

UDP Server mode and UDP Client mode manual

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Overview

This manual is to introduce UDP Server mode and UDP Client mode.

1.Introduction

1.1.UDP Server mode

In UDP Server mode, module will change Remote IP every time after receiving UDP data from a new IP/Port and will send data to latest communication IP/Port.

UDP Server mode is usually applied to the situation that several network devices need to communicate to module and requirement of data transmission rate is high(TCP transport protocol maybe not suitable).

Data transmission diagram as follow:

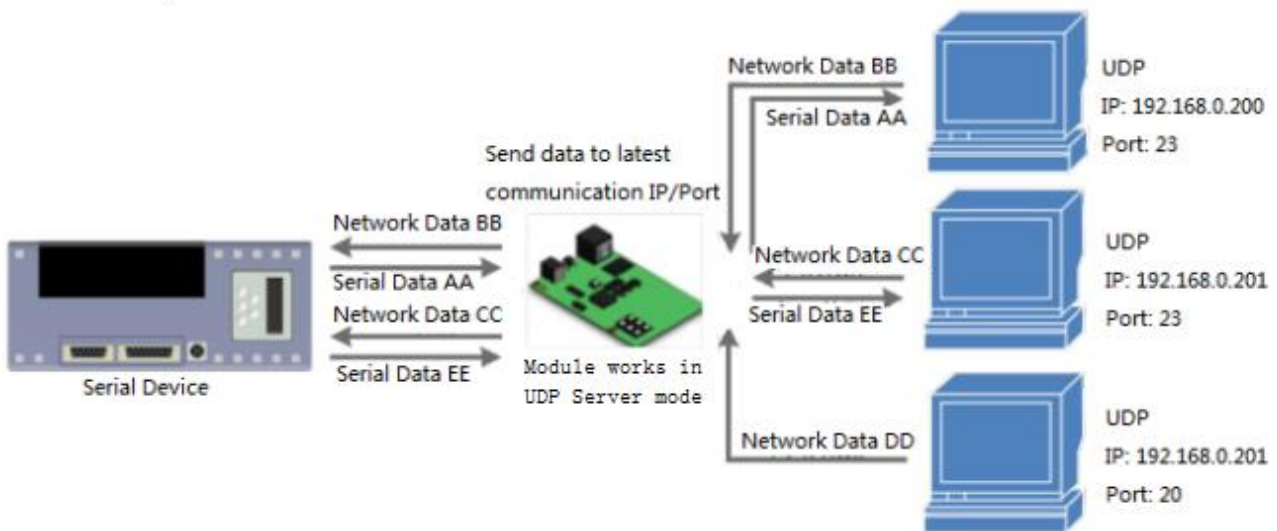


Figure 1 UDP Server mode

1.2.UDP Client mode

UDP Client mode provides simple and unreliable communication services. No connection connected /disconnected. User only needs to configure Remote IP/Port then can realize data transmission.

In UDP Client mode, module will only communicate with Remote IP/Port. If data don't from Remote IP/Port, it won't be received by module.

In UDP Client mode, if user configures Remote IP to 255.255.255.255, module can achieve UDP broadcast to all network segment and receive broadcast data. User can also configure Remote IP to xxx.xxx.xxx.255 to realize UDP broadcast in same network segment.

UDP Client mode is usually applied to the situation that data packet is small, data transmission rate is high, requirement of packet loss rate is low and data need to be sent to assigned IP.

Data transmission diagram as follow:

