

ZSR0104C Series
Broadband Switch Router User Manual

FCC Interference Statement

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.

NOTE

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 energy 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.

Changes or modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

The Specifications of ZSR0104C Series

WAN	1 RJ-45 10/100Mbps Ethernet Port
LAN	4 RJ-45 10/100Mbps Ethernet Ports
Reload Button	Reloading Factory Default Settings
Client OS Support	Win95/98/ME/2000/NT/XP/Mac/ Linux/Unix
Configuration	User-Friendly Web Configuration Tool
Firewall	Preventing Hacker's Scan/Preventing DoS/Service Filter/Stateful Packet Inspection/IP Filter/MAC Filter
NAT	Network Address Translation
DHCP Client	Obtaining a Dynamic WAN IP Address from ISP
PPPoE	Authentication with PAP and CHAP
DHCP Server	Auto-Assigning IP Addresses
Static IP Assign	Assign static IP according to Mac
DHCP Client List	List all DHCP clients
Public DMZ Host	If User Has More Than One Public IP, a PC Can be Set as a Public DMZ Host by Using the Additional IP
Local DMZ Host	Can Assign One LAN PC as a Local DMZ Host. And Allow the PC to Accept Sessions Initiated from the Internet
Virtual Server	Forwarding a Specific Port to a Certain LAN PC
VPN Pass-Through	PPTP Pass-Through or Tunneling
Special Application	Supporting Pass-Through of FTP, ICMP, NetMeeting/H.323, Real Radio, Quick Time MSN Messenger, and Many Services and Popular Internet Games
Others	MAC Clone, Web Based Firmware Update, URL Filter, Dynamic DNS
Power Adapter	7.5V 0.7A
Regulation	FCC Class B, CE
Operating Temperature	0-50
Storage Temperature	-20-60

Table of Contents

FCC Interference Statement.....	ii
The Specifications of ZSR0104C SERIES.....	iii
Chapter 1 Introduction.....	1
1.1 The ZSR0104C SERIES Broadband Switch Router .1	
1.2 Physical Features of ZSR0104C SERIES	1
1.3 Non-Physical Features of ZSR0104C SERIES.....	1
1.4 Package Checklist.....	3
1.5 Installation Requirements	3
1.6 About this User’s Manual	3
Chapter 2 Get to Know The Hardware	5
2.1 LED Indicators	5
2.2 Back Panel.....	6
1. Local LAN Ports	6
2. Internet WAN Port	6
3. Reset Button.....	6
4. Power Connector.....	7
Chapter 3 Install Your ZSR0104C SERIES	7
3.1 Connect Client PC to ZSR0104C SERIES	7

3.2	Connect Ethernet Hub/Switch to ZSR0104C SERIES	7
3.3	Connect Wireless Access Point to ZSR0104C SERIES	7
3.4	Connect Cable/xDSL Modem to ZSR0104C SERIES	7
3.5	Power up ZSR0104C SERIES	8
Chapter 4 Use Your ZSR0104C SERIES		8
4.1	Check the Web Proxy	8
4.2	Wizard Setup.....	8
	A. Cable Modem Connection	11
	B. Fixed-IP xDSL Connection	12
	C. PPP over Ethernet (PPPoE) Connection	13
4.3	WAN Setup Complete.....	16
Chapter 5 Advanced Setup of ZSR0104C SERIES		16
5.1	Start from Advanced Setting	16
5.2	Administration.....	17
	Change Administrator's User Name and Password.....	19
	WAN Side Administration	19
5.3	Firmware Upgrade.....	20
5.4	Reset	22
5.5	Dynamic DNS (Domain Name System)	23

5.6 DHCP Server	25
1. DHCP Definition.....	25
2. DHCP Server in LAN	25
3. DHCP Client in LAN	26
5.7 Virtual Server (Port Forwarding).....	27
5.8 Firewall.....	29
1. DMZ Host Configuration.....	29
2. Anti PING and TCP/UDP Echo Attack	31
3. Application Filter	32
4. URL Filter	32
6.1 Troubleshooting	34
1. Router's Hardware Failure.....	35
2. Failed Connection between ZSR0104C SERIES and Client PC	35
3. Failed Connection on ZSR0104C SERIES's WAN Side	36
4. DNS (Domain Name System) Failure	36
6.2 Forget Password?	36
Appendix A:	37
A.1 Disable Web Proxy.....	37
1. For Windows 95 / 98 / ME / 2000 /NT	37
2. For Windows XP	40
3. For MAC.....	43
4. For Unix/Linux	43
A.2 Verify IP Settings	44
1. For Windows 95 / 98 / ME.....	44
2. For Windows 2000 /NT.....	46
3. For Windows XP.....	48
4. For Mac.....	49
5. For Unix/Linux	50

Appendix B: Common Port Numbers..... 51

Appendix C: Terminology 52

Appendix D: Technical Support 56

D.1 Hardware Problem56

D.2 Software Download.....56

D.3 Installation/Application Problem56

Chapter 1 Introduction

Thank you for purchasing ZSR0104C SERIES Broadband Switch Router.

This chapter covers a brief description of ZSR0104C SERIES features, package content, installation requirements, and the organization overview of this User's Manual.

1.1 The ZSR0104C SERIES Broadband Switch Router

ZSR0104C SERIES Broadband Switch Router is the ideal router for sharing a single IP address with multiple users, providing firewall security, and accessing WAN with high speed for Home and SOHO (Small Office and Home Office) needs. ZSR0104C SERIES Broadband Switch Router offers its simple operation such as easy setup. It also provides networking professionals with advanced features like DMZ and Virtual Server (Port Forwarding), Service Filtering, URL Filtering, and Dynamic DNS etc. ZSR0104C SERIES will help you securely connect multiple PCs to the Internet via broadband Cable modem or xDSL box and become your best partner for your network solution.

1.2 Physical Features of ZSR0104C SERIES

- **Auto-Sensing Ethernet Switch**

ZSR0104C SERIES is equipped with a 4-port switch featuring **auto-detect** 10/100Mbps and **auto-crossover**. You can use either a Straight-Through or a Crossover cable to connect your client PC to the LAN port of ZSR0104C SERIES.

- **10 / 100 Mbps Ethernet WAN**

The 10 / 100 Mbps Ethernet WAN port is connected to the Internet via a Cable modem or xDSL box or PPTP.

- **Reload Button**

You can use the hardware Reload button to restore the factory default settings into ZSR0104C SERIES.

1.3 Non-Physical Features of ZSR0104C SERIES

- **Network Address Translation (NAT)/Broadband Switch**

ZSR0104C SERIES can translate the source IP address of a LAN client to the IP address of a WAN client before forwarding a packet from the LAN to the WAN. When the packet returns, NAT translates the destination address from a WAN client to the address of a LAN client before forwarding the packet back to the LAN client. When only one WAN IP address is available, NAT can translate the only WAN IP address into multiple LAN IP addresses for the

LAN clients. Therefore the LAN clients “**share**” the only one WAN IP address, and it is called **Broadband Switch**.

- **Firewall**

ZSR0104C SERIES provides prevents Ping and TCP/UDP Echo Attack, Hacker’s Scan, and Denial of Service (DoS). Also it offers Service Filter and URL Filter (by Keyword).

- **Dynamic DNS**

Dynamic DNS (Domain Name System) allows you to register and obtain a fixed domain name from DDNS service providers that ZSR0104C SERIES supports. When your ZSR0104C SERIES obtains a dynamic public IP address, your ZSR0104C SERIES will inform the DDNS service provider an updated IP address. Any a connection toward your domain name will be mapped to the updated IP address by your DDNS service provider. You can be found easily by connecting to your fixed domain name.

- **Virtual Server (Port Forwarding)**

ZSR0104C SERIES can forward the service packet specified with a port number to the LAN host specified by the LAN IP address. In other words, ZSR0104C SERIES can open the port for the service with specified port number and then “**forward**” the port to a LAN host. Thus it is called **Port Forwarding**, too.

- **VPN Pass-Through**

In a Virtual Private Network, ZSR0104C SERIES supports the tunneling of Point-to-Point Tunneling Protocol (PPTP) packet and allows it to enter the LAN that is the endpoint of the VPN.

- **Special Application**

Certain Internet applications use multiple ports, port ranges, dynamically assigned ports, and special protocols. ZSR0104C SERIES supports the transparent pass-through of these special applications, including FTP, ICMP, NetMeeting / H.323, Real Radio, Quick Time, MSN Messenger, etc. and many popular Internet Games.

- **Public DMZ Host**

Public DMZ Host is a device with a public IP address on the LAN side. ZSR0104C SERIES provides the tunnel service for data traffic between the Public DMZ Host and the Internet.

- **Local DMZ Host**

Local DMZ Host is a device with the private IP address on the LAN side. ZSR0104C SERIES can forward the traffic initiated from the Internet to the Local DMZ Host.

- **DHCP Client**

ZSR0104C SERIES can work as DHCP client and obtain an IP address automatically from the Internet Service Provider or a DHCP server on the WAN side.

- **DHCP Server**

As DHCP server, ZSR0104C SERIES can automatically assign TCP/IP settings to each client PC on the LAN side and remember each client’s IP address corresponding to the client’s MAC address. When ZSR0104C SERIES assigns TCP/IP settings in the next time, the LAN

client will receive the same LAN IP address.

- **Remote Management**

ZSR0104C SERIES can be configured and managed from the WAN side via a specific port.

- **MAC Clone**

ZSR0104C SERIES allows users to specify the MAC address of the Network Interface Card if Internet Service Provider has the requirement.

- **Web-Based Setup**

ZSR0104C SERIES can be managed through the Web browser in a LAN client PC connected to ZSR0104C SERIES or the Internet.

- **Web-Based Firmware Update**

ZSR0104C SERIES firmware can be updated easily via the Web Configuration Tool.

- **Reload**

ZSR0104C SERIES can restore the factory default settings via the Web Configuration Tool.

1.4 Package Checklist

Please check the package contents of ZSR0104C SERIES to verify that you have received the items below. (Figure 1-1)

1. One ZSR0104C SERIES Broadband Switch Router
2. One Straight-Through Ethernet Cables
3. One AC Power Adapter 7.5V / 0.7 A)
4. One Quick Installation Guide



Note

If any of the items is incorrect, damaged, or missing, please immediately inform your dealer. Please retain the carton and the original packing material in case there is a need to return the product.

1.5 Installation Requirements

Before installing your ZSR0104C SERIES, be sure you have prepared the following requirements.

1. A Computer equipped with 10/100 BASE-T Ethernet Network Interface Card.
2. TCP/IP protocol installed in the computer
3. Web Browser (Internet Explorer version 5.0 and higher / Netscape Navigator version 6.23 and higher)
4. One Cable Modem or xDSL Box
5. Broadband Internet Service

1.6 About this User's Manual

This User's Manual covers ZSR0104C SERIES hardware, installation, configuration, and troubleshooting etc. Each chapter provides detailed information and helps you acquire clear

concepts of ZSR0104C SERIES. Enjoy your use of ZSR0104C SERIES!

Organization of This User's Manual

Chapter 1, Introduction

It briefly describes the features of ZSR0104C SERIES.

Chapter 2, Get to Know the Hardware

It explains the LED and port functions on the front and back panels.

Chapter 3, Install Your ZSR0104C SERIES

It explains the hardware setup.

Chapter 4, Use Your ZSR0104C SERIES

It explains ZSR0104C SERIES setup via “**Setup Wizard**” in the Web Configuration Tool.

Chapter 5, Configure Your ZSR0104C SERIES

It describes the default functions and advanced features via the Web Configuration Tool.

Chapter 6, Frequent Asked Questions

It provides solutions to common installation and configuration problems.

Appendix A,

It provides the procedure of enabling DHCP client, disabling Web Proxy, and verifying the IP settings in your client PC according to different Operating Systems.

Appendix B, Common Port Numbers

It offers a list of commonly used port numbers.

Appendix C, Terminology

It offers simple explanation of common networking terms in the User's Manual.

Appendix D, Technical Support

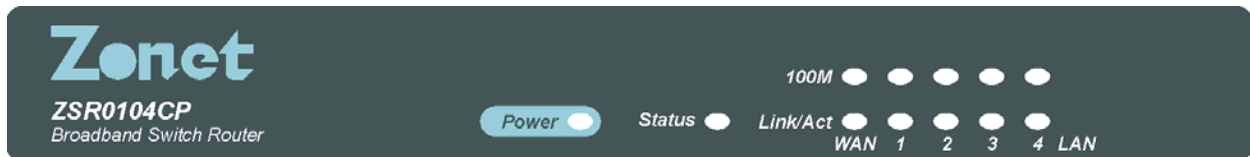
It illustrates the methods to obtain technical support.

Chapter 2 Get to Know The Hardware

This Chapter explains ZSR0104C SERIES LED and Port functions.

2.1 LED Indicators

ZSR0104CP Front Panel



ZSR0104C Front Panel

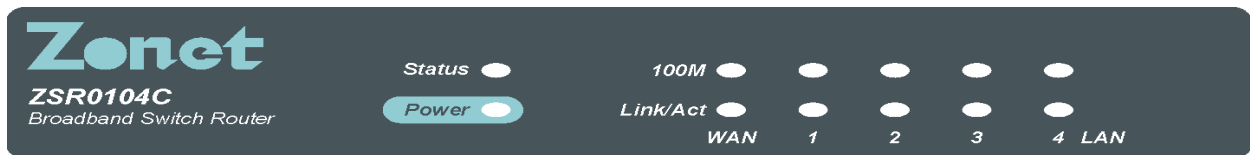


Figure 2-1

Device Indicators

- Power:** The Power LED illuminates whenever ZSR0104C SERIES is powered on.
- Status:** The Status LED will be continuously on when the power is supplied. It takes around 15 seconds to boot.

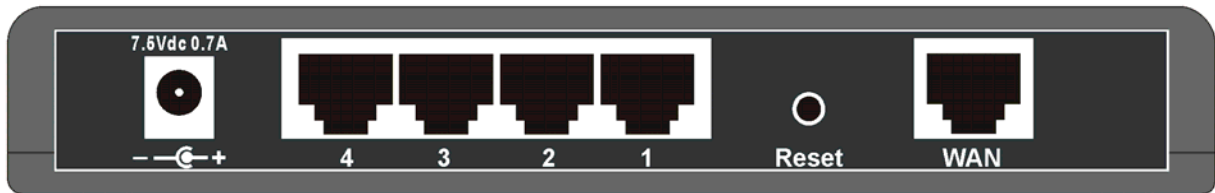
LAN and WAN Indicators

- Link/Act Link :** ON means WAN (ADSL/Cable modem) is connected to ZSR0104C SERIES.
 - Act (activity):** Blinking means data communication is happened. If the LED is continuously illuminated, it means WAN device is successfully connected or GSR0104A SERIES WAN port is working now.
- 10/100** Indicates 10 or 100Mbps wire speed corresponding to WAN port. (On is 100Mps)

2.2 Back Panel

On the back panel, ZSR0104C SERIES has 4 RJ-45 10/100Mbps Ethernet LAN ports, and 1 RJ-45 10/100Mbps Ethernet WAN port. In addition, it has a Reload button and a Power Connector (7.5V 0.7A). (Figure 2-2)

ZSR0104CP Rear Panel



ZSR0104C Rear Panel

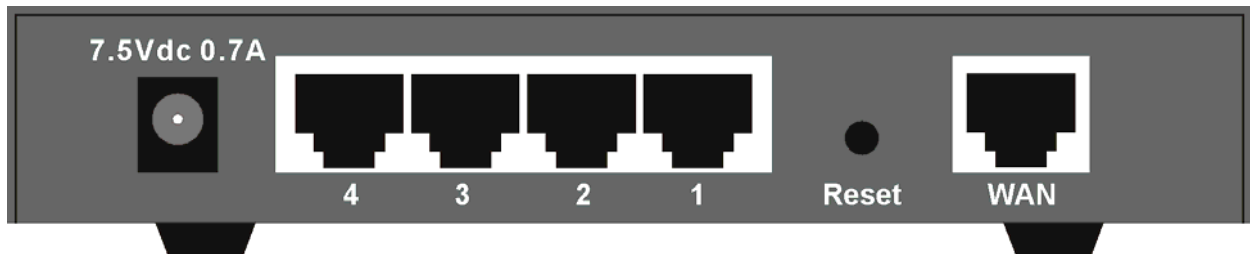


Figure 2-2

1. Local LAN Ports

ZSR0104C SERIES can function as a communication bridge between the LAN and the WAN. The 4 LAN ports can connect ZSR0104C SERIES to the client PCs in the LAN.

