

# **3G Wireless-N Router USER GUIDE**



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# 1

## Installing the 3G Wireless-N Router

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### Package Contents

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The Zoom 3G Wireless-N Router package contains the Zoom 3G Wireless-N Router, an antenna, an RJ-45 Ethernet cable, a 5V 2.0A Power adapter, a stand, this *Quick Start* installation manual, and a CD that contains additional documentation and warranty information. If anything is missing or damaged, please contact Zoom Customer Support or your retailer or distributor.

### System Requirements

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The Zoom 3G Wireless-N Router works with any compatible 3G USB modem with Internet service. If you'd like an up-to-date list of modems known to be compatible with the router, please go to [www.zoom.com/3Grouter/comp](http://www.zoom.com/3Grouter/comp). If you are aware of a 3G modem that is incompatible with the router, please let us know by sending email to [support@zoom.net](mailto:support@zoom.net).

The router is set up for use with computers, mobile phones, game stations, and other devices with wireless 802.11n, 802.11g, or 802.11b capability. The router comes set up for wireless with no security. If you need to set up the router for wireless security or for some other reason, you'll need to do the setup with a computer that has an available Ethernet port and a web browser.

### Using Your Router with a 3G Modem

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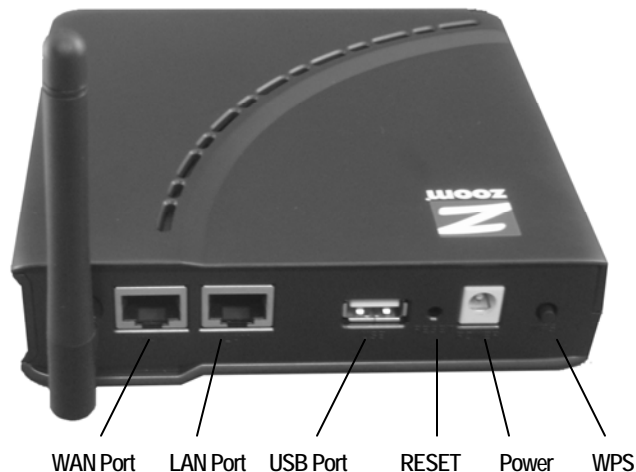
- 1 Attach the antenna by lining it up with the receptacle on the router's back panel and rotating it in a clockwise direction. Once attached, you can move the antenna to optimize wireless LAN signal strength. Putting the antenna in a vertical position normally gives the best performance.
- 2 Plug your 3G USB modem into the router's USB port on the router's back panel.



- 3 Connect the power adapter to the receptor on the router's back panel and plug the other end of the power adapter into a wall outlet or power strip.

The WiFi and 3G LEDs on the router's front panel turn on.

- 4 A computer, mobile phone, game station, or other device with wireless 802.11n, g, or b capability can access the Internet wirelessly through the 3G router. To make the wireless connection, you must first locate the wireless network connection setup on your device, and then select the Zoom network. For example, on Windows computers, click the wireless connection icon on the Task Bar, click Available Wireless Networks, select Zoom from the list of available wireless networks, and then make the connection.
- 5 The router comes set up for wireless with no security. If you want wireless security, you need to set up the 3G router and each device for the security that you want. If you're experienced with wireless, you can probably do that easily by using the Configuration Manager, as discussed in [Changing the Router's Default Values](#) on page 7.
- 6 You can also plug a computer or other device into the router's LAN port. This is recommended if you're changing the router's default values, and sometimes an Ethernet connection is more convenient or secure than connecting to the router wirelessly. To connect a computer via Ethernet, simply plug the supplied Ethernet cable between the router's LAN port and your computer's Ethernet port.



- 7 To test the router when 3G is on, connect a device that has a Web browser to the router using wireless or Ethernet as discussed above. Then check that the device's Web browser works. If it doesn't work, check that the router is on, connected to 3G service via a 3G modem, and connected to your device's browser via wireless or Ethernet. If you still have problems connecting, you should run the Setup Wizard that's in the router's Configuration Manager. See [Chapter 3](#), starting on page 11 for more information.

## Changing the Router's Default Values

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Your Zoom 3G Wireless-N Router is preset with default values that meet the needs of most users. However, you can change these settings by using the router's built-in Configuration Manager. Here are some reasons why you might want to use the Configuration Manager:

- You want to change wireless n/g/b settings to, for instance, enable wireless security.
- You want to connect the router to your ADSL or cable modem. You can do this while using your 3G modem as a backup Internet connection, or you can do it without a 3G modem plugged in.
- You do not want your 3G connection to be on whenever the 3G modem is plugged into the router. The default value is Auto Reconnect (always on). You can change the default value and specify when to begin (and end) a session.
- You want to change router settings to, for instance, establish a firewall to guard against unauthorized access to your network.
- You want to back up router settings that you made using the Configuration Manager.

To use the Configuration Manager, please follow these steps:

- 1 Connect the supplied Ethernet cable to the Ethernet ports on the router and computer.
- 2 In the computer's Web browser address bar, type `http://192.168.1.1` and then click Enter.  
When the USER'S MAIN MENU opens, it displays a Status page that lists the current values for a variety of settings.
- 3 On the window's Toolbar, type **admin** in the System Password field, then click Login.
- 4 When the ADMINISTRATOR'S MAIN MENU opens, click Wizard or Advanced on the Toolbar.



- Select Wizard if you are unfamiliar with network settings and configuration. The program will guide you through the process.
- Select Advanced if you are a network administrator or experienced setting up wired and wireless networks and configurations. For Advanced users, the Configuration Manager offers Basic Settings, Forwarding Rules, Security Settings, Advanced Settings, or Toolbox) configuration menus. Click a menu to open the configuration page for those settings, then select an option or enter new information to change a setting's value.

## **Resetting the Router to the Factory Configuration**

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To reset the router to the factory default configuration, insert the blunt end of a paper clip into the RESET hole on the side panel of the router. Hold the clip in place for seven (7) seconds).

## **Registering Your Product and Getting Help**

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Zoom supports this router. If you need assistance, please contact Zoom directly. We encourage you to register your product and to notice the many support options available from Zoom. Please go to <http://www.zoom.com> and select Technical Support. From here you can register your new router, contact our technical support experts, use our SmartFacts<sup>™</sup> intelligent database, and get warranty information. If you need to contact Zoom Customer Support, you can call us by dialing the U.S. number (617) 753 0965 or the U.K. numbers +442033180660 (London) and 441618840074 (Manchester).



# 2

## Using the Configuration Manager

Your 3G Wireless-N router is preset with default values that meet the needs of most users. However, you can change these settings using the router's built-in Configuration Manager.

This chapter includes:

- Instructions for launching the Configuration Manager program
- A description of the available configuration menus and settings

### Launching the Router's Configuration Manager

To launch the Configuration Manager, please follow these steps:

- 1 If you haven't already done so, plug the supplied Ethernet cable into the LAN port on the router's back panel and into your computer's Ethernet port.
- 2 Turn on your computer and router, then launch the computer's Web browser.
- 3 In the Web browser address bar, type the router's default IP address, **http://192.168.1.1** and then click Enter.

When the MAIN MENU opens for the first time, it displays a System Status page that summarizes the current settings and values for your system.

System Status [ HELP ]		
Item	WAN Status	Sidenote
IP Address	0.0.0.0	3G
Subnet Mask	0.0.0.0	
Gateway	0.0.0.0	
Domain Name Server	0.0.0.0, 0.0.0.0	
Connection Time	-	
Wireless Modem Information		
Item	Status	Sidenote
Card Info	N/A	
Link Status	Connecting...	No Modem Detected
Signal Strength	N/A	
Bytes Transmitted	0	
Bytes Received	0	
Network Name	N/A	
Wireless Status		
Item	WLAN Status	Sidenote
Wireless mode	Enable	(B/G/N Mixed)
SSID	Zoom	

- 4 On the Toolbar, type **admin** (the default password) in the System Password field, then click Login.



**Note:** Later, if you change the System Password, you will use the new password to log in.

When you log in, the Configuration Manager opens its MAIN MENU, where you can select the Setup Wizard or the Advanced configuration program to tailor the router's configuration to your needs.

# 3

## Using the Configuration Manager's Setup Wizard

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If you are not experienced with wireless devices and their configuration, you can use the Configuration Manager's Setup Wizard program to change the router's default settings.

This chapter includes:

- Suggestions for default settings that you might want to change
- Instructions for launching the Setup Wizard program
- A description of the available configuration menus and settings

### Changing Default Settings

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Here are some reasons why you might want to use the Configuration Manager:

- You want to change the login password. See [Step 1. Setup Login Password](#) on page 12 for details.
- You want to specify or change the time zone. See [Step 2. Setup Time Zone](#) on page 12 for details.
- You want to change your WAN setting. See [Step 3. WAN Type Setup](#) on page 13 for details.
- You want to enable wireless security. See [Step 4. Wireless Settings](#) on page 20 for details.

### Launching the Configuration Manager's Setup Wizard

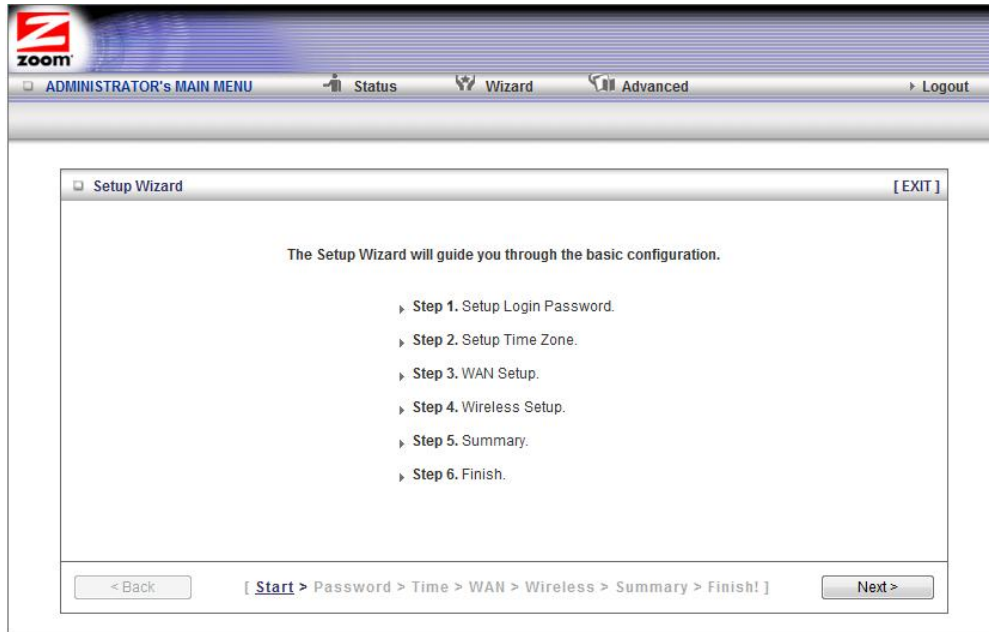
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When you start the Configuration Manager (<http://192.168.1.1> on your Web browser) and log in, the ADMINISTRATOR'S MAIN MENU opens.

Click Wizard on the Toolbar to launch the Setup Wizard, which will guide you through the configuration process.



The Setup Wizard page opens.



Each of the six steps guides you in configuring a specific setting or group of settings. When you click Next or Back, you move from one step to another.

## Step 1. Setup Login Password

To view or change configuration settings, you must enter a password. Your router has a default password (admin) that was set by the factory and that you used to access the Configuration Manager initially. If you want to keep the default password, click Next to skip this step. Otherwise, to safeguard your configuration, particularly if you make changes, we recommend that you change the login password.

- 1 On the Setup Login Password page, type the old password in the Old Password field.
- 2 Type the new password in the New Password field.
- 3 Type the new password in the Reconfirm field, then click Next.

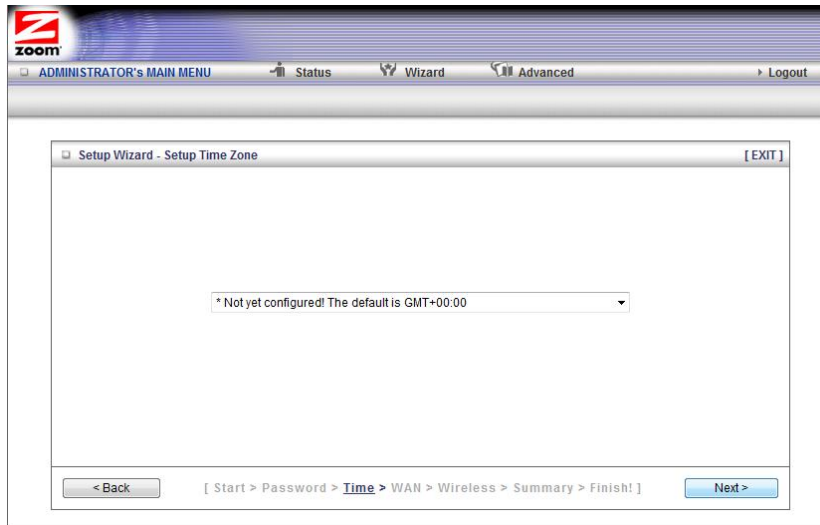
**Note:** If you forget the new password, you won't have access to the Configuration Manager and will need to restore the device to its factory settings, thus losing any changes you made to your router's configuration. To avoid this problem, we recommend that you write the new password here and also save it in some other convenient location.

PASSWORD: \_\_\_\_\_

Please refer to [Resetting the Router to the Default Configuration](#) on page 8 or [The Reset to Default Dialog](#) on page 59 for more information about restoring the router's default settings.

