SC10E32O S I ACR RJ

Secure Serial Server

User Manual

Version: 03

Issue Date: 12/8/2020

Preface

The user manual of this serial server has introduced this device:

- Product features
- Network management method
- Network management relative principle overview

Readers

This manual mainly suits for engineers as follows:

- Network administrator responsible for network configuration and maintenance
- On-site technical support and maintenance staff
- Network Engineer

Text Format Convention

Format	Description
“”	Words with “” represent the interface words. e.g.: "The port number".
>	Multi-level paths are separated by ">". Such as opening the local connection path description: Open "Control Panel> Network Connection> Local Area Connection".
Light Blue Font	It represents the words clicked to achieve hyperlink. The font color is as follows: ‘Light Blue’.

Symbols

Format	Description
 Notice	Remind the announcements in the operation, improper operation may result in data loss or equipment damage.
 Warning	Pay attention to the notes on the mark, improper operation may cause personal injury.
 Note	Make a necessary supplementary instruction for operation description.

Format	Description
 Key	Configuration, operation, or tips for device usage.
 Tips	Pay attention to the operation or information to ensure success device configuration or normal working.

Revision Record

Version No.	Revision Date	Revision Description
01	2020-09-30	Product release
02	2020-11-02	Upgrade
03	2020-12-08	Add ARP Settings and Serial Port Configuration Instance

Content

1 Log in the Web Interface

1.1 WEB Browsing System Requirements

Using this equipment, the system should meet the following conditions.

Hardware and Software	System Requirements
CPU	Above Pentium 586
Memory	Above 128MB
Resolution	Above 1024x768
Color	256 color or above
Browser	Above Internet Explorer 6.0
Operating system	Windows XP/7/8/10

1.2 Set the IP Address of the Computer

The default management of device is as follows:

IP Settings	Default Value
IP address	192.168.1.254
Subnet mask	255.255.255.0

Note

- The network configuration of the device supports single IP and double IP modes, and the default is single IP mode.
- In the single IP mode, the default IP address is 192.168.1.254, and the device WEB interface can be accessed through the connection port LINK1 or port LINK2.
- In the dual IP mode, port LINK1 and port LINK2 have different IP addresses, so it is necessary to access the WEB interface according to the actual IP address.

When configuring a device through the Web:

- Before conducting remote configuration, please confirm the route between computer and device is reachable.
- Before making a local configuration, make sure that the IP address of the computer and the serial server are on the same subnet.

  Notes:
  While configuring the device for the first time, if it's the local configuration mode, first confirm the network segment of current PC is 1.

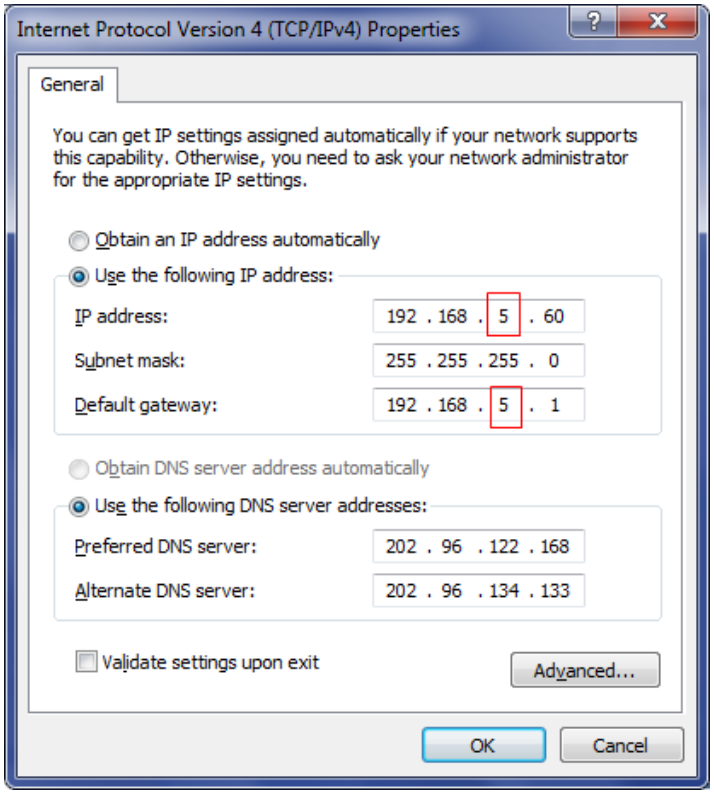
Eg: Assume that the IP address of the current PC is 192.168.5.60, change the network segment "5" of the IP address to "1".

Operation Steps

Amendment steps as follows:

Step 1 Open "Control Panel> Network Connection> Local Area Connection> Properties> Internet Protocol Version 4 (TCP / IPv4)> Properties".

Step 2 Change the selected "5" in red frame of the picture below to "1".



Step 3 Click “OK”, IP address is modified successfully.

Step 4 End.

1.3 Log in the Web Configuration Interface

Operation Steps

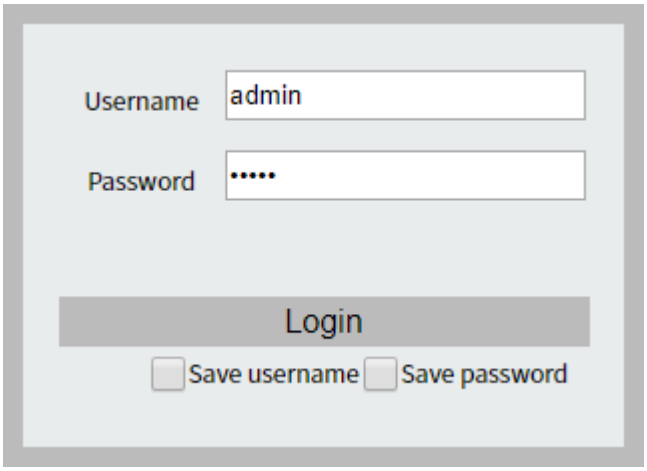
PC is connected to the port LINK1 or LINK2 of the device, and the operation steps for logging into the WEB configuration interface are as follows:

Step 1 Run the computer browser.

Step 2 Enter the address of the device "http://192.168.1.254" in the address bar of the browser.

Step 3 Click the “Enter” key.

Step 4 Pop up a window as the figure below, enter the user name and password on the login window.



Note:

- The default user name and password for the serial server are "admin", which is strictly case-sensitive when typing.
- Default username and password have the administrator privileges.

Step 5 Click “Login”.

Step 6 End.

After login in successfully, user can configure relative parameters and information according to demands.

Note:

After logging in to the device, you can modify the IP address of the serial server for ease of use.

2 Overview

2.1 Device Information

Function Description

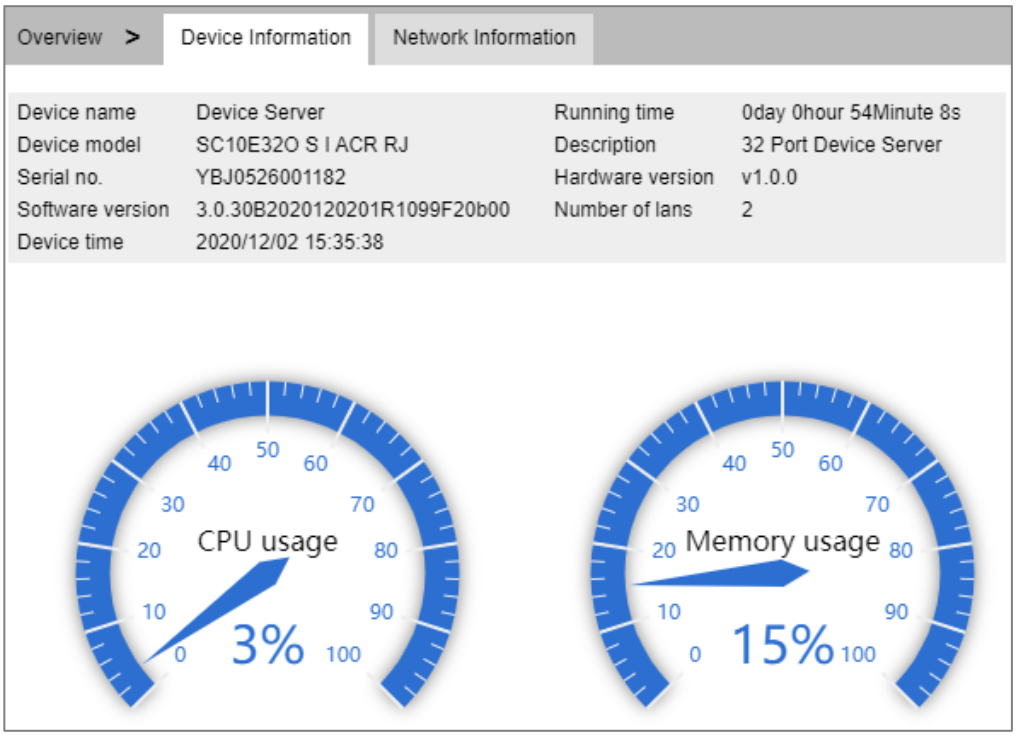
On the "Device information" page, you can view other device information such as device model, description information, software version, hardware version, running time, CPU utilization rate, memory utilization rate, etc.

Operation Path

Open in order: "Overview > Device information".

Interface Description

The Device information interface is as follows:



Main element configuration description of Device information interface:

Interface Element	Description
Device name	Network identity or device type used by the device.
Device model.	Device model or port information.
Serial No.	Serial number of the device
Software Version	Current software version information, updated software version with more features.
Device time	The current device time display. synchronizes the local PC or NTP server time.
Running time	Running time of the current device.
Description	Description information of the device.
Hardware Version	Current hardware version information, pay attention to the hardware version limits in software version.
Number of LANs	The network port number of the device.
Build date	The newest build time of software version currently in use
CPU Utilization	CPU usage of the current device.
Memory Utilization	Memory usage of the current device.

2.2 Network Information

Function Description

On the page of "Network information", user can check device network address information and DNS server information.

Operation Path

Open in order: "Overview > Network information".

Interface Description

Network information interface as follow:

The main element configuration instructions in the network information interface

Interface Element	Description
LAN1	**LAN1 information bar**
IP configuration	Shows how the LAN 1 of the device gets the IP address.
Netmask	Display device subnet mask.
MAC address	Display device LAN 1 MAC address.
IP address	Display LAN1 IP address.
Gateway	Display LAN1 gateway address.
LAN2	**Network card 2 information bar (dual-IP mode)**
IP configuration	Shows how the LAN 2 of the device gets the IP address.
Netmask	Display device LAN2 subnet mask.
MAC address	Display device LAN 2 MAC address.
IP address	Display LAN2 IP address.
Gateway	Display LAN2 IP address.
DNS server	**DNS server information bar**
DNS1	Display device main DNS server address.
DNS2	Display device backup DNS server address.

3 Network Configuration

Function Description

On the Network Configuration page, you can configure single IP or dual IP network mode, as well as device IP address and DNS server address. The device provides two Ethernet ports, which can work in redundant mode, switching mode and dual IP mode to meet the requirements of various network environments. The network address of the device supports DHCP/BOOTP protocol dynamic acquisition or manual static configuration.

DNS, full Name Domain Name System. Domain DNS helps users find paths on the Internet. Every computer on the Internet has a unique address called an "IP address" (Internet protocol address). Because IP addresses (a string of Numbers) are hard to remember, DNS allows users to replace them with a common string of letters (" Domain Names ").

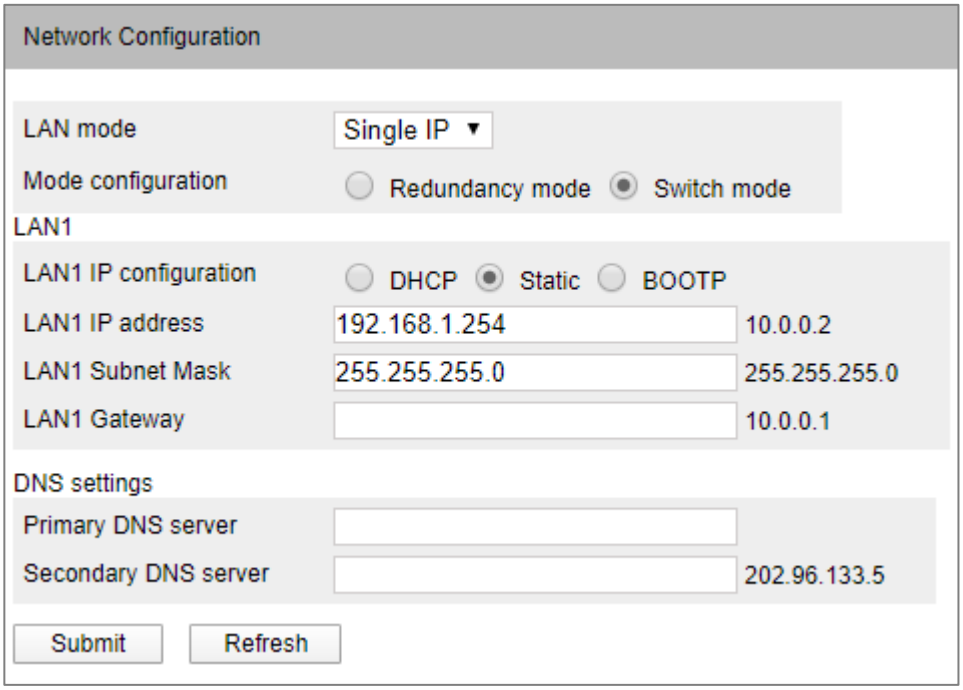
DNS refers to the Domain Name Server. On the Internet, there is a one-to-one correspondence between domain names and IP addresses. Although domain names are easy for people to remember, machines can only know each other's IP addresses. The conversion between them is called domain name resolution which needs to be done by a dedicated domain name resolution server, DNS is the server for domain name resolution.

Operation Path

Open: “Network Configuration”.

Interface Description

Network Setting interface as follow:



Network settings interface main element configuration instructions

Interface Element	Description
Lan mode	The network mode drop-down list of the device can be selected as follows: • Single IP: the device ports LINK1 and LINK2 are in the same network LAN1; • Dual IP: the device has dual IP and dual MAC addresses, with port LINK1 in network LAN1 and port LINK2 in network LAN2.
Mode configuration	In the single IP mode, the working mode of the equipment network port can be checked as follows: • Redundancy mode: Ports LINK1 and LINK2 are redundant ports, which support link backup. One port is in active state and one port is in backup state; • Switch mode: ports LINK1 and LINK2 are normal Ethernet ports.
LAN1	**LAN1 configuration bar**
LAN1 IP configuration	Configuration of network address of device LAN 1: • DHCP: Automatically obtain dynamic IP address, subnet mask and default gateway address from DHCP server. • Static: manually configure IP address, subnet mask and default gateway address.

Interface Element	Description
	• BOOTP: Automatically obtain IP address, subnet mask and default gateway address from BOOTP(Bootstrap Protocol) server.
LAN1 IP address	Manually set the IP address of the device NIC 1, which is 192.168.1.254 by default.
LAN1 Subnet mask	Manually set the subnet mask of the device NIC 1, which is 255.255.255.0 by default.
LAN1 gateway	Fill in the gateway address information of device network card 1, default is 192.168.1.1
LAN2	**LAN2 configuration bar (dual-IP mode)**
LAN2 IP configuration	Configuration of network address of device LAN 2: • DHCP: Obtain an IP address, subnet mask, and default gateway address automatically from DHCP server. • Static: manually configure IP address, subnet mask and default gateway address. • BOOTP: Automatically obtain IP address, subnet mask and default gateway address from BOOTP(Bootstrap Protocol) server.
LAN2 IP address	Manually set the IP address of the device network card 2.
LAN2 Subnet mask	Manually set the subnet mask of device network card 2.
LAN2 gateway	Fill in the gateway address information of device network card 2.
DNS Settings	**DNS Settings column**
Primary DNS server	DNS Sever IP address, for example: 202.96.133.4.
Secondary DNS server	DNS Sever backup IP address, for example: 202.96.133.5.

4 Communication Parameters

Function Description

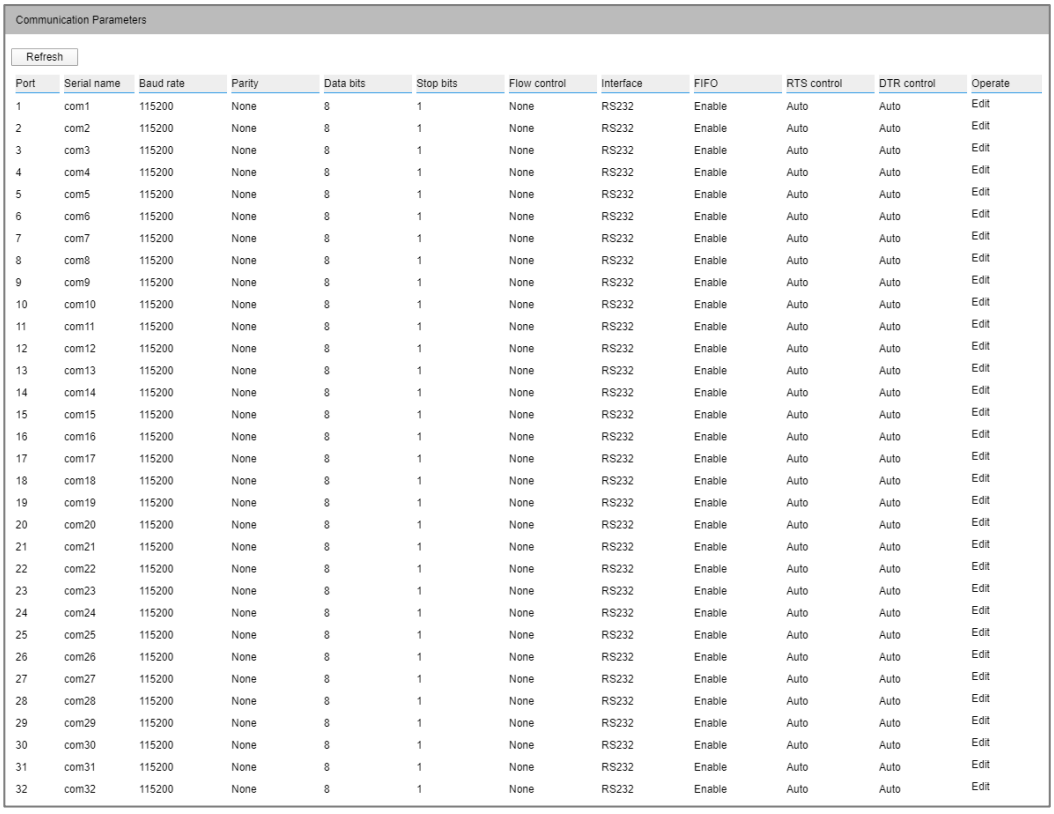
On the "Communication Parameters" page, you can view and configure the baud rate, parity bit, data bit, stop bit, flow control, interface type, FIFO function and RTS/DTR control of each serial port of the device.

Operation Path

Open: "Communication Parameters".

Interface Description

Communication Parameters interface is as follows:



Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

Main element configuration description of Communication Parameters interface:

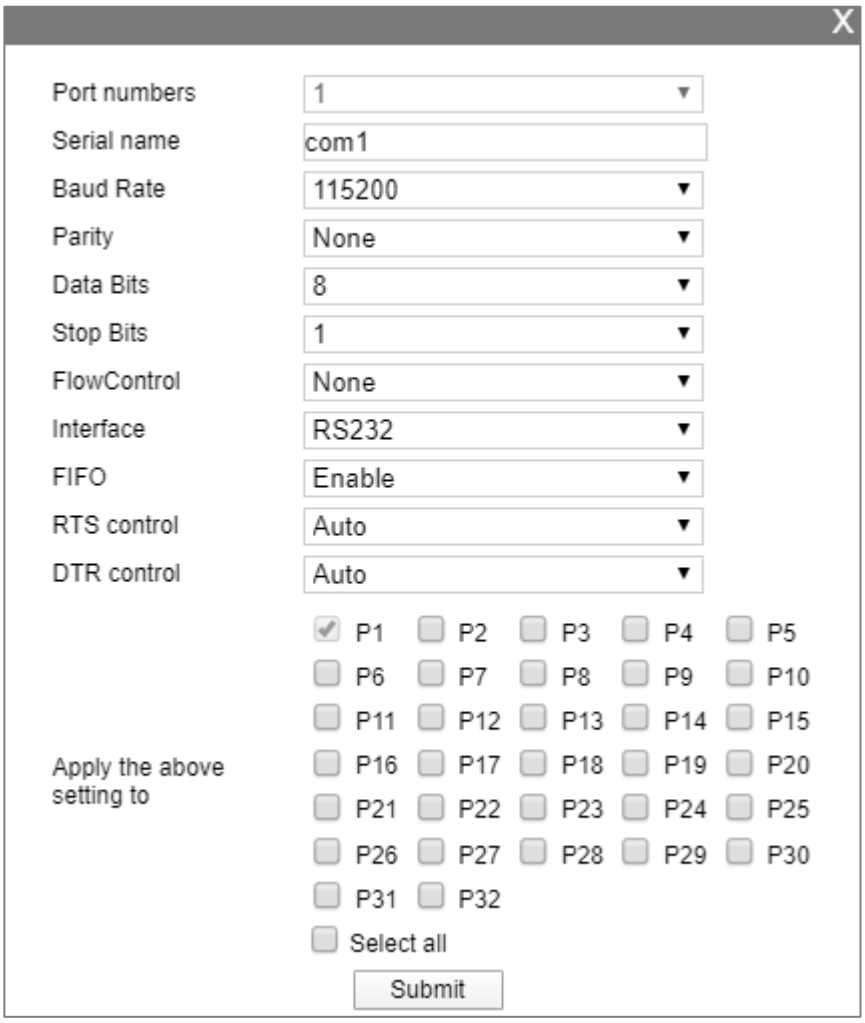
Interface Element	Description
Port	Display device serial port number.

Interface Element	Description
Serial name	Enter the serial name for the corresponding serial number in the “Serial name” text box.
Baud Rate	Display serial port baud rate.
Parity	Display serial port parity bit.
Data Bits	Display serial port data bit.
Stop Bits	Display serial port stop bit.
Flow Control	Display whether the serial port flow control function is enabled.
Interface	Display serial port interface mode.
FIFO	Display whether the serial port FIFO function is enabled.
RTS control	Displays the RTS pin control status of the corresponding serial port of the device.
DTR control	Display the DTR pin control status of the corresponding serial port of the device.
Operate	Click Edit to modify the serial port parameters of the corresponding serial port.

Click Edit in the serial port entry to modify the current serial port parameters.

Interface Description

The Edit interface is as follows:



The main element configuration description of serial port settings interface:

Interface Element	Description
Port Numbers	Display corresponding device serial port.
Serial name	The text box of serial port name, which supports 1-32 letters or numbers input, and can customize the name of the current serial port number.
Baud Rate	Choose baud rate of corresponding serial port. Unit: bps. Options: 110/300/600/1200/2400/4800/9600/19200/38400/57600/115200/230400/460800/921600
Parity	Select parity bits of corresponding serial number. Options: • None • Odd • Even • Mark • Space

Interface Element	Description
Data Bits	Select data bits of corresponding serial number. Options: • 5 bits • 6 bits • 7 bits • 8 bits
Stop Bits	Select stop bits of corresponding serial number. Options: • 1 bits • 2 bits Notes: When the data bit is 5bits, stop bit is 1bits and 1.5bits optional.
Flow Control	Flow control is used in two data transmission speed of different devices in the control of data flow technology to ensure that two devices communicate with each other to avoid data loss. Click the "flow control" drop-down list box, select the flow control parameters, the options are: • None • RTS/CTS • XON/XOFF • DTR/DSR
Interface	Determined by both hardware and software, options are as follows: • RS232 • RS485 • RS422
FIFO	Enable or disable the FIFO function, if the serial device does not support data transceiver cache FIFO, FIFO function can be disabled to avoid data transmission errors.
RTS control	RTS pin can be controlled, the options are: • Auto • Force ON • Force OFF
DTR control	DTR pin can be controlled, the options are: • Auto • Force ON • Force OFF
Apply the above setting to	Check the serial port check box to apply the current settings to the specified serial port.

5 Operation Modes

Function Description

On the "Operation Modes" page, you can configure the operation mode of the device corresponding to the serial port number.

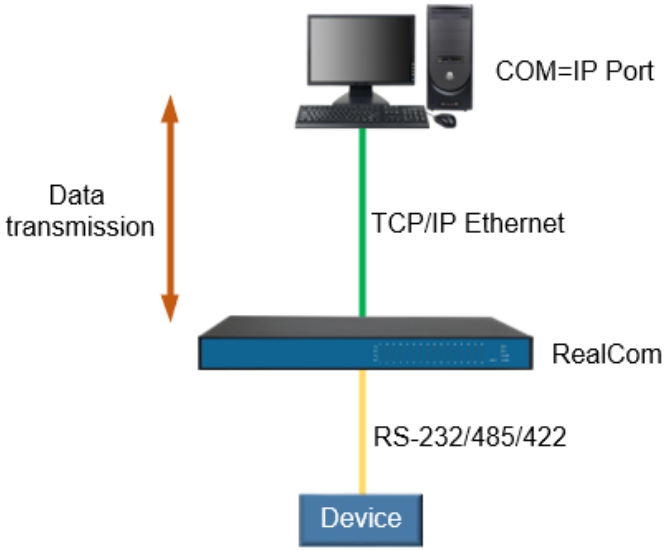
The working modes supported by the device are:

- RealCom Mode
- Reverse RealCom Mode
- TCP Server Mode
- TCP Client Mode
- UDP Server Mode
- UDP Client Mode
- UDP Rang Mode
- UDP Multicast Mode
- Pair Slave Mode
- Pair Master Mode
- Telnet Mode
- Reverse Telnet Mode
- RFC2217 Mode
- Redundant COM Mode
- DRDAS RealCom Mode
- DRDAS TCP Server Mode
- Disable Mode

Operation Path

Open "operation modes > port 1 > operation modes" in order. Under the "Operation Modes" menu, access to different serial ports can configure the corresponding serial port information, and the WEB interface configuration operation mode of all serial ports is the same.

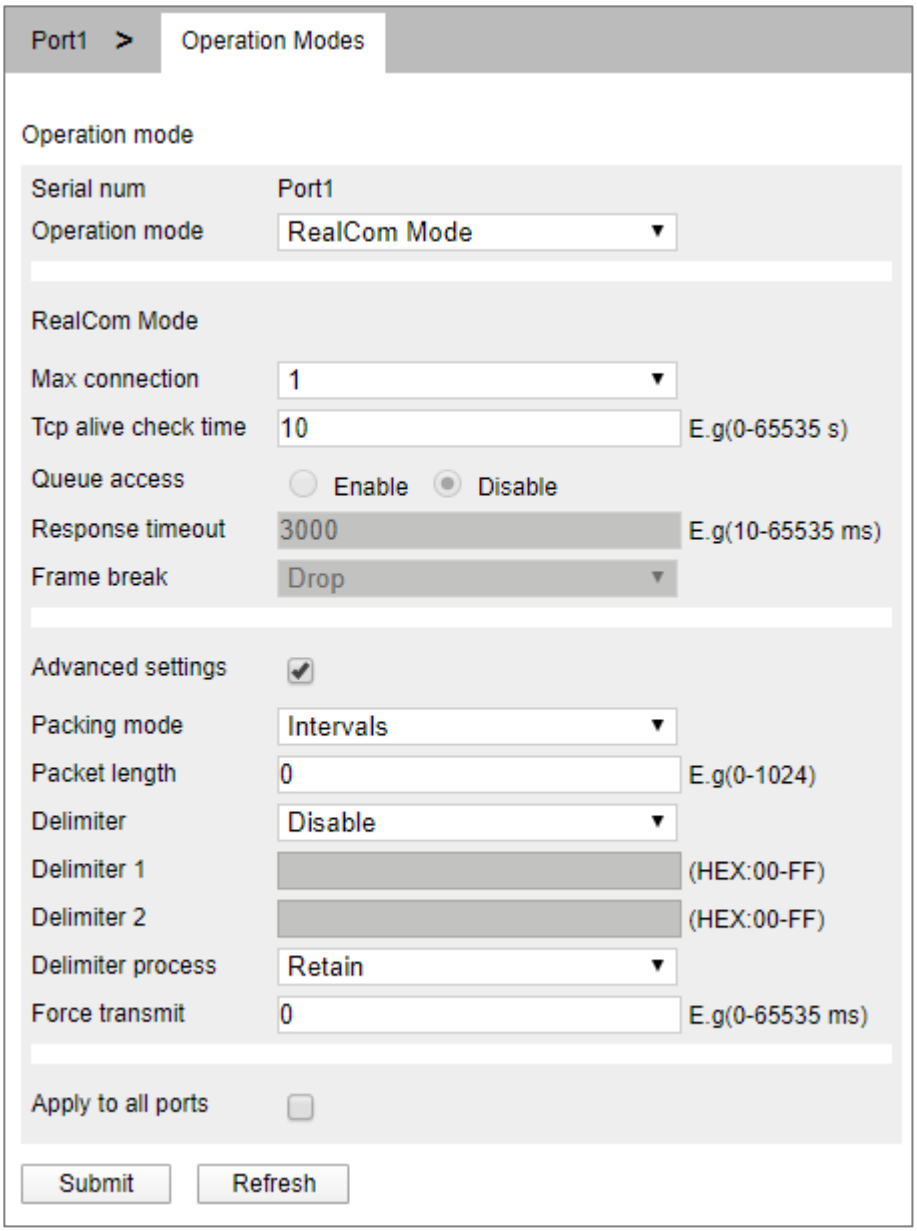
5.1 RealCom Mode



In RealCom mode, the serial port server and Windows / Linux operating system with the RealCOM drive work cooperatively. RealCom COM/TTY driver establishes a transparent or secure network transmission connection between the host and the serial device in the operating system. Map the serial port of the serial port server to the local COM/TTY device of the host according to the user configured serial server IP address and serial port number and other parameters. The original serial device software or communication module without modification can be used directly without modification. The RealCom driver gets the data be sent to the local COM / TTY device of the host, then sends it over Ethernet in the form of TCP / IP packet. At the other end of the transmission, the serial server will receive the TCP / IP packet and analyse the packet, and after unpacking send the original data to the serial device through the corresponding serial port, and vice versa.

Interface Description

The interface of RealCom Mode is as follows:



Main element configuration instructions in RealCom Mode interface

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode

Interface Element	Description
	• UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
RealCom Mode	**RealCom Mode configuration bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
TCP alive check time	If there isn't any TCP activity within schedule time, the system will automatically send connection detection message and check whether the TCP connection is valid. If the reply packet of opposite side hasn't been received after sending probe packet for 3 times, system will regard the opposite side as down and forwardly close the communication connection.
Queue access	With multiple host connections, the command mode only supports one request and one response from each host, and one response data can be cached in response to other same requests. Options are as follows: • Enable; • Disable; Note: Command mode is enabled when the number of connections is greater than 1.
Response timeout	Time interval that allows the serial server to respond to each host's request, the communication between serial server and host is deemed to be completed after schedule time, serial server continues to deal with the next host request.

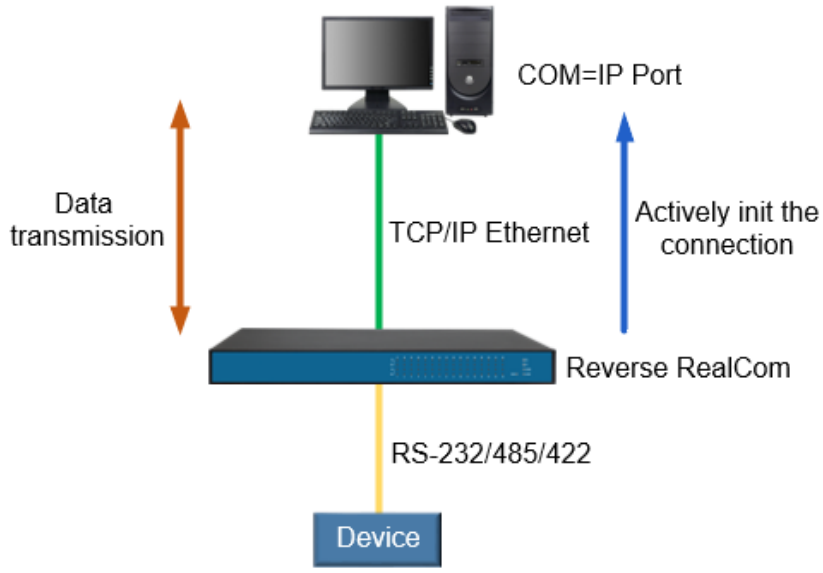
Interface Element	Description
Frame break	The processing mode of serial port data with no request and automatic response of serial port equipment is as follows: • Discard: discard the unrequested serial data; • Transmit to the last communication connection: transmit the unrequested serial port data to the last communication connection; • Transmit to all open connection: transmit the unrequested serial port data to all open connection;
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1024. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1; • 2: enable delimiter 2. Notes: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options:

Interface Element	Description
	• Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

Notice

- When the maximum number of connections is greater than 1, set the parameters to be consistent when multiple hosts are connected to the same serial port, otherwise it will cause communication error.
- Communication Parameters of real serial port will be automatically changed according to communication parameters of virtual serial port, and real-time communication parameters of serial port of serial port server can be viewed through "Communication Parameters".

