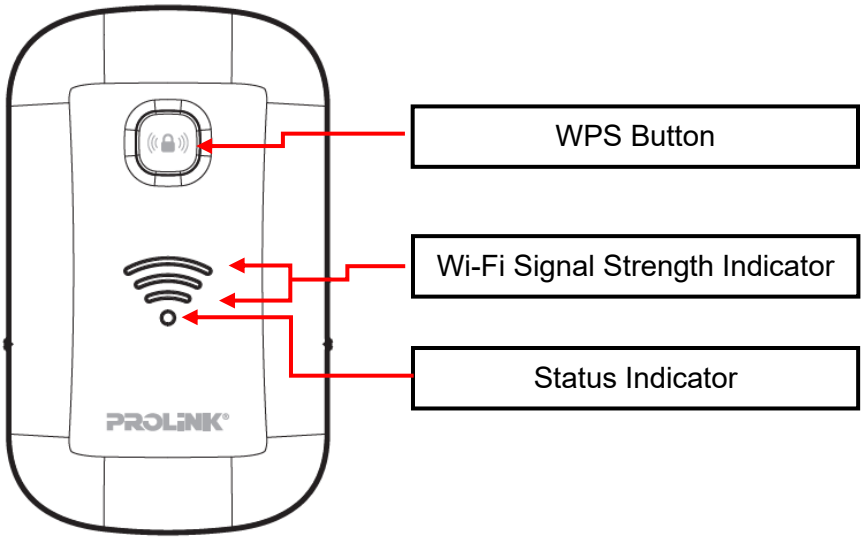
Designed to fit seamlessly into any corner of the household, the space-saving wall-mounted Extender enables full flexibility to shift the positioning of the device with minimal hassle. The newly modernized outlook also features a Smart LED Indicator which helps detect the signal strength from the primary router and guide users to find and locate the positioning for optimal Wi-Fi coverage. Other upgraded features include straightforward and easily accessible On/off Switch and Easy Mode Selection buttons, which can be found and easily adjusted from the sides of the device.

Together with its easy and secure one-step setup system, the PROLiNK Wireless-N 300Mbps Range Extender II is the perfect add-on device and inexpensive solution to effortless home and office network expansion.

1.3 Hardware Overview

1	WPS	To connect with Wi-Fi Client (e.g. mobile phone): Press and release To connect with an existing Router's Wi-Fi: Press and hold for 6 seconds
2	Wi-Fi Signal	To show the Wi-Fi Signal Strength Indicator
3	Status Indicator	To show the device status
4	Reset Button	Hold for 10 seconds and release to reset to factory setting
5	Power Switch	Top position: Turn OFF Extender/Bottom position: Turn ON Extender
6	Operation Mode switch	Top position : Access Point (AP) Mode Middle position : Repeater Mode Bottom position : Router Mode
7	AC Power Input	To plug into switch socket outlet
8	WAN/LAN Port	For Router and AP Mode: this port is to be connected with Internet source/Modem For Repeater Mode: this port functions as a LAN port
9	LAN Port	Port to connect with a client's (PC / Laptop) Ethernet port

1.4 LED Indicator



Indicator	Behaviour	Description
Status	OFF	Extender is turned Off / No Power
	ON	Extender is turned On
	Fast Blinking	Extender is having data transmission
	Slow Blinking	Triggering WPS
Wi-Fi Signal Strength	One LED Bar	Low Wi-Fi signal strength
	Two LED Bar	Good Wi-Fi signal strength
	Three LED Bar	Excellent Wi-Fi signal strength

2 Extender PEN1201 Installation

This chapter guides you on how to set up the PEN1201 as an Extender / Repeater. Please ensure not to place the PEN1201 in an enclosed area such as closet and cabinet.

2.1 Setup Requirement

To setup Extender PEN1201 you need to ensure the following item in the list is available.

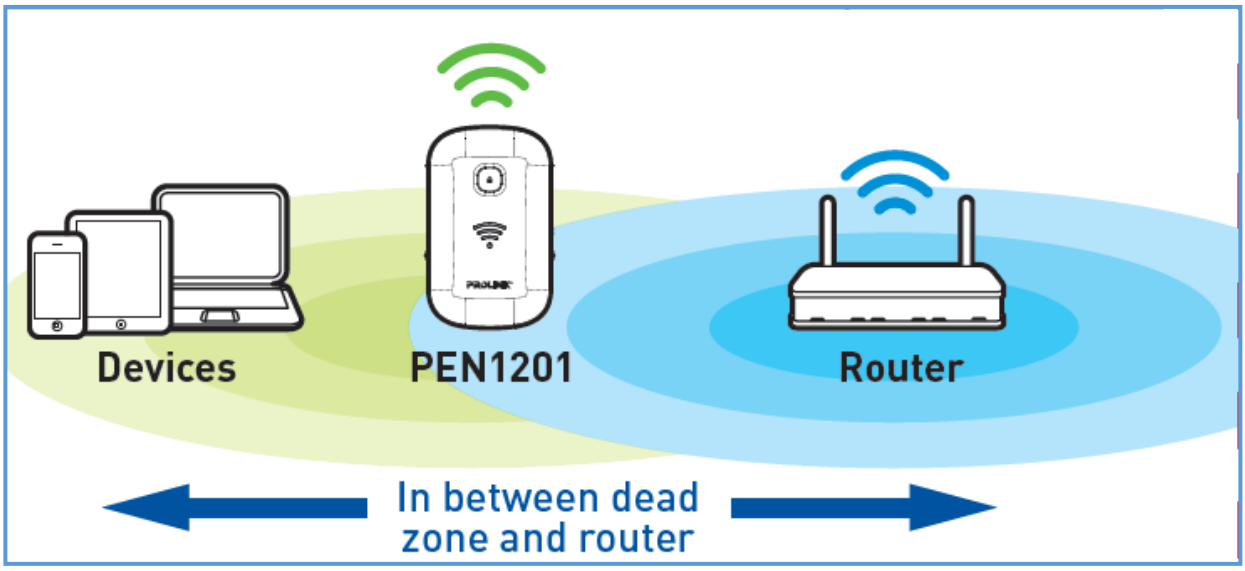
- Internet Access (DSL, Modem or existing Wireless Router).
- Ethernet Cable with RJ45 connector at both ends.
- Laptop / PC equipped with Ethernet Network adapter (10Base-T or 100Base-TX or 1000Base-TX) and Wi-Fi card / adapter.
- Web Browser (Microsoft Edge, Chrome, Firefox, or Safari).

2.2 Placement Guide

For the best Wi-Fi signal transmission between PEN1201 and network devices that connect to it:

- Place the Extender PEN1201 in a well-ventilated place and avoid exposure to moisture or excessive heat.
- Keep away or avoid placing Extender PEN1201 from electrical devices or appliance that generate the electromagnetic wave to prevent Wi-Fi signal interference and signal loss
- Place the Extender PEN1201 in between your router and your Wi-Fi dead zone

- Plug in Extender PEN1201 into an electrical outlet and switch “ON”. The Wi-Fi Signal Strength indicators indicate the link quality once PEN1201 is connected to the existing router or access point. It is recommended to achieve **Two or Three** LED bars which illustrate reliable connectivity between the Extender PEN1201 and existing router or access point.

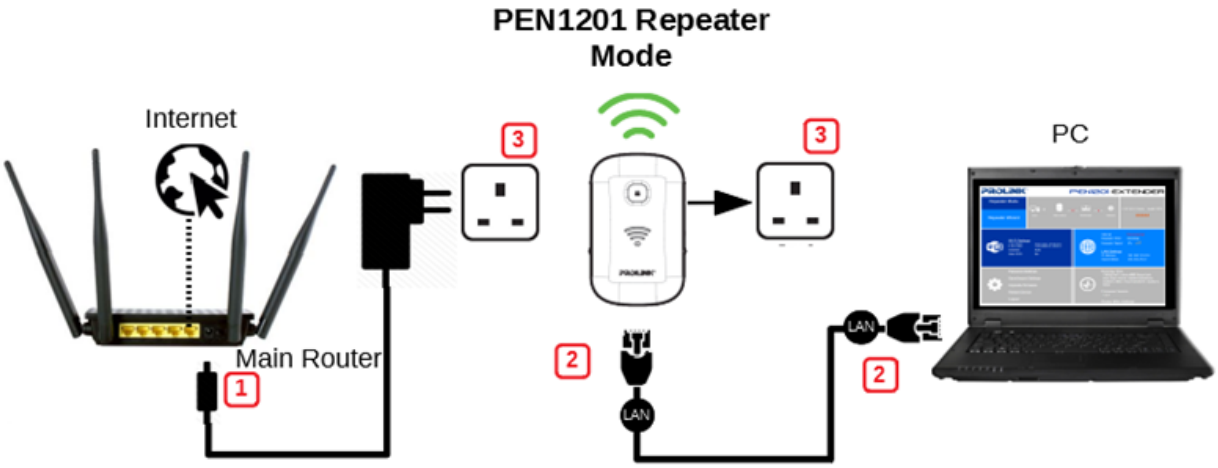


2.3 Hardware Setup

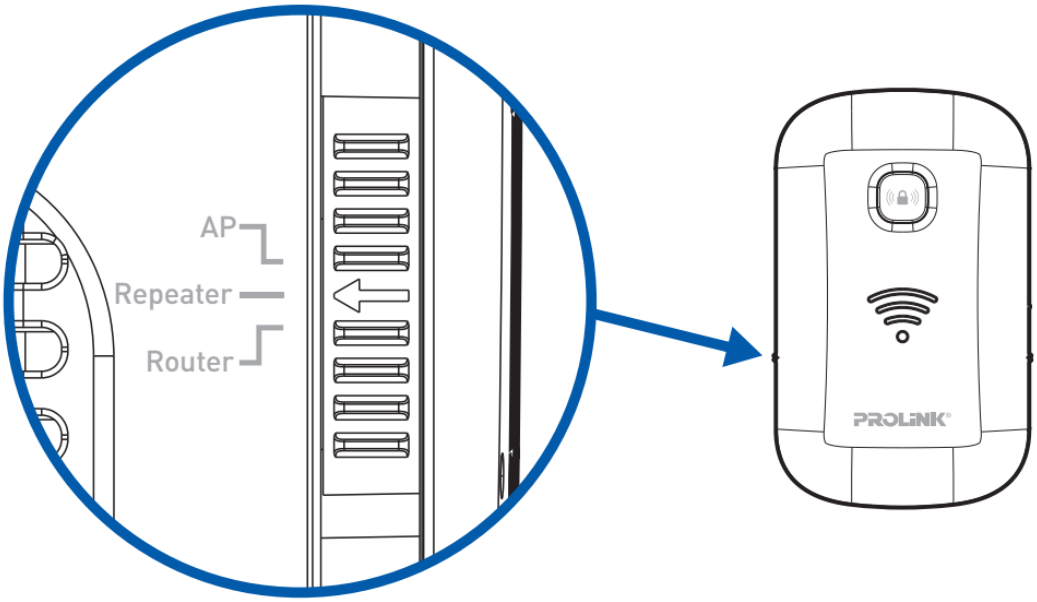
There are several different ways you can configure your PEN1201 to connect to the Internet and connect to your clients. Guides below shows how the hardware connection setup for each mode available for PEN1201. Please first make sure that Wi-Fi client can successfully access the Internet via the main router.

Repeater Mode Setup (Default)

The following is a step to setup PEN1210 as a Wi-Fi range extender or Repeater. Make sure your internet connection source from the main router is valid. Follow the step below to complete the hardware connection.



1. Turn OFF Main/Existing Router.
2. Connect Ethernet cable between **Computer LAN port** to **PEN1210 LAN port**.
3. Ensure the PEN1201 **Operation Mode Switch** is set to "**Repeater**" and Turn ON power of Main/Existing Router and PEN1210.