## Step 2. Setup Time Zone

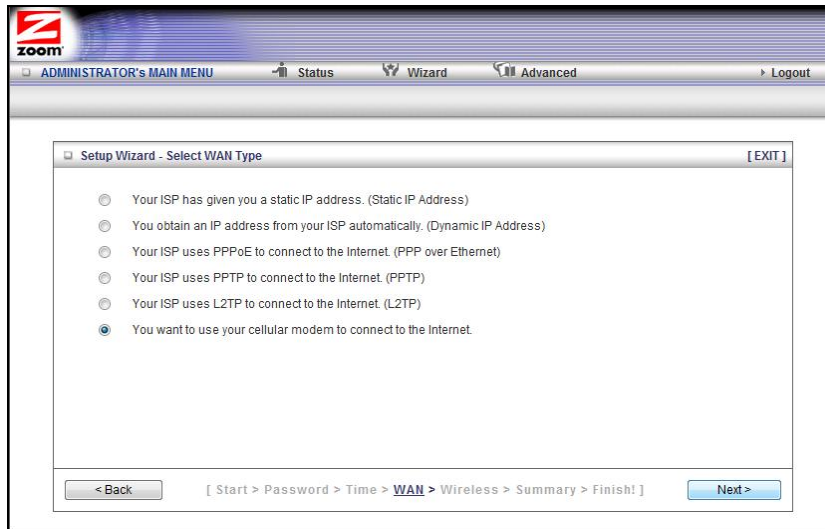
The Time Zone setting is not configured initially. You can set it to your current locale and change it later, as needed, if you are traveling across time zones.



To set the time zone, select the time zone that applies to your locale from the dropdown menu, then click Next.

### Step 3. WAN Type Setup

The WAN Type refers to the protocol used by your Internet Service Provider in establishing your Internet connection. By default, WAN Type is set to your 3G USB modem, a wireless cellular connection.



### Configuring the WAN Type

When you select one of the WAN Type protocol settings and click Next, a new page opens where you can configure the WAN Type that you chose. Please check with your service provider if you are unsure which WAN Type to choose.

- [Static IP Address](#) - Typically you have to request and pay extra for a static IP address.
- [Dynamic IP Address](#) - DSL modem users who do not need to enter a password and Cable modem users should choose this WAN type.

- [PPPoE](#) - Choose this type if your ADSL connection uses PPPoE.
- [PPTP](#) - The Point to Point Tunneling Protocol is more common in corporate environments and most users will not use this setting.
- [L2TP](#) - The Layer 2 Tunneling Protocol is more common in corporate environments and most users will not use this setting.
- [3G Cellular Modem](#) - Select this if you are using your 3G modem to connect to the Internet. (If you are using the 3G modem as the backup to a broadband modem, you'll need to use the Configuration Manager's Advanced program to configure this setup. Please refer to 3G Failover on [The Basic Setup Page](#) on page 35.)

If you are using Static IP Address, Dynamic IP Address, PPPoE, PPTP, or L2TP, then the Ethernet port is the WAN port. Please check with your service provider before changing the default setting and choosing an alternate.

If you accept the default setting (Cellular Modem), then the Ethernet port is the LAN port.

### **Configuring the Static IP Address**

If your ISP uses Static IP addressing, select the Static IP Address button on the Select WAN Type menu. The following page opens:

The screenshot shows the 'Setup Wizard - Static IP Address' window. The window has a title bar with the Zoom! logo and a navigation bar with links: ADMINISTRATOR'S MAIN MENU, Status, Wizard, Advanced, and Logout. The main content area contains a list of configuration options with corresponding input fields:

- LAN IP Address: 192.168.1.1
- Static IP Address: [Empty field]
- Static Subnet Mask: [Empty field]
- Static Gateway: [Empty field]
- Static Primary DNS: [Empty field]
- Static Secondary DNS: [Empty field]

At the bottom, there is a navigation bar with buttons: < Back, [ Start > Password > Time > **WAN** > Wireless > Summary > Finish! ], and Next >.

- **LAN IP Address**

This is the LAN IP Address of your router. Devices behind the router use this address as their default gateway. Most users will not need to change this address.

- Static IP Address

This is the IP address that is given to you by your service provider when you sign up for a Static IP address. This address identifies your 3G Wireless-N Router when seen from the Internet.

- Static Subnet Mask

This is the router's subnet mask. Your service provider supplies this address,

- Static Gateway

This is the IP address of the ISP server. Your service provider supplies this address.

- Static Primary DNS

This is the Domain Name System (DNS) server's IP address. Your service provider supplies this address.

- Static Secondary DNS

This is the IP address of an alternate Domain Name System (DNS) server. Your service provider supplies this address.

Go to [Step 4. Wireless Settings](#) on page 20.

### **Configuring the Dynamic IP Address**

If your service provider uses Dynamic IP addressing, select the Dynamic IP Address button on the Select WAN Type menu. The following page opens:

The screenshot shows the 'Setup Wizard - Dynamic IP Address' window. At the top, there is a navigation bar with 'ADMINISTRATOR'S MAIN MENU', 'Status', 'Wizard', 'Advanced', and 'Logout'. The main content area has a title bar 'Setup Wizard - Dynamic IP Address' with an '[ EXIT ]' button. Below the title bar, there are three sections: 'LAN IP Address' with a text box containing '192.168.1.1', 'Host Name' with a text box and '(optional)' label, and 'ISP registered MAC Address' with a text box and a 'Clone' button. At the bottom, there is a progress bar with buttons '< Back', '[ Start > Password > Time > WAN > Wireless > Summary > Finish! ]', and 'Next >'.

- LAN IP Address

This is the LAN IP Address of your router. Devices behind the router use this address as their default gateway. Most users will not need to change this address.

- Host Name

This is the name that identifies your 3G Wireless-N Router. Some service providers require a host name. Your service provider supplies this name, if needed.

- ISP registered MAC Address

This is the 12-digit **Media Access Control (MAC)** address of your router. Click the Clone button to get the MAC address that was registered with your service provider for your device, if needed.

Go to [Step 4. Wireless Settings](#) on page 20.

### **Configuring PPPoE**

If your ISP uses the Point-to-Point Protocol over Ethernet, for DSL-based Internet services, you should select the PPPoE button on the Select WAN Type menu. The following page opens:

The screenshot shows the 'Setup Wizard - PPP over Ethernet' window. It has a title bar with the Zoom logo and a menu bar with 'ADMINISTRATOR'S MAIN MENU', 'Status', 'Wizard', 'Advanced', and 'Logout'. The main content area contains a list of configuration items on the left and input fields on the right:
 

- LAN IP Address: 192.168.1.1
- Account: [Empty field]
- Password: [Empty field]
- Primary DNS: [Empty field]
- Secondary DNS: [Empty field]
- Service Name: [Empty field] (optional)
- Assigned IP Address: [Empty field] (optional)

 At the bottom, there are three buttons: '< Back', a breadcrumb trail '[ Start > Password > Time > WAN > Wireless > Summary > Finish! ]', and 'Next >'.

- LAN IP Address

This is the LAN IP Address of your router. Devices behind your router use this address as their default gateway. Most users will not need to change this address.

- Account

This is the PPPoE account name supplied by your service provider.

- Password

This is PPPoE password supplied by your service provider.

- Primary DNS

This is the Domain Name System (DNS) server's IP address. Your service provider supplies this address, if needed.



- **Secondary DNS**

This is the IP address of an alternate Domain Name System (DNS) server. Your service provider supplies this address, if needed.

- **Service Name**

This is the name assigned by your service provider to identify your service. The Service Name is optional.

- **Assigned IP Address**

This is the optional IP address assigned by your service provider. The Assigned IP Address is optional.

Go to [Step 4. Wireless Settings](#) on page 20.

### **Configuring PPTP**

If you are using your router within a VPN, you might need to select the Point-to-Point Tunneling Protocol (PPTP). When you select the PPTP button on the Select WAN Type menu, the following page opens:

The screenshot shows the 'Setup Wizard - PPTP' window within the Zoom Administrator's interface. The window has a title bar with the Zoom logo and 'ADMINISTRATOR'S MAIN MENU'. Below the title bar are tabs for 'Status', 'Wizard', and 'Advanced', with 'Logout' on the far right. The main content area lists configuration fields: 'LAN IP Address' (192.168.1.1), 'IP Mode' (Dynamic IP Address dropdown), 'My IP Address', 'My Subnet Mask', 'Gateway IP', 'Server IP Address/Name', 'PPTP Account', and 'PPTP Password'. At the bottom, there are navigation buttons: '< Back', a progress bar showing '[ Start > Password > Time > WAN > Wireless > Summary > Finish! ]', and 'Next >'.

- **LAN IP Address**

This is the LAN IP Address of your router. Devices behind your router use this address as their default gateway. Most users will not need to change this address.

- **IP Mode**

This is the mode used to generate the IP address. Select an option from the dropdown menu, based on your service provider's requirements.

- **My IP Address**

This is the private IP address that your service provider assigned to your router.

- **My Subnet Mask**  
This is the private subnet mask that your service provider assigned to your router.
- **Gateway IP**  
This is the IP address of the service provider's server. Your service provider supplies this address.
- **Server IP Address/Name**  
This is the name and IP address of the PPTP server. Your service provider supplies this information, if needed.
- **PPTP Account**  
This is the PPTP account name that your service provider assigned to you.
- **PPTP Password**  
This is PPTP password that your service provider assigned to you.

Go to [Step 4. Wireless Settings](#) on page 20.

### **Configuring L2TP**

If you are using your router within a VPN, you might need to select the L2TP menu item. If you select the L2TP button on the Select WAN Type menu, the following page opens:

The screenshot shows the 'Setup Wizard - L2TP' window in a web browser. The window has a title bar with the Zoom logo and navigation tabs: ADMINISTRATOR's MAIN MENU, Status, Wizard, Advanced, and Logout. The main content area lists configuration items with corresponding input fields:

- LAN IP Address: 192.168.1.1
- IP Mode: Dynamic IP Address (dropdown menu)
- IP Address: [Empty text box]
- Subnet Mask: [Empty text box]
- WAN Gateway IP: [Empty text box]
- Server IP Address/Name: [Empty text box]
- L2TP Account: [Empty text box]
- L2TP Password: [Empty text box]

At the bottom, there are navigation buttons: '< Back', a breadcrumb trail '[ Start > Password > Time > WAN > Wireless > Summary > Finish! ]', and 'Next >'.

- **LAN IP Address**  
This is the LAN IP Address of your router. Devices behind your router use this address as their default gateway. Most users will not need to change this address.
- **IP Mode**  
This is the mode used to generate the IP address. Select an option from the dropdown menu, based on your service provider's requirements.
- **IP Address**  
This is the IP address that identifies the L2TP server. Your service provider supplies this address.

- Subnet Mask  
This is the router's subnet mask. Your service provider supplies this address.
- WAN Gateway IP  
This is the WAN Gateway IP address of the L2TP server. Your service provider supplies this address.
- Server IP Address/Name  
This is the name and IP address of the L2TP server. Your service provider supplies this information, if needed.
- L2TP Account  
This is the L2TP account name or user name supplied by your service provider.
- L2TP Password  
This is L2TP password supplied by your service provider.

Go to [Step 4. Wireless Settings](#) on page 20.

### **Configuring the 3G Modem**

To configure your 3G modem, select the Cellular Modem button on the Select WAN Type menu. The following page opens:

The screenshot shows the 'Setup Wizard - 3G' window in a web browser. The window has a title bar with the Zoom logo and a navigation bar with links: ADMINISTRATOR'S MAIN MENU, Status, Wizard, Advanced, and Logout. The main content area is titled 'Setup Wizard - 3G' and contains a list of configuration fields on the left and their corresponding input boxes on the right. The fields are: LAN IP Address (with the value 192.168.1.1), APN, PIN Code, Dialed Number, Account, and Password. At the bottom of the window, there is a progress bar showing the steps: [ Start > Password > Time > **WAN** > Wireless > Summary > Finish! ]. Navigation buttons include '< Back' and 'Next >'.

- LAN IP Address  
This is the LAN IP Address of your router. Devices behind your router use this address as their default gateway. Most users will not need to change this address.
- APN  
This is the **Access Point Name (APN)** assigned by your service provider, if needed.

- **PIN**  
This is the **Personal Identification Number (PIN)** code assigned by your service provider, if needed.
- **Dialed Number**  
This number is assigned by your service provider, if needed.
- **Account**  
This is the Account Name provided by your service provider, if needed.
- **Password**  
This is the Password assigned by your service provider, if needed.

Go to [Step 4. Wireless Settings](#), below.

### Step 4. Wireless Settings

The Wireless Settings page lets you configure the wireless settings for your 3G router and devices. If you are happy to have no wireless security, click Next to go to Step 5. If all of your network's wireless devices are capable of WPS security setup and you want to use WPS, please go to Steps 5 and 6, then exit the Wizard and go to Chapter 4. Otherwise, continue below.

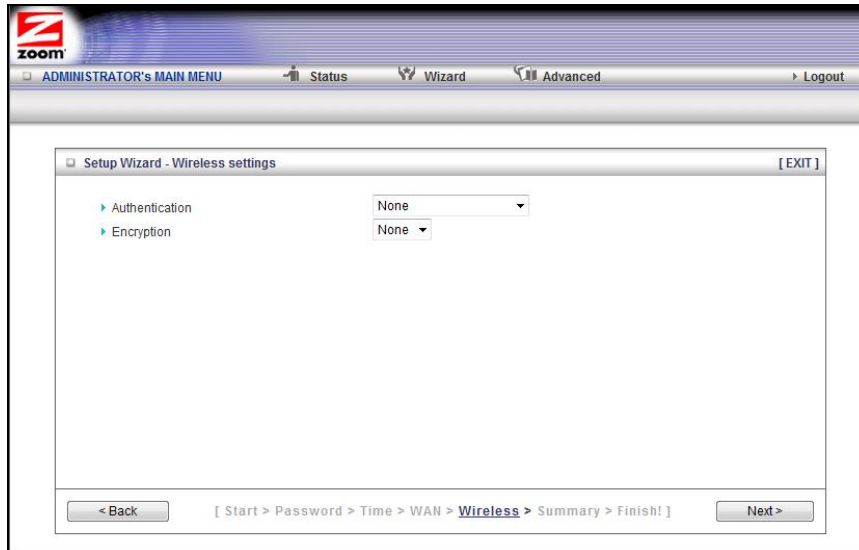
The screenshot shows the 'Setup Wizard - Wireless settings' window. At the top, there is a 'zoom' logo and a navigation bar with 'ADMINISTRATOR'S MAIN MENU', 'Status', 'Wizard', 'Advanced', and 'Logout'. The main content area has a title bar 'Setup Wizard - Wireless settings' and an '[EXIT]' button. Below the title bar, there are three sections: 'Wireless Module' with 'Enable' selected and 'Disable' unselected; 'Network ID (SSID)' with a text box containing 'Zoom'; and 'Channel' with a dropdown menu showing '10'. At the bottom, there is a navigation bar with '< Back', '[ Start > Password > Time > WAN > **Wireless** > Summary > Finish! ]', and 'Next >'.

