

GRP-520

FAQ1-5

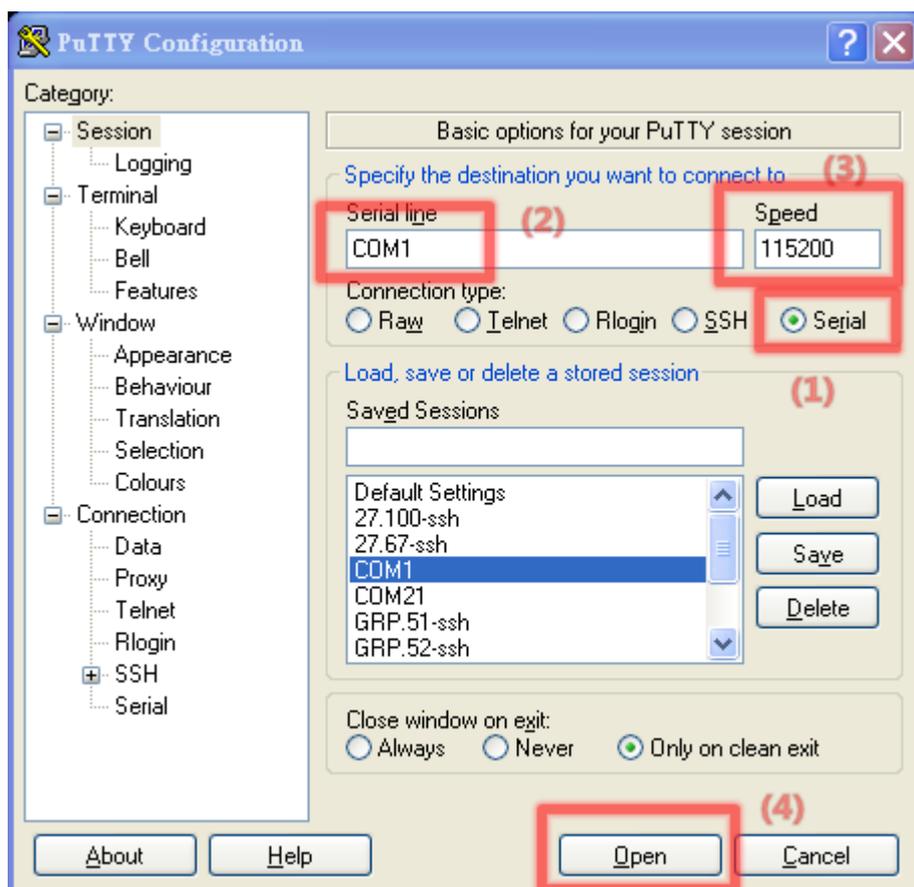
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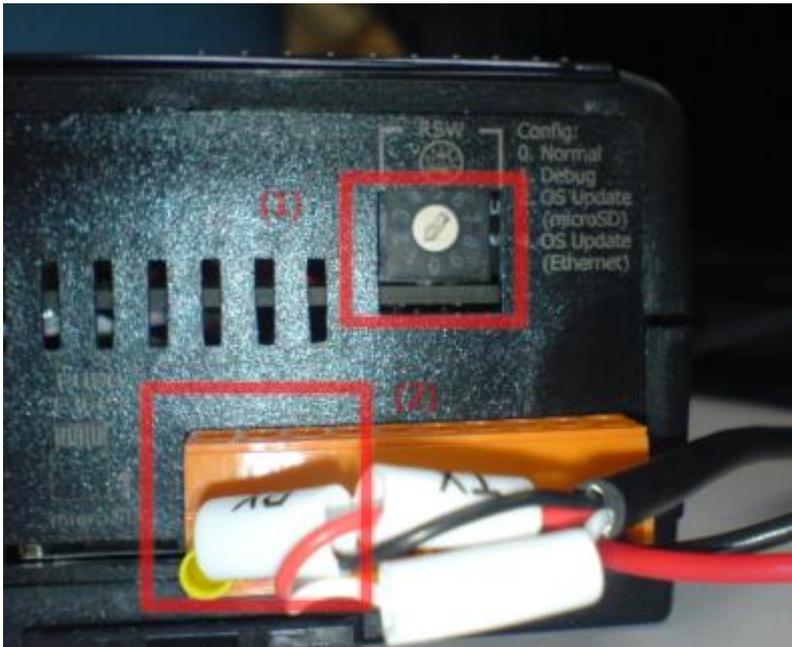
Q01: If we forget the IP of GRP-520, how to get the IP of GRP-520?

A01:

1. Please download putty. We will use it to connect with the device via RS-232 (COM1)
<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>
2. Execute putty, and set as below:
 - (1) select "Serial"
 - (2) input your com port number
 - (3) input "115200" for Speed
 - (4) and then click "Open" to open Com Port



3. Power off your device, and turn the rotary switch to "1". connect COM1 to your PC, and then power on your device



4. You will see console message like below

```
COM1 - PuTTY
U-Boot 1.3.4 (Aug 20 2012 - 10:32:40)

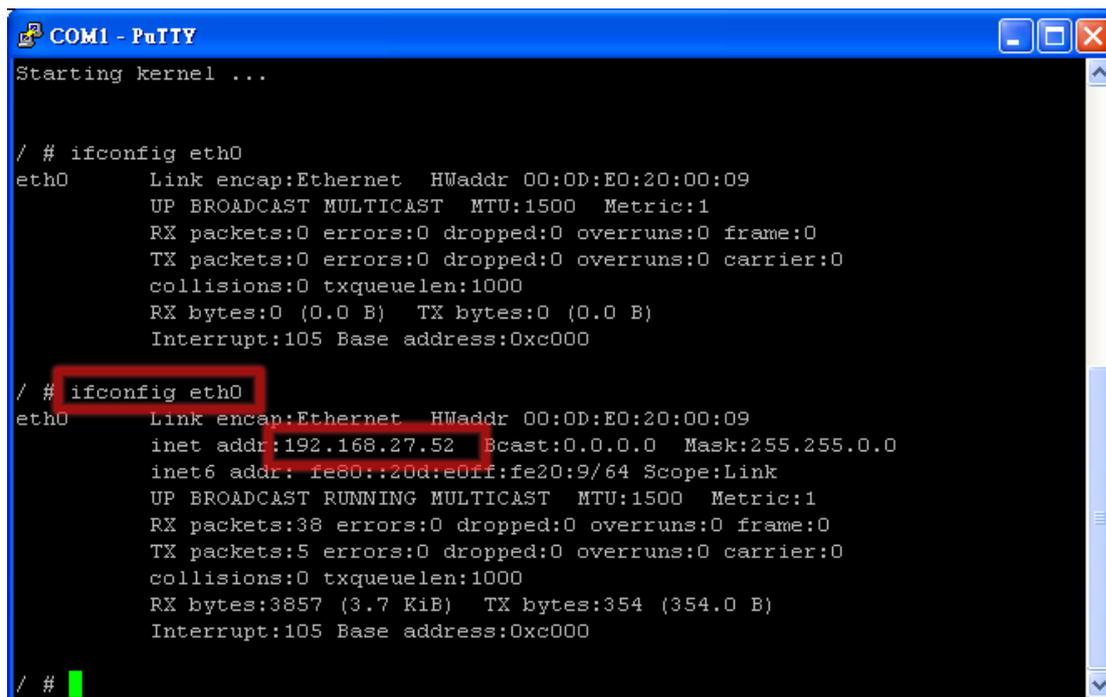
DRAM: 64 MB
Flash: 64 MB
In: serial
Out: serial
Err: serial
ICPDAS U-Boot Version: 1.0.0 2012/08/20
Rotary switch:1
Hit any key to stop autoboot: 0
## Booting kernel from Legacy Image at a1000000 ...
   Image Name:   Linux-2.6.34
   Image Type:   ARM Linux Kernel Image (uncompressed)
   Data Size:    2370368 Bytes = 2.3 MB
   Load Address: a0008000
   Entry Point:  a0008000
   Verifying Checksum ... OK
   Loading Kernel Image ... OK

OK

Starting kernel ...

/ # █
```

