C385v Series Router

User Manual

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Content

Chapter 1

1 Prologue

This document is just suit for the following products; it helps you quickly to used cellular Router function and resolves some common questions.

Production type	Description
EL-G285	GPRS Router, 1 LAN
EL-E481	EDGE Router, 1 LAN
EL-C385	CDMA Router, 1 LAN

1.1 Version

Version	Date	Description	Author
2.00	2010-5-6	Modified	Jason

1.2 Referenced Documents

1.3 Notice

Chapter2

2 Introduction

2.1 Brief

2G Series Router is easy to install, reducing the Reliance on the end customer and enables direct access to your remote LAN devices for control and monitoring purposes, it enables companies to remotely access equipment at mobile, remote networks and isolated sites.

2G Series Router is a dedicated ideal data transmission channel for industrial applications. It can be operated at GPRS or CDMA 1x or EDGE network by selecting a different radio module

2.2 Features

- Support multiple protocol conversion
- Transparent data transmission
- Ethernet and RS-232 interface
- Easy To Use and Flexible Intelligent Router
- Real-time clock
- WEB/Telnet/console management interface
- Remote web management
- Support radio network data envelope counting
- Always-On-Line
- Self-diagnostic and alarm output
- Local/remote profiles backup and retrieve
- Local/remote firmware upgrade
- Urgent event alarm via SMS
- Built-in DHCP server
- Support DMZ host
- Firewall and NAT
- Support packet filtering
- Support data center communication (DTU feature)
- Support APN or VPDN
- WiFi optional, VPN + IPSec optional

2.3 Specification

Please follow the related specification datasheet

2.4 Application

■ Access Private Networks

With The 2G Cellular Router, government employees or corporate users can create a wireless network and provide colleagues with remote access to their secure private networks. It is ideal for off-site situations, such as crime scenes, where sharing information is critical.

■ Special Events

Share the Internet while working at special events. Whether you are at an industry convention, off-site meeting, sporting event, or backstage at a concert, The 2G Cellular Router can keep your personnel and guests in touch with the world.

■ Internet Access for Commuters

By installing the 2G Cellular Router on a bus, train, or even a boat, you can allow passengers to check e-mail or chat online while commuting. Enhance their experience and increase the value of your services offered with the 2G Mobile Router.

■ Emergency Response

Whether you are providing relief for a natural disaster or coordinating the rescue of a lost hiker, you can quickly set up a wireless network and allow your team members to access e-mail, go online, and share important files.

■ For the Road

The 2G Cellular Router lets you share a mobile Internet connection with your group when you are on-the-go for work or play. Stay on top of e-mails, chat with friends and family, get directions, read news, download music, or shop online.

■ Fixed Broadband Solution

The 2G Cellular Router can be used as a fixed broadband Internet solution in homes or offices that do not have a cable or DSL service available, but are within a compatible mobile wireless network. Conversely, if you are already subscribing to a mobile Internet service, you can simply use the 2G Mobile Router in your home instead of paying extra for a wired high-speed Internet connection.

■ **Void Surveillance**

Industrial Application

- 1. Water, gas and oil flow metering
- 2. Data Monitor and Control
- 3. CCTV, DVR monitor application
- 4. AMR (automatic meter reading)
- 5. Power station monitoring and control
- 6. Remote POS (point of sale) terminals
- 7. ATM machines
- 8. Traffic signals monitor and control
- 9. Fleet management
- 10. Power distribution network supervision
- 11. Central heating system supervision
- 12. Weather station data transmission
- 13. Hydrologic data acquisition
- 14. Vending machine
- 15. Traffic info guidance
- 16. Parking meter and Taxi Monitor
- 17. Telecom equipment supervision (Mobile base station, microwave or optical relay station)

Chapter3

3 Getting Started

3.1 Panel introduction

Power supply interface: DC5V-25V power supply (5V or 12V suggested), Please the fixed necessary power supply of connection product is ensured voltage and the current parameter of power supply if customer exchanges with other power supply. Special attention: If customer has changed the power supply, sometimes can because of twinkling the current ability and leads to Router product reboot inadequately

Ethernet interface: Can recognize voluntarily crosses or the straight networking winding thread, and consult 100M voluntarily and 10M's network speed merit ability

Antenna interface: standard SMA antenna interface

3.2 The LED State

In order to know state of module there are four LED lamps, Online, Run, LAN and Cell altogether, and among them, the concrete explanation is as follows to the different states of pilot lamp representative:

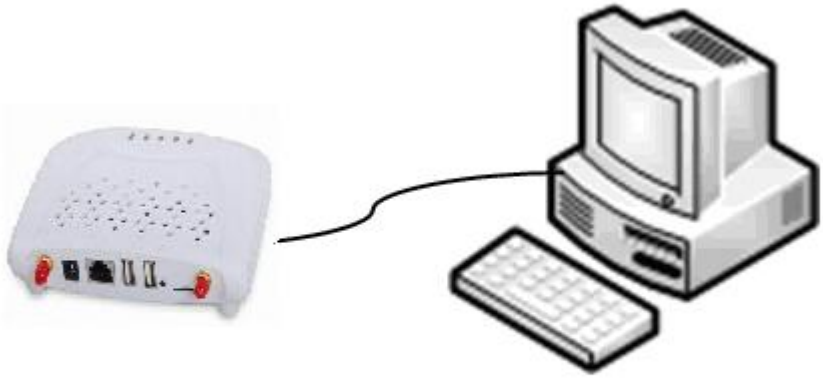
	Online	Blink	Winked
Online	Connected data transmission after got the IP when it light on		Failed to connect or data transmit when light off.
Run	show the state of initialization system with others when the equipment is started	Run normally and Data transmitting when it’s lighting...	
LAN	Ethernet links normal when it light on	Data transmitting by Ethernet interface when lighting	None Ethernet connects
Cell		Module wok normally	

The system work LED state explanation

	Online	Run	LAN	Cell
Power supply	Online1~2s	Online1~2s		
System checking	First blink 2 times	And then blink 2 times		
System checking again	First blink 2 times	And then blink 2 times		
Checking cellular module	The lights winked.	The lights winked.		
Start program	blink 8s	Off		
Work normally	online	Blink		blink

3.3 Connect to products

1. Please connect antenna and RJ45 cable with our products,



3.4 Insert SIM Card

Insert SIM card to the SIM Card Slot of the router

Import Notes: When the router is power on, never insert or take out the sim card, which will cause router damaged.

3.5 Login Web

2G Cellular Router contains WEB SERVER, CONSOLE, TELNET and other configuration mode. It is suitable for different users for configuration operation in local or remote. And the web server is easiest to be used, so we advice your to used this configuration mode.

3.6 Connection configuration

Step 1: Ensure that the computer is on the same network address range as the Router and make it as your computer's default gateway and DNS server.

Consult your operating software user manual to determine how to change the IP address on the Ethernet port of the computer and the default gateway address. In the example below the IP address of the PC has been set to 192.168.0.2—192.168.0.253 and the default gateway is the default address of the cellular Router (192.168.0.254) and Primary DNS as 192.168.0.254

For Windows XP the sequence is:

START >>Control Panel >> Network Connections >>Right-Click on Local Area Connection >> Properties >> Internet Protocol

Change the computer's IP address, default gateway and DNS server and then click OK.

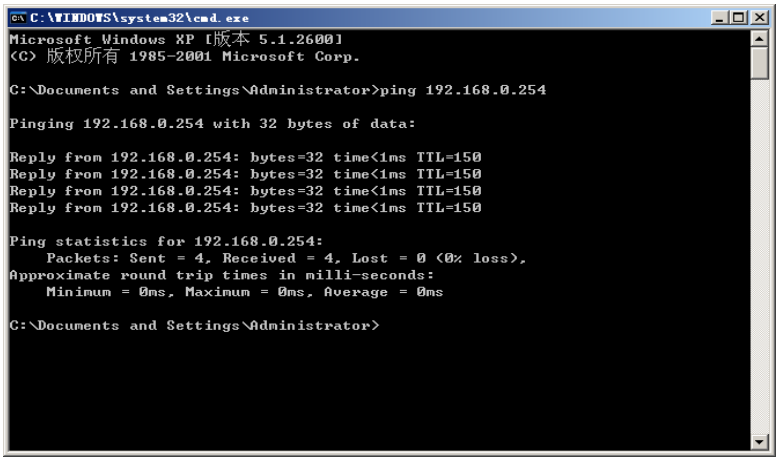
It may take a minute or two for the computer to be allocated the new IP address. In some cases, a reboot may be required

Step 2: To test that there is connectivity between the computer and the Axon, you can ping the Axon using the ping command at the command prompt. To get to the command prompt in Windows XP, use:

START>>RUN>>cmd

The ping command is entered as follows:

If successful you should see some ping statistics like the following example:



1) If having appeared with command: "Request timed out." That indicate PC and 2G cellular Router are not in the same net section. Please run “IPCONFIG/ALL” under the command model.