5.2 Reverse RealCom Mode

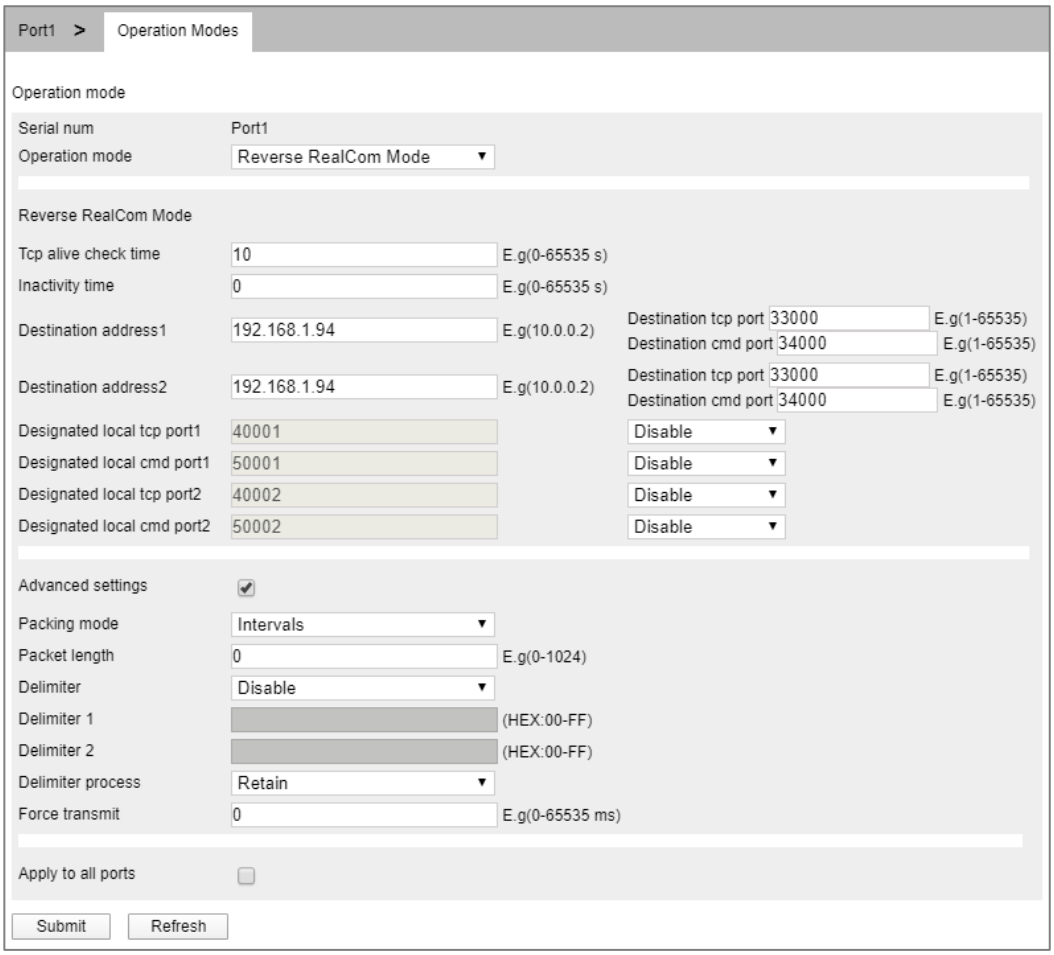


When serial server uses private IP address or is in a dynamic IP address environment, the RealCOM mode will not work. Under this circumstance, both remote host/server cannot connect to serial server. At this point, establish connection via reverse RealCOM, the serial server would send request and connect to remote host/server that has installed COM/TTY drivers, and map the serial port of the serial server to the local COM/TTY device of the host. The software or communication module of the original serial device could be used directly without modification.

The RealCom driver gets the data be sent to the local COM / TTY device of the host, then sends it over Ethernet in the form of TCP / IP packet. At the other end of the transmission, the serial server will receive the TCP / IP packet and analyse the packet, and after unpacking send the original data to the serial device through the corresponding serial port, and vice versa.

Interface Description

Reverse RealCom Mode interface is as follows:



Reverse RealCom Mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial num	Displays the serial number of the device currently configured.
Operation mode	The working modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode

Interface Element	Description
	• Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
Reverse RealCom Mode	**Reverse RealCom Mode Configuration Bar**
TCP alive check time	If there isn't any TCP activity within schedule time, the system will automatically send connection detection message and check whether the TCP connection is valid. If the reply packet of opposite side hasn't been received after sending probe packet for 3 times, system will regard the opposite side as down and forwardly close the communication connection.
Inactivity time	Set the TCP timeout for the serial server's current data communication link. • If the idle time-out during communication is larger than 0, the system would close the TCP connection without any data transmission activity occurring in the specified time automatically. • 0 means the free TCP connection would not be closed automatically.
Destination IP address 1	Specify device to connect to the IP address 1 of remote host/server, such as 10.0.0.2.
Destination tcp port	The data port number of destination IP address 1, ranging from 0 to 65535. Note: Make sure the port is not blocked by the firewall or occupied by other programs when using port numbers.
Destination cmd port	The command port number of destination IP address 1, ranging from 0 to 65535.
Destination IP address 2	Specify device to connect to the IP address 2 of remote host/server, such as 10.0.0.2.
Destination tcp port	The data port number of destination IP address 2, ranging from 0 to 65535. Note: Make sure the port is not blocked by the firewall or occupied by other programs when using port numbers.
Destination cmd port	The command port number of destination IP address 2, ranging from 0 to 65535.

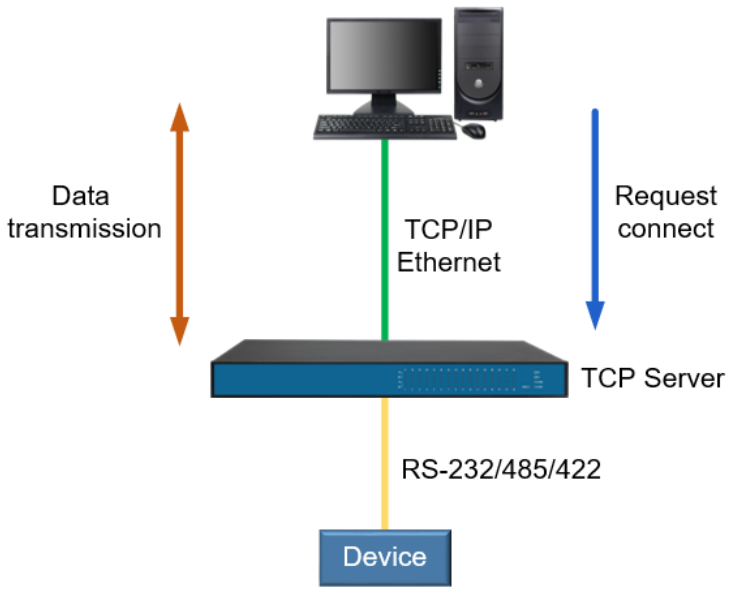
Interface Element	Description
Designated local tcp port1	Local data port 1 that device and destination IP address 1 connect, options are as follows: • Enable: configure a specific local data port manually when enabled. • Disable: system distributes local data port automatically when disable.
Designated local cmd port1	Local command port 1 that device and destination IP address 1 connect, options are as follows: • Enable: configure a specific local command port manually when enabled. • Disable: system distributes local command port automatically when disabled.
Designated local tcp port2	Local data port 2 that device and destination IP address 2 connect, options are as follows: • Enable: configure a specific local data port manually when enabled. • Disable: system distributes local data port automatically when disable.
Designated local cmd port2	Local command port 2 that device and destination IP address 2 connect, options are as follows: • Enable: configure a specific local command port manually when enabled. • Disable: system distributes local command port automatically when disabled.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1460. It means no limit on data transmission length when it' set to 0.

Interface Element	Description
	Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

Notice

Communication Parameters of real serial port will be automatically changed according to communication parameters of virtual serial port, and real-time communication parameters of serial port of serial port server can be viewed through "Communication Parameters” page.

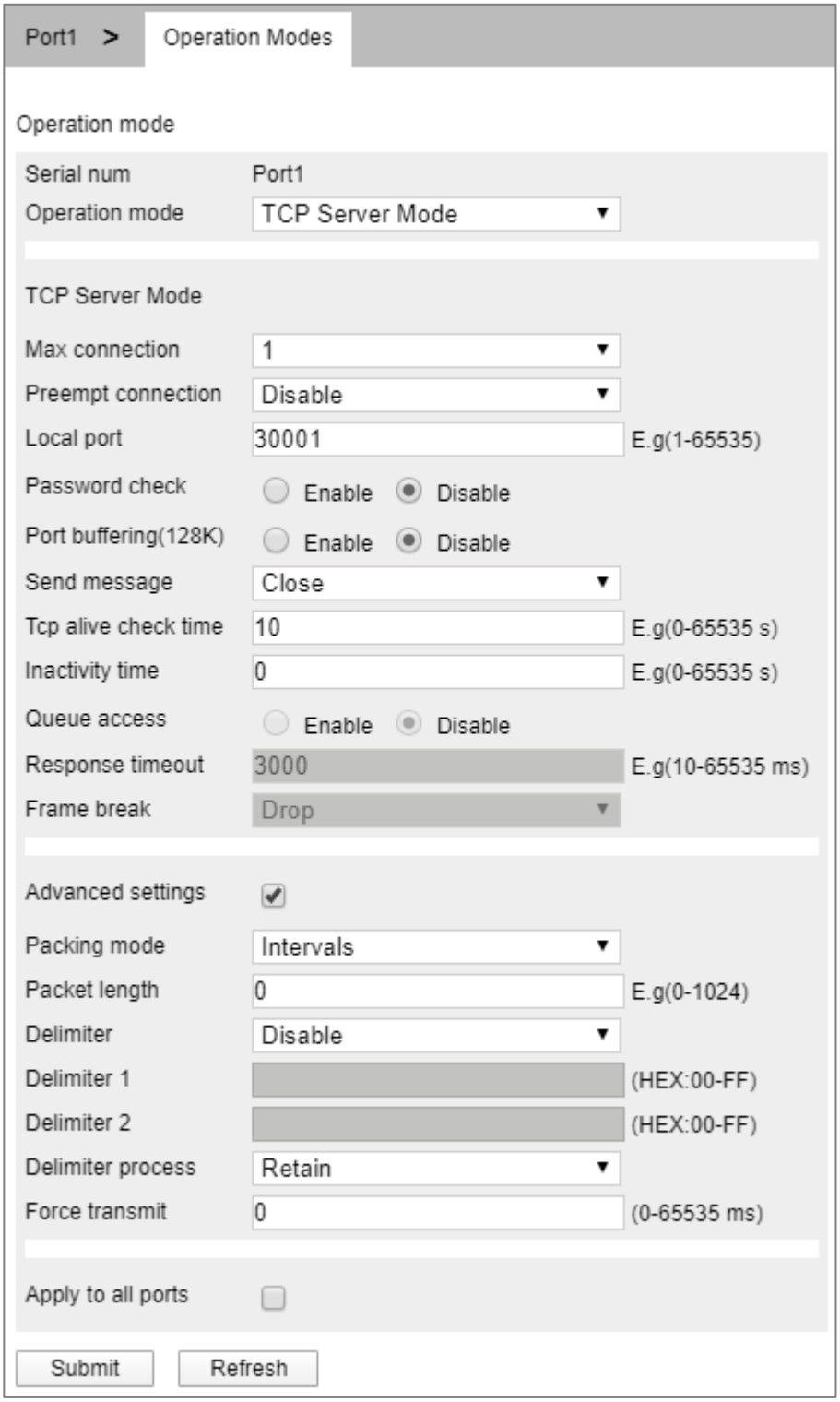
5.3 TCP Server Mode



In the TCP server mode, the serial device server is assigned an IP port number, waiting for the host connection passively. When the host initiates a connection request and establishes a connection with the serial device server, the host can realize bidirectional transparent or encrypted data transmission through the network connection and the serial port. The TCP server mode supports up to four session connections simultaneously, allowing multiple hosts to simultaneously read or send Ethernet data to a serial device.

Interface Description

TCP server mode interface is as follows:



TCP server mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode

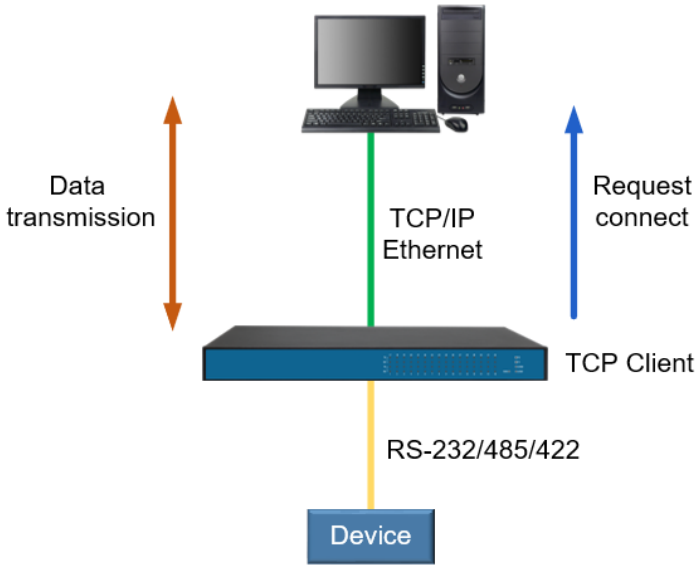
Interface Element	Description
	• Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
TCP Server Mode	**TCP Server Mode Configuration bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
Preempt connection	When exceed the maximum number of connection request, the number of sessions that have established TCP connections can be preempted, options are as follows: • Disable: established TCP link are not allowed to be preempted; • First connection: the TCP link that first establishes will be preempted; • Longest uncommunicated: the longest uncommunicated TCP link will be preempted.
Local port	The destination connection port of TCP client.
Password check	After the device is connected with the remote client, the peer client needs to send the authentication password to the device. After the password is verified, the client can communicate with the device. Options: • Enable: Enable password verification function. • Disable: Disable password verification function. Note:

Interface Element	Description
	When password verification is enabled, only users with "admin" account privileges can send / receive messages using this device. • The first data sent by the peer client to the device defaults to the check password. • Verification password is "admin" account password. • If the password is entered incorrectly, re-establish the connection and then re-enter the password.
Port buffering(128K)	Port data cache, which can cache serial port data up to 128K after the port is disconnected. When the network returns to normal, the cached data is forwarded. The tick options are as follows: • Enable • Disable
Send message	The information sent after the device is connected to the peer client. Options: • Ipaddr: After the connection is successful, send the IP address of the device to the remote client. • Devicename: After the connection is successful, send the devicename of the device to the remote client. • turnoff: After the connection is successful, no information is sent to the peer client.
TCP alive check time	If there isn't any TCP activity within schedule time, the system will automatically send connection detection message and check whether the TCP connection is valid. If the reply packet of opposite side hasn't been received after sending probe packet for 3 times, system will regard the opposite side as down and forwardly close the communication connection.
Inactivity time	Set the TCP timeout for the serial server's current data communication link. If the idle time-out during communication is larger than 0, the system would close the TCP connection without any data transmission activity occurring in the specified time automatically. 0 means the free TCP connection would not be closed automatically.
Queue access	With multiple host connections, the command mode only supports one request and one response from each host, and

Interface Element	Description
	one response data can be cached in response to other same requests. Options are as follows: • Enable; • Disable; Note: Command mode is enabled when the number of connections is greater than 1.
Response timeout	Time interval that allows the serial server to respond to each host's request, the communication between serial server and host is deemed to be completed after schedule time, serial server continues to deal with the next host request.
Frame break	The processing mode of serial port data with no request and automatic response of serial port equipment is as follows: • Discard: discard the unrequested serial data; • Transmit to the last communication connection: transmit the unrequested serial port data to the last communication connection; • Transmit to all open connection: transmit the unrequested serial port data to all open connection;
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1460. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function;

Interface Element	Description
	• 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all ports” check box to apply the current settings to all serial ports.

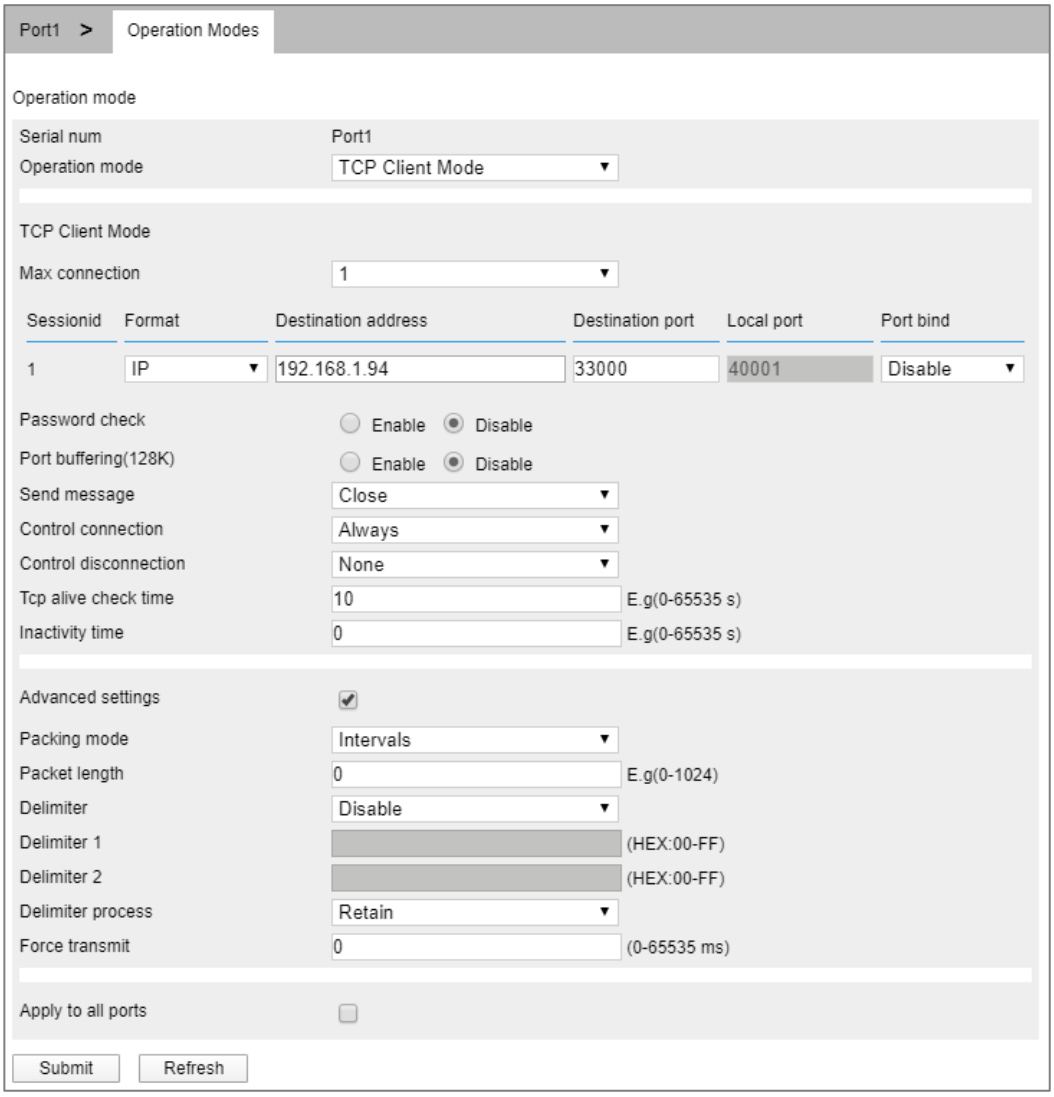
5.4 TCP Client Mode



In the TCP client mode, the serial device server can automatically establish a network connection with the host specified by the user when the serial data arrives. When the data transmission is completed, the serial server will automatically shut down the network connection according to the parameters such as TCP alive time and TCP idle timeout time. Similarly, TCP client mode can support up to four session connections at the same time, so that multiple hosts can simultaneously read or send Ethernet data to a serial device.

Interface Description

TCP Client mode interface is as follows:



TCP client mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode

Interface Element	Description
	• Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
TCP Client Mode	**TCP Client Mode Configuration Bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
SessionID	The number of TCP connection sessions corresponds to the maximum number of connections.
Format	Dest Address Format, options are as follows: • IP: destination address is in IP address format; • DNS: destination address is in DNS domain name address format.
Destination addresses	Enter the IP address of the server to be connected by the serial device server.
Destination port	Enter the TCP port number of the server to be connected by the serial device server.
Local port	The serial server provides a local service or connection port number for the TCP connection that is used to connect and communicate with the server.
Port bind	Local port fixed, options are as follows: • Disable: the system automatically selects the idle local port to establish a connection with the server; • Enable: connect to the server using a manually configured local port.
Password check	After the device is connected with the remote client, the peer client needs to send the authentication password to the device. After the password is verified, the client can communicate with the device. Options: • Enable: Enable password verification function. • Disable: Disable password verification function.

Interface Element	Description
	Note: When password verification is enabled, only users with "admin" account privileges can send / receive messages using this device. • The first data sent by the peer client to the device defaults to the check password. • Verification password is "admin" account password. • If the password is entered incorrectly, re-establish the connection and then re-enter the password.
Port buffering(128K)	Port data cache, which can cache serial port data up to 128K after the port is disconnected. When the network returns to normal, the cached data is forwarded. The tick options are as follows: • Enable • Disable
Send message	The information sent after the device is connected to the peer client. Options: • Ipaddr: After the connection is successful, send the IP address of the device to the remote client. • Devicename: After the connection is successful, send the devicename of the device to the remote client. • turnoff: After the connection is successful, no information is sent to the peer client.
Control connection	Select how the serial server initiates a connection request. Options: • Always: Immediately after the system is started, it tries to establish a connection with the target host and automatically reconnects the target host after the connection is disconnected. • Char: Automatically connects to the target host when receiving data from the serial port. • DSROn: Automatically connects to the target host when the DSR signal is detected. • DCDOn: Automatically connects to the target host when the DCD signal is detected.
Control disconnection	Select how the serial server is disconnected. Options: • None: Never shut down the network connection automatically.

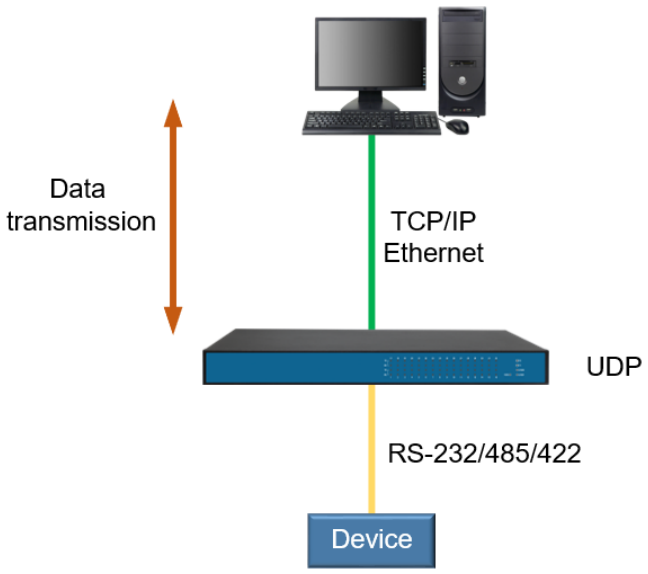
Interface Element	Description
	• DSROff: Automatically shuts down the network connection when the DSR signal is detected invalid. • DCDOff: Automatically shuts down the network connection when the DCD signal is detected invalid. • Idle: If the idle timeout time is greater than 0, the system will automatically shut down TCP connections that do not have any data send and receive activity for a specified period of time.
TCP alive check time	If there isn't any TCP activity within schedule time, the system will automatically send connection detection message and check whether the TCP connection is valid. If the reply packet of opposite side hasn't been received after sending probe packet for 3 times, system will regard the opposite side as down and forwardly close the communication connection.
Inactivity time	Set the TCP timeout for the serial server's current data communication link. If the idle time-out during communication is larger than 0, the system would close the TCP connection without any data transmission activity occurring in the specified time automatically. 0 means the free TCP connection would not be closed automatically.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1024. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.

Interface Element	Description
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

 Notice

The TCP timeout takes effect only when "Disconnect control" is set to "idle".

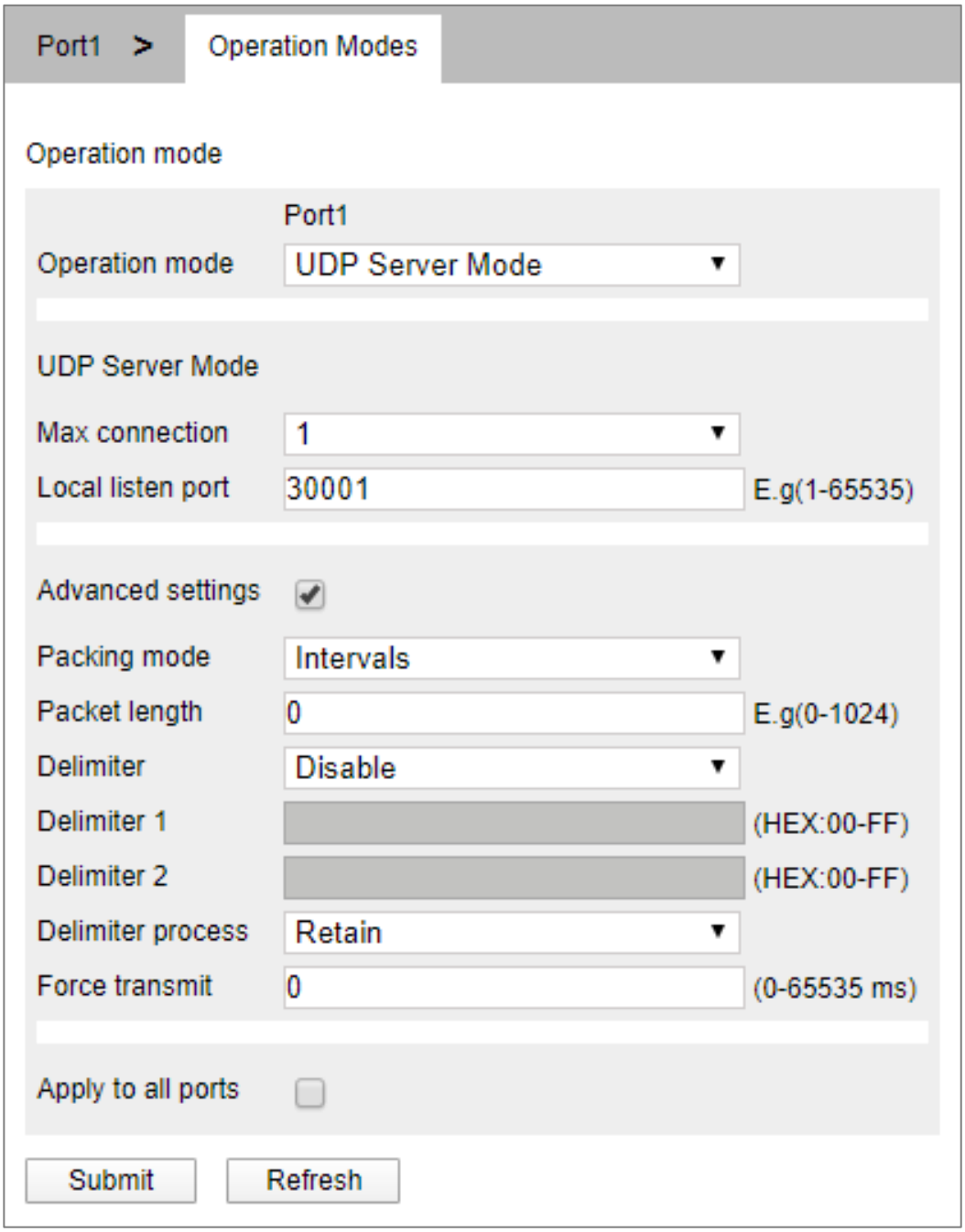
5.5 UDP Server Mode



In UDP server mode, the serial server through the UDP protocol and user-specified host for serial data transmission. UDP mode serial device server can transfer data from the serial device to one or more hosts, and the serial device server can also receive data from one or more hosts. Compared with TCP mode, UDP protocol is faster and more efficient.

Interface Description

TCP Server Mode interface is as follows:



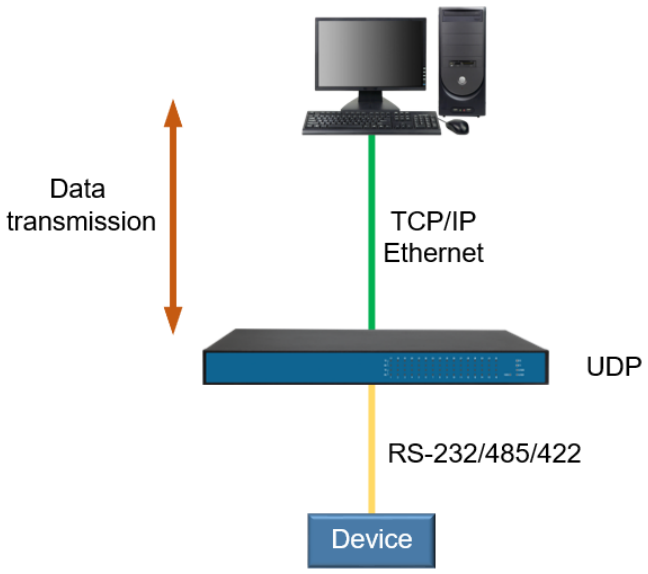
UDP Server Mode interface main element configuration instructions

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode

Interface Element	Description
	• UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
UDP Server Mode	**TCP Server Mode Configuration Bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
Local listen port	The network receives the listening port of UDP data. The user must assign a unique listening port to each serial port so that the system can normally receive UDP data.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1024. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows:

Interface Element	Description
	• Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

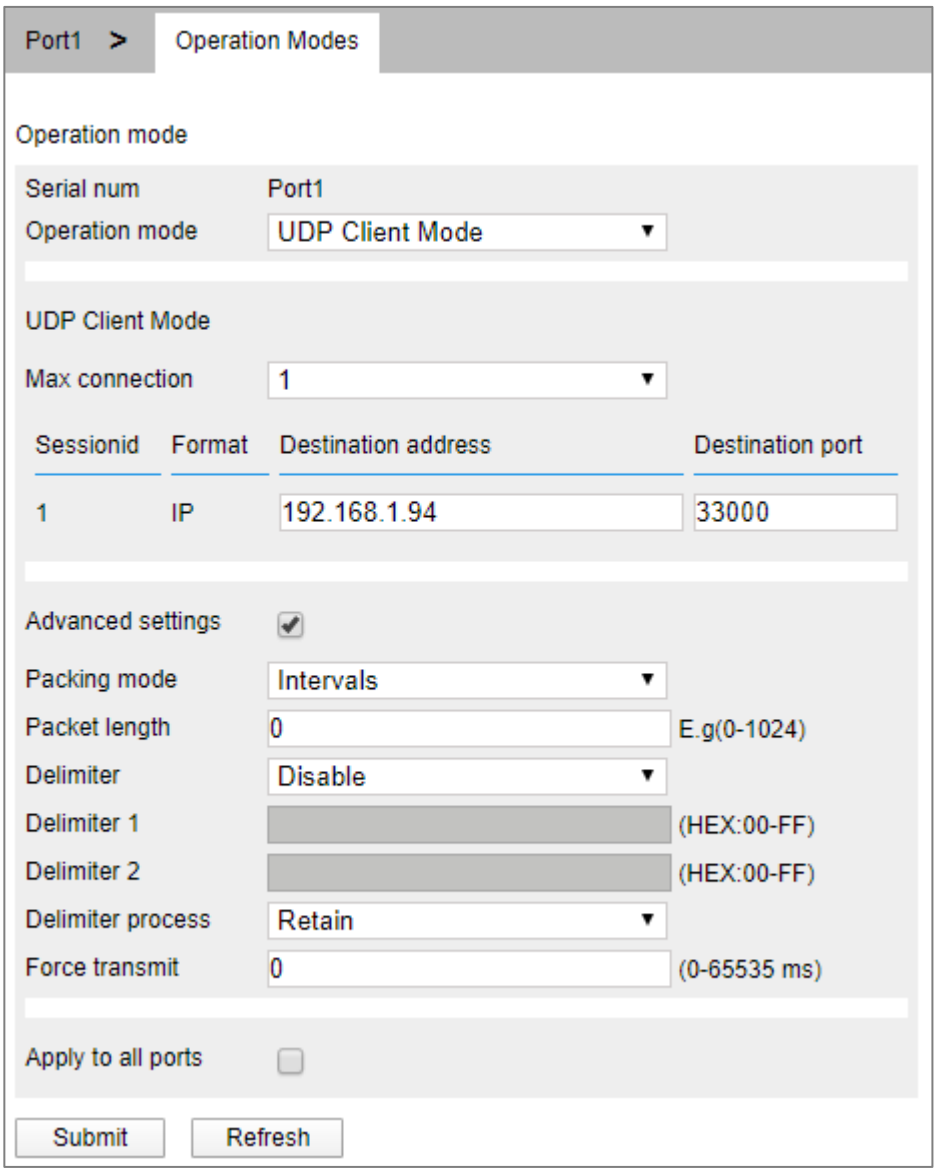
5.6 UDP Client Mode



In UDP server mode, the serial server through the UDP protocol and user-specified host for serial data transmission. UDP mode serial device server can transfer data from the serial device to one or more hosts, and the serial device server can also receive data from one or more hosts. Compared with TCP mode, UDP protocol is faster and more efficient.