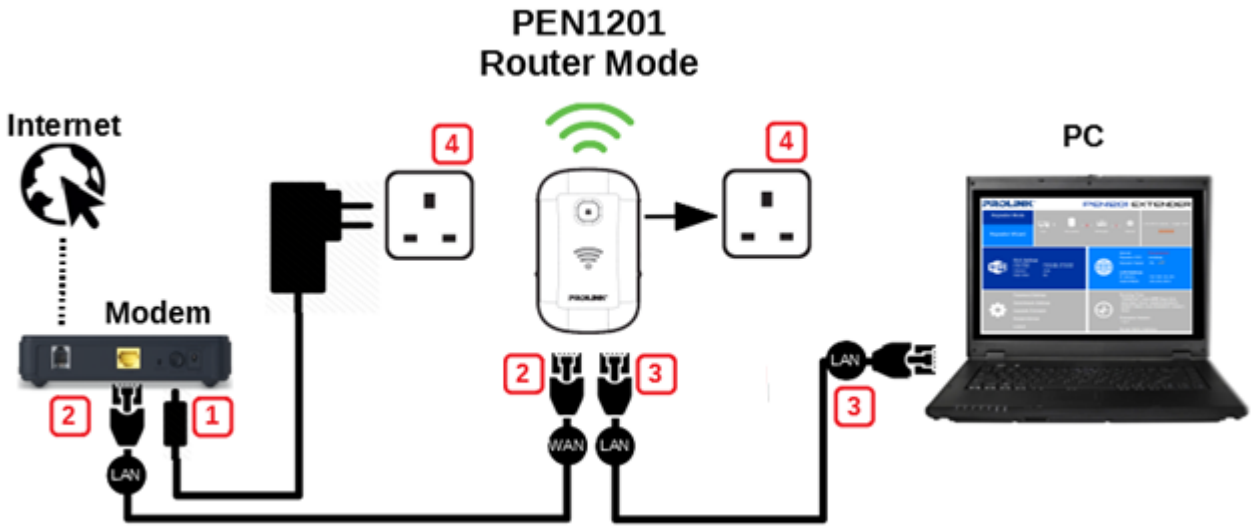


The booting up process takes approximately 60 seconds. When PEN1210 is ready to setup, the **Status** indicator will lit up solid green.

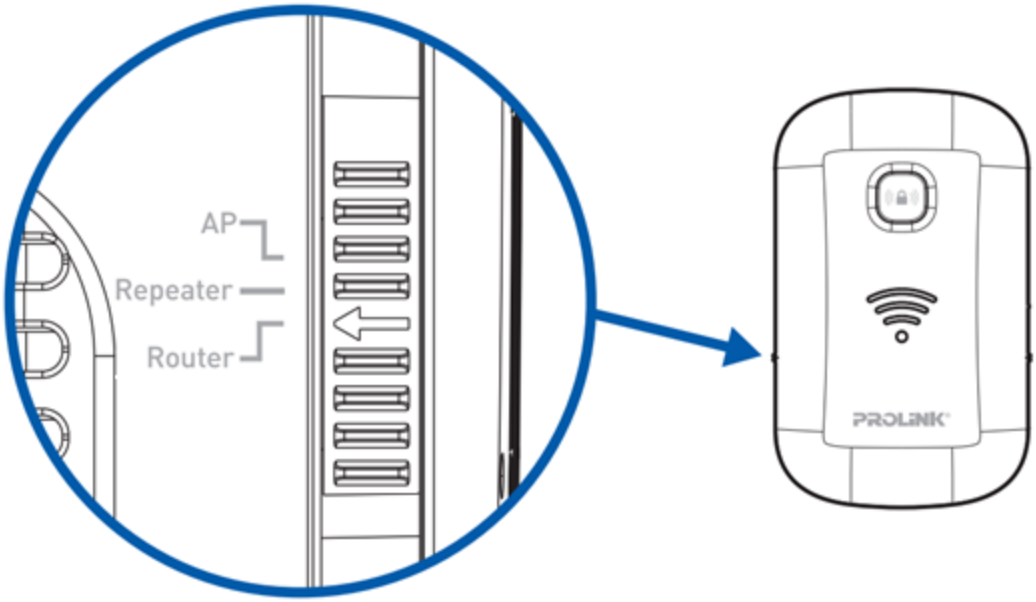
Note that at this point, the Repeater Mode is not yet fully set and Wi-Fi Signal Strength indicator will not lit up. Please follow until Section 3.4 Setup Wizard.

Router Mode Setup

The following is a step to setup Extender PEN1201 as Router Mode. If your internet connection source is coming from ADSL/Modem, follow the following step below to complete the hardware connection.



1. Turn OFF modem.
2. Connect Ethernet cable between **modem Internet (LAN) port** to **PEN1201 WAN Port**.
3. Connect Ethernet cable between **Computer LAN port** to **PEN1201 LAN port**.
4. Ensure the PEN1201 **Operation Mode Switch** is set to "**Router**" Turn ON power for modem and PEN1201.

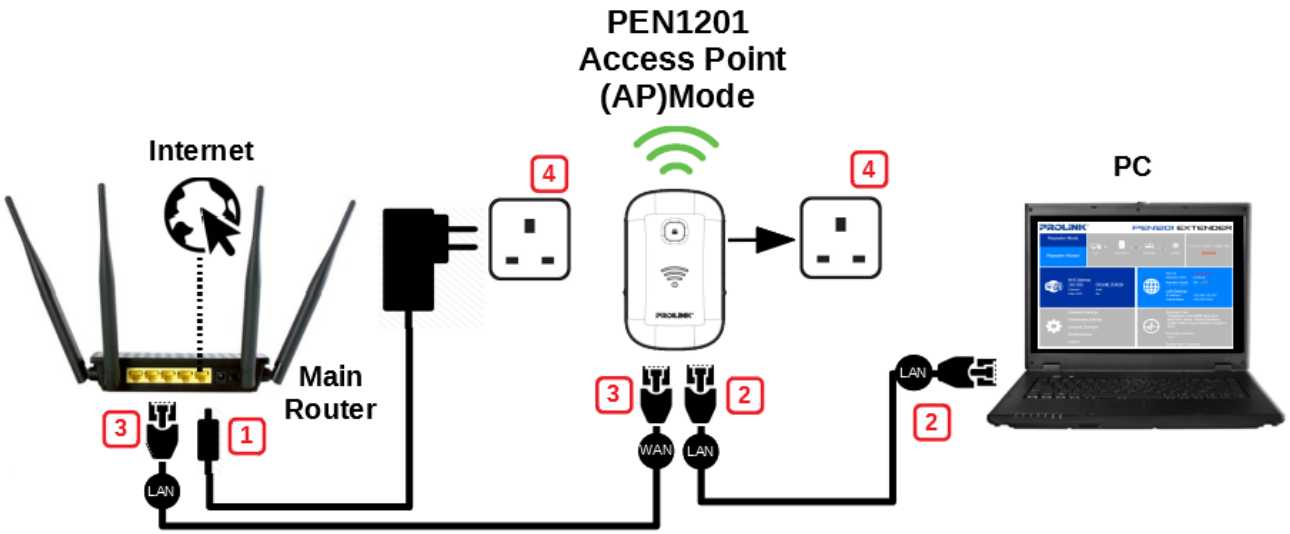


The booting up process takes approximately 60 seconds. When PEN1210 is ready to setup, the **Status** indicator will lit up solid green.

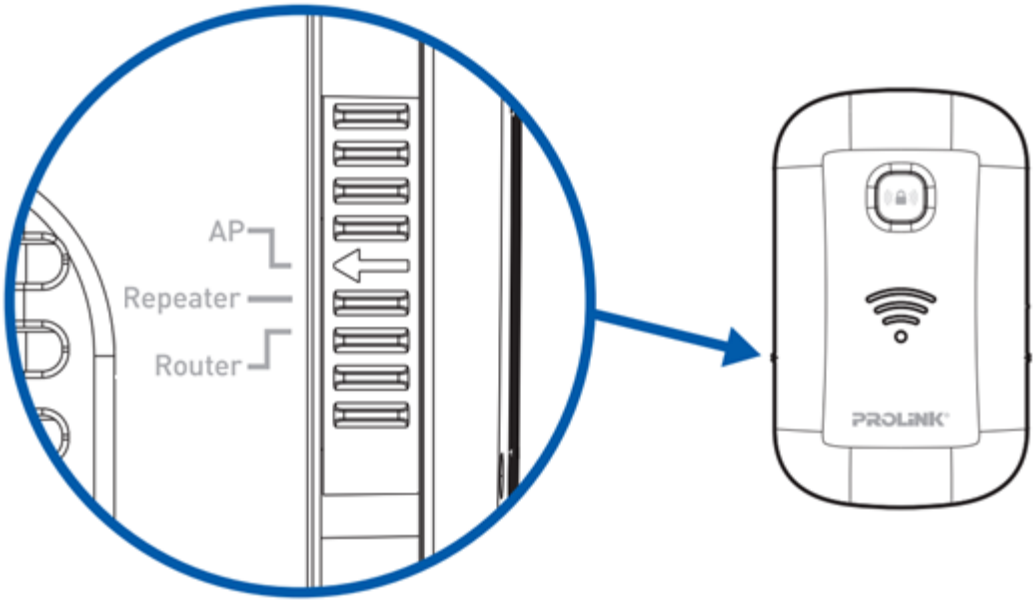
Note that at this point, the Router Mode is not yet fully set. Please follow until Section 3.4 Setup Wizard.

Access Point (AP) Mode Setup

The following is a step to setup PEN1201 as AP Mode. Follow steps below to complete the hardware connection.



1. Turn OFF Main Router/Existing Router
2. Connect Ethernet cable between Main/Existing **Router LAN port** to **PEN1201 WAN Port**.
3. Connect Ethernet cable between **Computer LAN port** to **PEN1201 LAN port**.
5. Ensure the PEN1201 **Operation Mode Switch** is set to "**AP**" and Turn ON power Main/Existing Router and PEN1201.



The booting up process takes approximately 60 seconds. When PEN1210 is ready to setup, the **Status** indicator will lit up solid green.

Note that at this point, the AP Mode is not yet fully set. Please follow until Section 3.4 Setup Wizard.

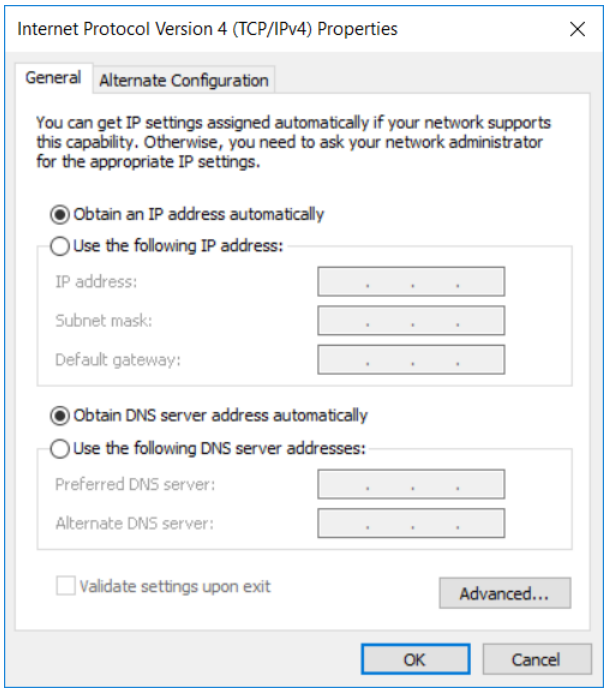
3 Getting Started

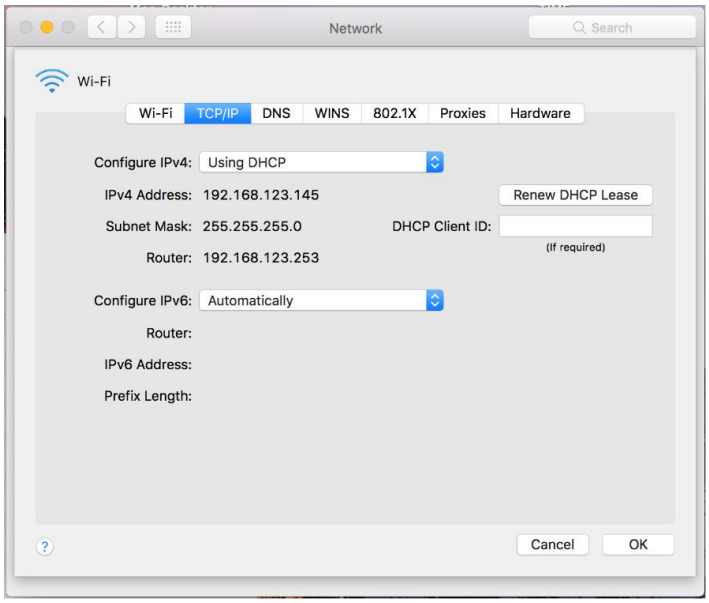
In the previous chapter, we have made a network hardware connection setup in various different operating modes. In this chapter, it guides user on how to check TCP/IP setup before getting started, how to log into the PEN1201 **Web User Interface configuration** and guide on using **Setup Wizard.**

