

X7N USER MANUAL



NOTICE

This document contains proprietary information protected by copyright, and this Manual and all the accompanying hardware, software, and documentation are copyrighted. No part of this document may be photocopied or reproduced by mechanical, electronic, or other means in any form.

The manufacturer does not warrant that the hardware will work properly in all environments and applications, and makes no warranty or representation, either expressed or implied, with respect to the quality, performance, merchantability, or fitness for a particular purpose of the software or documentation. The manufacturer reserves the right to make changes to the hardware, software, and documentation without obligation to notify any person or organization of the revision or change.

All brand and product names are the trademarks of their respective owners.

© Copyright 2011
All rights reserved.

Contents

Contents	3
Overview	6
Installation Instructions	7
Package Contents	7
Before You Begin	8
Installing the X7N	9
To Install the X7N on a Windows Computer, use the Install Assistant.	9
Installing your X7N on a Macintosh or other computer (does not use Install Assistant)	10
Logging into the Configuration Manager	15
Setting Up a Network	17
Setting Wireless Security	19
Overview	19
Setting Up Security Manually	19
Setting Up Security Using Mixed WPA2 / WPA mode	20
Setting Up Security Using WEP	21
Connecting Devices Wirelessly to the X7N	25
Connecting a Windows 7 Computer with Built-in Wireless Capabilities	26
Connecting a Windows Vista Computer with Built-in Wireless Capabilities	28
Connecting a Windows XP Computer with Built-in Wireless Capabilities	30
Connecting a Wireless-enabled Computer or Device (including the iPhone or other cellular phones, the iPod Touch, etc.) to the X7N	31
Connecting a Computer with a Wireless adapter to the X7N	33
Wireless Options	36
Basic Setup	38
Setting up a Wireless Guest Network	38

Wireless MAC Filtering.....	39
WDS.....	41
Online Gaming	42
Status Monitoring	44
Why Monitor Status?	44
Monitoring ADSL Status.....	44
Advanced X7N Setup Options.....	46
Viewing the Advanced Setup Options.....	47
Changing Your WAN Settings.....	50
Changing Your LAN Settings	52
Configuring Fixed DHCP Mapping	54
Creating a Virtual Server, a DMZ, or Using Port Triggering	55
Creating a Virtual Server	55
DMZ	56
Port Triggering	57
Using IP Filters	57
Using MAC Filtering	58
Setting Up Time Restrictions.....	59
Setting Up a Static Routing Table	60
Adding a DNS Server Name	61
Using the ADSL Settings.....	61
Enabling or Disabling UPnP	62
Management and Diagnostics.....	63
Backing Up Your Configuration.....	66
Resetting Default Settings.....	67
Remote Access to Your Modem Configuration Settings.....	68
Changing User Names and Passwords	69
TR-069	70
Diagnostics.....	70
Appendix A: Troubleshooting Tips.....	71
Appendix B: ADSL Internet Settings Tables.....	82
Appendix C: Top and Back Panels	88

Appendix D: TCP/IP Network Settings	90
Macintosh TCP/IP Settings	90
Windows TCP/IP Settings.....	92
Appendix E: Configuring Your Web Browser	96
Appendix F: Wireless Channels by Country	102
Appendix G: Getting Help.....	103
Appendix H: Regulatory Information	104
Europe – EU Declaration of Conformity.....	109

Overview

This User Manual provides instructions for setting up your X7N, connecting the X7N to wired and wireless computers or other devices on a network, and securing your network. There are also instructions for setting up the X7N for gaming.

For most customers, Chapter 1 covers what you need to get connected to the Internet. Chapter 2 applies if you want to set up a network. Chapters 3 and 4 help you set up and secure your X7N wireless network, Chapter 5 focuses on wireless options primarily for advanced users, and Chapter 6 provides what you need for online gaming.

Chapters 7-9 provide advanced information that is primarily for System Administrators. These chapters explain how to use advanced features of the X7N such as adding extra security with firewall filtering, backing up and restoring the X7N configuration, updating the X7N firmware, creating a fixed IP address, monitoring status, and management and diagnostic features of your X7N.

1

Installation Instructions

This chapter covers the basic instructions needed to install your X7N and connect to the Internet. These instructions can be used by those with a Windows®, Macintosh®, or Linux operating system.

If you already installed and connected your X7N (by, for instance, using the separate Quick Start), you can skip this chapter and begin with [Chapter 2: Setting up a Network](#) on page 17.

Package Contents

Your package contains the following items:

- Zoom X7N ADSL modem/router
- Ethernet cable
- Power cube
- One long phone cord
- A splitter to enable you to use a single ADSL wall jack for both an Internet connection and for telephone service (certain countries only). Some splitters ship with a second phone cord attached to the splitter, and others ship with a separate second phone cord.
- Quick Start flyer
- CD (contains the installation software, documentation, warranty, and Customer Support information)

If anything is missing or damaged, please contact Zoom Customer Support (see [Appendix G: Getting Help](#)), or whoever sold you the modem.

Before You Begin

Before you begin installing the X7N modem using this manual, you must have the following available to you:

- ADSL service enabled on your telephone line. To do this, you need to sign up with an ADSL service provider. Once this service is enabled, you should have an ADSL-enabled telephone wall jack to plug the X7N modem into. (Your service provider may refer to ADSL service as DSL service).
- **If ADSL service was working at your location and you are replacing an ADSL modem, read this.**

It's important to know whether your ADSL service requires the modem to have a User Name and Password to access and browse the Internet. This User Name and Password may be different from the User Name and Password used to access a service provider's email or to log in to the modem's Configuration Manager.

If your ADSL service DOES require a User Name and Password, be sure to write down the ones you've been using. They will be useful when you install your Zoom modem.

If your ADSL service DOES NOT require a User Name and Password, please be aware that some of these services require you to disconnect your "old" modem for at least 2 hours before installing a new modem, including your Zoom modem.

- At least one computer for setting up the X7N. The X7N supports Macintosh, Linux, and Windows operating systems.
- If you plan to connect more than one computer directly to the modem, you will need additional Ethernet cables to make the connection. The modem supports up to four direct connections with its four ETHERNET ports.

Installing the X7N

Important! The X7N should be installed near a phone jack with ADSL service. Ideally it should be located so that it's not too far from any wireless devices that will communicate with the X7N. Sometimes it's helpful to set up the X7N at one location, and to then move it to a location that gives better wireless performance.

Important Safety Measures

- To reduce the risk of fire, use the supplied phone cord.
- Do not use this product near water — for example, in a wet basement or next to a swimming pool.

➤ Macintosh and Linux users: please go to page 10.

To Install the X7N on a Windows Computer, use the Install Assistant.

- 1 Turn on the Windows computer that you will use for setup. This can be any Windows 7, Vista™, XP, 2000, Me or 98 computer with an available Ethernet port.
- 2 Insert the supplied CD into the CD drive of your computer. The CD should start automatically.
- 3 Follow the on-screen prompts for the **Install Assistant**.

Note to Windows 7 users: You may see a message box that says your software may not have installed correctly. You can safely ignore this message box.

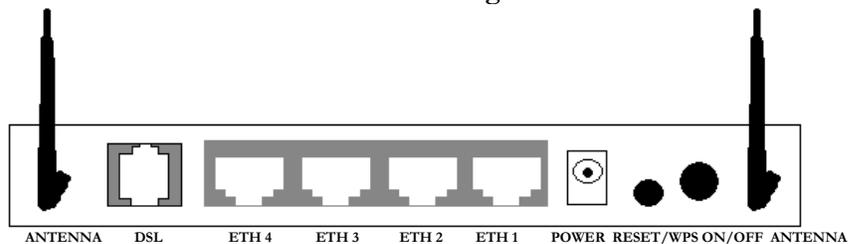
Now check that your installation worked by opening a Web browser and connecting to your favorite web site. If you cannot connect to the Web, please refer to [Appendix A: Troubleshooting Tips](#).

If you want to connect other computers or other devices to the X7N by using a wired Ethernet connection, please continue with [Chapter 2: Setting Up a Network](#) on page 17.

Installing your X7N on a Macintosh or other computer (does not use Install Assistant)

- 1 Shut down the computer that you want to connect to the X7N.
- 2 Connect the power adapter to the receptor on the back panel of your X7N and plug the other end of the power adapter into a wall outlet or power strip.
- 3 Press the Power button on the back panel of your X7N to power ON the modem.
- 4 Connect an Ethernet cable between any one of the X7N's ETHERNET ports and any of the computer's or other device's Ethernet ports. Then turn on the computer or game station. One Ethernet LED on your modem's top panel should turn on.

X7N Back Panel Diagram



- 5 Connect the supplied phone cord between your modem's DSL jack and a phone jack with ADSL service

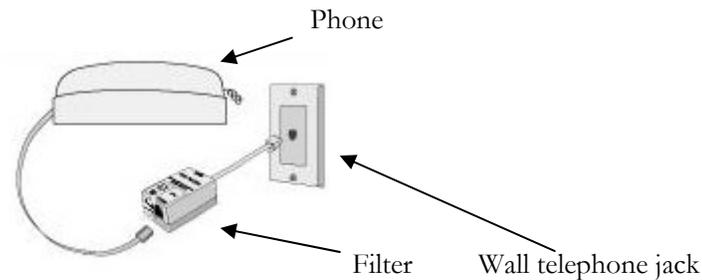
Note: Many X7N models include a filter/splitter. This can be used if you want to use a phone near the modem. A filter/splitter or ADSL filter should also be used with phones

not located near the modem, to prevent interference between the modem and phone when the phone is off-hook.

To use a filter/splitter with a modem and a phone, connect the filter/splitter's LINE or PHONE LINE jack to a phone jack in the wall, plug the supplied phone cord between your modem's DSL jack and the filter/splitter's MODEM jack, and plug the phone into the filter/splitter's PHONE jack. (Some but not all filter/splitters require you to use a short phone cord to connect the filter/splitter to a phone jack in the wall.)

Note that the filter/splitter is NOT required if you simply want to plug your modem into a phone jack in the wall, without sharing that jack with a telephone.

If you are using a filter/splitter with a phone only and not a modem, connect the filter/splitter's LINE or PHONE LINE jack to a phone jack in the wall, then plug the phone into the filter/splitter's PHONE jack. (Some but not all filter/splitters require you to use a short phone cord to connect the filter/splitter to a phone jack in the wall.)



- 6 After a few seconds, your **DSL** LED will begin blinking, then become solid. If the DSL LED does not become solid, please refer to the [Appendix A: Troubleshooting Tips](#).
- 7 Refer to **Logging into the Configuration Manager** on page 14 and then continue with Step 6.

- 8 After you log in use the **Basic Setup** page to configure the modem so it can connect with your Internet service provider
- We recommend you use Automatic Configuration to set up your ADSL connection unless you have requested and typically paid for a Static IP from your service provider.
To use Automatic Configuration (recommended):
 - a Under **Automatic Configuration**, click **Start**.
 - b If the X7N finds a PPPoE or PPPoA connection, enter the user name and password given to you by your Internet Service Provider. (Your provider should have given you a **User ID** or **User Name**, usually your email address or the characters preceding the @ sign in your email address, and a **Password**. These are **NOT** the User ID and Password that you used to get into the Zoom Configuration Manager.)
Note: Remember that these terms are case-sensitive. Pay careful attention to whether you're using a capital or small letter, a zero or the letter O, and so on. Clearly write down and store the User Name and Password, on the bottom of the X7N case, for instance, and in a ModemSettings file.
 - c Click **Save/Apply**.
 - *If Automatic Configuration does not work or in the unlikely event you are using a Static IP you can configure your settings manually by following these instructions:*
 - a On the **Basic Setup** page, enter your **Protocol**, **Encapsulation**, **VPI**, and **VCI** settings in the appropriate boxes. Your service provider should supply these values. If you do not know these settings, refer to the tables starting on page 70.
 - b Depending on the **Protocol** setting you selected the bottom half of the page will change so that you can enter additional information.
 - **If you selected PPPoA or PPPoE**, enter your **ADSL User Name** and **Password** in the appropriate boxes. Your Internet service provider should have given this information to you. (Your User Name is typically your

email address or the characters preceding the @ sign in your email address. This is NOT the same User Name and Password that you used earlier to open the Zoom Configuration Manager.)

Note: Remember that these terms are case-sensitive. Pay careful attention to whether you're using a capital or small letter, a zero or the letter O, and so on. Clearly write down and store the User Name and Password, on the bottom of the X7N case, for instance, and in a ModemSettings file.

- **If you selected 1483 Bridged or 1483 Routed**, you have the option of using either dynamic or static IP addressing. Depending on your situation, select the appropriate option button:
 - i. [MOST USERS] Ensure that **Obtain an IP address Automatically** is selected if you are using Dynamic Host Configuration Protocol (also known as DHCP or dynamic IP addressing). This option is selected by default because most Internet service providers use DHCP.
 - ii. Select **Use the following IP Address** only if you are using a static IP address. (You should know if you are using static IP addressing. There is typically an extra charge for a static IP address and you usually have to make special arrangements with your Internet service provider to get one.)
 - iii. Then **enter the IP Address, Subnet Mask, Default Gateway, and DNS** that you plan to use.

- c **NAT** (Network Address Translation) is **Enabled** by default. This feature lets multiple users access the Internet sharing a single IP address. **Enabled** is typically the right setting. Select **Disable** in the unlikely event that you want to assign different public IP addresses to each network user.
- d Click **Save/Apply**.

Now check that your installation worked by opening a Web browser and connecting to your favorite web site. If you cannot connect to the Web, please refer to [Appendix A: Troubleshooting Tips](#).

If you want to connect other computers or other devices to the X7N, continue with [Chapter 2: Setting Up a Network](#) on page 17.

If you do not wish to add additional devices to your X7N, you are ready to start using your X7N. If you want additional information on how to use your X7N, you may choose to continue with:

- [Chapter 6](#) to learn about using the X7N with online gaming.
- [Chapter 7](#) to learn about monitoring your ADSL Status. (Most users will not need to use status monitoring.)
- [Chapter 8](#) to learn about the advanced features of the X7N. (Most users will not need to change advanced features.)

Logging into the Configuration Manager

The Configuration Manager is built into the X7N and accessed through a web browser. Various chapters in this manual ask you to use the configuration manager.

To Log into the **Zoom Configuration Manager**:

1. Open your Web browser and, in its address bar, type **http://192.168.1.1** and then press the **Enter** key on your keyboard.
2. In the **Enter Network Password** dialog box, type the following user name and password in lowercase, then click **OK**. (The X7N **User Name** and **Password** you enter here are not the same as the User Name and Password that your Internet service provider may have given you.)

User Name: **admin**

Password: **zoomadsl**

If you are not prompted for a **User Name** and **Password**, do the following in this order: Recheck all connections; restart the modem and computer; and reset the modem by pressing the **RESET** button on the modem's back panel for 7 seconds.