2. Internet WAN Port

The Internet WAN port provides connection between ZSR0104C SERIES and Cable Modem or xDSL Box.

3. Reset Button

The reset Button can be used to restore the factory default parameters such as the password and configuration settings. If you forget your password or want to restore the factory default settings into your ZSR0104C SERIES, use the reset button to restore the factory default settings.

Step 1. Disconnect ZSR0104C SERIES power adapter from the power outlet.

Step 2. Press the **Reset** button on the back panel and keep holding it. Then plug ZSR0104C

SERIES power adapter into the power outlet.

Step 3. It takes around 15 seconds to reset. The **Power LED** will turn on Green initially. Wait for it becomes Red then release the **Reset** button.

Step 4. Try to connect **http://192.168.1.1/** via your Web browser. Use the user name “**admin**” and the password “**admin**” to obtain authentication. If it is failed, please try the approach again.

4. Power Connector

Power connector connects your ZSR0104C SERIES to the power adapter. When ZSR0104C SERIES is connected to the correct power adapter and the power adapter is plugged into a power outlet, the Power LED will be on and ZSR0104C SERIES will boot and start operating.

Chapter 3 Install Your ZSR0104C SERIES

3.1 Connect Client PC to ZSR0104C SERIES

Use an Ethernet cable to connect your client PC to ZSR0104C SERIES local LAN port.



ZSR0104C SERIES supports auto-crossover, so you can use either a Straight-Through cable or a Crossover cable to connect the client PC to the LAN port.

3.2 Connect Ethernet Hub/Switch to ZSR0104C SERIES

If you have more than four clients, try to connect the hub or switch to ZSR0104C SERIES LAN port with an Ethernet cable, then connect each client PC to a hub or switch with an Ethernet cable, too.

3.3 Connect Wireless Access Point to ZSR0104C SERIES

You can extend the wired LAN by connecting Wireless Access Point to ZSR0104C SERIES LAN port. Then a wireless network will be set up and it will turn into an infrastructure mode. The whole network coverage will be expanded by Access Point wireless connection to the wireless clients.

3.4 Connect Cable/xDSL Modem to ZSR0104C SERIES

Use the Ethernet cable to connect a Cable Modem or xDSL Box to ZSR0104C SERIES Internet

WAN port.

3.5 Power up ZSR0104C SERIES

Connect the correct Power Adapter to ZSR0104C SERIES. Then plug the Power Adapter into an AC power outlet. The LED status will be as followed.

1. Power LED and the 4 LAN port's LED will turn on for the first second.
2. The Power LED will be continuously on when the power is supplied. It takes around 15 seconds to boot.
3. The WAN and LAN link/act LED will be continuously on when ZSR0104C SERIES is connected to the WAN and the LAN. The link/act LED will be flashing when the port is transmitting data. The WAN and LAN 100 LED will be continuously on when the transmission mode is 100Mbps. It will be off when the transmission mode is in 10Mbps.



Caution

Please use the correct AC adapter. It may cause damage to the router if
An improper AC adapter was used.



Note

If the Power LED is not on, please refer to **6.1 Troubleshooting** in
Chapter 6 Frequent Asked Questions.

Chapter 4 Use Your ZSR0104C SERIES

Follow the instructions in this chapter to perform the setup via “**Quick Setup**.” If you want to learn more about the DHCP setup of your client PC, please refer to the section of **A.1 Enable DHCP in Your PC** in **Appendix A: Configure TCP/IP in Your PC**.

4.1 Check the Web Proxy

Because the enabled-Web Proxy may cause your failure in accessing ZSR0104C SERIES Web Configuration Tool, verify that you have disabled the Web Proxy before launching your Web browser. If you do not know how to disable the Web Proxy, refer to the section of **Disable Web Proxy** in **Appendix A: Configure TCP/IP in Your PC**.

4.2 Wizard Setup


Step1. Launch a web browser on your client PC connected to ZSR0104C SERIES. Then point the Web browser to **http://192.168.1.1** (http://192.168.1.1 is ZSR0104C SERIES default IP address.) If the router IP address was configured with different IP address, use the configured IP address instead of 192.168.1.1. Please make sure your computer IP address is located in the same subnet of the router IP address.



Step2. Press “Enter” key after typing the router IP address. The “user name and Password” screen will appear (Figure 4.1). Enter the default ID “**admin**” and the default password “**admin**” to obtain authentication. (Figure 4 –1) If the User name and password were changed, type the latest user and password; then Click the “**OK**” button. Then will see the Figure 4 – 2.



Figure 4 –1

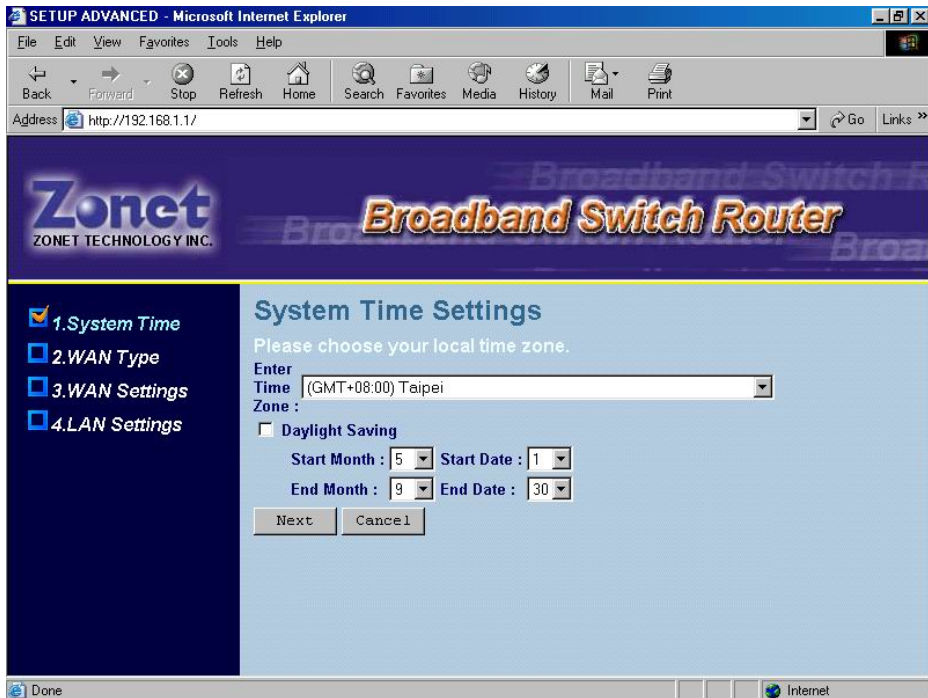
 **Note** You can also launch a Web browser in the Internet to access ZSR0104C SERIES Web Configuration Tool by ZSR0104C SERIES “**Remote Management.**” For more related information, refer to “**Manage from WAN side**” in **5.3 Administration in Chapter 5 Configure Your ZSR0104C SERIES.**

Step 3. Select “**Setup Wizard** “ to quick setup ZSR0104C SERIES WAN access type and fill in the necessary information provided by your Internet Service Provider.



Figure 4 –2

First please choose your local time zone to set time for your NAT. If have daylight saving click the checkbox and input the start date and end date. Then click “Next” button.



You will see 4 options as followed. If Internet access is through the cable modem, Please click the selection button of the “Cable Modem ”. Then click “Next” button.

A. Cable Modem Connection

Two option fields might be required to enter by some Internet Service Providers.

- a. **Host name:** a string of characters usually is the name of your PC, which is configured by your ISP.
- b. **Clone MAC Address:** It is your PC Ethernet Interface Card’s MAC address.



The default **WAN Setting** of ZSR0104C SERIES is **Cable Modem Connection without Host Name and MAC Clone**



If you don't know the MAC address of your Network Interface Card, follow the steps to obtain the information. The MAC address information might be helpful when you need to use MAC Clone.

1. Go through the path "Start -> Run" and enter "command" to enable the **Command Prompt Window**.
2. Enter " **ipconfig/all**". Find the item **Physical Address** and this is the MAC address of your Network Interface Card.

B. Fixed-IP xDSL Connection

If Internet access is through the Fixed-IP, please click the selection button of The" Fixed-IP xDSL". Then click "Next" button.

The screenshot shows the WAN Type configuration screen. On the left, a navigation menu lists: 1. System Time, 2. WAN Type (selected), 3. WAN Settings, and 4. LAN Settings. The main area is titled "WAN Type" and contains three radio button options: "Cable Modem", "Fixed-IP xDSL" (selected), and "Dial-Up xDSL (PPPoE)". Below these is a "PPTP" option. To the right of the "Fixed-IP xDSL" option, there is explanatory text: "A Cable modem requires minimal configuration. When you have set up an account with your Cable provider, the Cable modem will automatically configure itself." and "Some xDSL Internet Service Providers may assign a fixed IP address for your gateway. If you have been provided with this information, choose this option and enter the assigned IP address, subnet mask, gateway IP and DNS IP addresses for your gateway." Below the text are three buttons: "Back", "Next", and "Cancel".

The screenshot shows the Fixed-IP xDSL configuration screen. On the left, a navigation menu lists: 1. System Time, 2. WAN Type, 3. WAN Settings (selected), and 4. LAN Settings. The main area is titled "Fixed-IP xDSL" and contains input fields for: "IP address", "Subnet Mask", "Gateway Address", "DNS", "Domain Name Server (DNS) Address" (with a pre-filled value of 168.95.1.1), and "Secondary DNS Address (optional)". Below the input fields are three buttons: "Back", "Next", and "Cancel".

Fixed - IP is a WAN access type provided by some Internet Service Providers. You need to enter the information of IP address, Subnet Mask, Default Gateway, Primary DNS Server, and Secondary DNS Server.

C. PPP over Ethernet (PPPoE) Connection

If Internet access is through the PPPoE, please click the selection button of The” Dial-Up xDSL (PPPoE)”. Then click “Next” button.

The screenshot shows the WAN Type configuration page. On the left, a navigation menu lists: 1. System Time, 2. WAN Type (selected), 3. WAN Settings, and 4. LAN Settings. The main content area is titled "WAN Type" and contains four radio button options: Cable Modem, Fixed-IP xDSL, Dial-Up xDSL(PPPoE) (selected), and PPTP. Each option has a brief description of its requirements. At the bottom, there are "Back", "Next", and "Cancel" buttons.

The screenshot shows the Dial-Up xDSL(PPPoE) configuration page. On the left, the navigation menu lists: 1. System Time, 2. WAN Type, 3. WAN Settings (selected), and 4. LAN Settings. The main content area is titled "Dial-Up xDSL(PPPoE)" and contains several input fields: User Name, Password, Confirm password, MTU (128-1492) with a value of 1492, Maximum Idle Time (0 minutes), and Auto-reconnect (checked). At the bottom, there are "Back", "Next", and "Cancel" buttons.

PPPoE is a common type of Internet access provided by many xDSL Internet Service Providers. It requires you to enter the **User Name** and the **Password** to obtain authentication and ZSR0104C SERIES WAN IP address. Additional three optional fields might be assigned value by user:

- a. **MTU field:** As option, MTU field is used to specify the maximum transmit unit of a packet over PPPoE link. Do not enter a number to this field only your Internet Service Provider request a different MTU size from the default value, 1492 bytes. After specifying these filed, remember to click the selection button

- b. **Idle Time** field: If the **Idle Time** was specified with non-zero number, ZSR0104C SERIES router disconnects the PPPoE session after there was no data traffic on WAN interface within the specified “**Idle Time**” minutes.
- c. **Auto-reconnect** field: Once there is any outgoing data traffic, the router automatically re-establishes the PPPoE session.

D. PPTP Connection

If Internet access is through the PPTP, please click the selection button of the “**PPTP**”. Then click “Next” button.

The screenshot shows the WAN Type configuration page. On the left, a navigation menu lists: 1. System Time, 2. WAN Type (selected), 3. WAN Settings, and 4. LAN Settings. The main area is titled 'WAN Type' and contains four radio button options: Cable Modem, Fixed-IP xDSL, Dial-Up xDSL(PPPoE), and PPTP (selected). To the right of these options is explanatory text for each type. At the bottom are 'Back', 'Next', and 'Cancel' buttons.

The screenshot shows the PPTP configuration page. On the left, the navigation menu lists: 1. System Time, 2. WAN Type, 3. WAN Settings (selected), and 4. LAN Settings. The main area is titled 'PPTP' and contains several input fields: User Name, Password, Confirm password, Server IP Address (0.0.0.0), My IP Address (0.0.0.0), My Subnet Mask (0.0.0.0), Connection ID (1), Maximum Idle Time (30 minutes), and Auto-reconnect (checked). At the bottom are 'Back', 'Next', and 'Cancel' buttons.

PPTP is a common type of Internet access provided by many Internet Service Providers. It requires you to enter the **User Name**, **Password**, **Server IP Address**, **My IP Address**, **My Subnet Mask** and **Connection ID** to obtain authentication. Additional two optional fields might be assigned value by user:

- a. **Idle Time** field: If the **Idle Time** was specified with non-zero number, ZSR0104C SERIES router disconnects the PPTP session after there was no data traffic on WAN interface within the specified “**Idle Time**” minutes.
- b. **Auto-reconnect** field: Once there is any outgoing data traffic, the router automatically re-establishes the PPTP session.

Click the button **Next**, the “LAN Setting” page, Figure 4 – 3, appears on the screen.

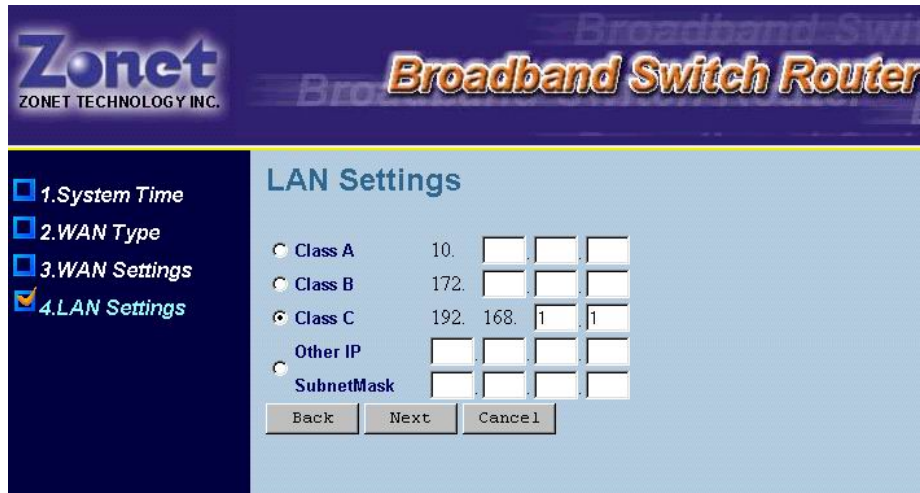


Figure 4 – 3

Step 4. The ” LAN Setting” page is used to configure ZSR0104C SERIES IP address of LAN interface. You can assign the IP address from one of three private IP address groups

- a. 10.x.x.x with subnet mask 255.0.0.0; x must be in range 0 to 255
- b. 172.x.x.x with subnet mask 255.255.0.0; x must be in range 0 to 255
- c. 192.168.x.x with subnet mask 255.255.255.0; x must be in range 0 to 255

Or a public IP address group with appropriated subnet mask.

Click the button **Next**, the “DHCP Setting” page, Figure 4 – 4, appears on the screen.