5. Please input "ifconfig eth0" to get IP. (please make sure your ethernet wire connected)



```
COM1 - PuTTY
Starting kernel ...

/ # ifconfig eth0
eth0      Link encap:Ethernet  HWaddr 00:0D:E0:20:00:09
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)
          Interrupt:105 Base address:0xc000

/ # ifconfig eth0
eth0      Link encap:Ethernet  HWaddr 00:0D:E0:20:00:09
          inet addr:192.168.27.52  Bcast:0.0.0.0  Mask:255.255.0.0
          inet6 addr: fe80::20d:e0ff:fe20:9/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:38 errors:0 dropped:0 overruns:0 frame:0
          TX packets:5 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:3857 (3.7 KiB)  TX bytes:354 (354.0 B)
          Interrupt:105 Base address:0xc000

/ # █
```

Q02: How to control the remote M-7000 device (or other RS-232, RS-485 device) via "Virtual COM" over 3G/GPRS?

A02: The architecture shows as below, please follow the steps to setup GRP-520.



1. Please connect your device (DL-100 or M-7000) to serial port of GRP-520

2. If you never install VxServer, please refer the link as below:

<http://m2m.icpdas.com/VxServer.html>

VxServer must work with "VxComm" software. If you don't install "VxComm" software, please refer the link below:

<http://www.icpdas.com/products/Software/VxComm/vxcomm.htm>

3. Please use web browser to link to GRP-520. Default IP is 192.168.255.1 ◦

(default username / password is admin / admin)

Set Pin code of your SIM card, and Enable "Auto-Dialing" function.

Set "User Name" and "Password" if your SIM card needs it.

Press "Modify"

--Device Info

--Network Info

--Storage Info

Network

--Ethernet

--2G/3G

--DNS

--DDNS

--DHCP Server

--Routing

--Port Mapping

--Diagnostic

Process

--System

--User

2G/3G Configure	
PIN Code	●●●●
Phone Number	*99***1# (1)
APN	internet (2)
User Name	(2)
Password	(2)
Auto-Dialing	<input checked="" type="checkbox"/> Enable
<input type="button" value="Modify"/>	
(1): usually use *99# or *99***1# (2): please ask your SIM Card provider	

4. Configure VxServer Function

- (1) Set “Server IP” and “Server Port”, the default port number is “11000”.
- (2) Let other settings be default value. (you can refer the user manual for the detail)
- (3) Click “Enable Function” to enable VxServer function
- (4) Press “Modify”, and GRP-520 will try to connect to server.
- (5) if “Alive” field is not “True”(Green color), it mean VxServer function fail. Please check your settings again.

Visual COM Configure (VxServer)		
Server IP	192.168.27.67	
Server Port	11000	default=11000
Heartbeat Time	20	10~65535 seconds
Device ID	1	1~255, unique ID for device
Alias	GRP-520	Max. Length = 8
Time Interval	50	1~5000 ms, default=50
Data Length	1000	10~1000 bytes, default=1000
Enable Funcion	<input checked="" type="checkbox"/> Enable	
Alive	True	
Firmware Version	V1.00 2013/03/19	
<input type="button" value="Modify"/>		
(1)Heartbeat Time: if this value is small, it is sensitive to detect network disconnected		
(2)Virtual IP: please set it different from other virtual COM device		

5. Please reset your device and un-plug your Ethernet from GRP-520, it will dial-up in 60 seconds, and then it will connect to your control center.

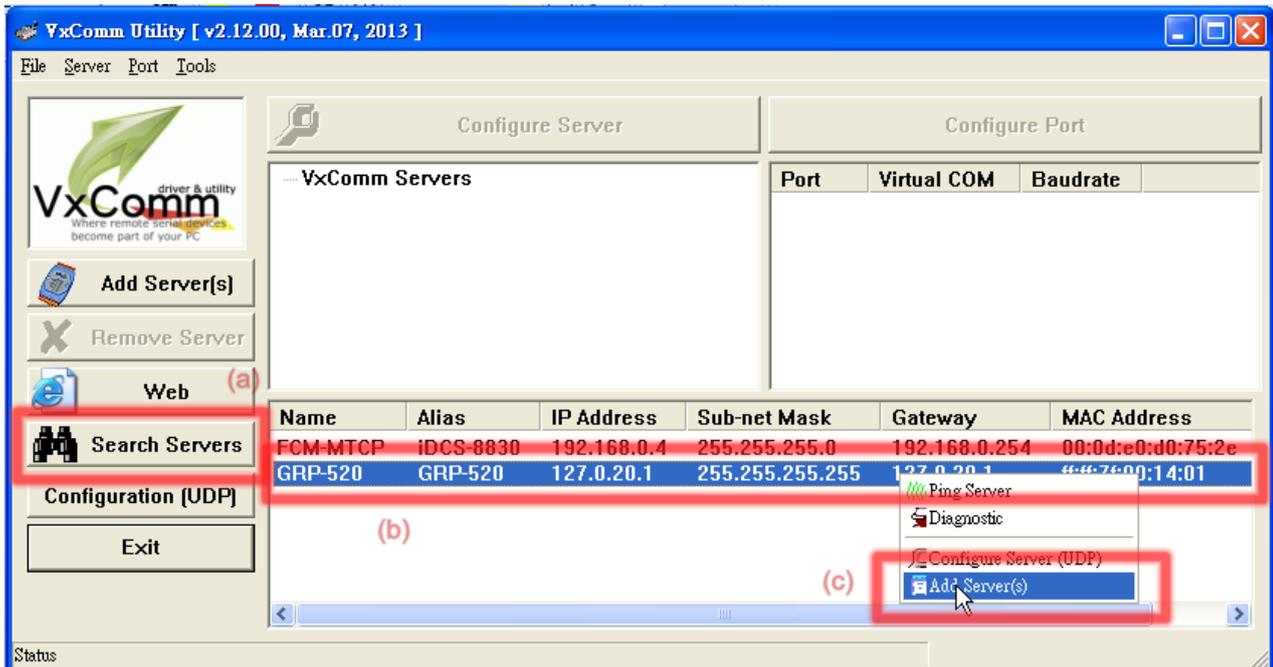
Virtual IP	Module	Alias	Com Number	Heartbeat	Remote Client IP	Remote Client Port	Signal Quality
127.0.20.1	GRP-520	GRP-520	2	20	111.80.236.252	59505	37%