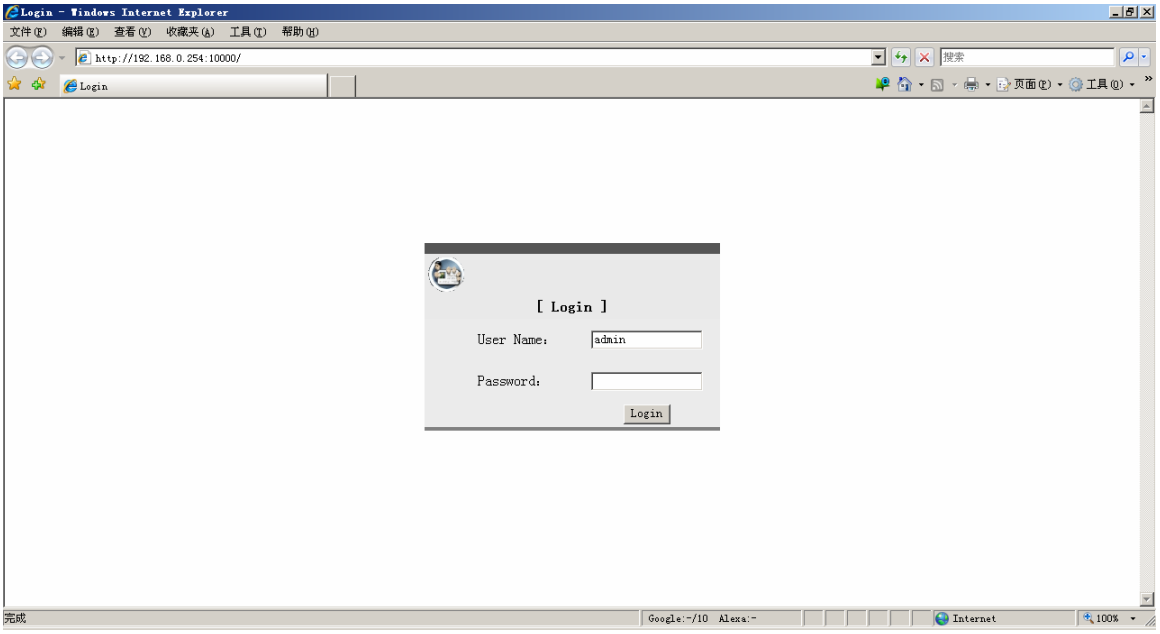
Please check the two IP are in the same set. If they are, but still ping successfully, it is possibly wrong in PC ARP. Recommend run “ARP –D” first. Attention: If appears former error in setting more than one 2G cellular Router, because the same default IP but different MAR, then it must run “PING” after “ARP –D”.

2) It indicates that no real connect between PC and 2G cellular Router when come out “Destination host unreachable”. Please check or change the cable after setting the 10M Half model of the Ethernet card.

3) If still PING blocks up, please whether or not can lead to by PING between your PC and other PC, and checks up if PC has the software such as fire wall at the same time. If still PING blocks up, please whether or not can lead to by PING between your PC and other PC, and checks up if PC has the software such as fire wall at the same time.

3.7 Login WEB configuration

Open IE on your PC, type the follow URL address

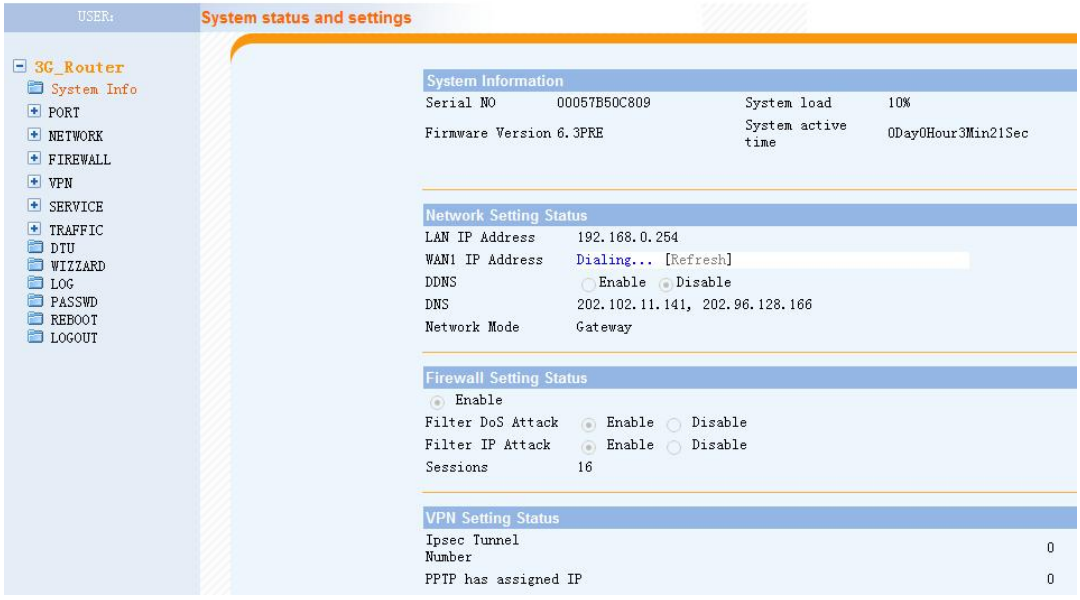


The 2G cellular Router is configured using a web browser as the interface. To log-on to the web server, enter the IP address of the 2G cellular Router in the browser address window. The default address is **192.168.0.254:10000**. A log-on screen should display.

For 2G series cellular Router,
Username: admin Password: 888888

3.8 WEB configuration

If Login successful, the browser should display the following web page,



Chapter4

4 Command configuration

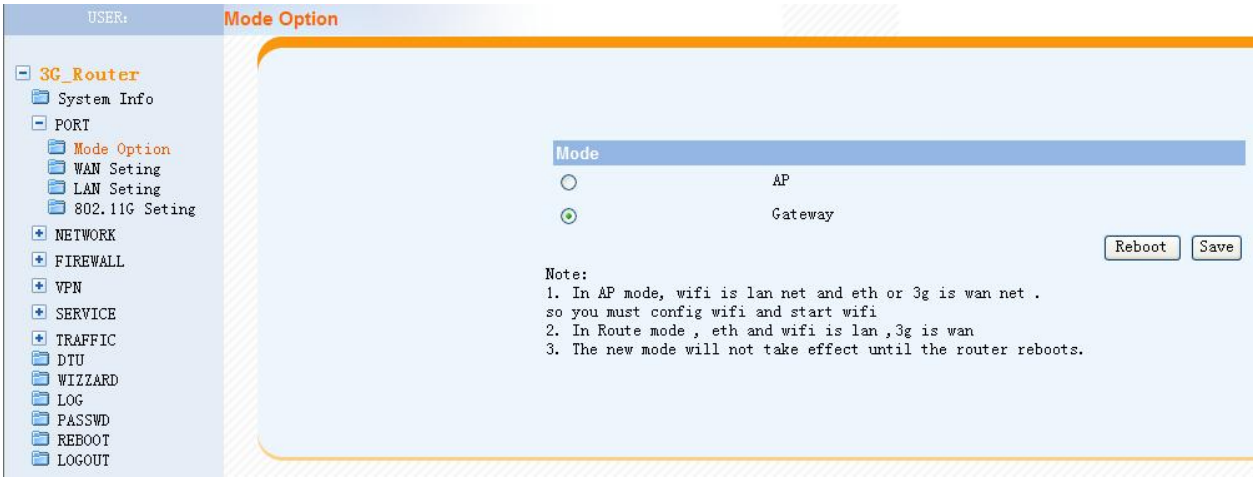
4.1 Router function configuration

If you need to dial-up an internet network, you can configure Router as following steps

4.1.1 Select working mode

It Includes Routing Mode, Transparent Bridge, and Gateway Mode. We advice to used Gateway mode, default is Gateway mode.