Interface Description

UDP Client Mode interface is as follows:



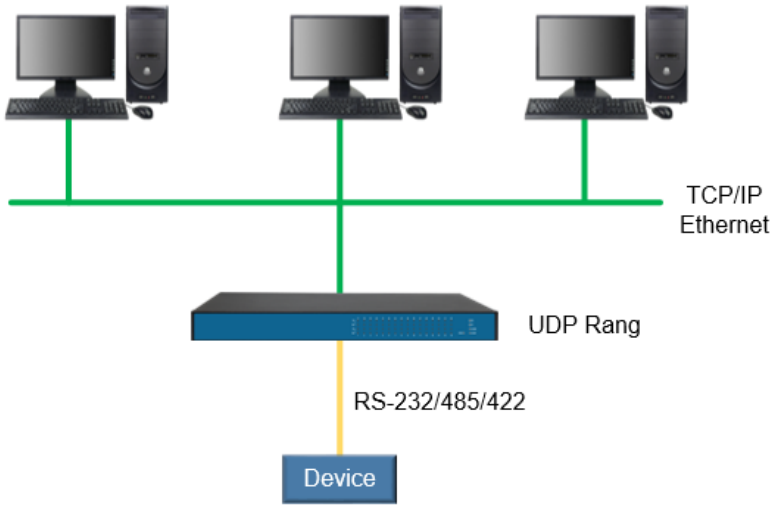
UDP Client Mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode

Interface Element	Description
	• Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
UDP Client Mode	**UDP Client Mode Configuration Bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
SessionID	The number of TCP connection sessions corresponds to the maximum number of connections.
Format	Destination address format.
Destination address	Enter the IP address of the server to be connected by the serial device server.
Destination port	Enter the TCP port number of the server to be connected by the serial device server.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1460. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.

Interface Element	Description
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

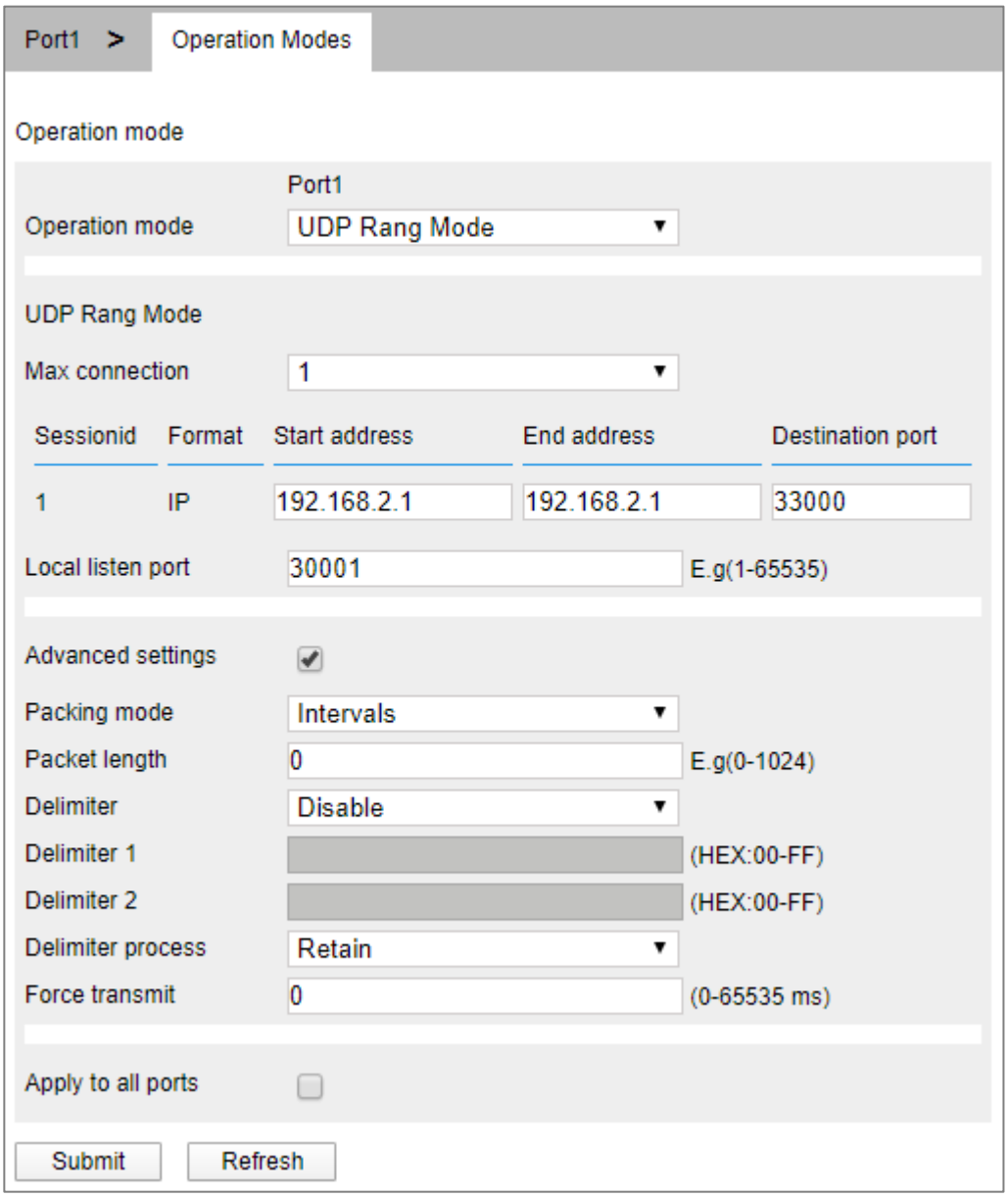
5.7 UDP Rang Mode



When the routers and switches and other devices do not support multicast, but also need to achieve the multicast function, you can make the serial server in UDP rang mode. In this mode, the serial server through the UDP protocol with the user specified the same network segment of the host advance serial data transmission, to achieve point to multipoint data communication. UDP port mode serial device can also receive data from one or more hosts.

Interface Description

UDP Rang Mode interface as follows:



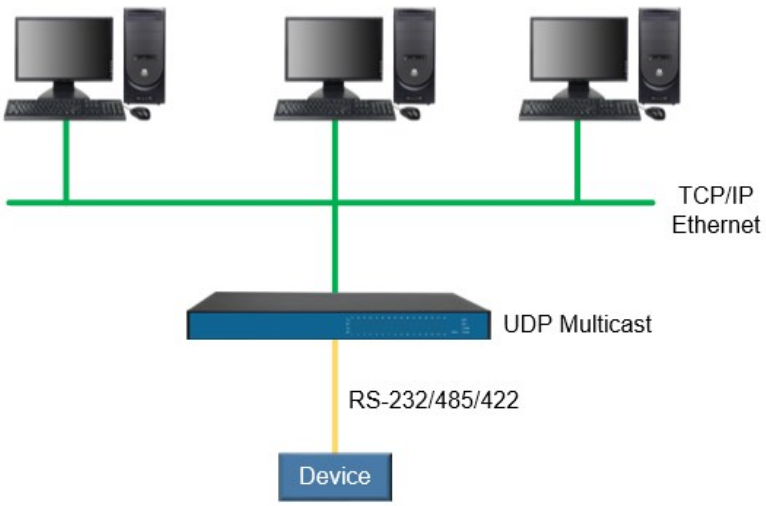
UDP Rang Mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode

Interface Element	Description
	• UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
UDP Rang Mode	**UDP Rang Mode Configuration Bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
SessionID	The number of TCP connection sessions corresponds to the maximum number of connections.
Format	Destination address format.
Start Address	Enter the start IP address of the UDP rang destination address.
End Address	Enter the end IP address of the UDP rang destination address.
Destination Port	Enter the port number of the host that will be connected by serial device server.
Local listen port	The network receives the listening port of UDP data. The user must assign a unique listening port to each serial port so that the system can normally receive UDP data.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packing length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to

Interface Element	Description
	the set frame length. The value range is 0~1024. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the "Apply to all port" check box to apply the current settings to all serial ports.

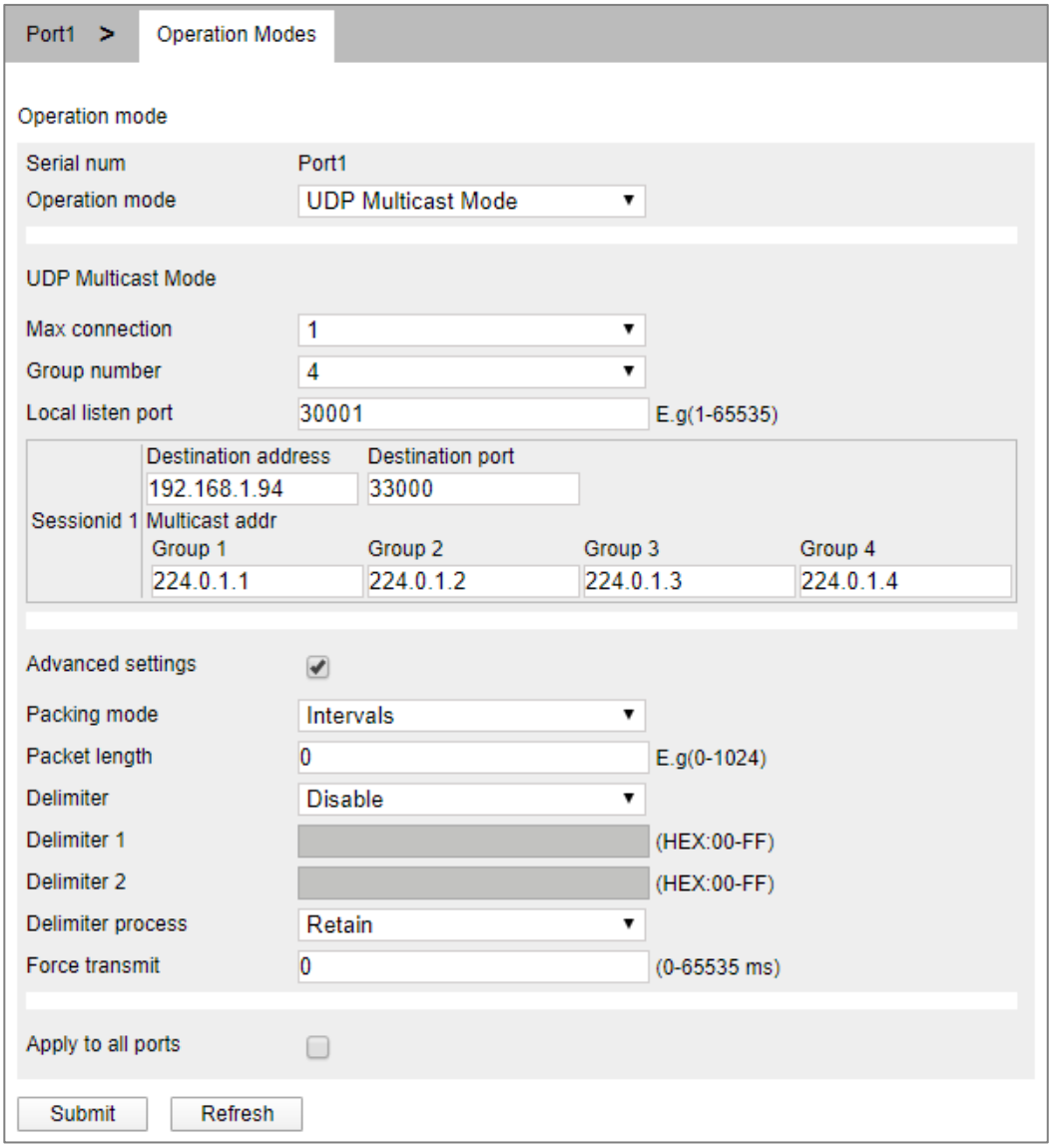
5.8 UDP Multicast Mode



In UDP multicast mode, the serial server can send unicast or multicast data of the serial device to one or more hosts specified by the user through the UDP protocol, and can also receive unicast or multicast data from one or more devices, enabling multipoint-to-multipoint communication.

Interface Description

UDP Multicast Mode interface as follows:



UDP Multicast Mode interface main element configuration instructions:

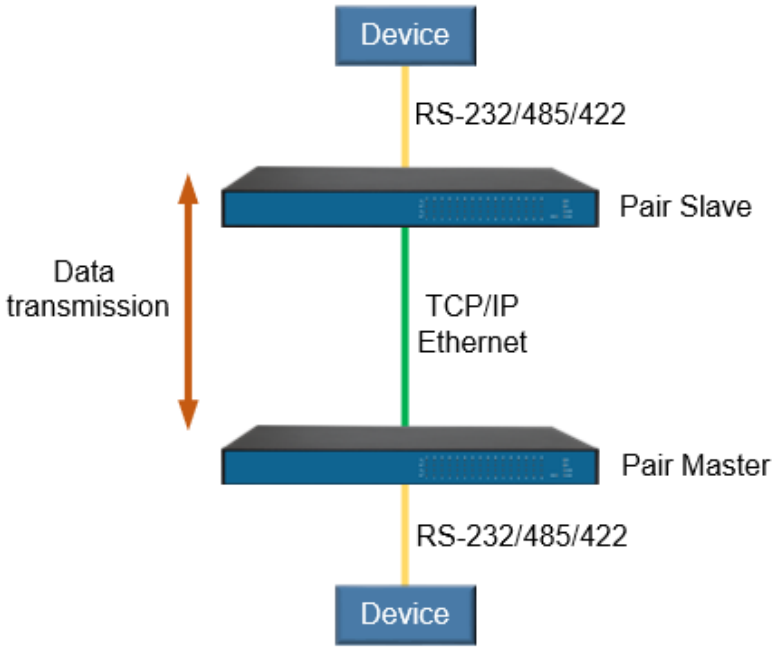
Interface Element	Description
Operation mode	**Working Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The working modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode

Interface Element	Description
	• UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
UDP Multicast Mode	**UDP Multicast Mode Configuration Bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
Group Number	Select the number of multicast groups and support up to four multicast groups.
Local listen port	The network receives the listening port of UDP data. The user must assign a unique listening port to each serial port so that the system can normally receive UDP data.
Destination addresses	Enter the IP address of the host that will be connected by serial device server.
Destination Port	Enter the port number of the host that will be connected by serial device server.
Multicast address	Group address is used for identifying an IP multicast group, multicast address range is: 224.0.0.0 ~ 239.255.255.255. The device can send or receive group data to or from multiple hosts.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out;

Interface Element	Description
	• Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1024. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.

Interface Element	Description
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

5.9 Pair Slave Mode

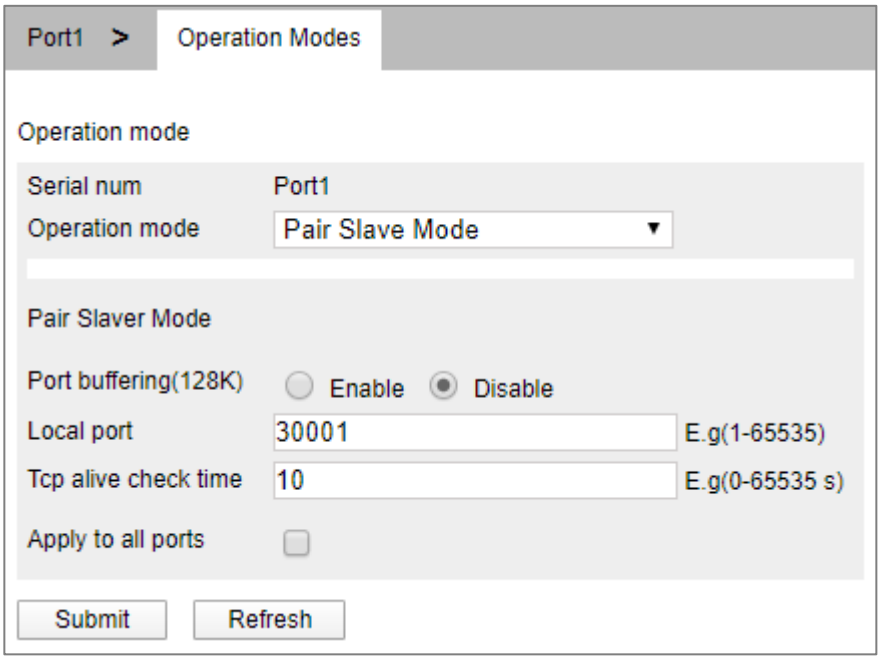


Pair mode requires two serial server devices to work together to break the serial data transmission distance limit. The two serial servers in this mode establish a network connection with each other via Ethernet and transparently transmit data from the respective serial port to each other.

In the pair mode, two serial servers need to be used in pairs. One of the serial server for the slave mode, for the passive connection, listen to a designated port, passively waiting for the connection. Another serial server is the master mode, and the destination address is the IP address of the slave mode serial server, the destination port is the listening port of the slave mode serial server.

Interface Description

Pair Slave Mode interface as follows:



Pair Slave Mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode

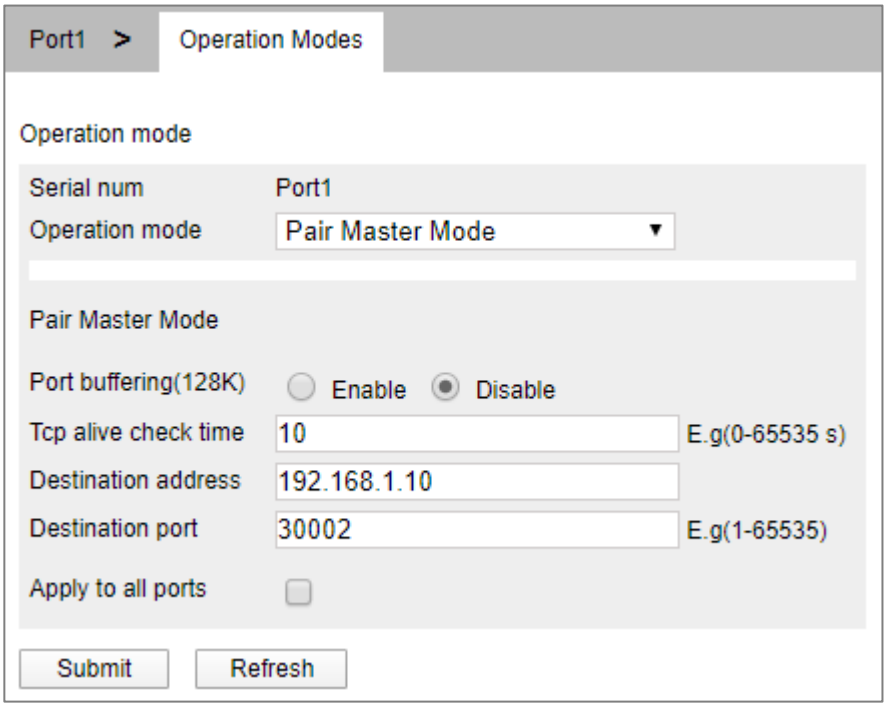
Interface Element	Description
	• Disable Mode
Pair Slave Mode	**Pair Slave Mode Configuration Bar**
Port buffering(128K)	Port data cache, which can cache serial port data up to 128K after the port is disconnected. When the network returns to normal, the cached data is forwarded. The tick options are as follows: • Enable • Disable
Local port	Applied to the pair salve mode, that is, the destination port of the pair master mode device.
TCP alive check time	The device sends a heartbeat packet by setting the time interval. If the device sends a heartbeat packet three times without receiving a response, the existing connection is disconnected. If set TCP Alive Time to "0", the function will be disable.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

5.10 Pair Master Mode

Refer to the previous section on Pair Slave Mode.

Interface Description

Pair Master Mode interface as follows:

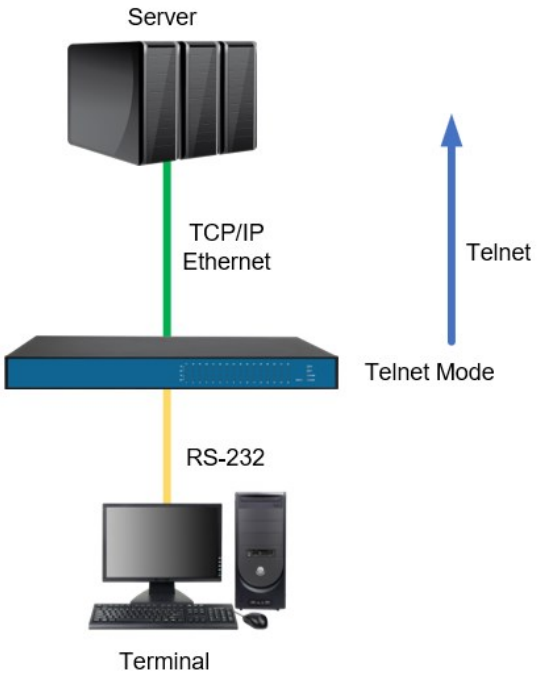


Pair Master Mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode

Interface Element	Description
	• DRDAS TCP Server Mode • Disable Mode
Pair Master Mode	**Pair Master Mode Configuration Bar**
Port buffering(128K)	Port data cache, which can cache serial port data up to 128K after the port is disconnected. When the network returns to normal, the cached data is forwarded. The tick options are as follows: • Enable • Disable
TCP alive check time	The device sends a heartbeat packet by setting the time interval. If the device sends a heartbeat packet three times without receiving a response, the existing connection is disconnected. If set TCP Alive Time to "0", the function will be disable.
Destination addresses	Applied to the pair master mode, that is, the IP address of the pair slave mode device.
Destination port	Applied to the pair master mode, that is, the listen port of the pair slave mode device.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

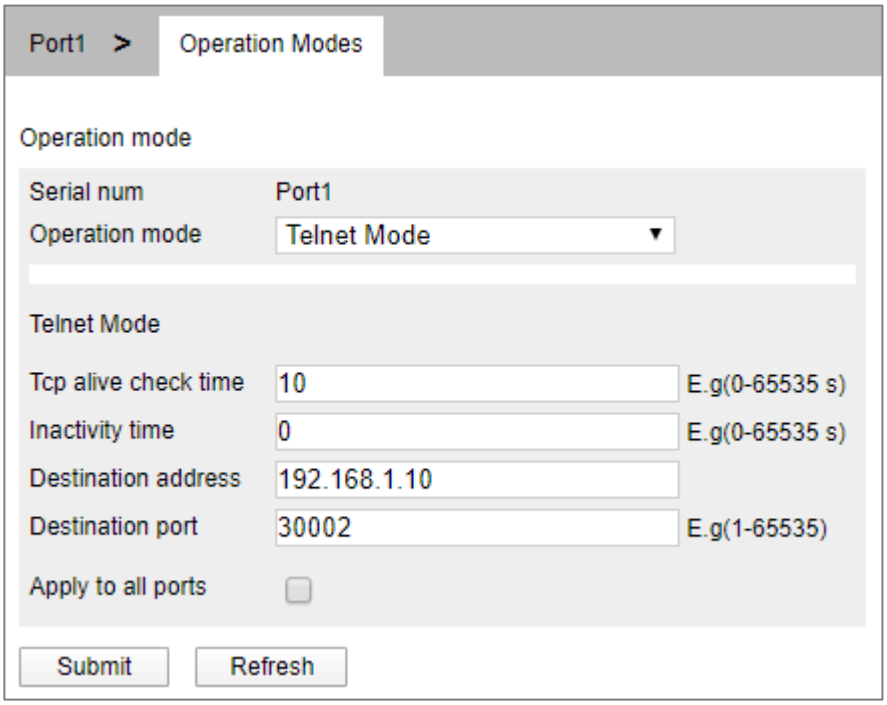
5.11 Telnet Mode



In Telnet mode, the device can connect serial terminal device and Ethernet transmission server device, realizing RS-232 terminal device to access the server through Telnet. The Ethernet server device needs to support the Telnet server function, and the device can automatically initiate access connection as a Telnet client. After establishing the connection, the serial terminal device can communicate with the server directly.

Interface Description

The interface of Telnet Mode is as follows:

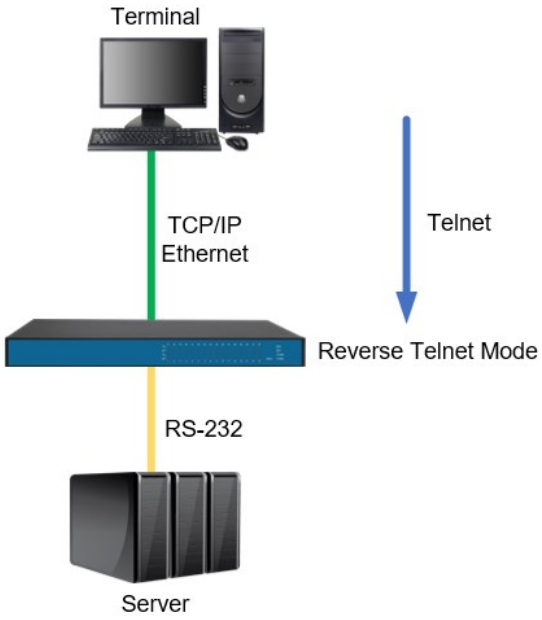


Main element configuration instructions in Telnet Mode interface

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode

Interface Element	Description
	• DRDAS TCP Server Mode • Disable Mode
Telnet Mode	**RealCom Mode configuration bar**
TCP alive check time	The device sends a heartbeat packet by setting the time interval. If the device sends a heartbeat packet three times without receiving a response, the existing connection is disconnected. If set TCP Alive Time to "0", the function will be disabled.
Inactivity time	Set the TCP timeout for the serial server's current data communication link. If the idle time-out during communication is larger than 0, the system would close the TCP connection without any data transmission activity occurring in the specified time automatically. 0 means the free TCP connection would not be closed automatically.
Destination IP addresses.	IP address of the Telnet server device.
Destination Port	The port number of the Telnet server device. The Telnet protocol default port is 23.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

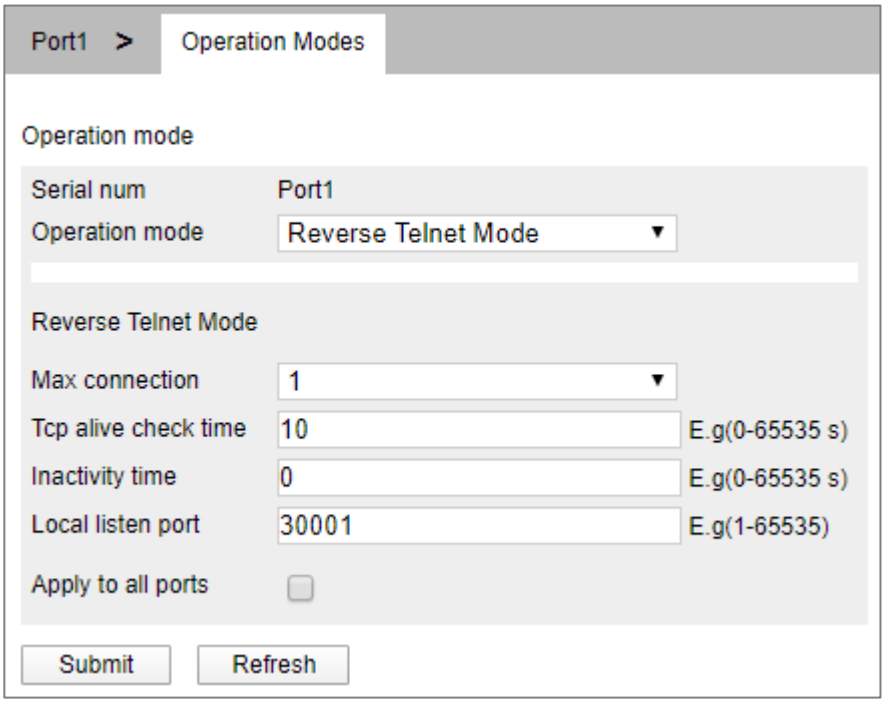
5.12 Reverse Telnet Mode



In the reverse Telnet mode, opposite to how the Telnet mode works, the device can realize Ethernet terminal device to access RS-232 serial port device through Telnet mode. The network terminal device initiates access to the device as a Telnet client, and the device responds as a Telnet server, and then establishes the connection.

Interface Description

Reverse Telnet Mode interface is as follows:

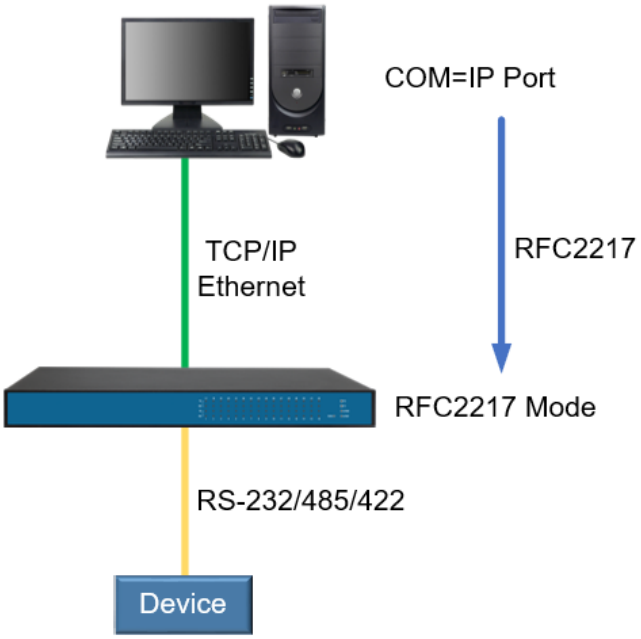


Reverse Telnet Mode interface main element configuration instructions:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode

Interface Element	Description
	• DRDAS TCP Server Mode • Disable Mode
Reverse Telnet Mode	**Reverse Telnet Mode Configuration Bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
TCP alive check time	The device sends a heartbeat packet by setting the time interval. If the device sends a heartbeat packet three times without receiving a response, the existing connection is disconnected. If set TCP Alive Time to "0", the function will be disabled.
Inactivity time	Set the TCP timeout for the serial server's current data communication link. If the idle time-out during communication is larger than 0, the system would close the TCP connection without any data transmission activity occurring in the specified time automatically. 0 means the free TCP connection would not be closed automatically.
Local listen port	The device acts as the local port number used by the Telnet server.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

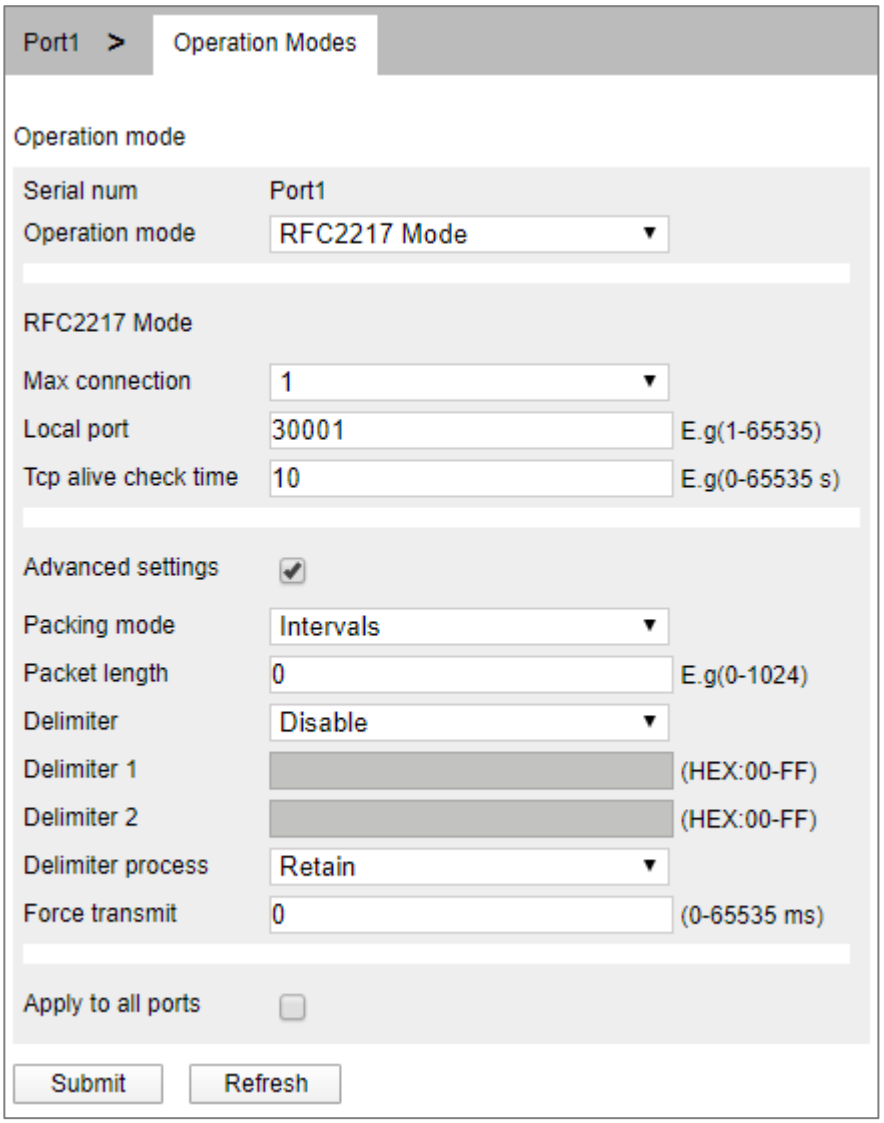
5.13 RFC2217 Mode



The RFC2217 mode is similar to the RealCom mode, it defines the COM port control options based on the Telnet protocol. In RFC2217 mode, the device supports RFC2217 protocol specification. The host of network terminal connected by the device can map the serial port of the device to the COM port local to the host through installing compatible RFC2217 protocol program. In this way, the host can use COM port form to realize transparent transmission with the serial port device connected to the device.