Date / Time	Message
2013/03/21 13:01:28	The Remote Virtua IP *127.0.20.1* establishes a new connection. (IP: 111.80.236.252, PORT: 59505)
2013/03/21 13:01:06	Server Started(Local IP: 61.219.167.34, Local PORT: 11000)

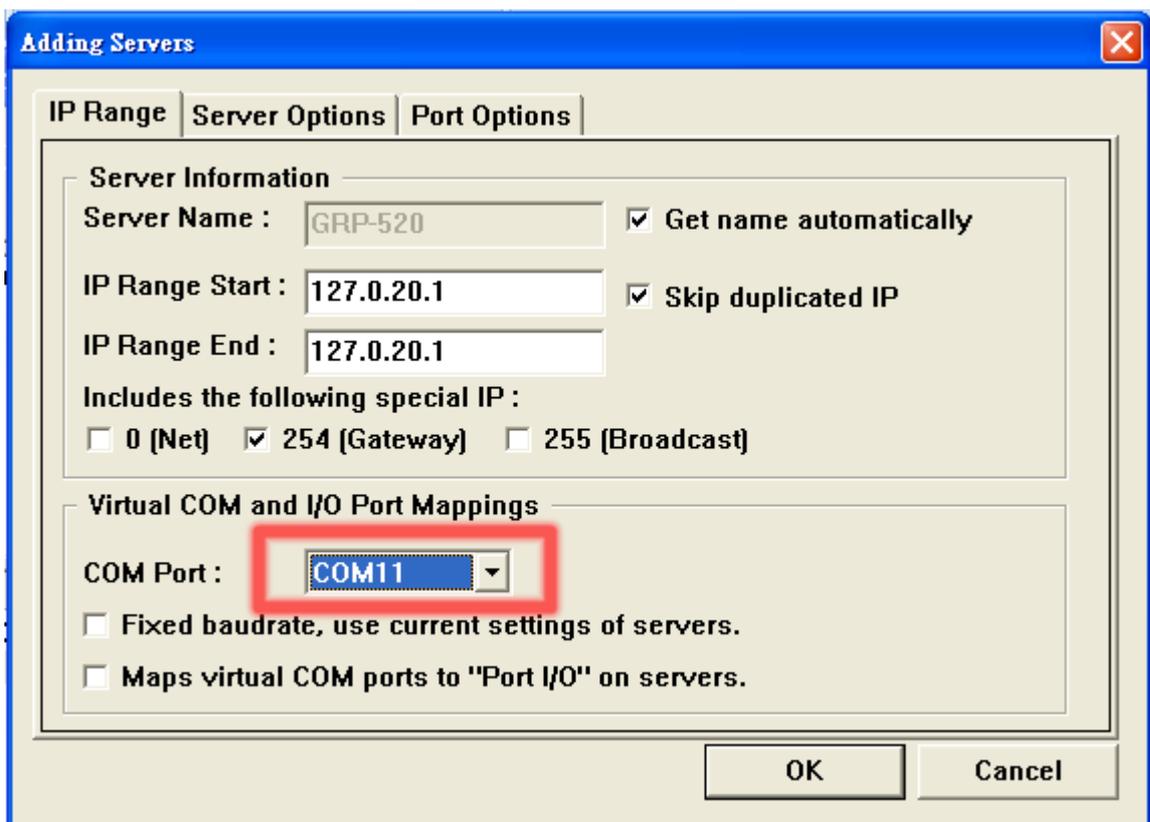
Server Started | Local IP: 61.219.167.34 | Local PORT: 11000 | VxComm Driver is running.

6. After GRP-520 connect to VxServer, please follow steps below:

- (1) Press "Search Servers" button, you will get a device list
- (2) Click right button of the mouse on GRP-520, and click "Add Server".



(3) choose the virtual com port number, and click "OK"

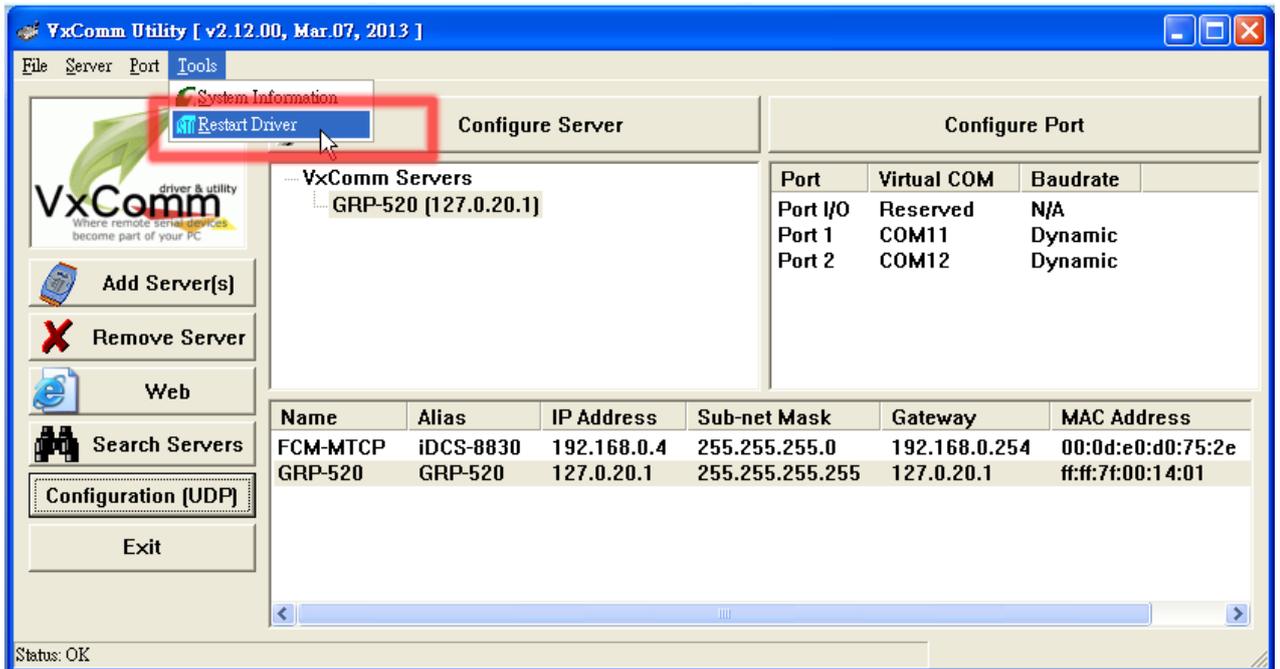


(4) You will see virtual com port: COM11, COM12, but it can't be opened now.

