IP MODEM Setup Guide

The IP modem configure tool and the VC demo are from the disc.

This is only to make the appropriate settings for the focus of the IP address and port, and other detailed settings according to the needs of different users, please refer to "IP MODEM using the instruction manual."

1. Requirements

Please confirm the following information already have before your test:

1. APN of your country's wireless ISP (including APN, username , password), ISP number (also called "call center number").
2. You must have a static IP of your center, or a dynamic DNS.
3. A SIM card opening data business.
3.IP MODEM, PC, RS232 cable

2. The network topology

1.Please confirm whether your static IP is your company's export IP, or your PC's IP.

2 Please confirm whether your company's entry is a router, whether you have permission to enter the router configuration web page.

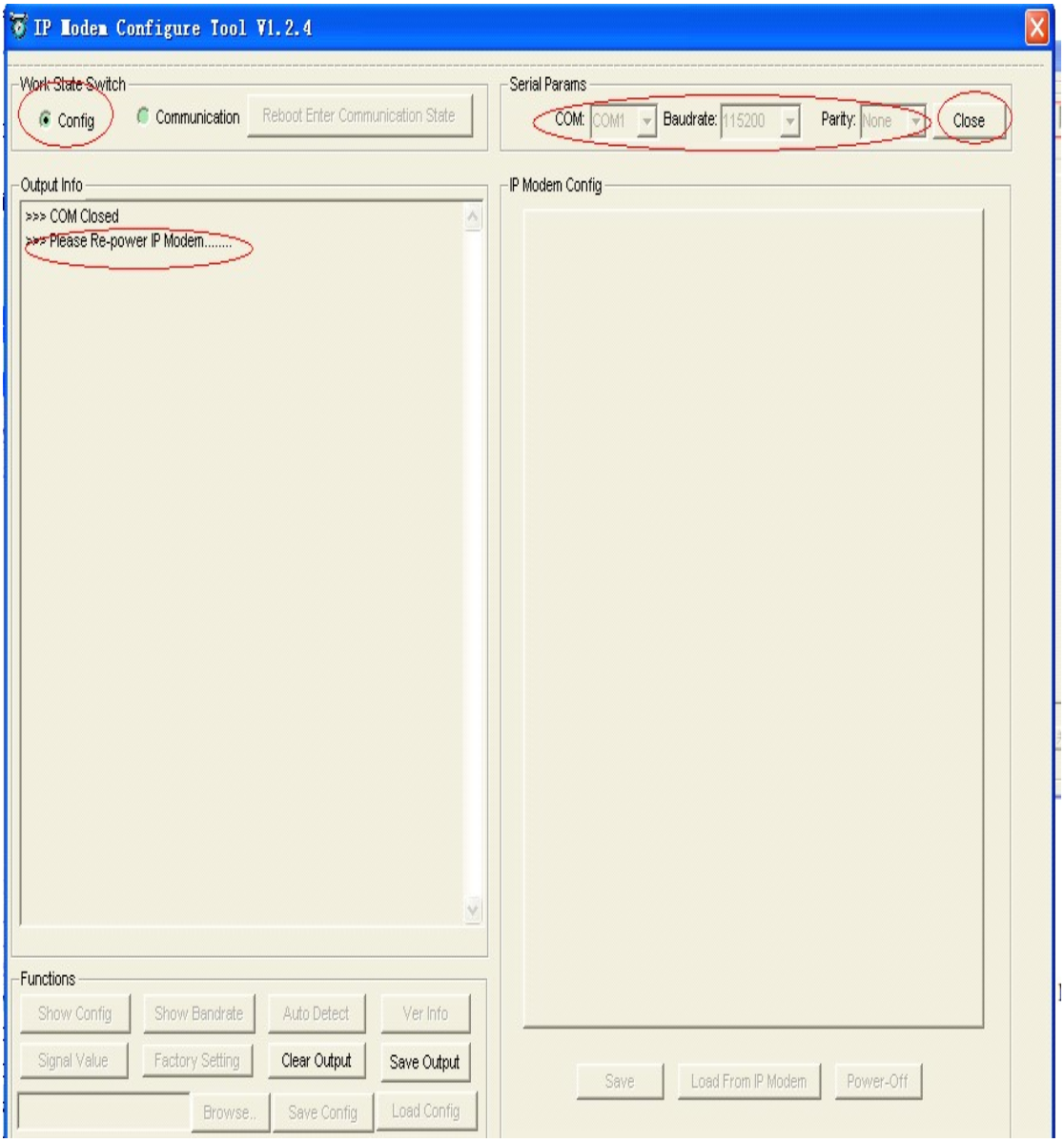
3 please briefly describe your application, or what is the testing environment that you want to establish.

4.We provide the following simple and universal test topology, you can make a reference.

If your Network topology As mentioned above, then you can establish simulative test environment as shown above..

3.Detail Configuration

Step 1: run the software 



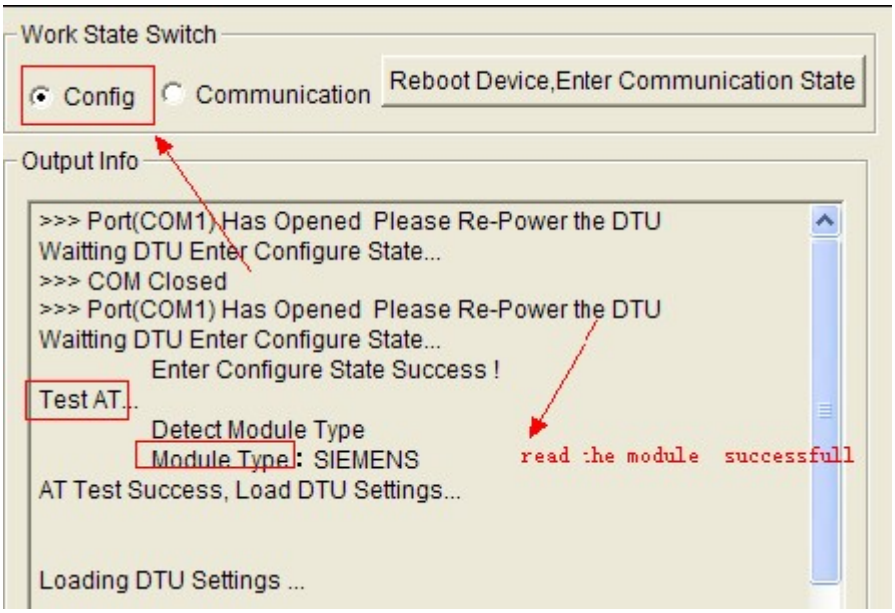
1) working state to switch to the " configuration state "