Important:

For security, you may want to choose your own X7N password after the setup is complete. See [Changing User Names and Passwords](#) on page 69.

Tip!

If you configured the X7N using a notebook computer, you can keep it plugged in, or you can disconnect it from the unit's ETHERNET port. As long as the X7N remains plugged into an ADSL wall jack and a power source, the X7N can function as a stand-alone device. You can then make the notebook part of your wireless network.

2

Setting Up a Network

Once a computer that is directly connected to the X7N modem is able to browse the Internet, you know for certain that your ADSL Internet connection is working. Now you can set up the rest of your network.

It is up to you whether you want to have some computers connected directly to the X7N and others connected wirelessly. The X7N supports both wired and wireless connections. You can have up to 253 connections, four of which can be wired directly through the X7N's four **ETHERNET** ports. You can also plug a network device (such as a hub, switch, router, or Homeplug adapter) into one of the **ETHERNET** ports.

To set up your network, you can do any or all of the following, in any order that you choose:

- If you want to connect additional computers directly to the X7N, see **To Connect Additional Wired Computers** below.
- If you want to connect a hub, switch, router or other device directly to the X7N, see **To Connect a Network Device** on page 18.
- If you want to connect additional computers or other devices using a wireless network, you should first set up wireless security before connecting your wireless devices. See [Chapter 3: Setting Wireless Security](#) on page 19.

To Connect Additional Wired Computers

You can connect up to four computers that have Ethernet ports directly to the X7N.

- 1 Shut down and power off the computer you want to connect to the X7N. (This is important because the computer must locate the correct IP address for the modem. This is done when the computer is turned back on in step 3 below.)
- 2 Plug an Ethernet cable between any one of the modem's available **ETHERNET** ports and any of the computer's available Ethernet ports.
- 3 Turn on the computer.
- 4 Verify that your Internet connection is working for that computer. Open your Web browser (for instance, Internet Explorer, Firefox, or Chrome) and try to connect to a familiar Web address.
- 5 Repeat steps 1–4 for each computer you want to add.

To Connect a Network Device

You can use one of the **ETHERNET** ports on the X7N to plug in a network device (for example, a hub, switch, router, or Homeplug adapter).

- 1 Plug an Ethernet cable between any one of the modem's available **ETHERNET** ports and any of the network device's available Ethernet ports. (For a hub or a switch, this is typically called an **Uplink** or **Expansion port**. For a router, this is typically called a **WAN port**.)
- 2 Set up your network and/or device. Refer to the documentation provided with your particular network device for instructions on how to do this.
- 3 Once your network device is set up, reboot any computer that is part of the network.
- 4 Verify that your Internet connection is working for a computer using the network device. Open that computer's Web browser (for instance, Internet Explorer, Firefox, or Chrome) on each computer and try to connect to a familiar Web address.

Congratulations! You have set up your wired devices. If you have wireless devices that you want to add to your network, start with [Setting Wireless Security](#) on page 19.

3

Setting Wireless Security

Wireless security is turned off by default on your X7N. This means that your wireless signal is not encrypted and that anyone with compatible wireless technology can access your computer network and the Internet using your wireless connection. Before you first set up your X7N wireless network, read this chapter to set up wireless security to protect your network and Internet connection.

Overview

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

- Most people should use the X7N's Configuration Manager to setup their wireless security unless they know that all their devices support **WiFi® Protected Setup (WPS)**. Most people should refer to [Setting Up Security Manually](#) below.
- You can use **Wi-Fi Protected Setup (WPS)** if all of your devices support WPS security. WPS is easy to configure. Please refer to [WPS Configuration](#) on page 23 for details.

Setting Up Security Manually

To manually set up wireless security, you will create and enter a unique passphrase or an alphanumeric key. Once entered, only devices with the proper key or passphrase will be allowed to establish a connection to the network.

There are two basic ways to configure and implement a passphrase or key. They are **WPA2/WPA** and **WEP**. The X7N supports

WPA2/WPA mixed mode which lets you connect with devices that support either standard. We recommend you use this setting unless you want to use on your network a wireless device that only supports WEP security. In the unlikely event that you need to use WEP, skip to [Setting Up Security Using WEP](#) on page 21.

Setting Up Security Using Mixed WPA2 / WPA mode

WPA2 and WPA use a **passphrase** that you choose and enter on the X7N and other wireless devices on the network (clients) to set up security. To use Mixed WPA2 /WPA, **all** of the wireless devices on your network must support either encryption method. If you know that all your devices support the more secure WPA2 you can select WPA2 instead of mixed WPA2/WPA.

- 1 To use WPA2/WPA mode, all clients that you plan to put on the network need to support WPA2 or WPA. In the unlikely event that one does not, skip to [Setting Up Security Using WEP](#) on page 21.
- 2 Open the Zoom Configuration Manager by typing the following in your Web browser's address bar: <http://192.168.1.1>
- 3 In the **Enter Network Password** dialog box, type the following User Name and Password in lower case, then click **OK**.
User Name: **admin**
Password: **zoomadsl**
(The User Name and Password entered here are not the same as the user name and password that your Internet service provider may have given you.)
- 4 Click **Wireless** on the left-side menu of the Configuration Manager.
- 5 In the **SSID (Wireless Network Name)** field, assign a name to your wireless network. This is the name that all your wireless devices will connect to. You can leave the default name **Zoom** if you wish.
- 6 Then click **Security** on the left-side menu and from the drop-down menu for Select SSID, select the name you just assigned in step 5.

- 7 From the **Network Authentication** drop-down menu, select **Mixed WPA2 / WPA**.
- 8 In the **WPA Pre-Shared Key** text box, enter a passphrase of your choice.
- 9 Write down this passphrase and put it where you can find it – on the bottom of the X7N case, for instance.
- 10 Click **Save/Apply**.

Now you will need to connect all your wireless devices to the X7N. See [Chapter 4](#) for details on connecting different wireless devices to your network.

If you do not need help connecting your wireless devices to your X7N, you may choose to continue with:

- [Chapter 6](#) to learn about using the X7N with online gaming.
- [Chapter 7](#) to learn about monitoring your ADSL Status. (Most users will not need to use status monitoring.)
- [Chapter 8](#) to learn about the advanced features of the X7N. (Most users will not need to change advanced features.)

Setting Up Security Using WEP

If **even one** of your wireless network devices DOES NOT support WPA2 or WPA, you need to use WEP to configure network security. WEP can be configured two ways: 64-bit and 128-bit. 128-bit WEP provides a bit more security than 64-bit, but 128-bit WEP also tends to diminish network performance. We recommend that most people configure their WEP for 64-bit security.

- 1 Open the Zoom Configuration Manager by typing the following in your Web browser's address bar: <http://192.168.1.1>
- 2 In the **Enter Network Password** dialog box, type the following User Name and Password in lower case, then click **OK**.

User Name: **admin**

Password: **zoomadsl**

(The User Name and Password entered here are not the same as the user name and password that your Internet service provider may have given you.)

- 3 Click **Wireless** on the left-side menu of the Configuration Manager.
- 4 In the **SSID (Wireless Network Name)** field, assign a name to your wireless network. This is the name that all your wireless devices will connect to. You can leave the default name **Zoom** if you wish.
- 5 Then click **Security** on the left-side menu and from the drop-down menu for Select SSID, select the wireless network name you just assigned in Step 4.
- 6 From the **Network Authentication** drop-down menu, select **WEP Open** or **WEP Shared**. (Most devices use **WEP Open**; however some older Apple Macbooks require **WEP Shared**.)
- 7 For **Encryption Strength** select **128-bit** or **64-bit**. (The **128-bit** option is more secure but **64-bit** may be faster on older devices. We recommend setting **64-bit** security.)
- 8 In the **Network Key** text box, enter a passphrase of your choice.
- 9 Write down this passphrase and put it where you can find it – on the bottom of the X7N case, for instance.
- 10 Click **Save/Apply**.

Now you will need to connect all your wireless devices to the X7N. See [Chapter 4](#) for details on connecting different wireless devices to your network.

If you do not need help connecting your wireless devices to your X7N, you may choose to continue with:

- [Chapter 6](#) to learn about using the X7N with online gaming.

- [Chapter 7](#) to learn about monitoring your ADSL Status. (Most users will not need to use status monitoring.)
- [Chapter 8](#) to learn about the advanced features of the X7N. (Most users will not need to change advanced features.)

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. The X7N supports Push Button WPS configuration. This button can be either a physical button on the unit or a software button in its application. If your devices only support using a PIN code, then you must configure security manually. Refer to **Setting Up Security Manually** on page 19.

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.

- 1 Press the **WPS** button on your X7N and hold it in for two (2) seconds. After you release the button, the **WPS** light on the front of the X7N should start to blink.

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. The X7N is configured as a **Registrar**, so you should put it into WPS mode first.

- 2 Click or press the **WPS** button on the client device. This button may be a physical button on the unit or a software button in its application.
- 3 Refer to your client device's documentation for further instructions, if necessary.

For each device that you used WPS to enable security and connect to the X7N, test your Internet connection by opening your Web

browser (for instance, Internet Explorer, Firefox, or Chrome) and try to connect to a familiar Web address.

If you connect successfully, you are ready to browse the Web!

If it fails to connect, refer to [Appendix A: Troubleshooting Tips](#) on page 70.

You are now ready to start using your X7N. If you want additional information on how to use your X7N, you may choose to continue with:

- [Chapter 6](#) to learn about using the X7N with online gaming.
- [Chapter 7](#) to learn about monitoring your ADSL Status. (Most users will not need to use status monitoring.)
- [Chapter 8](#) to learn about the advanced features of the X7N. (Most users will not need to change advanced features.)

4

Connecting Devices Wirelessly to the X7N

*This chapter assumes that your X7N has its wireless security settings set up the way you like them, either with the factory defaults of “no security” or with a particular type of security as discussed in [Chapter 3](#). This chapter provides tips for connecting devices (computers, phones, non-computer wireless device like an iPhone® or other cellular phone, iPod Touch®, etc.) wirelessly to the X7N. If you are familiar with this already, **or if you prefer to use the instructions associated with each device**, you don’t need to read this chapter. You do need to make sure that each device connecting to the X7N is set up for wireless security that is compatible with the X7N’s wireless security settings.*

Note that for **each** computer or other device added to your wireless network, you will need to take appropriate steps for setting up that computer or other device. To do that, select one of the possibilities for that computer or other device below:

- Many newer **Windows 7, Vista, and XP computers have built-in wireless networking** capabilities and do not require the installation of a wireless component. If this is the case, you should set up that computer’s wireless connection using the Windows 7, Vista, or XP connect utility. See the sections below on connecting **Windows 7** (page 26) , **Vista** (page 28), or **XP** (page 30) computers with built-in wireless capabilities.
- Some **computers** may have **built-in wireless networking** capabilities, but do not use the Windows 7, Vista, or XP utility to configure their device. If this is so, set up your computer’s wireless connection using the instructions on page 30 for **Connecting a**

Wireless-enabled Computer or Device to the X7N.

- If you have a non-computer **wireless device like an iPhone® or other cellular phone, iPod Touch®,** etc., see the instructions on page 30 for **Connecting a Wireless-enabled Computer or Device to the X7N.**
- Some **computers** may need a **wireless network adapter installed.** This can be a USB adapter, PC Card adapter, or PCI adapter. When you install the adapter, make sure that it is set to **infrastructure** or **access point** mode (NOT **ad-hoc** or **peer-to-peer** mode). If you need help installing your wireless adapter or setting its mode, refer to the documentation that came with it. After you install the adapter, see the instructions on page 30 for **Connecting a Computer with a wireless adapter to the X7N.**

Connecting a Windows 7 Computer with Built-in Wireless Capabilities

- 1 From the taskbar, click on the wireless symbol.



- 2 In the wireless network options box, highlight the name you gave your wireless network in [Chapter 3](#). If you did not change the Wireless Network name, select the default name **Zoom**, and click **Connect**. If you wish to connect automatically to this network ensure that the **Connect Automatically** box is checked.



- If you enabled security in [Chapter 3](#), in the next dialog box enter the security key or password and click **Connect**.
- If your desired network is unsecured, in the message box select **Connect Anyway**.

Note: We strongly recommend that you set up a secured network. For information on wireless security, see [Setting Wireless Security](#) on page 19.

- When you click on the wireless network option box, Windows will scan for available networks. More than one wireless network may appear in the list. These are other wireless networks that are within range of your network. Your neighbors, for instance, may be within range of your network. Each wireless network has a channel associated with it. We recommend there be at least a five-channel difference between your network and those of your neighbors. Having less than a five-channel difference may result in interference with your connection. By default, the X7N uses channel 10. If you need to change this channel, you must do so using the **Wireless Setup** page of the **Zoom Configuration Manager**. For instructions on how to log in to the **Zoom Configuration Manager**, see page 14. After logging in, select **Wireless** from the left-side menu. On the **Wireless** page you can select a new channel from the drop-down menu.

If you have difficulty connecting, make sure you have entered the correct password (if security is enabled). Otherwise refer to [Appendix A: Troubleshooting Tips](#) on page 70.

To disconnect from the current network:

- 1 Right-click the wireless network icon in the notification area of the Windows taskbar.
- 2 Right-click **Zoom** and select **Disconnect**.

Connecting a Windows Vista Computer with Built-in Wireless Capabilities

- 1 From the **Start** menu select **Connect to**.
- 2 In the **Connect to a network** dialog box, highlight the name you gave your wireless network in [Chapter 3](#). If you did not change the Wireless Network name select the default name **Zoom**, and click **Connect**.
 - If you enabled security in [Chapter 3](#), in the next dialog box enter the security key or password and click **Connect**.
 - If your desired network is unsecured, in the message box select **Connect Anyway**.

Note: We strongly recommend that you set up a secured network. For information on wireless security, see **Setting Wireless Security** on page 19.

- When you click on the wireless network option box, Windows will scan for available networks. More than one wireless network may appear in the list. These are other wireless networks that are within range of your network. Your neighbors, for instance, may be within range of your network. Each wireless network has a channel associated with it. We recommend there be at least a five-channel difference between your network and those of your neighbors. Having less than a five-channel difference may result in interference with your connection. By default, the X7N uses channel 10. If you need to change this channel,

you must do so using the **Wireless Setup** page of the **Zoom Configuration Manager**. For instructions on how to log in to the **Zoom Configuration Manager**, see page 14. After logging in, select **Wireless** from the left-side menu. On the **Wireless** page you can select a new channel from the drop-down menu.

If you have difficulty connecting, make sure you have entered the correct password (if security is enabled). otherwise refer to [Appendix A: Troubleshooting Tips](#) on page 70.

