WAP5605

Wireless N Media Streaming Box

User's Guide

Default Login Details

IP Address	AP: 192.168.1.2 Client: 192.168.1.10
Password	1234

Firmware Version 1.0
Edition 1, 10/2011

ZyXEL

www.zyxel.com

About This User's Guide

IMPORTANT!

READ CAREFULLY BEFORE USE.

KEEP THIS GUIDE FOR FUTURE REFERENCE.

Intended Audience

This manual is intended for people who want to configure the WAP5605 using the Web Configurator.

Related Documentation

- Quick Start Guide

  The Quick Start Guide is designed to help you get up and running right away. It contains information on setting up your network and configuring for Internet access.

- Support Disc

  Refer to the included CD for support documents.

Document Conventions

Warnings and Notes

These are how warnings and notes are shown in this User's Guide.

Warnings tell you about things that could harm you or your device.

Note: Notes tell you other important information (for example, other things you may need to configure or helpful tips) or recommendations.

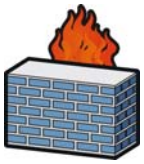
Syntax Conventions

- The WAP5605 may be referred to as the "WAP5605", the "device", the "product" or the "system" in this User's Guide.
- Product labels, screen names, field labels and field choices are all in **bold** font.
- A key stroke is denoted by square brackets and uppercase text, for example, [ENTER] means the "enter" or "return" key on your keyboard.
- "Enter" means for you to type one or more characters and then press the [ENTER] key. "Select" or "choose" means for you to use one of the predefined choices.
- A right angle bracket (>) within a screen name denotes a mouse click. For example, **Maintenance > Log > Log Setting** means you first click **Maintenance** in the navigation panel, then the **Log** sub menu and finally the **Log Setting** tab to get to that screen.
- Units of measurement may denote the "metric" value or the "scientific" value. For example, "k" for kilo may denote "1000" or "1024", "M" for mega may denote "1000000" or "1048576" and so on.
- "e.g.," is a shorthand for "for instance", and "i.e.," means "that is" or "in other words".

Icons Used in Figures

Figures in this User's Guide may use the following generic icons. The WAP5605 icon is not an exact representation of your device.

Graphics in this book may differ slightly from the product due to differences in operating systems, operating system versions, or if you installed updated firmware/software for your device. Every effort has been made to ensure that the information in this manual is accurate.

WAP5605 	Computer 	Notebook computer 
Server 	Modem 	Firewall 
Telephone 	Switch 	Router 

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 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.
- Use ONLY an appropriate power adaptor or cord for your device.
- Connect the power adaptor or cord to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe).
- 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.
- Do NOT use the device if the power adaptor or cord is damaged as it might cause electrocution.
- If the power adaptor or cord is damaged, remove it from the power outlet.
- Do NOT attempt to repair the power adaptor or cord. 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.
- Do NOT obstruct the device ventilation slots, as insufficient airflow may harm your device.
- Antenna Warning! This device meets ETSI and FCC certification requirements when using the included antenna(s). Only use the included antenna(s).
- If you wall mount your device, make sure that no electrical lines, gas or water pipes will be damaged.

Your product is marked with this symbol, which is known as the WEEE mark. WEEE stands for Waste Electronics and Electrical Equipment. It means that used electrical and electronic products should not be mixed with general waste. Used electrical and electronic equipment should be treated separately.

Contents Overview

Table of Contents

PART I
User's Guide

1

Getting to Know Your WAP5605

1.1 Overview

This chapter introduces the main features and applications of the WAP5605.

The WAP5605 extends the range of your existing wired network without additional wiring, providing easy network access to mobile users. You can set up a wireless network with other IEEE 802.11a/n wireless devices using the 5 GHz frequency bands. The WAP5605 can serve as either an access point (AP) or a wireless client. At the time of writing, the WAP5605 can only wirelessly communicate with other WAP5605s.

With data rates of up to 300 Mbps, you can enjoy a breathtaking high-speed connection at home or in the office. It is an excellent solution for daily activities such as file transfers, music downloading, video streaming and online gaming.

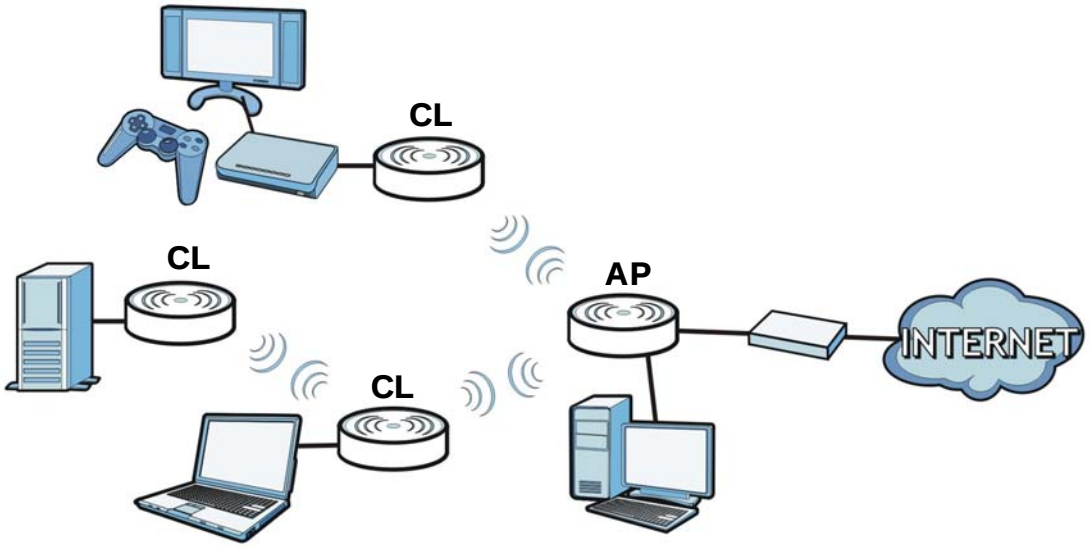
1.2 Applications

The WAP5605 can be configured to use the following operating modes:

- **AP**. Use the switch on the side panel to set the WAP5605 to work in AP mode (**AP**). You can connect to a broadband modem/router for Internet access and/or connect network devices via the Ethernet ports of the WAP5605 in AP mode so that they can communicate with each other and access the Internet. Wireless clients can connect to the WAP5605 in AP mode to access network resources.

- **Client**. Use the switch on the side panel to set the WAP5605 to work in client mode (**CL**). The WAP5605 in client mode can access the Internet through a WAP5605 in AP mode and/or connect to another WAP5605 in client mode using IEEE 802.11e Direct Link Setup (DLS).

Figure 1 WAP5605 Applications



1.3 Ways to Manage the WAP5605

Use any of the following methods to manage the WAP5605.

- Web Configurator. This is recommended for everyday management of the WAP5605 using a (supported) web browser.
- WPS (Wi-Fi Protected Setup) button. You can use the WPS button or the WPS section of the Web Configurator to set up a wireless network with your WAP5605.

1.4 Good Habits for Managing the WAP5605

Do the following things regularly to make the WAP5605 more secure and to manage the WAP5605 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 WAP5605 to its factory default settings. If you backed up an earlier configuration file, you would not have to totally re-configure the WAP5605. You could simply restore your last configuration.

1.5 Resetting the WAP5605

If you forget your password or IP address, or you cannot access the Web Configurator, you will need to use the **RESET** button at the back of the WAP5605 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" and the IP address of the WAP5605 in AP mode will be reset to "192.168.1.2" and the IP address of the WAP5605 in client mode will be reset to "192.168.1.10".

1.5.1 Procedure to Use the Reset Button

1. Make sure the power LED is on.
2. Press the **RESET** button for longer than 1 second to restart/reboot the WAP5605.
3. Press the **RESET** button for longer than five seconds to set the WAP5605 back to its factory-default configurations.

1.6 The WPS Button

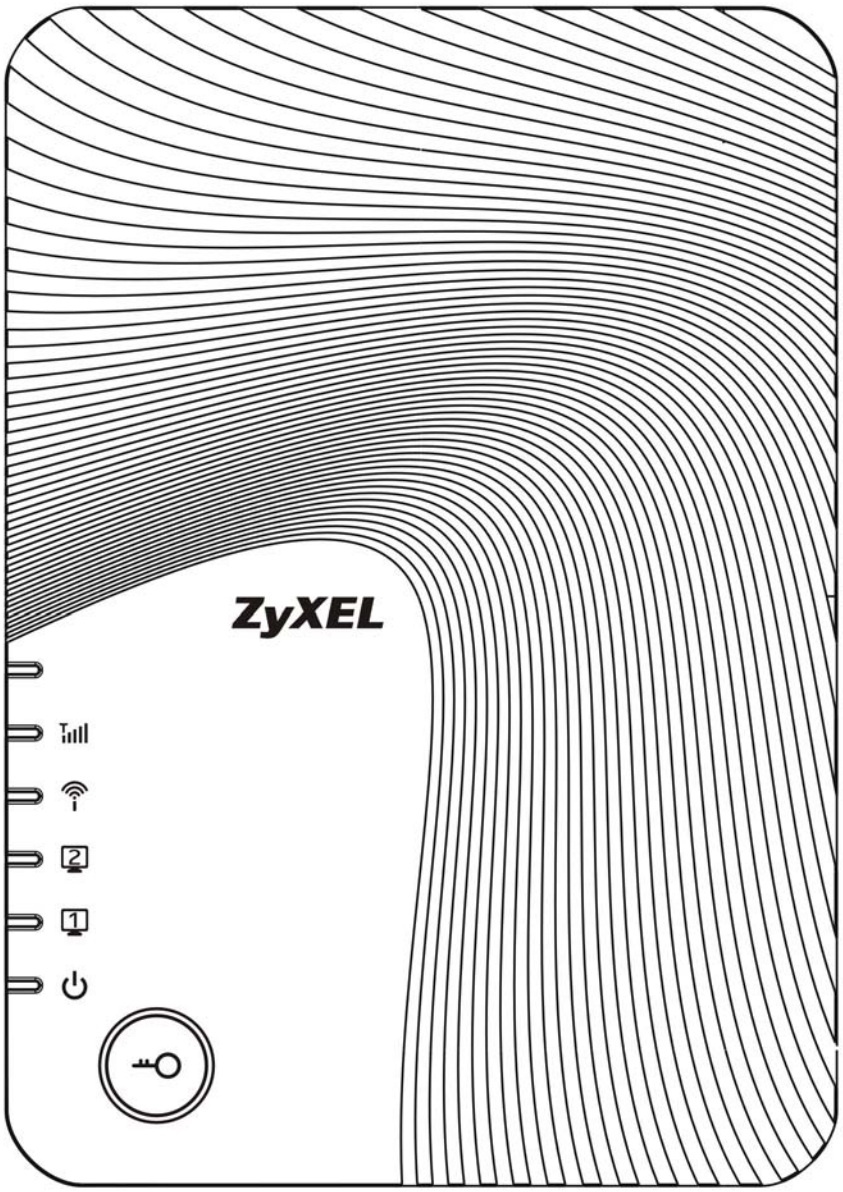
You can use the WPS button () on the front panel of the WAP5605 to activate WPS in order to quickly set up a wireless network with strong security.

1. Make sure the **POWER** LED is on (not blinking).
2. Press the WPS button for more than three seconds and release it. Press the WPS button on another WPS-enabled device within range of the WAP5605.

Note: You must activate WPS in the WAP5605 that acts as the AP and in another WAP5605 that acts as the client within two minutes of each other.

1.7 LEDs

Figure 2 Front Panel



The following table describes the LEDs and the WPS button.

Table 1 Front Panel LEDs and WPS Button

LED	COLOR	STATUS	DESCRIPTION
Quality	Green	On	AP mode: This LED is always on after the system starts up. Client mode: The WAP5605 is connecting to an AP and the transmission rate is 65 Mbps or above.
	Amber	On	Client mode: The WAP5605 is connecting to an AP and the transmission rate is between 65 Mbps and 19.5 Mbps.
	Red	On	Client mode: The WAP5605 is connecting to an AP and the transmission rate is below 19.5 Mbps.
		Off	AP mode: The WAP5605 is not receiving power. Client mode: The WAP5605 is not receiving power or not associating with an AP.
Wireless	Green	On	The WAP5605 is ready, but is not sending/receiving data through the wireless LAN.
		Blinking	The WAP5605 is sending/receiving data through the wireless LAN.
		Off	The wireless LAN is not ready or has failed.
LAN 1-2	Green	On	The WAP5605 has a successful 10/100/1000 Mbps Ethernet connection.
		Blinking	The WAP5605 is sending/receiving data through the LAN.
		Off	The LAN is not connected.
Power	Green	On	The WAP5605 is receiving power and functioning properly.
		Off	The WAP5605 is not receiving power.
WPS	Blue	On	WPS is enabled.
		Blinking (slow)	The WAP5605 is negotiating a WPS connection with a wireless device.
		Blinking (fast)	The WPS negotiation failed.
		Off	The wireless LAN is not ready or has failed.

2

WAP5605 Modes

2.1 Overview

This chapter introduces the different modes available on your WAP5605. First, the term "mode" refers to two things in this User's Guide.

- **Web Configurator mode**. This refers to the Web Configurator interface you want to use for editing WAP5605 features.
- **Device mode**. This is the operating mode of your WAP5605, or simply how the WAP5605 is being used in the network.

2.1.1 Web Configurator Modes

This refers to the configuration interface of the Web Configurator, which has two modes:

- **Easy**. The Web Configurator shows this mode by default. Refer to Chapter 3 on page 23 for more information on the screens in this mode. This interface may be sufficient for users who just want to use the device.
- **Expert**. Advanced users can change to this mode to customize all the functions of the WAP5605. Click **Expert Mode** after logging into the Web Configurator. The User's Guide Chapter 6 on page 49 through Chapter 11 on page 93 discusses the screens in this mode.

2.1.2 Device Operating Modes

This refers to the operating mode of the WAP5605, which can act as a:

- **Access Point** (**AP**). Use this mode if you want to extend your network by allowing network devices to connect to the WAP5605 wirelessly. Go to Section 4.4 on page 33 to view the **Status** screen in this mode.
- **Client** (**CL**). Use this mode if there is an existing WAP5605 that acts as an AP in your network. Go to Section 5.5 on page 39 to view the **Status** screen in this mode. In Client mode, you should know the SSID and wireless security details of the WAP5605 to which you want to connect.

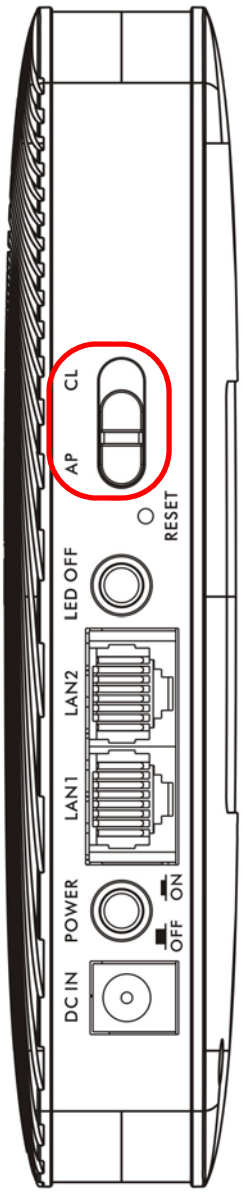
Note: Choose your device mode carefully to avoid having to change it later.

2.1.2.1 Changing Operating Mode

Push the **AP / CL** switch on the WAP5605's side panel to the **AP** position to have the WAP5605 act as an access point. Otherwise, push the switch to the **CL** position to have the WAP5605 work as a wireless client. The WAP5605 restarts automatically after you change operating modes.

Note: When you change the WAP5605 mode from AP mode to client mode, make sure you use the **RESET** button to return the IP address of the WAP5605 in client mode to 192.168.1.10. Otherwise, the client mode IP address will be the same as the access point mode IP address.

Figure 3 Side Panel



3

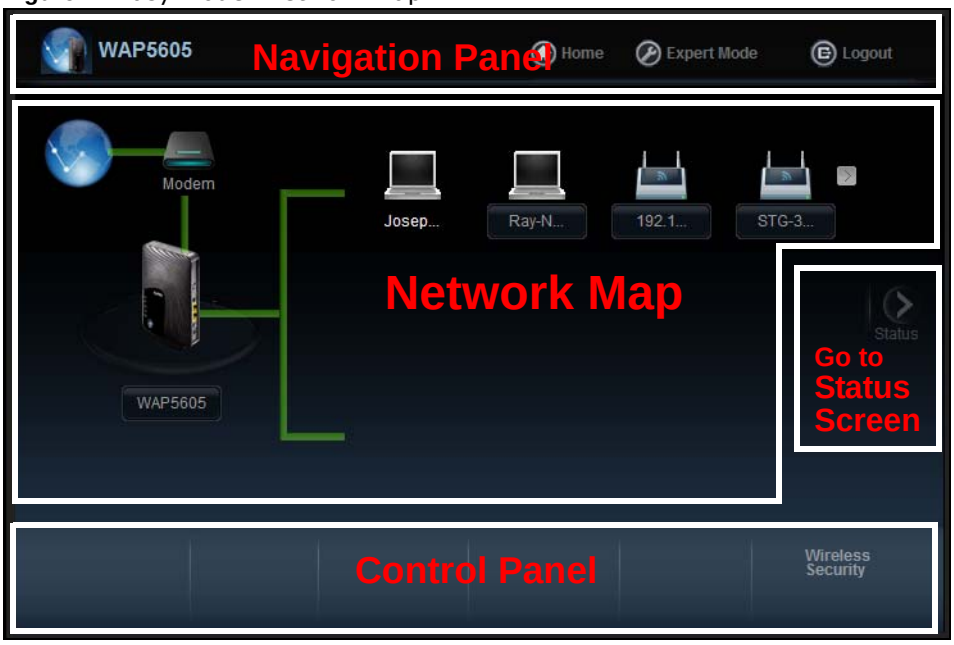
Easy Mode

3.1 Overview

The Web Configurator is set to **Easy Mode** by default. You can configure several key features of the WAP5605 in this mode. This mode is useful to users who are not fully familiar with some features that are usually intended for network administrators.

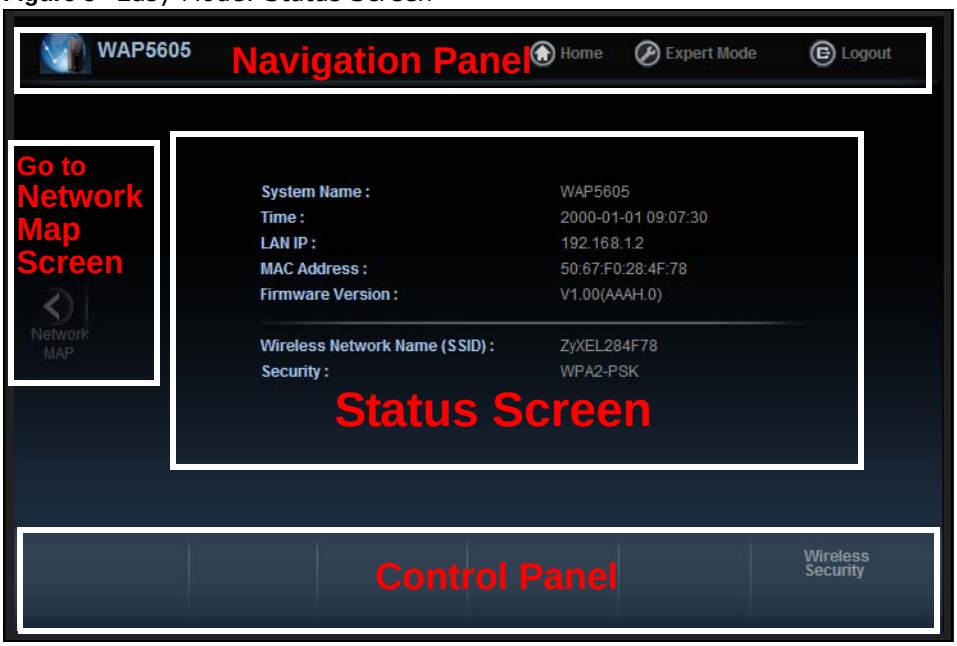
When you log in to the Web Configurator, the following screen opens.

Figure 4 Easy Mode: Network Map



Click **Status** to open the following screen.

Figure 5 Easy Mode: Status Screen



3.2 What You Can Do

You can do the following in this mode:

- Use this **Navigation Panel** (Section 3.4 on page 25) to opt out of the **Easy** mode.
- Use the **Network Map** screen (Section 3.5 on page 25) to check if your WAP5605 can ping the gateway and whether it is connected to the Internet.
- Use the **Control Panel** (Section 3.6 on page 26) to configure wireless security.
- Use the **Status Screen** screen (Section 3.7 on page 30) to view read-only information about the WAP5605, including the LAN IP, MAC Address of the WAP5605 and the firmware version.

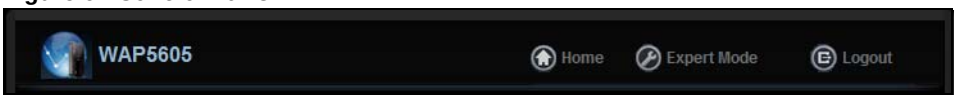
3.3 What You Need to Know

Wireless Security in the control panel is not configurable when the WAP5605 is in client mode.

3.4 Navigation Panel

Use this navigation panel to opt out of the **Easy** mode.

Figure 6 Control Panel



The following table describes the labels in this screen.

Table 2 Control Panel

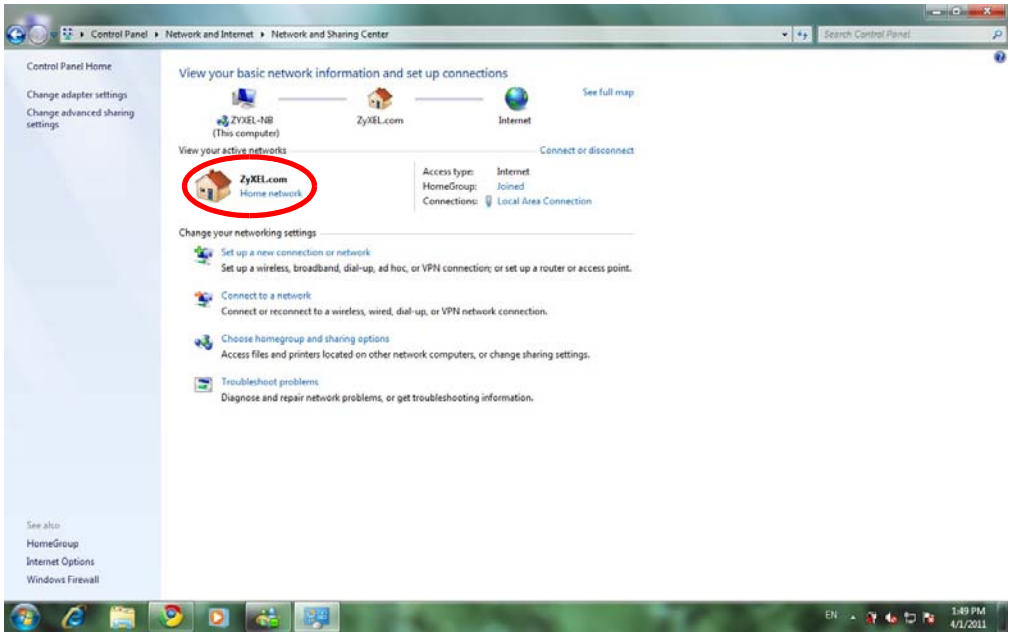
ITEM	DESCRIPTION
Home	Click this to go to the **Login** page.
Expert Mode	Click this to change to **Expert** mode and customize features of the WAP5605.
Logout	Click this to end the Web Configurator session.

3.5 Network Map

Note: The Network MAP is viewable by Windows XP (need to install patch), Windows Vista and Windows 7 users only. For Windows XP (Service Pack 2) users, you can see the network devices connected to the WAP5605 by downloading the LLTD (Link Layer Topology Discovery) patch from the Microsoft Website.

Note: In Windows Vista or Windows 7, you should set your network location to "Home network" in the Control Panel > Network and Internet > Network and Sharing Center screen.

