

# **P-2302HWUDL-P1**

802.11g Wireless VoIP Station Gateway

with Built-in DECT Base Station

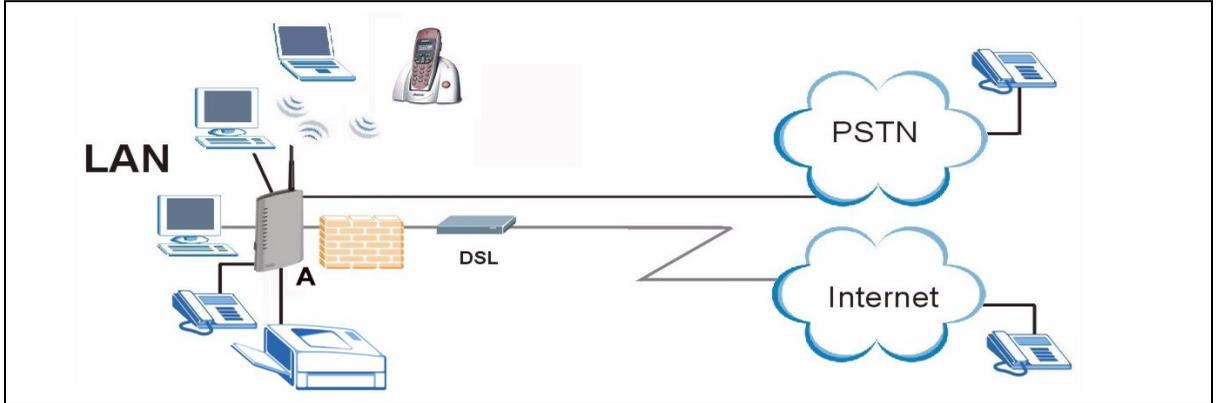
## **Quick Start Guide**

Version 3.60  
Edition 1  
3/2007

The logo for ZyXEL, featuring the word "ZyXEL" in a bold, blue, sans-serif font. The "Zy" is in a smaller font size than "XEL", and the "X" is significantly larger and more prominent.

## Overview

The P-2302HWUDL-P1 model is a router with IEEE 802.11g wireless capability. It has a built in DECT GAP base station for compatibility with DECT cordless phones, USB 2.0 ports for sharing files via USB compatible storage devices and phone ports for making calls over the Internet (Voice over IP or VoIP). The P-2302HWUDL-P1 can use regular phone services through regular (PSTN) phone lines and can also function as a print server.