- 3 In the **Successfully connected to [desired network]** dialog box, you have three options. You can:
 - Select **Save the network** and **Start this connection automatically** if you always want to connect to the same network. Then click **Close**. The next time you start your computer you will automatically connect to the selected network.
 - Select **Save the network** and clear the **Start this connection automatically** check box if you don't want to automatically connect to this network every time you start your computer but you will want to connect in the future. Click **Close** to display the **Select a location . . .** dialog box where you choose a location. Windows Vista automatically applies the correct network security settings.
If the **User Account Control** dialog box appears, click **Continue**.
 - Click **Close** to complete the connection procedure. Select this option if you are connecting to this network only one time.

To disconnect from the current network:

- 1 From the **Start** menu, select **Connect to**.
- 2 In the **Disconnect or Connect to another network** dialog box, select the current network and click **Disconnect**.
- 3 In the **Are You Sure?** message box, click **Disconnect** again.
- 4 In the next dialog box, you can connect to another network or click **Close** to complete the disconnect procedure.

Connecting a Windows XP Computer with Built-in Wireless Capabilities

- 1 On your Windows desktop, click the **Wireless Network Icon** button in the system tray .
- 2 Windows will automatically scan for available wireless networks in your area. Any compatible networks within range will appear in the **Available networks** list. It should find the name you gave your wireless network in [Chapter 3](#). If you did not change the Wireless Network name select the default name **Zoom**.
- 3 Double click **your wireless network name** to connect to the X7N.
 - If you secured your wireless network in [Chapter 3](#), in the next dialog box enter the security key or password and click **Connect**.
 - If your desired network is unsecured, in the message box select **Connect Anyway**.
- 4 Test your wireless connection. From the computer or notebook that you set up, open your Web browser (for instance, Internet Explorer or Firefox) and try to connect to a familiar Web address.

If you connect successfully, your notebook's wireless capability is configured and you are ready to browse the Web!

Important!

If you want to add security to your network, please see **Setting Wireless Security** on page 19.

- When you click on the wireless network option box, Windows will scan for available networks. More than one wireless network may appear in the list. These are other wireless networks that are within range of your network. Your neighbors, for instance, may be within range of your network. Each wireless network has a channel associated with it. We recommend there be at least a five-channel

difference between your network and those of your neighbors. Having less than a five-channel difference may result in interference with your connection. By default, the X7N uses channel 10. If you need to change this channel, you must do so using the **Wireless Setup** page of the **Zoom Configuration Manager**. For instructions on how to log in to the **Zoom Configuration Manager**, see page 14. After logging in, select **Wireless** from the left-side menu. On the **Wireless** page you can select a new channel from the drop-down menu.

To disconnect from the current network:

- 1 On your Windows desktop, click the **Wireless Network Icon** button in the system tray .
- 2 Select **Zoom** and click on Disconnect.

Connecting a Wireless-enabled Computer or Device (including the iPhone or other cellular phones, the iPod Touch, etc.) to the X7N

- 1 Go to the wireless-enabled computer or device that you want to add to the network. The device should have software that will let it perform a **site search** to scan for available wireless networks in your area. You may have to click on something like **Settings** and then **Wi-Fi**. When the wireless network name you gave your network in [Chapter 3](#) appears, or if you did not change the Wireless Network name the default name **Zoom** should appear—select it as the network you want to use to connect to the Internet.
 - If you secured your wireless network in [Chapter 3](#), you will need to set up wireless security and enter the password.

Tip!

If you need help, refer to the documentation that came with your wireless device.

There are several site scan issues you should be aware of:

- More than one wireless network may appear in the list. These are other wireless networks that are within range of your network. Your neighbors, for instance, may be within range of your network. Each wireless network has a channel associated with it. We recommend there be at least a five-channel difference between your network and those of your neighbors. Having less than a five-channel difference may result in interference with your connection. By default, the X7N uses channel 10. If you need to change this channel, you must do so using the **Wireless Setup** page of the **Zoom Configuration Manager**. For instructions on how to log in to the **Zoom Configuration Manager**, see page 14. After logging in, select **Wireless** from the left-side menu. On the **Wireless** page you can select a new channel from the drop-down menu.
 - If you want to secure your wireless network so it won't be accessible by others, you should specify security settings. To learn how, see **Setting Wireless Security** on page 19. (By default, the wireless connections provided by the X7N do not have any security applied.)
- 2 Test your wireless connections. From each computer or device that you set up, open your Web browser (for instance, Internet Explorer, Firefox, or Chrome) and try to connect to a familiar Web address.

If you connect successfully, you are ready to browse the Web!

Important!

To add security to your network, see **Setting Wireless Security** on page 19.

To disconnect from the current network:

- 1 On your wireless device or computer, find the wireless network connection option (similar to the process of adding your device or computer to the network).
- 2 Click or highlight **Zoom**.
- 3 Select or click on **Disconnect** or similarly-named button.

Connecting a Computer with a Wireless adapter to the X7N

- 1 Go to the computer that is set up with a wireless adapter that you want to add to the network. The computer should have software that will let it perform a **site search** to scan for available wireless networks in your area. When the wireless network name you gave your network in [Chapter 3](#) appears, or if you did not change the Wireless Network name, the default name **Zoom** should appear—select it as the network you want to use to connect to the Internet.
 - If you secured your wireless network in [Chapter 3](#), you will need to set up wireless security and enter the password.

Tip!

For most wireless adapters, you will use its wireless configuration manager software and click a **Scan** button or select a **Site Scan, Scan Networks**, or other similarly named tab to do a site search. If you need help, refer to the documentation that came with your wireless adapter.

There are several site scan issues you should be aware of:

- If you are trying to connect to a wireless network that already has security enabled, your wireless adapter might not recognize what type of security is on the network. You may need to manually set up the security for your adapter. If you need help, refer to the documentation that came with your wireless adapter.

- **Windows 7, XP, and Vista users:** If you installed a wireless adapter on a Windows 7, XP, or Vista computer, Windows may try to automatically configure the adapter (rather than let you use the software provided with the wireless adapter). You will know this is happening because you will be prompted with a message about one or more wireless networks being available. You will also be able to click a link to open the **Wireless Network Connection Properties** dialog box. If this happens, click the link, clear the **Use Windows to configure my wireless network settings** check box, and then click **OK**. You can then use the software provided with your wireless adapter without interruption from Windows.
 - More than one wireless network may appear in the list. These are other wireless networks that are within range of your network. Your neighbors, for instance, may be within range of your network. Each wireless network has a channel associated with it. We recommend there be at least a five-channel difference between your network and those of your neighbors. Having less than a five-channel difference may result in interference with your connection. By default, the X7N uses channel 10. If you need to change this channel, you must do so using the **Wireless Setup** page of the **Zoom Configuration Manager**. For instructions on how to log in to the **Zoom Configuration Manager**, see page 14. After logging in, select **Wireless** from the left-side menu. On the **Wireless** page you can select a new channel from the drop-down menu.
 - If you want to secure your wireless network so it won't be accessible by others, you should specify security settings. To learn how, see **Setting Wireless Security** on page 19. (By default, the wireless connections provided by the X7N do not have any security applied.)
- 2 Test your wireless connections. From each desktop or notebook computer that you set up, open your Web browser (for instance, Internet Explorer or Firefox) and try to connect to a familiar Web address.

If you connect successfully, you are ready to browse the Web!

Important!

To add security to your network, see **Setting Wireless Security** on page 19.

To disconnect from the current network:

- 1 On your computer that has a wireless adapter, find the wireless network connection option (similar to the process of adding your computer to the network).
- 2 Click or highlight **Zoom**.
- 3 Select or click on **Disconnect** or similarly-named button.

5

Wireless Options

This chapter is primarily for technically advanced users. For most people, the options that are set by default when the X7N is installed are sufficient.

The information in this chapter applies to you if:

- *You wish to change the name of your Wireless Network.*
- *You want to set up a guest wireless network that provides limited access to your network.*
- *You want to turn off or hide your wireless network.*
- *You want to enable MAC Filtering to prevent a device on your network from accessing the network, or as an added layer of security to only allow devices that you specify to access your network.*
- *You want to set up the X7N to work with wireless repeaters to extend the range of your network.*
- *You want to view the wireless devices that are connected to your network.*

To configure wireless features, click **Wireless** from the left-side menu of the **Zoom Configuration Manager**.

This link...	Opens a page that lets you...
Basic	Configure basic features of the wireless LAN interface. On this page you can change the name of your wireless network, turn off or hide your wireless network. or set up a guest network.
Security	Configure security features of the LAN interface. See Chapter 3: Setting Wireless Security on page 19.
MAC Filtering	Configure wireless MAC filtering to block Internet access.
WDS	Configure the WDS (Wireless Distribution System) feature of the wireless LAN interface.
Advanced	Configure the advanced features of the wireless LAN interface. Most users do not need to change these settings.
Client Info	Shows authenticated wireless clients and their status.

Basic Setup

The table below explains the **Wireless Basic** settings:

This setting...	Lets you specify...
Enable Wireless	A check mark in the Enable Wireless check box shows that your wireless network is up. If there is no check mark next to the Enable Wireless check box, the X7N's Wireless capability is not enabled.
Channel	Indicates the channel your wireless connection uses by default for your wireless connection. The X7N comes set for channel 10 .
SSID (Wireless Network Name)	The Service Set Identifier for your wireless network. By default, the SSID for the X7N is Zoom . You can change the SSID to any name that you want.
BSSID (Broadcast SSID)	Shows the Wireless MAC address of your X7N.
Country	Select your country from the drop-down menu.
Max Clients	Up to 16 wireless clients are allowed on each network.
Hide SSID	Click in the check box if you do not want to broadcast the SSID of your network.
Client Isolation	Enabling client isolation will prevent wireless clients on the same network from communicating with each other. Typically, this feature is used in public hotspots or corporate environments.

Setting up a Wireless Guest Network

A wireless guest network can be set up so you can give visitors access to the Internet without giving them access to other computers on your network.

To setup a Wireless Guest Network:

1. Click on **Wireless** from the left-side menu to take you to the Wireless Basic Setup page.
2. Click the **Enabled** check box to enable the Guest wireless network.
3. Enter a name for your guest network in the SSID field.

TIP: You may want to include the word guest in the name so users know it is a guest network. For example, **MyCompany Guest**

The table explains the following settings for your Wireless Guest Network:

This setting...	Lets you specify...
Hidden	Click in the check box if you do not want to broadcast the SSID of your network.
Isolate Clients	Enabling client isolation will prevent wireless clients on the same network from communicating with each other. Typically this feature would be used on a guest network..
Disable WMM Advertise	WMM is used to give wireless data different levels of priority. You can disable WMM to give all users equal priority.
Enable WMF	Allows you to enable Wireless Multicast Forwarding (WMF). Most users should leave this disabled.
Max Clients	Up to 16 wireless clients are allowed on each network.
BSSID	Reports the wireless MAC Address

Wireless MAC Filtering

Most users will not need this feature. However, if there is a PC or other device on the X7N network that you don't want using the Internet, you can use MAC address filtering to deny the device Internet access. (That computer or device will still be able to communicate with other devices on the LAN, such as printers.)

You can also use Wireless MAC filtering to add a layer of security, setting up the X7N to only allow the MAC addresses of your wireless devices to access the Internet.

To set up **MAC Filtering**, click **Advanced Setup** on the left-side menu of the Zoom Configuration Manager. Click **Wireless**. Then click **MAC Filtering**. Follow the instructions below:

- 1 From the **Select SSID** drop-down menu, select the wireless network that you wish to setup MAC Filtering.
- 2 For the **MAC Restrict Mode**, select **Allow** to allow only the MAC address entered to access your network. Select **Deny** to block the MAC addresses you enter from accessing your network. **Disabled** will disable MAC address filtering; this allows you to turn it on and off.
- 3 Click **Add** to add the MAC address to filter. To see the MAC address of clients that are currently connected to the X7N, click on **Client Info** on the left-side menu..
- 4 Click **Save/Apply** changes after you finish adding wireless clients.
- 5 If you want to remove any of the settings, click the check box next to **Remove**, and then click the **Remove** button.

WDS

WDS is used to extend the range of your wireless network. Other wireless access points that support WDS can connect wirelessly to the X7N to expand the range of your wireless network.

The table explains the following settings for WDS:

This setting...	Lets you specify...
AP Mode	Most users should select Access Point to communicate with both Wireless Clients and Wireless Access points. Selecting WDS means that the X7N can only communicate with other Access Points.
Bridge Restrict	Select Disable if you want Access point to be able to bridge to the X7N. Select Enabled or Enabled(Scan) to control which access points have access to the X7N. If you know the MAC address of the Access points you wish to allow access to, select Enabled, and enter the MAC address in the Remote Bridges MAC address field. If you don't know the MAC address, select Enabled (Scan) to show a list of access points that you can allow access. Click the check box next to each access point that you want to grant access.
Remote Bridges MAC address	In Enabled mode, you can enter the MAC addresses of the access points you wish to associate with. In Enabled (Scan) mode, it displays a list of access points so you can select which ones to grant access.

Click **Refresh** to update the remote bridges. Wait for a few seconds to update.

Click **Save/Apply** to configure the wireless bridge options.

6

Online Gaming

If you are using your router for gaming, you may need to make changes to the router's firewall setting for the game to work. This is done by setting up a DMZ or virtual server, or by using port triggering so that the modem's firewall won't block the other players from your system during your gaming. The main difference between the three methods is the amount of access someone has to your system.

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

Port triggering works by sensing when data is sent out on the predetermined outgoing port and then automatically opening up the corresponding incoming port(s). It will automatically forward the traffic on the incoming port to the computer that accessed the outgoing port. If your game uses one port to send outgoing data and a different port (or ports) for incoming data, you may want to use port triggering. The advantage of port triggering is that it is more secure than setting up a virtual server since the incoming port is only open when you are using it, and since it tracks which computer sent the outgoing data. Port triggering can also be easier to set up because you do not need to know the IP address of your gaming station. The disadvantage of port triggering is that only one host can be accessing the port at one time; so if you have two computers or game stations playing the same game on your network, you will need to use a virtual server or DMZ.

A DMZ differs from a virtual server in that it allows access on all ports of the computer. Because of this, DMZs are less secure and should be used with caution on your computer. However DMZs work well with your gaming stations since security is not as much

of an issue for gaming stations as it is for computers.

Once you've decided what type of security to use for gaming, you can set up that security using the appropriate section of this manual:

- **Virtual Server:** For instructions on how to set up a virtual server, please refer to page 54.
- **DMZ:** For instructions on how to set up a DMZ, please refer to page 56.
- **Port Triggering:** For instructions on how to set up port triggering, please refer to page 57.

7

Status Monitoring

This chapter discusses how to check the status of your modem and its ADSL connection.

Most users can skip this chapter, as it is primarily for advanced users and for those who are instructed by their Internet service provider or Zoom Technical Support to verify settings, usually for troubleshooting. If you skip this section, you should go to [Chapter 8](#).

Why Monitor Status?

The X7N provides easy-to-read screens for you to review the status of the modem and its ADSL connection.