(1) Gateway Mode: If you Router network is connected to Internet

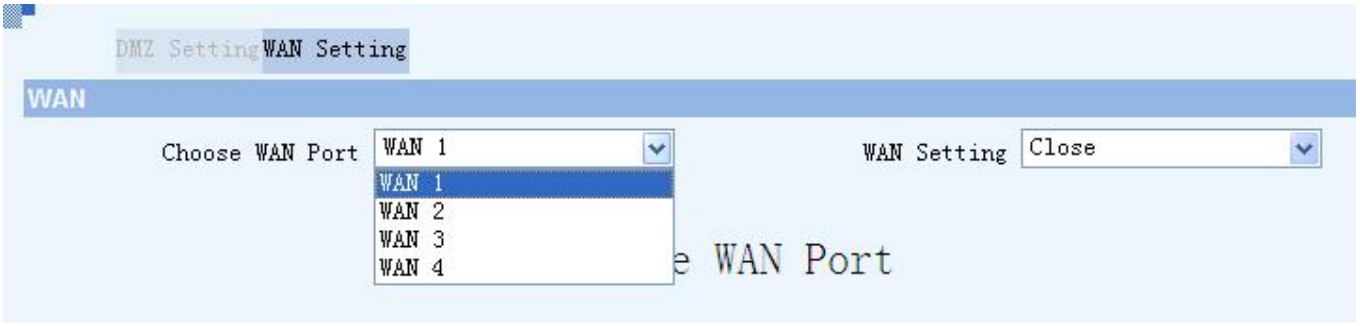


4.1.2 WAN configuration

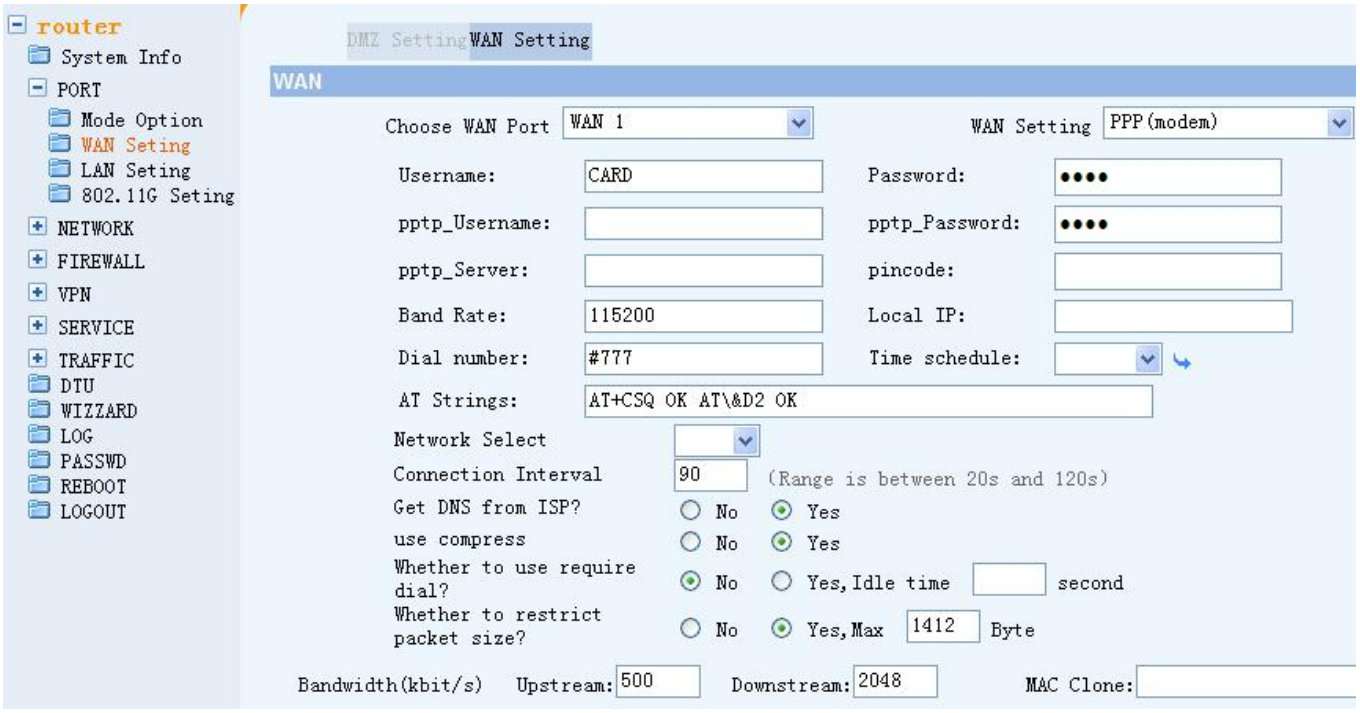
According to different ISP, WAN configuration include Static IP, ADSL, PPP, DHCP Mode, we usually choose ”PPP modem” for this product.

- **Select ppp**

There are 4 WAN Ports. Please close WAN 2, WAN3, & WAN4, and click “save button”



Set WAN 1 Port as following picture setting. And Click "Save Button"



Router—WAN 1 (Example for China Unicom)

And Click "Save Button", then Click "Reboot Button".

Notes: This setting is just for Network Provider China Mobile. Please confirm with your Network Provider for the right local parameters.

Need confirm the following parameters:

1. Dial number – for china unicom, it's #777

2. Username – for china unicom, it's card

3. Password – for china unicom, it's card

4. APN access code – for china mobile, there is no APN access code

The following table is china common setting from different ISP

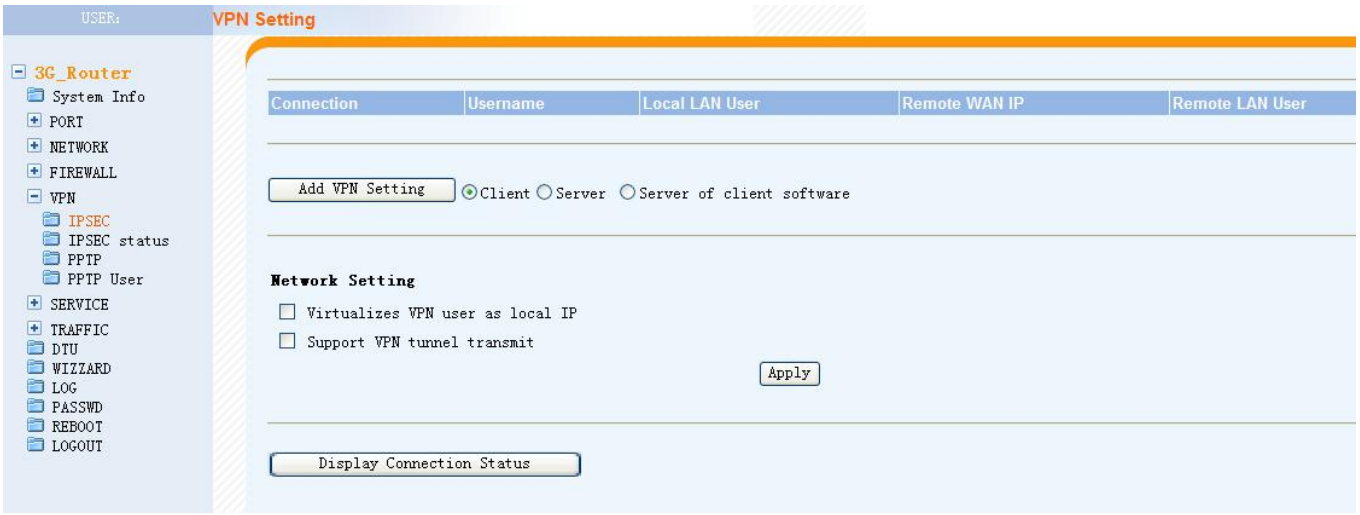
ISP	Dial-up Number	Username	password	AT Strings initialization commands
China mobile	*99***1#	wap	wap	AT+CSQ OK AT+CGDCONT=1,"IP","CMNET" OK
China unicom	#777	CARD	CARD	AT+CSQ OK AT\&D2 OK

Note: “OK” must capital letters in Extra initialization command

4.2 Config VPN

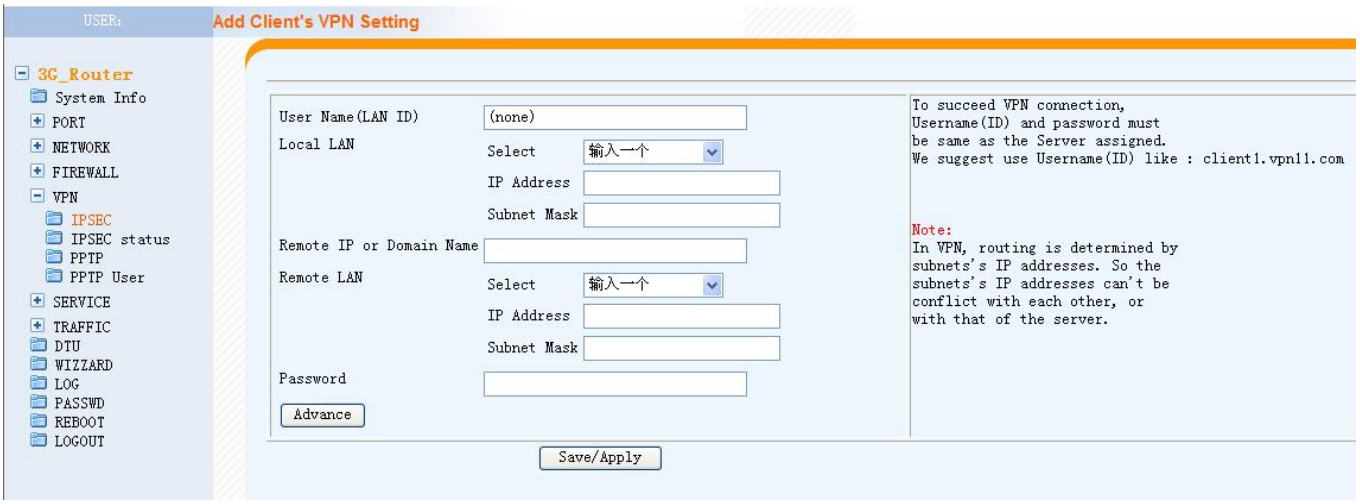
For select this function, you Can configure Router as client and server, how to configure VPN in details?