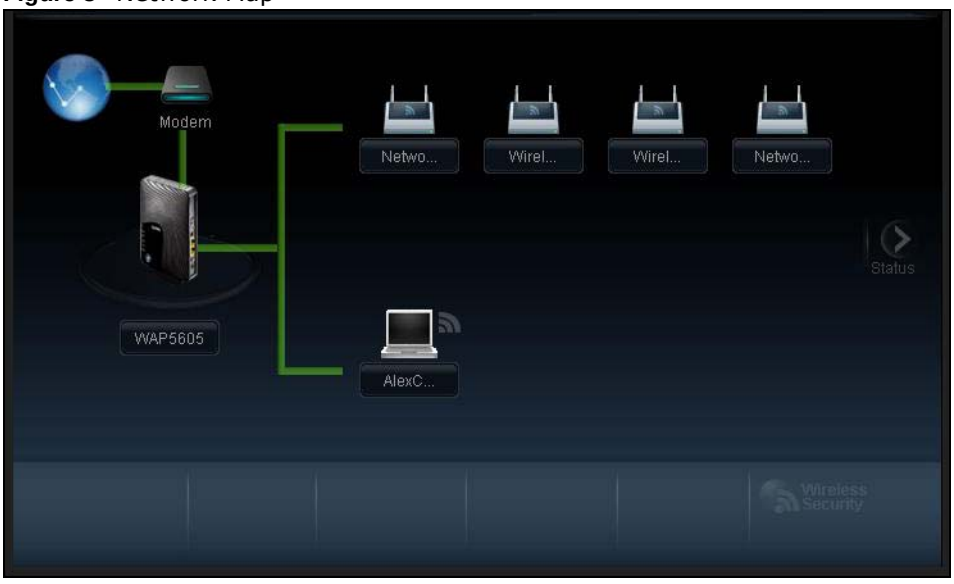
Figure 7 Set Network Location to Home Network in Windows Vista or 7



Note: Don’t worry if the Network Map does not display in your web browser. This feature may not be supported by your system. You can still configure the Control Panel (Section 3.6 on page 26) in the Easy Mode and the WAP5605 features that you want to use in the Expert Mode.

When you log into the Web Configurator, the Network Map is shown as follows.

Figure 8 Network Map



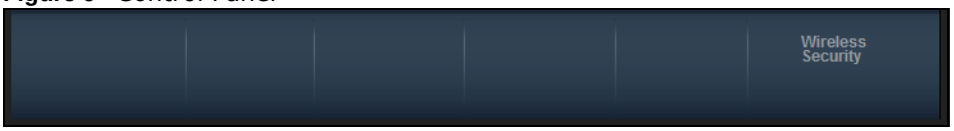
The line connecting the WAP5605 to the gateway becomes green when the WAP5605 is able to ping the gateway. It becomes red when the ping initiating from the WAP5605 does not get a response from the gateway. The same rule applies to the line connecting the gateway to the Internet.

You can also view the devices (represented by icons indicating the kind of network device) connected to the WAP5605, including those connecting wirelessly. Right-click on the WAP5605 icon to refresh the network map. Right click on the other icons to view information about the device or left-click the device icon to access its web configurator or files in the shared folder.

3.6 Control Panel

The features configurable in **Easy Mode** are shown in the **Control Panel**.

Figure 9 Control Panel



Click the feature to open a screen where you can edit its settings.

The following table describes the labels in this screen.

Table 3 Control Panel

ITEM	DESCRIPTION
Wireless Security	Click this to configure the wireless security, such as SSID, security mode and WPS key on your WAP5605. Refer to Section 3.6.1 on page 27 to see this screen.

3.6.1 Wireless Security

Use this screen to configure security for your the wreless LAN. You can enter the SSID and select the wireless security mode in the following screen.

Note: **Wireless Security** in the control panel is not configurable when the WAP5605 is in client mode.

Figure 10 Wireless Security

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

Table 4 Wireless Security

LABEL	DESCRIPTION
Wireless Network Name (SSID)	(Service Set IDentity) The SSID identifies the Service Set with which a wireless station is associated. Wireless stations associating to the access point (AP) must have the same SSID. Enter a descriptive name (up to 32 keyboard characters) for the wireless LAN. The default SSID is "ZyXEL+(the last six characters of the WAP5605's MAC address)".
Security mode	Select **WPA-PSK** or **WPA2-PSK** 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. Select **No Security** to allow any client to connect to this network without authentication.
Wireless password	This field appears when you choose wither **WPA-PSK** or **WPA2-PSK** as the security mode. Type a pre-shared key from 8 to 63 case-sensitive keyboard characters.
Verify password	Type the password again to confirm.
Apply	Click **Apply** to save your changes back to the WAP5605.
Cancel	Click **Cancel** to close this screen.
WPS	Click this to configure the WPS screen. You can transfer the wireless settings configured here (**Wireless Security** screen) to another wireless device that supports WPS.

3.6.2 WPS

Use this screen to add a wireless station to the network with the WAP5605's first SSID using WPS. Click **WPS** in the **Wireless Security** to open the following screen.

Figure 11 Wireless Security: WPS

The following table describes the labels in this screen.

Table 5 Wireless Security: WPS

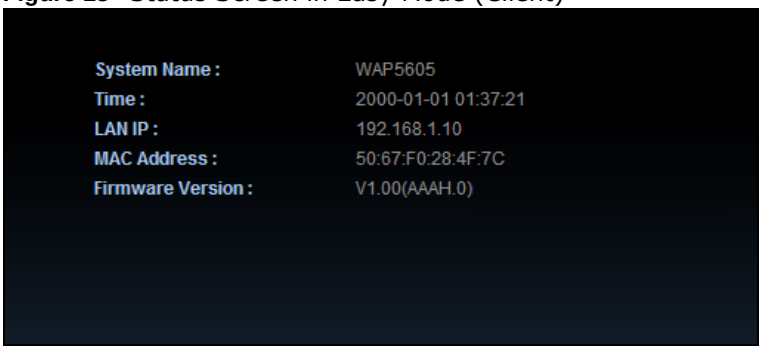
LABEL	DESCRIPTION
Wireless Security	Click this to go back to the **Wireless Security** screen.
WPS	Create a secure wireless network simply by pressing the button. The WAP5605 scans for a WPS-enabled device within the range and performs wireless security information synchronization. Note: After you click the **WPS** button 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.
Register	Create a secure wireless network simply by entering a wireless client's PIN (Personal Identification Number) in the WAP5605's interface and pushing this button. Type the same PIN number generated in the wireless station's utility. Then click **Register** to associate to each other and perform the wireless security information synchronization.
Exit	Click **Exit** to close this screen.

3.7 Status Screen in Easy Mode

In the Network Map screen, click **Status** to view read-only information about the WAP5605.

Figure 12 Status Screen in Easy Mode (AP)

Figure 13 Status Screen in Easy Mode (Client)



The following table describes the labels in this screen.

Table 6 Status Screen in Easy Mode

ITEM	DESCRIPTION
Name	This is the name of the WAP5605 in the network.
Time	This is the current system date and time. The date is in YYYY:MM:DD (Year-Month-Day) format. The time is in HH:MM:SS (Hour:Minutes:Seconds) format.
LAN IP	This is the IP address of the LAN port.
MAC Address	This is the MAC address of the WAP5605.
Firmware Version	This shows the firmware version of the WAP5605. The firmware version format shows the trunk version, model code and release number.
Wireless Network Name (SSID)	This shows the SSID of the wireless network. You can configure this in the **Wireless Security** screen (Section 3.6.1 on page 27; Section 9.5 on page 79).
Security	This shows the wireless security used by the WAP5605.

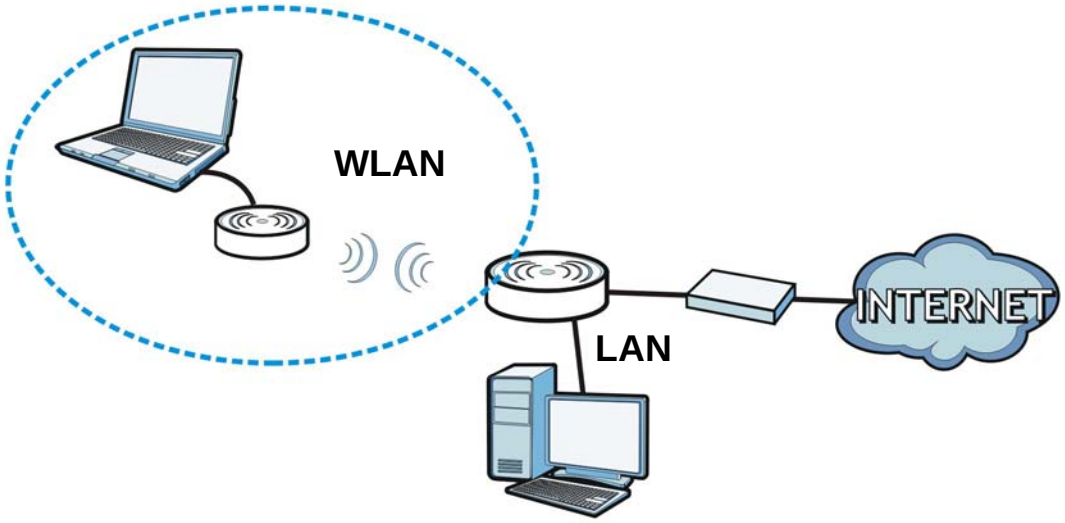
4

Access Point Mode

4.1 Overview

The WAP5605 is set to access point mode by default. In this mode your WAP5605 bridges a wired network (LAN) and wireless LAN (WLAN) in the same subnet. See the figure below for an example.

Figure 14 Wireless Internet Access in Access Point Mode



Note: See Chapter 7 on page 55 for an example of setting up a wireless network in Access Point mode.

4.2 What You Can Do

- Use the **Status** screen (Section 4.4 on page 33) to view read-only information about your WAP5605.
- Use the **LAN** screen (Chapter 10 on page 89) to set the IP address for your WAP5605 acting as an access point.
- Use the **Wireless LAN** screens (Chapter 9 on page 75) to configure the wireless settings and wireless security between the wireless clients and the WAP5605.

4.3 What You Need to Know

See Chapter 7 on page 55 for a tutorial on setting up a network with the WAP5605 as an access point.

4.3.1 Setting your WAP5605 to AP Mode

1. To use your WAP5605 as an access point, see Section 2.1.2.1 on page 21.
2. Connect your computer to the LAN port of the WAP5605.
3. The default IP address of the WAP5605 in access point mode is "192.168.1.2". In this case, your computer must have an IP address in the range between "192.168.1.3" and "192.168.1.254".
4. Click **Start > Run** on your computer in Windows. Type "cmd" in the dialog box. Enter "ipconfig" to show your computer's IP address. If your computer's IP address is not in the correct range then see Appendix C on page 135 for information on changing your computer's IP address.
5. After you've set your computer's IP address, open a web browser such as Internet Explorer and type "http://192.168.1.2" as the web address in your web browser.
6. Enter "1234" (default) as the password and click **Login**.
7. Type a new password and retype it to confirm, then click **Apply**. Otherwise, click **Ignore**.
8. The Easy mode appears. Click **Expert Mode** in the navigation panel.

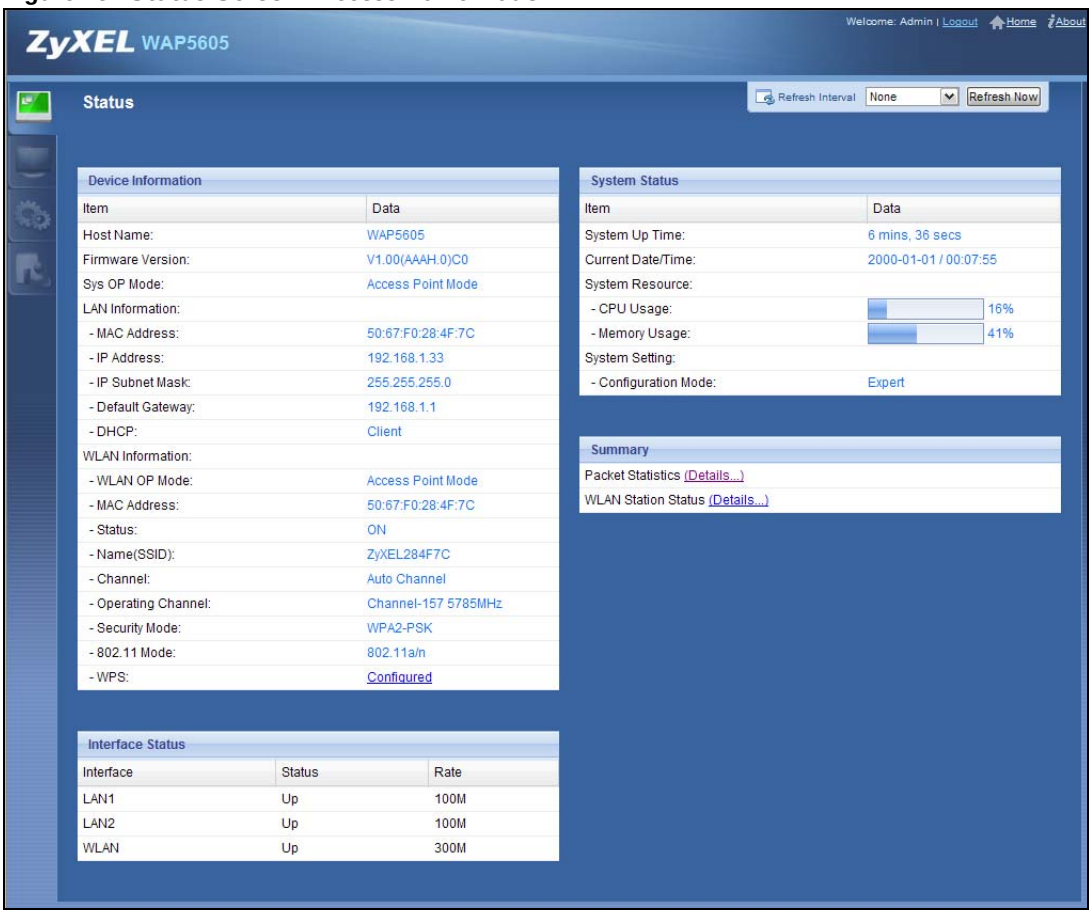
4.3.2 Configuring your WLAN, LAN and Maintenance Settings

- See Chapter 9 on page 75 and Chapter 10 on page 89 for information on the configuring your wireless network and LAN settings.
- See Chapter 11 on page 93 for information on configuring your Maintenance settings.

4.4 AP Mode Status Screen

Click  to open the **Status** screen.

Figure 15 Status Screen: Access Point Mode



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

Table 7 Status Screen Icon Key: Access Point Mode

ICON	DESCRIPTION
	Click this to go to the Home page. See Section 6.2.3 on page 51.
	Click this icon to view copyright and a link for related product information.
	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.
	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.

Table 7 Status Screen Icon Key: Access Point Mode (continued)

ICON	DESCRIPTION
	Click this icon to see the **Configuration** navigation menu.
	Click this icon to see the **Maintenance** navigation menu.

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

Table 8 Status Screen: Access Point Mode

LABEL	DESCRIPTION
Logout	Click this at any time to exit the Web Configurator.
Device Information	
Host Name	This is the WAP5605's model name.
Firmware Version	This is the firmware version and the date created.
Sys OP Mode	This is the device operating mode (Section 2.1.2 on page 21) to which the WAP5605 is set - **Access Point 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 gateway IP address.
DHCP	This shows the LAN port's DHCP role - **Client** or **None.**
WLAN Information	
WLAN OP Mode	This is the device operating mode (Section 2.1.2 on page 21) to which the WAP5605's wireless LAN is set - **Access Point Mode**.
MAC Address	This shows the wireless adapter MAC Address of your device.
Status	This shows the current status of the Wireless LAN - **ON**.
Name (SSID)	This shows a descriptive name used to identify the WAP5605 in the wireless LAN.
Channel	This shows the channel number which you select manually or the WAP5605 automatically scans and selects.
Operating Channel	This shows the channel number which the WAP5605 is currently using over the wireless LAN.
Security Mode	This shows the level of wireless security the WAP5605 is using.
802.11 Mode	This shows the wireless standard.
WPS	This displays **Configured** when the WPS has been set up. This displays **Unconfigured** if the WPS has not been set up. Click the status to display **Network > Wireless LAN > WPS** screen.
Interface Status	
Interface	This displays the WAP5605 port types. The port types are: **LAN** and **WLAN**.
Status	For the LAN ports, 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 or **N/A** when the line is disconnected. For the WLAN, it displays the maximum transmission rate when the WLAN is enabled and **N/A** when the WLAN is disabled.
System Status	

Table 8 Status Screen: Access Point Mode

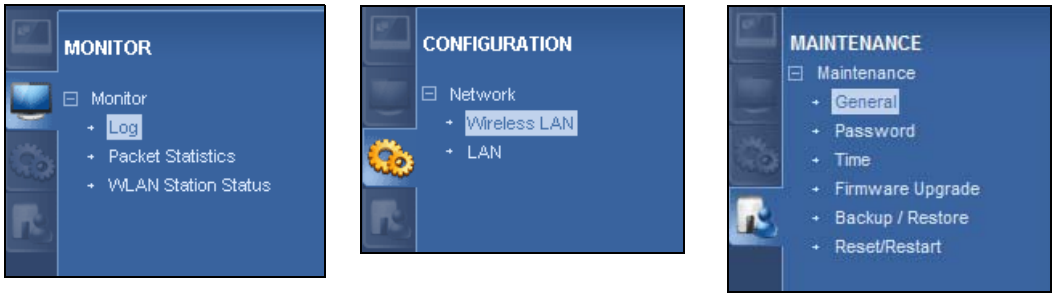
LABEL	DESCRIPTION
Item	This column shows the type of data the WAP5605 is recording.
Data	This column shows the actual data recorded by the WAP5605.
System Up Time	This is the total time the WAP5605 has been on.
Current Date/Time	This field displays your WAP5605's present date and time.
System Resource	
CPU Usage	This displays what percentage of the WAP5605's processing ability is currently used. When this percentage is close to 100%, the WAP5605 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 WAP5605 is using.
System Setting	
Configuration Mode	This shows the web configurator mode you are viewing - **Expert**.
Summary	
Packet Statistics	Click **Details...** to go to the **Monitor > Packet Statistics** screen (Section 8.5 on page 73). Use this screen to view port status and packet specific statistics.
WLAN Station Status	Click **Details...** to go to the **Monitor > WLAN Station Status** screen (Section 8.6 on page 74). Use this screen to view the wireless stations that are currently associated to the WAP5605.

4.4.1 Navigation Panel

Use the menu in the navigation panel to configure WAP5605 features in Access Point mode.

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

Figure 16 Menu: Access Point Mode



The following table describes the sub-menus.

Table 9 Navigation Panel: Access Point Mode

LINK	TAB	FUNCTION
Status		This screen shows the WAP5605's general device, system and interface status information. Use this screen to access the summary statistics tables.
MONITOR		
Log	View Log	Use this screen to view the list of activities recorded by your WAP5605 and change your log settings.
	Log Settings	
Packet Statistics		Use this screen to view port status and packet specific statistics.

Table 9 Navigation Panel: Access Point Mode

LINK	TAB	FUNCTION
WLAN Station Status		Use this screen to view the wireless stations that are currently associated to the WAP5605.
CONFIGURATION		
Network		
Wireless LAN	General	Use this screen to configure general wireless LAN settings.
	Security	Use this screen to configure wireless security settings.
	MAC Filter	Use the MAC filter screen to configure the WAP5605 to block access to devices or block the devices from accessing the WAP5605.
	Advanced	This screen allows you to configure advanced wireless settings.
	QoS	Use this screen to configure Wi-Fi Multimedia Quality of Service (WMM QoS). WMM QoS allows you to prioritize wireless traffic according to the delivery requirements of individual services.
	WPS	Use this screen to configure WPS.
	WPS Station	Use this screen to add a wireless station using WPS.
	Scheduling	Use this screen to schedule the times the Wireless LAN is enabled.
LAN	IP	Use this screen to configure LAN IP address and subnet mask.
	IP Alias	Use this screen to have the WAP5605 apply IP alias to create LAN subnets.
MAINTENANCE		
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 WAP5605.
Time	Time Setting	Use this screen to change your WAP5605's time and date.
Firmware Upgrade		Use this screen to upload firmware to your WAP5605.
Backup/ Restore		Use this screen to backup and restore the configuration or reset the factory defaults to your WAP5605.
Reset/ Restart	Restart	This screen allows you to reboot the WAP5605 without turning the power off.

5

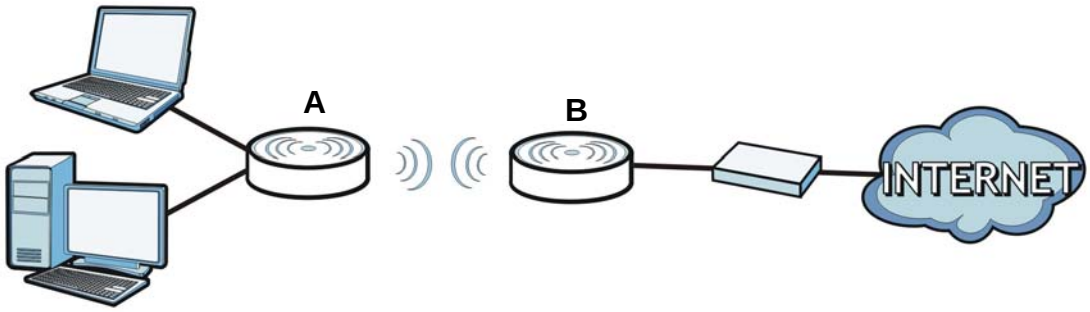
Client Mode

5.1 Overview

Your WAP5605 can act as a wireless client. In wireless client mode, it can connect to an existing network via an access point. Use this mode if you already have a WAP5605 working as an access point in your network.

In the example below, one WAP5605 (**A**) is configured as a wireless client and another is used as an access point (**B**). The WAP5605 has two clients that need to connect to the Internet. The WAP5605 wirelessly connects to the available access point (**B**).

Figure 17 Wireless Client Mode



After the WAP5605 and the access point connect, the WAP5605 acquires its WAN IP address from the access point. The clients of the WAP5605 can now surf the Internet.

5.2 What You Can Do

- Use the **Status** screen (Section 5.5 on page 39) to view read-only information about your WAP5605.
- Use the **LAN** screen (Chapter 10 on page 89) to set the IP address for your WAP5605.
- Use the **Wireless LAN** screen (Section 5.6 on page 41) to associate your WAP5605 (acting as a wireless client) with an existing access point.

5.3 What You Need to Know

With the exception of the **Wireless LAN** screens, the **LAN**, **Monitor**, and **Maintenance** screens in client mode are similar to the ones in access point Mode. See Chapter 10 on page 89 through Chapter 11 on page 93 of this User's Guide.