- **Wireless Module** Accept the default, Enable. Click the Disable checkbox only if you do not want wireless clients to access your network.
- **Network ID (SSID)** refers to the **S**ervice **S**et **I**dentifier for your device. By default, the SSID for the 3G Wireless-N Router is Zoom. You can change the SSID to a name of your choice. The SSID can be up to 32 alphanumeric characters. If you change the name, make sure that all devices on your network use the new SSID as the access point.
- **Channel** refers to the wireless network channel assigned to your LAN. By default, the router uses channel 10.

**TIP:** Other wireless networks might be within range of your network. Your neighbors, for instance, may be within range. If possible, there should be at least a five-channel difference between your network and neighboring networks with strong signals. Having less than a five-channel difference may result in interference with your connection.

## Wireless Security Settings

If you accepted the default to Enable the Wireless Module (on the Wireless Settings page at Step 4), the following page opens when you click Next.



## Configuring Authentication and Encryption

By default, Authentication and Encryption services are not configured. You can configure both settings on the Wireless settings page.

- 1 To configure Authentication, select either **Wired Equivalent Privacy (WEP)** or **WiFi Protected Access-Pre-Shared Key (WPA-PSK/WPA2-PSK)** from the dropdown menu.

**Important:** Be aware that WEP is a basic authentication service and is not as secure as WPA-PSK/WPA2-PSK. If you have devices on your wireless network that support only WEP (for example, some gaming consoles), you will need to select WEP as your Authentication method.

We recommend this setting if all devices on your network support either WPA or WPA2. Your router will automatically detect whether it should use WPA or WPA2.

The screenshot shows the Zoom Wireless Setup Wizard. At the top, there is a navigation bar with the Zoom logo, a link to 'ADMINISTRATOR's MAIN MENU', and icons for 'Status', 'Wizard', 'Advanced', and 'Logout'. The main window is titled 'Setup Wizard - Wireless settings' and includes an '[ EXIT ]' button in the top right corner. The settings are organized into a tree view on the left with three items: 'Authentication', 'Encryption', and 'Preshare Key'. The 'Authentication' dropdown is set to 'WPA-PSK / WPA2-PSK', and the 'Encryption' dropdown is set to 'TKIP / AES'. Below these, there is an empty text input field for the 'Preshare Key'. At the bottom of the window, there is a navigation bar with a '< Back' button, a breadcrumb trail '[ Start > Password > Time > WAN > Wireless > Summary > Finish! ]', and a 'Next >' button.

## WEP Authentication and Encryption

When you select WEP from the Authentication dropdown menu, the Encryption field expands, as shown in the following figure.

Field	Entry
Authentication	Select <b>WEP</b>
Encryption	Select <b>WEP</b>
Encryption WEP Key 1, 2, 3, 4	<p>If all the wireless devices in the network are Zoom products, select <b>Hex</b>. Otherwise, select <b>ASCII</b>. Although Zoom products support both <b>Hex</b> and <b>ASCII</b>, we recommend using <b>Hex</b>.</p> <p><i>If you selected Hex format and you chose a 128-bit key length, 26 hexadecimal values are required. Write the 26-hexadecimal key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p> <p>_____</p> <p><i>If you selected Hex format and you chose a 64-bit key length, 13 hexadecimal values are required. Write the 13-hexadecimal key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p> <p><i>If you selected ASCII format, and you chose a 128-bit key length, 13 ASCII characters are required. Write the 13-ASCII-character key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p> <p><i>If you selected ASCII format, and you chose a 64-bit key length, 5 ASCII characters are required. Write the 5-ASCII-character key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p>

## Step 5. Summary

The Summary page displays the updated configuration settings for your router and lets you accept, change, and test the configured values.

Setup Wizard - Summary [EXIT]

Please confirm the information below

[ WAN Setting ]	
WAN Type	3G
APN	
PIN Code	
Diald Number	
Account	
Password	*****

[ Wireless Setting ]	
Wireless	Enable
SSID	Zoom
Channel	10
Authentication	WPA-PSK / WPA2-PSK
Encryption	TKIP/AES

☒ Do you want to proceed the network testing?

☒ The Ethernet Port will be used as LAN Port after saving, confirm?

< Back [ Start > Password > Time > WAN > Wireless > Summary > Finish! ] Apply Settings

- 1 To edit your entries, click Back as many times as needed to access the page for the field(s) to be edited, then click Next to continue with your edits or to return to the updated Summary page.
- 2 To test the updated configuration on your network, click the checkbox next to Do you want to proceed with the network testing?
- 3 To use the Ethernet port as the LAN port, click the checkbox next to The Ethernet Port will be used as LAN Port after saving. Confirm? This option is only available if you are using your 3G modem as your Wan type.
- 4 When you're satisfied with the configured settings, click Apply Settings to save the new configuration.

## Step 6. Finish

The Finish page displays the saved configuration settings for your router.

zoom

ADMINISTRATOR'S MAIN MENU Status Wizard Advanced Logout

Setup Wizard - Finish [EXIT]

**Congratulations!!**  
The Internet connection is established.  
Connection information is

WAN Type	3G
IP Address	166.203.174.233
Subnet Mask	255.255.255.255
Gateway	10.64.64.64
DNS	209.183.33.23, 209.183.35.23

< Back [ Start > Password > Time > WAN > Wireless > Summary > Finish! ] Finish

- 1 Click Finish to exit the Setup Wizard.



## Wireless and Wireless Security Setup

---

Your 3G Wireless-N Router's default (factory) settings provide no wireless network security. If you don't want unauthorized wireless access to your network, we recommend that you enable wireless network security. To do this, you'll need to configure the router and each device on your network for the level of security that you want.

Before setting up wireless security you must decide which method to use.

- Use **Wi-Fi Protected Setup (WPS)** when all of your devices support WPS security. WPS is easy to configure. Please refer to [WPS Configuration](#) below for details.
- Use **Wireless Distribution System (WDS)** if you want wireless point-to-point and point-to-multipoint bridging for deployment of a large area. With **WDS**, you can easily extend the range of your wireless network. Please refer to [WDS Configuration](#) on page 30 for details.
- If you want security without using **WPS** or **WDS**, you should probably use the **Setup Wizard** as described in Chapter 3.
- A manual setup option is also available. Please refer to [Configuring Wireless Security Manually](#) on page 27.

### WPS Configuration

---

You can automatically configure WPS security using the router's built-in WPS configuration program on each client device that is part of your wireless network.

#### Configuration Methods

WPS offers three configuration methods. Choose the method that is compatible with the hardware and software options available on your router and client device.

**Note:** WPS configures one client device at a time. Please repeat the configuration method for each client on your wireless network that supports WPS security.

#### Method One

Use this method if your router and client devices have a **WPS** button. This button can be either a physical button on the unit or a software button in its application.

- 1 Press the WPS button on your 3G router and hold it in for seven (7) seconds until the Wireless LED starts blinking rapidly.

**Important!** The Registrar (the device configuring the WLAN) goes into the WPS mode and the Enrollee (the device joining the WLAN) then looks for it. You should always start the Registrar first. By default your 3G Router is configured as a Registrar.

- 2 Click or press the WPS button on the client device.
- 3 Refer to your client device's documentation for further instructions, if necessary.

### Method Two

Use this method if your client device already has a WPS PIN number. The client is the Enrollee.

- 1 If you haven't already done so, open a Web browser and type **http://192.168.1.1** in the address bar.
- 2 When the Configuration Manager launches, log in as **admin**, then select Advanced > Basic Settings > Wireless to open the Wireless Setup page.
- 3 Click the WPS Setup button to open the Wi-Fi Protected Setup page.
- 4 Select PIN Code from the Config type dropdown menu.
- 5 Enter the PIN number from your client device.
- 6 Click Trigger to start the connection process on the router.

**Important!** You must do this within two minutes after starting the router.

- 7 On the 3G router, when the program displays a message that the process succeeded, click Save to save the configuration

### Method Three

Use this method if your client device requests the router's PIN number. The client is the Registrar. Use this method if the client(s) are to connect to multiple access points so that a client will control the configuration instead of the router.

- 1 If you haven't already done so, open a Web browser and type **http://192.168.1.1** in the address bar.
- 2 When the Configuration Manager launches, log in as **admin**, then select Advanced > Basic Settings > Wireless to open the Wireless Setup page.
- 3 Click the WPS Setup button.
- 4 Select Enrollee from the Config Mode dropdown menu.
- 5 Click Generate Pin to generate a new Pin number.
- 6 Enter the router's Pin Number into your client device. Refer to your client's documentation for further details.

**Important!** You must do this within two minutes after starting the router.

- 7 Click Trigger to start the connection process on the router.

- 8 On the 3G router, when the program displays a message that the process succeeded, click SET to keep the router from receiving new configuration parameters from another WPS Registrar.
- 9 Click Save to save the configuration.

## Configuring Wireless Security Manually

### WPA2/WPA Configuration

Wi-Fi Protected Access (WPA) is an encryption method that offers a stronger security standard than WEP.

**Important!** If you choose to configure your router using either WPA2 or WPA encryption, then you must configure all devices on your wireless network with the same WPA encryption method and shared key.

- 1 To configure WPA2 or WPA encryption, select Advanced > Basic Settings > Wireless to open the Wireless Setting page.

The screenshot shows the 'Wireless Setting' page of a Zoom 3G router. The page has a sidebar with a tree view containing 'Basic Setup', 'DHCP Server', 'Wireless', and 'Change Password'. The 'Wireless' option is selected. The main content area is titled 'Wireless Setting' and contains a table with the following items and settings:

Item	Setting
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Network ID (SSID)	Zoom
SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	10
Wireless Mode	B/G/N mixed
Authentication	WPA-PSK / WPA2-PSK
802.1X	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Encryption	TKIP / AES
Preshare Key	

At the bottom of the page, there are buttons for 'Save', 'Undo', 'WDS Setting...', 'WPS Setup...', and 'Wireless Client List...'.

- 2 Select or enter values in the following fields:

Field	Entry
<b>Wireless Module</b>	Accept the default, Enable. Click the Disable checkbox only if you do not want wireless clients to access your network.
<b>Network ID (SSID)</b>	Refers to the <b>S</b> ervice <b>S</b> et <b>I</b> dentifier for your device. By default, the SSID for the 3G Wireless-N Router is <b>Zoom</b> . You can change the SSID to a name of your choice. The SSID can be up to 32 alphanumeric characters. If you change the name, make sure that all devices on your network use the new SSID as the access point.
<b>SSID Broadcast</b>	To hide your network's SSID name, which disables automatic broadcasting of the SSID and makes the wireless access point (your router) invisible to wireless clients on the network, click the Disable radio button.

Field	Entry
<b>Channel</b>	Refers to the wireless network channel assigned to your LAN. By default, the router uses channel <b>10</b> .
<b>Wireless Mode</b>	Accept the default, B/G/N mixed if the client devices on your network use various wireless standards. Otherwise, select the wireless standard used by all wireless devices on your network. Having a single standard will speed up the wireless throughput.
<b>Authentication</b>	Select WPA-PSK/WPA2 PSK if your devices support both authentication methods. Optionally, select WPA-PSK or WPA2-PSK if all devices on your network support only one of the authentication methods.
<b>802.1X</b>	Refers to the optional authentication method for Radius servers. To enable 802.1X, click the Enable radio button. Otherwise, accept the default, Disable.
<b>Encryption</b>	Select TKIP/AES, which supports dynamic encryption keys using TKIP or AES algorithms. Select AES if you chose WPA2-PSK for the authentication method. Select TKIP if you chose WPA-PSK for the authentication method.
<b>Preshare Key</b>	<p>In the Preshare Key field enter a value for the key. The maximum value is 32 characters. The minimum value is 8 characters.</p> <p>Write your key in the space below for future reference, and then enter it in the Preshare Key field:</p> <p>— — — — — — — — — — — — — — — —</p> <p>— — — — — — — — — — — — — — — —</p>

## WEP Configuration

**Wired Equivalent Privacy (WEP)** is a basic encryption method that does not offer the security strength of WPA or WPA2. Use this method if some of your network's wireless devices, such as a gaming console, do not support WPA2/WPA.

**Important!** If you choose to configure your router using WEP encryption, then you must configure all devices on your wireless network with the same WEP encryption method and key.

