

User's Manual

802.11ac Dual Band Wall Plug Wi-Fi Range Extender

▶ WRE-1200




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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device,  pursuant to Part 15 of 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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
3. Plug the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

FCC Caution:

To assure continued compliance, for example, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal equipment and the mutual recognition of their conformity (R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) as of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

National Restrictions

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC) without any limitation except for the countries mentioned below:

Country	Restriction	Reason/Remarks
Bulgaria	None	General authorization required for outdoor use and public service.
France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radio location use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow the current relaxed regulation. Full implementation was planned in 2012.
Italy	None	If used outside of own premises, general authorization is required.
Luxembourg	None	General authorization is required for network and service supply (not for spectrum).
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund.
Russian Federation	None	Only for indoor applications

WEEE Regulations



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste; WEEE should be collected separately.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For operation within 5.15~5.25GHz frequency range, it is restricted to indoor environment.

Revision

User's Manual of 1200Mbps 802.11ac Dual Band Wall Plug Wi-Fi Range Extender

Model: WRE-1200

Rev: 1.0 (January, 2016)

Part No. EM-WRE-1200

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Chapter 1. Product Introduction

1.1 Package Contents

Thank you for choosing PLANET WRE-1200. Before installing the AP, please verify the contents inside the package box.

WRE-1200



Quick Guide

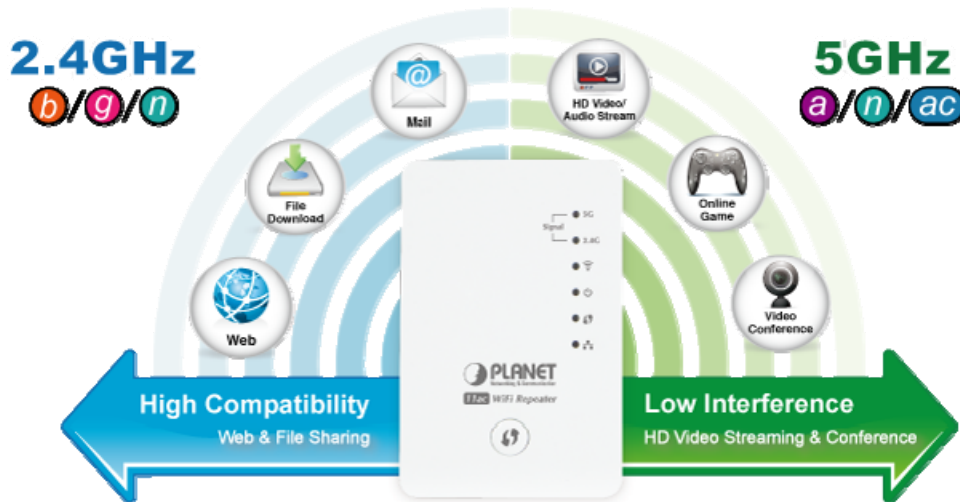


If there is any item missing or damaged, please contact the seller immediately.

1.2 Product Description

Concurrent Dual Band and 11AC Wireless Range Extension

PLANET WRE-1200, an **11ac** Dual-band Wi-Fi Range Extender with universal wall plug design, is case-shaped, thus making it easy to install and connect to your router wirelessly. The WRE-1200 supports **Gigabit** Ethernet connectivity and conforms to IEEE 802.11a/b/g/n/ac dual band standard technology; therefore, it can provide a wireless speed of up to **300 + 867Mbps** which is 16x faster than the 11a access point at 5GHz frequency and 5.5x faster than the 11g access point at 2.4GHz frequency. With the **concurrent dual-band** Wi-Fi transmission capability, the WRE-1200 is more flexible than the traditional repeater that only utilizes single band for range extension in that it can quickly and easily extend high-speed 11ac 5GHz and 11n 2.4GHz wireless networks simultaneously.



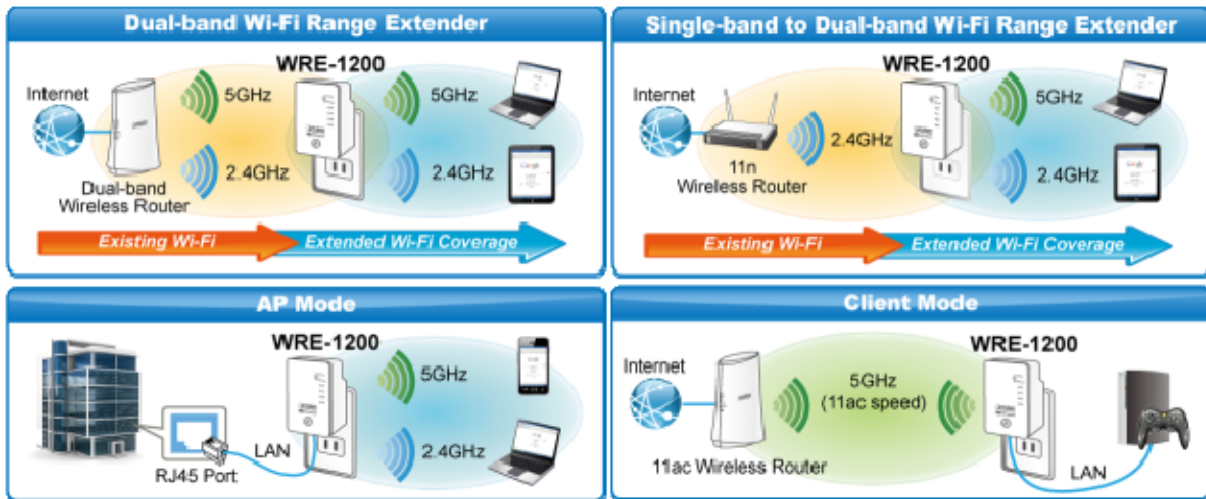
Eliminating Dead Zones and Doubling Wi-Fi Coverage

With the WRE-1200, Wi-Fi coverage can be doubled to the point where dead zones can be eliminated. Plug the WRE-1200 directly into an electrical outlet and double the signal coverage of your Wi-Fi network for better Wi-Fi quality across different rooms or multiple floors in your home.



More Flexibility and Mobility

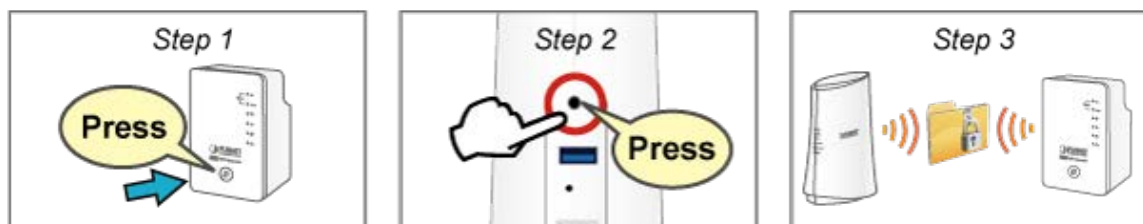
The WRE-1200 can operate in various applications with the hardware mode DIP switch including **AP**, **Repeater** or **Client**, which helps to immediately set up a wireless network without software configuration. With various operation modes, it can be quickly deployed in any place without good wireless signal. Furthermore, it can extend the existing wireless network coverage by utilizing the dual frequency bands, which not only strengthen the Wi-Fi signal but also increase the efficiency of 11ac high speed at farther distance, thus providing better actual user experience.



One-touch Secure Wi-Fi Extension

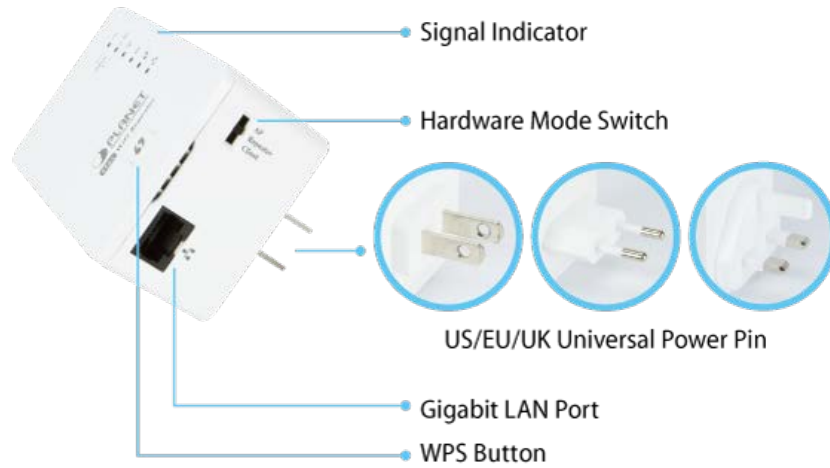
In order to simplify security settings for home and SOHO network, the WRE-1200 supports **Wi-Fi Protected Setup (WPS)**. Just push the WPS button and the secure connection between the WRE-1200 and the existing wireless router can be built immediately, offering users a convenient and fast method to construct a secure wireless network.

One-touch Wi-Fi Range Extension



Easy to Set Up with Compact Wall-Plug Design

Designed in the shape of a wall plug, the WRE-1200 is easily plugged into a wall outlet for wireless access in any place. With its brick-sized, integral male plug (Type of power pin required), the WRE-1200 takes the modern form factor that makes it easy to blend into any interior design.



Smart Signal-Strength Indicator

By observing the smart signal indicator, user can check the current signal strength and optimize the wireless performance with the WRE-1200, thus making your home entertainment devices wirelessly operational with ease.



Wireless Range Extender for Homes

The WRE-1200 is the characterization of wall-plug design and advanced 2T2R MIMO technology which reduces the effect of dead spot, so that it can get better coverage of the existing wireless network. The Repeater modes supported by the WRE-1200 help to minimize the effort of installation and cabling cost.

1.3 Product Features

- **IEEE Compliant Wireless LAN & Wired LAN**
 - Compliant with IEEE 802.11a/b/g/n/ac dual-band (2.4G & 5G) wireless technology capable of having a data rate of up to 300+867Mbps
 - Equipped with 10/100/1000Mbps RJ45 port for LAN, auto MDI/MDI-X supported
- **Wireless Network Range Extender**
 - Multiple Wireless Modes: AP, Client and Universal Repeater
 - Supports concurrent dual band range extension
 - Supports WMM (Wi-Fi Multimedia), wireless QoS
 - Supports wireless roaming that enables clients seamlessly handover between APs.
- **Secure Network Connection**
 - Supports Wi-Fi Protected Setup (WPS)
 - Advanced security: 64-/128-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK (TKIP/AES encryption)
 - Supports MAC address filtering
- **Easy Installation & Management**
 - Web-based UI and Quick Setup Wizard for easy configuration
 - System status monitoring includes DHCP Client and System Log
- **Flexible Usage & Compact Design**
 - Portable and wall-plug design
 - Hardware switchable operation modes: AP, Repeater, Client
 - Easy sync by one-touch Wi-Fi Protected Setup (WPS)

1.4 Product Specifications

Product	WRE-1200 1200Mbps 802.11ac Dual Band Wall Plug Wi-Fi Range Extender	
Hardware Specifications		
Interface	LAN/WAN:	1 x 10/100/1000 Mbps auto MDI/MDI-X RJ45 port
Antenna	Gain:	2.4GHz: 2 x 2dBi internal antenna 5GHz: 2 x 4dBi internal antenna
Button/Switch	Mode Selection Switch (AP/Repeater/Client) WPS/Reset Button *Press for about 3~10 seconds for WPS settings and over 30 seconds to reset to factory default settings	
LED Indicators	PWR, LAN, WPS, Wi-Fi signal, WLAN	
Material	Plastic	
Dimensions(WxDxH)	59 x 40 x 91mm (power plug is excluded)	
Weight	116g	
Power Requirements	Input power: 100-240V AC, 50/60Hz	
Wireless Interface Specifications		
Standard	IEEE 802.11ac (Draft 2.0) 5GHz IEEE 802.11a/n 5GHz IEEE 802.11b/g/n 2.4GHz	
Frequency Band	Simultaneous 2.4 GHz and 5 GHz	
Data Modulation	802.11b: DSSS (DBPSK/DQPSK/CCK) 802.11a/g/n: OFDM (BPSK/QPSK/16QAM/64QAM) 802.11ac: OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)	
Data Rates	802.11a: 6/9/12/24/36/48/54Mbps 802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/24/36/48/54Mbps 802.11n (20MHz): MCS0-15, up to 144Mbps 802.11n (40MHz): MCS0-15, up to 300Mbps 802.11ac (80MHz): Nss2-MCS9, up to 867Mbps	
Frequency Range	2.4GHz:	America -- FCC: 2.412~2.462GHz Europe -- ETSI: 2.412~2.484GHz
	5GHz:	America -- FCC: 5.180~5.240GHz, 5.725~5.850GHz Europe -- ETSI: 5.180~5.240GHz
Operating Channels	2.4GHz:	America -- FCC: 1~11 Europe -- ETSI: 1~13
	5GHz:	America -- FCC: 36, 40, 44, 48, 149, 153, 157, 161, 165 Europe -- ETSI: 36, 40, 44, 48 5GHz channel list will vary in different countries according to their regulations.

Channel Width	802.11n: 20/ 40MHz 802.11ac: 20/ 40/ 80MHz										
RF Power/EIRP	<table border="0"> <tr> <td>2.4GHz:</td> <td>5GHz:</td> </tr> <tr> <td>11b: 17±1.5dBm</td> <td>11a: 14±1.5dBm</td> </tr> <tr> <td>11g: 15±1.5dBm</td> <td>11n: 14±1.5dBm</td> </tr> <tr> <td>11n: 14±1.5dBm</td> <td>11ac: 12±1.5dBm</td> </tr> </table>	2.4GHz:	5GHz:	11b: 17±1.5dBm	11a: 14±1.5dBm	11g: 15±1.5dBm	11n: 14±1.5dBm	11n: 14±1.5dBm	11ac: 12±1.5dBm		
2.4GHz:	5GHz:										
11b: 17±1.5dBm	11a: 14±1.5dBm										
11g: 15±1.5dBm	11n: 14±1.5dBm										
11n: 14±1.5dBm	11ac: 12±1.5dBm										
Receive Sensitivity	<table border="0"> <tr> <td>2.4GHz</td> <td>5GHz</td> </tr> <tr> <td>11b (11Mbps): -86±2dBm</td> <td>11a: -73±2dBm</td> </tr> <tr> <td>11g (54Mbps): -72±2dBm</td> <td>11n (20M) mode: -71±2dBm</td> </tr> <tr> <td>11n (20M) mode: -71±2dBm</td> <td>11n (40M) mode: -68±2dBm</td> </tr> <tr> <td>11n (40M) mode: -69±2dBm</td> <td>11ac(80M) mode: -58±2dBm</td> </tr> </table>	2.4GHz	5GHz	11b (11Mbps): -86±2dBm	11a: -73±2dBm	11g (54Mbps): -72±2dBm	11n (20M) mode: -71±2dBm	11n (20M) mode: -71±2dBm	11n (40M) mode: -68±2dBm	11n (40M) mode: -69±2dBm	11ac(80M) mode: -58±2dBm
2.4GHz	5GHz										
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11n (20M) mode: -71±2dBm	11n (40M) mode: -68±2dBm										
11n (40M) mode: -69±2dBm	11ac(80M) mode: -58±2dBm										
Software Features											
Wireless Modes	<ul style="list-style-type: none"> ■ AP ■ Client ■ Universal Repeater 										
Encryption Security	WEP (64-/128-bit) WPA/WPA2 WPA-PSK/WPA2-PSK encryption										
Wireless Security	Wireless MAC address filtering Support WPS (WI-FI Protected Setup)										
Max. Supported Clients	2.4GHz Wireless: 32 5GHz Wireless: 32										
LAN	Built-in DHCP server supporting static IP address distribution										
System Management	Web-based (HTTP) management interface System Log										
IEEE Standards	IEEE 802.11ac IEEE 802.11n IEEE 802.11a IEEE 802.11g IEEE 802.11b IEEE 802.11i IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab 1000BASE-T										
Other Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, SNMP										
OS Compatibility	Windows 10 Windows 8 Windows 7 Windows Vista Windows XP Mac OS X 10.4 and higher										

Standards Conformance	
Temperature	Operating: 0 ~ 40 degrees C Storage: -20 ~ 60 degrees C
Humidity	Operating: 10 ~ 90% (non-condensing) Storage: 5 ~ 95% (non-condensing)
Regulatory	FCC, CE, RoHS, WEEE

Chapter 2. Hardware Introduction

Please follow the instructions below to connect the WRE-1200 to the existing network devices and your computers.

2.1 Product Outlook

- **Dimensions: (W x H x D)**

59 x 91 x 40 mm

- **Weight:**

116g

- **Drawing:**



Figure 2-1 WRE-1200 with EU type power plug

2.2 Front Panel and LED Status

There are 6 LED indicators on the front panel. By observing their status, you can check whether the device runs normally.

Figure 2-2 shows the hardware interface of the WRE-1200.

LED description

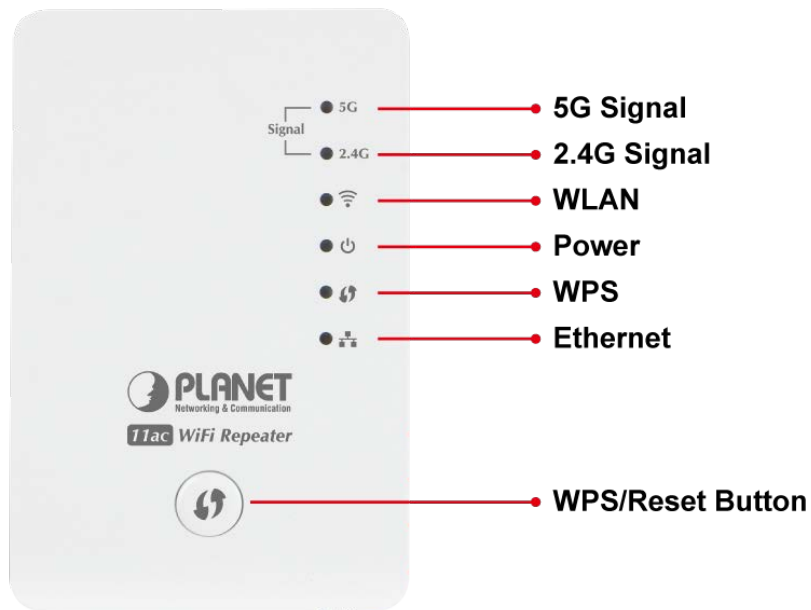






Figure 2-2 WRE-1200 Panel Layout

LED definition

The following table describes the status of LED indicators on the front panel.

LED	LED Status	Description
5G Signal Status (5G)	Steady ON	Good signal reception (100%~50%).
	Slow Blinking	Normal signal reception (50%~25%)
	Quick Blinking	Poor signal reception (<25%)
	Off	Out of signal or disconnected.
2.4G Signal Status (2.4G)	Steady ON	Good signal reception (100%~50%).
	Slow Blinking	Normal signal reception (50%~25%)
	Quick Blinking	Poor signal reception (<25%)
	Off	Out of signal or disconnected.
 WLAN	Blinking	Connect to wireless Router or AP, wireless function is active.
	Off	Wireless network is switched off.

