ZYXEL
Your Networking Ally

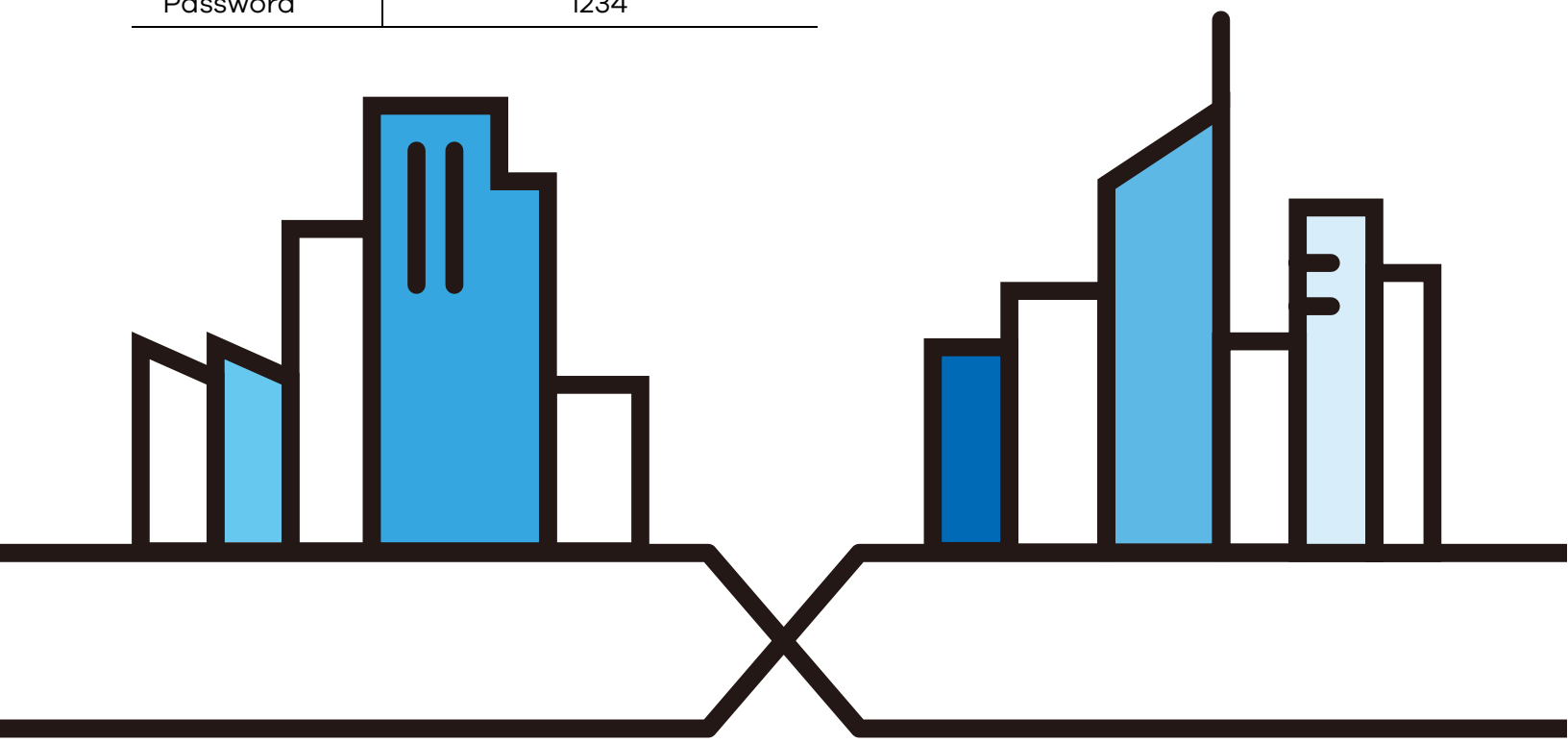
User's Guide

WRE6505 v2

Wireless AC750 Range Extender

Default Login Details	
Web Address	http://zyxelsetup (Windows) OR http://zyxelsetup.local (Mac)
LAN IP address	DHCP-assigned IP OR 192.168.1.2
Password	1234

Version 1.00 Edition 2, 09/2018



IMPORTANT!

READ CAREFULLY BEFORE USE.

KEEP THIS GUIDE FOR FUTURE REFERENCE.

Screenshots and graphics in this book may differ slightly from your product due to differences in your product firmware or your computer operating system. Every effort has been made to ensure that the information in this manual is accurate.

Related Documentation

- Quick Start Guide

  The Quick Start Guide shows how to connect the WRE6505 v2 and access the Web Configurator.

- More Information

  Go to **support.zyxel.com** to find other information on the WRE6505 v2.

Contents Overview

Table of Contents

PART I
User's Guide

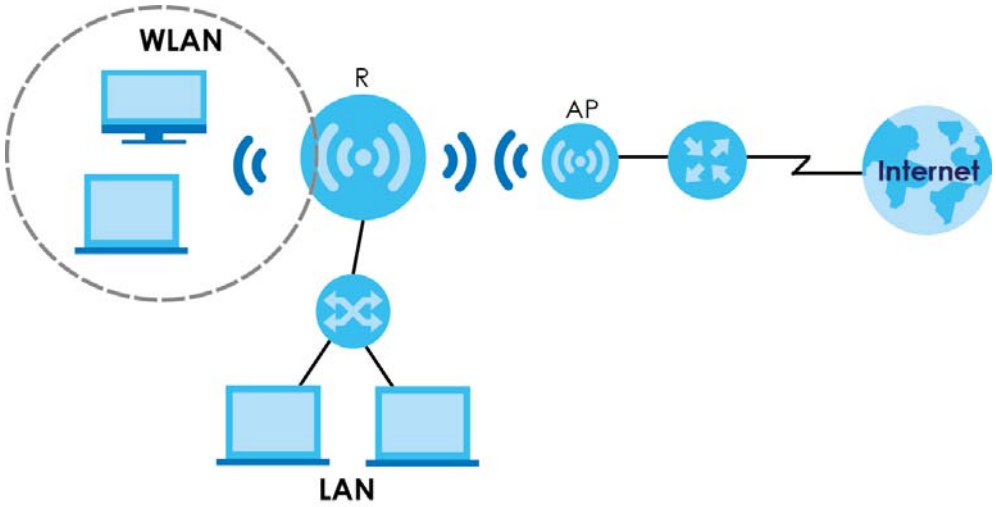
CHAPTER 1 Introduction

1.1 Overview

The WRE6505 v2 allows you to easily extend existing IEEE 802.11 b/g/n/ac wireless networks fast and easy. WRE6505 v2 directly into a power outlet and the LED signal strength indicator allows you to determine the ideal installation location. The one-click Wi-Fi Protected Setup (WPS Button on page 11) provides frustration-free wireless client setup and completes the instant network access setup.

Your can create the following connections using the WRE6505 v2:

- **LAN**. You can connect network devices via the Ethernet port of the WRE6505 v2 (**R**) so that they can communicate with each other and access the Internet.
- **WLAN**. Wireless clients can connect to the WRE6505 v2 (**R**) to access network resources.



Use a (supported) web browser to manage the WRE6505 v2.

See Chapter 7 on page 38 for more information.

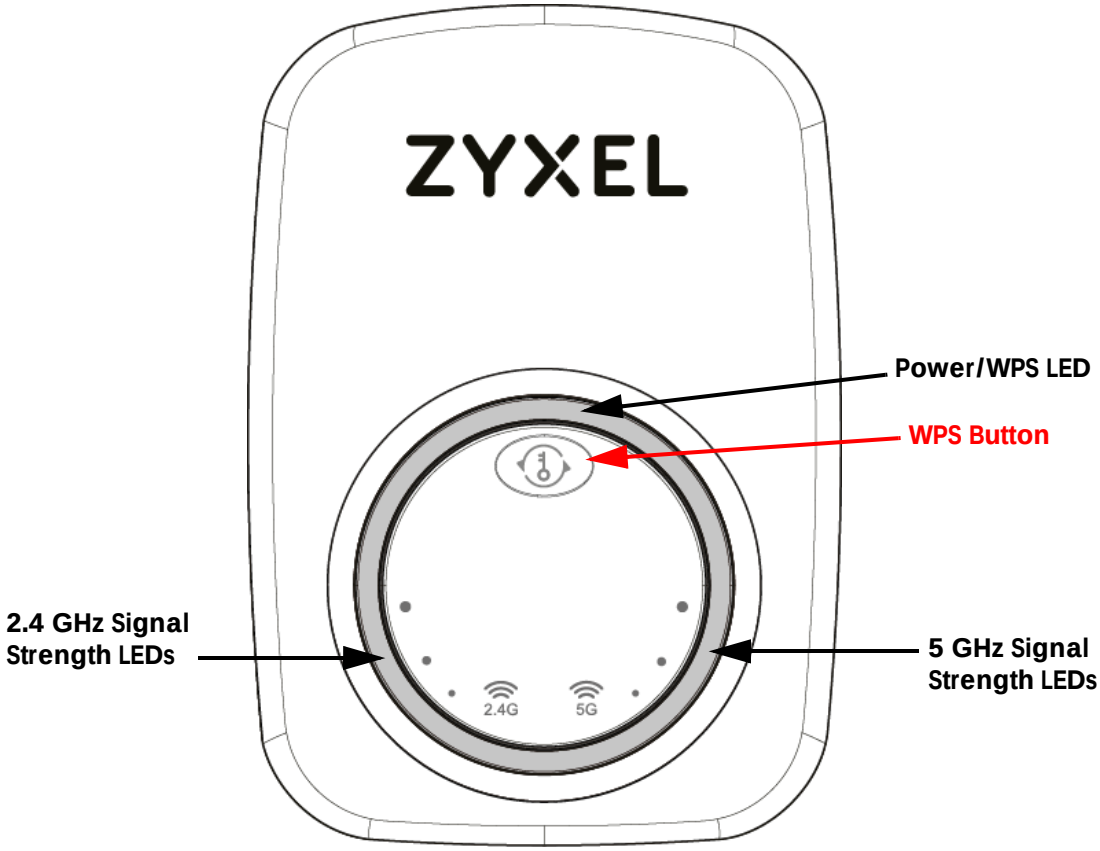
1.2 Securing the WRE6505 v2

Do the following things regularly to make the WRE6505 v2 more secure and to manage the WRE6505 v2 more effectively.

- Change the password. Use a password that's not easy to guess and that consists of different types of characters, such as numbers and letters.
- Write down the password and put it in a safe place.
- Back up the configuration (and make sure you know how to restore it). Restoring an earlier working configuration may be useful if the device becomes unstable or even crashes. If you forget your password, you will have to reset the WRE6505 v2 to its factory default settings. If you backed up an earlier configuration file, you would not have to totally re-configure the WRE6505 v2. You could simply restore your last configuration.

1.3 Front Panel

Figure 1 Front Panel



The following table describes the LEDs.

Table 1 Front Panel LEDs

LED	COLOR	STATUS	DESCRIPTION
Power/WPS	Blue	On	The WRE6505 v2 is receiving power and functioning properly.
		Blinking	The WRE6505 v2 is booting, resetting to factory defaults, the WRE6505 v2 is waiting for another WPS device to connect, or firmware upgrade is in progress.
		Off	The WRE6505 v2 is not receiving power, or there is no WPS connection established.
2.4 GHz Signal Strength	White	On	The more the LEDs are on the better the Wi-Fi signal strength. • Three LEDs: signifies a signal strength of 51% ~ 100% • Two LEDs: signifies a signal strength of 20% ~ 50% • One LED: signifies a signal strength under 20%
		Blinking	Firmware upgrade is in progress.
		Off	The 2.4 GHz wireless LAN is not enabled, there is no signal detected or the WRE6505 v2 (repeater mode) is not connected to a wireless router/AP, or the LEDs are turned off using the WPS button.
5 GHz Signal Strength	White	On	The more the LEDs are on the better the Wi-Fi signal strength. • Three LEDs: signifies a signal strength of 51% ~ 100% • Two LEDs: signifies a signal strength of 20% ~ 50% • One LED: signifies a signal strength under 20%
		Blinking	Firmware upgrade is in progress.
		Off	The 5 GHz wireless LAN is not enabled, there is no signal detected or the WRE6505 v2 (repeater mode) is not connected to a wireless router/AP, or the LEDs are turned off using the WPS button.

1.4 WPS Button

The WPS button can be used to begin Wi-Fi Protected Setup (WPS), reboot the WRE6505 v2 while keeping it's configuration or reboot the WRE6505 v2 to factory default configuration.

Table 2 WPS Button Functions

ACTION	RESULT
Press thress times within 5 seconds	Turn off or turn on all LEDs.
AP Mode	
Push twice within 5 seconds	The WRE6505 v2 begins connecting to a wireless client via WPS. See Section 1.4.1 on page 12.
Hold for 5 to 10 seconds	The WRE6505 v2 keeps its configuration and reboots.
Hold for more than 10 seconds	The WRE6505 v2 resets its configuration to factory defaults and reboots. See Section 2.4 on page 18.
Repeater Mode	
Push twice within 5 seconds	The WRE6505 v2 begins connecting to a wireless client via WPS. See Section 1.4.1 on page 12.
Hold for 5 to 10 seconds	he WRE6505 v2 keeps its configuration and reboots.
Hold for more than 10 seconds	TThe WRE6505 v2 resets its configuration to factory defaults and reboots. See Section 2.4 on page 18.

1.4.1 Wi-Fi Protected Setup

Your WRE6505 v2 supports Wi-Fi Protected Setup (WPS), which is an easy way to set up a secure wireless network. WPS is an industry standard specification, defined by the Wi-Fi Alliance.

WPS allows you to quickly set up a wireless network with strong security, without having to configure security settings manually. Each WPS connection works between two devices. Both devices must support WPS (check each device's documentation to make sure).

Depending on the devices you have, you can either press a button (recommended) on the device itself, or in its configuration utility or enter a PIN (a unique Personal Identification Number that allows one device to authenticate the other) in each of the two devices. When WPS is activated on a device, it has two minutes to find another device that also has WPS activated. Then, the two devices connect and set up a secure network by themselves.

For more information on using WPS, see Section 7.3 on page 38.

CHAPTER 2
The Web Configurator

2.1 Overview

This chapter describes how to access the WRE6505 v2 Web Configurator and provides an overview of its screens.

The Web Configurator is an HTML-based management interface that allows easy setup and management of the WRE6505 v2 via Internet browser. Use Internet Explorer 6.0 and later versions, Mozilla Firefox 3 and later versions, or Safari 2.0 and later versions. The recommended screen resolution is 1024 by 768 pixels.

In order to use the Web Configurator you need to allow:

- Web browser pop-up windows from your device.
- JavaScript (enabled by default).
- Java permissions (enabled by default).

Refer to Chapter 13 Troubleshooting to see how to make sure these functions are allowed in Internet Explorer.

2.2 Accessing the Web Configurator

1. Make sure your WRE6505 v2 hardware is properly connected and prepare your computer or computer network to connect to the WRE6505 v2 (refer to the Quick Start Guide).
2. Launch your web browser.
3. Open a web browser such as Internet Explorer and type “http://zyxelsetup” (for Windows) or “http://zyxelsetup.local” (for Mac) as the web address in your web browser.

2.2.1 Login Screen

The Web Configurator initially displays the following login screen.

Figure 2 Login Screen

The following table describes the labels in this screen.

Table 3 Login screen

LABEL	DESCRIPTION
Password	Type "1234" (default) as the password.
Language	Select the language you want to use to configure the Web Configurator. Click **Login**.
00:06:51 1970-01-01	This shows the time (hh:mm) and date (yyyy:mm:dd) of the timezone you select in the **Maintenance > Time** screen (see Section 12.5 on page 71). The time is in 24-hour format, for example 15:00 is 3:00 PM.

2.2.2 Password Screen

You should see a screen asking you to change your password (highly recommended) as shown next.

Figure 3 Change Password Screen

The following table describes the labels in this screen.

Table 4 Change Password Screen

LABEL	DESCRIPTION
New Password	Type a new password.
Retype to Confirm	Retype the password for confirmation.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Ignore	Click **Ignore** if you do not want to change the password this time.

2.2.3 Home Screen

If you have previously logged into the Web Configurator but did not click **Logout**, you may be redirected to the **Home** screen.

You can also open this screen by clicking **Home** () in the Web Configurator screens.

The Home screen displays as follows.

Figure 4 Home Screen

The following table describes the labels in this screen.

Table 5 Home Screen

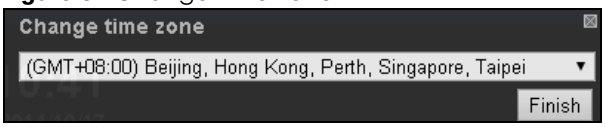
LABEL	DESCRIPTION
GO	Click this to return to the previous screen.
Language	Select a language to go to the Web Configurator in that language and click **GO**.
	(This is just an example). This shows the time (hh:mm:ss) and date (yyyy:mm:dd) of the timezone you select in Section 2.2.3.1 on page 16 or Section 12.5 on page 71.

2.2.3.1 Time/Date Edit

One timezone can cover more than one country. You can choose a particular country in which the WRE6505 v2 is located and have the WRE6505 v2 display and use the current time and date for its logs.

Click the  icon to change the time and date display.

Figure 5 Change Time Zone



The following table describes the labels in this screen.

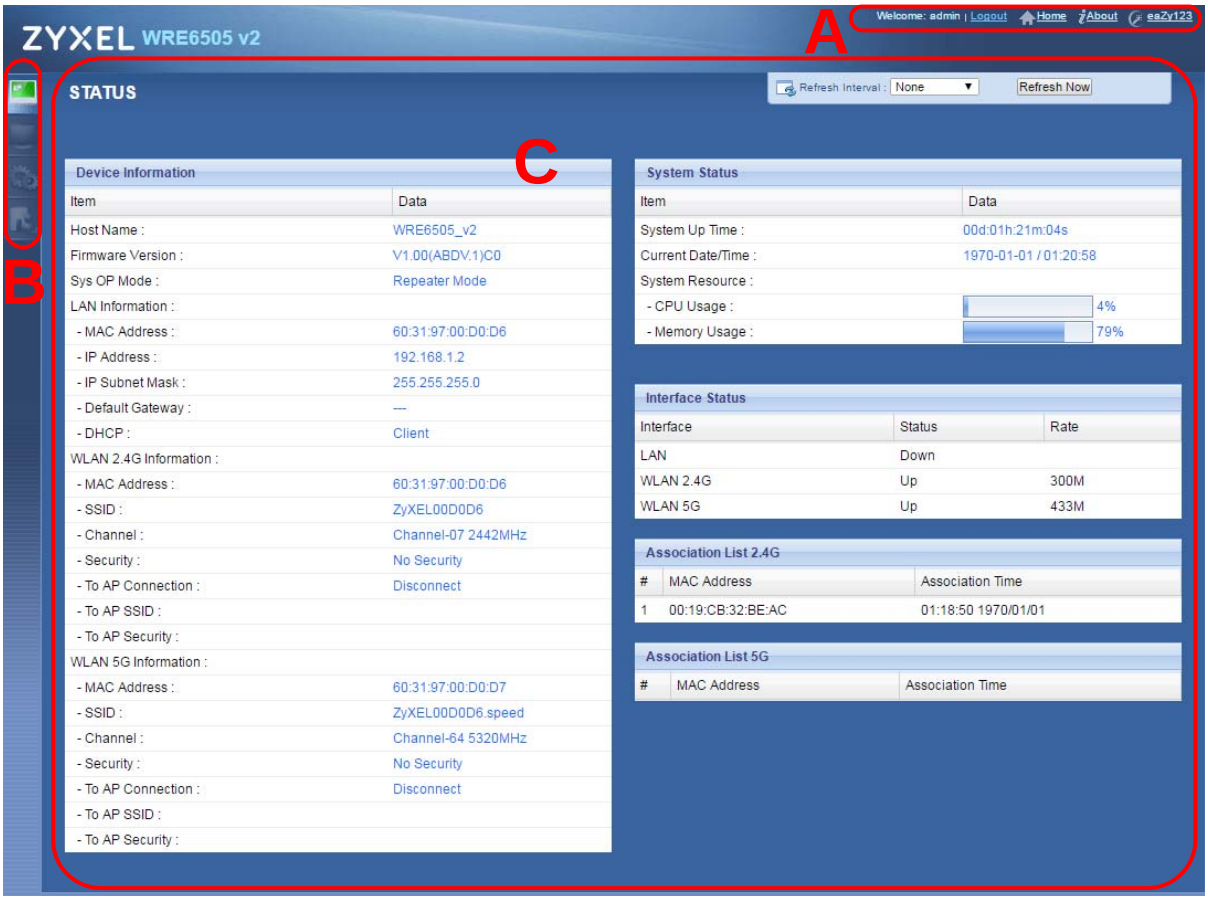
Table 6 Change Time Zone

LABEL	DESCRIPTION
Change time zone	Select the specific country whose current time and date you want the WRE6505 v2 to display.
Finish	Click this to apply the settings and refresh the weather display.

2.3 Navigating the Web Configurator

The following summarizes how to navigate the web configurator from the **Status** screen.

Figure 6 The Web Configurator's Main Screen



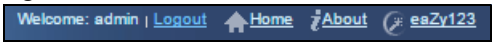
The Web Configurator's main screen is divided into these parts:

- **A** - Title Bar
- **B** - Navigation Panel
- **C** - Main Window

2.3.1 Title Bar

The title bar provides some useful links that always appear over the screens below, regardless of how deep into the Web Configurator you navigate.

Figure 7 Title Bar



The icons provide the following functions.

Table 7 Title Bar: Web Configurator Icons

LABEL	DESCRIPTION
Logout	Click this at any time to exit the Web Configurator.
Home	Click this to open the home screen. See Section 2.2.3 on page 15.
About	Click this icon to view copyright and a link for related product information.
eaZy123	Click this icon to open the wizard. See Chapter 6 on page 33.

2.3.2 Navigation Panel

Use the menu items on the navigation panel to open screens to configure WRE6505 v2 features.

The following table describes the icons shown in the navigation panel.

Table 8 Navigation Panel Menu Icons

ICON	DESCRIPTION
	Click this icon to see the **Status** page. The information in this screen depends on the device mode you select.
	Click this icon to see the **Monitor** navigation menu.
	Click this icon to see the **Configuration** navigation menu.
	Click this icon to see the **Maintenance** navigation menu.

2.4 Resetting the WRE6505 v2

If you forget your password or IP address, or you cannot access the Web Configurator, press the **WPS** button for more than 10 seconds to reload the factory-default configuration file. This means that you will lose all configurations that you had previously saved, the password will be reset to **1234**.

1. Make sure the power LED is on.
2. Press and hold the **WPS** button. After 10 seconds, the power LED begins flashing.
3. Release the **WPS** button. The WRE6505 v2 reloads factory defaults and begins to reboot.

CHAPTER 3
WRE6505 v2 Modes

3.1 Overview

This chapter introduces the different modes available on your WRE6505 v2.

- **System mode**. This is the operating mode of your WRE6505 v2, or simply how the WRE6505 v2 is being used in the network.

3.1.1 Device Modes

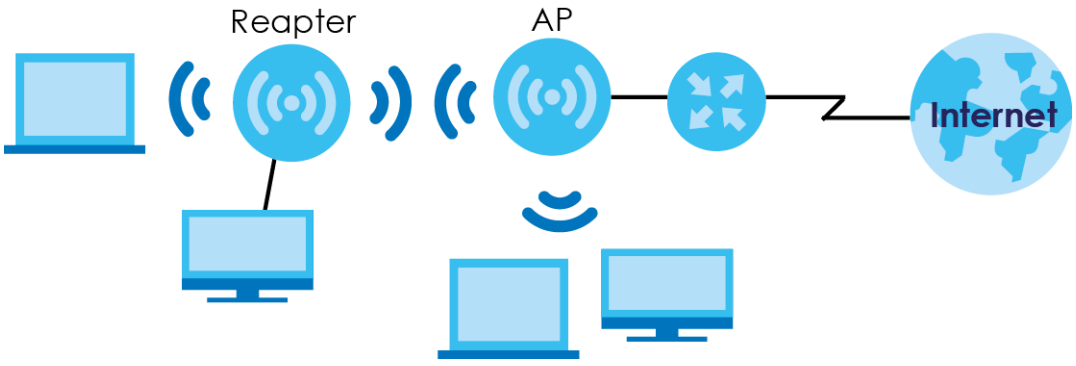
This refers to the system operating mode of the WRE6505 v2, which can act as a:

- **Repeater**: In this mode, the WRE6505 v2 can be an access point and a wireless client at the same time. Go to Section 4.4 on page 22 to view the **Status** screen in this mode. Use this mode if there is an existing wireless router or access point in your network and you also want to allow clients to connect to the WRE6505 v2 wirelessly.
- **Access Point** (AP): Use this mode if you want to extend your network by allowing network devices to connect to the WRE6505 v2 wirelessly. Go to Section 5.4 on page 28 to view the **Status** screen in this mode.

  In this mode, you can also set the WRE6505 v2 to work as an AP only, a wireless bridge to establish wireless links with other APs (WDS bridge), or an AP and bridge simultaneously (WDS repeater). See Section 5.2 on page 27 for more information.

The following figure is an illustration of the device configuration modes of the WRE6505 v2.

Figure 8 System Operating Mode



Note: Choose your device mode carefully to avoid having to change it later.

Under Repeater mode, the WRE6505 v2 supports three WPS behaviors: Normal mode, Range boost mode, and Speed boost mode. These behaviors are only available in Repeater mode through the **Maintenance** screen.

3.1.1.1 Changing Operating Mode

The WRE6505 v2 is in repeater mode by default. To change its operating mode, access the web configurator and go to the **Maintenance > System Mode** screen. See Section 12.9 on page 77 for detailed information.

The WRE6505 v2 restarts automatically after you change operating modes.

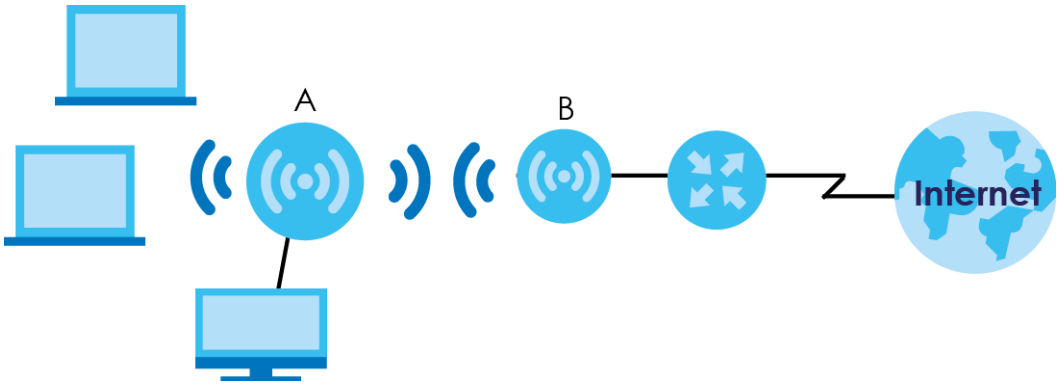
CHAPTER 4
Repeater Mode

4.1 Overview

In repeater mode, your WRE6505 v2 can act as an access point and wireless client at the same time. The WRE6505 v2 can connect to an existing network through another access point and also lets wireless clients connect to the network through it. This helps you expand wireless coverage when you have an access point or wireless router already in your network.

In the example below, the WRE6505 v2 (**A**) is configured as a repeater. It has three clients that want to connect to the Internet. The WRE6505 v2 wirelessly connects to the available access point (**B**).

Figure 9 Repeater Mode



After the WRE6505 v2 and the access point connect, the WRE6505 v2 acquires its IP address from the access point. The clients of the WRE6505 v2 can now surf the Internet.

4.2 What You Can Do

- Use the **Status** screen (Section 7.1 on page 38) to view read-only information about your WRE6505 v2.
- Use the **LAN** screen (Chapter 10 on page 66) to set the IP address for your WRE6505 v2.
- Use the **Wireless LAN > AP Select** screen (Section 9.6 on page 57) to scan for available access points within transmission range and connect to an AP.
- Use other **Wireless LAN** screens (Section 9.4 on page 51) to configure the wireless settings and wireless security between the wireless clients and the WRE6505 v2.

4.3 What You Need to Know

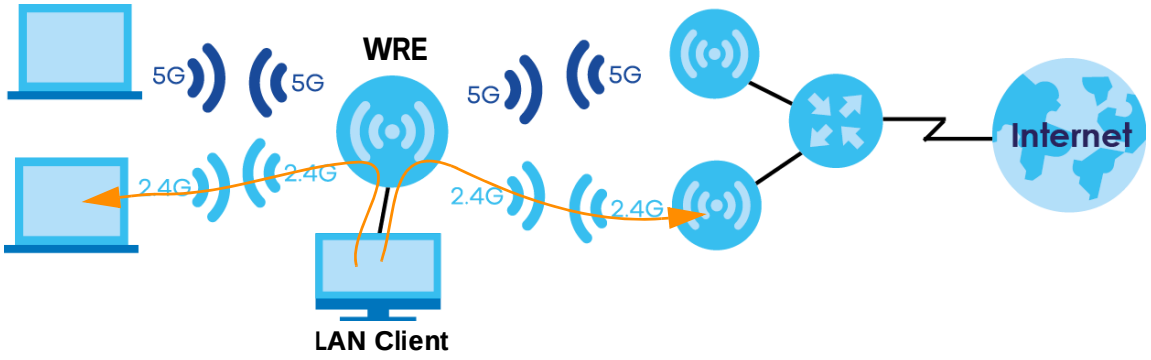
With the exception of the **AP Select** screen other configuration screens in Repeater mode are similar to the ones in Access Point Mode. See Chapter 3 on page 19 of this User's Guide.

4.3.1 Setting your WRE6505 v2 to Repeater Mode

1. To use your WRE6505 v2 as a repeater, see Section 3.1.1.1 on page 20.
2. Connect your computer to the LAN port of the WRE6505 v2.
3. Open a web browser such as Internet Explorer and type "http://zyxelsetup" (for Windows) or "http://zyxelsetup.local" (for Mac) as the web address in your web browser.
4. Enter "1234" (default) as the password and click **Login**.
5. Type a new password and retype it to confirm, then click **Apply**. Otherwise, click **Ignore**.

Note: You have to log in to the Web Configurator again when you change modes. As soon as you do, your WRE6505 v2 is already in Repeater mode.

Note: If a client is connected to the WRE6505 v2 through the wired Ethernet connection, the client can only access the 2.4 GHz Wi-Fi. In the following figure, the LAN Client is only able to communicate with devices in the 2.4 GHz wireless network.



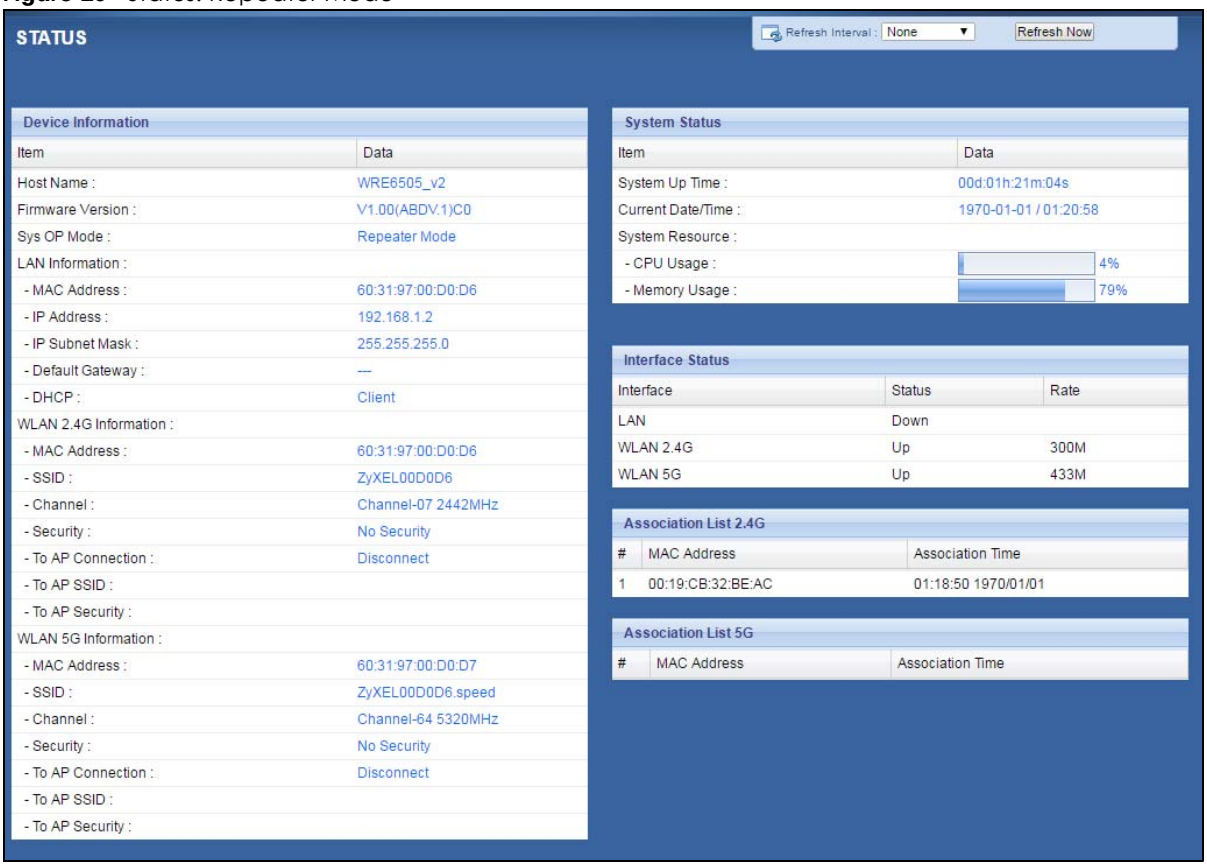
4.3.2 Configuring your WLAN, LAN and Maintenance Settings

- See Chapter 9 on page 49 and Chapter 10 on page 66 for information on configuring your wireless network and LAN settings.
- See Chapter 12 on page 70 for information on configuring your Maintenance settings.

4.4 Repeater Mode Status Screen

Click  to open the **Status** screen.

Figure 10 Status: Repeater Mode



The following table describes the labels shown in the **Status** screen.

Table 9 Status Screen: Repeater Mode

LABEL	DESCRIPTION
	Select a number of seconds or **None** from the drop-down list box to refresh all screen statistics automatically at the end of every time interval or to not refresh the screen statistics.
	Click this button to refresh the status screen statistics.
Device Information	
Host Name	This is the WRE6505 v2's system name you configure in the **Maintenance > General** screen.
Firmware Version	This is the firmware version and the date created.
Sys OP Mode	This is the device mode (Section 3.1.1 on page 19) to which the WRE6505 v2 is set - **Repeater Mode**.
LAN Information	
MAC Address	This shows the LAN Ethernet adapter MAC Address of your device.
IP Address	This shows the LAN port's IP address.
IP Subnet Mask	This shows the LAN port's subnet mask.
Default Gateway	This shows the LAN port's gateway IP address.
DHCP	This shows the LAN port's DHCP role - **Client** or **None**.
WLAN 2.4G Information	
MAC Address	This shows the wireless adapter MAC Address of your WRE6505 v2.

Table 9 Status Screen: Repeater Mode

LABEL	DESCRIPTION
SSID	This shows a descriptive name used to identify the WRE6505 v2 in the wireless LAN.
Channel	This shows the channel number which you select manually or the WRE6505 v2 automatically scans and selects.
Security	This shows the level of wireless security the WRE6505 v2 is using.
To AP Connection	This displays whether the WRE6505 v2 is connected to an AP or not.
To AP SSID	This displays the SSID of the connected AP. Click the **Release_Configuration** button to remove all configured wireless and wireless security settings for WPS connections on the WRE6505 v2.
To AP Security	This displays the type of established security protocol with the AP.
WLAN 5G Information	
MAC Address	This shows the wireless adapter MAC Address of your WRE6505 v2.
SSID	This shows a descriptive name used to identify the WRE6505 v2 in the wireless LAN.
Channel	This shows the channel number which you select manually or the WRE6505 v2 automatically scans and selects.
Security	This shows the level of wireless security the WRE6505 v2 is using.
To AP Connection	This displays whether the WRE6505 v2 is connected to an AP or not.
To AP SSID	This displays the SSID of the connected AP. Click the **Release_Configuration** button to remove all configured wireless and wireless security settings for WPS connections on the WRE6505 v2.
To AP Security	This displays the type of established security protocol with the WRE6505 v2.
System Status	
Item	This column shows the type of data the WRE6505 v2 is recording.
Data	This column shows the actual data recorded by the WRE6505 v2.
System Up Time	This is the total time the WRE6505 v2 has been on.
Current Date/Time	This field displays your WRE6505 v2's present date and time.
System Resource	
CPU Usage	This displays what percentage of the WRE6505 v2's processing ability is currently used. When this percentage is close to 100%, the WRE6505 v2 is running at full load, and the throughput is not going to improve anymore. If you want some applications to have more throughput, you should turn off other applications (for example, using bandwidth management.
Memory Usage	This shows what percentage of the heap memory the WRE6505 v2 is using.
Interface Status	
Interface	This displays the WRE6505 v2 port types. The port types are: **LAN** and **WLAN**.
Status	For the LAN port, this field displays **Down** (line is down) or **Up** (line is up or connected). For the WLAN, it displays **Up** when the WLAN is enabled or **Down** when the WLAN is disabled.
Rate	For the LAN ports, this displays the port speed and duplex setting or is left blank when the line is disconnected. For the WLAN, it displays the maximum transmission rate when the WLAN is enabled and is left blank when the WLAN is disabled.
Association List 2.4G	
#	This is the index number of an associated wireless station.