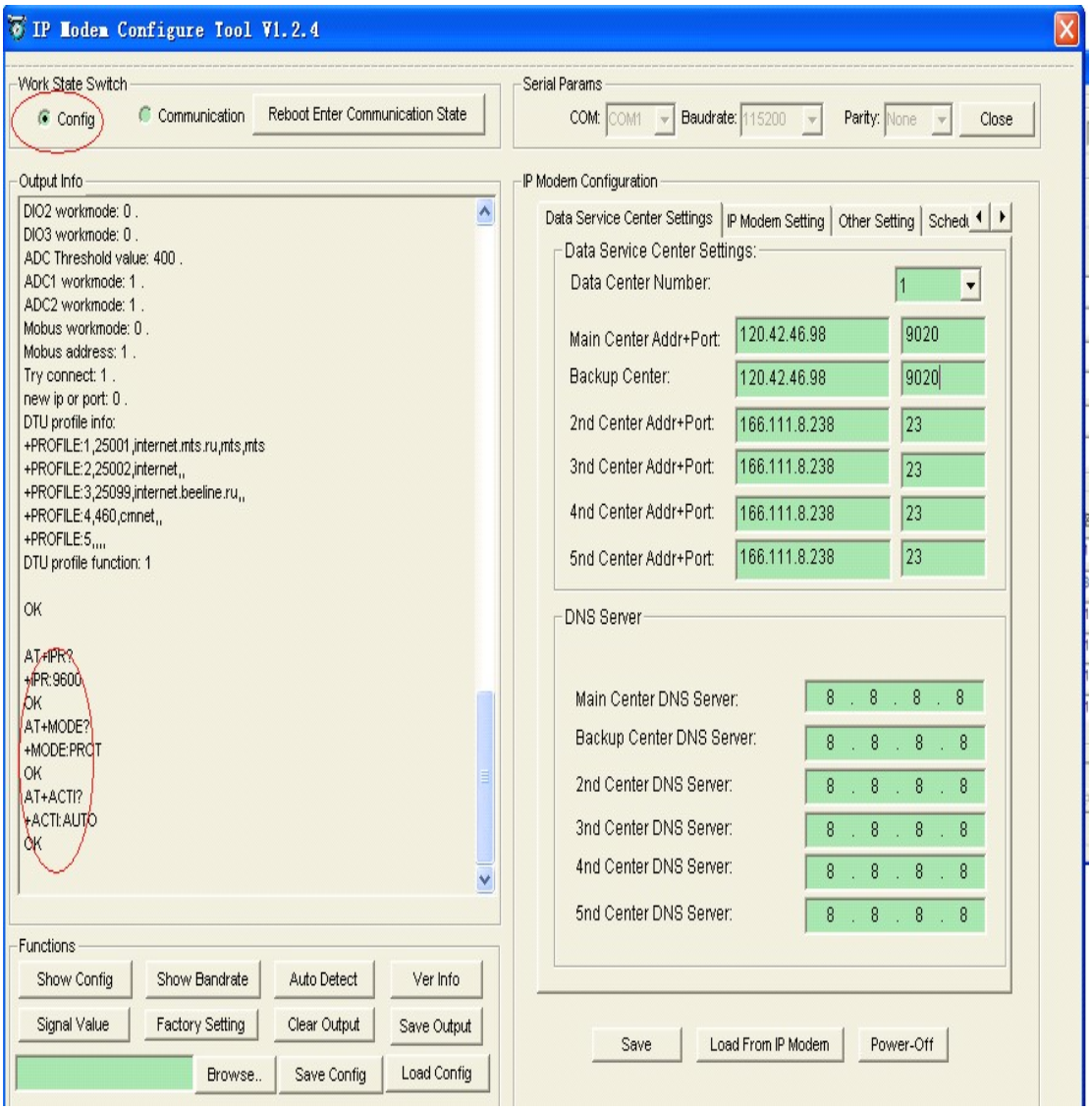
2)Select work in the PC COM port, baud rate is factory- 115200, no parity.

3)use the Company that comes with the serial line IP MODEM and connect computer, after the electrical connection is completed,repower the IP MODEM .

Step 2: IP MODEM power state after power on, power-on will appear the following information automatically.

In the process log information box will load the factory default IP MODEM parameter information


Work State Switch
Config
Communication
Reboot Device,Enter Communication State
Output Info
>>> Port(COM1) Has Opened Please Re-Power the DTU
Waitting DTU Enter Configure State...
>>> COM Closed
>>> Port(COM1) Has Opened Please Re-Power the DTU
Waitting DTU Enter Configure State...
Enter Configure State Success !
Test AT..
Detect Module Type
Module Type: SIEMENS
read :he module successfull
AT Test Success, Load DTU Settings...
Loading DTU Settings ...

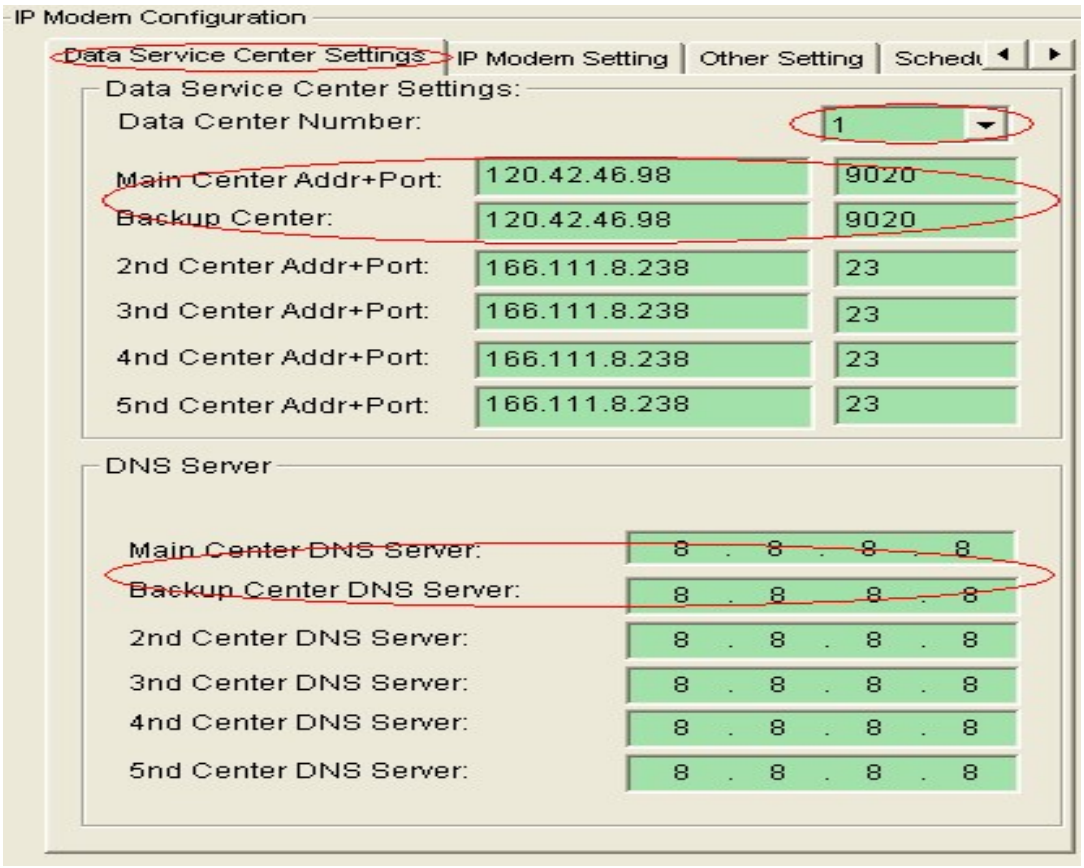

IP Modem Configure Tool V1.2.4
Work State Switch
Config
Communication
Reboot Enter Communication State
Serial Params
COM: COM1
Baudrate: 115200
Parity: None
Close
Output Info
DIO2 workmode: 0 .
DIO3 workmode: 0 .
ADC Threshold value: 400 .
ADC1 workmode: 1 .
ADC2 workmode: 1 .
Mobus workmode: 0 .
Mobus address: 1 .
Try connect: 1 .
new ip or port: 0 .
DTU profile info:
+PROFILE:1,25001,internet.mts.ru,mts,mts
+PROFILE:2,25002,internet,,
+PROFILE:3,25099,internet.beeline.ru,,
+PROFILE:4,460,cmnet,,
+PROFILE:5,,,,
DTU profile function: 1
OK
AT+IPR?
+IPR:9600
OK
AT+MODE?
+MODE:PRCT
OK
AT+ACTI?
+ACTI:AUTO
OK
IP Modem Configuration
Data Service Center Settings
IP Modem Setting
Other Setting
Data Service Center Settings:
Data Center Number: 1
Main Center Addr+Port: 120.42.46.98 9020
Backup Center: 120.42.46.98 9020
2nd Center Addr+Port: 166.111.8.238 23
3nd Center Addr+Port: 166.111.8.238 23
4nd Center Addr+Port: 166.111.8.238 23
5nd Center Addr+Port: 166.111.8.238 23
DNS Server
Main Center DNS Server: 8 . 8 . 8 . 8
Backup Center DNS Server: 8 . 8 . 8 . 8
2nd Center DNS Server: 8 . 8 . 8 . 8
3nd Center DNS Server: 8 . 8 . 8 . 8
4nd Center DNS Server: 8 . 8 . 8 . 8
5nd Center DNS Server: 8 . 8 . 8 . 8
Functions
Show Config
Show Bandrate
Auto Detect
Ver Info
Signal Value
Factory Setting
Clear Output
Save Output
Browse..
Save Config
Load Config
Save
Load From IP Modem
Power-Off