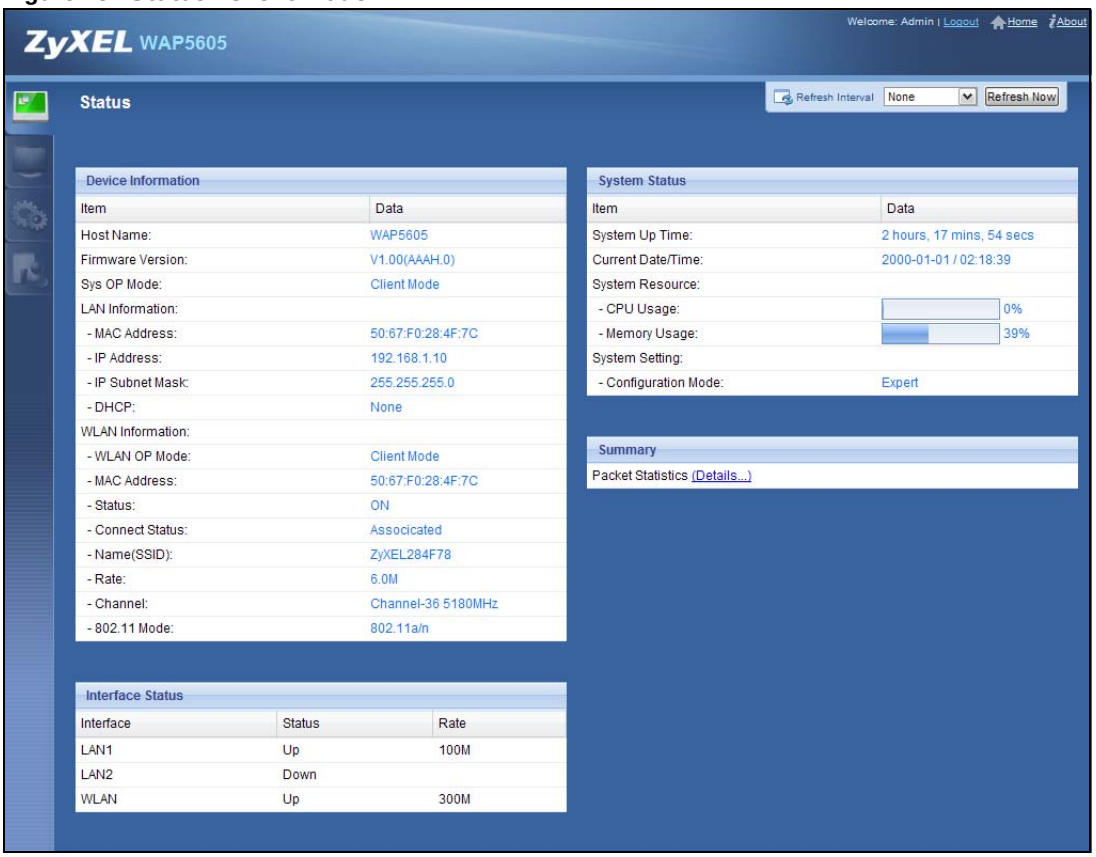
5.4 Setting your WAP5605 to Client Mode

1. To set your WAP5605 to client mode, see Section 2.1.2.1 on page 21.
2. Connect your computer to the LAN port of the WAP5605.
3. The default IP address of the WAP5605 in client mode is "192.168.1.10". In this case, your computer must have an IP address in the range between "192.168.1.11" and "192.168.1.254".
4. Click **Start > Run** on your computer in Windows. Type "cmd" in the dialog box. Enter "ipconfig" to show your computer's IP address. If your computer's IP address is not in the correct range then see Appendix C on page 135 for information on changing your computer's IP address.
5. After you've set your computer's IP address, open a web browser such as Internet Explorer and type "http://192.168.1.10" as the web address in your web browser.
6. Enter "1234" (default) as the password and click **Login**.
7. Type a new password and retype it to confirm, then click **Apply**. Otherwise, click **Ignore**.
8. The Easy mode appears. Click **Expert Mode** in the navigation panel.

5.5 Client Mode Status Screen

Click  to open the status screen.

Figure 18 Status: Client Mode



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

Table 10 Status Screen: Client Mode

LABEL	DESCRIPTION
Logout	Click this at any time to exit the Web Configurator.
Device Information	
Host Name	This is the WAP5605's model name.
Firmware Version	This is the firmware version and the date created.
Sys OP Mode	This is the device operating mode (Section 2.1.2 on page 21) to which the WAP5605 is set - **Client 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.
DHCP	This shows the LAN port's DHCP role - **Client** or **None**.
WLAN Information	
WLAN OP Mode	This is the device operating mode (Section 2.1.2 on page 21) to which the WAP5605's wireless LAN is set - **Client Mode**.

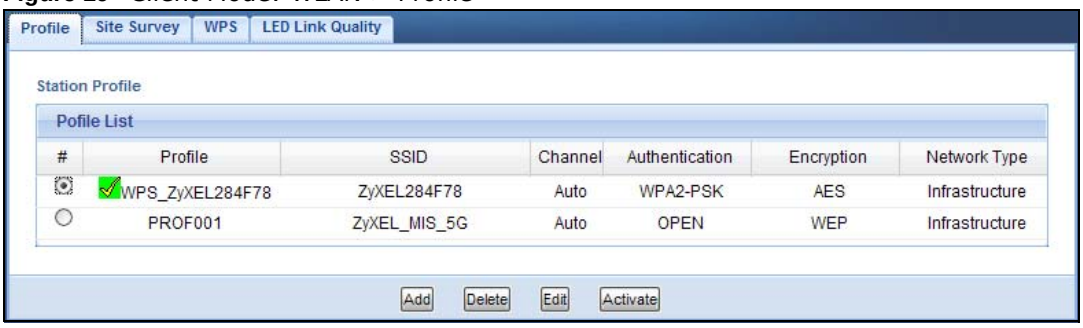
Table 10 Status Screen: Client Mode

LABEL	DESCRIPTION
MAC Address	This shows the wireless adapter MAC Address of your device.
Status	This shows the current status of the Wireless LAN - **ON**.
Connect Status	This shows whether or not the WAP5605 has successfully associated with an access point - **Associated** or **Disassociated**.
Name (SSID)	This shows a descriptive name used to identify the WAP5605 in the wireless LAN.
Rate	This shows the current transmission rate.
Channel	This shows the channel number used by the WAP5605 now.
802.11 Mode	This shows the wireless standard.
Interface Status	
Interface	This displays the WAP5605 port types. The port types are: **LAN** and **WLAN**.
Status	For the LAN and WAN ports, 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 or **N/A** when the line is disconnected. For the WLAN, it displays the maximum transmission rate when the WLAN is enabled and **N/A** when the WLAN is disabled.
System Status	
Item	This column shows the type of data the WAP5605 is recording.
Data	This column shows the actual data recorded by the WAP5605.
System Up Time	This is the total time the WAP5605 has been on.
Current Date/Time	This field displays your WAP5605's present date and time.
System Resource	
CPU Usage	This displays what percentage of the WAP5605's processing ability is currently used. When this percentage is close to 100%, the WAP5605 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 WAP5605 is using.
System Setting	
Configuration Mode	This shows the web configurator mode you are viewing - **Expert**.
Summary	
Packet Statistics	Click **Details...** to go to the **Monitor > Packet Statistics** screen (Section 8.5 on page 73). Use this screen to view port status and packet specific statistics.

5.6 Wireless LAN Profile Screen

Use this screen to view the wireless LAN profile settings of your WAP5605. Go to **Configuration > Network > Wireless LAN > Profile** to open the following screen.

Figure 19 Client Mode: WLAN > Profile



The following table describes the labels in this screen.

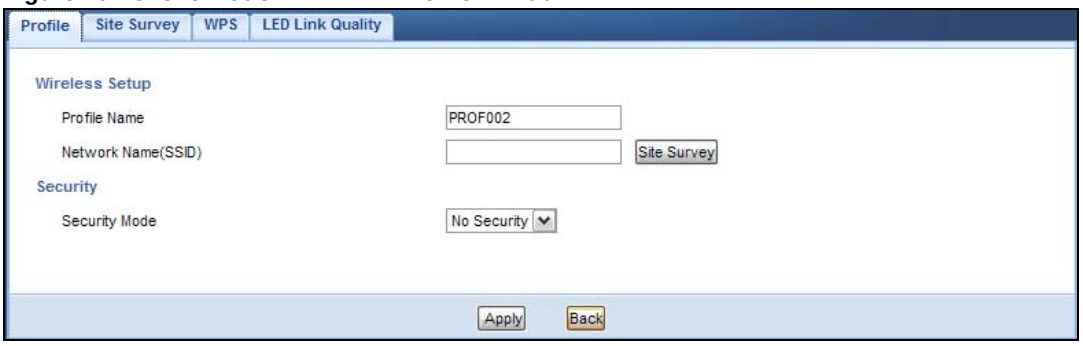
Table 11 Client Mode: WLAN > Profile

LABEL	DESCRIPTION
Profile List	
#	Select a profile to remove, modify or enable it.
Profile	This displays the name of the pre-configured profile. indicates the profile is activated and the WAP5605 connects to the specified wireless network. indicates the profile is activated but the specified wireless network is not available or the WAP5605 fails to associate with the wireless network.
SSID	This displays the SSID of the wireless network with which this profile associates.
Channel	This displays the channel number used by this profile. **Auto** means the WAP5605 automatically scans for and selects an available channel.
Authentication	This displays the authentication method used by this profile.
Encryption	This displays the data encryption method used by this profile.
Network Type	This displays the network type (**Infrastructure** or **Ad Hoc**) of this profile.
Add	Click this button to create a new profile.
Delete	Select a profile and click this button to remove it.
Edit	Select a profile and click this button to modify it.
Activate	Select a profile and click this button to enable it. Note: You can activate only one profile at a time.

5.6.1 Adding a New WLAN Profile

Use this screen to create a new wireless LAN profile for your WAP5605. Click the **Add** button in the **Configuration > Network > Wireless LAN > Profile** screen to open the following screen.

Figure 20 Client Mode: WLAN > Profile > Add



The following table describes the labels in this screen.

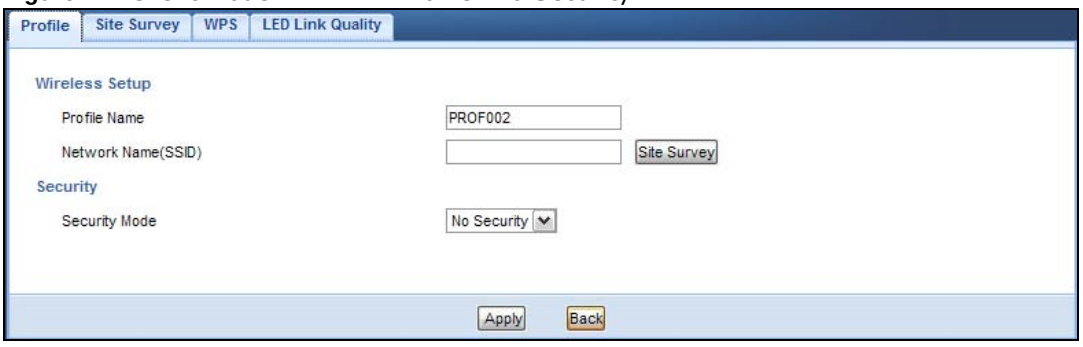
Table 12 Client Mode: WLAN > Profile > Add

LABEL	DESCRIPTION
Wireless Setup	
Profile Name	Enter a descriptive name for this profile.
Network Name (SSID)	Enter the name of the access point to which you are connecting.
Site Survey	Click this button to go to the **Site Survey** screen and see available wireless devices within range.
Security	
Security Mode	Select the security mode of the access point to which you want to connect.
Apply	Click **Apply** to save your changes back to the WAP5605.
Back	Click **Back** to go back to the previous screen.

5.6.1.1 No Security

Use this screen if the access point to which you want to connect does not use encryption.

Figure 21 Client Mode: WLAN > Profile: No Security



The following table describes the labels in this screen.

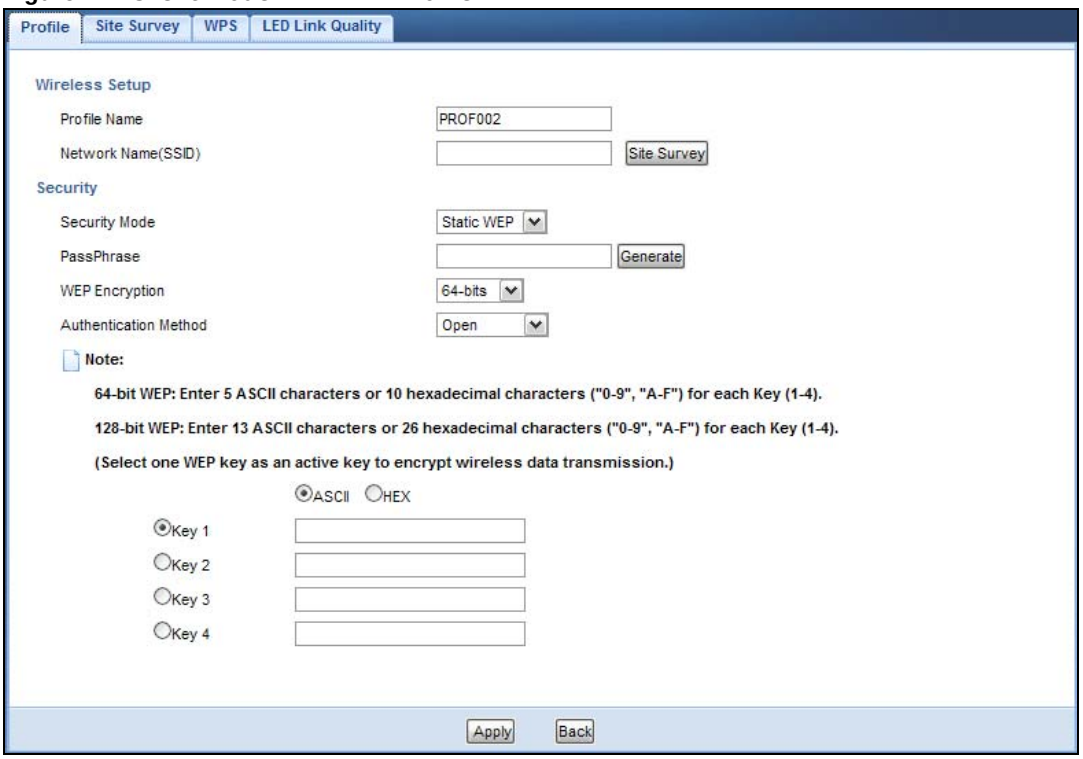
Table 13 Client Mode: WLAN > Profile: No Security

LABEL	DESCRIPTION
Wireless Setup	
Profile Name	Enter a descriptive name for this profile.
Network Name (SSID)	Enter the name of the access point to which you are connecting.
Site Survey	Click this button to go to the **Site Survey** screen and see available wireless devices within range.
Security	
Security Mode	Select **No Security** in this field.
Apply	Click **Apply** to save your changes back to the WAP5605.
Back	Click **Back** to go back to the previous screen.

5.6.1.2 Static WEP

Use this screen if the access point to which you want to connect to uses WEP security mode.

Figure 22 Client Mode: WLAN > Profile: WEP



The following table describes the labels in this screen..

Table 14 Client Mode: WLAN > Profile: WEP

LABEL	DESCRIPTION
Wireless Setup	
Profile Name	Enter a descriptive name for this profile.

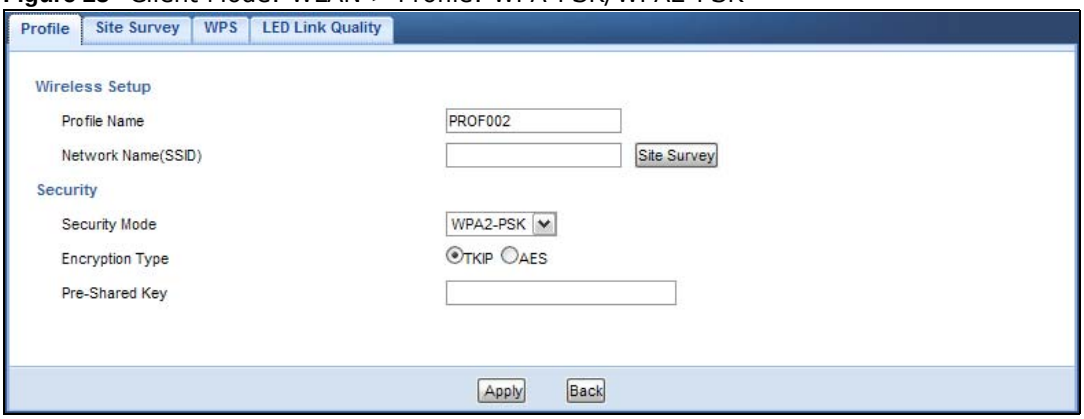
Table 14 Client Mode: WLAN > Profile: WEP

LABEL	DESCRIPTION
Network Name (SSID)	Enter the name of the access point to which you are connecting.
Site Survey	Click this button to go to the **Site Survey** screen and see available wireless devices within range.
Security	
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 WAP5605 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 **Open** or **Shared Key** from the drop-down list box. This field specifies whether the wireless clients have to provide the WEP key to log into the wireless network. Keep this setting at **Open** unless you want to force a key verification before communication between the wireless client and the ZyXEL Device 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.
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 WAP5605 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 WAP5605.
Back	Click **Back** to go back to the previous screen.

5.6.1.3 WPA(2)-PSK

Use this screen if the access point to which you want to connect uses WPA(2)-PSK security mode.

Figure 23 Client Mode: WLAN > Profile: WPA-PSK/WPA2-PSK



The following table describes the labels in this screen.

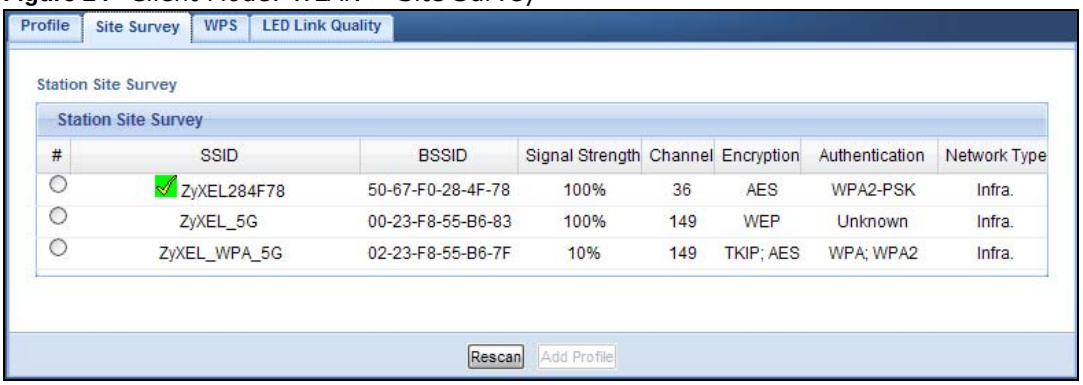
Table 15 Client Mode: WLAN > Profile: WPA-PSK/WPA2-PSK

LABEL	DESCRIPTION
Wireless Setup	
Profile Name	Enter a descriptive name for this profile.
Network Name (SSID)	Enter the name of the access point to which you are connecting.
Site Survey	Click this button to go to the **Site Survey** screen and see available wireless devices within range.
Security	
Security Mode	Select **WPA-PSK** or **WPA2-PSK** to add strong security on this wireless network.
Encryption Type	Select the type of wireless encryption employed by the access point to which you want to connect.
Pre-Shared Key	**WPA-PSK** or **WPA2-PSK** uses a simple common password for authentication. Type the pre-shared key employed by the access point to which you want to connect.
Apply	Click **Apply** to save your changes back to the WAP5605.
Back	Click **Back** to go back to the previous screen.

5.7 Site Survey Screen

Use this screen to scan for and connect to a wireless network automatically. Go to **Configuration > Wireless LAN > Site Survey** to open the following screen.

Figure 24 Client Mode: WLAN > Site Survey



The following table describes the labels in this screen.

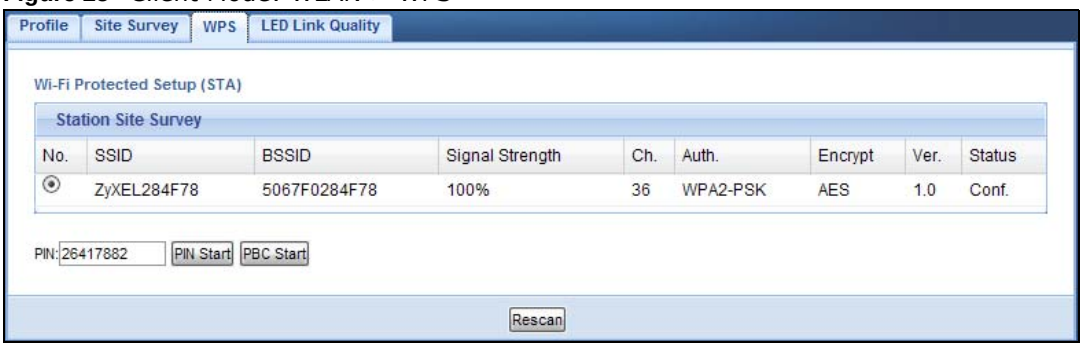
Table 16 Client Mode: WLAN > Site Survey

LABEL	DESCRIPTION
Station Site Survey	
#	Select a wireless device and click **Add Profile** to open a configuration screen where you can add the selected wireless device to a profile and then enable it.
SSID	This displays the SSID of the wireless device.  indicates the wireless device is added to an activated profile and the WAP5605 is connecting to it.
BSSID	This displays the MAC address of the wireless device.
Signal Strength	This displays the strength of the wireless signal. The signal strength mainly depends on the antenna output power and the distance between your WAP5605 and this device.
Channel	This displays the channel number used by this wireless device.
Encryption	This displays the data encryption method used by this wireless device.
Authentication	This displays the authentication method used by this wireless device.
Network Type	This displays the network type (**Infrastructure** or **Ad Hoc**) of this wireless device.
Rescan	Click this button to search for available wireless devices within transmission range and update this table.
Add Profile	Select a wireless device and click this button to add it to a profile.

5.8 WPS Screen

Use this screen to enable Wi-Fi Protected Setup (WPS) on the WAP5605. Go to **Configuration > Wireless LAN > WPS** to open the following screen.

Figure 25 Client Mode: WLAN > WPS



The following table describes the labels in this screen.

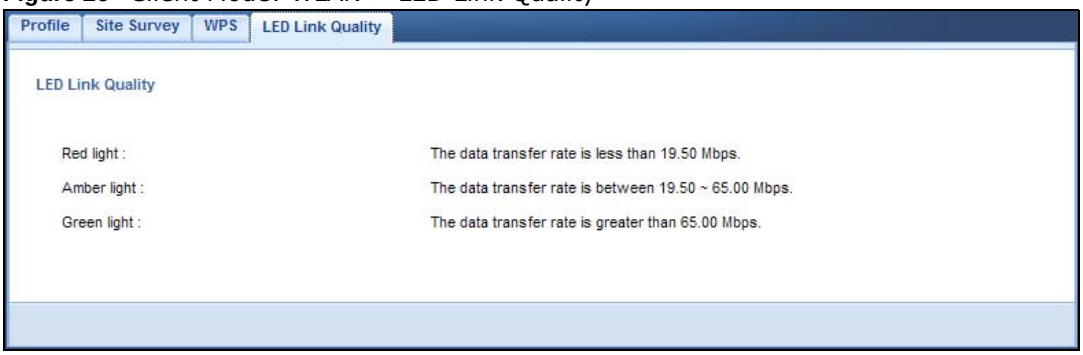
Table 17 Client Mode: WLAN > WPS

LABEL	DESCRIPTION
Station Site Survey	
No.	Use the radio button to select the wireless device to which you want to connect using WPS.
SSID	This displays the SSID of the wireless device.
BSSID	This displays the MAC address of the wireless device.
Signal Strength	This displays the strength of the wireless signal. The signal strength mainly depends on the antenna output power and the distance between your WAP5605 and this device.
Ch.	This displays the channel number used by this wireless device.
Auth.	This displays the authentication method used by this wireless device.
Encrypt	This displays the data encryption method used by this wireless device.
Ver.	This displays the firmware version running on the wireless device.
Status	This displays **Conf.** (configured) when WPS has been set up on the wireless device. This displays **Unconf.** (unconfigured) if WPS has not been set up on the wireless device.
PIN	This displays the PIN number of the WAP5605.
PIN Start	Click this button to perform wireless security information synchronization using the PIN configuration method.
PBC Start	Click this button to perform wireless security information synchronization using the Push Button Configuration (PBC) method.
Rescan	Click this button to search for available for WPS-enabled devices within transmission range and update this table.

5.9 LED Link Quality Screen

Use this screen to view the threshold for each color of the quality LED on the WAP5605. Go to **Configuration > Wireless LAN > LED Link Quality** to open the following screen.

Figure 26 Client Mode: WLAN > LED Link Quality



6

The Web Configurator

6.1 Overview

This chapter describes how to access the WAP5605 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 WAP5605 via Internet browser. Use Internet Explorer 6.0 and later or Firefox 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. Web pop-up blocking is enabled by default in Windows XP SP (Service Pack) 2.
- JavaScripts (enabled by default).
- Java permissions (enabled by default).

Refer to the Troubleshooting chapter (Chapter 12 on page 101) to see how to make sure these functions are allowed in Internet Explorer.

6.2 Accessing the Web Configurator

1. Connect your computer to the LAN port of the WAP5605.
2. The default IP address of the WAP5605 in access point mode is "192.168.1.2". In this case, your computer must have an IP address in the range between "192.168.1.3" and "192.168.1.254".
3. Click **Start > Run** on your computer in Windows. Type "cmd" in the dialog box. Enter "ipconfig" to show your computer's IP address. If your computer's IP address is not in the correct range then see Appendix C on page 135 for information on changing your computer's IP address.
4. After you've set your computer's IP address, open a web browser such as Internet Explorer and type "http://192.168.1.2" as the web address in your web browser.

6.2.1 Login Screen

The Web Configurator initially displays the following login screen.

Figure 27 Login screen

The following table describes the labels in this screen.