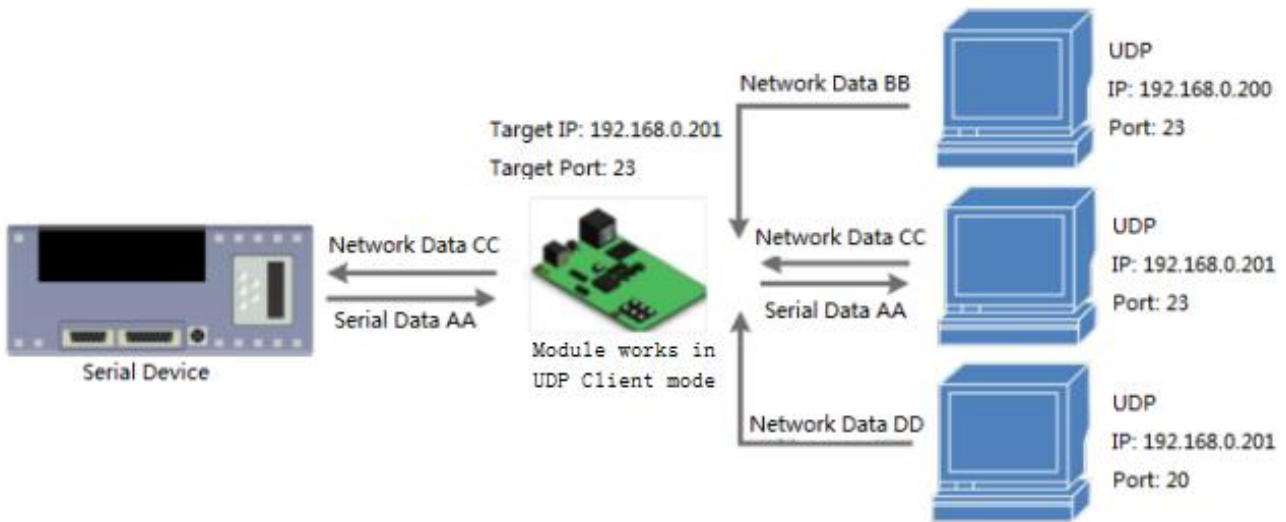


Figure 2 UDP Client

2.Configuration and test

We take USR-TCP232-410S as an example to configure and test. We configure 410S by Web Server and test data transmission by software *USR-TCP232-Test-V1.3.exe*.

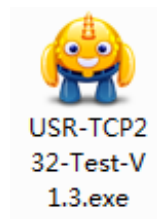


Figure 3 USR-TCP232-Test

2.1.UDP Server mode

When user configures module to work in UDP Server mode, user needs to configure parameters as follows:

- Work mode
- Local port

Configure 410S by Web Server as follow(410S connects to same router as PC which do the data transmission test, and to communicate with PC, 410S'IP has been changed to 192.168.5.200 to in same network segment as PC):

Current Status	parameter	help
Local IP Config	Baud Rate: 115200 bps(600~230400)bps	<ul style="list-style-type: none"> local port 1~65535. when TCP Client, set this to 0 means use random local port remote port 1~65535 packet time/length default 0/0, means automatic packet mechanism; you can modify it as a none-zero value
RS232	Data Size: 8 bit	
RS485	Parity: None	
Web to Serial	Stop Bits: 1 bit	
Misc Config	Flow Control: None	
Reboot	UART Packet Time: 0 (0~255)ms	
	UART Packet Length: 0 (0~1460)chars	
	Sync Baudrate(RF2217 Similar): <input checked="" type="checkbox"/>	
	Enable Uart Heartbeat Packet: <input type="checkbox"/>	
	Socket A Parameters	
	Work Mode: UDP Server	
	Remote Server Addr: 192.168.5.18 [N/A]	
	Local/Remote Port Number: 23 8899 (1~65535)	
	PRINT: <input type="checkbox"/>	
	ModbusTCP Poll: <input type="checkbox"/> Poll Timeout: 200 (200~9999) ms	
	Enable Net Heartbeat Packet: <input type="checkbox"/>	
	Registry Type: None Location Connect With	
	Socket B Parameters	
	Work Mode: NONE	

Figure 4 UDP Server mode configuration

Test data transmission by *USR-TCP232-Test-V1.3.exe* as follow:

The screenshot shows the 'USR-TCP232-Test RS232 to Ethernet Convert tester' application. The interface is divided into several sections:

- COMSettings:** PortNum: COM4, BaudR: 115200, DParity: NONE, DataB: 8 bit, StopB: 1 bit. A 'Close' button is present.
- Recv Options:** 'Add line return' is checked. 'Save...' and 'Clear' buttons are available.
- Send Options:** 'Interval' is set to 1000 ms. 'Load...' and 'Clear' buttons are available.
- COM port data receive:** A text box contains 'UDP Server test'. A red arrow points from this text to the 'RemoteIP' field in the Network data receive section.
- Network data receive:** A text box contains the message: "'RemoteIP' is 410S IP and Port is 410S local port". A red arrow points from this message to the 'RemoteIP' field in the Send Options section.
- NetSettings:** (1) Protocol: UDP, (2) Local host IP: 192.168.5.18, (3) Local host port: 8899. A 'Disconnect' button is present.
- Send Options (Network):** 'RemoteIP' is 192.168.5.200, 'Port' is 23. 'Send' and 'Interval' (1000 ms) buttons are present.
- Status:** At the bottom, 'Send: 225' and 'Recv: 152' are shown for the COM port, and 'Send: 168' and 'Recv: 225' are shown for the Network port.