4.2.1 Configure Router as client



- **(1) Config 2G Router as client, if connect Router with other equipment**

Select ”Client” option and click ”Add VPN Setting ” button, then display client web as below



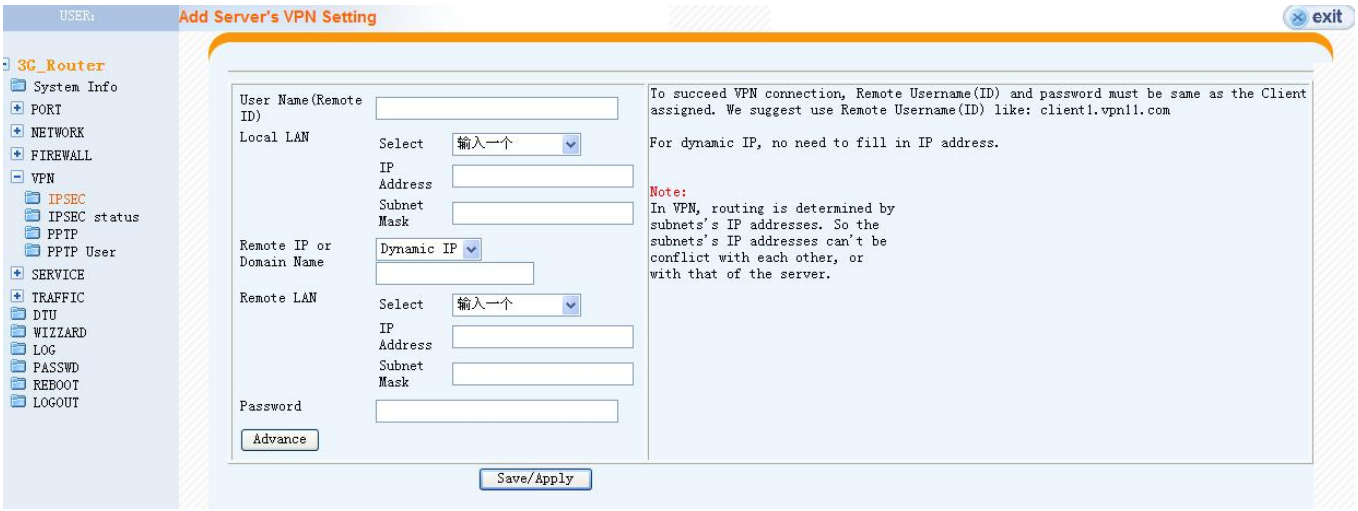
User name (local ID): local ID is the name of this connection (host name is default，it must be the same with 2G Router server configuration)

Local LAN password: the same with in the server.

Dynamic IP: Dynamic IP means opposite maybe Dial-up connection, so no input IP Address.

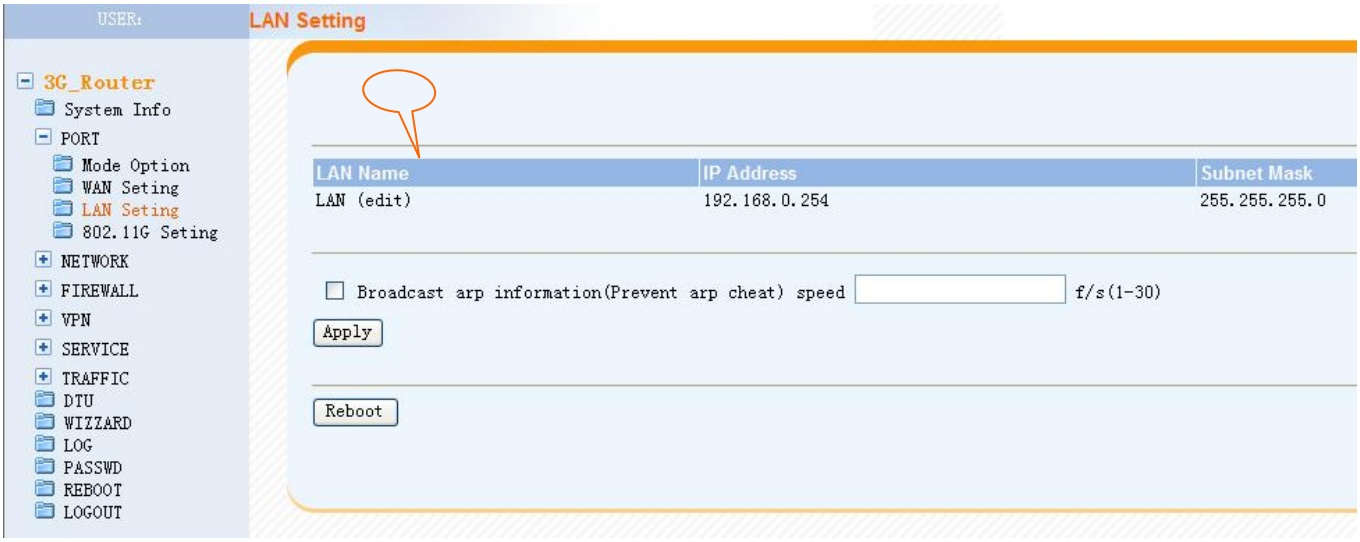
4.2.2 Configure Router as Server

Configure 2G Router parameters as below



4.2.3 Change login address and password

4.2.4 Change login address

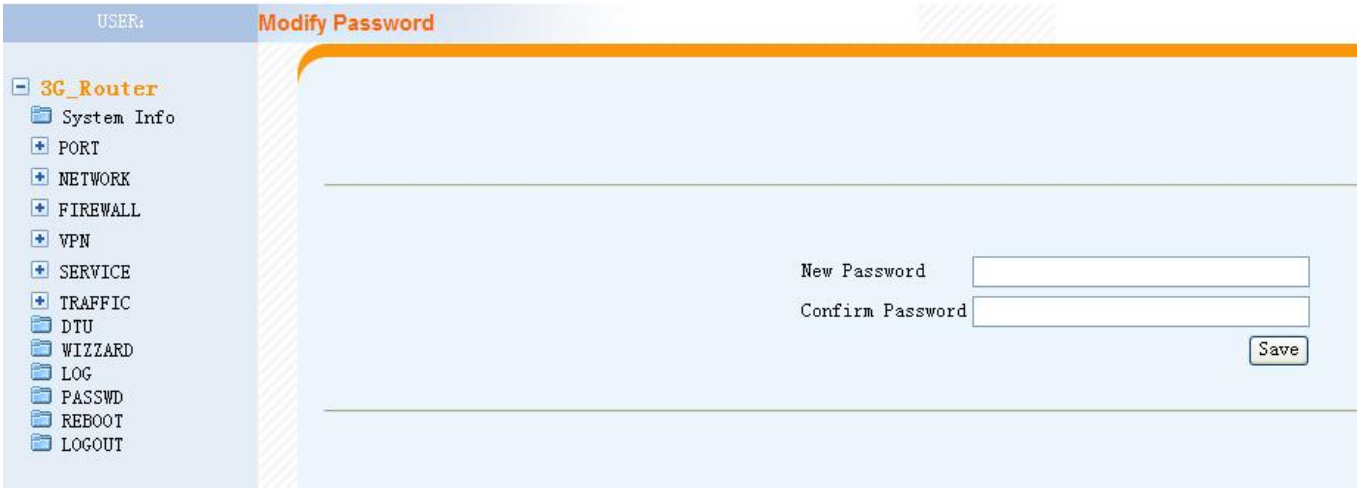


LAN (edit): Local Area Network parameter
LAN IP address the default parameter is 192.168.0.254:10000
Subnet Mask: the default parameter is 255.255.255.0
Click ”edit” in LAN (edit) tab, Change local IP address.