While most users will probably never need to check the status, there are some cases in which it would be helpful. For example, you may need to know the IP address assigned to you by your Internet service provider.

For advanced users with special configuration needs, the status information is useful for overall system maintenance.

Monitoring ADSL Status

If you want to check the status of your ADSL connection, click on the **Status** link on the left pane in the **Zoom Configuration Manager**. (If you forgot how to log in to the **Zoom Configuration Manager**, see page 14.)

The **Status** page provides information about your ADSL connection. For example, you can verify whether your ADSL connection is active or not. You can also monitor related ADSL parameters—for example, how fast the X7N is transferring data (**Downstream Speed** and **Upstream Speed**), your WAN settings, your LAN settings, and so forth.

Note:

The **Status** page does not provide a way to change any of these settings—see [Chapter 8: Advanced X7N Setup Options](#), if you need to make changes to these settings.

8

Advanced X7N Setup Options

Advanced Setup is primarily for technically advanced users. For most people, the options that are set by default when the X7N is installed are sufficient.

*However, those who want or need to change the X7N settings can do so using the **Advanced Setup** page in the **Zoom Configuration Manager**. This chapter explains the advanced options and features of the X7N modem and how to apply them to your network.*

The information in this chapter applies to you if:

- *Your Internet service provider instructs you to enable, disable, or change the default settings for your X7N*
- *You need to change your Wide Area Network settings*
- *You want to change the default firewall settings to block particular IP addresses and intrusive hosts*
- *You wish to set up a DMZ, Virtual Server or Port Triggering for online gaming.*
- *You wish to control the hours that a user on your network can access the Internet.*
- *You want to set up fixed IP addresses for your computer(s)*

Viewing the Advanced Setup Options

For **Advanced Setup** options, click **Advanced Setup** from the left-side menu of the **Zoom Configuration Manager**.

This link...	Opens a page that lets you...
ATM Interface	Used to set up multiple ATM channels. Most users will only do this if instructed by their service provider.
WAN	Specify how the Wide Area Network (WAN) ADSL setup is configured. Some of the values need to be supplied by your ISP/DSL provider.
LAN	Specify the settings that control the connection between the X7N modem and your computer. Set a fixed IP address for your computer.
IPv6 Autoconfig	Allows you to set up IPv6 parameters.
NAT	<p>Virtual Servers Setup page: To direct incoming traffic from the WAN side. A maximum of 32 entries can be configured.</p> <p>Port Triggering: To dynamically open up ports in the firewall when an application on the LAN initiates a TCP/UDP connection to the remote application using a 'Triggering Port'. A maximum of 32 entries can be configured.</p> <p>DMZ Host: To forward IP packets from the WAN that do not belong to any of the applications configured in the Virtual Servers table to the DMZ host computer.</p>

Security→ IP Filtering	<p>Outgoing: To block selected IP traffic by setting up filters.</p> <p>Incoming: To accept selected IP traffic by setting up filters (when the firewall is enabled).</p>
Security→ MAC Filtering	<p>Allows you to block access to the Internet based on a device's MAC address.</p>
Parental Control→ Time Restriction	<p>Allows control of when certain computers or devices are allowed to access the Internet.</p>
Parental Control→ URL Filtering	<p>To choose particular URLs to be excluded or included by setting up a URL list. A maximum of 100 entries can be configured.</p>
QoS (Quality of Service)	<p>This lets you assure better performance for gaming and VoIP.</p> <p>Queue Management Configuration: Allows you to automatically mark incoming traffic without reference to a particular classifier.</p> <p>Queue Configuration: Allows you to configure a maximum of 24 entries.</p> <p>QoS Class: Allows you to configure network traffic classes.</p>
Routing	<p>Default Gateway: Set up the routes on which you want the X7N to send data that it receives on a particular interface, such as a LAN or Ethernet interface.</p> <p>Static Route: Routes specify the IP address of the next device, interface, or Internet destination to forward data to, based on the ultimate destination of the data. A maximum of 32 routes can be configured.</p> <p>RIP: Sets the X7N to use Routing Information Protocol (RIP). Most users will not set this.</p>

DNS	<p>DNS Server: Allows you to specify multiple DNS servers. Typically, most users do not need to enter a DNS server unless instructed by their ISP.</p> <p>Dynamic DNS: Allows you to map a dynamic IP address to a static address allowing your DSL router to be more easily accessed from various locations on the Internet. Typically used to host a website behind your router without paying for a static IP address.</p>
DSL	To set DSL settings. Modulation and capability can be selected from lists on this page. DSL Advanced Settings can also be found on this page.
UPnP	Allows you to enable/disable UPnP. UPnP allows other UPnP software or devices to work together without user intervention. The default setting for UpnP is Enabled .
DNS Proxy	<p>When Enabled (default setting), attached LAN devices performing DHCP release/renew will have the router's LAN IP assigned as the DNS Server and the X7N acts as a DNS Proxy.</p> <p>When Disabled, the X7N no longer acts as a Proxy and assigns to LAN DHCP devices it's own DNS servers that it uses (can be used if the servers are down and you want to put in your own DNS).</p>
Interface Grouping	To create mapping groups with appropriate LAN and WAN interfaces to set up groups that perform as independent networks (utilizing multiple ports to PVC and bridging groups).
IPSec	To add, edit, or remove IPSec tunnel mode connections.
Certificate	Local: To add, view, or remove local certificates used by peers to verify your

	identity. A maximum of 4 certificates can be stored. Trusted CA (Certificate Authority): Add, view, or remove CA certificates used by you to verify peers' certificates. A maximum of 4 certificates can be stored.
Multicast	Sets up IGMP protocol. Most users will only do this if instructed by their service provider.

Changing Your WAN Settings

The **WAN Configuration** page of the X7N Configuration Manager is used to change the advanced settings of your Wide Area Network (WAN) connection. Most users should use the Basic Setup to edit their WAN connection. To open this page, click **Basic Setup** on the left-side menu.

To Edit a Previous Configuration:

If you already created a configuration (from the Basic Setup page or from the WAN page at an earlier time), you can click **Edit** to make changes to that configuration. Then use the **Next** and **Back** buttons to navigate through a series of pages where you can make changes to advanced parameters such as the ATM Traffic Class and Encapsulation Mode, and enabling NAT settings, IGMP Multicast, and WAN Service.

To Add a New Configuration:

If you want to add a new configuration from this page, start by clicking **Add**. Then use the **Next** and **Back** buttons to navigate through a series of pages where you can make changes to advanced parameters such as the ATM Traffic Class and Encapsulation Mode, and enabling NAT settings, IGMP Multicast, and WAN Service. Most users should only add a new configuration if they were instructed by their service provider to do so.

Once you have made the changes you want on the first section, click on **Next** to proceed to the following section. Repeat this until you reach the **WAN Setup – Summary** page. Then click the **Save/Reboot** button.

The following table describes the settings on the **WAN Configuration** pages and the values that you can enter. The settings displayed on the page will vary according to the protocol you are using.

Setting	Description
Protocol	Your Internet Service Provider supplies this value. If your service provider instructs you to use 1483 Bridged mode, select 1483 Bridged + NAT to take advantage of your modem's advanced routing and firewall features.
Encapsulation	The encapsulation value should match your DSL provider's encapsulation. The value refers to the way that data is passed over the Internet. An example value is LLC (Logical Link Control). Your DSL provider supplies this value when you sign up for ADSL service.
VPI	Virtual Path Identifier ranges from 0 – 256. Your DSL provider supplies the VPI when you sign up for ADSL service.
VCI	Virtual Circuit Identifier ranges from 0 – 65536. Your DSL provider supplies the VCI when you sign up for ADSL service.
PPP User Name	Your DSL provider supplies this PPP User Name when you sign up for ADSL service.
PPP Password	Your DSL provider supplies this PPP password when you sign up for ADSL service.
ATM Traffic Class	These settings allow you to give priority to data that is sent over the network. Important! You must make arrangements with your DSL provider

	to use anything except UBR (Unspecified Bit Rate) in the Traffic Class setting. Your service provider will also supply you with the Cell, Burst, and Tolerance Rates.
NAT	Network Address Translation. By default, this setting is Enabled . NAT keeps a table of individual private IP addresses in your network and refers to the table when incoming requests are made. If no matches are found, the incoming data cannot come into your network. An Enabled setting keeps your IP addresses hidden from outside users.
MTU	Maximum Transmission Unit. Largest physical packet size, measured in bytes, that the modem can send. Any messages larger than the MTU have to be fragmented before being sent.

After you enter your values, click **Save/Apply**.

Automatic Configuration: You can use Automatic Configuration if you want to automatically set your Protocol, Encapsulation, VPI, and VCI settings. Click **Start**.

Changing Your LAN Settings

When would I need to change my LAN settings?

DHCP (Dynamic Host Configuration Protocol) is a protocol that enables your modem to manage the assignment of IP addresses to computers and devices on your Ethernet (LAN) network. DHCP is enabled by default on the X7N. Enabling DHCP on the X7N allows it to assign temporary IP addresses to your computers whenever they connect to your network. You can control the amount of time that lapses before a new address is issued or renewed. You can extend the range of IP addresses that are assigned to your network devices should you add new devices to

your network. You can also change the default LAN IP address for your modem.

The following table shows you the values to enter. After you enter the values, click **Save/Reboot**.

Setting	Description
Group Name	Default
IP Address	The IP address of your modem.
Subnet Mask	The modem's subnet mask address.
Enable IGMP Snooping	Check/uncheck to Enable/Disable the IGMP Snooping feature. This feature is designed to prevent hosts on a local network from receiving traffic for a multicast group they have not explicitly joined. Snooping is specifically useful for bandwidth-intensive IP multicast applications like IPTV. Most users can leave the default setting.
DHCP Server	Click Disable to turn off the DHCP Server. Click Enable to turn on the DHCP Server.
Start IP Address	The first IP address of a range that you specify using the Start and End IP Address settings. Your modem's DHCP server will assign the IP addresses in this range at random to the computers and devices in your network.
End IP Address	The last IP address of a range that you specify using the Start and End IP Address settings. Your modem's DHCP server will assign numbers from this range at random to the computers and devices in your network.
Leased Time (hour)	The maximum amount of time, in hours, that a device in your network will have the IP address before a new one is issued by the modem's DHCP server.

The checkbox **Configure the second IP Address and Subnet Mask for LAN interface** allows you to configure a second network on the LAN side.

Configuring Fixed DHCP Mapping

Fixed DHCP mapping is used if you want the modem to always assign the same IP address to a computer or gaming device. You would want to do this if you were setting up a virtual server or DMZ using this device.

To set up a device with Fixed DHCP Mapping:

- 1 Click **Advanced Setup** → **LAN** to open the LAN page.
- 2 Click on **Add Entries**.
- 3 Enter the **MAC Address** of the computer or gaming station that you wish to assign a fixed IP address to.

Tip: To find the MAC address of the devices connected to your X7N refer to the **Existing DHCP Clients** table at the bottom of the page.

- 4 Enter the IP address that you always want assigned to your computer or gaming station. This address can be the one already given to it on the **DHCP Status** page or can be an unused IP address. For example if none of the devices on the **DHCP Status** page have been assigned 192.168.1.25 you can use that as the IP address.
- 5 Click **Save/Apply** to store your settings.

You can remove entries by clicking on **Remove Entries**. Click **Save/Apply**.

Creating a Virtual Server, a DMZ, or Using Port Triggering

Do I need to create a virtual server, DMZ, or use Port Triggering?

By default, your modem uses Network Address Translation (NAT) to hide your computers from users on the Internet. However, there may be times when you want to allow access by outside users to a computer or gaming station on your network. For instance, you would want to allow access if a computer in your network is hosting Internet games or running a web server. If you wish to set up your X7N for online gaming you should refer to [Chapter 6: Online Gaming](#) to help you decide whether a Virtual Server, DMZ or Port Triggering is right for you.

Creating a Virtual Server

Before starting this section, you should specify a fixed DHCP address for the computer or gaming station that you want to use with the virtual server.

- 1 Click **Advanced Setup** → **NAT** → **Virtual Servers** → **Add** to open the **Add Virtual Servers** page.
- 2 For the server name, check the list of predefined games and applications to see if yours is on the list. If it is, select it. You will need to enter the IP address of your computer or gaming station in the **Server IP Address** field, but the rest of the information will be filled out for you.
- 3 Click **Save/Apply** to save your new virtual server.
- 4 If your game or application was not on the list continue to step 5 to create a custom Virtual Server.
- 5 Enter a **Custom Server** name for your virtual server.
- 6 Enter the IP address on the computer or game station that you want to use the virtual server with in the **Server IP Address** field.

- 7 For each range of ports you need to open up enter the Starting and Ending **External Ports** and the **Protocol** used. Your game documentation should provide you with this information.
- 8 If you only need to open one port, enter that port number in both the Start and End **External Port** fields.
- 9 Once you enter the External Ports, the Internal Port fields will automatically be set to the same values. The Internal ports cannot be changed.
- 10 If you know the **Remote IP address** of the device you are connecting to, enter it under the Remote IP field. If you don't know it, you can leave this field blank.
- 11 Click **Save/Apply** to save your new virtual server.

DMZ

Use this page to designate a computer or gaming station on the Local Area Network as a DMZ (**D**emilitarized **Z**one). When you set up a DMZ for a computer, all ports on that computer are opened up to all Internet traffic – the computer is no longer protected by the X7N's NAT firewall. Caution should be used when setting up a computer with a DMZ. A game station does not have the same security issues as your computer, so setting up a DMZ works normally well with your game station.

You may want to create a DMZ if a computer in your network is acting as a web server or hosting Internet games.

You need to manually assign an IP address to the DMZ. Please refer to [Configuring Fixed DHCP Mapping](#) for instructions on how to manually assign an IP address to the DMZ.

DMZ Host IP Address: Enter the IP address of the computer or gaming station designated as a DMZ.

Note: You need to give your LAN PC clients a fixed/static IP address for DMZ to work properly. To do this, go to [Configuring Fixed DHCP Mapping](#) on page 54.

Click **Save/Apply**.

Port Triggering

Port triggering allows a host machine to dynamically forward a specific port back to itself and is a way to automate port forwarding. When traffic is seen on an outgoing port any traffic received on the corresponding incoming port will be forwarded to your computer or gaming station.

To set up port triggering, follow the instructions below.

- 1 Click **Advanced Setup** → **NAT** → **Port Triggering**.
- 2 Click **Add** to add a new Port Triggering rule.
- 3 Check the drop down list next to **Server Name** (check that this is called server name). If your game or application is listed, go ahead and select it.
- 4 Click **Save/Apply**.
If your game or application is not listed, enter a **Custom Name** for your port triggering rule and go to step 5.
- 5 Enter the Start and End **Trigger Ports** in the text fields. Your games documentation should supply you with this information.
- 6 Select the **Protocol** for the Trigger Protocol from the drop-down menu.
- 7 Enter the Start and End **Open Ports** in the text fields.
- 8 Select the **Open Protocol** from the drop-down menu.
- 9 Repeat steps 5-8 for each range of ports you want to trigger open ports with. When you are finished go to step 10.
- 10 Click **Save/Apply**.