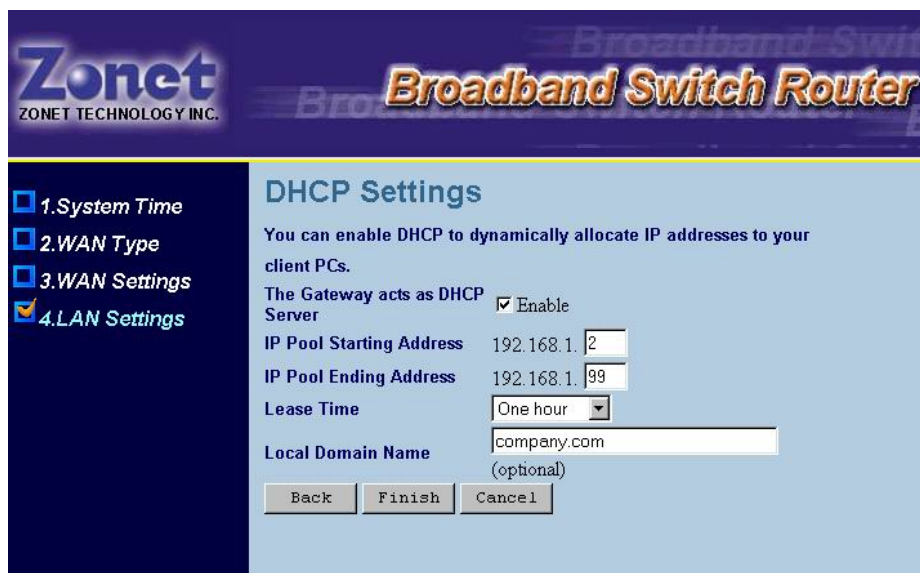


Figure 4 –4

Step 5. The "DHCP Setting" page is used to configure DHCP Server and DHCP Client in LAN .If DHCP Server enabled, the LAN PC Client can automatically obtain the IP settings, including IP address, Domain Name, Subnet Mask, Primary DNS, and Secondary DNS from ZSR0104C SERIES.

Step 6. Click the button "Finish ". ZSR0104C SERIES will save your settings and it will take around 20 seconds to reboot. After finishing rebooting, the page will be redirected to the **Index Page**, Figure 4 - 2. Please verify if your current network status is correct.

4.3 WAN Setup Complete

Try to use your Web browser to access a website. If you can surf the website, congratulations! ZSR0104C SERIES is now operating with the factory default settings. If you want to change the default settings, please continue reading **Chapter 5 Configure Your ZSR0104C SERIES**.



If you could not access a website, please refer to **6.1 Troubleshooting in Chapter 6 Frequent Asked Questions**.

Chapter 5 Advanced Setup of ZSR0104C SERIES

In addition to "Wizard Setup" in **Chapter 4 Use Your ZSR0104C SERIES**, you can setup ZSR0104C SERIES router with more configuration options via the "advanced setting" page. You will enjoy ZSR0104C SERIES high performance after activating these advanced features.

5.1 Start from Advanced Setting

Step1. Launch a web browser on your client PC connected to ZSR0104C SERIES LAN interface and point to **http://192.168.1.1** (192.168.1.1 is ZSR0104C SERIES default IP address.) If the router was configured with a different IP address, use the configured address. Make sure the computer IP address locates at the same subnet as router address. Press "Enter" key after typing the router IP address. The status menu appears and shows the current system status and all available settings.



If the main page does not pop up, please refer to **6.1 Troubleshooting in Chapter 6 Frequent Asked Questions**.

- Step 2. Click the “*Advanced Setup* “ (see Figure 4 – 2) and will be displayed, Figure 5 - 1.
- Step 3. The **Router Status** screen will show up and tell the current WAN and LAN IP settings of your ZSR0104C SERIES, including IP address, Subnet Mask, Gateway, Primary DNS, and Secondary DNS. On the left, you will see 5 main categories, including **System**, **Wan**, **Lan**, **Nat** and **Firewall**.

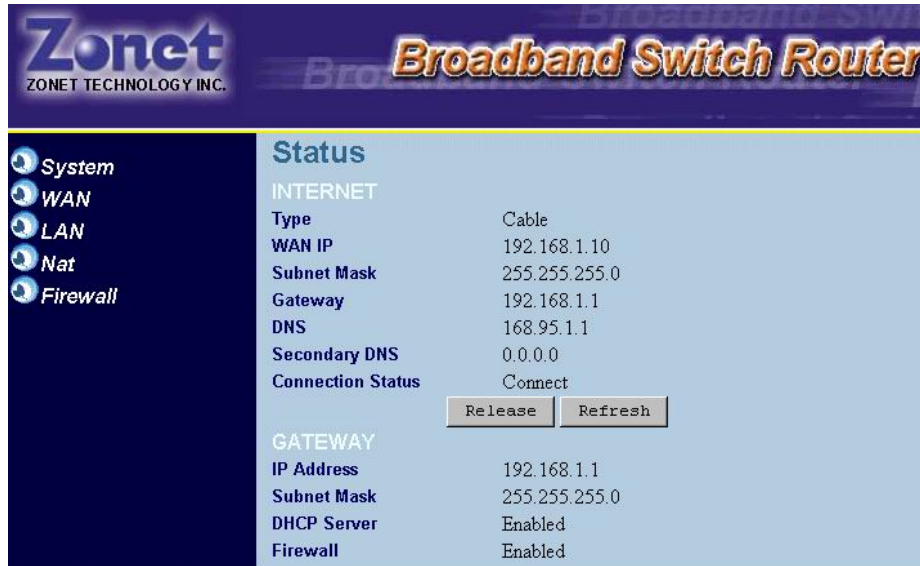


Figure 5 - 1

5.2 System

Click the “**System/System**” button, will see the Figure 5-2



Figure 5 - 2

The System page provides the NAT information.

5.3 Time

Click the “System/Time” button, will see the Figure 5-3

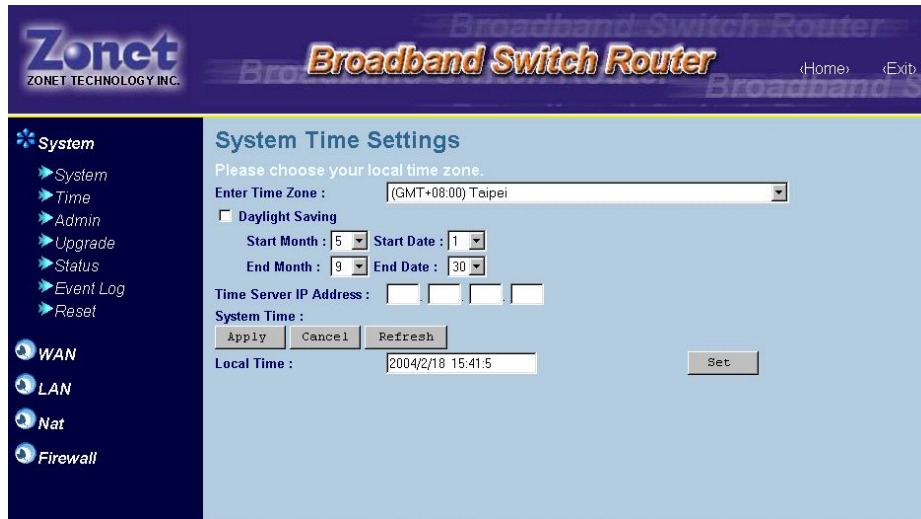


Figure 5 - 3

If you want to assign the timeserver, enter the IP address then click “Apply” button to save. If sntp server gets time from network, the system time will display now time, else time is NULL. Local time means the pc’s time, you can also set the pc’s time for system time. Click the “Set” button; the system time will be equal to local time



Note The default Time Server IP Address is 198.123.30.132, 210.59.157.10
And 192.5.5.250

5.4 Administration

Click the “System/Admin” button, will see the Figure 5-4



Figure 5 – 4

The **Administrator Setting** page provides the following configuration options:

- a. Change Administrator's User Name and Password
- b. WAN Side Administration

Change Administrator's User Name and Password.

You can specify a new user name and password for the administrator. After enter the new user name, old password and new password twice, then click the “**Apply**” button to make the new user name and password effective. And The “user name and password” screen will appear. Enter the new user name and password to obtain authentication.



WAN Side Administration

You can configure the ZSR0104C SERIES to be managed from the WAN side, Internet, via web browser with specified port number. Click the check mark of the “**Allow administration from WAN side with port**” to enable the remote access the NAT router. You can change the HTTP server default port number, 80, to any number in the range 1 to 65535 if it is desired or the port 80 of a virtual server is enabled. For example, the port number 80 is specified in the following case.



Click the “**Apply**” button to make the remote access effective.

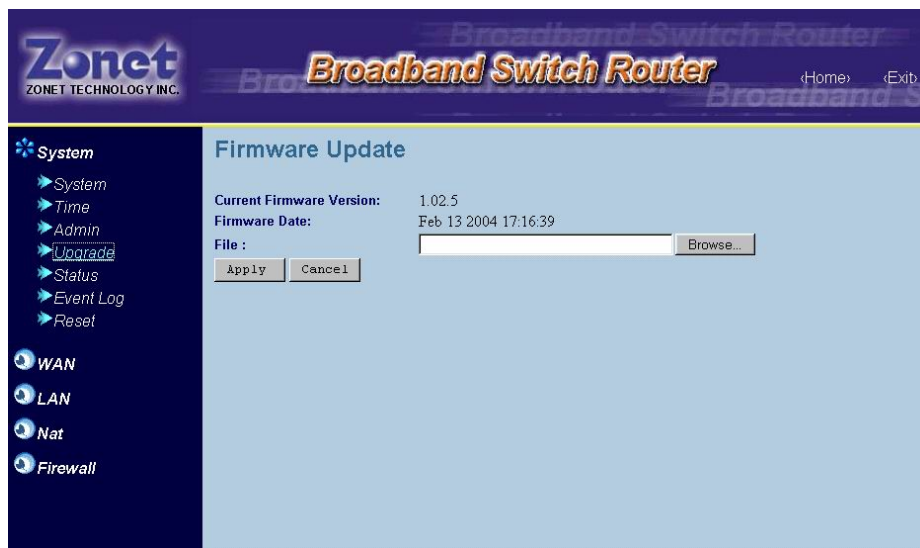
5.5 Firmware Upgrade

A web-based interface, via Microsoft Internet Explorer or Netscape web browser, is provided to allow the user upgrade the latest firmware to the NAT Router. The firmware upgrade could be executed from LAN site (local upgrade) or from WAN site (remote upgrade)

Pre-requirements

- A copy of the latest firmware of NAT router
- A computer (Window-based, Unix-based or Mac-based) runs the web browser either Internet Explore or Netscape and holds the latest firmware of the NAT router
- The network connection from the computer to the NAT router, which is targeted for the firmware upgrade. To make a local network connection, user can plug one end of Ethernet cable into the computer's Ethernet port and the other end of cable to the NAT router's one of four LAN ports.

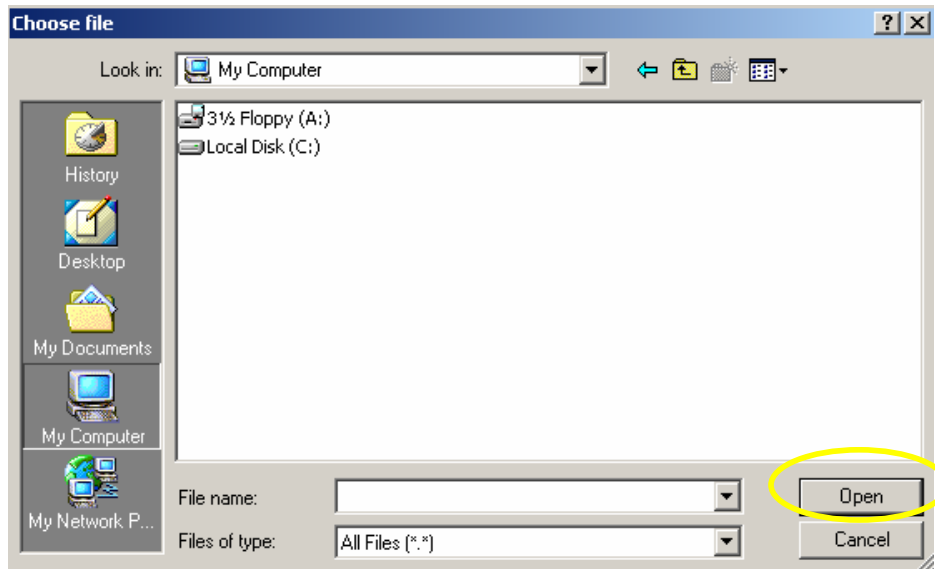
Step 1. Click the “**Upgrade**” button at the side bar, the Firmware Upgrade pages appears.



Step 2. Enter the latest firmware name and including the path into firmware file name field or click the **Browse** icon.



If the **Browse** icon was clicked, the “Choose file” screen will appear.

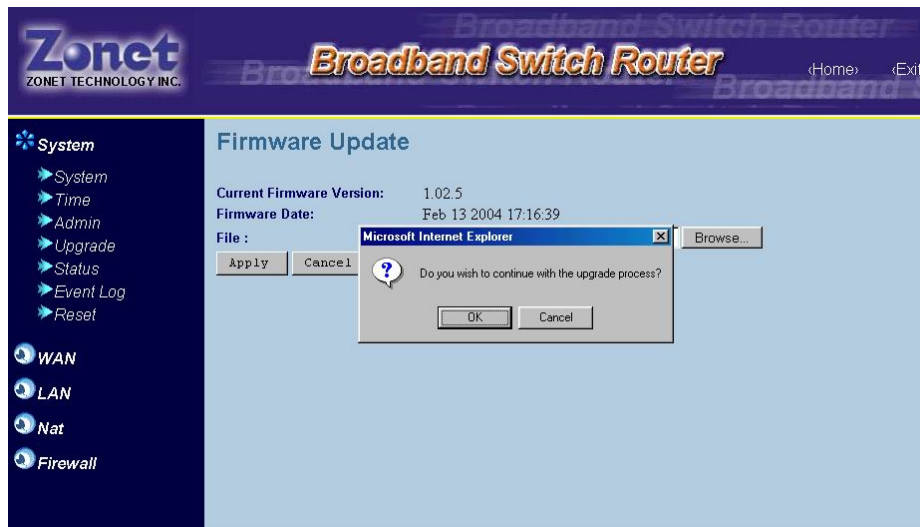


Through the “Choose file” menu, locate the latest router firmware and open it. For example, the latest firmware file, zonet_2004.bin, is located and opened, the file name will appear at the entry of the firmware file name.



Step 3. Click the “**Apply**” icon from the firmware upgrade page

After clicking the “**Apply**” button, will appear the confirmation page.



If click the “OK”, will appear firmware upgrade programming page, please wait for 35 seconds, the Nat will restart.



Caution

When the firmware update is in process, please do not plug out the power adapter of ZSR0104C SERIES. The sudden disconnection of power supply may damage the flash hardware and cause the malfunction of ZSR0104C SERIES.

5.6 Reset

You can set the ZSR0104C SERIES back to its manufacturing setting and reset the ZSR0104C SERIES by clicking the **Reset** button. If click the **Reload** button, the confirmation page appears on the screen. Click the **OK** button on the confirmation page to make the default settings effective (see Figure 5 – 5). If click the Reset button, the confirmation page appears on the screen. Click the **OK**

button on the confirmation page to make the ZSR0104C SERIES reboot. (See Figure 5 - 6)

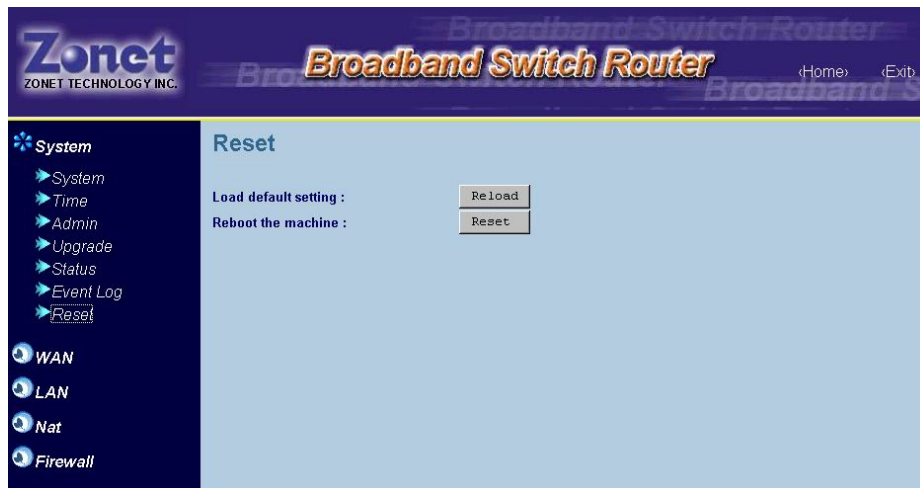


Figure 5 – 5



Figure 5 – 6

After clicking the OK button, Please remember: use 192.168.1.1 to access web page after reboot”.