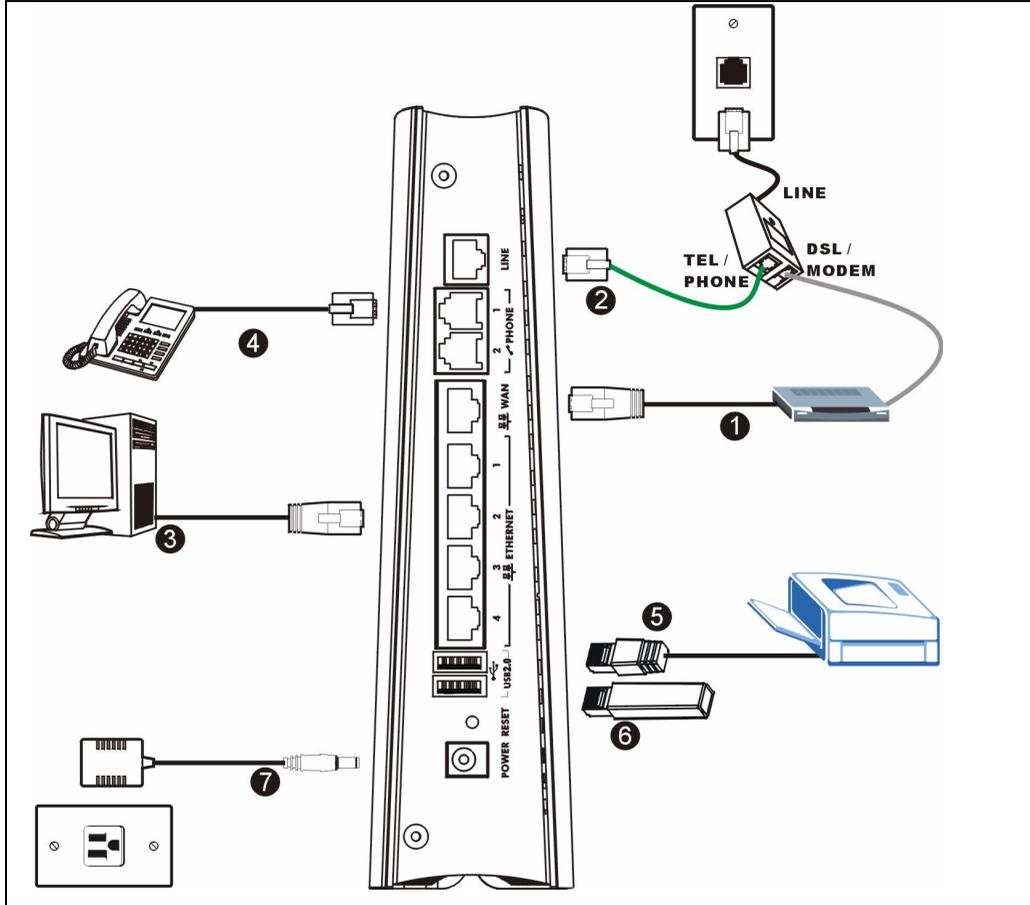
## 1 Requirements

Make sure you have the following things before you set up your P-2302HWUDL-P1.

- Internet access - account information provided by your ISP, such as user name, password, and so on.
- VoIP account - You need the account information provided by your VoIP service provider (the company that lets you make phone calls over the Internet). This information might include your URI, number, and so on.
- Internet Explorer 6.0 or later or Netscape Navigator 7.0 or later, with JavaScript enabled.

**Note:** See the User's Guide for all configuration details including file sharing and setting up a shared printer.

## 2 Hardware Connections - P-2302HWUDL-P1



**1 WAN:** Use an Ethernet cable to connect the DSL modem to this port.

**2 LINE:** Use the green PSTN cable to connect the **TEL** or **PHONE** jack on a splitter to this port. If no splitter is provided connect the telephone jack to this port.

**Note:** When the ZyXEL Device does not have power, only the phone connected to the **PHONE 1** port can be used for making calls. Ensure you know which phone this is, so that in case of emergency you can make outgoing calls.

**3 ETHERNET 1-4:** Use an Ethernet cable to connect a computer to this port for initial configuration and/or Internet access.

**4 PHONE 1-2:** Use telephone cables (and any telephone adaptors provided with your P-2302HWUDL-P1) to connect your telephones to these ports. If you only have one telephone, you should use port 1.

- 5 USB 2.0:** Use a USB cable (not provided) to connect a USB (version 2.0 or lower) printer to this port.
- 6 USB 2.0:** Connect a USB (version 2.0 or lower) memory stick for file sharing. The P-2302HWUDL-P1 automatically detects the USB device.
- 7** Use the power adaptor provided with your P-2302HWUDL-P1 to connect an appropriate power source to this socket.

Look at the lights on the side panel of the P-2302HWUDL-P1.

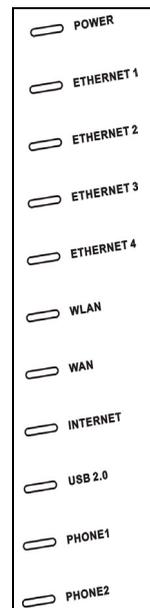
- The **POWER** light blinks during start-up and is green once the P-2302HWUDL-P1 is ready.
- Each **ETHERNET** light turns on if the corresponding **ETHERNET** port is properly connected. The lights blink when the P-2302HWUDL-P1 is sending or receiving data through the corresponding **ETHERNET** port.
- The **WAN** light stays on if a physical connection with your DSL modem exists and blinks when transmitting data. The **INTERNET** light stays on when Internet access is available.
- The **PHONE** lights stay on when your SIP account is registered and they blink if the receiver is off the hook.
- The **WLAN** light turns on when the wireless LAN is ready. It blinks when the P-2302HWUDL-P1 is sending/receiving data through the wireless LAN.
- The **USB** light turns on when there is a USB device (printer or memory stick) connected to the P-2302HWUDL-P1.

If **PHONE 1** or **PHONE 2** light is on, skip to Section [5.2](#) to see how to make calls through the Internet.

If the **INTERNET** light comes on but the **PHONE** lights are off, go to Section [5](#) and use the **VOIP SETUP** wizard.

If the **INTERNET** light is off but the **WAN** light is on, go to Section [4](#) and use the **CONNECTION WIZARD** to configure your Internet access settings.

If the lights are different than described, go to [Troubleshooting](#).