Note: To delete a previously created Trigger Port, click the checkbox of the Trigger Port in the Trigger Port list and click **Delete**. Then click **Apply** to save your settings.

Using IP Filters

Use the **IP Filter Configuration** page to set up IP filters to **block outgoing** or **allow incoming** traffic into your computer from the Internet. To open this page, click **Advanced Setup** → **Security**. Then click on **IP Filtering**. Select **Outgoing** or **Incoming** depending on which type of filter you want to set up.

Outgoing IP Filtering Setup:

By default, all outgoing IP traffic from LAN is allowed, but some IP traffic can be blocked by setting up filters. Choose **Add** or **Remove** to configure outgoing IP filters. Once you have set up the IP filters you want, click the **Save/Apply** button.

Incoming IP Filtering Setup:

By default, all incoming IP traffic from the WAN is blocked when the firewall is enabled. However, some IP traffic can be accepted by setting up filters.

To filter Internet traffic, you must define one or more rules (that is, criteria you want the information to meet before it can proceed). As information comes in from the Internet, the X7N examines it and—if it meets the rule—the information moves forward to its destination on your computer or network. If it does not, it is discarded.

The rule can be based on many characteristics, including the network or Internet protocol it carries, the source IP address, the port that the traffic is coming in on, and so forth.

Choose **Add** or **Remove** to configure incoming IP filters. Once you have set up the IP filters you want, click the **Save/Apply** button.

Using MAC Filtering

Use the **MAC Filter Configuration** page to block a device from accessing the Internet. To open this page, click **Advanced Setup** → **Security**. Then click on **MAC Filtering**. Select **ADD** to add the MAC address of the device you wish to prevent from accessing the Internet. If you do not know the MAC address Click on **STATUS** → **DHCP** for a list of devices and their MAC address that are connected to your X7N.

Setting Up Time Restrictions

Do I need time restrictions?

Time restrictions can be used to prevent a user from accessing the Internet during certain hours. For example you can use Time Restrictions to block a child from accessing the Internet until you are home.

To open this page, click **Advanced Setup → Parental Control**. Then click on **Time Restrictions**.

The following table describes the Time Restriction settings.

Setting	Description
User Name	The name you wish to give this rule.
MAC	Enter the MAC Address of the computer you wish to block. To find the MAC address of the devices connected to your X7N are shown in the Existing DHCP Clients table at the bottom of the page.
Days of the Week	Select the days of the week that you wish to block access on.
Start	Enter the starting time that you wish to block access.
Stop	Enter the time that you wish to block access until.
Remove	Click Remove to remove an entry.

Setting Up a Static Routing Table

Do I need static routing?

Most users do not need to set up static routes. The default route used in your modem will forward all packets correctly. However, if you set up your network with different subnets, you can use static routing to ensure your packets are handled correctly.

You can manually create a static route to tell the modem how to reach a specific IP network. The route entry specifies a destination network (or single host), together with a mask to indicate what range of addresses the network covers, and a next-hop gateway address or interface. If there is a choice of routes for a destination, the route with the most specific mask is chosen.

To route to a destination that is not on any local network, a route may be added via a gateway, for instance another router. The gateway IP address must be on the same subnet as one of the router's interfaces.

Click **Routing** from the left-side menu of the Zoom Configuration Manager. Click **Static Route**. Click **Add**.

The following table describes Routing Table settings.

Setting	Description
IP Version	Select IPv4 or IPv6.
Destination IP address / prefix length	Enter the Destination Network Address.
Interface	You can make a selection from the drop-down menu.
Gateway	Enter the Gateway IP address of your destination's subnet. The HOP gateway must be on the same subnet as the modem.

Metric	The number of routers that the data packets go through (optional). When adding a static route, if you know how many “hops” or “routers” a packet must go through to reach the destination network, then you can add it. This is usually not a mandatory requirement.
---------------	--

If you change any of the settings, click **Save/Apply**.

If you want to remove any of the settings, click the check box next to **Remove** and then click the **Remove** button.

Adding a DNS Server Name

Do I need to add a DNS server name?

Typically you should not need to enter a DNS server name as it is assigned automatically when your connection is established.

However, your ISP may instruct you to enter an **IP address** for a **DNS server name**. To do this, follow the instructions below:

- 1 Check the box **Use the Following Static DNS IP Address**.
- 2 In the **Primary DNS Server** and **Secondary DNS Server** text boxes, enter the IP addresses of the DNS servers that your ISP instructed you to enter.
- 3 Click **Save/Reboot**.

Using the ADSL Settings

Do I need to change my ADSL settings?

Typically you should not change your ADSL settings unless you are instructed to do so by your service provider. Or, if you are having problems establishing a physical layer connection, you may want to change a couple of the settings on the **DSL** page.

Click **DSL** under **Advanced Setup** from the left-side menu of the Zoom Configuration Manager.

Setting	Description
BitSwap	Enables or disables bit swapping in both upstream and downstream directions. If you experience frequent connection drops, it may help to change the bit swap settings.

After you enter the values, click **Save/Apply**.

Click on **Advanced Settings** only if you want to configure DSL Advanced Settings. Most users will not need to do this.

Enabling or Disabling UPnP

Universal Plug and Play (UPnP) with Internet Gateway Device (IGD) protocol is installed in X7N units when they are shipped by Zoom. This means that other devices plugged into your computer or network (for example, a gaming application, router, or stand-alone firewall) that use UPnP should automatically detect the X7N and make the needed configurations for them to work together. There is no setup for you to do. Change this setting only if you have a good reason to do so.

To change the status of Universal Plug and Play, go to the **LAN** page under the **Advanced Setup** link.

Setting	Description
Enable UPnP	Select this check box to enable or disable Universal Plug and Play. By default UPnP is enabled.

Click **Save/Apply**.

9

Management and Diagnostics

Please read this chapter if you want to perform modem management functions as discussed below, or if you want to run diagnostics to diagnose a modem problem. If you don't want to do either of these things, your modem is probably set up and ready to go. You may want to read [Appendix C: Top and Back Panels](#) on page 88, for details about the modem's lights and back panel jacks.

The information in this chapter applies to you if you wish to:

- Backup your current settings of the X7N, so you can later restore them.
- Restore the X7N to its factory default settings.
- Change the username and password that you use to access your X7N.
- Provide your service provider remote access to your X7N for troubleshooting purposes.

Management Buttons

The buttons in the **Management** group of the Zoom Configuration Manager are typically used for administrative tasks, such as upgrading firmware, changing your **Zoom Configuration Manager** password, etc.

The following table lists each button in the **Management** group and gives a brief description of the settings you can specify.

Open page from...	This button...	Opens a page that lets you...
Management → Settings	Backup	Save your current configuration settings to a file so that they may be restored at a later time.
	Update	Upload your previously saved settings.
	Restore Default	Restore the X7N settings to the factory defaults.
Management	System Log	<p>By default the System Log is disabled.</p> <p>View data generated or acquired by routine system communication with other devices. This information does not necessarily represent unexpected or improper functioning and is not captured by the system traps that create alarms. You can save the system log to a file.</p>
Management	SNMP Agent	Access the SNMP – configuration page. Simple Network Management Protocol (SNMP)

		allows a management application to retrieve statistics and status from the SNMP agent in this device.
Management	TR-069 Client	Access to a page that allow an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to the ADSL modem. Select the desired values and click Save to configure the TR-069 client options.
Management	Internet Time	Access to a page that allows you to set up the X7N to automatically synchronize with Internet time servers.
Management→ Access Control	Passwords	Manage the User IDs and passwords that can access the Zoom Configuration Manager . This is where you can change the default password supplied to you with the X7N.

Management→ Access Control	Services	A Service Control List (“SCL”) enables or disables router services (for LAN / WAN such as FTP, HTTP, ICMP, and TELNET) from being used.
Management	Update Software	Specify the path to the upgrade file you need to update your firmware. Use the Browse button on this page to navigate to the file, then click the Update Software button to perform the firmware update.
Management	Save / Reboot	Click the Save / Reboot button on the Save / Reboot page to reboot the modem.

Backing Up Your Configuration

Users who change the Configuration Manager settings for the X7N may want to back up their settings. This will enable them to restore those settings at a later time, if needed.

This feature may be especially useful when you receive firmware updates from Zoom. Installing the update may overwrite your customized settings with default values. Before you update the firmware, backup your configuration. Then, after the firmware has been updated, restore your configuration.

Note:

You do not need to back up the default settings. This is because you can easily restore the defaults by clicking **Management** → **Settings** → **Restore Default**. For more information, see **Resetting Default Settings** on page 67.

To back up your current configuration

Use the **Backup** page of the Configuration Manager to save your modem's current configuration to a file on your computer.

- 1 Click on the **Management** link on the left pane of the window. Then click on the **Settings** link. Then click on the **Backup** link.
- 2 On the **Backup** page, click **Backup Settings** to download a configuration file from the X7N to a folder on your computer.
- 3 Be sure to note the name (backupsettings.conf) and location. You will need this information if you ever want to restore the X7N to this backed-up configuration. (You can change the name of the file and specify a location for it on your computer after it is downloaded.)

To restore a configuration

- 1 Click on the **Management** link on the left pane of the window in the Configuration Manager.
- 2 Then click on the **Settings** link.
- 3 Then click on the **Update** link.
- 4 On the **Update Settings** page, click **Browse** and navigate to the file containing the configuration to which you want the X7N restored.
- 5 Click **Update Settings**.

Resetting Default Settings

If you have changed the system settings on your X7N and for some reason want to restore them to the factory default settings,

you can do so in one of two ways: You can perform a **software reset** or a **hard reset**.

To reset using the X7N's Web interface

If you can open your Web browser and access your X7N's Configuration Manager, do the following to perform a software reset:

- 1 Log into the **Zoom Configuration Manager**. (See page 14 if you need help logging in.)
- 2 Click on the **Management** link on the left pane of the window. Then click on the **Settings** link. Then click on the **Restore Default** link.
- 3 Click the **Restore Default Settings** button.

To perform a hard reset

If you lose your link to the unit and cannot communicate with it via the Web browser, do the following to perform a hard reset:

Press the **RESET** button on the modem's back panel for seven seconds.

You are now guaranteed that all system settings are restored to the X7N's factory defaults.

Remote Access to Your Modem Configuration Settings

If you want to be able to access your modem Configuration Manager to change or view your configuration settings remotely:

- 1 Click on **Management**. Click on **Access Control**, then click on **Services** and select the enable check box for **Http WAN** to allow access from a remote PC. Click **Save/Apply** and wait several seconds for the settings to be saved.
- 2 Click on **Status** from the left pane of the **Zoom Configuration Manager**. Click on **WAN**. Write down the public **IP address** displayed under **WAN Info**.

- 3 Type this public **IP address** into the browser of your remote PC.
- 4 At the log in prompt, enter the User Name and Password shown below:
User Name: **support**
Password: **support**
- 5 You can now view or make changes to your modem's configuration from your remote PC.

We recommend leaving Remote access off to prevent unauthorized access to your router. If you wish to leave it on, you should change the default passwords. See **Changing User Names and Passwords** below.

Changing User Names and Passwords

Use the **Passwords** page to manage the user names and passwords that can access the **Zoom Configuration Manager**. To open this page, click **Management** → **Access Control** → **Passwords**.

When you installed the X7N and tried to open the **Zoom Configuration Manager**, you were prompted for a User Name and Password in order to gain access. (The default User Name and Password were supplied to you in the section [Logging into the Configuration Manager](#).)

If you want, you can change the default password. **Changing the password is not required, but as a good security measure, we recommend it.**

To change the default password

Access to your DSL modem is controlled through three user accounts: admin, support, and user.

- 1 Select the **User Name** for which you want to change the Password from the drop-down menu of the Passwords page of the Configuration Manager. **Admin** allows complete access to all functionality both locally and remotely. **Support** allows remote access to all functionality except SSH. **User** allows the

user to access the DSL Router, view configuration settings and statistics, as well as update the router's software.

- 2 Enter the current password in the textbox **Old password**.
- 3 Choose the password you would like to replace it with (up to 16 characters without any spaces) and enter it in the textbox **New password**.
- 4 Retype the password in the textbox **Confirm password**.
- 5 Click on **Save/Apply**.

TR-069

The TR-069 option of the X7N Configuration Manager opens a page where you can allow an **Access Control Server (ACS)** to control and configure your X7N.

This feature must be supported by your service provider and should be enabled by you only if the provider instructs you to enable it.

- 1 Click **Management** from the left-side menu of the Zoom Configuration Manager.
- 2 Then click **TR-069 Client**.
- 3 After you make changes on the **TR-069 client – config** page, click **Save**.

Diagnostics

You can use the **Diagnostics** page of the Configuration Manager to run a series of diagnostic tests of your system software and hardware connections.

Appendix A:

Troubleshooting Tips

The following are some problems you may experience and some possible solutions to remedy the situation.

Problem

I am unable to connect to the Internet.

Solution

There are several issues that could cause this problem. Check these items:

- Verify that the PWR light on the modem is on. If it is off check that the modem is plugged into a wall outlet and that the POWER button on the back of the modem is pushed in. If the light does not turn on, make sure there is power going to the outlet you are using. If the unit still doesn't work contact Zoom Technical Support. See [Appendix G](#) on page 103 for contact information.
- If you are using a wireless device, try connecting a computer directly to the X7N's Ethernet ports. If a computer directly connected to the X7N works, then the problem is with your wireless connections. See the [wireless troubleshooting tip](#) on page 77.
- If you cannot access the Internet with a computer directly connected to the X7N's Ethernet port, check your Ethernet connection. Most computers have a power light next to the Ethernet jack to indicate the Ethernet cable is properly connected. Verify that this light is on and that the Ethernet light on the front of the X7N is on. If the Ethernet light is off on either the X7N or on the computer, verify that the cable is properly pushed in. If the light still doesn't turn on, you should try another Ethernet cable.
- Check your phone cable and splitters. Replace your phone cable with a tested working phone cable. If you have installed a splitter between the X7N and the phone jack, remove this splitter. If this solves the problem you may need to replace this

splitter. When testing the X7N, make sure that the telephones in your house are not in use. If the problem only exists when a particular phone is in use, then you may need to install a filter on that phone; or if there is an existing filter, you should replace it.

- Try turning your computer off and then on. This ensures that your computer gets a correct IP address from the X7N.
- Check your modem's DSL light.
 - If the light is blinking then the X7N was unable to make a DSL connection. Go to **My X7N's DSL light continually blinks and does not stay solidly lit.**
 - If the DSL Light is solid go to **My X7N's DSL light is solidly lit, but I cannot connect to the Internet.**

Problem

My X7N's **DSL** light continually blinks and does not stay solidly lit.