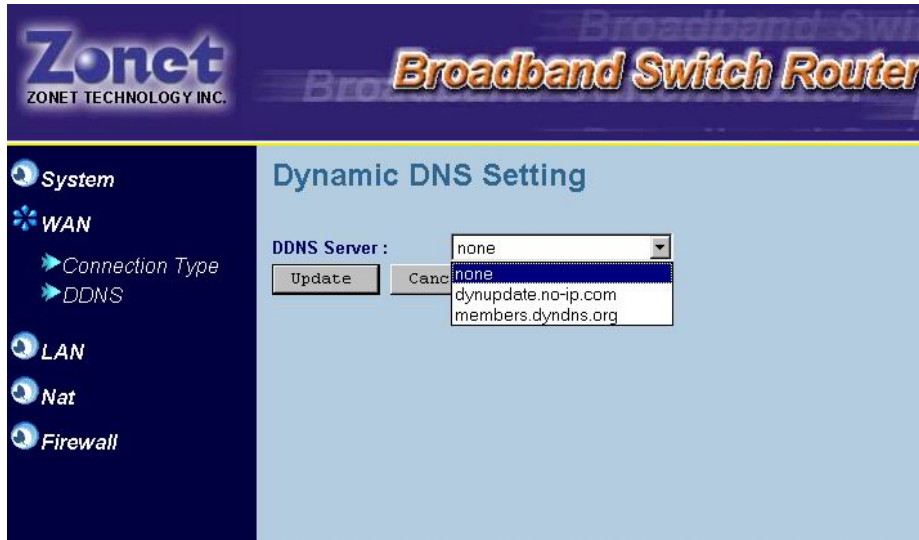
5.7 Dynamic DNS (Domain Name System)

If ZSR0104C SERIES acquired its WAN IP address via the DHCP or PPPoE schemes, its IP address is likely different from previous one after ZSR0104C SERIES is rebooted or PPPoE session is re-established. It makes difficult or even broken for some applications due to dynamic nature of ZSR0104C SERIES WAN IP address. The “**Dynamic DNS**” feature provides a solution to this problem by automatically updating its WAN IP address to a DDNS service provider.

Many Internet Service Providers provide a kind of service called **Dynamic DNS** service, which allows you register a fixed domain name. Every time when ZSR0104C SERIES gets a new dynamic public IP address, it informs the DDNS service provider with this new IP address; then any connections toward to your domain name will be mapped to the updated IP address.

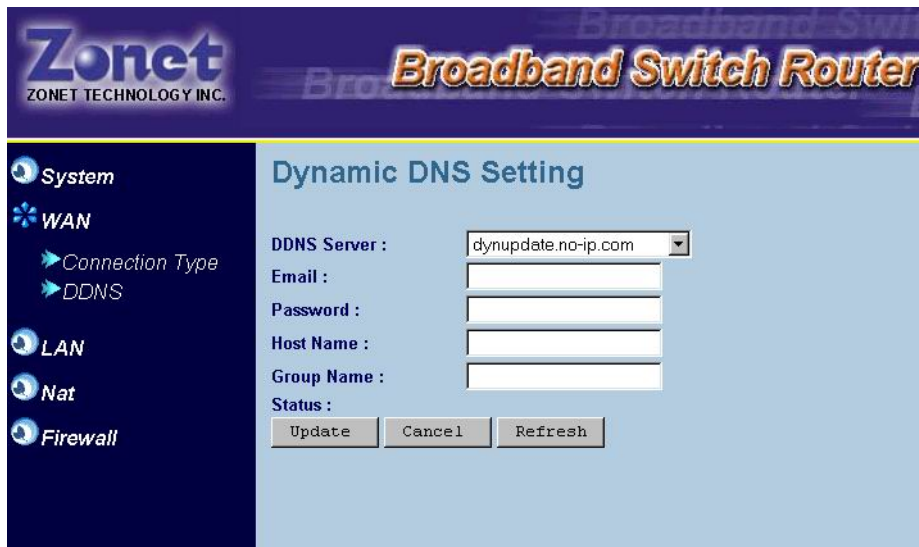
Step 1. Select DDNS service provider.

ZSR0104C SERIES supports two DDNS service providers, www.no-ip.com or www.dyndns.org. Browse the DDNS service provider's web page and register a new account there. Your DDNS service provider will provide you the account ID and password.

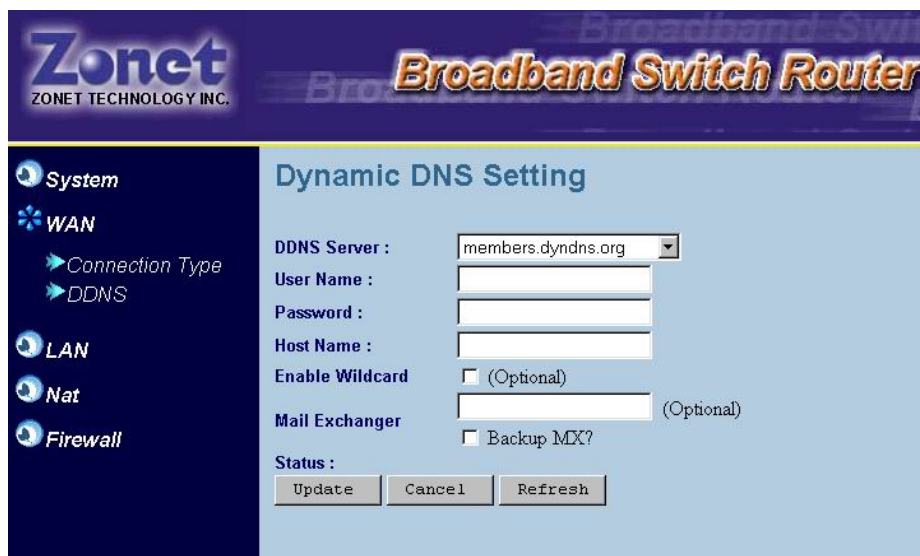


Step 2. Go through the DDNS settings in ZSR0104C SERIES DDNS section. Select one DDNS service provider, and fill in the necessary information form DDNS service provider such as ID, password, and related settings etc.

If no-ip.com was selected, User Name and Password are mandatory; one or both of Host Name and Group Name have to be entered.



If dyndns.org was selected, User Name, Password and Host Name are mandatory; Enable Wildcard, Mail Exchanger and Backup MX are optional.



Step 3. **Update the IP address.** When WAN public IP address changes, ZSR0104C SERIES will automatically inform your DDNS service provider the new IP address, or you can force the IP address update by clicking the **Update** button.

The update message will show on the screen if the **Refresh** button was clicked. For example, the status will show “**No DDNS update activity**” after clicking the **Refresh** button.

5.8 DHCP Server

1. DHCP Definition

DHCP is the acronym of **Dynamic Host Configuration Protocol**. It can automate the IP Address allocation in the network. When this protocol is activated, a DHCP server can automatically assign the IP addresses to the DHCP clients. Also, a DHCP client can automatically obtain its IP addresses from the DHCP server.

2. DHCP Server in LAN

By default, ZSR0104C SERIES works as a DHCP server and automatically assigns the IP addresses to each client PC on the LAN side.

A. **Auto-Remember**

When assigning IP addresses to LAN clients, ZSR0104C SERIES can remember each LAN client's IP address corresponding to the client's MAC address. Thus the LAN client will

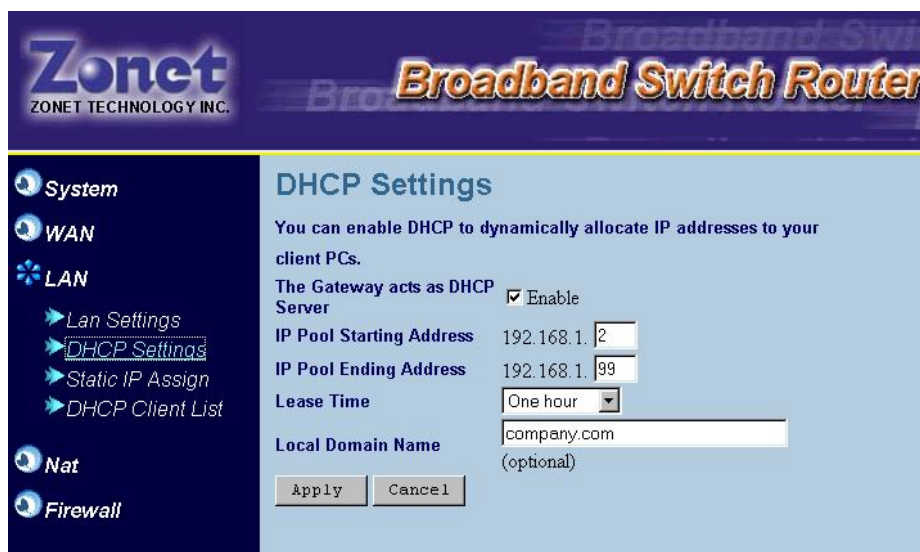
receive the same LAN IP address, when ZSR0104C SERIES assigns IP addresses in the next time.

B. The Pool Range of Assigned IP Address

When DHCP is enabled, you can assign a group of LAN IP addresses. The group is called as “the pool.” You can enter numbers from 2 to 254 in the blanks. The maximum capacity is 253 IP addresses. The number behind “**Starting**” must be smaller than that behind “**Ending**”. You can specify the domain name for the group of LAN IP addresses, which are managed by the DHCP server. Click the button **Apply** to make your settings take effect.

C. The DHCP IP Address Lease Time

The DHCP IP can use time .If choice one day, the get IP after one day, will be release and renew new IP.

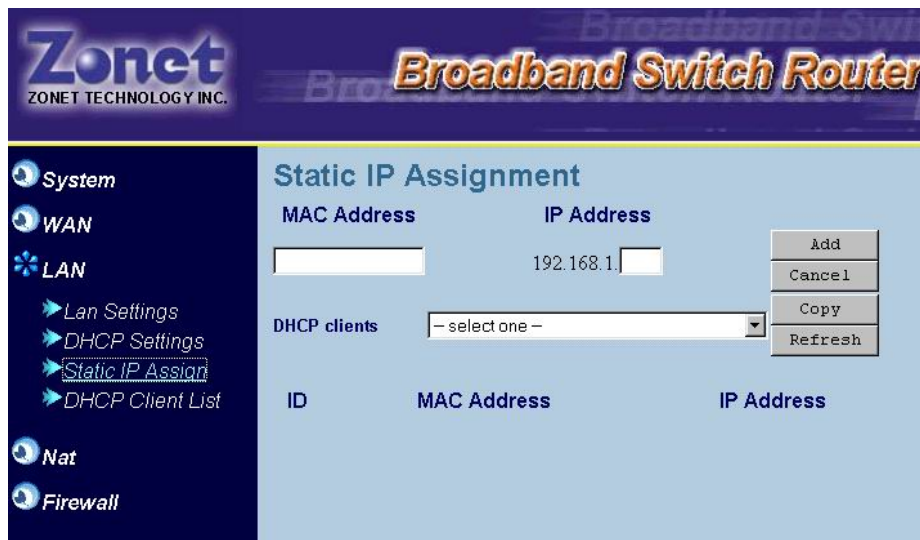


3. DHCP Client in LAN

When DHCP is enabled in both ZSR0104C SERIES and the LAN clients, the LAN PC client can automatically obtain the IP settings, including IP address, Domain Name, Subnet Mask, Primary DNS, and Secondary DNS from ZSR0104C SERIES.

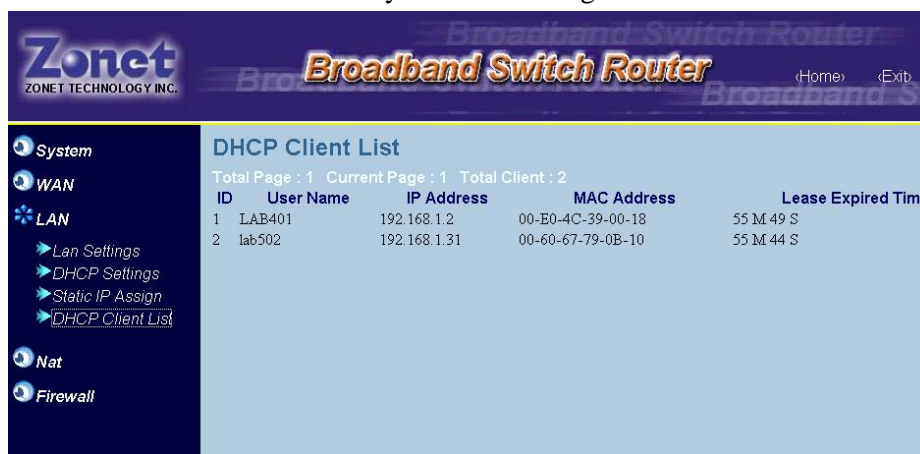
4. Static IP Assign

When DHCP is enabled, the NAT can assign the fixed IP according to Mac address.



5. DHCP Client List

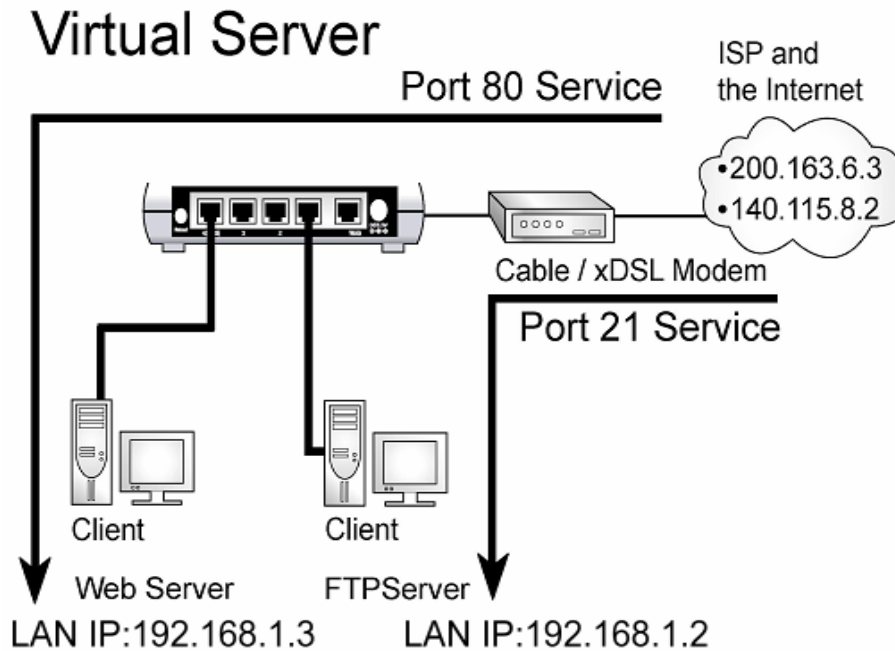
When DHCP is enabled. Will see how many DHCP clients get IP address form the NAT.



If you want to enable DHCP in your PC, refer to **A.1 Enable DHCP in Your PC** in **Appendix A: Configure TCP/IP in Your PC**.