- 1 To configure WEP encryption, select **Advanced > Basic Setting > Wireless** to open the **Wireless Setting** page.
- 2 Select or enter values in the following fields:

BASIC SETTINGS		FORWARDING RULES	SECURITY SETTINGS	ADVANCED SETTINGS	TOOLBOX																										
<ul style="list-style-type: none"> <li>Basic Setup</li> <li>DHCP Server</li> <li>Wireless</li> <li>Change Password</li> </ul>	<div> <div>Wireless Setting</div> <div>[ HELP ]</div> <table border="1"> <thead> <tr> <th>Item</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>Wireless Module</td> <td><input checked="" type="radio"/> Enable <input type="radio"/> Disable</td> </tr> <tr> <td>Network ID(SSID)</td> <td>Zoom</td> </tr> <tr> <td>SSID Broadcast</td> <td><input checked="" type="radio"/> Enable <input type="radio"/> Disable</td> </tr> <tr> <td>Channel</td> <td>10</td> </tr> <tr> <td>Wireless Mode</td> <td>B/G/N mixed</td> </tr> <tr> <td>Authentication</td> <td>WEP - Auto</td> </tr> <tr> <td>802.1X</td> <td><input type="radio"/> Enable <input checked="" type="radio"/> Disable</td> </tr> <tr> <td>Encryption</td> <td>WEP</td> </tr> <tr> <td><input checked="" type="radio"/> WEP Key 1</td> <td>HEX</td> </tr> <tr> <td><input type="radio"/> WEP Key 2</td> <td>HEX</td> </tr> <tr> <td><input type="radio"/> WEP Key 3</td> <td>HEX</td> </tr> <tr> <td><input type="radio"/> WEP Key 4</td> <td>HEX</td> </tr> </tbody> </table> <div> <div>Save</div> <div>Undo</div> <div>WDS Setting...</div> <div>WPS Setup...</div> <div>Wireless Client List...</div> </div> </div>					Item	Setting	Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	Network ID(SSID)	Zoom	SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	Channel	10	Wireless Mode	B/G/N mixed	Authentication	WEP - Auto	802.1X	<input type="radio"/> Enable <input checked="" type="radio"/> Disable	Encryption	WEP	<input checked="" type="radio"/> WEP Key 1	HEX	<input type="radio"/> WEP Key 2	HEX	<input type="radio"/> WEP Key 3	HEX	<input type="radio"/> WEP Key 4	HEX
Item	Setting																														
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable																														
Network ID(SSID)	Zoom																														
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Wireless Mode	B/G/N mixed																														
Authentication	WEP - Auto																														
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Encryption	WEP																														
<input checked="" type="radio"/> WEP Key 1	HEX																														
<input type="radio"/> WEP Key 2	HEX																														
<input type="radio"/> WEP Key 3	HEX																														
<input type="radio"/> WEP Key 4	HEX																														

Field	Entry
<b>Wireless Module</b>	Accept the default, Enable. Click the Disable checkbox only if you do not want wireless clients to access your network.
<b>Network ID (SSID)</b>	Refers to the <b>S</b> ervice <b>S</b> et <b>I</b> dentifier for your device. By default, the SSID for the 3G Wireless-N Router is Zoom. You can change the SSID to a name of your choice. The SSID can be up to 32 alphanumeric characters. If you change the name, make sure that all devices on your network use the new SSID as the access point.
<b>SSID Broadcast</b>	To hide your network's SSID name, which disables automatic broadcasting of the SSID and makes the wireless access point (your router) invisible to wireless clients on the network, click the Disable radio button.
<b>Channel</b>	Refers to the wireless network channel assigned to your LAN. By default, the router uses channel <b>10</b> .
<b>Wireless Mode</b>	Accept the default, B/G/N mixed if the client devices on your network use various wireless standards. Otherwise, select the wireless standard used by all wireless devices on your network. Having a single standard will speed up the wireless throughput.
<b>Authentication</b>	Accept the default, WEP-Auto or select one of the available options. Select WEP-Open to use Open System authentication. Select WEP-Shared to use Shared Key authentication.
<b>802.1X</b>	Refers to the optional authentication method for Radius servers. To enable 802.1X, click the Enable radio button. Otherwise, accept the default, Disable.
<b>Key Format</b>	If all the wireless devices in the network are Zoom products, select <b>Hex</b> . Otherwise, select <b>ASCII</b> . Although Zoom products support both <b>Hex</b> and <b>ASCII</b> , we recommend using <b>Hex</b> .

Field	Entry
Encryption WEP Key 1, 2, 3, 4	<p><i>If you selected Hex format and you chose a 128-bit key length, 26 hexadecimal values are required. Write the 26-hexadecimal key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p> <p>_____</p> <p><i>If you selected Hex format and you chose a 64-bit key length, 13 hexadecimal values are required. Write the 13-hexadecimal key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p> <p><i>If you selected ASCII format, and you chose a 128-bit key length, 13 ASCII characters are required. Write the 13-ASCII-character key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p> <p><i>If you selected ASCII format, and you chose a 64-bit key length, 5 ASCII characters are required. Write the 5-ASCII-character key in the space below for future reference, and then enter it in the Key 1 box.</i></p> <p>_____</p>

## WDS Configuration

**Wired Distribution System (WDS)** provides wireless point-to-point bridging and point-to-multipoint bridging. WDS lets you build one or more wireless bridges connecting one network to a second network (“point to point”) or connecting one network to more than one network (“point to multi-point”). You typically use a wireless router such as model 4501 at each end of the wireless bridge. That router can connect to its local area network by means of its Ethernet ports and/or its wireless capability, and it can connect to the remote network by means of its WDS wireless bridge capability.

For point-to-multipoint bridging, a single model 4501 can connect one network to multiple networks, each with its own model 4501.

It's possible to remove the model 4501 standard antenna and replace it with a directional antenna so that the router's wireless signal “points at” a remote router. The directional antenna should have a Reverse Polarity SMA Plug to easily connect to the router. If you do this for both routers in a wireless bridge, you can extend the distance covered by that wireless bridge. However, you should only do this if you obey the regulations of the country where the wireless bridge is located. Many countries require you to get regulatory certification for a combination of the wireless router and the particular antenna you want to use.

- 1 To configure WDS, select **Advanced > Basic Settings > Wireless** to open the Wireless Setting page.

**Zoom**  
ADMINISTRATOR'S MAIN MENU   Status   Wizard   Advanced   Logout

BASIC SETTINGS   FORWARDING RULES   SECURITY SETTINGS   ADVANCED SETTINGS   TOOLBOX

Basic Setup  
DHCP Server  
Wireless  
Change Password

**Wireless Setting** [HELP]

Item	Setting
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Network ID (SSID)	Zoom
SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	10
Wireless Mode	B/G/N mixed
Authentication	WEP - Open
802.1X	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Encryption	None

Save   Undo   WDS Setting...  
WPS Setup...   Wireless Client List...

- Click WDS Setting to open the WDS Setting page.

**Zoom**  
ADMINISTRATOR'S MAIN MENU   Status   Wizard   Advanced   Logout

BASIC SETTINGS   FORWARDING RULES   SECURITY SETTINGS   ADVANCED SETTINGS   TOOLBOX

Basic Setup  
DHCP Server  
Wireless  
Change Password

**WDS Setting** [HELP]

Item	Setting
Wireless Repeater	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Remote AP MAC 1	
Remote AP MAC 2	
Remote AP MAC 3	
Remote AP MAC 4	
Encryption type	None

Save   Undo   Back

- Select or enter values for the following fields:

Field	Entry
<b>Wireless Repeater</b>	To enable the wireless bridging feature, set the mode to Enable. The default setting is Disable, which means that a wireless access point, not wireless bridging, is available. When you enable wireless bridging, both wireless bridging and wireless access points are available simultaneously.
<b>Remote AP MAC 1</b>	Refers to the MAC Address of the WDS-enabled <b>Access Point (AP)</b> . Enter the address in the field. Only authorized APs can access this router through the WDS feature to extend the WLAN coverage range.
<b>Remote AP MAC 2</b>	Refers to the MAC Address of the WDS-enabled <b>Access Point (AP)</b> . Enter the address in the field. Only authorized APs can access this router through the WDS feature to extend the WLAN coverage range.

Field	Entry
<b>Remote AP MAC 3</b>	Refers to the MAC Address of the WDS-enabled <b>Access Point (AP)</b> . Enter the address in the field. Only authorized APs can access this router through the WDS feature to extend the WLAN coverage range.
<b>Remote AP MAC 4</b>	Refers to the MAC Address of the WDS-enabled <b>Access Point (AP)</b> . Enter the address in the field. Only authorized APs can access this router through the WDS feature to extend the WLAN coverage range.
<b>Encryption type</b>	By default, the Encryption type is None. If you previously selected a WEP or WPA-PSK/WPA2-PSK encryption type when using the Advanced > Basic Setting > Wireless Setting page, the values you chose will appear on this menu. For WEP encryption, choose WEP. For WPA, choose TKIP or AES.
<b>Encryption key</b>	The Encryption key field appears on the WDS Setting page if you entered a WPA-PSK/WPA2-PSK encryption key when using the Advanced > Basic Setting > Wireless Setting page. Enter the same key that you defined previously for the Preshare Key on the Advanced > Basic Setting > Wireless Setting page. The maximum value is 32 characters. The minimum value is 8 characters. Write your key in the space below for future reference, and then enter it in the Encryption Key field: <div style="text-align: center;">           _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _            _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _         </div>

- 4 Click Save.



# 5

## Using the Configuration Manager's Advanced Program

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Most users will not need to manually set up their router but if you do, you can use the Configuration Manager's Advanced program to change the router's default settings.

This chapter includes:

- Suggestions for settings that you might want to change
- A brief description of the online and context-sensitive help that is available
- Instructions for launching the Advanced program
- An overview of the available configuration menus and settings

### Changing Default Settings

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Here are some reasons why you might want to use the Advanced program to change the router's default settings.

- 1 You want to change wireless n/g/b settings to enable wireless security. See [Configuring Security Settings](#) on page 44 for details.
- 2 You want to block access to certain URLs or set up Time of Day usage rules. See [The URL Blocking Page](#) on page 47 for details.
- 3 You want to hide the SSID name so other network users cannot see your wireless network. See [The Wireless Setting Page](#) on page 37 for details.
- 4 You want to change router settings to establish a firewall to guard against unauthorized access to your network. See [The MAC Address Control Page](#) on page 48 for details.
- 5 You want to set up a Virtual Server or DMZ so that your games or gaming consoles can access the Internet through your router's firewall. See [Configuring Forwarding Rules](#) on page 41 for details.
- 6 You want your 3G connection to be terminated by the router if you haven't used the Internet for a specified period of time. The default setting is Auto Reconnect (always on). See [The Basic Setup Page](#) (Connection Control) on page 35 for details.

- 7 You want to connect the router to your ADSL or cable modem, using your 3G modem as a backup Internet connection. See [The Basic Setup Page](#) (3G Failover) on page 35 for details.
- 8 You want to set up QoS on your router. See [The QoS Page](#) on page 51 for details.
- 9 You want to back up router settings that you made using the Configuration Manager. See [The Backup Setting Dialog](#) on page 59 for details.

## Online Help

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The Advanced program provides both online and context-sensitive help that guides you in changing the settings on each menu.

- To access **online help**, click [HELP] on the menu's Toolbar. Each [HELP] page describes the fields on the active page and, when applicable, the required or recommended entries.
- The **context-sensitive help** automatically displays a question mark to the right of the cursor, then opens a message box in the left pane of the page. The message box contains text that describes the active field and its required or recommended entry.

## Launching the Configuration Manager's Advanced Program

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- 1 If you haven't already done so, plug the supplied Ethernet cable into the LAN port on the router's back panel and your computer's Ethernet port.
- 2 Optionally, plug the 3G USB modem into the router's USB port.
- 3 Turn on your computer and router, then launch your Web browser.
- 4 In the Web browser address bar, type the router's default IP address, **http://192.168.1.1** and then click Enter to launch the Configuration Manager.

When the Configuration Manager's MAIN MENU opens, it displays a Status page that summarizes the basic settings and current values for your setup.

- 5 On the Toolbar, type the login password -- **admin** is the default password -- in the System Password field, and then click Login.



- 6 Click Advanced on the Toolbar to launch the Advanced program.

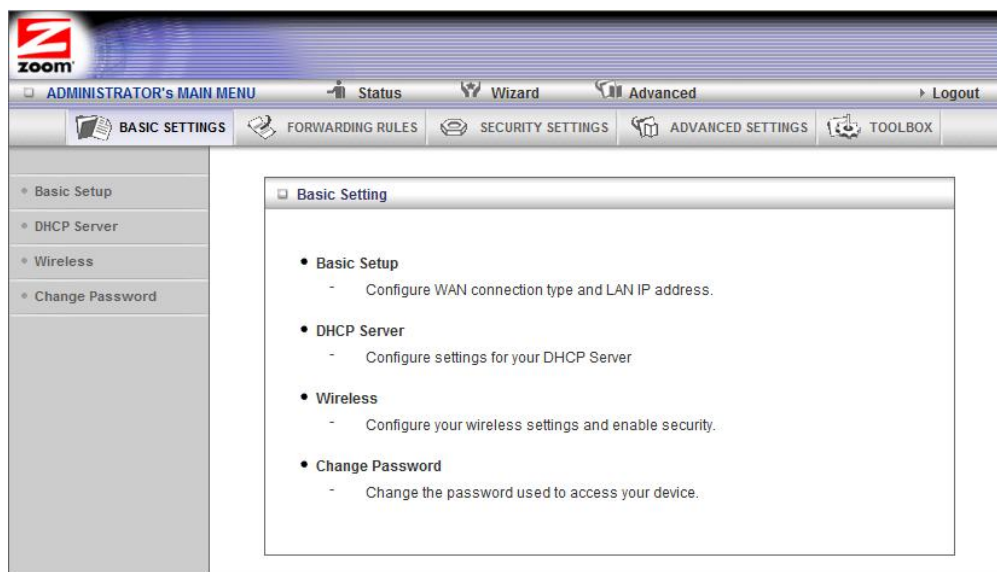


- 7 On the Basic Settings page, click one of the Toolbar buttons (Basic Settings, Forwarding Rules, Security Settings, Advanced Settings, or Toolbox).

The corresponding window opens. Each window contains a description of the configuration options at center and a configuration menu on the left pane.

## Configuring Basic Settings

The Basic Settings page lists the four configuration menus on the left pane and provides a description of the configuration menus at center.



## The Basic Setup Page

You can use the Basic Setup page to configure your LAN and WAN setup.

**Note:** The following image shows the fields that the program displays when 3G is selected as the WAN Type. The fields will differ for each WAN Type. See the online help for a description of each WAN Type and its corresponding fields.

Basic Setup [ HELP ]	
Item	Setting
▶ LAN IP Address	192.168.1.1
▶ 3G Fallback	<input type="checkbox"/> Check for Wan Connection Internet host: <input type="text"/>
▶ WAN Type	3G <input type="button" value="v"/>
▶ APN (Not required by all providers)	<input type="text"/>
▶ PIN Code	<input type="text"/>
▶ Dialed Number	<input type="text"/>
▶ Username	<input type="text"/>
▶ Password	<input type="text"/>
▶ Authentication	<input checked="" type="radio"/> Auto <input type="radio"/> PAP <input type="radio"/> CHAP
▶ Primary DNS	<input type="text"/>
▶ Secondary DNS	<input type="text"/>
▶ Connection Control	Auto Reconnect (always on) <input type="button" value="v"/>
▶ Maximum Idle Time	0 seconds
▶ Keep Alive	<input checked="" type="radio"/> Disable <input type="radio"/> Use LCP Echo Request ▶ lcp-echo-interval: 10 seconds ▶ lcp-echo-failure: 3 times

- **LAN IP Address**

The local IP address of the router. 192.168.1.1, by default. All wireless or wired devices on your network must use the LAN IP address of your router as their default gateway.

- **3G Fallback**

Click the WAN Connection checkbox if you want the WAN type to change to 3G wireless if the Ethernet WAN fails.