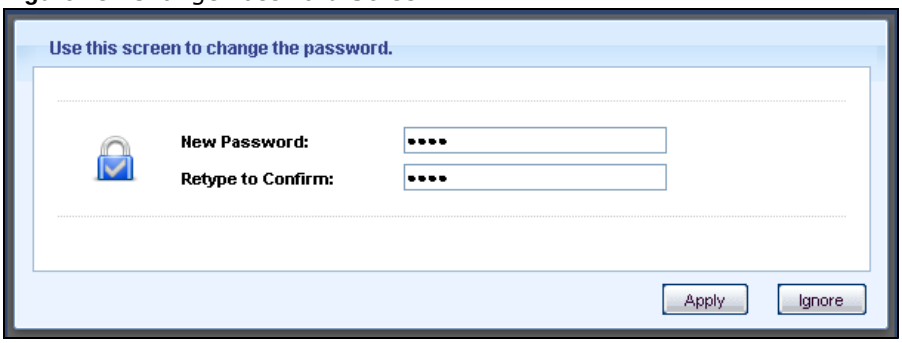
Table 18 Login screen

LABEL	DESCRIPTION
Password	Type "1234" (default) as the password.
Language	Select the language you want to use to configure the Web Configurator. Click **Login**.
	This shows the current weather, either in celsius or fahrenheit, of the city you specify in Section 6.2.3.1 on page 52.
	This shows the time (hh:mm:ss) and date (yyyy:mm:dd) of the timezone you select in Section 6.2.3.2 on page 53 or Section 11.5 on page 95. The time is in 24-hour format, for example 15:00 is 3:00 PM.

6.2.2 Password Screen

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

Figure 28 Change Password Screen



The following table describes the labels in this screen.

Table 19 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 WAP5605.
Ignore	Click **Ignore** if you do not want to change the password this time.

Note: The management session automatically times out when the time period set in the **Administrator Inactivity Timer** field expires (default five minutes; go to Chapter 11 on page 93 to change this). Simply log back into the WAP5605 if this happens.

6.2.3 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** ( or ) in the **Easy Mode** or **Expert Mode** screens.

The Home screen displays as follows.

Figure 29 Home Screen

The following table describes the labels in this screen.

Table 20 Home Screen

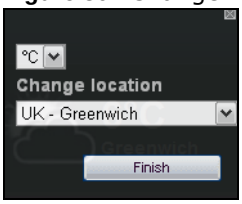
LABEL	DESCRIPTION
Go	Click this to open the Easy mode Web Configurator.
Language	Select a language to go to the Easy mode Web Configurator in that language and click **Go**.
	(This is just an example). This shows the current weather, either in celsius or fahrenheit, of the city you specify in Section 6.2.3.1 on page 52.
	(This is just an example). This shows the time (hh:mm:ss) and date (yyyy:mm:dd) of the timezone you select in Section 6.2.3.2 on page 53 or Section 11.5 on page 95.

6.2.3.1 Weather Edit

You can change the temperature unit and select the location for which you want to know the weather.

Click the  icon to change the weather display.

Figure 30 Change Weather



The following table describes the labels in this screen.

Table 21 Change Weather

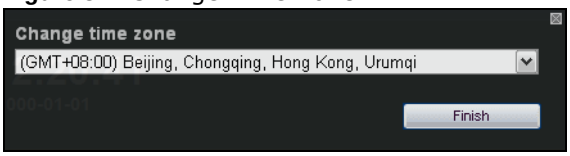
LABEL	DESCRIPTION
°C or °F	Choose which temperature unit you want the WAP5605 to display.
Change Location	Select the location for which you want to know the weather. If the city you want is not listed, choose one that is closest to it.
Finish	Click this to apply the settings and refresh the date and time display.

6.2.3.2 Time/Date Edit

One timezone can cover more than one country. You can choose a particular country in which the WAP5605 is located and have the WAP5605 display and use the current time and date for its logs.

Click the  icon to change the time and date display.

Figure 31 Change Time Zone



The following table describes the labels in this screen.

Table 22 Change Time Zone

LABEL	DESCRIPTION
Change time zone	Select the specific country whose current time and date you want the WAP5605 to display.
Finish	Click this to apply the settings and refresh the weather display.

Note: You can also edit the timezone in Section 11.5 on page 95.

7

Tutorials

7.1 Overview

This chapter provides tutorials for your WAP5605 (in access point mode) as follows:

- Connecting to the Internet from an Access Point
- Configuring Wireless Security Using WPS
- Enabling and Configuring Wireless Security (No WPS)
- Using Multiple SSIDs on the WAP5605

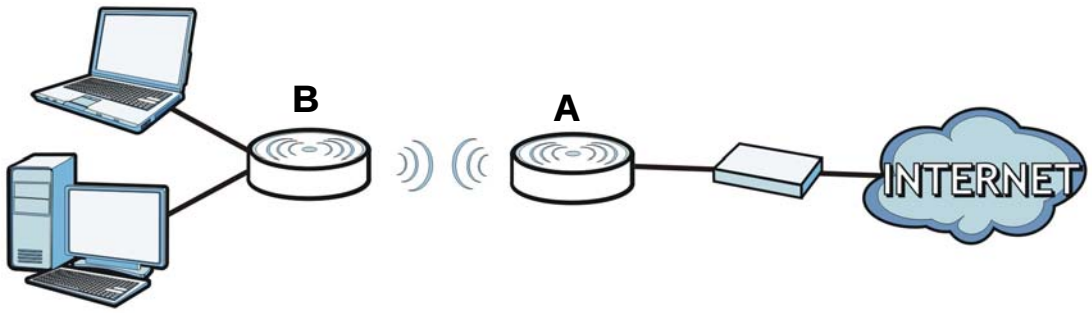
This chapter provides tutorials for your WAP5605 (in client mode) as follows:

- Connecting the WAP5605 (in Client 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 (**A**) and wireless client (**B** in this example) for wireless communication. Computers that connect to **B** can access the Internet through the access point wirelessly.

Figure 32 Wireless Access Point Connection to the Internet



7.3 Configuring Wireless Security Using WPS

This section gives you an example of how to set up wireless network using WPS. This example uses the WAP5605 in AP mode as the AP and WAP5605 in client mode as the wireless client which connects to a notebook.

There are two WPS methods for creating a secure connection. This tutorial shows you how to do both.

- **Push Button Configuration (PBC)** - create a secure wireless network simply by pressing a button. See Section 7.3.1 on page 56.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 WAP5605's interface. See Section 7.3.2 on page 57. This is the more secure method, since one device can authenticate the other.

7.3.1 Push Button Configuration (PBC)

1. Make sure that your WAP5605s are turned on and that they are within range of each other.
2. Make sure the WPS () buttons of both WAP5605s are on.
3. Press the WPS buttons for more than three seconds. The WPS LEDs blink.

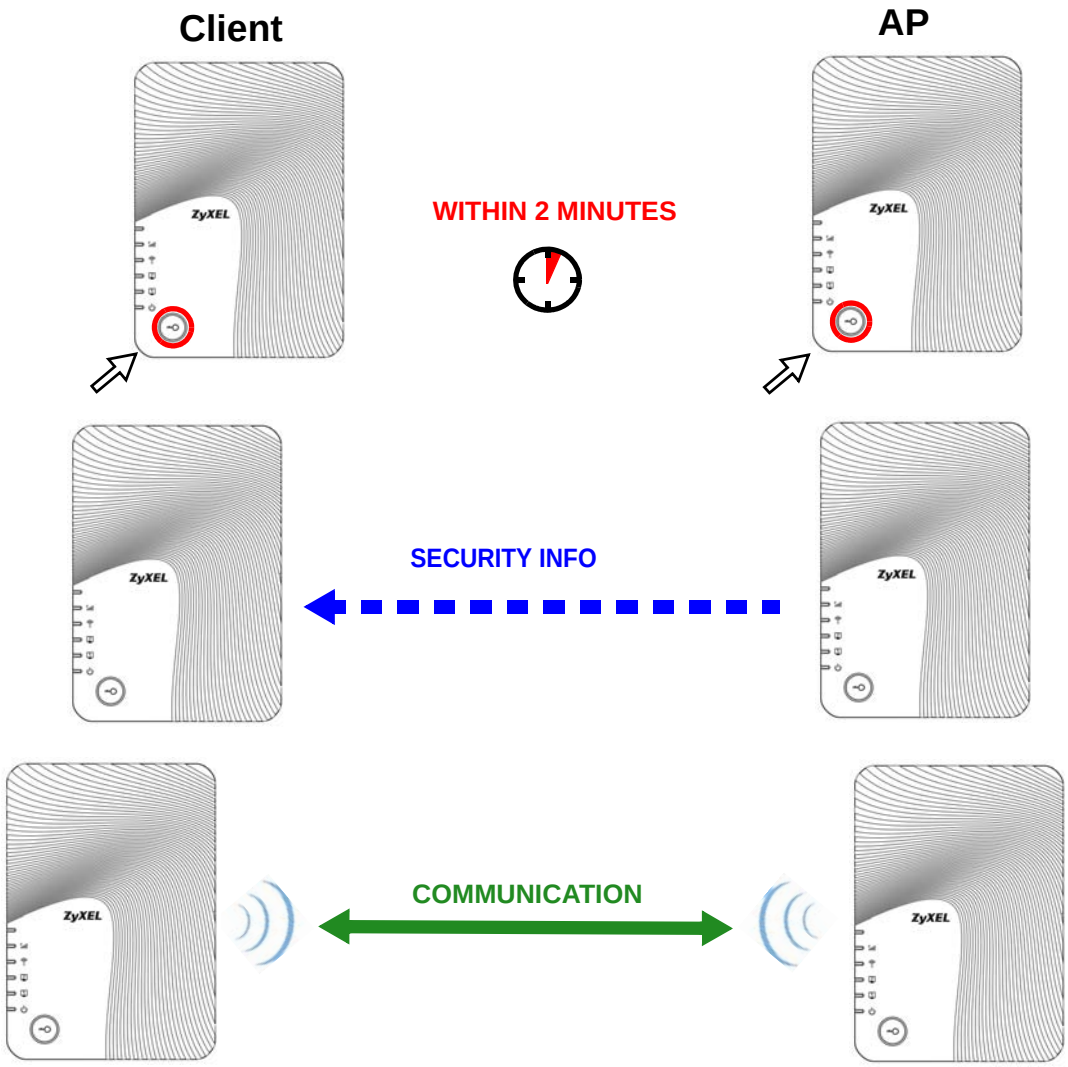
Note: It doesn't matter which button is pressed first. You must press the second button within two minutes of pressing the first one.

Note: Your WAP5605 has a WPS button located on its panel, as well as a WPS button in its Web Configurator. Both buttons have exactly the same function; you can also log into the Web Configurator and press the **Push Button** in the AP's **Configuration > Network > Wireless LAN > WPS Station** screen and the **PBC Start** button in the client's **Configuration > Network > Wireless LAN > WPS** screen.

The AP 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 AP securely.

The following figure shows you how to set up wireless network and security by pressing a button on both AP and wireless client.

Figure 33 Example WPS Process: PBC Method



7.3.2 PIN Configuration

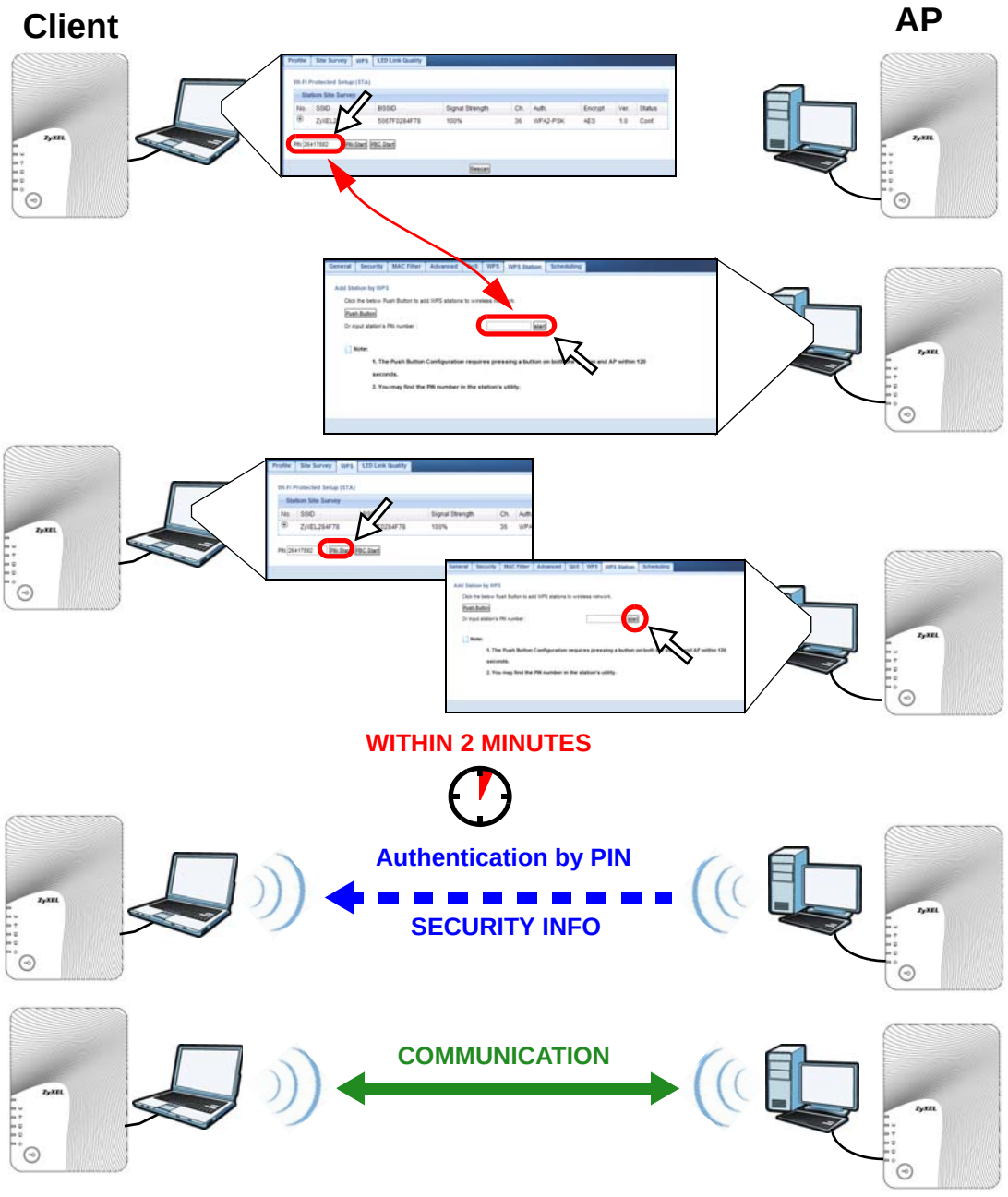
When you use the PIN configuration method, you need to use configuration interfaces of both AP and client.

1. Log into the client's Web Configurator. Go to the **Configuration > Network > Wireless LAN > WPS** screen to get a PIN number.
2. Log into the AP's Web Configurator. Enter the client's PIN number to the **PIN** field in the **Configuration > Network** > **Wireless LAN** > **WPS Station** screen.
3. Click the **PIN Start** button in the client's **WPS** screen and the **start** button in the AP's **WPS Station** screen within two minutes.

The AP 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 AP securely.

The following figure shows you how to set up wireless network and security on AP and wireless client by using PIN method.

Figure 34 Example WPS Process: PIN Method



7.4 Enabling and Configuring Wireless Security (No WPS)

This example shows you how to configure wireless security settings with the following parameters on your WAP5605.

SSID	SSID_Example3
Channel	Auto
Security	WPA-PSK (Pre-Shared Key: ThisismyWPA-PSKpre-sharedkey)

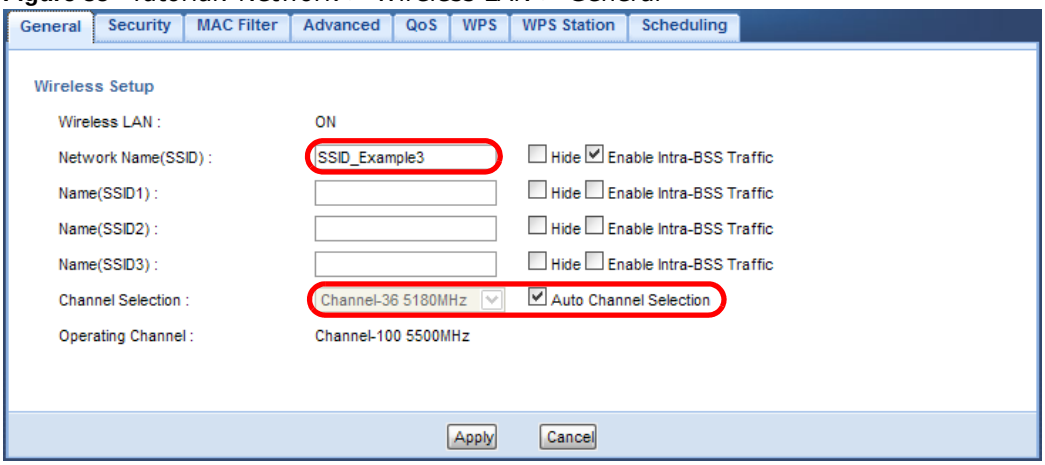
Follow the steps below to configure the wireless settings on your WAP5605.

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 6.2 on page 49).

1 Open the **Wireless LAN > General** screen in the AP's Web Configurator.

2 Enter **SSID_Example3** as the SSID and select a channel or select **Auto Channel Selection** to have the WAP5605 scans for and select an available channel automatically. Click **Apply**.

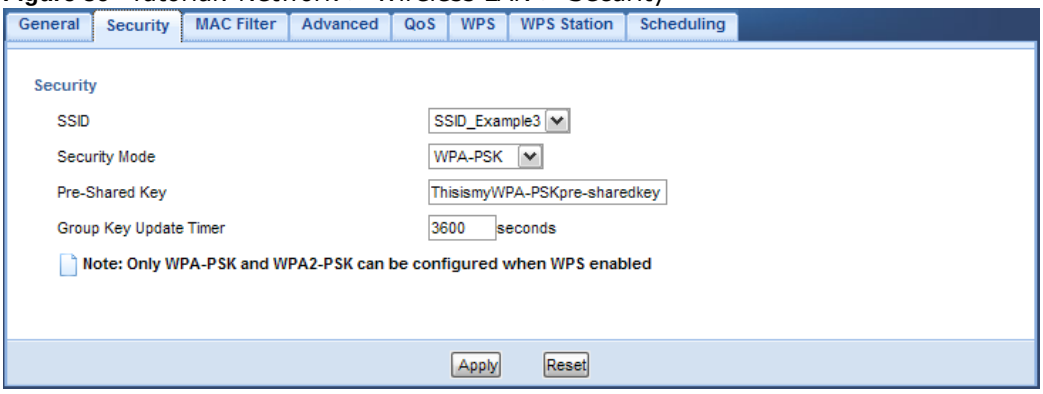
Figure 35 Tutorial: Network > Wireless LAN > General



3 Click the **Security** tab.

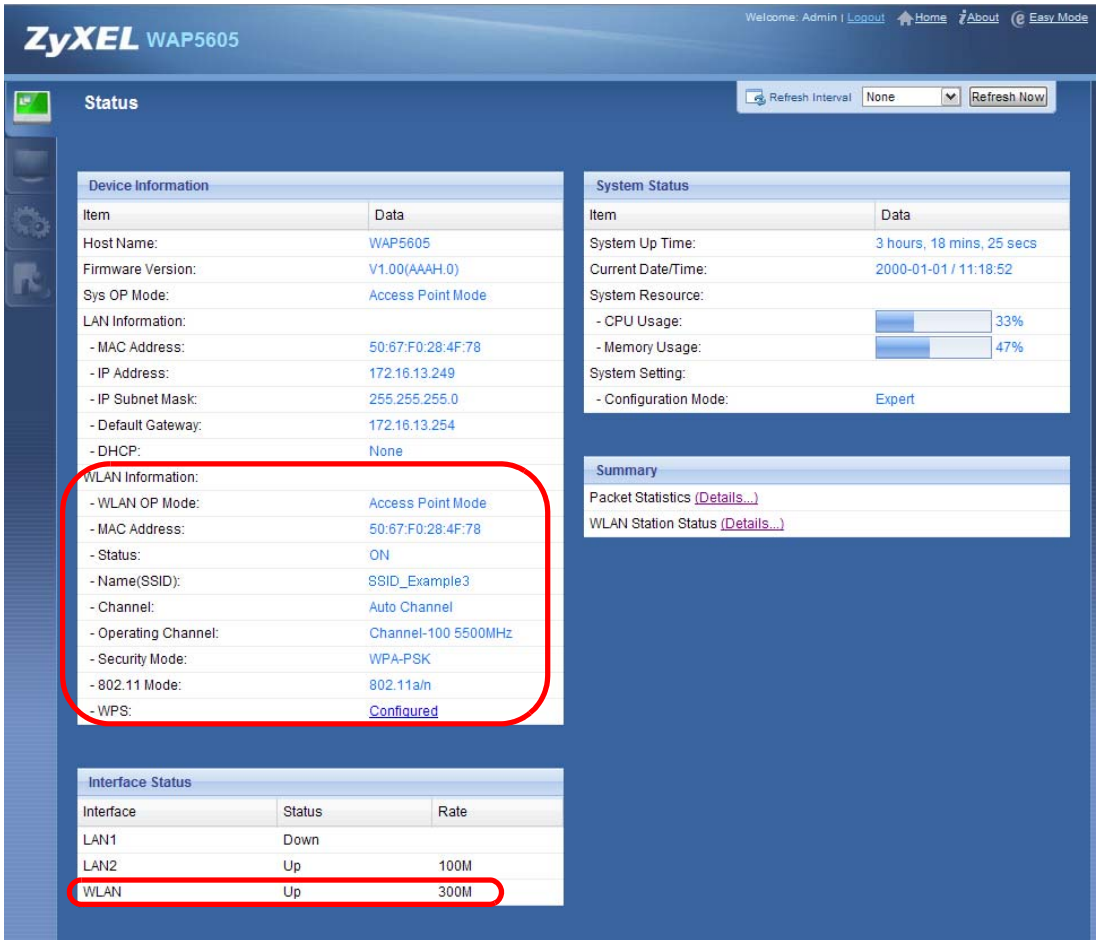
4 Select the SSID (**SSID_Example3**) for which you want to configure the security. Set security mode to **WPA-PSK** and enter **ThisismyWPA-PSKpre-sharedkey** in the **Pre-Shared Key** field. Click **Apply**.

Figure 36 Tutorial: Network > Wireless LAN > Security



5 Open the **Status** screen. Verify your wireless and wireless security settings under **Device Information** and check if the WLAN connection is up under **Interface Status**.

Figure 37 Tutorial: Checking Wireless Settings



7.4.1 Configuring Your Wireless Client

Note: At the time of writing, you can only use the WAP5605 in client mode as a wireless client to wirelessly connect to a WAP5605 in AP mode.

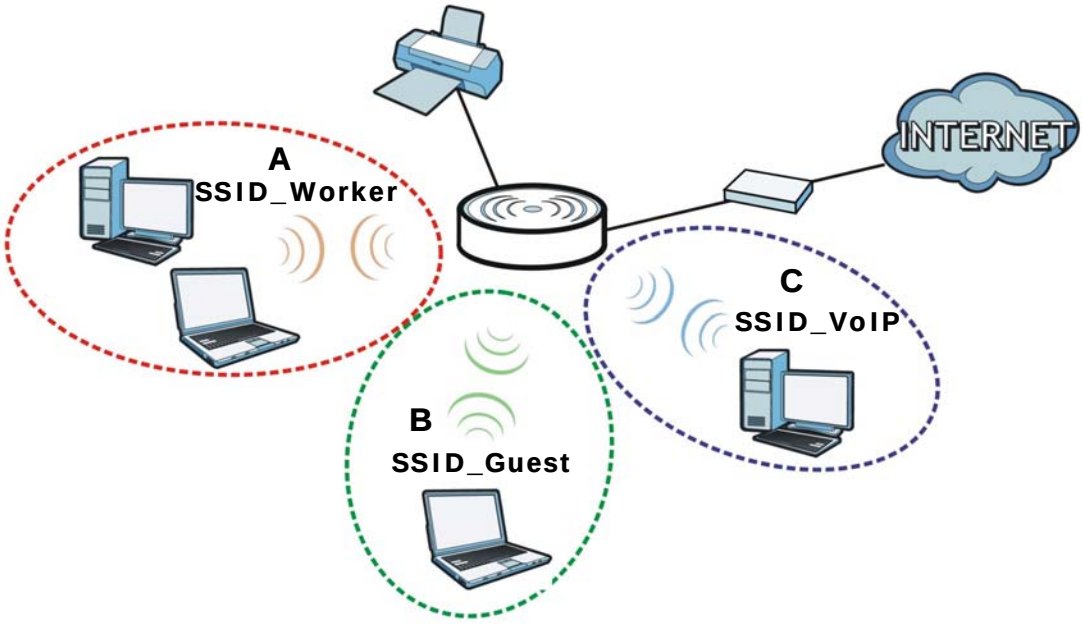
See Section 7.6 on page 64 for how to connect the client to your AP. If your connection is successful, open your Internet browser and enter http://www.zyxel.com or the URL of any other web site in the address bar. If you are able to access the web site, your wireless connection is successfully configured.