When the message box appears after loading the information successfully, the corresponding parameter settings on the IP MODEM

Step 3:

Set the set the number of centers of the central server, IP address and port number

Normal debugging only set the IP and port of the main and backup centers can communicate with



1)A number of central server settings: When the number of centers for the 1, the primary and backup centers. When the number of centers is greater than 1 backup

Center invalid, the center 2 to 5 according to the adjustment of the number of centers to take effect (such as:

the number of centers is set to 3 , the effective center

The main center, center and center 3 , the number of centers different and so on) .

2) The center IP address settings: set the center can access the public network IP address of the main center and backup center . (If there is no backup center

And the main center to set the same IP address)

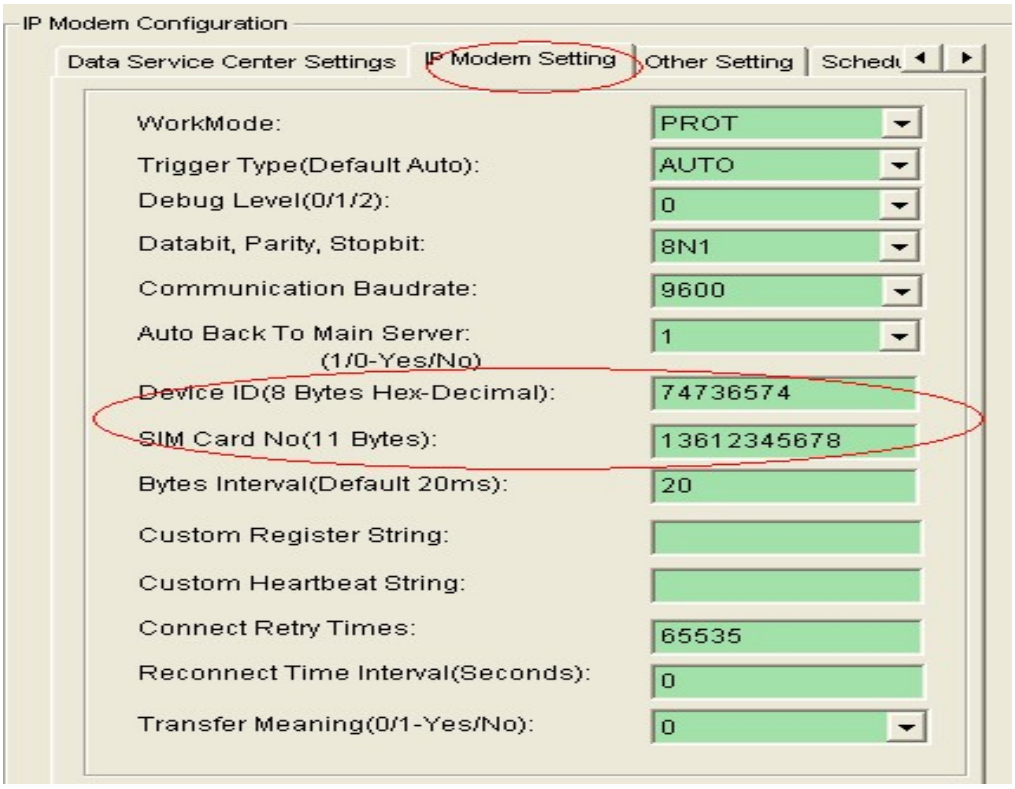
3) Center port settings: in the main and backup centers, ports, set up external network access to a valid port

Note: When running the center - side software, the PC is listening on the port cannot be public direct access, you need connecting PC

Machine on the router to map the corresponding port to a single ip of PC.

*The main center add should be static or ddns. And the main center address is from adsl modem, you can put in a port. And the main center address is from a router, you need set the corresponding port number(such as 9020) on the router ,and put the port in the configure tool.

Step 4: Settings to set the IP MODEM operating parameters of the ID number and SIM card



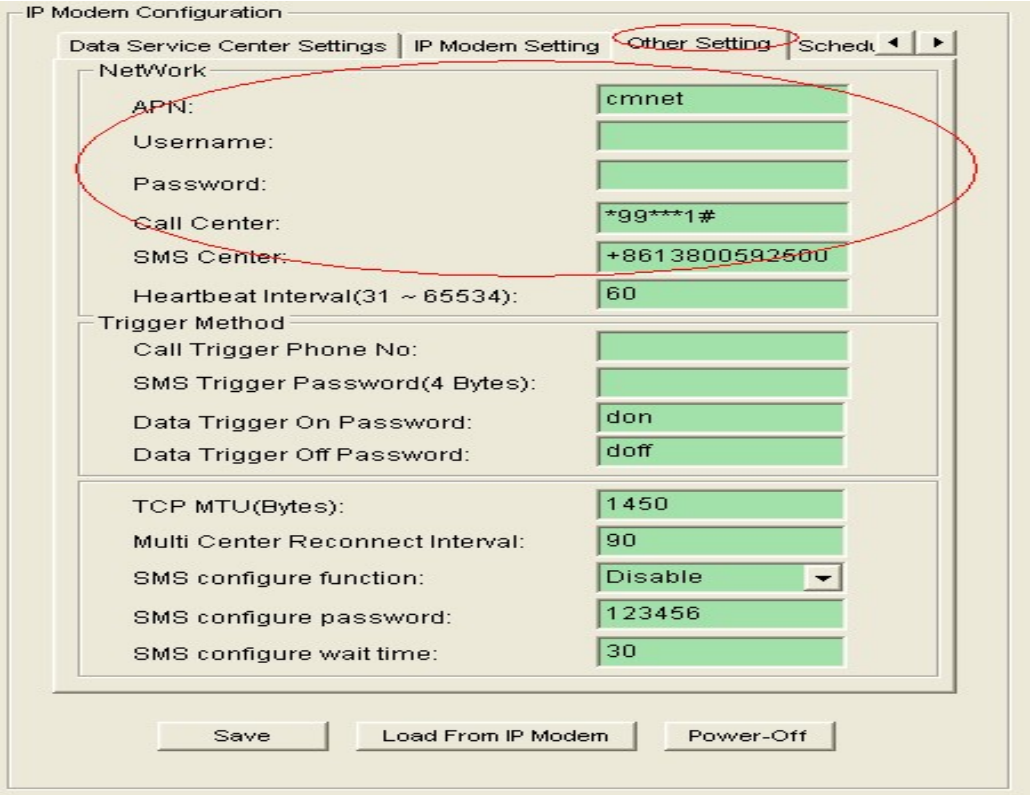
(1) the settings of the device ID number: device ID is an ID number of an IP MODEM,it's the only one for the center can know (arbitrarily set eight : such as 10000001,10000002)

*When there are many modems, make sure the one is the only.