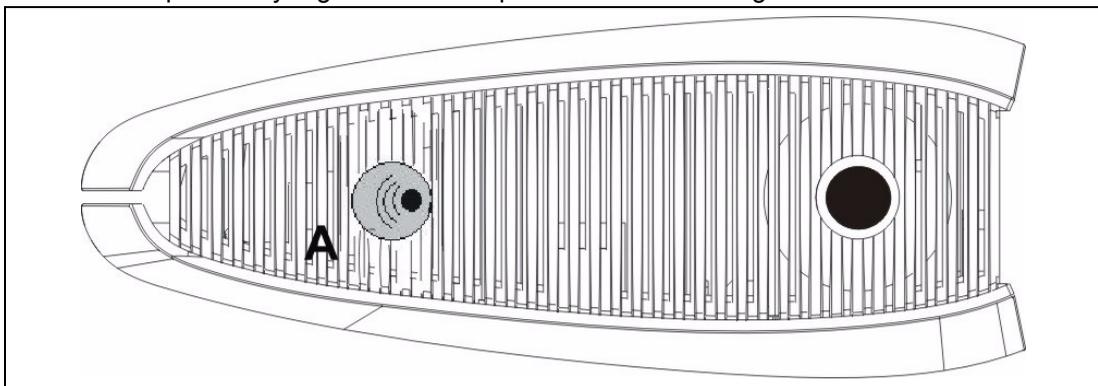


### 3 DECT Phone Registration

In order to use your DECT phone with the P-2302HWUDL-P1, the DECT phone must register with the P-2302HWUDL-P1's DECT base station. Take the following steps to register your DECT phone with the P-2302HWUDL-P1.

- 1** Press down the DECT base station button (**A**) on top of your P-2302HWUDL-P1 for 6 to 11 seconds. When the LED light of the DECT base station button begins to blink, the P-2302HWUDL-P1 is in registration mode. The P-2302HWUDL-P1 is in registration mode for 25 to 30 seconds. Your DECT phone must be registered within the time period.

**Note:** If you press the DECT base station button for 12 seconds or more, the DECT base station resets and all previously registered DECT phones must be re-registered.



**2** Put your DECT phone in registration mode. Refer to your DECT phone documentation.

When the P-2302HWUDL-P1 is in registration mode, the LED of the DECT base station button (**A**) blinks and the P-2302HWUDL-P1 starts to scan its surrounding area for DECT phones in registration mode.

**Note:** To ensure clear communication between the two devices, make sure your DECT phone is within range of the P-2302HWUDL-P1 during the registration process. See the User's Guide for details.

**3** When a P-2302HWUDL-P1 discovers a DECT phone in registration mode, it sends a request for a Personal Identification Number (PIN). Your DECT phone receives the request and prompts you to enter the PIN. Enter the PIN in the DECT phone by using the handset keypad. Entering a PIN ensures that only authorized DECT phones connect to and use your P-2302HWUDL-P1 to make and receive calls.

**Note:** The default PIN of the P-2302HWUDL-P1 is **1234**.

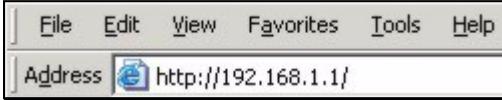
**4** Repeat steps 1 - 3 to register additional phones.

**Note:** You can register up to 6 DECT phones with the P-2302HWUDL-P1.

Once your DECT phones are registered with the P-2302HWUDL-P1 you can assign SIP accounts to make and receive VoIP calls. You can also use DECT phones to make internal calls, see your DECT phone documentation for more information. Internal calls are calls between DECT phones registered with the P-2302HWUDL-P1. For the P-2302HWUDL-P1 you can also assign your DECT phones to receive calls from the PSTN line (regular phone line).

## 4 Initial Configuration

- 1 Open your browser and enter the P-2302HWUDL-P1's IP address 192.168.1.1 (default) as the URL.



- 2 Enter the admin password **1234** (default). Click **Login**.

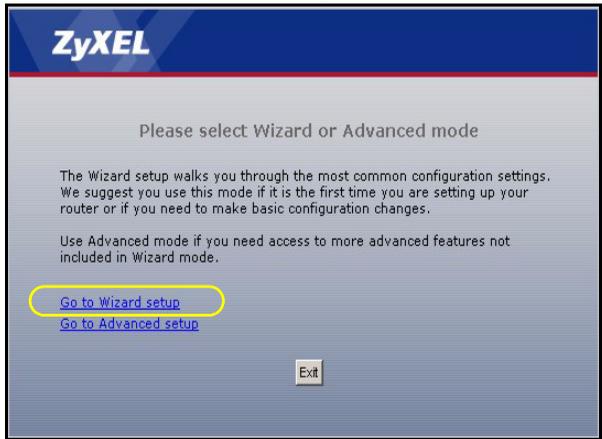


If your browser cannot find this screen, make sure your browser is configured correctly. See **Troubleshooting** in the User's Guide for details.