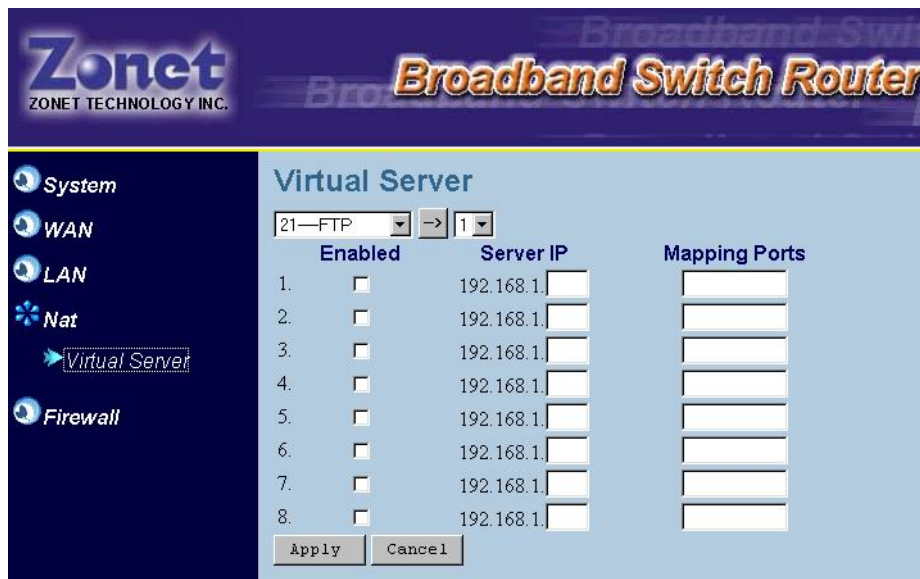
5.9 Virtual Server (Port Forwarding)

The firewall in ZSR0104C SERIES blocks the traffic initiated from the Internet in order to protect your LAN. However, ZSR0104C SERIES can provide tunnel service and forward the Internet service packet specified with a port number to the server specified by a LAN IP address. In other words, ZSR0104C SERIES can open the port for the service with specified port number and then **“forward”** the port to the server specified by a LAN IP address. This function is called as **“Virtual Server”** or **“Port Forwarding”**.



As illustrated as above, when ZSR0104C SERIES obtains traffic of Port 21 from the Internet, it will forward it to the FTP server with LAN IP address 192.168.1.2. If ZSR0104C SERIES receives traffic of Port 80, it will re-direct it to the Web server with LAN IP 192.168.0.3.

To enable Virtual server, enter the port number to specify the service type, and the server's LAN IP address for the traffic destination. Check **Enable**. Then click the button **Apply** to make your settings take effect. For the information of port number and the corresponding service, please refer to **Appendix B: Common Port Numbers**.



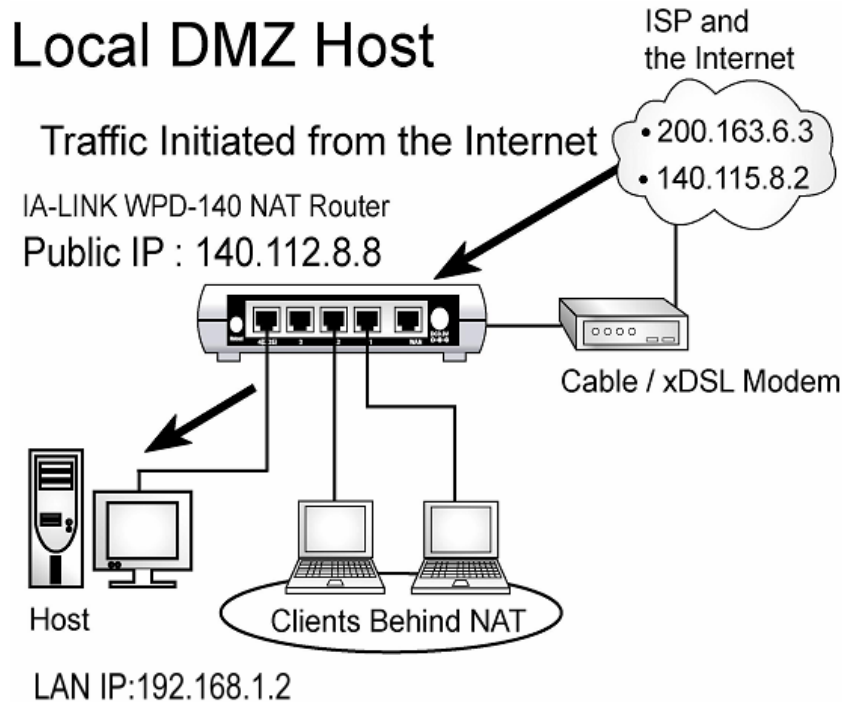
5.10 Firewall

1. DMZ Host Configuration

You can set up your personal computer or network-ready device to be a public or local DMZ hosts. In general, Internet applications use only one unique port and can pass through a NAT Router by enabling Virtual Server. However, some special applications need to implement multiple ports, port ranges, dynamically assigned ports, and special protocols. ZSR0104C SERIES can support the transparent pass-through of these special applications, such as FTP, NetMeeting/H.323, MSN Messenger, etc. Enable **Local DMZ Host** when you have problems running these applications. Besides, you can activate **Public DMZ Host** to set up a server and retrieve the traffic initiated from the Internet.

A. Local DMZ Host

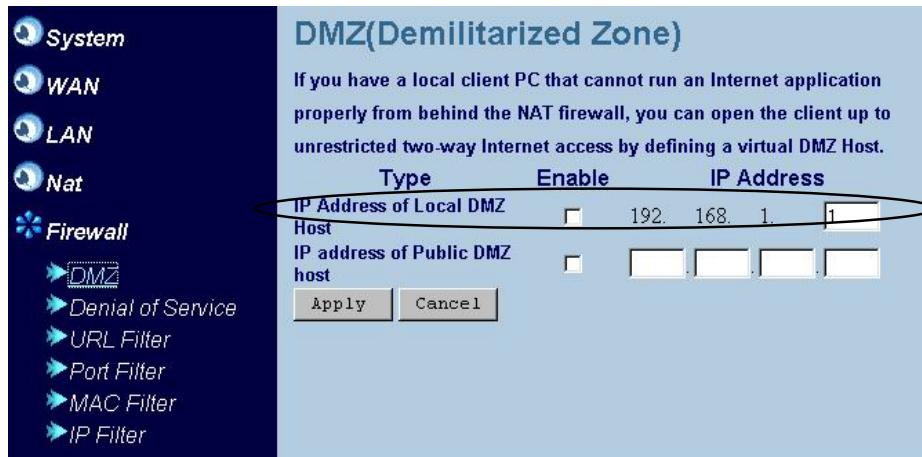
To run the special applications, you can assign a device with a LAN IP address as **Local DMZ Host**. Then any service request of application initiated from the Internet will be forwarded to the dedicated LAN host with the LAN IP address.



For example, when you want to run NetMeeting to communicate with your friend on the Internet, he /she cannot find your LAN host due to ZSR0104C SERIES NAT function. However, after you assign the LAN IP address **192.168.1.2** as the Local DMZ Host, your friend can call ZSR0104C SERIES Public IP address **140.112.8.8** and the service request of NetMeeting will be forwarded to your LAN host with the LAN IP address **192.168.1.2**, as

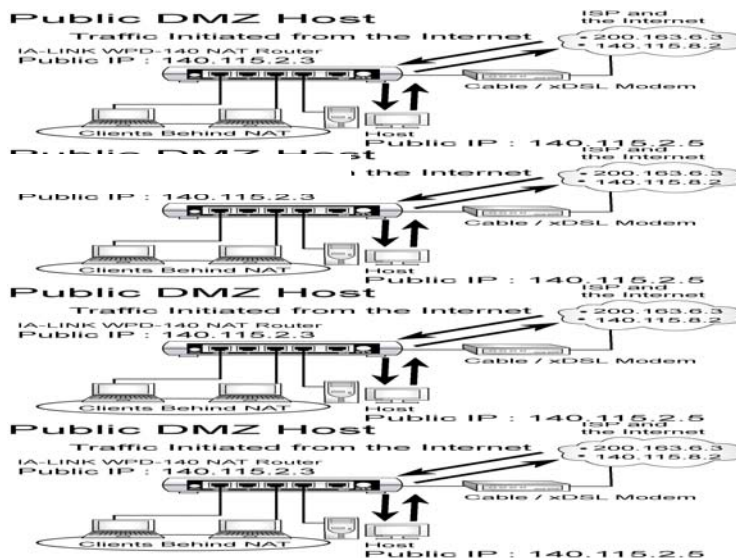
illustrated Then you will be able to communicate with your friend via NetMeeting. Besides, the other LAN clients behind ZSR0104C SERIES are still protected by its firewall, and the traffic initiated from the Internet is denied to access these LAN clients

To activate Local DMZ Host, please check the **Enable** item and assign the LAN IP address of the LAN host. Then click the button **Apply** to make your settings take effect.

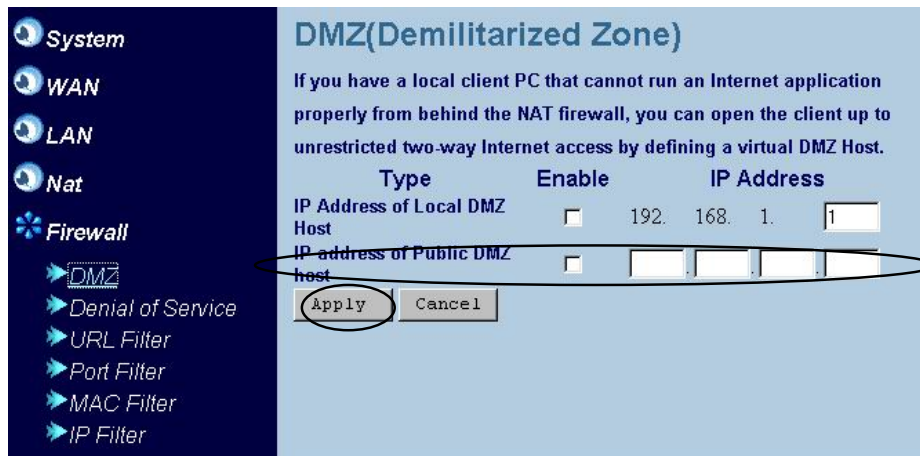



B. Public DMZ Host

To set up a server with a Public IP address when two or more public IP addresses are available, you can assign a device with a Public IP address on the LAN side as **Public DMZ Host**. ZSR0104C SERIES can provide tunneling service for data traffic between Public DMZ Host and the Internet. As shown in the Figure 6-17, the Host with the Public IP address **140.115.2.5** is assigned as Public DMZ Host. You can set it up as a server, and the traffic initiated from the Internet will be forwarded to the Host with the Public IP address **140.115.2.5**. Besides, the other LAN clients behind the ZSR0104C SERIES are still protected by firewall, and the traffic initiated from the Internet is denied to access these LAN clients.



To enable Public DMZ Host, check **Enable** below Public DMZ Host and enter the public IP address of the device you want to assign as the Public DMZ Host. Then click the button **Apply** to make your settings take effect.



 The server in the Public DMZ is not protected by ZSR0104C SERIES firewall. Please pay attention when you enable Public DMZ.

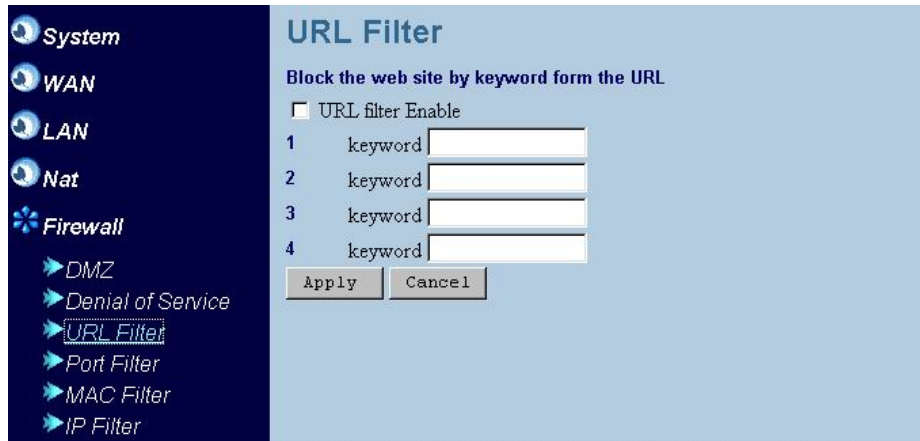
2. Anti PING and TCP/UDP Echo Attack

ZSR0104C SERIES can prevent Ping and TCP/UDP Echo Attack. To enable ZSR0104C SERIES firewall against **Ping** and **TCP/UDP Echo Attack**, check **Denial of Service Enable** and click the button **Apply** at the end of page to make your setting take effect.



3. URL Filter

If you want to restrict your LAN clients from accessing certain websites, enter the keywords of the websites in the blank. ZSR0104C SERIES will examine the packet information when receiving the packet with port 80 from the WAN. If it finds the listed keywords, it will drop the packet and LAN clients cannot obtain the information from the website. Check the **URL filter Enable** and click the **Apply** button to make settings effective.



4. Port Filter

ZSR0104C SERIES Service Filter Firewall controls the LAN clients' access to the Internet services by specifying the port number of the service in the list.

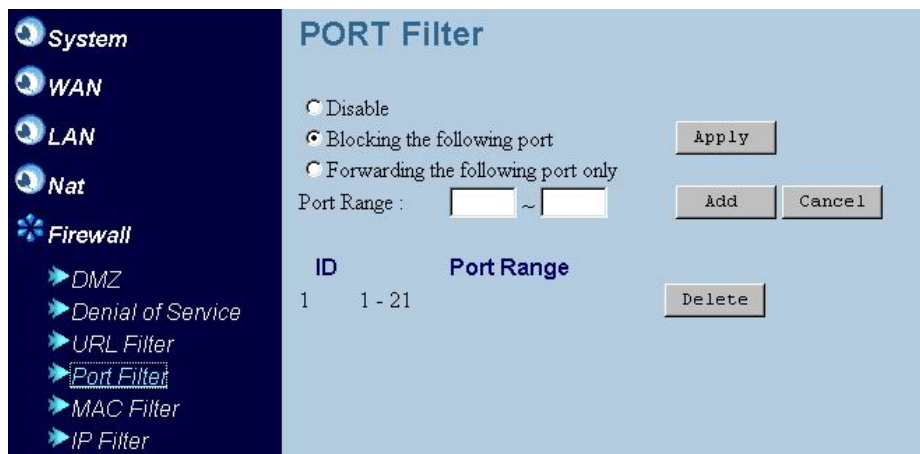
A. Disable

Checked this item, the LAN client can access to all Internet services.

B. Blocking the following port

Checked this item, the LAN client cannot access to the following services.

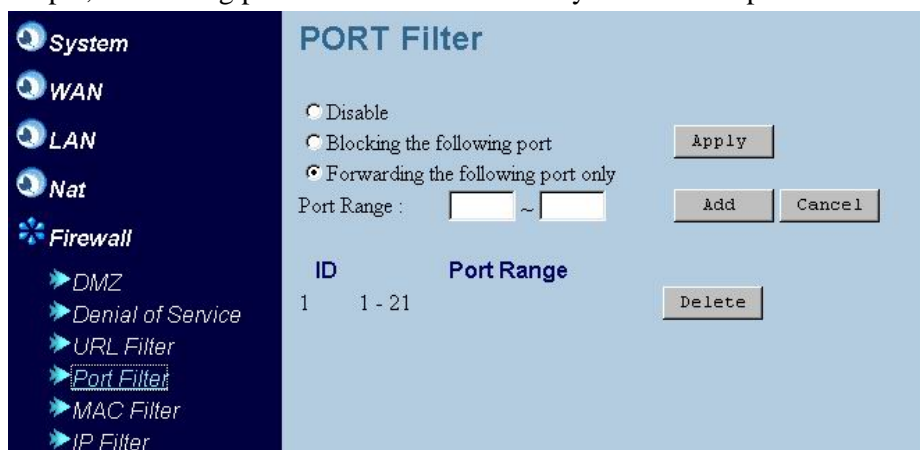
For example, blocks port 21. The LAN client cannot access ftp in the Internet.




C. Forwarding the following port only

Checked this item, the LAN client can access to the following services.