Solution

There are several issues that could cause this problem. Check these items:

- Ensure that the phone cord is firmly plugged into the wall jack and the **DSL** jack on the back of the X7N.
- Verify that the jack the phone jack your X7N is connected to is enabled for ADSL service. Unless your service provider has enabled it, you cannot use a standard telephone jack for ADSL service.
- Your phone cord may be defective. Replace the phone cord with a known good one.
- If your DSL modem is installed onto the same phone jack as a DSL filter, the filter may be defective. Please remove the filter from the line and plug the DSL modem into the phone jack. If this solves the problem, replace the defective filter.

- Verify that none of the phones are in use when testing the X7N. If the problem appears only when you are using your phone than you either need to install a filter on that phone or if there is an existing filter you should replace it with a known working one.
- You may be having an issue with the phone wiring inside your house. Try plugging the X7N into different phone jacks to see if that solves the problem. If you know where your phone line enters your house (often called the Demarc Point and is typically a gray box found either in your basement, your garage, or on the outside of the house) and you have easy access to the Demarc Point, try plugging your X7N at this point. If this solves your problem you may need a professional to repair your inside phone wiring.

Problem

My X7N's **DSL** light is solidly lit, but I cannot connect to the Internet.

Solution

There are several issues that could cause this problem. Check these items:

- Ensure that you are using the correct **VPI**, **VCI** and **Encapsulation** settings. If you don't know what they are, please refer to the ADSL Settings Table in [Appendix B](#).
- If your **Encapsulation** begins with **PPP**, ensure that you have typed your ADSL User Name and Password correctly. (Note that this is NOT the User Name and Password you used to log into the **Zoom Configuration Manager** on page 14.) To verify that your PPP User Name and Password are correct, login into the configuration manager.

Open the Zoom Configuration Manager by entering the following in your Web browser's address bar:

<http://192.168.1.1>

In the **Enter Network Password** dialog box, type the following User Name and Password in lower case, then click **OK**.

User Name: **admin**

Password: **zoomadsl**

(The User Name and Password entered here are not the same as the user name and password that your Internet service provider may have given you.)

On the left side, click **Diagnostics** to start the diagnostic test. In the **Test the Connection to your Internet Service Provider** box if the **Test PPP Server Connection** tests passes but the **Test Authentication with your ISP** test fails, then your PPP User Name and Password are wrong. If you are having problems remembering your PPP User Name and Password please see the solution to the next troubleshooting problem **My DSL connection requires a User Name and Password, but I don't know where to find this information** on page 75.

- Verizon users who are replacing an existing modem in California, Florida, or Texas may need to wait 2 hours after unplugging the existing modem for Verizon to release the line before it is available for use. If this applies to you, power down your X7N and wait 2 hours before trying to connect again.
- Verify that your service provider's ADSL connection is functioning properly. (Place a call to your service provider's customer support department to verify this.)
- **Windows users only:** Verify that the Web browser on the computer on which you installed the software is configured for a **network connection** (this might be called a "Local Area Network" or "broadband" connection). If you need help configuring your Web browser, refer to [Appendix E: Configuring Your Web Browser](#) on page 96.
- Verify that your TCP/IP network settings are properly configured on your computer. To do this, refer to the appropriate section.
 - If you are using Macintosh, see **Macintosh TCP/IP Settings** on page 90.

- If you are using Windows, see **Windows TCP/IP Settings** on page 92.

Problem

My DSL connection requires a User Name and Password, but I don't know where to find this information.

Solution

- If you are replacing a modem, use the same User Name and Password that you used for the modem you're replacing.
- If you don't know what that is, here are some suggestions:
 - If you have an email address with the service provider like name@verizon.net, the User Name is likely to be the word **name** in this example. NAME will not work, since upper and lower case matter. There are some exceptions to this however. Some AT&T customers especially in old BellSouth areas have a separate network User Name and password used to verify their DSL connection. Please see the AT&T support website on how to reset your User Name and password.
 - If you have a service provider Password, that's probably your Password for Internet access too.
 - You may also be able to change your User Name and Password so that you can use the new User Name and Password with your Zoom modem. Some service providers like Verizon provide a software tool that lets you do that if your old modem is still plugged in. Many service providers allow you to change your User Name and Password on their support website in case you have forgotten this information.
- If you are not replacing a modem, you may need to use your service provider's Internet software tool or speak

with the service provider to find out your User Name and Password.

- Remember that the User Name and Password are case sensitive, so it matters whether a letter is a capital letter or a small letter; so does the difference between the letter O and the number 0.
- Once you have a working User Name and Password, be sure to remember them. You may want to write them on the bottom of the X7N case, for instance, and in a ModemSettings file.
- We are talking here about the User Name and Password to get into the Internet, NOT the User Name and Password used to get into your modem's configuration page.

Problem

Autodetecting the connection through either the Install Wizard or the Zoom configuration manager was unable to detect my connection.

Solution

There are several issues that could cause this problem. Check these items:

- Your DSL connection is not established. You must wait for your DSL connection to be established before running the autodetect. If you are having problems establishing your DSL connection see the [My X7N's DSL light continually blinks and does not stay solidly lit](#) tip on page 72.
- You are trying to detect a static IP connection. Autodetect only works with connections that use DHCP. Typically you have to request and pay extra for a static IP connection. If you know this applies to you, then you must configure your connection manually. See [Chapter 1](#) for more information on configuring your connection manually.

- Autodetect may not be able to detect your connection. In this case you may need to manually configure your connection. See [Chapter 1](#) for configuring your connection manually.

Problem

My computer/devices are not connecting wirelessly to the X7N.

Solution

Try the following:

- Check your wireless security settings on your X7N and verify that your device is using the same settings.
- Check the signal strength of your wireless connection. Most wireless adapters have some type of signal strength meter that shows how strong your wireless signal is. **Windows users**, click the **Wireless** icon in your system tray to check signal strength. If your signal strength is not strong enough, try the following:
 - Reorient the receiving antenna on your X7N.
 - Move the X7N to another area.
 - Move the device trying to access the X7N to a different location, ideally closer to the X7N.
- Change the wireless channel. In the unlikely event that you experience performance issues with your wireless network, you may want to set your network up on a channel that's different from the factory-set channel of 10. To do that, follow these steps:
 - 1 Open the Zoom Configuration Manager by entering the following in your Web browser's address bar: **<http://192.168.1.1>**
 - 2 In the **Enter Network Password** dialog box, type the following User Name and Password in lower case, then click **OK**.

User Name: **admin**
Password: **zoomadsl**

(The User Name and Password entered here are not the same as the user name and password that your Internet service provider may have given you.)

- 3 On the **Basic Setup** page, click **Wireless** on the left-side menu to open the **Wireless** page.
- 4 On the **Wireless** page, from the **Channel** drop-down menu, select a different channel, such as 1 or 6.
- 5 Be sure to click **Save/Apply** after you change the channel. All devices connecting wirelessly to the X7N will automatically switch to the new channel.

Problem

When I run the Zoom Install Wizard it reports that my DSL modem is not found.

Solution

- Verify that your X7N is powered on. The **Power** led should be on.
- You are using Windows Vista or Windows 7 and Telnet is not enabled.

To enable Telnet:

- 1 Click **Start**, select **Control Panel**, then double-click **Programs and Features**.
- 2 In **Programs and Features**, in the **Tasks** pane, click **Turn Windows features on or off**.
Vista users only: At the **User Account Control** message, click **Continue**.
- 3 In the Windows Features dialog box, select **Telnet Client**, click **OK**, and wait while the feature is configured. This normally takes about 2 minutes.

4 In the **Uninstall** or **Change a Program** window, click the **Close** box to exit.

- You unplugged some other ADSL modem, a router, or some other Ethernet device from your computer and then did not power-cycle your computer. If this applies to you, try turning your computer off and then on. This ensures that your computer gets a correct IP address from the X7N.
- Your Zoom modem's Ethernet cable is not plugged in properly or is defective. Please check this cable.
- Your computer is set to use static IP addressing. This needs to be changed to Dynamic Addressing to use the Install Assistant, and you can later go back to static IP addressing if that is appropriate. To use Dynamic Addressing for the Install Assistant, see Windows TCP/IP Settings in [Appendix D](#).

Problem

I cannot log into the **Zoom Configuration Manager**. I have typed **http://192.168.1.1** but I am not prompted for a **User Name** and **Password**.

Solution

There are several issues that could cause this problem. Check these items:

- If you are using a Macintosh computer, your TCP/IP settings may not be properly configured. See page 90 for more information.
- If you are using Mac OS X 10.3 and above, renew your IP address: Point to **System Preferences**, then choose **Network**. Click the **Configure** button and then the **Renew DHCP Lease** button.

- If you are using a Windows computer, power off your computer, then power it back on.

Problem

The computer on which I initially installed the X7N on is connected to the Web, but devices connected wirelessly to the X7N are unable to connect to the Internet.

Solution

- Try powering off then powering on each device on your network.
- Verify that the devices on your wireless network are using Dynamic Host Configuration Protocol (DHCP). This is also known as dynamic IP addressing. Depending on your device, this may be controlled by an **Obtain an IP address automatically** option. If you need help, refer to the documentation that came with your network device or contact its manufacturer. If you are using a Windows, Mac or Linux computer, refer to [Appendix D: TCP/IP Network Settings](#) on page 90 for directions on configuring your computer for DHCP.
- Your problem might be in the wireless connection. Try the steps in [My computer/devices are not connecting wirelessly to the X7N](#) troubleshooting tip on page 77.

Problem

The computer on which I initially installed the X7N on is connected to the Web, but the computers connected through my network device cannot access the Internet.

Solution

The problem is most likely with your network device (such as a wireless access point, router, hub, or switch). Check these items:

- Try rebooting each computer on your network. For example, if you are using a router, reboot each computer that is connected to the router. This will allow for the computers to release and renew their IP addresses.

- If you are using a wireless access point or a router, verify that the device is using Dynamic Host Configuration Protocol (DHCP). This is also known as dynamic IP addressing. Depending on your device, this may be controlled by an **Obtain an IP address automatically** option. If you need help, refer to the documentation that came with your network device or contact its manufacturer.
- Refer to the documentation provided with your network device or contact its manufacturer for assistance.

Appendix B: ADSL Internet Settings Tables

These tables are for customers where ADSL settings were not automatically detected by the X7N Install Assistant, and whose service providers do not supply them with the ADSL settings to connect to the Internet. Many ADSL providers use different settings depending on the region in which they are operating, which is why there may be more than one setting for your service provider. We post updated tables on our Web site. If your country is not listed in the tables below, please consult www.zoomtel.com

Note to USA customers

If your ADSL service provider is not shown below, first use the settings for **Service Provider Not Shown** at the bottom of the table. If those settings do not work, use the settings for the company that provides local telephone service in your area.

Table A: USA

ISP	VPI	VCI	Encapsulation
All Tel (1)	0	35	PPPoE LLC
All Tel (2)	0	35	1483 Bridged IP LLC
AT&T (1)	0	35	PPPoE LLC
AT&T (2)	8	35	1483 Bridged IP LLC
AT&T (3)	0	35	1483 Bridged IP LLC
August.net (1)	8	35	1483 Bridged IP LLC
August.net (2)	0	35	1483 Bridged IP LLC
BellSouth	8	35	PPPoE LLC
Castle.Net	0	96	1483 Bridged IP LLC
CenturyTel (1)	8	35	PPPoE LLC
CenturyTel (2)	8	35	1483 Bridged IP LLC
Coqui.net	0	35	PPPoA LLC

Covad	0	35	PPPoE LLC
Crocker Communications	0	35	PPPoE LLC
Earthlink (1)	0	35	PPPoE LLC
Earthlink (2)	8	35	PPPoE LLC
Earthlink (3)	8	35	PPPoE VC-MUX
Earthlink (4)	0	32	PPPoA LLC
Eastex	0	100	PPPoA LLC
Embarq	8	35	1483 Bridged IP LLC
4DV.net	0	32	PPPoA VC-MUX
Frontier	0	35	PPPoE LLC
Grande Communications	1	34	PPPoE LLC
GWI	0	35	1483 Bridged IP LLC
Hotwire	0	35	1483 Bridged IP LLC
Internet Junction	0	35	1483 Bridged IP LLC
PVT	0	35	1483 Bridged IP LLC
Qwest (1)	0	32	PPPoA VC-MUX
Qwest (2)	0	32	PPPoA LLC
Qwest (3)	0	32	PPPoE LLC
Qwest (4)	0	32	1483 Bridged IP LLC
SBC (1)	0	35	PPPoE LLC
SBC (2)	0	35	1483 Bridged IP LLC
SBC (3)	8	35	1483 Bridged IP LLC
Socket (1)	8	35	1483 Bridged IP LLC
Socket (2)	0	35	1483 Bridged IP LLC
Socket (3)	0	35	PPPoE LLC
Sonic	0	35	1483 Bridged IP LLC
SouthWestern Bell	0	35	1483 Bridged IP LLC

Sprint (1)	0	35	PPPoA LLC
Sprint (2)	8	35	PPPoE LLC
SureWest Communications (1)	0	34	1483 Bridged LLC Snap
SureWest Communications (2)	0	32	PPPoE LLC
SureWest Communications (3)	0	32	PPPoA LLC
Toast.Net	0	35	PPPoE LLC
Uniserve	0	33	1483 Bridged IP LLC
US West	0	32	PPPoA VC-MUX
Verizon (1)	0	35	PPPoE LLC
Verizon (2)	0	35	1483 Bridged IP LLC

Table B: Countries Other Than The USA

<u>ISP</u>	<u>VPI</u>	<u>VCI</u>	<u>Encapsulation</u>
Australia - Telstra	8	35	PPPoA LLC
Argentina - Telecom	0	33	PPPoE LLC
Argentina - Telefonica	8	35	PPPoE LLC
Argentina	1	33	PPPoA VC-MUX
Belgium-ADSL Office	8	35	1483 Routed IP LLC
Belgium - Turboline	8	35	PPPoA LLC
Bolivia	0	34	1483 Routed IP LLC
Brazil - Brasil Telcom	0	35	PPPoE LLC
Brazil - Telefonica	8	35	PPPoE LLC
Brazil - Telmar	0	33	PPPoE LLC
Brazil - South Region	1	32	PPPoE LLC
Colombia - EMCALI	0	33	PPPoA VC-MUX
Columbia - ETB	0	33	PPPoE LLC
Costa Rica - ICE	1	50	1483 Routed IP LLC
Denmark-Cybercity, Tiscali	0	35	PPPoA VC-MUX
France (1)	8	35	PPPoE LLC
France (2)	8	67	PPPoE LLC
France (3)	8	35	PPPoA VC-MUX
Germany	1	32	PPPoE LLC
Hungary - Sci-Network	0	35	PPPoE LLC
Iceland - Islandssimi	0	35	PPPoA VC-MUX
Iceland - Siminn	8	48	PPPoA VC-MUX
Israel	8	35	PPPoA VC-MUX
Italy	8	35	PPPoA VC-MUX