Click "tool"/"Restart Driver" to restart VxComm driver.

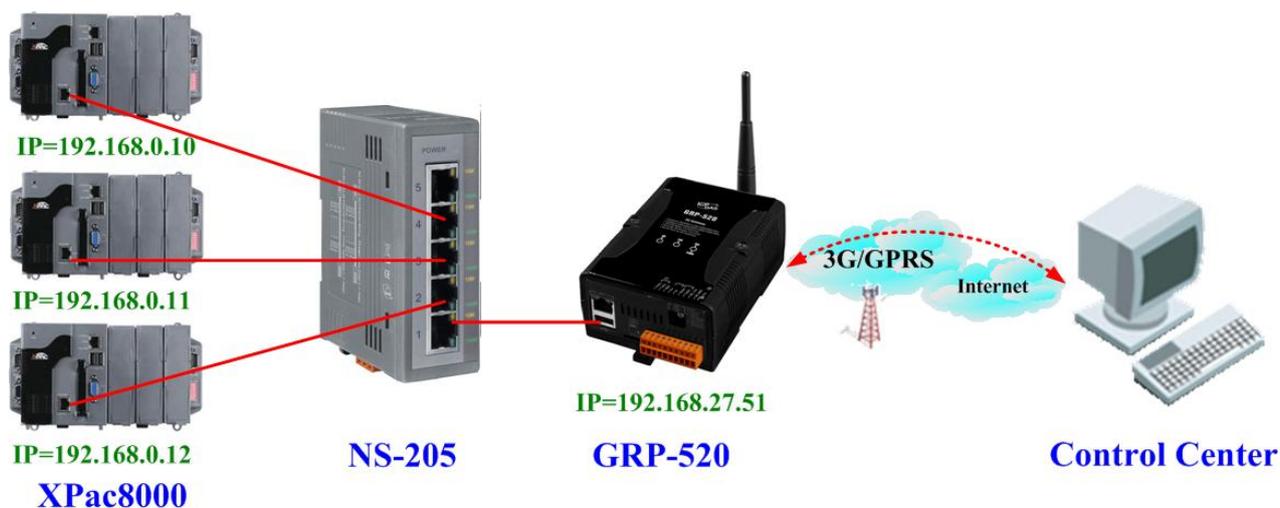
Open com port to connect your device.

(In this case, COM11 is RS-485, COM12 is RS-232 of GRP-520.)



Q03: How to share 3G network of GRP-520 to 3 XPac8000 (or other device)?

A03: The architecture shows as below, please follow the steps to setup GRP-520.



1. Please configure the Ethernet of XPac8000 as:

IP=192.168.0.10 ~ 12

Mask="255.255.0.0"

gateway = "192.168.27.51"

2. Set the Ethernet IP of GRP-520.

Information
[--Device Info](#)
[--Network Info](#)
[--Storage Info](#)

Network
[--Ethernet](#)
[--2G/3G](#)
[--DNS](#)
[--DDNS](#)
[--DHCP Server](#)
[--Routing](#)
[--Port Mapping](#)

Ethernet	
Mode	Static
IP Address	192.168.27.51
Mask	255.255.0.0
Gateway	
<input type="button" value="Modify"/>	

3. Set Pin code of your SIM card, and Enable "Auto-Dialing" function.

Set "User Name" and "Password" if your SIM card need it.

Press "Modify" to save

--Device Info

--Network Info

--Storage Info

Network

--Ethernet

--2G/3G

--DNS

--DDNS

--DHCP Server

--Routing

--Port Mapping

--Diagnostic

Process

--System

--User

2G/3G Configure	
PIN Code	●●●●
Phone Number	*99***1# (1)
APN	internet (2)
User Name	(2)
Password	(2)
Auto-Dialing	<input checked="" type="checkbox"/> Enable
<input type="button" value="Modify"/>	
(1):usually use *99# or *99***1# (2):please ask your SIM Card provider	

4. Set routing rule to share 3G network. This setting will share 3G network to IP address from 192.168.0.0~192.168.0.255.

Press “Modify”