For example, forwarding port 21. The LAN client only can access ftp in the Internet.



 Please refer to **Appendix B: Common Port Numbers**.
Note

5. MAC Filter

A. Disable

Checked this item, the LAN client can access to Internet.

B. Blocking the following Mac

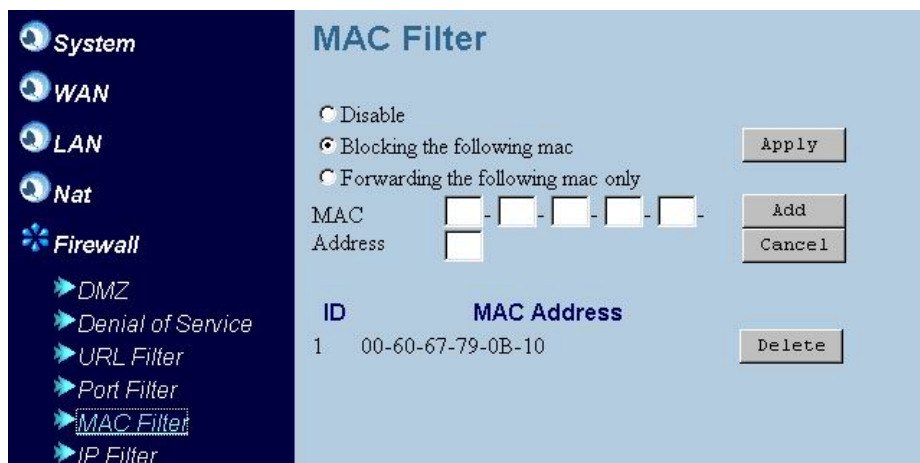
Checked this item, the following Mac cannot access to Internet.

For example, blocks Mac address 00-60-67-79-0B-10. This client cannot access Internet.

C. Forwarding the following Mac only

Checked this item, only the following Mac can access to Internet.

For example, forwarding Mac address 00-60-67-79-0B-10. Only this client can access Internet.



6. IP Filter

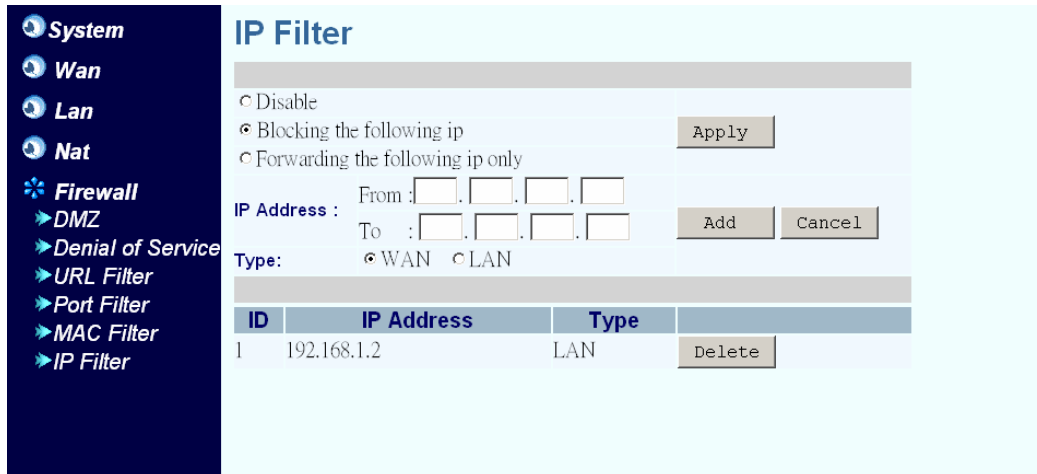
A. Disable

Checked this item, the LAN client can access to Internet.

B. Blocking the following IP

Checked this item, the following IP cannot access to Internet.

For example, blocks IP address 192.168.1.2 this client cannot access Internet.

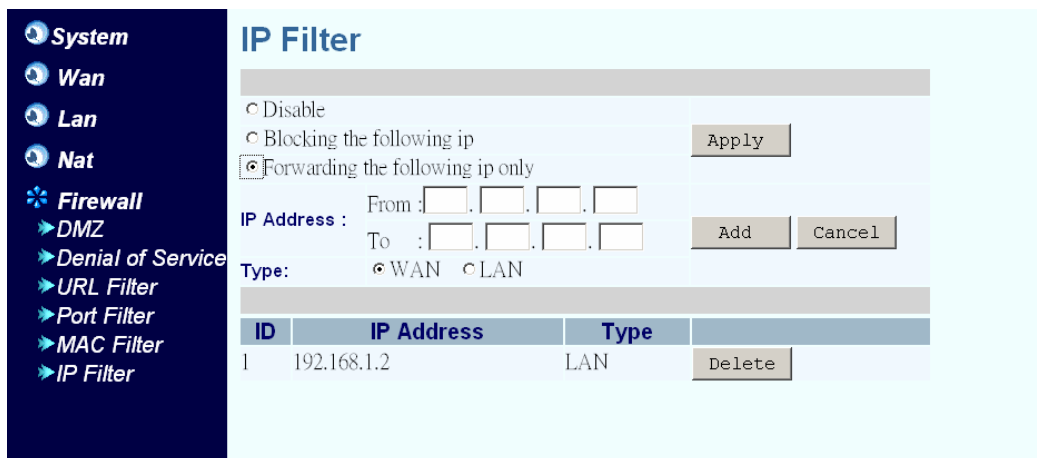


The screenshot shows the 'IP Filter' configuration page. On the left is a navigation menu with 'Firewall' expanded and 'IP Filter' selected. The main area has three radio buttons: 'Disable', 'Blocking the following ip' (which is selected), and 'Forwarding the following ip only'. Below these are fields for 'IP Address' with 'From' and 'To' sub-fields, and a 'Type' dropdown set to 'WAN'. A table below shows a single entry with ID 1, IP Address 192.168.1.2, and Type LAN. There are 'Apply', 'Add', 'Cancel', and 'Delete' buttons.

C. Forwarding the following Mac only

Checked this item, only the following IP can access to Internet.

For example, forwarding IP address 192.168.1.2 this client can access Internet.



The screenshot shows the 'IP Filter' configuration page. On the left is a navigation menu with 'Firewall' expanded and 'IP Filter' selected. The main area has three radio buttons: 'Disable', 'Blocking the following ip', and 'Forwarding the following ip only' (which is selected). Below these are fields for 'IP Address' with 'From' and 'To' sub-fields, and a 'Type' dropdown set to 'WAN'. A table below shows a single entry with ID 1, IP Address 192.168.1.2, and Type LAN. There are 'Apply', 'Add', 'Cancel', and 'Delete' buttons.

6.1 Troubleshooting

You should be able to use ZSR0104C SERIES after going through the setup steps. If you cannot access a website on your client PC, the possible reasons could be as followed. Please check them in the following sequence.

1. Router's Hardware Failure.
2. Failed Connection between ZSR0104C SERIES and Client PCs.
3. Failed Connection on the ZSR0104C SERIES WAN Side.

4. DNS (Domain Name System) Failure.

Please refer to the solution for each reason and solve your problem. If the problem persists, please contact our authorized distributor or dealer for technical support.

1. Router's Hardware Failure

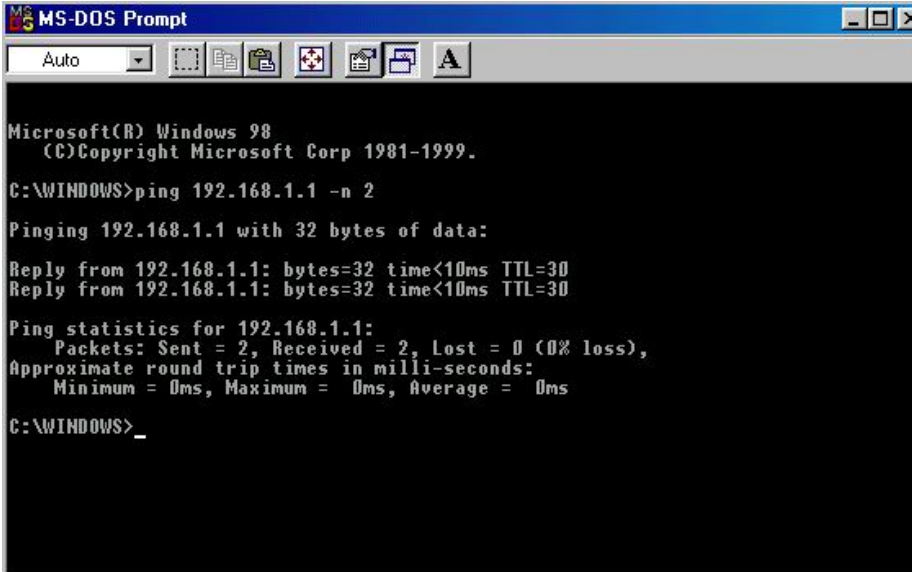
Solution:

1. Make sure the Power adapter is securely plugged into a power outlet and Power LED is on.

2. Failed Connection between ZSR0104C SERIES and Client PC

Solution:

1. Check if the LAN link/act LED is continuously or flash.
2. Use the ping command to probe the network connection between ZSR0104C SERIES and your client PC. For example, the ZSR0104C SERIES LAN IP address is 192.168.1.1. Type "**Ping 192.168.1.1**." (ZSR0104C SERIES default IP address. If it shows "Reply from 192.168.1.1", the network connection works. If not, please use another Ethernet Cable to connect your Client PC to ZSR0104C SERIES.



```
MS-DOS Prompt
Auto
Microsoft(R) Windows 98
(C)Copyright Microsoft Corp 1981-1999.
C:\WINDOWS>ping 192.168.1.1 -n 2
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<10ms TTL=30
Reply from 192.168.1.1: bytes=32 time<10ms TTL=30
Ping statistics for 192.168.1.1:
    Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\WINDOWS>_
```

3. If you can reach your ZSR0104C SERIES with ping command, verify that you have disabled the Web Proxy function. For information of disabling the Web Proxy, please refer to **A.2 Disable Web Proxy in Appendix A: Configure TCP/IP in Your PC**

If the problem persists, there might be a problem in your PC, Ethernet Interface Card, or Ethernet cable. Use another client system and try the approach again.

3. Failed Connection on ZSR0104C SERIES WAN Side

Solution:

1. Check if the WAN link/act LED is continuously on or flashing.
2. Verify that your WAN access type and the corresponding information are the same as the datasheet provided by your Internet Service Provider.

4. DNS (Domain Name System) Failure

Solution:

1. If there is no problem in 1-3, try to use ping command to reach an existing IP address on the Internet. If it works, it means that the domain name cannot be translated and there might be problem with your DNS server. Please set another DNS server in you client PC.

6.2 Forget Passwords?

If you forget the password to log in to the Web Configuration Tool, you can reload the factory default settings into ZSR0104C SERIES with the **Reset** button.

Solution:

- Step 1. Disconnect ZSR0104C SERIES power adapter from the power outlet.
- Step 2. Press the **Reset** button on the back panel and keep holding it. Then plug ZSR0104C SERIES power adapter into the power outlet.
- Step 3. It takes around 15 seconds to reset. The **Power LED** will turn on in **Green** initially. Wait for the **Power LED** becomes **Red**. Then release the **Reset** button.
- Step 4. Try to connect **http://192.168.1.1/** via your Web browser. Use the user name “**admin**” and the password “**admin**” to obtain authentication. If it is failed, please try the approach again.

Appendix A:

A.1 Disable Web Proxy

When the Web Proxy is disabled, your Web browser can obtain information from ZSR0104C SERIES without the Web Proxy block. This section is divided into 4 parts as followed, “Disable Web Proxy for Windows 95/98/ME/2000/NT,” “Disable Web Proxy for Windows XP,” “Disable Web Proxy for Mac,” “Disable Web Proxy for Unix/Linux.”

1. For Windows 95 / 98 / ME / 2000 /NT

If you use Windows 95, 98, ME, 2000, or NT, follow the steps to disable Web Proxy in your Web browser. The steps and screenshots here are based on Windows 98. It is similar to the other Windows Operating Systems.

C. A. Internet Explorer

Step 1. Open Internet Explorer and click the **Stop** button. Choose **Tools** and then click **Internet Options**. (Figure A-21)

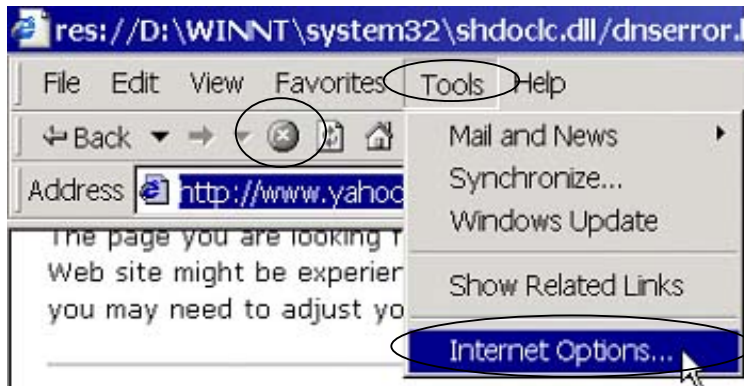


Figure A-21

Step 2. Click the **Connections** tab. Press the **LAN Settings...** button. (Figure A -22)

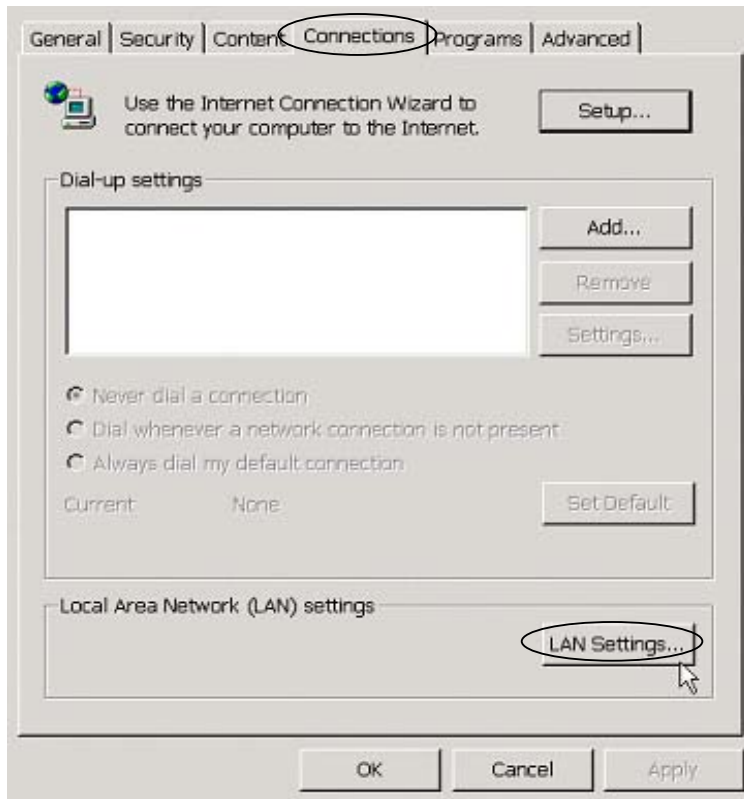


Figure A-22

Step 3. Verify the item **“Use a proxy server”** is not checked. Then click the **OK** button to close each the Internet Options window. (Figure A-23)