3.1 TCP/IP Setup

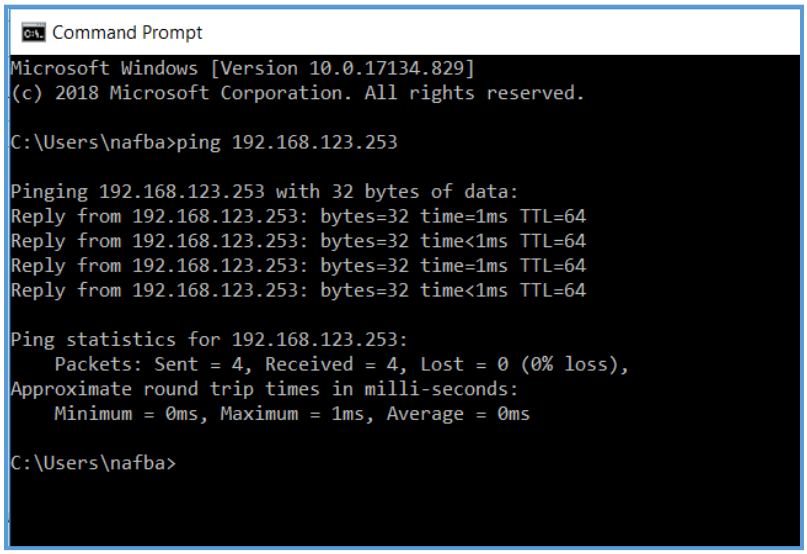
By default, PEN1201 IP address is 192.168.123.253 and Subnet Mask is 255.255.255.0.

Please ensure that your TCP/IP Protocol is set to “Obtain an IP address automatically” for Windows OS or “Using DHCP” for MAC OS.





To verify the connection between Computer and PEN1201, *run* **command prompt** and execute ping to PEN1201 IP address. To complete Ping command, you need to type **ping 192.168.123.253** and **press Enter** to start ping. The ping test result, should show as per the following figure.



If you encounter different result from the above, it indicates your connection between Computer and PEN1201 probably failed. You may follow below steps in order to try rectifying the issue:

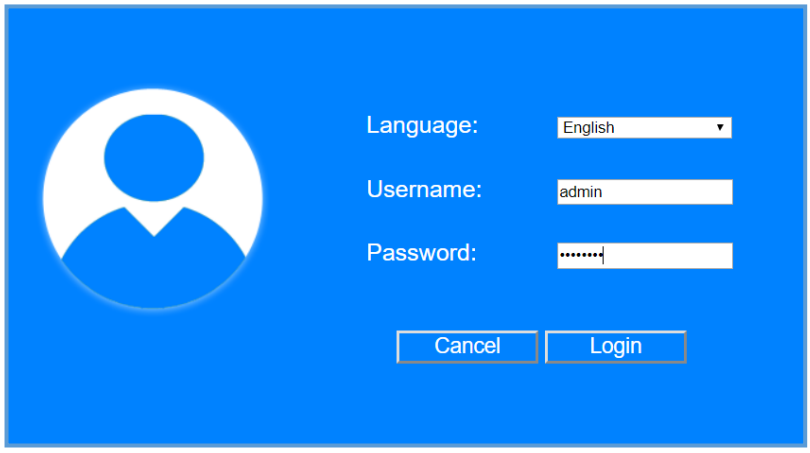
1. Please recheck and ensure the **Hardware Setup** is correct
2. Try to follow the **Hardware Setup**, but with another Client (PC / Laptop / mobile phone)
3. Ensure that the client devices are not using Fixed IP Address

3.2 Log-in into the Web User Interface Configuration

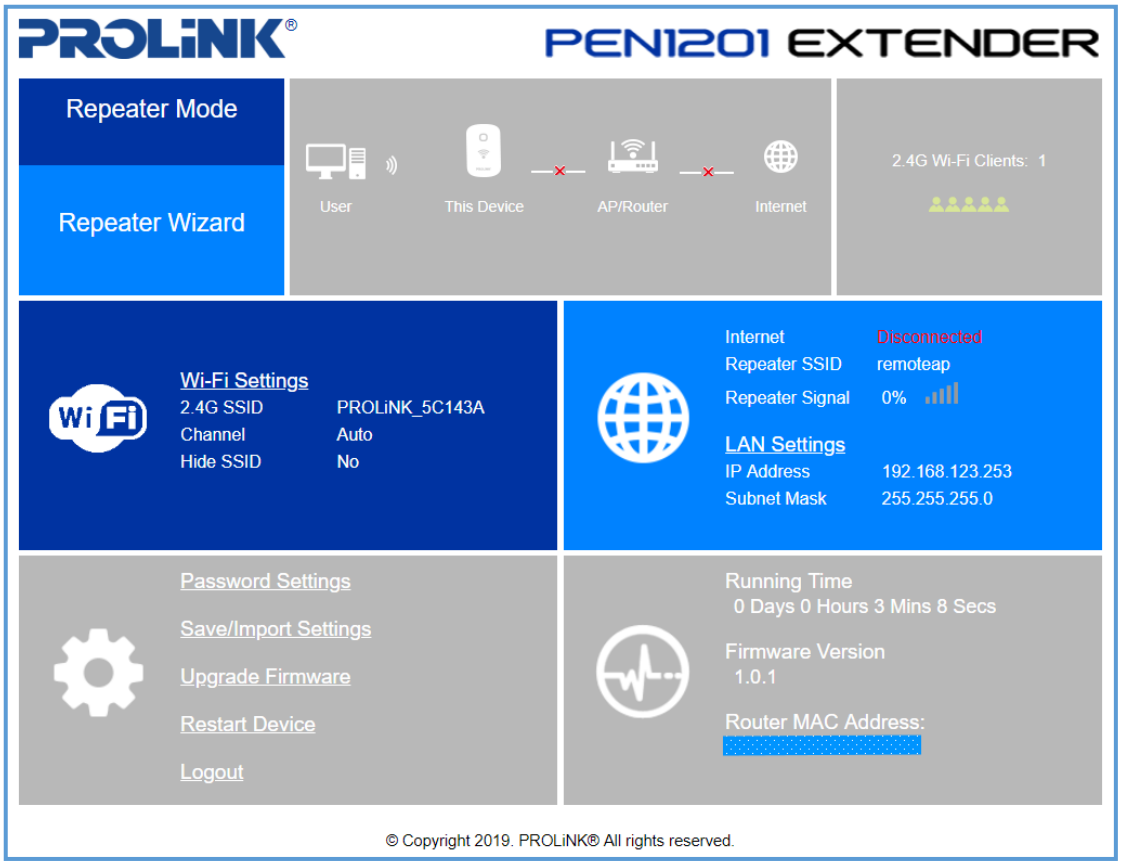
PEN1201 is equipped with Web-based Utility configuration specially design for Desktop and also for Mobile Phone. If you have previously changed or set the PEN1201 as any mode with different Wi-Fi SSID and password, please do connect based on the last set configuration

Log-in to PEN1201 Web Interface through PC / Laptop

1. Launch an Internet Browser and access http://pen1201.setup/ or http://192.168.123.253.
2. Key in Username as **admin** and password as **password**



3. After Successfully login, it will show the current Operation Mode. By default the PEN1201 is set in Repeater Mode.



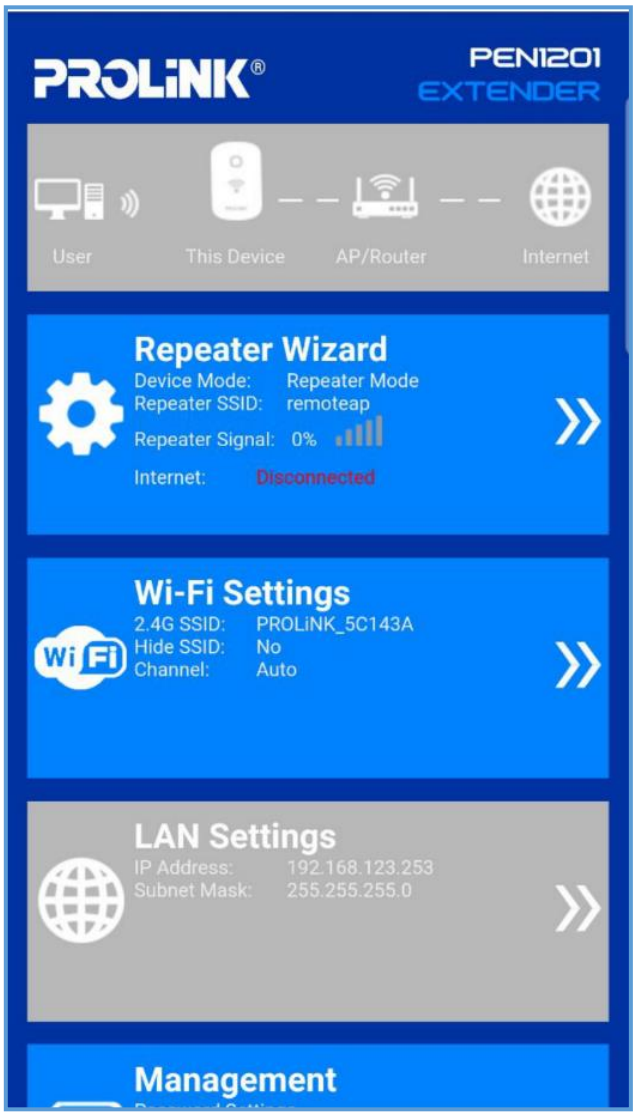
Log-in to PEN1201 Web Interface through Mobile Phone

PROLiNK PEN1201 configuration can also be set through Android / IOS Web Browser.

The following steps is to enter the Mobile Web Configuration in mobile web browser. By default, PEN1201 Wi-Fi SSID is "**PROLiNK_XXXXXX**" and the default Wi-Fi password is "**password12345**". This information can also be found at Product Label. If you have previously changed or set the PEN1201 as any mode with different Wi-Fi SSID and password, please do connect based on the last set configuration.

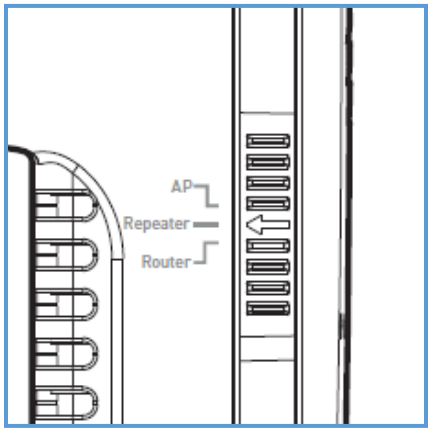
1. Open the web browser either using Chrome, Firefox or Safari. In the address bar, enter http://pen1201.setup or http://192.168.123.253

2. After Login, it will show the **Home Page**. By Default, the PEN1201 is set in Repeater Mode


PROLiNK®
PEN1201
EXTENDER
User
This Device
AP/Router
Internet
Repeater Wizard
Device Mode: Repeater Mode
Repeater SSID: remoteap
Repeater Signal: 0%
Internet: Disconnected
Wi-Fi Settings
2.4G SSID: PROLiNK_5C143A
Hide SSID: No
Channel: Auto
LAN Settings
IP Address: 192.168.123.253
Subnet Mask: 255.255.255.0
Management

3.3 Setup Wizard

PROLiNK PEN1201 comes with three operation mode available for user to choose based on preference and network infrastructure. Supported Operation Modes: Repeater Mode, Router Mode and Access Point (AP) Mode. It is recommended to first ensure Operation Mode Switch is switched to desired mode before turning the unit on and start to configure. By default, PROLiNK PEN1201 is set to Repeater Mode.