 Power	Steady ON	Power is turned on.
	Slow Blinking	Ready for "Reset to factory default"; power LED is blinking.
	Off	Power is turned off.
 WPS	Blinking	WPS (Wi-Fi Protected Setup) is in progress of waiting another WPS device's connection, blinking for 2 minutes.
	Quick blinking	WPS error.
	Off	No WPS is in progress.
 LAN	Steady ON	LAN port is connected.
	Blinking	LAN port is active.
	Off	LAN port is not connected.



WPS Button

Press **3 to 10 seconds** to trigger WPS.

Press **20 to 30 seconds** to disable all LEDs.

Press **over 30 seconds** to reset to factory default.

2.3 Bottom and DIP Switch description

The following graphic describes interfaces and DIP switch on the bottom panel.

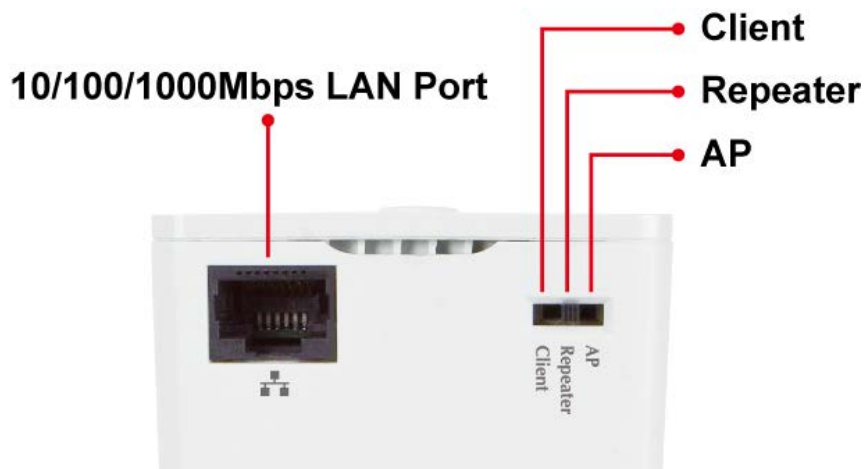


Figure 2-3 WRE-1200 RJ45 LAN Port and DIP switch

Chapter 3. Operation Mode Introduction

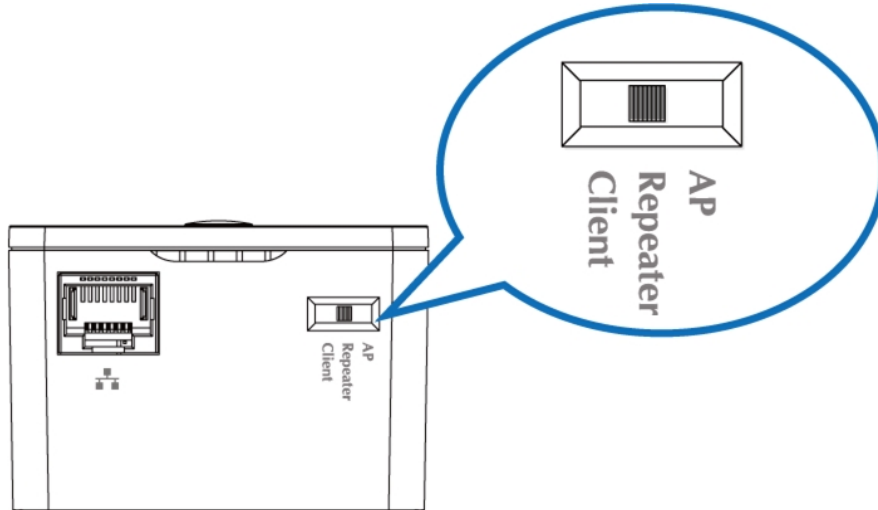
The WRE-1200 can operate in various applications with the hardware mode DIP switch including **AP**, **Repeater** or **Client**, which helps to immediately set up a wireless network without software configuration. With various operation modes, it can be quickly deployed in any place without good wireless signal.



3.1 Repeater Mode

In the repeater mode, the WRE-1200 can extend your wireless signal and coverage, and help you to solve wireless dead zone problem.

■ Operation Mode Switch - Repeater Mode



■ Typical Application

For the first-time setup and easy installation, you can move this device close to the Wireless Broadband Router or Access Point you wish to connect to. After the installation is done and wireless connection is built, you can move this repeater device to the place you wish to use.

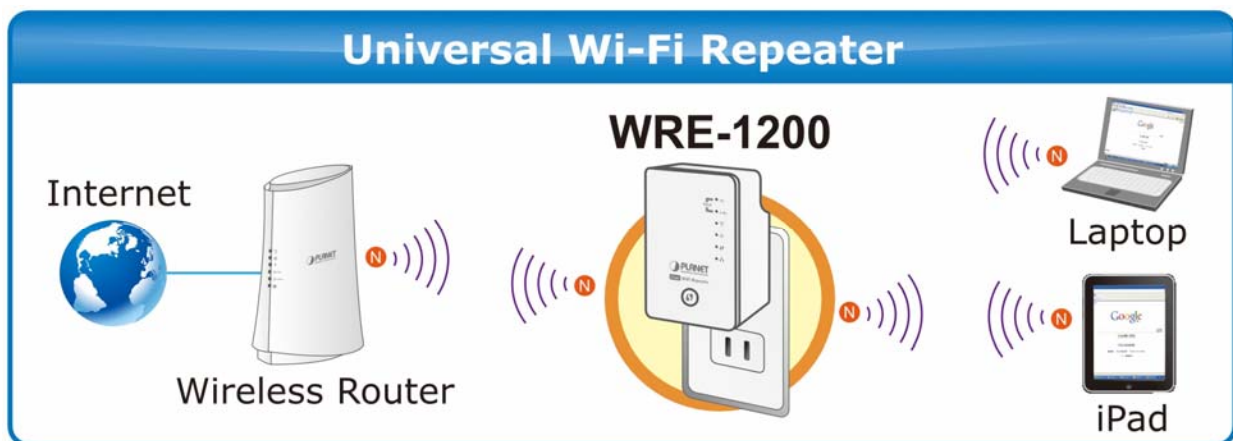
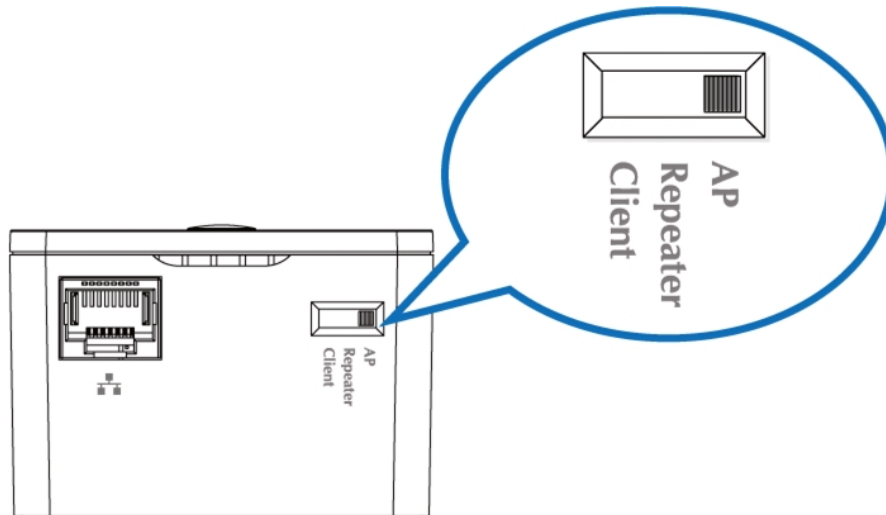


Figure 3-1 WRE-1200 Repeater Mode

3.2 AP Mode

In the AP (Access Point) mode, the WRE-1200 works as a wireless router to achieve wireless connection for the wired LAN.

■ Operation Mode Switch – AP Mode



■ Typical Application

In the AP mode, the **NAT** (Network Address Translation) function and DHCP server are both disabled, and all wireless clients obtain the IP address from the network device connected with LAN port of the WRE-1200. They can certainly assign the IP address to themselves as well in the Control Panel of Windows. The WRE-1200 is supposed to bridge to the Ethernet directly via UTP cable.

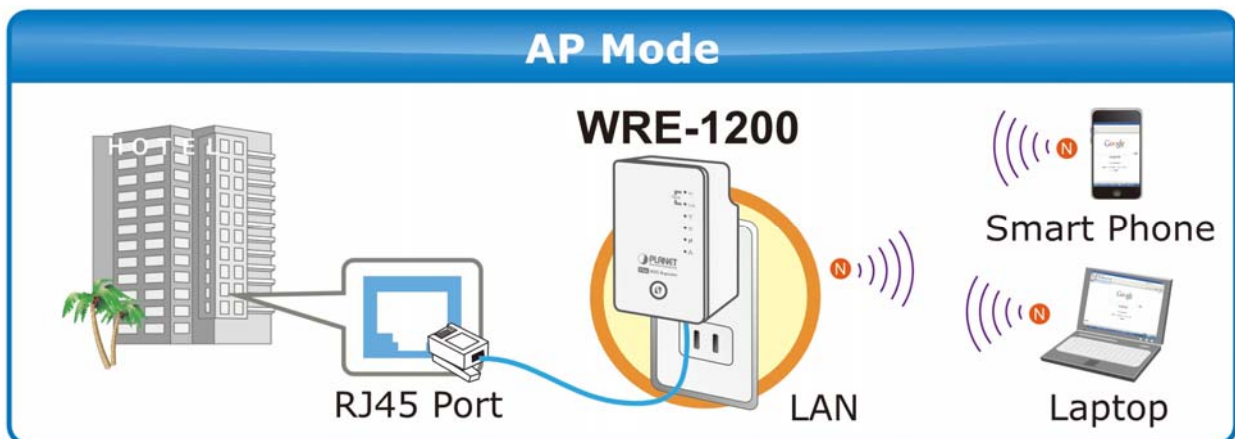
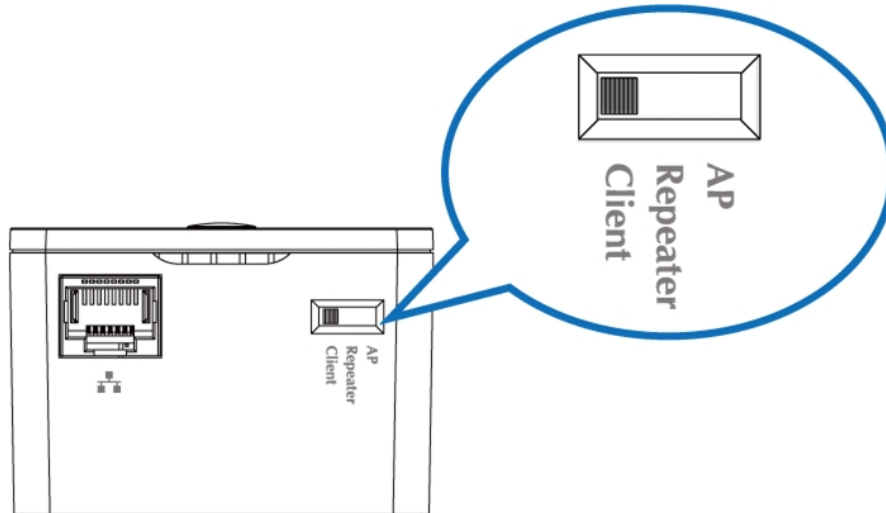


Figure 3-2 WRE-1200 AP Mode

3.3 Client Mode

In the **client mode**, the WRE-1200 provides Internet access for a set-top box or a computer with a network adapter.

- **Operation Mode Switch – Client Mode**



- **Typical Application**

In the client mode, the WRE-1200 can let your networking device have wireless capability; it will become your networking device's wireless network card. You can connect this device to Ethernet port of your existing internet TV or DVD player or game console device via Ethernet cable.

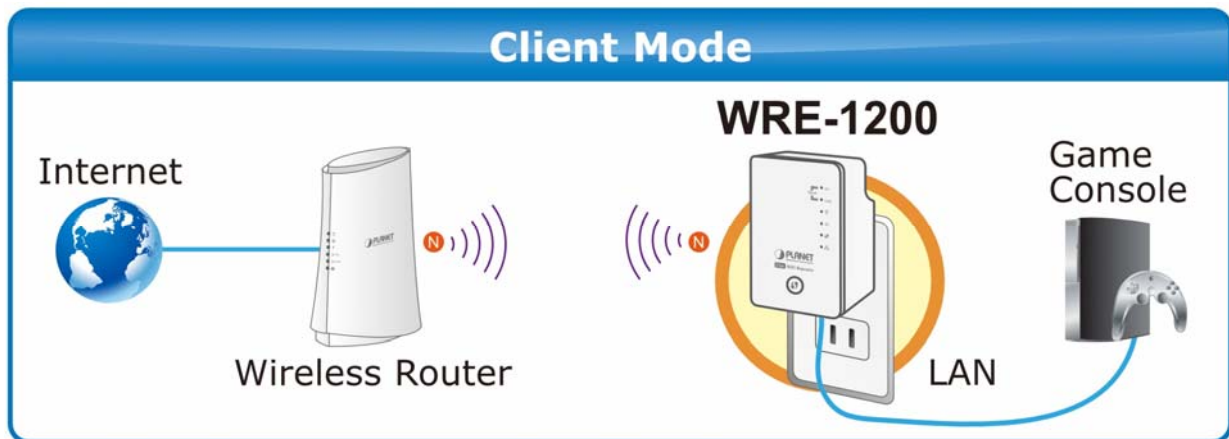


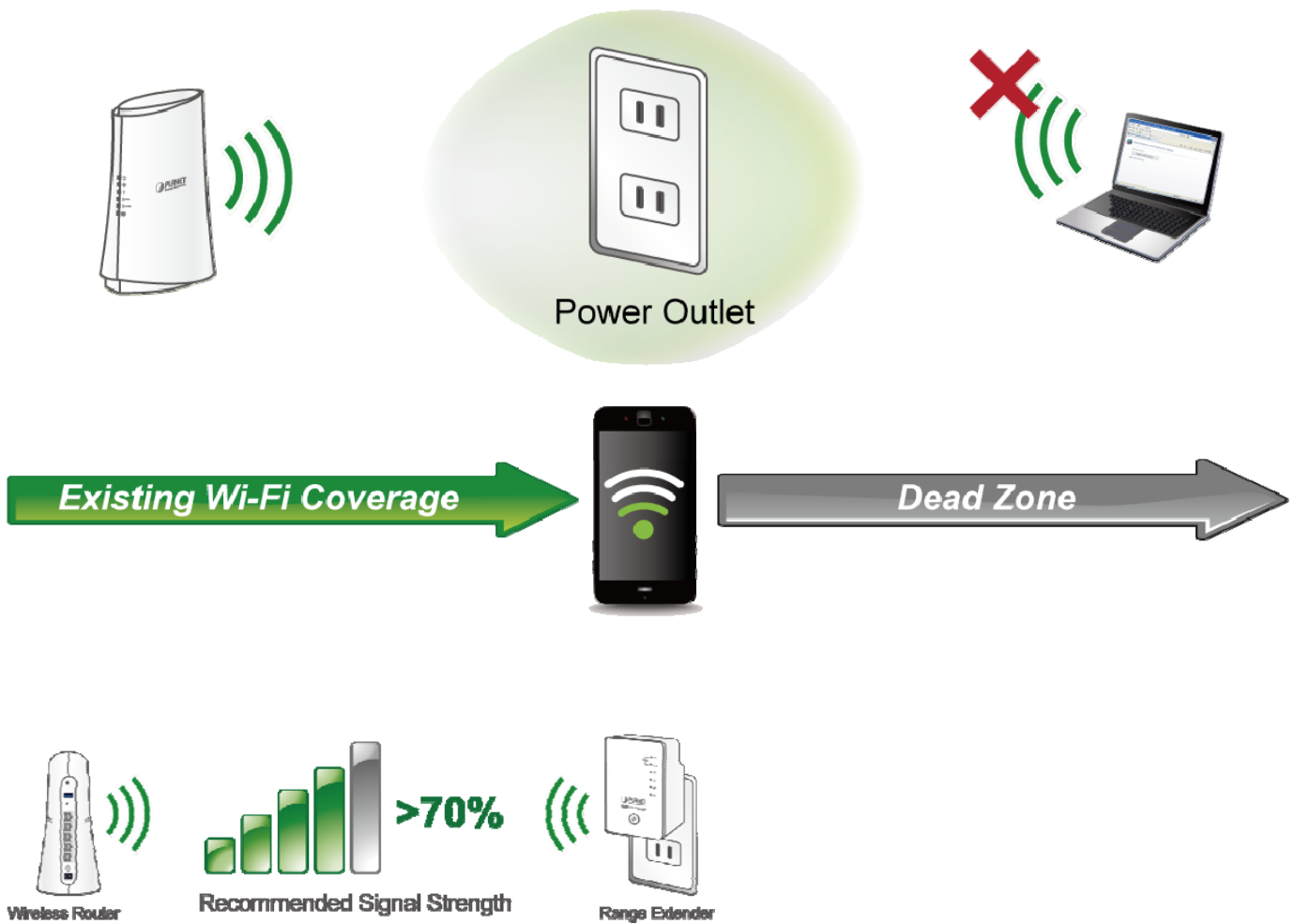
Figure 3-3 WRE-1200 Client Mode

Chapter 4. Hardware Installation

This chapter will show you how to install your Range Extender within minutes.

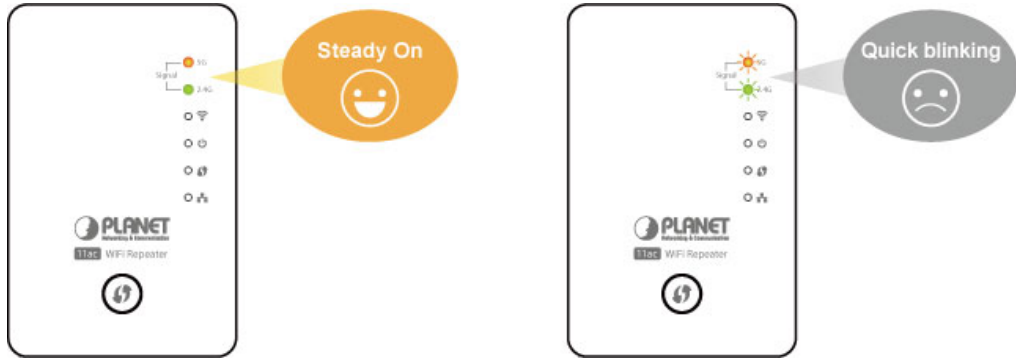
4.1 Before Getting Started

Find an optimal power outlet between your existing wireless router and your wireless dead zone. You may utilize the smartphone or tablet to detect the Wi-Fi signal strength.