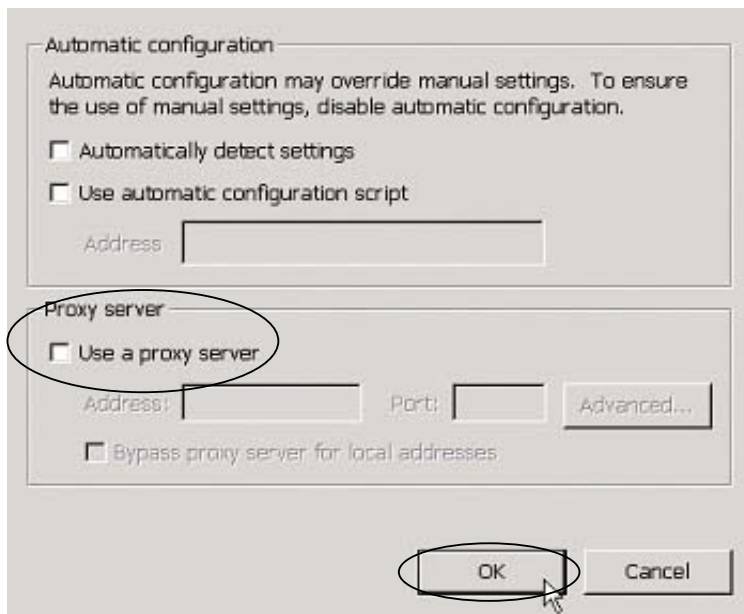


Figure A-23

D. B. Netscape

Step 1. Open Netscape and click the **Stop** button. Choose **Edit** and then click **Preferences...** A Preferences window will pop up. (Figure A-24)



Figure A-24

Step 2. In Category, find **Proxies** under the **advanced** item. (Figure A-25)



Figure A-25

Step 3. Check **Direct connection to the Internet**. Then click the **OK** button. (Figure A-26)

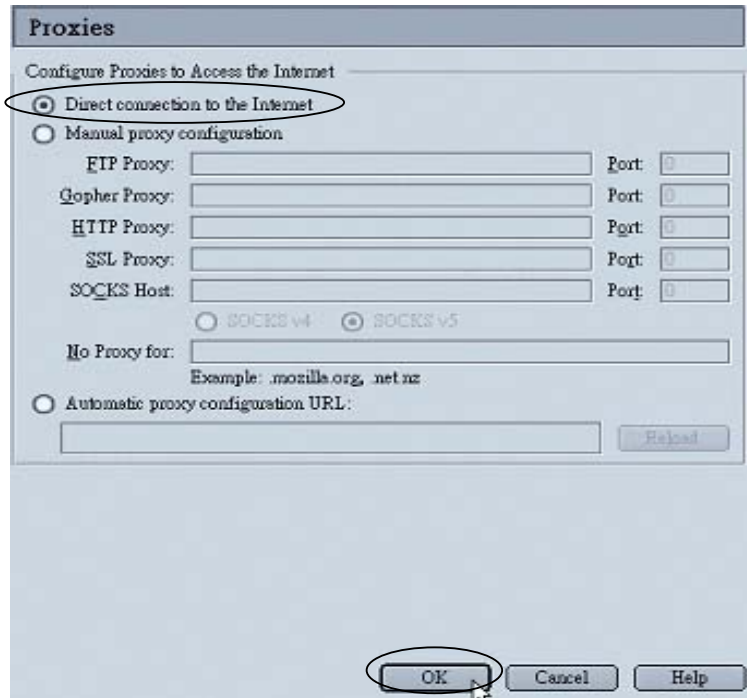


Figure A-26

2. For Windows XP

If you use Windows XP, follow the steps to disable Web Proxy in your Web browser.

E. A. Internet Explorer

Step 1. Open Internet Explorer and click the **Stop** button.

Choose **Tools** and then click **Internet Options**. (Figure A-27)



Figure A-27

Step 2. Click the **Connections** tab. Press the **LAN Settings...** button. (Figure A-28)

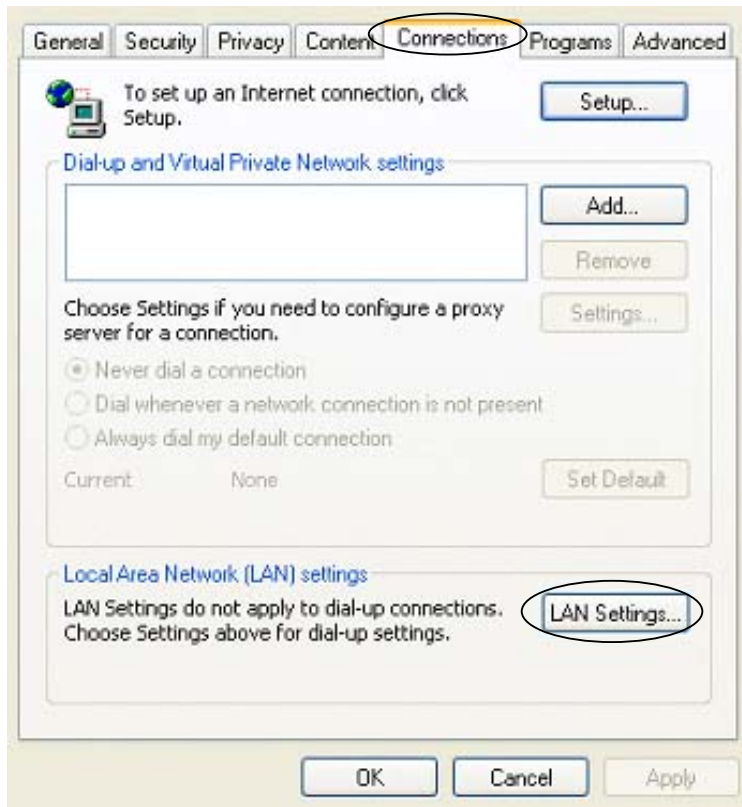


Figure A-28

Step 3. Verify that the item **Use a proxy server for your LAN** is unchecked. Then click the **OK** button to close each the Internet Options window. (Figure A-29)

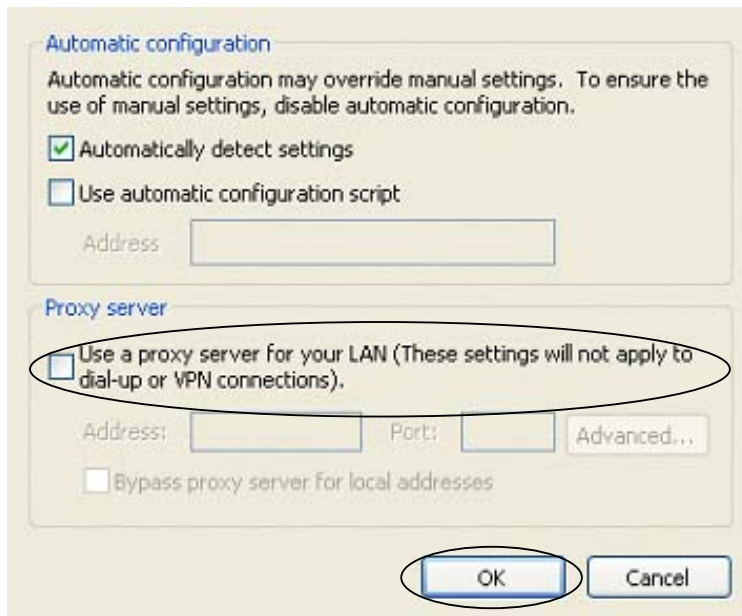


Figure A-29

F. B. Netscape

Step 1. Open Netscape and click the **Stop** button. Choose **Edit** and then click **Preferences...** A Preferences window will pop up. (Figure A-30)

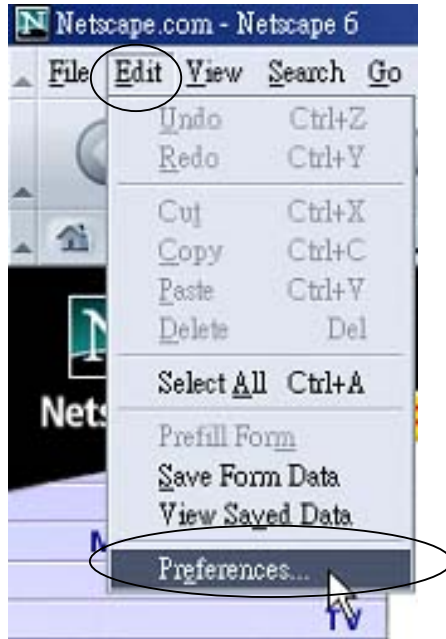


Figure A-30

Step 2. Choose **Proxies** under the **advanced** item. (Figure A-31)



Figure A-31

Step 3. Check **Direct connection to the Internet**. Then click the **OK** button. (Figure A-32)

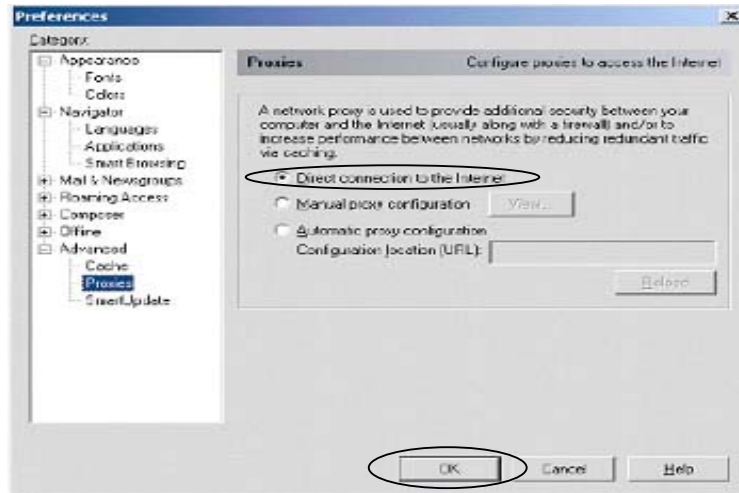


Figure A-32

3. For MAC

The instructions are based on Mac OS 8.5. It is similar to Mac OS 7.x and above. Follow the steps to disable the Web Proxy.

G. A. Explorer

Step 1. Open Internet Browser and click the **Stop** button. Click **Edit** and select **Preferences**.

Step 2. Find **Proxies** under the **advanced** item. Uncheck all the boxes. Click the **OK** button to save your setting.

H. B. Netscape

Step 1. Open Netscape and click the **Stop** button. Click **Edit** and select **Preferences**.

Step 2. Find **Proxies** under the **advanced** item. Select **Direct Connection to the Internet** and click the **OK** button.

4. For Unix/Linux

If you use Netscape Navigator in Unix or Linux, follow the steps to disable Web Proxy in your Web browser.

I. A. Netscape

Step 1. Launch Netscape Navigator and click the **Stop** button. Go through the path “Edit→Preferences...”

Step 2. In Category, find **Proxies** under the **advanced** item.

Step 3. Check **direct connection to the Internet** and click the **OK** button.

A.2 Verify IP Settings

Verify IP settings in your client computer to make sure the network is working and learn your client PC's LAN IP address and your ZSR0104C SERIES Router's IP address. This section is divided into 5 parts, including “Verify IP Settings for Windows 95/98/ME,” “Verify IP Settings for Windows 2000/NT 4.0,” and “Verify IP Settings for Windows XP,” “Verify IP Settings for Mac,” and “Verify IP Settings for Unix/Linux.”

1. For Windows 95 / 98 / ME

If you use Windows 95, 98, or ME, follow the steps to verify the IP settings in your client PC. The steps and screenshots here are based on Windows 98. It is similar to the other Windows Operating Systems.

Step 1. Go through the path “Start→Run.”(Figure A-33)

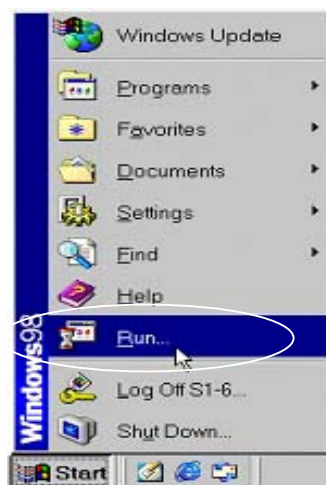


Figure A-33

Step 2. Run the **WINIPCFG** command. (Figure A-34)

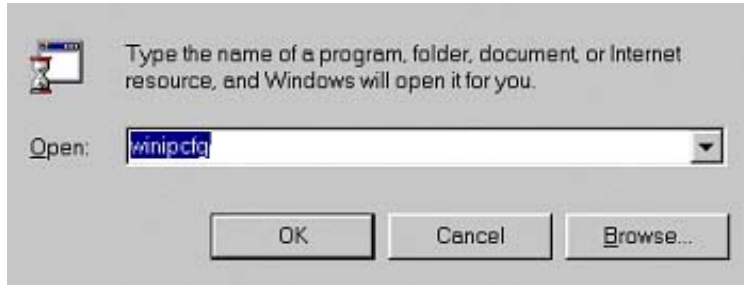


Figure A-34

Step 3. To release the previous IP settings in your computer, choose your network interface card in the menu. Then click the **Release** button. (Figure A-35)

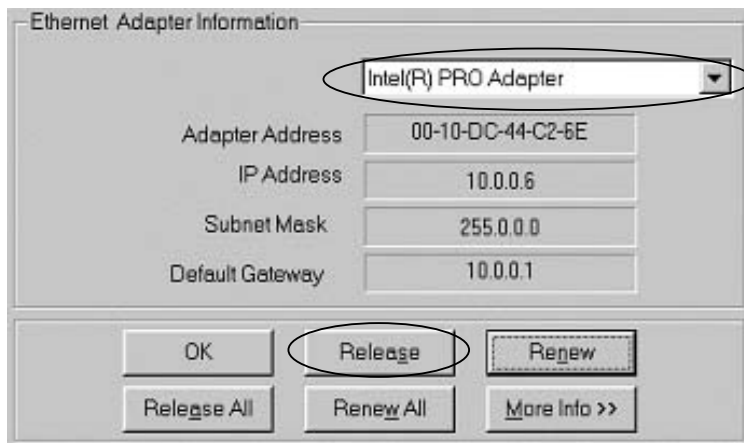


Figure A-35

Step 4. To obtain new IP settings from WPD –140, click the **Renew** button. As listed below, the IP address is your client computer’s LAN IP address, and the Default Gateway is ZSR0104C SERIES IP address. Make sure that your IP Address is 10.0.0.xxx, (xxx ranges from 2 to 254) your Subnet Mask is 255.0.0.0, and your Default Gateway is 192.168.1.1. These values confirm that your ZSR0104C SERIES is functioning. (Figure A-36)

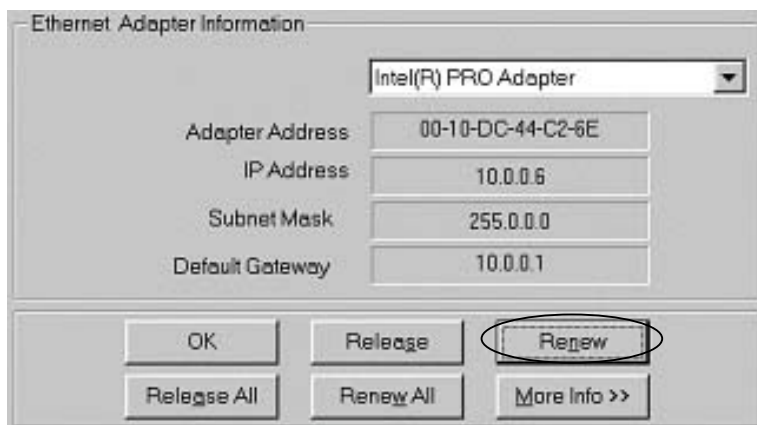


Figure A-36

2. For Windows 2000 /NT

If you use Windows 2000 or NT, follow the steps to verify the IP settings in your client PC. The steps and screenshots here are based on Windows 2000. It is similar to the other Windows Operating System.