--Device Info

--Network Info

--Storage Info

Network

--Ethernet

--2G/3G

--DNS

--DDNS

--DHCP Server

--Routing

--Port Mapping

--Diagnostic

Process

--System

--User

System

--Password

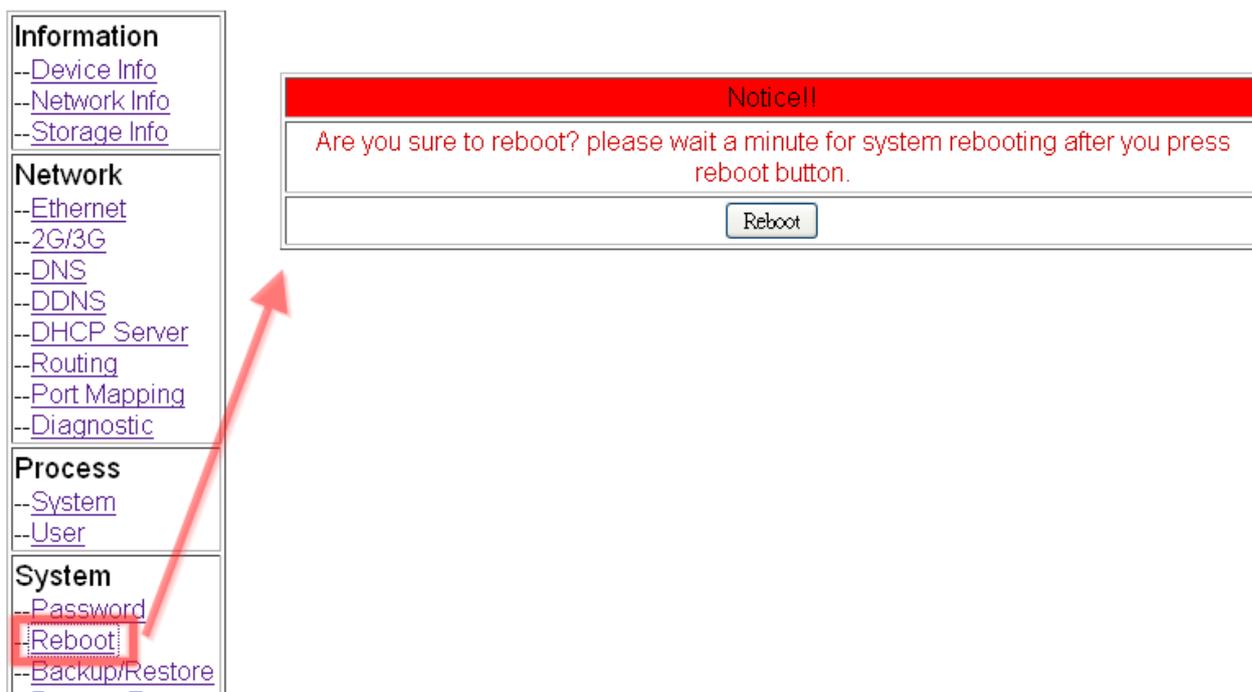
--Reboot

--Backup/Restore

--Restore Factory

ROUTING Rule			
Rule NO.	IP	Mask	Target
0	192.168.0.0	24	ppp0
1			
2			
3			
4			
5			
6			
7			
8			
9			
<input type="button" value="Modify"/>			

5. Please reboot GRP-520 to enable settings. (you can reboot from the web or the power source)



Information
--[Device Info](#)
--[Network Info](#)
--[Storage Info](#)

Network
--[Ethernet](#)
--[2G/3G](#)
--[DNS](#)
--[DDNS](#)
--[DHCP Server](#)
--[Routing](#)
--[Port Mapping](#)
--[Diagnostic](#)

Process
--[System](#)
--[User](#)

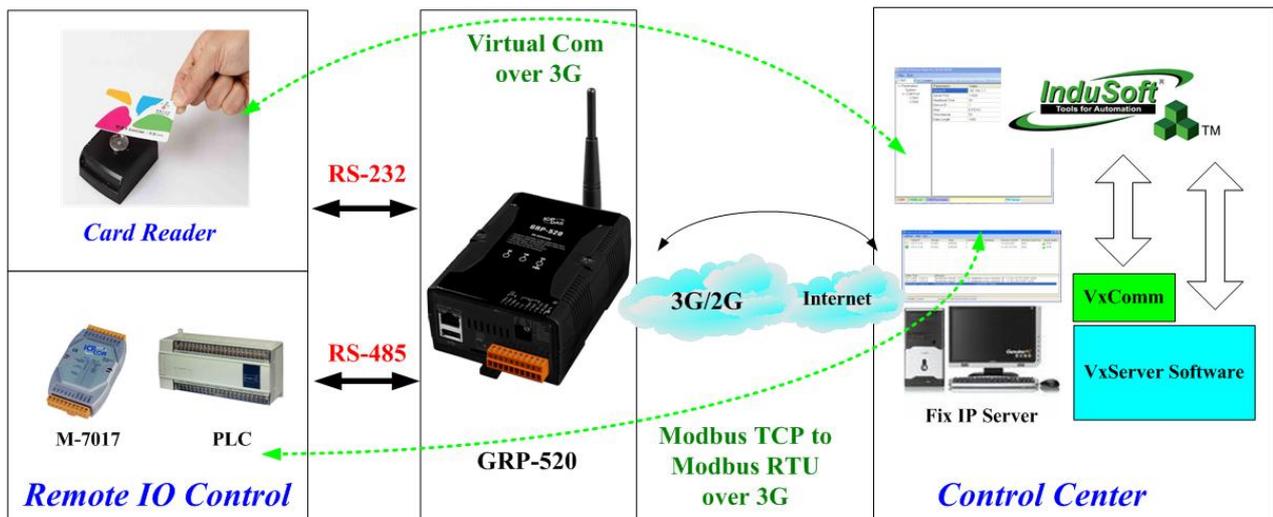
System
--[Password](#)
--[Reboot](#)
--[Backup/Restore](#)

Notice!!
Are you sure to reboot? please wait a minute for system rebooting after you press reboot button.

6. After rebooting, these three XP-8000 can link to Internet via 3G network of GRP-520.

Q04: How to make Modbus/TCP to Modbus/RTU over 3G, and Card Reader Monitor Application?

A04: The architecture shows as below, please follow the steps to setup GRP-520.



1. Please connect your device (M-7017 or PLC) to RS-485 of GRP-520.

Baudrate of Modbus device is 9600 bps, data format is 8N1 (Data bits, Parity, Stop bits).

Baudrate of Card Reader is 115200 bps

2. If you never use VxServer, please refer the link as below:

<http://m2m.icpdas.com/VxServer.html>

you need download VxServer software and VxComm software, and install it on your control center

3. Set Pin code of your SIM card, and Enable “Auto-Dialing” function.

Set “User Name” and “Password” if your SIM card needs it.

Press “Modify”

--Device Info

--Network Info

--Storage Info

Network

--Ethernet

--2G/3G

--DNS

--DDNS

--DHCP Server

--Routing

--Port Mapping

--Diagnostic

Process

--System

--User

2G/3G Configure	
PIN Code	●●●●
Phone Number	*99***1# (1)
APN	internet (2)
User Name	(2)
Password	(2)
Auto-Dialing	<input checked="" type="checkbox"/> Enable
<input type="button" value="Modify"/>	
(1): usually use *99# or *99***1# (2): please ask your SIM Card provider	

4. Enable “3G/GPRS Reconnection” function to keep your 3G/GPRS network always online (usually, ISP will disconnect your connection once every 1~3 days).

Generally, you can set the Server IP as your server’s IP or google’s DNS server IP (8.8.8.8). If

you use MDVPN, please set the Server IP as your Server IP that doesn't deny ICMP service (Ping).