Interface Description

The interface of RFC2217 Mode is as follows:



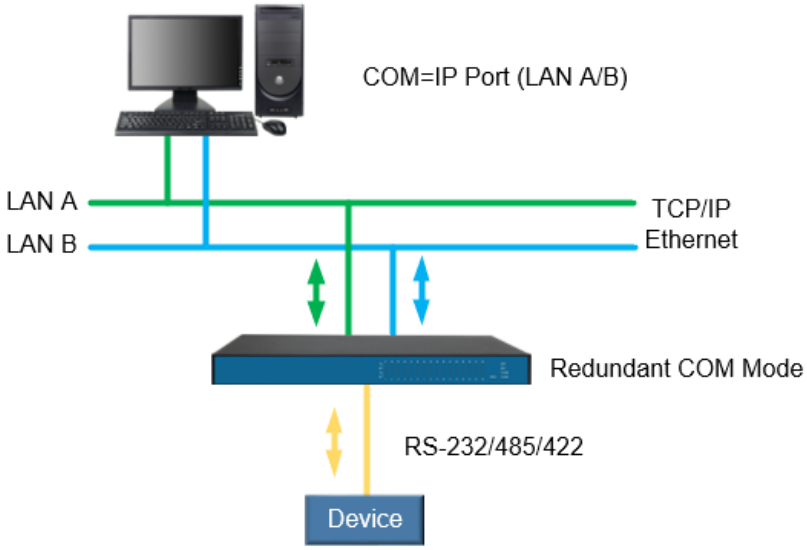
Main element configuration instructions in RFC2217 Mode interface

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode

Interface Element	Description
	• UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
RFC2217 Mode	**RFC2217 Mode Configuration Bar**
Max connection	The number of host that one serial port connects to. • Each host communicates with serial port in the order of first-in first-out; • The system supports up to 4 connections.
Local port	The device acts as the local port number used by the Telnet server.
TCP alive check time	The device sends a heartbeat packet by setting the time interval. If the device sends a heartbeat packet three times without receiving a response, the existing connection is disconnected. If set TCP Alive Time to "0", the function will be disabled.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1024. It means no limit on data transmission length when it' set to 0. Note:

Interface Element	Description
	There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all ports” check box to apply the current settings to all serial ports.

5.14 Redundant COM Mode



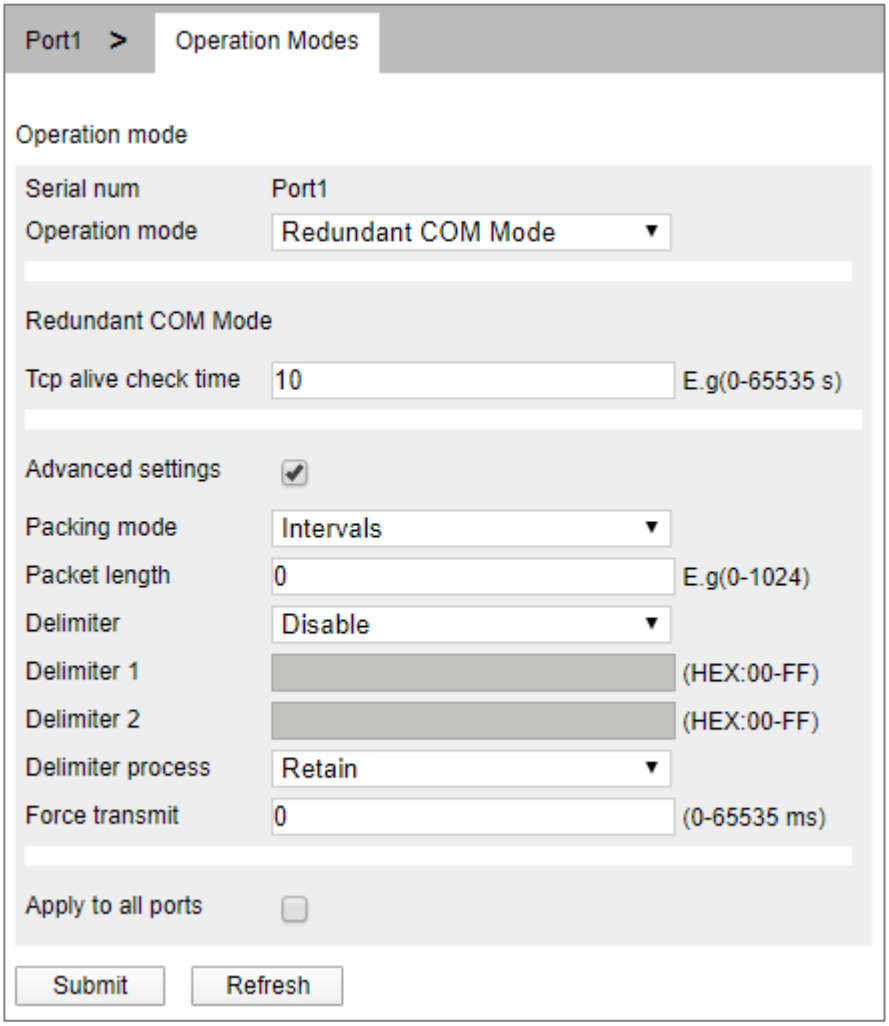
Note

The host needs to install two independent network cards, and the two network cards are in different local area networks.

The dual-port serial server accesses two different LANs through two independent ports. In Redundant COM mode, the host that has installed COM/TTY driver establishes 2 transparent or safe network transmission connections between host and serial device via dual network port. According to the parameters, such as serial server IP address and serial number configured by user, the serial port information of serial server would be mapped to the local COM/TTY devices of the host in two ways at the same time. When one of the network disconnects, the host still can communicate with serial device through another network.

Interface Description

Redundant COM Mode interface is as follows:



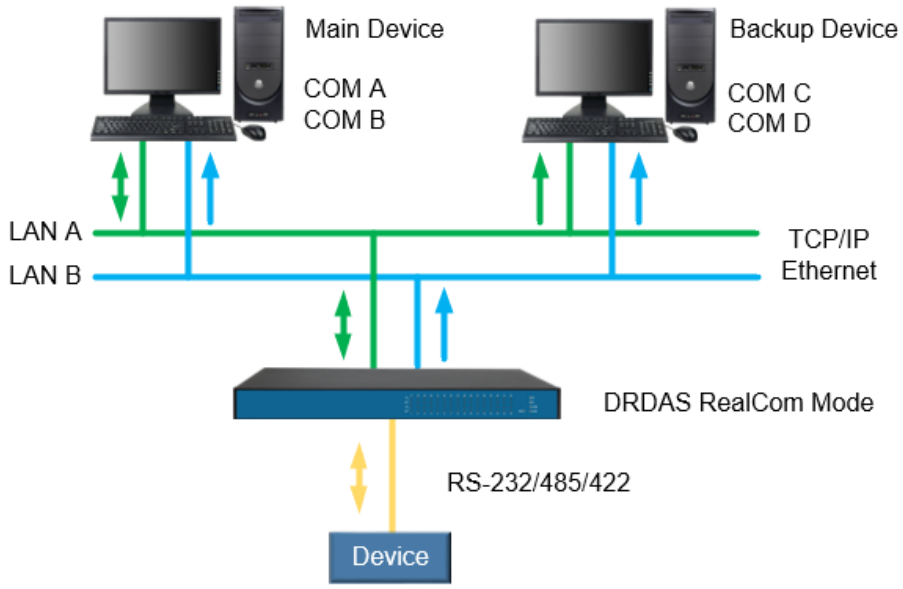
Main element configuration description in Redundant Com Mode interface:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The working modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode

Interface Element	Description
	• Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
Redundant COM Mode	**Redundant COM Mode** Configuration Bar
TCP alive check time	If there isn't any TCP activity within schedule time, the system will automatically send connection detection message and check whether the TCP connection is valid. If the reply packet of opposite side hasn't been received after sending probe packet for 3 times, system will regard the opposite side as down and forwardly close the communication connection.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows: • Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1460. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1

Interface Element	Description
	• 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all ports” check box to apply the current settings to all serial ports.

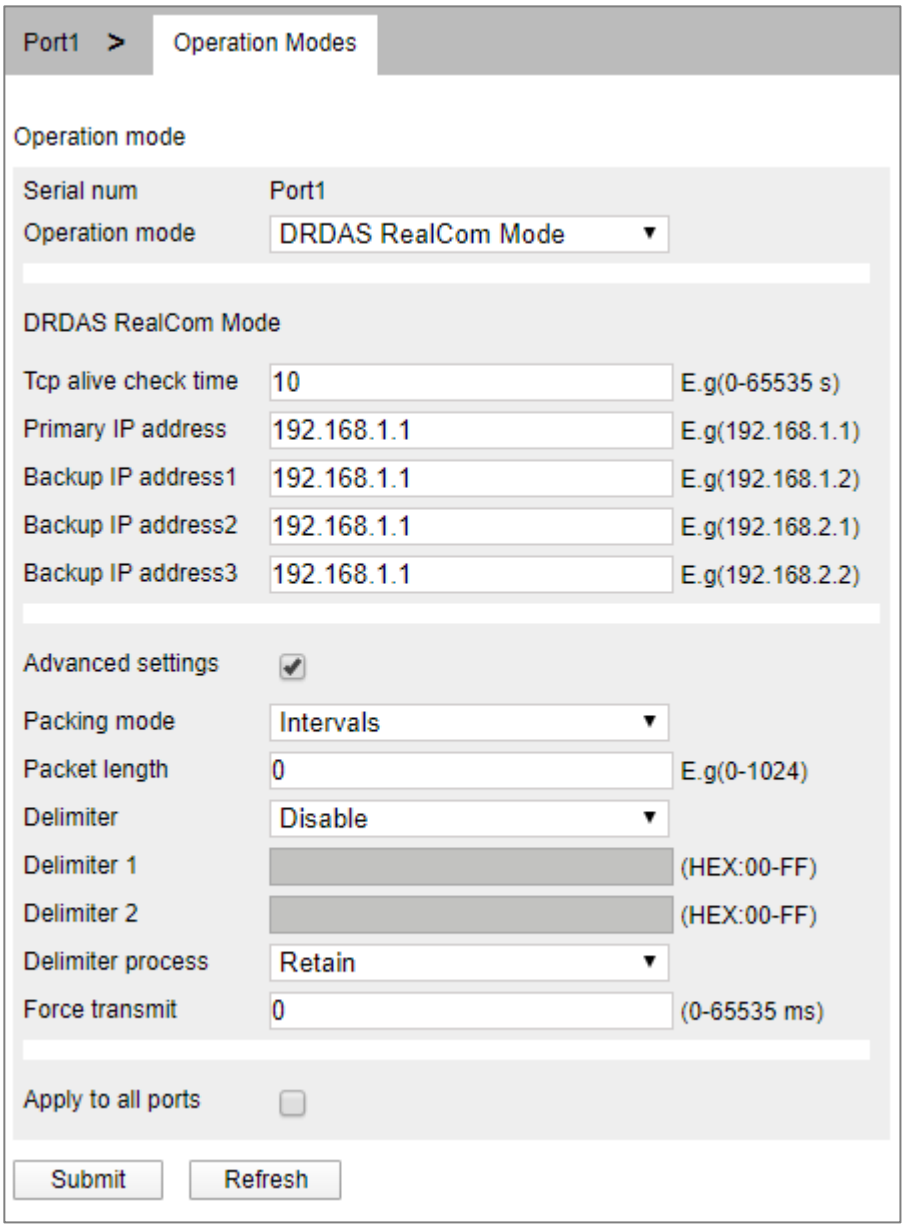
5.15 DRDAS RealCom Mode



DRDAS（Dual-host Redundant Data Acquisition System） RealCOM mode can implement dual-host data collection redundancy backup function. The 2 independent network ports of dual-Ethernet port server can access to 2 different local area networks and connect to up to 4 remote hosts. Each host that has installed COM/TTY driver could create the redundancy backup of RealCOM in 2 local area networks respectively via DRDAS RealCOM mode. At this point, the host that serves as the master device and send and receive data; while the host that serves as the backup device can receive or monitor data, but cannot send data.

Interface Description

The interface of DRDAS RealCom Mode is as follows:



Main element configuration instructions in DRDAS RealCom Mode interface

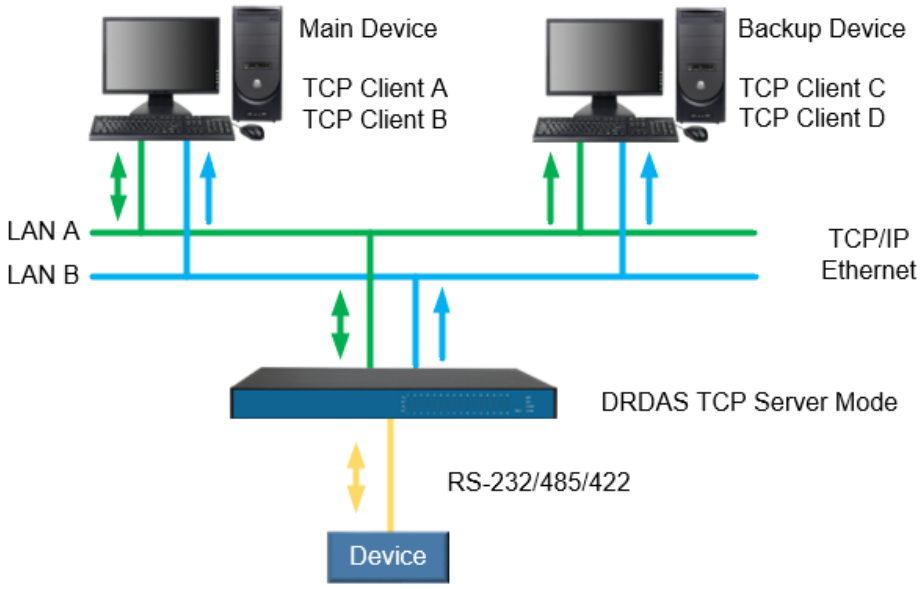
Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode

Interface Element	Description
	• UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
DRDAS RealCom Mode	**DRDAS RealCom Mode configuration bar**
TCP alive check time	If there isn't any TCP activity within schedule time, the system will automatically send connection detection message and check whether the TCP connection is valid. If the reply packet of opposite side hasn't been received after sending probe packet for 3 times, system will regard the opposite side as down and forwardly close the communication connection.
Primary IP address	The IP address of remote host that establishes RealCOM connection with the device can send and receive device's data.
Backup IP Address 1	The IP address of remote backup host 1 that establishes RealCOM connection with the device can only receive device's data but not send data to it.
Backup IP Address 2	The IP address of remote backup host 2 that establishes RealCOM connection with the device can only receive device's data but not send data to it.
Backup IP Address 3	The IP address of remote backup host 3 that establishes RealCOM connection with the device can only receive device's data but not send data to it.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows:

Interface Element	Description
	• Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1460. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a

Interface Element	Description
	packet, in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all ports” check box to apply the current settings to all serial ports.

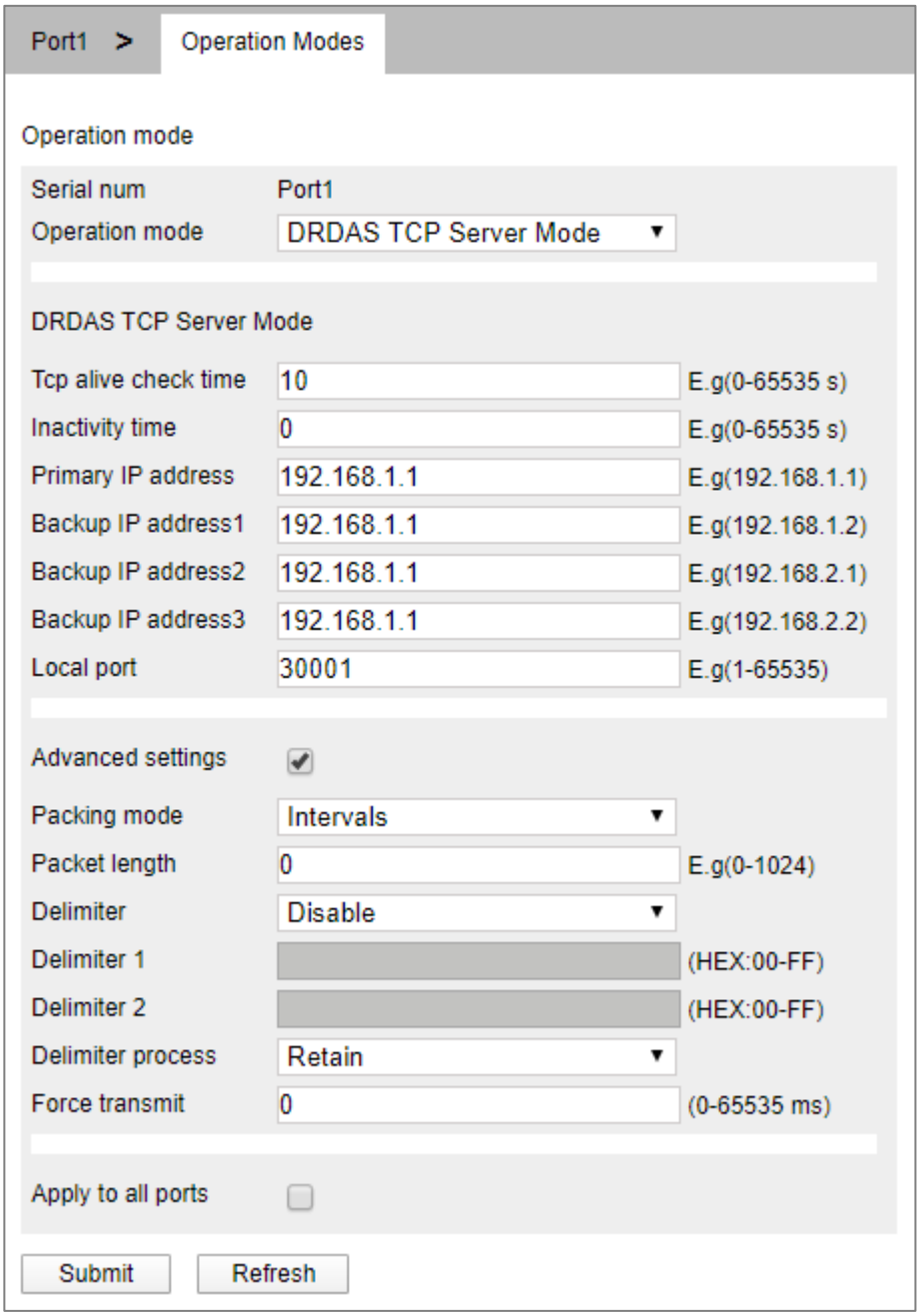
5.16 DRDAS TCP Server Mode



DRDAS (Dual-host Redundant Data Acquisition System) TCP Server mode can implement dual-host data collection redundancy backup function. The 2 independent network ports of dual-Ethernet port server can access to 2 different local area networks and connect to up to 4 remote hosts. Each host create the redundancy backup of TCP Socket in 2 local area networks respectively via DRDAS TCP Server mode. At this point, serial server is as TCP server and host is as TCP client. The host that serves as the master device can send and receive data; while the host that serves as the backup device can receive or monitor data, but cannot send data.

Interface Description

DRDAS TCP Server Mode interface as follows:



The main element configuration description of DRDAS TCP Server Mode interface:

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode

Interface Element	Description
	• UDP Client Mode • UDP Rang Mode • UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
DRDAS TCP Server Mode	**DRDAS TCP Server Mode Configuration bar**
TCP alive check time	If there isn't any TCP activity within schedule time, the system will automatically send connection detection message and check whether the TCP connection is valid. If the reply packet of opposite side hasn't been received after sending probe packet for 3 times, system will regard the opposite side as down and forwardly close the communication connection.
Primary IP Address	The IP address of remote host that establishes TCP connection with the device can send and receive device's data.
Backup IP Address 1	The IP address of remote backup host 1 that establishes TCP connection with the device can only receive device's data but not send data to it.
Backup IP Address 2	The IP address of remote backup host 2 that establishes TCP connection with the device can only receive device's data but not send data to it.
Backup IP Address 3	The IP address of remote backup host 3 that establishes TCP connection with the device can only receive device's data but not send data to it.
Local port	The destination connection port of TCP client.
Advanced Settings	**Advanced Settings Configuration Bar**
Packing mode	Serial port data packaging Ethernet data time, the options are as follows:

Interface Element	Description
	• Interval: after sending the last Ethernet packet for some time, the system packages the received serial port data into Ethernet packets and sends them out; • Forced time: the system packages serial port data received within a specified time into Ethernet packets and transmit them.
Packet length	The frame length of serial data to Ethernet data. In the set time range, the data forwards when it is greater than or equals to the set frame length. The value range is 0~1460. It means no limit on data transmission length when it' set to 0. Note: There are some slight deviations between the actual package length value and the set value.
Delimiter	Select the number of delimited characters, the options are as follows: • Disable: disable delimiter function; • 1: Enable Delimiter 1 • 2: enable delimiter 2. Note: If the packaging length or the forced transfer time is 0 and the number of delimited character is greater than 0, the system would detect and process the delimiter after receiving serial data. Every time it receives matched delimiter (or combination of characters), the system would send out all cached serial data via network.
Delimiter 1	Delimiter 1, adopts hexadecimal, with a value range of 00-ff.
Delimiter 2	Delimiter 2, adopts hexadecimal, with a value range of 00-ff.
Delimiter process	Select the delimiter processing method. Options: • Retain: the system would send out the received delimiter and other data via network. • Delimiter+1: the system transfers data after receiving a delimiter and an extra byte. • Delimiter+2: the system transfers data after receiving a delimiter and 2 extra bytes. • Delete: the matched delimiter (or combination of delimiter) would be deleted. The system only transmits data except delimiter.
Force transmit	If the transmission time is greater than 0, the system sends the serial data received within the specified time through a packet,

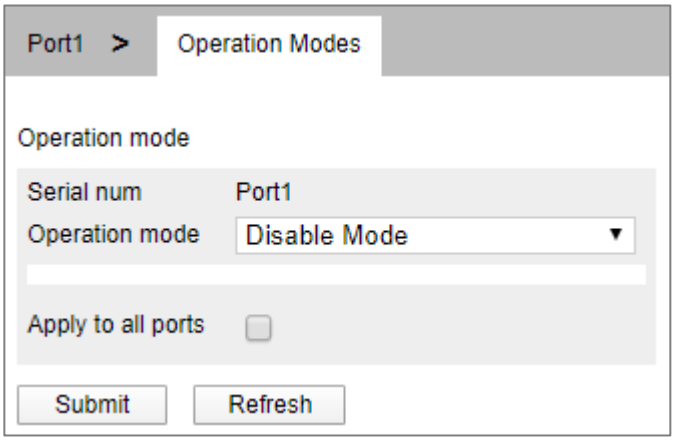
Interface Element	Description
	in the range of 0 to 65535 ms. When the transfer time is 0, it means that the data transmission interval is not restricted.
Apply to all ports	Check the “Apply to all port” check box to apply the current settings to all serial ports.

5.17 Disable Mode

In Disable Mode, the serial port will be closed and cannot be used normally.

Interface Description

The interface of Disable Mode is as follows:



Main element configuration instructions in Disable Mode interface

Interface Element	Description
Operation mode	**Operation Mode Configuration Bar**
Serial Num	Displays the serial number of the device currently configured.
Operation mode	The operation modes of serial port of the device are as follows: • RealCom Mode • Reverse RealCom Mode • TCP Server Mode • TCP Client Mode • UDP Server Mode • UDP Client Mode • UDP Rang Mode

Interface Element	Description
	• UDP Multicast Mode • Pair Slave Mode • Pair Master Mode • Telnet Mode • Reverse Telnet Mode • RFC2217 Mode • Redundant COM Mode • DRDAS RealCom Mode • DRDAS TCP Server Mode • Disable Mode
Apply to all ports	Check the “Apply to all ports” check box to apply the current settings to all serial ports.

6 Serial Port Status

Function Description

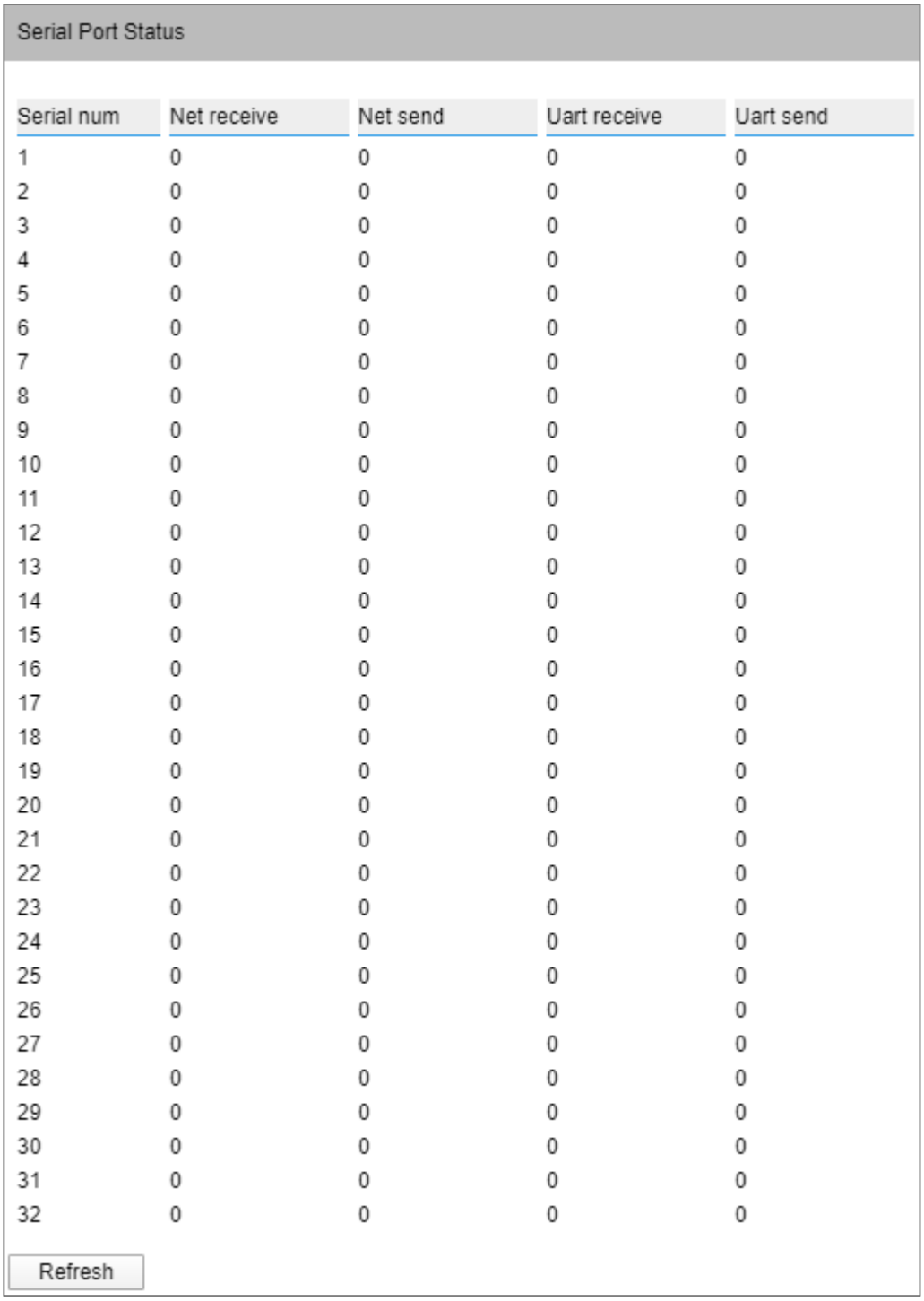
On the "Serial Port Status" page, you can view the statistics of the number of bytes received and sent during the conversion between the corresponding serial port and the network.

Operation Path

Open: "Serial Port Status".

Interface Description

Serial Port Status interface is as follows:



Serial Port Status interface main element configuration description:

Interface Element	Description
Serial Num	Display corresponding device serial port.
Net receive	Number of bytes received by the device network interface.
Net send	Number of bytes sent by the device network interface.
Uart receive	Number of bytes received by the serial port of the device.
Uart send	Number of bytes sent by serial port of device.

7 SNMP

SNMP (Simple Network Management Protocol) is a network management standard protocol widely used in TCP/IP networks. SNMP provides a way to manage devices by running network management software on a central computer (or network management workstation).

SNMP System consists of NMS (Network Management System), Agent Process, Management Object and MIB (Management Information Base) four parts. Agent: Agent is an agent process in the managed device, which is used to maintain the information data of the managed device and respond to the request from the NMS, and report the administration data to the NMS that sending the request.

7.1 SNMP Agent Settings

Function Description

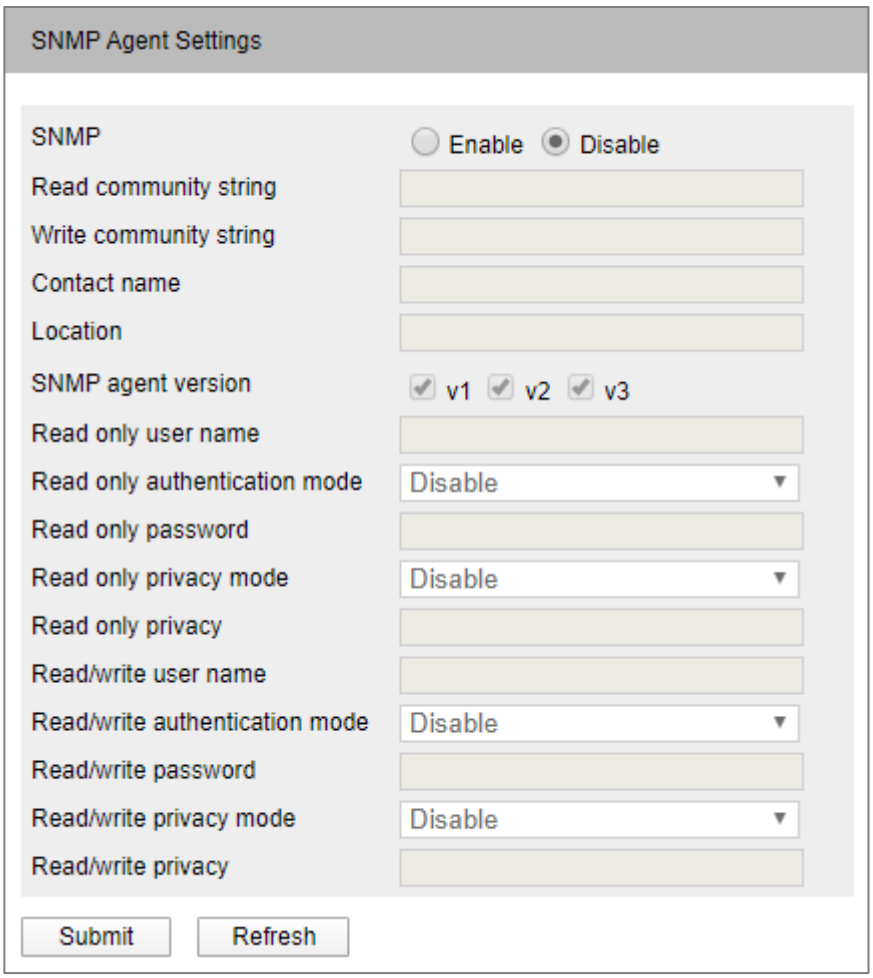
On the "SNMP Agent Settings" page, the SNMP function can be enabled and disabled, and other related parameters such as SNMP community name, version and user information can be configured.

Operation Path

Open in order: "SNMP > SNMP Agent Settings".

Interface Description

SNMP Agent Settings interface is as below:



Main element configuration description of SNMP Agent Settings configuration interface:

Interface Element	Description
SNMP	The radio box of enable/disable SNMP function, the options are as follows: • Enable • Disable
Read community string	The text box of readable community name, supporting 0-32-bit character string input. The readable community name is used for authentication of Get operation between Agent and NMS.
Write community string	The text box of writeable community name, supporting 0-32-bit character string input. The writeable community name is used to complete Set operation authentication between Agent and NMS.
Contact name	The text box of SNMP contact information, which supports 0-32-bit character string input.