Repeater Wizard

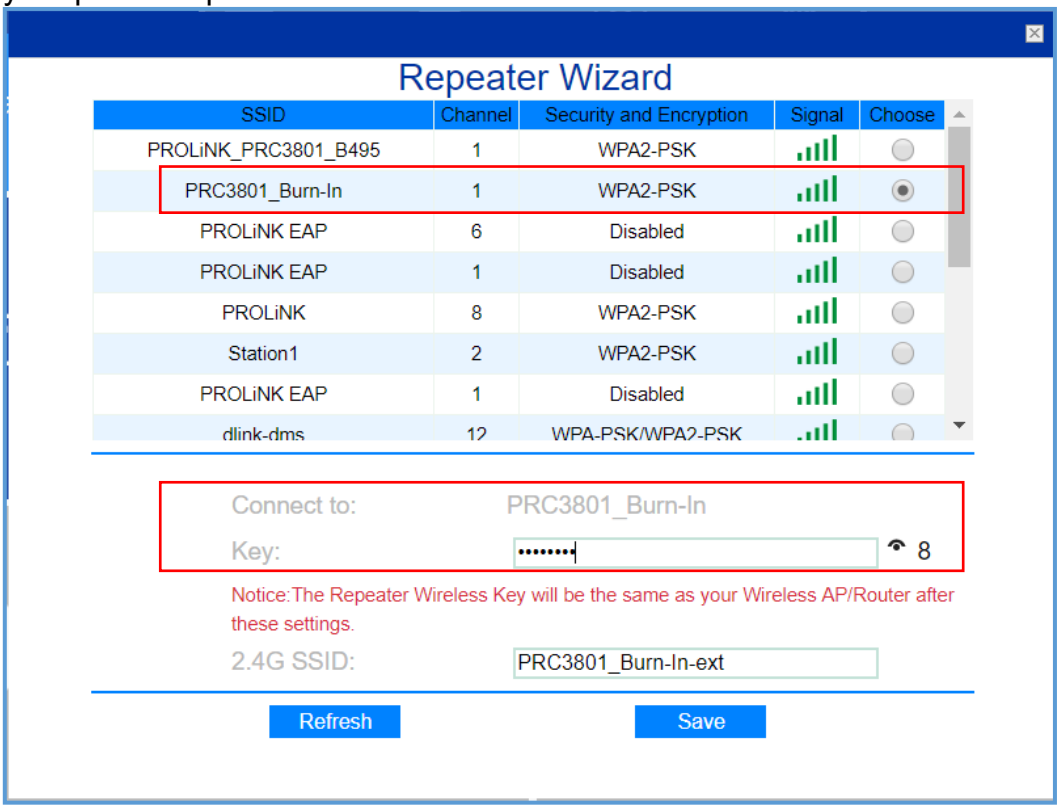
1. After setting the **Operation Mode Switch** to **Repeater mode** , followed by logging into http://pen1201.setup or http://192.168.123.253. It will show that it is in Repeater Mode. Click Repeater Wizard to start the setup.

2. Select **your main router Wi-Fi SSID** and **key in the Wi-Fi password**.

   [Optional] Click "**Refresh**" to scan the host network again if your main router Wi-Fi SSID is not in the list.

NOTE:

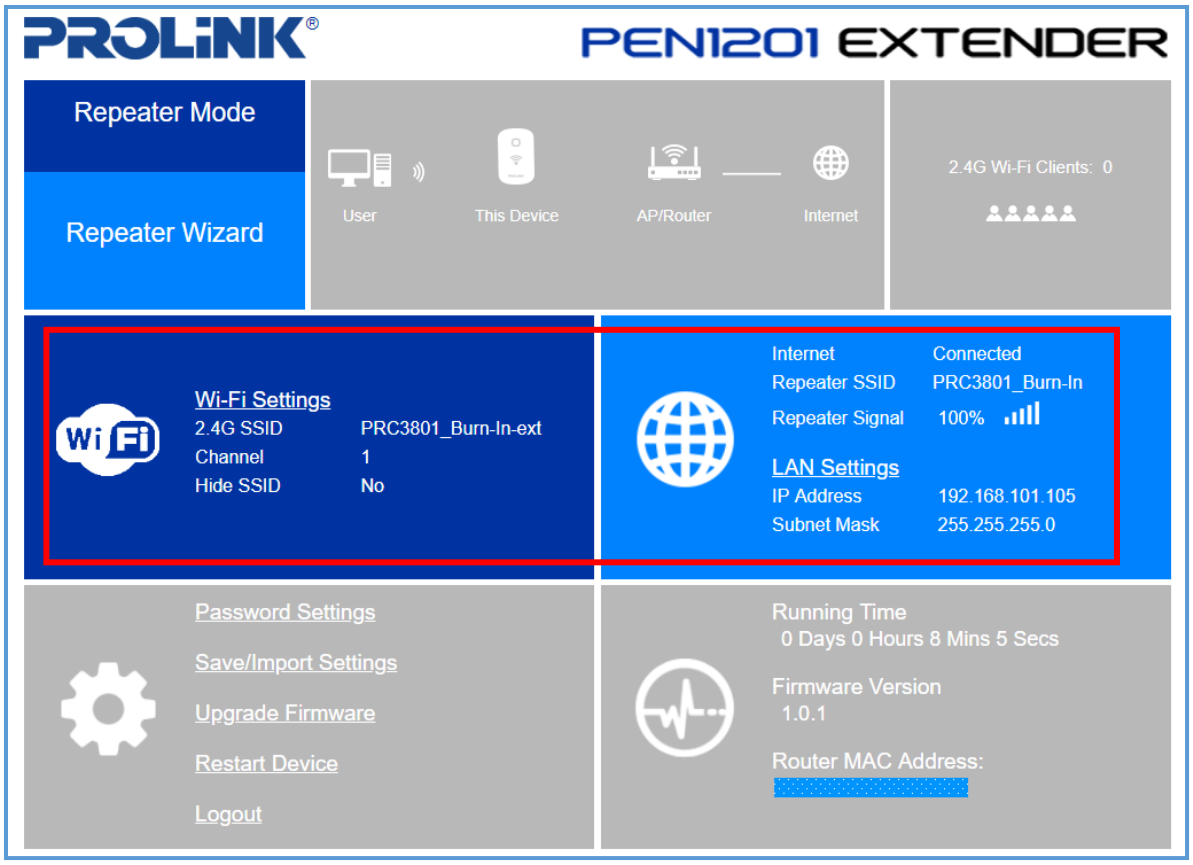
a. The PEN1201 new SSID will be auto set to follow the selected **main router Wi-Fi SSID** with additional suffix "**-ext**" as a differentiator. Change this value according to your personal preference.



b. The **PEN1201 new SSID's Wireless Password** (Wireless Key) will be the same as the selected **main router Wi-Fi SSID**.

3. Click **Save** to proceed, the PEN1201 will auto reboot. After approximately 60 seconds, you can now connect to new Repeater SSID (**your_Main_Router_SSID-ext**) with **your_Main_Router_Wi-Fi Password** to connect.

   Note: After Setup, to access PEN1201 web interface, please connect to PEN1201's set SSID and enter http://pen1201.setup at your Internet Browser Address bar..

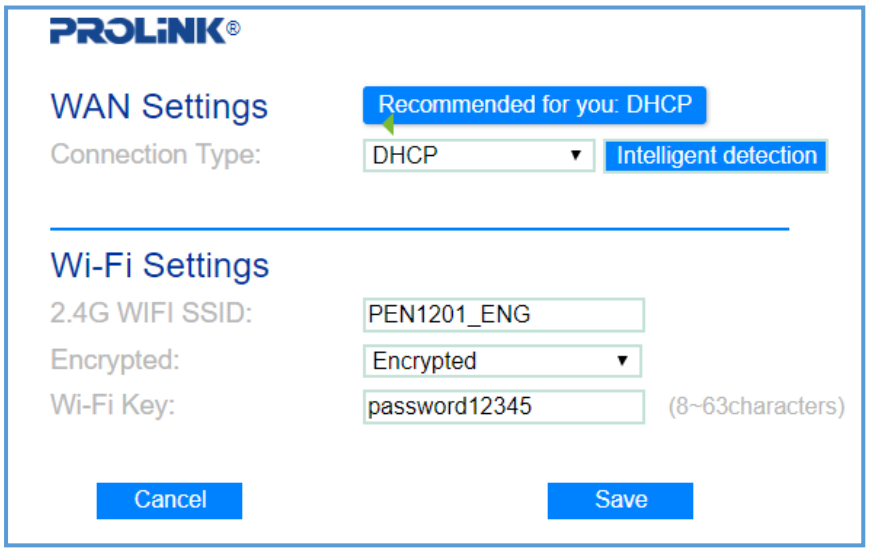


Router Wizard

1. Set **Operation Mode Switch** to **Router**. PEN1201 page will show the PEN1201 is in Router Mode. Click "**Router Wizard**" to start the setup

2. Connect Main/host network to WAN port. You may select "**Intelligent Detection**" for auto ISP connection detection, alternatively you can choose your preferred Connection Type. The available option is DHCP, PPPoE and Static IP Address.

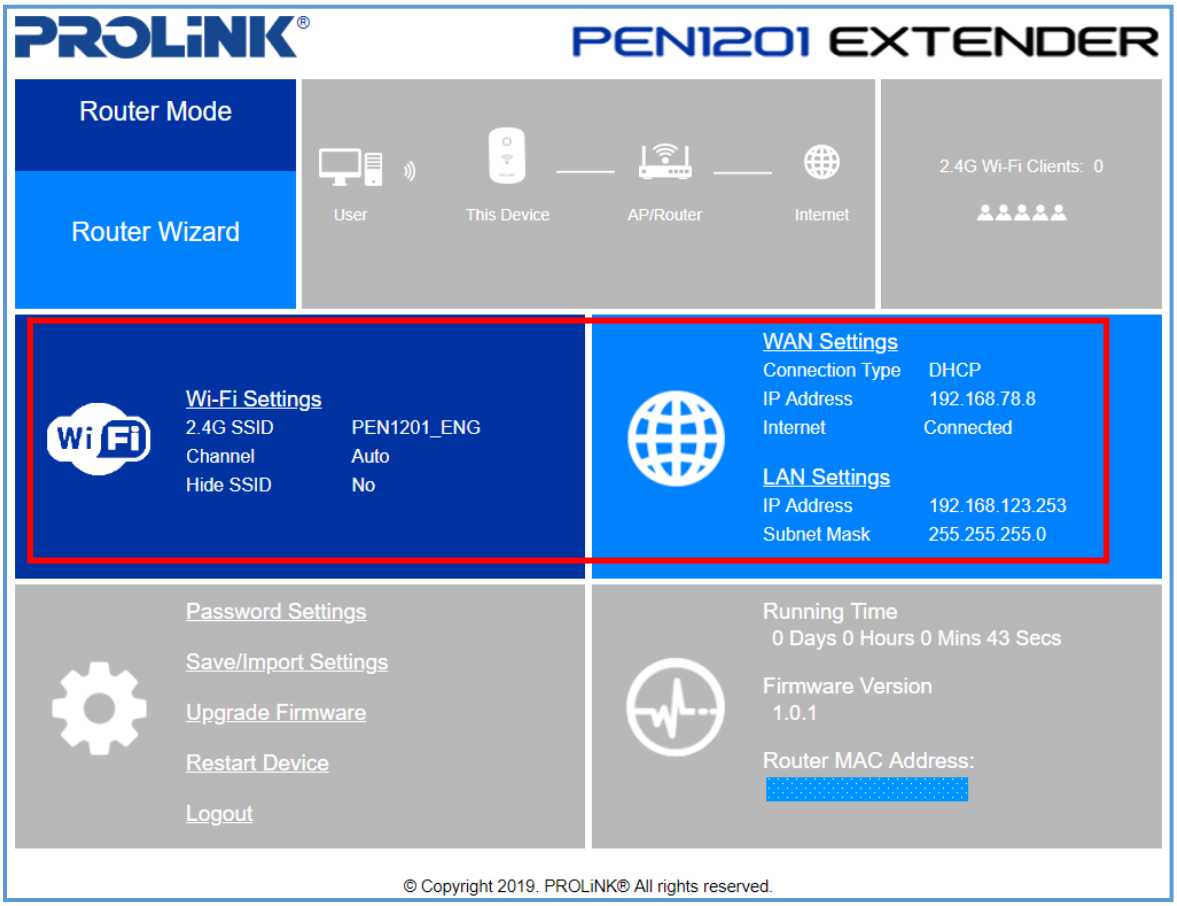
   Note: Please do remember to set your preferred 2.4GHz **Wi-Fi SSID** and **Wi-Fi Password** under **Wi-Fi Settings** before clicking **Save** to proceed**.**