(2) the settings of the device SIM card number: set directly when the IP MODEM SIM card number (eg: 13612345678).

*: when test, set debug level 2 to see detailed information. And normally you can set 0.

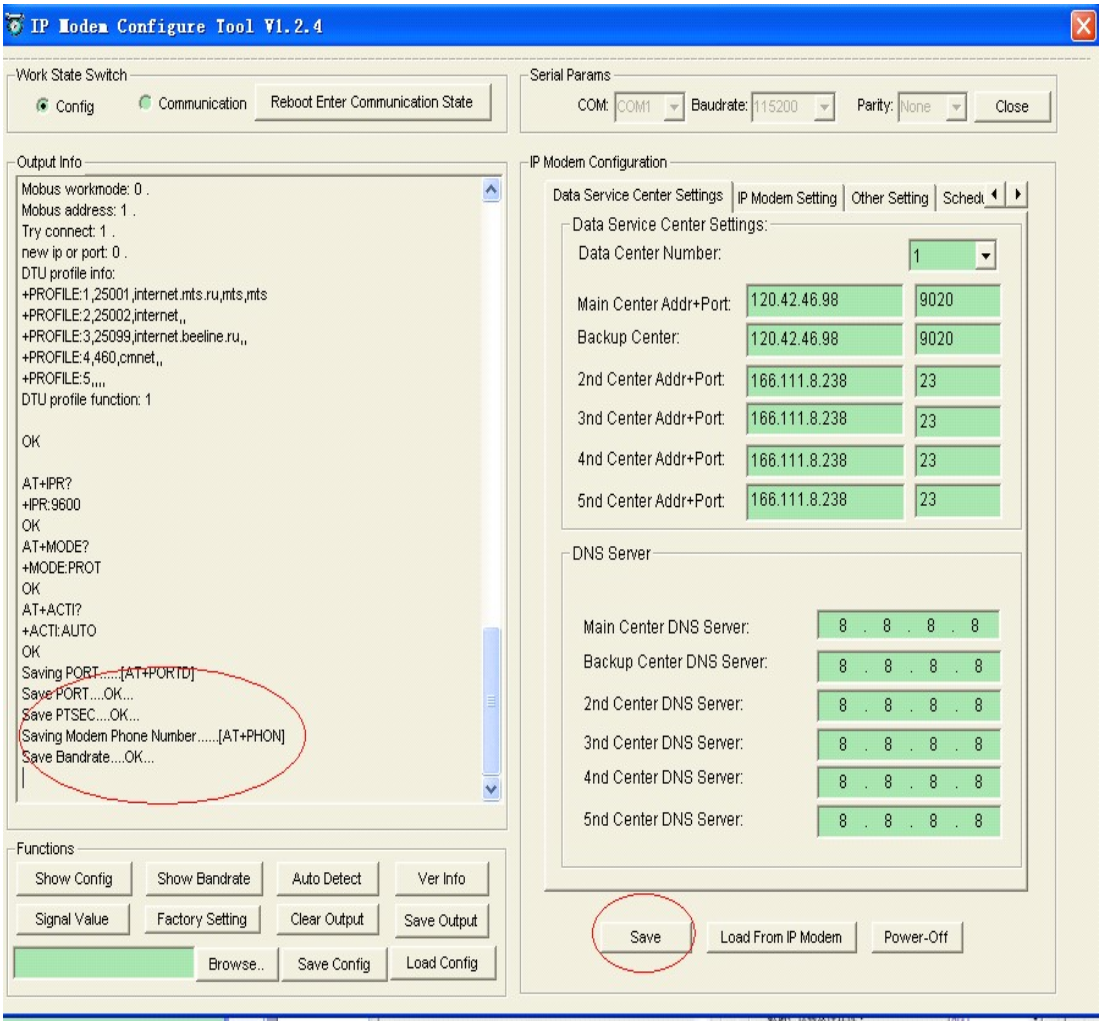
You can use the modem serve as a server, and it can connect 4 clients. It serves as client, it can connect 5 centers at the same time. You can also run a demo on the pc to serve as a server. The demo can connect more than 100 device, and you can also develop the demo.



put in the APN, username, password, call center, sms center (you can call the operator to make sure)
*heartbeat interval

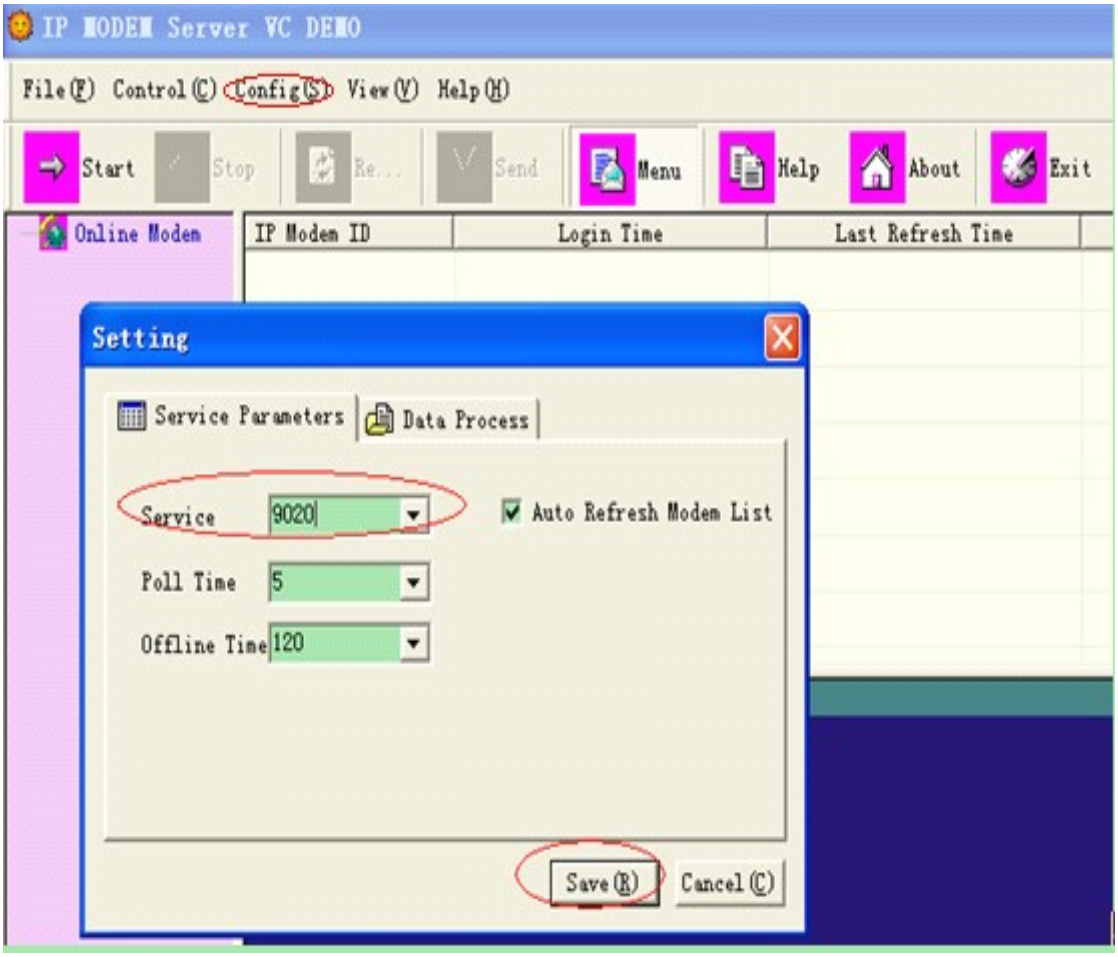
Step 5: Above settings have been basically completed the easy set above settings has been basically completed the simple set, and other items , such as no special requirements for default other items , such as no special requirements for the default ,then press the save button.