- **WAN Type**

Set to 3G, by default. You can choose another option from the dropdown menu, based on the WAN connection type that your service provider supports.

- **APN, PIN Code, Dialed Number, Username and Password**

Identifiers assigned by some service providers, if needed.

- **Authentication**

Set to Auto, by default. Optionally, click Password Authentication Protocol (PAP), or Challenge Handshake Authentication Protocol (CHAP), if supported by your service provider.

- **Primary DNS and Secondary DNS**

Identifiers for the **Domain Name Servers**. These identifiers are provided by your service provider.

- **Connection Control**  
Specifies the method for connecting or disconnecting the WAN session based on network activity. Auto Reconnect (always on) is the default. Other options are Connection-on-Demand or Manual.
- **Maximum Idle Time**  
Specifies the duration (in seconds) of inactivity before the device disconnects. The default is **0**, which disables this feature.
- **Keep Alive**  
Disabled by default. Select LCP Echo Request to keep the connection alive.

## The DHCP Server Page

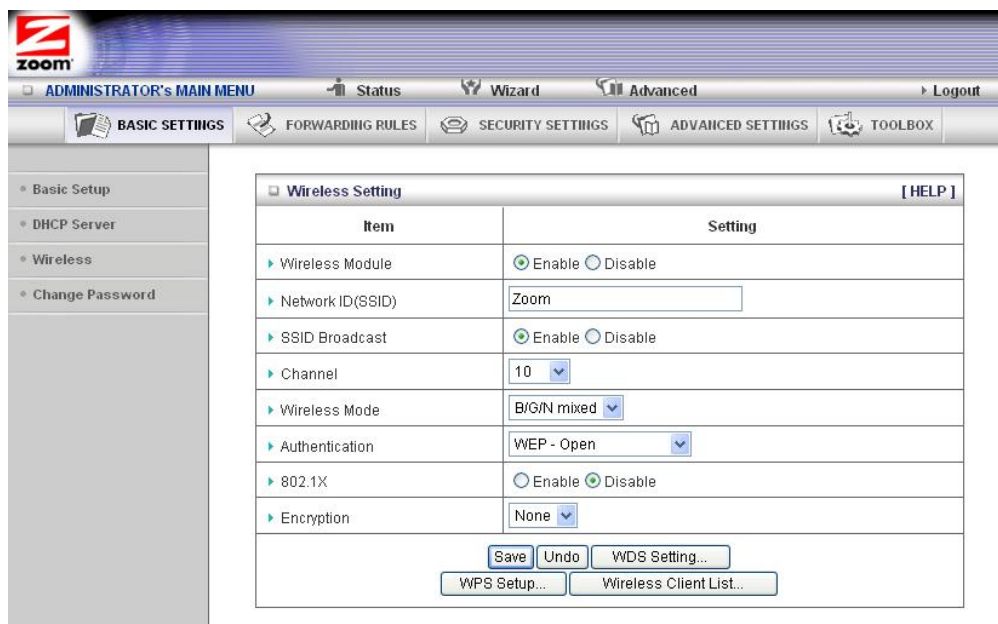
You can use the DHCP Server page to configure your DHCP server. If you want to change the default values, please click [HELP], which opens a page that describes each item and the recommended values.

Item	Setting
DHCP Server	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
IP Pool Starting Address	100
IP Pool Ending Address	200
Lease Time	86400 Seconds
Domain Name	

Save Undo More>> Clients List... Fixed Mapping...

## The Wireless Setting Page

You can use the Wireless Setting page to configure your wireless LAN setup.



**ADMINISTRATOR'S MAIN MENU** | Status | Wizard | Advanced | Logout

**BASIC SETTINGS** | FORWARDING RULES | SECURITY SETTINGS | ADVANCED SETTINGS | TOOLBOX

Basic Setup  
DHCP Server  
Wireless  
Change Password

**Wireless Setting** [HELP]

Item	Setting
Wireless Module	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Network ID(SSID)	Zoom
SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	10
Wireless Mode	B/G/N mixed
Authentication	WEP - Open
802.1X	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Encryption	None

Save Undo WDS Setting...  
WPS Setup... Wireless Client List...

1 Select or enter a value for the items displayed on the Wireless Setting page.

- Wireless Module

Accept the default, Enable. Click the Disable checkbox only if you do not want wireless clients to access your network.

- Network ID (SSID)

Refers to the **S**ervice **S**et **I**dentifier for your device. By default, the SSID for the 3G Wireless-N Router is Zoom. You can change the SSID to a name of your choice. The SSID can be up to 32 alphanumeric characters. If you change the name, make sure that all devices on your network use the new SSID as the access point.

- SSID Broadcast

To hide your network's SSID name, which disables automatic broadcasting of the SSID and makes the wireless access point (your router) invisible to wireless clients on the network, click the Disable radio button.

- Channel

Refers to the wireless network channel assigned to your LAN. By default, the router uses channel 10.

- Wireless Mode

Accept the default, B/G/N mixed if the client devices on your network use various wireless standards. Otherwise, select the wireless standard used by all wireless devices on your network. Having a single standard will speed up the wireless throughput.

- 802.1X

Refers to the optional authentication method for Radius servers. To enable 802.1X, click the Enable radio button. Otherwise, accept the default, Disable.

- Authentication

Select an Authentication method for all devices on your wireless network. If you are using gaming devices that require WEP, then you must configure all devices with this method.

When you select an Authentication setting, additional fields appear.

For WEP Authentication:

You can accept the default, WEP-Auto or select one of the available options. Select WEP-Open to use Open System authentication. Select WEP-Shared to use Shared Key authentication.

For WPA-PSK/WPA2-PSK Authentication:

You can select WPA-PSK/WPA2 PSK if your devices support both authentication methods. Optionally, select WPA-PSK or WPA2-PSK if all devices on your network support only one of these authentication methods.

- Encryption

Select an Encryption method that corresponds to the Authentication method that you chose.

If you chose a WPA-PSK/WPA2-PSK Authentication method:

- Accept TKIP/AES encryption (the WPA-PSK/WPA2-PSK default), which supports dynamic encryption keys using TKIP or AES algorithms, or choose one of the other options.
- Select AES if you chose WPA2-PSK for the authentication method.
- Select TKIP if you chose WPA-PSK for the authentication method.
- In the Preshare Key field, enter a 26-character key.

If you chose a WEP Authentication method:

- Select WEP-Auto encryption if you chose both WEP-Open and WEP-Shared authentication.
- Select WEP-Open to use Open System authentication.
- Select WEP-Shared to use Shared Key authentication. With Shared Key, both sender and receiver use a WEP key for authentication.
- Key Format

Select Hex if all the wireless devices in the network are Zoom products. Otherwise, select ASCII. Although Zoom products support both Hex and ASCII, we recommend using Hex.

- Encryption WEP Key 1, 2, 3, 4

*If you selected Hex format and you chose a 128-bit key length, 26 hexadecimal values are required. Write the 26-hexadecimal key in the space below for future reference, and then enter it in the Key 1 box.*

— — — — —  
— — — — —

*If you selected Hex format and you chose a 64-bit key length, 13 hexadecimal values are required. Write the 13-hexadecimal key in the space below for future reference, and then enter it in the Key 1 box.*

— — — — —

*If you selected ASCII format, and you chose a 128-bit key length, 13 ASCII characters are required. Write the 13-ASCII-character key in the space below for future reference, and then enter it in the Key 1 box.*

— — — — —

*If you selected ASCII format, and you chose a 64-bit key length, 5 ASCII characters are required. Write the 5-ASCII-character key in the space below for future reference, and then enter it in the Key 1 box.*

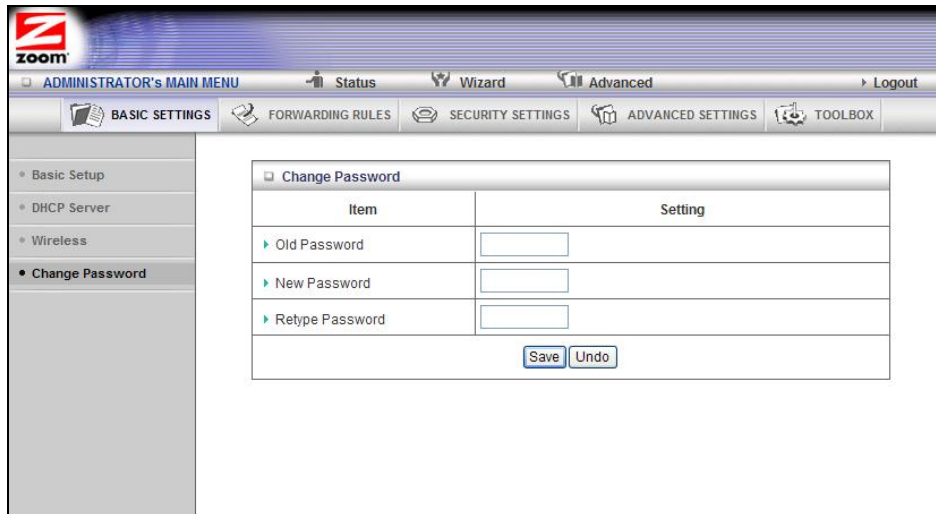
— — — — —

- 2 Click WPS Setup to launch the **WiFi Protected Setup (WPS)** Setup program. For instructions, please refer to [WPS Configuration](#) on page 25.
- 3 Click WDS Setting to open the WDS Setting page. For instructions, please refer to [WDS Configuration](#) on page 30.

### **The Change Password Page**

You can use this page to change your login password. To view or change configuration settings, you must enter a password. Your router has a default password (**admin**) that was set by the factory and that you used to access the Configuration Manager initially. To safeguard your configuration, particularly if you make changes, we recommend that you change the login password.



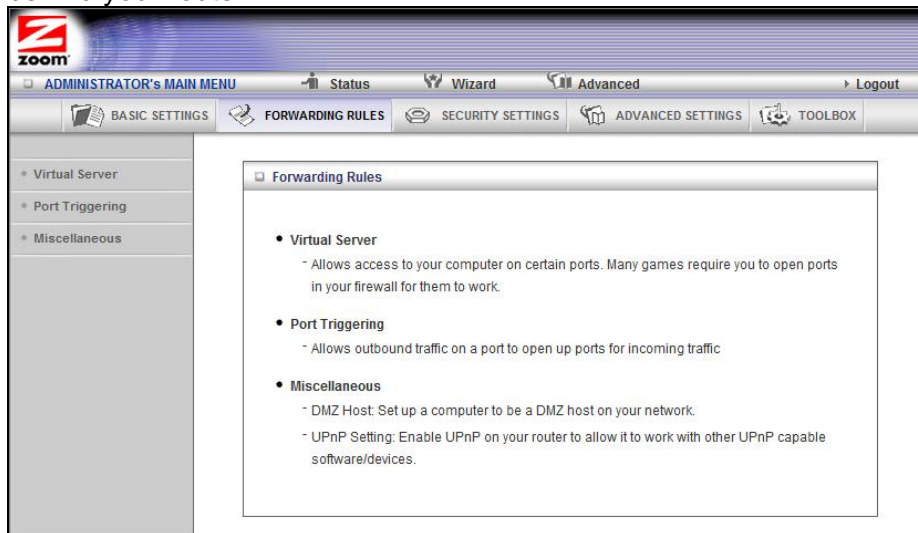


**Note:** If you forget the new password, you won't have access to the Configuration Manager and will need to, [restore the router to its factory settings](#) thus losing any changes you made to your router's configuration. To avoid this problem, we recommend that you write the new password and save it in a convenient location.

## Configuring Forwarding Rules

Many applications, such as online games, require you to allow access through your firewall to the computers or gaming devices behind your router by opening ports in order to play the online game.

The Forwarding Rules page provides different methods for allowing access to devices behind your router.



## The Virtual Server Page

You can use the Virtual Server page to configure a virtual server.

Because your router's firewall filters out unrecognized packets to protect your network, all computers behind this product are invisible to the outside world. If you want, you

can make some of them accessible by enabling Virtual Server mapping.

A virtual server will allow access to your computer on certain ports. A port is like a channel that is used by applications (such as games) to communicate on. For example, the directions for the game you want to play over the Internet might tell you to open port 6000.

- Service Ports

This is the port number you want to allow access to your computer on. To enter multiple ports use the dash format; for example, 2004-2009.

- Server IP

This is the IP Address of the computer or gaming device that you want to allow access to. If you do not know the IP address you can look it up by selecting Basic Settings > DHCP Server, then clicking on Client List. To make this virtual server permanent, then you should set up a fixed mapping to your computer or gaming device on the DHCP Server page. Doing this ensures that your computer will keep the same IP address

- Protocol

Select UDP, TCP, or Both depending on what type of protocol your game or application uses.

- Enable

Click to enable the Virtual Server

- Use Rule#

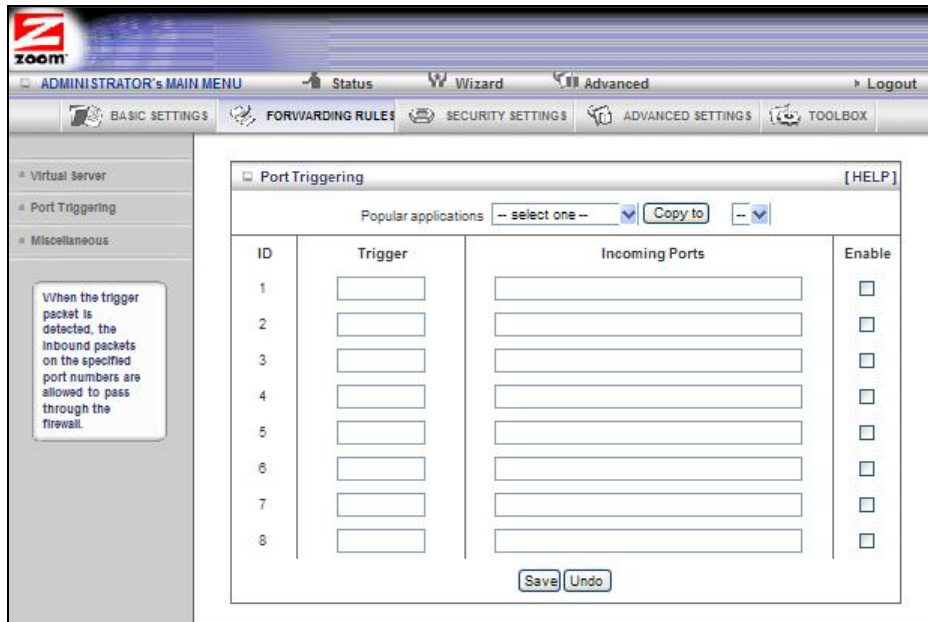
You can enable your virtual server for certain periods of time by assigning it a Rule #. You must first set up the appropriate Scheduling Rule. See [The Schedule Rule and Schedule Rule Setting Pages](#) on page 55 for more information.