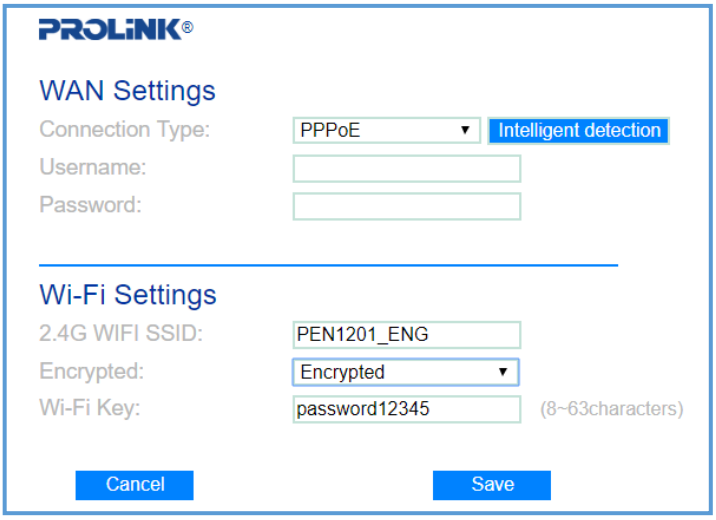
3. Enter WAN Connection detail base on your step 2 selection.

Note: After Setup, to access PEN1201 web interface, please connect to PEN1201's set SSID and enter http://pen1201.setup at your Internet Browser Address bar.

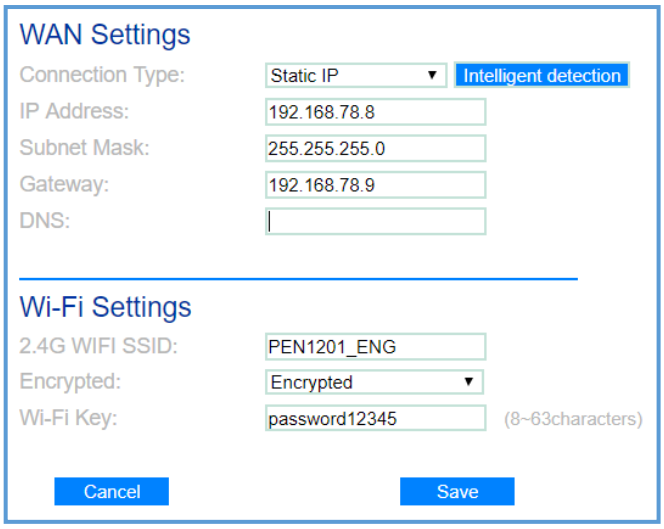
a) **DHCP** – If your Internet connection subscription from ISP is DHCP, set your preferred **2.4GHz Wi-Fi SSID** and **Wi-Fi Password** and proceed to click **Save**. After the configuration is saved, the device will reboot and when you go back to http://pen1201.setup, it will show Internet status connected.

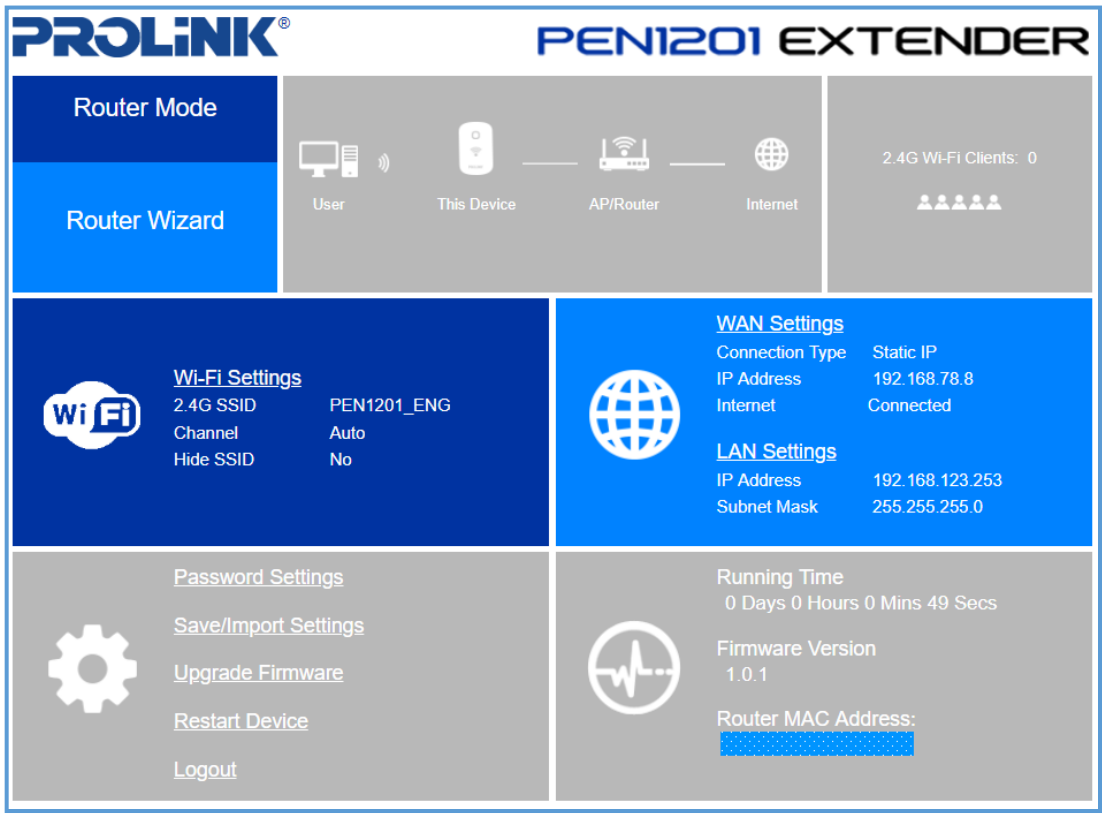


b) **PPPoE** – Enter the **Username** and **Password** provided by the ISP. If the PPPoE username and password is incorrect, the PEN1201 interface will show disconnected. Set your preferred **2.4GHz Wi-Fi SSID** and **Wi-Fi Password** and proceed to click **Save.**



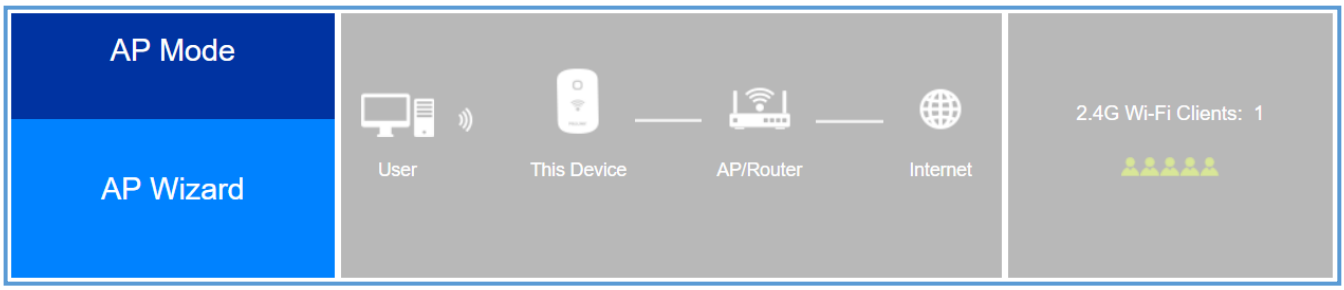
c) **Static IP Address** – Enter the **IP Address**, **Subnet Mask**, **Default Gateway**, **Primary DNS Address** based on information provided by ISP. Set your preferred **2.4GHz Wi-Fi SSID** and **Wi-Fi Password** and proceed to click **Save**.



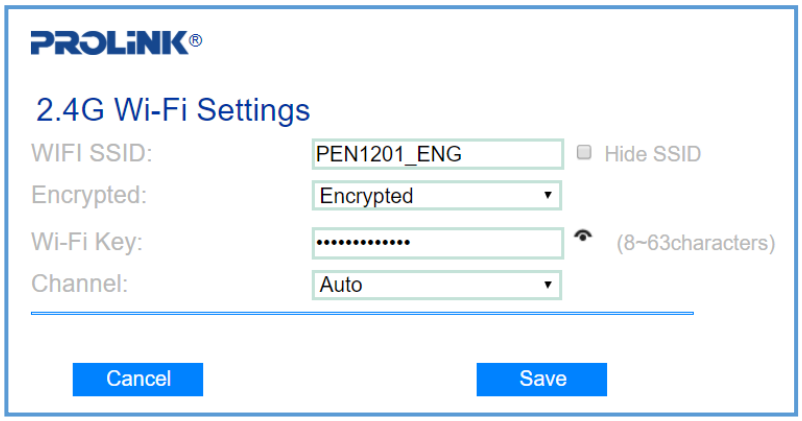


Access Point (AP) Wizard

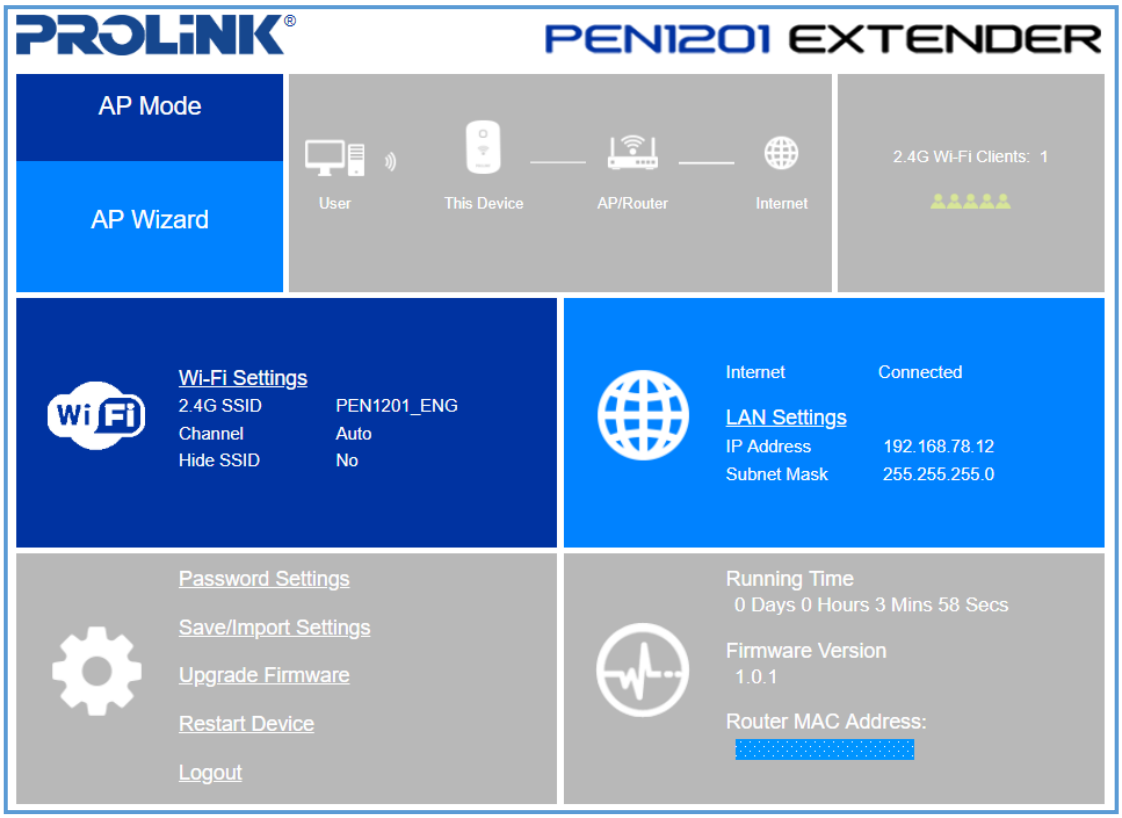
1. Set **Operation Mode Switch** to AP. Proceed to click **AP Wizard** after logging into http://pen1201.setup to start the setup



2. Make sure that the **Internet source** is connected to **PEN1201 WAN port**. Set your preferred **Wi-Fi SSID** and **Wi-Fi Password**. Set the **Channel** to **Auto**, or to any of the desired Wi-Fi Channel number. Click **Save** to proceed, it will reboot the PEN1201 and in approximately 60 seconds; you can now connect wirelessly to the ***newly set SSID*** *and* ***password***.