- 3 Follow the directions in this screen.



- 4 Click **Go to Wizard setup**.



## 4.1 Connection Wizard

The connection wizard helps you set up your Internet connection as well as your wireless settings. Click **CONNECTION WIZARD**.

**Note:** Enter the Internet access information exactly as given to you by your ISP in each wizard screen and then click **Next** to continue or click **Back** to return to the previous screen.

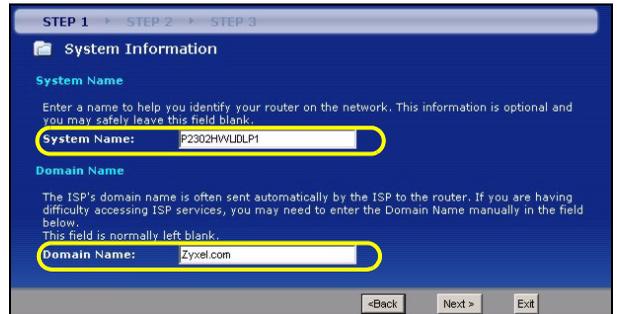
Current screen information will be lost if you click **Back**.



### STEP 1: System Information

This screen is optional. You can just click **Next**.

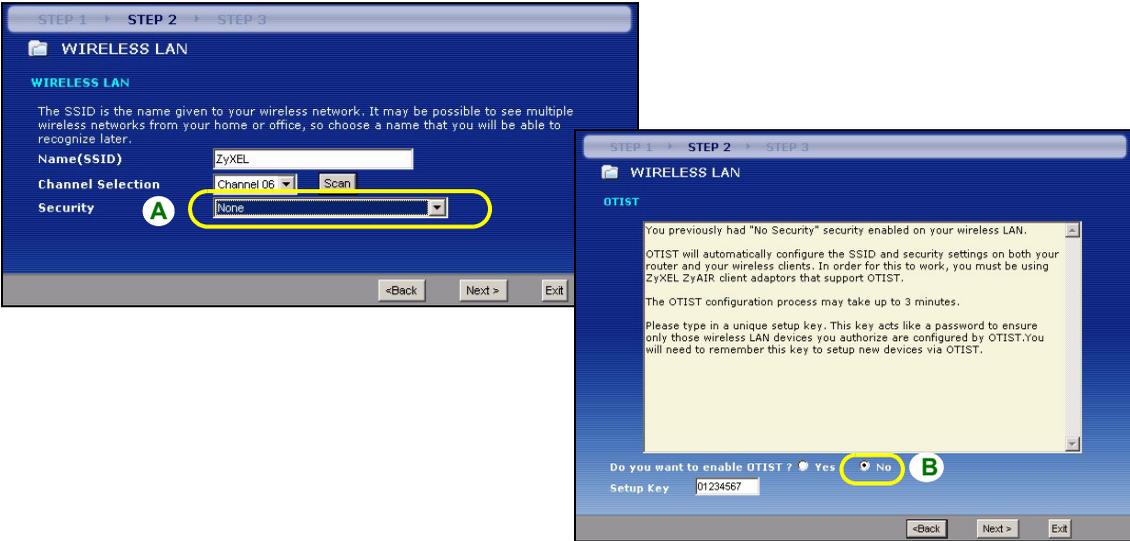
- **System Name** is for identifying the P-2302HWUDL-P1. You can enter your computer's "Computer Name".
- If you leave the **Domain Name** blank, the domain name obtained by DHCP from the ISP is used.



### STEP 2: Wireless LAN

A Select **None** for your initial wireless security.

**B** Select **No** in the **Do you want to enable OTIST ?** radio button.



**Note:** These settings allow you to access the wireless network without setting up any security on your wireless client. This means that any wireless device within range of your P-2302HWUDL-P1 can access your wireless network.

If you know the security settings you want to set up you can also enter them in these screens. If you want to set up OTIST, see the following section. Refer to your User's Guide for more information on setting up your wireless network.

## OTIST

ZyXEL's One-Touch Intelligent Security Technology (OTIST) feature allows you to automatically configure the SSID and WPA-PSK on all OTIST-equipped wireless clients within range of the P-2302HWUDL-P1.

**Note:** If you enable OTIST but select **None** in the **Security** field using the wireless wizard, the P-2302HWUDL-P1 will create a WPA-PSK automatically.

If you enable OTIST and select **Basic(WEP)** in the **Security** field using the wireless wizard, the P-2302HWUDL-P1 will replace the WEP key with a WPA-PSK.

Enable OTIST only if your wireless clients support WPA and OTIST.