Table 9 Status Screen: Repeater Mode

LABEL	DESCRIPTION
MAC Address	This field displays the MAC address of an associated wireless station.
Association Time	This field displays the time a wireless station first associated with the WRE6505 v2's WLAN network.
Association List 5G	
#	This is the index number of an associated wireless station.
MAC Address	This field displays the MAC address of an associated wireless station.
Association Time	This field displays the time a wireless station first associated with the WRE6505 v2's WLAN network.

4.5 Configuration Menus

Use the menu in the navigation panel to configure WRE6505 v2 features in Repeater mode.

The following screen and table show the features you can configure in Repeater mode.

Figure 11 Menus: Repeater Mode

The following table describes the sub-menus.

Table 10 Menus: Repeater Mode

LINK	TAB	FUNCTION
Status	Status	This screen shows the WRE6505 v2's general device, system and interface status information.
MONITOR		
Monitor		
Packet Statistics	Packet Statistics	Use this screen to view port status, packet specific statistics, the "system up time" and so on.
CONFIGURATION		
Network		

Table 10 Menus: Repeater Mode

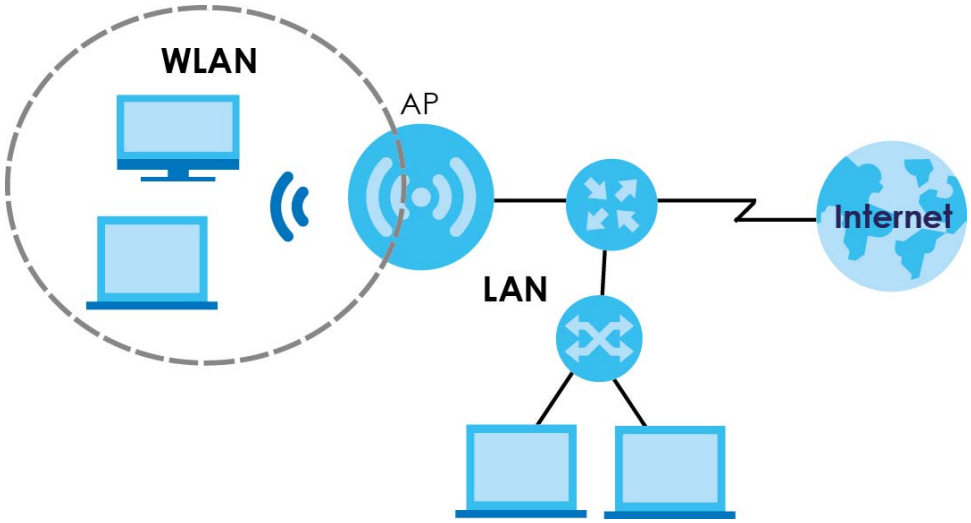
LINK	TAB	FUNCTION
Wireless LAN 2.4G	General	Use this screen to configure general wireless LAN and wireless security settings.
	AP Select	Use this screen to choose an access point that you want the WRE6505 v2 to connect to.
	MAC Filter	Use this screen to configure the WRE6505 v2 to block access to devices or block the devices from accessing the WRE6505 v2.
	Advanced	Use this screen to configure advanced wireless settings.
	QoS	Use this screen to enable Wi-Fi MultiMedia Quality of Service (WMMQoS).
	WPS	Use this screen to enable WPS.
	WPS Device	Use this screen to add a wireless station using WPS.
Wireless LAN 5G	General	Use this screen to configure general wireless LAN settings.
	AP Select	Use this screen to choose an access point that you want the WRE6505 v2 to connect to.
	MAC Filter	Use this screen to configure the WRE6505 v2 to block access to devices or block the devices from accessing the WRE6505 v2.
	Advanced	Use this screen to configure advanced wireless settings.
	QoS	Use this screen to enable Wi-Fi MultiMedia Quality of Service (WMMQoS).
	WPS	Use this screen to enable WPS.
	WPS Device	Use this screen to add a wireless station using WPS.
LAN	IP	Use this screen to configure LAN IP address and subnet mask.
OneConnect	OneConnect	Use this screen to enable or disable Wi-Fi auto-configuration.
MAINTENANCE		
General	General	Use this screen to view and change administrative settings such as system and domain names.
Password	Password Setup	Use this screen to change the password of your WRE6505 v2.
Time	Time Setting	Use this screen to change your WRE6505 v2's time and date.
Firmware Upgrade	Firmware Upgrade	Use this screen to upload firmware to your WRE6505 v2.
Backup Restore	Backup Restore	Use this screen to backup and restore the configuration or reset your WRE6505 v2 to the factory defaults.
Restart	Restart	Use this screen to reboot the WRE6505 v2 without turning the power off.
System Mode	System Mode	Use this screen to select how you want to use your WRE6505 v2.

CHAPTER 5
Access Point Mode

5.1 Overview

In Access Point (AP) mode your WRE6505 v2 bridges a wired network (LAN) and wireless LAN (WLAN) in the same subnet. See the figure below for an example.

Figure 12 Access Point Mode



Note: See Chapter 7 on page 38 for an example of setting up a wireless network in Access Point mode.

5.2 What You Can Do

- Use the **Status** screen (Section 5.4 on page 28) to view read-only information about your WRE6505 v2.
- Use the **LAN** screen (Chapter 10 on page 66) to set the IP address for your WRE6505 v2 acting as an access point.
- Use the **Wireless LAN** screens (Section 9.10 on page 62) to configure the wireless settings and wireless security between the wireless clients and the WRE6505 v2.

5.3 What You Need to Know

With the exception of the **Scheduling** screen other configuration screens in Access Point mode are similar to the ones in repeater mode. See Chapter 3 on page 19 of this User's Guide.

5.3.1 Setting your WRE6505 v2 to AP Mode

By default, AP mode in the WRE6505 v2 is not configured with a static IP address. To set up your WRE6505 v2 in AP mode for the first time, the directly-connected router must have the DHCP server function enabled.

1. To use your WRE6505 v2 as an access point, see Section 3.1.1.1 on page 20.
2. Connect one end of an Ethernet cable to the Ethernet port on the WRE6505 v2 and the other end to your router.
3. Connect your computer to your network, make sure both the WRE6505 v2 and computer are under the same subnet.
4. Open a web browser window and type "http://zyxelsetup" (for Windows) or "http://zyxelsetup.local" (for Mac) in the web address.
   The login screen displays.
5. Enter "1234" (default) as the password and click **Login**.
6. Type a new password and retype it to confirm, then click **Apply**. Otherwise, click **Ignore**.

   The WRE6505 v2 Web Configurator displays, which allows you to configure the AP mode.

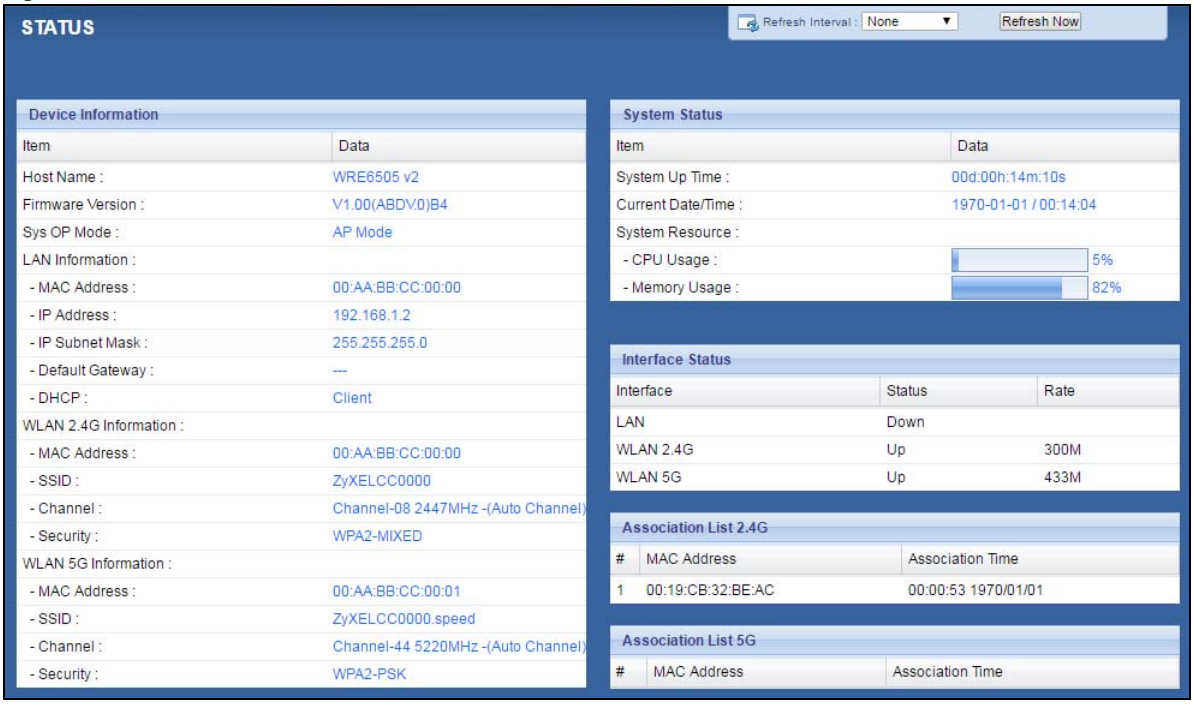
5.3.2 Configuring your WLAN, LAN and Maintenance Settings

- See Chapter 9 on page 49 and Chapter 10 on page 66 for information on configuring your wireless network and LAN settings.
- See Chapter 12 on page 70 for information on configuring your Maintenance settings.

5.4 AP Mode Status Screen

Click  to open the **Status** screen.

Figure 13 Status Screen: Access Point Mode



The following table describes the labels shown in the **Status** screen.

Table 11 Status Screen: Access Point Mode

LABEL	DESCRIPTION
	Select a number of seconds or **None** from the drop-down list box to refresh all screen statistics automatically at the end of every time interval or to not refresh the screen statistics.
	Click this button to refresh the status screen statistics.
Device Information	
Host Name	This is the WRE6505 v2's system name you configure in the **Maintenance > General** screen.
Firmware Version	This is the firmware version and the date created.
Sys OP Mode	This is the device mode (Section 3.1.1 on page 19) to which the WRE6505 v2 is set - **AP Mode**.
LAN Information	
MAC Address	This shows the LAN Ethernet adapter MAC Address of your device.
IP Address	This shows the LAN port's IP address.
IP Subnet Mask	This shows the LAN port's subnet mask.
Default Gateway	This shows the LAN port's gateway IP address.
DHCP	This shows the LAN port's DHCP role - **Client** or **None**.
WLAN 2.4G Information	
MAC Address	This shows the wireless adapter MAC Address of your device.
SSID	This shows a descriptive name used to identify the WRE6505 v2 in the wireless LAN.
Channel	This shows the channel number which you select manually or the WRE6505 v2 automatically scans and selects.
Security	This shows the level of wireless security the WRE6505 v2 is using.

Table 11 Status Screen: Access Point Mode (continued)

LABEL	DESCRIPTION
WLAN 5G Information	
MAC Address	This shows the wireless adapter MAC Address of your device.
SSID	This shows a descriptive name used to identify the WRE6505 v2 in the wireless LAN.
Channel	This shows the channel number which you select manually or the WRE6505 v2 automatically scans and selects.
Security	This shows the level of wireless security the WRE6505 v2 is using.
System Status	
Item	This column shows the type of data the WRE6505 v2 is recording.
Data	This column shows the actual data recorded by the WRE6505 v2.
System Up Time	This is the total time the WRE6505 v2 has been on.
Current Date/Time	This field displays your WRE6505 v2's present date and time.
System Resource	
CPU Usage	This displays what percentage of the WRE6505 v2's processing ability is currently used. When this percentage is close to 100%, the WRE6505 v2 is running at full load, and the throughput is not going to improve anymore. If you want some applications to have more throughput, you should turn off other applications (for example, using bandwidth management.
Memory Usage	This shows what percentage of the heap memory the WRE6505 v2 is using.
Interface Status	
Interface	This displays the WRE6505 v2 port types. The port types are: **LAN** and **WLAN**.
Status	For the LAN port, this field displays **Down** (line is down) or **Up** (line is up or connected). For the WLAN, it displays **Up** when the WLAN is enabled or **Down** when the WLAN is disabled.
Rate	For the LAN ports, this displays the port speed and duplex setting or is left blank when the line is disconnected. For the WLAN, it displays the maximum transmission rate when the WLAN is enabled and is left blank when the WLAN is disabled .
Association List 2.4G	
#	This is the index number of an associated wireless client.
MAC Address	This field displays the MAC address of an associated wireless client.
Association Time	This field displays the time a wireless station first associated with the WRE6505 v2's WLAN network.
Association List 5G	
#	This is the index number of an associated wireless client.
MAC Address	This field displays the MAC address of an associated wireless client.
Association Time	This field displays the time a wireless station first associated with the WRE6505 v2's WLAN network.

5.5 Configuration Menus

Use the menu in the navigation panel to configure WRE6505 v2 features in Access Point mode.

The following screen and table show the features you can configure in Access Point mode.

Figure 14 Menu: Access Point Mode

The following table describes the sub-menus.

Table 12 Navigation Panel: Access Point Mode

LINK	TAB	FUNCTION
Status	Status	This screen shows the WRE6505 v2's general device, system and interface status information.
MONITOR		
Monitor		
Packet Statistics	Packet Statistics	Use this screen to view port status, packet specific statistics, the "system up time" and so on.
CONFIGURATION		
Network		
Wireless LAN 2.4G	General	Use this screen to configure general wireless LAN and wireless security settings.
	MAC Filter	Use this screen to configure the WRE6505 v2 to block access to devices or block the devices from accessing the WRE6505 v2.
	Advanced	Use this screen to configure advanced wireless settings.
	QoS	Use this screen to enable Wi-Fi MultiMedia Quality of Service (WMMQoS).
	WPS	Use this screen to enable and configure WPS.
	WPS Device	Use this screen to add a wireless station using WPS.
	Scheduling	Use this screen to schedule the times the Wireless LAN is enabled or disabled.
Wireless LAN 5G	General	Use this screen to configure general wireless LAN settings.
	MAC Filter	Use this screen to configure the WRE6505 v2 to block access to devices or block the devices from accessing the WRE6505 v2.
	Advanced	Use this screen to configure advanced wireless settings.
	QoS	Use this screen to enable Wi-Fi MultiMedia Quality of Service (WMMQoS).
	WPS	Use this screen to enable and configure WPS.
	WPS Device	Use this screen to add a wireless station using WPS.
	Scheduling	Use this screen to schedule the times the Wireless LAN is enabled or disabled.
LAN	IP	Use this screen to configure LAN IP address and subnet mask.
OneConnect	OneConnect	Use this screen to enable or disable Wi-Fi auto-configuration.
MAINTENANCE		
General	General	Use this screen to view and change administrative settings such as system and domain names.
Password	Password Setup	Use this screen to change the password of your WRE6505 v2.
Time	Time Setting	Use this screen to change your WRE6505 v2's time and date.

Table 12 Navigation Panel: Access Point Mode

LINK	TAB	FUNCTION
Firmware Upgrade	Firmware Upgrade	Use this screen to upload firmware to your WRE6505 v2.
Backup Restore	Backup Restore	Use this screen to backup and restore the configuration or reset your WRE6505 v2 to the factory defaults.
Restart	Restart	Use this screen to reboot the WRE6505 v2 without turning the power off.
System Mode	System Mode	Use this screen to select how you want to use your WRE6505 v2.

CHAPTER 6
eaZy123 Wizard Setup

6.1 Overview

This chapter provides information on the wizard setup screens in the Web Configurator.

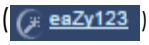
The Web Configurator's wizard setup helps you configure your device.

6.2 Accessing the Wizard

Launch your web browser and type "http://zyxelsetup" (for Windows) or "http://zyxelsetup.local" (for Mac) as the website address. See Section 2.2 on page 13 for detailed information.

Note: The wizard appears when the WRE6505 v2 is accessed for the first time or when you reset the WRE6505 v2 to its default factory settings.

The wizard screen opens.

Note: If you have already configured the wizard screens and want to open it again, click the eaZy123 icon () on the upper right corner of any Web Configurator screen.

6.3 Using the Wizard

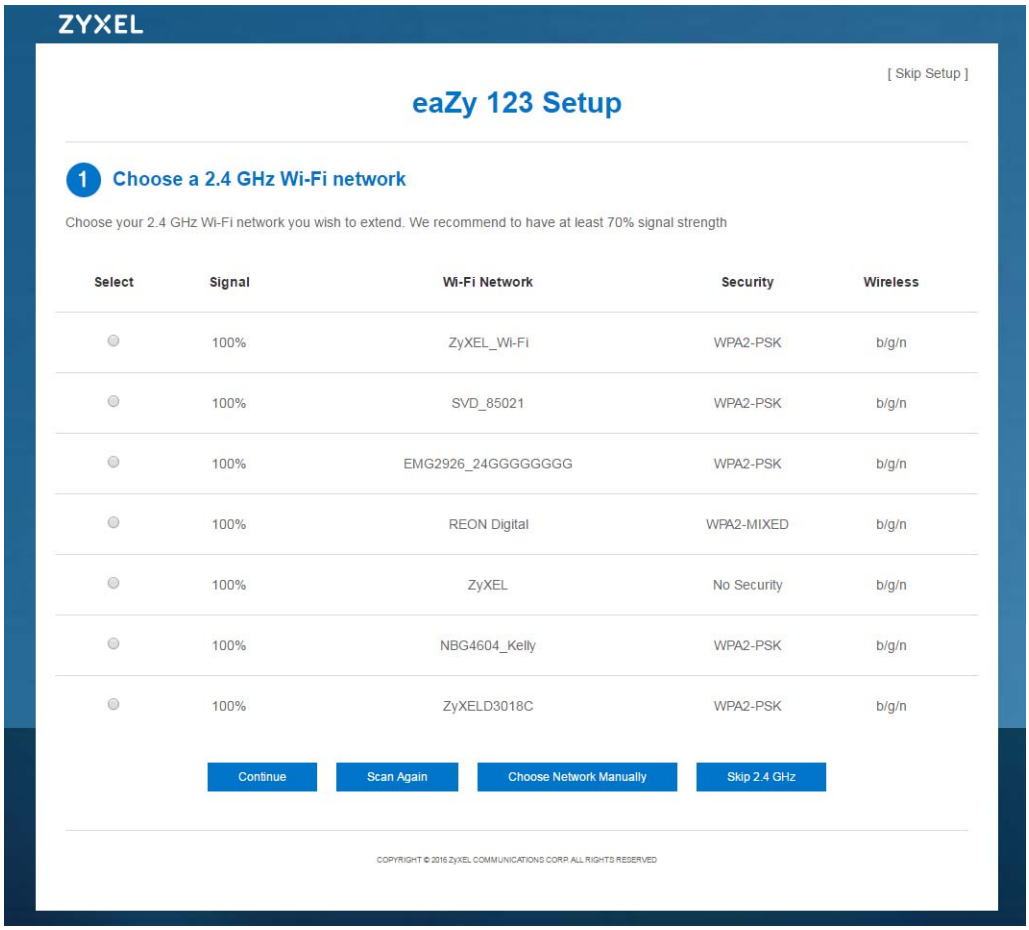
The eaZy123 wizard for the WRE6505 v2 is available in both Repeater and AP mode.

6.3.1 Repeater Mode

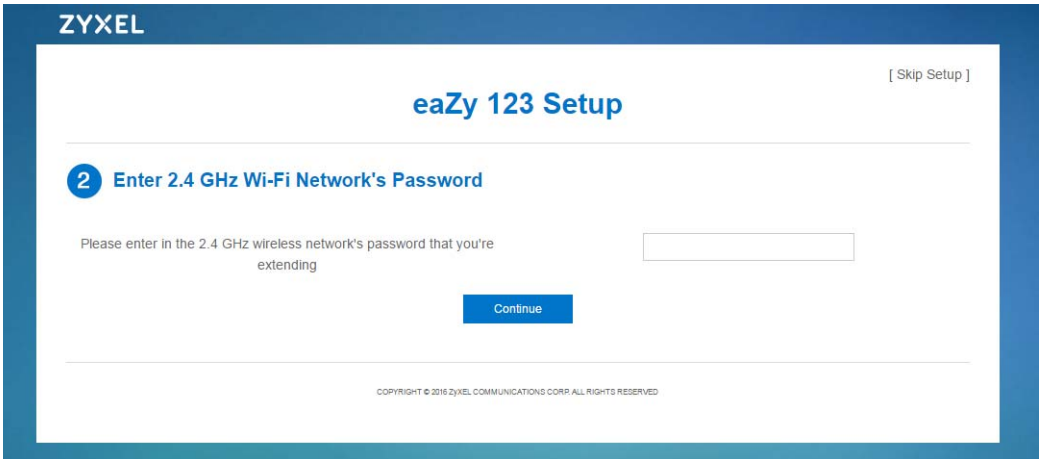
1 The wizard scans for available Wi-Fi networks and displays the network list. Select a 2.4 GHz Wi-Fi network to which you want the WRE6505 v2 to connect to extend the network. Click **Continue**.

If the wireless router or AP you want to connect to is not listed, click **Choose Network Manually** and go to step 3 to configure the SSID and security settings manually.

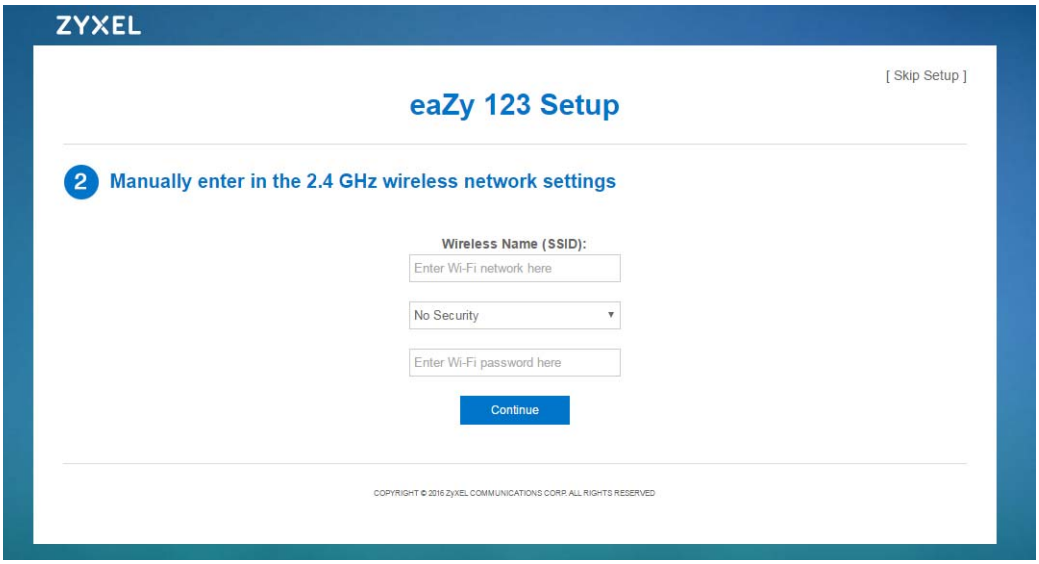
If you don't want to associate with a 2.4 GHz network, click **Skip 2.4 GHz**.



2 Type the selected network's Wi-Fi password (key) if wireless security is enabled. Click **Continue**.

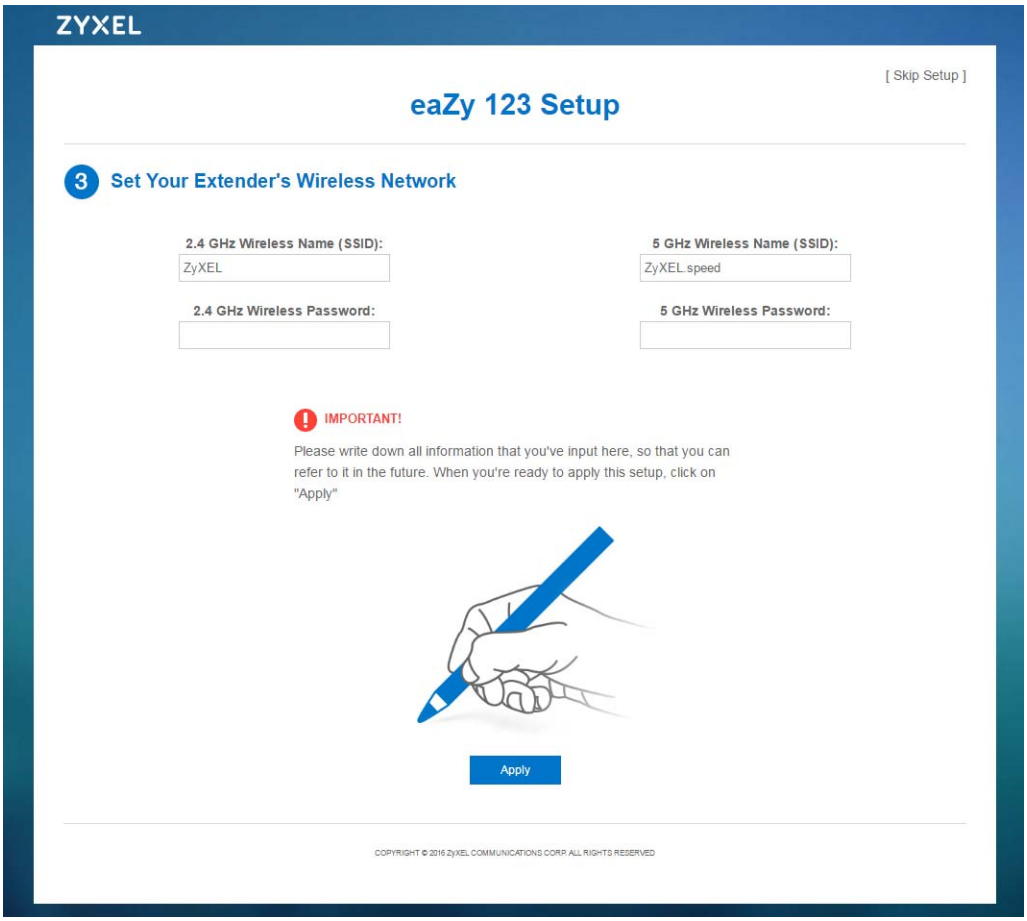


3 If you click **Choose Network Manually**, the following screen displays. Enter the SSID and security settings of your wireless router or AP. Click **Continue**.

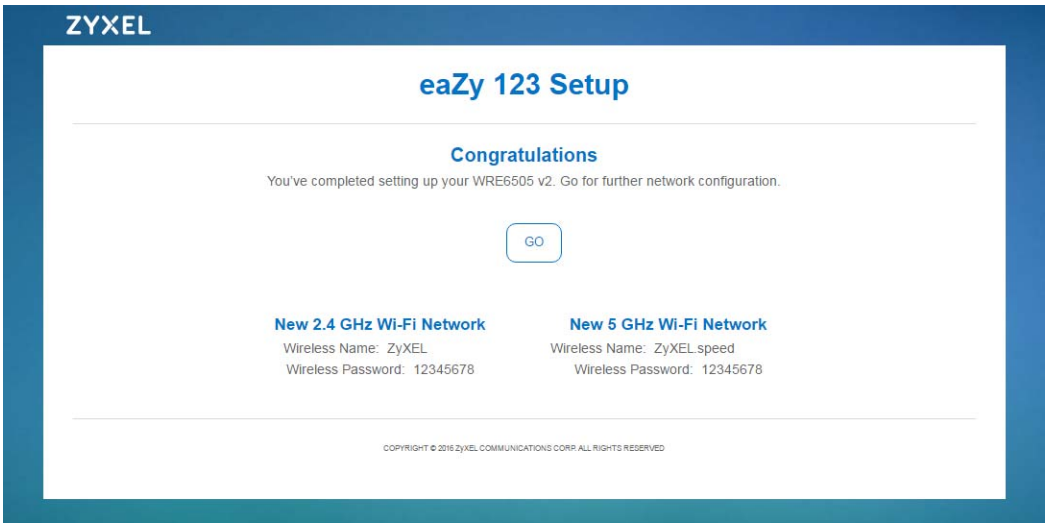


4 The 5 GHz setup screen displays. Repeat previous steps to select and connect to a 5 GHz Wi-Fi network.

5 Configure the wireless settings between the WRE6505 v2 and its wireless clients. The WRE6505 v2 automatically copies the SSID of the associated AP and appends ".speed" to the 5GHz SSID. Click **Apply**.

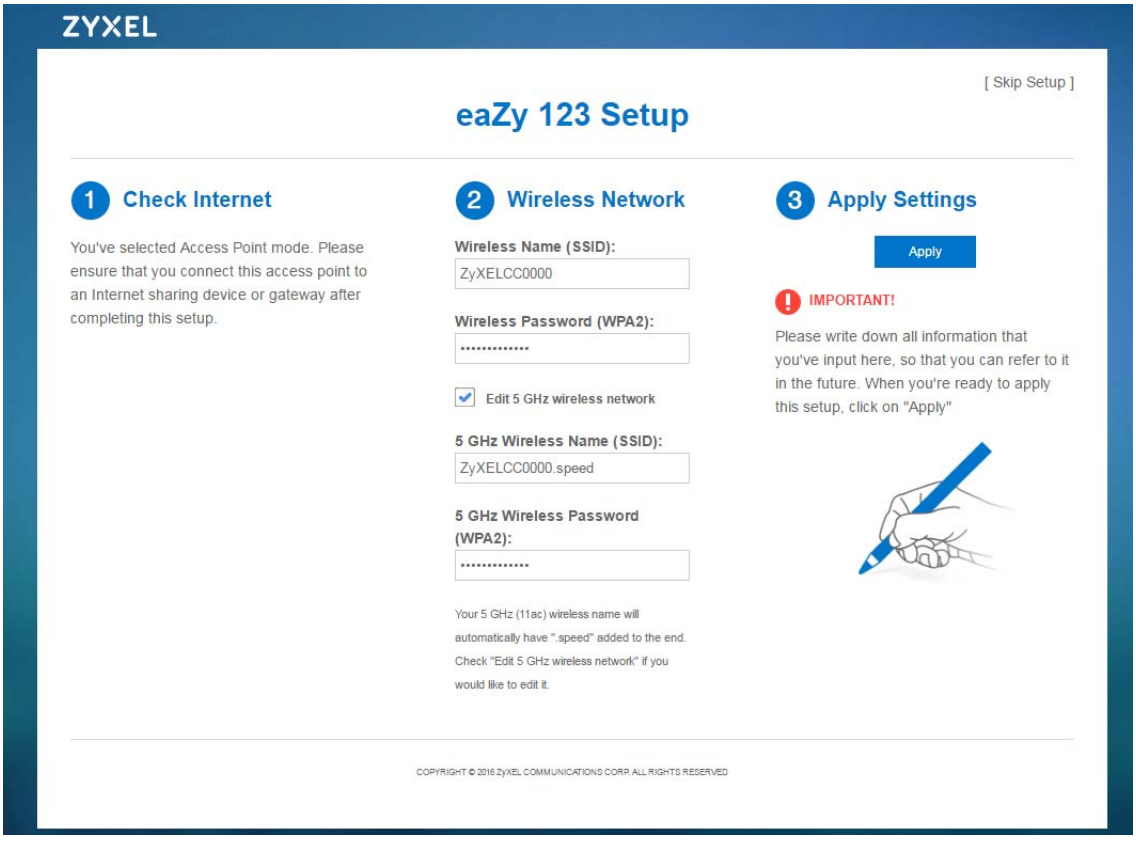


6 The eaZy 123 setup wizard is complete. Verify the WRE6505 v2's wireless network settings and click **GO** to log into the web configurator again.

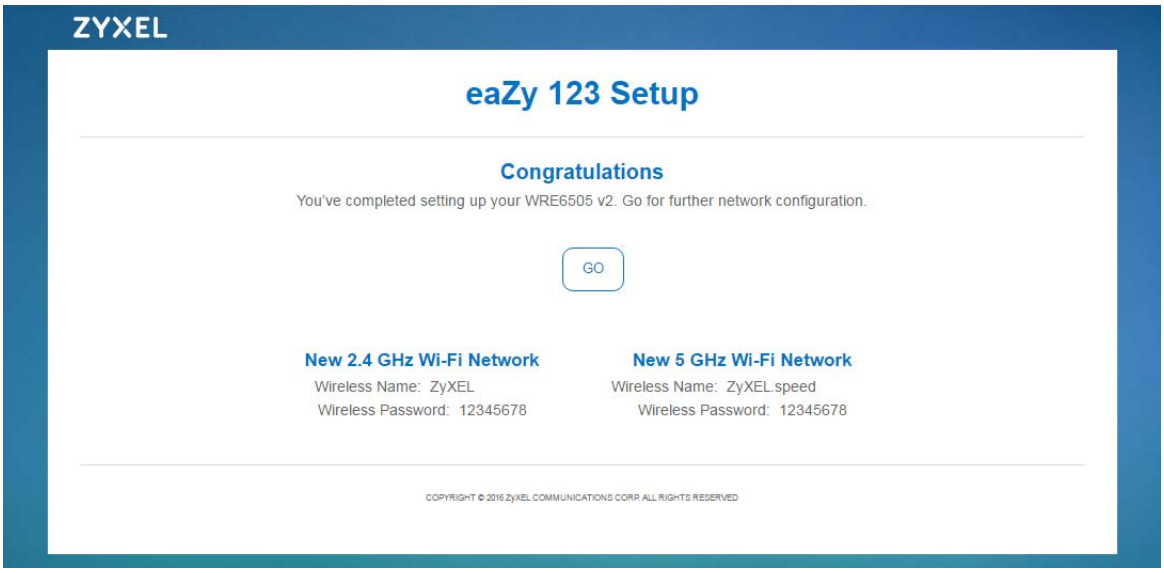


6.3.2 AP Mode

1 Configure the wireless settings between the WRE6505 v2 and its wireless clients. The WRE6505 v2 automatically copies the SSID of the associated AP and appends ".speed" to the 5GHz SSID. Click **Apply**.



2 The eaZy 123 setup wizard is complete. Verify the WRE6505 v2's wireless network settings and click **GO** to log into the web configurator again.



CHAPTER 7
Tutorials

7.1 Overview

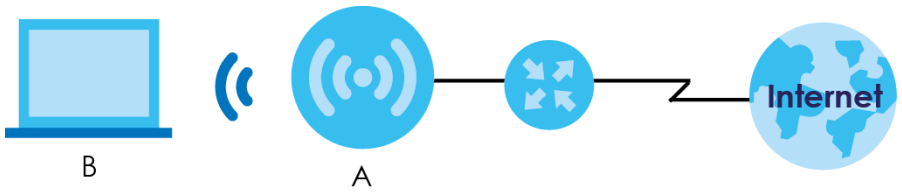
This chapter provides tutorials for your WRE6505 v2 (in access point or repeater mode) as follows:

- Connecting to the Internet from an Access Point
- Connecting to a Wireless Network Using WPS
- Connecting the WRE6505 v2 (in Repeater mode) to an AP

7.2 Connecting to the Internet from an Access Point

This section gives you an example of how to set up an access point (AP) and wireless client (a notebook (**B**), in this example) for wireless communication. **B** can access the Internet through the access point (**A**) wirelessly.

Figure 15 Wireless Access Point Connection to the Internet



7.3 Connecting to a Wireless Network Using WPS

This section gives you an example of how to set up wireless network using WPS. The following example uses the WRE6505 v2 as the AP and NWD-211AN as the wireless client which connects to a notebook.

Note: The wireless client must be a WPS-aware device (for example, a WPS USB adapter or PCI card).

The following WPS methods for creating a secure connection are described in the tutorial.

- **Push Button Configuration (PBC)** - create a secure wireless network simply by pressing a button. See Section 7.3.1 on page 39.This is the easier method.
- **PIN Configuration** - create a secure wireless network simply by entering a wireless client's PIN (Personal Identification Number) in the WRE6505 v2's interface. See Section 7.3.2 on page 40. This is the more secure method, since one device can authenticate the other.