7.5 Using Multiple SSIDs on the WAP5605

You can configure more than one SSID on a WAP5605 when it is operating in access point mode. This allows you to configure multiple independent wireless networks on the WAP5605 as if there were multiple APs (virtual APs). Each virtual AP has its own SSID, wireless security type and MAC filtering settings. That is, each SSID on the WAP5605 represents a different access point/wireless network to wireless clients in the network.

Clients can associate only with the SSIDs for which they have the correct security settings. Clients using different SSIDs can access the Internet and the wired network behind the WAP5605 (such as a printer), but they cannot listen to each other's traffic.

For example, you may set up three wireless networks (**A**, **B** and **C**) in your office. **A** is for workers, **B** is for guests and **C** is specific to a VoIP device in the meeting room.



7.5.1 Configuring Security Settings of Multiple SSIDs

This example shows you how to configure the SSIDs with the following parameters on your WAP5605 (in access point mode).

SSID	SECURITY TYPE	KEY	MAC FILTERING
SSID_Worker	WPA2-PSK WPA Compatible	DoNotStealMyWirelessNetwork	Disable
SSID_Guest	Static WEP 128bit	keyexample123	Disable
SSID_VoIP	WPA-PSK	VoIPOnly12345678	Allow 00:A0:C5:01:23:45

1 Connect your computer to the LAN port of the WAP5605 using an Ethernet cable.

2 The default IP address of the WAP5605 is "192.168.1.2". In this case, your computer must have an IP address in the range between "192.168.1.3" and "192.168.1.254".

3 Click **Start > Run** on your computer in Windows. Type "cmd" in the dialog box. Enter "ipconfig" to show your computer's IP address. If your computer's IP address is not in the correct range then see Appendix C on page 135 for information on changing your computer's IP address.

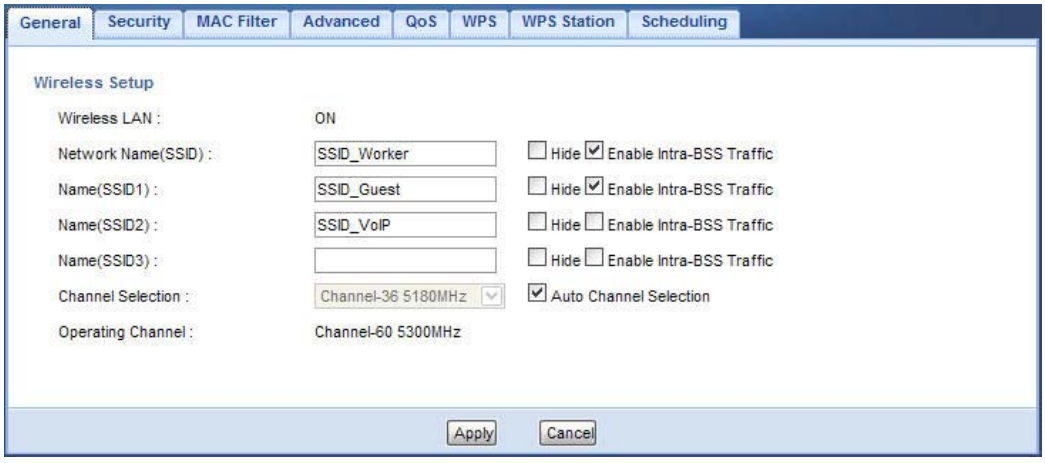
4 After you've set your computer's IP address, open a web browser such as Internet Explorer and type "http://192.168.1.2" as the web address in your web browser.

5 Enter "1234" (default) as the password and click **Login**.

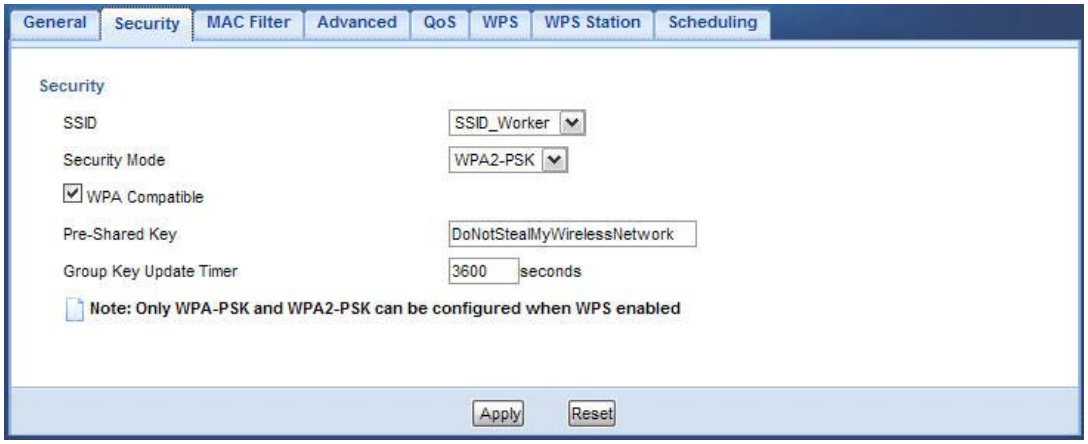
6 Type a new password and retype it to confirm, then click **Apply**. Otherwise, click **Ignore**.

7 The Easy mode appears. Click **Expert Mode** in the navigation panel.

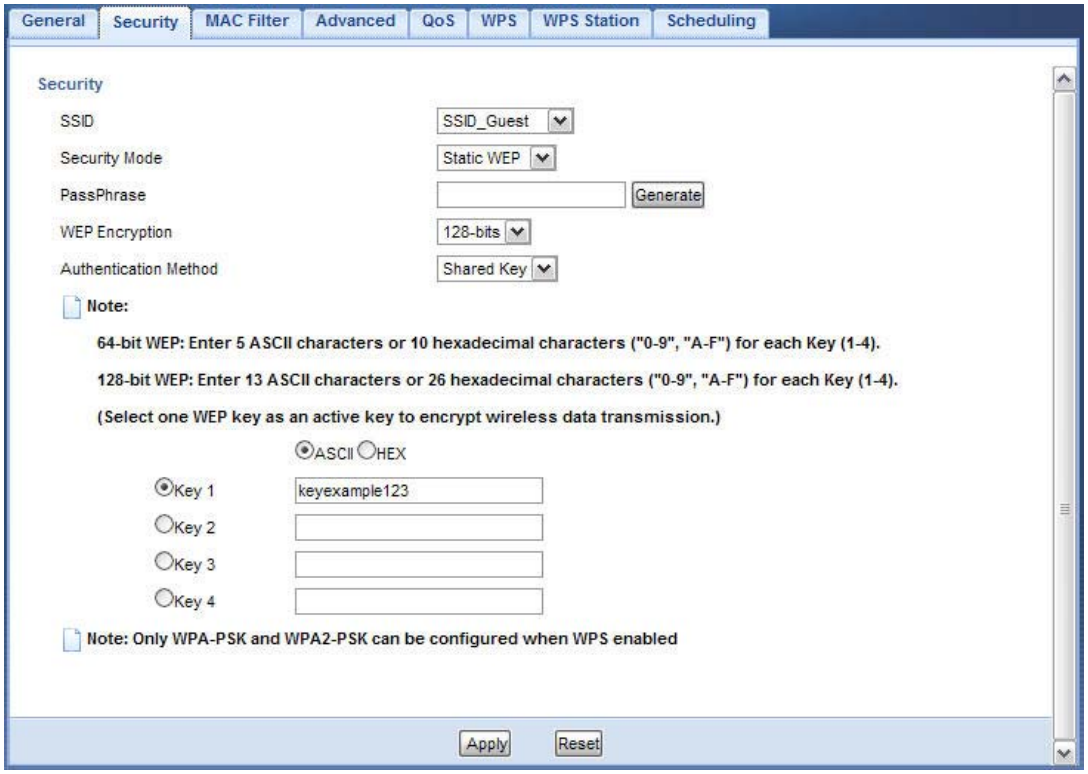
8 Go to **Configuration > Network > Wireless LAN > General**. Configure the screen as follows. In this example, you select **Enable Intra-BSS Traffic** for SSID_Worker and SSID_Guest to allow wireless clients in the same wireless network to communicate with each other. Click **Apply**.



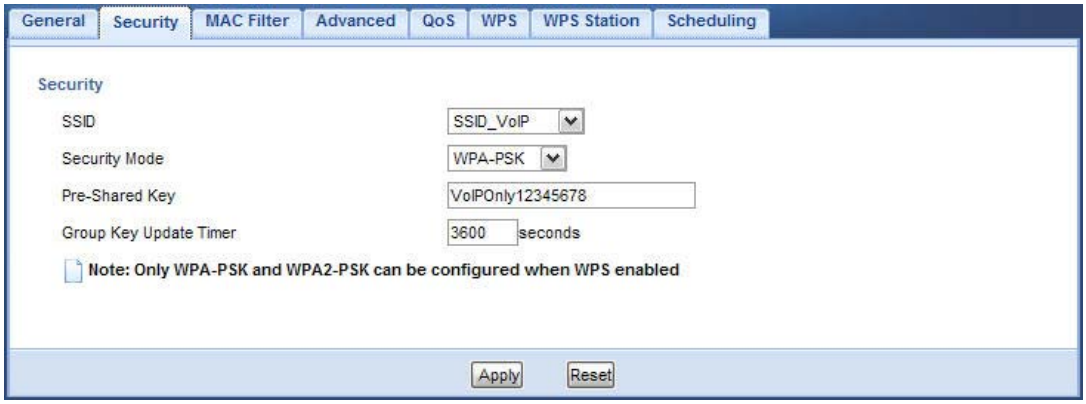
9 Click the **Security** tab to configure security settings for each SSID. Select **SSID_Worker** from the **SSID** drop-down list. Configure the screen as follows. Click **Apply**.



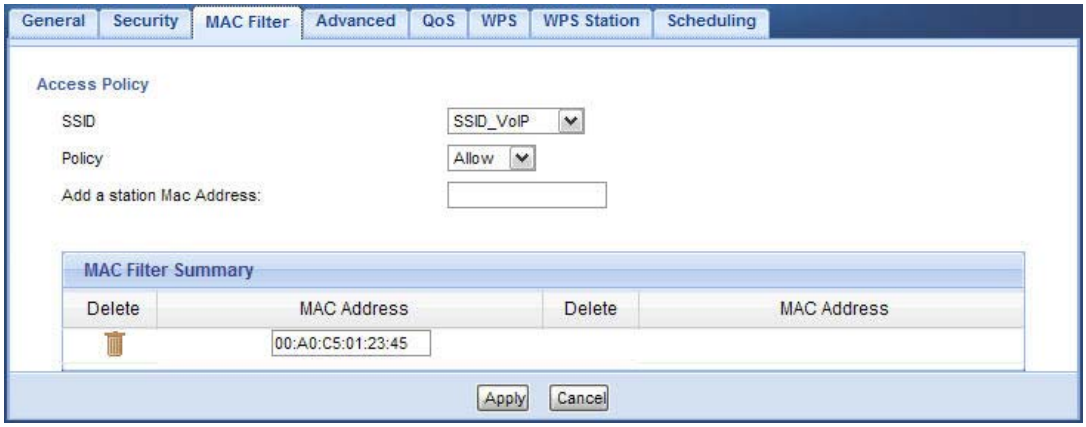
10 Select **SSID_Guest** from the **SSID** drop-down list. Configure the screen as follows. Click **Apply**.



11 Select **SSID_VoIP** from the **SSID** drop-down list. Configure the screen as follows. Click **Apply**.



12 Click the **MAC Filter** tab to configure MAC filtering for the **SSID_VoIP** wireless network. Select **SSID_VoIP** from the **SSID** drop-down list and select **Allow** in the **Policy** field. Enter the VoIP device's MAC address in the **Add a station Mac Address** field and click **Apply** to allow only the VoIP device to associate with the WAP5605 using this SSID.



7.6 Connecting the WAP5605 (in Client Mode) to an AP

If you have an access point with Internet access deployed in your network already, and you want to use the WAP5605 as a wireless client to connect to the existing AP, set the WAP5605 to client mode. The WAP5605 then acts as a wireless client. Your device, such as a computer, can connect to the WAP5605 through a wired connection to access the Internet.

1 Connect your computer to the LAN port of the WAP5605 using an Ethernet cable.

2 The default IP address of the WAP5605 in client mode is "192.168.1.10". In this case, your computer must have an IP address in the range between "192.168.1.11" and "192.168.1.254".

3 Click **Start > Run** on your computer in Windows. Type "cmd" in the dialog box. Enter "ipconfig" to show your computer's IP address. If your computer's IP address is not in the correct range then see Appendix C on page 135 for information on changing your computer's IP address.

4 After you've set your computer's IP address, open a web browser such as Internet Explorer and type "http://192.168.1.10" as the web address in your web browser.

5 Enter "1234" (default) as the password and click **Login**.

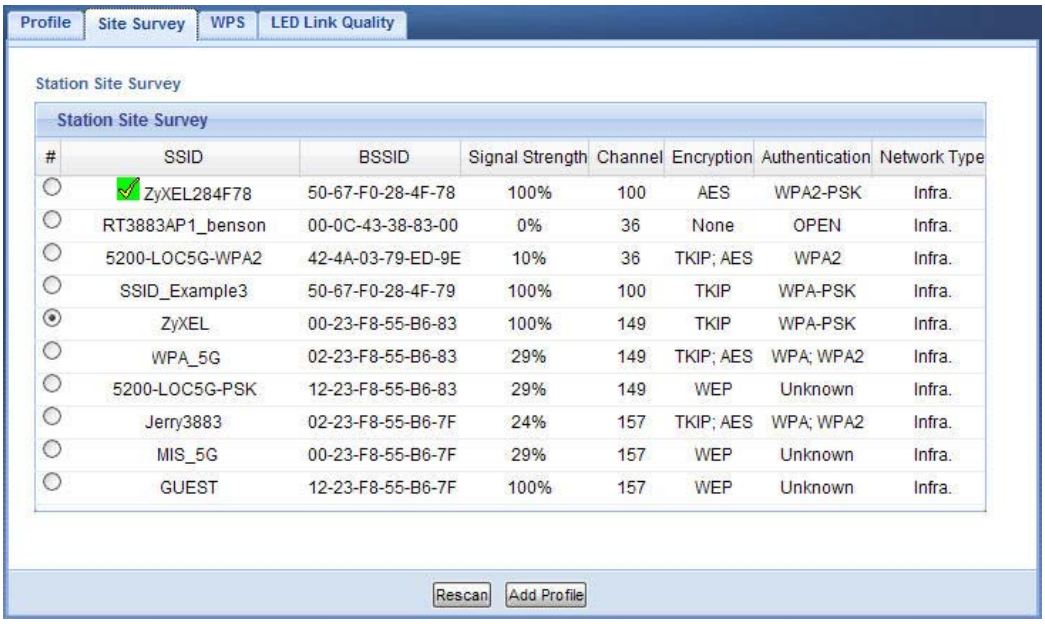
6 Type a new password and retype it to confirm, then click **Apply**. Otherwise, click **Ignore**.

7 The Easy mode appears. Click **Expert Mode** in the navigation panel.

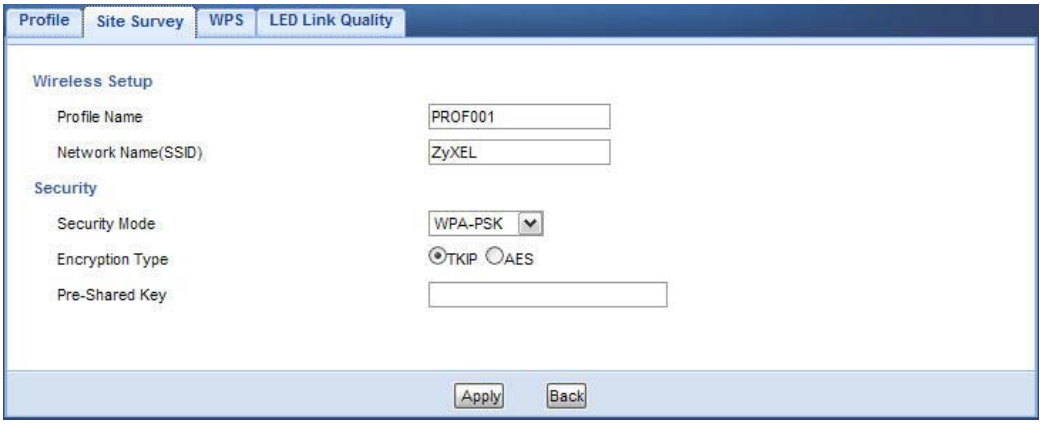
8 To connect to a specific wireless network, you can manually create a wireless profile or use the site survey tool to associate with it.

7.6.1 Connecting to a Wireless Network Using Site Survey

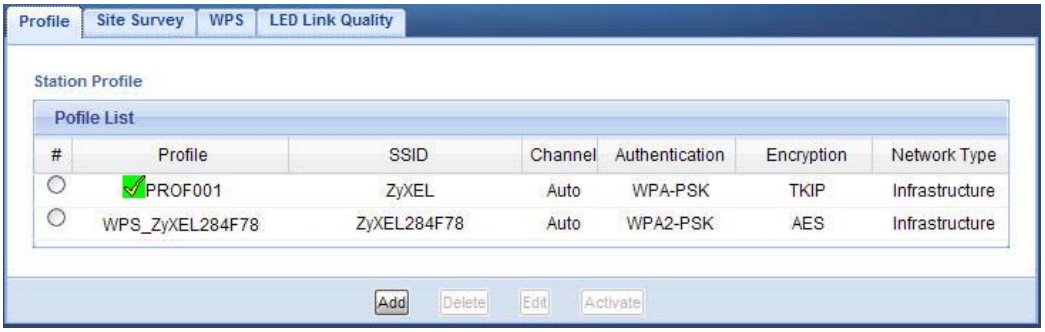
1 Go to **Configuration > Network > Wireless LAN > Site Survey**. The WAP5605 automatically scans for and connects to an available wireless network. The green check icon indicates the wireless device to which the WAP5605 is connecting. Select an SSID's radio button and click **Add Profile** to add this wireless device to a profile.



2 Enter a new profile name or use the name generated automatically by the system. Enter the security settings if requested and click **Apply**. The security settings must be the same as those on the AP to which you are connecting.

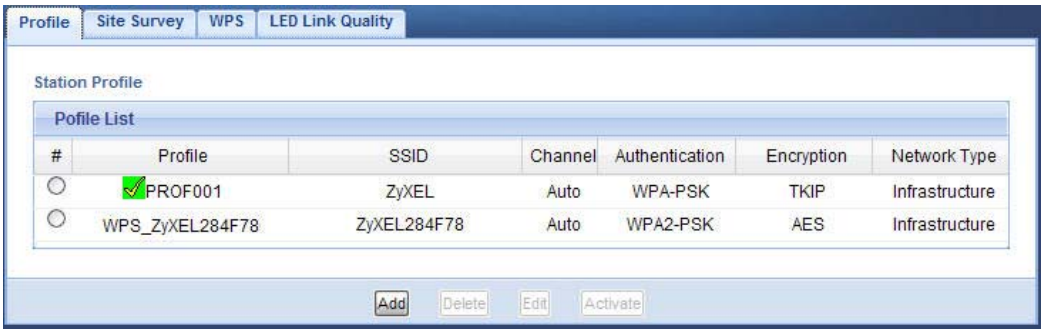


3 The new profile entry displays in the Profile screen. The green check icon means this profile is active and the WAP5605 is associating with the specified wireless network.

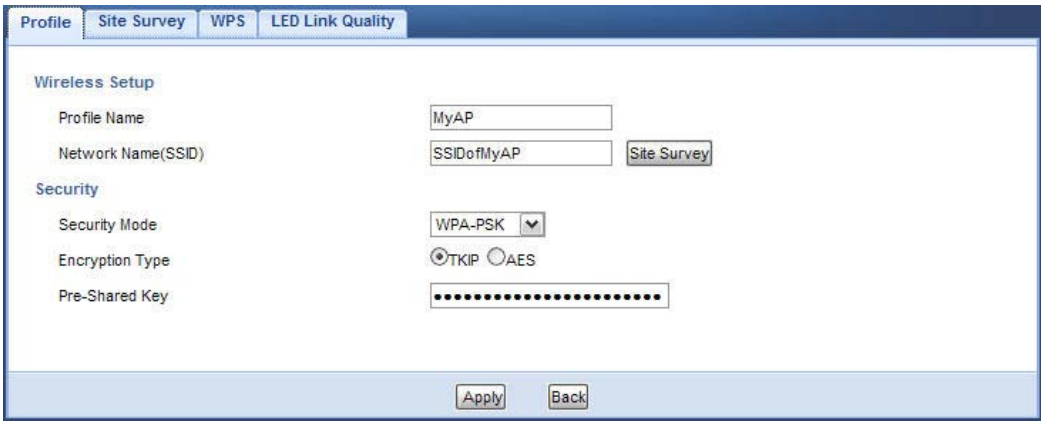


7.6.2 Connecting to a Wireless Network Using a Profile

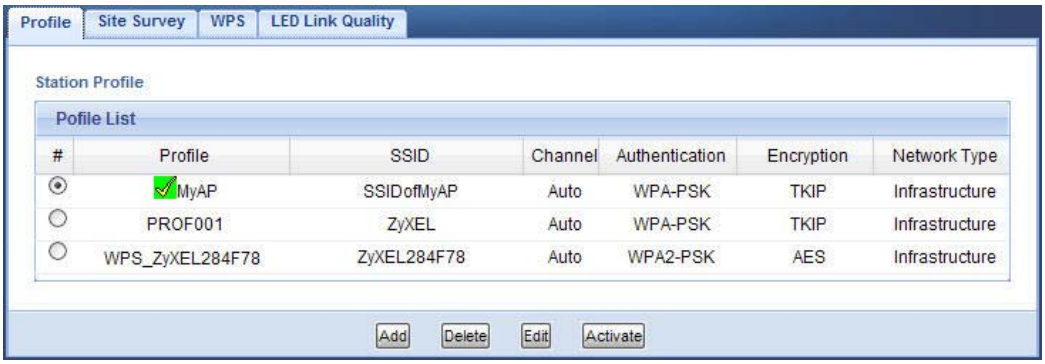
1 Go to **Configuration > Network > Wireless LAN > Profile**. Click **Add** to manually create a wireless LAN profile.



2 Enter a descriptive profile name and the SSID and security settings of the wireless device to which you want to connect. Click **Apply**.



3 The new profile entry displays in the **Profile** screen. To enable a profile, select the corresponding radio button and click **Activate**. The green check icon means this profile is active and the WAP5605 is associating with the specified wireless network.



7.6.3 Deploying the WAP5605 in your Network

1 After you finish configuring the operating mode and wireless settings on the WAP5605, disconnect the computer from the WAP5605 and change its TCP/IP settings back to the previous ones.

2 Connect a device to the WAP5605, which you want to use to access the AP or wireless router through the WAP5605. Make sure the device is set to obtain an IP address automatically.

PART II
Technical Reference

8 Monitor

8.1 Overview

This chapter discusses read-only information related to the device state of the WAP5605.

Note: To access the Monitor screens, you can also click the links in the Summary table of the Status screen to view the packets sent/received as well as the status of clients connected to the WAP5605.

8.2 What You Can Do

- Use the **View Log** screen (Section 8.3 on page 71) to see the logs for the categories that you selected in the **Log Settings** screen.
- Use the **Log Settings** screen (Section 8.4 on page 72) to configure which logs and/or immediate alerts the WAP5605 is to record.
- use the **Packet Statistics** screen (Section 8.5 on page 73) to view port status, packet specific statistics, the "system up time" and so on.
- Use the **WLAN Station Status** screen (Section 8.6 on page 74) to view the wireless stations that are currently associated to the WAP5605.