Jamaica (1)	8	35	PPPoA VC-MUX
Jamaica (2)	0	35	PPPoA VC-MUX
Jamaica (3)	8	35	1483 Bridged IP LLC SNAP
Jamaica (4)	0	35	1483 Bridged IP LLC SNAP
Kazakhstan	0	33	PPPoA VC-MUX
Mexico	8	35	PPPoE LLC
Netherlands - BBNED	0	35	PPPoA VC-MUX
Netherlands - MX Stream	8	48	PPPoA VC-MUX
New Zealand - Slingshot	0	100	PPPoA VC-MUX
Portugal	0	35	PPPoE LLC
Puerto Rico - Coqui.net	0	35	PPPoA LLC
Saudi Arabia (1)	0	33	PPPoE LLC
Saudi Arabia (2)	0	35	PPPoE LLC
Saudi Arabia (3)	0	33	1483 Bridged IP LLC
Saudi Arabia (4)	0	33	1483 Routed IP LLC
Saudi Arabia (5)	0	35	1483 Bridged IP LLC
Saudi Arabia (6)	0	35	1483 Routed IP LLC
Spain - Albura, Tiscali	1	32	PPPoA VC-MUX
Spain - Colt Telecom, Ola Internet	0	35	PPPoA VC-MUX
Spain - EresMas, Retevision	8	35	PPPoA VC-MUX
Spain - Telefonica (1)	8	32	PPPoE LLC
Spain - Telefonica (2), Terra	8	32	1483 Routed IP LLC
Spain - Wanadoo (1)	8	35	PPPoA VC-MUX
Spain - Wanadoo (2)	8	32	PPPoE LLC
Spain - Wanadoo (3)	8	32	1483 Routed IP LLC

Sweden - Telenordia	8	35	PPPoE
Sweden - Telia	8	35	1483 Routed IP LLC
Switzerland	8	35	PPPoE LLC
Trinidad & Tobago - TSTT	0	35	PPPoA VC-MUX
Turkey (1)	8	35	PPPoE LLC
Turkey (2)	8	35	PPPoA VC-MUX
United Kingdom (1)	0	38	PPPoA VC-MUX
United Kingdom (2)	0	38	PPPoE LLC
United Kingdom - AOL	0	38	PPPoE VC-MUX
United Kingdom - Karoo	1	50	PPPoA LLC
Venezuela - CANTV	0	33	1483 Routed IP LLC
Vietnam	0	35	PPPoE LLC
Vietnam - VDC	8	35	PPPoE LLC
Vietnam - Viettel	8	35	PPPoE LLC
Vietnam - FPT	0	33	PPPoE LLC

Appendix C: Top and Back Panels

The following table describes each light on the **top panel**.

Light	Description
Power	Lights when the X7N is plugged into a power source and the Power button on the X7N rear panel is pushed in.
DSL	Blinks when the X7N is performing its startup sequence. Stays on solid when the unit has synched up with its ADSL connection. Note: If the light fails to switch from blinking to steady after a minute or two, check with your ADSL provider that the ADSL connection is activated, or refer to Appendix A: Troubleshooting Tips on page 70.
Internet	Blinks when data is sent and received.
Ethernet [1-4]	Lights when the Ethernet port of the X7N is plugged into the Ethernet port of a powered-up device. Blinks when there is data activity.
WLAN	Lights when the Wireless Local Area Network is running and enabled. Blinks when data is sent.

The following table describes each item on the **back panel**.

Port	Description
DSL	Jack to connect the modem to the ADSL telephone wall jack.
Ethernet [1-4]	LAN ports that can connect the unit to access points, network hubs, or the Ethernet ports of a computer.
Power	Port to connect the unit to the X7N's power cube.
RESET	In the unlikely event that you need to reset the modem to its system default settings (necessary if communication link is lost), you can press the RESET button for 7 seconds.

WPS	Press the WPS button on your Router and hold it in for two (2) seconds until the Wireless LED starts blinking rapidly. Click or press the WPS button on the client device. This button may be a physical button on the unit or a software button in its application. Refer to your client device's documentation for further instructions, if necessary.
ON/OFF	Button when pressed once turns the modem's power ON. When pressed again turns the modem's power OFF.

Appendix D: TCP/IP Network Settings

If you are using a Mac computer, you **must** ensure that your computer's TCP/IP network settings are configured properly. Otherwise, you will not be able to connect to the Internet.

Note:

If you are using a Windows computer, you do not have to configure the TCP/IP settings if you are using DHCP because your Windows computer will automatically configure them for you. If you are not using DHCP, you will need to set up the TCP/IP settings for your Windows computer. Windows users who are troubleshooting the X7N will need to verify the TCP/IP settings.

Depending on your operating system, follow the steps in the appropriate section to ensure your TCP/IP settings are correct.

- If you are using Macintosh, see **Macintosh TCP/IP Settings** on page 90.
- If you are using Windows, see **Windows TCP/IP Settings** on page 92.

Macintosh TCP/IP Settings

How you configure your Macintosh computer's network settings differs, depending on your Mac OS. For OS X, follow the instructions below. Otherwise, go to page 91.

Mac OS X 10.7 (Lion), 10.6 (Snow Leopard), and 10.5 (Leopard)

- 1 From the **Dock** or **Apple menu**, select **System Preferences** and then **Network**.
- 2 Select your connection method, normally **Ethernet** for a wired connection.

- 3 On the right pane, select **Using DHCP** from the **Configure IPv4** (for Mac OS X v10.7 and v10.6) and **Configure** (for Mac OS X v10.5) drop-down menu. All of the text fields should be left blank.
- 4 Click **Apply**.

Mac OS X 10.4 and 10.3

- 1 From the **Dock** or **Apple menu**, select **System Preferences** and then **Network**.
- 2 Select your connection method, normally **Built-in Ethernet** for a wired connection.
- 3 Make sure the **TCP/IP** tab is selected, and then select **Using DHCP** from the **Configure IPv4** drop-down menu. All of the text fields should be left blank.
- 4 Click **Apply Now**.

Mac OS 7.6.1 - 9.2.2

- 1 From the **Apple menu**, choose **Control Panels** and then **TCP/IP** to display the **TCP/IP Window**.
- 2 Under **Connect via:**, select **Ethernet built-in**.
- 3 Under **Configure:**, select **Using DHCP Server**. Do not enter anything in the **DHCP Client ID** field.
- 4 Close the **TCP/IP Window**. You will be asked if you want to save the changes. Click **Save**.
- 5 Continue with [Logging into the Configuration Manager](#) on page 14.

Windows TCP/IP Settings

How you configure your Windows computer's network settings differs, depending on your operating system.

Windows 7 Users:

- 1 From the desktop, click the **Start** button, select **Control Panel**.
- 2 Under **Network and Sharing Center**, select **Change adapter settings** from the menu on the left side of the screen.
- 3 Right-click on the **Local Area Connection** icon and select **Properties**.
- 4 In the **Local Area Connection Properties** dialog box, highlight **Internet Protocol Version 4 (TCP/Ipv4)** and click the **Properties** button.
 - **If you are using DHCP (most users):** Ensure that **Obtain an IP address automatically** is selected and that either **Obtain a DNS server address automatically** or **Enable DNS** is selected. All fields should be blank.
 - **If you are using a static IP address:** Ensure that **Use the following IP address** and **Use the following DNS server addresses** are selected, and that the correct **IP address**, **Subnet mask**, **Default gateway**, and **Preferred DNS server** values appear.
- 5 Click **OK** twice.
- 6 Re-enter 192.168.1.1 in your Web browser's address bar.

Windows Vista Users:

- 1 From the desktop, click the **Start** button, select **Control Panel**, and then double-click **Network and Sharing Center**.
- 2 In the **Network and Sharing Center** window, under **Tasks**, select **Manage Network Connections**.
- 3 In the **Network Connections** window, double-click the **Local Area Connection** option.
- 4 In the **Local Area Connection Status** dialog box, click the **Properties** button.

- 5 In the **Local Area Connection Properties** dialog box, highlight **Internet Protocol Version 4 (TCP/IPv4)** and click the **Properties** button.
 - **If you are using DHCP (most users):** Ensure that **Obtain an IP address automatically** is selected and that either **Obtain a DNS server address automatically** or **Enable DNS** is selected. All fields should be blank.
 - **If you are using a static IP address:** Ensure that **Use the following IP address** and **Use the following DNS server addresses** are selected, and that the correct **IP address**, **Subnet mask**, **Default gateway**, and **Preferred DNS server** values appear.
- 6 Click **OK**, then click **Close**.
- 7 Re-enter 192.168.1.1 in your Web browser's address bar.

Windows XP

- 1 Open the **Internet Protocol (TCP/IP) Properties** dialog box.
 - a From the desktop, click the **Start** button, point to **Control Panel**, and then click **Network and Internet Connections**.
 - b Click **Network Connections**.
 - c Right-click the **Local Area Connection** icon, and select **Properties**.
 - d Select your NIC card's TCP/IP entry (it should include "TCP/IP" in it, but not "AOL," "Dial-up," or "Adapter") and click the **Properties** button.
- 2 Ensure the following is selected, depending on whether you are using dynamic (DHCP) or static IP addressing:
 - **If you are using DHCP (most users):** Ensure that **Obtain an IP address automatically** is selected and

that either **Obtain a DNS server address automatically** or **Enable DNS** is selected. All fields should be blank.

- **If you are using a static IP address:** Ensure that **Use the following IP address** and **Use the following DNS server addresses** are selected, and that the correct **IP address**, **Subnet mask**, **Default gateway**, and **Preferred DNS server** values appear.

Windows 2000

- 1 Open the **Internet Protocol (TCP/IP) Properties** dialog box.
 - a From the desktop, click the **Start** button, point to **Settings**, then **Network and Dial-up Connections**.
 - b Right-click the **Local Area Connection** icon, and select **Properties**.
 - c Select your NIC card's TCP/IP entry (it should include "TCP/IP" in it, but not "AOL," "Dial-up," or "Adapter") and click the **Properties** button.
- 2 Ensure the following is selected, depending on whether you are using dynamic (DHCP) or static IP addressing:
 - **If you are using DHCP (most users):** Ensure that **Obtain an IP address automatically** is selected and that either **Obtain a DNS server address automatically** or **Enable DNS** is selected. All fields should be blank.
 - **If you are using a static IP address:** Ensure that **Use the following IP address** and **Use the following DNS server addresses** are selected, and that the correct **IP address**, **Subnet mask**, **Default gateway**, and **Preferred DNS server** values appear.

Windows 98/Me

- 1 Open the **Internet Protocol (TCP/IP) Properties** dialog box.

- a From the desktop, click the **Start** button, point to **Settings**, then **Control Panel**.
 - b Double-click the **Network** icon to display the **Network** dialog box.
 - c Select your NIC card's TCP/IP entry (it should include "TCP/IP" in it, but not "AOL," "Dial-up," or "Adapter") and click the **Properties** button and then click **OK**
- 2 Ensure the following is selected, depending on whether you are using dynamic (DHCP) or static IP addressing:
- **If you are using DHCP (most users): Ensure that Obtain an IP address automatically** is selected and that either **Obtain a DNS server address automatically** or **Enable DNS** is selected. All fields should be blank.
 - **If you are using a static IP address:** Ensure that **Use the following IP address** and **Use the following DNS server addresses** are selected, and that the correct **IP address**, **Subnet mask**, **Default gateway**, and **Preferred DNS server** values appear. On the **DNS Configuration** tab, ensure that **Enable DNS** is selected and that something appears in the **Host** box. (If not, enter any name, word, or combination of letters and numbers.) Ensure that the **DNS Server Search Order** box contains 192.168.1.1

Appendix E: Configuring Your Web Browser

Important!

This section is for Windows computers only. If you are using a Mac computer, your browser is already configured properly. However, you must ensure that your computer's TCP/IP settings are configured properly. See **Macintosh TCP/IP Settings** on page 90 for instructions on how to do this.

When using a Windows computer, the software that you use to make an Internet connection must be set for a **network connection**, not a **dial-up connection**. This configuration should have been done automatically when you installed the software.

If you find that you need to configure your Web browser, this section includes instructions for recent versions of two popular Web browsers: Internet Explorer Version 5.0 (or later) and Mozilla Firefox 3.x. The configuration is done on the same computer on which you installed the X7N software.

Depending on the browser you have on your Windows computer, follow the corresponding instructions in this section.

Tip:

If you are using an earlier version of one of these browsers, the configuration may be slightly different from below. In those cases—or if you are using another browser altogether—configure the browser to use a **network connection** (this might be called a “Local Area Network” or “broadband” connection).

Configuring Internet Explorer Version 8.0

The following instructions are for Internet Explorer Version 8.0. (If you do not have this version, you can get a free upgrade from Microsoft Corp. If you are not sure what version you have, open Internet Explorer and from the **Help** menu, choose **About Internet Explorer**. The version number is directly below the Microsoft Internet Explorer logo. You can ignore all the numbers after the period following the first digit.)

Note: If you are using **Windows 7**, you do not need to do anything since it will be configured automatically.

Internet Explorer can be configured to use a specific connection but by default will use the correct default active connection.

However, if you want to manually setup a different connection:

- 1 On the desktop, double-click the **Internet Explorer** icon.

Tip:

If you cannot access Internet Explorer in this way, open your computer's **Control Panel** (click the **Start** button and then, depending on your computer, either click **Control Panel**, or click **Settings** and then **Control Panel**). In the **Control Panel**, double-click the **Internet Options** icon. If this icon does not appear, double-click the **Network and Internet Options** icon and then double-click the **Internet Options** icon.

- 2 Once open, select **Tools** → **Internet Options** and then click on the **Connections** tab.
- 3 Select **Setup** to setup an Internet connection.

If the wired Ethernet is correctly setup then a popup message "You Are Already Connected To The Internet" will display. You do not need to proceed further. The browser is already setup successfully using the wired Ethernet connection.

If you select **Set up a new connection anyway** you will be displayed options to setup a different connection type that your PC supports (PPPoE connection and a Wireless connection). Since the X7N device is not wireless and will not

work with a PPPoE connection type by default then you do not need to setup either of these and can use the existing wired connection successfully.

Configuring Internet Explorer Version 7.0

The following instructions are for Internet Explorer Version 8.0. (If you are not sure what version you have, open Internet Explorer and from the **Help** menu, choose **About Internet Explorer**. The version number is directly below the Microsoft Internet Explorer logo. You can ignore all the numbers after the period following the first digit.)

Note: If you are using **Windows 7**, you do not need to do anything since it will be configured automatically.

Internet Explorer can be configured to use a specific connection but by default will use the correct default active connection.

However, if you want to manually setup a different connection:

- 1 On the desktop, double-click the **Internet Explorer** icon.