You must enable OTIST on the P-2302HWUDL-P1 and all wireless clients within three minutes in any order.

To enable OTIST on wireless clients, click **Start** in the **Adapter** screen. The **Setup Key** is 01234567 by default. If you have previously saved a setup key on the P-2302HWUDL-P1, use it instead of the default.

## STEP 3: WAN

Select one connection type from the drop-down list box. Check with your ISP to make sure you use the correct type:

**1 Ethernet**

**2 PPP over Ethernet**



**Note:** If you were given Internet access settings, enter them in the following fields. Otherwise leave the default settings and just click **Next**.

### Ethernet Connection

**A** Select **Ethernet** as your WAN connection type.

**B** Select **Get automatically from your ISP** if your ISP did not assign you a fixed IP address. Skip to **C**.

Or

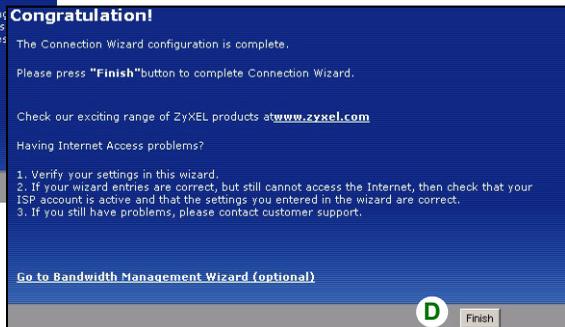
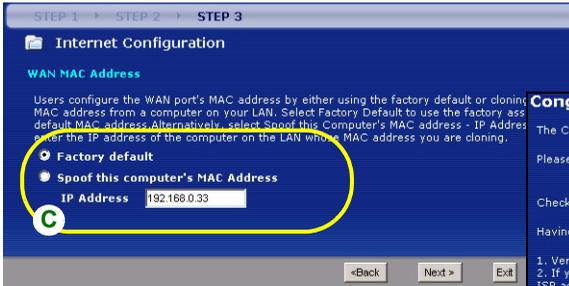
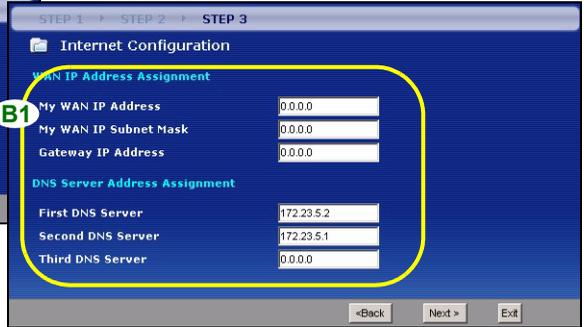
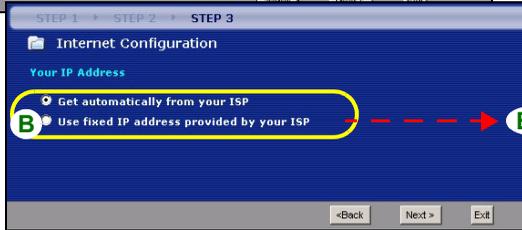
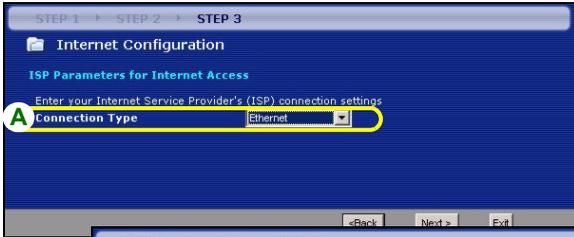
Select **Use fixed IP address provided by your ISP** to give the P-2302HWUDL-P1 a fixed, unique IP address. Go to **B1**.

**B1** If you select **Use fixed IP address provided by your ISP**, enter a WAN IP address, WAN IP Subnet Mask and the neighboring device's IP address given by your ISP.

If you were given DNS server settings, enter them in the fields. Otherwise leave the default settings and just click **Next**.

**C** Select **Factory Default** to use the factory assigned default MAC address and click **Next**. Then click **Apply** to save your changes. The OTIST in Progress screen appears if you enable OTIST in the previous wizard screen. Wait for the P-2302HWUDL-P1 to finish transferring OTIST settings.