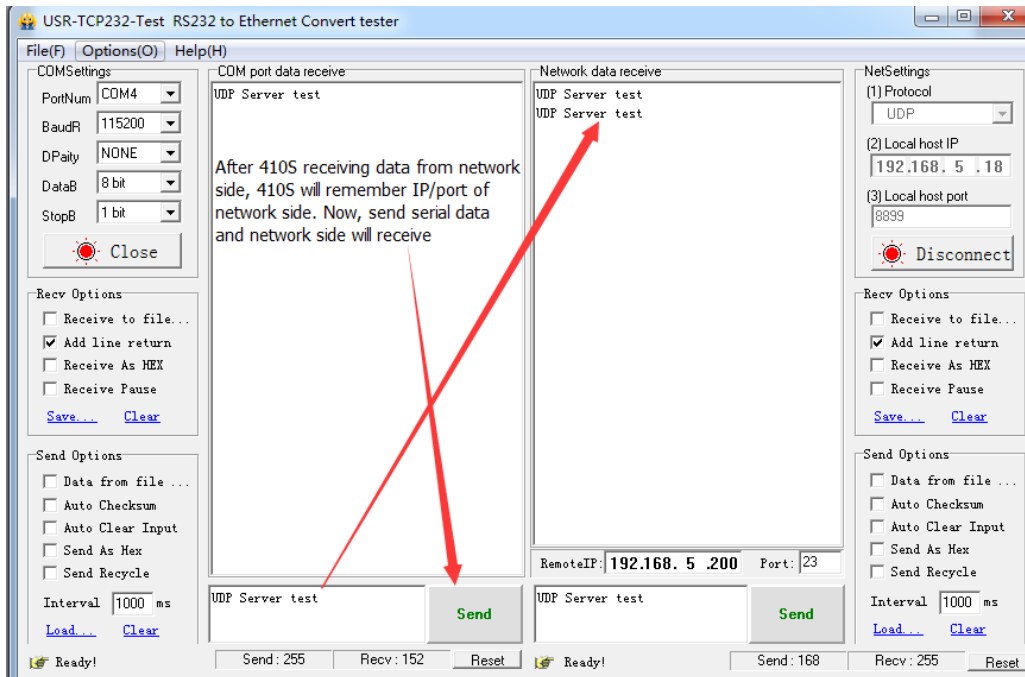


Figure 5 UDP Server mode data transmission

2.2.UDP Client mode

When user configures module to work in UDP Client mode, user needs to configure parameters as follows:

- Work mode
- Remote port
- Remote IP
- Local port

Configure 410S by Web Server as follow:

Current Status	parameter	help
Local IP Config	Baud Rate: 115200 bps(600~230400)bps	
RS232	Data Size: 8 bit	
RS485	Parity: None	
Web to Serial	Stop Bits: 1 bit	
Misc Config	Flow Control: None	
Reboot	UART Packet Time: 0 (0~255)ms	
	UART Packet Length: 0 (0~1460)chars	
	Sync Baudrate(RF2217 Similar): <input checked="" type="checkbox"/>	
	Enable Uart Heartbeat Packet: <input type="checkbox"/>	
	Socket A Parameters	
	Work Mode: UDP Client	
	Remote Server Addr: 192.168.5.18 [192.168.5.18]	
	Local/Remote Port Number: 23 8899 (1~65535)	
	UDP Not Check Remote PORT: <input type="checkbox"/>	
	PRINT: <input type="checkbox"/>	
	ModbusTCP Poll: <input type="checkbox"/> Poll Timeout: 200 (200~9999) ms	
	Enable Net Heartbeat Packet: <input type="checkbox"/>	
	Registry Type: None Location Connect With	
	Socket B Parameters	
	Work Mode: NONE	

- **local port**
1~65535. when TCP Client, set this to 0 means use random local port
- **remote port**
1~65535
- **packet time/length**
default 0/0, means automatic packet mechanism; you can modify it as a none-zero value

Figure 6 UDP Client mode configuration

Remote Server Addr is network side device address(Here is PC's IP: 192.168.5.18).