Interface Element	Description
Location	The text box of position information, which supports 0-32-bit character string input.
SNMP agent version	The check box of the SNMP agent version, which supports optional v1, v2 and v3 versions. Compared with v1/v2, version v3 mainly adds authentication and encryption.
Read only user name	The text box of read-only user name, supporting 0-32-bit character string input.
Read only authentication mode	The drop-down list of read-only user authentication mode, the options are as follows: • Disable • MD5: message digest algorithm 5; • SHA: Secure Hash Standard.
Read only password	The text box of read-only user authentication key, supporting 0-32-bit character string input.
Read only privacy mode	The drop-down list of read-only user data encryption mode, the options are as follows: • Disable • DES_CBC: The system encrypts the data by using the cipher group link code of the data encryption standard.
Read only privacy	Read-only user data encryption key text box, supporting 0-32 bit character string input.
Read/write user name	The text box of read/write user name, supporting 0-32 bit character string input.
Read/write authentication mode	The drop-down list of read/write user authentication mode, the options are as follows: • Disable • MD5 (message digest algorithm 5); • SHA: Secure Hash Standard.
Read/write password	The text box of read/write user authentication key, supporting 0-32-bit character string input.
Read/write privacy mode	The drop-down list of read/write user data encryption mode, the options are as follows: • Disable

Interface Element	Description
	• DES_CBC: The system encrypts the data by using the cipher group link code of the data encryption standard.
Read/write privacy	The text box of read/write user data encryption key, supporting 0-32-bit character string input.

8 Alert Setting

8.1 Email Alert

Function Description

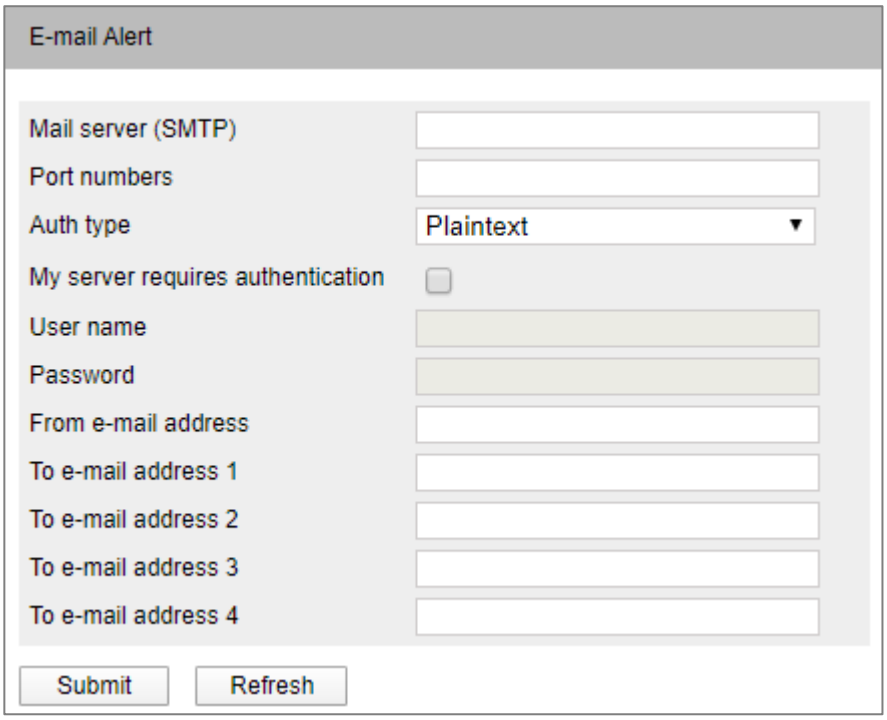
On the "Email Alert" page, users can configure parameters such as mail sender, recipient and mailbox server. The system can inform the change information of power connection, warm start, cold start, LAN port connection, serial DCD and DSR signals of the device by mail.

Operation Path

Open in order: "Alert Setting > Email Alert".

Interface Description

The Email Alert setting interface is as follows:



Main element configuration description of Email Alert configuration interface:

Interface Element	Description
Mail Server (SMTP)	Mailbox server address using SMTP simple mail transfer protocol provided by mailbox service provider, and mailbox server address used by sender when sending mail.
Port numbers	Port number of mailbox server.
Auth type	The drop-down list of authentication method, the options are as follows: • Plaintext; • SSL: encryption protocol of Secure Sockets Layer; • TLS: encryption protocol of Transport Layer Security.
My server requires authentication	The check box of mailbox server authentication. Check the configuration according to the authentication requirements of mailbox server.
User name	The user name of the sender's mailbox server.
Password	Login password or authorization code of sender's mailbox server.
From e-mail address	The email address from which the sender sends a warning message.
To e-mail address 1	The input text box of Address 1 , which is used to fill in the email address of receiving alarm mails.
To e-mail address 2	The input text box of Address 2 , which is used to fill in the email address of receiving alarm mails.
To e-mail address 3	The input text box of Address 3 , which is used to fill in the email address of receiving alarm mails.
To e-mail address 4	The input text box of Address 4 , which is used to fill in the email address of receiving alarm mails.

8.2 SNMP Trap

Function Description

On the SNMP Trap page, you can configure the IP address or domain name of the server that receives SNMP Trap information.

Operation Path

Open in order: "Alert Setting > SNMP Trap".

Interface Description

The SNMP Trap settings interface as follows:

Main element configuration description of Email Alert configuration interface:

Interface Element	Description
SNMP trap server ip or domain name	The text box of IP address or domain name of SNMP Trap server. The server is used to receive SNMP Trap information sent by devices.
Trap version	The radio box of SNMP Trap version, which supports optional v1 and v2c versions.
Trap community	The text box of SNMP Trap community name, which specifies SNMP community name.

8.3 Event Settings

Function Description

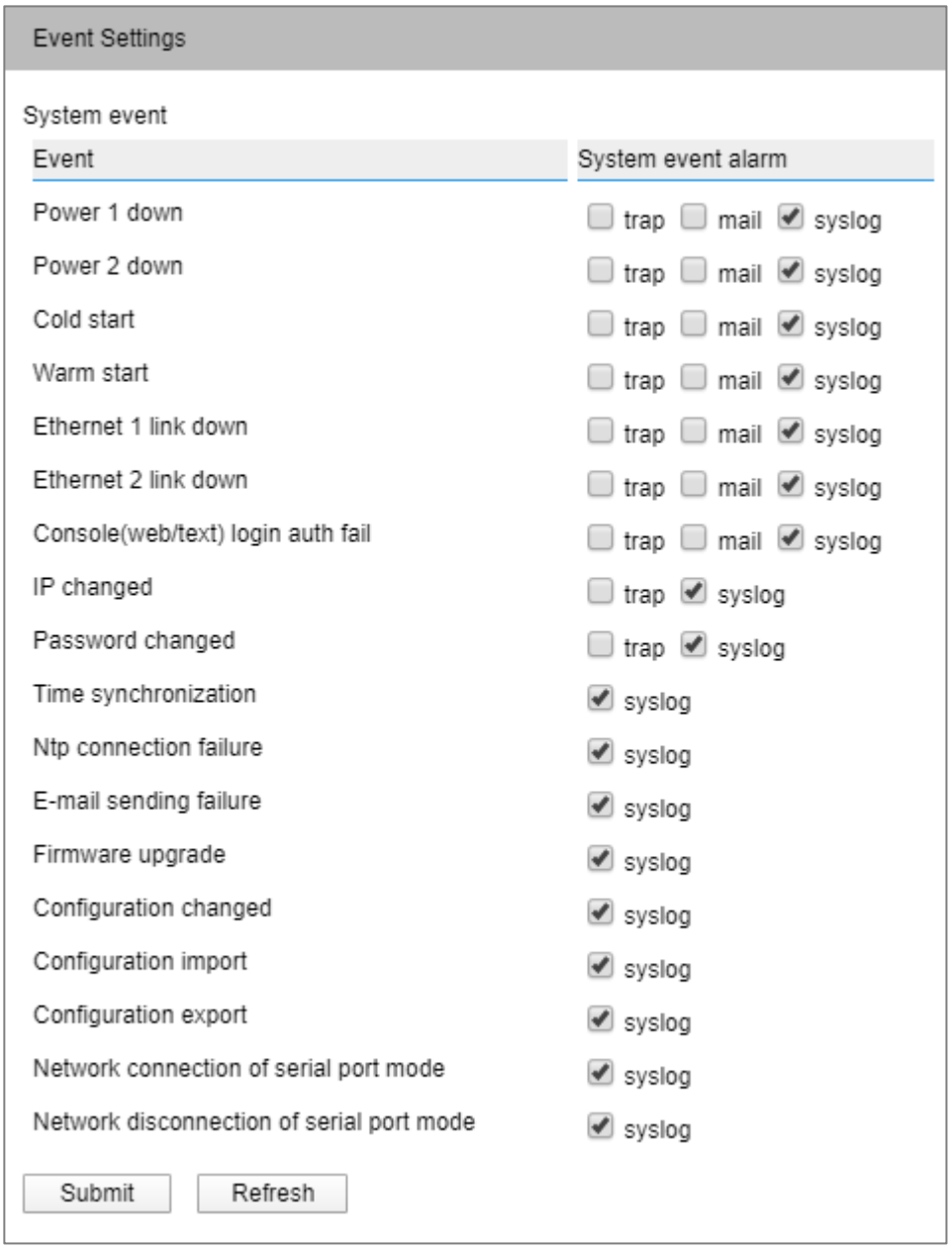
On the "Event Settings" page, you can configure the alarm mode of system events and serial port alarms.

Operation Path

Open in order: "Alert Setting > Event Settings".

Interface Description

The Event Settings interface is as below:


Event Settings
System event
Event
System event alarm
Power 1 down
trap mail syslog
Power 2 down
trap mail syslog
Cold start
trap mail syslog
Warm start
trap mail syslog
Ethernet 1 link down
trap mail syslog
Ethernet 2 link down
trap mail syslog
Console(web/text) login auth fail
trap mail syslog
IP changed
trap syslog
Password changed
trap syslog
Time synchronization
syslog
Ntp connection failure
syslog
E-mail sending failure
syslog
Firmware upgrade
syslog
Configuration changed
syslog
Configuration import
syslog
Configuration export
syslog
Network connection of serial port mode
syslog
Network disconnection of serial port mode
syslog
Submit
Refresh

Port alarm

Port	DCD change	DSR change
port1	trap mail	trap mail
port2	trap mail	trap mail
port3	trap mail	trap mail
port4	trap mail	trap mail
port5	trap mail	trap mail
port6	trap mail	trap mail
port7	trap mail	trap mail
port8	trap mail	trap mail
port9	trap mail	trap mail
port10	trap mail	trap mail
port11	trap mail	trap mail
port12	trap mail	trap mail
port13	trap mail	trap mail
port14	trap mail	trap mail
port15	trap mail	trap mail
port16	trap mail	trap mail
port17	trap mail	trap mail
port18	trap mail	trap mail
port19	trap mail	trap mail
port20	trap mail	trap mail
port21	trap mail	trap mail
port22	trap mail	trap mail
port23	trap mail	trap mail
port24	trap mail	trap mail
port25	trap mail	trap mail
port26	trap mail	trap mail
port27	trap mail	trap mail
port28	trap mail	trap mail
port29	trap mail	trap mail
port30	trap mail	trap mail
port31	trap mail	trap mail
port32	trap mail	trap mail

Submit Refresh

Main elements configuration descriptions of Event Settings interface:

Interface Element	Description
System event alert	**System event alert configuration bar**
Event	System event alert types, shown as follows: • Power 1 down • Power 2 down • Cold start: device starts when power off; • Warm start: restart the device when there has power connection; • Ethernet 1 link down • Ethernet 2 link down • Console(web/text) login auth fail • IP changed • Password changed • Time synchronization • Ntp connection failure • E-mail sending failure • Firmware upgrade • Configuration changed • Configuration import • Configuration export • Network connection of serial port mode • Network disconnection of serial port mode
System alert	System alert mode check box, the options are as follows: • trap: SNMP trap alert. • Mail: Mail Alarm • Syslog: Log Alert
Port Alarm Settings	**Port Alarm Settings Configuration Bar**
Serial port No.	serial number corresponding to the serial port of device.
DCD change	The state change alert of DCD data carrier monitoring signal of serial port, indicating that the connection state of serial port device on the other end has changed. If DCD becomes low, the serial port connection may be disconnected. Alert mode check box, the options are as follows: • trap: SNMP trap alert; • mail: mail alarm.
DSR change	The DSR data of the serial port is ready for signal state change alert, indicating that the serial port device on the end without

Interface Element	Description
	power supply. If the DSR becomes low, the serial port device will lose power supply. Alert mode check box, the options are as follows: • trap: SNMP trap alert; • mail: mail alarm.

9 System Manage

9.1 Device Information

Function Description

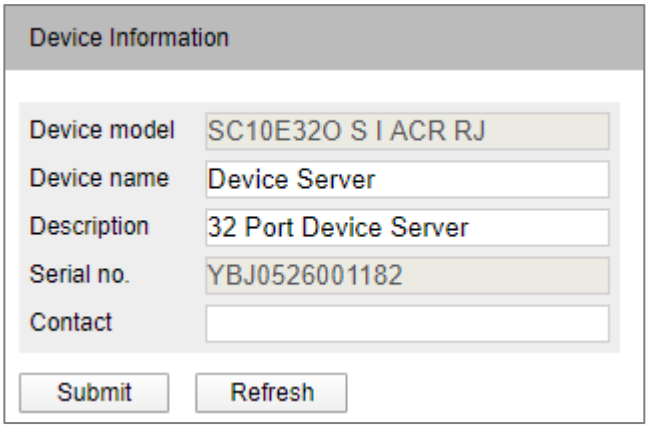
On the “Device Information” page, users can configure the device name, device description, and maintenance contact information.

Operation Path

Open in order: "System Manage > Device Information".

Interface Description

Screenshot of Device Information interface:



Main element configuration description of Device Information interface:

Interface Element	Description
Device model	Device model information, the input box is grayed and cannot be entered by default.
Device name	Enter the device name in the “Name” text box. To identify each device in the network, give the device a different name.
Description	Enter the device description in the “Description” text box.
Serial no.	Device serial information, the input box is grayed and cannot be entered by default.

Interface Element	Description
Contact	Enter the contact information of the equipment maintenance personnel in the "Contact" text box.

9.2 Time Setting

The full name of NTP protocol is Network Time Protocol. Its purpose is to deliver uniform, standardized time on the Internet. The specific implementation solution is to specify several clock source websites on the network to provide time service for users, and these websites should be able to compare with each other to improve accuracy. It can provide millisecond time correction, and is confirmed by the encrypted way to prevent malicious protocol attacks.

Function Description

On the "Time Setting" page, users can configure the device time and NTP server information.

Operation Path

Open in order: "System Manage > Time Setting".

Interface Description

The Time Setting interface as below:

Main elements configuration descriptions of Time Setting interface:

Interface Element	Description
Time zone	Time standard of different global regions.
Local time	The device's own time. Click the "Change" button to manually modify the device time or synchronize it to the current computer time.

Interface Element	Description
Time server	IP address or domain name of NTP server. The device will automatically synchronize NTP server time.

9.3 Remote Administration

HTTPS (Full name: Hypertext Transfer Protocol over Secure Socket Layer), is the HTTP channel which takes safety as the goal, is a safe version of HTTP. HTTPS provides data encryption services that prevent attackers from intercepting transmission messages between Web browsers and Web servers to steal sensitive information such as credit card Numbers, passwords, and so on.

The full English name of SSH is Secure Shell. SSH is the security protocol based on the application layer and transport layer. Telnet is transmitted in plaintext, while SSH is transmitted in ciphertext, which is more secure. SSH is a currently reliable protocol that provides security protocol for remote login sessions and other web services. SSH protocol can effectively prevent the information leakage in the process of remote management issues, and DNS and IP spoofing. In addition, the transmitted data is compressed so that the transmission speed can be increased.

Function Description

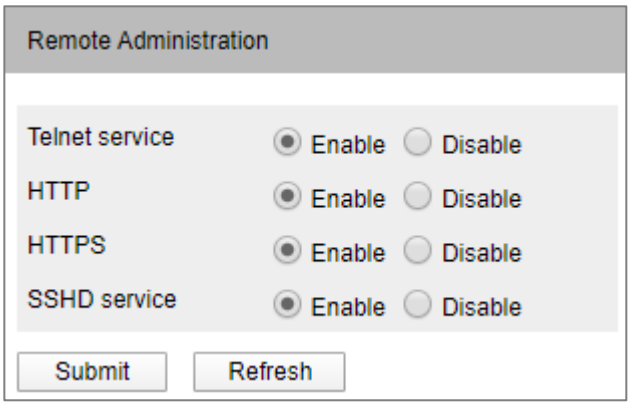
On the "Remote Administration" page, access methods such as TELNET, HTTP, HTTPS and SSHD can be restricted.

Operation Path

Open in order: "System Manage > Remote Administration".

Interface Description

The Remote Administration interface is as follows:



Main element configuration description of Remote Administration interface:

Interface Element	Description
TELNET Service	TELNET service function status, the options are as follows: • Enable; • Disable Note: When enabled, the TELNET client can access the CLI interface of the device.
HTTP	Device HTTP protocol function status, options are as follows: • Enable; • Disable Note: When enabled, when using HTTP to access the WEB interface, the format is HTTP://192.168.1.254, and the address is the IP address of the corresponding device.
HTTPS	Device HTTPS protocol function status, options are as follows: • Enable; • Disable Note: When enabled, when using HTTPS to access the WEB interface, the format is HTTPS://192.168.1.254, and the address is the IP address of the corresponding device.
SSHD Service	SSH service function status, the options are as follows: • Enable; • Disable Note: When enabled, the SSH client can access the CLI interface of the device.

9.4 User Management

Function Description

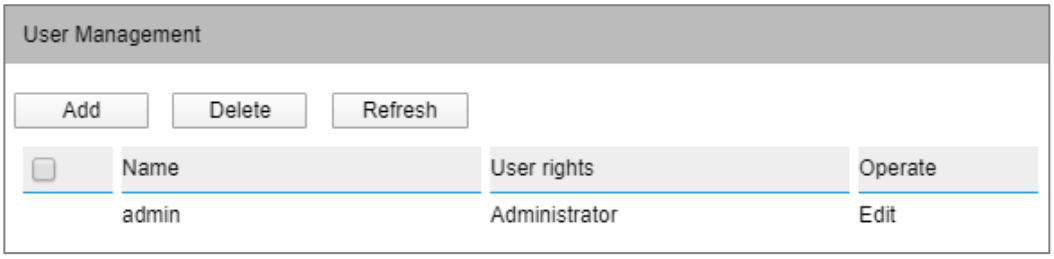
On the "User Management" page, users can add and delete users freely. Users need to access the device by logging in with user name and password. The initial user name and password are admin.

Operation Path

Open in order: "System Manage > User Management".

Interface Description

The User Management interface is as follows:



Main element configuration description of User Management interface:

Interface Element	Description
User name	Identification of the visitor. Note: User names and passwords can support up to 32 characters.
Privilege	The user's access rights are shown as follows: • Administrator: has administrator authority and can configure parameters of device; • General user: has viewing authority, and can view device configuration parameters and network diagnosis operations.
Operate	Click Edit to modify the password and user rights of the current user.

9.5 IP Address Filtering

Function Description

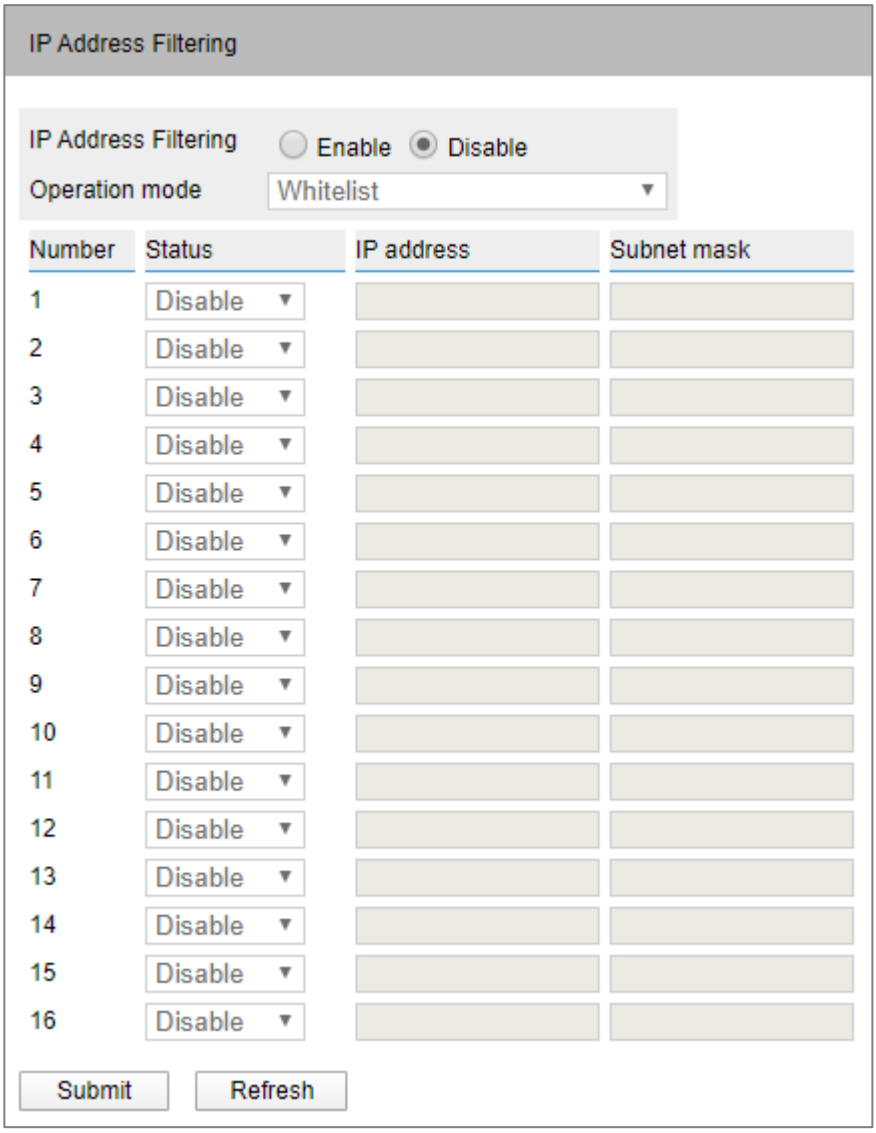
Users can limit the ongoing access or connected host IP address and subnet mask via setting access rules on the " IP Address Filtering " page.

Operation Path

Open in order: "System Manage > IP Address Filtering".

Interface Description

The IP Address Filtering interface as follows:



IP filter interface main element configuration instructions

Interface Element	Description
IP Address Filtering	Enable or disable IP filtering rules. • Enable • Disable
Operation mode	Set filtering rules for IP addresses. • White list: the IP address set in the filtering rule is allowed to access the device. • Blacklist: IP addresses set in filtering rules are prohibited from accessing devices. Notice: • When the white list is enabled, IP addresses outside the white list will not be able to access the device. • If the IP address in the white list cannot access the device, please clean the browser cache and access it again.

Interface Element	Description
	• When the blacklist is enabled, the IP addresses covered by the blacklist will not be able to access the device.
Number	Displays the IP address filtering rule number.
Status	Enable or disable filtering rules. • Enable • Disable
IP Address	Set the IP address in dotted decimal format in the filter rule, such as "192.168.1.61".
Subnet mask	Set the subnet mask in dotted decimal format in the filter rule, such as "255.255.255.0".

9.6 Mac Address Filtering

Function Description

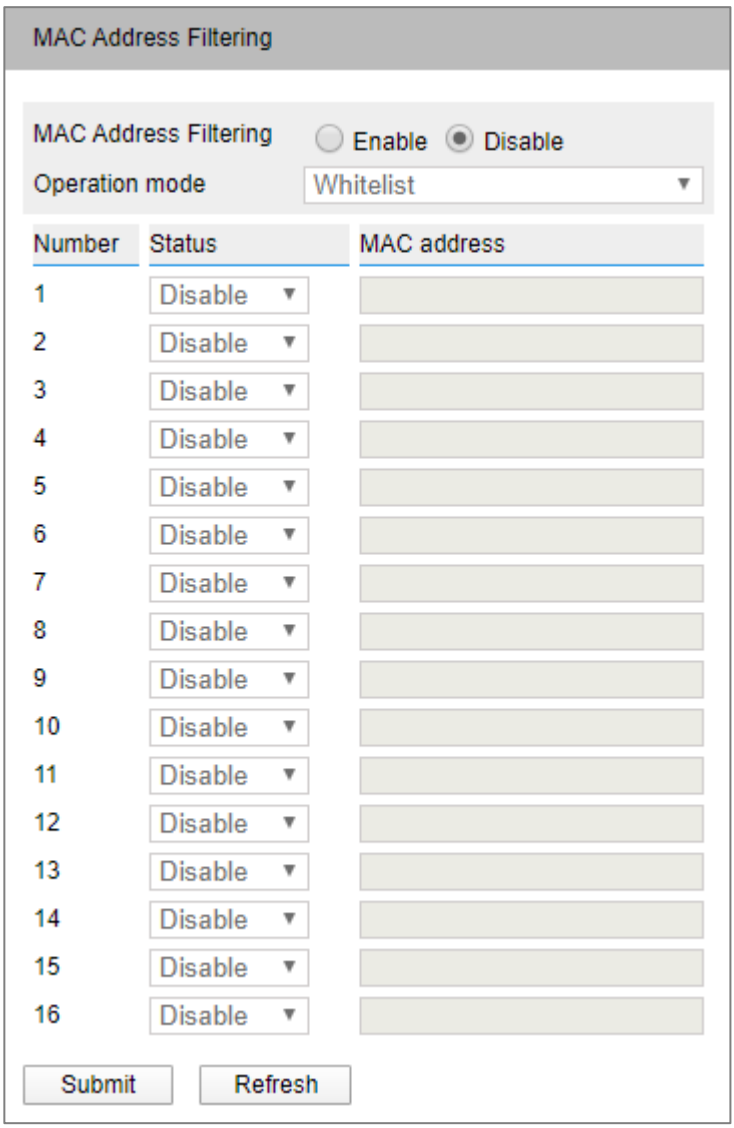
On the " Address Filtering " page, user can restrict the host MAC address to access or connect by setting access rules.

Operation Path

Open in order: "System Manage > MAC Address Filtering".

Interface Description

MAC Address Filtering interface shown as follows:



Main element configuration description in MAC Address Filtering interface:

Interface Element	Description
MAC address filtering	Enables or disables MAC address filtering rules. • Enable • Disable
Operation mode	Set filtering rules for IP addresses. • White list: the MAC address set in the filtering rule is allowed to access the device. • Blacklist: MAC addresses set in filtering rules are prohibited from accessing devices. Notice: • When the white list is enabled, MAC addresses outside the white list will not be able to access the device. • When the blacklist is enabled, the MAC addresses covered by the blacklist will not be able to access the device.

Interface Element	Description
Number	Display the MAC address filtering rule number.
Status	Enable or disable filtering rules. • Enable • Disable
MAC Address	Set the six-byte hexadecimal format MAC address in the filter rule, such as "00-22-6F-03-BD-52".

9.7 System Log

Function Description

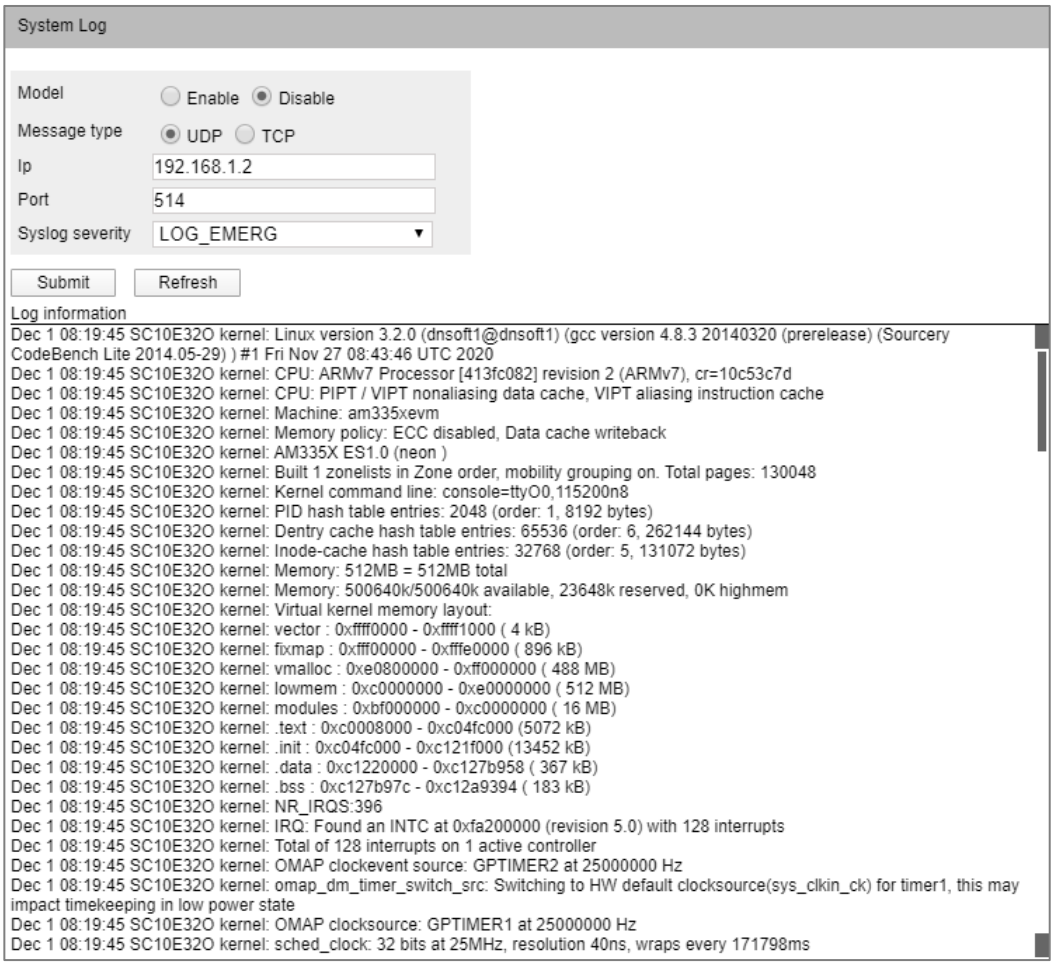
On the "System log" page, you can view the log information of the device and upload the log information to the syslog server. During the operation of the device, the system will record all kinds of situations in operation, thus forming log information. The log information is mainly used to check the running status of device, analyze the status of network and locate the causes of problems, and provide basis for system diagnosis and maintenance. The generated log information can be saved on the device, and the log information can be output to the log server by using syslog protocol.

Operation Path

Open in order: "System Manage > System log".

Interface Description

The System log interface is as follows:



Main element configuration description of System log interface:

Interface Element	Description
Model	System log server configuration type, which can be checked as follows: • Enable: when enabled, the system log will be saved to the remote system log server. • Disable: Disable the syslog server function.
Message type	System log information transmission protocol, which can be selected as follows: • TCP: system log information is sent to the log server by TCP protocol. TCP (transmission control protocol), connection-oriented and reliable transmission-layer communication protocol; • UDP: the system log information is sent to the log server by UDP protocol. UDP (user datagram protocol), connectionless-oriented transmission-layer communication protocol.

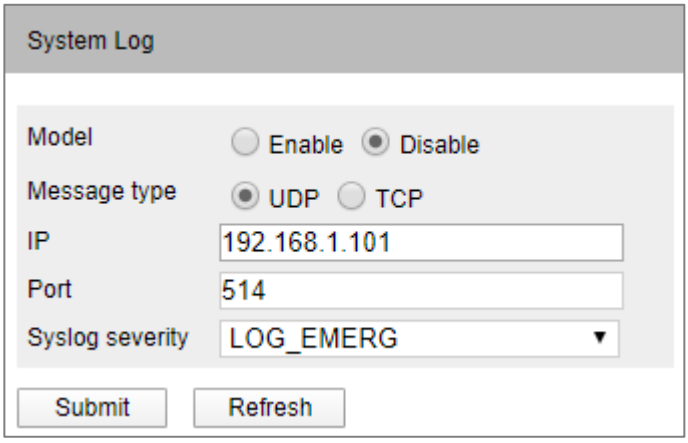
Interface Element	Description
IP	IP address of the syslog server.
Port	The port number of syslog server, and the default port of syslog protocol is 514.
Syslog severity	The level of system log can be selected as follows: • LOG_EMERG: extremely urgent error; • LOG_ALERT: an error that needs to be corrected immediately; • LOG_CRIT: a more serious error; • LOG_ERR: An error occurred; • LOG_WARNING: warning, there may be some error; • LOG_NOTICE: information to be noticed; • LOG_INFO: general prompt information; • LOG_DEBUG: debug information.