7.3.1 Push Button Configuration (PBC)

The push button configuration function found in the interface is only available in AP mode. The WPS button, see Section 1.3 on page 10, can also be used for PBC configurations in either AP or Repeater mode.

1. Make sure that your WRE6505 v2 is turned on and that it is connected to your network.
2. Launch your wireless client's configuration utility.
3. In the wireless client utility, find the WPS settings. Enable WPS and press the WPS button (**Start** or **WPS** button).
4. Log into WRE6505 v2's Web Configurator. Make sure WPS is enabled in the **Network** > **Wireless LAN** > **WPS** screen.
5. Navigate to **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **WPS Device** and press the **WPS** button.

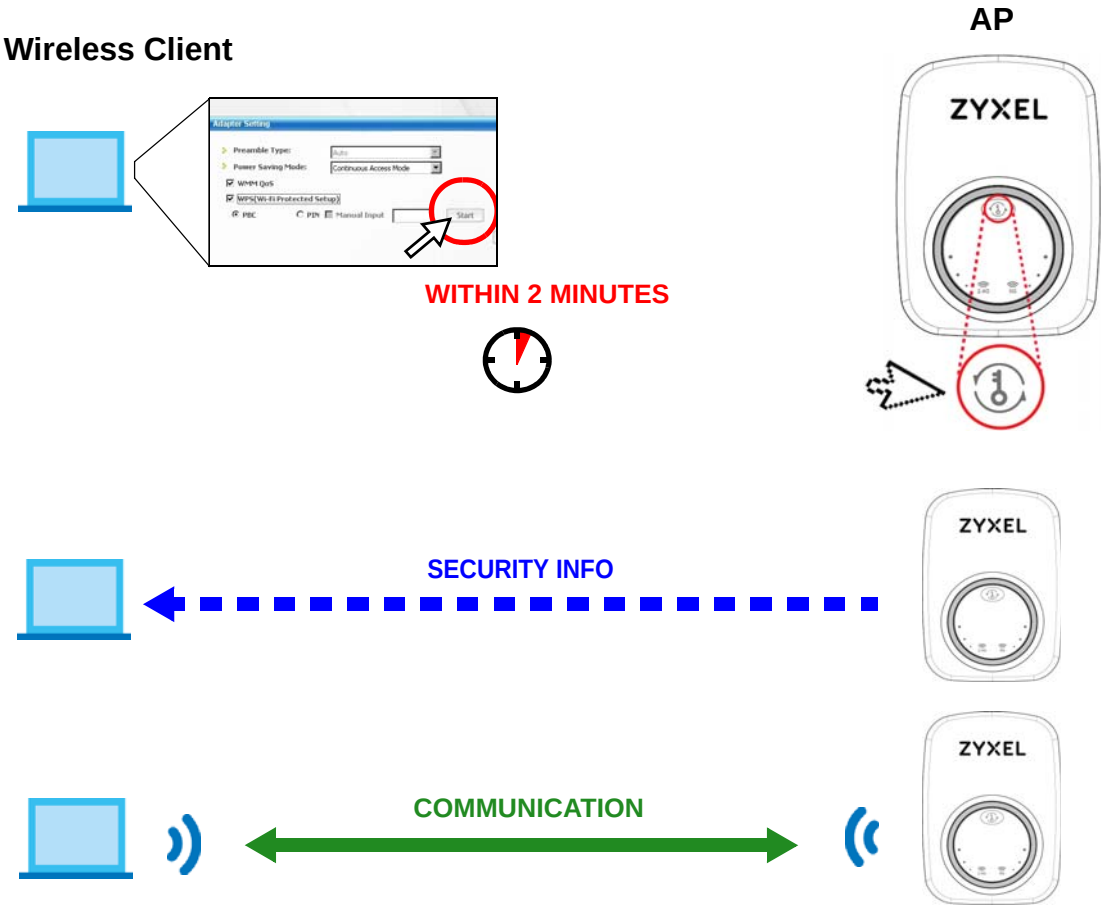
Note: Your WRE6505 v2 has a WPS button located on its panel, as well as a WPS button in its configuration utility. Both buttons have exactly the same function; you can use one or the other.

Note: It doesn't matter which button is pressed first. You must press the second button within two minutes of pressing the first one.

The WRE6505 v2 sends the proper configuration settings to the wireless client. This may take up to two minutes. Then the wireless client is able to communicate with the WRE6505 v2 securely.

The following figure shows you how to set up wireless network and security by pressing a button on both WRE6505 v2 and wireless client (the NWD-211AN in this example).

Figure 16 Example WPS Process: PBC Method



7.3.2 PIN Configuration

When you use the PIN configuration method, you need to use both WRE6505 v2's configuration interface and the client's utilities.

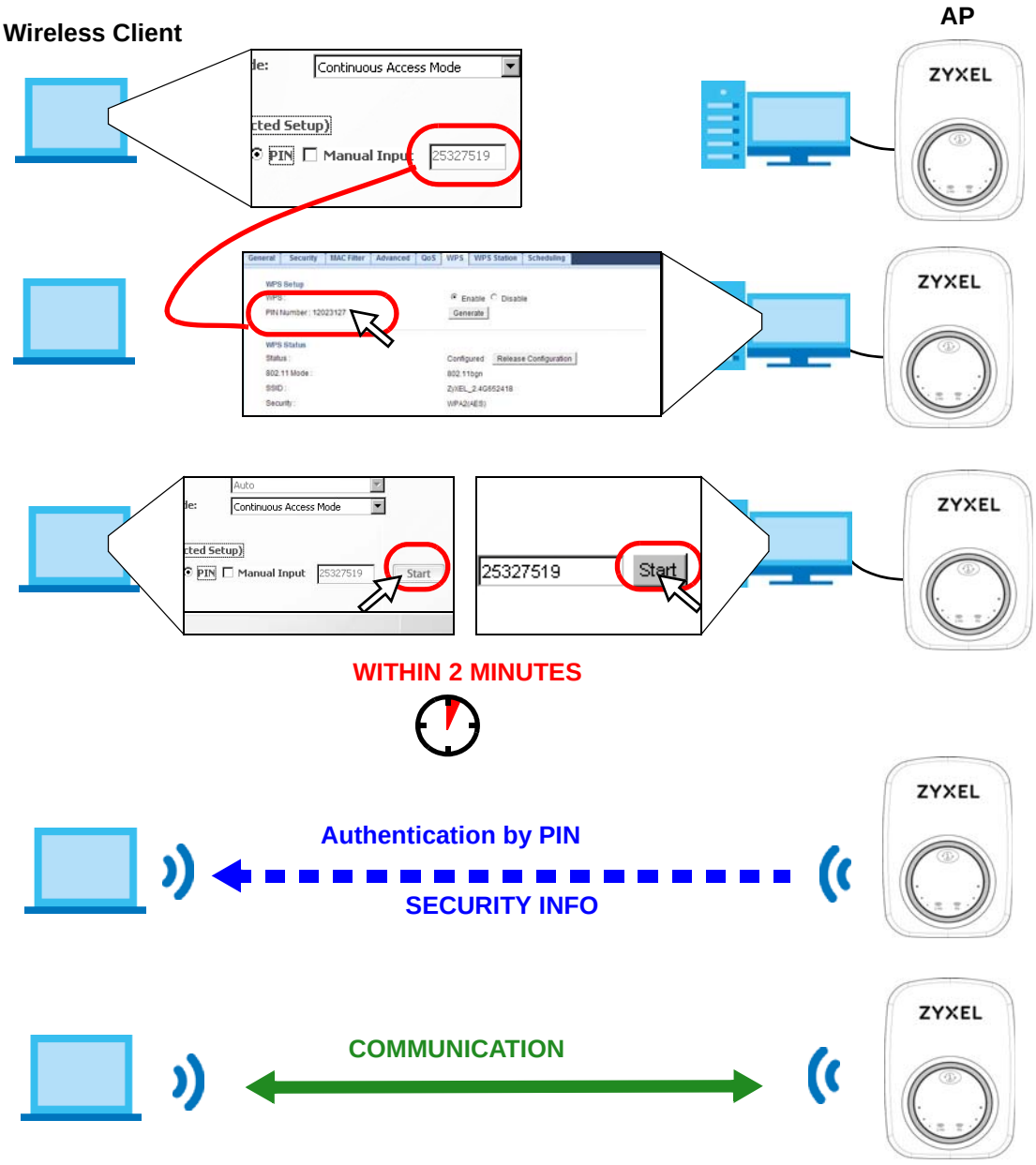
The push button configuration function is only available in AP mode.

1. Launch your wireless client's configuration utility. Go to the WPS Station settings and select the PIN method to get a PIN number.
2. On the WRE6505 v2, navigate to the **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **WPS** screen.
3. Obtain the PIN number for the WRE6505 v2 or press the **Generate** button to create a new PIN number. See Section 9.10 on page 62
4. Enter the WRE6505 v2 PIN number in the wireless station's utility screen.

   The WRE6505 v2 authenticates the wireless client and sends the proper configuration settings to the wireless client. This may take up to two minutes. Then the wireless client is able to communicate with the WRE6505 v2 securely.

The following figure shows an example of how to set up wireless network and security on WRE6505 v2 and wireless client (ex. NWD210N in this example) by using PIN method.

Figure 17 Example WPS Process: PIN Method



7.4 Connecting the WRE6505 v2 (in Repeater mode) to an AP

Repeater mode allows you to extend the original AP coverage.

- **Selecting an AP from an Automatically Detected List** - create a secure wireless network simply by selecting an AP from a list of detected APs. See Section 7.4.1 on page 42.This is the easier method.
- **Selecting an AP by Manually Entering Security Information** - create a secure wireless network by manually entering the AP's wireless security settings in the WRE6505 v2's interface. See Section 7.4.2 on page 43. This is useful when the AP is hidden.

7.4.1 Selecting an AP from an Automatically Detected List

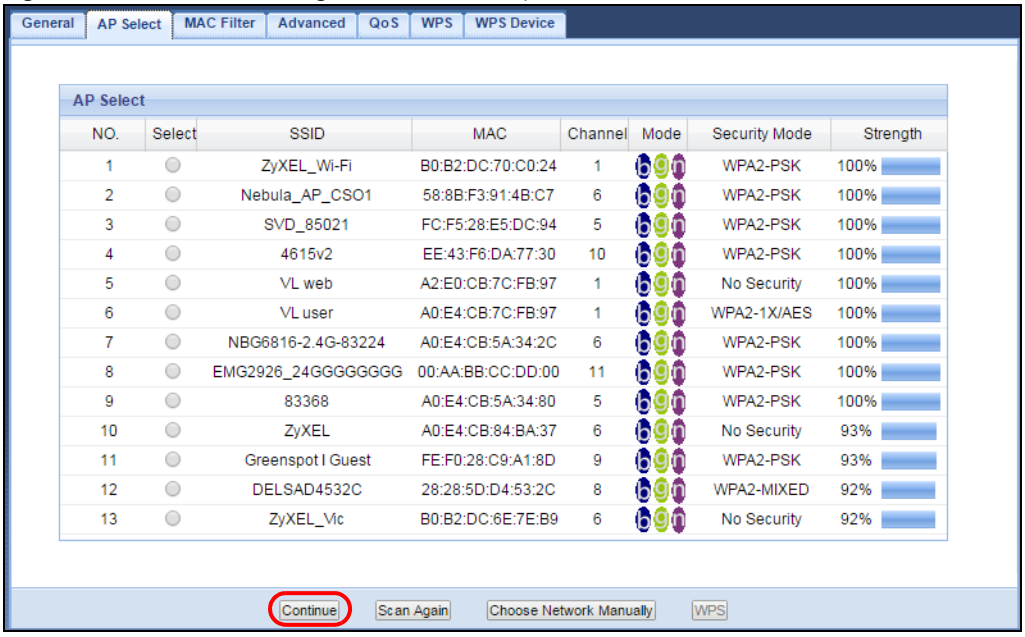
Follow the steps below to create a secure wireless network by selecting an AP from a list of detected APs.

The AP select function is only available in repeater mode. See Section 3.1.1 on page 19.

The instructions require that your hardware is connected (see the Quick Start Guide) and you are logged into the Web Configurator through your LAN connection (see Section 2.2 on page 13).

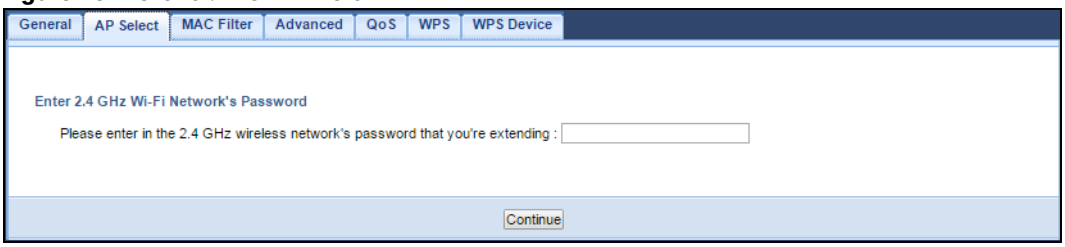
1 Open the **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **AP Select** screen. Select an AP form the **Select** column and click **Continue**.

Figure 18 Tutorial: Selecting an automatically detected AP



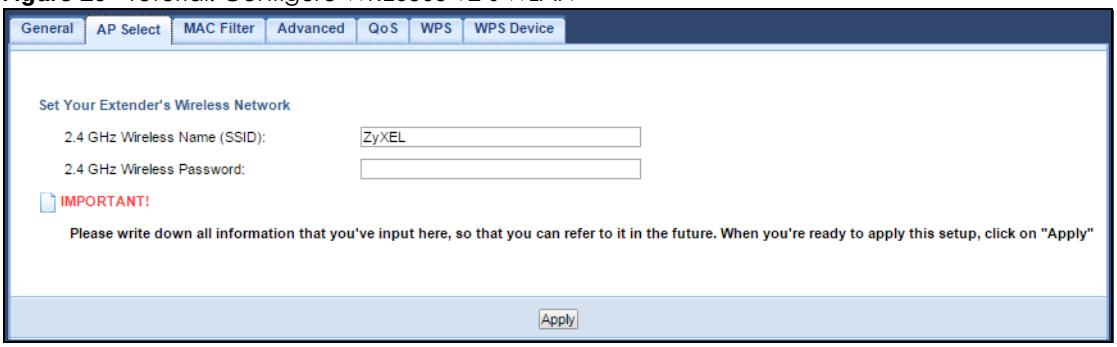
2 Type the Wi-Fi key if wireless security is enabled on the selected AP and click **Continue**.

Figure 19 Tutorial: The KEY field



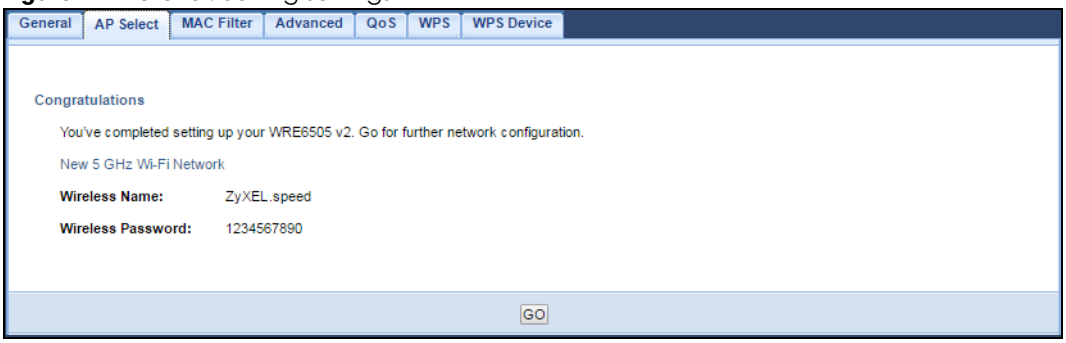
3 Configure the wireless settings between the WRE6505 v2 and its wireless clients. The WRE6505 v2 automatically copies the SSID of the associated AP and appends ".speed" to the 5GHz SSID. Click **Apply** to save settings and restart the WRE6505 v2.

Figure 20 Tutorial: Configure WRE6505 v2's WLAN



4 You have successfully set up your WRE6505 v2 to connect to an AP. Click **GO** to go to the **Status** screen.

Figure 21 Tutorial: Saving settings



7.4.2 Selecting an AP by Manually Entering Security Information

This example shows you how to configure wireless security settings with the following parameters on your WRE6505 v2.

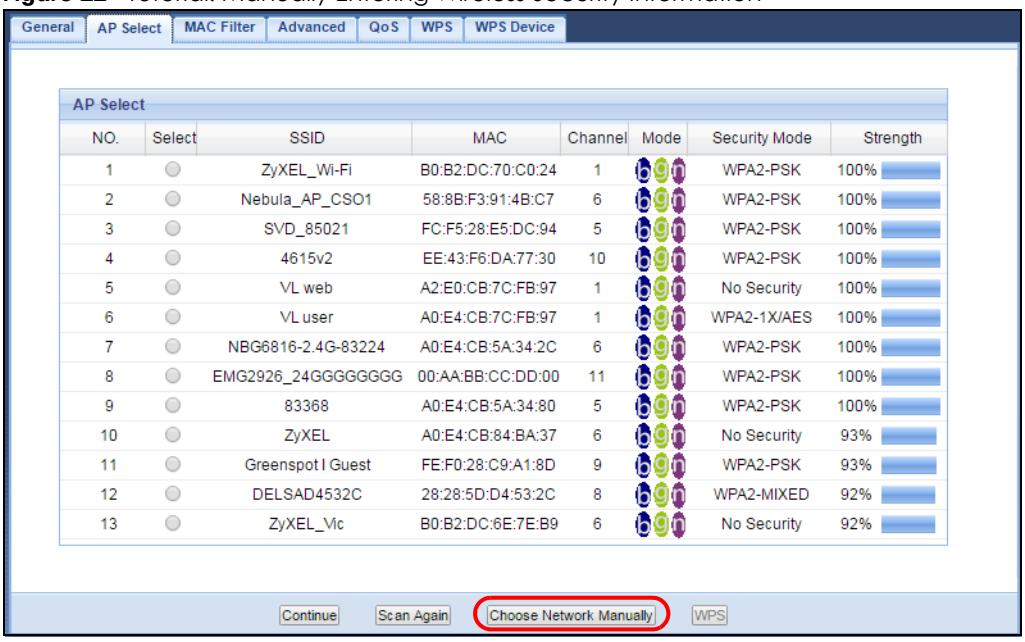
SSID	ZyXEL
Security	WPA(2)-PSK
Wi-Fi Key	1234567890

Follow the steps below to create a secure wireless network by manually entering the AP's wireless security settings in the WRE6505 v2's interface.

The instructions require that your hardware is connected (see the Quick Start Guide) and you are logged into the Web Configurator through your LAN connection (see Section 2.2 on page 13).

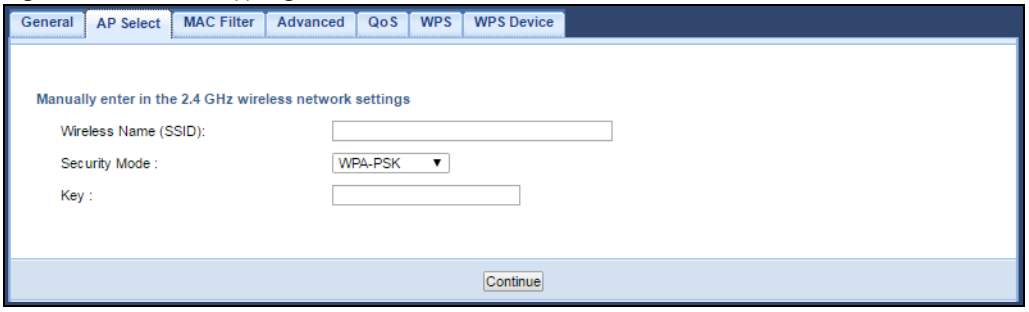
1 Open the **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **AP Select** screen. Select **Choose Network Manually**.

Figure 22 Tutorial: Manually Entering Wireless Security Information



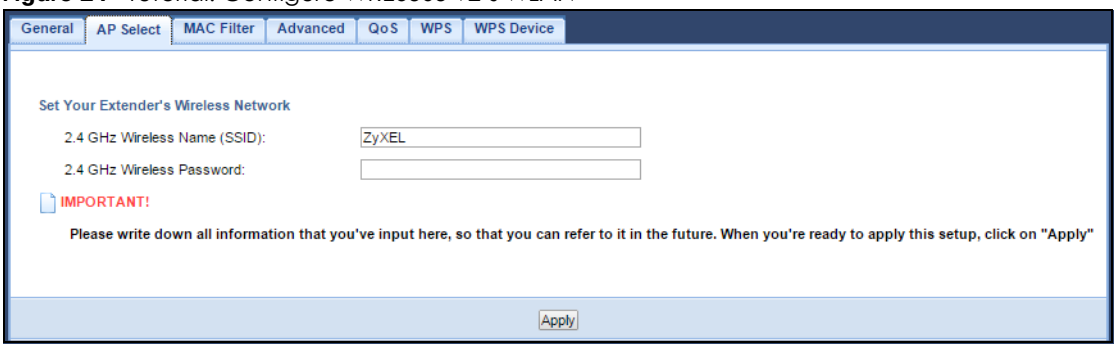
2 Type the SSID of the AP into the **Wireless Name (SSID)** field**,** set the security settings and click **Continue**.

Figure 23 Tutorial: Typing an SSID



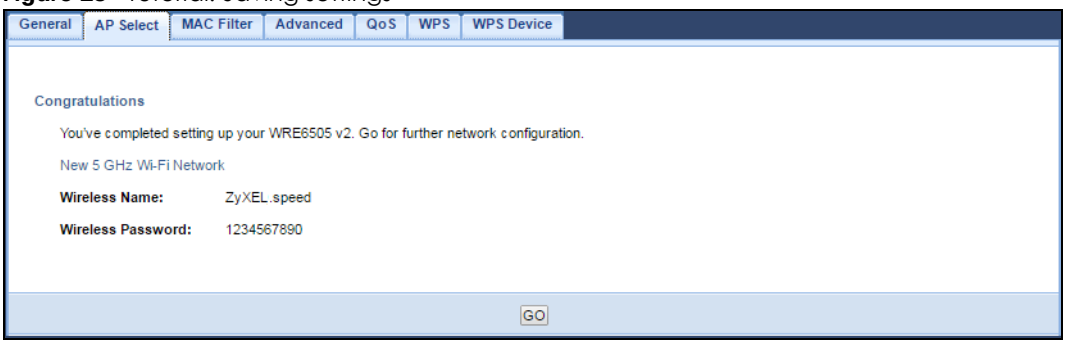
3 Configure the wireless settings between the WRE6505 v2 and its wireless clients. The WRE6505 v2 automatically copies the SSID of the associated AP and appends ".speed" to the 5GHz SSID. Click **Apply** to save settings and restart the WRE6505 v2.

Figure 24 Tutorial: Configure WRE6505 v2's WLAN



4 You have successfully set up your WRE6505 v2 to connect to an AP. Click **GO** to go to the **Status** screen.

Figure 25 Tutorial: Saving settings



PART II
Technical Reference

CHAPTER 8
Monitor

8.1 Overview

This chapter discusses read-only information related to the device state of the WRE6505 v2.

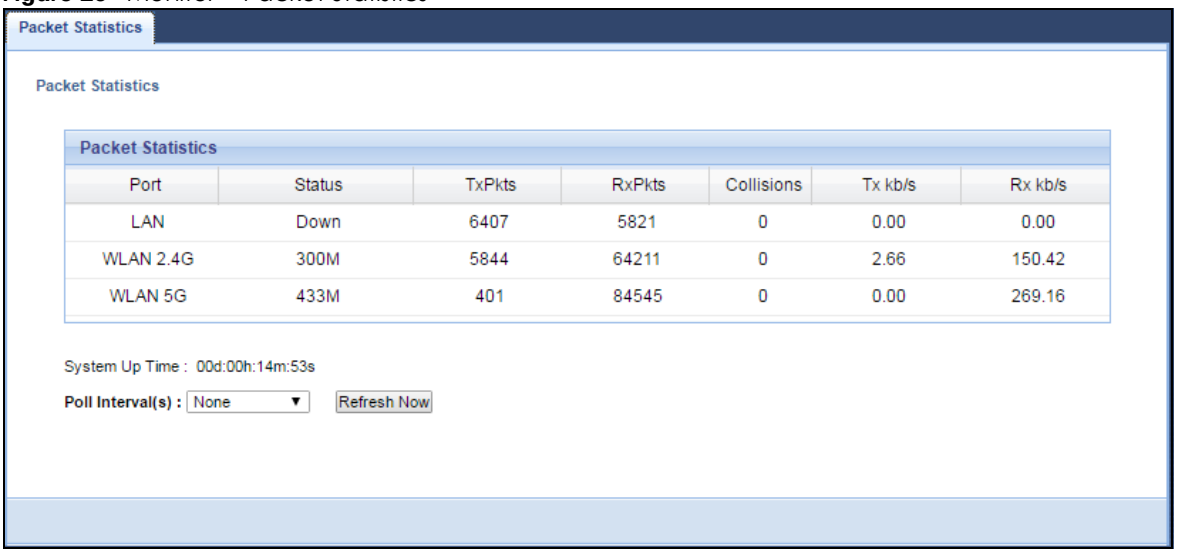
8.2 What You Can Do

- use the **Packet Statistics** screen (Section 8.3 on page 47) to view port status, packet specific statistics, the "system up time" and so on.

8.3 Packet Statistics Screen

Click **Monitor** > **Packet Statistics**. Read-only information here includes port status, packet specific statistics and the "system up time". The **Poll Interval(s)** field is configurable and is used for refreshing the screen.

Figure 26 Monitor > Packet Statistics



The following table describes the labels in this screen.

Table 13 Monitor > Packet Statistics

LABEL	DESCRIPTION
Port	This is the WRE6505 v2's port type.
Status	For the LAN ports, this displays the port speed or **Down** when the line is disconnected. For the WLAN, it displays the maximum transmission rate when the WLAN is enabled and **Down** when the WLAN is disabled.
TxPkts	This is the number of transmitted packets on this port.
RxPkts	This is the number of received packets on this port.
Collisions	This is the number of collisions on this port.
Tx kb/s	This displays the transmission speed in kilobits per second on this port.
Rx kb/s	This displays the reception speed in kilobits per second on this port.
System Up Time	This is the total time the WRE6505 v2 has been on.
Poll Interval(s)	Select the time interval in seconds for refreshing statistics in this field.
Refresh Now	Click this button to update the screen statistics immediately.

CHAPTER 9
Wireless LAN

9.1 Overview

This chapter discusses how to configure the wireless network settings in your WRE6505 v2. See Section 1.1 on page 9 for an overview of wireless networks.

9.2 What You Can Do

- Use the **General** screen to enable the Wireless LAN (2.4G/5G), enter the SSID and select the wireless security mode (Section 9.4 on page 51).
- Use the **AP select** screen to choose an access point that you want the WRE6505 v2 (in repeater mode) to connect to. You should know the security settings of the target AP (Section 9.6 on page 57). This screen is available only when the WRE6505 v2 is in repeater mode.
- Use the **MAC Filter** screen to allow or deny wireless stations based on their MAC addresses from connecting to the WRE6505 v2 (Section 9.7 on page 60).
- Use the **Advanced** screen to allow intra-BSS networking and set the RTS/CTS Threshold (Section 9.8 on page 61).
- Use the **QoS** screen to enable Wi-Fi MultiMedia Quality of Service (WMMQoS). This allows the WRE6505 v2 to automatically set priority levels to services, such as e-mail, VoIP, chat, and so on (Section 9.8 on page 61).
- Use the **WPS** screen to enable WPS to quickly set up a wireless network with strong security, without having to configure security settings manually (Section 9.10 on page 62).
- Use the **WPS Device** screen to add a wireless station using WPS (Section 9.11 on page 63).
- Use the **Scheduling** screen to set the times your wireless LAN is turned on and off (Section 9.12 on page 64). This screen is available only when the WRE6505 v2 is in AP mode.

9.3 What You Should Know

Every wireless network must follow these basic guidelines.

- Every wireless client in the same wireless network must use the same SSID.

  The SSID is the name of the wireless network. It stands for Service Set IDentity.
- If two wireless networks overlap, they should use different channels.

  Like radio stations or television channels, each wireless network uses a specific channel, or frequency, to send and receive information.
- Every wireless client in the same wireless network must use security compatible with the AP.

  Security stops unauthorized devices from using the wireless network. It can also protect the information that is sent in the wireless network.

9.3.1 Wireless Security Overview

The following sections introduce different types of wireless security you can set up in the wireless network.

9.3.1.1 MAC Address List

Every wireless client has a unique identification number, called a MAC address.[1] A MAC address is usually written using twelve hexadecimal characters[2]; for example, 00A0C5000002 or 00:A0:C5:00:00:02. To get the MAC address for each wireless client, see the appropriate User's Guide or other documentation.

You can use the MAC Address List to tell the AP which wireless clients are allowed to use the wireless network. If a wireless client is allowed to use the wireless network, it still has to have the correct settings (SSID, channel, and security). If a wireless client is not allowed to use the wireless network, it does not matter if it has the correct settings.

This type of security does not protect the information that is sent in the wireless network. Furthermore, there are ways for unauthorized devices to get the MAC address of an authorized wireless client. Then, they can use that MAC address to use the wireless network.

9.3.1.2 Encryption

Wireless networks can use encryption to protect the information that is sent in the wireless network. Encryption is like a secret code. If you do not know the secret code, you cannot understand the message.

Table 14 Types of Encryption for Each Type of Authentication

	NO AUTHENTICATION
Weakest	No Security
↕	Static WEP
	WPA-PSK
Strongest	WPA2-PSK

For example, if users do not log in to the wireless network, you can choose no authentication, if users do log on to the wireless network, you can choose **No Security**, **Static WEP**, **WPA-PSK**, or **WPA2-PSK**.

Usually, you should set up the strongest encryption that every wireless client in the wireless network supports. Suppose the wireless network has two wireless clients. Device A only supports WEP, and device B supports WEP and WPA-PSK. Therefore, you should set up **Static WEP** in the wireless network.

Note: It is recommended that wireless networks use WPA-PSK, or stronger encryption. IEEE 802.1x and WEP encryption are better than none at all, but it is still possible for unauthorized devices to figure out the original information pretty quickly.

Many types of encryption use a key to protect the information in the wireless network. The longer the key, the stronger the encryption. Every wireless client in the wireless network must have the same key.

1. Some wireless devices, such as scanners, can detect wireless networks but cannot use wireless networks. These kinds of wireless devices might not have MAC addresses.
2. Hexadecimal characters are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F.

9.3.1.3 WPS

Wi-Fi Protected Setup (WPS) is an industry standard specification, defined by the Wi-Fi Alliance. WPS allows you to quickly set up a wireless network with strong security, without having to configure security settings manually. Depending on the devices in your network, you can either press a button (on the device itself, or in its configuration utility) or enter a PIN (Personal Identification Number) in the devices. Then, they connect and set up a secure network by themselves. See how to set up a secure wireless network using WPS in the Section 7.3 on page 38.

9.4 General Wireless LAN Screen

Use this screen to enable the Wireless LAN, enter the SSID and select the wireless security mode.

Note: If you are configuring the WRE6505 v2 from a computer connected to the wireless LAN and you change the WRE6505 v2's SSID, channel or security settings, you will lose your wireless connection when you press **Apply** to confirm. You must then change the wireless settings of your computer to match the WRE6505 v2's new settings.

Click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** to open the **General** screen.

Figure 27 Network > Wireless LAN 2.4G/5G > General (Repeater Mode)

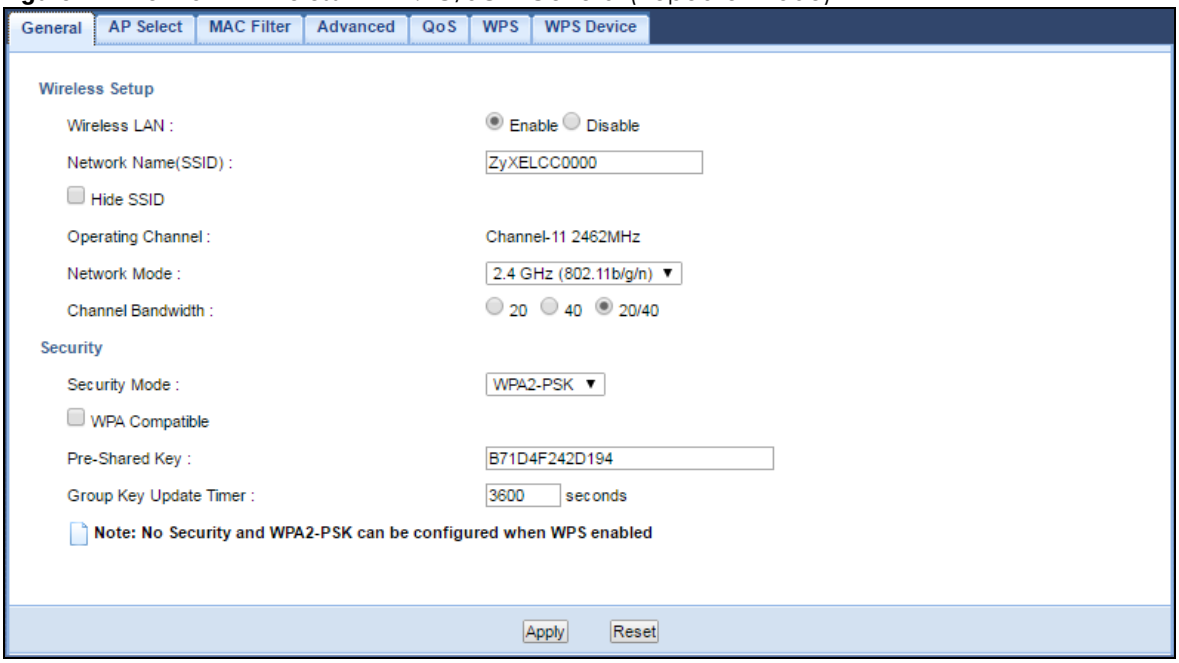
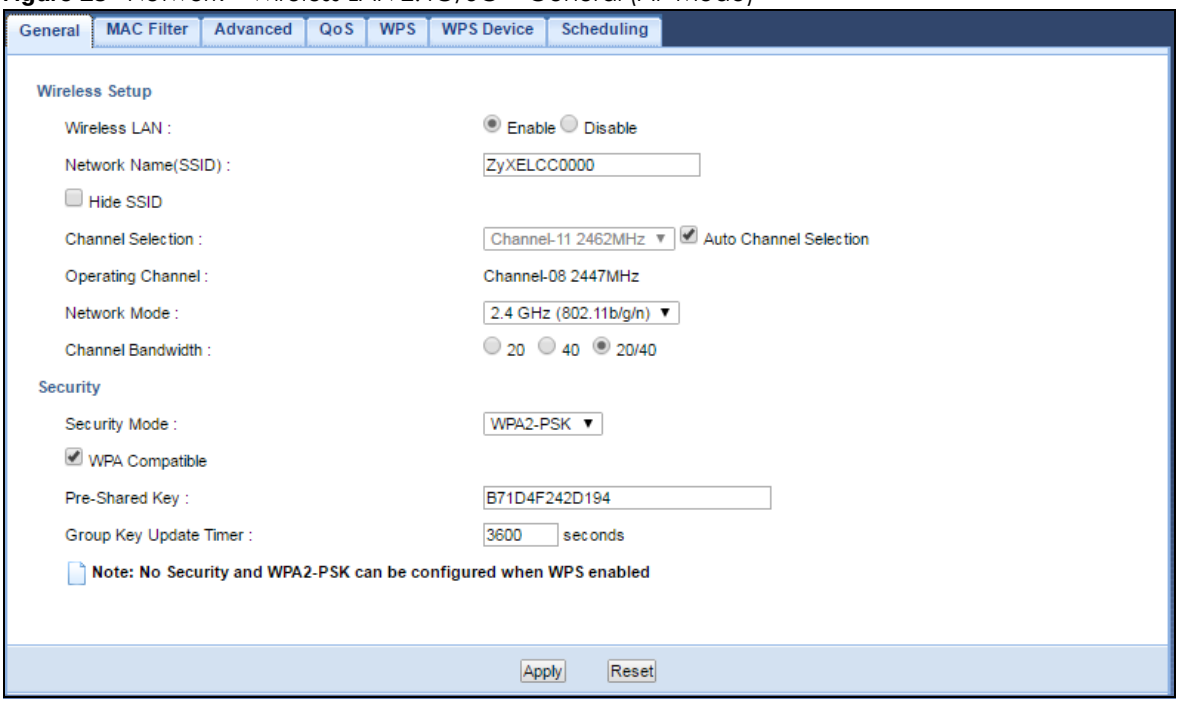


Figure 28 Network > Wireless LAN 2.4G/5G > General (AP Mode)



The following table describes the general wireless LAN labels in this screen.