Note For the first-time setup, you can move the WRE-1200 closer to the access point you wish to connect to. After the connection is established, you can move the WRE-1200 to the place you wish to use.

- After this installation is done and wireless connection is built, WRE-1200's "Signal" LED will be enabled.
- You can check signal LED on the device to understand signal reception level.
 - **Steady light:** Excellent
 - **Flash:** Good
 - **Fast flash:** poor
 - **Off:** out of signal



- You can use this signal LED to find the best location of repeater(for example: a better place may be the center of your access point and the farthest client PC)

4.2 Operation Range

The operation range of the wireless repeater depends on the actual environment. The path and effect of signal transmission vary with the deployment in a house or an office.



4.3 System Requirements

Before installing the device, please ensure that the following items are ready.

Operation mode	System requirement	
	Wireless Connection	Wired Connection
Repeater mode (WPS)	<ul style="list-style-type: none"> One wireless router with WPS button 	N/A
Repeater mode (Manual setting)	<ul style="list-style-type: none"> One wireless router PC or Laptop running Windows XP, Vista, Windows 7/8/10, MAC OS X, Linux, Fedora, Ubuntu with Web browser installed 	<ul style="list-style-type: none"> One wireless router PC or Laptop running Windows XP, Vista, Windows 7/8/10, MAC OS X, Linux, Fedora, Ubuntu with Web browser installed
AP mode	<ul style="list-style-type: none"> The above PC or Laptop is installed with Wireless network card which is compatible with 802.11a/b/g/n and 802.11 ac wireless network standard 	<ul style="list-style-type: none"> The above PC or Laptop is installed with Ethernet NIC (Network Interface Card)
Client mode		<ul style="list-style-type: none"> One Ethernet RJ45 UTP cable (10BASE-TX/1000BASE-T)

4.4 Configuring the Network Properties

Configuring PC in Windows 7 and Windows 10

1. Go to **Start, Control Panel, Network and Internet, and Network and Sharing Center**. Click **Change adapter settings** on the left banner.
2. Double-click **Local Area Connection**.

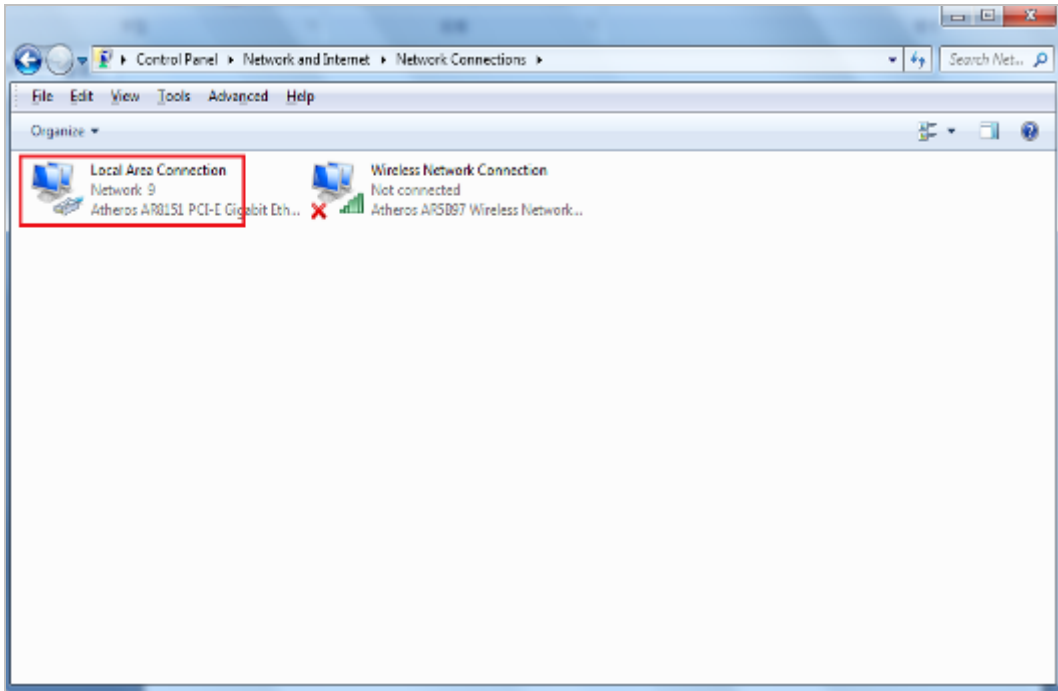


Figure 4-1 Selecting Local Area Connection

3. In the **Local Area Connection Status** window, click **Properties**.

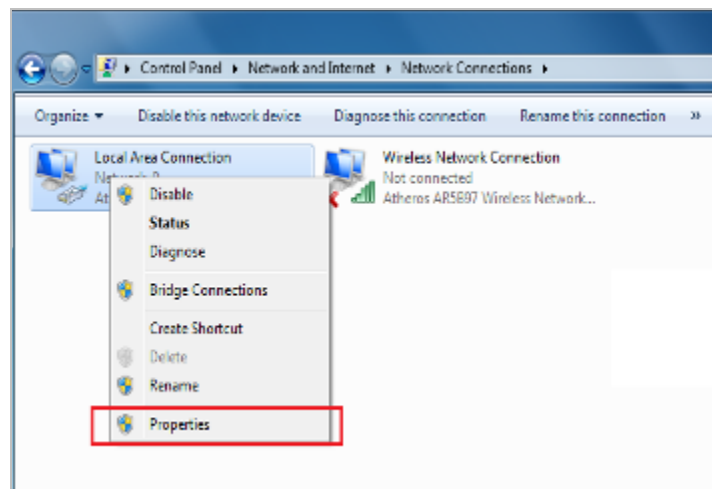


Figure 4-2 Network Connection Properties

4. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.

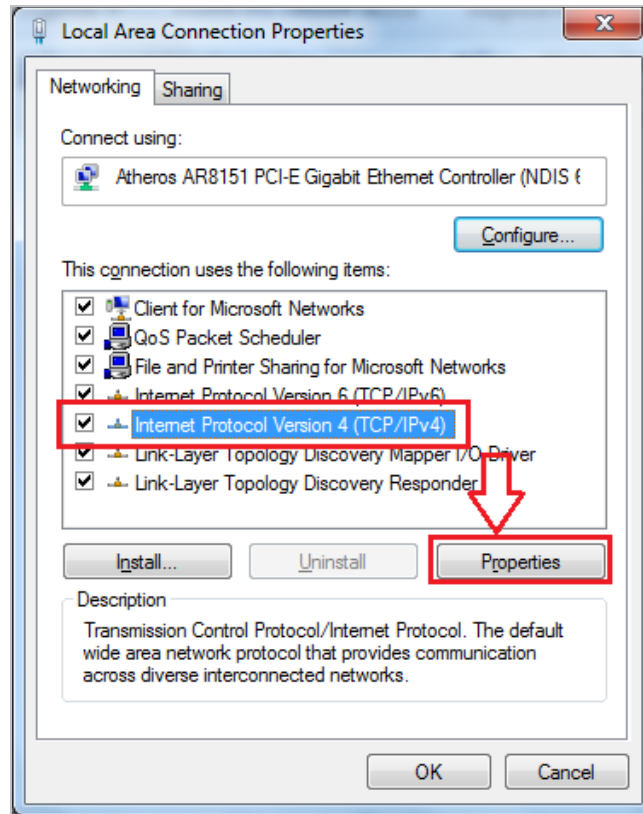


Figure 4-3 TCP/IP Setting

5. Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** button.
6. Click **OK** to finish the configuration.

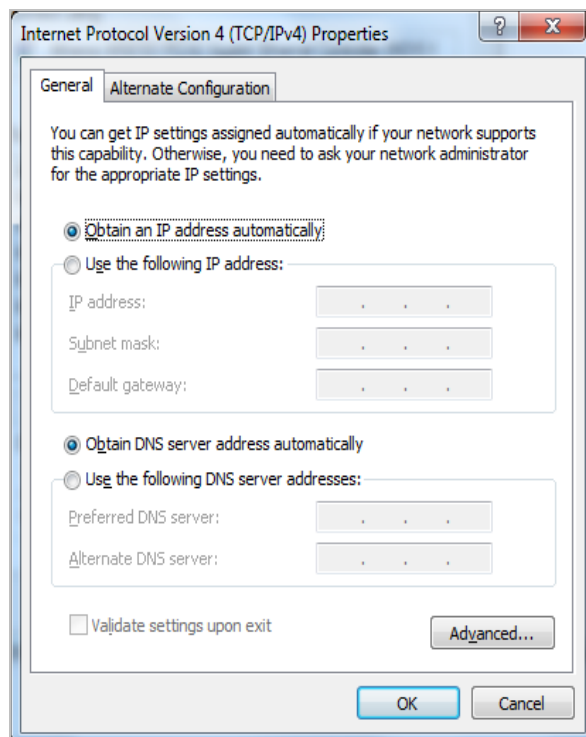
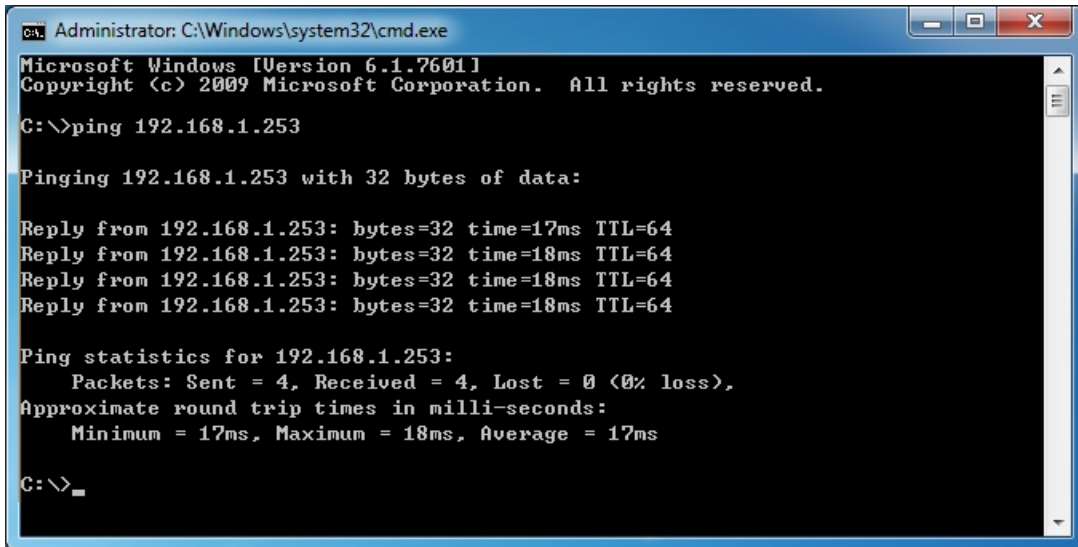


Figure 4-4 Obtain an IP address automatically

- ◆ If the result displayed is similar to **Figure 4-9**, it means the connection between your PC and the AP has been established well.



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\>ping 192.168.1.253

Pinging 192.168.1.253 with 32 bytes of data:

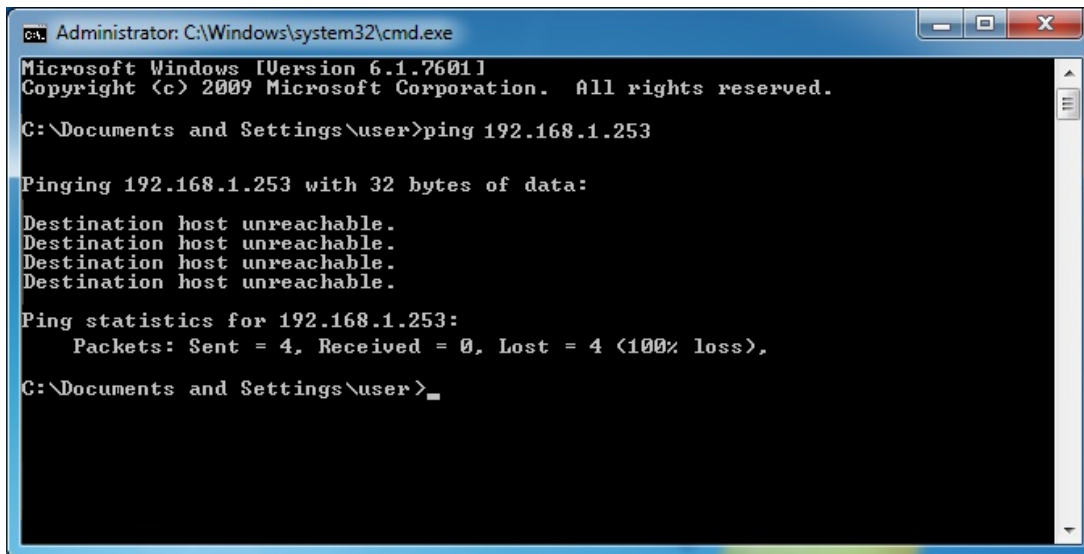
Reply from 192.168.1.253: bytes=32 time=17ms TTL=64
Reply from 192.168.1.253: bytes=32 time=18ms TTL=64
Reply from 192.168.1.253: bytes=32 time=18ms TTL=64
Reply from 192.168.1.253: bytes=32 time=18ms TTL=64

Ping statistics for 192.168.1.253:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 17ms, Maximum = 18ms, Average = 17ms

C:\>_
```

Figure 4-5 Successful Result of Ping Command

- ◆ If the result displayed is similar to **Figure 4-10**, it means the connection between your PC and the AP has failed.



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Documents and Settings\user>ping 192.168.1.253

Pinging 192.168.1.253 with 32 bytes of data:

Destination host unreachable.
Destination host unreachable.
Destination host unreachable.
Destination host unreachable.

Ping statistics for 192.168.1.253:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\user>_
```

Figure 4-6 Failed Result of Ping Command

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your Range Extender. Some firewall software programs may block a DHCP request on newly installed adapters.

Chapter 5. Repeater Mode

This chapter will show you how to quickly install this device by using quick setup and show you each detailed setting on the web UI page under repeater mode.



5.1 Repeater Mode Configuration

There are two ways you can quickly setup the Wi-Fi Range Extender –

- **Using the WPS button**
- **Using web browser.**

If your existing wireless router supports **WPS**(Wi-Fi Protected Setup), follow the **Method A - Press the WPS Push Button** to connect to the WRE-1200.

If your existing wireless router does not support WPS, follow the **Method B - Manual Connection by Web browser** to connect to the WRE-1200 and run the Setup Wizard.

5.1.1 Method A - Press the WPS Push button for automatic Connection

Step 1. Make sure the operation mode by hardware switch is **Repeater Mode** (Default Setting).

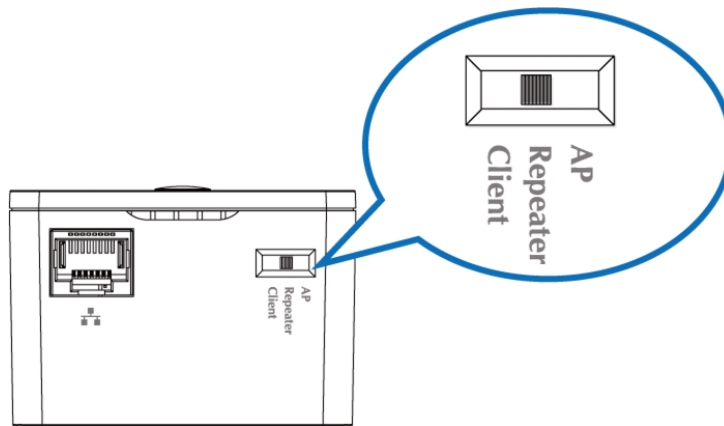



Figure 5-1 WRE-1200 default mode

Step 2. Plug the WRE-1200 into the wall outlet, and wait for the WRE-1200 to boot up.



Step 3. How to establish connection with AP:

- (1) On the front panel of the WRE-1200, press the **WPS Button** for **more than 2 seconds** until the  WPS LED blinks slowly.
- (2) On the Wireless Router or AP, press the **WPS Button** for **2 seconds**.
- (3) Wait for the connection to be established.

One-touch Wi-Fi Range Extension

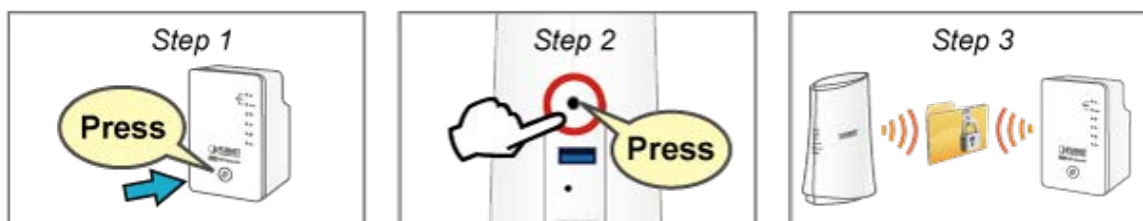


Figure 5-2 One-touch Wi-Fi Range Extension



Note

For the first-time setup, you can move the WRE-1200 **closer to the access point** you wish to connect to. After the connection is established, you can move the WRE-1200 to the place you wish to use.



Note

- After this installation is done and wireless connection is built, repeater's "Signal" LED will be enabled.
- You can check signal LED on the device to understand signal reception level.
 - **Steady light:** Excellent
 - **Flash:** Good
 - **Fast flash:** poor
 - **Off:** out of signal
- You can use this signal LED to find the best location of repeater(for example: a better place may be the center of your access point and the farthest client PC)

5.1.2 Method B - Manual Connection by Web Browser

It is easy to configure and manage the Range Extender with the **web browser**.

Step 1. Plug the WRE-1200 into the wall outlet, then please use your laptop or PC to site-survey the wireless signal of the WRE-1200, and connect your PC with it wirelessly.

Default SSID (2.4GHz): **PLANET_2.4G_XXXX**

Default SSID (5GHz): **PLANET_5G_XXXX**

("X" means the last 4 digits of the MAC address)



Figure 5-3 SSID of WRE-1200

Step 2. To access the configuration utility, open a web browser and enter the address <http://planetext.setup> or default IP address <http://192.168.1.253> in the web address field of the browser.

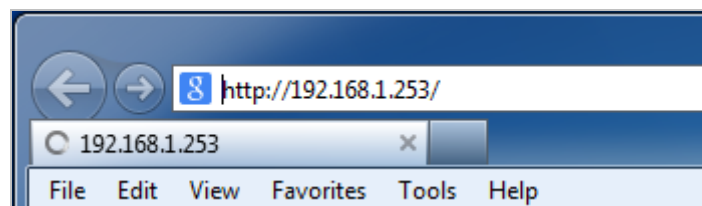
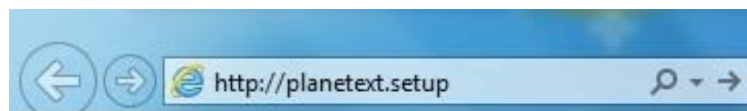


Figure 5-4 Login by default IP address

After a moment, a login window will appear. Enter **admin** for the User Name and Password, both in lower case letters. Then click the **OK** button or press the **Enter** key.