Press "Modify" after you finish all settings

<p>--Network Info</p> <p>--Storage Info</p> <p>Network</p> <p>--Ethernet</p> <p>--2G/3G</p> <p>--3G/GPRS Reconnection</p> <p>--DNS</p> <p>--DDNS</p> <p>--DHCP Server</p> <p>--Routing</p> <p>--Port Mapping</p> <p>--Diagnostic</p> <p>System</p> <p>--Password</p> <p>--Reboot</p> <p>--Reboot Timer</p> <p>--</p> <p>--Backup/Restore</p>		<table border="1"> <thead> <tr> <th colspan="2" style="background-color: #f4a460;">3G/GPRS Reconnection</th> </tr> </thead> <tbody> <tr> <td>Server IP</td> <td><input type="text" value="8.8.8.8"/></td> </tr> <tr> <td>Max. Retry</td> <td><input type="text" value="10"/></td> </tr> <tr> <td>Interval Time</td> <td><input type="text" value="30"/></td> </tr> <tr> <td>Timeout</td> <td><input type="text" value="50"/></td> </tr> <tr> <td>Enable Function</td> <td><input checked="" type="checkbox"/> Enable</td> </tr> <tr> <td>Alive</td> <td style="background-color: #00ff00;">True</td> </tr> <tr> <td>Firmware Version</td> <td>v1.1.1 2014/01/13</td> </tr> <tr> <td colspan="2" style="text-align: center;"><input type="button" value="Modify"/></td> </tr> <tr> <td colspan="2"> <p>(1):This function will run immediately after you press "Modify" button</p> <p>(2):GSM module will be reset after Max. retry</p> <p>(3):System will reboot after GSM module reset 100 times</p> </td> </tr> </tbody> </table>	3G/GPRS Reconnection		Server IP	<input type="text" value="8.8.8.8"/>	Max. Retry	<input type="text" value="10"/>	Interval Time	<input type="text" value="30"/>	Timeout	<input type="text" value="50"/>	Enable Function	<input checked="" type="checkbox"/> Enable	Alive	True	Firmware Version	v1.1.1 2014/01/13	<input type="button" value="Modify"/>		<p>(1):This function will run immediately after you press "Modify" button</p> <p>(2):GSM module will be reset after Max. retry</p> <p>(3):System will reboot after GSM module reset 100 times</p>	
3G/GPRS Reconnection																						
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<p>(1):This function will run immediately after you press "Modify" button</p> <p>(2):GSM module will be reset after Max. retry</p> <p>(3):System will reboot after GSM module reset 100 times</p>																						

5. Configure VxServer Function.

Set "Server IP" and "Server Port", the default port number is "11000".

For Card Reader:

Please just set Port2 (RS-232) as default value.

For Modbus RTU device:

Please configure as below

Click "Enable Function" to enable VxServer function.

Press "Modify", and GRP-520 will try to connect to server.

If "Alive" field is not "True"(Green color), it mean VxServer function fail. Please check your settings again.

--[Device Info](#)

--[Network Info](#)

--[Storage Info](#)

Network

--[Ethernet](#)

--[2G/3G](#)

--[3G/GPRS](#)

[Reconnection](#)

--[DNS](#)

--[DDNS](#)

--[DHCP Server](#)

--[Routing](#)

--[Port Mapping](#)

--[Diagnostic](#)

System

--[Password](#)

--[Reboot](#)

--[Reboot Timer](#)

--[Backup/Restore](#)

--[Restore Factory](#)

--[Time](#)

--[System Service](#)

VxServer

--[VxServer](#)

Web Ver: 1.1.0
2013/12/26

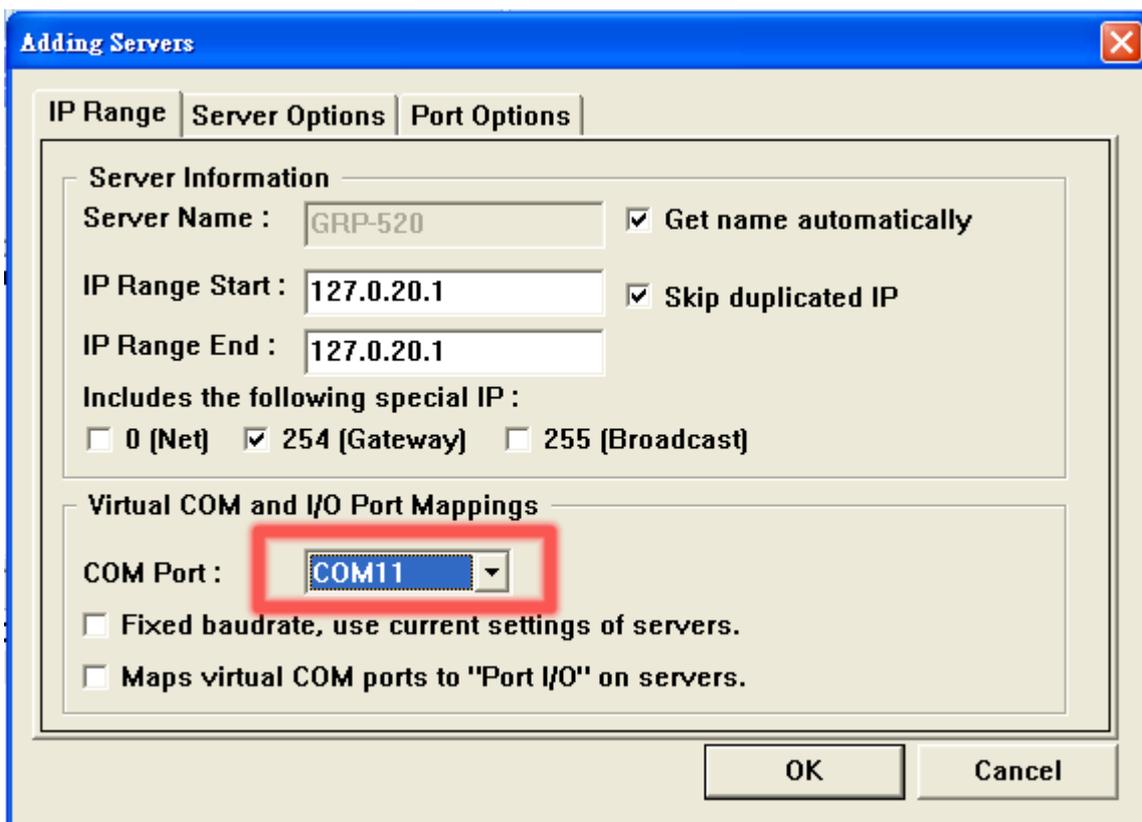
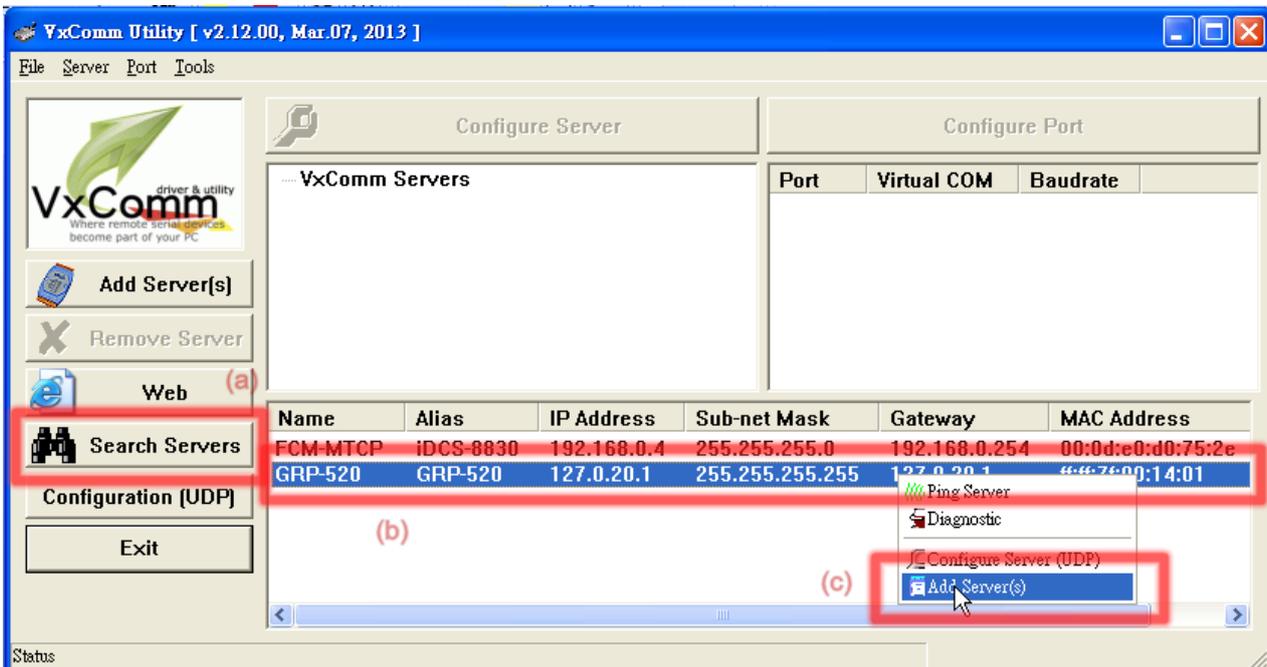
Virtual COM Function (VxServer)		
Server IP	<input type="text" value="192.168.27.67"/>	
Server Port	<input type="text" value="11000"/>	default=11000
Heartbeat Time	<input type="text" value="10"/>	10~65535 seconds
Device ID	<input type="text" value="1"/>	1~255, unique ID for device
Alias	<input type="text" value="GRP-520"/>	Max. Length = 8
Time Interval	<input type="text" value="50"/>	1~5000 ms, default=50
Data Length	<input type="text" value="1000"/>	10~1000 bytes, default=1000
Modbus TCP to RTU (Port1)	<input checked="" type="checkbox" value="True"/>	COM2 of GRP-520 --> TCP Port 10001
Modbus TCP to RTU (Port2)	<input type="checkbox" value="False"/>	COM3 of GRP-520 --> TCP Port 10002
Default Baudrate (Port1)	<input type="text" value="9600"/>	bps
Default Baudrate (Port2)	<input type="text" value="115200"/>	bps
Default Format (Port1)	<input type="text" value="8N1"/>	(Data bit, Parity, Stop bit)
Default Format (Port2)	<input type="text" value="8N1"/>	(Data bit, Parity, Stop bit)
Enable Funcion	<input checked="" type="checkbox"/> Enable	
Alive	True	
Firmware Version	V1.01 2014/01/29	
<input type="button" value="Modify"/>		