If you succeed change the login Address is 192.168.100.254:10000, the other PC must be change local IP address, and its gateway must the same with Router IP

4.2.5 Change login password

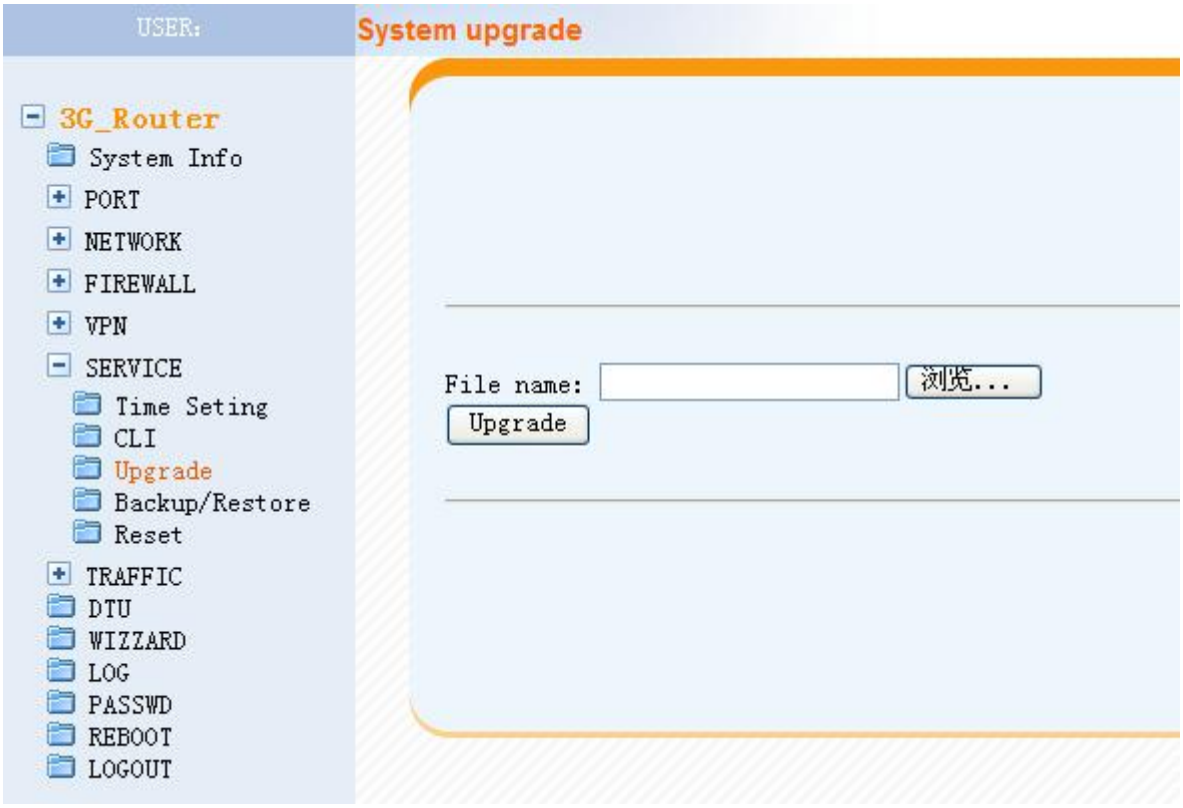
Click ”Password” in left menu, and type a new password to change login password



4.3 Production WEB upgrade

Router supplies product upgrade function for users. It have two different upgrade mode, and we suggest used WEB page mode.

Click “services” in left menu, and select “Upgrade” as following



Click “browsing” and select the program file, “update success” appears in the “update promotion status”

after 3-5minute, otherwise it will show fail.

After the successful upgrade, the Router will reboot, after then, you had better reset factory default.

Attention: during upgrade, never interrupt operation, otherwise the Router can't work normally

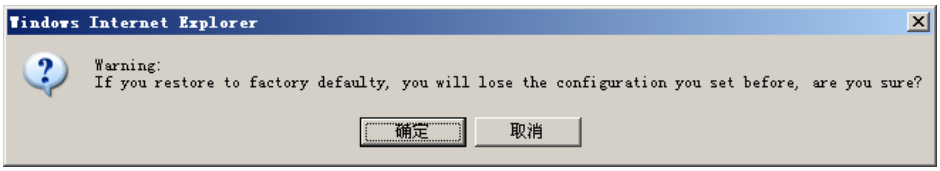
4.4 Factory default

Router supplies factory default function for user setting. It has two different modes, web reposition mode and reposition jack mode.

4.4.1 WEB mode

Click "services" in left menu, and select "Factory default".
When you choose "reset factory default", the system will display as below picture, click "confirm", the Router setting will be lost and reset to factory default.

Default username: admin
Default password: 888888
Default IP address: 192.168.0.254
Default Subnet Mask: 255.255.255.0



4.4.2 R.. jack mode

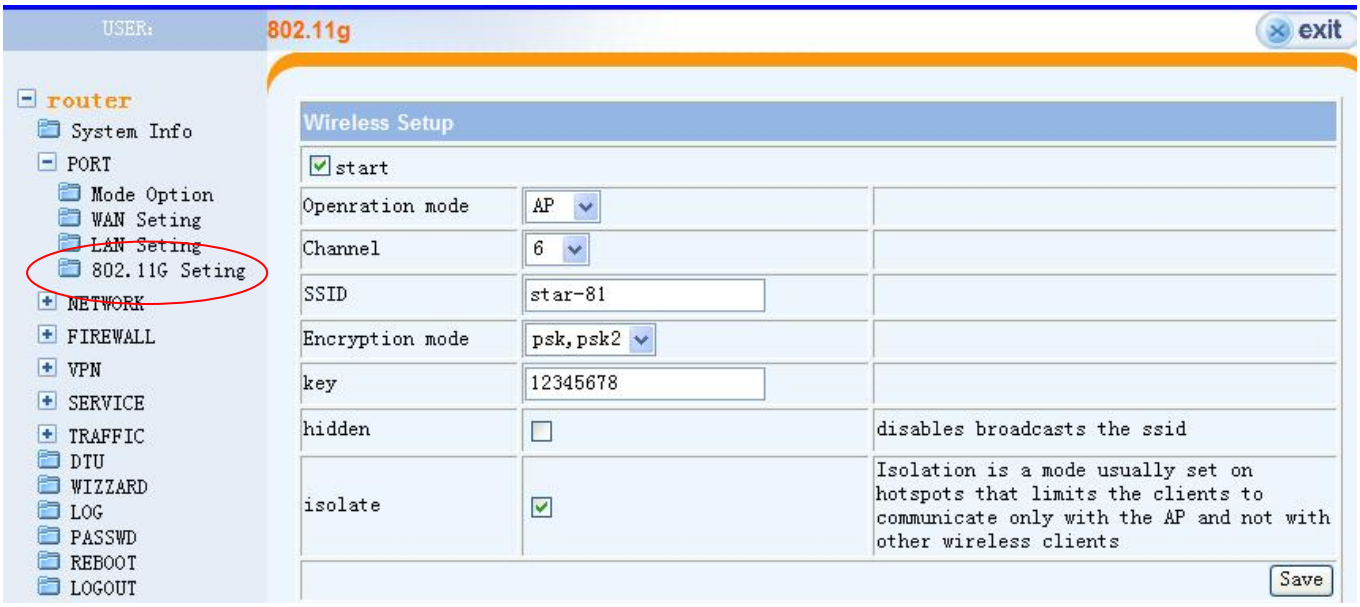
You can according to 2.1 chapter about rear panel, Select a" R jack " between in power and LAN port, used a pen press the jack about 5 sec, it will restore the system parameter to factory default.
For example, when you forget the web manage password of Router, you can do like this.

Chapter 5

5 WiFi Setting (for 3G Router only)

WiFi Setting

Click “PORT – 802.11G Setting**”**, and set as follows picture showing



Set the parameters as above.

a. Config Operation mode as “AP”;

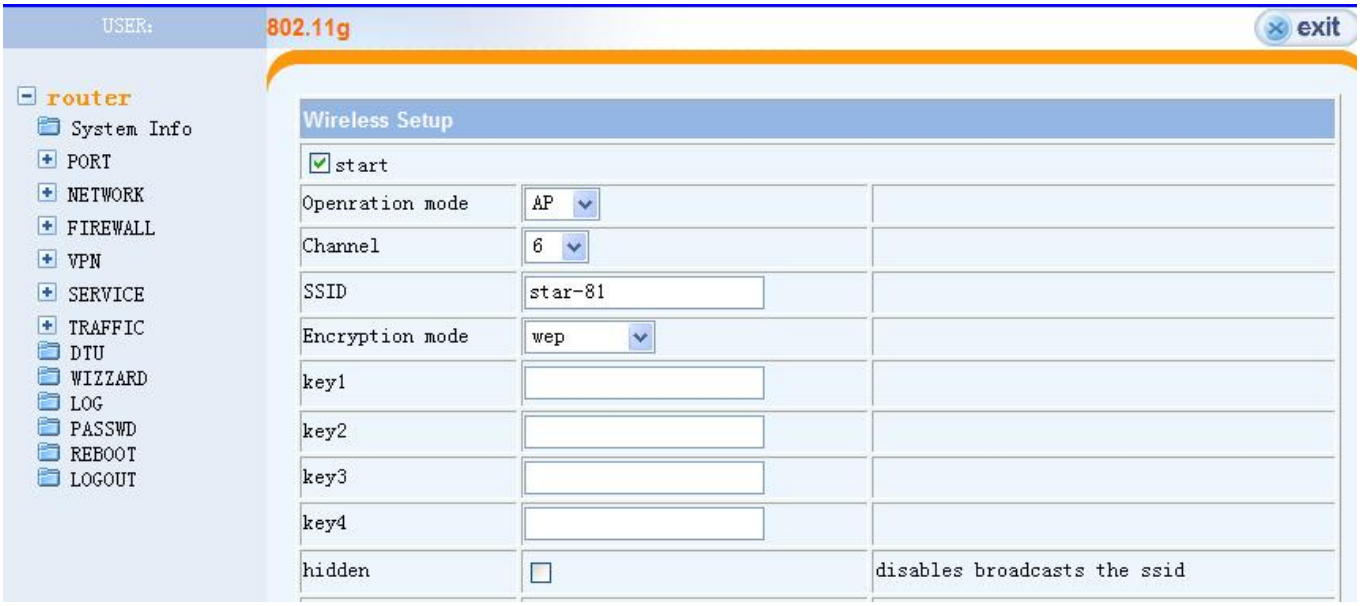
b. Config SSID as you want, for example, “E-Lins Router”