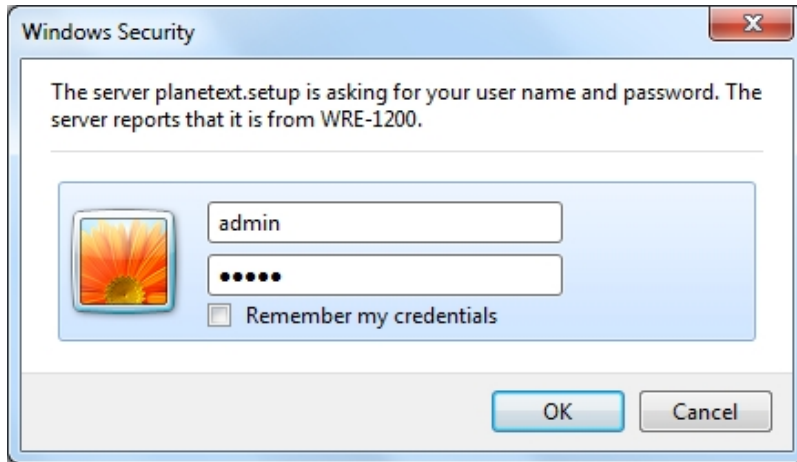


Figure 5-5 Login Window

Default IP Address: <http://planetext.setup> or **192.168.1.253**

Default User name: **admin**

Default Password: **admin**



If the above screen does not pop up, it may mean that your web browser has been set to a proxy. Go to the Tools menu>**Internet Options**>**Connections**>**LAN Settings** on the screen that appears, cancel the Using Proxy checkbox, and click OK to finish it.

Step 3. When you have successfully logged in, you will be able to enter the **Quick Setup**.

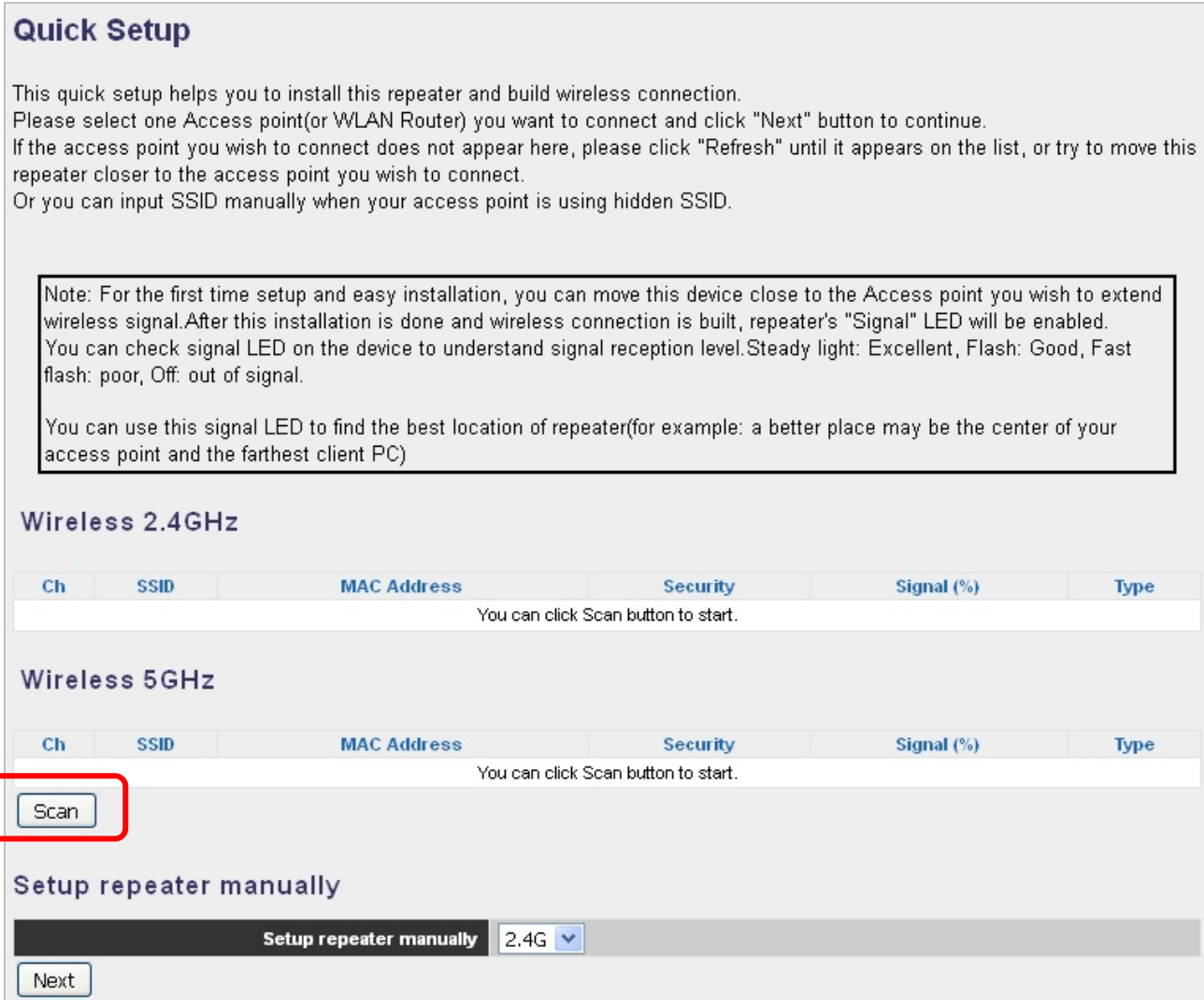


Figure 5-6 Quick Setup web page

Step 4. Press "Scan" and it will display all available 2.4GHz and 5GHz Wi-Fi networks.

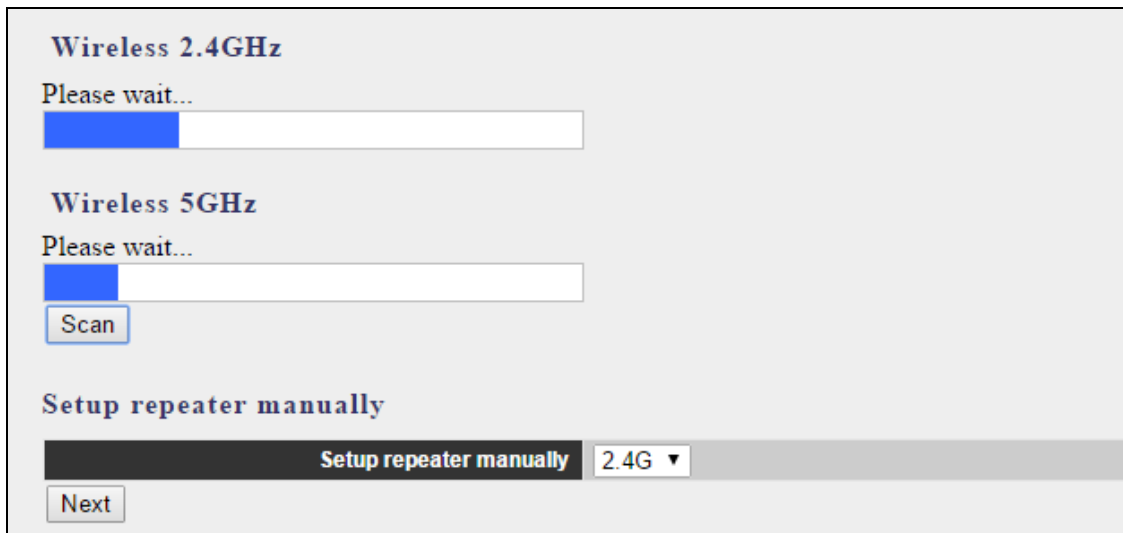


Figure 5-7 Scan the Wireless Signal

Step 5. All wireless access points nearby will be displayed on the list. The WRE-1200 will use the uplink router/AP SSID. Select the **SSID** you want to continue.

Wireless 2.4GHz (5 Accesspoints)

Select	Ch	SSID	MAC Address	Security	Signal (%)	Type
<input type="radio"/>	1	WDRT-1200AC_2.4G	A8:F7:E0:51:EA:E7	WPA2PSK/AES	100	b/g/n
<input type="radio"/>	11			WPA2PSK/AES	20	b/g/n
<input type="radio"/>	11			WEP	96	b/g

Wireless 5GHz (4 Accesspoints)

Select	Ch	SSID	MAC Address	Security	Signal (%)	Type
<input type="radio"/>	36	WDRT-1200AC_5G	2C:F7:E0:51:EA:E7	WPA2PSK/AES	100	ac
<input type="radio"/>	44			WPA2PSK/AES	91	ac
<input type="radio"/>	157			WPA2PSK/AES	42	a/n

Figure 5-8 Selecting SSID

Step 6. You'll be prompted to input uplink wireless router's/AP's wireless security key in the 'Pre-shared Key' field and click 'Save' to continue

Security

SSID	WDRT-1200AC_2.4G
2.4G Channel	Ch 1, 2412MHz
Authentication Method	WPA-PSK
WPA Type	WPA2 Only
Encryption Type	AES
Pre-shared Key Type	Passphrase
Pre-shared Key	12345678

Figure 5-9 Entering Pre-shared Key

Step 7. The connection will be established if the key is correct. You can click "Yes" to set up the other band or click "No" to finish the setting.

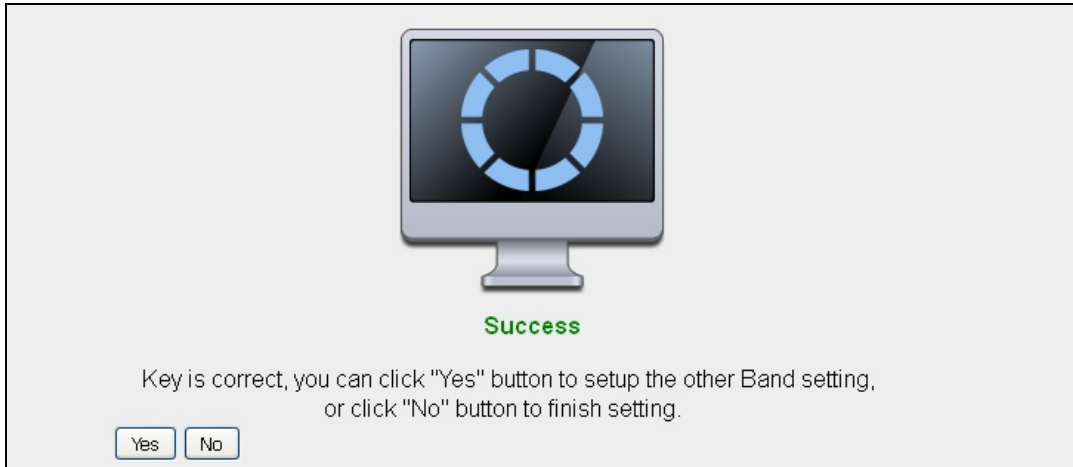


Figure 5-10 Connection successful

Step 8. You can enter the SSID which you want and press **“Apply”** to make the changes take effect.

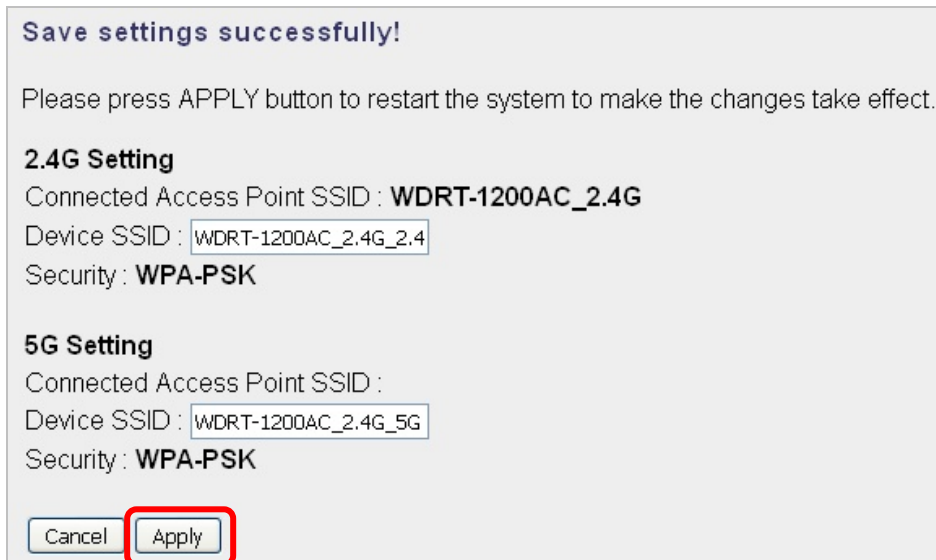


Figure 5-11 Saving settings

The connection is established successfully. You can press **“Home”** to enter Web UI of the WRE-1200. You can refer to [Chapter 6](#) for more information about the web settings.

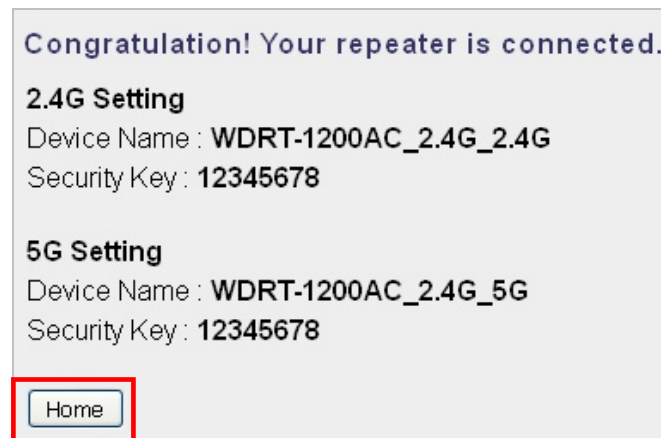


Figure 5-12 AP connected

5.2 Repeater Mode Advanced Settings

5.2.1 Setting Up Repeater Manually

In the Quick Setup web page, if your existed wireless access point is using **hidden SSID**, you can press “**Next**” to set up the network manually.

Quick Setup

This quick setup helps you to install this repeater and build wireless connection. Please select one Access point(or WLAN Router) you want to connect and click "Next" button to continue. If the access point you wish to connect does not appear here, please click "Refresh" until it appears on the list, or try to move this repeater closer to the access point you wish to connect. Or you can input SSID manually when your access point is using hidden SSID.

Note: For the first time setup and easy installation, you can move this device close to the Access point you wish to extend wireless signal. After this installation is done and wireless connection is built, repeater's "Signal" LED will be enabled. You can check signal LED on the device to understand signal reception level. Steady light: Excellent, Flash: Good, Fast flash: poor, Off: out of signal.

You can use this signal LED to find the best location of repeater (for example: a better place may be the center of your access point and the farthest client PC)

Wireless 2.4GHz

Ch	SSID	MAC Address	Security	Signal (%)	Type
You can click Scan button to start.					

Wireless 5GHz

Ch	SSID	MAC Address	Security	Signal (%)	Type
You can click Scan button to start.					

Setup repeater manually

Setup repeater manually
2.4G

Figure 5-13 Quick Setup – Setup repeater manually

Enter the **SSID**, **channel** and **encryption type** manually.

Security

SSID	<input style="width: 100%;" type="text"/>
2.4G Channel	Ch 1, 2412MHz <input type="button" value="v"/>
Authentication Method	No Authentication <input type="button" value="v"/>

Figure 5-14 Entering the settings manually

The connection will be established if the key is correct. You can click “**Yes**” to set up the other band or click “**No**” to finish the setting.

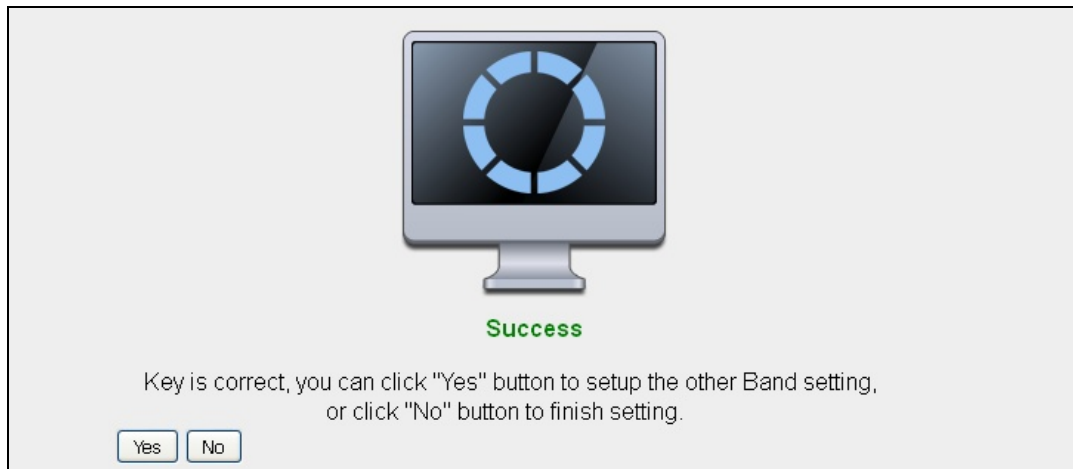


Figure 5-15 Connection successful

You can enter the SSID which you want and press “**Apply**” to make the changes take effect.