Information box on the right will be prompted to successfully set at the same time on the right information box will be prompted to set successfully, the following diagram as shown below.

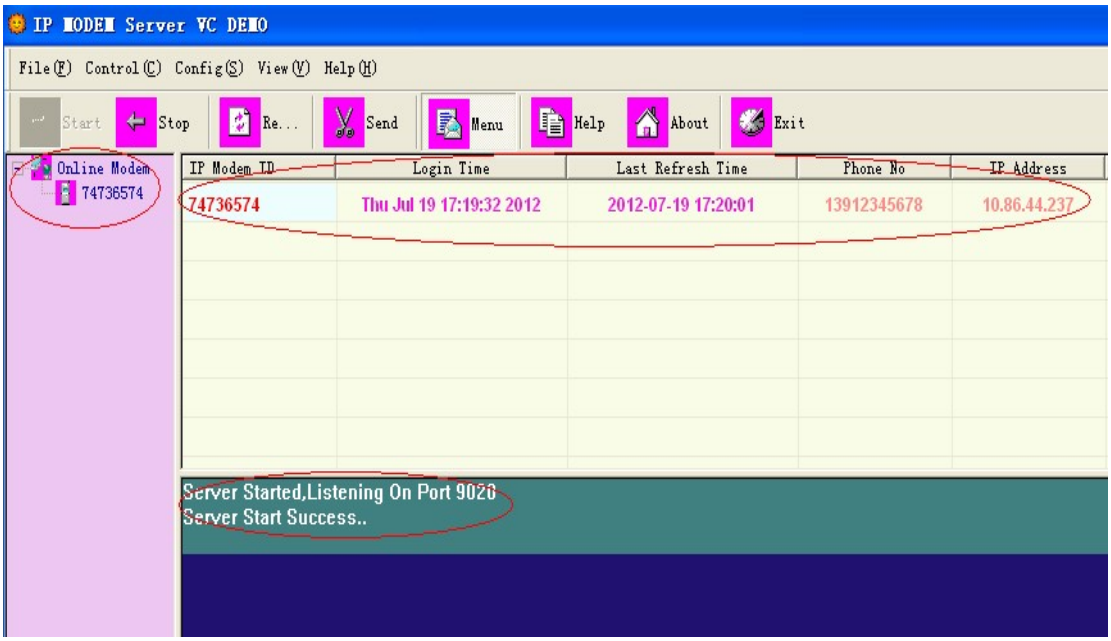


More than set up the basic needs of the communications link, the operations center software and IP MODEM can communicate.

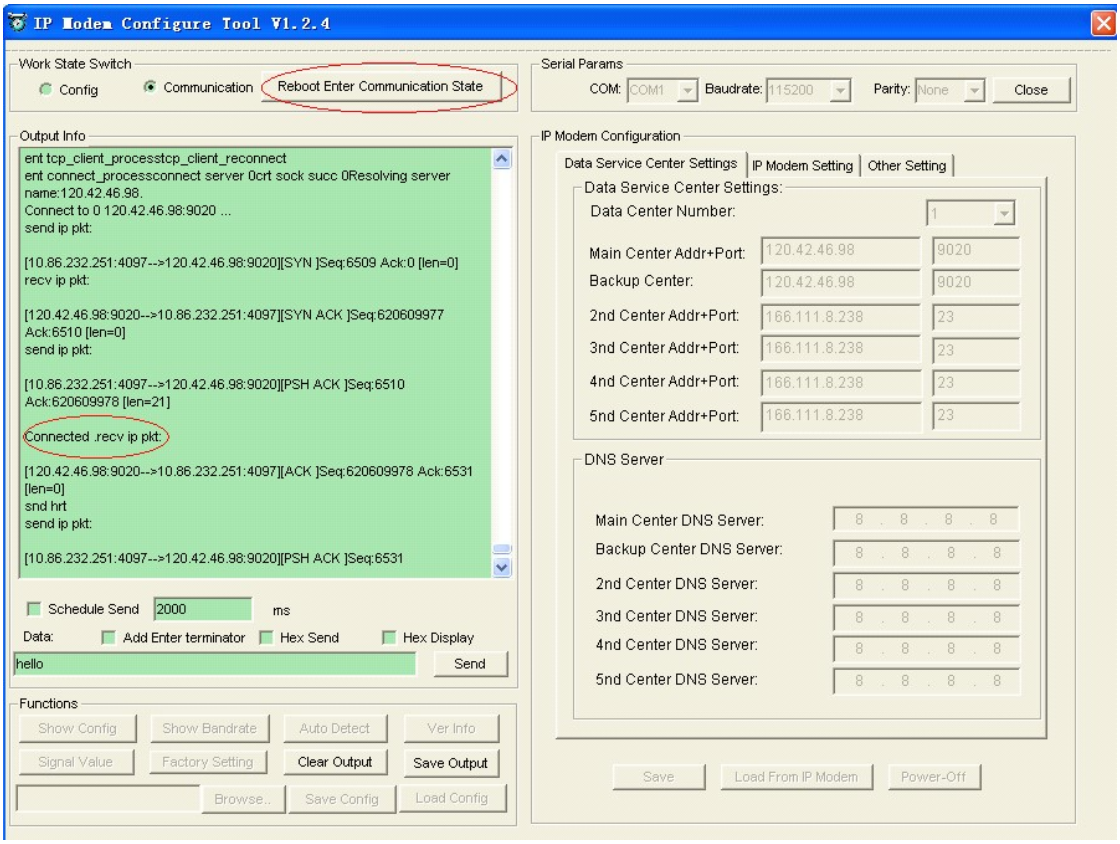
Step6: open the software of vc-demo on the computer. Config-----service，put in the port:9020-------save----start.



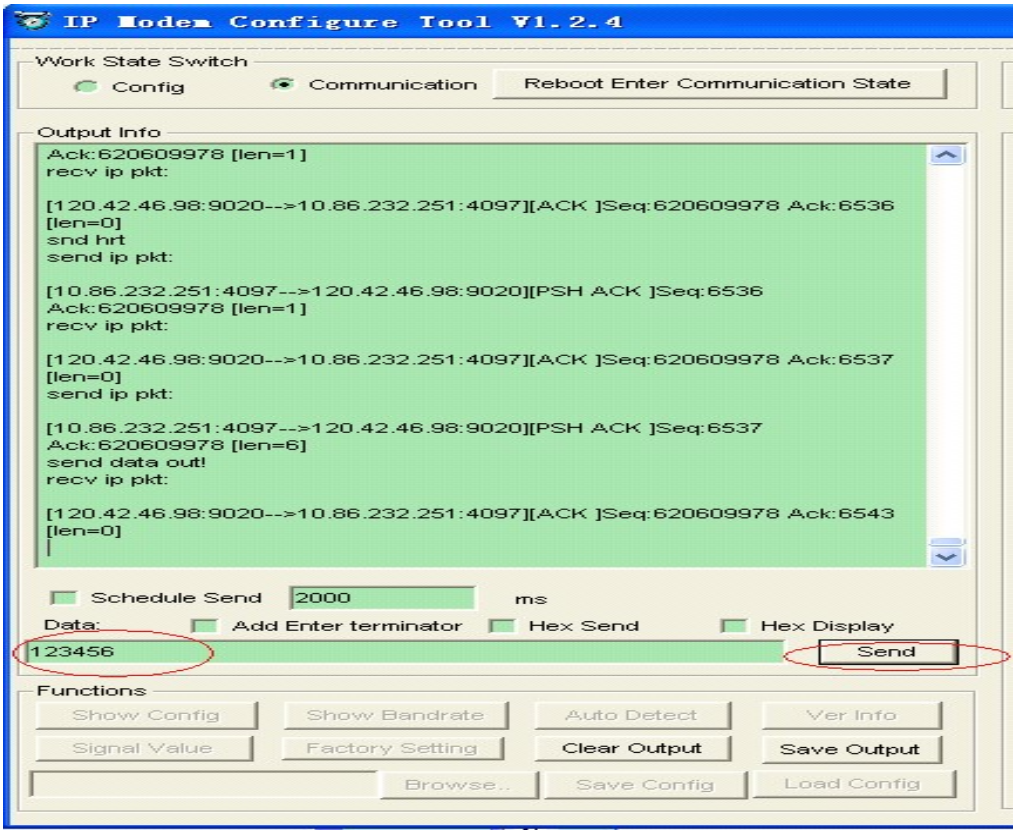
Step 7:Then you can see the server start success.