c. You can set the Encryption mode for “psk, psk2” or “wep” or “None”;
and set “key” as the WiFi Access Password;

d. hidden: to hidden the SSID broadcasting. Usually we don’t select this option.

e. isolate: usually we select this option

When activate “Encryption mode”, please input the password in key1, key2, key3, and key4. Normally we input in “key 1”.



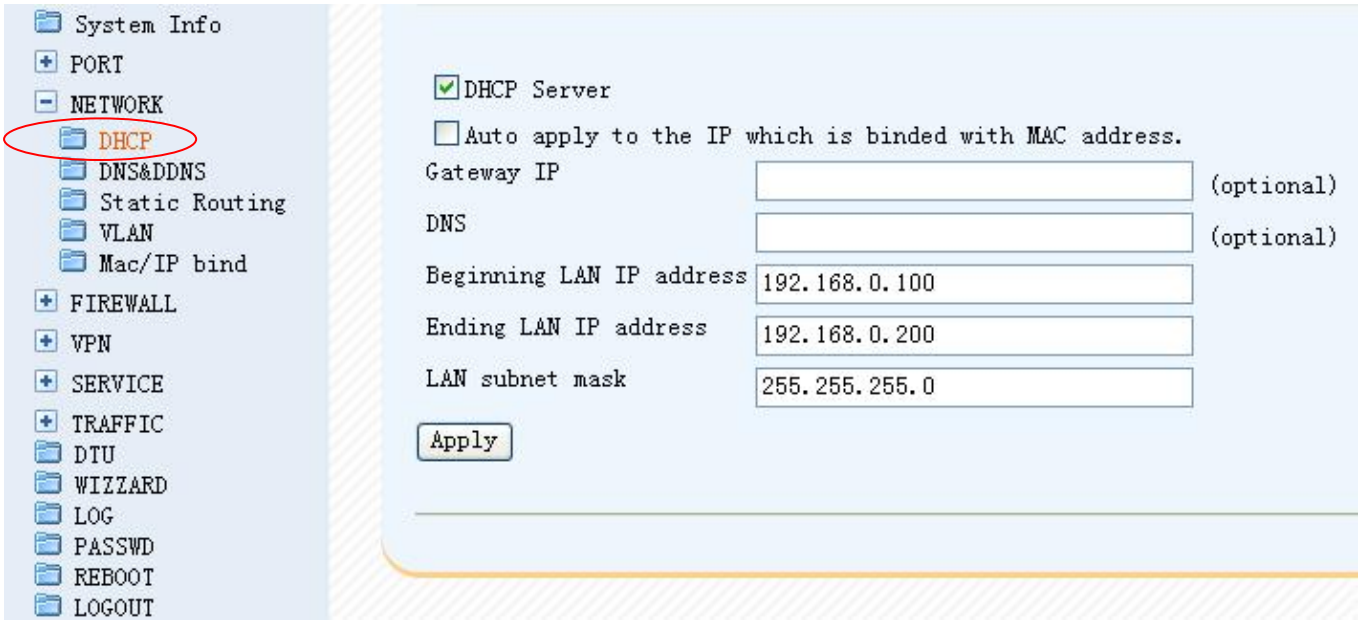
After all setting for WiFi, from our computer, we can find the SSID we configed.

After connection, you can check the wireless status like above. “star-81” is connected.