**D** Click **Finish** to complete the wizard.



## PPP over Ethernet Connection

**A** Select **PPP over Ethernet** as your WAN connection type.

**B** Type a **Service Name** (Optional), **User Name** and **Password**.

**C** Select **Get automatically from your ISP** if your ISP did not assign you a fixed IP address. Skip to **D**.

Or

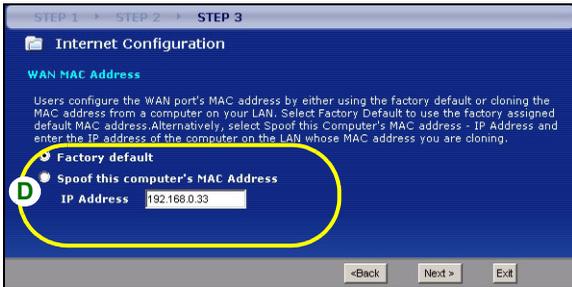
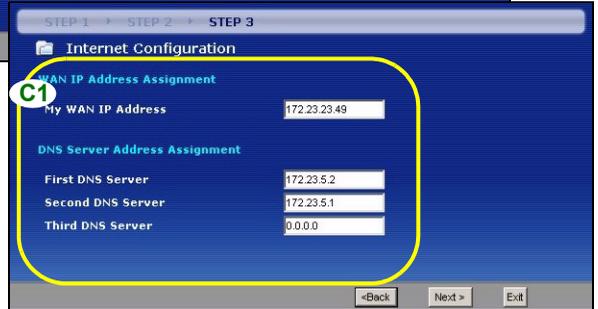
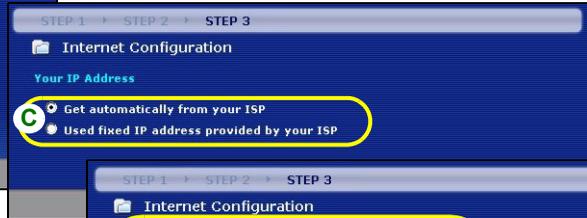
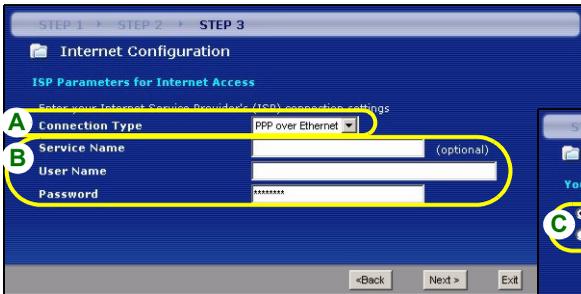
Select **Use fixed IP address provided by your ISP** to give the P-2302HWUDL-P1 a fixed, unique IP address. Go to **C1**.

**C1** If you select **Use fixed IP address provided by your ISP**, enter a WAN IP address, WAN IP Subnet Mask and the neighboring device's IP address given by your ISP.

If you were given DNS server settings, enter them in the fields. Otherwise leave the default settings and just click **Next**.

**D** Select **Factory Default** to use the factory assigned default MAC address and click **Next**. Then click **Apply** to save your changes. The OTIST in Progress screen appears if you enable OTIST in the previous wizard screen. Wait for the P-2302HWUDL-P1 to finish transferring OTIST settings.

When a congratulation screen appears, click **Finish** to complete the wizard.



## 5 Configure VoIP

Click **VOIP SETUP**.

**Note:** You should have the information provided by your VoIP service provider.

Enter the information provided by your VoIP service provider. Keep the default settings if your VoIP service provider did not provide some information. If you have a SIP account like **1234567@VoIP-provider.com**, the **SIP Number** is **1234567**, and the **SIP Service Domain** is **VoIP-provider.com**. When you are done, the **PHONE** light should be on. Close the wizard.



## 5.1 Regular Phone Line Setup

When one of your VoIP accounts is registered, the P-2302HWUDL-P1 normally uses the Internet (not the regular phone line) to make phone calls. Follow the directions in this section to make sure you can also use the regular phone line while one of your VoIP accounts is registered.

**Note:** When the P-2302HWUDL-P1 does not have power, only the phone connected to the **PHONE 1** port can be used for making calls. Ensure you know which phone this is, so that in case of emergency you can make outgoing calls.

In the main screen, click **VoIP > PSTN Line**.

**PSTN Line Pre-fix Number:** Enter 1 - 7 numbers you dial before you dial the phone number, if you want to make a regular phone call while one of your SIP accounts is registered. These numbers tell the P-2302HWUDL-P1 that you want to make a regular phone call.

**Relay to PSTN Line:** Enter phone numbers for regular phone calls (that do not use the Internet) that you always want to dial without the prefix number. For example, enter emergency phone numbers here.

Click **Apply**.

The screenshot shows a configuration window titled 'General' with a sub-header 'Call through PSTN Line'. It contains a text input field for 'PSTN Line Pre-fix Number' containing '0000'. Below this is a section 'Relay to PSTN Line' with a list of 9 numbered input fields. At the bottom right, there are 'Apply' and 'Cancel' buttons.

