ZyXEL Prestige 310
ZyNOS v2.30(M.04) | 12/22/1999
Release Note

Date: December 22, 1999

Supported Platforms:

ZyXEL Prestige 310

Versions:

ZyNOS F/W Version : V2.30(M.04) | 12/22/1999

Notes:

1. Telnet incoming from the WAN port is disabled in default configuration romfile. You can make it work by turning off the TELNET_WAN filter in WAN port.
2. If you use NetMeeting application behind SUA to connect to an outside user the outside user will see two identical users in screen.
3. We need to register MIRC to make the DCC work at version 5.31. So far, we don't support MIRC DCC after version 5.31.
4. If you can not get an IP address from your ISP. Please do the following.
   ** Your ISP will check your PC's hostname.
   ➔ Please set your PC's computer name to Prestige in Menu 1. (Appendix 2)
   ** Your ISP will check the MAC address.
   ➔ Please inform your ISP that you have bought a new network device.
   Or Use Menu 2 to clone the PC's MAC address to WAN. (Appendix 2)
   ** Your ISP only allows one MAC to connect to Internet.
   ➔ Please power down your cable modem and let Prestige 310's WAN port connects to cable modem directly.
   ** Your ISP needs a special login program.
   ➔ We support the Times Warner Road Runner login program. Please select the correct service type in Menu 4. We support two kinds of RoadRunner login method. The first one is the Toshiba authentication method and the other one is RoadRunner Manager authentication method. Please make sure which login method you are using.

Known Bugs:

1. Sometime the LAN will stop receiving about 10 seconds.

Features:

Modification in V2.30 (M.04) | 12/22/1999
1. HTP test program will hang problem. Fixed.
2. Real Player will cause memory leak when it has error condition. Fixed.
3. DHCP will ignore no end option packets. Fixed.
4. SUA for QUAKE support send the wrong port number. Fixed.

Modification in V2.30 (M.03)
1. Bug: DHCP client will only send nine characters of hostname in the DHCP hostname option. Fixed.
2. Bug: DHCP client can not receive unicast packets in discover and request state. Fixed
3. Added Domain Name assignment support in SMT 1.(see appendix 3)
4. Added "ip sua timeout <value>" to modify SUA idle timeout. (see appendix 4)
5. Modified default SUA UDP idle timeout to 180 seconds to solve ICQ problems. (see appendix 5)
6. Added WAN DHCP Client Renew and WAN DHCP Client Release in SMT Menu 24.4.
7. Modified SMT Menu 24.2.1 and SMT Menu 24.1's name field as <System Name>.<Domain Name>
8. Added the filter set deleting mechanism in SMT 23. (see appendix 6)

Modification in V2.30 (M.02)
1. RoadRunner client/server session Manager protocol support included.
2. WAN MAC address attached by LAN IP address support included.
3. Bug: If the DHCP server and DHCP client are not in the same network then DHCP client renewal will fail. Fixed
4. If the IP address requested by the PC is the same as the LAN IP address then the PC can not always get an IP address. Fixed.
5. NMAP will crash the system. Fixed
6. Enhanced Routing performance.
7. If you remove the LAN cable then the LAN LED will flash every 10 seconds. Fixed
8. SNMP packets will cause system crash. Fixed
9. Unix syslog will send the wrong port number. Fixed
10. Data abort will enter debug mode. Fixed

Modification in V2.30 (M.01)
1. Sometimes FTP will lose command. Fixed
2. Added Quick Time streaming support.
3. DNS proxy lookup fail problem. Fixed
4. DHCP Client will send the correct hostname. Fixed
5. If you enter Menu 24.2.1 then the P310 will crash. Fixed
6. Removing the console port in SMT 24.1 will not close the SMT session. Fixed
7. Trace route fail problem. Fixed

Modification in V2.30 (M.00)
1. First release.

Appendix:

1.SUA Support Table

The required settings of Menu 15 for some applications are listed in the following table.