(1)Heartbeat Time: if this value is small, it is sensitive to detect network disconnected
(2)Virtual IP: please set it different from other virtual COM device

6. Please reset your device and un-plug your Ethernet from GRP-520, it will dial-up in 60 seconds, and then it will connect to your control center.

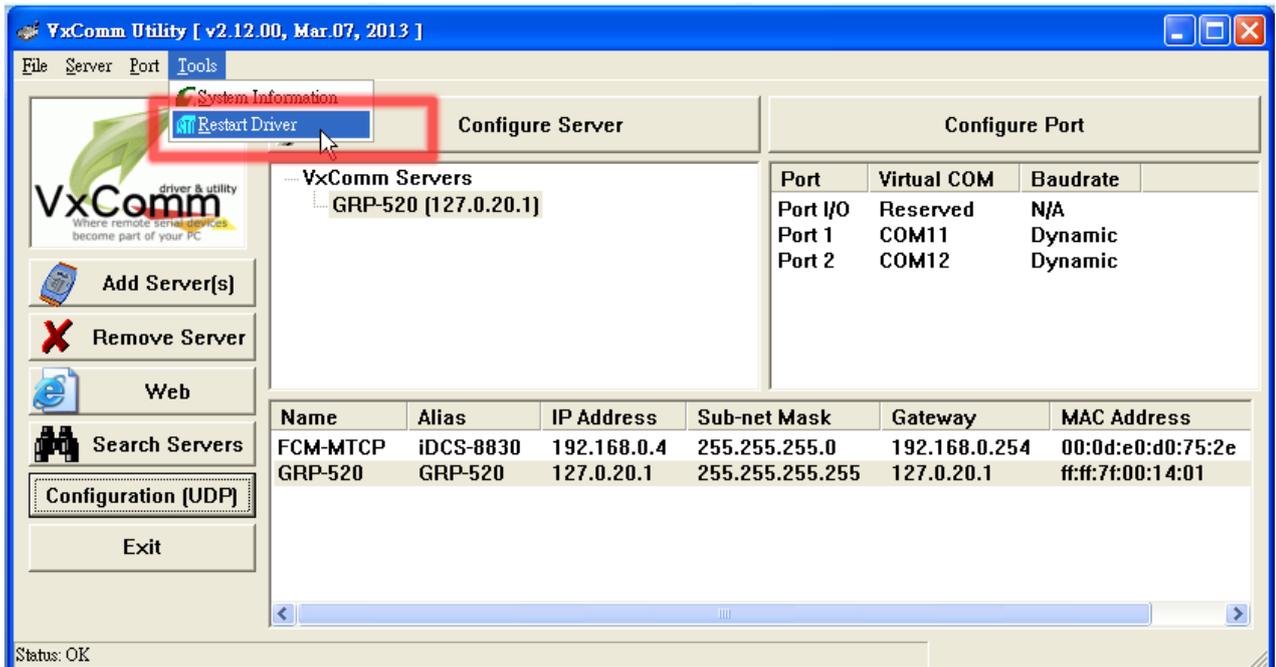
7. After GRP-520 connect to VxServer, please follow steps below:

- (a) Press “Search Servers” button, you will get a device list.
- (b) Click right button of the mouse on GRP-520
- (c) Click “Add Server”
- (d) choose the virtual com port number, and click “OK”