Chapter6

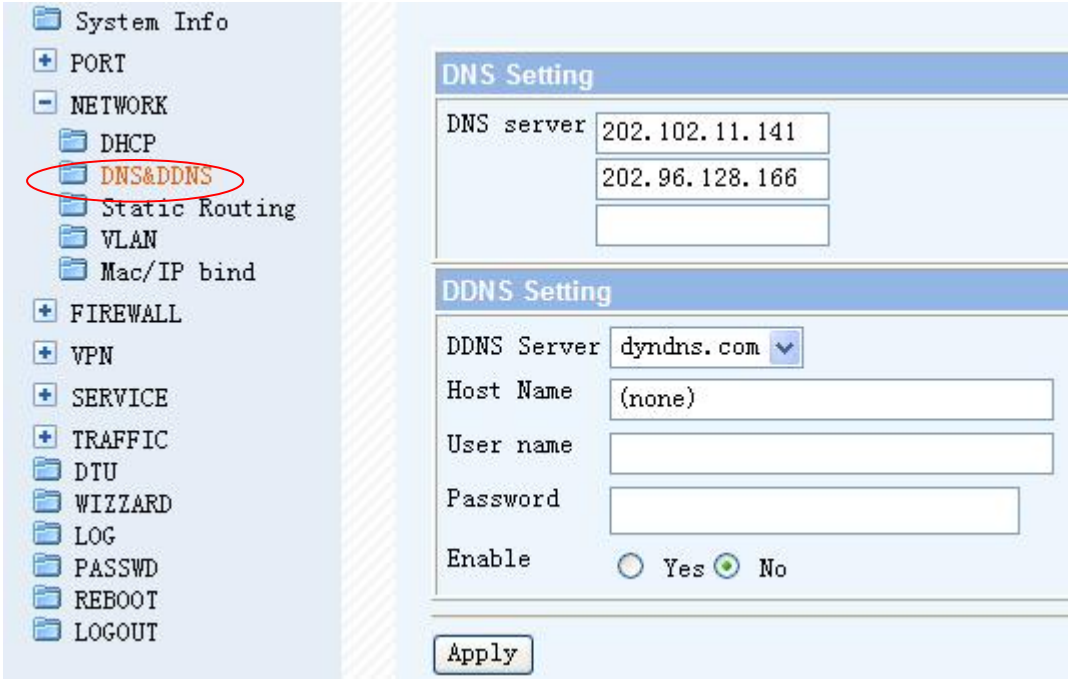
6 NETWORK SETTING

6.1 DHCP



DHCP Server: select it

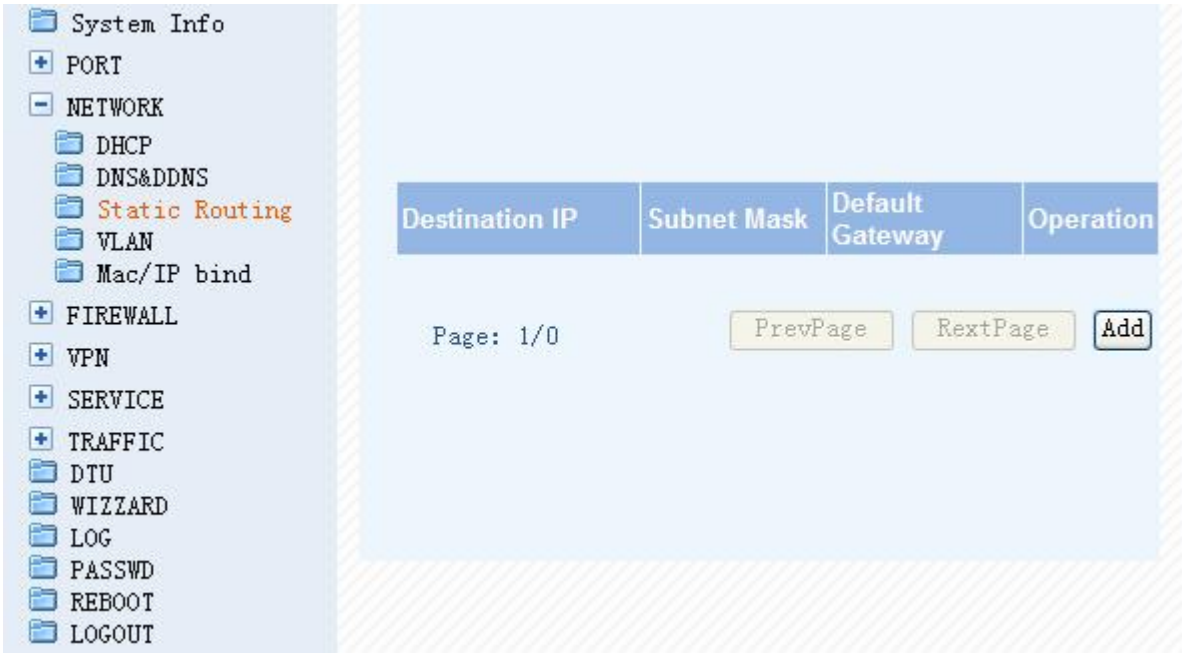
6.2 DNS & DDNS



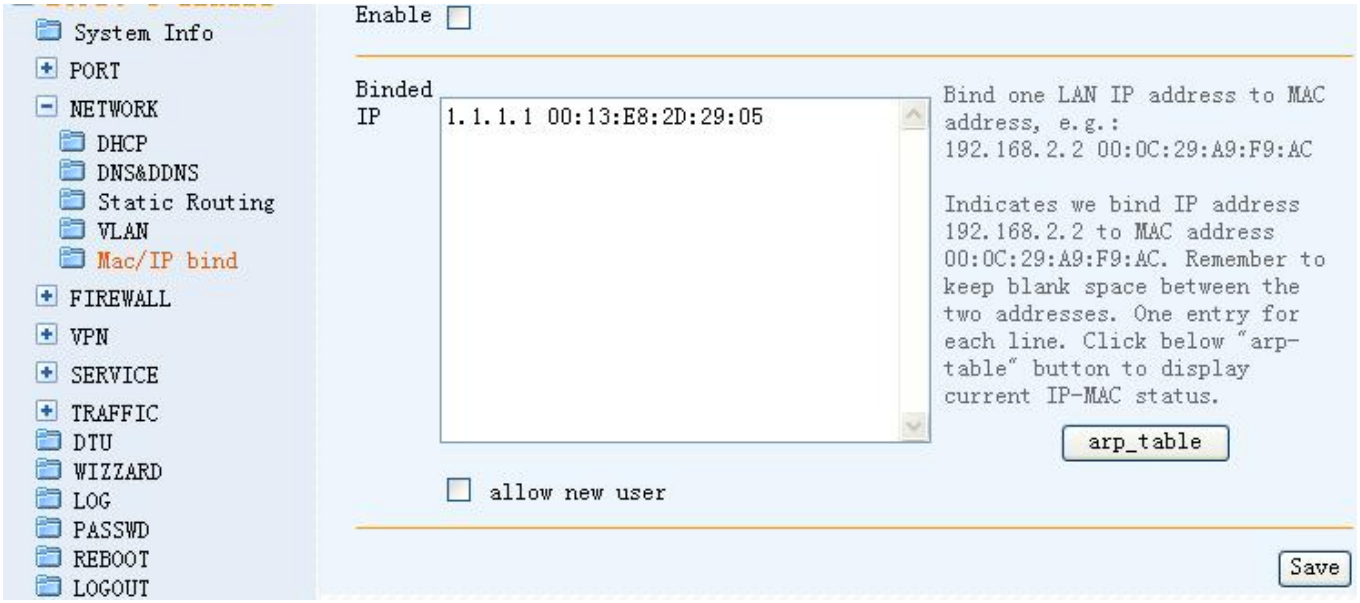
DNS Server: input the DNS Server

DDNS Setting:
DDNS Server: choose the correct sever
Host Name: input the host name
User name: input the user name
Password: input the password
Enable: If you use DDNS feature, please click “Yes”