Table 15 Network > Wireless LAN 2.4G/5G > General

LABEL	DESCRIPTION
Wireless Setup	
Wireless LAN	This is turned on by default. Click **Disable** to turn off the wireless LAN function.
Network Name (SSID)	The SSID (Service Set IDentity) identifies the Service Set with which a wireless client is associated. Enter a descriptive name (up to 32 printable characters found on a typical English language keyboard) for the wireless LAN.
Hide SSID	Select this check box to hide the SSID in the outgoing beacon frame so a wireless client cannot obtain the SSID through scanning using a site survey tool.
Channel Selection	Set the operating frequency/channel depending on your particular region. Select a channel from the drop-down list box. The options vary depending on the frequency band and the country you are in. This option is only available when the WRE6505 v2 is in AP mode and **Auto Channel Selection** is disabled.
Auto Channel Selection	This option is available only when the WRE6505 v2 is in AP mode. Select this option to have the WRE6505 v2 automatically scan for and select a channel which is not used by another device.
Operating Channel	This displays the channel the WRE6505 v2 is currently using.

Table 15 Network > Wireless LAN 2.4G/5G > General (continued)

LABEL	DESCRIPTION
Network Mode	2.4 GHz is the frequency used by IEEE 802.11b/g/n wireless clients. 5 GHz is the frequency used by IEEE 802.11ac/a/n wireless clients. Select **2.4 GHz (802.11b)** to allow only IEEE 802.11b compliant WLAN devices to associate with the WRE6505 v2. Select **2.4 GHz (802.11g)** to allow only IEEE 802.11g compliant WLAN devices to associate with the WRE6505 v2. Select **2.4 GHz (802.11n)** to allow only IEEE 802.11n compliant WLAN devices to associate with the WRE6505 v2. Select **2.4 GHz (802.11b/g)** to allow both IEEE802.11b and IEEE802.11g compliant WLAN devices to associate with the WRE6505 v2. The transmission rate of your WRE6505 v2 might be reduced. Select **2.4 GHz (802.11b/g/n)** to allow both IEEE802.11b, IEEE802.11g and IEEE802.11n compliant WLAN devices to associate with the WRE6505 v2. The transmission rate of your WRE6505 v2 might be reduced. Select **5 GHz (802.11a)** to allow only IEEE 802.11a compliant WLAN devices to associate with the WRE6505 v2. Select **5 GHz (802.11a/n)** to allow both IEEE802.11a and IEEE802.11n compliant WLAN devices to associate with the WRE6505 v2. The transmission rate of your WRE6505 v2 might be reduced. Select **5 GHz (802.11a/n/ac)** to allow both IEEE802.11a, IEEE802.11n and IEEE802.11ac compliant WLAN devices to associate with the WRE6505 v2. The transmission rate of your WRE6505 v2 might be reduced..
Channel Bandwidth	Select the channel bandwidth you want to use for your wireless network. Select **20** MHz if you want to lessen radio interference with other wireless devices in your neighborhood. Select **40** MHz if you want to lessen radio interference with other wireless devices in your neighborhood. Select **20/40** MHz to allow the WRE6505 v2 to choose the channel bandwidth (20 or 40 MHz) that has least interference. Select **20/40/80** MHz to allow the WRE6505 v2 to choose the channel bandwidth (20 or 40 or 80 MHz) that has least interference. This option is available only when you select **5 GHz (802.11a/n/ac)** in the **Network Mode** field.
Security	
Security Mode	If the WRE6505 v2 is in repeater mode, select **No Security** or the available modes to match as provided by the source AP or wireless router. If the WRE6505 v2 is in AP mode, select **WPA2-PSK**, **WPA-PSK** or **Static WEP** to add security on this wireless network. The wireless clients which want to associate to this network must have same wireless security settings as this device. After you select to use a security, additional options appears in this screen. See Section 9.5 on page 54 for detailed information on different security modes. Or you can select **No Security** to allow any client to associate this network without authentication. Note: If the WPS function is enabled (default), only **No Security** and **WPA2-PSK** are available in this field.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to return to the previous menu without saving.

9.5 Wireless Security

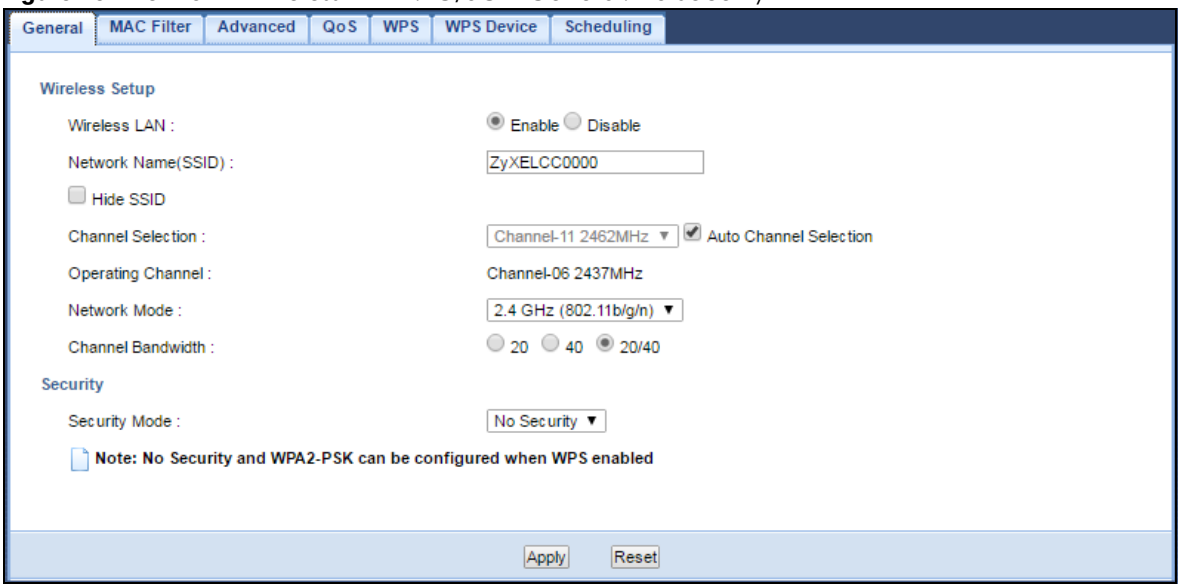
The screen varies depending on what you select in the **Security Mode** field.

9.5.1 No Security

Select **No Security** to allow wireless clients to communicate with the access point without any data encryption.

Note: If you do not enable any wireless security on your WRE6505 v2, your network is accessible to any wireless networking device that is within range.

Figure 29 Network > Wireless LAN 2.4G/5G > General: No Security



The following table describes the labels in this screen.

Table 16 Network > Wireless LAN 2.4G/5G > General: No Security

LABEL	DESCRIPTION
Security Mode	Choose **No Security** from the drop-down list box.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

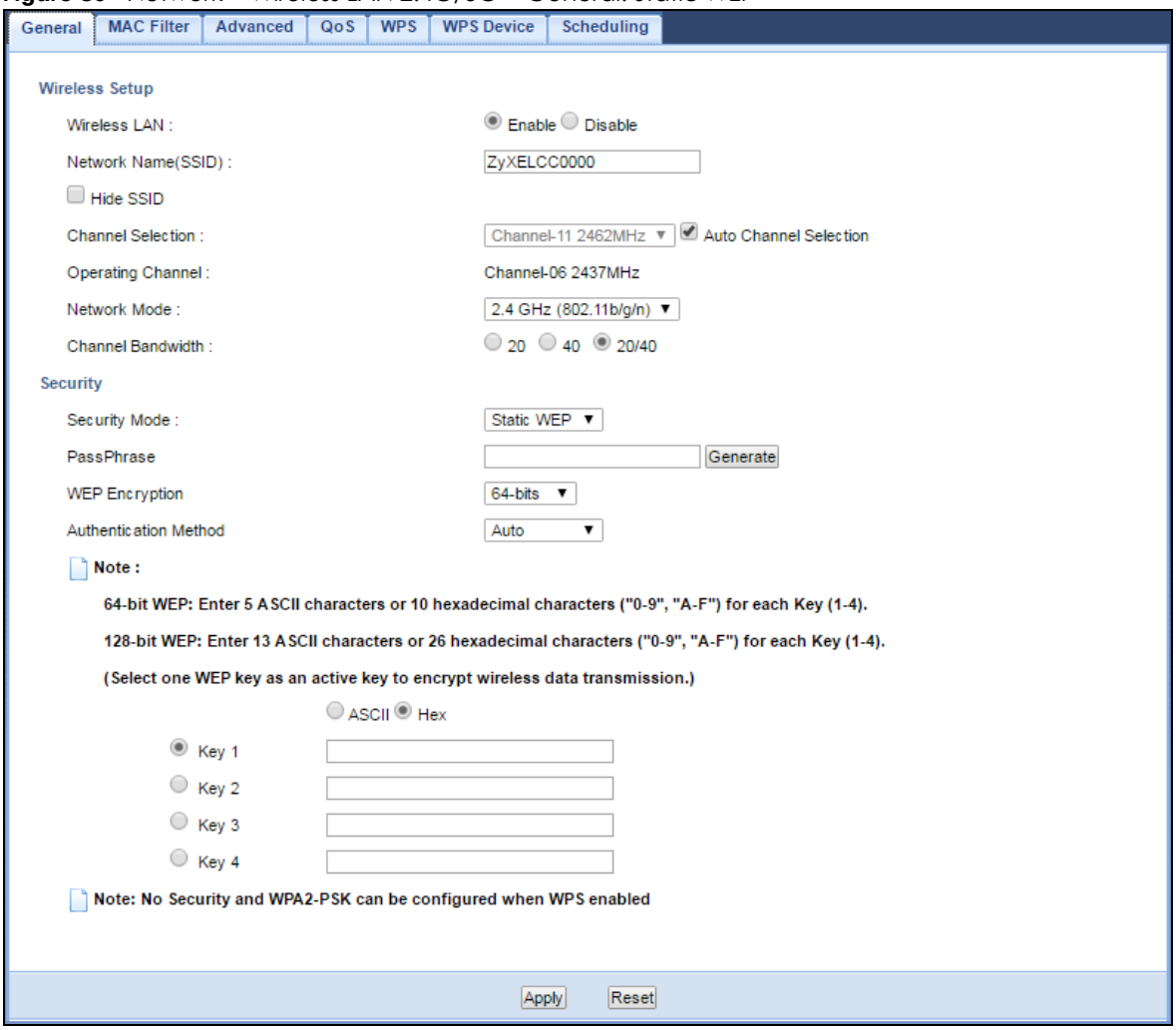
9.5.2 WEP Encryption

WEP encryption scrambles the data transmitted between the wireless stations and the access points to keep network communications private. It encrypts unicast and multicast communications in a network. Both the wireless stations and the access points must use the same WEP key.

Your WRE6505 v2 allows you to configure up to four 64-bit or 128-bit WEP keys but only one key can be enabled at any one time.

Select **Static WEP** from the **Security Mode** list.

Figure 30 Network > Wireless LAN 2.4G/5G > General: Static WEP



The following table describes the wireless LAN security labels in this screen.

Table 17 Network > Wireless LAN 2.4G/5G > General: Static WEP

LABEL	DESCRIPTION
Security Mode	Select **Static WEP** to enable data encryption.
PassPhrase	Enter a Passphrase (up to 26 printable characters) and click **Generate**. A passphrase functions like a password. In WEP security mode, it is further converted by the WRE6505 v2 into a complicated string that is referred to as the "key". This key is requested from all devices wishing to connect to a wireless network.
WEP Encryption	Select **64-bits** or **128-bits**. This dictates the length of the security key that the network is going to use.
Authentication Method	Select **Auto** or **Shared Key** from the drop-down list box. This field specifies whether the wireless clients have to provide the WEP key to login to the wireless client. Keep this setting at **Auto** unless you want to force a key verification before communication between the wireless client and the WRE6505 v2 occurs. Select **Shared Key** to force the clients to provide the WEP key prior to communication.
ASCII	Select this option in order to enter ASCII characters as WEP key.

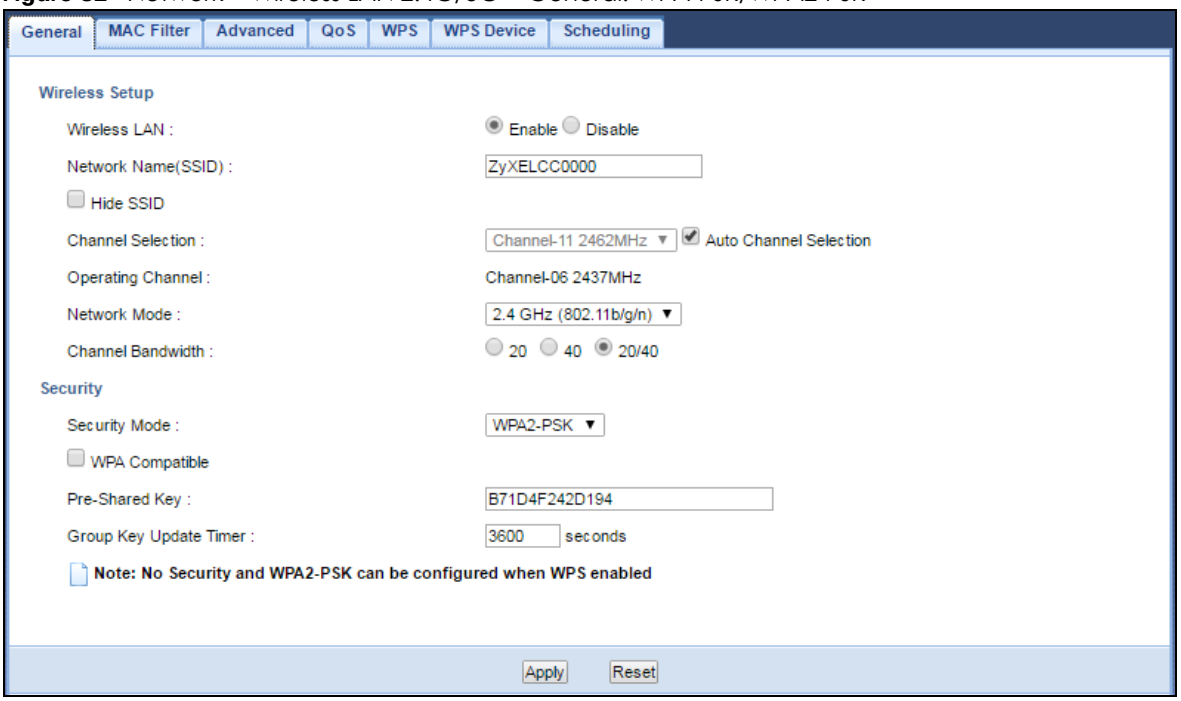
Table 17 Network > Wireless LAN 2.4G/5G > General: Static WEP (continued)

LABEL	DESCRIPTION
Hex	Select this option in order to enter hexadecimal characters as a WEP key. The preceding "0x", that identifies a hexadecimal key, is entered automatically.
Key 1 to Key 4	The WEP keys are used to encrypt data. Both the WRE6505 v2 and the wireless stations must use the same WEP key for data transmission. If you chose **64-bits**, then enter any 5 ASCII characters or 10 hexadecimal characters ("0-9", "A-F"). If you chose **128-bits**, then enter 13 ASCII characters or 26 hexadecimal characters ("0-9", "A-F"). You must configure at least one key, only one key can be activated at any one time. The default key is key 1.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

9.5.3 WPA-PSK/WPA2-PSK

Select **WPA-PSK** or **WPA2-PSK** from the **Security Mode** list.

Figure 31 Network > Wireless LAN 2.4G/5G > General: WPA-PSK/WPA2-PSK



The following table describes the labels in this screen.

Table 18 Network > Wireless LAN 2.4G/5G > General: WPA-PSK/WPA2-PSK

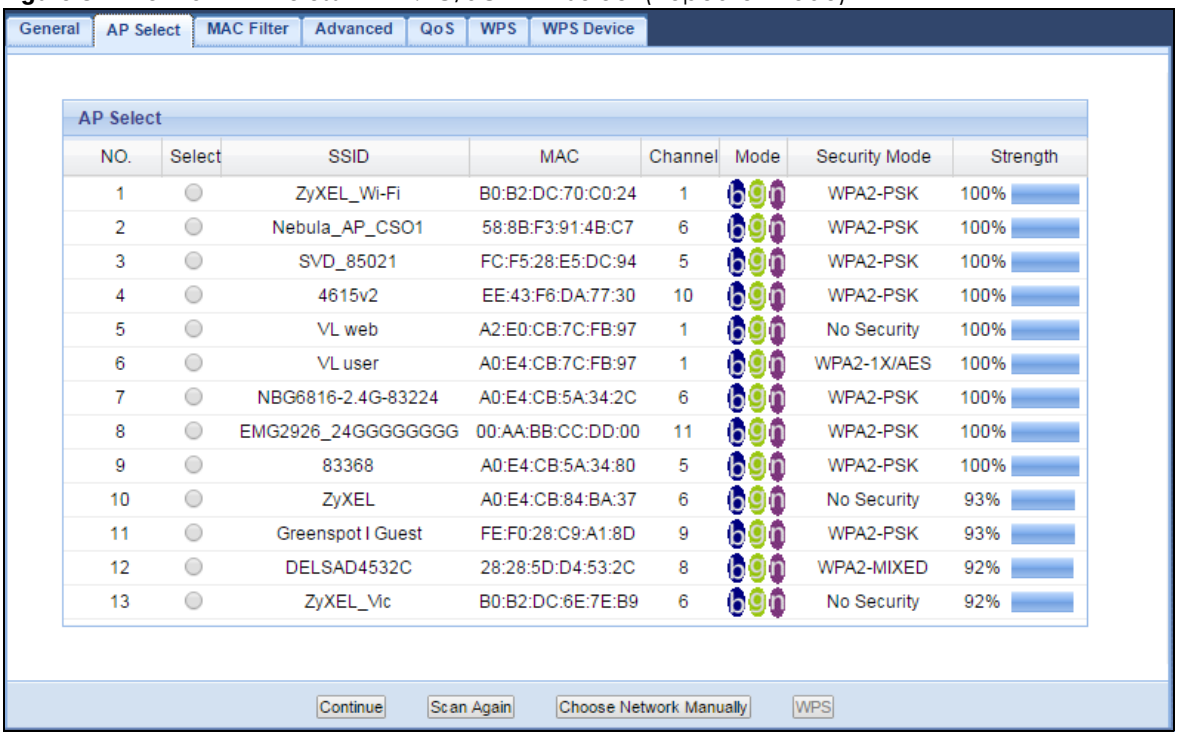
LABEL	DESCRIPTION
Security Mode	Select **WPA-PSK** or **WPA2-PSK** to enable data encryption.
WPA-PSK Compatible	This field appears when you choose **WPA2-PSK** as the **Security Mode**. Check this field to allow wireless devices using **WPA-PSK** security mode to connect to your WRE6505 v2.
Pre-Shared Key	**WPA-PSK/WPA2-PSK** uses a simple common password for authentication. Type a pre-shared key from 8 to 63 case-sensitive keyboard characters.
Group Key Update Timer	The **Group Key Update Timer** is the rate at which the AP sends a new group key out to all clients. The default is **3600** seconds (60 minutes).
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

9.6 AP Select Screen

Use this screen (available in repeater mode only) to choose an access point that you want the WRE6505 v2 to connect to. You should know the security settings of the target AP.

To open this screen, click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **AP Select**.

Figure 32 Network > Wireless LAN 2.4G/5G > AP Select (Repeater Mode)



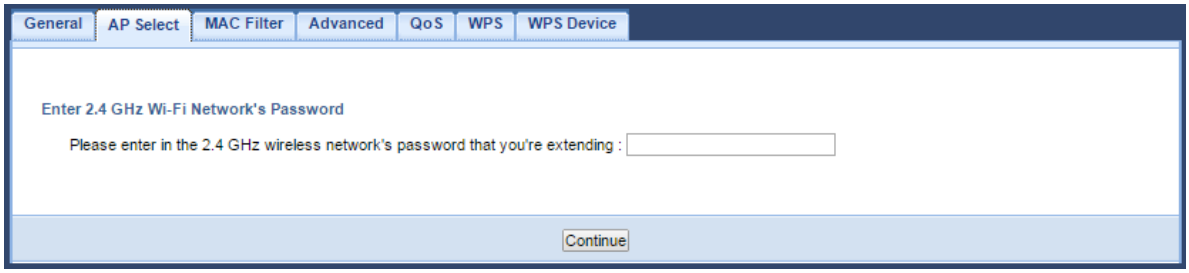
The following table describes the labels in this screen.

Table 19 Network > Wireless LAN 2.4G/5G > AP Select (Repeater Mode)

LABEL	DESCRIPTION
Select	Use the radio button to select the wireless device to which you want to connect.
SSID	This displays the Service Set IDentity of the wireless device. The SSID is a unique name that identifies a wireless network. All devices in a wireless network must use the same SSID.
MAC	This displays the MAC address of the wireless device.
Channel	This displays the channel number used by this wireless device.
Mode	This displays which IEEE 802.11b/g/n wireless networking standards the wireless device supports.
Security Mode	This displays the type of security configured on the wireless device. When **No Security** is shown, no security is configured and you can connect to it without a password.
Strength	This displays the strength of the wireless signal. The signal strength mainly depends on the antenna output power and the distance between your WRE6505 v2 and this device.
Continue	Click **Continue** to start the next step in the AP setup process.
Scan Again	Click **Scan Again** to search for available wireless devices within transmission range and update this table.
Choose Network Manually	Select this to set up the AP manually.
WPS	This button is configurable only when you enable WPS in the **Wireless LAN 2.4G/5G > WPS** screen. Click this button to connect to the selected AP via WPS.

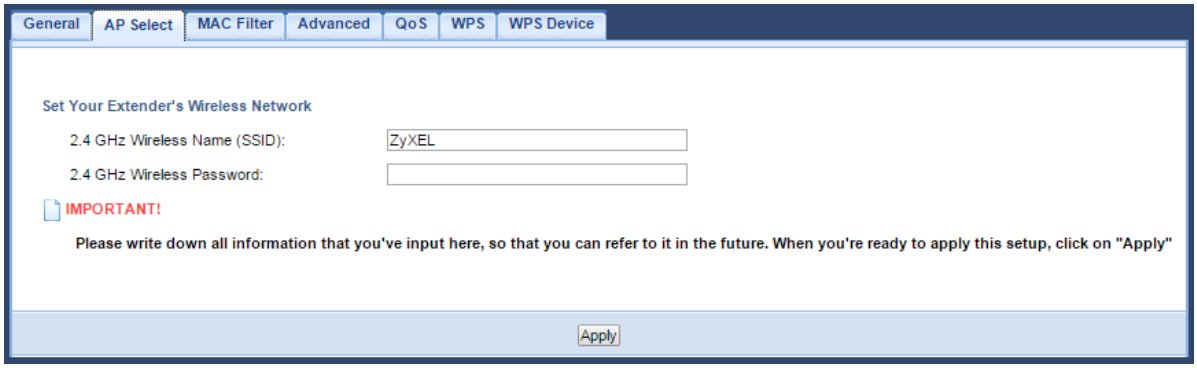
Enter a Wi-Fi key

If wireless securoty is enabled on the selected AP, the following screen displays after you click **Continue** in the **AP Select** screen. Enter the AP's Wi-Fi key and click **Continue**.



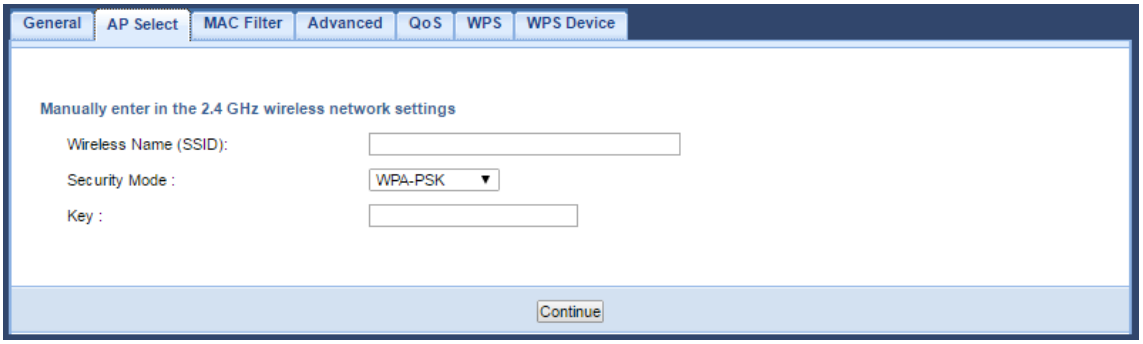
Set up the WRE6505 v2's WLAN for clients

Use this screen to configure the wireless settings between the WRE6505 v2 and its wireless clients. The WRE6505 v2 automatically copies the SSID of the associated AP. You can set the SSID and Wi-Fi key of the WRE6505 v2's WLAN to be the same as those on the AP to which the WRE6505 v2 wants to connect. Click **Apply** to save your settings.



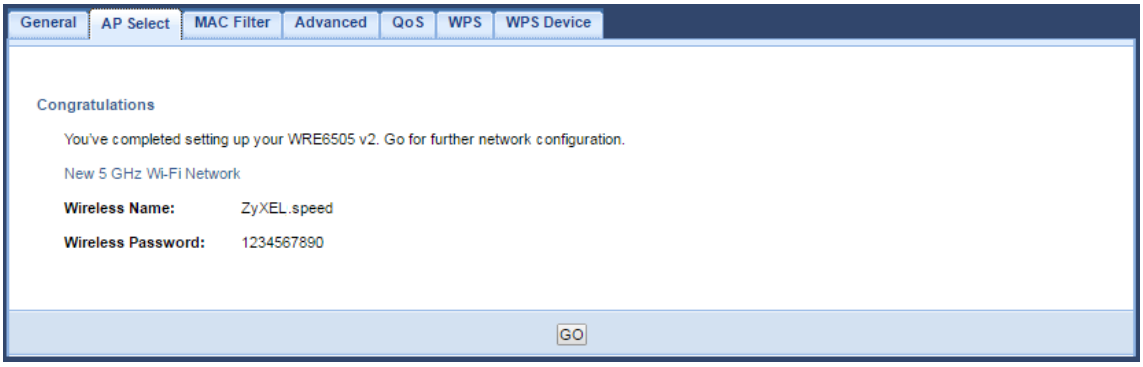
Choose AP network manually

Use this screen to manually enter the SSID, security mode and Wi-Fi key of the AP to which you want the WRE6505 v2 to connect. This is useful when the AP's SSID is hidden. Click **Continue** to configure the wireless settings between the WRE6505 v2 and its wireless clients (see Set up the WRE6505 v2's WLAN for clients on page 58).



Complete the AP and WLAN setup

This screen displays when you have successfully set up your WRE6505 v2 to connect to an AP. Verify the WRE6505 v2's wireless network settings and click **GO** to open the **Status** screen.

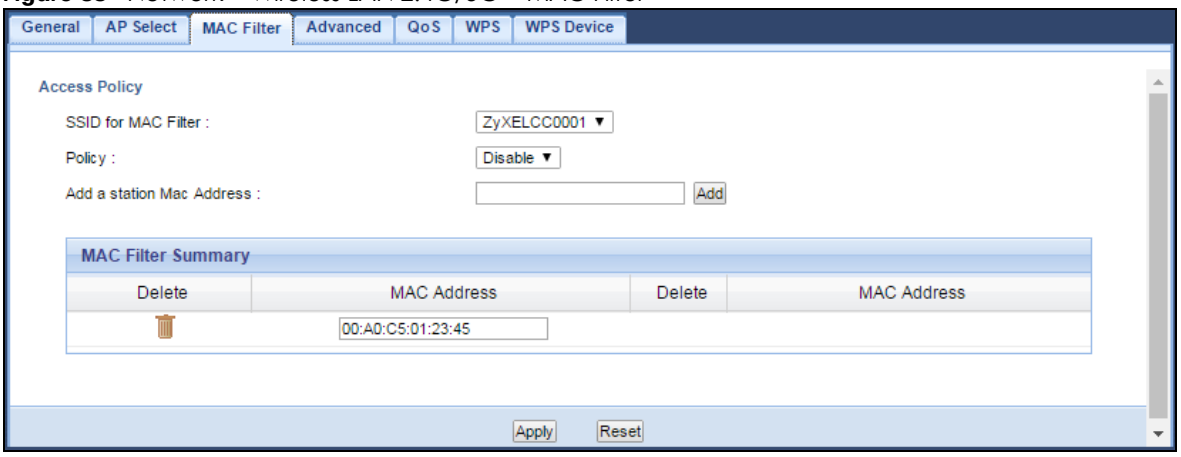


9.7 MAC Filter

The MAC Filter screen allows you to specify which devices are allowed to access the WRE6505 v2, while denying access to all unspecified devices. Every Ethernet device has a unique MAC (Media Access Control) address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, 00:A0:C5:00:00:02. You need to know the MAC address of the devices to configure this screen.

To change your WRE6505 v2's MAC Address List settings, click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **MAC Filter**. The screen appears as shown.

Figure 33 Network > Wireless LAN 2.4G/5G > MAC Filter



The following table describes the labels in this menu.

Table 20 Network > Wireless LAN 2.4G/5G> MAC Filter

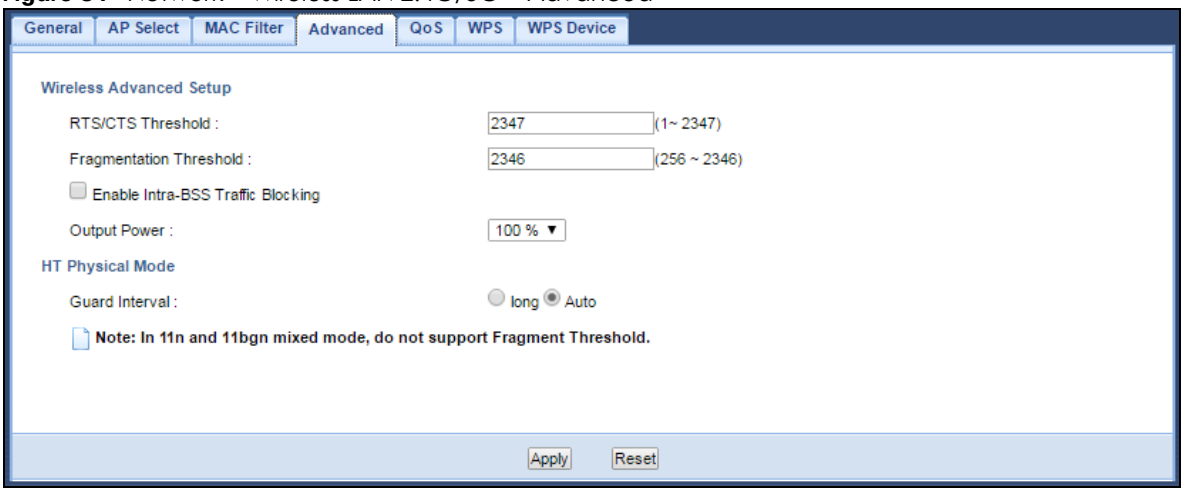
LABEL	DESCRIPTION
SSID for MAC Filter	Select the SSID for which you want to configure MAC filtering.
Policy	Define the filter action for the list of MAC addresses in the **MAC Address** table. Select **Disable** to deactivate the MAC filtering rule you configure below. Select **Allow** to permit access to the WRE6505 v2, MAC addresses not listed will be denied access to the WRE6505 v2. Select **Reject** to block access to the WRE6505 v2, MAC addresses not listed will be allowed to access the WRE6505 v2
Add a station Mac Address	Enter the MAC addresses of the wireless station that are allowed or denied access to the WRE6505 v2 and click **Add.** Enter the MAC addresses in a valid MAC address format, that is, six hexadecimal character pairs, for example, 12:34:56:78:9a:bc.
MAC Filter Summary	
Delete	Click the delete icon to remove the MAC address from the list.
MAC Address	This is the MAC address of the wireless station that are allowed or denied access to the WRE6505 v2.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

9.8 Wireless LAN Advanced Screen

Use this screen to configure advanced wireless LAN parameters.

Click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **Advanced**. The screen appears as shown.

Figure 34 Network > Wireless LAN 2.4G/5G > Advanced



The following table describes the labels in this screen.

Table 21 Network > Wireless LAN 2.4G/5G > Advanced

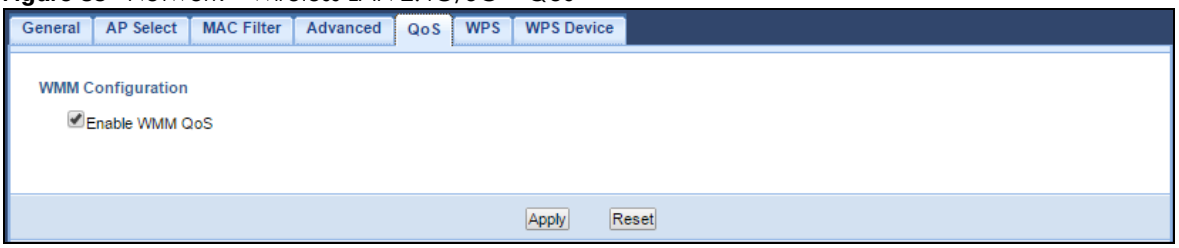
LABEL	DESCRIPTION
RTS/CTS Threshold	Data with its frame size larger than this value will perform the RTS (Request To Send)/CTS (Clear To Send) handshake. Enter a value between **1** and **2347**.
Fragmentation Threshold	The threshold (number of bytes) for the fragmentation boundary for directed messages. It is the maximum data fragment size that can be sent. Enter an even number between **256** and **2346**.
Enable Intra-BSS Traffic Blocking	A Basic Service Set (BSS) exists when all communications between wireless clients or between a wireless client and a wired network client go through one access point (AP). Intra-BSS traffic is traffic between wireless clients in the BSS. When Intra-BSS traffic blocking is not enabled, wireless clients can access the wired network and communicate with each other. When Intra-BSS traffic blocking is enabled, wireless clients can still access the wired network but cannot communicate with each other.
Output Power	Set the output power of the WRE6505 v2 in this field. If there is a high density of APs in an area, decrease the output power of the WRE6505 v2 to reduce interference with other APs. Select one of the following **100%**, **50%** or **25%**. See the product specifications for more information on your WRE6505 v2's output power.
HT (High Throughput) Physical Mode	
Guard Interval	Select **Auto** to increase data throughput. However, this may make data transfer more prone to errors. Select **Long** to prioritize data integrity. This may be because your wireless network is busy and congested or the WRE6505 v2 is located in an environment prone to radio interference.
Apply	Click **Apply** to save your changes to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

9.9 Quality of Service (QoS) Screen

The QoS screen allows you to automatically give a service (such as VoIP and video) a priority level.

Click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **QoS**. The following screen appears.

Figure 35 Network > Wireless LAN 2.4G/5G > QoS



The following table describes the labels in this screen.

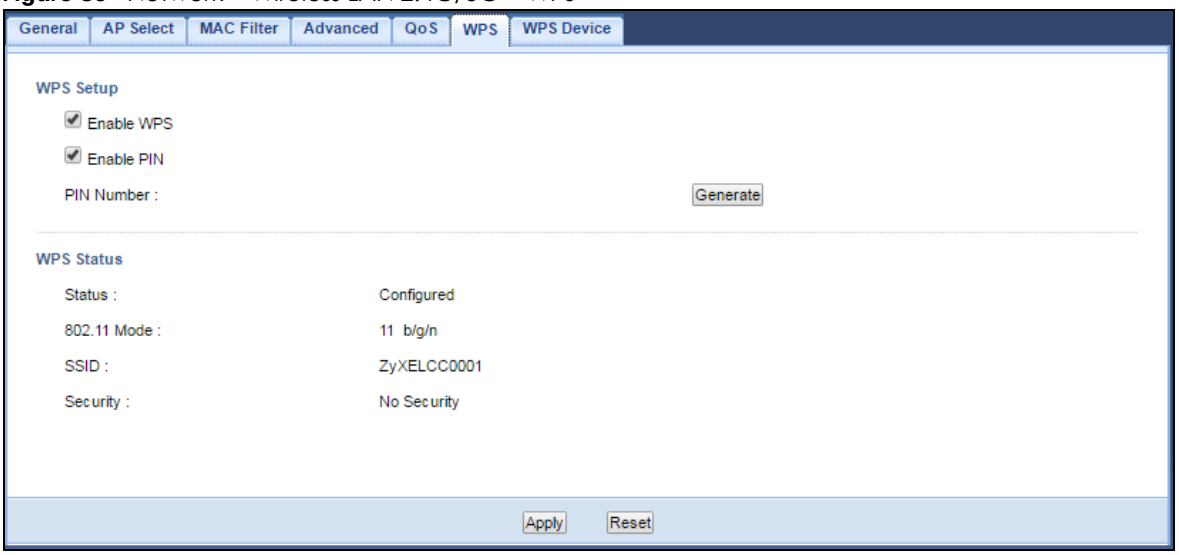
Table 22 Network > Wireless LAN 2.4G/5G > QoS

LABEL	DESCRIPTION
Enable WMM QoS	Check this to have the WRE6505 v2 automatically give a service a priority level according to the ToS value in the IP header of packets it sends. WMM QoS (Wifi MultiMedia Quality of Service) gives high priority to voice and video, which makes them run more smoothly.
Apply	Click **Apply** to save your changes to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

9.10 WPS Screen

Use this screen to enable/disable WPS, view or generate a new PIN and check current WPS status. To open this screen, click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **WPS** tab.