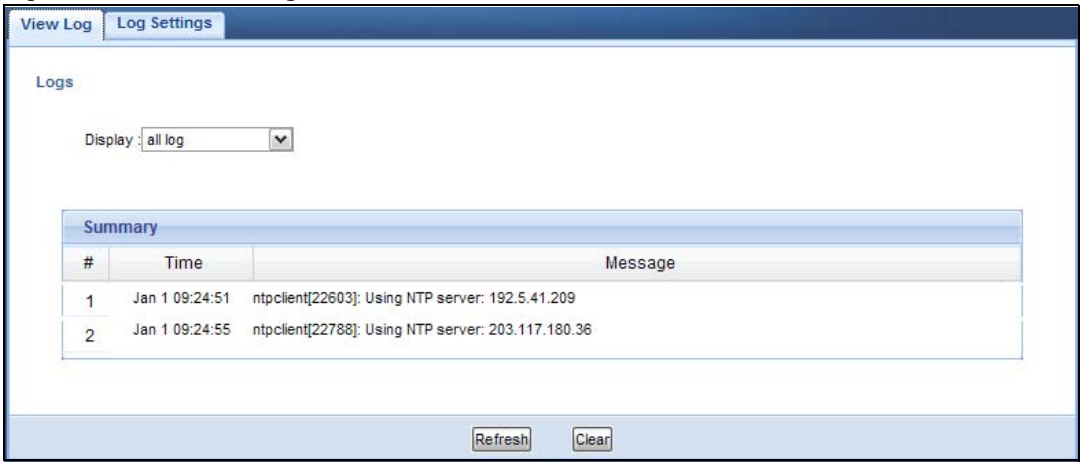
8.3 View Log

Use the **View Log** screen to see the logged messages for the WAP5605.

Log entries in red indicate system error logs. The log wraps around and deletes the old entries after it fills.

Click **Monitor** > **Log**.

Figure 38 Monitor > Log



The following table describes the labels in this screen.

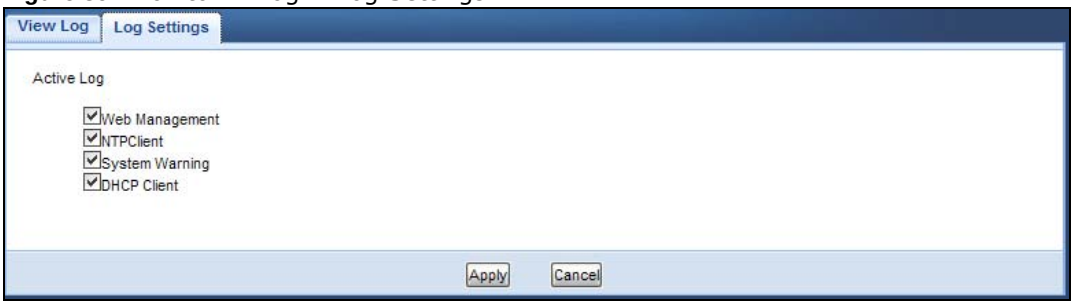
Table 23 Monitor > Log

LABEL	DESCRIPTION
Display	Select a category of logs to view. Select **all log** to view logs from all of the log categories that you selected in the **Log Settings** screen.
#	This field is a sequential value and is not associated with a specific entry.
Time	This field displays the time the log was recorded.
Message	This field states the reason for the log.
Refresh	Click **Refresh** to renew the log screen.
Clear	Click **Clear** to delete all the logs.

8.4 Log Settings

Use the **Log Settings** screen to choose which categories of events and/or alerts the WAP5605 is to log and then display the logs. To change your WAP5605's log settings, click **Monitor > Log** > **Log Settings**. The screen appears as shown.

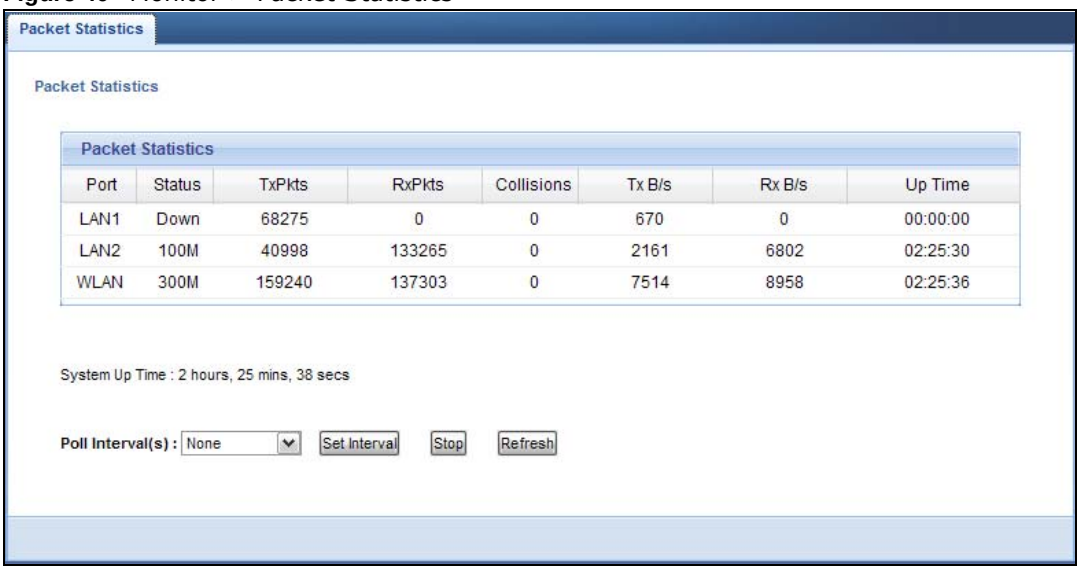
Figure 39 Monitor > Log > Log Settings



8.5 Packet Statistics

Click the **Packet Statistics (Details...)** hyperlink in the **Status** screen or **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 40 Monitor > Packet Statistics



The following table describes the labels in this screen.

Table 24 Monitor > Packet Statistics

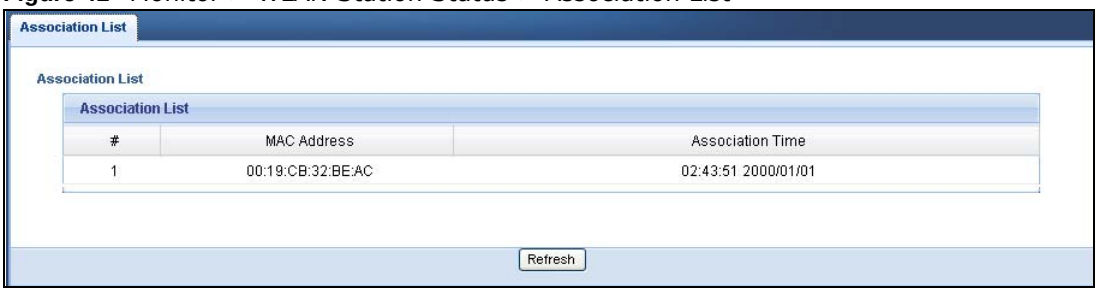
LABEL	DESCRIPTION
Port	This is the WAP5605's port type.
Status	For the LAN ports, this displays the port speed or **Down** when the line is disconnected. For the WLAN, it displays the maximum transmission rate when the WLAN is enabled and **Down** when the WLAN is disabled.
TxPkts	This is the number 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 B/s	This displays the transmission speed in bytes per second on this port.
Rx B/s	This displays the reception speed in bytes per second on this port.
Up Time	This is the total time the WAP5605 has been for each session.
System Up Time	This is the total time the WAP5605 has been on.
Poll Interval(s)	Enter the time interval in seconds for refreshing statistics in this field.
Set Interval	Click this button to apply the new poll interval you entered in the **Poll Interval(s)** field.
Stop	Click **Stop** to stop refreshing statistics.
Refresh	Click **Refresh** to update this screen.

8.6 WLAN Station Status

Click the **WLAN Station Status (Details...)** hyperlink in the **Status** screen or **Monitor** > **WLAN Station Status**. View the wireless stations that are currently associated to the WAP5605 in the **Association List**. Association means that a wireless client (for example, your network or computer with a wireless network card) has connected successfully to the AP (or wireless router) using the same SSID, channel and security settings.

Note: This screen is not available when the WAP5605 is in Client mode.

Figure 41 Monitor > WLAN Station Status > Association List



The following table describes the labels in this screen.

Table 25 Monitor > WLAN Station Status > Association List

LABEL	DESCRIPTION
#	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 WAP5605's WLAN network.
Refresh	Click **Refresh** to reload the list.

9

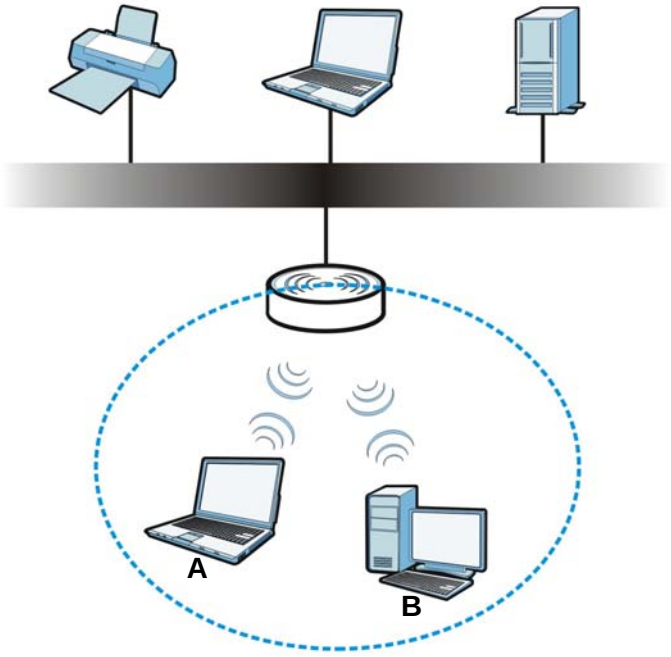
Wireless LAN

9.1 Overview

This chapter discusses how to configure the wireless network settings in your WAP5605. See the appendices for more detailed information about wireless networks.

The following figure provides an example of a wireless network.

Figure 42 Example of a Wireless Network



The wireless network is the part in the blue circle. In this wireless network, devices **A** and **B** are called wireless clients. The wireless clients use the access point (AP) to interact with other devices (such as the printer) or with the Internet. Your WAP5605 is the AP.

9.2 What You Can Do

- Use the **General** screen (Section 9.4 on page 78) to enter the SSID, enable intra-BSS traffic and select the channel.
- Use the **Security** screen (Section 9.5 on page 79) to configure wireless security between the WAP5605 and the wireless clients.
- Use the **MAC Filter** screen (Section 9.6 on page 82) to allow or deny wireless stations based on their MAC addresses from connecting to the WAP5605.

- Use the **Advanced** screen (Section 9.7 on page 83) to configure wireless advanced features, such as set the RTS/CTS Threshold and HT physical mode.
- Use the **QoS** screen (Section 9.8 on page 84) to enable Wifi MultiMedia Quality of Service (WMMQoS). This allows the WAP5605 to automatically set priority levels to services, such as e-mail, VoIP, chat, and so on.
- Use the **WPS** screen (Section 9.9 on page 85) to quickly set up a wireless network with strong security, without having to configure security settings manually.
- Use the **WPS Station** screen (Section 9.10 on page 86) to add a wireless station using WPS.
- Use the **Scheduling** screen (Section 9.11 on page 87) to set the times your wireless LAN is turned on and off.

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 SSID

Normally, the AP acts like a beacon and regularly broadcasts the SSID in the area. You can hide the SSID instead, in which case the AP does not broadcast the SSID. In addition, you should change the default SSID to something that is difficult to guess.

This type of security is fairly weak, however, because there are ways for unauthorized devices to get the SSID. In addition, unauthorized devices can still see the information that is sent in the wireless network.

9.3.1.2 MAC Address Filter

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.

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.

You can use the MAC address filter to tell the AP which wireless clients are allowed or not 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.

9.3.1.3 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.

The types of encryption you can choose depend on the type of user authentication.

Table 26 Types of Encryption for Each Type of Authentication

	NO AUTHENTICATION
Weakest	No Security
↕	WEP
	WPA-PSK
Strongest	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 **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.

When you select **WPA2-PSK** in your WAP5605, you can also select an option (**WPA Compatible**) to support WPA as well. In this case, if some wireless clients support WPA and some support WPA2, you should set up **WPA2-PSK** (depending on the type of wireless network login) and select the **WPA Compatible** option in the WAP5605.

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.

9.3.1.4 WPS

WiFi Protected Setup (WPS) is an industry standard specification, defined by the WiFi 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 55.

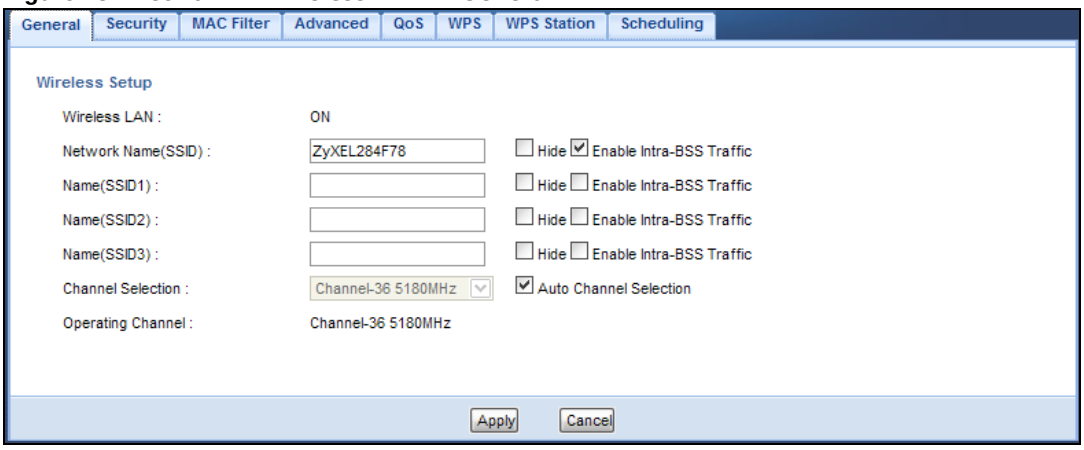
9.4 General Wireless LAN Screen

Use this screen to enter the SSID, select the channel and enable intra-BSS traffic.

Note: If you are configuring the WAP5605 from a computer connected to the wireless LAN and you change the WAP5605'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 WAP5605's new settings.

Click **Network** > **Wireless LAN** to open the **General** screen.

Figure 43 Network > Wireless LAN > General



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

Table 27 Network > Wireless LAN > General

LABEL	DESCRIPTION
Wireless Setup	
Wireless LAN	This is turned on by default. The current wireless state is reflected in this field.
Network Name(SSID) or Name(SSID1~3)	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. You can configure up to four SSIDs to enable multiple BSSs (Basic Service Sets) on the WAP5605. This allows you to use one access point to provide several BSSs simutaneously. You can then assign varying security types to different SSIDs. Wireless clients can use different SSIDs to associate with the same access point.
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.
Enable Intra-BSS Traffic	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 is enabled, wireless clients can access the wired network and communicate with each other. When Intra-BSS is disabled, wireless clients can still access the wired network but cannot communicate with each other.

Table 27 Network > Wireless LAN > General

LABEL	DESCRIPTION
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 if **Auto Channel Selection** is disabled.
Auto Channel Selection	Select the check box to have the WAP5605 automatically scan for and select a channel which is not used by another device.
Operating Channel	This displays the channel the WAP5605 is currently using.
Apply	Click **Apply** to save your changes back to the WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

9.5 Wireless Security Screen

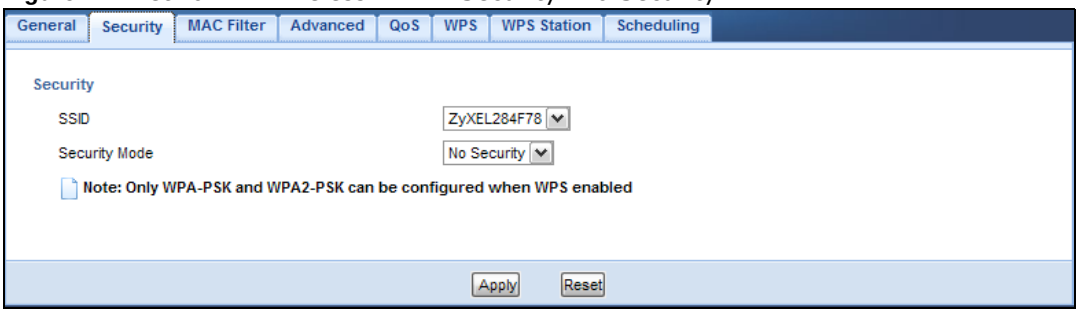
Use this screen to select the wireless security mode for each SSID. Click **Network** > **Wireless LAN** > **Security** to open the **Security** screen. The screen varies depending on what you select in the **Security Mode** field.

9.5.1 No Security

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

Note: If you do not enable any wireless security on your WAP5605, your network is accessible to any wireless networking device that is within range.

Figure 44 Network > Wireless LAN > Security: No Security



The following table describes the labels in this screen.

Table 28 Network > Wireless LAN > Security: No Security

LABEL	DESCRIPTION
SSID	Select the SSID for which you want to configure the security.
Security Mode	Choose **No Security** from the drop-down list box.
Apply	Click **Apply** to save your changes back to the WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

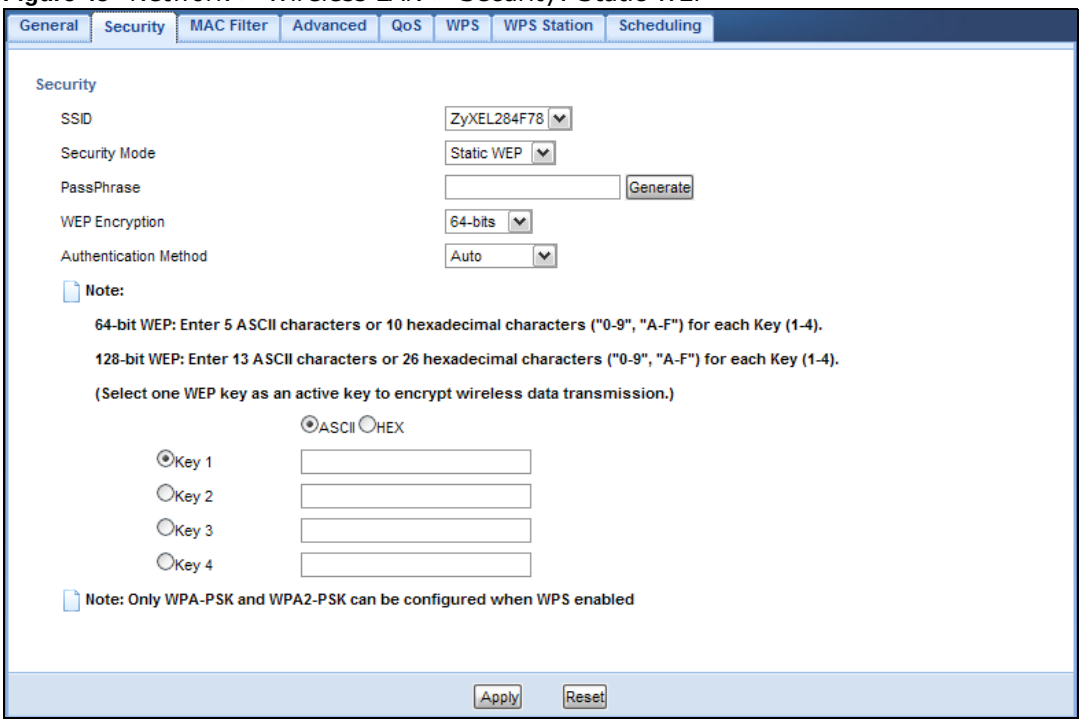
9.5.2 WEP Encryption

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 WAP5605 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 45 Network > Wireless LAN > Security: Static WEP



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

Table 29 Network > Wireless LAN > Security: Static WEP

LABEL	DESCRIPTION
SSID	Select the SSID for which you want to configure the security.
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 WAP5605 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.

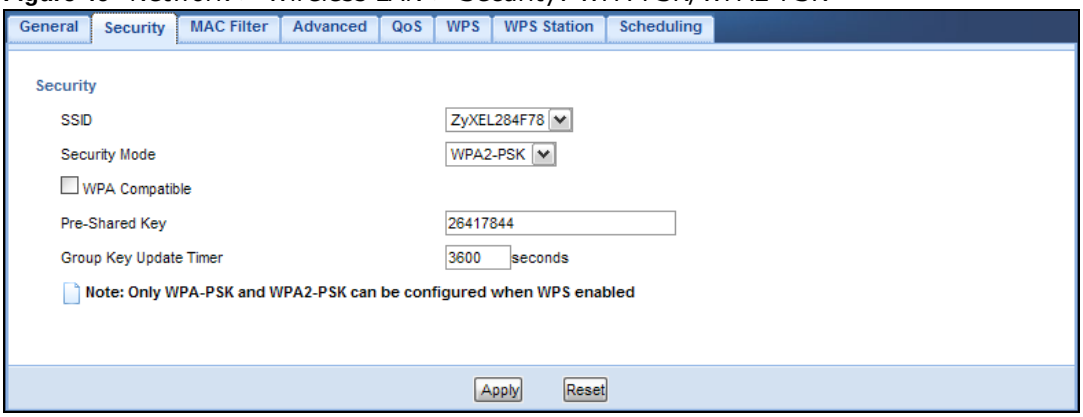
Table 29 Network > Wireless LAN > Security: Static WEP

LABEL	DESCRIPTION
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 WAP5605 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.
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 WAP5605 and the wireless stations must use the same WEP key for data transmission. If you chose **64-bit WEP**, then enter any 5 ASCII characters or 10 hexadecimal characters ("0-9", "A-F"). If you chose **128-bit WEP**, 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 WAP5605.
Cancel	Click **Cancel** 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 46 Network > Wireless LAN > Security: WPA-PSK/WPA2-PSK



The following table describes the labels in this screen.

Table 30 Network > Wireless LAN > Security: WPA-PSK/WPA2-PSK

LABEL	DESCRIPTION
SSID	Select the SSID for which you want to configure the security.
Security Mode	Select **WPA-PSK** or **WPA2-PSK** to enable data encryption.
WPA 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 WAP5605.

Table 30 Network > Wireless LAN > Security: WPA-PSK/WPA2-PSK

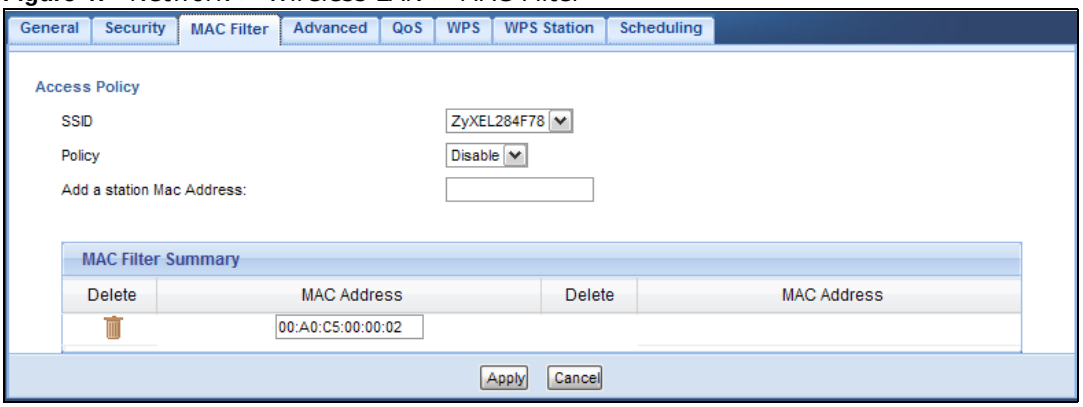
LABEL	DESCRIPTION
Pre-Shared Key	**WPA-PSK**/**WPA2-PSK** uses a simple common password for authentication. Type a pre-shared key from 8 to 63 case-sensitive keyboard characters.
Group Key Update Timer	The **Group Key Update Timer** is the rate at which the AP sends a new group key out to all clients. The default is **3600** seconds (60 minutes).
Apply	Click **Apply** to save your changes back to the WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

9.6 MAC Filter

The MAC filter screen allows you to configure the WAP5605 to give exclusive access to devices (Allow) or exclude devices from accessing the WAP5605 (Deny). 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 WAP5605's MAC filter settings, click **Network** > **Wireless LAN** > **MAC Filter**. The screen appears as shown.