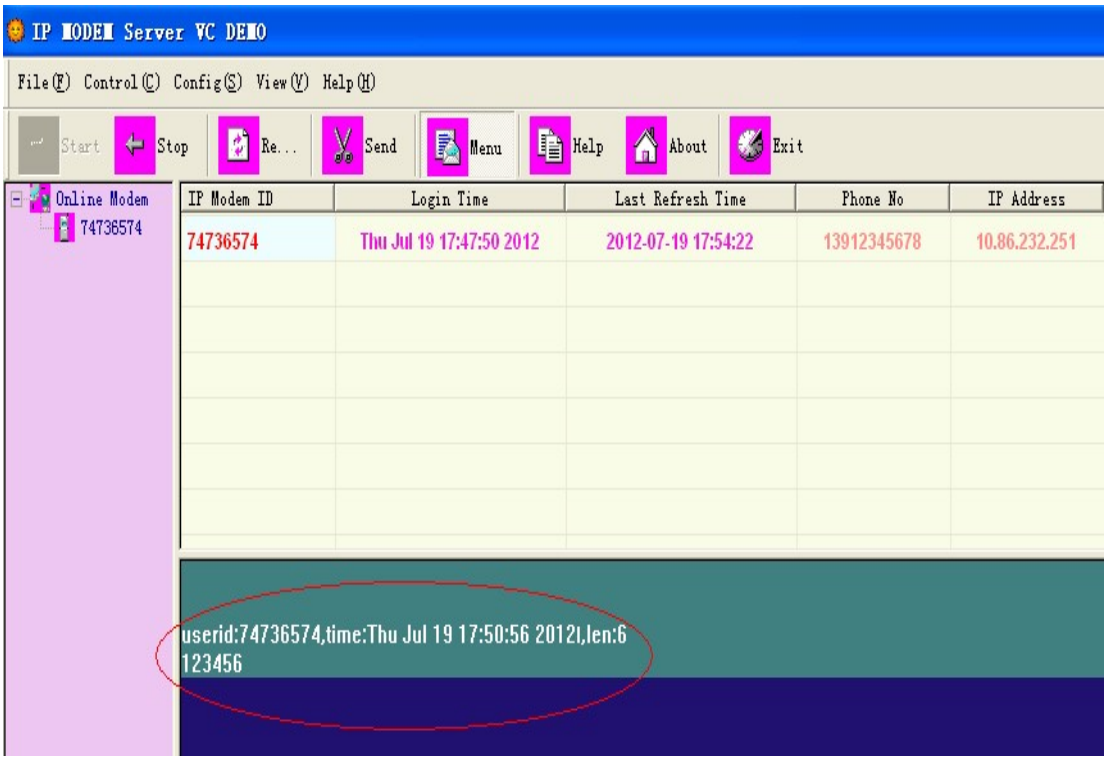
Step 8: Then press the button reboot enter communication state, then you can see the "connected"



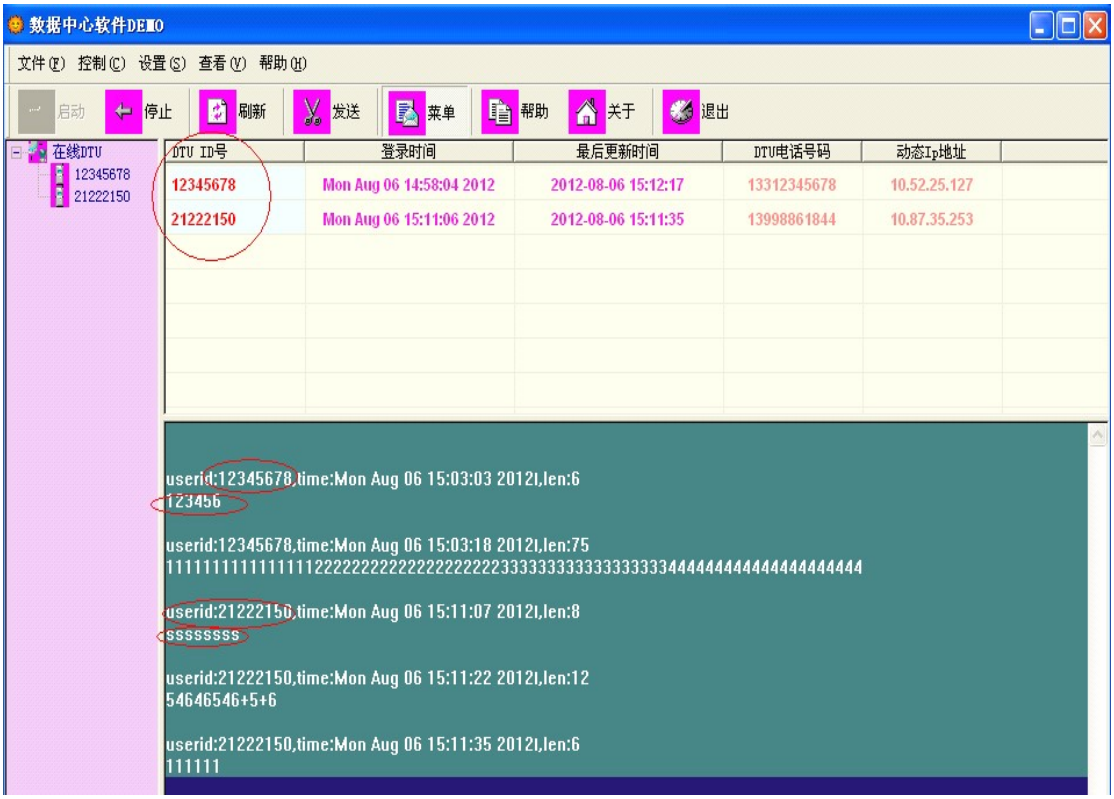
Step 9:You can send data from the tool to the ip modem server vc demo:



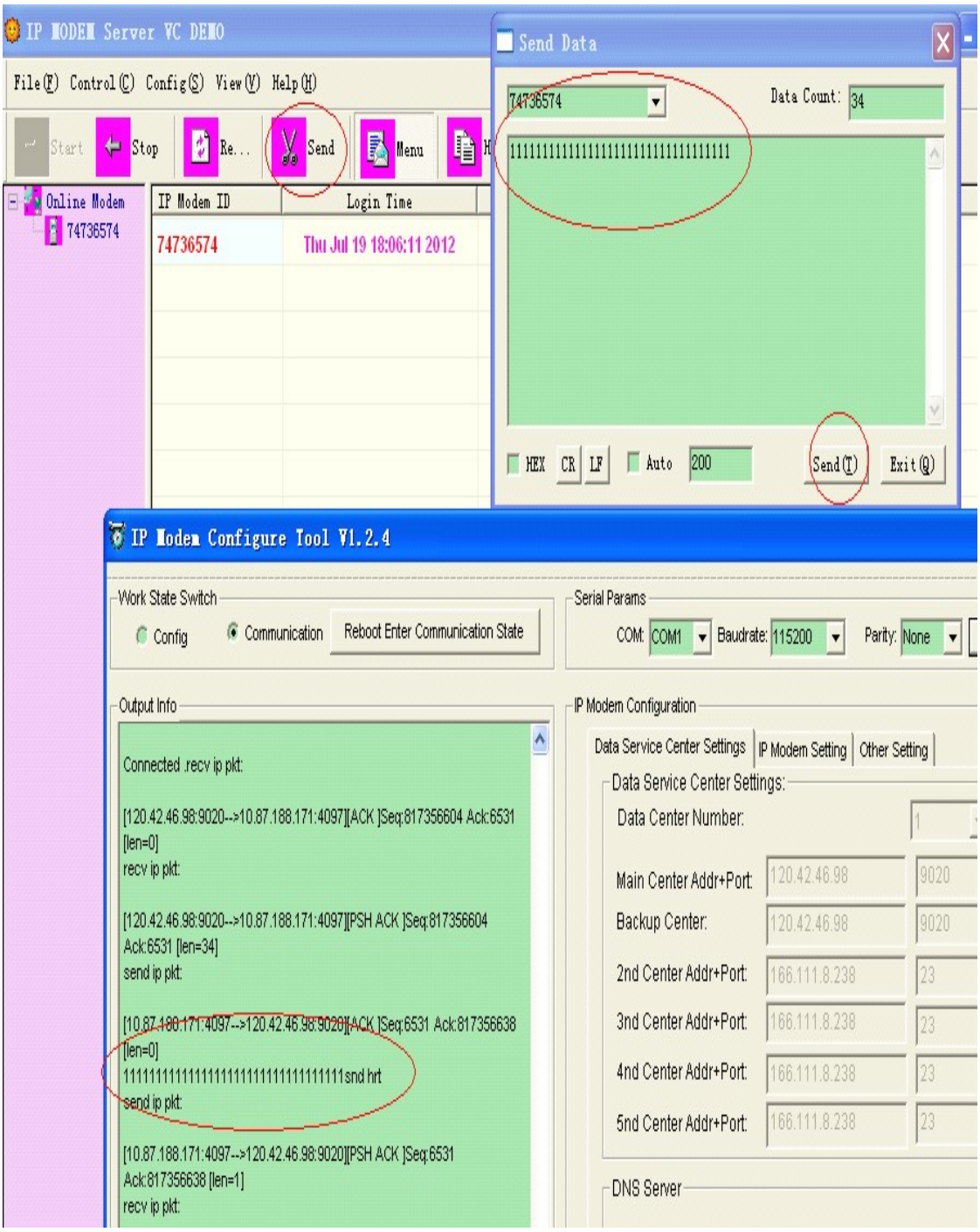
Step 10: And you can see the data in the demo:



If you connect many IP modem to a demo.you can see that the data ia come after the corresponding id.



Step 11:You can also send data for the demo to the ip modem.



Then test is successful.

Common FAQ

1.If our SIM card Owe postage, signal is very low or the call center number is wrong ,we can see the following output.

```
>>> To Enter Communication State,Please Re-power DTU
[AT Command : AT+RESET] ...

OK
Resetting ...


System started!
Press 's' key continuously to enter configure program.
dtu enters protocol mode.
Now start at proc.Max AT Command RetryAt Proc Error!Max AT
Command RetryAt Proc Error!
```

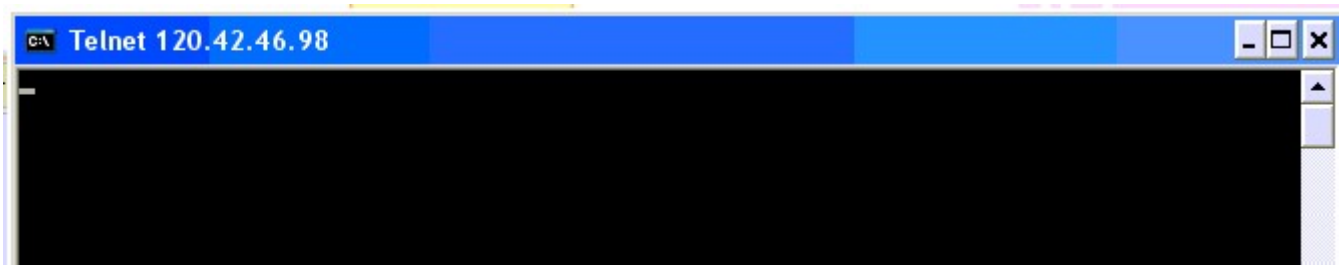
2.If APN and call center is wrong, we can see the following output.

```
System started!
Press 's' key continuously to enter configure program.
dtu enters protocol mode.                    if APN is wrong!
Now start at proc.At Proc Success!
Now start at proc.At Proc Success!
Now start at proc.At Proc Success!
Now start at proc.At Proc Success!Resetting ...
```

3. If the center isn't correct, we can see below info.

```
Press 's' key continuously to enter configure program.
dtu enters protocol mode.
Now start at proc.At Proc Success!Ppp dial succ, Got Ip Addr
:10.88.167.135Resolving server name:120.42.46.55.
Connect to 0.120.42.46.55:6767 ...
Connect error.connect error
```

4.And we can use telnet command to test whether the data link to the center is OK. If we can see the phenomenon below, it shows that it is OK.