For example, if you have an FTP server (port 21) at 192.168.1.5, a Web server (port 80) at 192.168.1.6, and a game at 192.168.1.7, then you need, at minimum, to specify the following mapping.

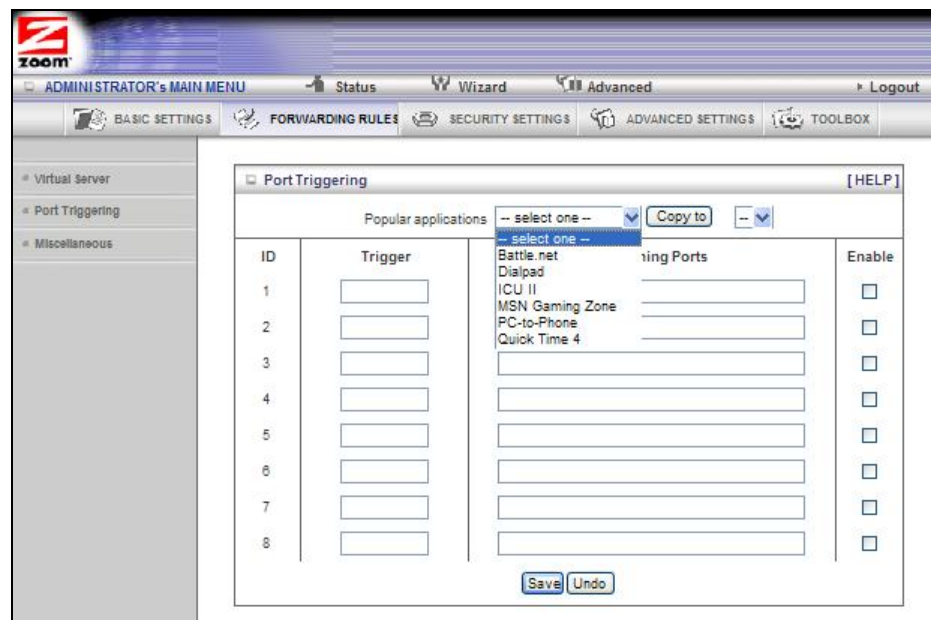
ID	Service Port	Server IP	Enable
1	21	192.168.1.5	Yes
2	80	192.168.1.6	Yes
3	5000	192.168.1.7	Yes

## The Port Triggering Page

Port triggering opens an incoming port when your computer is using a specified *outgoing port* for specific traffic. This provides a way for you to automate setting up a Virtual Server with some applications. You can use the Port Triggering page to configure which packets are allowed access.



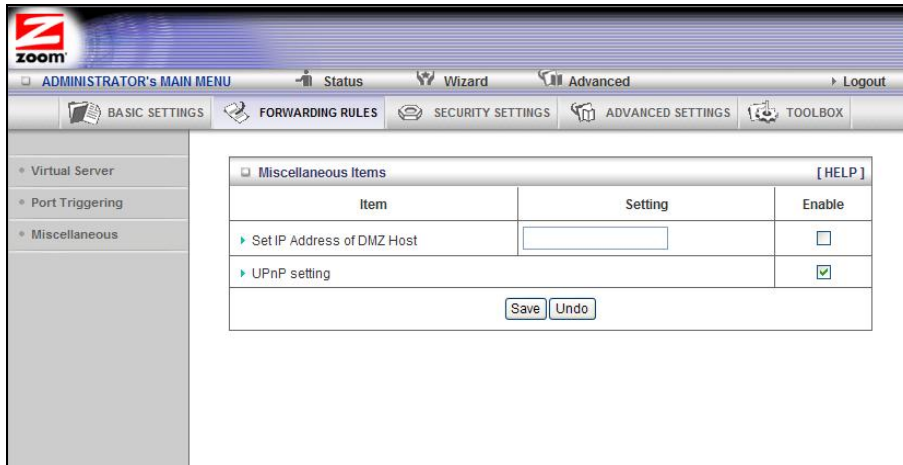
- **Trigger**  
The outbound port number used by the application.
- **Incoming Ports**  
When the trigger packet is detected, the inbound packets sent to the specified port numbers are allowed to pass through the firewall.
- **Enable**  
Enables access for the specified application.
- **Popular applications**  
Provides a menu of applications from which to choose. Select an application and click Copy to to add the application to your list.



Click Save to store your selections or Undo to remove the entries.

## The Miscellaneous Page

The Miscellaneous Page lets you set up and enable a DMZ Host on your network, and enable UPnP settings for software and devices. In this way, specific ports can open for incoming traffic that must pass through your firewall.



- Set IP Address of DMZ Host

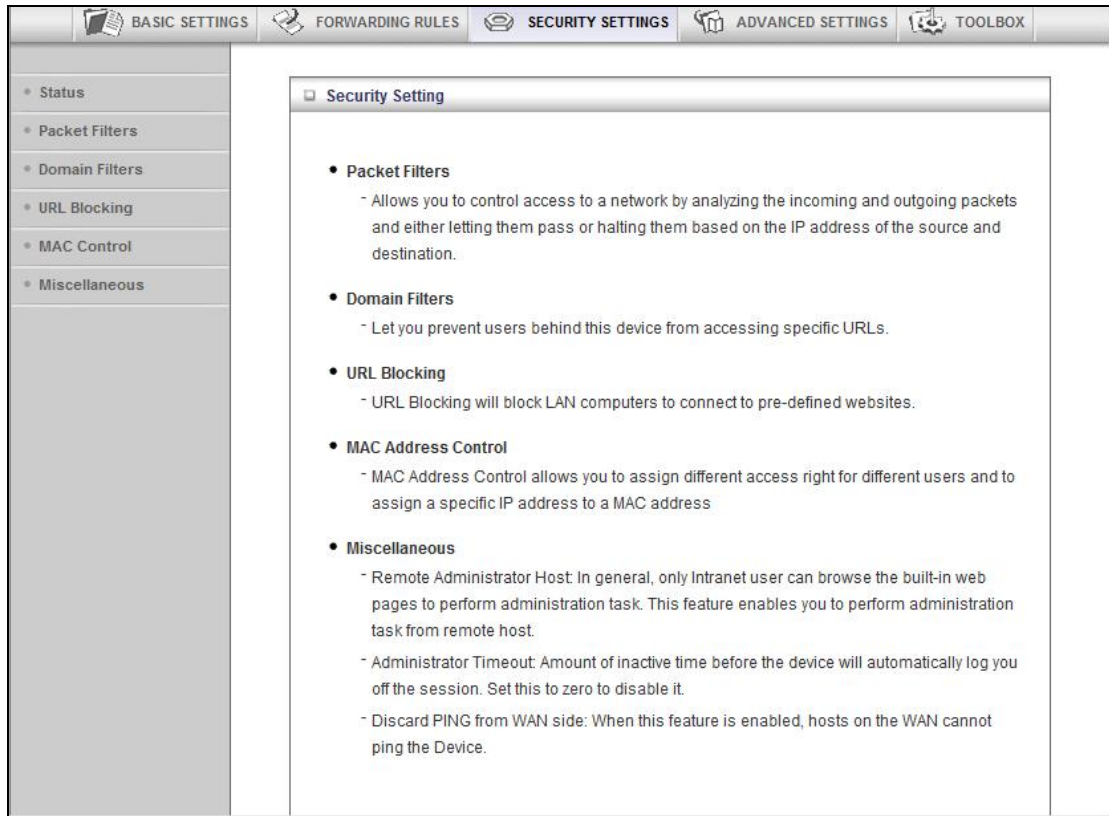
A **DMZ** (Demilitarized Zone) **Host** is a host without the protection of the firewall. It allows a computer or gaming system to be exposed to unrestricted two-way communication for Internet games, video conferencing, Internet telephony and other special applications. Use caution when using a DMZ because your firewall no longer protects the computer that is set up as a DMZ.

- UPnP setting

This feature is enabled by default. Games and applications that are UPnP compatible will automatically open ports for you on your router.

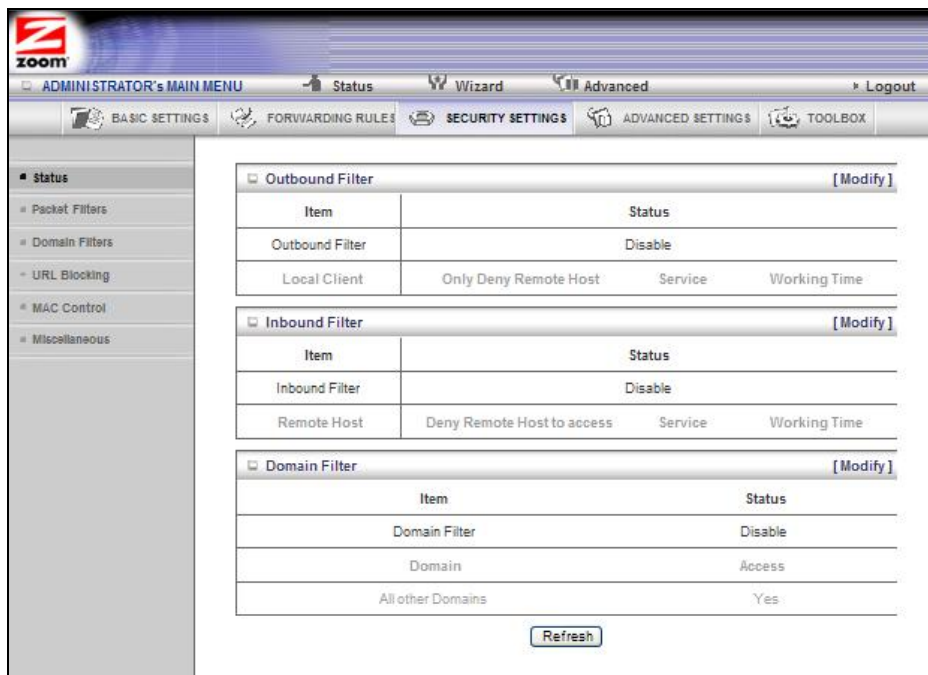
## Configuring Security Settings

The Security Setting page lists six configuration menus on the left pane and provides a description of the configuration menus at center.



## The Status and Packet Filters Pages

You can use the Status page and the Packet Filters page to control which packets are allowed or denied access. As shown on the Status page, Inbound, Outbound, and Domain filters are disabled, by default.



## Filtering Policies

You can select one of the two filtering policies:

- Allow all to pass except those that match the specified rules
- Deny all to pass except those that match the specified rules

## Filtering Rules

You can specify eight rules for each direction: inbound or outbound. For each rule, you can define the following:

- Source IP address
- Destination IP address
- Destination Port
- Use Rule#

For the Source or Destination IP address, you can define a single IP address (4.3.2.1). An empty field implies any IP address.

For Destination Port, you can define a single port (80) or a range of ports (1000-1999). No prefix indicates both TCP and UDP are defined. Leaving this empty implies that all port addresses apply.

Each Rule can be enabled or disabled individually.

You can use packet filters with scheduling rules for more access control flexibility.

## The Domain Filters Page

You can use the Domain Filters page to enable or deny user access to specified URLs.

The screenshot shows the 'Domain Filter' configuration page. At the top, there are tabs for 'BASIC SETTINGS', 'FORWARDING RULES', 'SECURITY SETTINGS', 'ADVANCED SETTINGS', and 'TOOLBOX'. The 'SECURITY SETTINGS' tab is selected. On the left, a sidebar contains links to 'Status', 'Packet Filters', 'Domain Filters', 'URL Blocking', 'MAC Control', and 'Miscellaneous'. The main content area is titled 'Domain Filter' and includes a '[ HELP ]' link. It contains a table with two columns: 'Item' and 'Setting'. The 'Item' column lists 'Domain Filter', 'Log attempted URL access', and 'Privileged IP Addresses Range'. The 'Setting' column shows checkboxes for 'Enable' for the first two items, and 'From' and 'To' input fields for the third. Below this is a table with four columns: 'ID', 'Domain Suffix', 'Action', and 'Enable'. The 'ID' column ranges from 1 to 10. The 'Domain Suffix' column has input fields for each ID. The 'Action' column has checkboxes for 'Drop' and 'Log'. The 'Enable' column has a checkbox for each row. The last row (ID 10) is labeled '\* (all others)' and has a '-' in the 'Enable' column. At the bottom right, there are 'Save' and 'Undo' buttons.

Item	Setting
Domain Filter	<input type="checkbox"/> Enable
Log attempted URL access	<input type="checkbox"/> Enable
Privileged IP Addresses Range	From <input type="text"/> To <input type="text"/>

ID	Domain Suffix	Action	Enable
1	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
2	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
3	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
4	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
5	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
6	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
7	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
8	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
9	<input type="text"/>	<input type="checkbox"/> Drop <input type="checkbox"/> Log	<input type="checkbox"/>
10	* (all others)	<input type="checkbox"/> Drop <input type="checkbox"/> Log	-

Save Undo

- **Domain Filter Enable**  
Use to prevent users behind this device from accessing specific URLs. Click the Enable checkbox to enable the Domain Filter.
- **Log attempted URL access**  
Click the Enable checkbox if you want to log the action when someone attempts to access the specified URLs.
- **Privileged IP Addresses Range**  
Domain filtering rules do not apply to IP addresses in this range.
- **Domain Suffix**  
The suffix of the restricted URL; for example, **xxx.com**.
- **Action**  
The action to be taken when a user accesses the restricted domain suffix URL. Check Drop to block access. Check Log to record the attempted access.
- **Enable**  
Click the checkbox to enable the filter.