Configuration Instance

"Visual Syslog Server" is a free open source software for receiving and viewing syslog messages. At present, the host with "Visual Syslog Server" installed is used as the system log server, and the IP address of the host is 192.168.1.101. The device transmits log information to the host server through TCP protocol. The configuration steps are as follows:

Step 1 Log in to the device WEB interface.

Step 2 On the "System log" page, configure relevant parameters, as shown in the following figure:



1 In the "Model" option, check "enable";

2 In the Message type option, check the TCP protocol;

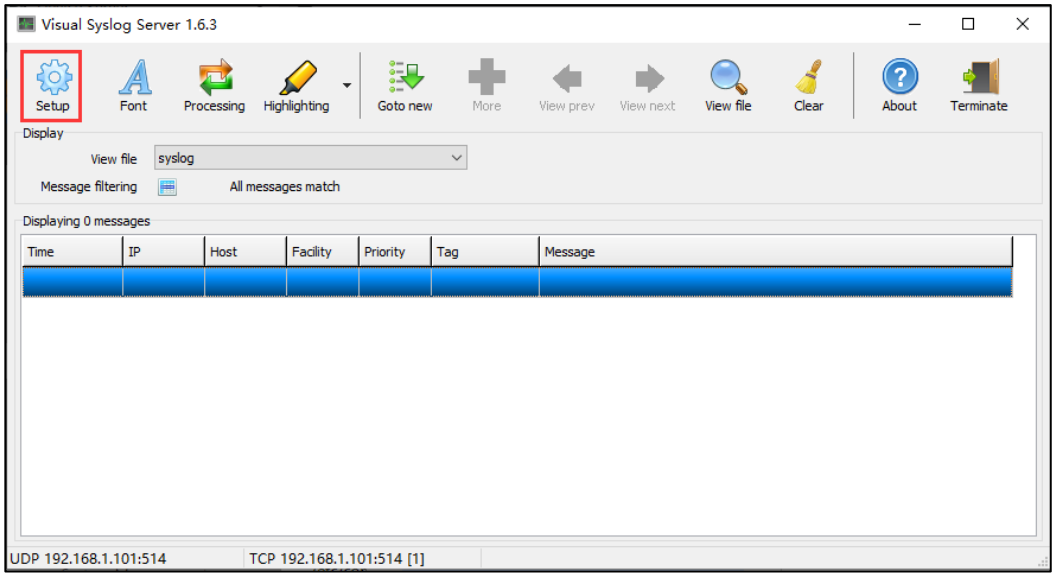
3 In the IP text box, enter the IP address "192.168.1.101" of the server.

4 In the "Port" text box, enter the port number of the server, and the default port of syslog protocol is 514;

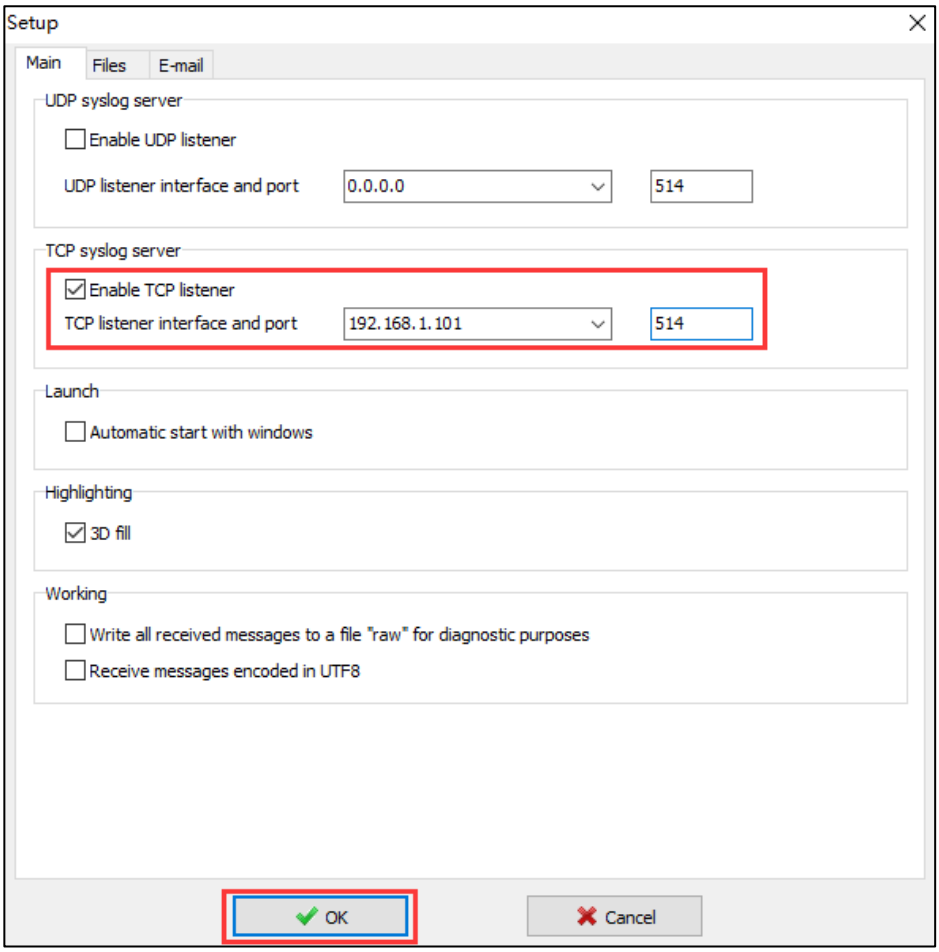
5 In the Syslog severity drop-down list, select log _ info;

6 Click the Submit button.

Step 3 Run "Visual Syslog Server" on the host to complete the configuration of relevant parameters, as shown below.



1 Click the "Setup" button, as shown in the above figure;

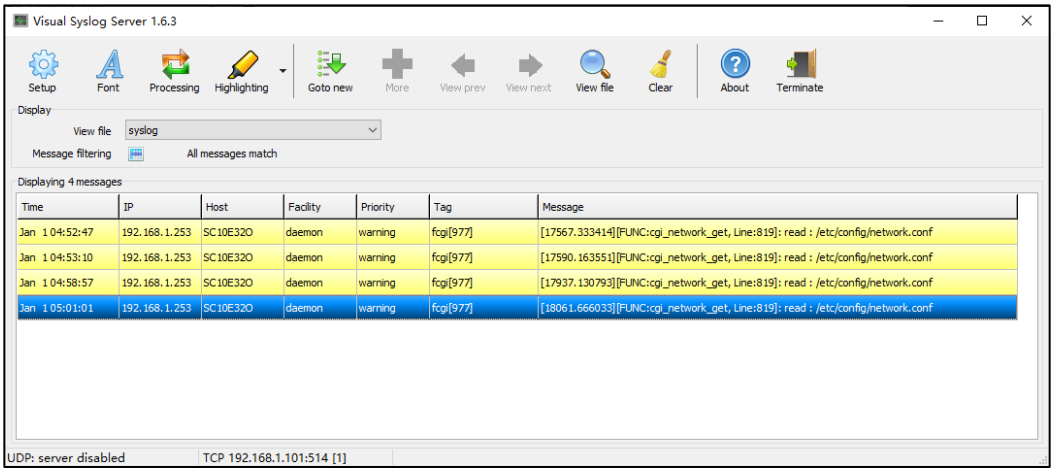


2 On the "Setup" page, in the Main configuration area, check "Enable TCP Listener", as shown in the above figure;

3 Select the IP address "192.168.1.101" and port number "514" of the server from the "TCP listener interface and port" drop-down list;

4 Click “OK”.

Step 4 Check the log information in the "Visual Syslog Server" configuration interface, as shown in the following figure.



Step 5 End.

9.8 ARP Settings

Free ARP function can prevent communication interrupt caused by the switch and router aging the MAC address of serial server.

Function Description

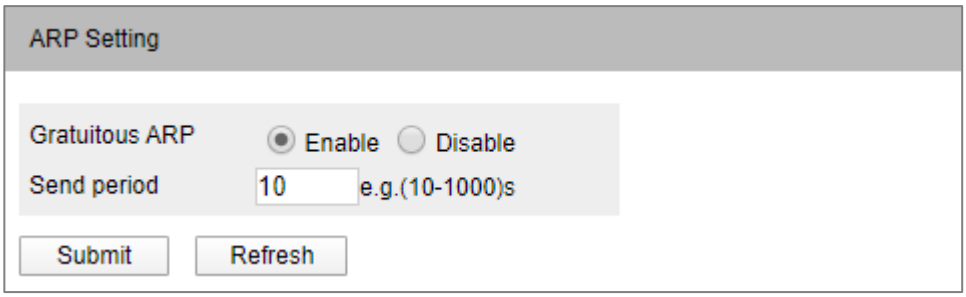
On the ARP Settings page, the gratuitous ARP function could be enabled and the parameter of send period could be set.

Operation Path

Open in order “System Manage > ARP Settings”.

Interface Description

ARP Settings interface as follows:



The ARP Settings interface main element configuration instructions:

Interface Elements	Description
Gratuitous ARP	Gratuitous ARP function state, options as follows: • Enable • Disable
Send period	Interval of sending Gratuitous ARP network packet, default to 10, for instance: 10-1000s

9.9 Diagnostic Test

9.9.1 Ping

Function Description

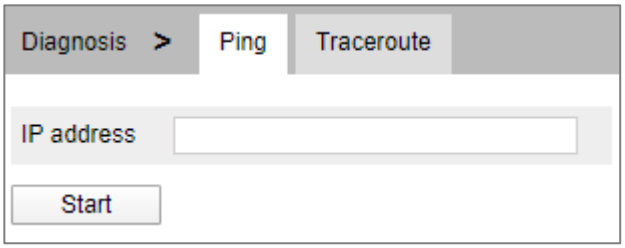
On the "Ping" page, users can use the Ping command to check whether the network is clear or the network connection speed. The Ping command uses the uniqueness of the IP address on the network to send a packet to the target IP address, and then asks to return a packet of the same size to determine whether the network is connected and what the delay is.

Operation Path

Open in order: "System Manage > Diagnosis > Ping".

Interface Description

Ping information interface as follows:



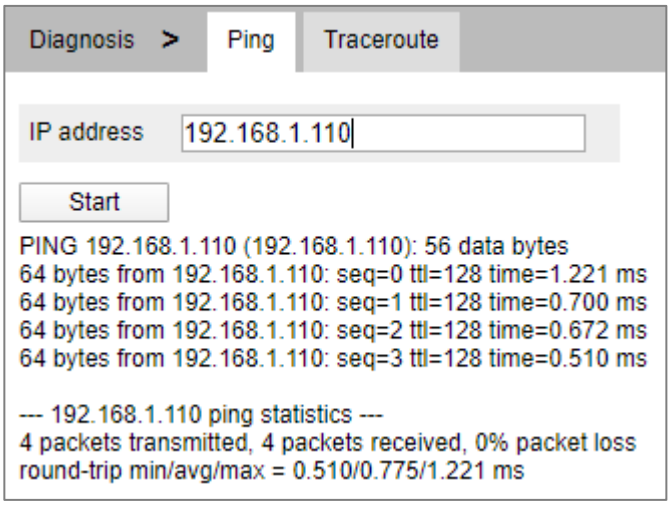
Main element configuration instructions in Ping interface:

Interface Element	Description
IP address	The IP address of the detected device, that is, the destination address. The device can check the network intercommunity to other devices via the ping command.

Ping Configuration

Step 1 Fill in the IP address that needs ping in the IP address text box;

Step 2 Click the "Start" to see the Ping results;



Step 3 End.

9.9.2 Traceroute

Function Description

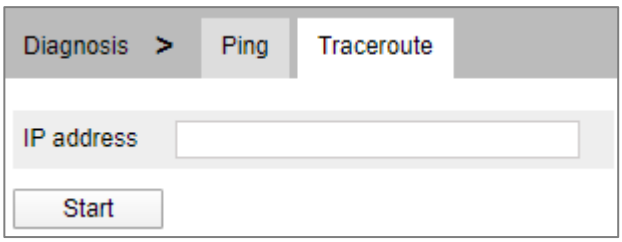
On the "Traceroute" page, users can test the network conditions between the device and the target host. Traceroute measures how long it takes by sending small packets to the destination device until they return. Each device on a path Traceroute returns three test results. The output includes the time of each test (ms), the name of the device (if any), and its IP address.

Operation Path

Open in order: "System Manage > Diagnosis > Traceroute".

Interface Description

TRACEROUTE interface as follows:



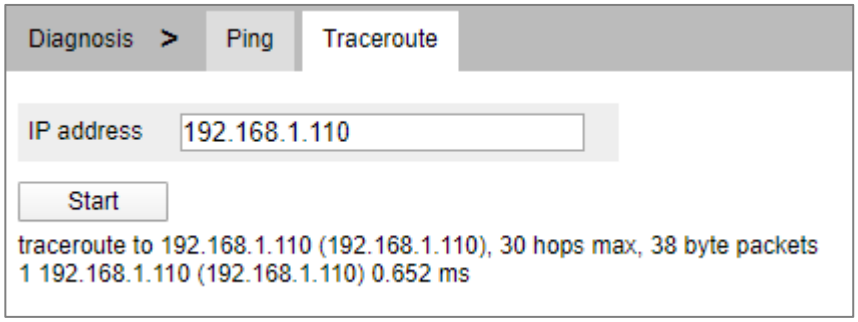
Main element configuration instructions in TRACEROUTE interface:

Interface Element	Description
IP address	IP address of the destination device, fill in the IP address of the opposite device that needs to be detected.

TRACEROUTE Configuration

Step 1 Fill in the IP address in the IP address text box.

Step 2 Click the "Start" to see the results, as the picture below.



Note:

The above figure shows the time from the device to IP address 192.168.1.110, which takes 0.652ms after one hop.

Step 3 End.

9.10 System Maintenance

9.10.1 Configuration File Management

Function Description

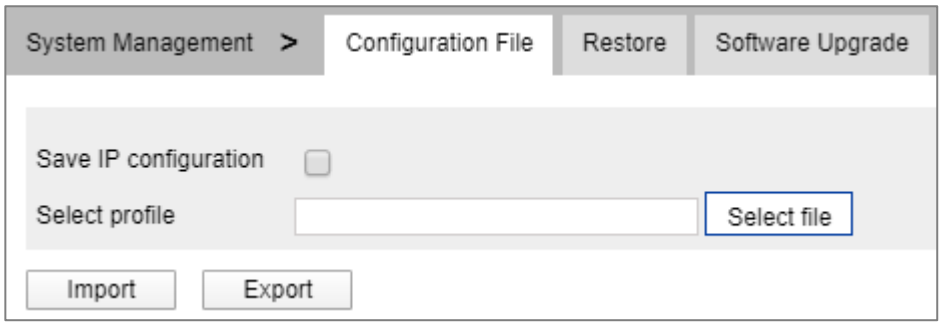
On the "Management File" page, user can download and upload configuration file.

Operation Path

Open in order: "System Manage > System Management > Configuration File".

Interface Description

Management file interface as follows:



Configuration file management interface Main element configuration instructions

Interface Element	Description
Save IP configuration	When checked, the device can keep the current IP address after importing the configuration file.
Select file	Select the path to upload the configuration file locally, and click Browse to select the required configuration file. Note: Uploaded configuration files need to be exported by devices of the same model.
Download	Download the configuration file of the current device in the format of. Tar. Note: The downloaded configuration file will be saved in the format of ".tar", which is encrypted, so please do not decompress or modify it.
Upload	Upload configuration file

Note

- After finishing update, the device will automatically open a new page to "System State", and uploading configuration file will be valid after the device is reset.
- After uploading the configuration file, if the static IP in the configuration file and the computer IP are not in the same network segment, the webpage cannot be opened.
- While uploading configuration file, if dynamic IP is used in the configuration file and there is no DHCP server in the network segment, relative IP portion won't be updated.
- Do not click on or configure other WEB pages of the device or restart the device when uploading configuration files or upgrading software. Otherwise, the configuration file upload or software update will fail, or the device system will crash.

9.10.2 Restore Factory Settings

Function Description

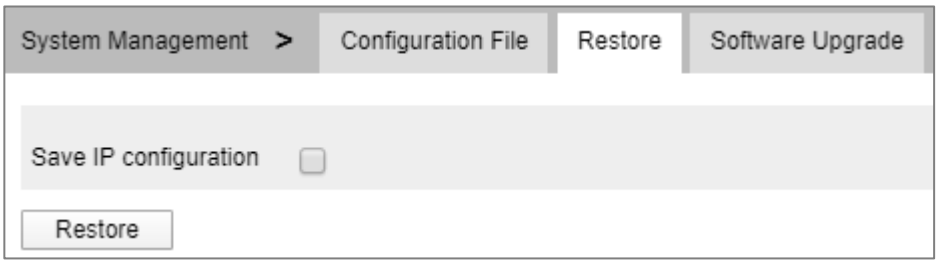
On the "Restore Factory Settings" page, user can restore the device to default setting.

Operation Path

Open in order: "System Manage > System Management > Restore".

Interface Description

Restore Factory Settings interface is as follows:



Main element configuration instructions in Restore Factory settings interface:

Interface Element	Description
Save IP configuration	When checked, the device can keep the current IP address after restoring the factory settings.
Restore	Click this button and the device will lose all existing configurations and reverts to factory settings.

Note

Restoring factory value settings will cause all configurations to be in the factory state, where the IP address is the static IP address "192.168.1.254", and the user name and password default to "admin".

9.10.3 Online Update

Function Description

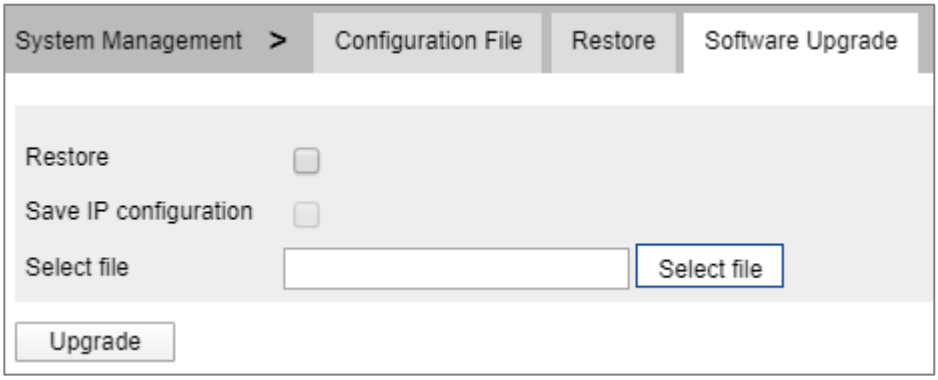
On the Online Upgrade page, you can update and upgrade the device program.

Operation Path

Open in order: "System Manage > System Management > software Upgrade".

Interface Description

Online Update interface is as follows:



Main element configuration instructions in Online Update interface:

Interface Element	Description
Restore	When checked, the device will be restored to the factory settings after upgrading. After unchecking, the configuration parameters will be kept after the device software is upgraded.
Save IP configuration	After the software upgrade is checked to restore the factory configuration, the IP configuration can be checked to keep the current IP address and other parameters will be restored to the factory configuration.
Select file	Select the path of the local upgrade file, and click Browse to select the required configuration file.
Upgrade	Click the upgrade button to start the program upgrade.

Note

- Do not click on or configure other WEB pages of the device or restart the device or power off the device when upgrading software. Otherwise, the software update will fail, or the device system will crash.
- Maintain a reliable wired connection when upgrading.
- When the online upgrade is complete, the device will restart automatically.

10 Work Mode Configuration Instance

10.1 RealCom Mode

Background Introduction

Assume that the IP address of the serial server is: 192.168.1.250; COM1 is a real serial port, need to establish a connection with the virtual serial port COM2 in the management software VSP Manager.

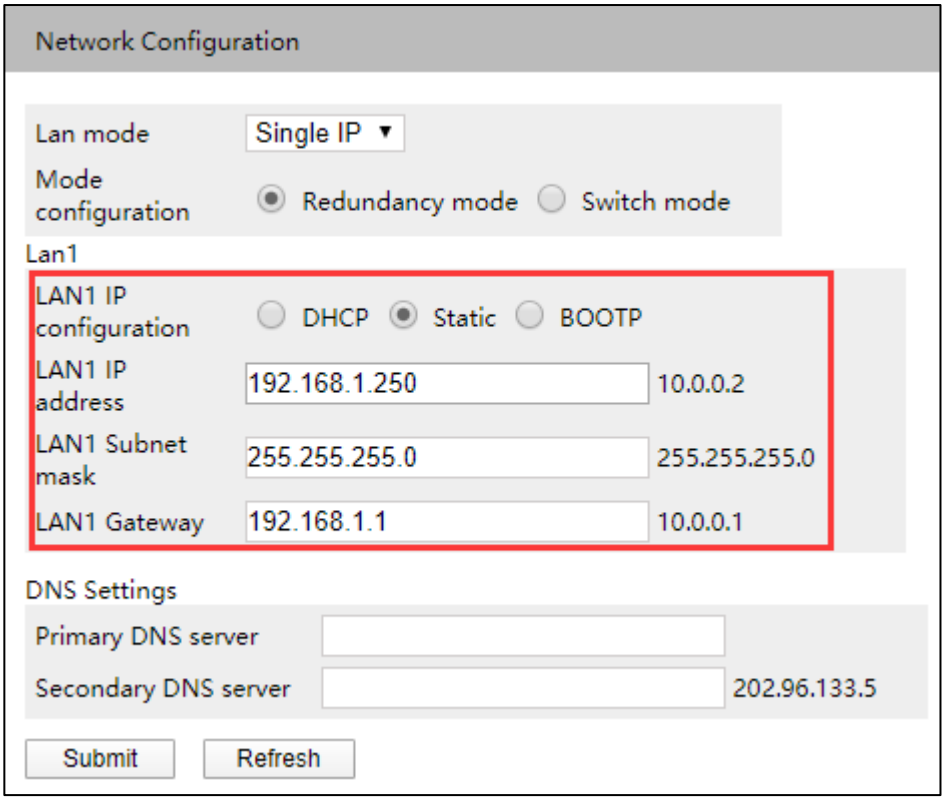
The serial port information is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Operation Steps

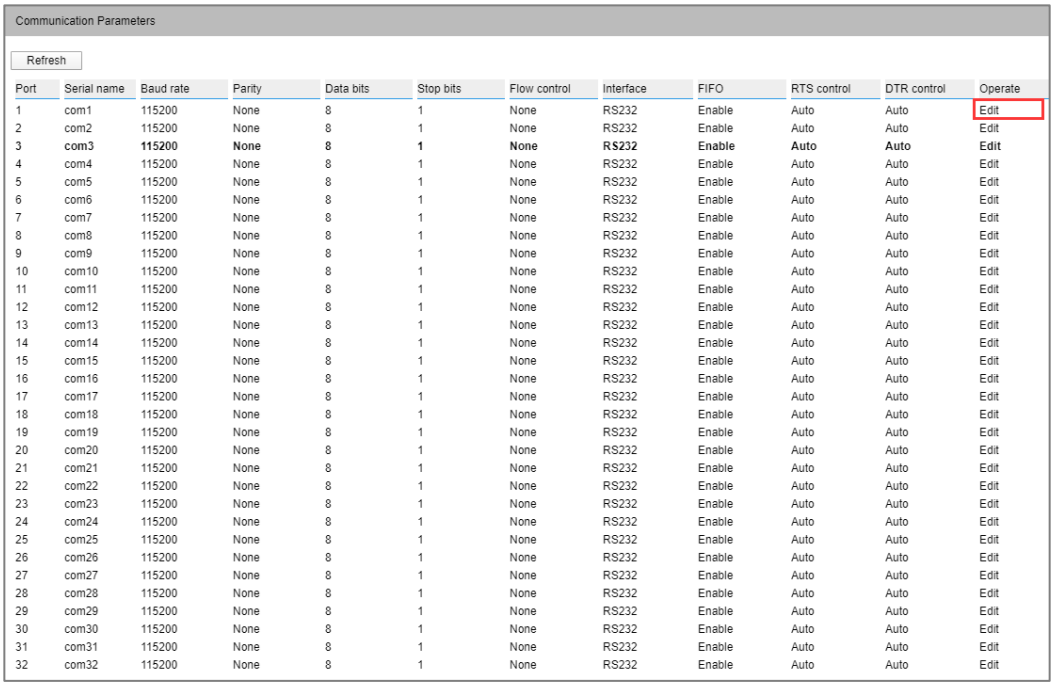
Step 1 Configure the IP address of the serial server.

1. Log in to the Web configuration interface and select "Network Configuration".
2. In the "LAN1" option box, enter the "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway " corresponding to the serial server.
3. Other parameters remain the default, click "Submit".



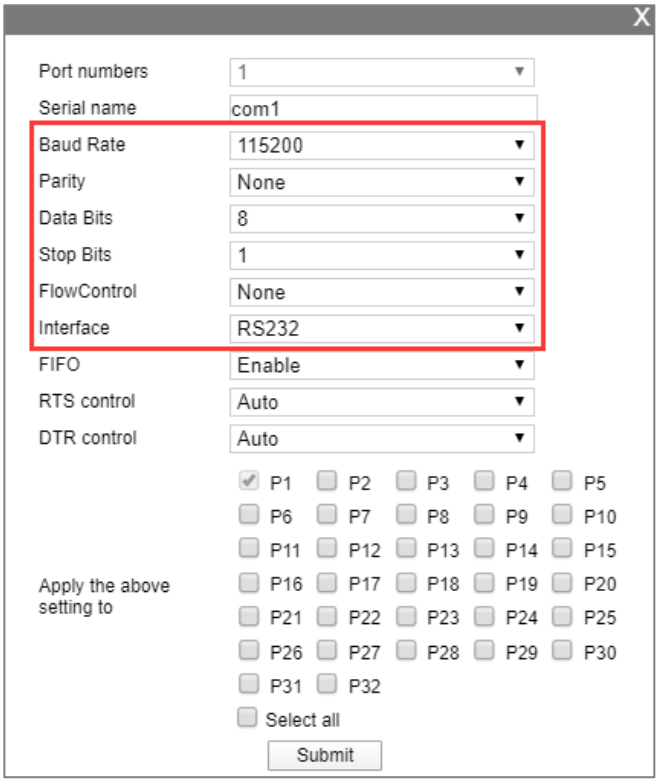
Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".



Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

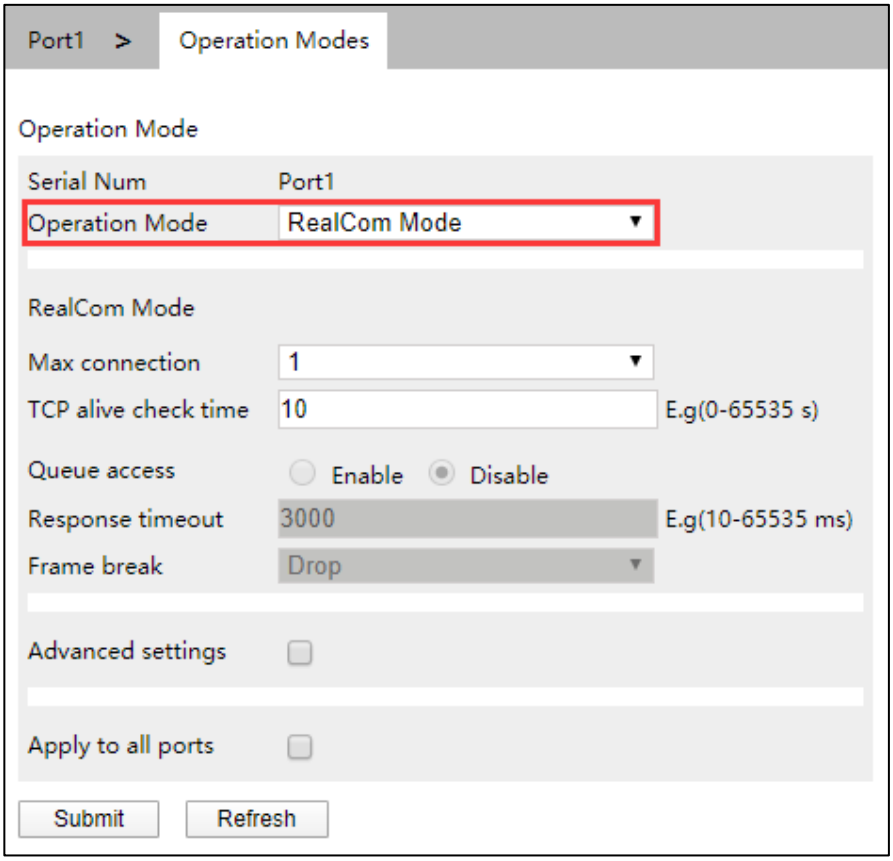
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the pop-up box.



4. Other parameters remain the default, click "Submit".

Step 3 Configure the working mode of the serial server.

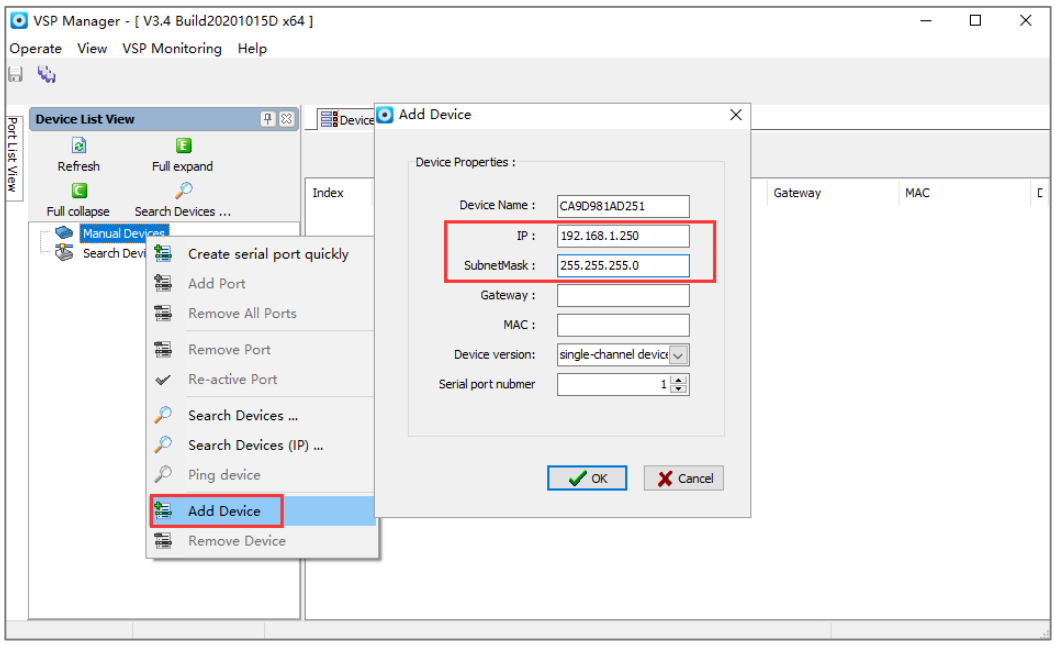
1. Log in to the Web configuration interface and select "Operation Modes > Port1".



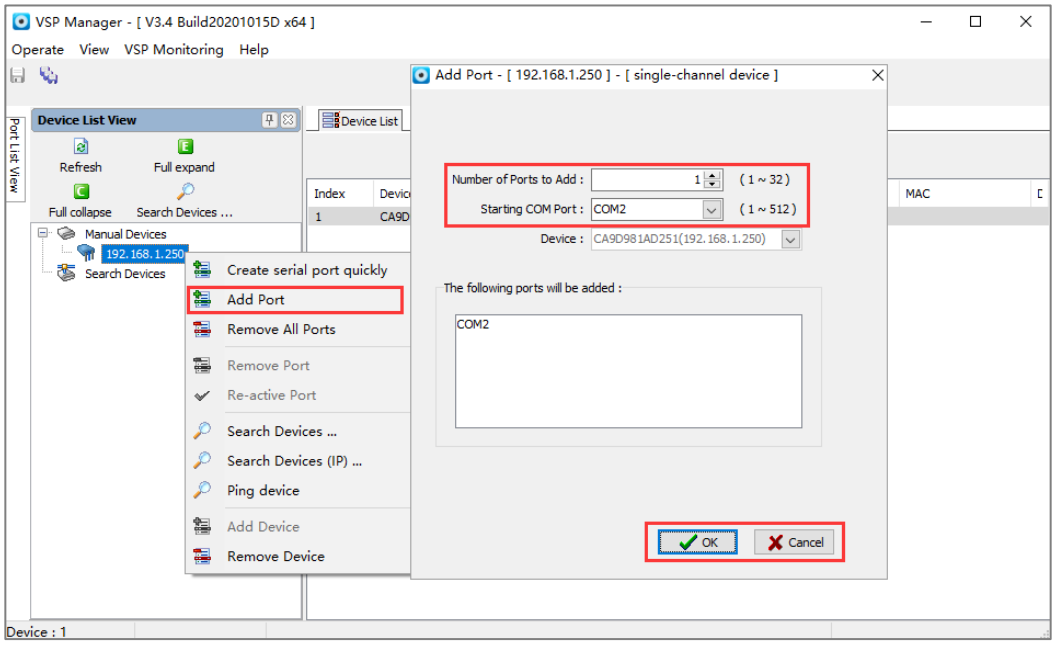
2. Click the "Operation Mode" drop-down list box and select "RealCom Mode".
3. Click “Max connection” drop-down list box, and select “1 “.
4. Other parameters remain the default, click "Submit".