3. The homepage of the AP shows the status of the internet connection. It it disconnected, please check your Host/Main Router connection or contact your ISP regarding the internet connection.



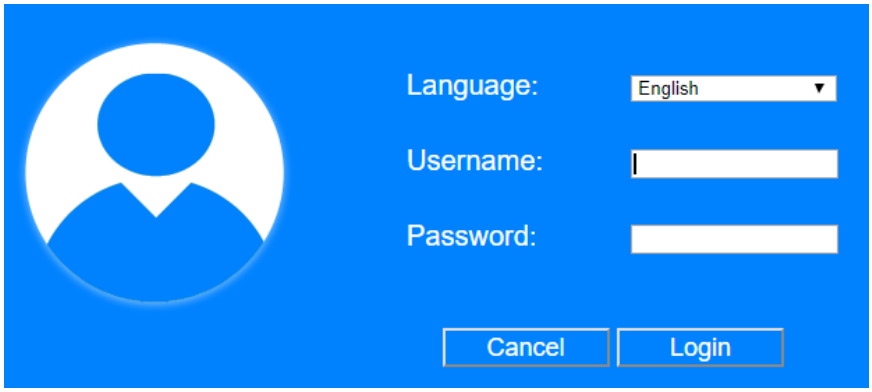
Note: After Setup, to access PEN1201 web interface, please connect to PEN1201's set SSID and enter http://pen1201.setup at your Internet Browser Address bar.

4 Web User Interface (UI) Configuration

This chapter is about to enter the Web UI configuration page by using a web browser on desktop or mobile phone. You may access the Web Interface via **http://pen1201.setup** or http://192.168.123.253 .

Please note that '192.168.123.253' is a default IP Address of the PEN1201 and it will change after you have completed your setup wizard (Repeater mode / AP mode / Router mode)

Enter the default GUI **username** and **password (username: admin, password: password)**.

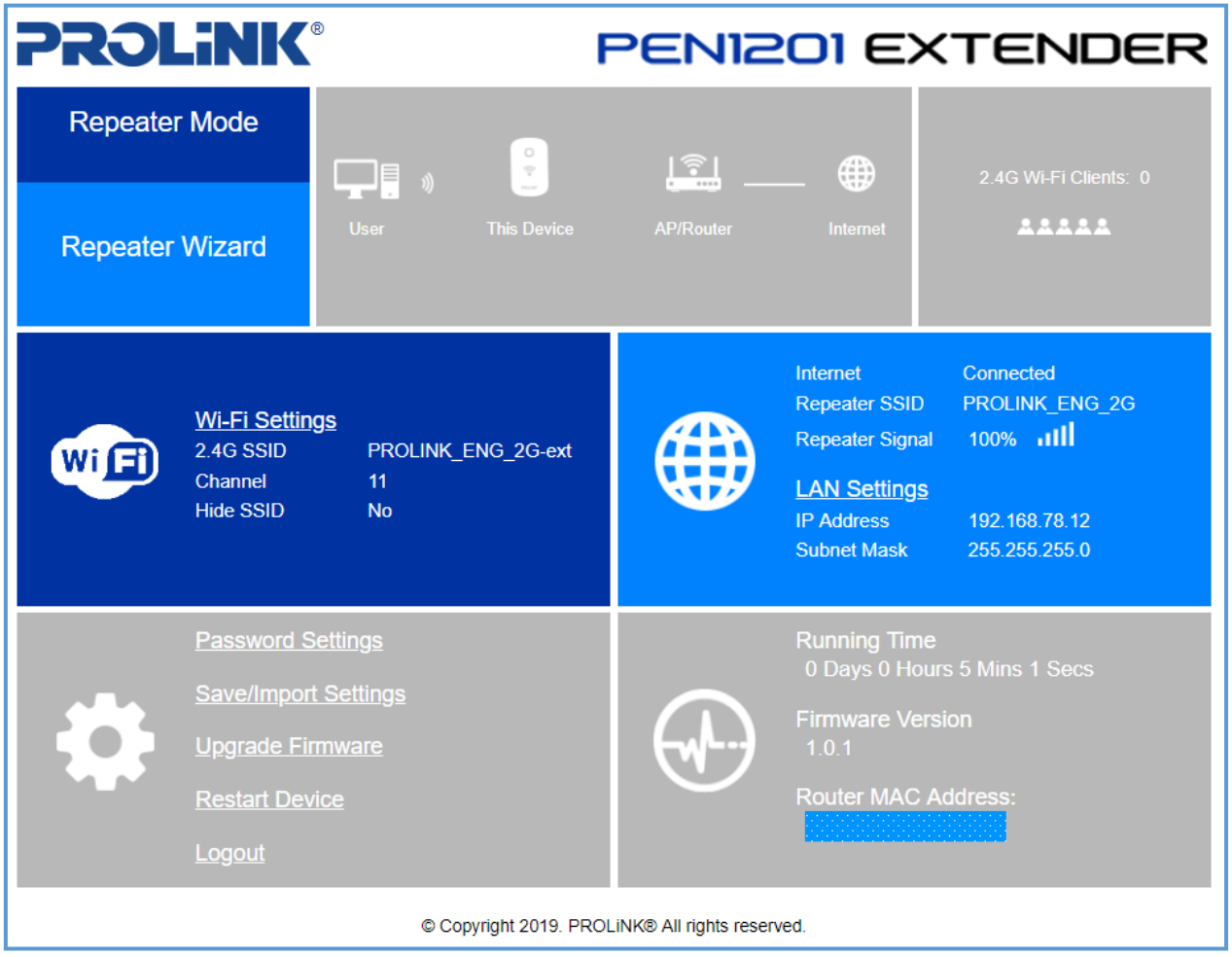


If you forgot the password, factory reset the PEN1201 by **press** and **hold the Reset button** for 10 seconds. Reset button is located at the side of the unit.

The First page shows up after login successfully is a Home Page. The home page displays the current status of the network connection status, Mode selected, Mode Wizard, Wi-Fi Clients, Wi-Fi Setting, Device Firmware Status and Device management. Each option has its configuration to configure manually.

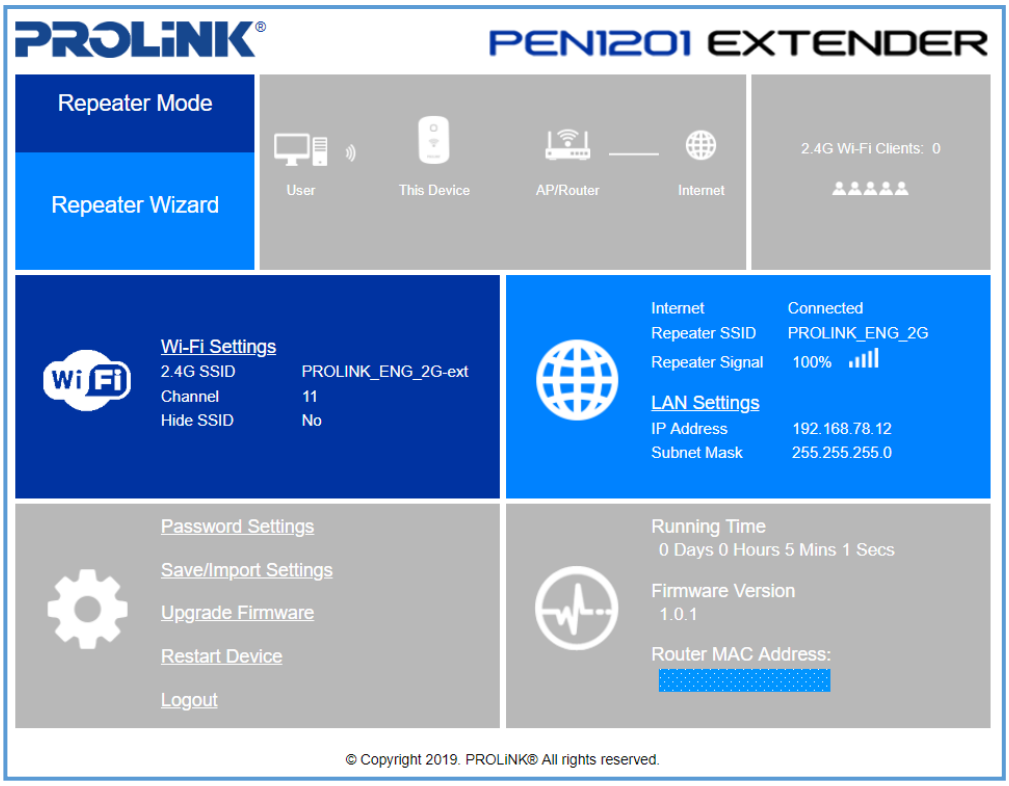
4.1 Home Page

For PEN1201, it has three different homepages as it has three different operation modes, which is Homepage Repeater, Homepage Router, and Homepage Access Point (AP). In this chapter, it will explain all the available option for each operation mode.



Home Page – Repeater

By default, PEN1201 Operation Mode Switch is set to Repeater. Shown below is the Home Page after successfully login to http://pen1201.setup in repeater mode.

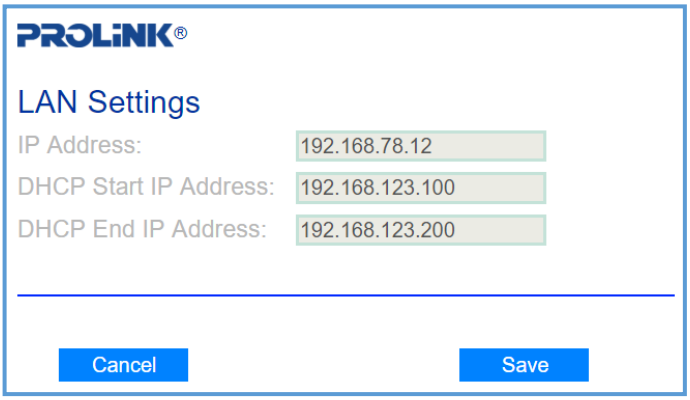


Repeater Wizard

Repeater wizard is the software design to help the user how to setup the repeater quickly. It will help to find which connection need to extend, and it will help to save the setting and reboot the router automatically. The detail setup can be found at **Repeater Wizard** page.