Figure 36 Network > Wireless LAN 2.4G/5G > WPS



The following table describes the labels in this screen.

Table 23 Network > Wireless LAN 2.4G/5G > WPS

LABEL	DESCRIPTION
WPS Setup	
Enable WPS	Select this to enable the WPS feature.
Enable PIN	Select this to enable the PIN number.
PIN Number	This displays a PIN number last time system generated. Click **Generate** to generate a new PIN number.
WPS Status	
Status	This displays **Configured** when the WRE6505 v2 has connected to a wireless network using WPS or when **Enable WPS** is selected and wireless or wireless security settings have been changed. The current wireless and wireless security settings also appear in the screen. This displays **Unconfigured** if WPS is disabled and there are no wireless or wireless security changes on the WRE6505 v2 or click **Release Configuration** (AP mode only) to remove the configured wireless and wireless security settings.
Release Configuration (AP mode only)	This button is only available when the WPS status displays **Configured**. Click this button to remove all configured wireless and wireless security settings for WPS connections on the WRE6505 v2.
802.11 Mode	This is the 802.11 mode used. Only compliant WLAN devices can associate with the WRE6505 v2.
SSID	This is the name of the wireless network (the WAP3205 v2's first SSID).
Security	This is the type of wireless security employed by the network.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

9.11 WPS Device Screen

Use this screen when you want to add a wireless station using WPS. To open this screen, click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **WPS Device**.

Note: After you click **WPS** on this screen, you have to press a similar button in the wireless station utility within 2 minutes. To add the second wireless station, you have to press these buttons on both device and the wireless station again after the first 2 minutes.

Figure 37 Network > Wireless LAN 2.4G/5G > WPS Device (Repeater Mode)

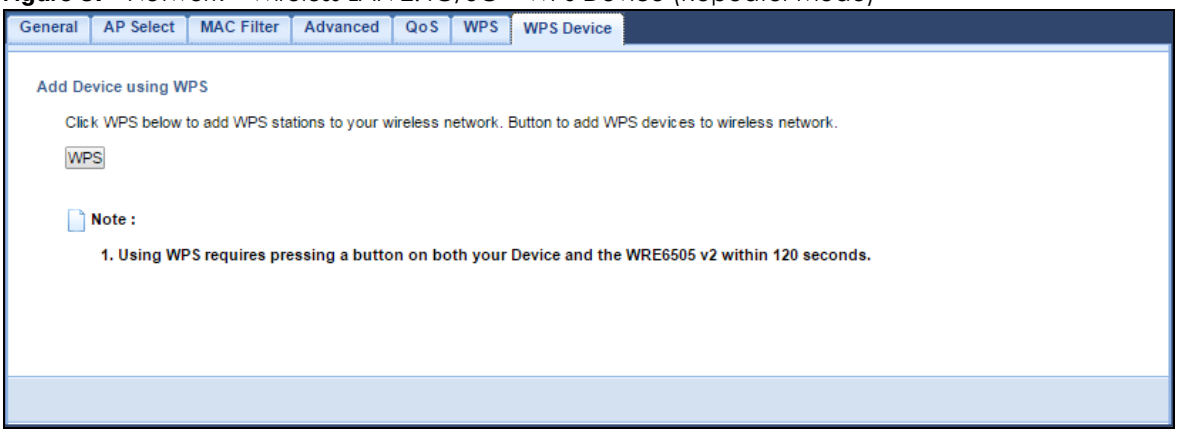
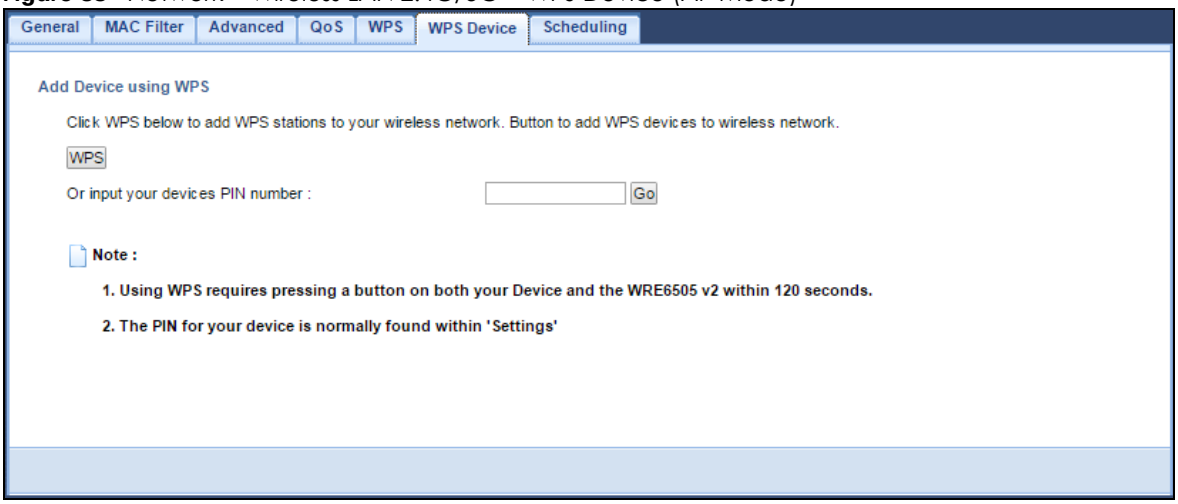


Figure 38 Network > Wireless LAN 2.4G/5G > WPS Device (AP Mode)



The following table describes the labels in this screen.

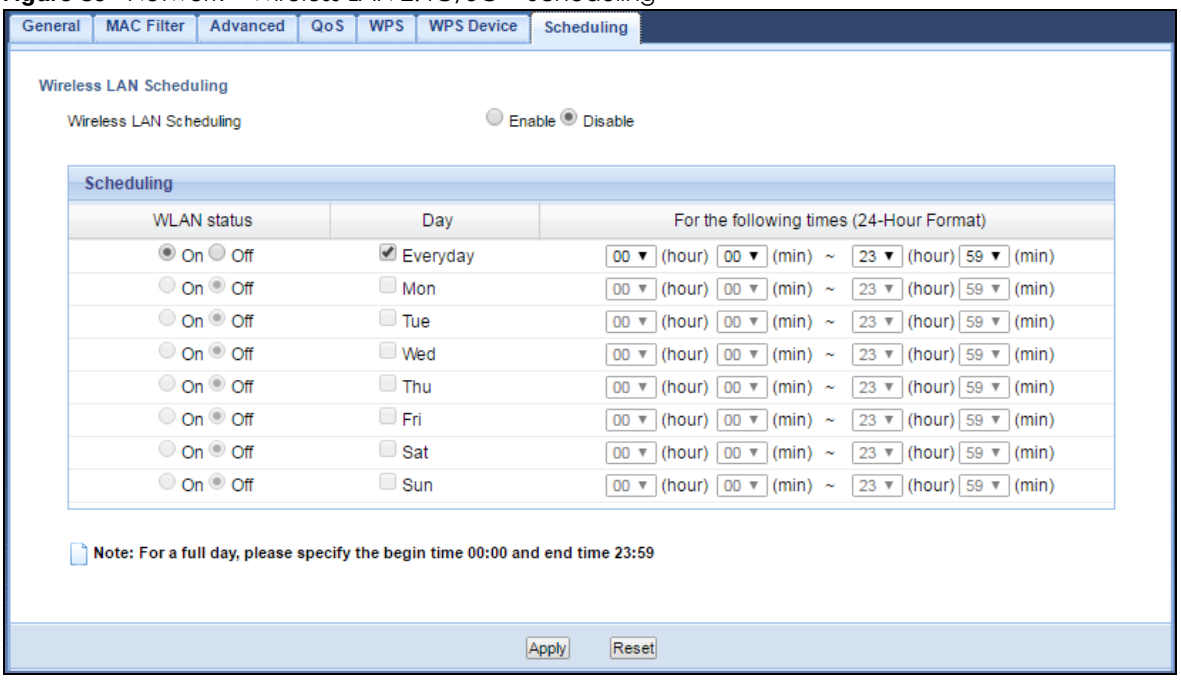
Table 24 Network > Wireless LAN 2.4G/5G > WPS Device

LABEL	DESCRIPTION
WPS	Use this button when you use the PBC (Push Button Configuration) method to configure wireless stations's wireless settings. See Section 7.3.1 on page 39. Click this to start WPS-aware wireless station scanning and the wireless security information synchronization.
Or input your devices PIN number (AP mode only)	Use this button when you use the PIN Configuration method to configure wireless station's wireless settings. See Section 7.3.2 on page 40. Type the same PIN number generated in the wireless station's utility. Then click **Go** to associate to each other and perform the wireless security information synchronization.

9.12 Scheduling Screen

Use this screen (available in AP mode only) to set the times your wireless LAN is turned on and off. Wireless LAN scheduling is disabled by default. The wireless LAN can be scheduled to turn on or off on certain days and at certain times. To open this screen, click **Network** > **Wireless LAN 2.4G** or **Wireless LAN 5G** > **Scheduling** tab.

Figure 39 Network > Wireless LAN 2.4G/5G > Scheduling



The following table describes the labels in this screen.

Table 25 Network > Wireless LAN 2.4G/5G > Scheduling

LABEL	DESCRIPTION
Wireless LAN Scheduling	
Wireless LAN Scheduling	Select to enable or disable wireless LAN scheduling.
Scheduling	
WLAN Status	Select **On** or **Off** to specify whether the Wireless LAN is turned on or off. This field works in conjunction with the **Day** and **For the following times** fields.
Day	Select **Everyday** or the specific days to turn the Wireless LAN on or off. If you select **Everyday** you can not select any specific days. This field works in conjunction with the **For the following times** field.
For the following times (24-Hour Format)	Select a begin time using the first set of **hour** and minute (**min**) drop down boxes and select an end time using the second set of **hour** and minute (**min**) drop down boxes. If you have chosen **On** earlier for the WLAN Status the Wireless LAN will turn on between the two times you enter in these fields. If you have chosen **Off** earlier for the WLAN Status the Wireless LAN will turn off between the two times you enter in these fields.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

CHAPTER 10
LAN

10.1 Overview

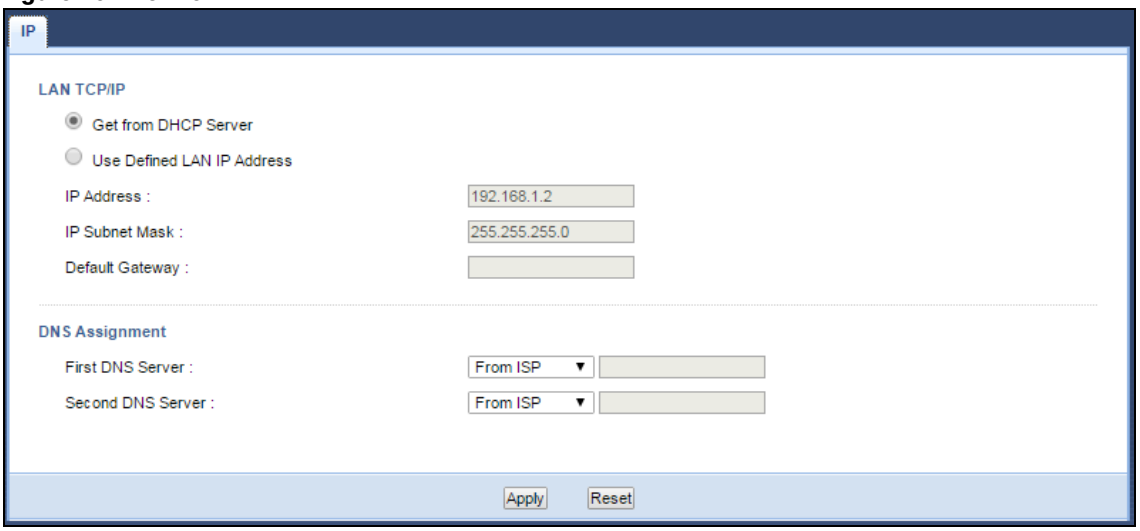
This screen allows you to assign the WRE6505 v2 a fixed or dynamic management IP address. The default IP address of the WRE6505 v2 is 192.168.1.2. Alternatively, you can connect to the WRE6505 v2 using the default domain name, http://zyxelsetup.

10.2 LAN IP Screen

Use this screen to change the WRE6505 v2's management IP address and configure the DNS server information that the WRE6505 v2 sends to the DHCP clients. Click **Network** > **LAN**.

Note: If you change the IP address of the WRE6505 v2 in the screen below, you will need to log into the WRE6505 v2 again using the new IP address.

Figure 40 Network > LAN > IP



The following table describes the labels in this screen.

Table 26 Network > LAN > IP

LABEL	DESCRIPTION
LAN TCP/IP	
Get from DHCP Server	Select this to have the WRE6505 v2 get a dynamic IP address from a DHCP server.
User Defined LAN IP Address	Click this to enable the manual IP configuration.

Table 26 Network > LAN > IP (continued)

LABEL	DESCRIPTION
IP Address	Enter the IP address of your WRE6505 v2 in dotted decimal notation.
IP Subnet Mask	Enter the subnet mask of your WRE6505 v2 in dotted decimal notation.
Default Gateway	Enter the gateway of your WRE6505 v2 in dotted decimal notation.
DNS Assignment	
First DNS Server Second DNS Server	Select **From ISP** if your ISP or router to which the WRE6505 v2 connects dynamically assigns DNS server information (and the WRE6505 v2's IP address). The field to the right displays the (read-only) DNS server IP address that the ISP assigns. Select **User-Defined** if you have the IP address of a DNS server. Enter the DNS server's IP address in the field to the right. Select **None** if you do not want to configure DNS servers. If you do not configure a DNS server, you must know the IP address of a computer in order to access it.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

CHAPTER 11
One Connect

11.1 Overview

One Connect is a Zyxel-proprietary feature. It complies with the IEEE 1905.1 standard and allows auto-detection and auto-configuration.

If your wireless router supports Zyxel One Connect, WRE6505 v2 for example, you can download and install the Zyxel One Connect App in your mobile device to check the connection status, do speed test, turn on or turn off the devices in your network, block or allow a device's access and set up a guest Wi-Fi network from the mobile device. You can even use the App to access the WRE6505 v2's web configurator. The mobile device with the App installed must be connected to the WRE6505 v2 wirelessly.

Figure 41 Zyxel One Connect App

11.1.1 What You Can Do

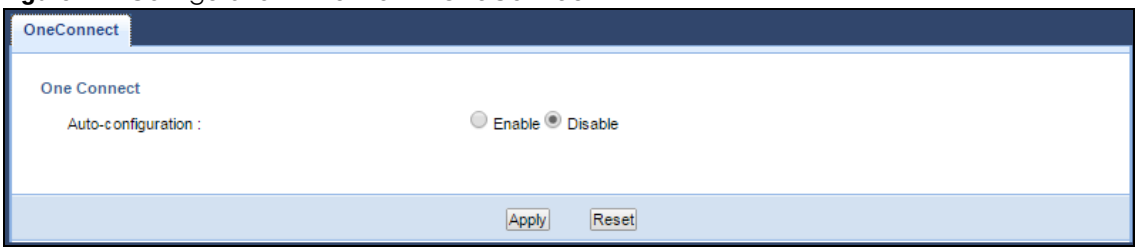
Use the **One Connect** screen to enable or disable Wi-Fi auto-configuration (Section 11.2 on page 68).

11.2 One Connect Screen

Use this screen to enable or disable Wi-Fi auto-configuration on the WRE6505 v2.

Click **Configuration** > **Network** > **OneConnect** to open the following screen.

Figure 42 Configuration > Network > OneConnect



The following table describes the labels in this screen.

Table 27 Configuration > Network > OneConnect

LABEL	DESCRIPTION
One Connect	
Auto-configuration	Select **Enable** to allow the WRE6505 v2 to automatically update the wireless settings on the APs or wireless repeaters (which also support Zyxel One Connect) in its network. Select **Disable** to turn this feature off if you want to have the APs or repeaters in the network use different wireless settings.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

CHAPTER 12
Maintenance

12.1 Overview

This chapter provides information on the **Maintenance** screen.

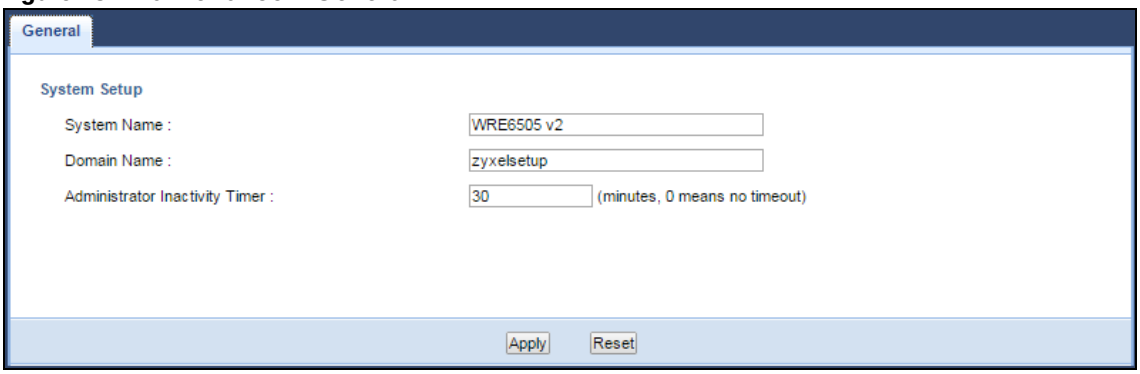
12.2 What You Can Do

- Use the **General** screen to set the system and domain names (Section 12.3 on page 70).
- Use the **Password** screen to set the password (Section 12.4 on page 71).
- Use the **Time** screen to change your WRE6505 v2's time and date (Section 12.5 on page 71).
- Use the **Firmware Upgrade** screen to update firmware (Section 12.6 on page 73).
- Use the **Backup Restore** screen to backup and restore device configurations (Section 12.7 on page 75).
- Use the **Restart** screen to reboot the WRE6505 v2 without turning the power off (Section 12.8 on page 77).
- Use the **System Mode** screen to select how you want to use your WRE6505 v2 (Section 12.9 on page 77).

12.3 General

Use this screen to set the system and domain names and the timeout period of the management session. Click **Maintenance** > **General**. The following screen displays.

Figure 43 Maintenance > General



The following table describes the labels in this menu.

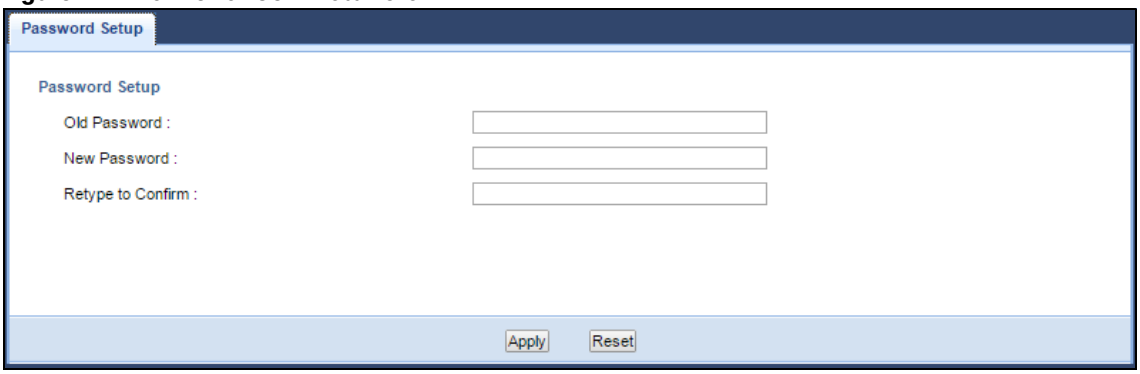
Table 28 Maintenance > General

LABEL	DESCRIPTION
System Name	Enter a descriptive name to identify the WRE6505 v2 in an Ethernet network.
Domain Name	This is the domain name of the WRE6505 v2.
Administrator Inactivity Timer	Type how many minutes a management session can be left idle before the session times out. After it times out you have to log in with your password again. Very long idle timeouts may have security risks. A value of "0" means a management session never times out, no matter how long it has been left idle (not recommended).
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

12.4 System Password Screen

Use this screen to set the web configurator password. Click **Maintenance** > **System**. The following screen displays.

Figure 44 Maintenance > Password



The following table describes the labels in this screen.

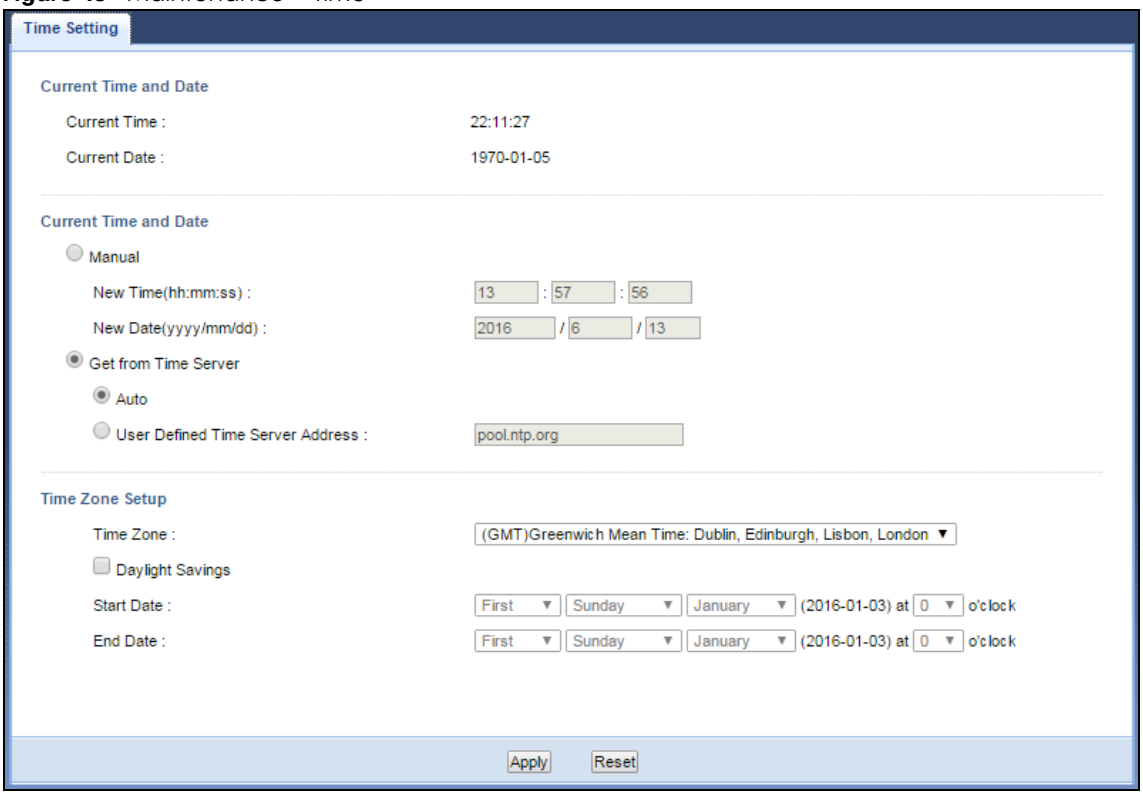
Table 29 Maintenance > System > Password

LABEL	DESCRIPTION
Old Password	Type the default password or the existing password you use to access the system in this field.
New Password	Type your new system password (up to 30 characters). Note that as you type a password, the screen displays an asterisk (*) for each character you type.
Retype to Confirm	Type the new password again in this field.
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

12.5 Time Screen

Use this screen to configure the WRE6505 v2's time based on your local time zone. To change your WRE6505 v2's time and date, click **Maintenance** > **Time**. The screen appears as shown.

Figure 45 Maintenance > Time



The following table describes the labels in this screen.

Table 30 Maintenance > Time

LABEL	DESCRIPTION
Current Time and Date	
Current Time	This field displays the time of your WRE6505 v2. Each time you reload this page, the WRE6505 v2 synchronizes the time with the time server.
Current Date	This field displays the date of your WRE6505 v2. Each time you reload this page, the WRE6505 v2 synchronizes the date with the time server.
Manual	Select this radio button to enter the time and date manually. If you configure a new time and date, Time Zone and Daylight Saving at the same time, the new time and date you entered has priority and the Time Zone and Daylight Saving settings do not affect it.
New Time (hh:mm:ss)	This field displays the last updated time from the time server or the last time configured manually. When you select **Manual**, enter the new time in this field and then click **Apply**.
New Date (yyyy/mm/dd)	This field displays the last updated date from the time server or the last date configured manually. When you select **Manual**, enter the new date in this field and then click **Apply**.
Get from Time Server	Select this radio button to have the WRE6505 v2 get the time and date from the time server you specified below.
Auto	Select **Auto** to have the WRE6505 v2 automatically get the time and date from a pre-defined time server (pool.ntp.org).
User Defined Time Server Address	Select **User Defined Time Server Address** and enter the IP address or URL (up to 20 extended ASCII characters in length) of your time server. Check with your ISP/network administrator if you are unsure of this information.

Table 30 Maintenance > Time (continued)

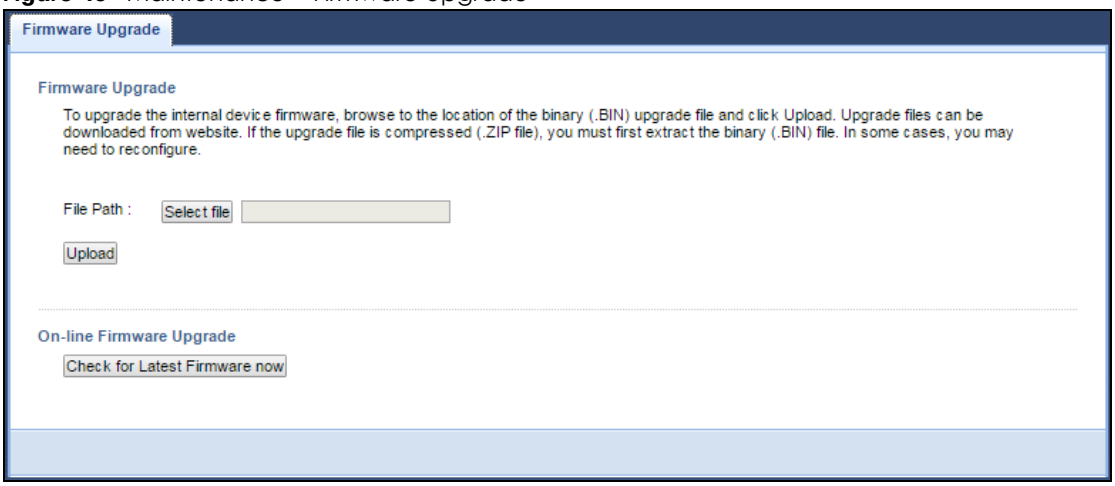
LABEL	DESCRIPTION
Time Zone Setup	
Time Zone	Choose the time zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT).
Daylight Savings	Daylight saving is a period from late spring to early fall when many countries set their clocks ahead of normal local time by one hour to give more daytime light in the evening. Select this option if you use Daylight Saving Time.
Start Date	Configure the day and time when Daylight Saving Time starts if you selected **Daylight Savings**. The **at** field uses the 24 hour format. Here are a couple of examples: Daylight Saving Time starts in most parts of the United States on the second Sunday of March. Each time zone in the United States starts using Daylight Saving Time at 2 A.M. local time. So in the United States you would select **Second**, **Sunday**, **March** and select **2** in the **at** field. Daylight Saving Time starts in the European Union on the last Sunday of March. All of the time zones in the European Union start using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would select **Last**, **Sunday**, **March**. The time you select in the **at** field depends on your time zone. In Germany for instance, you would select 2 because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).
End Date	Configure the day and time when Daylight Saving Time ends if you selected **Daylight Savings**. The **at** field uses the 24 hour format. Here are a couple of examples: Daylight Saving Time ends in the United States on the first Sunday of November. Each time zone in the United States stops using Daylight Saving Time at 2 A.M. local time. So in the United States you would select **First**, **Sunday**, **November** and select 2 in the **at** field. Daylight Saving Time ends in the European Union on the last Sunday of October. All of the time zones in the European Union stop using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would select **Last**, **Sunday**, **October**. The time you select in the **at** field depends on your time zone. In Germany for instance, you would select 2 because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to begin configuring this screen afresh.

12.6 Firmware Upgrade Screen

Find firmware at www.zyxel.com in a file that (usually) uses the system model name with a "*.bin" extension, e.g., "WRE6505 v2.bin". The upload process uses HTTP (Hypertext Transfer Protocol) and may take up to two minutes. After a successful upload, the system will reboot.

Click **Maintenance > Firmware Upgrade**. Follow the instructions in this screen to upload firmware to your WRE6505 v2.

Figure 46 Maintenance > Firmware Upgrade



The following table describes the labels in this screen.

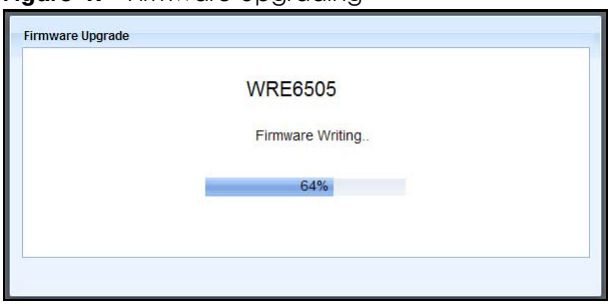
Table 31 Maintenance > Firmware Upgrade

LABEL	DESCRIPTION
Firmware Upgrade	
File Path	Click **Select file** to find the .bin file you want to upload. Remember that you must decompress compressed (.zip) files before you can upload them.
Upload	Click **Upload** to begin the upload process. This process may take up to two minutes.
On-line Firmware Upgrade	
Check for Latest Firmware Now	The following fields display when you click this button.
You are currently using firmware version:	The firmware version consists of the trunk version number, model code, and release number. For example, V1.00(ABDV.1) means V1.00 is the trunk number, ABDV represents WRE6505 v2, and 1 means the first release.
The Latest Firmware Version	Compare the release number in the previous field with the release number in this one to see if you have the latest firmware. In this example, V1.00(AAAG.5), the numbers are the same (5), so the WRE6505 v2 already has the latest firmware.
Release Date	The date the firmware was issued is shown in year-month-date format.
Release Note	The release note shows what has changed (new features, bug fixes, known issues) in this firmware version. Check the Release Note before deciding to use new firmware.
Size	This is the size of the firmware in bytes. 15073234 is about 15 MB.
Do_Firmware_Upgrade	Click this button to download and upgrade the new firmware to the WRE6505 v2.

Note: Do not turn off the WRE6505 v2 while firmware upload is in progress!

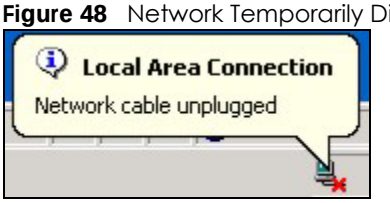
After you see the **Firmware Upgrading** screen, wait until the upgrade process is complete.

Figure 47 Firmware Upgrading



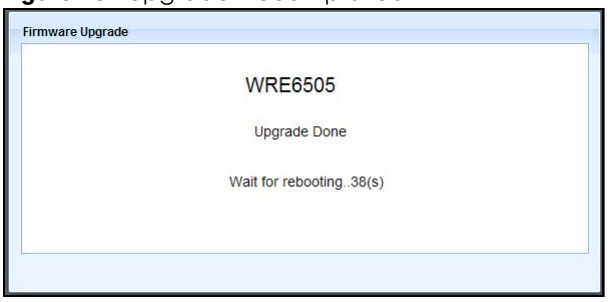
The WRE6505 v2 automatically restarts in this time causing a temporary network disconnect. In some operating systems, you may see the following icon on your desktop.

Figure 48 Network Temporarily Disconnected



After the WRE6505 v2 restarts, the **Upgrade Accomplished** screen appears.

Figure 49 Upgrade Accomplished

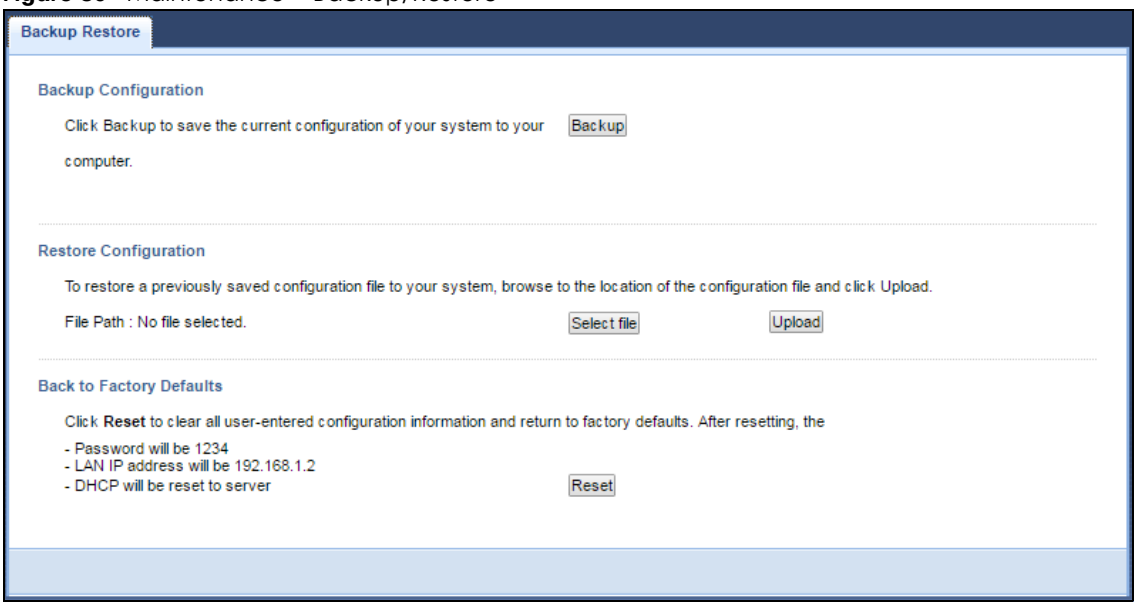


Refresh the web page and log in again and check your new firmware version in the **Status** screen.

12.7 Backup / Restore Screen

Click **Maintenance > Backup/Restore**. Information related to factory defaults, backup configuration, and restoring configuration appears as shown next.

Figure 50 Maintenance > Backup/Restore



12.7.1 Backup Configuration

Backup configuration allows you to back up (save) the WRE6505 v2's current configuration to a file on your computer. Once your WRE6505 v2 is configured and functioning properly, it is highly recommended that you back up your configuration file before making configuration changes. The backup configuration file will be useful in case you need to return to your previous settings.

Click **Backup** to save the WRE6505 v2's current configuration to your computer.

12.7.2 Restore Configuration

Restore configuration allows you to upload a new or previously saved configuration file from your computer to your WRE6505 v2.

Table 32 Maintenance Restore Configuration

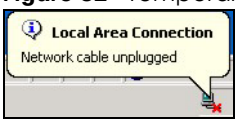
LABEL	DESCRIPTION
File Path	Click **Select file** to find the file you want to upload. Remember that you must decompress compressed (.ZIP) files before you can upload them.
Upload	Click **Upload** to begin the upload process.

Note: Do not turn off the WRE6505 v2 while configuration file upload is in progress.

After you see a "configuration upload successful" screen, you must then wait one minute before logging into the WRE6505 v2 again.

The WRE6505 v2 automatically restarts in this time causing a temporary network disconnect. In some operating systems, you may see the following icon on your desktop.

Figure 51 Temporarily Disconnected

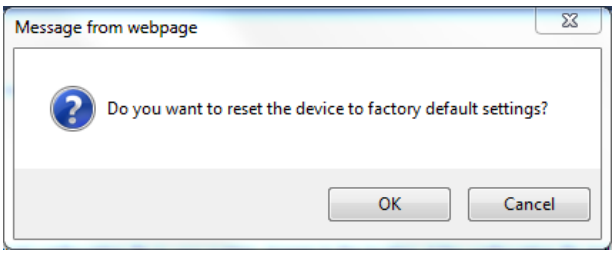


If you uploaded the default configuration file you may need to change the IP address of your computer to be in the same subnet as that of the default WRE6505 v2 IP address (192.168.1.2). Refer to your operating system's help files for details on how to set up your computer's IP address.

12.7.3 Back to Factory Defaults

Click the **Reset** button to clear all user-entered configuration information and return the WRE6505 v2 to its factory defaults. The following warning screen appears.