## The URL Blocking Page

You can use the URL Blocking page to block LAN computers from connecting to pre-defined Web sites. The major difference between Domain Filtering and URL Blocking is that Domain Filtering requires the user to input a suffix whereas URL Blocking requires the user to input a keyword only. In other words, Domain Filtering can block a specific web site, whereas URL Blocking can block hundreds of web sites by specifying a keyword.

The screenshot shows a web-based configuration interface with a top navigation bar containing: BASIC SETTINGS, FORWARDING RULES, SECURITY SETTINGS, ADVANCED SETTINGS, and TOOLBOX. On the left is a sidebar menu with options: Status, Packet Filters, Domain Filters, URL Blocking (selected), MAC Control, and Miscellaneous. The main content area is titled 'URL Blocking' with a '[ HELP ]' link. It contains a table with columns 'Item' and 'Setting'. Under 'Item', there is a sub-section 'URL Blocking' with a table of 10 rows. Each row has an 'ID' (1-10), a 'URL' input field, and an 'Enable' checkbox. All checkboxes are currently unchecked. Below the table are 'Save' and 'Undo' buttons.

URL Blocking [ HELP ]		
Item	Setting	
URL Blocking	<input type="checkbox"/> Enable	
ID	URL	Enable
1	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	<input type="checkbox"/>
9	<input type="text"/>	<input type="checkbox"/>
10	<input type="text"/>	<input type="checkbox"/>
<input type="button" value="Save"/> <input type="button" value="Undo"/>		

- **URL Blocking Enable**



Check if you want to enable URL Blocking.

- URL

If any part of the Website's URL matches the pre-defined word, the connection will be blocked. For example, you can use the pre-defined word, sex, to block all websites those URLs contain the pre-defined word, sex.

- Enable

Click the checkbox to enable each rule.

## The MAC Address Control Page

You can use the MAC Address Control page to enable MAC Address Control and to define connection and association rights for clients whose IP and MAC addresses are specified.

The screenshot shows the 'MAC Address Control' page in the Zoom! Administrator interface. The page has a sidebar with navigation links: Status, Packet Filters, Domain Filters, URL Blocking, MAC Control (selected), and Miscellaneous. The main content area is titled 'MAC Address Control' and includes a '[ HELP ]' link. It features a table with columns 'Item' and 'Setting'. The 'Item' column lists 'MAC Address Control', 'Connection control', and 'Association control'. The 'Setting' column contains checkboxes and descriptive text for each item. Below these settings, there is a section for 'DHCP clients' with a dropdown menu and a 'Copy to' button. At the bottom, there is a table with 5 rows for defining rules. Each row has columns for 'ID', 'MAC Address', 'IP Address', 'C' (Connection), and 'A' (Association). The 'C' and 'A' columns contain checkboxes. At the bottom of the page, there are buttons for '<< Previous', 'Next >>', 'Save', and 'Undo'.

ID	MAC Address	IP Address	C	A
1	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

- MAC Address Control

Check Enable to enable MAC Address Control. All of the settings on this page will take effect only if Enable is checked.

- Connection control

Check Connection control to specify which wired and wireless clients can connect to this device. If a client is denied a connection to this device, then that client is also denied Internet access. Choose allow or deny to indicate which clients can connect to this device.



- Association control

Check Association control to specify which wireless clients can associate to the wireless LAN. If a client is not allowed to associate to the wireless LAN, then the client can't send or receive any data via this device. Choose allow or deny to indicate which clients can associate to the wireless LAN. If selected, the specified wireless client will obtain any radio connection to the access point.

- DHCP clients

Displays a list of computers that are currently connected to the router. Select a client from the menu then copy to the selected ID. The client IP and MAC addresses are written in the fields below the menus.

## The Miscellaneous Page

You can use the Miscellaneous Items page to enable additional security features.

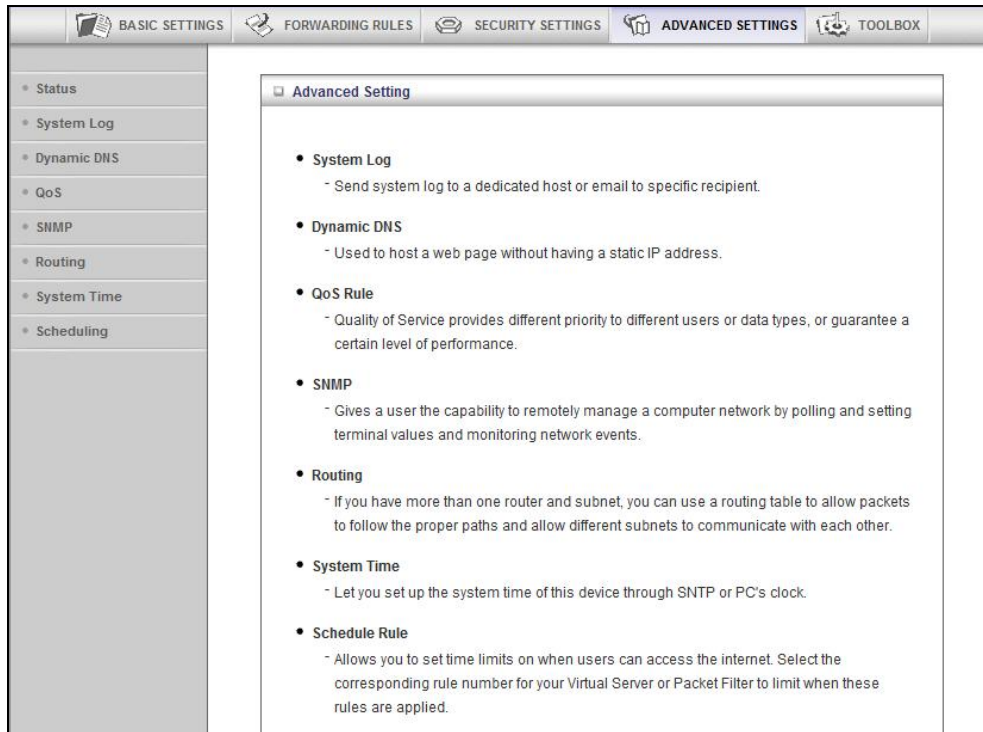
Item	Setting	Enable
▶ Administrator Time-out	300 seconds (0 to disable)	<input type="checkbox"/>
▶ Remote Administrator Host : Port	<input type="text"/> / <input type="text"/> : <input type="text"/>	<input type="checkbox"/>
▶ Discard PING from WAN side		<input type="checkbox"/>
▶ DoS Attack Deflection		<input type="checkbox"/>

Save Undo

Please refer to the online help for details about each of the menu items.

## Configuring Advanced Settings

The Advanced Settings page lists eight menus on the left pane and provides a description of the configuration menus at center.



## The System Log Page

You can use the System Log page to define how and where system logs will be exported via syslog (UDP) or SMTP(TCP).

Item	Setting	Enable
▶ IP address for syslogging	<input type="text"/>	<input type="checkbox"/>
▶ Email alert settings		<input type="checkbox"/>
• SMTP Server : port	<input type="text"/> : <input type="text"/>	
• SMTP Username	<input type="text"/>	
• SMTP Password	<input type="text"/>	
• E-mail addresses	<input type="text"/>	
• E-mail subject	<input type="text"/>	

Save Undo View Log... Email Log Now

- **IP Address for Syslogging**  
Host IP address of the destination where the Sys log will be sent.  
Click the Enable checkbox to set the IP Address as the destination.
- **E-mail alert settings**  
Check Enable if you want to send syslog via email.

- SMTP Server IP and Port

Input the SMTP server IP and port; for example, **mail.your\_url.com** or **192.168.1.100:26**. If you do not specify a port number, the port value will be set to 25.

- SMTP Username and Password

Input the SMTP Username and Password.

- E-mail addresses

The email address of each syslog recipient.

- E-mail subject

The subject of the email alert. This setting is optional.

## The Dynamic DNS Page

You can use the Dynamic DNS page to define the **Dynamic Domain Name Service** (DDNS) that will host your server. For example, the DDNS could host your server when you want to host a website on your network but you do not have a static IP. Your DDNS provider keeps track of changes to your IP address and automatically routes users trying to access your web site to the correct location

**Note:** Before you enable DDNS, you must register an account with one of the DDNS servers listed in the Provider field.

Item	Setting
DDNS	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
Provider	DynDNS.org(Dynamic)
Host Name	<input type="text"/>
Username / E-mail	<input type="text"/>
Password / Key	<input type="text"/>

Save Undo

Your DDNS provider will provide the HostName, Username/E-mail, and Password/Key that you will enter into the fields on the Dynamic DNS page.

## The QoS Rule Page

You can use the **Quality of Service** (QoS) Rule page to provide different priorities to different users or data flows, or to guarantee a certain level of performance.

BASIC SETTINGS   FORWARDING RULES   SECURITY SETTINGS   **ADVANCED SETTINGS**   TOOLBOX

\* Status  
 \* System Log  
 \* Dynamic DNS  
 \* QoS  
 \* SHMP  
 \* Routing  
 \* System Time  
 \* Scheduling

**QoS Rule** [ HELP ]

Item		Setting			
QoS Control		<input type="checkbox"/> Enable			
Available Upstream bandwidth		<input type="text"/> kbps (Kilobits per second)			
ID	Local IP : Ports	Remote IP : Ports	QoS Priority	Enable	Use Rule#
1	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼
2	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼
3	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼
4	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼
5	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼
6	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼
7	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼
8	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>	High ▼	<input type="checkbox"/>	(0) Always ▼

Save   Undo

- QoS Control**  
 Click the Enable checkbox to enable QoS.
- Available Upstream bandwidth**  
 Set the upstream speed. The best way to find your throughput is to use one of the free speed tests widely available on the Web. Some examples of sites with good speed tests are [www.speedtest.net](http://www.speedtest.net) and [www.speakeasy.net/speedtest](http://www.speakeasy.net/speedtest). When you know your actual upstream throughput, enter it in this field. The value should be in kilobits per second (Kbps).
- Local: IP**  
 Define the local IP address of packets.
- Local: Ports**  
 Define the local port of packets.
- Remote: IP**  
 Define the remote IP address of packets.
- Remote: Ports**  
 Define the remote port of packets.
- QoS Priority**  
 Select a value from the dropdown menu to define the priority level for the local and remote settings. Packets will be serviced based upon the priority level set. For critical applications, select High or Normal. For non-critical applications, select Low. High is the default value.
- Enable**  
 Click the Enable checkbox to apply the settings.

- Use Rule#

Select a rule from the dropdown menu to indicate when the policy applies. (0) Always is the default value.

## The SNMP Page

You can use the **S**imple **N**etwork **M**anagement **P**rotocol (SNMP) page to set up the capability to remotely manage a computer network by polling and setting terminal values and monitoring network events.

Item	Setting
Enable SNMP	<input type="checkbox"/> Local <input type="checkbox"/> Remote
Get Community	<input type="text"/>
Set Community	<input type="text"/>
IP 1	<input type="text"/>
IP 2	<input type="text"/>
IP 3	<input type="text"/>
IP 4	<input type="text"/>
SNMP Version	<input checked="" type="radio"/> V1 <input type="radio"/> V2c
WAN Access IP Address	<input type="text"/>

Save Undo

- Enable SNMP

Click the Local, Remote, or both checkboxes to enable the SNMP function. Check Local if you want the router to respond to requests from the LAN. Check Remote if you want the router to respond to requests from the WAN.

- Get Community

Set Get Community to the GetRequest to which your device will respond.

- Set Community

Set Set Community to the SetRequest that your device will accept.

- IP 1, IP 2, IP 3, IP 4

Enter the IP address of your SNMP Management PCs. You must specify where the router should send SNMP Trap messages.

- SNMP Version

Select the SNMP Version that your SNMP Management software supports.

- WAN Access IP Address

Enter the IP address for WAN access. The default value of **0.0.0.0** indicates that every IP address can get some information about this device, using the SNMP protocol.

## The Routing Table Page

You can use the Routing Table page to enable/disable both Dynamic and Static Routing. If routing is enabled, you can specify which physical interface address to use for outgoing IP data grams. If you have more than one router and subnet, you will need to define a routing table that lets packets find the proper routing path and allows different subnets to communicate with each other.

The screenshot shows a web interface for configuring a router. At the top, there are tabs for BASIC SETTINGS, FORWARDING RULES, SECURITY SETTINGS, ADVANCED SETTINGS (which is selected), and TOOLBOX. On the left side, there is a sidebar menu with options: Status, System Log, Dynamic DNS, QoS, SNMP, Routing (which is selected and highlighted), System Time, and Scheduling. The main content area is titled 'Routing Table' and includes a '[ HELP ]' link. It contains two sections: 'Dynamic Routing' and 'Static Routing'. The 'Dynamic Routing' section has radio buttons for 'Disable' (selected), 'RIPv1', and 'RIPv2'. The 'Static Routing' section has radio buttons for 'Disable' (selected) and 'Enable'. Below these sections is a table with 8 rows and 6 columns: ID, Destination, Subnet Mask, Gateway, Hop, and Enable. Each row has input fields for the first five columns and a checkbox for the 'Enable' column. At the bottom of the table are 'Save' and 'Undo' buttons.

Routing Table [ HELP ]					
Item		Setting			
Dynamic Routing		<input checked="" type="radio"/> Disable <input type="radio"/> RIPv1 <input type="radio"/> RIPv2			
Static Routing		<input checked="" type="radio"/> Disable <input type="radio"/> Enable			
ID	Destination	Subnet Mask	Gateway	Hop	Enable
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Save Undo

- **Dynamic Routing**

The **Routing Information Protocol (RIP)** will exchange information about destinations for computing routes throughout the network. Please select RIPv2 only if you have different subnet in your network. Otherwise, please select RIPv1 if you need this protocol.

- **Static Routing**

For static routing, you can specify up to eight routing rules. You can enter the Destination IP address, Subnet Mask, Gateway, Hop for each routing rule. Click the Enable checkbox to activate the routing table entry.

## The System Time Page

You can use the System Time page to set and synchronize your router with the local time zone, the Time Server and your PC.