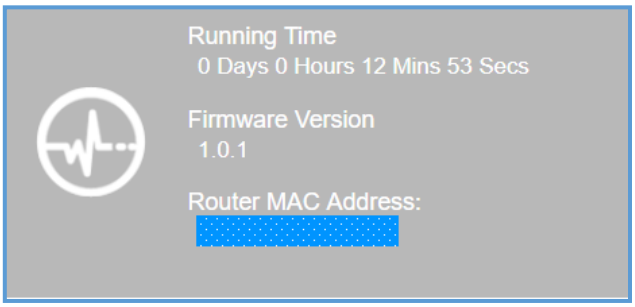
Internet Status and LAN Setting

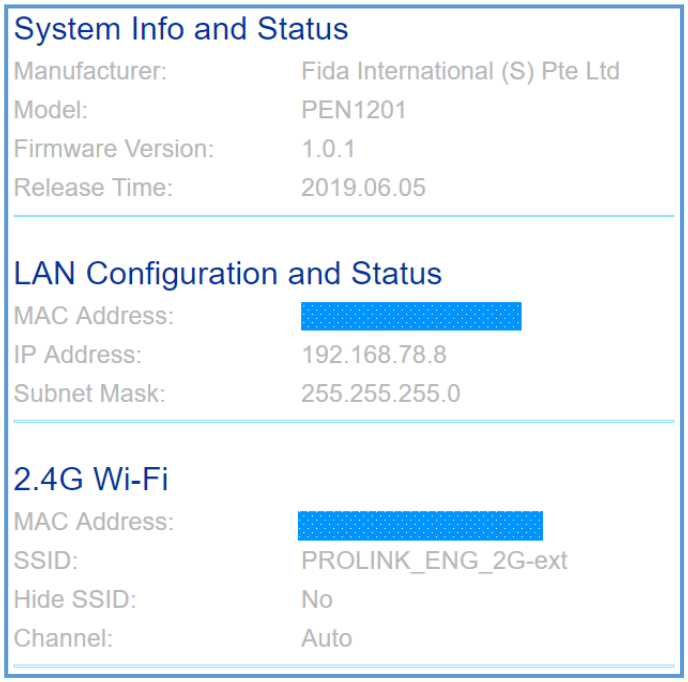
On this panel, it will show the device internet status. In repeater mode, it will show the status of internet connectivity, Repeater SSID (Host Wi-Fi name) and the signal between Host Wi-Fi to the Extender PEN1201. Click on LAN Setting to set the DHCP Start IP Address and DHCP End IP Address.



Extender PEN1201 ICON Status

On PEN1201 Status panel, it shows the details of the device about running time from last turn off or restart, Latest Update Firmware Version install and the MAC address of the Extender PEN120. Click the icon, it shows the System Info and Status, LAN Configuration and 2.4G Wi-Fi status





Home Page – Router

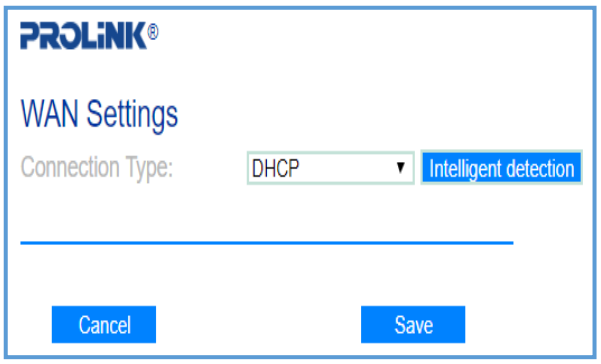
By changing the switch mode to Router, it changes the PEN1201 Operation mode to Router Mode. Shows is the Home Page after successfully login in Router Mode.

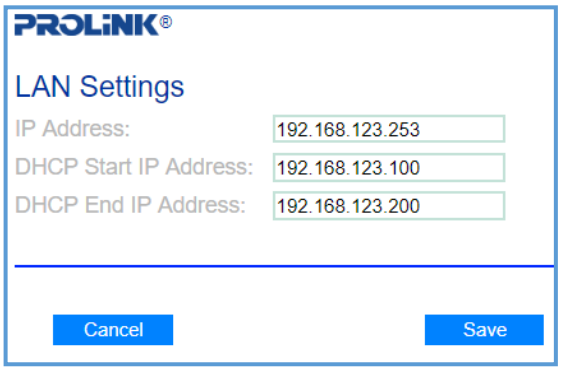
Router Wizard

Router wizard is the software design to help the user how to setup the router quickly. It will help to find which connection need to configure depends on your ISP subscription, and it will help to save the setting and reboot the router automatically. The details explanation can be found at **Router Wizard** page.

WAN Setting and LAN Setting

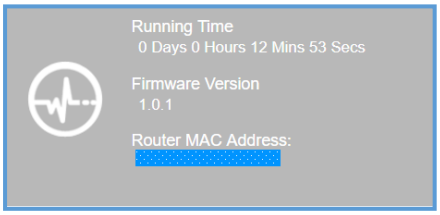
Click on WAN Setting to configure the setting manually. The option available to configure is DHCP, PPPoE and Static IP. This also can be configured by click the **Router Wizard.** Click on LAN Setting to set the DHCP Start IP Address and DHCP End IP Address. Click SAVE when done and the router will restart and back to homepage.

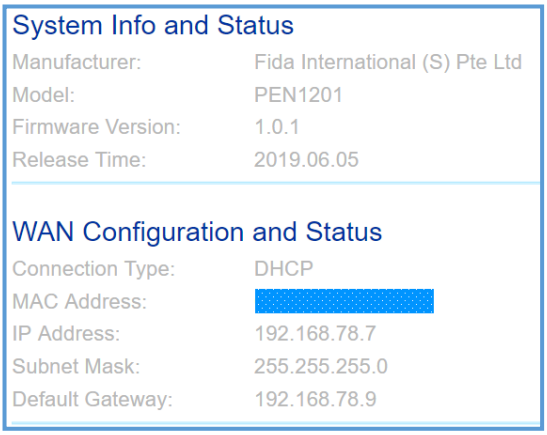


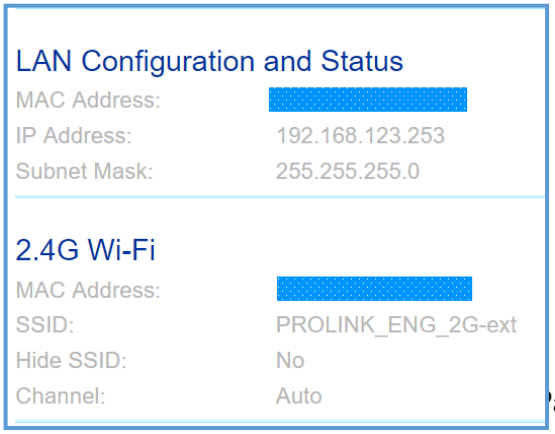


PEN1201 ICON Status

On Extender PEN1201 Status panel, it shows the details of the device about running time from last turn off or restart, Latest Update Firmware Version install and the MAC address of the Extender PEN1201. Click on the icon it shows System Info and Status, LAN Configuration and Status, and 2.4H Wi-Fi details.







Home Page – Access Point

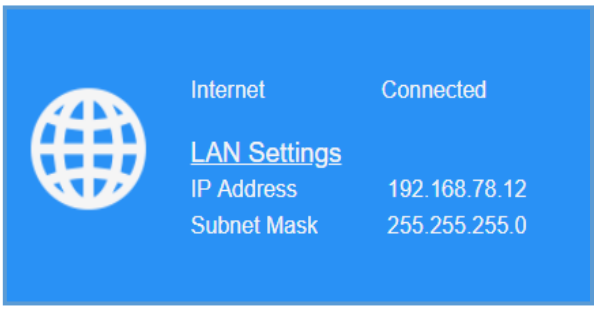
By changing the Operation Mode Switch to AP, it changes the PEN1201 Operation mode to Access Point Mode. Shows is the Home Page after successfully login in AP Mode.

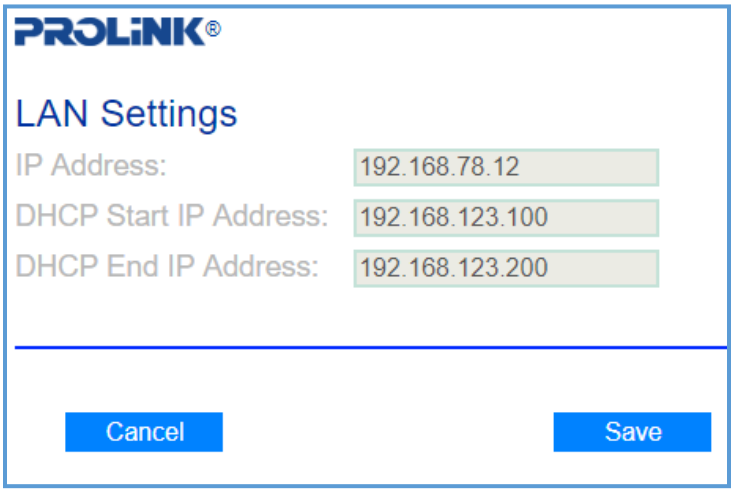
AP Wizard

Router wizard is the software design to help the user how to setup the router quickly. It will help to find which connection need to configure depends on your ISP subscription, and it will help to save the setting and reboot the router automatically. The details explanation can be found at **Access Point (AP) Wizard** page.

Internet and LAN Setting

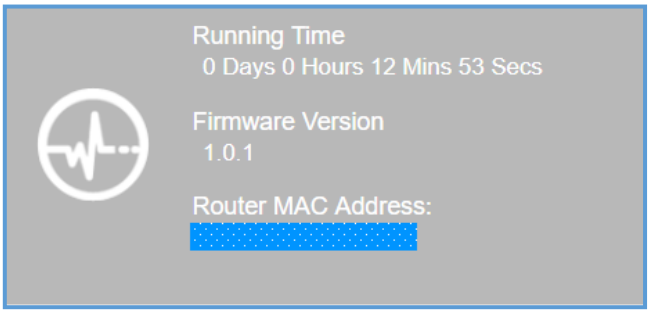
This panel shows the status of the internet whether its connected or disconnected. Click on LAN Setting to see the details of IP Address, DHCP start and end IP Address.

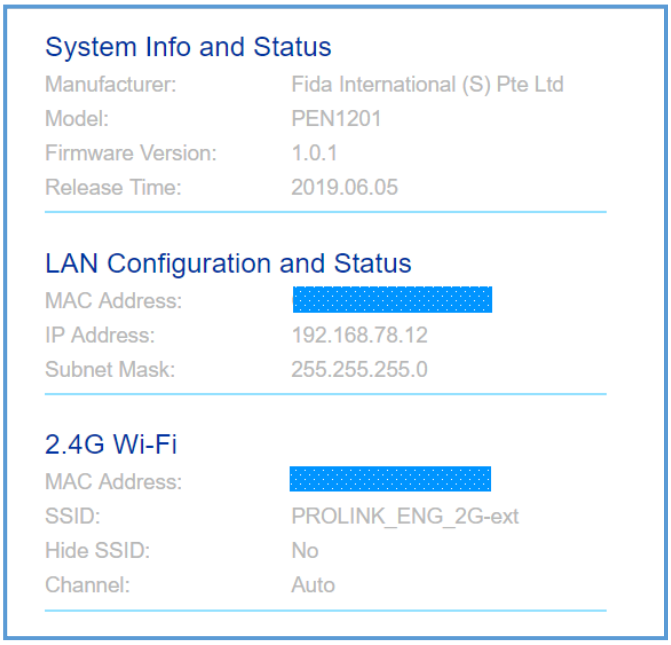




Extender PEN1201 Status

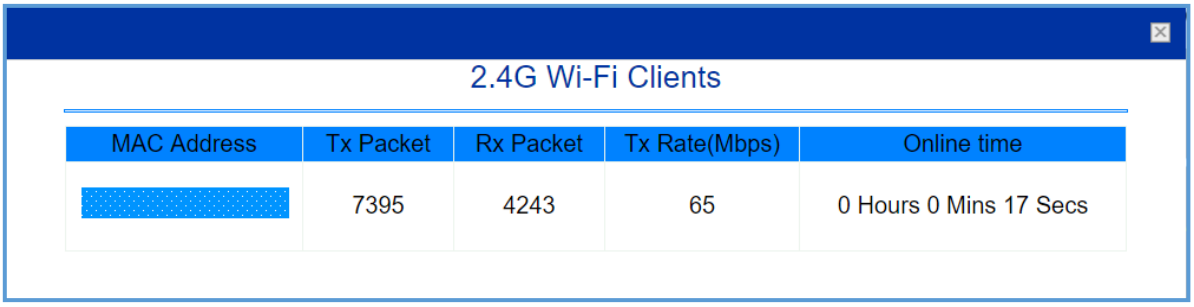
On Extender PEN1201 Status panel, it shows the details of the device about running time from last turn off or restart, Latest Update Firmware Version install and the MAC address of the Extender PEN1201