Test data transmission by *USR-TCP232-Test-V1.3.exe* as follow:

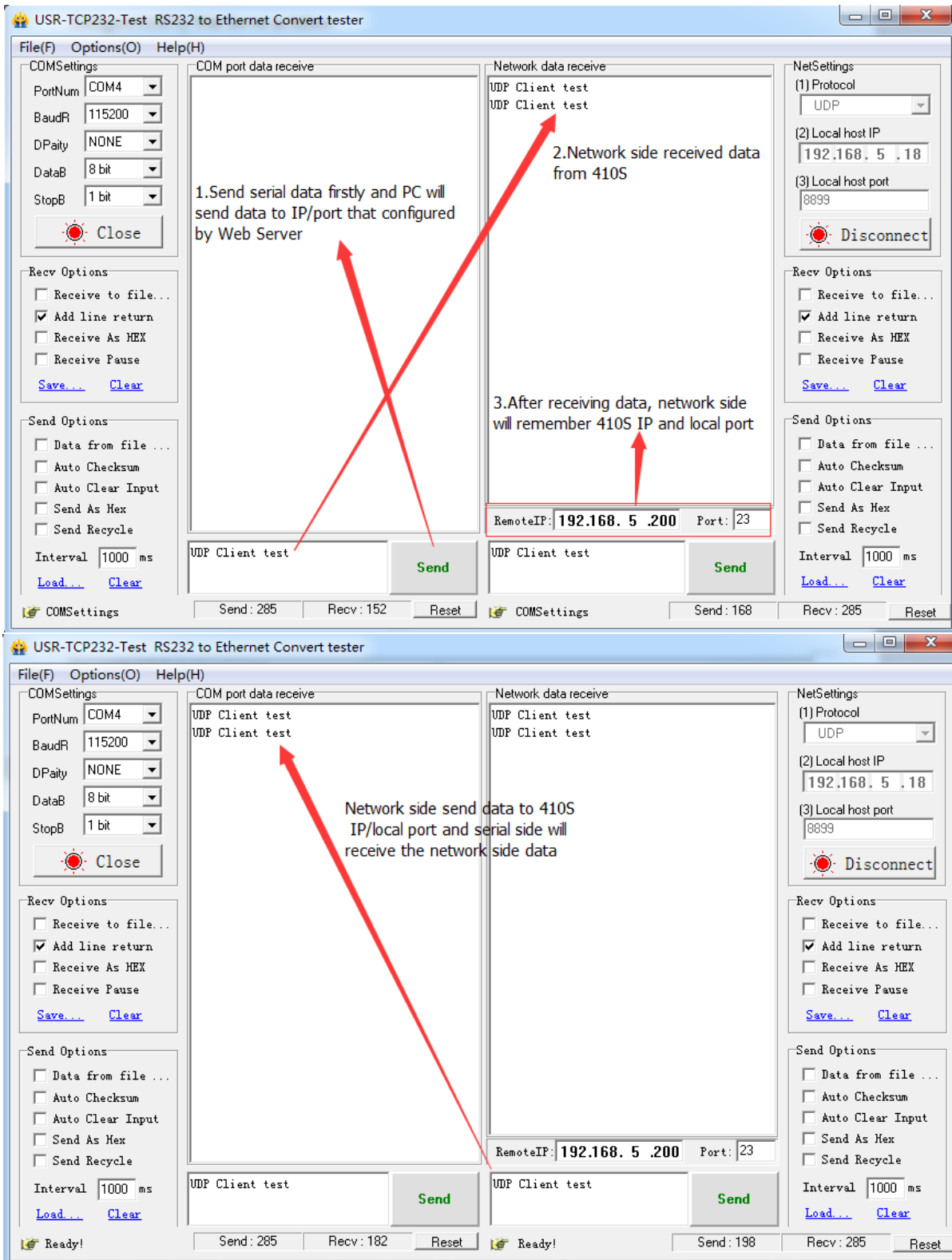


Figure 7 UDP Client mode data transmission

4.Contact Us

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6.Update History

2018-01-22 V1.0.0 established.