Step 4 Run "VSP Manager" software, configure the virtual serial port COM2.

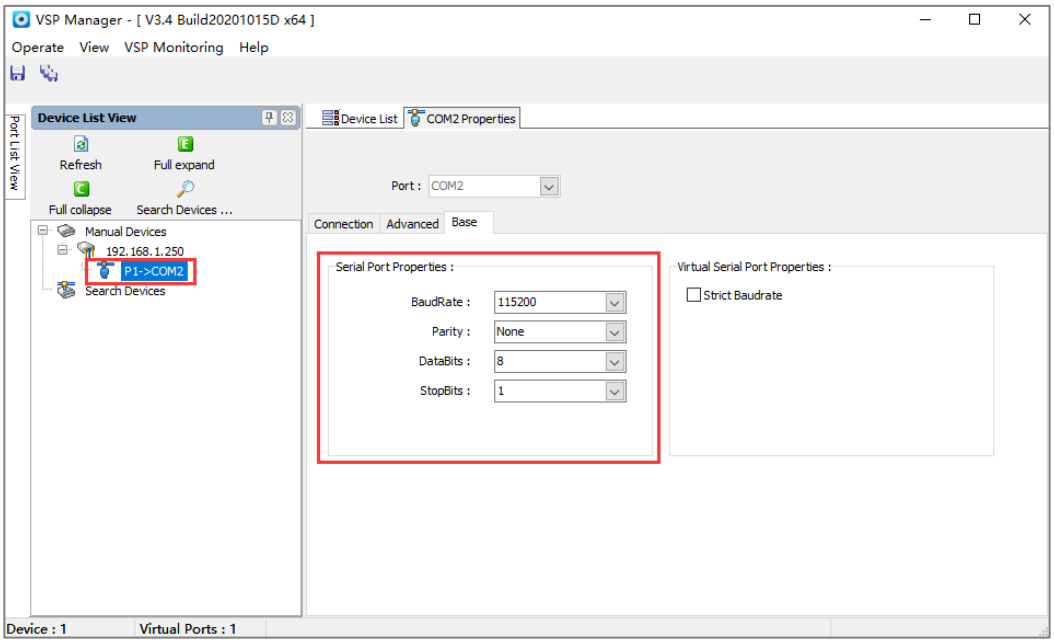
1. Run the virtual serial port management software "VSP Manager", click "Manual Device" in the left navigation bar, and select "Add Device". Enter the IP address and subnet mask of the serial server and click “OK”.



2. Right click "192.168.1.250" and select "Add Port". After creating the virtual serial port COM2, click “OK”.



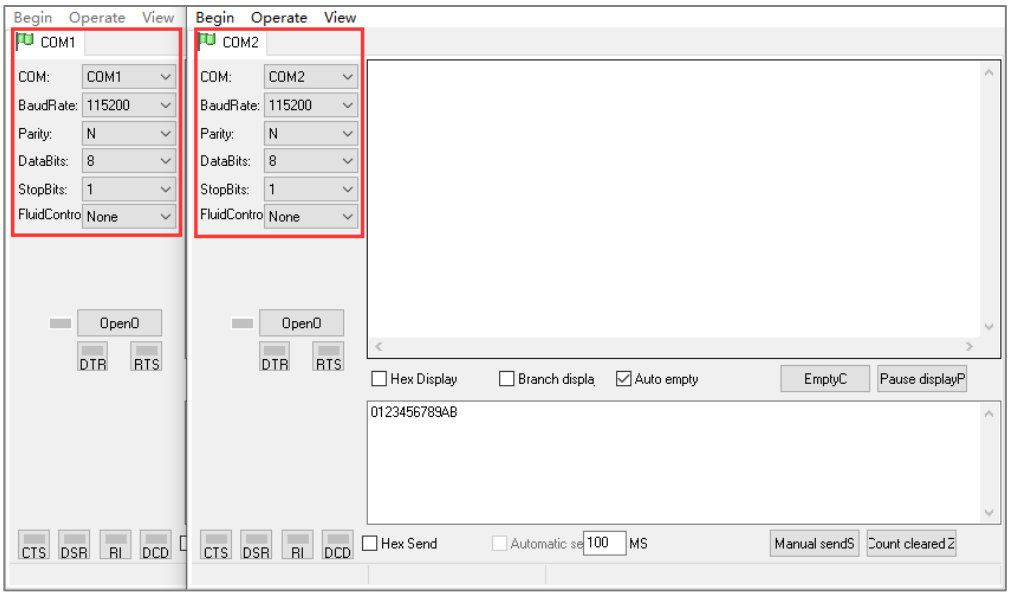
3. Double-click the created virtual serial port "COM2". Click "Base" in the “COM2 Properties” option box, configure the virtual serial port COM2 parameter information and real COM1 match the same.



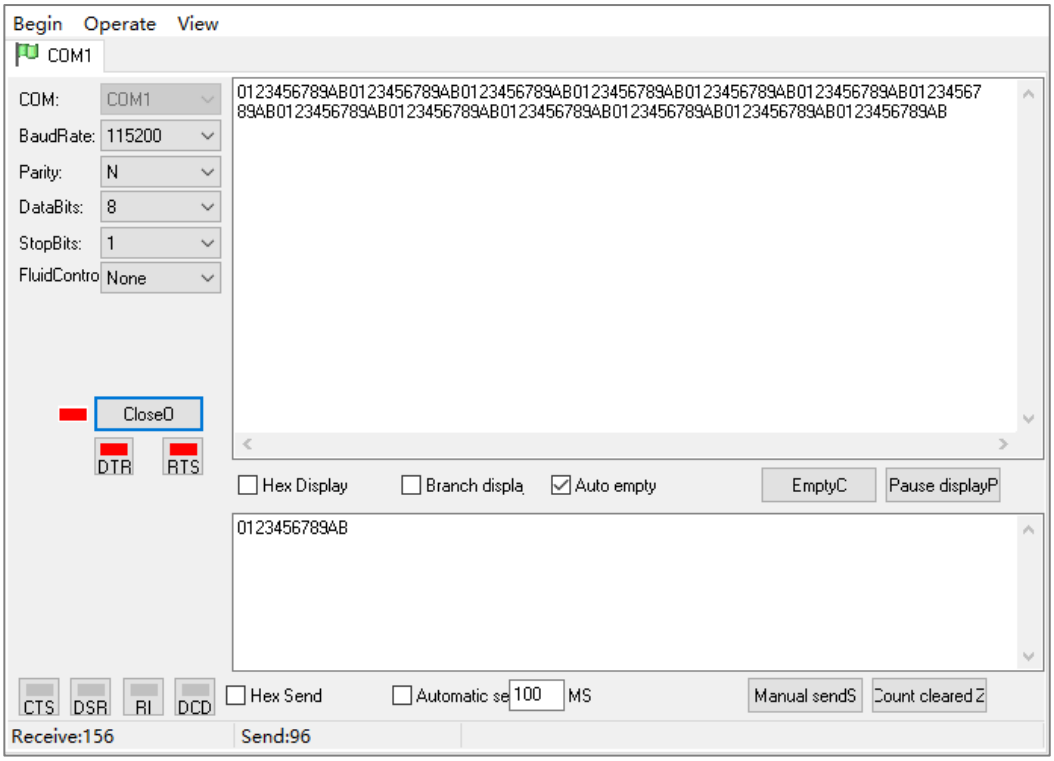
After the completion of the above configuration, between the real serial port COM1 and virtual COM2 connection can be successfully established to send data to each other.

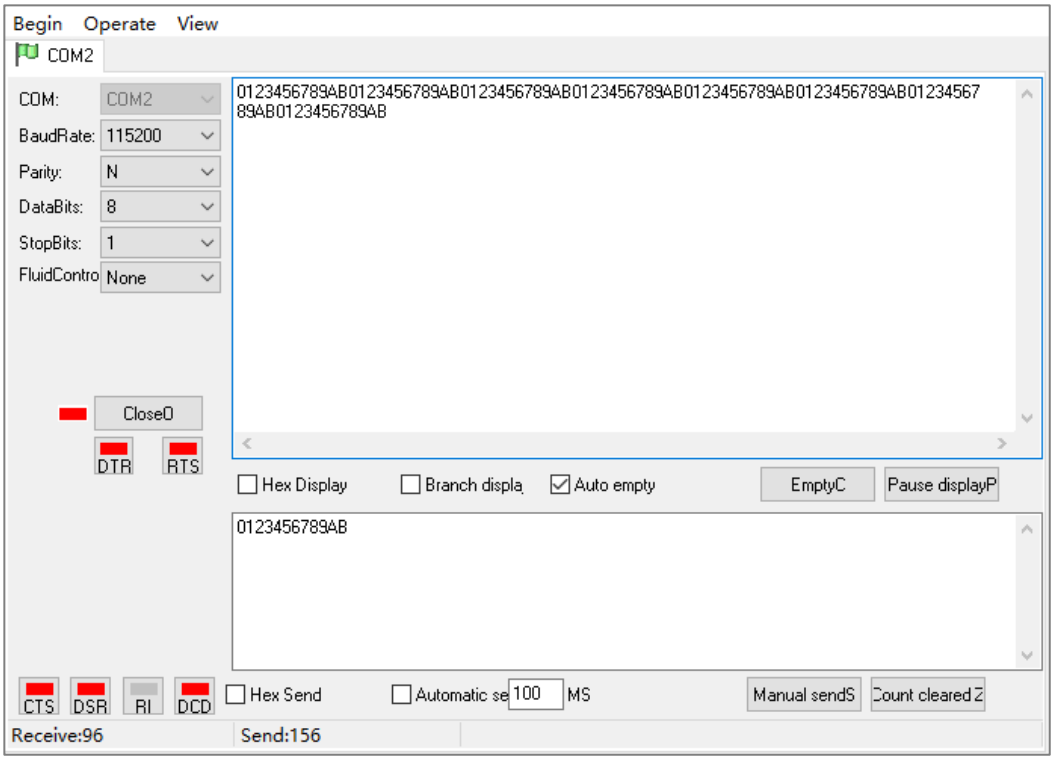
Step 5 Run "ComTest" software to test the communication between real serial port COM1 and virtual serial port COM2.

1. Install and run the ComTest, and click “Begin > New Windows” in the start menu.
2. Add the real serial "COM1" and virtual serial "COM2" two windows, the "COM1" and "COM2" serial port parameter information match.



3. Open “COM1” and “COM2” serial signal respectively, check “Manual send” checkbox, test and check the data transmission status between real serial port COM1 and virtual serial port COM2.





10.2 Reverse RealCom Mode

Background Introduction

Assume that the IP address of the serial server needs to be automatically assigned by DHCP or BOOTP, and the host manages the serial terminal device through the serial server. Now connect the host's own RS-232 serial port, COM1, to the Port1 of the serial server, and install ComTest software to simulate the serial terminal device. At the same time, the host computer installs VSP software, maps the serial port terminal device connected to the serial port server Port1 to the local COM2 of the host computer, and simulates the management terminal by ComTest software. When the IP address of the serial server changes, the communication between the management terminal (COM2) and the terminal (COM1) can still be normal.

Parameter information of serial terminal is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Host parameter information as follow:

- IP address: 192.168.1.61
- Data port: 33000
- Command port: 34000

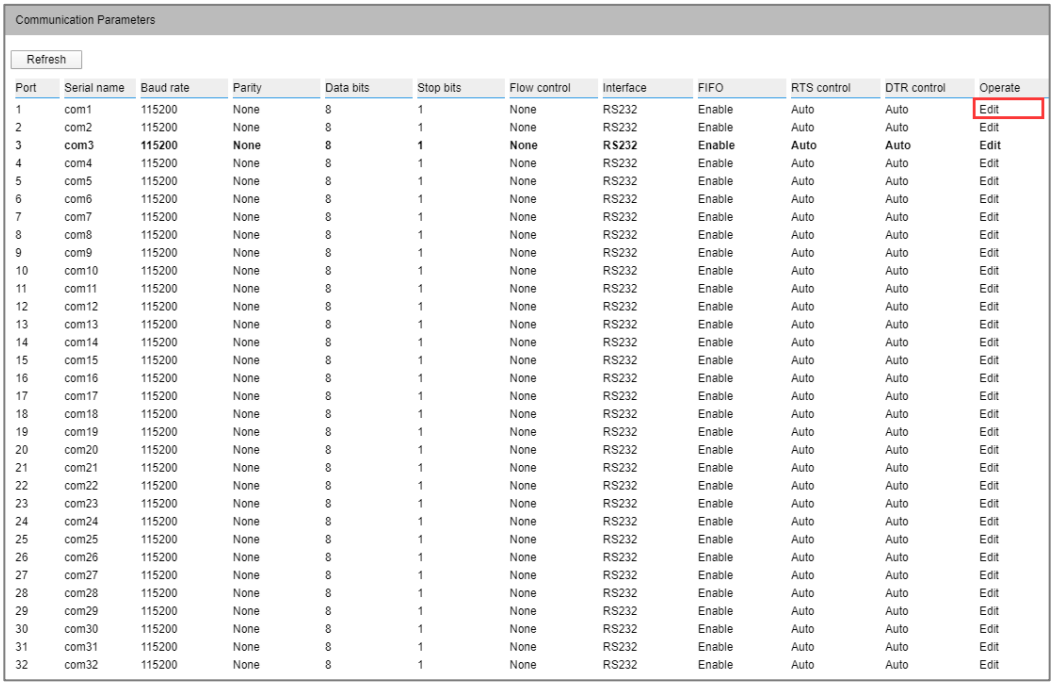
The parameters of the serial server are as follows:

- IP address: DHCP (assuming that the automatically acquired IP address is 192.168.1.250)
- Communication parameters: Port1 is consistent with serial terminal parameters
- Working mode: Reverse RealCom Mode

Operation steps

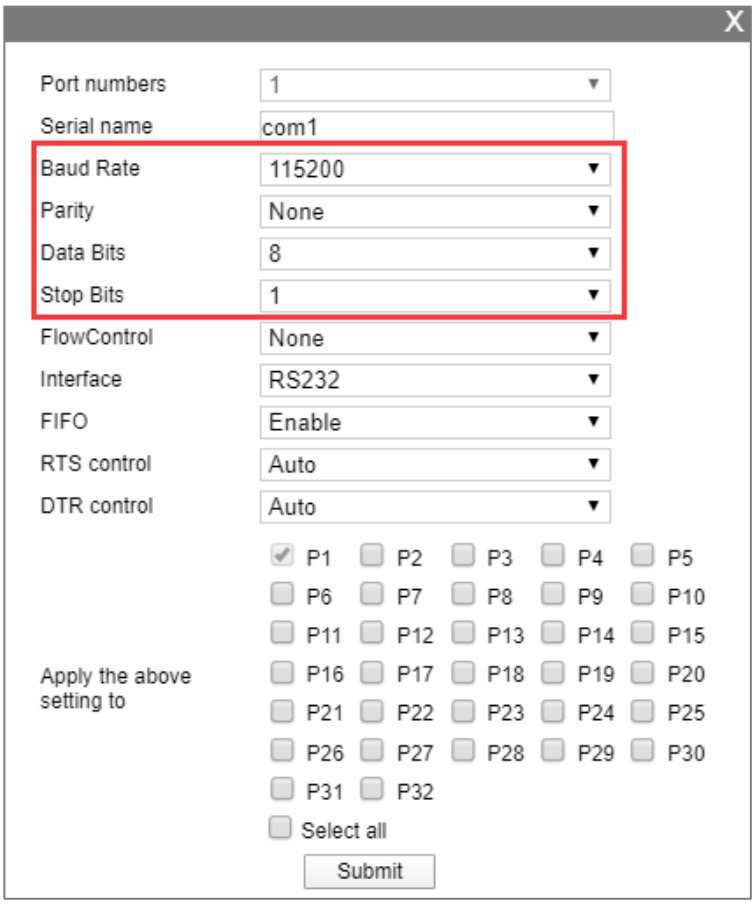
Step 1 Configure the communication parameter information of serial server.

1. Log in to the WEB configuration interface and select "Communication Parameters".
2. In the Port1 entry, click Edit under operation, as shown in the following figure.



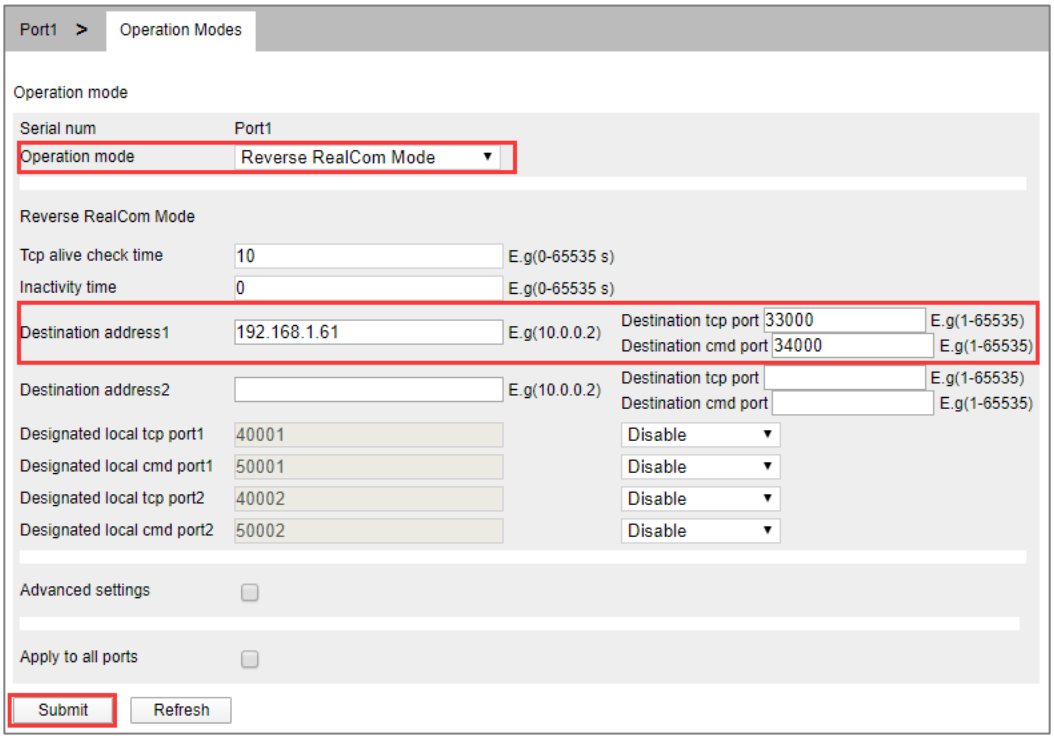
Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	**com3**	**115200**	**None**	**8**	**1**	**None**	**RS232**	**Enable**	**Auto**	**Auto**	**Edit**
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

3. In the serial port parameter option box, set "Baud Rate", "Parity", "Data Bits", "Stop Bits" and "interface" parameters respectively, as shown in the following figure.



4. Other parameters remain the default, click “Submit”.

Step 2 Configure the working mode of the serial server, as shown in the following figure.



1 Log in to the WEB configuration interface and select "Operation Modes > Port1".

2 Click the "Operation mode" drop-down list and select "Reverse RealCom Mode".

3 In the "Destination address1" text box, enter the IP address of the host "192.168.1.61".

4 Enter the data port "33000" in the "Destination tcp port" text box of address 1.

5 Enter the Command port "34000" in the "Destination tcp port" text box of address 1.

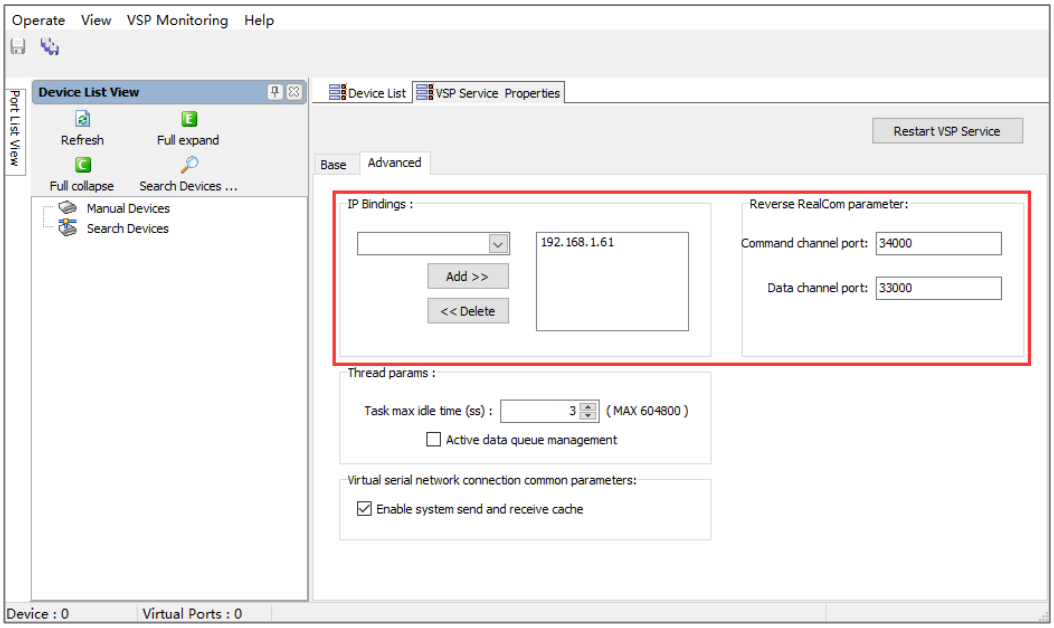
6 Other parameters remain the default, click “Submit”.

Step 3 Run "VSP Manager" software, configure the virtual serial port COM2.

1 Install and run the "VSP Manager" software on the host, and refer to the VSP user manual for the installation process.

2 On the menu bar, click View > VSP Service Properties, and then click the Advance tab.

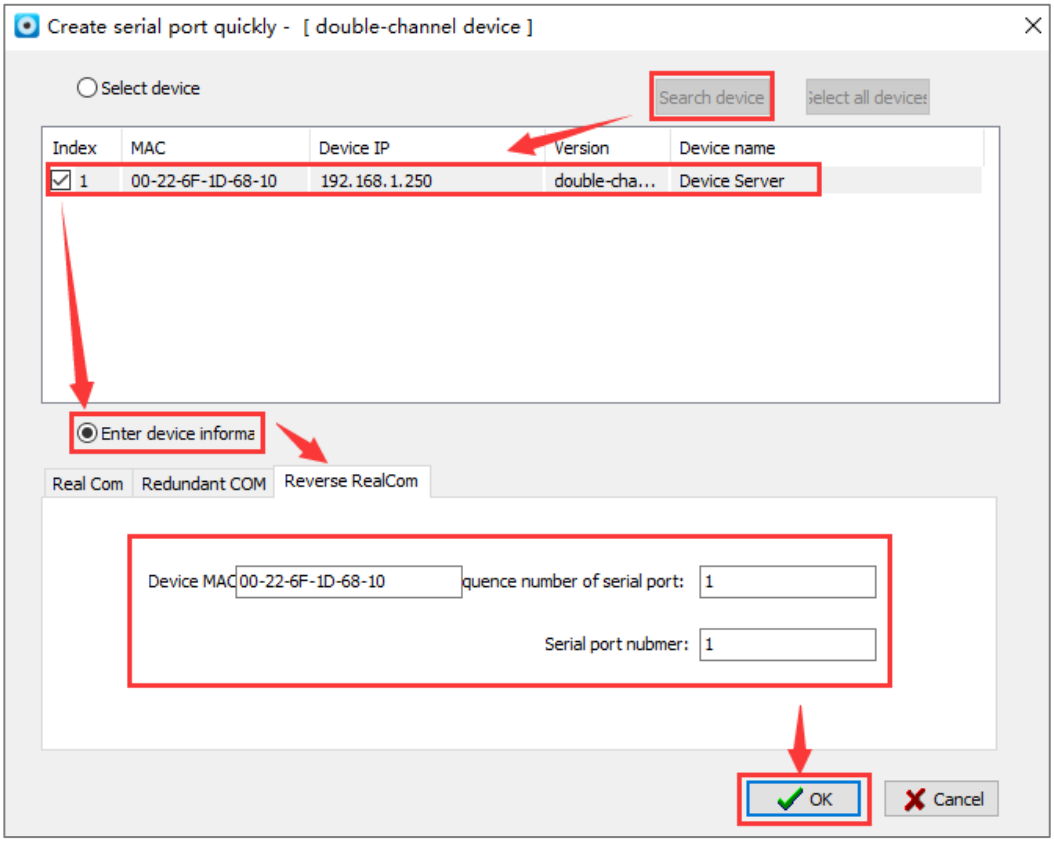
3 In the "IP Bindings" area, click the list to select the host IP address "192.168.1.61", and then click the "Add" button, as shown in the following figure.



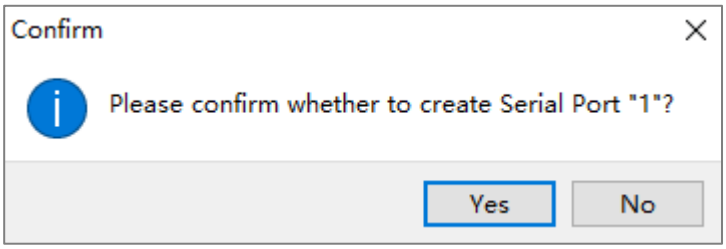
4 In the "Command channel port" text box under the "Reverse RealCom parameter" area, enter the host command port 34000; In the Data channel port text box, enter the host data port 33000.

5 In the blank space of "Device List View" on the left, right-click and select "Create serial port quickly".

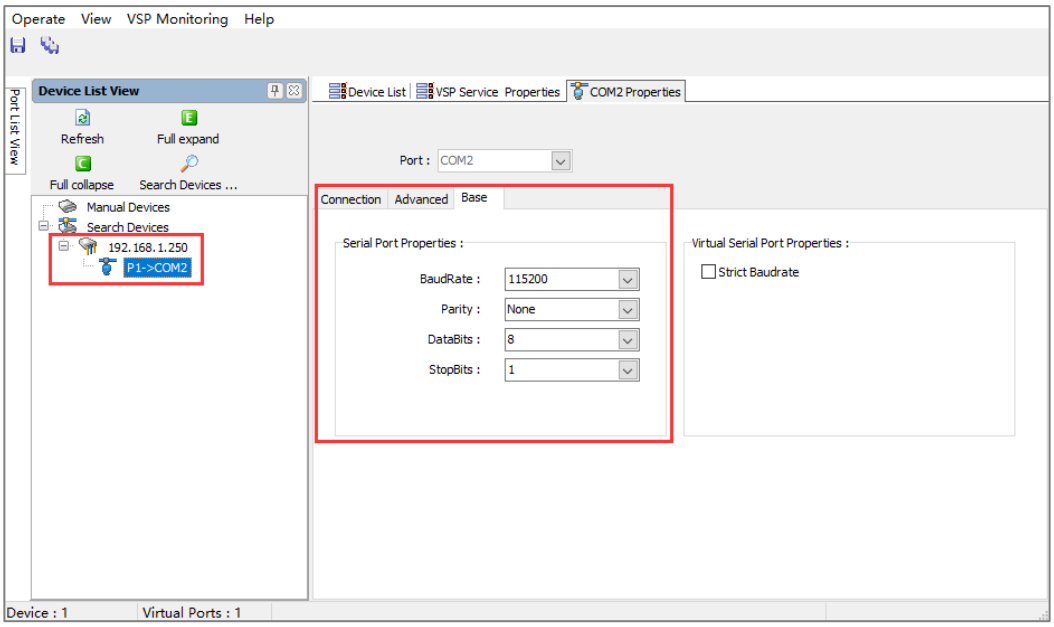
6 In the "Create serial port quickly" window, create COM2, and the configuration is shown in the following figure.



- Check the "Select device" radio box.
- Click the "Search device" button to search the serial port server.
- Check the check box under "Index" in the corresponding serial server entry.
- Click the "Enter device information" radio box.
- Click the "Reverse RealCom" tab and enter the MAC address, starting serial port number and serial port number of the device.
- Click “OK” button.
- In the Confirm window, click the Yes button, as shown in the following figure.



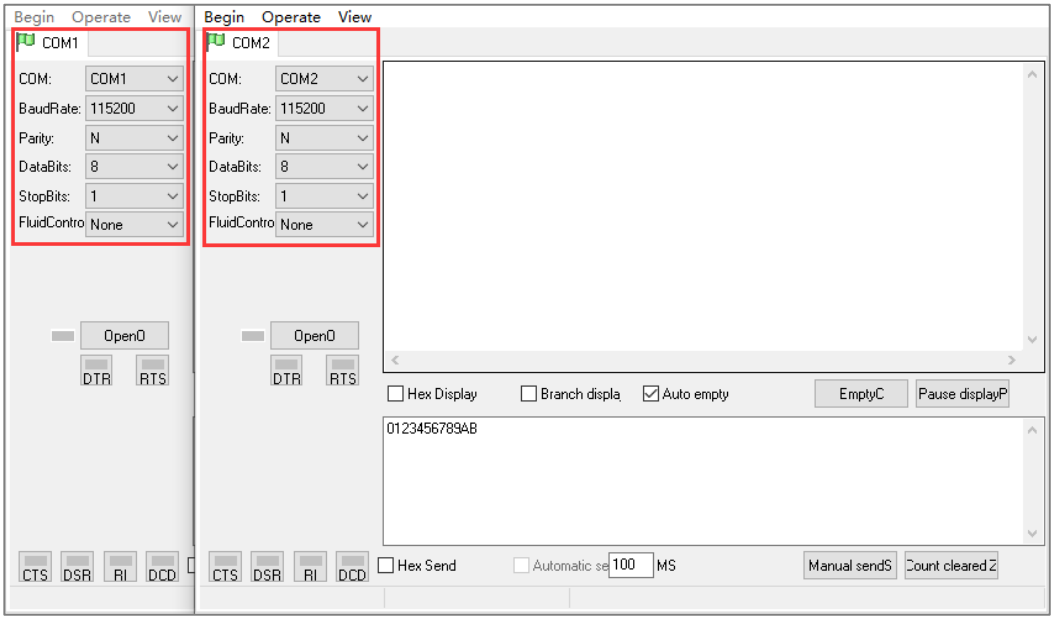
7 Double-click the created COM2, enter the COM2 property page, and then click the "Base" tab. In the "Serial Port Properties" area, configure the serial port COM2 parameters to be consistent with COM1 communication parameters, as shown in the following figure.



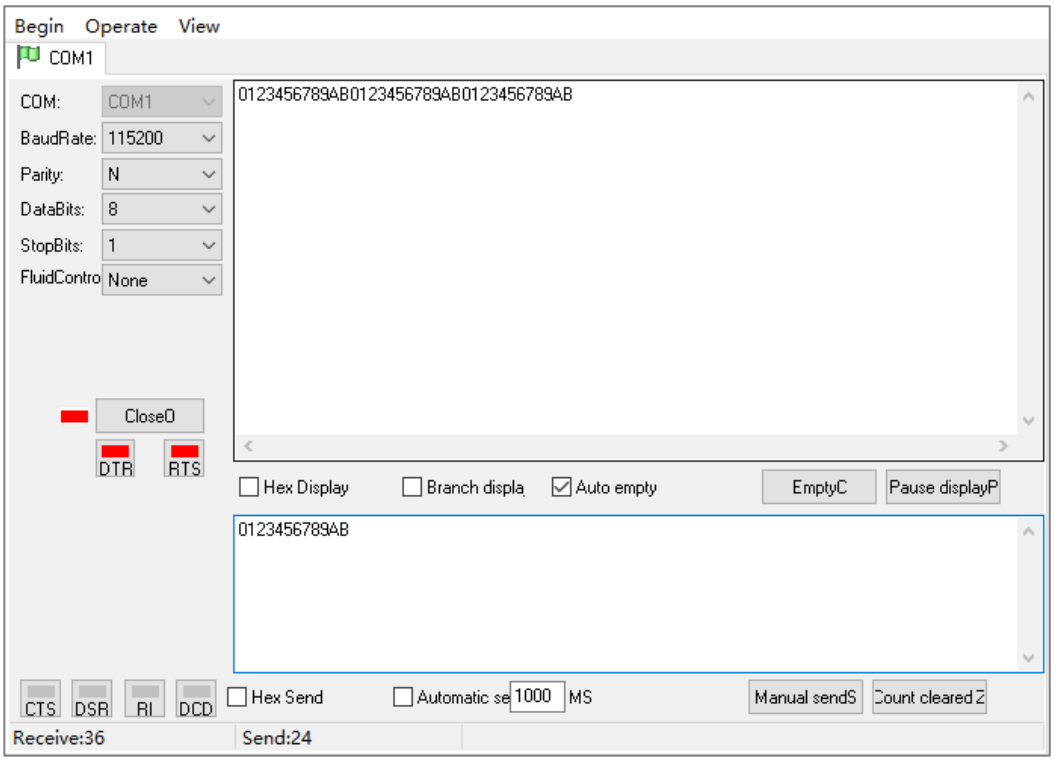
Step 4 Run "ComTest" software to test the communication between terminal COM1 and management terminal COM2.