Figure 52 Reset Warning Message

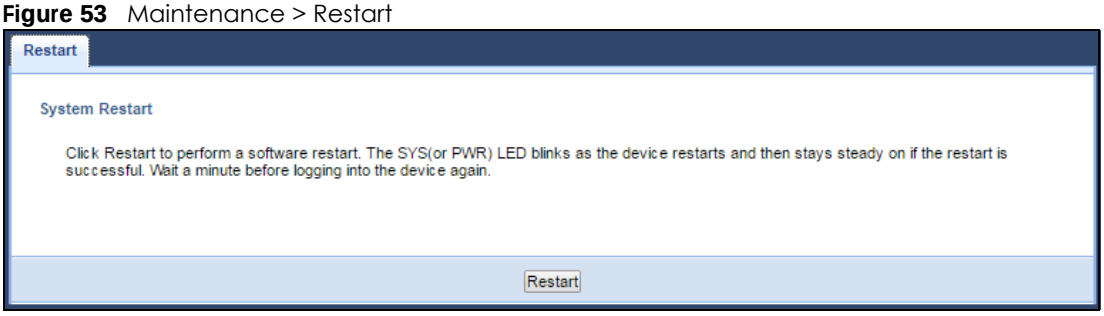


You can also press the **WPS** button (see Section 1.4 on page 11) on the front panel for more than 10 seconds to reset the factory defaults of your WRE6505 v2. Refer to Section 1.4 on page 11 for more information on the resetting the WRE6505 v2.

12.8 Restart Screen

System restart allows you to reboot the WRE6505 v2 without turning the power off. Click **Maintenance** > **Restart**. The following screen displays. Click **Restart** to have the WRE6505 v2 reboot. This does not affect the WRE6505 v2's configuration.

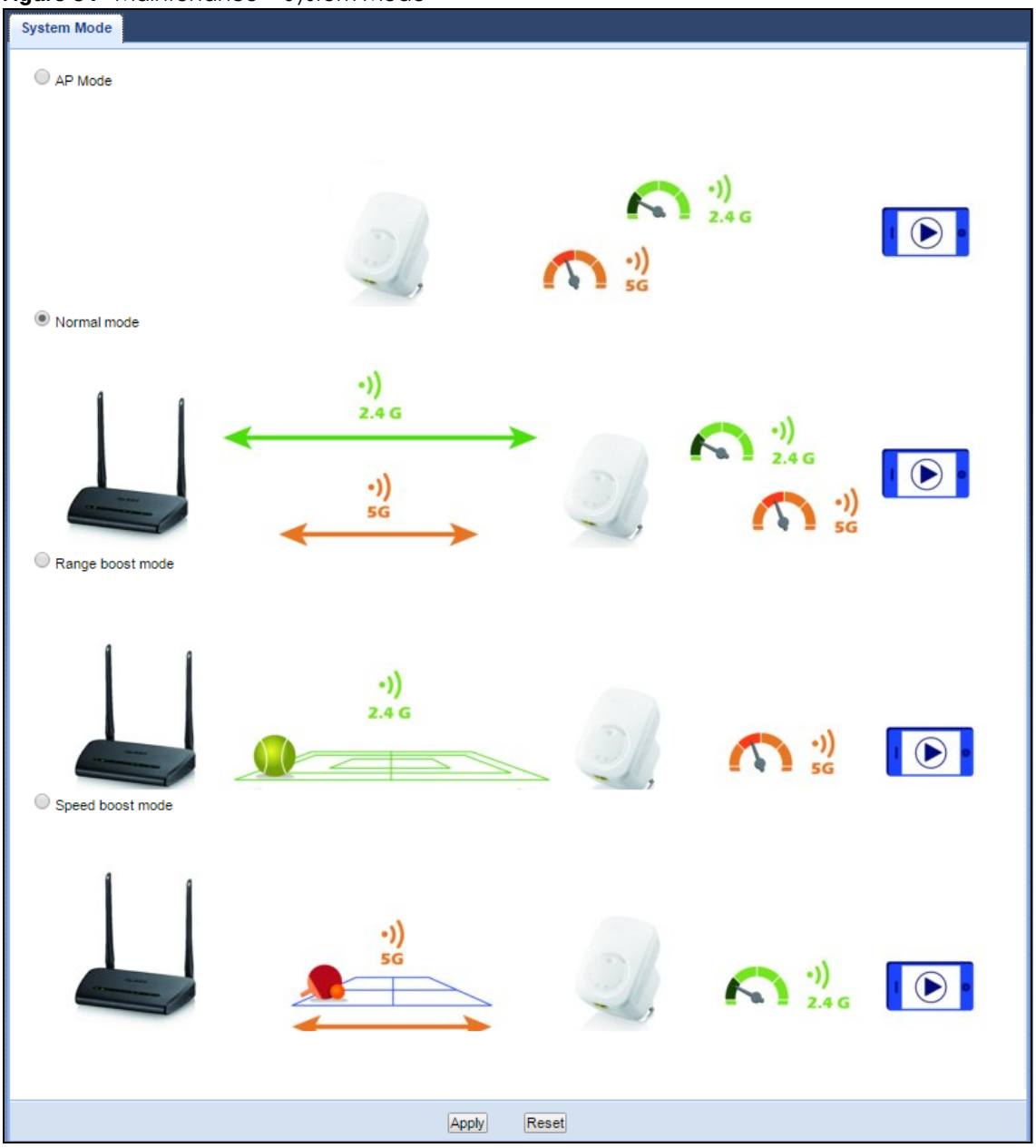
Figure 53 Maintenance > Restart



12.9 System Mode

Use this screen to change the operating mode of the WRE6505 v2. For further information on system operating mode, see Section 3.1.1 on page 19.

Figure 54 Maintenance > System Mode



The following table describes the labels in this menu.

Table 33 Maintenance > System Mode

LABEL	DESCRIPTION
AP Mode	Select this option to set the WRE6505 v2 to act as an access point.
Normal mode	The default WPS behavior, both 2.4 GHz and 5 GHz bands are supported in up and down broadcasting.
Range boost mode	Select this option to set the WRE6505 v2 to **Range boost mode--**the 2.4 GHz band is supported in up broascasting, while the 5 GHz band is supported in down broadcasting.
Speed boost mode	Select this option to set the WRE6505 v2 to **Speed boost mode--**the 5 GHz band is supported in up broascasting,, while the 2.4 GHz band is supported in down broascasting,.

Table 33 Maintenance > System Mode (continued)

LABEL	DESCRIPTION
Apply	Click **Apply** to save your changes back to the WRE6505 v2.
Reset	Click **Reset** to reload the previous configuration for this screen.

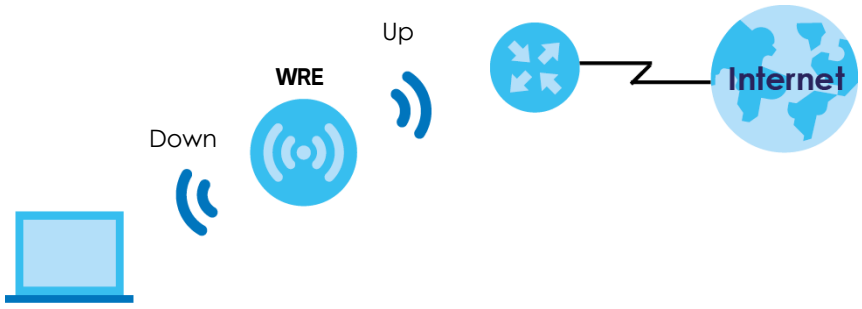
12.9.1 Repeater Broadcasting Behavior

The WRE6505 v2 in repeater mode enables you to extend the range of your dual-band AP or wireless router to eliminate "dead spots" in your wireless network. You can choose from normal mode, range boost, or speed boost modes.

The following terms are used to describe the broadcasting behavior in repeater mode:

- Up: The connection from the WRE6505 v2 (in repeater mode) to the AP or wireless router
- Down: The connection from the WRE6505 v2 (in repeater mode) to a client

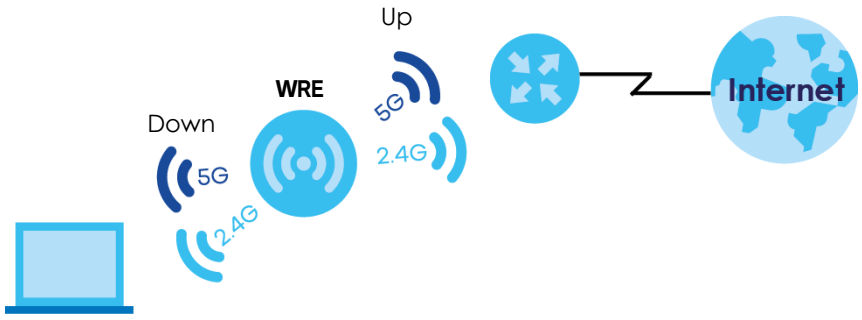
Figure 55 Repeater Mode with Up and Down Broadcasting



12.9.1.1 Normal Mode

In normal mode, both Down and Up broadcasting are supported for both 2.4 GHz and 5 GHz bands.

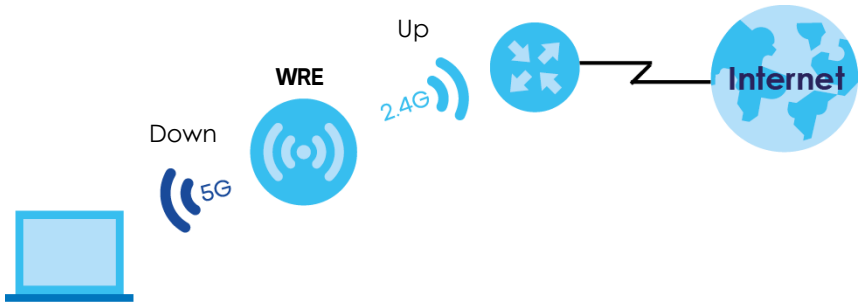
Figure 56 System Mode: Normal mode



12.9.1.2 Range Boost Mode

In range boost mode, the 2.4 GHz band is supported on the Down behavior, while the 5 GHz band is supported on the Up behavior.

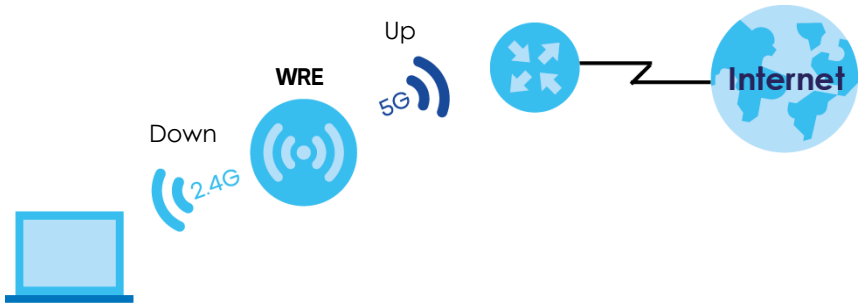
Figure 57 System Mode: Range Boost Mode



12.9.1.3 Speed Boost Mode

In speed boost mode, the 5 GHz band is supported on the Down behavior, while the 2.4 GHz band is supported on the Up behavior.

Figure 58 System Mode: Speed Boost Mode



CHAPTER 13
Troubleshooting

This chapter offers some suggestions to solve problems you might encounter. The potential problems are divided into the following categories.

13.1 Power, Hardware Connections, and LEDs

The WRE6505 v2 does not turn on. None of the LEDs turn on.

1. Make sure the WRE6505 v2 is plugged in to an appropriate power source. Make sure the power source is turned on.
2. Disconnect and re-connect the WRE6505 v2.
3. Remove the WRE6505 v2 from the outlet. Then connect an electrical device that you know works into the same power outlet. This checks the status of the power outlet.
4. If the problem continues, contact the vendor.

One of the LEDs does not behave as expected.

1. Make sure you understand the normal behavior of the LED. See Section 1.3 on page 10.
2. Make sure you understand how the LEDs are enabled or disabled. See Section 1.3 on page 10.
3. Check the hardware connections. See the Quick Start Guide.
4. Inspect your cables for damage. Contact the vendor to replace any damaged cables.
5. Disconnect and re-connect the WRE6505 v2.
6. If the problem continues, contact the vendor.

13.2 WRE6505 v2 Access and Login

I forgot the password.

1. The default password is **1234**.
2. If this does not work, you have to reset the device to its factory defaults. See Section 13.4 on page 84.

I cannot see or access the **Login** screen in the Web Configurator.

1. Make sure you are using the correct address.
   - The default web address (URL) of the WRE6505 v2 is **http://zyxelsetup** (for Windows) or **http://zyxelsetup.local** (for Mac).
2. Check the hardware connections, and make sure the LEDs are behaving as expected. See the Quick Start Guide.
3. Make sure your Internet browser does not block pop-up windows and has JavaScript and Java enabled.
4. Reset the device to its factory defaults, and try to access the WRE6505 v2 with the default address.
5. If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

   Advanced Suggestions

   - If your computer is connected wirelessly, use a computer that is connected to a **LAN/ETHERNET** port.

I can see the **Login** screen, but I cannot log in to the WRE6505 v2.

1. Make sure you have entered the password correctly. The default password is **1234**.
2. This can happen when you fail to log out properly from your last session. Try logging in again after 5 minutes.
3. Disconnect and re-connect the WRE6505 v2.
4. If this does not work, you have to reset the device to its factory defaults. See Section 13.4 on page 84.

13.3 Internet Access

I cannot access the Internet.

1. Check the hardware connections, and make sure the LEDs are behaving as expected. See the Quick Start Guide.
2. Try to connect directly to the AP. If you can access the Internet, check that the WRE6505 v2 (repeater mode) has associated with the AP by checking the **Status** screen. See Section 4.4 on page 22.
3. If you are trying to access the Internet wirelessly, make sure the wireless settings in the wireless client are the same as the settings in the AP.
4. Disconnect all the cables from your device, and follow the directions in the Quick Start Guide again.
5. If the problem continues, contact the network administrator or vendor.

I cannot access the Internet anymore. I had access to the Internet (with the WRE6505 v2 in repeater mode), but my Internet connection is not available anymore.

1. Check the hardware connections, and make sure the LEDs are behaving as expected. See the Quick Start Guide and Section 1.3 on page 10.
2. Reboot the WRE6505 v2.
3. Try to connect directly to the AP. If you can access the Internet, check that the WRE6505 v2 (repeater mode) has associated with the AP by checking the **Status** screen. See Section 4.4 on page 22.
4. If the problem continues, contact the network administrator or vendor.

The Internet connection is slow or intermittent.

1. There might be a lot of traffic on the network. Look at the LEDs, and check Section 1.3 on page 10. If the WRE6505 v2 is sending or receiving a lot of information, try closing some programs that use the Internet, especially peer-to-peer applications.
2. Check the signal strength. If the signal strength is low, try moving the WRE6505 v2 closer to the AP if possible, and look around to see if there are any devices that might be interfering with the wireless network (for example, microwaves, other wireless networks, and so on).
3. Reboot the WRE6505 v2.
4. If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

Advanced Suggestion

- Check the settings for QoS. If it is disabled, you might consider activating it.

13.4 Resetting the WRE6505 v2 to Its Factory Defaults

If you reset the WRE6505 v2, you lose all of the changes you have made. The WRE6505 v2 re-loads its default settings, and the password resets to **1234**. You have to make all of your changes again.

You will lose all of your changes when you reset the WRE6505 v2 to its factory defaults.

To reset the WRE6505 v2,

1. Make sure the power LED is on.
2. Press the **WPS** button for longer than 10 seconds, the Power LED begins to blink, to set the WRE6505 v2 back to its factory-default configuration.

   OR
3. Click **Maintenance > Backup Restore** > **Restore** and then click **Reset**.

   If the WRE6505 v2 restarts automatically, wait for the WRE6505 v2 to finish restarting, and log in to the Web Configurator. The password is **1234**.

   If the WRE6505 v2 does not restart automatically, disconnect and reconnect the WRE6505 v2. Then, follow the directions above again.

13.5 Wireless Problems

I cannot access the WRE6505 v2 or ping any computer from the WLAN.

1. Make sure the wireless LAN is enabled on the WRE6505 v2.
2. Make sure the wireless adapter on the wireless station is working properly.
3. Make sure the wireless adapter installed on your computer is IEEE 802.11 compatible and supports the same wireless standard as the WRE6505 v2.
4. Make sure your computer (with a wireless adapter installed) is within the transmission range of the WRE6505 v2.

5 Check that both the WRE6505 v2 and your wireless station are using the same wireless and wireless security settings, and that both the WRE6505 v2 and the AP are using the same wireless and wireless security settings.

6 Make sure traffic between the WLAN and the LAN is not blocked by the MAC Address List of the WRE6505 v2. See Section 9.7 on page 60.

APPENDIX A
Setting Up Your Computer's IP Address

Note: Your specific WRE6505 v2 may not support all of the operating systems described in this appendix. See the product specifications for more information about which operating systems are supported.

This appendix shows you how to configure the IP settings on your computer in order for it to be able to communicate with the other devices on your network. Windows Vista/XP/2000, Mac OS 9/OS X, and all versions of UNIX/LINUX include the software components you need to use TCP/IP on your computer.

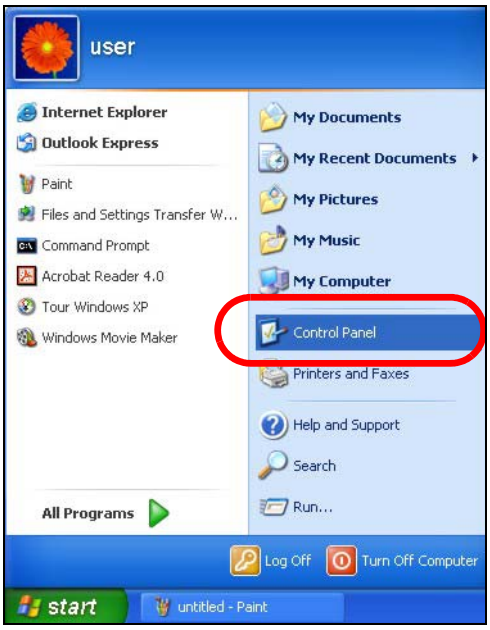
If you manually assign IP information instead of using a dynamic IP, make sure that your network's computers have IP addresses that place them in the same subnet.

In this appendix, you can set up an IP address for:

Windows XP/NT/2000

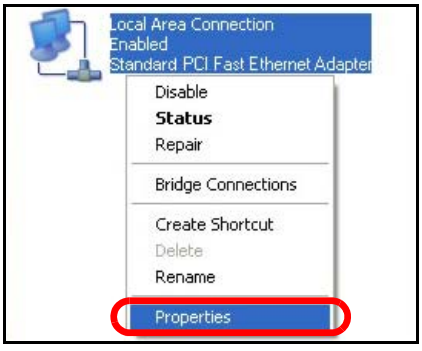
The following example uses the default Windows XP display theme but can also apply to Windows 2000 and Windows NT.

1 Click **Start** > **Control Panel**.

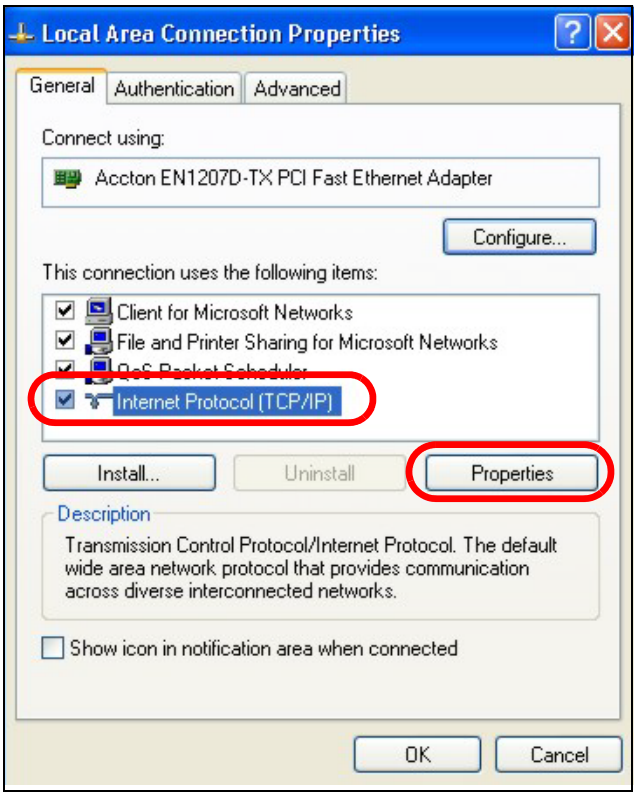


2 In the **Control Panel**, click the **Network Connections** icon.

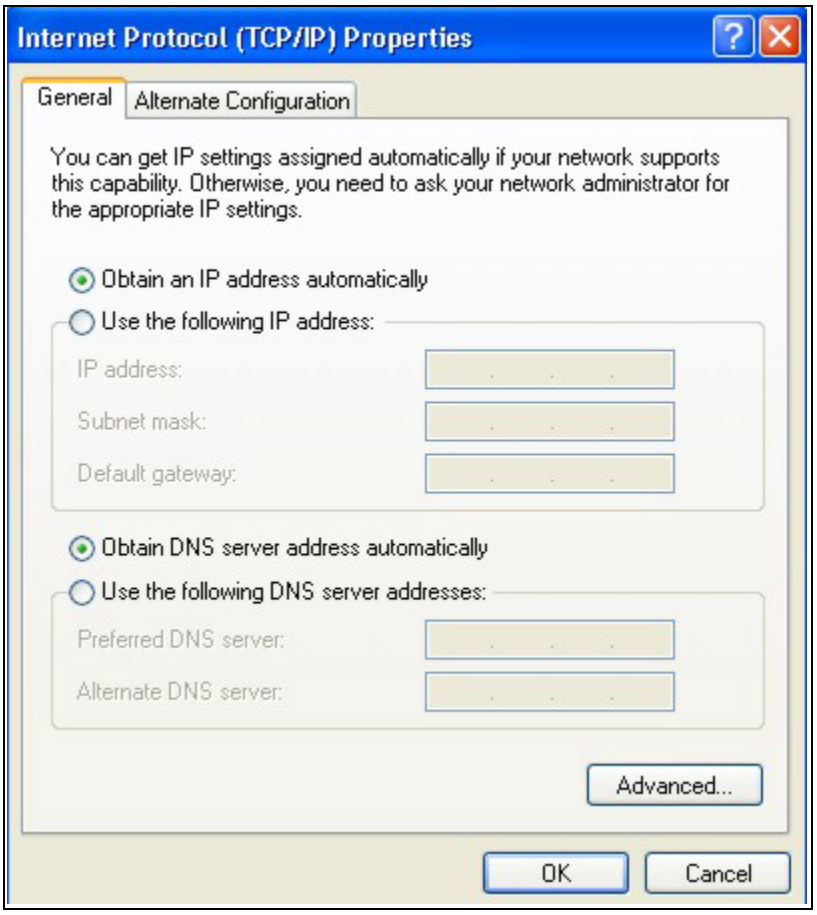
3 Right-click **Local Area Connection** and then select **Properties**.



4 On the **General** tab, select **Internet Protocol (TCP/IP)** and then click **Properties**.



5 The **Internet Protocol TCP/IP Properties** window opens.



6 Select **Obtain an IP address automatically** if your network administrator or ISP assigns your IP address dynamically.

Select **Use the following IP Address** and fill in the **IP address**, **Subnet mask**, and **Default gateway** fields if you have a static IP address that was assigned to you by your network administrator or ISP. You may also have to enter a **Preferred DNS server** and an **Alternate DNS server,** if that information was provided.

7 Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.

8 Click **OK** to close the **Local Area Connection Properties** window.

Verifying Settings

1 Click **Start** > **All Programs** > **Accessories** > **Command Prompt**.

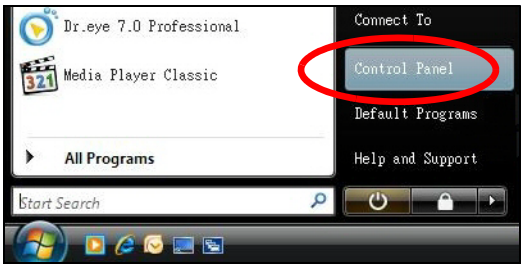
2 In the **Command Prompt** window, type "ipconfig" and then press [ENTER].

You can also go to **Start > Control Panel > Network Connections**, right-click a network connection, click **Status** and then click the **Support** tab to view your IP address and connection information.

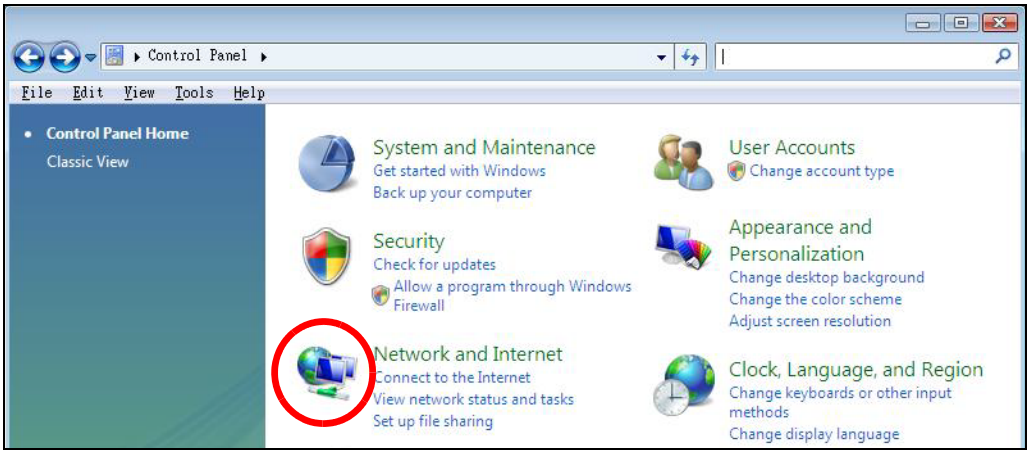
Windows Vista

This section shows screens from Windows Vista Professional.

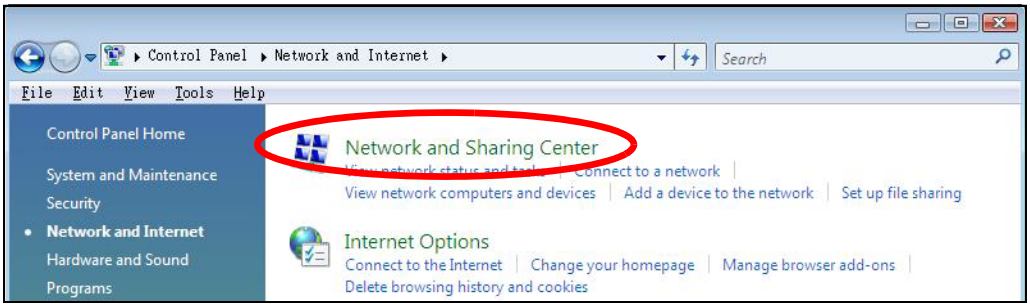
1 Click **Start** > **Control Panel**.



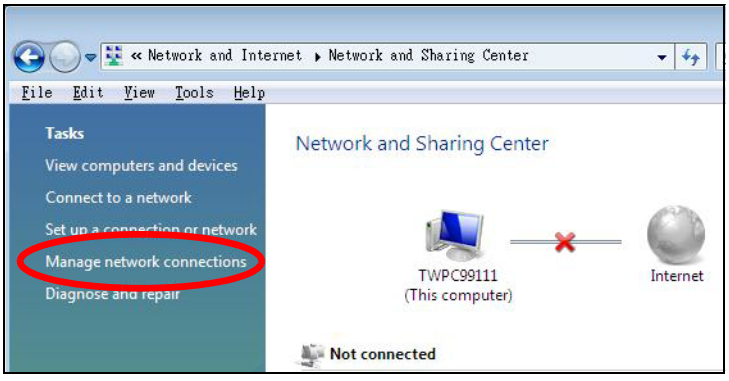
2 In the **Control Panel**, click the **Network and Internet** icon.



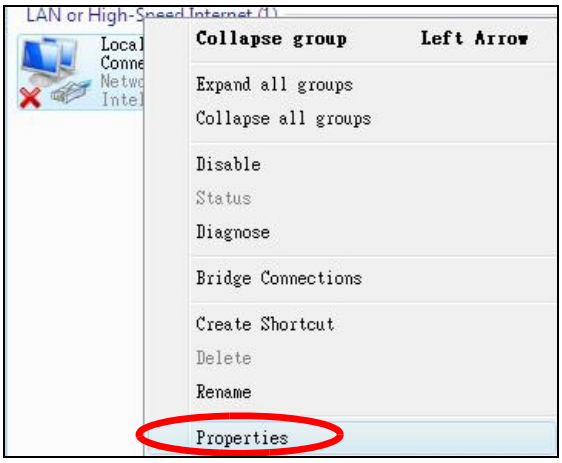
3 Click the **Network and Sharing Center** icon.



4 Click **Manage network connections**.

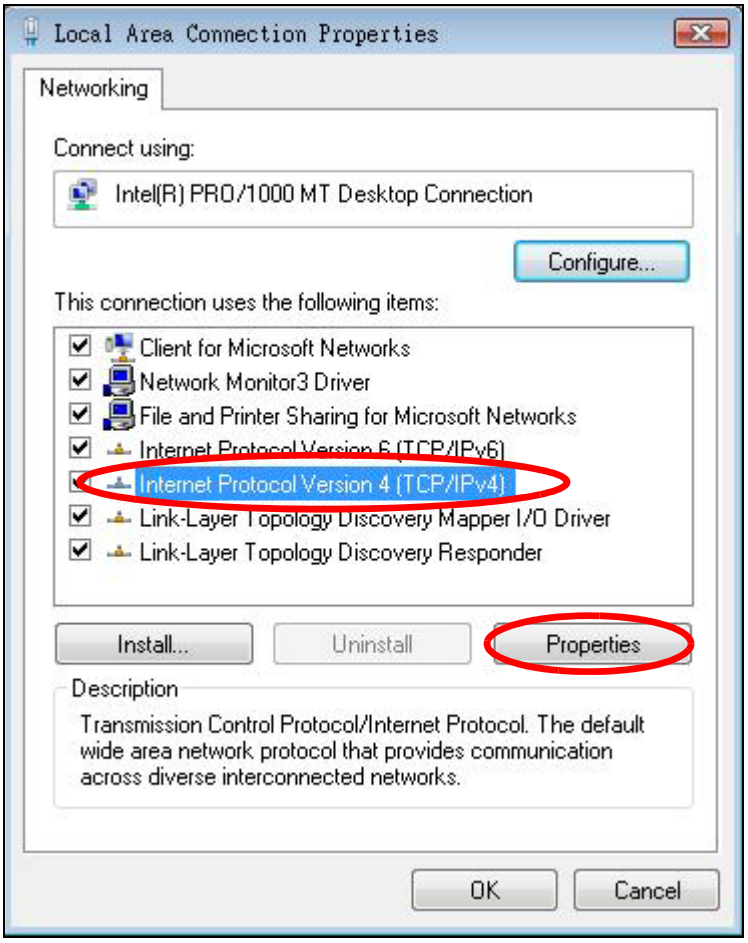


5 Right-click **Local Area Connection** and then select **Properties**.



Note: During this procedure, click **Continue** whenever Windows displays a screen saying that it needs your permission to continue.

6 Select **Internet Protocol Version 4 (TCP/IPv4)** and then select **Properties**.



7 The **Internet Protocol Version 4 (TCP/IPv4) Properties** window opens.

8 Select **Obtain an IP address automatically** if your network administrator or ISP assigns your IP address dynamically.

Select **Use the following IP Address** and fill in the **IP address**, **Subnet mask**, and **Default gateway** fields if you have a static IP address that was assigned to you by your network administrator or ISP. You may also have to enter a **Preferred DNS server** and an **Alternate DNS server,** if that information was provided.Click **Advanced**.

9 Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.

10 Click **OK** to close the **Local Area Connection Properties** window.

Verifying Settings

1 Click **Start** > **All Programs** > **Accessories** > **Command Prompt**.

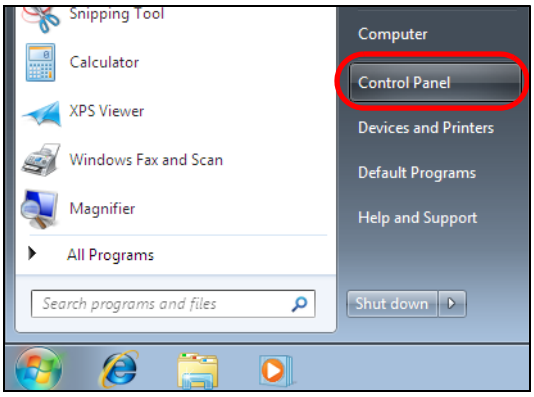
2 In the **Command Prompt** window, type "ipconfig" and then press [ENTER].

You can also go to **Start > Control Panel > Network Connections**, right-click a network connection, click **Status** and then click the **Support** tab to view your IP address and connection information.

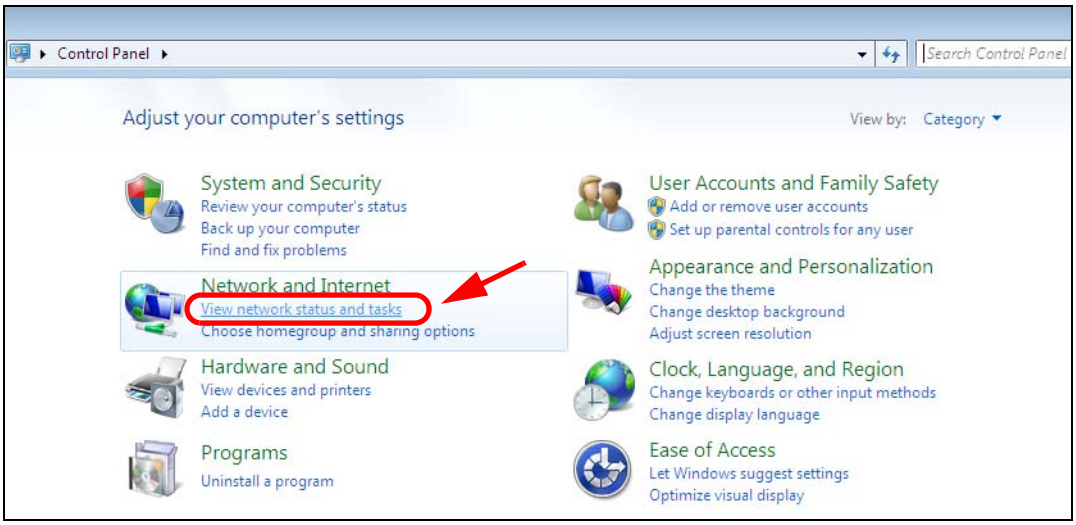
Windows 7

This section shows screens from Windows 7 Enterprise.

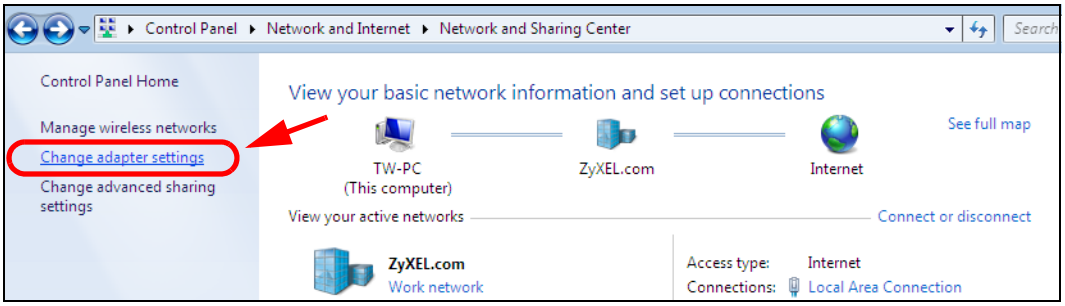
1 Click **Start** > **Control Panel**.



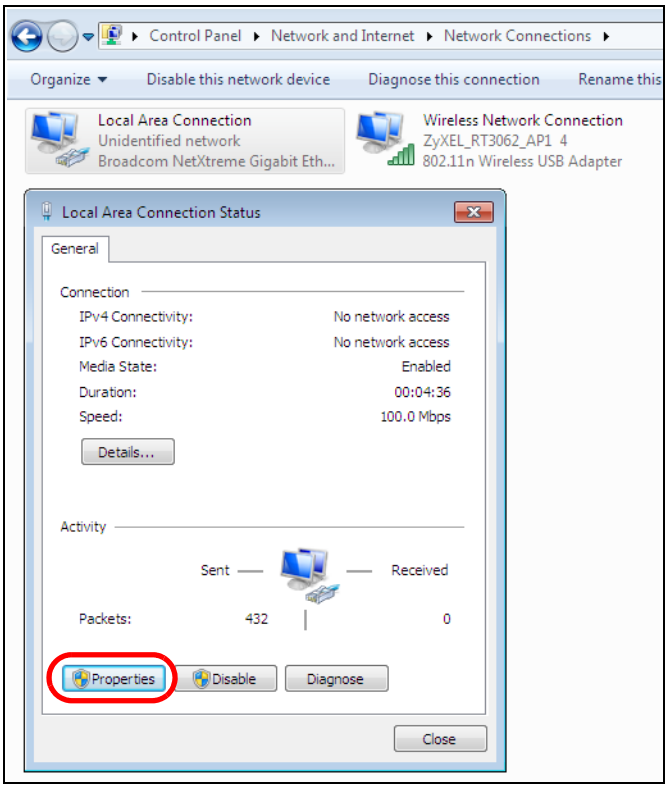
2 In the **Control Panel**, click **View network status and tasks** under the **Network and Internet** category.