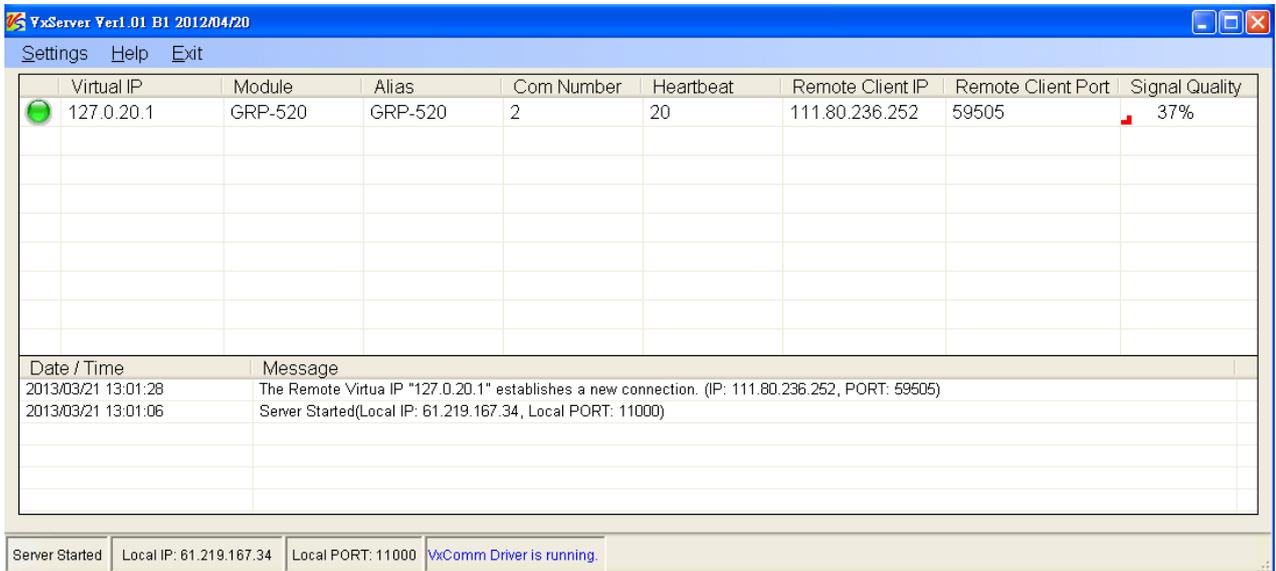
8. You will see virtual com port: COM11, COM12, but it can't be opened.
Click “tool”/”Restart Driver” to restart VxComm driver.
Open com port to connect your device.
(In this case, COM11 is RS-485, COM12 is RS-232 of GRP-520. Please don't open

COM11, because it's Modbus/TCP to Modbus/RTU mode)



9. Now, please open COM12 to read the data from Card Reader.

Using TCP Socket to connect to IP "127.0.20.1" and Port 10001, and then send Modbus/TCP command that will be convert as Modbus/RTU command, and pass out to RS-485 bus.



Q05: How to connect FTP Server behind GRP-520?

A05: Please follow the steps to setup GRP-520.

1. Set Pin code of your SIM card, and Enable “Auto-Dialing” function.

Set “User Name” and “Password” if your SIM card needs it.

Press “Modify”

<ul style="list-style-type: none"> --Device Info --Network Info --Storage Info Network --Ethernet --2G/3G --DNS --DDNS --DHCP Server --Routing --Port Mapping --Diagnostic Process --System --User 	<table border="1"> <thead> <tr> <th colspan="2">2G/3G Configure</th> </tr> </thead> <tbody> <tr> <td>PIN Code</td> <td>●●●●</td> </tr> <tr> <td>Phone Number</td> <td>*99***1# (1)</td> </tr> <tr> <td>APN</td> <td>internet (2)</td> </tr> <tr> <td>User Name</td> <td>(2)</td> </tr> <tr> <td>Password</td> <td>(2)</td> </tr> <tr> <td>Auto-Dialing</td> <td><input checked="" type="checkbox"/> Enable</td> </tr> <tr> <td colspan="2" style="text-align: center;">Modify</td> </tr> <tr> <td colspan="2">(1): usually use *99# or *99***1#</td> </tr> <tr> <td colspan="2">(2): please ask your SIM Card provider</td> </tr> </tbody> </table>	2G/3G Configure		PIN Code	●●●●	Phone Number	*99***1# (1)	APN	internet (2)	User Name	(2)	Password	(2)	Auto-Dialing	<input checked="" type="checkbox"/> Enable	Modify		(1): usually use *99# or *99***1#		(2): please ask your SIM Card provider	
2G/3G Configure																					
PIN Code	●●●●																				
Phone Number	*99***1# (1)																				
APN	internet (2)																				
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Password	(2)																				
Auto-Dialing	<input checked="" type="checkbox"/> Enable																				
Modify																					
(1): usually use *99# or *99***1#																					
(2): please ask your SIM Card provider																					

2. Enable “3G/GPRS Reconnection” function to keep your 3G/GPRS network always online (usually, ISP will disconnect your connection once every 1~3 days).

Generally, you can set the Server IP as your server’s IP or google’s DNS server IP (8.8.8.8). If you use MDVPN, please set the Server IP as your Server IP that doesn’t deny ICMP service (Ping).

Press “Modify” after you finish all settings

3G/GPRS Reconnection	
Server IP	8.8.8.8
Max. Retry	10
Interval Time	30
Timeout	50
Enable Function	<input checked="" type="checkbox"/> Enable
Alive	True
Firmware Version	v1.1.1 2014/01/13
<input type="button" value="Modify"/>	
(1):This function will run immediately after you press "Modify" button (2):GSM module will be reset after Max. retry (3):System will reboot after GSM module reset 100 times	

3. Set routing rule to share 3G network. This setting will share 3G network to IP address from 192.168.27.0~192.168.27.255.

ROUTING Rule			
Rule NO.	IP	Mask	Target
0	192.168.27.1	24	PPP0
1			
2			
3			
4			
5			
6			
7			
8			
9			
<input type="button" value="Modify"/>			

4. Set “Port Mapping Rule” to let user access the device behind GRP-520 via the internet. This setting will bind the port of 3G interface to “Target IP:Target Port”.

Port 21 of 3G interface → 192.168.27.40:21

Port 20 of 3G interface → 192.168.27.40:20

Port 1024 of 3G interface → 192.168.27.40:1024

Port 1025 of 3G interface → 192.168.27.40:1025

Port Mapping Rule						
Rule NO.	Type	From	Port	Target IP	Target Port	
0	TCP	ppp0	21	192.168.27.40	21	
1	TCP	ppp0	20	192.168.27.40	20	
2	TCP	ppp0	1024	192.168.27.40	1024	
3	TCP	ppp0	1025	192.168.27.40	1025	
4						
5						
6						
7						
8						
9						

Usually, FTP Server need Port 21 and Port 20 for the service, and above Port 1024 (maybe 1024~65535) for “Passive mode”.

And please configure your “Port range” of your FTP Server, as below(here is the screen shot of my FTP server):

General

FTP port: 21 Connection timeout (in seconds):

Max. connections: 10 Max. connections per IP:

Welcome message: Welcome to Quick n Easy FTP Server

Goodbye message: Bye

Startup settings

Launch FTP Server at Windows startup

Automatically activate server at startup

Startup minimized in systemtray

Logging

Loglevel:

PASV settings

IP address: Default

Port range: 1024 - 1025

5. Please reboot GRP-520 to enable all settings.