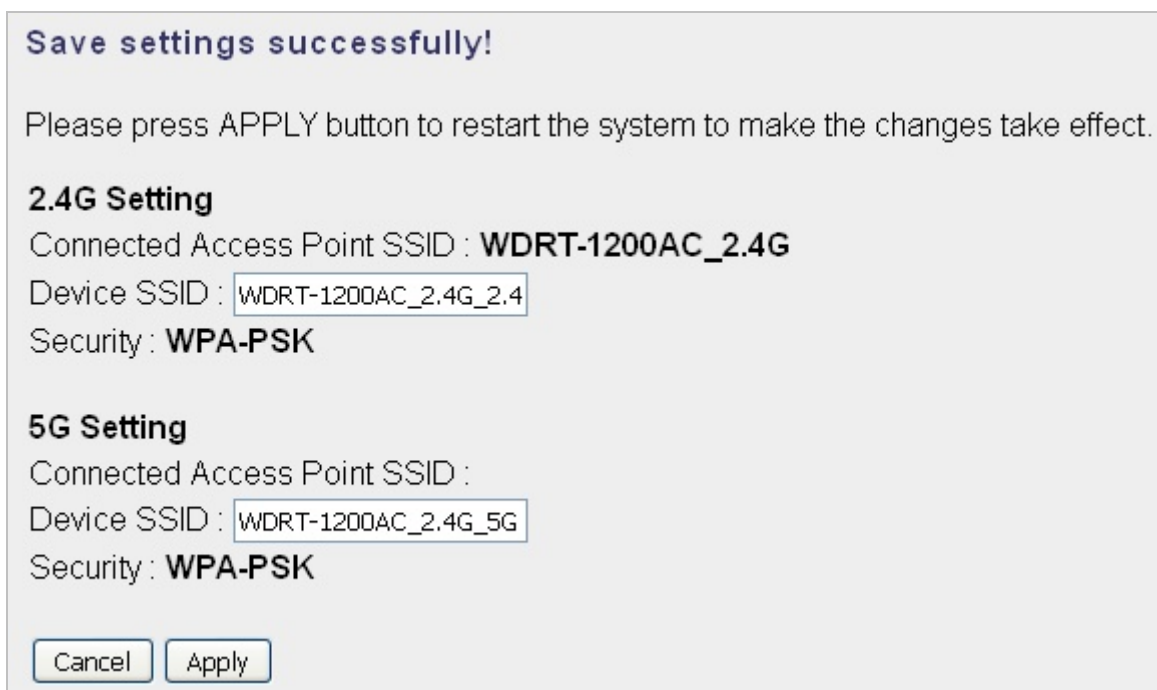


Figure 5-16 Saving settings

The connection is established successfully. You can press “**Home**” to enter Web UI of the WRE-1200. You can refer to [Chapter 6](#) for more information about the web settings.

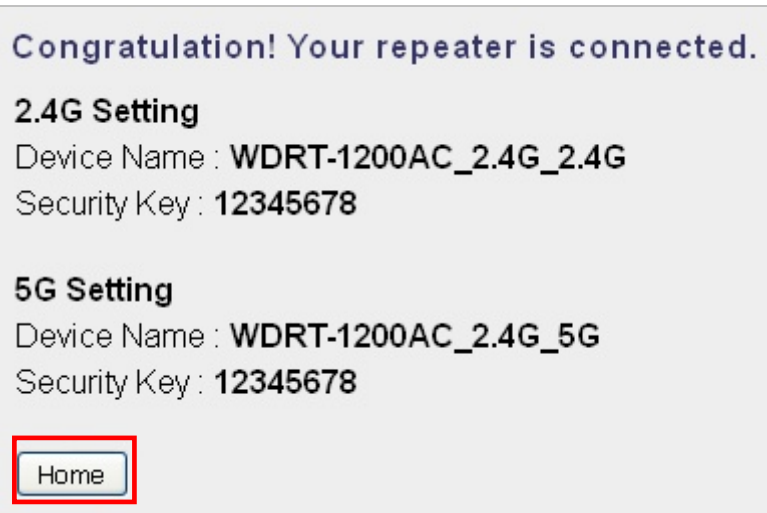
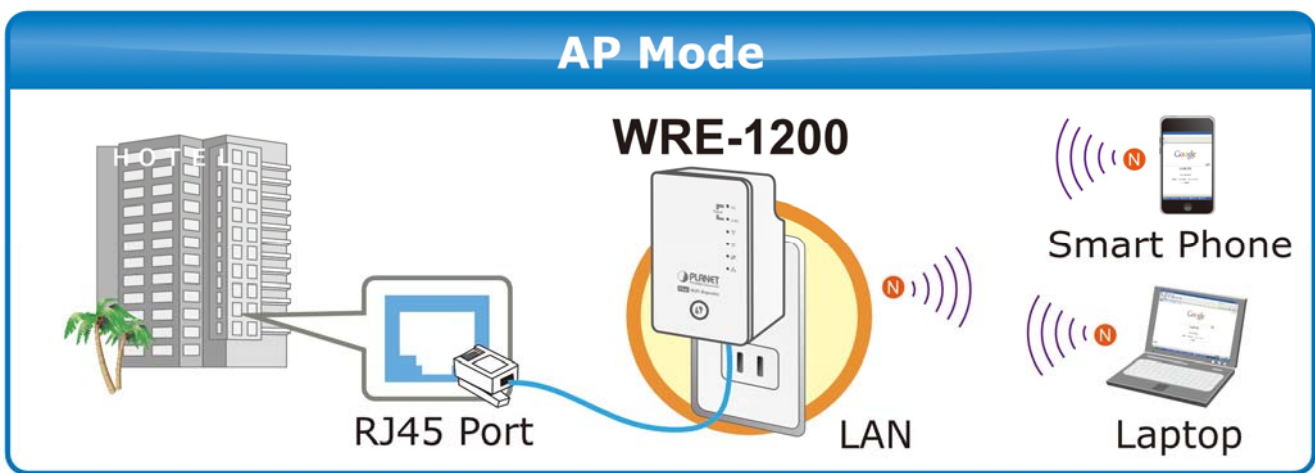


Figure 5-17 AP connected

Chapter 6. AP Mode

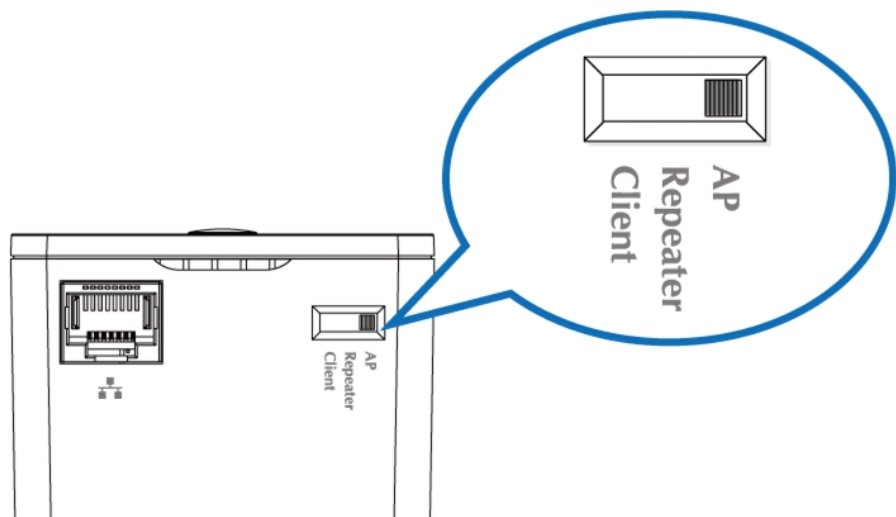
This chapter will show you how to quickly install this device by using quick setup and show you each detailed setting on the web UI page under AP mode.

In the AP mode, the **NAT** (Network Address Translation) function and DHCP server are both disabled, and all wireless clients obtain the IP address from the network device connected with LAN port of the WRE-1200. They can certainly assign the IP address to themselves as well in the Control Panel of Windows. The WRE-1200 is supposed to bridge to the Ethernet directly via UTP cable.



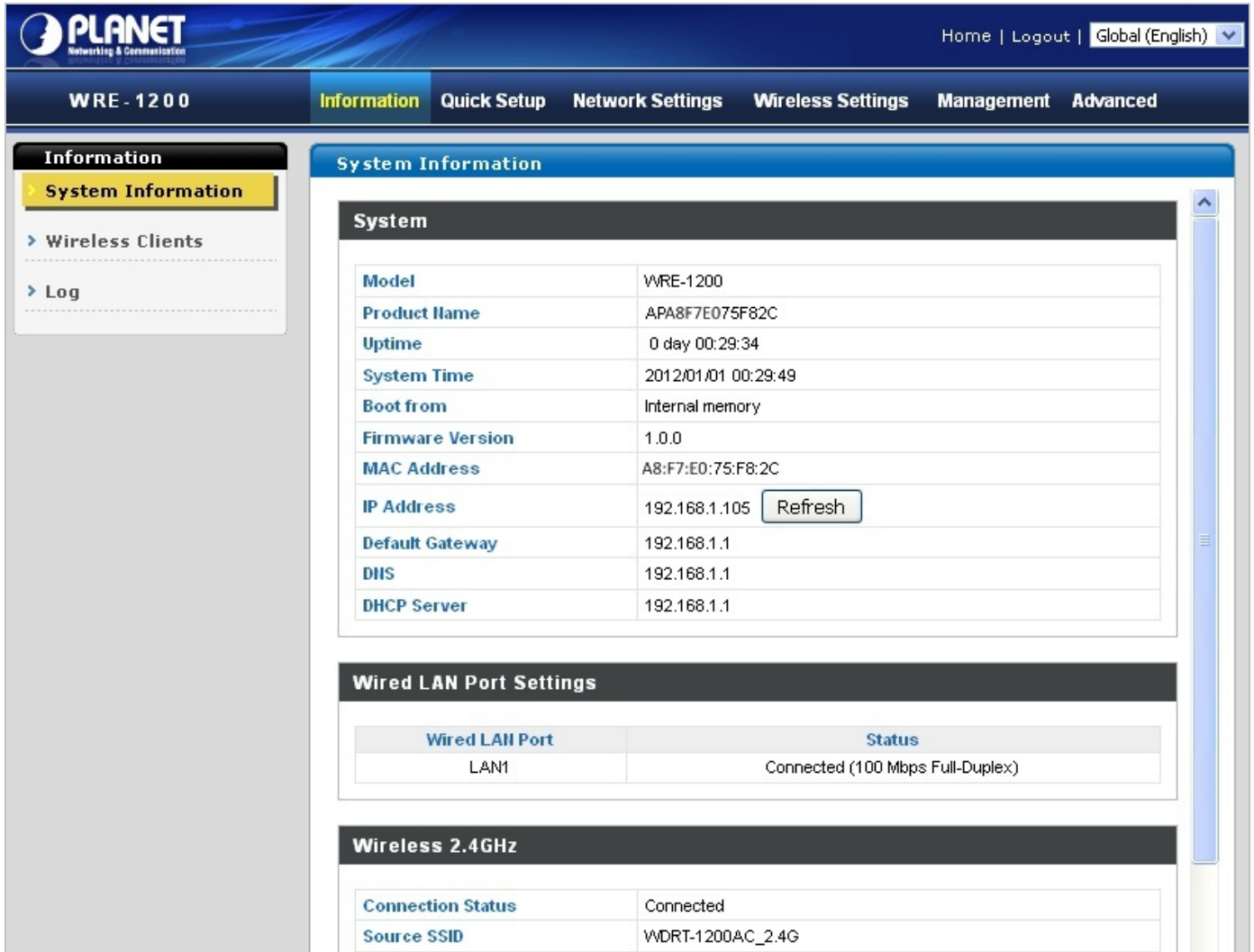
■ Operation Mode Switch – AP Mode

Please refer to the **Chapter 4 Hardware installation** for the settings. And make sure the hardware switch is Client Mode.



6.1 Information

6.1.1 System Information



System Information

System	
Model	WRE-1200
Product Name	APA8F7E075F82C
Uptime	0 day 00:29:34
System Time	2012/01/01 00:29:49
Boot from	Internal memory
Firmware Version	1.0.0
MAC Address	A8:F7:E0:75:F8:2C
IP Address	192.168.1.105 <input type="button" value="Refresh"/>
Default Gateway	192.168.1.1
DNS	192.168.1.1
DHCP Server	192.168.1.1

Wired LAN Port Settings	
Wired LAN Port	Status
LAN1	Connected (100 Mbps Full-Duplex)

Wireless 2.4GHz	
Connection Status	Connected
Source SSID	WDRT-1200AC_2.4G

Figure 6-1 AP mode

The page includes the following information:

Object	Description
Model	Displays the model number of the range extender.
Product Name	Displays the product name for reference, which consists of “AP” plus the MAC address.
Uptime	Displays the total time since the device was turned on.
Boot From	Displays information for the booted hardware, booted from internal memory.
Firmware Version	Displays the firmware version.
MAC Address	Displays the access point’s MAC address.

IP Address	Displays the IP address of this device. Click “Refresh” to update this value.
Default Gateway	Displays the IP address of the default gateway.
DNS	IP address of DNS (Domain Name Server)
DHCP Server	IP address of DHCP Server.
Wired LAN Port	Displays LAN Port 1.
Status	Displays the status of the LAN port (connected or disconnected).
Connection Status	Displays the status of the 2.4GHz and 5GHz wireless (connected or no connection).
Source SSID	Display the SSID of source AP.
Extended SSID	Display the SSID of this range extender.
Authentication Method	Displays the authentication method for the specified SSID.
Encryption Type	Displays the encryption type for the specified SSID.
MAC Address	Displays the range extender’s MAC address.
Channel	Displays the channel number the specified wireless frequency is using for broadcast.
Transmit Power	Displays the wireless radio transmit power level as a percentage bar.
Refresh	Click to refresh all information.

6.1.2 Wireless Clients

The “Wireless Clients” page displays information about all wireless clients connected to the range extender on the 2.4GHz or 5GHz frequency.

Refresh Time

Auto Refresh Time	<input checked="" type="radio"/> 5 seconds <input type="radio"/> 1 second <input type="radio"/> Disable
Manual Refresh	<input type="button" value="Refresh"/>

2.4GHz WLAN Client Table

#	SSID	MAC Address	Tx	Rx	Signal (%)	Connected Time	Idle Time
No wireless client							

5GHz WLAN Client Table

#	SSID	MAC Address	Tx	Rx	Signal (%)	Connected Time	Idle Time
No wireless client							

Figure 6-2 Information -- Wireless Clients

The page includes the following information:

Object	Description
Auto Refresh Time	Select a time interval for the client table list to automatically refresh.
Manual Refresh	Click refresh to manually refresh the client table.
SSID	Displays the SSID which the client is connected to.
MAC Address	Displays the MAC address of the client.
Tx	Displays the total data packets transmitted by the specified client.
Rx	Displays the total data packets received by the specified client.
Signal (%)	Displays the wireless signal strength for the specified client.
Connected Time	Displays the total time the wireless client has been connected to the range extender.
Idle Time	Client idle time is the time for which the client has not transmitted any data packets i.e. idle.

6.1.3 Log

The system log displays system operation information such as uptime and connection processes. This information is useful for network administrators.

Log

```

Jan 1 00:00:43 [SYSTEM]: HTTP, start
Jan 1 00:00:43 [SYSTEM]: HTTPD, Stopping
Jan 1 00:00:43 [SYSTEM]: NTP, start NTP Client
Jan 1 00:00:43 [SYSTEM]: DNS, start DNS Proxy
Jan 1 00:00:41 [SYSTEM]: LAN, New IP = 192.168.1.100
Jan 1 00:00:41 [DHCPD]: DHCP Client, Lease obtained: 192.168.1.100; lease time 86400
Jan 1 00:00:09 [SYSTEM]: LAN, Port[0] link is changed to 100Mbps-Full-Duplex
Jan 1 00:00:07 [SYSTEM]: HTTP, start
Jan 1 00:00:07 [SYSTEM]: LAN, Firewall Disabled
Jan 1 00:00:07 [SYSTEM]: LAN, NAT Disabled
Jan 1 00:00:07 [SYSTEM]: NET, Firewall Disabled
Jan 1 00:00:07 [SYSTEM]: NET, NAT Disabled
Jan 1 00:00:07 [SYSTEM]: LEDs, light on specific LEDs
Jan 1 00:00:07 [SYSTEM]: NTP, start NTP Client
Jan 1 00:00:07 [SYSTEM]: DHCP, start DHCP Server
Jan 1 00:00:06 [SYSTEM]: DNS, start DNS Proxy
Jan 1 00:00:05 [SYSTEM]: WLAN[5G], Channel = 36
Jan 1 00:00:05 [SYSTEM]: WLAN[5G], CountryRegion = 10
Jan 1 00:00:03 [SYSTEM]: WLAN[2.4G], Channel = 11
Jan 1 00:00:03 [SYSTEM]: WLAN[2.4G], CountryRegion = 0
Jan 1 00:00:02 [SYSTEM]: DHCPD, start
Jan 1 00:00:02 [SYSTEM]: LAN, start
Jan 1 00:00:02 [SYSTEM]: Bridge, start
Jan 1 00:00:02 [SYSTEM]: Bridge, start
Jan 1 00:00:02 [SYSTEM]: Bridge, start
Jan 1 00:00:01 [SYSTEM]: SYS, Model Name: WRE-1200
Jan 1 00:00:01 [SYSTEM]: SYS, Application Version: 1.0.0
Jan 1 00:00:01 [SYSTEM]: BOOT, WRE-1200
            
```

Save

Clear

Refresh

Figure 6-3 Information -- Log

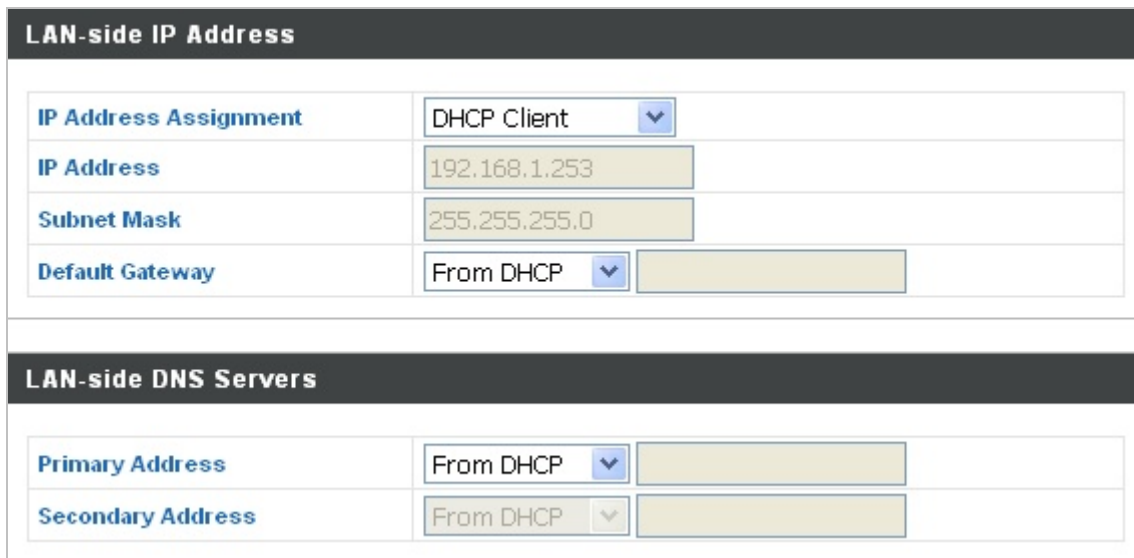
The page includes the following fields:

Object	Description
Save	Click to save the log as a file on your local computer.
Clear	Clear all log entries.
Refresh	Refresh the current log.

6.2 Networking Settings

6.2.1 LAN-side IP Address

The “LAN-side IP Address” page allows you to configure your range extender on your Local Area Network (LAN). You can enable the range extender to dynamically receive an IP address from your router’s DHCP server or you can specify a static IP address for your access point, as well as configure DNS servers.