Step 1. Go through the path “Start→Run.”(Figure A-37)



Figure A-37

Step 2. Please enter **command** and press the **OK** button. (Figure A-38)

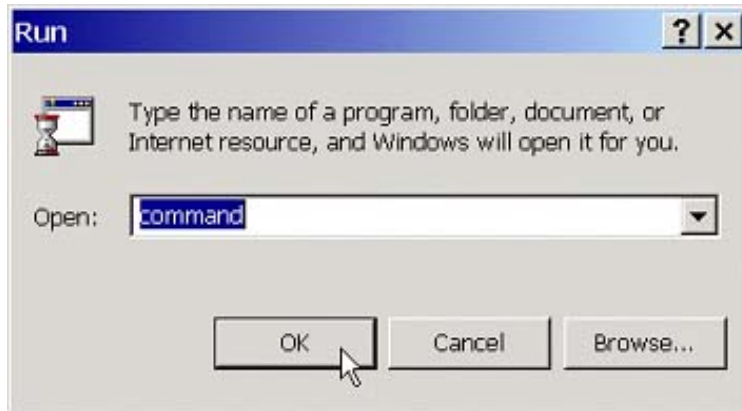


Figure A-38

Step 3. To release the previous IP settings in your computer, run the command “**ipconfig / release.**” (Figure A-39)



Figure A–39

Step 4. To obtain new IP settings from WPD –140, run “**ipconfig / renew.**” As listed below, the IP address is your client computer’s LAN IP address, and the Default Gateway is ZSR0104C SERIES IP address. Make sure that your IP Address is 192.168.1.xxx (xxx ranges from 2 to 254), your Subnet Mask is 255.255.255.0, and your Default Gateway is 192.168.1.1. These values confirm that your ZSR0104C SERIES is functioning. (Figure A-40)

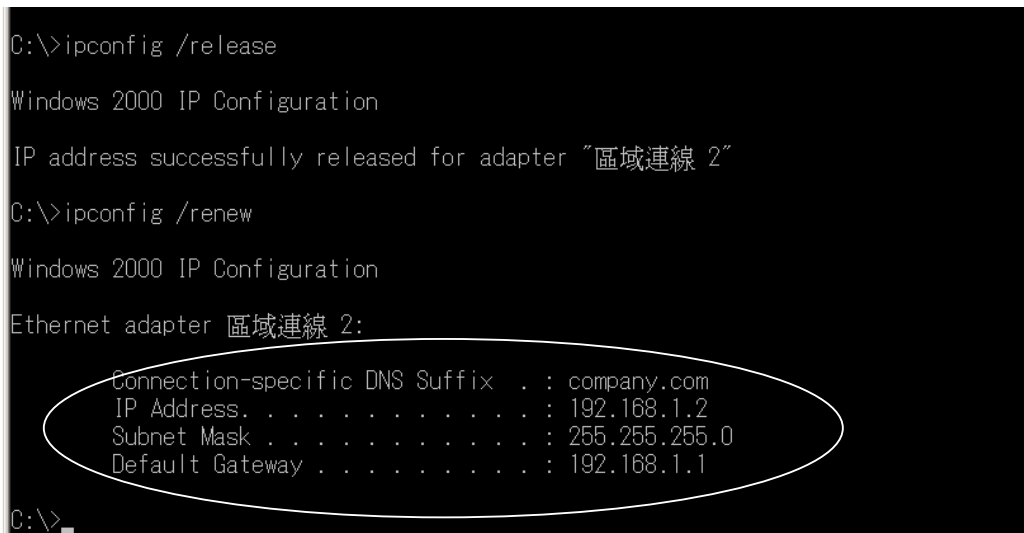


Figure A–40

3. For Windows XP

If you use Windows XP, follow the steps to verify the IP settings in your client computer.

Step 1. Go through the path “Start→Run.”(Figure A-41)

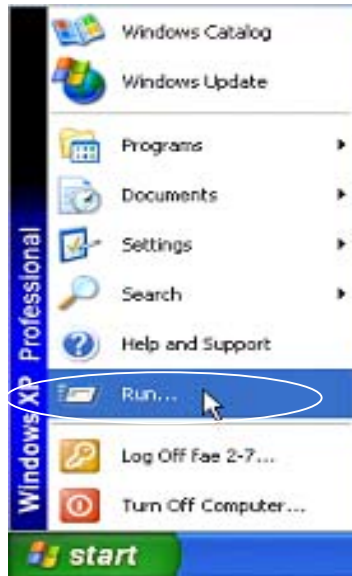


Figure A-41

Step 2. Enter **command** and press the **OK** button. (Figure A-42)



Figure A-42

Step 3. To release the previous IP settings in your computer, run the command “**ipconfig /release.**” (Figure A-43)

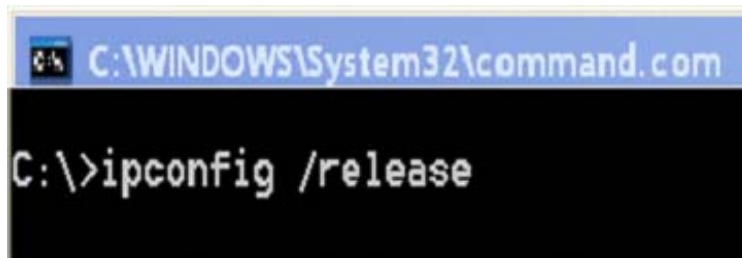


Figure A-43

Step 4. To obtain new IP settings from WPD –140, run “**ipconfig / renew.**” As listed below, the IP address is your client computer’s LAN IP address, and the Default Gateway is ZSR0104C SERIES IP address. Make sure that your IP Address is 192.168.1.xxx (xxx ranges from 2 to 254), your Subnet Mask is 255.255.255.0, and your Default Gateway is 192.168.1.1. These values confirm that your ZSR0104C SERIES is functioning. (Figure A-44)

Figure A-44

```
C:\>ipconfig /release
Windows 2000 IP Configuration
IP address successfully released for adapter "區域連線 2"
C:\>ipconfig /renew
Windows 2000 IP Configuration
Ethernet adapter 區域連線 2:
    Connection-specific DNS Suffix . : company.com
    IP Address. . . . . : 192.168.1.2
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1
C:\>
```

4. For Mac

The instructions are based on Mac OS 8.5. It is similar to Mac OS 7.x and above. Follow the steps to verify IP settings.

Step 1. Pull down the Apple Menu. Go through “Control Panel→TCP/IP.”

Step 2. The new IP settings will be displayed in the TCP/IP window. Make sure that your IP address is 192.168.1.xxx (xxx ranges from 2 to 254), your Subnet Mask is 255.255.255.0, and your Default gateway is 192.168.1.1. These values confirm that your ZSR0104C SERIES is functioning. The IP address is your LAN client’s IP address, and the Default Gateway is ZSR0104C SERIES IP address.

5. For Unix/Linux

If you use Unix or Linux, follow the steps to verify the IP settings in your client PC.

- Step 1. To release the previous IP settings of your computer, run the command “**kill all dhcpcd**”.

- Step 2. To obtain new IP settings from ZSR0104C SERIES, run the command “**dhcpcd eth#**”. “#” Means the number of the Ethernet Network Interface Card installed in your client computer.

- Step 3. To learn the new IP settings, please run the command “**ipconfig eth#**”. “#” Means the number of the Ethernet Network Interface Card installed in your client computer. It will show the IP address and Subnet Mask of your client PC. Then run the command “**route -n**”, the IP address of your Default Gateway will be displayed. It means your router’s IP address. Make sure that your IP address is 192.168.1.xxx (xxx ranges from 2 to 254), your Subnet Mask is 255.255.255.0, and your Default gateway is 192.168.1.1. These values confirm that your ZSR0104C SERIES is functioning.

Appendix B: Common Port Numbers

Port Number	Service Name
7	Echo
11	Systat
19	Chargen
20 (21)	FTP
23	TELNET
25	SMTP
37	Time
49	TACACS
53	DNS
67(68)	BOOTP
69	TFTP
70	Gopher
79	Finger
80	HTTP(WEB)
88	Kerberos
109	POP2
110	POP3
113	AUTH
118	SQLServ
119	News/NNTP
123	NTP
137(138)(139)	NetBIOS-ns, NetBIOS-dgm, NetBIOS-ssn
143	IMAP2
161(162)	SNMP (SNMPT RAP)
220	IMAP3
389	LDAP
443	HTTPS
514	SYSLOG
546(547)	DHCP Client (DHCP Server)

Appendix C: Terminology

- **Auth (TCP Authentication)**
It implements the Identification Protocol, which can identify active TCP connections in Linux environment.
- **Boot**
It is the process when the computer starts executing instructions.
- **Browser**
It is an application program that helps users to view and interact with the information of the World Wide Web.
- **Cable Modem**
It is a device that connects a computer to the Internet via the cable television network. It features asymmetric transmission rates: around 36 Mbps downstream from the Internet to the computer, and from 200 Kbps to 2 Mbps upstream from the computer to the Internet.
- **CuSeeMe**
It is a video-phone software designed for Windows Operating System. It allows at most 12 on-line users to see and chat with each other. You can also set up your own video chat rooms and control the entry of these rooms.
- **DHCP (Dynamic Host Configuration Protocol)**
It is a protocol that automates the assignment and acquirement of IP addresses between a server and a client in a network.
- **DMZ (De-Militarized Zone)**
It allows LAN clients behind a NAT Router to be totally exposed and accessible to the WAN side in order to run special applications or set up a server.
- **DNS (Domain Name System)**
Domain Name System explains where Internet domain names are located. In addition, it translates Internet domain names into Internet Protocol (IP) addresses. A domain name must be meaningful, so you can remember it easily for the access of websites.
- **Domain**
It is a subnet work composed of a group of clients and servers.
- **DoS (Denial of Service)**
Denial of Service attacks network devices and try to disable the devices.
- **Dynamic IP Address**
Dynamic IP Address is automatically assigned to a client in a TCP/IP network by a DHCP server in the network.
- **Ethernet**
It is a common LAN protocol defined as the 802.3 standard by IEEE (Institute of Electrical and Electronics Engineers). All clients in the network share the total bandwidth. It could be 10 Mbps (Ethernet), 100 Mbps (Fast Ethernet) or 1000 Mbps (Gigabit Ethernet).
- **FTP (File Transfer Protocol)**

File Transfer Protocol enables you to transfer files in a bi-directional method over a TCP/IP network.

- **Firewall**

It is a mechanism that protects a network from attacks from the other networks. Also, it can provide the Internet access control list that restricts clients' connection to other networks.

- **Firmware**

It is programming that is inserted into programmable read-only memory and becomes a permanent part of a computing or network device.

- **Gateway**

It is a device that connects the networks.

- **Hardware**

It is the physical part of computers and network device.

- **H.323**

It is an ITU (International Telecommunication Union) standard that describes how audio and visual conferencing data is transmitted via a real-time and bi-directional method across the network.

- **HTTP (Hyper Text Transport Protocol) (WEB)**

It is the protocol used to transmit and receive data over the World Wide Web. It can establish connection with a Web server and transmit HTML pages to the client browser. For instance, when you enter a domain name on your browser, you are actually sending an HTTP request to a Web server for Web page information. After the Web server receives your HTTP request, it will send the Web page to you by displaying it via the browser.

- **Hub**

A hub connects computing devices to host computers and allows a large number of devices to share the Internet bandwidth.

- **ICMP (Internet Control Message Protocol)**

It is a kind of TCP/IP protocol that sends the error message, the control message, and the information messages to a network device. For instance, a router uses ICMP to notify the sender that its destination node is not available. A ping utility can send ICMP echo request to verify the existence of an IP address, too.

- **ICQ**

It is Internet message exchange software that enables you to have real-time chat with another user installed the software.

- **Infrastructure Mode**

It is a Wireless LAN topology that connects the wireless and wired LAN. It expands the coverage of the wired LAN by creating radio communication between the Access Point and wireless clients.

- **IP (Internet Protocol)**

It is the Network Layer protocol in the TCP/IP communication and provides the basic packet delivery for TCP/IP networks. It contains a network address and allows messages to be routed

to a different network or subnet.

- **IP Address**

It is a 32-binary digit number that provides the source or destination information on the Internet.

- **ISP (Internet Service Provider)**

It is a company that provides individuals and companies the access to the Internet.

- **LAN (Local Area Network)**

It consists a group of computers and network devices that communicate with each other over a network and share the resources of a single processor or server within a small geographic area.

- **MAC Address (Media Access Control Address)**

It is a unique number assigned to any Ethernet network device by the device manufacture. It enables the network to identify the device at the hardware level

- **MSN Messenger**

It is Microsoft Internet message exchange software and enables you to have real-time chat, even via videoconference, with another user.

- **NAT (Network Address Translation) (Broadband Switch)**

Network Address Translation can translate the source IP address of a LAN client to the IP address of a WAN client before forwarding a packet from the LAN to the WAN. When the packet returns, NAT translates the destination address from a WAN client to the address of a LAN client before forwarding the packet back to the LAN client. When only one WAN IP address is available, NAT can translate the only WAN IP address into multiple LAN IP addresses for the LAN clients. Therefore the LAN clients “share” the only one WAN IP address, and it is called “Broadband Switch.”

- **NetMeeting**

It is Microsoft conferencing tool and enables individuals to hold teleconference via the Internet. It supports Voice on the Net, Chat Sessions, a Shared Whiteboard, Application and Document Sharing, and File Transfer etc.

- **POP3 (Post Office Protocol 3)**

Post Office Protocol 3 is a standard mail server application used on the Internet. It stores your incoming e-mail. When you connect to the server and download the e-mail, the stored e-mail will be transmitted to you and deleted from the server at the same time.

- **Port**

It is a pathway of network device, such as a switch or a router. It can make connection between the LAN and the WAN via the network device.

- **Port Number**

In a TCP/IP network, a port number is assigned to an application program running in the computer. The port number is included in the transmitted packets and will link the data to the correct service. Well-known ports include port 21 for FTP and port 80 for HTTP.

- **PPPoE (Point to Point Protocol over Ethernet)**

It enables a point-to-point connection to be established in the normally multipoint architecture

of Ethernet and is commonly implemented by xDSL box Internet Service Provider for Dial-Up Internet connections.

- **PPTP (Point to Point Tunneling Protocol)**
It is a standard VPN protocol that secures a private network with encryption and authentication of User ID and Password.
- **RJ-45 Connector**
It is a connector that connects Ethernet devices via an Ethernet cable.
- **Router**
It is a network device that divides a large network into small sub-networks, and that transmits packets with a routing table.
- **Server**
A server is the computer that enables its clients to access files stored in it, to make printing, and to communicate within the same Ethernet network.
- **SMTP (Simple Mail Transfer Protocol)**
It is a standard e-mail protocol that defines the message format and manages the e-mail transmission between e-mail servers.
- **Software**
It is a series of instructions that tells the computer how to process the data.
- **Special Applications**
They are Internet applications implementing multiple ports, port ranges, dynamically assigned ports, and special protocols. ZSR0104C SERIES supports the transparent pass-through of these special applications.
- **SPI (Stateful Packet Inspection)**
It is a type of firewall mechanism that allows the packet to travel between the LAN and the WAN by examining the protocol and the source or destination IP address of the packet. In general, it allows sessions initiated from the LAN to the WAN and block sessions from the WAN to the LAN.
- **Static IP Address**
Static IP is also a WAN access type provided by some Internet Service Providers. You need to enter the information of IP address, Subnet Mask, Default Gateway, Primary DNS, and Secondary DNS IP Address.
- **Subnet Mask**
It is a method used to split IP networks into a series of subnets.
- **Switch**
It is a network device that transmits packets between nodes on the same network.
- **TCP/IP (Transmission Control Protocol/Internet Protocol)**
It is a group of network standards that enable computers of different operating systems to communicate with each other across the network.
- **Telnet**

Telnet is a terminal emulation protocol used commonly on the Internet and TCP/IP network. It enables you to log on to a remote computer and to run a program on the remote computer with an established account and password.

- **Virtual Server (Port Forwarding)**

A NAT Router can function as a Virtual Server that can forward the service packet specified with a port number to the LAN host specified by the LAN IP address. In other words, ZSR0104C SERIES can open the port for the service with specified port number and then “forward” the port to a LAN host. Therefore it is called “Port Forwarding,” too.

- **VPN (Virtual Private Network)**

It is a network security mechanism that secures the network data transmission via tunneling, encryption, and authentication etc.

- **WAN (Wide Area Network)**

It is a kind of network that covers a wide geographic area like a country.

- **Wireless LAN**

It is a network technology that uses the air to transmit data between wireless clients and Access Points.

Appendix D: Technical Support

D.1 Hardware Problem

For help with the hardware problems, please contact our authorized local distributor or dealer.

D.2 Software Download

If there is the demand of software download, please visit our website <http://www.zonet.com.tw> and find the latest software version.

D.3 Installation/Application Problem

To solve the installation or application problems, please contact our authorized local distributor or dealer.