Figure 47 Network > Wireless LAN > MAC Filter



The following table describes the labels in this menu.

Table 31 Network > Wireless LAN > MAC Filter

LABEL	DESCRIPTION
Access Policy	
SSID	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 WAP5605, MAC addresses not listed will be denied access to the WAP5605. Select **Reject** to block access to the WAP5605, MAC addresses not listed will be allowed to access the WAP5605

Table 31 Network > Wireless LAN > MAC Filter

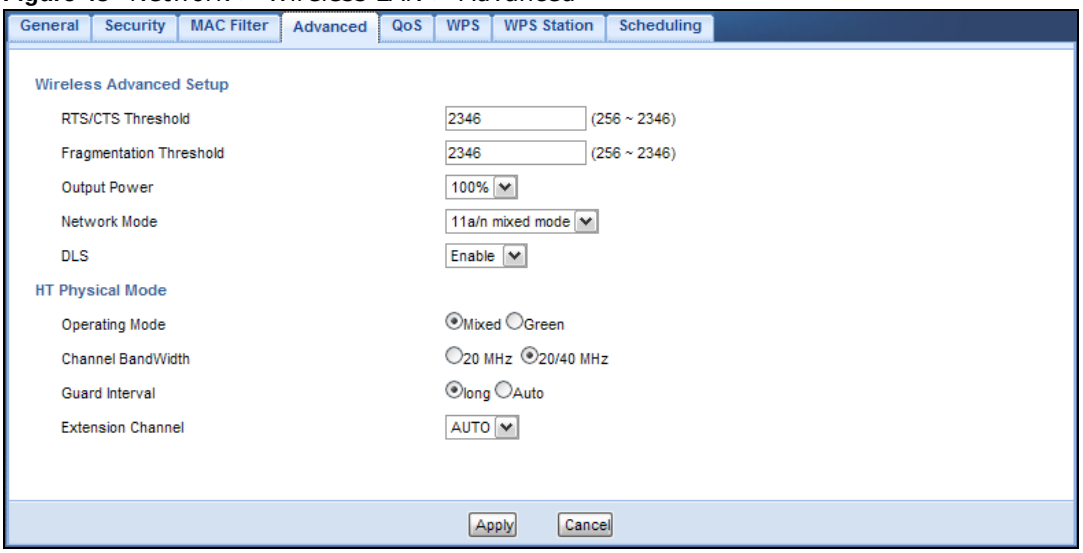
LABEL	DESCRIPTION
Add a station Mac Address	Enter the MAC addresses of the wireless station that are allowed or denied access to the WAP5605 in these address fields. Enter the MAC addresses in a valid MAC address format, that is, six hexadecimal character pairs, for example, 12:34:56:78:9a:bc.
MAC Filter 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 WAP5605.
Apply	Click **Apply** to save your changes back to the WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

9.7 Wireless LAN Advanced Screen

Use this screen to allow wireless advanced features, such as the output power, RTS/CTS Threshold and high-throughput physical mode settings.

Click **Network** > **Wireless LAN** > **Advanced**. The screen appears as shown.

Figure 48 Network > Wireless LAN > Advanced



The following table describes the labels in this screen.

Table 32 Network > Wireless LAN > 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 **256** and **2346**.
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**.

Table 32 Network > Wireless LAN > Advanced

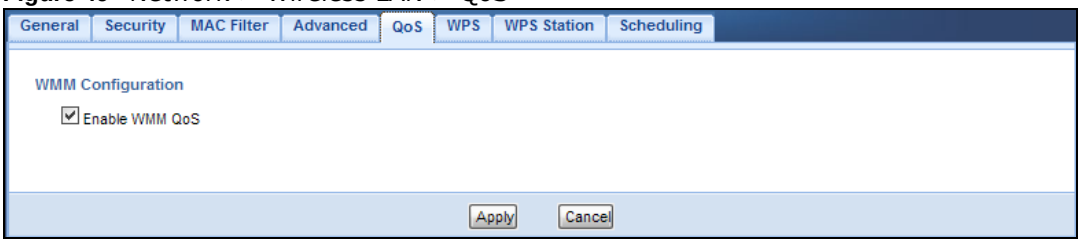
LABEL	DESCRIPTION
Output Power	Set the output power of the WAP5605 in this field. If there is a high density of APs in an area, decrease the output power of the WAP5605 to reduce interference with other APs. Select one of the following **100%**, **90%**, **75%**, **50%**, **25%** or **10%**. See the product specifications for more information on your WAP5605's output power.
Network Mode	This displays **11 a/n mixed mode** and only IEEE802.11a or IEEE802.11n compliant WLAN devices can associate with the WAP5605.
DLS	Select **Enabled** to activate IEEE 802.11e Direct Link Setup (DLS) on the WAP5605. This allows all wireless clients that support DLS and are in the same wireless network (BSS) to communicate with each other directly. Traffic within the BSS can be sent from one client to another without going through the access point (WAP5605).
HT (High Throughput) Physical Mode - Use the fields below to configure the 802.11 wireless environment of your WAP5605.	
Operating Mode	Choose this according to the wireless mode(s) used in your network. **Mixed** - Select this if the wireless clients in your network use different wireless modes (for example, IEEE 802.11a and IEEE 802.1n modes). **Green** - Select this if the wireless clients in your network uses only one type of wireless mode (for example, IEEEE 802.11 n only).
Channel Bandwidth	Select the channel bandwidth you want to use for your wireless network. It is recommended that you select **20/40 MHz**. Select **20 MHz** if you want to lessen radio interference with other wireless devices in your neighborhood.
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 WAP5605 is located in an environment prone to radio interference.
Extension Channel	This is set to **Auto** by default. If you select **20/40 MHz** as your **Channel Bandwidth**, the extension channel enables the WAP5605 to get higher data throughput. This also lowers radio interference and traffic.
Apply	Click **Apply** to save your changes back to the WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

9.8 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** > **QoS**. The following screen appears.

Figure 49 Network > Wireless LAN > QoS



The following table describes the labels in this screen.

Table 33 Network > Wireless LAN > QoS

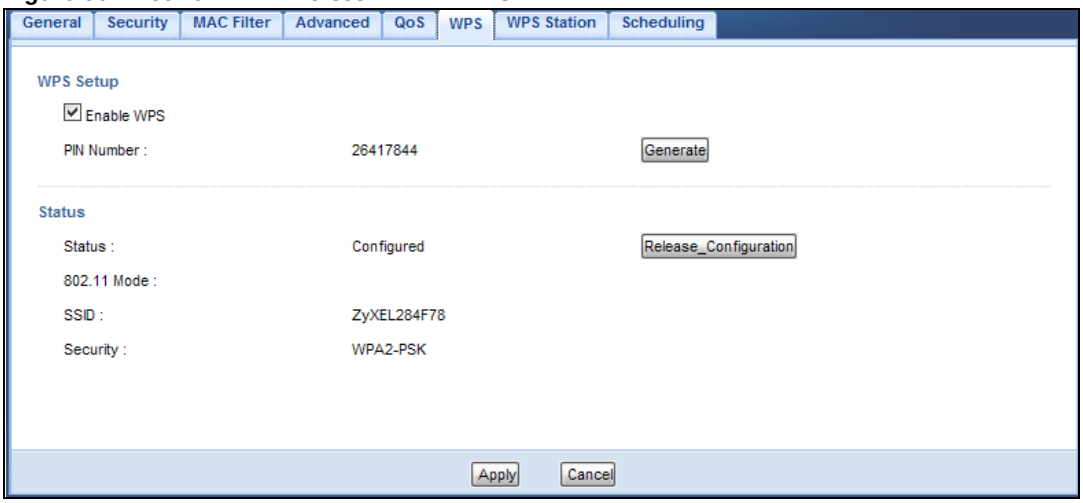
LABEL	DESCRIPTION
Enable WMM QoS	Check this to have the WAP5605 automatically give a service a priority level according to the ToS value in the IP header of packets it sends. WMM QoS (Wifi MultiMedia Quality of Service) gives high priority to voice and video, which makes them run more smoothly.
Apply	Click **Apply** to save your changes to the WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

9.9 WPS Screen

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

Note: With WPS, wireless clients can only connect to the wireless network using the first SSID on the WAP5605.

Figure 50 Network > Wireless LAN > WPS



The following table describes the labels in this screen.

Table 34 Network > Wireless LAN > WPS

LABEL	DESCRIPTION
WPS Setup	
Enable WPS	Select this to enable the WPS feature.
PIN Number	This displays a PIN number last time system generated. Click **Generate** to generate a new PIN number.
Status	

Table 34 Network > Wireless LAN > WPS

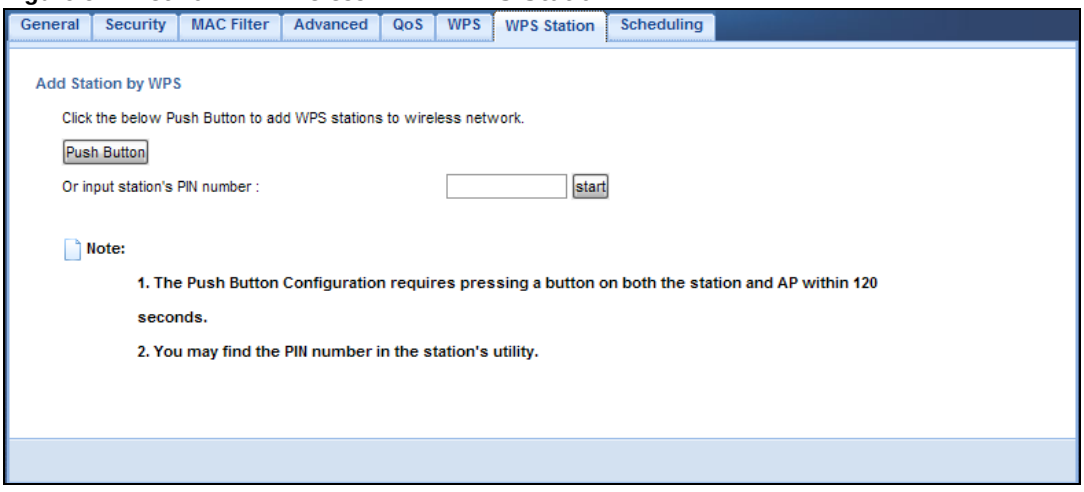
LABEL	DESCRIPTION
Status	This displays **Configured** when the WAP5605 has connected to a wireless network using WPS or when **Enable WPS** is selected and wireless or wireless security settings have been changed. The current wireless and wireless security settings also appear in the screen. This displays **Unconfigured** if WPS is disabled and there are no wireless or wireless security changes on the WAP5605 or you click **Release_Configuration** to remove the configured wireless and wireless security settings.
Release Configuration	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 WAP5605.
802.11 Mode	This is the 802.11 mode used. Only compliant WLAN devices can associate with the WAP5605.
SSID	This is the name of the wireless network (the WAP5605'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 WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

9.10 WPS Station Screen

Use this screen when you want to add a wireless station using WPS. To open this screen, click **Network** > **Wireless LAN** > **WPS Station** tab.

Note: After you click **Push Button** 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 51 Network > Wireless LAN > WPS Station



The following table describes the labels in this screen.

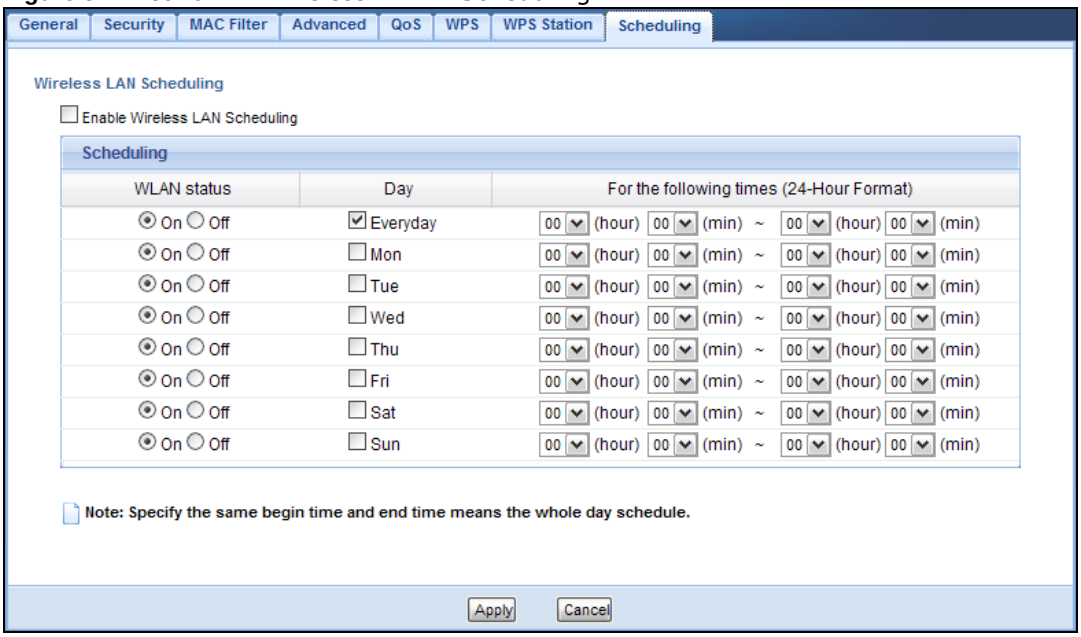
Table 35 Network > Wireless LAN > WPS Station

LABEL	DESCRIPTION
Push Button	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 56. Click this to start WPS-aware wireless station scanning and the wireless security information synchronization.
Or input station's PIN number	Use this button when you use the PIN Configuration method to configure wireless station's wireless settings. See Section 7.3.2 on page 57. Type the same PIN number generated in the wireless station's utility. Then click **Start** to associate to each other and perform the wireless security information synchronization.

9.11 Scheduling Screen

Use this screen 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** > **Scheduling** tab.

Figure 52 Network > Wireless LAN > Scheduling



The following table describes the labels in this screen.

Table 36 Network > Wireless LAN > Scheduling

LABEL	DESCRIPTION
Wireless LAN Scheduling	
Enable Wireless LAN Scheduling	Select this to enable Wireless LAN scheduling.
Scheduling	

Table 36 Network > Wireless LAN > Scheduling

LABEL	DESCRIPTION
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 WAP5605.
Cancel	Click **Cancel** to reload the previous configuration for this screen.

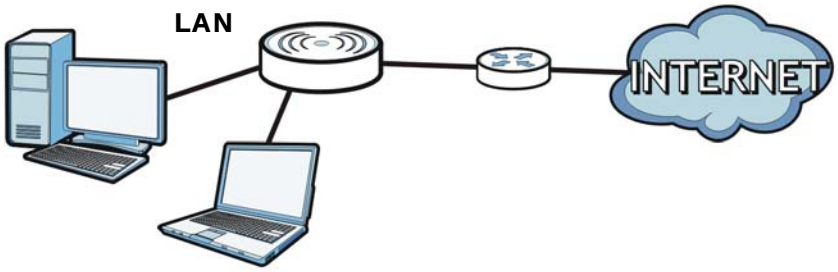
10 LAN

10.1 Overview

This chapter describes how to configure LAN settings.

A Local Area Network (LAN) is a shared communication system to which many computers are attached. A LAN is a computer network limited to the immediate area, usually the same building or floor of a building. The LAN screens can help you configure a LAN DHCP server, manage IP addresses, and partition your physical network into logical networks.

Figure 53 LAN Example



The LAN screens can help you manage IP addresses.

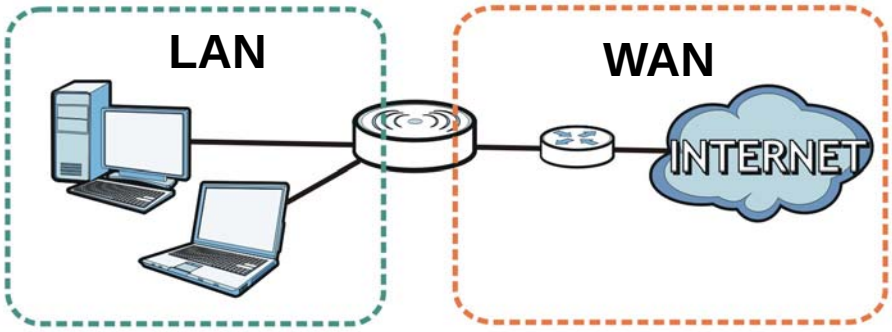
10.2 What You Can Do

- Use the **IP** screen (Section 10.4 on page 91) to change the IP address for your WAP5605 and DNS server information.
- Use the **IP Alias** screen (Section 10.5 on page 92) to have the WAP5605 apply IP alias to create LAN subnets.

10.3 What You Need To Know

There are two separate IP networks, one inside the LAN network and the other outside the WAN network as shown next.

Figure 54 LAN and WAN IP Addresses



The LAN parameters of the WAP5605 are preset in the factory with the following values:

- AP mode: IP address of 192.168.1.2 with subnet mask of 255.255.255.0 (24 bits)
- Client mode: IP address of 192.168.1.10 with subnet mask of 255.255.255.0 (24 bits)

10.3.1 LAN TCP/IP

The WAP5605 has built-in DHCP server capability that assigns IP addresses and DNS servers to systems that support DHCP client capability.

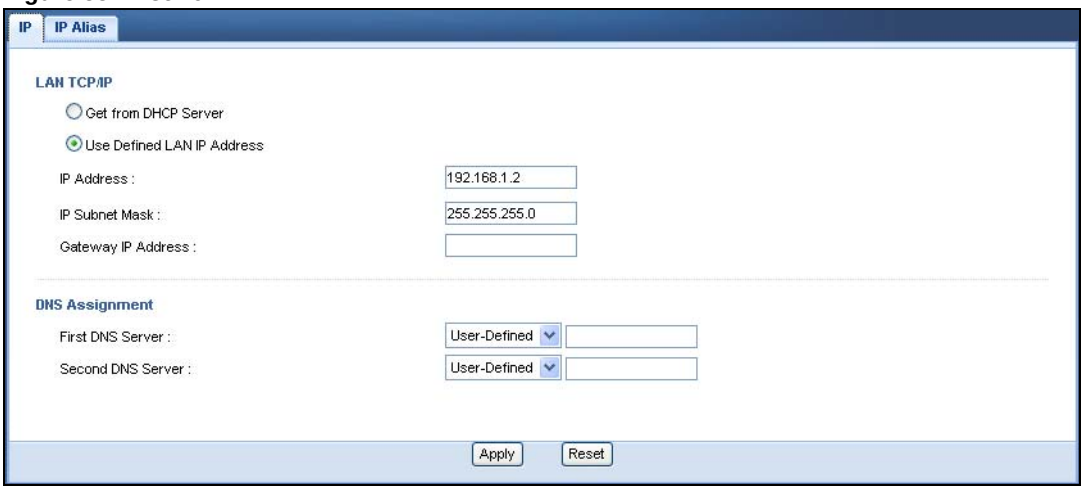
10.3.2 IP Alias

IP alias allows you to partition a physical network into different logical networks over the same Ethernet interface. The WAP5605 supports three logical LAN interfaces via its single physical Ethernet interface with the WAP5605 itself as the gateway for each LAN network.

10.4 LAN IP Screen

Use this screen to change the IP address for your WAP5605. Click **Network > LAN > IP**.

Figure 55 Network > LAN > IP



The following table describes the labels in this screen.

Table 37 Network > LAN > IP

LABEL	DESCRIPTION
Get from DHCP Server	Click this to deploy the WAP5605 as a DHCP client in the network. When you enable this, the WAP5605 gets its IP address from the network's DHCP server (for example, your ISP or router). Users connected to the WAP5605 in AP mode can now access the network (i.e., the Internet if the IP address is given by the ISP or a router with Internet access). The Web Configurator may no longer be accessible unless you know the IP address assigned by the DHCP server to the WAP5605. Otherwise, you need to reset the WAP5605 to be able to access the Web Configurator again (see Section 11.7 on page 98 for details on how to reset the WAP5605). Also when you select this, you cannot enter an IP address for your WAP5605 in the field below.
Use Defined LAN IP Address	Click this if you want to specify the IP address of your WAP5605. Or if your ISP or network administrator gave you a static IP address to access the network or the Internet.
IP Address	Type the IP address in dotted decimal notation. If you change the IP address you will have to log in again with the new IP address.
IP Subnet Mask	The subnet mask specifies the network number portion of an IP address.
Gateway IP Address	Enter a gateway IP address (if your ISP or network administrator gave you one) in this field.
DNS Assignment	
First DNS Server Second DNS Server	Select **From ISP** if your ISP or router to which the WAP5605 connects dynamically assigns DNS server information (and the WAP5605's WAN 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.

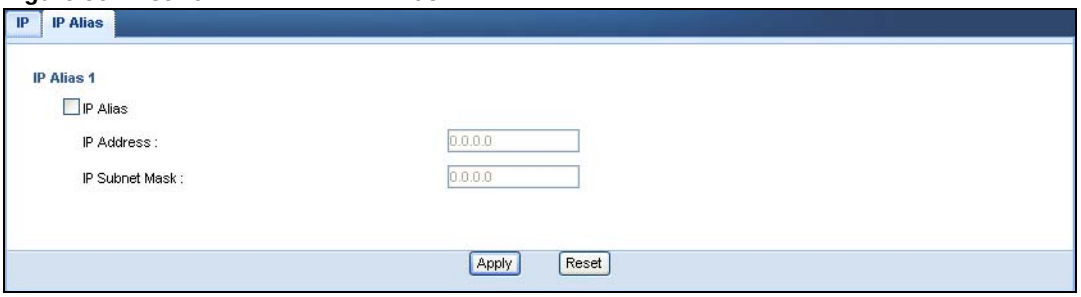
Table 37 Network > LAN > IP

LABEL	DESCRIPTION
Apply	Click **Apply** to save your changes back to the WAP5605.
Reset	Click **Reset** to begin configuring this screen afresh.

10.5 IP Alias Screen

Use this screen to have the WAP5605 apply IP alias to create LAN subnets. Click **LAN** > **IP Alias**.

Figure 56 Network > LAN > IP Alias



The following table describes the labels in this screen.

Table 38 Network > LAN > IP Alias

LABEL	DESCRIPTION
IP Alias	Check this to enable IP alias.
IP Address	Type the IP alias address of your WAP5605 in dotted decimal notation.
IP Subnet Mask	The subnet mask specifies the network number portion of an IP address.
Apply	Click **Apply** to save your changes back to the WAP5605.
Reset	Click **Reset** to begin configuring this screen afresh.

11

Maintenance

11.1 Overview

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

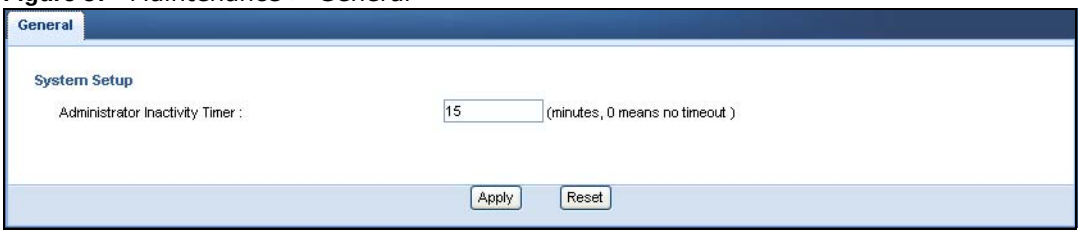
11.2 What You Can Do

- Use the **General** screen (Section 11.3 on page 93) to set the timeout period of the management session.
- Use the **Password** screen (Section 11.4 on page 94) to change your WAP5605's system password.
- Use the **Time** screen (Section 11.5 on page 95) to change your WAP5605's time and date.
- Use the **Firmware Upgrade** screen (Section 11.6 on page 96) to upload firmware to your WAP5605.
- Use the **Backup / Restore** screen (Section 11.8 on page 99) to view information related to factory defaults, backup configuration, and restoring configuration.
- Use the **Reset / Restart** screen (Section 11.8 on page 99) to reboot the WAP5605 without turning the power off.

11.3 General Screen

Use this screen to set the management session timeout period. Click **Maintenance** > **General**. The following screen displays.

Figure 57 Maintenance > General



The following table describes the labels in this screen.

Table 39 Maintenance > General

LABEL	DESCRIPTION
Administrator Inactivity Timer	Type how many minutes a management session can be left idle before the session times out. The default is 5 minutes. 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 WAP5605.
Reset	Click **Reset** to begin configuring this screen afresh.