LAN-side IP Address	
IP Address Assignment	DHCP Client
IP Address	192.168.1.253
Subnet Mask	255.255.255.0
Default Gateway	From DHCP

LAN-side DNS Servers	
Primary Address	From DHCP
Secondary Address	From DHCP

Figure 6-4 Network Settings -- LAN-side IP Address

The page includes the following fields:

Object	Description
IP Address Assignment	<ul style="list-style-type: none"> ■ Select “DHCP Client” for your access point to be assigned a dynamic IP address from your router’s DHCP server. ■ Select “Static IP” to manually specify a static/fixed IP address for your range extender (below).
IP Address	<p>Specify the IP address here.</p> <p>This IP address will be assigned to your range extender and will replace the default IP address.</p>
Subnet Mask	<p>Specify a subnet mask.</p> <p>The default value is 255.255.255.0</p>
Default Gateway	<p>For DHCP users, select “From DHCP” to get default gateway from your DHCP server or “User-Defined” to enter a gateway manually.</p> <p>For static IP users, the default value is blank.</p>

DHCP users can select to get DNS servers’ IP address from DHCP or manually enter a value. For static IP users,

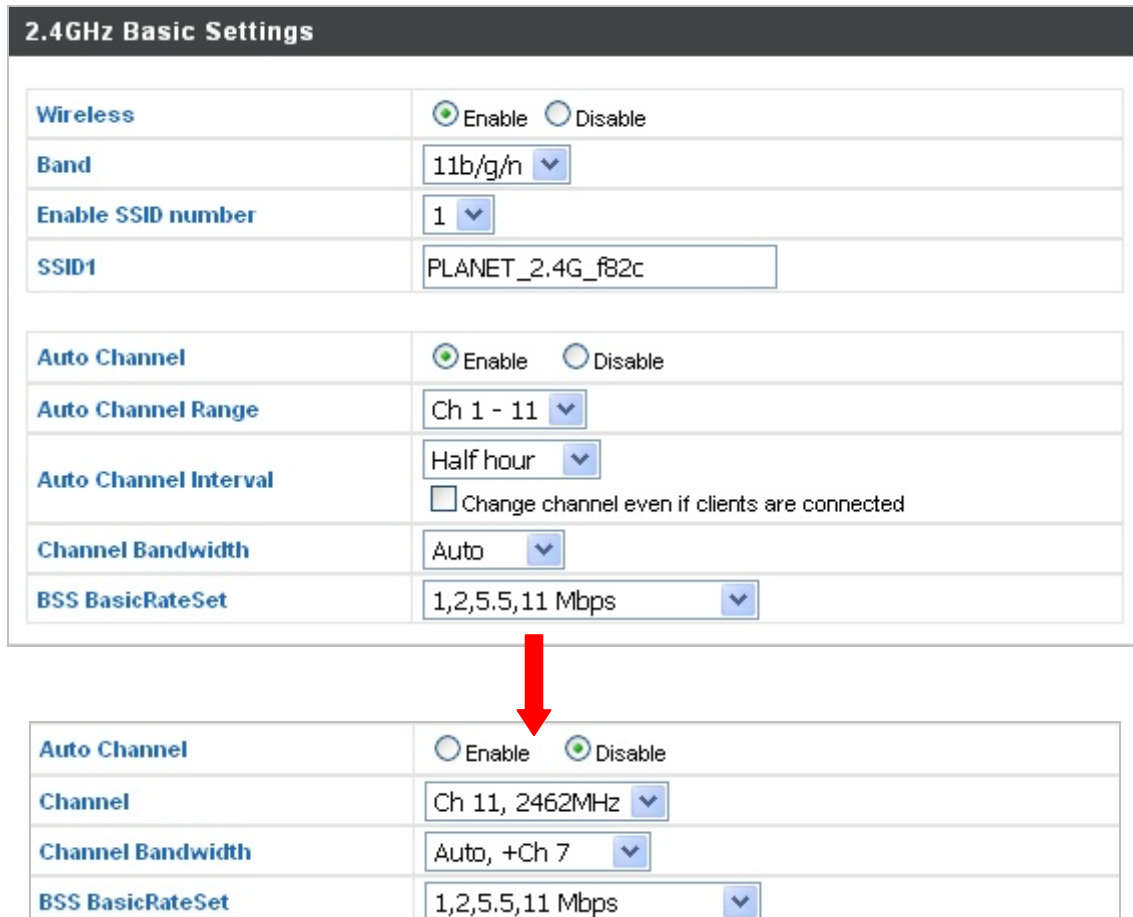
the default value is blank.

Object	Description
Primary Address	DHCP users can select " From DHCP " to get primary DNS server's IP address from DHCP or " User-Defined " to manually enter a value. For static IP users, the default value is blank.
Secondary Address	DHCP users can select " From DHCP " to get secondary DNS server's IP address from DHCP or " User-Defined " to manually enter a value. For static IP users, the default value is blank.

6.3 Wireless Settings

6.3.1 2.4GHz 11bgn Basic Settings

The “2.4GHz 11bgn” menu allows you to view and configure information for your range extender’s 2.4GHz wireless network across three categories: Basic, Advanced and Security.



2.4GHz Basic Settings	
Wireless	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Band	11b/g/n
Enable SSID number	1
SSID1	PLANET_2.4G_fb2c
Auto Channel	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Auto Channel Range	Ch 1 - 11
Auto Channel Interval	Half hour <input type="checkbox"/> Change channel even if clients are connected
Channel Bandwidth	Auto
BSS BasicRateSet	1,2,5.5,11 Mbps
Auto Channel	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Channel	Ch 11, 2462MHz
Channel Bandwidth	Auto, +Ch 7
BSS BasicRateSet	1,2,5.5,11 Mbps

Figure 6-5 2.4GHz Wireless Settings

The page includes the following fields:

Object	Description
Wireless	Enable or disable the access point’s 2.4GHz wireless radio. When disabled, no 2.4GHz SSIDs will be active.
Band	Select the wireless standard used for the range extender. Combinations of 802.11b, 802.11g and 802.11n can be selected.
Enable SSID Number	Select the 2.4GHz frequency from the drop-down menu.
SSID1	Enter the SSID name for the specified SSID. The SSID can consist of any combination of up to 32 alphanumeric characters.
Auto Channel	Enable/disable auto channel selection.

	<p>Auto channel selection will automatically set the wireless channel for the access point's 2.4GHz frequency based on availability and potential interference.</p> <p>When disabled, select a channel manually as shown in the next table.</p>
Auto Channel Range	Select a range from which the auto channel setting (above) will choose a channel.
Auto Channel Interval	<p>Specify a frequency for how often the auto channel setting will check/reassign the wireless channel.</p> <p>Check/uncheck the "Change channel even if clients are connected" box according to your preference.</p>
Channel Bandwidth	<p>Set the channel bandwidth:</p> <ul style="list-style-type: none"> ■ 20MHz (lower performance but less interference) ■ 40MHz (higher performance but potentially higher interference) ■ Auto (automatically select based on interference level).
BSS Rate Set	Set a Basic Service Set (BSS) rate: This is the transmission rate for controlling communication frames for wireless clients.

When auto channel is disabled, select a wireless channel manually:

Object	Description
Channel Interval	Select a wireless channel from 1 – 11.
Channel Bandwidth	<p>Set the channel bandwidth:</p> <ul style="list-style-type: none"> ■ 20MHz (lower performance but less interference), ■ 40MHz (higher performance but potentially higher interference) ■ Auto (automatically select based on interference level).
BSS Rate Set	Set a Basic Service Set (BSS) rate: This is the transmission rate for controlling communication frames for wireless clients.



The Wireless Settings can only be configured in the AP mode, not in the Repeater mode or the Client mode.

6.3.2 Advanced

These settings are for experienced users only. Please do not change any of the values on this page unless you are already familiar with these functions.

2.4GHz Advanced Settings	
Contention Slot	Short <input type="button" value="v"/>
Preamble Type	Long <input type="button" value="v"/>
Guard Interval	Short GI <input type="button" value="v"/>
802.11g Protection	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
802.11n Protection	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
DTIM Period	1 (1-255)
RTS Threshold	2347 (1-2347)
Fragment Threshold	2346 (256-2346)
Multicast Rate	Auto <input type="button" value="v"/>
Tx Power	100% <input type="button" value="v"/>
Beacon Interval	100 (40-1000 ms)
Station Idle Timeout	60 (30-65535 seconds)

Figure 6-6 2.4GHz Wireless Settings -- Advanced

The page includes the following fields:

Object	Description
Contention Slot	Select "Short" or "Long" – this value is used for contention windows in WMM.
Preamble Type	Set the wireless radio preamble type. The default value is "Long".
Guard Interval	Set the guard interval.
802.11g Protection	Enable/disable 802.11g protection, which increases reliability but reduces bandwidth (Clients will send Request to Send (RTS) to access point, and access point will broadcast Clear to Send (CTS), before a packet is sent from client.).
802.11n Protection	Enable/disable 802.11n protection, which increases reliability but reduces bandwidth (Clients will send Request to Send (RTS) to access point, and access point will broadcast Clear to Send (CTS), before a packet is sent from client.).
DTIM Period	Set the DTIM (delivery traffic indication message) period value of the wireless radio. The default value is 1.

RTS Threshold	Set the RTS threshold of the wireless radio. The default value is 2347 .
Fragment Threshold	Set the fragment threshold of the wireless radio. The default value is 2346 .
Multicast Rate	Set the transfer rate for multicast packets or use the “ Auto ” setting.
Tx Power	Set the power output of the wireless radio. You may not require 100% output power. Setting a lower power output can enhance security since potentially malicious/unknown users in distant areas will not be able to access your signal.
Beacon Interval	Set the beacon interval of the wireless radio. The default value is 100 .
Station Idle Timeout	Set the time for access point to which the client has not transmitted any data packets.



Changing these settings can adversely affect the performance of your range extender.

6.3.3 Security

The range extender provides various security options (wireless data encryption). When data is encrypted, information transmitted wirelessly cannot be read by anyone who does not know the correct encryption key.

2.4GHz Wireless Security Settings

SSID	PLANET_2.4G_f82c ▾
Broadcast SSID	Enable ▾
Wireless Client Isolation	Disable ▾
Authentication Method	No Authentication ▾
Additional Authentication	No additional authentication ▾

Figure 6-7 2.4GHz Wireless Settings -- Security

The page includes the following fields:

Object	Description
SSID	It shows the SSID to configure security settings.
Broadcast SSID	Enable or disable SSID broadcast. <ul style="list-style-type: none"> ■ When enabled, the SSID will be visible to clients as an available Wi-Fi network.

	<ul style="list-style-type: none"> When disabled, the SSID will not be visible as an available Wi-Fi network to clients – clients must manually enter the SSID in order to connect. <p>A hidden (disabled) SSID is typically more secure than a visible (enabled) SSID.</p>
Wireless Client Isolation	<p>Enable or disable wireless client isolation.</p> <p>Wireless client isolation prevents clients connected to the range extender from communicating with each other and improves security. Typically, this function is useful for corporate environments or public hot spots and can prevent brute force attacks on clients' usernames and passwords.</p>
Authentication Method	Select an authentication method from the drop-down menu and refer to the information below appropriate for your method.
Additional Authentication	Select an additional authentication method from the drop-down menu.

■ **No Authentication**

Authentication is disabled and no password/key is required to connect to the access point.



Disabling wireless authentication is NOT recommended. When disabled, anybody within range can connect to your device's SSID.

■ **WEP**

WEP (Wired Equivalent Privacy) is a basic encryption type. For a higher level of security consider using WPA encryption.

Authentication Method	WEP ▼
Key Length	64-bit ▼
Key Type	ASCII (5Characters) ▼
Default Key	Key 1 ▼
Encryption Key 1	<input type="text"/>
Encryption Key 2	<input type="text"/>
Encryption Key 3	<input type="text"/>
Encryption Key 4	<input type="text"/>
Additional Authentication	No additional authentication ▼

Figure 6-8 2.4GHz Wireless Settings -- WEP

The page includes the following fields:

Object	Description
Key Length	Select 64-bit or 128-bit . 128-bit is more secure than 64-bit and is recommended.
Key Type	Choose from “ ASCII ” (any alphanumeric character 0-9, a-z and A-Z) or “ Hex ” (any characters from 0-9, a-f and A-F).
Default Key	Select which encryption key (1 – 4 below) is the default key. For security purposes, you can set up to four keys (below) and change which is the default key.
Encryption Key 1 – 4	Enter your encryption key/password according to the format you selected above.

■ WPA-PSK

Authentication Method	WPA-PSK ▼
WPA Type	WPA/WPA2 Mixed Mode-PSK ▼
Encryption Type	TKIP/AES Mixed Mode ▼
Key Renewal Interval	60 minute(s)
Pre-shared Key Type	Passphrase ▼
Pre-shared Key	<input type="text"/>
Additional Authentication	No additional authentication ▼

Figure 6-9 2.4GHz Wireless Settings -- WPA-PSK

The page includes the following fields:

Object	Description
WPA Type	Select from WPA/WPA2 Mixed Mode-PSK , WPA2 or WPA only. WPA2 is safer than WPA only, but not supported by all wireless clients. Please make sure your wireless client supports your selection.
Encryption	Select “ TKIP/AES Mixed Mode ” or “ AES ” encryption type.
Key Renewal Interval	Specify a frequency for key renewal in minutes.
Pre-shared Key Type	Choose from “ Passphrase ” (8 – 63 alphanumeric characters) or “ Hex ” (up to 64 characters from 0-9, a-f and A-F).
Pre-shared Key	Please enter a security key/password according to the format you selected above.

6.3.4 5GHz 11ac 11an Basic Settings

The “5GHz 11ac 11an” menu allows you to view and configure information for your range extender’s 5GHz wireless network across four categories: **Basic**, **Advanced** and **Security**.

The “**Basic**” screen displays basic settings for your range extender’s 5GHz Wi-Fi network(s).

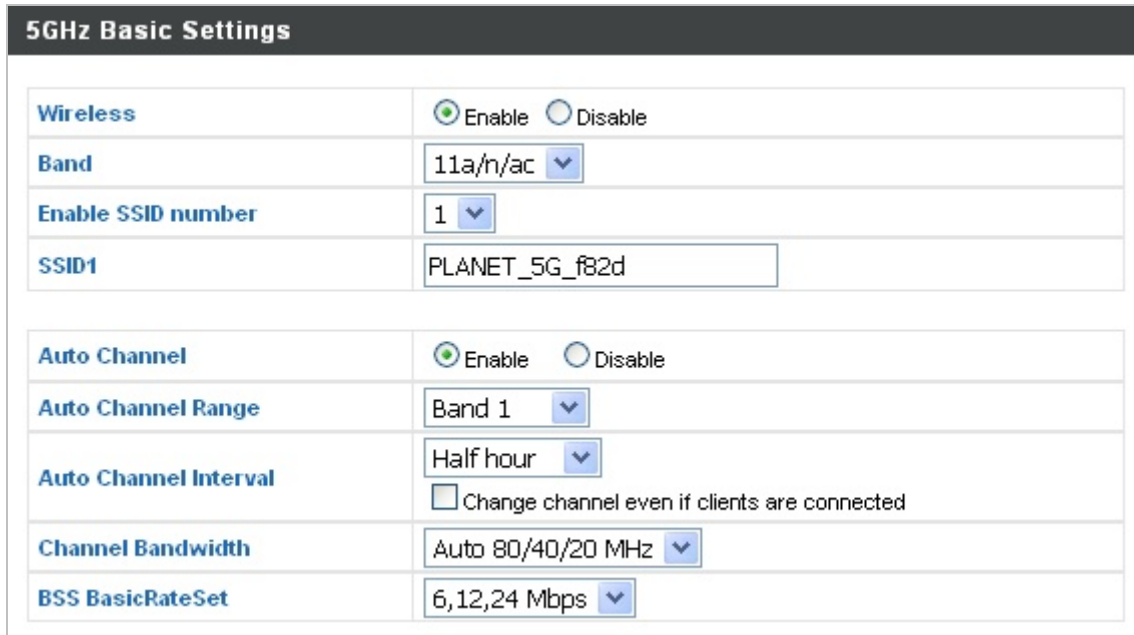


Figure 6-10 5GHz Wireless Settings

The page includes the following fields:

Object	Description
Wireless	Enable or disable the range extender’s 5GHz wireless radio. When disabled, no 5GHz SSIDs will be active.
Band	Select the wireless standard used for the access point. Combinations of 802.11a, 802.11n and 802.11ac can be selected.
Enable SSID Number	It shows the SSID to enable for the 5GHz frequency.
Auto Channel	Enable/disable auto channel selection. Auto channel selection will automatically set the wireless channel for the access point’s 5GHz frequency based on availability and potential interference. When disabled, select a channel manually as shown in the next table.
Auto Channel Range	Select a range from which the auto channel setting (above) will choose a channel.
Auto Channel Interval	Specify a frequency for how often the auto channel setting will check/reassign the wireless channel. Check/uncheck the “ Change channel even if clients are connected ” box according to your preference.

Channel Bandwidth	Set the channel bandwidth: <ul style="list-style-type: none"> ■ 20MHz (lower performance but less interference) ■ Auto 40/20MHz ■ Auto 80/40/20MHz (automatically select based on interference level).
BSS Rate Set	Set a Basic Service Set (BSS) rate: This is the transmission rate for controlling communication frames for wireless clients.

When auto channel is disabled, select a wireless channel manually:

Object	Description
Channel Interval	Select a wireless channel.
Channel Bandwidth	Set the channel bandwidth: <ul style="list-style-type: none"> ■ 20MHz (lower performance but less interference) ■ Auto 40/20MHz ■ Auto 80/40/20MHz (automatically select based on interference level).
BSS Rate Set	Set a Basic Service Set (BSS) rate: This is the transmission rate for controlling communication frames for wireless clients.

6.3.5 Advanced

These settings are for experienced users only. Please do not change any of the values on this page unless you are already familiar with these functions.

5GHz Advanced Settings

Guard Interval	Short GI <input type="button" value="v"/>
802.11n Protection	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
DTIM Period	<input type="text" value="1"/> (1-255)
RTS Threshold	<input type="text" value="2347"/> (1-2347)
Fragment Threshold	<input type="text" value="2346"/> (256-2346)
Multicast Rate	Auto <input type="button" value="v"/>
Tx Power	100% <input type="button" value="v"/>
Beacon Interval	<input type="text" value="100"/> (40-1000 ms)
Station Idle Timeout	<input type="text" value="60"/> (30-65535 seconds)

Figure 6-11 5GHz Wireless Settings -- Advanced

The page includes the following fields:

Object	Description
Guard Interval	Set the guard interval.
802.11n Protection	Enable/disable 802.11n protection, which increases reliability but reduces bandwidth (clients will send Request to Send (RTS) to range extender, and range extender will broadcast Clear to Send (CTS), before a packet is sent from client.)
DTIM Period	Set the DTIM (delivery traffic indication message) period value of the wireless radio. The default value is 1 .
RTS Threshold	Set the RTS threshold of the wireless radio. The default value is 2347 .
Fragment Threshold	Set the fragment threshold of the wireless radio. The default value is 2346 .
Multicast Rate	Set the transfer rate for multicast packets or use the “ Auto ” setting.
Tx Power	Set the power output of the wireless radio. You may not require 100% output power. Setting a lower power output can enhance security since potentially malicious/unknown users in distant areas will not be able to access your signal.
Beacon Interval	Set the beacon interval of the wireless radio. The default value is 100 .
Station Idle Timeout	Set the time for range extender to which the client has not transmitted any data packets



Changing these settings can adversely affect the performance of your access point.