Tip:

If you cannot access Internet Explorer in this way, open your computer's **Control Panel** (click the **Start** button and then, depending on your computer, either click **Control Panel**, or click **Settings** and then **Control Panel**). In the **Control Panel**, double-click the **Internet Options** icon. If this icon does not appear, double-click the **Network and Internet Options** icon and then double-click the **Internet Options** icon.

- 2 Once open, select **Tools** → **Internet Options** and then click on the **Connections** tab.
- 3 Select **Setup** to setup an Internet connection which will open the **New Connection Wizard** screen.
- 4 Click **Next**.
- 5 Select the type of connection desired. Select **Connect to the Internet**. to access the modem's HTTP Server. Click **Next**.
- 6 Select **Set up my connection manually**. Click **Next**.
- 7 Select **Connect using a broadband connection that is always on**. Click **Next**.

- 8 Select **Finish**.

Configuring Internet Explorer 5.0 or 6.0

The following instructions are for Internet Explorer Version 5.0 and 6.0. (If you are not sure what version you have, open Internet Explorer and from the **Help** menu, choose **About Internet Explorer**. The version number is directly below the Microsoft Internet Explorer logo. You can ignore all the numbers after the period following the first digit.)

- 1 On the desktop, right-click the **Internet Explorer** icon, and select **Properties**.

Tip:

If you cannot access Internet Explorer in this way, open your computer's **Control Panel** (click the **Start** button and then, depending on your computer, either click **Control Panel**, or click **Settings** and then **Control Panel**). In the **Control Panel**, double-click the **Internet Options** icon. If this icon does not appear, double-click the **Network and Internet Options** icon and then double-click the **Internet Options** icon.

- 2 On the **Internet Properties** dialog box, select the **Connections** tab, then click the **Setup** button.

- 3 The setup process will proceed differently, depending on your operating system. The following table details the process for your Windows computer.

Note: If you are using **Windows 7**, you do not need to do anything since it will be configured automatically.

Windows XP	Windows 98/Me/2000
<ol style="list-style-type: none"> a. On the Welcome to the New Connection Wizard dialog box, click Next. (If you see a Location Information dialog box, click Cancel and then when asked if you are sure you want to cancel, click Yes to return to the Welcome dialog box.) b. On the Network Connection Type dialog box, select Connect to the Internet, then click Next. c. On the Getting Ready dialog box, select Set up my connection manually, then click Next. d. On the Internet Connection dialog box, select Connect using a broadband connection that is always on, then click Next. e. On the Completing the New Connection Wizard dialog box, click Finish. 	<ol style="list-style-type: none"> a. On the Internet Connection Wizard dialog box, select I want to set up my Internet connection manually, or I want to connect through a local area network (LAN), then click Next. b. On the Setting up your Internet connection dialog box, select I connect through a local area network (LAN), then click Next. c. On the Local area network Internet configuration dialog box, uncheck the Automatic discovery of proxy server check box, then click Next. d. On the Set Up Your Internet Mail Account dialog box select No, then click Next. e. On the Completing the New Connection Wizard dialog box, uncheck the To connect to the Internet immediately, select this box... check box (if it appears) and click Finish.

- 4 If you accessed Internet Explorer's settings from the **Control Panel** (as explained in the "Tip" following step 1), the **Control Panel** window will still be open. Close it before continuing.

Configuring Mozilla Firefox

No setup is necessary since Mozilla Firefox will use the active connection. Unlike IE, Firefox cannot be configured to use a specific connection type; it will use whatever is available and active at the time.

Configuring Google Chrome

No setup is necessary since Google Chrome will use the active connection. Unlike IE, Google Chrome cannot be configured to use a specific connection type; it will use whatever is available and active at the time.

Appendix F: Wireless Channels by Country

For most countries channels 1-13 are normal for private wireless networks. The following table shows countries known to use channels other than 1-13 for private wireless networks.

Country	Channels
France	10-13
Israel	4-9
Japan	1-13 14 (802.11b only)
Taiwan	1-11
USA	1-11

Appendix G: Getting Help

Zoom has many Technical Support services available to its customers.

- **To Register Your Product Or Get Assistance**

We can support you best if you register your product at www.zoomtel.com/register

We have many ways to assist you, and you can see them at www.zoomtel.com/techsupport

From here, you can send email to our technical support experts and/or do a smart search through our intelligent database by using **SmartFacts™**.

Tip:

From time to time, Zoom may release improved firmware. This is also available at www.zoomtel.com, along with upgrade instructions. We recommend that you check our Web site periodically for updates.

You can reach Technical Support by calling these numbers:

In the United States, call **(617) 753-0961**.

In the UK, call

London: **+44 2033180660** or

Manchester: **+44 1618840074**

- Some retailers of Zoom products provide support or can recommend a convenient support center.

Appendix H: Regulatory Information



Declaration of Conformity
Declaración de conformidad

Manufacturer/Fabricante	Zoom Telephonics, Inc. 207 South Street Boston, MA 02111 USA 617-423-1072 www.zoomtel.com
Brand/Marca	Zoom ADSL Modem/Router w/ Wireless-N
Type/Tipo	Series 1093 Model 5790XY (where X=A,B,C,D,E,F or nothing and Y=G,H,J,K,L,M or nothing)

The manufacturer declares under sole responsibility that this equipment is compliant to Directive 1999/5/EC via the following. This product is CE marked.
El fabricante declara bajo su exclusiva responsabilidad que este equipo satisface la Directiva 1999/5/EC por medio de lo siguiente. Este producto tiene marca CE.

73/23/EEC – LVD	EN60950-1:2006 + A11:2009 +A1:2010, IEC60950-1:2005
89/336/EEC – EMC/EMF	EN301 489-1 V1.8.1:2008-04; EN301 489-17 V2.1.1:2009-05; EN55022:2006, Class B
1999/5/EC	EN300 328 v1.7.1:2006-10

CE

Paul Prohodski
8 November 2011
1084/TF, Boston, MA, USA

Director, Hardware Engineering/
Director. Ingeniería de apoyo

Regulatory Notices for X7n Router with Wireless-N (Regulatory Notices also apply to ADSL Splitter Model TD-1301)

U.S. FCC Part 68 Statement

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. The unit bears a label on the back which contains among other information a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

This equipment uses the following standard jack types for network connection: RJ11C.

This equipment contains an FCC compliant modular jack. It is designed to be connected to the telephone network or premises wiring using compatible modular plugs and cabling which comply with the requirements of FCC Part 68 rules.

The Ringer Equivalence Number, or REN, is used to determine the number of devices which may be connected to the telephone line. An excessive REN may cause the equipment to not ring in response to an incoming call. In most areas, the sum of the RENs of all equipment on a line should not exceed five (5.0).

In the unlikely event that this equipment causes harm to the telephone network, the telephone company can temporarily disconnect your service. The telephone company will try to warn you in advance of any such disconnection, but if advance notice isn't practical, it may disconnect the service first and notify you as soon as possible afterwards. In the event such a disconnection is deemed necessary, you will be advised of your right to file a complaint with the FCC.

From time to time, the telephone company may make changes in its facilities, equipment, or operations which could affect the operation of this equipment. If this occurs, the telephone company is required to provide you with advance notice so you can make the modifications necessary to obtain uninterrupted service.

There are no user serviceable components within this equipment. See Warranty flyer for repair or warranty information.

It shall be unlawful for any person within the United States to use a computer or other electronic device to send any message via a telephone facsimile unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or of such business, other entity, or individual. The telephone number provided may not be a 900 number or any other number for which charges exceed local or long distance transmission charges. Telephone facsimile machines manufactured on and after December 20, 1992, must clearly mark such identifying information on each transmitted message. Facsimile modem boards manufactured on and after December 13, 1995, must comply with the requirements of this section.

This equipment cannot be used on public coin phone service provided by the telephone company.

If trouble is experienced with this equipment, for repair or warranty information, please contact: Zoom Telephonics, Inc. 207 South Street, Boston, MA 02111, USA, (617) 753-0961. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Connection to Party Line Service is subject to state tariffs. Contact your state public utility commission, public service commission, or corporation commission for more information.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

WHEN PROGRAMMING EMERGENCY NUMBERS AND/OR MAKING TEST CALLS TO EMERGENCY NUMBERS:

Appendix H: Regulatory Information

- 1) Remain on the line and briefly explain to the dispatcher the reason for the call.
- 2) Perform such activities in the off-peak hours, such as early morning or late evenings.

U.S. FCC Part 15 Emissions Statement

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 harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: The country code selection is for non-US model only and is not available to all US model. Per FCC regulation, all WiFi product marketed in US must fixed to US operation channels only.

Industry Canada Emissions Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

IMPORTANT NOTE: (For mobile device use)

Radiation Exposure Statement:

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

NOTE IMPORTANTE: (Pour l'utilisation de dispositifs mobiles)

Déclaration d'exposition aux radiations:

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

Industry Canada CS03 Statement

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of concern. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

"NOTICE: This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment."

« AVIS : Le présent matériel est conforme aux spécifications techniques d'Industrie Canada applicables au matériel terminal. Cette conformité est confirmée par le numéro d'enregistrement. Le sigle IC, placé devant le numéro d'enregistrement, signifie que l'enregistrement s'est effectué conformément à une déclaration de conformité et indique que les spécifications techniques d'Industrie Canada ont été respectées. Il n'implique pas qu'Industrie Canada a approuvé le matériel. »

"NOTICE: The Ringer Equivalence Number (REN) for this terminal equipment is 0.1. The REN assigned to each terminal equipment provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an

Appendix H: Regulatory Information

interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five."

« AVIS : L'indice d'équivalence de la sonnerie (IES) du présent matériel est de 0,1. L'IES assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5. »

European Declaration of Conformity

The manufacturer declares under sole responsibility that this equipment is compliant to Directive 1999/5/EC (R&TTE Directive) via the following. This product is CE Marked.

Directive	Standard	Test Report
73/23/EEC-Low Voltage	EN60950-1:2006 + A11:2009, IEC60950-1:2005	Electrical safety
89/336/EEC-EMC	EN 301 489-1 v1.6.1 :2005-09; EN 301 489-17 1.2.1 :2002; EN 55022 : 2006, Class B	EMC-immunity EMC-emissions

Electrostatic Discharge Statement

The unit may require resetting after a severe electrostatic discharge event.

Note: If you do not use the supplied phone cord, use an equivalent of minimum AWG 26 line cord.

CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger UL Listed or CSA Certified Telecommunication Line Cord

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- EN 60950-1: 2006
Safety of Information Technology Equipment
-
- EN50385: 2002
Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields
- EN 300 328 V1.7.1: (2006-10)
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
- EN 301 489-1 V1.8.1: (2008-04)
Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- EN 301 489-17 V1.3.2 (2008-04)
Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

Appendix H: Regulatory Information

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE 0678 

<p>cs Český [Czech]</p>	<p>Zoom Telephonics, Inc. tímto prohlašuje, že tento Zoom ADSL Modem/Router w/ Wireless-N je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.</p>
<p>da Dansk [Danish]</p>	<p>Undertegnede Zoom Telephonics, Inc. erklærer herved, at følgende udstyr Zoom ADSL Modem/Router w/ Wireless-N overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.</p>
<p>de Deutsch [German]</p>	<p>Hiermit erklärt Zoom Telephonics, Inc., dass sich das Gerät Zoom ADSL Modem/Router w/ Wireless-N in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.</p>
<p>et Eesti [Estonian]</p>	<p>Käesolevaga kinnitab Zoom Telephonics, Inc. seadme Zoom ADSL Modem/Router w/ Wireless-N vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.</p>
<p>en English</p>	<p>Hereby, Zoom Telephonics, Inc., declares that this Zoom ADSL Modem/Router w/ Wireless-N is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.</p>
<p>es Español [Spanish]</p>	<p>Por medio de la presente Zoom Telephonics, Inc. declara que el Zoom ADSL Modem/Router w/ Wireless-N cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.</p>
<p>el Ελληνική [Greek]</p>	<p>ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Zoom Telephonics, Inc. ΔΗΛΩΝΕΙ ΟΤΙ Zoom ADSL Modem/Router w/ Wireless-N ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.</p>
<p>fr Français [French]</p>	<p>Par la présente Zoom Telephonics, Inc. déclare que l'appareil Zoom ADSL Modem/Router w/ Wireless-N est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.</p>
<p>it Italiano</p>	<p>Con la presente Zoom Telephonics, Inc. dichiara che questo Zoom</p>

[Italian]	ADSL Modem/Router w/ Wireless-N è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Zoom Telephonics, Inc. deklarē, ka Zoom ADSL Modem/Router w/ Wireless-N atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Zoom Telephonics, Inc. deklaruoja, kad šis Zoom ADSL Modem/Router w/ Wireless-N atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
 Nederlands [Dutch]	Hierbij verklaart Zoom Telephonics, Inc. dat het toestel Zoom ADSL Modem/Router w/ Wireless-N in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
 Malti [Maltese]	Hawnhekk, Zoom ADSL Modem/Router w/ Wireless-N, jiddikjara li dan Zoom Telephonics, Inc. jikkonforma mal-htigġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
 Magyar [Hungarian]	Alulírott, Zoom Telephonics, Inc. nyilatkozom, hogy a Zoom ADSL Modem/Router w/ Wireless-N megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
 Polski [Polish]	Niniejszym Zoom Telephonics, Inc. oświadcza, że Zoom ADSL Modem/Router w/ Wireless-N jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
 Português [Portuguese]	Zoom Telephonics, Inc. declara que este Zoom ADSL Modem/Router w/ Wireless-N está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
 Slovensko [Slovenian]	Zoom Telephonics, Inc. izjavlja, da je ta Zoom ADSL Modem/Router w/ Wireless-N v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Zoom Telephonics, Inc. týmto vyhlasuje, že Zoom ADSL Modem/Router w/ Wireless-N spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
 Suomi [Finnish]	Zoom Telephonics, Inc. vakuuttaa täten että Zoom ADSL Modem/Router w/ Wireless-N tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin

Appendix H: Regulatory Information

	muiden ehtojen mukainen.
 Svenska [Swedish]	Härmed intygar Zoom Telephonics, Inc. att denna Zoom ADSL Modem/Router w/ Wireless-N står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Compliance Model Identification

	Model name	Product name
FCC 15C, FCC 15B, FCC 68	Zoom ADSL MODEM/Router w/ Wireless-N	SERIES 1093 MODEL 5790XY WHERE X=A,B,C,D,E,F OR NOTHING AND Y=G,H,J,K,L,M OR NOTHING
IC , ICES- 003, CS-03	Zoom ADSL MODEM/Router w/ Wireless-N	Series 1093 Model 5790
CE0678 !	Zoom ADSL MODEM/Router w/ Wireless-N	Series 1093
FCC Part 68 ID	BDNDL01B1093	
FCC ID	BDN1093WL	
IC ID	1535A-1093	