## 5.2 Make Phone Calls

Follow these directions to make calls over the Internet.

- If you want to dial a SIP number that only uses numbers (for example, “12345”), dial the number on your phone’s keypad. You can also set up a speed-dial entry, if you want. See the User’s Guide for instructions.
- If you want to dial a SIP number that uses letters or if you want to make a peer-to-peer call, set up a speed-dial entry first. See the User’s Guide for instructions. Then, dial the speed-dial number to make the call.
- If you want to call regular telephone numbers, use your VoIP service provider’s dialing plan.

Follow these directions to make phone calls that do not use the Internet.

- If you set up the phone number in the **Relay to PSTN** section (Section 5.1), just dial the phone number.
- If the **PHONE** light is off, just dial the phone number.
- Otherwise, first dial the prefix you set in Section 5.1, and then dial the phone number.

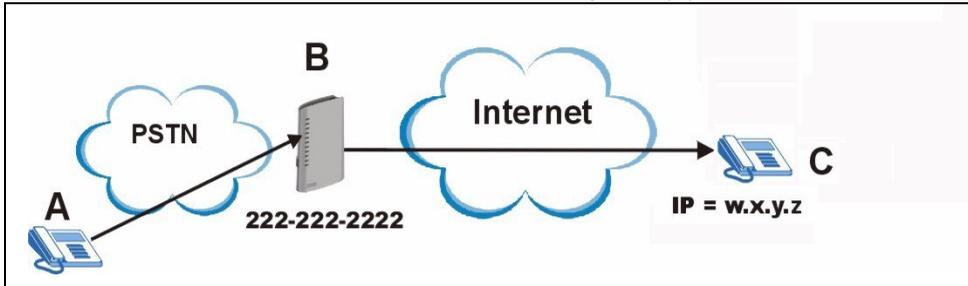
Follow these directions to call the phone that is connected to the P-2302HWUDL-P1.

- Use your VoIP service provider’s dialing plan, or just dial the phone number.

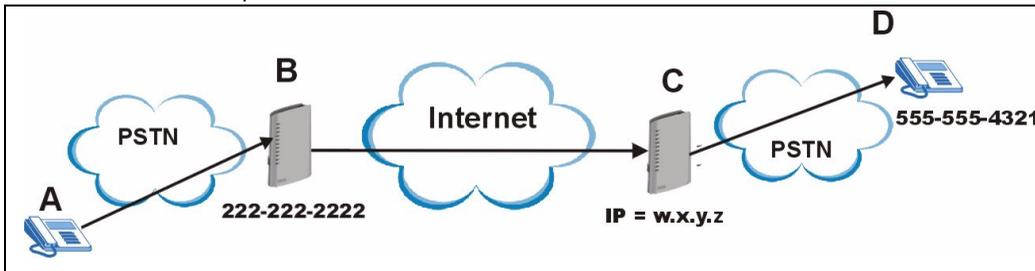
## 5.3 VoIP Trunking Overview

VoIP trunking connects an IP network (like the Internet) and the Public Switched Telephone Network (PSTN). PSTN includes the world's circuit-switched telephone network which is composed of fixed and mobile telephones. VoIP trunking allows you to create VoIP links which PSTN (Public Switched Telephone Network) callers can use to:

- Make phone calls via the Internet - Make a PSTN call to the P-2302HWUDL-P1 and it forwards the call to any SIP based VoIP phone. In the example below, we call the P-2302HWUDL-P1 (**B**) from a regular phone (**A**), the P-2302HWUDL-P1 then forwards the call to a VoIP phone (**C**).



- Save on long distance calls - The P-2302HWUDL-P1 creates a VoIP link which can be used to connect to a PSTN phone in another country, province, region and so on. Below is an example of a VoIP trunking call. **A** calls the P-2302HWUDL-P1 (**B**), **B** makes a VoIP connection to another VoIP trunking device **C** and **C** forwards the call to a PSTN phone **D**.



See the User's Guide for information on how to configure VoIP trunking.

## 6 USB File Sharing

This section shows you how to enable USB file sharing. In order to start file sharing you need to:

- Connect your USB 2.0 file sharing device. See Section 2.
- Enable the file sharing feature.
- Create an account (user name and password) for sharing the files.
- Browse to your files using the IP address of the P-2302HWUDL-P1.

## 6.1 Configure USB File Sharing

- 1 Click **Management > File Sharing**.
- 2 Check the box **Enable File Sharing Services**.
- 3 Select **Active** in the **User Configuration Setting** section and fill in the **User Name** and **Password** fields. Retype your password and click **Apply**.