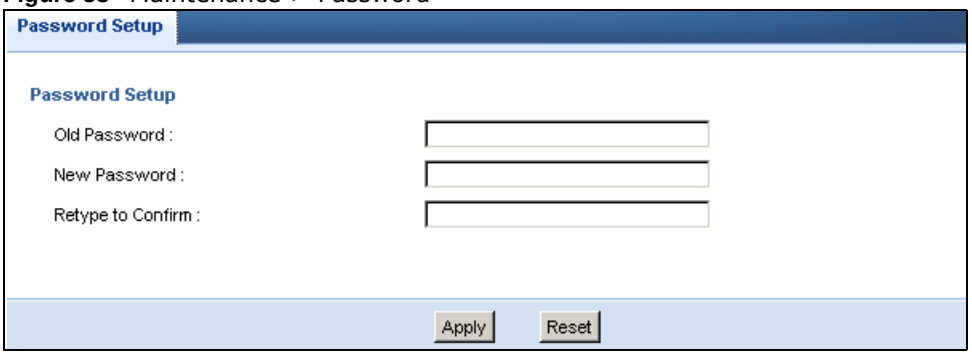
11.4 Password Screen

It is strongly recommended that you change your WAP5605's password.

If you forget your WAP5605's password (or IP address), you will need to reset the device. See Section 11.8 on page 99 for details

Click **Maintenance** > **Password**.

Figure 58 Maintenance > Password



The following table describes the labels in this screen.

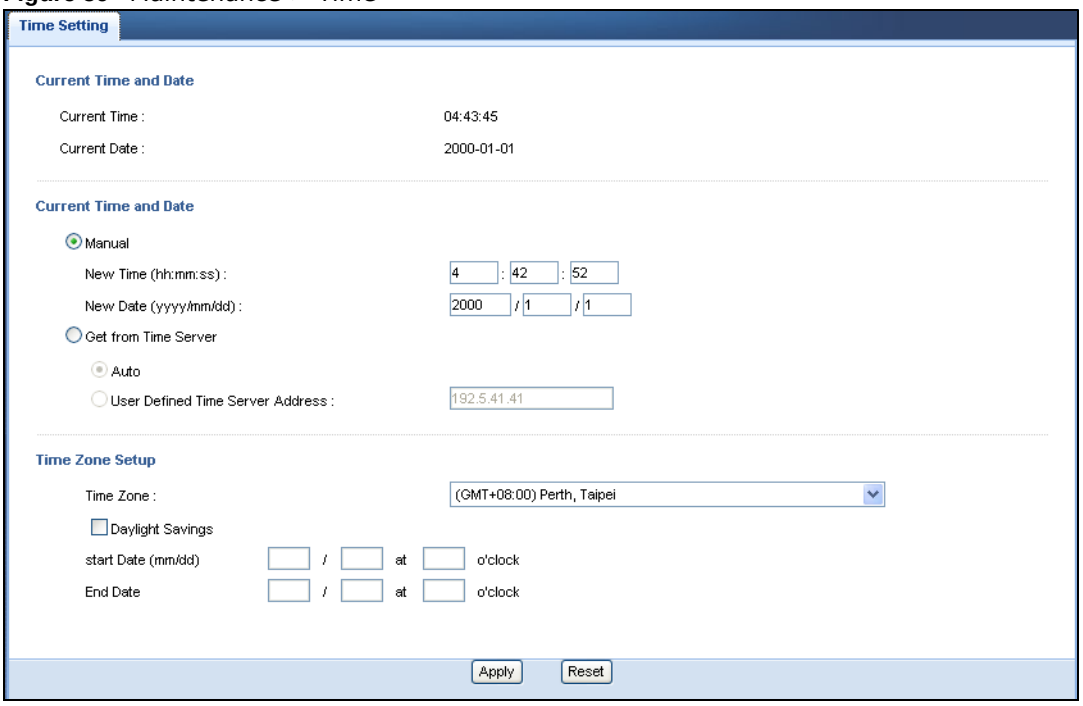
Table 40 Maintenance > Password

LABEL	DESCRIPTION
Password Setup	Change your WAP5605's password (recommended) using the fields as shown.
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 WAP5605.
Reset	Click **Reset** to begin configuring this screen afresh.

11.5 Time Setting Screen

Use this screen to configure the WAP5605's time based on your local time zone. To change your WAP5605's time and date, click **Maintenance** > **Time**. The screen appears as shown.

Figure 59 Maintenance > Time



he following table describes the labels in this screen.

Table 41 Maintenance > Time

LABEL	DESCRIPTION
Current Time and Date	
Current Time	This field displays the time of your WAP5605. Each time you reload this page, the WAP5605 synchronizes the time with the time server.
Current Date	This field displays the date of your WAP5605. Each time you reload this page, the WAP5605 synchronizes the date with the time server.
Current Time and Date	
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**.

Table 41 Maintenance > Time

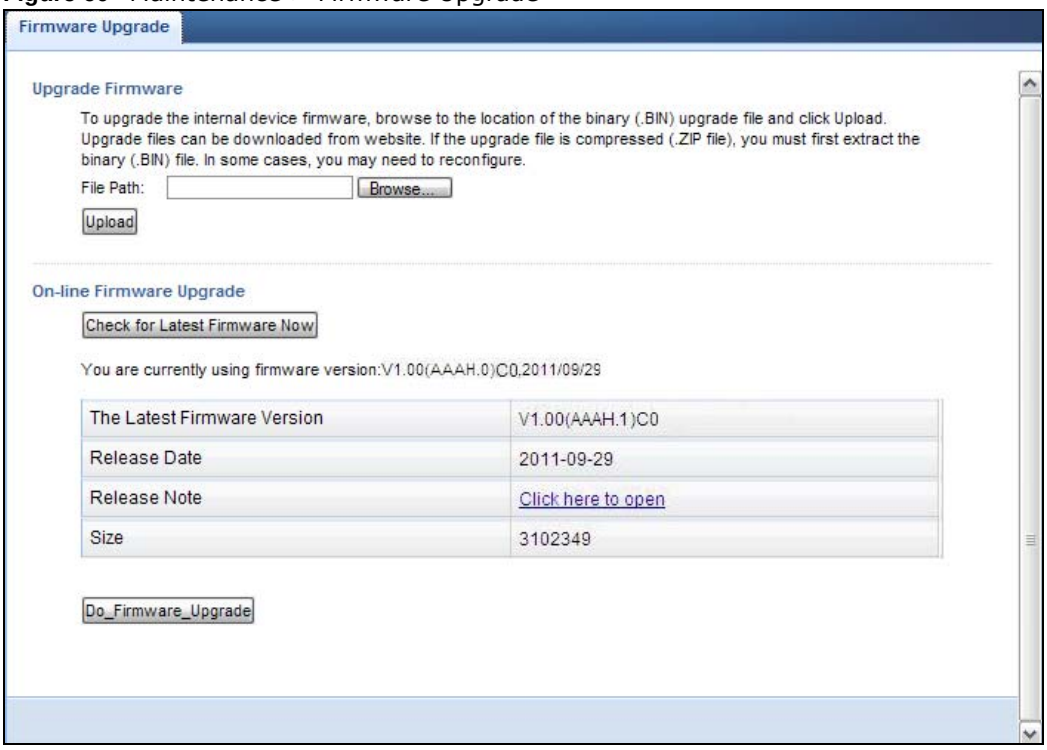
LABEL	DESCRIPTION
Get from Time Server	Select this radio button to have the WAP5605 get the time and date from the time server you specified below.
Auto	Select **Auto** to have the WAP5605 automatically search for an available time server and synchronize the date and time with the time server after you click **Apply**.
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.
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 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 **o'clock** 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 type 2 in the **o'clock** 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 type in the **o'clock** field depends on your time zone. In Germany for instance, you would type 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 **o'clock** 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 type 2 in the **o'clock** 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 type in the **o'clock** field depends on your time zone. In Germany for instance, you would type 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 WAP5605.
Reset	Click **Reset** to begin configuring this screen afresh.

11.6 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., "WAP5605.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 WAP5605.

Figure 60 Maintenance > Firmware Upgrade



The following table describes the labels in this screen.

Table 42 Maintenance > Firmware Upgrade

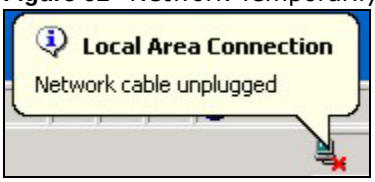
LABEL	DESCRIPTION
Upgrade Firmware	
File Path	Type in the location of the file you want to upload in this field or click **Browse...** to find it.
Browse...	Click **Browse...** to find the .bin file you want to upload. Remember that you must decompress compressed (.zip) files before you can upload them.
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	Click this button to get the latest firmware information, such as the version number, release date, release note and file size from the ZyXEL website. Make sure your WAP5605 has Internet access.
Do-Firmware_Upgrade	Click this button to download and install the latest firmware in your WAP5605.

Note: Do not turn off the WAP5605 while firmware upload is in progress!

After you see the **Firmware Upload In Process** screen, wait two minutes before logging into the WAP5605 again.

The WAP5605 automatically restarts in this time causing a temporary network disconnect. In some operating systems, you may see the following icon on your desktop.

Figure 61 Network Temporarily Disconnected



After two minutes, log in again and check your new firmware version in the **Status** screen.

If the upload was not successful, an error message appears. Click **Return** to go back to the **Firmware Upgrade** screen.

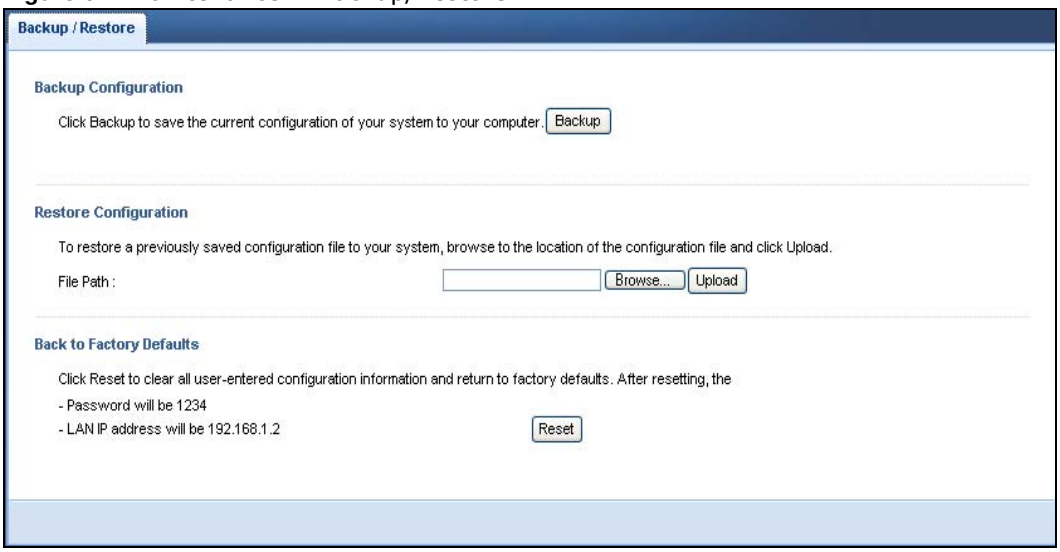
11.7 Configuration Backup/Restore Screen

Backup configuration allows you to back up (save) the WAP5605's current configuration to a file on your computer. Once your WAP5605 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.

Restore configuration allows you to upload a new or previously saved configuration file from your computer to your WAP5605.

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

Figure 62 Maintenance > Backup/Restore



The following table describes the labels in this screen.

Table 43 Maintenance > Backup/Restore

LABEL	DESCRIPTION
Backup	Click **Backup** to save the WAP5605's current configuration to your computer.
File Path	Type in the location of the file you want to upload in this field or click **Browse...** to find it.
Browse...	Click **Browse...** 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 WAP5605 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 WAP5605 again. The WAP5605 automatically restarts in this time causing a temporary network disconnect. If you see an error screen, click Back to return to the Backup/Restore screen.
Reset	Pressing the **Reset** button in this section clears all user-entered configuration information and returns the WAP5605 to its factory defaults. You can also press the **RESET** button on the rear panel to reset the factory defaults of your WAP5605. Refer to the chapter about introducing the Web Configurator for more information on the **RESET** button.

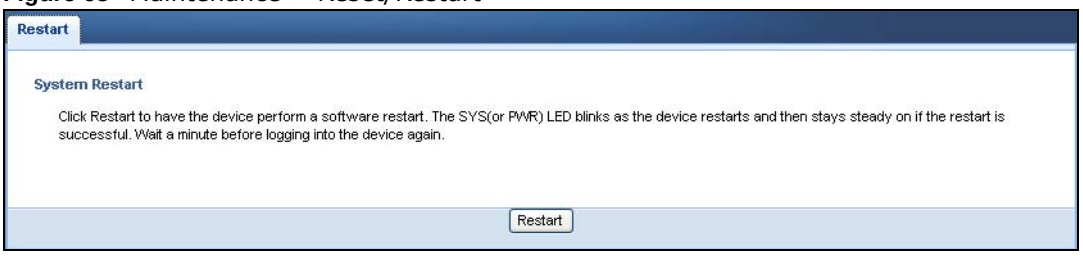
Note: If you uploaded the default configuration file you may need to change the IP address of your computer to be in the same subnet as that of the default WAP5605 IP address. See Appendix C on page 135 for details on how to set up your computer's IP address.

11.8 Reset/Restart Screen

System restart allows you to reboot the WAP5605 without turning the power off.

Click **Maintenance > Reset/Restart** to open the following screen.

Figure 63 Maintenance > Reset/Restart



Click **Restart** to have the WAP5605 reboot. This does not affect the WAP5605's configuration.

12

Troubleshooting

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

- Power, Hardware Connections, and LEDs
- WAP5605 Access and Login
- Internet Access
- Resetting the WAP5605 to Its Factory Defaults

12.1 Power, Hardware Connections, and LEDs

The WAP5605 does not turn on. None of the LEDs turn on.

1. Make sure you are using the power adaptor or cord included with the WAP5605.
2. Make sure the power adaptor or cord is connected to the WAP5605 and plugged in to an appropriate power source. Make sure the power source is turned on.
3. Disconnect and re-connect the power adaptor or cord to the WAP5605.
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 1.6 on page 17.
2. Check the hardware connections. See the Quick Start Guide.
3. Inspect your cables for damage. Contact the vendor to replace any damaged cables.
4. Disconnect and re-connect the power adaptor to the WAP5605.
5. If the problem continues, contact the vendor.

12.2 WAP5605 Access and Login

I don't know the IP address of my WAP5605.

1 The default IP address of the WAP5605 in access point mode is **192.168.1.2** and the default IP address of the WAP5605 in client mode is **192.168.1.10**.

2 If you changed the IP address and have forgotten it,

- and your WAP5605 is a DHCP client, you can find your IP address from the DHCP server. This information is only available from the DHCP server which allocates IP addresses on your network. Find this information directly from the DHCP server or contact your system administrator for more information.
- reset your WAP5605 to change all settings back to their default. This means your current settings are lost. See Section 12.4 on page 104 in the **Troubleshooting** for information on resetting your WAP5605.

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 12.4 on page 104.

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

1 Make sure you are using the correct IP address.

- The default IP address of the WAP5605 in access point mode is **192.168.1.2** and the default IP address of the WAP5605 in client mode is **192.168.1.10**.
- If you changed the IP address (Section 10.4 on page 91), use the new IP address.
- If you changed the IP address and have forgotten it, see the troubleshooting suggestions for I don't know the IP address of my WAP5605.

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 JavaScripts and Java enabled. See Appendix A on page 113.

4 Make sure your computer is in the same subnet as the WAP5605. (If you know that there are routers between your computer and the WAP5605, skip this step.)

- If there is a DHCP server on your network, make sure your computer is using a dynamic IP address. See Section 10.4 on page 91.

- If there is no DHCP server on your network, make sure your computer's IP address is in the same subnet as the WAP5605. See Appendix B on page 125.

5 Reset the device to its factory defaults, and try to access the WAP5605 with the default IP address. See Section 11.7 on page 98.

6 If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

Advanced Suggestion

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

I can see the **Login** screen, but I cannot log in to the WAP5605.

1 Make sure you have entered the password correctly. The default password is **1234**. This field is case-sensitive, so make sure [Caps Lock] is not on.

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 power adaptor or cord to the WAP5605.

4 If this does not work, you have to reset the device to its factory defaults. See Section 12.4 on page 104.

12.3 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 Make sure the WAP5605 in access point mode is connected to a broadband modem or router with Internet access. Connect to another WAP5605 in client mode to access the Internet through the WAP5605 in access point mode. Use the switch on the WAP5605's side panel to change your system operating mode setting (see Section 2.1.2.1 on page 21). Make sure the client is within the transmission range of the AP.

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 your ISP.

I cannot access the Internet anymore. I had access to the Internet (with the WAP5605), 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 1.6 on page 17.

2 Reboot the WAP5605.

3 If the problem continues, contact your ISP.

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 1.6 on page 17. If the WAP5605 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 clients 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 WAP5605.

4 If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

Advanced Suggestions

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

12.4 Resetting the WAP5605 to Its Factory Defaults

If you reset the WAP5605, you lose all of the changes you have made. The WAP5605 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 push the **RESET** button.

To reset the WAP5605,

1 Make sure the power LED is on.

2 Press the **RESET** button for longer than 1 second to restart/reboot the WAP5605.

3 Press the **RESET** button for longer than five seconds to set the WAP5605 back to its factory-default configurations.

If the WAP5605 restarts automatically, wait for the WAP5605 to finish restarting, and log in to the Web Configurator. The password is "1234".

If the WAP5605 does not restart automatically, disconnect and reconnect the WAP5605's power. Then, follow the directions above again.

13

Product Specifications

The following tables summarize the WAP5605's hardware and firmware features.

Table 44 Hardware Features

Dimensions (W x H x D)	109.96 mm x 155.8 mm x 30.7 mm
Weight	245 g
Power Specification	Input: 100~240 V AC, 50~60 Hz Output: 12 V DC 1A
Two Ethernet ports	Auto-negotiating: 10 Mbps, 100 Mbps in either half-duplex or full-duplex mode. Auto-crossover: Use either crossover or straight-through Ethernet cables.
Reset Button	The reset button is built into the rear panel. Use this button to restore the WAP5605 to its factory default settings. Press for 1 second to restart the device. Press for 5 seconds to restore to factory default settings.
WPS button	Press the WPS on two WPS enabled devices within 120 seconds for a security-enabled wireless connection.
Antennas	The WAP5605 is equipped with four 3dBi (5 GHz) internal antennas to provide clear radio transmission and reception on the wireless network.
Operation Environment	Temperature: 0º C ~ 40º C / 32ºF ~ 104ºF Humidity: 20% ~ 90%
Storage Environment	Temperature: -30º C ~ 70º C / -22ºF ~ 158ºF Humidity: 20% ~ 95%
Screw size for wall-mounting	M4*0.7 mm

Table 45 Firmware Features

FEATURE	DESCRIPTION
Default IP Address	AP mode: 192.168.1.2 Client mode: 192.168.1.10
Default Subnet Mask	255.255.255.0 (24 bits)
Default Password	1234
Wireless Interface	Wireless LAN
Default Wireless SSID	ZyXEL+(the last six characters of the WAP5605's MAC address)
Device Management	Use the Web Configurator to easily configure the rich range of features on the WAP5605.

Table 45 Firmware Features

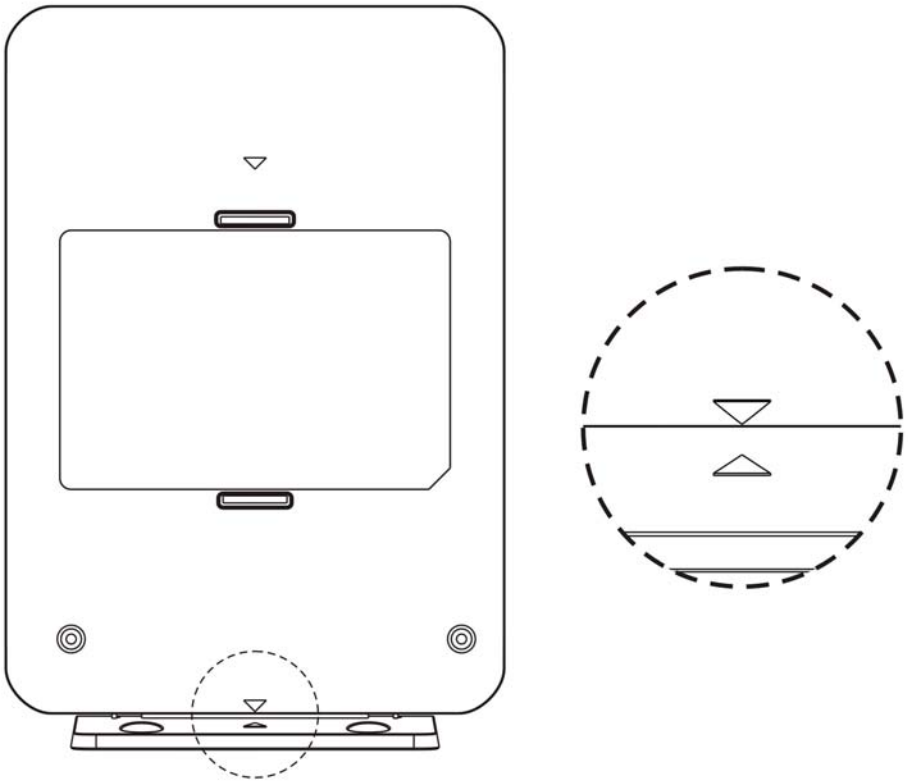
FEATURE	DESCRIPTION
Wireless Functionality	Allows IEEE 802.11a and/or IEEE 802.11n wireless clients to connect to the WAP5605 wirelessly. Enable wireless security (WPA(2)-PSK) and/or MAC filtering to protect your wireless network. Note: The WAP5605 may be prone to RF (Radio Frequency) interference from other 5 GHz devices such as microwave ovens, wireless phones, Bluetooth enabled devices, and other wireless LANs.
Firmware Upgrade	Download new firmware (when available) from the ZyXEL web site and use the Web Configurator to put it on the WAP5605. Note: Only upload firmware for your specific model!
Configuration Backup & Restoration	Make a copy of the WAP5605's configuration and put it back on the WAP5605 later if you decide you want to revert back to an earlier configuration.
Wireless LAN Scheduler	You can schedule the times the wireless LAN is enabled/disabled.
Time and Date	Get the current time and date from an external server when you turn on your WAP5605. You can also set the time manually. These dates and times are then used in logs.
IP Multicast	IP Multicast is used to send traffic to a specific group of computers. The WAP5605 supports versions 1 and 2 of IGMP (Internet Group Management Protocol) used to join multicast groups (see RFC 2236).
Logging	Use logs for troubleshooting. You can view logs in the Web Configurator.

13.1 Desktop Installation

Either place the WAP5605 flat on a desk or table or use the stand for a vertical installation. To attach the stand, line up the arrow on the stand with the arrow on the bottom of the WAP5605 as shown. Press gently but firmly until the WAP5605 clicks into place.

Figure 64 Stand Installation Example

Figure 65 Arrows on the Stand and WAP5605



13.2 Wall-mounting Instructions

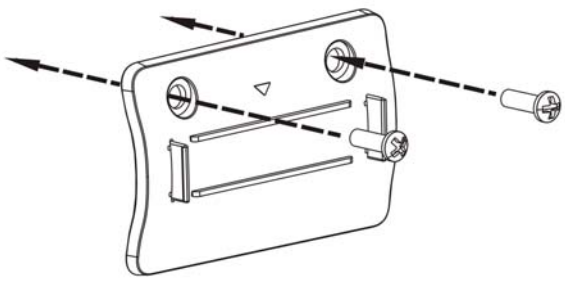
Complete the following steps to hang your WAP5605 on a wall.

1 Select a position free of obstructions on a sturdy wall.

2 Install the stand on the wall. Make sure the screw holes of the stand are on the top and screws are snugly fastened to the wall. The stand needs to hold the weight of the WAP5605 with the connection cables.

Be careful to avoid damaging pipes or cables located inside the wall when installing the stand.

Figure 66 Installing the Stand



3 Hold the WAP5605 with the LEDs facing upward. Align the holes on the back of the WAP5605 with the tabs on the stand. Attach the WAP5605 to the stand. Press gently but firmly until the WAP5605 clicks into place.

Figure 67 Attaching the WAP5605 to the Stand