6.3 Static Routing



6.4 Mac / IP binding



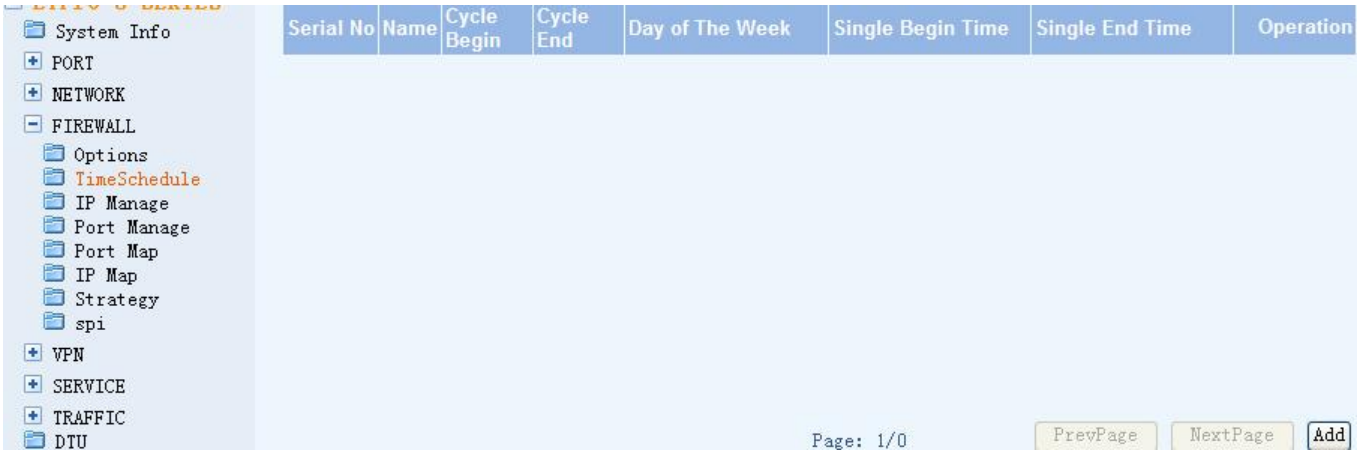
Enable: click to activate

Chapter 7

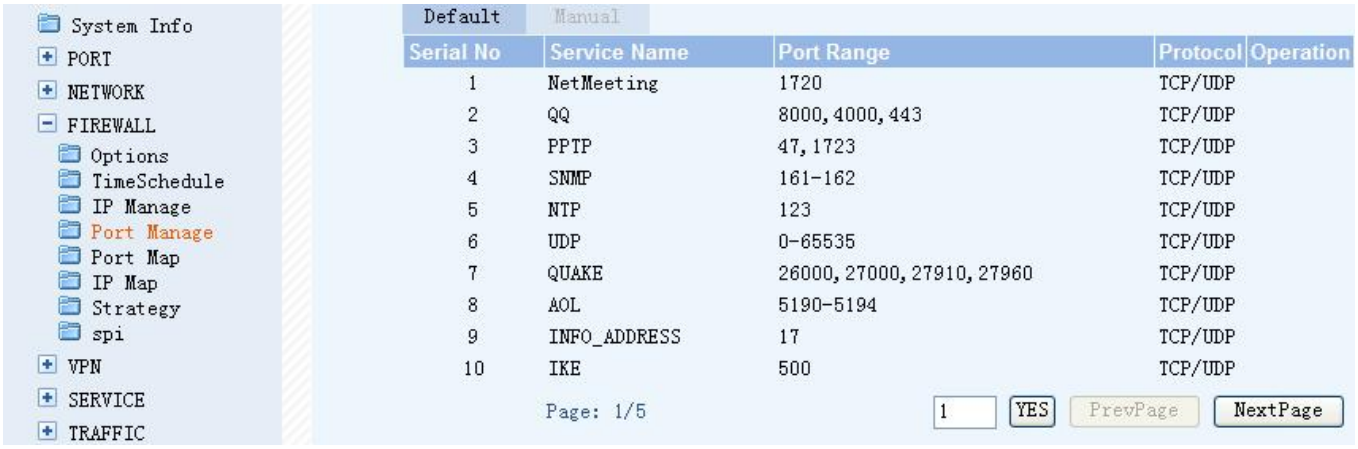
7 Firewall Setting

7.1 Options

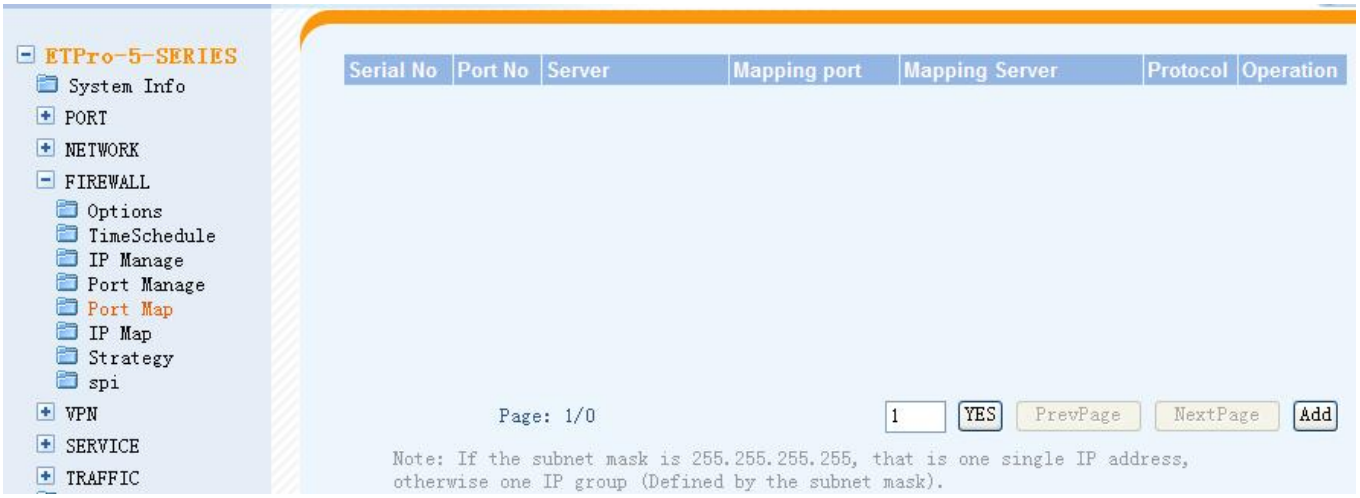
7.2 TimeSchedule



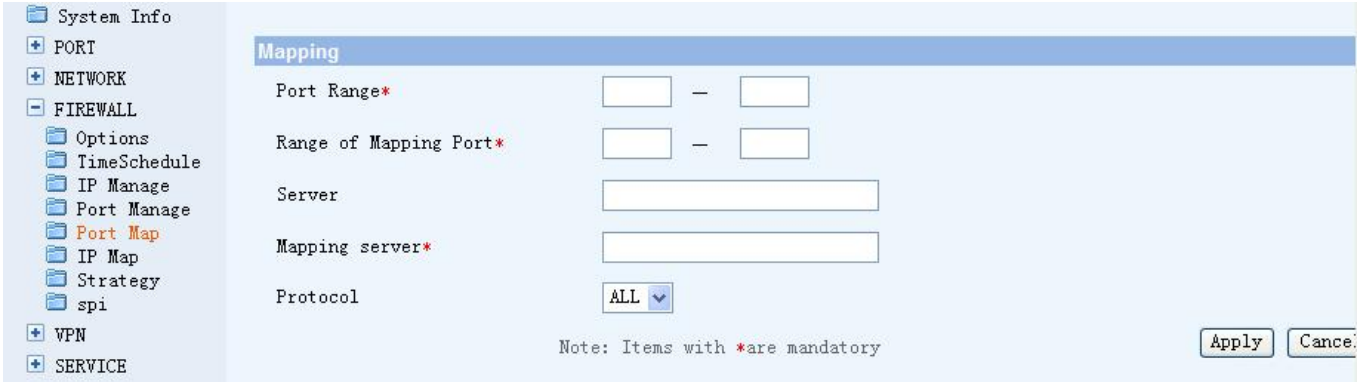
7.3 Port Manage



7.4 Port Map



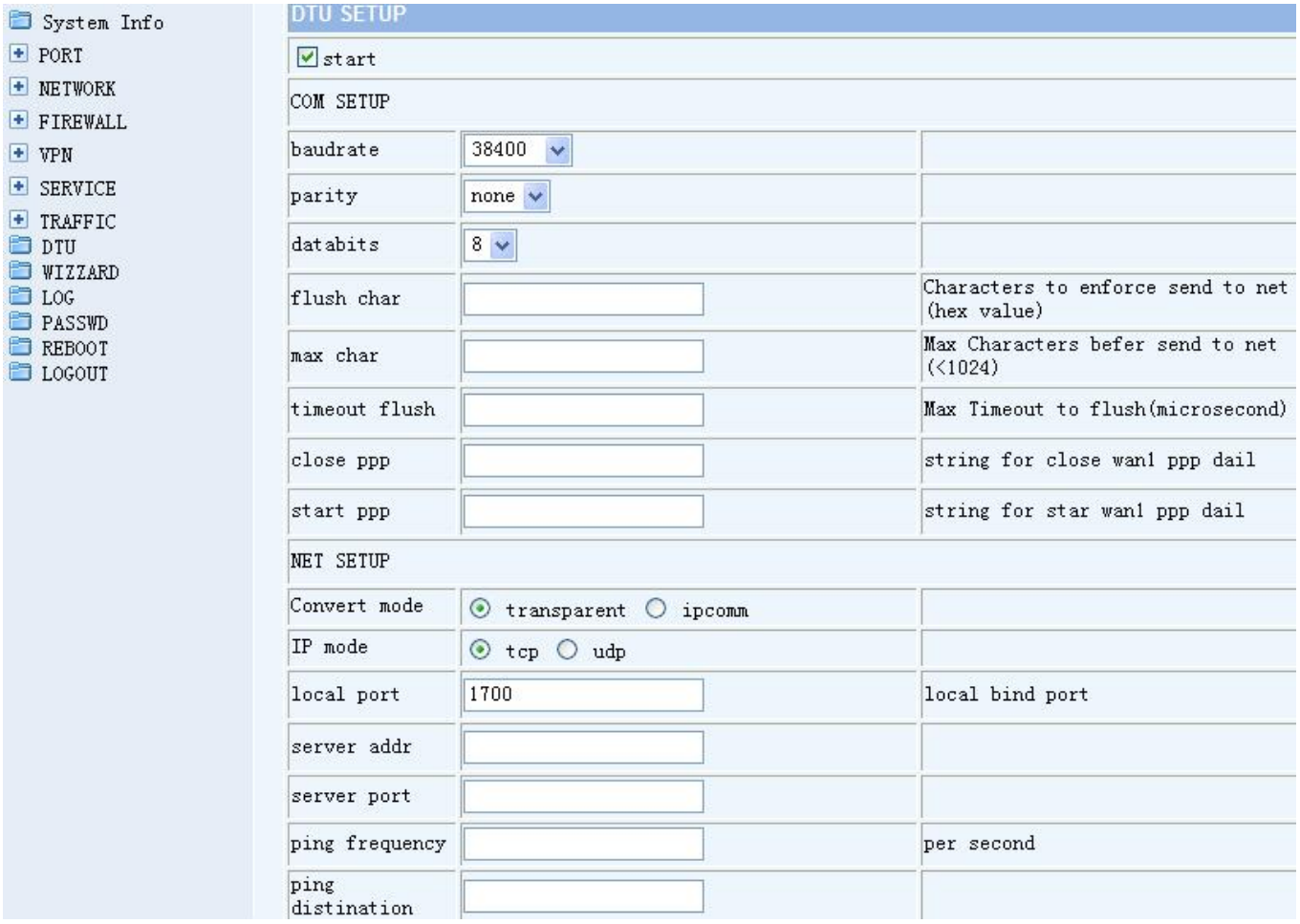
Click “Add button” to add new.



Chapter 8

8 DTU Setting

8.1 DTU Setting



Chapter 9

9 Addenda

9.1 Terminology

Internet	A network of computer networks which operates world-wide using a common set of communications protocols.
GPRS	Short for General Packet Radio Service, a standard for Cellular communications which runs at speeds up to 115 kbps
SIM	Subscriber Identity Module – a small rectangular piece of plastic with a layer of copper. It is provided as part of a mobile telephone service.
ISP:	Internet Service Provider
DDNS:	Dynamic Domain Name Server

9.2 FAQ

- **Recover Router Configuration**

1. Enter the “web” page, choose the “default and reboot” then can recover the default parameters.
2. Hardware recovers: Power off, shortcut between the RS232 point 2 and point 3, product can be recovered the default parameters in 40’s after power on.

- **Factory Default**

1. Default serial port parameters: 115200, 8, N, 1.
2. Default IP & Web port: 192.168.0.254:10000
3. Default user and password in TELNET: guest
4. Default super password in CONSOLE: router

- **Trouble Shooting**

Ethernet work abnormally:

1. Please run “ARP –D” if ping abnormally.
2. Please set up Ethernet interface in 10M, half model if Ethernet connection unstable.

3. Invalid in new IP cause by forgetting save the change in time, please sign in default IP and save the change after enter a new IP.

- **Others**

1) Please check the following items in “status” of the “appear” menu.
2) The character string of the card number is beginning for “898603, it shows the CDMA UIM card had been inserted.
3) The value of the signal strength is between 15-31. It is better more than 20; please connect the local China Unicom for the weak signal less than 15.
4) Confirm owing fee, you can get the information of “Please check data network or your outlay” in terminator. It shows the system can’t build the connection with GPRS/CDMA cause by the weak signal or owing fee.
5) Please check if set in a model of “short connect, invalid detail automatic”.
6) Please download the data of product by using “debug ppp all” command in terminator, then contact with our technocrat.