The P-2302HWUDL-P1 automatically recognizes the USB device and makes it available for sharing.

**General**

**Server Configuration**

Enable File Sharing Services

Workgroup Name: WORKGROUP

System Code Page: cp437 (United States)

**User Configuration Setting**

Active

User Name: user

Password: \*\*\*\*\*

Retype to Confirm: \*\*\*\*\*

**Default Share Directory List**

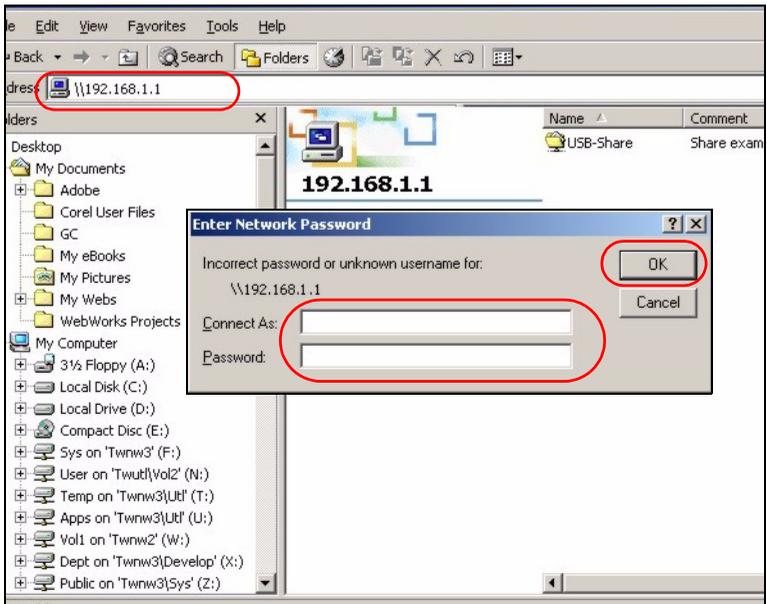
#	Share Name	Share Directory
1	usbdisk1	/usbdisk1

Apply Cancel

## 6.2 Browse to the USB File Share

- 1 In Windows Explorer's Address bar type a double backslash “\\” followed by the IP address of the P-2302HWUDL-P1 (192.168.1.1 is the default) and hit [ENTER].
- 2 Enter the user name and password when prompted and hit OK.
- 3 The files on the USB file sharing device connected to the P-2302HWUDL-P1 are now part of your file structure and you can manage those files just like any other files on your computer.

**Note:** Refer to the User's Guide for a complete description of this feature.



## Troubleshooting

If you cannot access the P-2302HWUDL-P1, follow these steps.

- 1 Check the device's lights. If they are different than what is described in Section 2, make sure the connections are correct, and inspect your cables for damage. If the lights are still different, turn off the device, wait a few seconds, and turn it on again.
- 2 Make sure your computer is on the same subnet as the P-2302HWUDL-P1. The P-2302HWUDL-P1 is set up by default to assign an IP address to your computer. If you have a static IP address on your computer change this setting to obtain an IP address automatically. See the User's Guide for more details.
- 3 Make sure you typed the address correctly. If the address has changed you can press the **RESET** button for ten seconds to restart the P-2302HWUDL-P1 and to restore factory defaults. The default IP address is "192.168.1.1" and the default password is "1234".

If you cannot access the Internet, follow these steps.

- 1 Check the device's lights. If they are different than what is described in Section 2, make sure the connections are correct, and inspect your cables for damage. If the lights are still different, turn off the device, wait a few seconds, and turn it on again.
- 2 Follow the steps in section Section 4 again. Make sure you enter the correct information. For example, if your account has a user name and password, make sure you type it correctly. In addition, if you are not sure which encapsulation your ISP uses, contact your ISP.
- 3 If you are using a new Internet account, contact your ISP to make sure it is active.
- 4 If you still have problems, see **Troubleshooting** in the User's Guide.

If you can access the Internet, but you cannot make calls through the Internet, follow these steps.

- 1 Check the **PHONE** lights. If neither of them is on, Make sure that your telephone is connected to the corresponding **PHONE** port.
- 2 Make sure the **VoIP** wizard screens are properly configured (see Section 5).
- 3 You can also check the VoIP status in the **Status** screen. See the User's Guide for more information about this screen.

## Viewing Your Product's Certifications

- 1 Go to [www.zyxel.com](http://www.zyxel.com).
- 2 Select your product from the drop-down list box on the ZyXEL home page to go to that product's page.
- 3 Select the certification you wish to view from this page.