6.3.6 Security

The range extender provides various security options (wireless data encryption). When data is encrypted, information transmitted wirelessly cannot be read by anyone who does not know the correct encryption key.

5GHz Wireless Security Settings	
SSID	PLANET_5G_f82d ▼
Broadcast SSID	Enable ▼
Wireless Client Isolation	Disable ▼
Authentication Method	No Authentication ▼
Additional Authentication	No additional authentication ▼

Figure 6-12 5GHz Wireless Settings -- Security

The page includes the following fields:

Object	Description
SSID	It shows the SSID to configure security settings.
Broadcast SSID	<p>Enable or Disable SSID broadcast.</p> <ul style="list-style-type: none"> ■ When enabled, the SSID will be visible to clients as an available Wi-Fi network. ■ When disabled, the SSID will not be visible as an available Wi-Fi network to clients – clients must manually enter the SSID in order to connect. <p>A hidden (disabled) SSID is typically more secure than a visible (enabled) SSID.</p>
Wireless Client Isolation	<p>Enable or Disable wireless client isolation.</p> <p>Wireless client isolation prevents clients connected to the range extender from communicating with each other and improves security. Typically, this function is useful for corporate environments or public hot spots and can prevent brute force attacks on clients' usernames and passwords.</p>
Authentication Method	Select an authentication method from the drop-down menu and refer to the information below appropriate for your method.
Additional Authentication	Select an additional authentication method from the drop-down menu.

■ **No Authentication**

Authentication is disabled and no password/key is required to connect to the access point.



Disabling wireless authentication is **NOT recommended**. When disabled, anybody within range can connect to your device's SSID.

■ **WEP**

WEP (Wired Equivalent Privacy) is a basic encryption type. For a higher level of security consider using WPA encryption.

Authentication Method	WEP <input type="button" value="v"/>
Key Length	64-bit <input type="button" value="v"/>
Key Type	ASCII (5Characters) <input type="button" value="v"/>
Default Key	Key 1 <input type="button" value="v"/>
Encryption Key 1	<input type="text"/>
Encryption Key 2	<input type="text"/>
Encryption Key 3	<input type="text"/>
Encryption Key 4	<input type="text"/>
Additional Authentication	No additional authentication <input type="button" value="v"/>

Figure 6-13 5GHz Wireless Settings -- WEP

The page includes the following fields:

Object	Description
Key Length	Select 64-bit or 128-bit . 128-bit is more secure than 64-bit and is recommended.
Key Type	Choose from " ASCII " (any alphanumerical character 0-9, a-z and A-Z) or " Hex " (any characters from 0-9, a-f and A-F).
Default Key	Select which encryption key (1 – 4 below) is the default key. For security purposes, you can set up to four keys (below) and change which is the default key.
Encryption Key 1 – 4	Enter your encryption key/password according to the format you selected above.

■ WPA-PSK

Authentication Method	WPA-PSK
WPA Type	WPA/WPA2 Mixed Mode-PSK
Encryption Type	TKIP/AES Mixed Mode
Key Renewal Interval	60 minute(s)
Pre-shared Key Type	Passphrase
Pre-shared Key	<input type="text"/>
Additional Authentication	No additional authentication

Figure 6-14 5GHz Wireless Settings - WPA-PSK

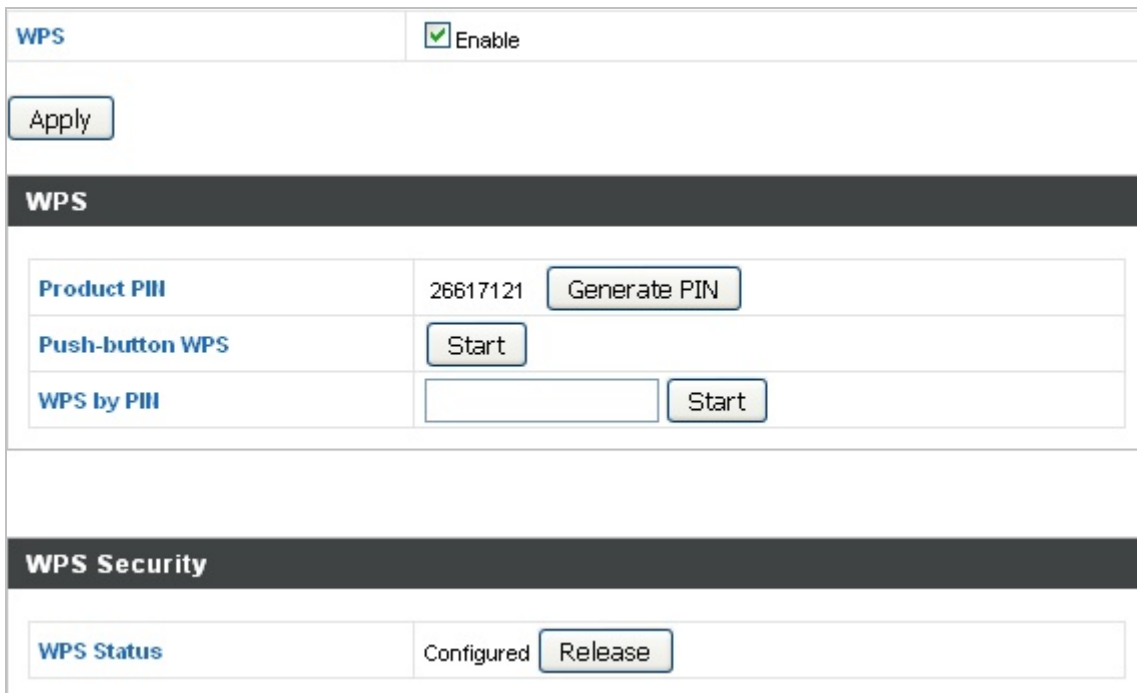
The page includes the following fields:

Object	Description
WPA Type	Select from WPA/WPA2 Mixed Mode-PSK , WPA2 or WPA only . WPA2 is safer than WPA only, but not supported by all wireless clients. Please make sure your wireless client supports your selection.
Encryption	Select “ TKIP/AES Mixed Mode ” or “ AES ” encryption type.
Key Renewal Interval	Specify a frequency for key renewal in minutes.
Pre-Shared Key Type	Choose from “Passphrase” (8 – 63 alphanumeric characters) or “Hex” (up to 64 characters from 0-9, a-f and A-F).
Pre-Shared Key	Please enter a security key/password according to the format you selected above.

6.3.7 WPS

Wi-Fi Protected Setup (WPS) is a simple way to establish connections between WPS compatible devices. WPS can be activated on compatible devices by pushing a WPS button on the device or from within the device’s firmware/configuration interface (known as **PBC** or “**Push Button Configuration**”).

When WPS is activated in the correct manner and at the correct time for two compatible devices, they will automatically connect. “**PIN code WPS**” is a variation of PBC which includes the additional use of a PIN code between the two devices for verification.



The screenshot shows a web-based configuration interface for WPS. At the top, there is a 'WPS' section with an 'Enable' checkbox checked and an 'Apply' button. Below this is a 'WPS' section with three rows: 'Product PIN' showing '26617121' and a 'Generate PIN' button; 'Push-button WPS' with a 'Start' button; and 'WPS by PIN' with an empty input field and a 'Start' button. The bottom section is 'WPS Security', showing 'WPS Status' as 'Configured' and a 'Release' button.

Figure 6-15 WPS

The page includes the following fields:

Object	Description
WPS	Check/uncheck this box to enable/disable WPS functionality. WPS must be disabled when using WEP authentication
Product PIN	Displays the WPS PIN code of the device, used for PIN code WPS. You will be required to enter this PIN code into another WPS device for PIN code WPS. Click “ Generate PIN ” to generate a new WPS PIN code.
Push-button WPS	Click “ Start ” to activate WPS on the range extender for approximately 2 minutes . This has the same effect as physically pushing the range extender’s WPS button.
WPS by PIN	Enter the PIN code of another WPS device and click “ Start ” to attempt to establish a WPS connection for approximately 2 minutes .
WPS Status	WPS security status is displayed here. Click “ Release ” to clear the existing status.

6.3.8 RADIUS Settings

The RADIUS sub menu allows you to configure the range extender’s RADIUS server settings, categorized into three submenus: **RADIUS settings**.

A RADIUS server provides user-based authentication to improve security and offer wireless client control – users can be authenticated before gaining access to a network.

The range extender can utilize both a primary and secondary (backup) RADIUS server for each of its wireless frequencies (2.4GHz & 5GHz).

RADIUS Server (2.4GHz)

Primary RADIUS Server

RADIUS Server	<input style="width: 90%;" type="text"/>
Authentication Port	<input style="width: 80%;" type="text" value="1812"/>
Shared Secret	<input style="width: 90%;" type="text"/>
Session Timeout	<input style="width: 80%;" type="text" value="3600"/> second(s)

Secondary RADIUS Server

RADIUS Server	<input style="width: 90%;" type="text"/>
Authentication Port	<input style="width: 80%;" type="text" value="1812"/>
Shared Secret	<input style="width: 90%;" type="text"/>
Session Timeout	<input style="width: 80%;" type="text" value="3600"/> second(s)

Figure 6-16 RADIUS Settings

The page includes the following fields:

Object	Description
RADIUS Server	Enter the RADIUS server host IP address.
Authentication Port	Set the UDP port used in the authentication protocol of the RADIUS server. Value must be between 1 and 65535 .
Shared Secret	Enter a shared secret/password between 1 and 99 characters in length.
Session Timeout	Set duration of session timeout in seconds between 0 and 86400 .

6.3.9 MAC Filter

Mac filtering is a security feature that can help to prevent unauthorized users from connecting to your range extender.

This function allows you to define a list of network devices permitted to connect to the access point. Devices are each identified by their unique MAC address. If a device which is not on the list of permitted MAC addresses attempts to connect to the access point, it will be denied.



Figure 6-17 MAC Filter

The page includes the following fields:

Object	Description
Add MAC Address	Enter a MAC Address of computer or network device manually without dashes or colons, e.g., for MAC Address 'aa-bb-cc-dd-ee-ff' enter 'aabbccddeeff'.
Add	Click " Add " to add the MAC Address to the MAC Address filtering table.
Reset	Clear all fields.

MAC address entries will be listed in the “**MAC Address Filtering Table**”. Select an entry using the “Select” checkbox.

Object	Description
Select	Delete selected or all entries from the table.
MAC Address	The MAC Address is listed here.
Delete Selected	Delete the selected MAC Address from the list.
Delete All	Delete all entries from the MAC Address filtering table.
Export	Click “ Export ” to save a copy of the MAC filtering table. A new window will pop up for you to select a location to save the file.

6.4 Management

6.4.1 Admin

You can change the password used to login to the browser-based configuration interface here. It is advised to do so for security purposes.

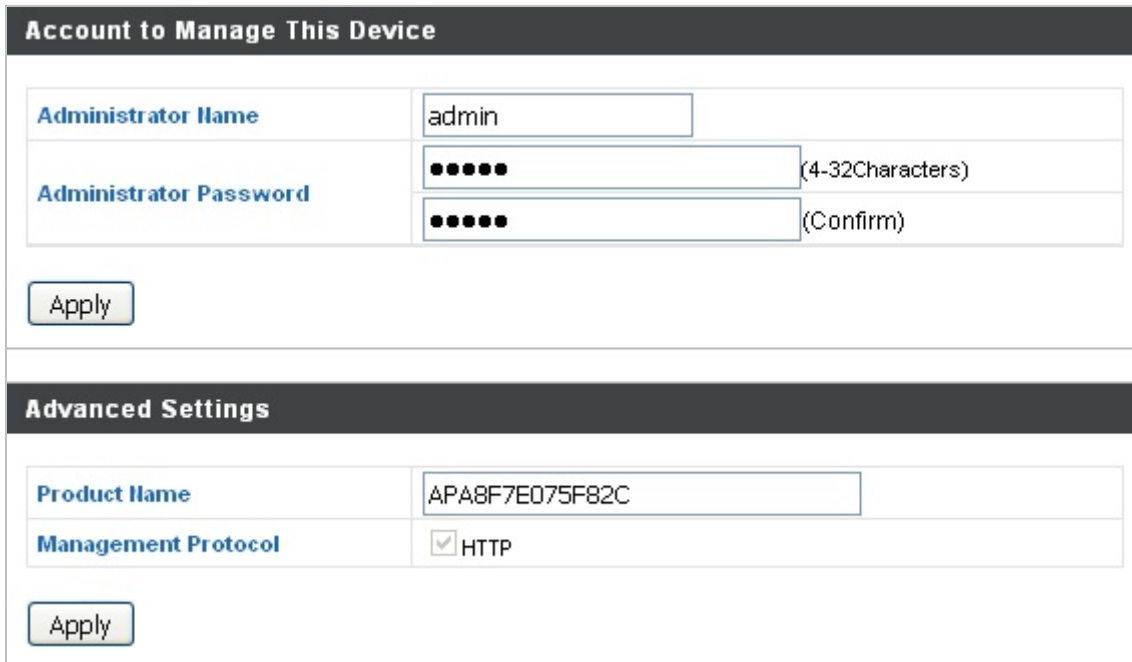


Figure 6-18 Admin

The page includes the following fields:

Object	Description
Administrator Name	Set the access point's administrator name. This is used to log in to the browser based configuration interface.
Administrator Password	Set the access point's administrator password. This is used to log in to the browser based configuration interface.
Product Name	Edit the product name according to your preference. This name is used for reference purposes.
Management Protocol	This range extender can be managed by HTTP interface.

- **HTTP:** Internet browser HTTP protocol management interface

6.4.2 Date and Time

You can configure the time zone settings of your range extender here. The date and time of the device can be configured manually or can be synchronized with a time server.

Date and Time Settings

Local Time	<div style="display: flex; justify-content: space-between;"> 2012 <small>Year</small> Jan <small>Month</small> 1 <small>Day</small> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> 0 <small>Hours</small> 00 <small>Minutes</small> 00 <small>Seconds</small> </div>
-------------------	--

Acquire Current Time from Your PC

NTP Time Server

Use NTP	<input type="checkbox"/> Enable
Server Name	<div style="border: 1px solid #ccc; padding: 2px;"> User-Defined <small>▼</small> 59.124.196.83 </div>
Update Interval	<div style="border: 1px solid #ccc; padding: 2px;"> 24 (Hours) </div>

Time Zone

Time Zone	(GMT-06:00) Central Time (US & Canada) <small>▼</small>
------------------	---

Figure 6-19 Time and Date

The page includes the following fields:

Object	Description
Local Time	Set the access point's date and time manually using the drop-down menus.
Acquire Current Time from your PC	Click " Acquire Current Time from Your PC " to enter the required values automatically according to your computer's current time and date.
Use NTP	The range extender also supports NTP (Network Time Protocol) for automatic time and date setup.
Server Name	Enter the host name or IP address of the time server if you wish.
Update Interval	Specify a frequency (in hours) for the range extender to update/synchronize with the NTP server.
Time Zone	Select the time zone of your country/ region. If your country/region is not listed, please select another country/region whose time zone is the same as yours.

6.5 Advanced

6.5.1 LED Settings

The range extender's LEDs can be manually enabled or disabled according to your preference.

LED Settings	
Power LED	<input checked="" type="radio"/> On <input type="radio"/> Off
Wired LED	<input checked="" type="radio"/> On <input type="radio"/> Off
Wireless LED	<input checked="" type="radio"/> On <input type="radio"/> Off
2.4GHz Signal Strength LED	<input checked="" type="radio"/> On <input type="radio"/> Off
5GHz Signal Strength LED	<input checked="" type="radio"/> On <input type="radio"/> Off
WPS LED	<input checked="" type="radio"/> On <input type="radio"/> Off

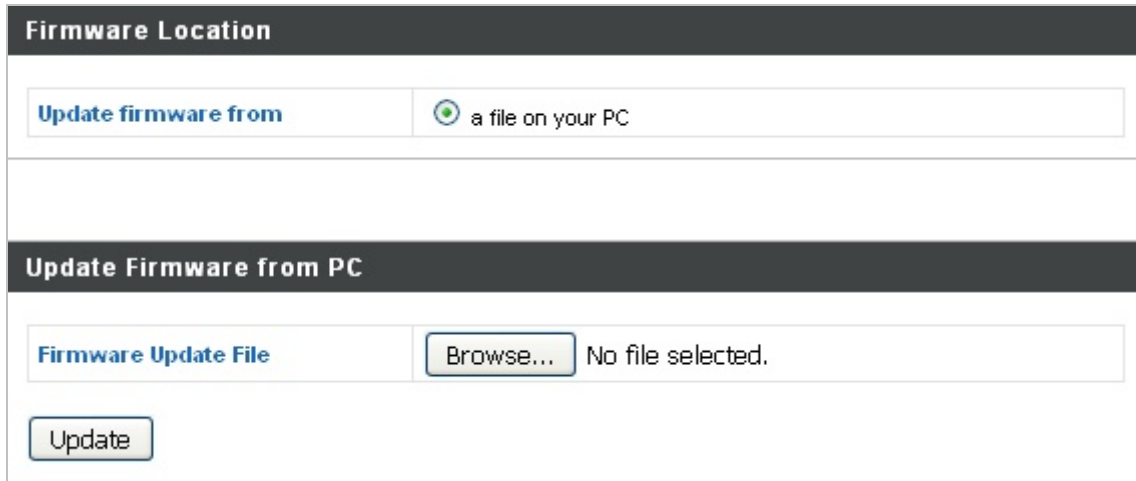
Figure 6-20 LED Settings

The page includes the following fields:

Object	Description
Power LED	Select on or off.
Wired LED	Select on or off.
Wireless LED	Select on or off.
2.4GHz Signal Strength LED	Select on or off.
5GHz Signal Strength LED	Select on or off.
WPS LED	Select on or off.

6.5.2 Updating Firmware

The “Firmware” page allows you to update the system firmware to a more recent version. Updated firmware versions often offer increased performance and security, as well as bug fixes. You can download the latest firmware from the PLANET website.



The screenshot shows a web interface for updating firmware. It is divided into two main sections. The top section, titled "Firmware Location", contains a radio button labeled "Update firmware from" which is selected, and a corresponding text field containing "a file on your PC". The bottom section, titled "Update Firmware from PC", contains a text field labeled "Firmware Update File" with a "Browse..." button next to it. The text "No file selected." is displayed to the right of the "Browse..." button. Below these fields is a single "Update" button.