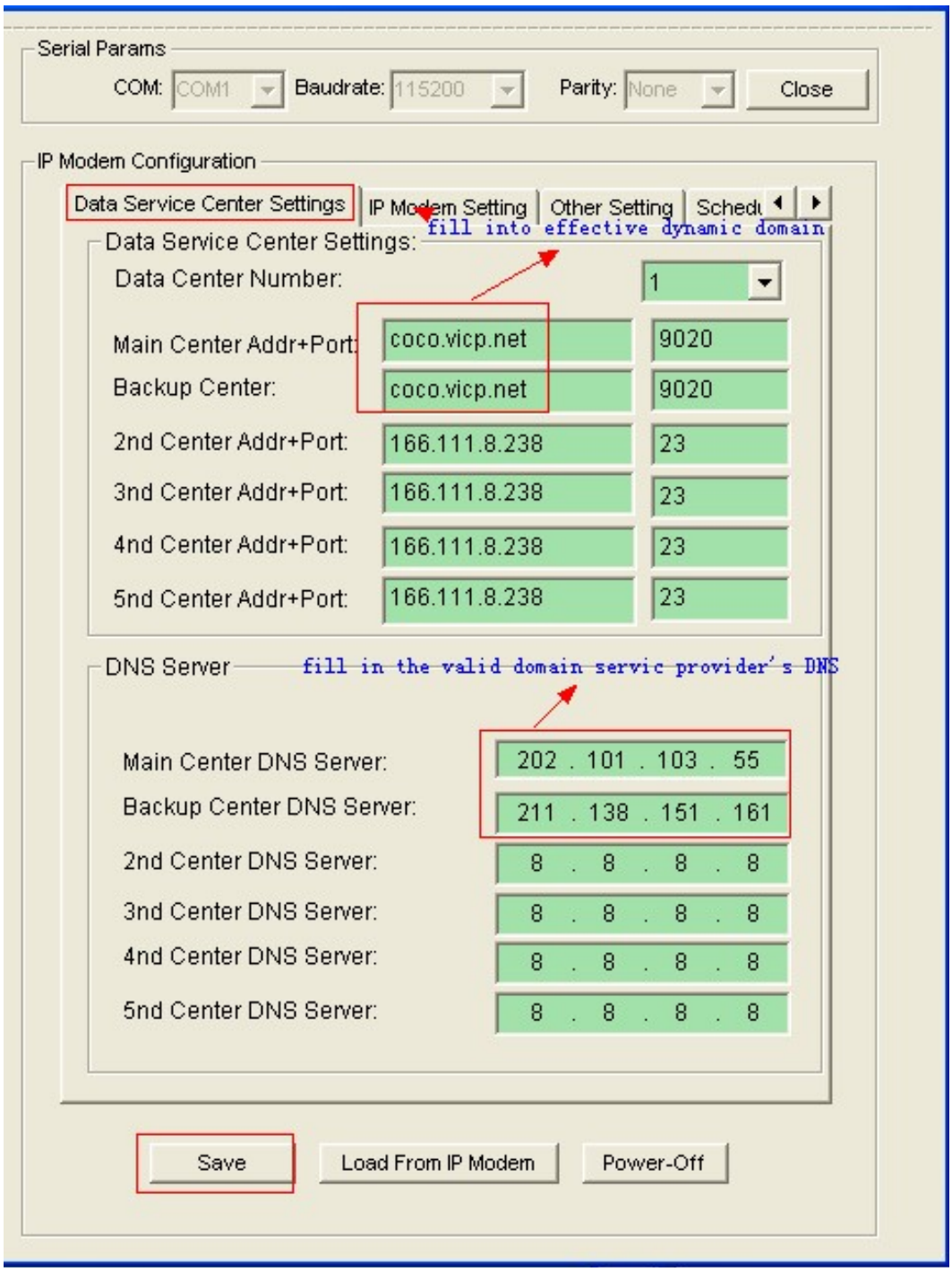
If you can't solve the problem, or meet new troubles , please contact us as soon as possible!

Annex 1

Center IP setting method of dynamic domain name

Center IP setting method using dynamic domain name and the setup steps , the difference is directly filled as long as the IP Settings column Into the dynamic domain name and fill in a DNS resolution service provider address ; at the same time be in the center -side run Dynamic DNS client side .

As shown below

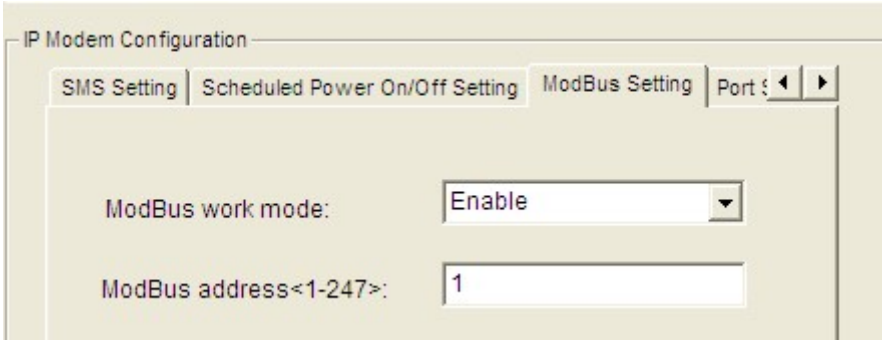


The configure of the IO usage, you can use this software IP modem configure and VC-demo to test. the configuration for digital/analogue pulse counting in the settings, you can check the configure tool of the last page.

First, set the modbus workmode as RTU, and set the address as 1. Second, set the IO ports as your need. Besides, the IP modem demo (modbus) can test the IO11 and IO12.

Enter configuration state:

Configure MODBUS work mode and MODBUS address:



Configure analog and digital quantity work mode:

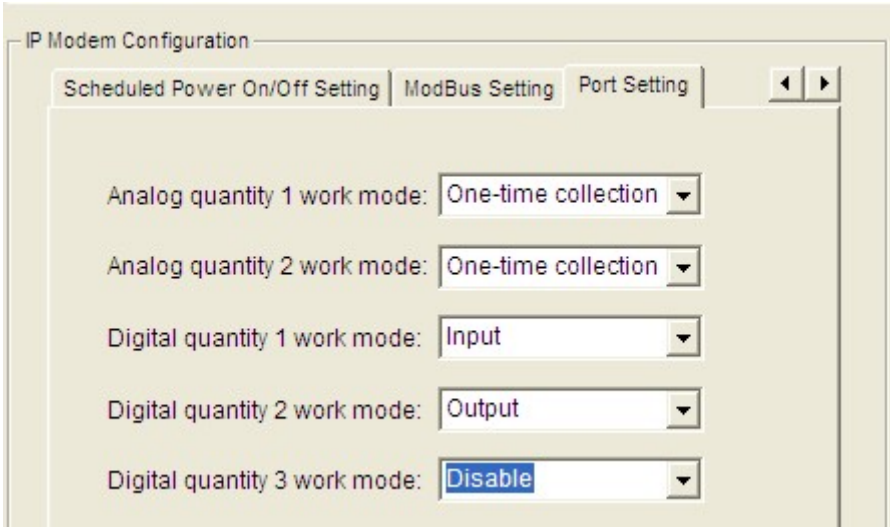


Illustration: digital input/output can be configured.

Terminal block interface：

PIN8	corresponding digital pin	as input	HEX address:	0x20000
PIN9	corresponding digital pin	as input	HEX address:	0x20001

PIN10 corresponding digital pin as input HEX address: 0x20002

For example：read IO8 level： 01 02 00 00 00 01 B9 CA
return： 01 02 01 00 A1 88 （IO8 high level）
01 02 01 01 60 48 （IO8 low level）

PIN8 corresponding digital pin as output HEX address: 0x50000

PIN9 corresponding digital pin as output HEX address: 0x50001

PIN10 corresponding digital pin as output HEX address: 0x50002

For example：IO8 digital output

Set IO8 as high level： 01 05 00 00 FF 00 8C 3A

Return ： 01 05 00 00 FF 00 8C 3A //output setting as high level

Set IO8 as low level： 01 05 00 00 00 00 CD CA

Return ： 01 05 00 00 00 00 CD CA // output setting as low level

PIN11 as ADC input only HEX address: 0x40000

For example：read IO4 ADC value：01 04 00 00 00 01 31 CA //the IO address of analog port is0

Return ： 01 04 02 02 EB F8 1F // AD value 02 EB = 747

PIN12 as ADC input only HEX address: 0x40001

IO1： Digital input/output 0---3.3V

IO2: Digital input/output 0---3.3V

IO3: Digital input/output 0---3.3V

IO4: 0—20mAAnalogue Current input （0—20mA,0-5v,10Hz）

IO5: 0—20mAAnalogue Current input （0—20mA,0-5v,10Hz）

The way of cable connection：

Analog quantity input：

1.single-cable： analog output of the sensor connects to the analog input of MODEM GPRS SENNET directly(IO4 or IO5）

2.double-cable ： the positive of analog output of the sensor connects to the analog input of MODEM GPRS SENNET, and the ground wire connects to GND of MODEM GPRS SENNET.

Digital quantity input：

1. low level input： GND of MODEM GPRS SENNET connects to the input of contact switch, and the output of contact switch connects to the digital output of MODEM GPRS SENNET（IO1,IO2 or 1O3）

2. low level input： output 5V voltage to IO1,IO2 or IO3, and the ground wire connects to GND of MODEM GPRS SENNET.

If you have any problem with your settings or communication, you can check the pic, pls wait a long time to get the full log, and send the log to me. Our engineers will analyze it for you.