ZyXEL SUA Support Table

Traffic Type	Application Version	Required Settings in Menu 15 Port/IP	
		Outgoing Connection	**Incoming Connection**
HTTP	Netscape, IE	None	80/client IP
FTP	Windows FTP, Cuteftp	None	21/client IP
TELNET	Windows Telnet, Neterm	None	23/client IP (and remove Telnet filter in WAN port)
POP3	Eudora	None	110/clinet IP
SMTP	Eudora	None	25/client IP
IRC	mIRC,Microsoft Chat	None for Chat. DCC support: MIRC < 5.31	None
PPTP	Windows PPTP	None	1723/client IP
ICQ	ICQ 99a	None for Chat. For file transfer, we must enable ICQ-preference-connections-firewall and set the firewall time out to 80 seconds in firewall setting.	Default/client IP
Cu-SeeMe	Cornell 1.1	None	7648/client IP
	White Pine 3.1.2	7648/client IP & 24032/client IP	Default/client IP
	White Pine 4.0 (CuSeeMe Pro)	7648/client IP & 24032/client IP	Default/client IP
NetMeeting	Microsoft NetMeeting 2.1 & 2.11	None	1720/client IP 1503/client IP
Cisco IP/TV	Cisco IP/TV 2.0.0	Default/client IP	
RealPlayer	RealPlayer G2	None	
VDOLive		None	
Quake	Quake1.06	None	Default/client IP
QuakeII	QuakeII2.30	None	Default/client IP
QuakeIII	QuakeIII1.05beta	None	
StartCraft		6112/client IP	
Quick Time	Quick Time 4.0	None	

2. DHCP Problems.

The Dynamic Host Configuration Protocol (DHCP) provides a framework for passing configuration information to hosts on a TCP/IP network. We implement the DHCP server in the LAN port to manager the local LAN IP address and the DHCP client in the WAN port to acquire the configuration from the ISP. There are many configuration information carried by DHCP option. We will process the following information coming for the ISP: IP address, Gateway, Network Mask, Domain Name, Domain Name Server and Lease Time of DHCP client.

The traditional dial up networking will provide the user name and password for the ISP to manage the client by using the PPP. The DHCP doesn't provide this kind of mechanism. However, the ISP still can authorize the client by using the following method.

a. The ISP can check client PC's MAC address.

When you install the Cable/xDSL service, the ISP will record the MAC address of your NIC card. Thus, any unrecorded MAC address will be silently discarded. We can solve this problem by one of the following methods.

- Tell you ISP that you have bought a new NIC card and you want to change the MAC address.
- Clone the PC's MAC address to the WAN site. You can connect your network like the following.

| PC
IP:192.168.1.12
MAC: 00a0c5012345 | LAN | P310
WAN IP:legal IP
WAN MAC: 00a0c5012345 | WAN | Cable Modem/
xDSL modem | To ISP |
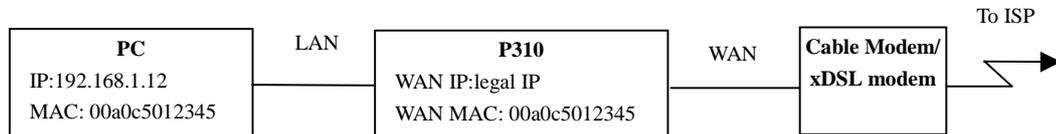
Figure 1 Clone MAC Address

Configure the SMT Menu 2 as following.

```
        Menu 2 - WAN Setup

    Link Mode= Half Duplex

    MAC Address:
      Assigned By= IP address attached on LAN
      IP Address= 192.168.1.12
```
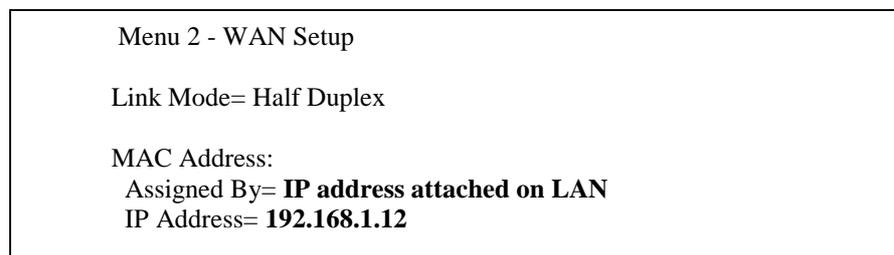
If you configure correctly then it will clone the PC's MAC address to the WAN port. This MAC address will be saved in the configuration file and will not be lost unless you reconfigure the Menu 2 or unload a configuration file.

b. The ISP can check hostname options in the DHCP option. When you install the Cable/xDSL service, the ISP will record your PC computer name or assign a new computer name to your PC. The Windows DHCP client will send the PC's computer name to DHCP server. Any unrecorded hostname option will be silently discarded.

We can solve this problem by setting the PC's computer name to P310's system name in Menu 1.