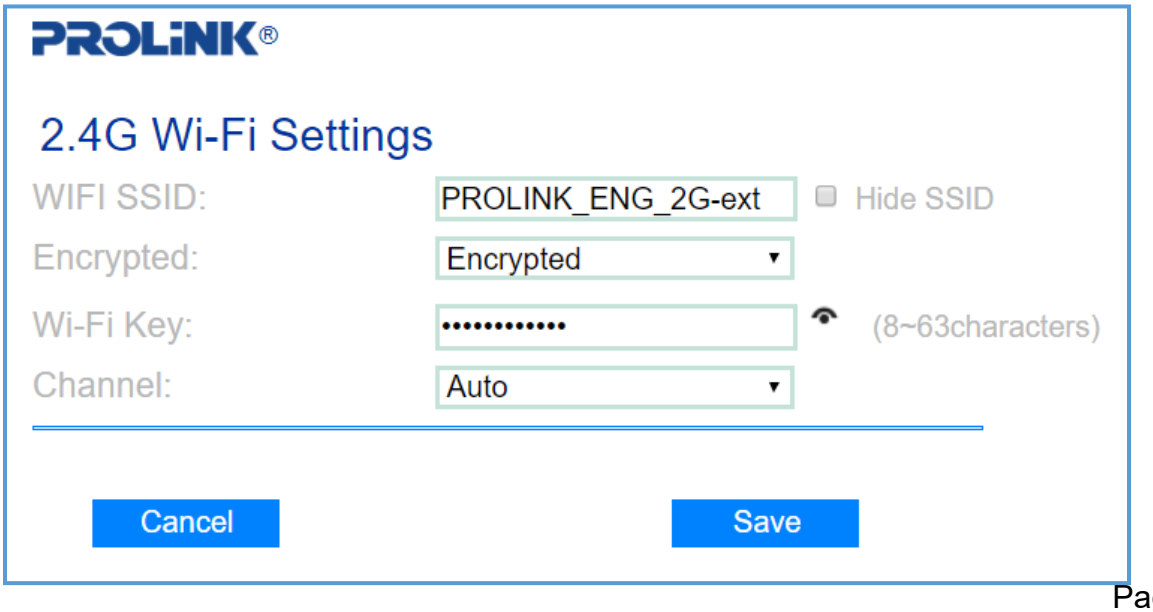
4.2 2.4G Wi-Fi Clients

Click on the client's **2.4G Wi-Fi Clients** to display the list of the connected client to the Extender PEN1201. The status of a client is categories into 5 sections which is, MAC Address of the device connected, Tx Packet (Transmit), Rx Packet (Receive), Tx Rate (Mbps) and it also shows Online Time (Client Active Time)



4.3 Wi-Fi Setting

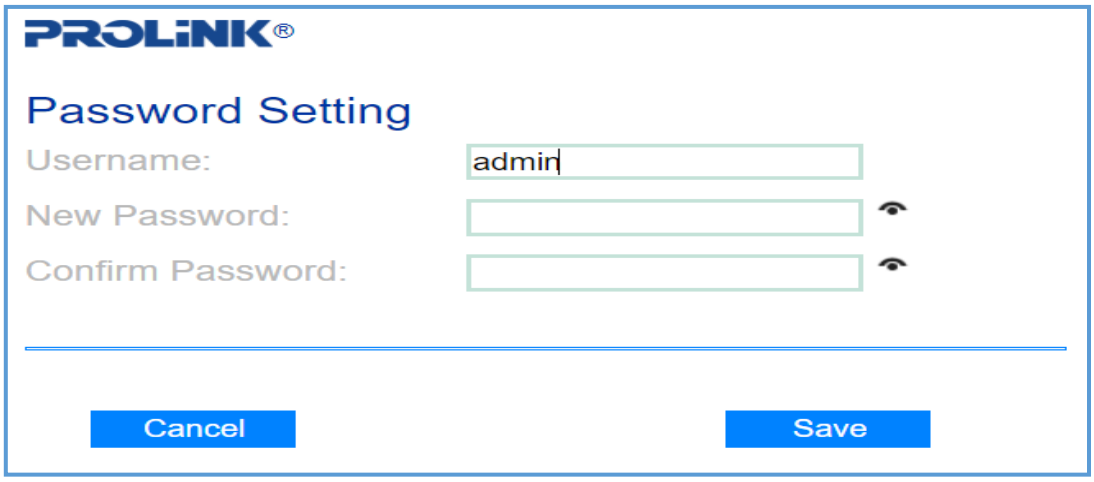
Click on **Wi-Fi Setting**, to display the 2.4G Wi-Fi setting set to the Extender PEN1201. The option available to configure is Wi-Fi SSID to change Wi-Fi broadcast name, using encrypted password, Manually change Wi-Fi Key or password (recommended for better security to change password consist of Capital and Small Letters, symbol and Number) and Wi-Fi Channel (Recommended to use auto channel where's it will select the best channel available).



4.4 Setting Management

Password Setting

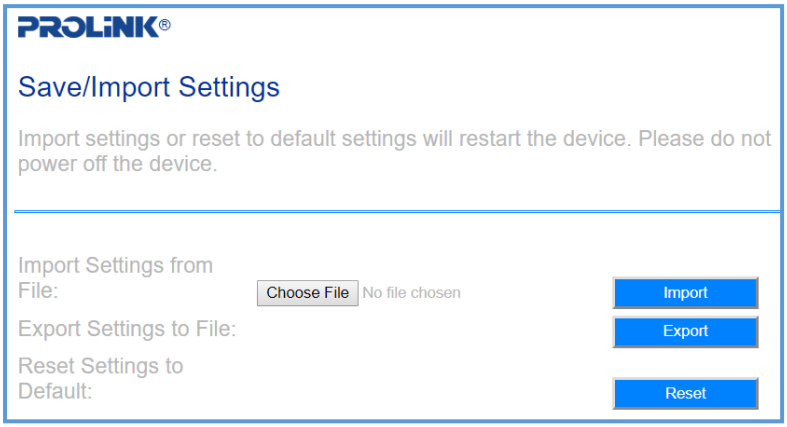
In this page, you will be able to set new Web Interface login username and password. Fill in the fields and click **Save** for new changes to take effect.



Save/Import Settings

In this page, you will be able to back-up the current PEN1201 configuration / to load backed up configuration onto the repeater / to reset the PEN1201 to factory default settings.

- To back-up the current PEN1201, click **Export**.
- To load previously backed-up PEN1201 settings, click **Choose File** > *point to the previous configuration file* > click **Import**
- To restore PEN1201 to factory settings, click **Reset**

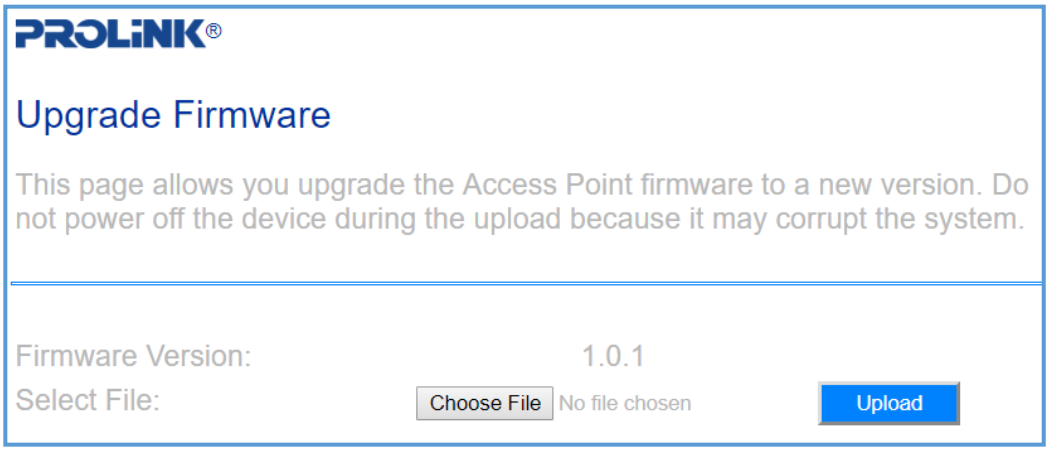


Upgrade Firmware

Click on Upgrade Firmware to upgrade Extender PEN1201 firmware to new version.

To Upgrade Firmware, click **Choose File** > *point to the provided firmware file* > click **Upload**

Note: DO NOT Disconnect or power off the PEN1201 during the upgrade as it will become corrupted and unusable.



Restart Device

Click **Restart Device** to reboot the PEN1201. It will take about a 60 second to finish up the booting process.

Logout

Click to logout from the PEN1201 Web Interface

5 Technical Specification

SPECIFICATIONS	
Hardware	
Interface	2x 10/100Mbps WAN/LAN ports 1x WPS/Pairing button 1x Operation Mode Switch 1x Power On/Off Switch 1x Reset Button
LED	1x Wi-Fi Signal and Status
Power Supply	Direct wall-plug
Rated Voltage/Frequency	Input: 100 – 240 VAC, 50/60Hz. 0.3A
Dimensions	99mm x 60mm x 70mm
Wireless	
Wireless Standards	IEEE 802.11b/g/n
Wireless Frequency Band	2.4GHz Wireless-N
Wireless Link Rate	Up to 300Mbps at 2.4GHz Wireless-N
Wireless Antenna	2x Internal 3dBi Antenna
Wireless Security	WPA2-PSK encryption
Software	
WAN Connection Type	Repeater mode, AP mode, Router mode (Dynamic IP, Static IP, PPPoE)
DHCP Setting	DHCP Server, DHCP Client
Environmental	
Operating Temperature	0°C ~ 40°C
Storage Temperature	-10°C ~ 70°C
Relative Humidity (Operational)	10% ~ 90%, non-condensing
Relative Humidity (Storage)	10% ~ 90%, non-condensing

Note: Product Specifications may change without prior notice

6 Frequently Asked Questions

1. How to set the PEN1201 as a Repeater / Extender

   Ans. Refer to Repeater Mode Setup, followed by Repeater Wizard

2. How do I set the PEN1201 as an AP (Access Point)

   Ans. Refer to AP Mode Setup, followed by AP Wizard

3. How do I set the PEN1201 as a Router

   Ans. Refer to Router Mode Setup, followed by Router Wizard

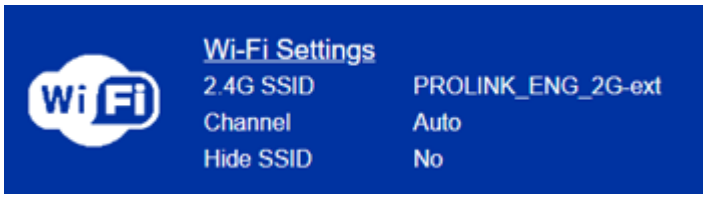
4. How do I access the PEN1201 in order to change configuration

   Ans. Connect your PC/Mobile Client to the PEN1201, after which type and go to **http://pen1201.setup** . Note: please remember to type **http://** onto your Web Browser.

5. How do I change the repeater SSID after I have successfully set it in Repeater / AP / Router mode

   Ans.

   Step1. Connect your PC/Mobile Client to the PEN1201,
   Step2. Launch a Web Browser, type **http://pen1201.setup onto the address bar**
   Step3. Login to the Web interface, Locate and click **Wi-Fi Settings** located on the left-hand side



   Step4. Set your new **Wi-Fi SSID**, **Password (WiFi Key)** and click **Save**