Figure 6-21 Updating Firmware

The page includes the following fields:

Object	Description
Update Firmware From	Select to upload firmware from your local computer.
Firmware Update File	Click “Browse” to open a new window to locate and select the firmware file in your computer.
Update	Click “Update” to upload the specified firmware file to your access point.

6.5.3 Saving/Restoring Settings

The range extender’s “Save/Restore Settings” page enables you to save/backup the range extender’s current settings as a file to your local computer and restore the range extender to previously saved settings.

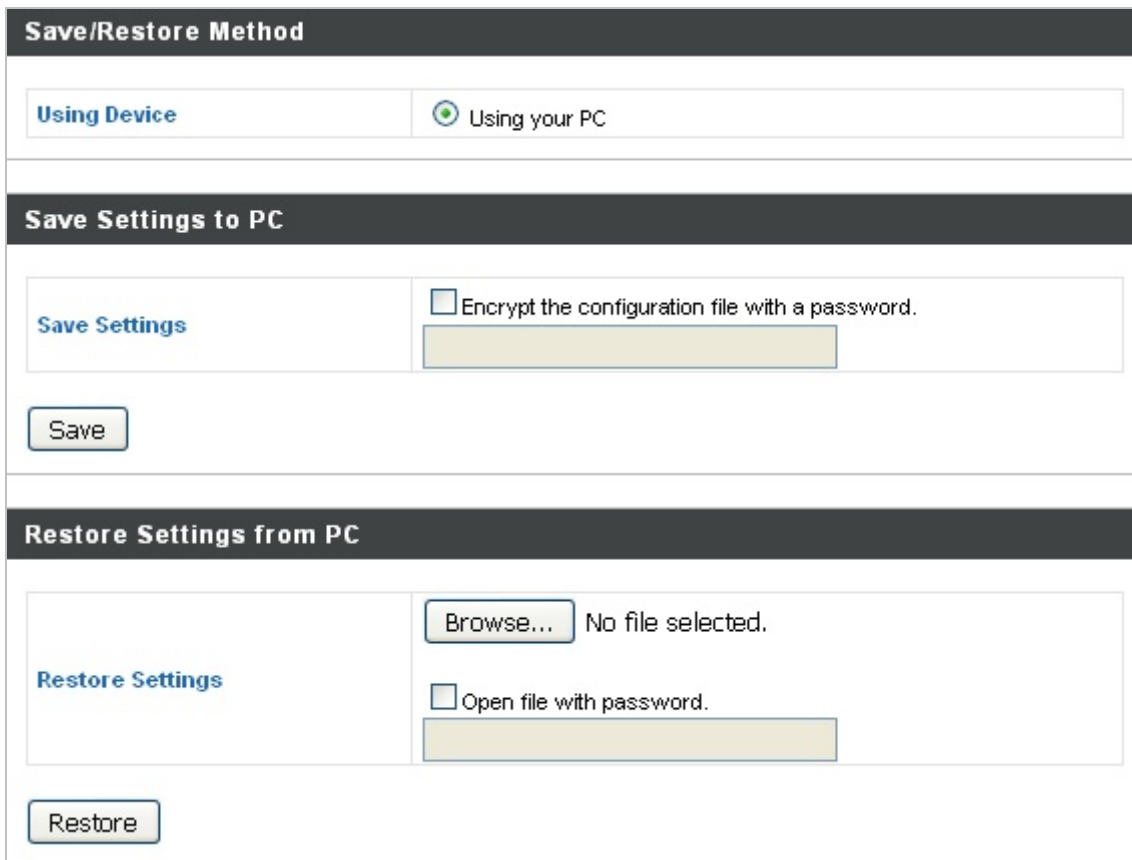


Figure 6-22 Saving/Restoring Settings

The page includes the following fields:

Object	Description
Using Device	Select to save the range extender’s settings to your local computer.
Save Settings	Click “ Save ” to save settings and a new window will open to specify a location to save the settings file. If saving settings to your computer, you can also check the “ Encrypt the configuration file with a password ” box and enter a password to protect the file in the field underneath, if you wish.
Restore Settings	Click the “ Browse ” button to find a previously saved settings file and then click “ Restore ” to replace your current settings. If your settings file is encrypted with a password, check the “ Open file with password ” box and enter the password in the field underneath.

6.5.4 Factory Default

If the range extender malfunctions or is not responding, then it is recommended that you reboot the device or reset the device back to its factory default settings. You can reset the range extender back to its default settings using this feature if the location of the range extender is not convenient to access the reset button.



Figure 6-23 Factory Default

The page includes the following fields:

Object	Description
Factory Default	Click “ Factory Default ” to restore settings to the factory default. A pop-up window will appear and ask you to confirm.



After resetting to factory defaults, please wait for the range extender to reset and restart.

6.5.5 Reboot

If the range extender malfunctions or is not responding, then it is recommended that you reboot the device or reset the access point back to its factory default settings. You can reboot the range extender remotely using this feature.



Figure 6-24 Reboot

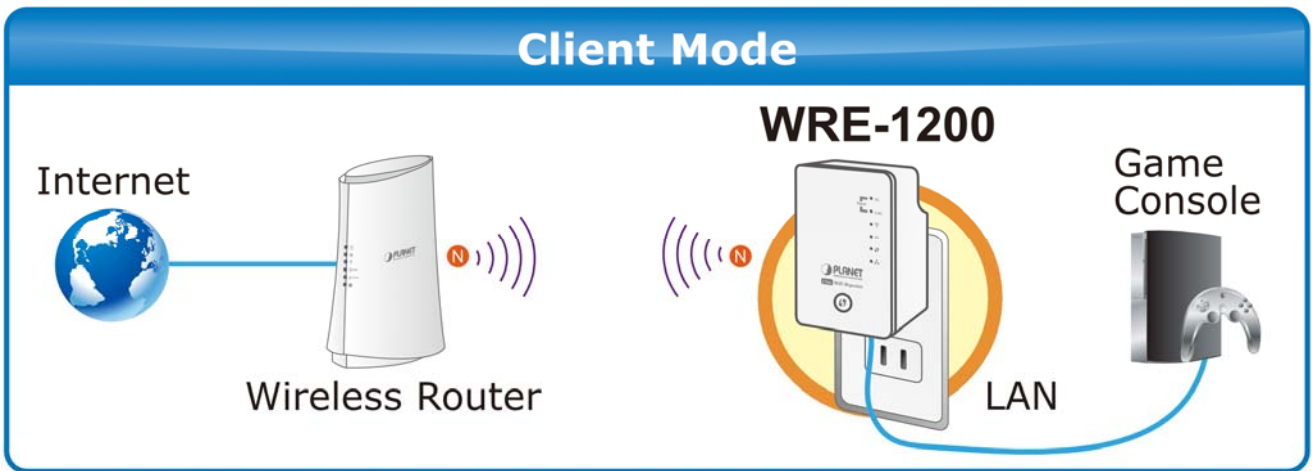
The page includes the following fields:

Object	Description
Reboot	Click “ Reboot ” to reboot the device. A countdown will indicate the progress of the reboot.

Chapter 7. Client Mode

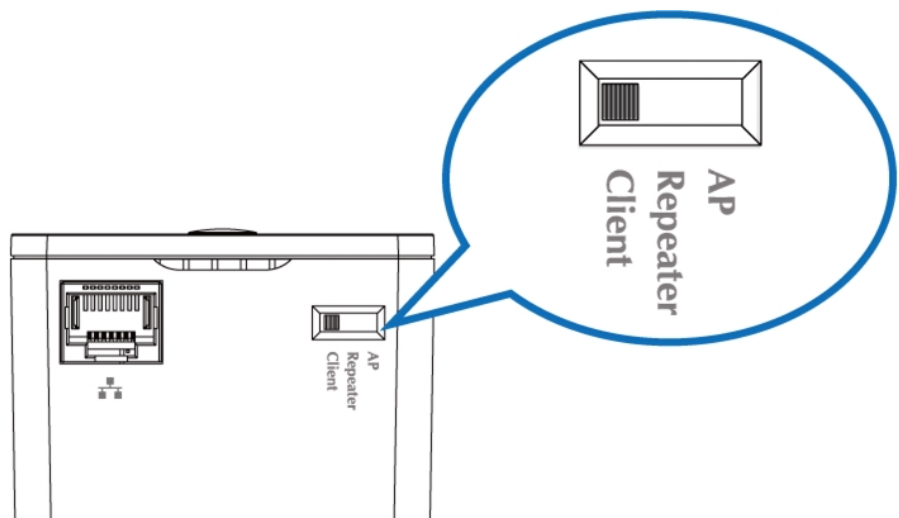
This chapter will show you how to quickly install this device by using quick setup and show you each detailed setting on web UI page under client mode.

In the client mode, the WRE-1200 can let your networking device have wireless capability; it will become your networking device's wireless network card. You can connect this device to Ethernet port of your existing internet TV or DVD player or game console device via Ethernet cable.



7.1 Client Mode Configuration

Please refer to the **Chapter 4 Hardware installation** for the settings. And make sure the hardware switch is Client Mode.



7.2 Client Mode Advanced Settings

After logging in to the WRE-1200 by browser, you could see the configuration below.

Quick Setup

This quick setup helps you to install this repeater and build wireless connection.
 Please select one Access point(or WLAN Router) you want to connect and click "Next" button to continue.
 If the access point you wish to connect does not appear here, please click "Refresh" until it appears on the list, or try to move this repeater closer to the access point you wish to connect.
 Or you can input SSID manually when your access point is using hidden SSID.

Note: For the first time setup and easy installation, you can move this device close to the Access point you wish to extend wireless signal. After this installation is done and wireless connection is built, repeater's "Signal" LED will be enabled. You can check signal LED on the device to understand signal reception level. Steady light: Excellent, Flash: Good, Fast flash: poor, Off: out of signal.

You can use this signal LED to find the best location of repeater (for example: a better place may be the center of your access point and the farthest client PC)

Wireless 2.4GHz

Ch	SSID	MAC Address	Security	Signal (%)	Type
You can click Scan button to start.					

Wireless 5GHz

Ch	SSID	MAC Address	Security	Signal (%)	Type
You can click Scan button to start.					

Setup repeater manually

Setup repeater manually
2.4G

Figure 7-1 Quick Setup

7.2.1 Scanning Wireless Signal

Press "Scan" and it will display all available 2.4GHz and 5GHz Wi-Fi networks. Select the SSID you want to connect to.

Wireless 2.4GHz (5 Accesspoints)

Select	Ch	SSID	MAC Address	Security	Signal (%)	Type
<input type="radio"/>	1	WDRT-1200AC_2.4G	A8:F7:E0:51:EA:E7	WPA2PSK/AES	100	b/g/n
<input type="radio"/>	11			WPA2PSK/AES	20	b/g/n
<input type="radio"/>	11			WEP	96	b/g

Wireless 5GHz (4 Accesspoints)

Select	Ch	SSID	MAC Address	Security	Signal (%)	Type
<input type="radio"/>	36	WDRT-1200AC_5G	2C:F7:E0:51:EA:E7	WPA2PSK/AES	100	ac
<input type="radio"/>	44			WPA2PSK/AES	91	ac
<input type="radio"/>	157			WPA2PSK/AES	42	a/n

Figure 7-2 Selecting SSID

To select the SSID, you might need to enter the encryption of root AP. Press “Save” after entering the key.

Security

SSID	WDRT-1200AC_2.4G
2.4G Channel	Ch 1, 2412MHz
Authentication Method	WPA-PSK
WPA Type	WPA2 Only
Encryption Type	AES
Pre-shared Key Type	Passphrase
Pre-shared Key	12345678

Figure 7-3 Entering Pre-shared Key

The connection will be established if the key is correct. You can click “Apply” to finish the setting.

Save settings successfully!

Please press APPLY button to restart the system to make the changes take effect.

2.4G Setting
 Connected Access Point SSID : **WDRT-1200AC_2.4G**
 Security : **WPA-PSK**

Figure 7-4 Saving settings

The connection is established successfully. You can press “**Home**” to enter Web UI of the WRE-1200.
You can refer to the [Chapter 6](#) for more information about the web settings.

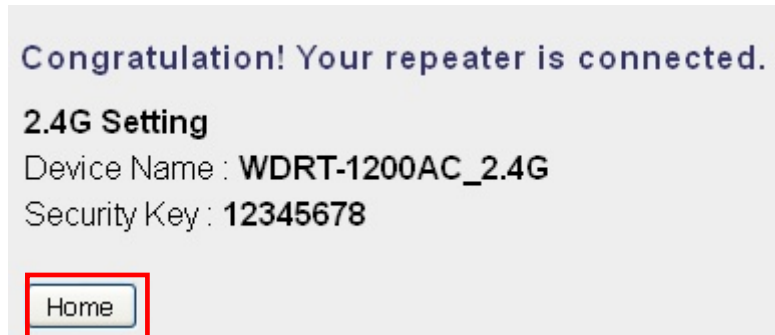


Figure 7-5 AP connected

Appendix A: Planet Smart Discovery Utility

To easily list the WRE-1200 in your Ethernet environment, the Planet Smart Discovery Utility can be downloaded from the PLANET website below.

http://www.planet.com.tw/en/product/images/48590/Planet_Utility.zip

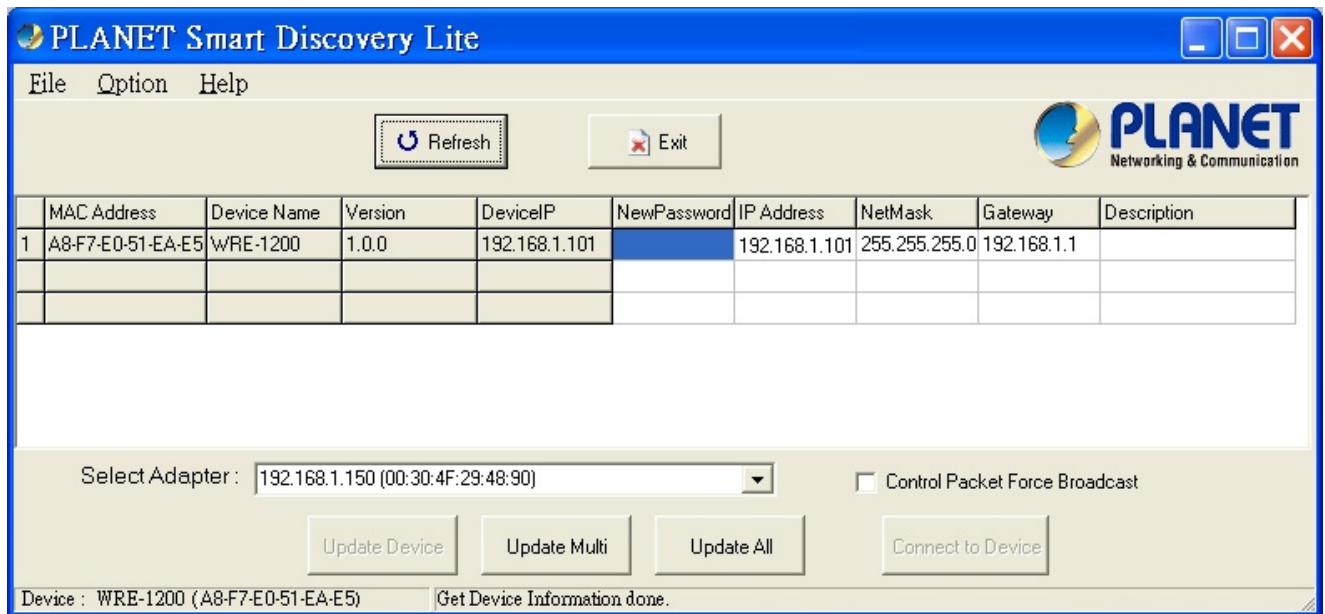
The following installation instructions guide you to running the Planet Smart Discovery Utility.

Step 1: Place the **Planet Smart Discovery Utility** in administrator PC.

Step 2: Run this utility and the following screen appears.



Step 3: Press the **“Refresh”** button for the currently connected devices in the discovery list as shown in the following screen:



Step 3: Press the **“Connect to Device”** button and then the Web login screen appears.



The fields in white background can be modified directly and then you can apply the new setting by clicking the **“Update Device”** button.

EC Declaration of Conformity

English	Hereby, PLANET Technology Corporation , declares that this 11ac Wireless AP is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.	Lietuviškai	Šiuo PLANET Technology Corporation ,, skelbia, kad 11ac Wireless AP tenkina visus svarbiausius 1999/5/EC direktyvos reikalavimus ir kitas svarbias nuostatas.
Česky	Společnost PLANET Technology Corporation , tímto prohlašuje, že tato 11ac Wireless AP splňuje základní požadavky a další příslušná ustanovení směrnice 1999/5/EC.	Magyar	A gyártó PLANET Technology Corporation , kijelenti, hogy ez a 11ac Wireless AP megfelel az 1999/5/EK irányelv alapkövetelményeinek és a kapcsolódó rendelkezéseknek.
Dansk	PLANET Technology Corporation , erklærer herved, at følgende udstyr 11ac Wireless AP overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF	Malti	Hawnhekk, PLANET Technology Corporation , jiddikjara li dan 11ac Wireless AP jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 1999/5/EC
Deutsch	Hiermit erklärt PLANET Technology Corporation , dass sich dieses Gerät 11ac Wireless AP in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMW i)	Nederlands	Hierbij verklaart , PLANET Technology Corporation , dat 11ac Wireless AP in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
Eestikeeles	Käesolevaga kinnitab PLANET Technology Corporation , et see 11ac Wireless AP vastab Euroopa Nõukogu direktiivi 1999/5/EC põhinõuetele ja muudele olulistele tingimustele.	Polski	Niniejszym firma PLANET Technology Corporation , oświadcza, że 11ac Wireless AP spełnia wszystkie istotne wymogi i klauzule zawarte w dokumencie „Directive 1999/5/EC”.
Ελληνικά	<i>ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ , PLANET Technology Corporation, ΔΗΛΩΝΕΙ ΟΤΙ ΑΥΤΟ 11ac Wireless AP ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ</i>	Português	PLANET Technology Corporation , declara que este 11ac Wireless AP está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Español	Por medio de la presente, PLANET Technology Corporation , declara que 11ac Wireless AP cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE	Slovensky	Výrobca PLANET Technology Corporation , týmto deklaruje, že táto 11ac Wireless AP je v súlade so základnými požiadavkami a ďalšími relevantnými predpismi smernice 1999/5/EC.
Français	Par la présente, PLANET Technology Corporation , déclare que les appareils du 11ac Wireless AP sont conformes aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE	Slovensko	PLANET Technology Corporation , s tem potrjuje, da je ta 11ac Wireless AP skladen/a z osnovnimi zahtevami in ustreznimi določili Direktive 1999/5/EC.
Italiano	Con la presente , PLANET Technology Corporation , dichiara che questo 11ac Wireless AP è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.	Suomi	PLANET Technology Corporation , vakuuttaa täten että 11ac Wireless AP tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
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