3 Click **Change adapter settings**.

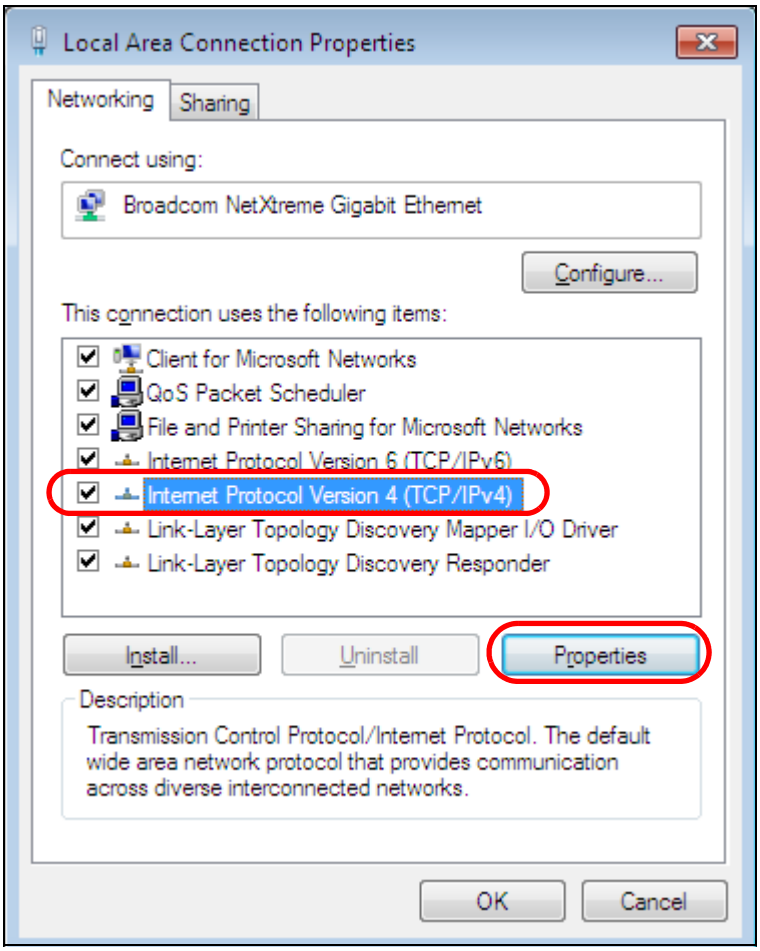


4 Double click **Local Area Connection** and then select **Properties**.

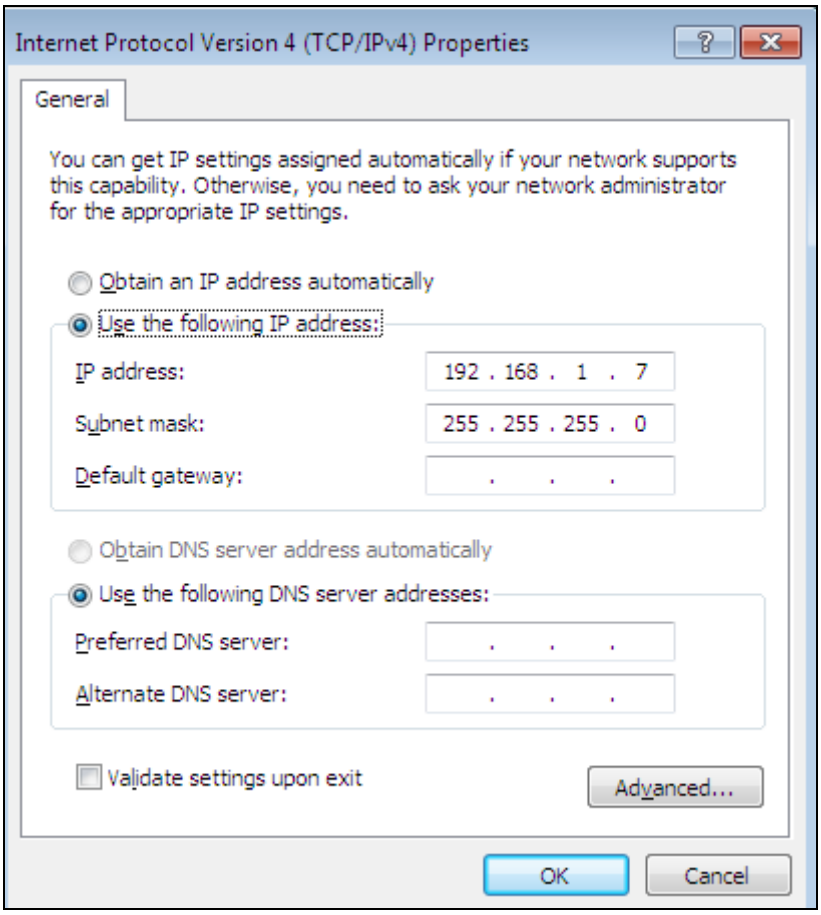


Note: During this procedure, click **Continue** whenever Windows displays a screen saying that it needs your permission to continue.

5 Select **Internet Protocol Version 4 (TCP/IPv4)** and then select **Properties**.



6 The **Internet Protocol Version 4 (TCP/IPv4) Properties** window opens.



7 Select **Obtain an IP address automatically** if your network administrator or ISP assigns your IP address dynamically.

Select **Use the following IP Address** and fill in the **IP address**, **Subnet mask**, and **Default gateway** fields if you have a static IP address that was assigned to you by your network administrator or ISP. You may also have to enter a **Preferred DNS server** and an **Alternate DNS server,** if that information was provided. Click **Advanced** if you want to configure advanced settings for IP, DNS and WINS.

8 Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.

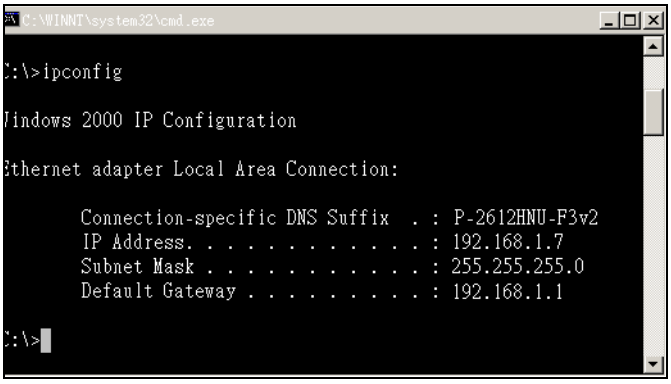
9 Click **OK** to close the **Local Area Connection Properties** window.

Verifying Settings

1 Click **Start** > **All Programs** > **Accessories** > **Command Prompt**.

2 In the **Command Prompt** window, type "ipconfig" and then press [ENTER].

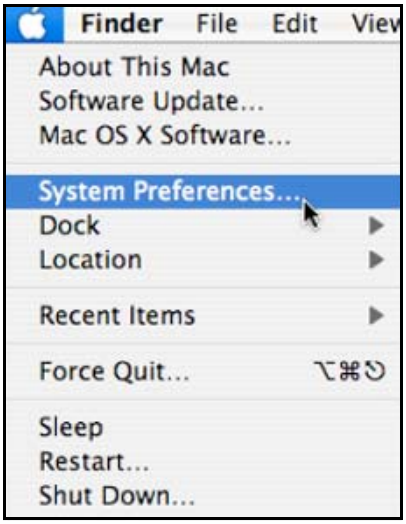
3 The IP settings are displayed as follows.



Mac OS X: 10.3 and 10.4

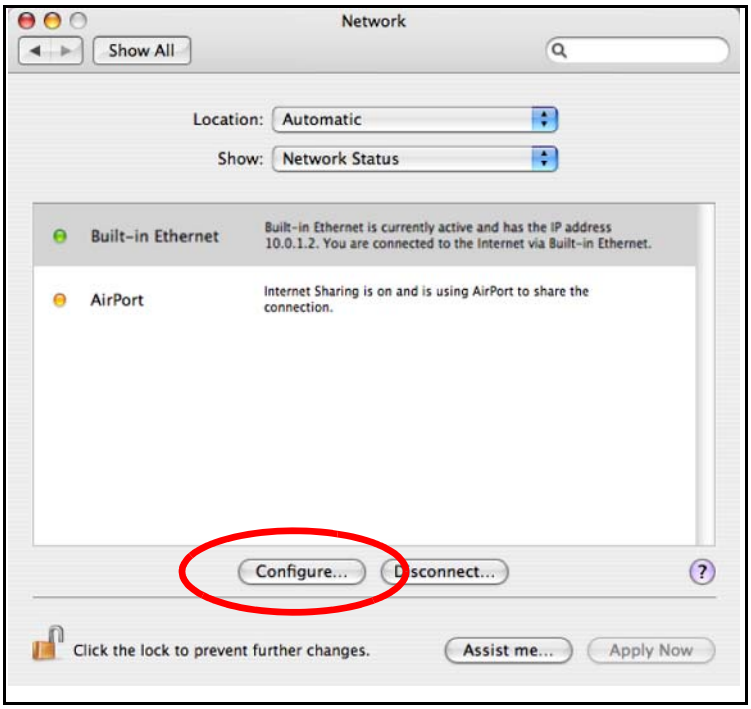
The screens in this section are from Mac OS X 10.4 but can also apply to 10.3.

1 Click **Apple** > **System Preferences**.

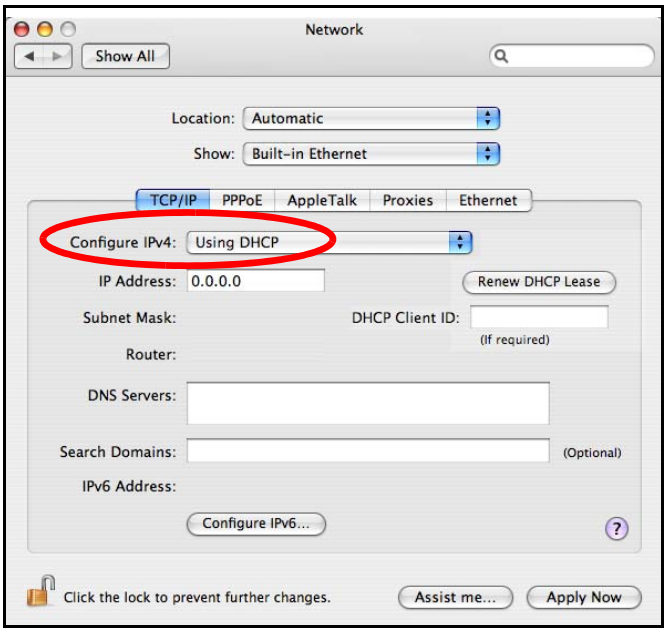


2 In the **System Preferences** window, click the **Network** icon.

3 When the **Network** preferences pane opens, select **Built-in Ethernet** from the network connection type list, and then click **Configure.**

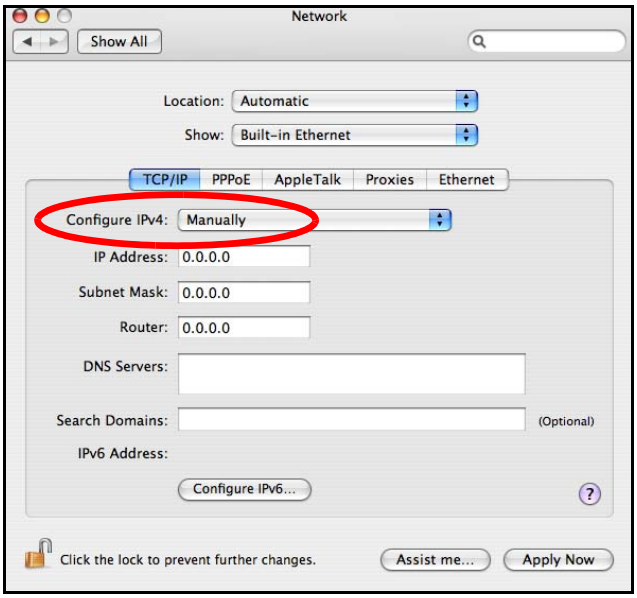


4 For dynamically assigned settings, select **Using DHCP** from the **Configure IPv4** list in the **TCP/IP** tab.



5 For statically assigned settings, do the following:

- From the **Configure IPv4** list, select **Manually**.
- In the **IP Address** field, type your IP address.
- In the **Subnet Mask** field, type your subnet mask.
- In the **Router** field, type the IP address of your device.

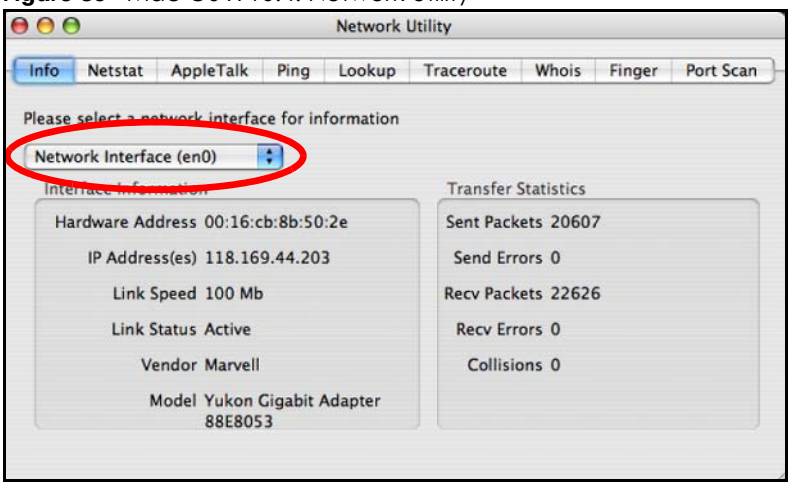


6 Click **Apply Now** and close the window.

Verifying Settings

Check your TCP/IP properties by clicking **Applications > Utilities > Network Utilities**, and then selecting the appropriate **Network Interface** from the **Info** tab.

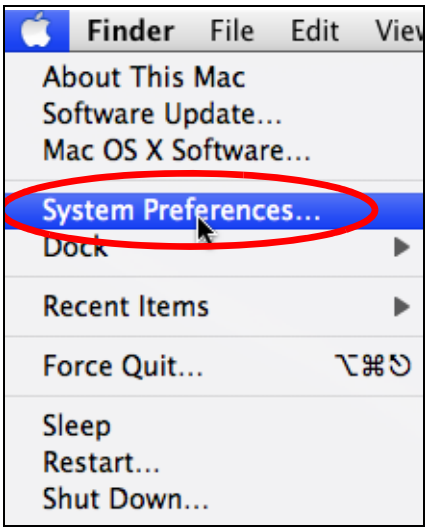
Figure 59 Mac OS X 10.4: Network Utility



Mac OS X: 10.5 and 10.6

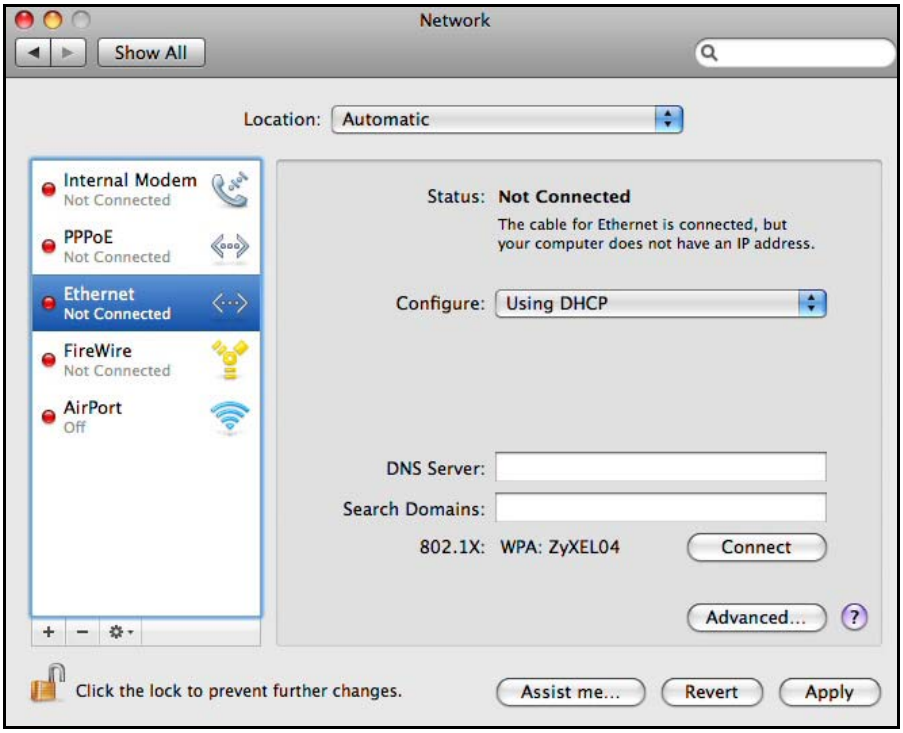
The screens in this section are from Mac OS X 10.5 but can also apply to 10.6.

1 Click **Apple** > **System Preferences**.



2 In **System Preferences**, click the **Network** icon.

3 When the **Network** preferences pane opens, select **Ethernet** from the list of available connection types.

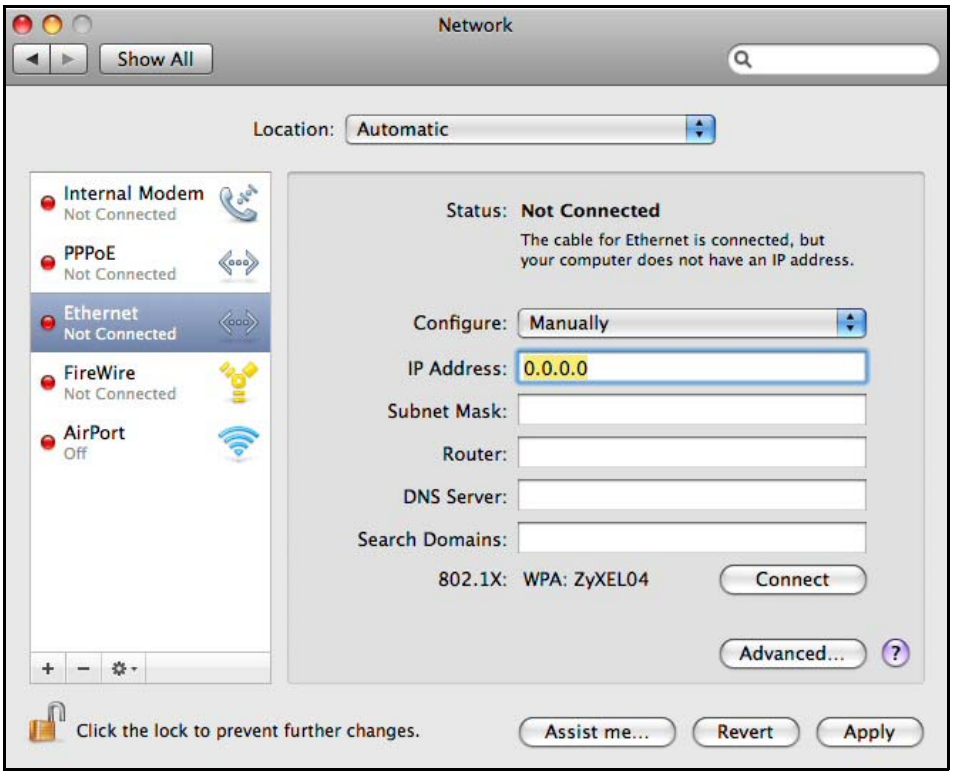


4 From the **Configure** list, select **Using DHCP** for dynamically assigned settings.

5 For statically assigned settings, do the following:

- From the **Configure** list, select **Manually**.
- In the **IP Address** field, enter your IP address.

- In the **Subnet Mask** field, enter your subnet mask.
- In the **Router** field, enter the IP address of your WRE6505 v2.

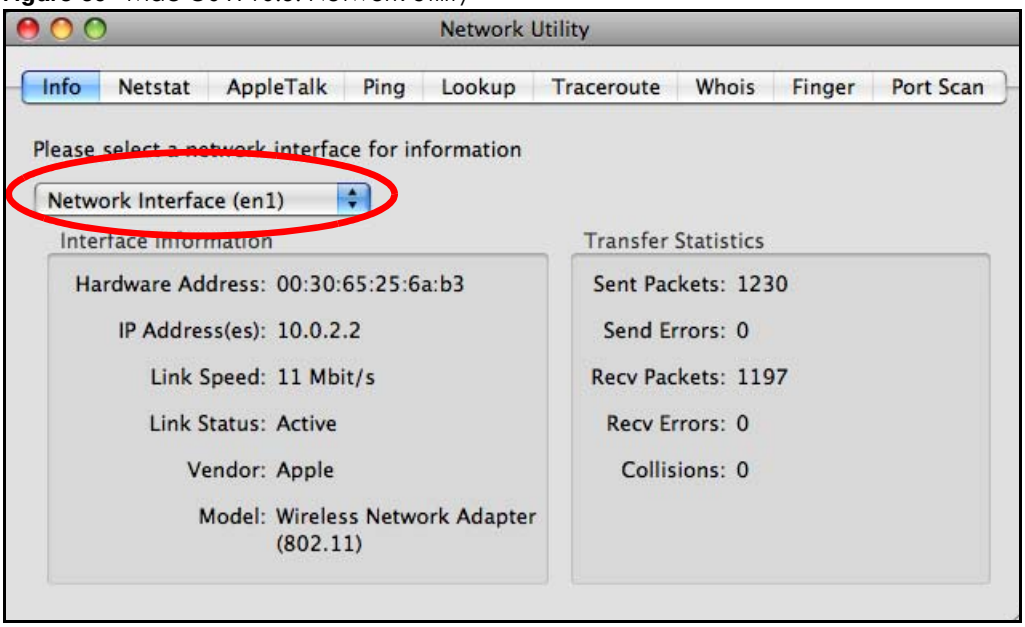


6 Click **Apply** and close the window.

Verifying Settings

Check your TCP/IP properties by clicking **Applications > Utilities > Network Utilities**, and then selecting the appropriate **Network interface** from the **Info** tab.

Figure 60 Mac OS X 10.5: Network Utility



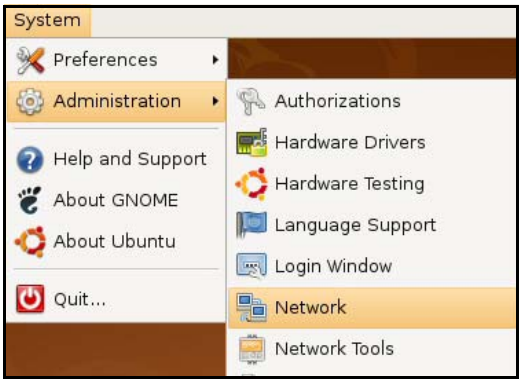
Linux: Ubuntu 8 (GNOME)

This section shows you how to configure your computer's TCP/IP settings in the GNU Object Model Environment (GNOME) using the Ubuntu 8 Linux distribution. The procedure, screens and file locations may vary depending on your specific distribution, release version, and individual configuration. The following screens use the default Ubuntu 8 installation.

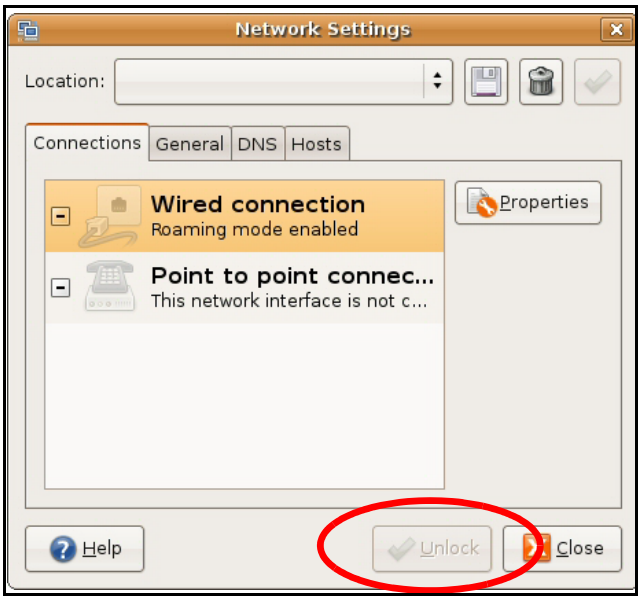
Note: Make sure you are logged in as the root administrator.

Follow the steps below to configure your computer IP address in GNOME:

1 Click **System > Administration > Network**.

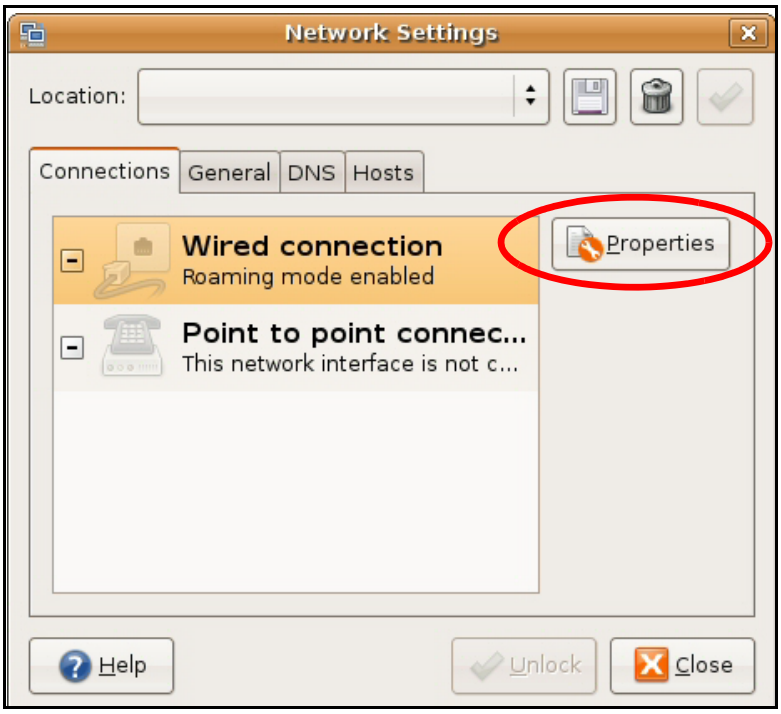


2 When the **Network Settings** window opens, click **Unlock** to open the **Authenticate** window. (By default, the **Unlock** button is greyed out until clicked.) You cannot make changes to your configuration unless you first enter your admin password.



3 In the **Authenticate** window, enter your admin account name and password then click the **Authenticate** button.

4 In the **Network Settings** window, select the connection that you want to configure, then click **Properties**.

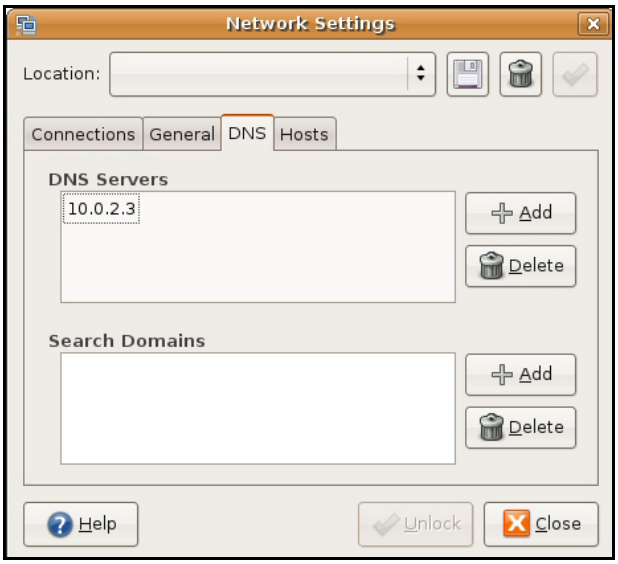


5 The **Properties** dialog box opens.

- In the **Configuration** list, select **Automatic Configuration (DHCP)** if you have a dynamic IP address.
- In the **Configuration** list, select **Static IP address** if you have a static IP address. Fill in the **IP address**, **Subnet mask**, and **Gateway address** fields.

6 Click **OK** to save the changes and close the **Properties** dialog box and return to the **Network Settings** screen.

7 If you know your DNS server IP address(es), click the **DNS** tab in the **Network Settings** window and then enter the DNS server information in the fields provided.

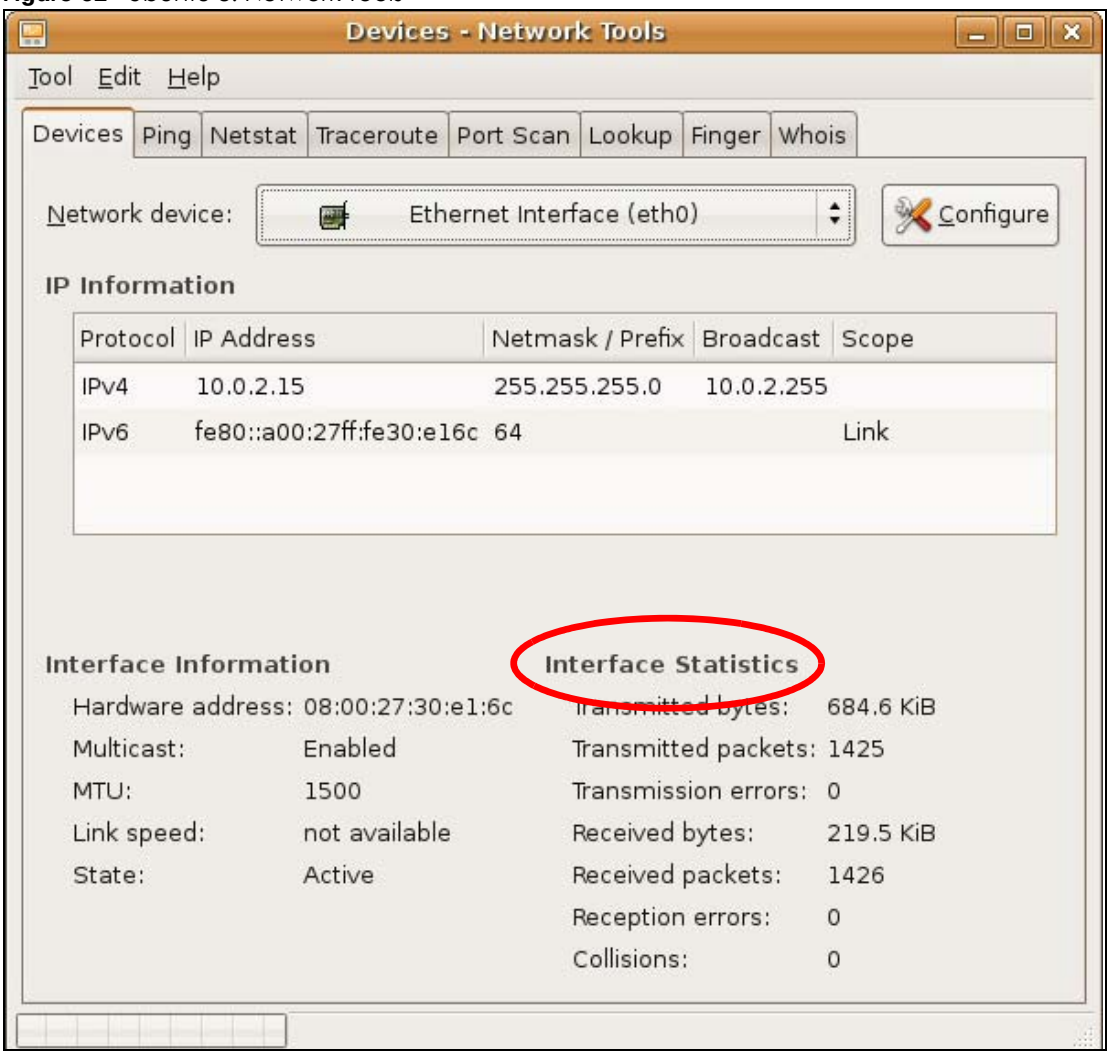


8 Click the **Close** button to apply the changes.

Verifying Settings

Check your TCP/IP properties by clicking **System > Administration > Network Tools**, and then selecting the appropriate **Network device** from the **Devices** tab. The **Interface Statistics** column shows data if your connection is working properly.

Figure 61 Ubuntu 8: Network Tools



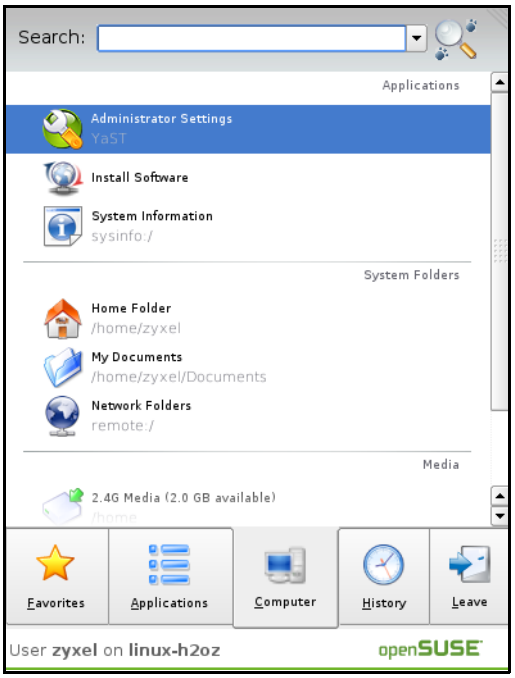
Linux: openSUSE 10.3 (KDE)

This section shows you how to configure your computer's TCP/IP settings in the K Desktop Environment (KDE) using the openSUSE 10.3 Linux distribution. The procedure, screens and file locations may vary depending on your specific distribution, release version, and individual configuration. The following screens use the default openSUSE 10.3 installation.

Note: Make sure you are logged in as the root administrator.