**System Time** [ HELP ]

Item	Setting
Time Zone	* Not yet configured! The default is GMT+00:00
Auto-Synchronization	<input checked="" type="checkbox"/> Enable Time Server (RFC-868): Auto

- **Time Zone**  
Select the local time zone from the dropdown menu.
- **Auto-Synchronization**  
Click the Enable checkbox to enable this function.  
Select an item from the Time Server dropdown menu to specify the server with which to synchronize. The default value is Auto.
- Click Sync with Time Server to set Date and Time by NTP Protocol.
- Click Sync with my PC to set Date and Time using your PC's Date and Time

## The Schedule Rule and Schedule Rule Setting Pages

You can use the Schedule Rule and Schedule Rule Setting pages to define when services will be turned on and off based on rules that you define.

- 1 On the Schedule Rule page, click the Enable checkbox to enable the scheduling rules, which are defined on the Schedule Rule Setting page.

**Schedule Rule** [ HELP ]

Item	Setting
Schedule	<input type="checkbox"/> Enable

Rule#	Rule Name	Action
1		<input type="button" value="New Add"/>
2		<input type="button" value="New Add"/>
3		<input type="button" value="New Add"/>
4		<input type="button" value="New Add"/>
5		<input type="button" value="New Add"/>
6		<input type="button" value="New Add"/>
7		<input type="button" value="New Add"/>
8		<input type="button" value="New Add"/>
9		<input type="button" value="New Add"/>
10		<input type="button" value="New Add"/>

- Click Add New Rule to open the Schedule Rule Setting page.

ID	Week Day	Start Time (hh:mm)	End Time (hh:mm)
1	-- choose day --		
2	-- choose day --		
3	-- choose day --		
4	-- choose day --		
5	-- choose day --		
6	-- choose day --		
7	-- choose day --		
8	-- choose day --		

- On the Schedule Rule Setting page, specify a Rule name, a Policy that defines whether the rule is Active or Inactive, Week Day and the Start Time and End Time for each rule that you are creating.

ID	Week Day	Start Time (hh:mm)	End Time (hh:mm)
1	Monday	09:00	10:00
2	-- choose day --		
3	-- choose day --		
4	-- choose day --		
5	-- choose day --		
6	-- choose day --		
7	-- choose day --		
8	-- choose day --		

- Click Save for each rule that you create.
- Click Back to return to the Schedule Rule page.

When the Schedule Rule page opens, the rule(s) that you created and saved appear in the Rule Name column.



BASIC SETTINGS			FORWARDING RULES			SECURITY SETTINGS			ADVANCED SETTINGS			TOOLBOX																																								
<ul style="list-style-type: none"> <li>Status</li> <li>System Log</li> <li><b>Dynamic DNS</b></li> <li>QoS</li> <li>SNMP</li> <li>Routing</li> <li>System Time</li> <li>Scheduling</li> </ul>												<div> <div>Schedule Rule</div> <div>[ HELP ]</div> </div> <table border="1"> <thead> <tr> <th>Item</th> <th colspan="2">Setting</th> </tr> </thead> <tbody> <tr> <td>Schedule</td> <td colspan="2"><input checked="" type="checkbox"/> Enable</td> </tr> <tr> <th>Rule#</th> <th>Rule Name</th> <th>Action</th> </tr> <tr> <td>1</td> <td>test1</td> <td><a href="#">Edit</a> <a href="#">Delete</a></td> </tr> <tr> <td>2</td> <td>test2</td> <td><a href="#">Edit</a> <a href="#">Delete</a></td> </tr> <tr> <td>3</td> <td>test3</td> <td><a href="#">Edit</a> <a href="#">Delete</a></td> </tr> <tr> <td>4</td> <td></td> <td><a href="#">New Add</a></td> </tr> <tr> <td>5</td> <td></td> <td><a href="#">New Add</a></td> </tr> <tr> <td>6</td> <td></td> <td><a href="#">New Add</a></td> </tr> <tr> <td>7</td> <td></td> <td><a href="#">New Add</a></td> </tr> <tr> <td>8</td> <td></td> <td><a href="#">New Add</a></td> </tr> <tr> <td>9</td> <td></td> <td><a href="#">New Add</a></td> </tr> <tr> <td>10</td> <td></td> <td><a href="#">New Add</a></td> </tr> </tbody> </table> <div> <a href="#">&lt;&lt; Previous</a> <a href="#">Next &gt;&gt;</a> <a href="#">Save</a> <a href="#">Add New Rule...</a> </div>		Item	Setting		Schedule	<input checked="" type="checkbox"/> Enable		Rule#	Rule Name	Action	1	test1	<a href="#">Edit</a> <a href="#">Delete</a>	2	test2	<a href="#">Edit</a> <a href="#">Delete</a>	3	test3	<a href="#">Edit</a> <a href="#">Delete</a>	4		<a href="#">New Add</a>	5		<a href="#">New Add</a>	6		<a href="#">New Add</a>	7		<a href="#">New Add</a>	8		<a href="#">New Add</a>	9		<a href="#">New Add</a>	10		<a href="#">New Add</a>
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6 Click Edit to make changes to a scheduled rule.

7 Click Delete to remove a scheduled rule.

## Configuring Toolbox Settings

The Toolbox Settings page lists six configuration menus on the left pane and provides a description of the configuration menus at center.

BASIC SETTINGS			FORWARDING RULES			SECURITY SETTINGS			ADVANCED SETTINGS			TOOLBOX		
<ul style="list-style-type: none"> <li>System Info</li> <li>Firmware Upgrade</li> <li>Backup Setting</li> <li>Reset to Default</li> <li>Reboot</li> <li>Miscellaneous</li> </ul>												<div> <div>Toolbox</div> <div></div> </div> <ul style="list-style-type: none"> <li>• <b>View Log</b> <ul style="list-style-type: none"> <li>- View the system logs.</li> </ul> </li> <li>• <b>Firmware Upgrade</b> <ul style="list-style-type: none"> <li>- Upgrade your firmware.</li> </ul> </li> <li>• <b>Backup Setting</b> <ul style="list-style-type: none"> <li>- Save the settings of this device to a file.</li> </ul> </li> <li>• <b>Reset to Default</b> <ul style="list-style-type: none"> <li>- Reset the settings of this device to the default values.</li> </ul> </li> <li>• <b>Reboot</b> <ul style="list-style-type: none"> <li>- Reboot this device.</li> </ul> </li> <li>• <b>Miscellaneous</b> <ul style="list-style-type: none"> <li>- Domain Name or IP address for Ping Test: Allow you to configure an IP, and ping the device. You can ping a specific IP to test whether it is alive.</li> </ul> </li> </ul>		

Internet | Protected Mode: On

## The System Information Page

You can use the System Information page to view information about your router, and to view, download, and delete system logs.

The screenshot shows the 'System Information' page. On the left is a sidebar with a tree view containing: System Info, Firmware Upgrade, Backup Setting, Reset to Default, Reboot, and Miscellaneous. The main content area has a top navigation bar with icons for BASIC SETTINGS, FORWARDING RULES, SECURITY SETTINGS, ADVANCED SETTINGS, and TOOLBOX. Below this, the 'System Information' section is expanded, showing a table with two columns: 'Item' and 'Setting'. The table lists 'WAN Type' as '3G' and 'Display time' as 'Tue, 06 Oct 2009 18:41:12 +0000'. Below the table, the 'System Log' section is also expanded, showing a table with 'Time' and 'Log' columns. The log entries include kernel messages, udhcpd status, and network configuration commands.

Item	Setting
▶ WAN Type	3G
▶ Display time	Tue, 06 Oct 2009 18:41:12 +0000

Time	Log
Oct 6 14:43:41	kernel: klogd started: BusyBox v1.3.2 (2009-09-11 16:06:19 CST)
Oct 6 14:43:42	O3G/hotplug: 3G modem VendorID=1c9e ProductID=9603
Oct 6 14:43:43	commander: wlan_num=1
Oct 6 14:43:43	commander: num_wlan_pre=1
Oct 6 14:43:48	udhcpd[1461]: udhcpd (v0.9.9-pre) started
Oct 6 14:43:48	udhcpd[1461]: Unable to open /var/run/udhcpd.leases for reading
Oct 6 14:43:48	commander: handle_spap: spap_enable = 0
Oct 6 14:43:48	commander: handle_ddns: ddns_enable = 0
Oct 6 14:43:48	commander: handle_rbydom: rbydom_enable = 0
Oct 6 14:43:48	commander: handle_rbyip: rbyip_enable = 0
Oct 6 14:43:48	init: Starting pid 1500, console /dev/ttyS1: /bin/ash'
Oct 6 14:43:50	commander: STOP STOP LOCAL_WANTYPE_3G
Oct 6 14:44:04	udhcpd[1463]: 192.168.1.100 belongs to someone, reserving it for 3600 seconds
Oct 6 14:44:06	udhcpd[1463]: sending OFFER of 192.168.1.101
Oct 6 14:44:06	udhcpd[1463]: sending ACK to 192.168.1.101

## The Firmware Upgrade Page

You can use the Firmware Upgrade page to get the most recent version of the router firmware, if available.

The screenshot shows the 'Firmware Upgrade' page. The top navigation bar includes the 'zoom' logo, 'ADMINISTRATOR'S MAIN MENU', and links for Status, Wizard, Advanced, and Logout. The sidebar on the left has a tree view with: System Info, Firmware Upgrade, Backup Setting, Reset to Default, Reboot, and Miscellaneous. The main content area has a top navigation bar with icons for BASIC SETTINGS, FORWARDING RULES, SECURITY SETTINGS, ADVANCED SETTINGS, and TOOLBOX. Below this, the 'Firmware Upgrade' section is expanded, showing a form with a 'Firmware Filename' label, a text input field, and a 'Browse...' button. Below the input field, it states 'Current firmware version is W1.0.5'. A note reads: 'Note! Do not interrupt the process or power off the unit while it is being upgraded. When the upgrade is completed, the unit will be restarted automatically.' There is a checkbox labeled 'Accept unofficial firmware.' and two buttons at the bottom: 'Upgrade' and 'Cancel'.

- 1 Click Browse to open the location where you saved the Firmware Update file that you downloaded from the Zoom web site or received via email.
- 2 Click Upgrade.

### The Backup Setting Dialog

You can back up your router settings by clicking the Backup Setting item from the left pane of the Toolbox menu. The following dialog opens.



- 1 Click Save to write and save your router settings as a binary file.

### The Reset to Default Dialog

You can reset the router to its factory settings by clicking the Reset to Default item from the left pane of the Toolbox menu. The following dialog opens.



- 1 Click OK to reset the router.  
We recommend that you back up and save your configuration first if you've made changes and want a record of that configuration

### The Reboot Dialog

You can reboot the router by clicking the Reboot item from the left pane of the Toolbox menu. The following dialog opens.



- 1 Click OK to reboot the router.

## The Miscellaneous Page

You can use this page to Ping a remote device on your network

Miscellaneous Items [ HELP ]	
Item	Setting
▶ Domain Name or IP address for Ping Test	<input type="text"/> <input type="button" value="Ping"/>

## **Limited Warranty**

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Zoom Telephonics, Inc. (hereinafter “Zoom”) warrants this product against defects in material and workmanship for a warranty period of one year. The one year warranty may be extended only by Zoom as required by local law in the country where this modem is sold by Zoom. This warranty applies to the original end-user purchaser.

For all Zoom products other than software, Zoom will, solely at its option, repair or replace this product with a functionally equivalent new or factory-reconditioned product during the warranty period. The consumer will deliver the product to Zoom. All transportation risks and costs in connection with this warranty service are the responsibility of the consumer.

Zoom will replace software at no charge if there is a defect in materials or workmanship for a period of 30 days from date of original retail purchase, provided the defective software is returned to Zoom. Shipments from Zoom will normally be via U.S. Mail. Software products supplied by Zoom are sold “as is,” without warranty, either expressed or implied, as to function, application, merchantability, performance, and quality.

Zoom is not responsible for incidental or consequential damages, and is not responsible for damages resulting from the breach of any expressed or implied warranty. Zoom is not responsible for any costs of recovering, reprogramming, or reproducing any programs or data stored or used with the Zoom products, damage to property, and to the extent permitted by law, damages for personal injury.

This warranty is in lieu of all other warranties, expressed or implied. We do not assume or authorize assumption for us of any other warranty expressed or implied. Some states and countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you.

This warranty does not apply if the Zoom product has been damaged by accident, abuse, lightning or other natural disasters, misuse or misapplication, or if it has been modified without the written permission of Zoom, or if any serial number has been removed or defaced.

This warranty shall not be applicable to the extent that any provisions of this warranty are prohibited by any federal, state, or municipal law that cannot be preempted. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or country to country.

## **FCC Interference Statement**

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

## **CE Declaration of Conformity**

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

## Declaration of Conformity

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Déclaration de conformité  
Declaración de conformidad

Manufacturer/Constructeur/Fabricante

**Zoom Telephonics, Inc.**  
**207 South Street**  
**Boston, MA 02111 USA**  
**617-423-1072**  
**www.zoom.com**

Brand/Marque/Marca

**Zoom 3G Wireless-N Router**

Type/Typ/Tipo

**Series 1075, Model 4501, CDW530AM**

The manufacturer declares under sole responsibility that this equipment is compliant to Directive 1999/5/EC, 2004/108/EC, 2006/95/EC via the following. This product is CE marked.

Le constructeur déclare sous son entière responsabilité que ce matériel est conforme à la Directive 1999/5/EC 2004/108/EC, 2006/95/EC via les documents ci-dessous. Ce produit a reçu le marquage CE.

El fabricante declara bajo su exclusiva responsabilidad que este equipo satisface la Directiva 1999/5/EC 2004/108/EC, 2006/95/EC por medio de lo siguiente. Este producto tiene marca CE.

For Directive 1999/5/EC, 2004/108/EC, 2006/95/EC

ETSI EN 300 328 V1.7.1:2006

EN 60950-1:2006

ETSI EN301 489-1 V1.8.1:2008

ETSI EN301 489-17V1.3.2:2008



For Directive 2004/108/EC, 2006/95/EC:

EN55022:2006

EN61000-3-3:1995 + A1:2001 + A2:2005

55024:1998 + A1:2001 + A2: 2003

IEC61000-4-2: 1995 + A1:1998 + A2:2000

IEC 61000-4-3:2006

IEC 61000-4-4:2004

IEC61000-4-5:2005

IEC61000-4-6:2007

IEC61000-4-8:1993+A1:2000

IEC61000-4-11:2004

Director  
Directeur  
Director

Paul Prohodski  
09 September 2009  
1075/TF, Boston, MA, USA