3.   Domain name support.

We add the Domain Name support in this release. You can let the Domain Name field be empty because we will use the ISP's assigned value. If you want to clear the Domain Name setting just leave it with one space. You can go to SMT 24.8 type "sys domainname" to see the current domain name using by the router.

```
          Menu 1 - General Setup

     System Name= P310      ← Your PC's computer name.
     Domain Name=zyxel.com.tw ← Your domain name
```
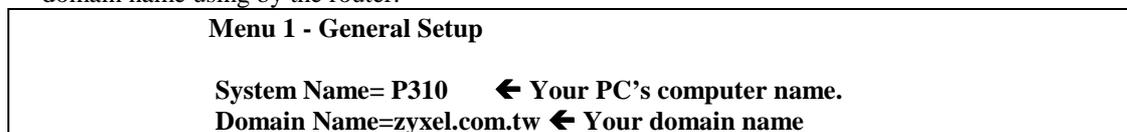
There are two ways to set the domain name. The first one is manual setting in SMT Menu 1. The other is obtained from the ISP. The Prestige 310 will use the Manual setting first. If you do not set it in Menu 1, we will use the setting obtained from the ISP.

4.   SUA Idle Timeout Value.

We modify the default value of SUA UDP idle timeout value to 180 seconds. It will solve part of ICQ problems.(see Appendix 5).

New command "ip sua timeout <value>"

This command will modify three values.

SUA UDP idle timeout = <value> (seconds)

SUA TCP opened idle timeout = <value> * 100 (seconds)

SUA TCP other idle timeout = <value> * 3 (seconds)

Where
SUA UDP idle timeout   :   The time to drop the UDP entry in SUA table when there is no traffic on this connection.

SUA TCP opened idle timeout: The time to drop the TCP connection in SUA table at the open state when there is no traffic on this connection.

SUA TCP other idle timeout :   The time to drop the TCP connection in SUA table at none open state, none wait state and none reset state when there is no traffic on this connection.

Notes: Improper configuration may make the system work impropriety. We strongly suggest to use the default values.

5. **ICQ problems.**

   What is ICQ?

   ICQ stands for 'I seek you'. It's originally developed by Mirabils, an Israeli software company. Then it's bought by America On-Line. ICQ is an Internet messaging tool. You can use ICQ to send messages to your friends, and see if he/she is online. Every ICQ user has one ID called UIN in ICQ. It's an identifier for ICQ.

   How ICQ works?

   When you launch ICQ, it will try to logon a server which is operated by AOL by the UIN. After the logon is completed, ICQ will try to ask server if any selected UIN is logon too. This process is done periodically, so you will know your friend is online when he launch his ICQ client. To ensure the link, ICQ will send a keep-alive packet periodically to inform the server the user is still here, and send current status if there is anything changed. The default time of keep-alive packet is 120 seconds. And all client/server communication are through UDP port 4000. Whenever a user-to-user communication is requested, there is a TCP session established. The port is negotiated by the client/server session.

   How to make ICQ work with ZyXEL's SUA?

   As described above, ICQ will communicate with server with port 4000 and send keep-alive packets to inform server it's online. The keep-alive packet is sent every 120 seconds. The default SUA UDP session timeout in Prestige is 90 seconds. It will cause problem because the keep-alive will be sent to different port translation due to session timeout. To fix it, you need to specify your ICQ client to shorten its keep-alive timer. It's in the connection tab under firewall setting. Set the keep-alive timer to 80 seconds to ensure the session is not timeout in Prestige. Because the user-to-user communication is negotiated by the first connection, set the ICQ connection behind the firewall. It will inform ICQ to perform operation friendly with firewall such as SUA in Prestige.

   I have done the above setting, but it doesn't work perfectly. Why?

   As ICQ is a proprietary protocol, it's not published. As we know, there are many versions of ICQ protocols and some of them are encrypted during communication. With some experiment, we suspect the ICQ doesn't work reliably with different keep-alive timer other than default value. The new SUA will prolong the session timeout period to 180 seconds to cover the default time of ICQ. So the keep-alive timer is not necessary to be altered later. However, the connection is still set to behind firewall because we do not know how to alter the packet at this time. We will try our best to find out the protocol details in ICQ in the future. It's not easy job since the protocol is encrypted and may be changed in the future. We can not promise any firm date on that support.

6. **Delete the Filter Set in the SMT Menu 23**

   Go the SMT Menu 23 and select the right filter set. Leave the Edit Comment field as a blank and you can delete the filter set.

7. **Reference Home Page**

   http://www.zyxel.com/html/product/soho_html/p310.html