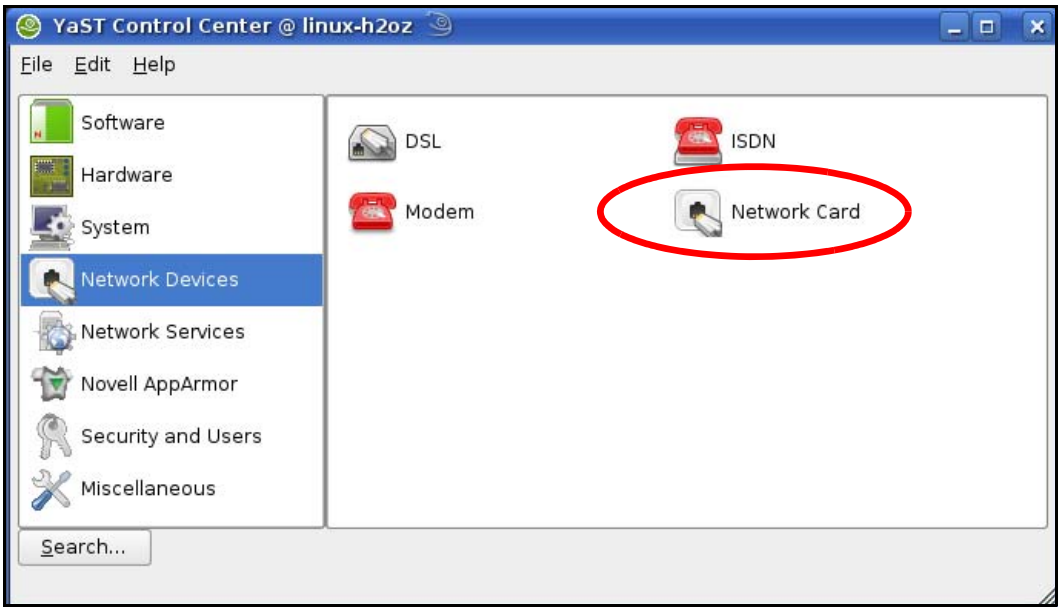
Follow the steps below to configure your computer IP address in the KDE:

1 Click **K Menu > Computer > Administrator Settings (YaST)**.

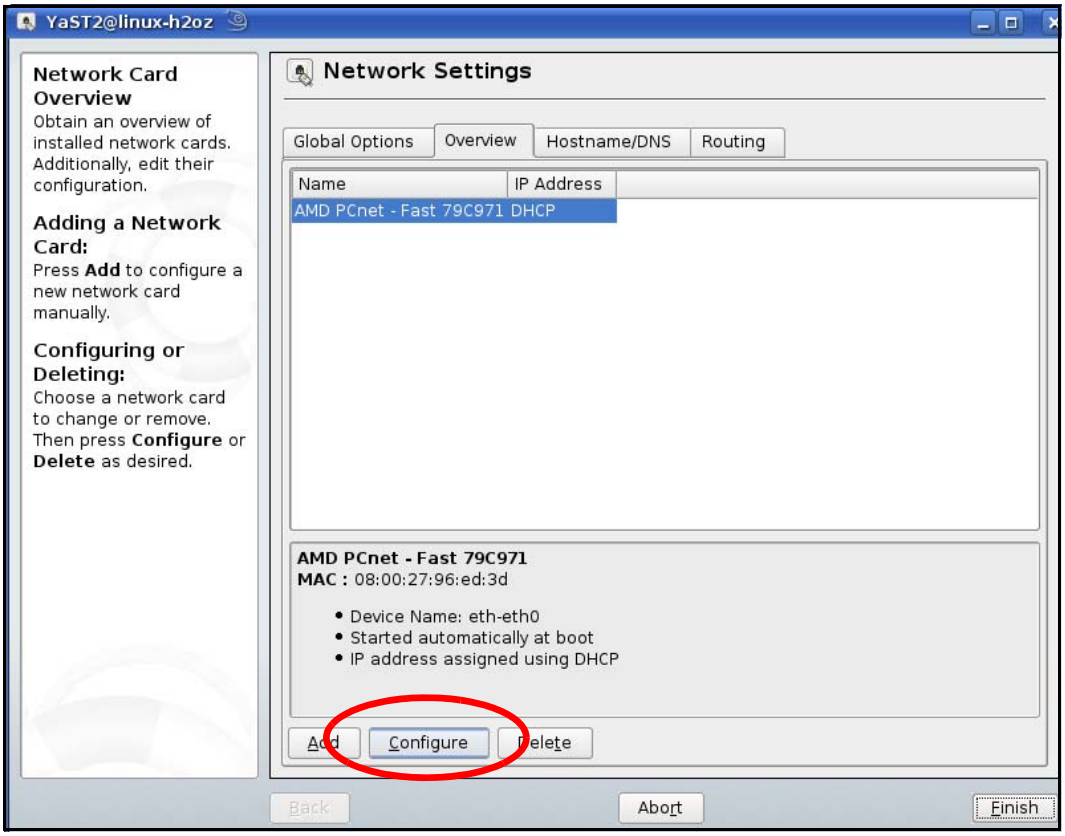


2 When the **Run as Root - KDE su** dialog opens, enter the admin password and click **OK**.

3 When the **YaST Control Center** window opens, select **Network Devices** and then click the **Network Card** icon.

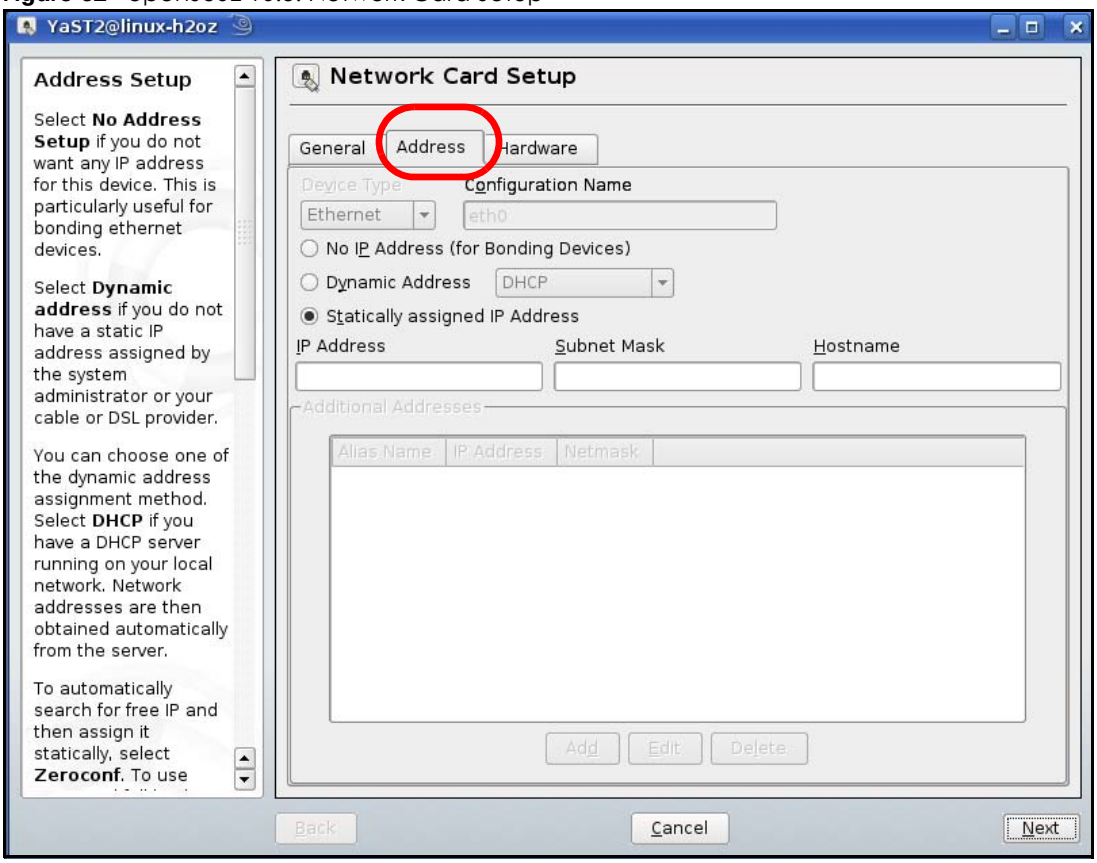


4 When the **Network Settings** window opens, click the **Overview** tab, select the appropriate connection **Name** from the list, and then click the **Configure** button.



5 When the **Network Card Setup** window opens, click the **Address** tab

Figure 62 openSUSE 10.3: Network Card Setup

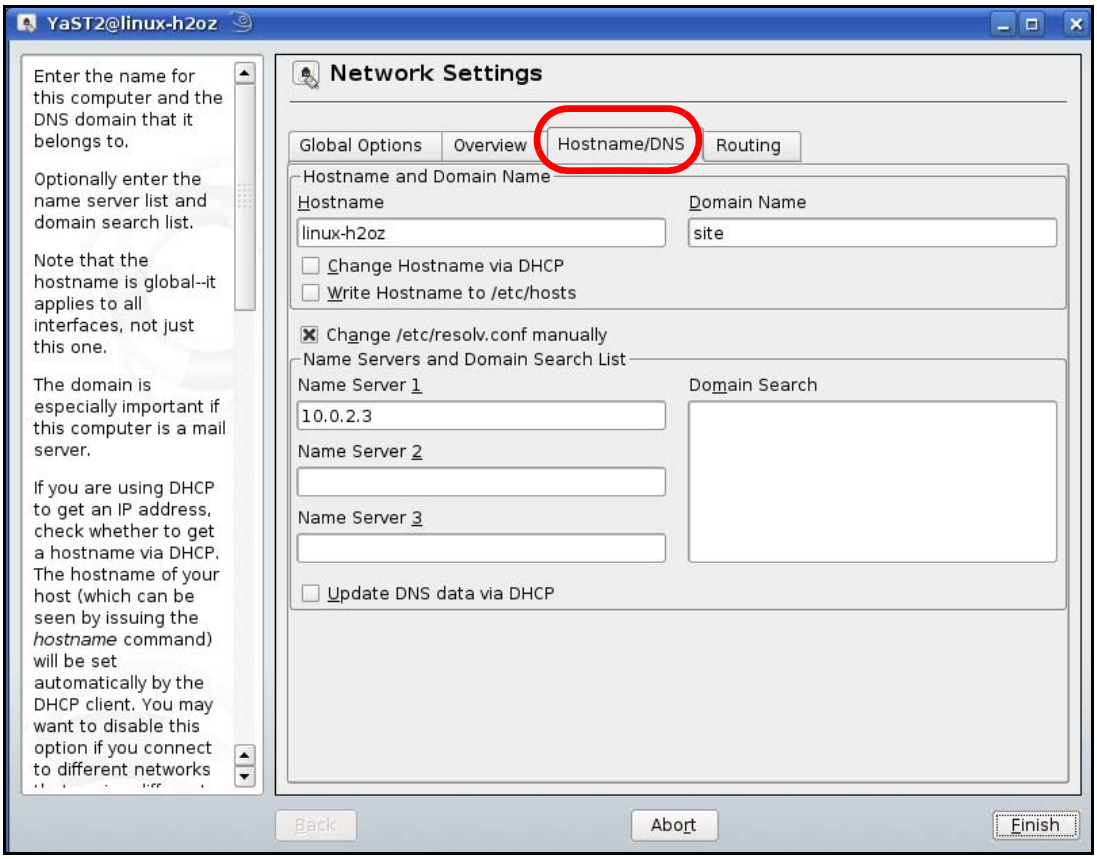


6 Select **Dynamic Address (DHCP)** if you have a dynamic IP address.

Select **Statically assigned IP Address** if you have a static IP address. Fill in the **IP address**, **Subnet mask**, and **Hostname** fields.

7 Click **Next** to save the changes and close the **Network Card Setup** window.

8 If you know your DNS server IP address(es), click the **Hostname/DNS** tab in **Network Settings** and then enter the DNS server information in the fields provided.

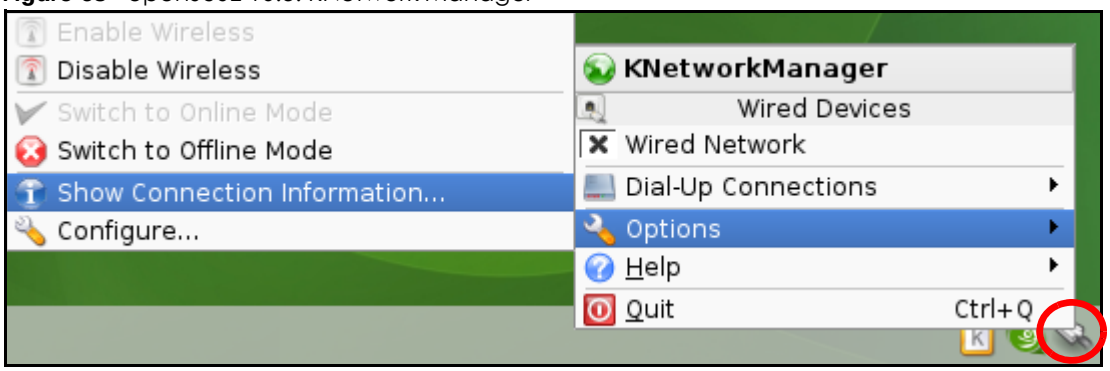


9 Click **Finish** to save your settings and close the window.

Verifying Settings

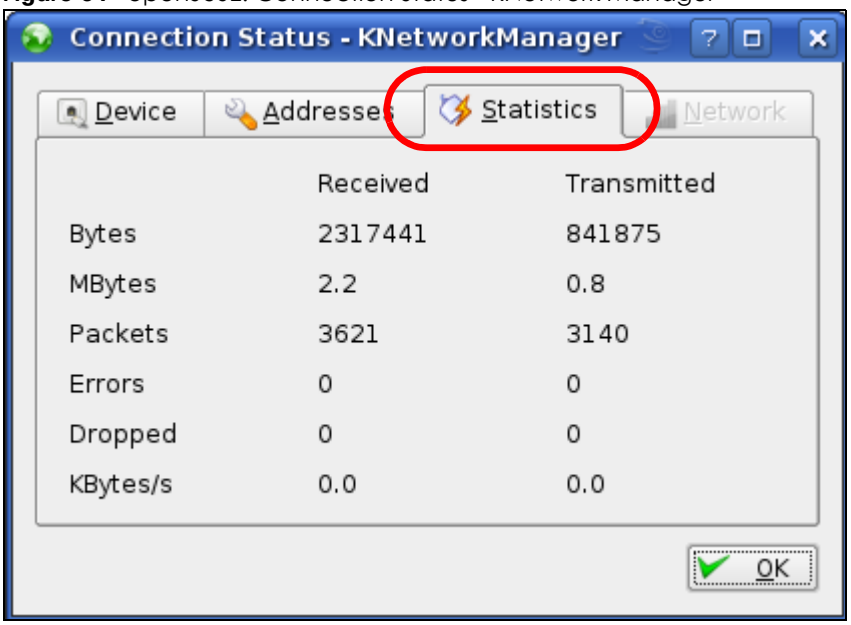
Click the **KNetwork Manager** icon on the **Task bar** to check your TCP/IP properties. From the **Options** sub-menu, select **Show Connection Information**.

Figure 63 openSUSE 10.3: KNetwork Manager



When the **Connection Status - KNetwork Manager** window opens, click the **Statistics tab** to see if your connection is working properly.

Figure 64 openSUSE: Connection Status - KNetwork Manager



APPENDIX B
Customer Support

In the event of problems that cannot be solved by using this manual, you should contact your vendor. If you cannot contact your vendor, then contact a Zyxel office for the region in which you bought the device.

See *http://www.zyxel.com/homepage.shtml* and also *http://www.zyxel.com/about_zyxel/zyxel_worldwide.shtml* for the latest information.

Please have the following information ready when you contact an office.

Required Information

- Product model and serial number.
- Warranty Information.
- Date that you received your device.
- Brief description of the problem and the steps you took to solve it.

Corporate Headquarters (Worldwide)

Taiwan

- Zyxel Communications Corporation
- http://www.zyxel.com

Asia

China

- Zyxel Communications (Shanghai) Corp.
  Zyxel Communications (Beijing) Corp.
  Zyxel Communications (Tianjin) Corp.
- http://www.zyxel.cn

India

- Zyxel Technology India Pvt Ltd
- http://www.zyxel.in

Kazakhstan

- Zyxel Kazakhstan
- http://www.zyxel.kz

Korea

- Zyxel Korea Corp.
- http://www.zyxel.kr

Malaysia

- Zyxel Malaysia Sdn Bhd.
- http://www.zyxel.com.my

Pakistan

- Zyxel Pakistan (Pvt.) Ltd.
- http://www.zyxel.com.pk

Philippines

- Zyxel Philippines
- http://www.zyxel.com.ph

Singapore

- Zyxel Singapore Pte Ltd.
- http://www.zyxel.com.sg

Taiwan

- Zyxel Communications Corporation
- http://www.zyxel.com/tw/zh/

Thailand

- Zyxel Thailand Co., Ltd
- http://www.zyxel.co.th

Vietnam

- Zyxel Communications Corporation-Vietnam Office
- http://www.zyxel.com/vn/vi

Europe

Austria

- Zyxel Deutschland GmbH
- http://www.zyxel.de

Belarus

- Zyxel BY
- http://www.zyxel.by

Belgium

- Zyxel Communications B.V.
- http://www.zyxel.com/be/nl/
- http://www.zyxel.com/be/fr/

Bulgaria

- Zyxel България
- http://www.zyxel.com/bg/bg/

Czech Republic

- Zyxel Communications Czech s.r.o
- http://www.zyxel.cz

Denmark

- Zyxel Communications A/S
- http://www.zyxel.dk

Estonia

- Zyxel Estonia
- http://www.zyxel.com/ee/et/

Finland

- Zyxel Communications
- http://www.zyxel.fi

France

- Zyxel France
- http://www.zyxel.fr

Germany

- Zyxel Deutschland GmbH
- http://www.zyxel.de

Hungary

- Zyxel Hungary & SEE
- http://www.zyxel.hu

Italy

- Zyxel Communications Italy
- http://www.zyxel.it/

Latvia

- Zyxel Latvia
- http://www.zyxel.com/lv/lv/homepage.shtml

Lithuania

- Zyxel Lithuania
- http://www.zyxel.com/lt/lt/homepage.shtml

Netherlands

- Zyxel Benelux
- http://www.zyxel.nl

Norway

- Zyxel Communications
- http://www.zyxel.no

Poland

- Zyxel Communications Poland
- http://www.zyxel.pl

Romania

- Zyxel Romania
- http://www.zyxel.com/ro/ro

Russia

- Zyxel Russia
- http://www.zyxel.ru

Slovakia

- Zyxel Communications Czech s.r.o. organizacna zlozka
- http://www.zyxel.sk

Spain

- Zyxel Communications ES Ltd
- http://www.zyxel.es

Sweden

- Zyxel Communications
- http://www.zyxel.se

Switzerland

- Studerus AG

- http://www.zyxel.ch/

Turkey

- Zyxel Turkey A.S.
- http://www.zyxel.com.tr

UK

- Zyxel Communications UK Ltd.
- http://www.zyxel.co.uk

Ukraine

- Zyxel Ukraine
- http://www.ua.zyxel.com

Latin America

Argentina

- Zyxel Communication Corporation
- http://www.zyxel.com/ec/es/

Brazil

- Zyxel Communications Brasil Ltda.
- https://www.zyxel.com/br/pt/

Ecuador

- Zyxel Communication Corporation
- http://www.zyxel.com/ec/es/

Middle East

Israel

- Zyxel Communication Corporation
- http://il.zyxel.com/homepage.shtml

Middle East

- Zyxel Communication Corporation
- http://www.zyxel.com/me/en/

North America

USA

- Zyxel Communications, Inc. - North America Headquarters
- http://www.zyxel.com/us/en/

Oceania

Australia

- Zyxel Communications Corporation
- http://www.zyxel.com/au/en/

Africa

South Africa

- Nology (Pty) Ltd.
- http://www.zyxel.co.za

APPENDIX C
Legal Information

Copyright

Disclaimer

Zyxel does not assume any liability arising out of the application or use of any products, or software described herein. Neither does it convey any license under its patent rights nor the patent rights of others. Zyxel further reserves the right to make changes in any products described herein without notice. This publication is subject to change without notice.

Regulatory Notice and Statement

UNITED STATES of AMERICA

The following information applies if you use the product within USA area.

FCC EMC Statement

- The device complies with Part 15 of FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

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

- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.
- This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if not installed and used according to 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 device does cause harmful interference to radio or television reception, which is found by turning the device 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 devices
  - Connect the equipment to an outlet other than the receiver's
  - Consult a dealer or an experienced radio/TV technician for assistance

The following information applies if you use the product with RF function within USA area.

FCC Radiation Exposure Statement

- This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
- This transmitter must be at least 20 cm from the user and must not be co-located or operating in conjunction with any other antenna or transmitter.
- Operation of this device is restricted to indoor use only, except for relevant user's manual mention that this device can be installed into the external environment.

CANADA

The following information applies if you use the product within Canada area

Industry Canada ICES Statement

CAN ICES-3 (B)/NMB-3(B)

Industry Canada CS-03 Statement

- This product meets the applicable Innovation, Science and Economic Development Canada technical specifications.

- The Ringer Equivalence Number (REN) indicates the maximum number of devices allowed to be connected to a telephone interface. The termination of an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices not exceed five.

Déclaration de conformité

- Le présent produit est conforme aux spécifications techniques applicables d'Innovation, Sciences et Développement économique Canada.
- L'indice d'équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de dispositifs qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme des IES de tous les dispositifs n'excède pas cinq.

Industry Canada RSS-GEN & RSS-247 statement

- This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
- This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

If the product with 5G wireless function operating in 5150-5250 MHz and 5725-5850 MHz, the following attention must be paid,

- The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
- For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
- The worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2(3) of RSS 247 shall be clearly indicated.

If the product with 5G wireless function operating in 5250-5350 MHz and 5470-5725 MHz, the following attention must be paid.

- For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit.
- Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
- Le présent émetteur radio de modèle s'il fait partie du matériel de catégoriel) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Lorsque la fonction sans fil 5G fonctionnant en5150-5250 MHz and 5725-5850 MHz est activée pour ce produit , il est nécessaire de porter une attention particulière aux choses suivantes

- Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- Pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;
- Les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, et énoncée à la section 6.2.2 3) du CNR-247, doivent être clairement indiqués.

  Lorsque la fonction sans fil 5G fonctionnant en 5250-5350 MHz et 5470-5725 MHz est activée pour ce produit , il est nécessaire de porter une attention particulière aux choses suivantes.

Lorsque la fonction sans fil 5G fonctionnant en 5250-5350 MHz et 5470-5725 MHz est activée pour ce produit , il est nécessaire de porter une attention particulière aux choses suivantes.

- Pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5 250 à 5 350 MHz et de 5 470 à 5 725 MHz doit être conforme à la limite de la p.i.r.e.

Industry Canada radiation exposure statement

This device complies with IC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

EUROPEAN UNION

The following information applies if you use the product within the European Union.

Declaration of Conformity with Regard to EU Directive 2014/53/EU (Radio Equipment Directive, RED)

- Compliance information for 2.4GHz and/or 5GHz wireless products relevant to the EU and other Countries following the EU Directive 2014/53/EU (RED). And this product may be used in all EU countries (and other countries following the EU Directive 2014/53/EU) without any limitation except for the countries mentioned below table:

- In the majority of the EU and other European countries, the 5GHz bands have been made available for the use of wireless local area networks (LANs). Later in this document you will find an overview of countries in which additional restrictions or requirements or both are applicable. The requirements for any country may evolve. Zyxel recommends that you check with the local authorities for the latest status of their national regulations for the 5GHz wireless LANs.
- If this device for operation in the band 5150-5350 MHz, it is for indoor use only.
- This equipment should be installed and operated with a minimum distance of 20cm between the radio equipment and your body.
- The maximum RF power operating for each band is as follows:
  - the band 2,400 to 2,483.5 MHz is 99.31 mW,
  - the bands 5,150 MHz to 5,350 MHz is 122.46 mW,
  - the 5,470 MHz to 5,725 MHz is 110.66 mW.
-

Български (Bulgarian)	С настоящото Zyxel декларира, че това оборудване е в съответствие със съществените изисквания и другите приложими разпоредбите на Директива 12014/53/ЕС. **National Restrictions** • The Belgian Institute for Postal Services and Telecommunications (BIPT) must be notified of any outdoor wireless link having a range exceeding 300 meters. Please check http://www.bipt.be for more details. • Draadloze verbindingen voor buitengebruik en met een reikwijdte van meer dan 300 meter dienen aangemeld te worden bij het Belgisch Instituut voor postdiensten en telecommunicatie (BIPT). Zie http://www.bipt.be voor meer gegevens. • Les liaisons sans fil pour une utilisation en extérieur d'une distance supérieure à 300 mètres doivent être notifiées à l'Institut Belge des services Postaux et des Télécommunications (IBPT). Visitez http://www.ibpt.be pour de plus amples détails.
Español (Spanish)	Por medio de la presente Zyxel declara que el equipo cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/UE.
Čeština (Czech)	Zyxel tímto prohlašuje, že tento zařízení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2014/53/EU.
Dansk (Danish)	Undertegnede Zyxel erklærer herved, at følgende udstyr udstyr overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU. **National Restrictions** • In Denmark, the band 5150 - 5350 MHz is also allowed for outdoor usage. • I Danmark må frekvensbåndet 5150 - 5350 også anvendes udendørs.
Deutsch (German)	Hiermit erklärt Zyxel, dass sich das Gerät Ausstattung in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EU befindet.
Eesti keel (Estonian)	Käesolevaga kinnitab Zyxel seadme seadmed vastavust direktiivi 2014/53/EL põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Ελληνικά (Greek)	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Zyxel ΔΗΛΩΝΕΙ ΟΤΙ εξοπλισμός ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΕ.
English	Hereby, Zyxel declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
Français (French)	Par la présente Zyxel déclare que l'appareil équipements est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/UE.
Hrvatski (Croatian)	Zyxel ovime izjavljuje da je radijska oprema tipa u skladu s Direktivom 2014/53/UE.
Íslenska (Icelandic)	Hér með lýsir, Zyxel því yfir að þessi búnaður er í samræmi við grunnkröfur og önnur viðeigandi ákvæði tilskipunar 2014/53/UE.
Italiano (Italian)	Con la presente Zyxel dichiara che questo attrezzatura è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/UE. **National Restrictions** • This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless this wireless LAN product is operating within the boundaries of the owner's property, its use requires a "general authorization." Please check http://www.sviluppoeconomico.gov.it/ for more details. Questo prodotto è conforme alla specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all 'interno del proprio fondo, l'utilizzo di prodotti Wireless LAN richiede una "Autorizzazione Generale". Consultare http://www.sviluppoeconomico.gov.it/ per maggiori dettagli.
Latviešu valoda (Latvian)	Ar šo Zyxel deklarē, ka iekārtas atbilst Direktīvas 2014/53/ES būtiskajām prasībām un citiem ar to saistītajiem noteikumiem. **National Restrictions** • The outdoor usage of the 2.4 GHz band requires an authorization from the Electronic Communications Office. Please check http://www.esd.lv for more details. • 2.4 GHz frekvenèu joslas izmantoðanai ârpus telpâm nepiecieðama atïauja no Elektronisko sakaru direkcijas. Vairâk informâcijas: http://www.esd.lv.
Lietuvių kalba (Lithuanian)	Šiuo Zyxel deklaruoja, kad šis įranga atitinka esminius reikalavimus ir kitas 2014/53/ES Direktyvos nuostatas.
Magyar (Hungarian)	Alulírott, Zyxel nyilatkozom, hogy a berendezés megfelel a vonatkozó alapvetõ követelményeknek és az 2014/53/EU irányelv egyéb elõírásainak.

Malti (Maltese)	Hawnhekk, Zyxel, jiddikjara li dan tagħmir jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2014/53/UE.
Nederlands (Dutch)	Hierbij verklaart Zyxel dat het toestel uitrusting in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.
Polski (Polish)	Niniejszym Zyxel oświadcza, że sprzęt jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2014/53/UE.
Português (Portuguese)	Zyxel declara que este equipamento está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/UE.
Română (Romanian)	Prin prezenta, Zyxel declară că acest echipament este în conformitate cu cerințele esențiale şi alte prevederi relevante ale Directivei 2014/53/UE.
Slovenčina (Slovak)	Zyxel týmto vyhlasuje, že zariadenia spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/EÚ.
Slovenščina (Slovene)	Zyxel izjavlja, da je ta oprema v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/EU.
Suomi (Finnish)	Zyxel vakuuttaa täten että laitteet tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska (Swedish)	Härmed intygar Zyxel att denna utrustning står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.
Norsk (Norwegian)	Erklærer herved Zyxel at dette utstyret er I samsvar med de grunnleggende kravene og andre relevante bestemmelser I direktiv 2014/53/EU.

•

Notes:

1. Although Norway, Switzerland and Liechtenstein are not EU member states, the EU Directive 2014/53/EU has also been implemented in those countries.

2. The regulatory limits for maximum output power are specified in EIRP. The EIRP level (in dBm) of a device can be calculated by adding the gain of the antenna used(specified in dBi) to the output power available at the connector (specified in dBm).

List of national codes

COUNTRY	ISO 3166 2 LETTER CODE	COUNTRY	ISO 3166 2 LETTER CODE
Austria	AT	Liechtenstein	LI
Belgium	BE	Lithuania	LT
Bulgaria	BG	Luxembourg	LU
Croatia	HR	Malta	MT
Cyprus	CY	Netherlands	NL
Czech Republic	CZ	Norway	NO
Denmark	DK	Poland	PL
Estonia	EE	Portugal	PT
Finland	FI	Romania	RO
France	FR	Serbia	RS
Germany	DE	Slovakia	SK
Greece	GR	Slovenia	SI
Hungary	HU	Spain	ES
Iceland	IS	Switzerland	CH
Ireland	IE	Sweden	SE
Italy	IT	Turkey	TR
Latvia	LV	United Kingdom	GB

Safety Warnings

- Do not use this product near water, for example, in a wet basement or near a swimming pool.
- Do not expose your device to dampness, dust or corrosive liquids.
- Do not store things on the device.
- Do not obstruct the device ventilation slots as insufficient airflow may harm your device. For example, do not place the device in an enclosed space such as a box or on a very soft surface such as a bed or sofa.
- Do not install, use, or service this device during a thunderstorm. There is a remote risk of electric shock from lightning.
- Connect ONLY suitable accessories to the device.
- Do not open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks. ONLY qualified service personnel should service or disassemble this device. Please contact your vendor for further information.

- Make sure to connect the cables to the correct ports.
- Place connecting cables carefully so that no one will step on them or stumble over them.
- Always disconnect all cables from this device before servicing or disassembling.
- Do not remove the plug and connect it to a power outlet by itself; always attach the plug to the power adaptor first before connecting it to a power outlet.
- Do not allow anything to rest on the power adaptor or cord and do NOT place the product where anyone can walk on the power adaptor or cord.
- Please use the provided or designated connection cables/power cables/ adaptors. Connect it to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe). If the power adaptor or cord is damaged, it might cause electrocution. Remove it from the device and the power source, repairing the power adapter or cord is prohibited. Contact your local vendor to order a new one.
- Do not use the device outside, and make sure all the connections are indoors. There is a remote risk of electric shock from lightning.
- CAUTION: Risk of explosion if battery is replaced by an incorrect type, dispose of used batteries according to the instruction. Dispose them at the applicable collection point for the recycling of electrical and electronic devices. For detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the store where you purchased the product.
- The following warning statements apply, where the disconnect device is not incorporated in the device or where the plug on the power supply cord is intended to serve as the disconnect device,

  - For permanently connected devices, a readily accessible disconnect device shall be incorporated external to the device;

  - For pluggable devices, the socket-outlet shall be installed near the device and shall be easily accessible.

Environment Statement

ErP (Energy-related Products)

Zyxel products put on the EU market in compliance with the requirement of the European Parliament and the Council published Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products (recast), so called as "ErP Directive (Energy-related Products directive) as well as ecodesign requirement laid down in applicable implementing measures, power consumption has satisfied regulation requirements which are:

- Network standby power consumption < 8W, and/or
- Off mode power consumption < 0.5W, and/or
- Standby mode power consumption < 0.5W.

(Wireless setting, please refer to "Wireless" chapter for more detail.)

European Union - Disposal and Recycling Information

The symbol below means that according to local regulations your product and/or its battery shall be disposed of separately from domestic waste. If this product is end of life, take it to a recycling station designated by local authorities. At the time of disposal, the separate collection of your product and/or its battery will help save natural resources and ensure that the environment is sustainable development.

Die folgende Symbol bedeutet, dass Ihr Produkt und/oder seine Batterie gemäß den örtlichen Bestimmungen getrennt vom Hausmüll entsorgt werden muss. Wenden Sie sich an eine Recyclingstation, wenn dieses Produkt das Ende seiner Lebensdauer erreicht hat. Zum Zeitpunkt der Entsorgung wird die getrennte Sammlung von Produkt und/oder seiner Batterie dazu beitragen, natürliche Ressourcen zu sparen und die Umwelt und die menschliche Gesundheit zu schützen.

El símbolo de abajo indica que según las regulaciones locales, su producto y/o su batería deberán depositarse como basura separada de la doméstica. Cuando este producto alcance el final de su vida útil, llévelo a un punto limpio. Cuando llegue el momento de desechar el producto, la recogida por separado éste y/o su batería ayudará a salvar los recursos naturales y a proteger la salud humana y medioambiental.

Le symbole ci-dessous signifie que selon les réglementations locales votre produit et/ou sa batterie doivent être éliminés séparément des ordures ménagères. Lorsque ce produit atteint sa fin de vie, amenez-le à un centre de recyclage. Au moment de la mise au rebut, la collecte séparée de votre produit et/ou de sa batterie aidera à économiser les ressources naturelles et protéger l'environnement et la santé humaine.

Il simbolo sotto significa che secondo i regolamenti locali il vostro prodotto e/o batteria deve essere smaltito separatamente dai rifiuti domestici. Quando questo prodotto raggiunge la fine della vita di servizio portarlo a una stazione di riciclaggio. Al momento dello smaltimento, la raccolta separata del vostro prodotto e/o della sua batteria aiuta a risparmiare risorse naturali e a proteggere l'ambiente e la salute umana.

Symbolen innebär att enligt lokal lagstiftning ska produkten och/eller dess batteri kastas separat från hushållsavfallet. När den här produkten når slutet av sin livslängd ska du ta den till en återvinningsstation. Vid tiden för kasseringen bidrar du till en bättre miljö och mänsklig hälsa genom att göra dig av med den på ett återvinningsställe.

台灣

以下訊息僅適用於產品具有無線功能且銷售至台灣地區

- 第十二條 經型式認證合格之低功率射頻電機，非經許可，公司，商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
- 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。
- 無線資訊傳輸設備忍受合法通信之干擾且不得干擾合法通信；如造成干擾，應立即停用， 俟無干擾之虞，始得繼續使用。
- 無線資訊傳設備的製造廠商應確保頻率穩定性，如依製造廠商使用手冊上所述正常操作， 發射的信號應維持於操作頻帶中
- 使用無線產品時，應避免影響附近雷達系統之操作。
- 若使用高增益指向性天線，該產品僅應用於固定式點對點系統。
-

以下訊息僅適用於產品屬於專業安裝並銷售至台灣地區

- 本器材須經專業工程人員安裝及設定，始得設置使用，且不得直接販售給一般消費者。

安全警告 - 為了您的安全，請先閱讀以下警告及指示：

- 請勿將此產品接近水、火焰或放置在高溫的環境。
- 避免設備接觸：
  - 任何液體 - 切勿讓設備接觸水、雨水、高濕度、污水腐蝕性的液體或其他水份。
  - 灰塵及污物 - 切勿接觸灰塵、污物、沙土、食物或其他不合適的材料。
- 雷雨天氣時，不要安裝，使用或維修此設備。有遭受電擊的風險。
- 切勿重摔或撞擊設備，並勿使用不正確的電源變壓器。
- 若接上不正確的電源變壓器會有爆炸的風險。
- 請勿隨意更換產品內的電池。
- 如果更換不正確之電池型式，會有爆炸的風險，請依製造商說明書處理使用過之電池。
- 請將廢電池丟棄在適當的電器或電子設備回收處。
- 請勿將設備解體。
- 請勿阻礙設備的散熱孔，空氣對流不足將會造成設備損害。
- 請插在正確的電壓供給插座 (如：北美 / 台灣電壓 110V AC，歐洲是 230V AC)。
- 假若電源變壓器或電源變壓器的纜線損壞，請從插座拔除，若您還繼續插電使用，會有觸電死亡的風險。
- 請勿試圖修理電源變壓器或電源變壓器的纜線，若有毀損，請直接聯絡您購買的店家，購買一個新的電源變壓器。
- 請勿將此設備安裝於室外，此設備僅適合放置於室內。
- 請勿隨一般垃圾丟棄。
- 請參閱產品背貼上的設備額定功率。
- 請參考產品型錄或是彩盒上的作業溫度。
- 產品沒有斷電裝置或者採用電源線的插頭視為斷電裝置的一部分，以下警語將適用：
  - 對永久連接之設備， 在設備外部須安裝可觸及之斷電裝置
  - 對插接式之設備， 插座必須接近安裝之地點而且是易於觸及的。

About the Symbols

Various symbols are used in this product to ensure correct usage, to prevent danger to the user and others, and to prevent property damage. The meaning of these symbols are described below. It is important that you read these descriptions thoroughly and fully understand the contents.

Explanation of the Symbols

SYMBOL	EXPLANATION
	Alternating current (AC): AC is an electric current in which the flow of electric charge periodically reverses direction.
	Direct current (DC): DC if the unidirectional flow or movement of electric charge carriers.
	Earth; ground: A wiring terminal intended for connection of a Protective Earthing Conductor.
	Class II equipment: The method of protection against electric shock in the case of class II equipment is either double insulation or reinforced insulation.

Viewing Certifications

Go to http://www.zyxel.com to view this product's documentation and certifications.

Zyxel Limited Warranty

Zyxel warrants to the original end user (purchaser) that this product is free from any defects in material or workmanship for a specific period (the Warranty Period) from the date of purchase. The Warranty Period varies by region. Check with your vendor and/or the authorized Zyxel local distributor for details about the Warranty Period of this product. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, Zyxel will, at its discretion, repair or replace the defective products or components without charge for either parts or labor, and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal or higher value, and will be solely at the discretion of Zyxel. This warranty shall not apply if the product has been modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

Note

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose. Zyxel shall in no event be held liable for indirect or consequential damages of any kind to the purchaser.

To obtain the services of this warranty, contact your vendor. You may also refer to the warranty policy for the region in which you bought the device at http://www.zyxel.com/web/support_warranty_info.php.

Registration

Register your product online to receive e-mail notices of firmware upgrades and information at www.zyxel.com for global products, or at www.us.zyxel.com for North American products.

Open Source Licenses

This product contains in part some free software distributed under GPL license terms and/or GPL like licenses. Open source licenses are provided with the firmware package. You can download the latest firmware at www.zyxel.com. To obtain the source code covered under those Licenses, please contact support@zyxel.com.tw to get it.

Index

M

N

O

P

R

S

T

W