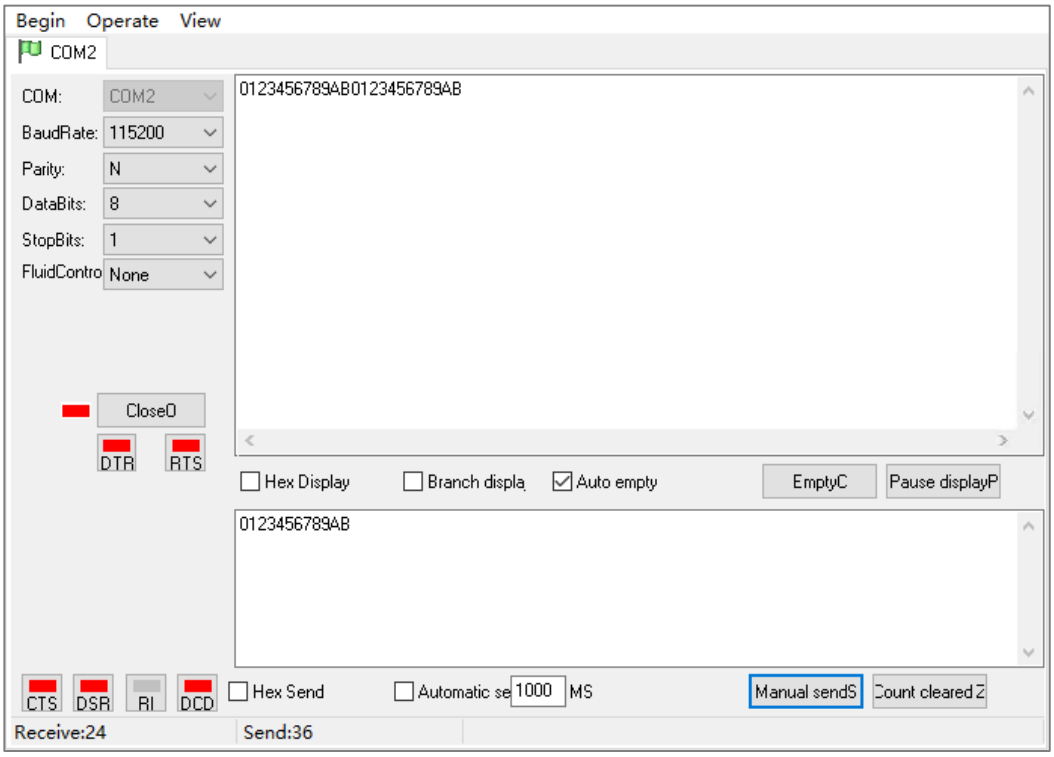
1 Install and run "ComTest" software on the host, click "Begin" in the menu bar and select "New Windows".

2 Add the real serial "COM1" and virtual serial "COM2" two windows, the "COM1" and "COM2" serial port parameter information match.



3 Turn on the serial signals of "COM1" and "COM2" respectively, and click the "Manual send" button to test and check the data receiving and sending status between the real serial port COM1 and the virtual serial port COM2.





Note:

You can simulate dynamic IP by manually modifying the static IP address of the device, and then view the data communication between COM1 and COM2.

Step 5 End.

10.3 TCP Server Mode

Background Introduction

Assuming that the serial port "COM1" of the serial server is operating in the "TCP server mode", passively waiting for one host PC to connect, and the host can read or send Ethernet data to a serial device.

The parameters of the serial server (TCP server) are as follows:

- IP Address: 192.168.1.250
- Local Port: 30000
- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

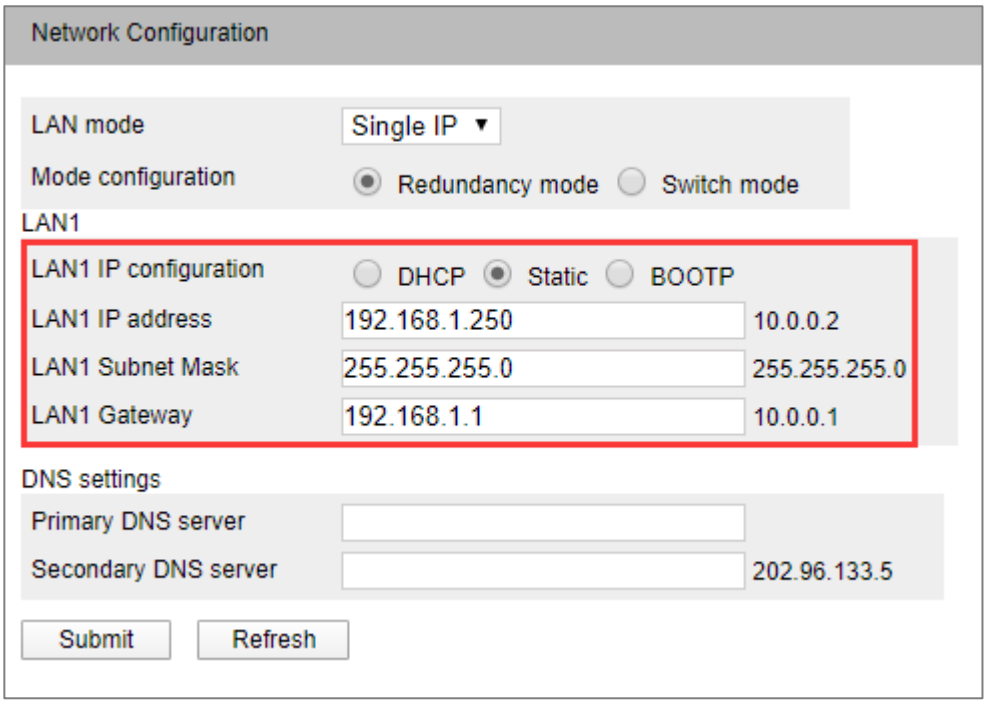
Host PC (TCP client mode) parameter information as follow:

- IP address: 192.168.1.61

Operation Steps

Step 1 Configure the IP address of the serial server.

1. Log in to the Web configuration interface and select "Network Configuration".

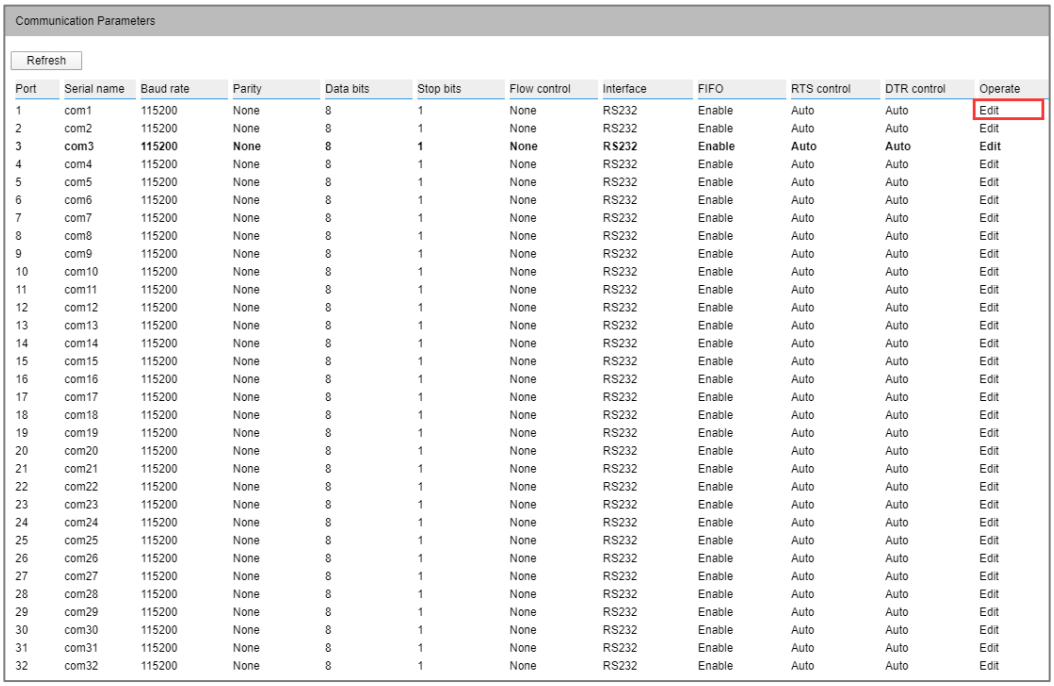


2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway" corresponding to the serial server.

3. Other parameters remain the default, click "Submit".

Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".

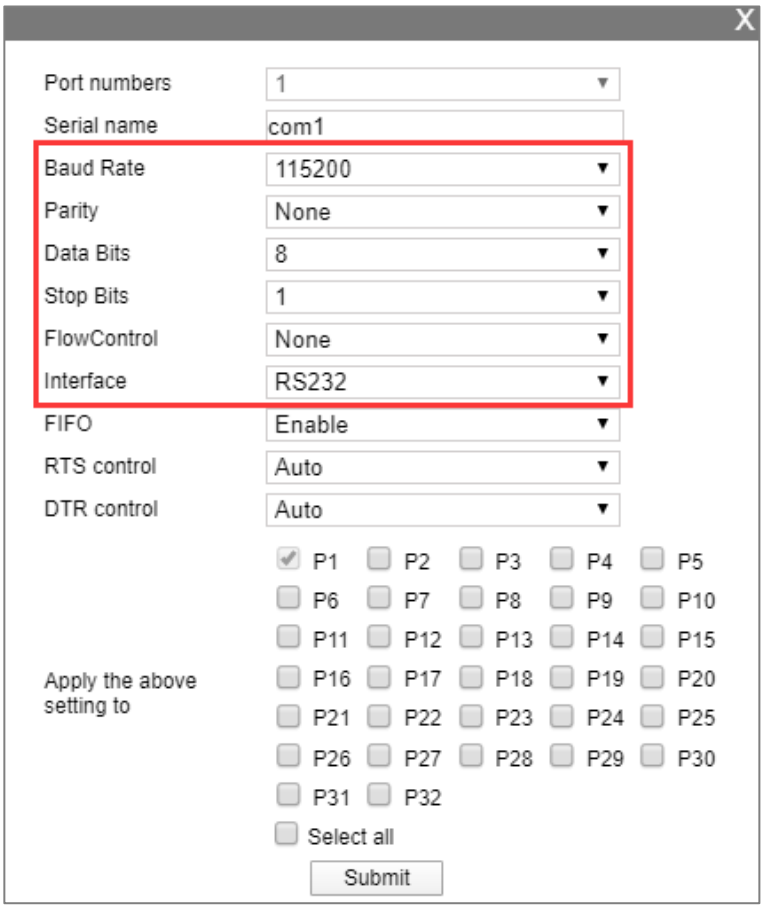


Communication Parameters

Refresh

Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

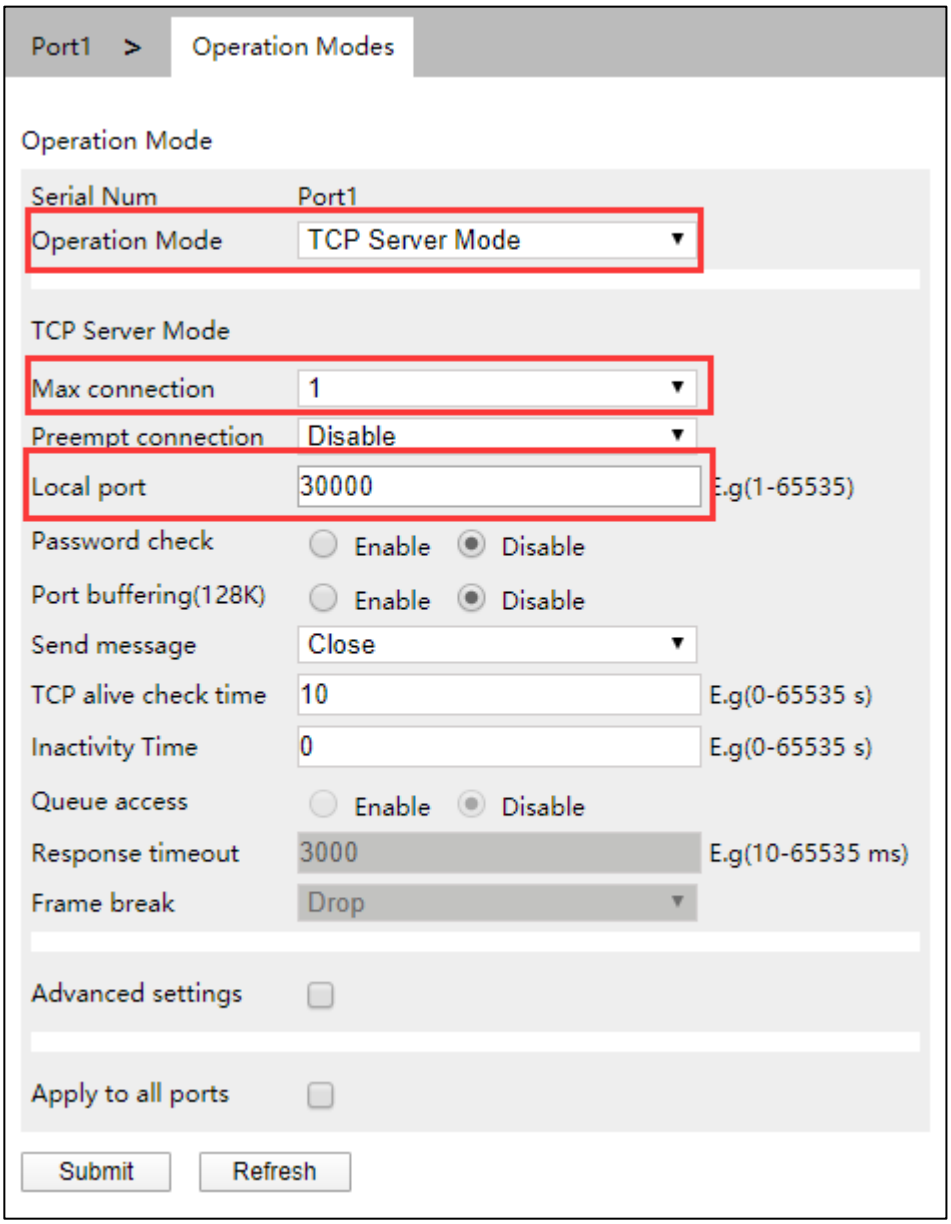
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

Step 3 Configure the working mode of the serial server.

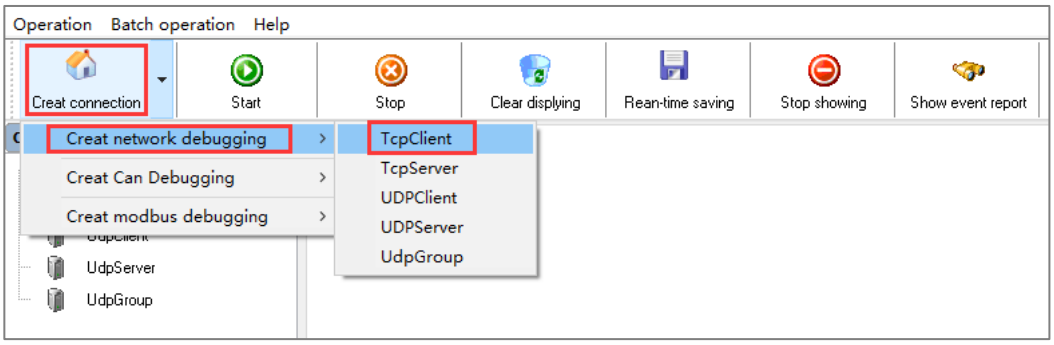
1. Log in to the Web configuration interface and select " Operation Modes > Port1".



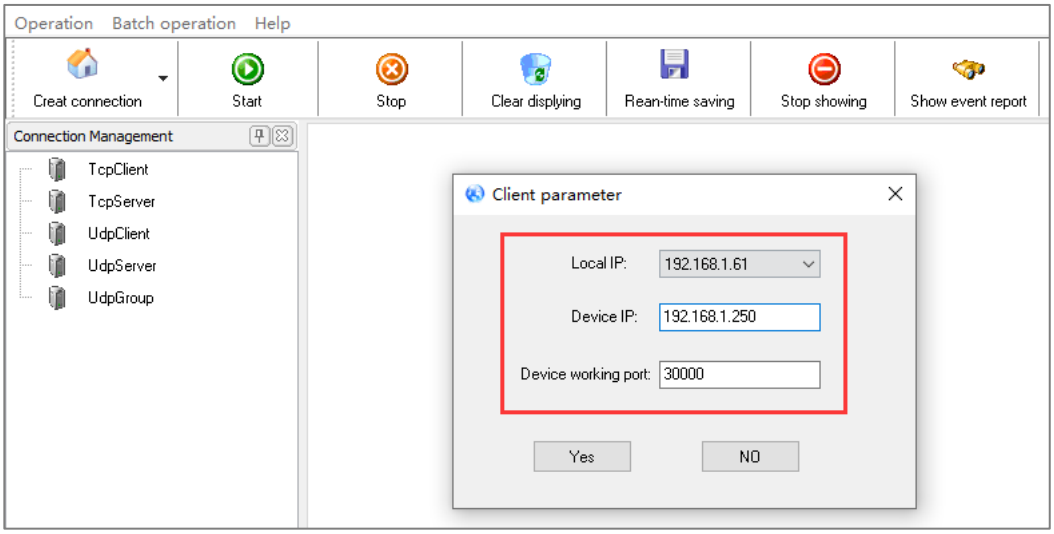
2. Click the "Operation Mode" drop-down list box and select "TCP Server Mode".
3. Click “Max connection” drop-down list box, and select “1 “.
4. Enter "30000" in the "Local Port" text box.
5. Other parameters remain the default, click "Submit".

Step 4 Run the debug assistant software to create a TCP client for the host.

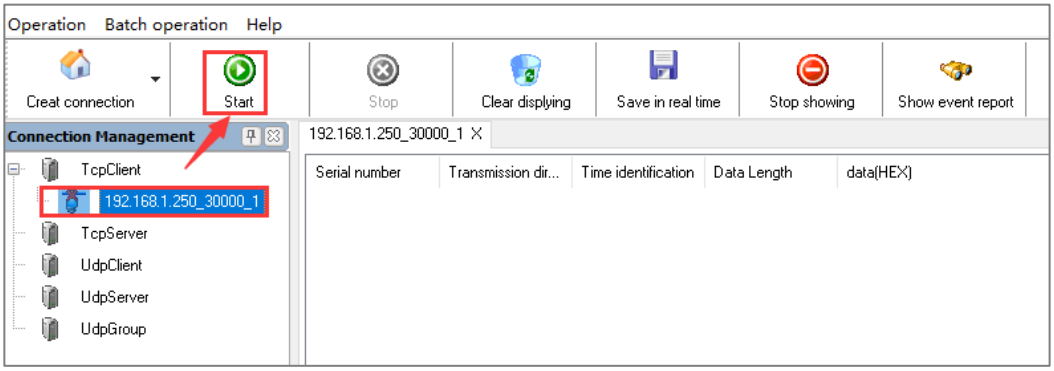
1. Install and run debug assistant, click “create connection” drop-down list, and select “create network debugging” > “TcpClient”.



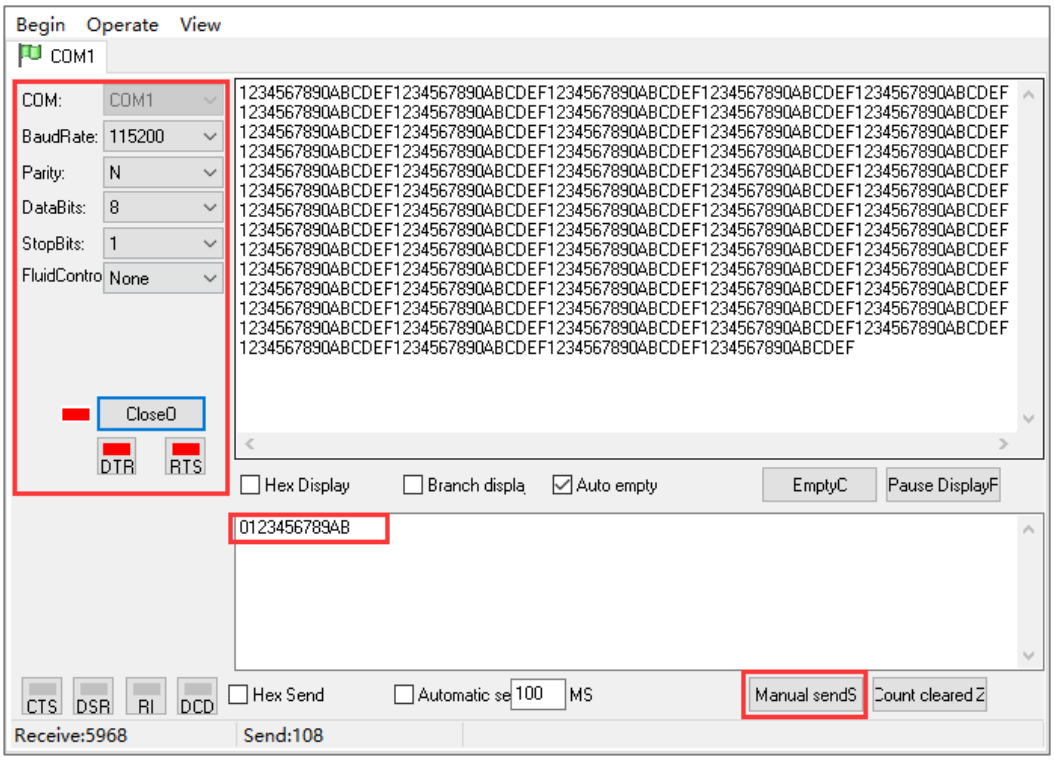
2. In the "Local IP" drop-down list box, select the IP address "192.168.1.61" of the host PC (that is, the TCP client).
3. In the "Device IP" text box, enter the IP address "192.168.1.250" of the serial server (that is, the TCP server).
4. In the “Device Working Port” text box, enter the local port "30000" of the serial server (that is, the TCP server), and click “YES”.



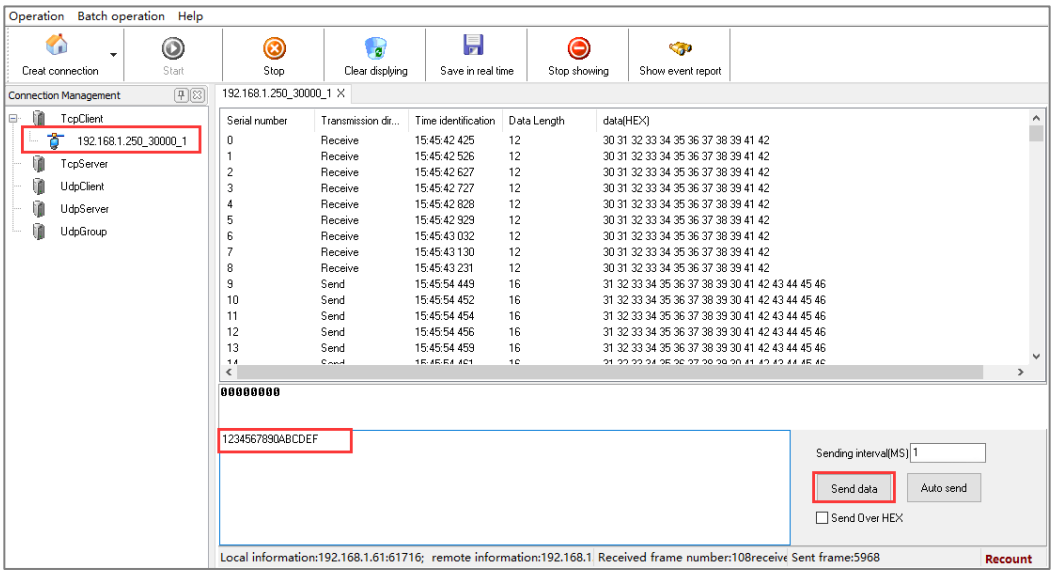
5. Choose the created Tcpclient connection, click "Start".



Step 5 Run "ComTest" and "DebugTool" software synchronously to test the communication between serial port server (TCP server) and host PC (TCP client).



1. Install and run the ComTest, and click “Begin > New Windows” in the start menu.
2. Add serial port "COM1" window, and configure serial port number, baud rate, parity and data bit and other parameters consistent with "Communication Parameters" of WEB interface.
3. Open the serial port signal of "COM1", for example, enter the serial port information "0123456789AB", and click "Manual send".
4. Run the debug assistant software and view the serial port information received by the host PC in the TcpClient option box. Similarly, the host PC can also send messages to serial port devices.



10.4 TCP Client Mode

Background Introduction

Assuming that the serial port "COM1" of the serial server is working in "TCP client mode", it initiates a connection with a host PC, and the host can read or send Ethernet data to a serial device.

When the data transfer is completed, the serial server will automatically shut down the network connection after 30 seconds.

The parameters of the serial server (TCP client) are as follows:

- IP Address: 192.168.1.250
- Local Port: 30000
- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

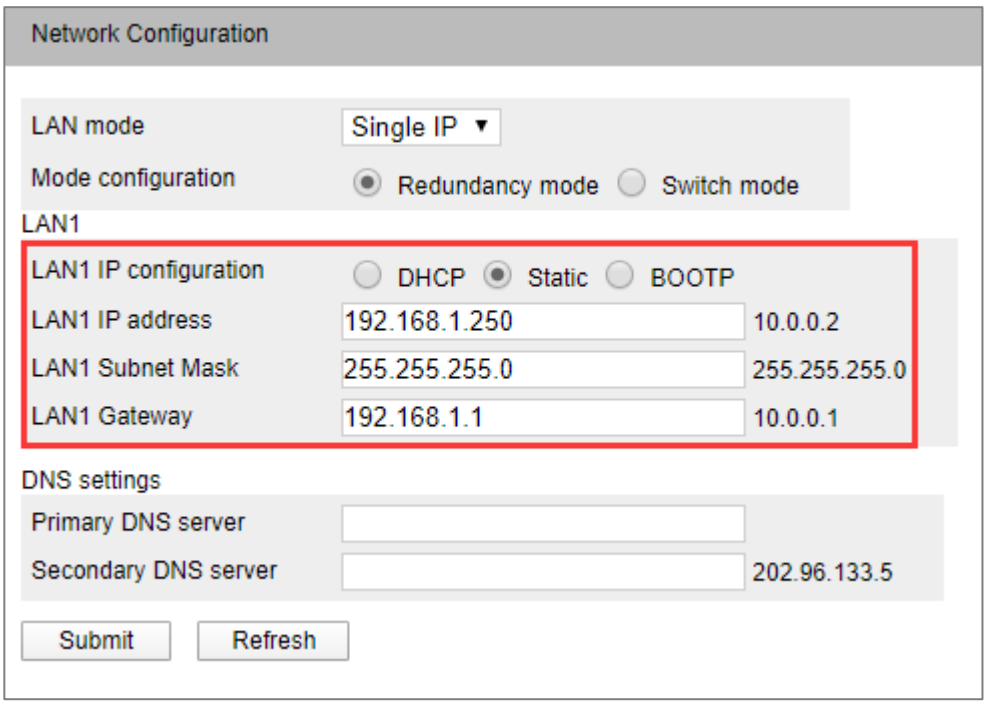
Host PC (TCP server mode) parameter information as follow:

- IP address: 192.168.1.61
- Local Port:31000

Operation Steps

Step 1 Configure the IP address of the serial server.

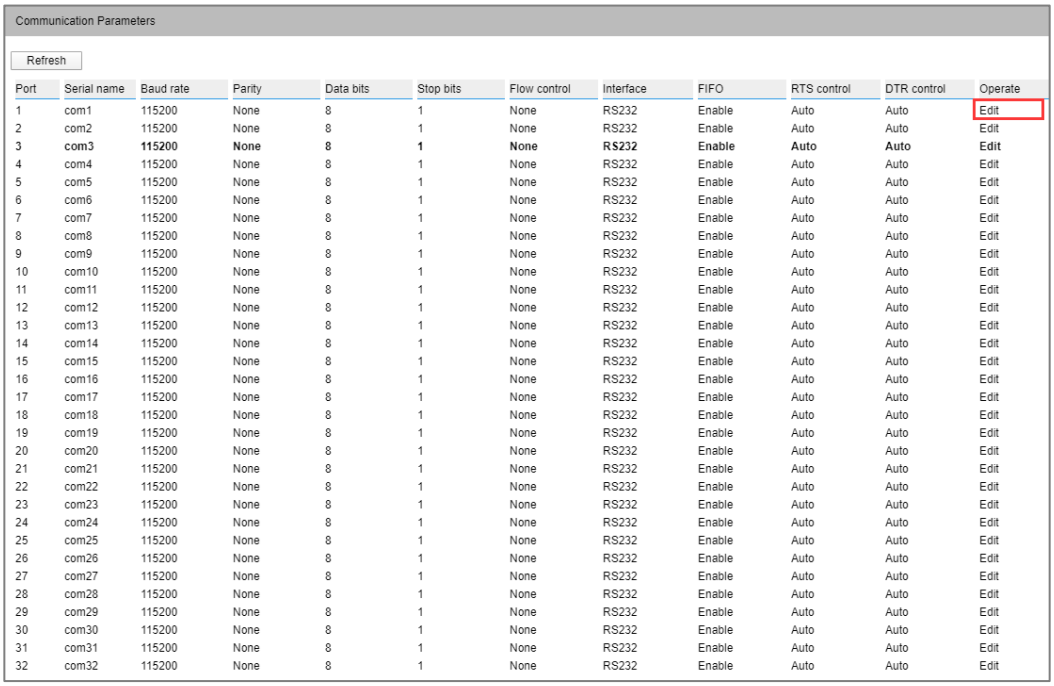
1. Log in to the Web configuration interface and select "Network Configuration".



2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway" corresponding to the serial server.
3. Other parameters remain the default, click "Submit".

Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".

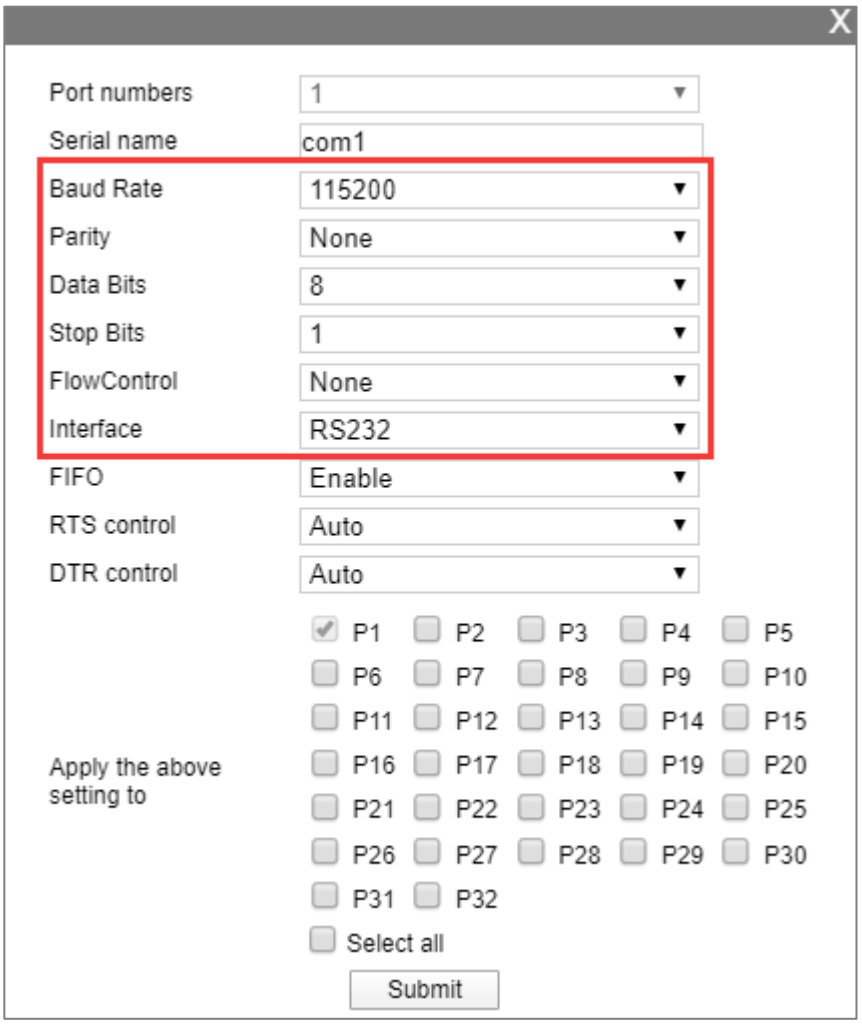


Communication Parameters

Refresh

Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	**com3**	**115200**	**None**	**8**	**1**	**None**	**RS232**	**Enable**	**Auto**	**Auto**	**Edit**
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

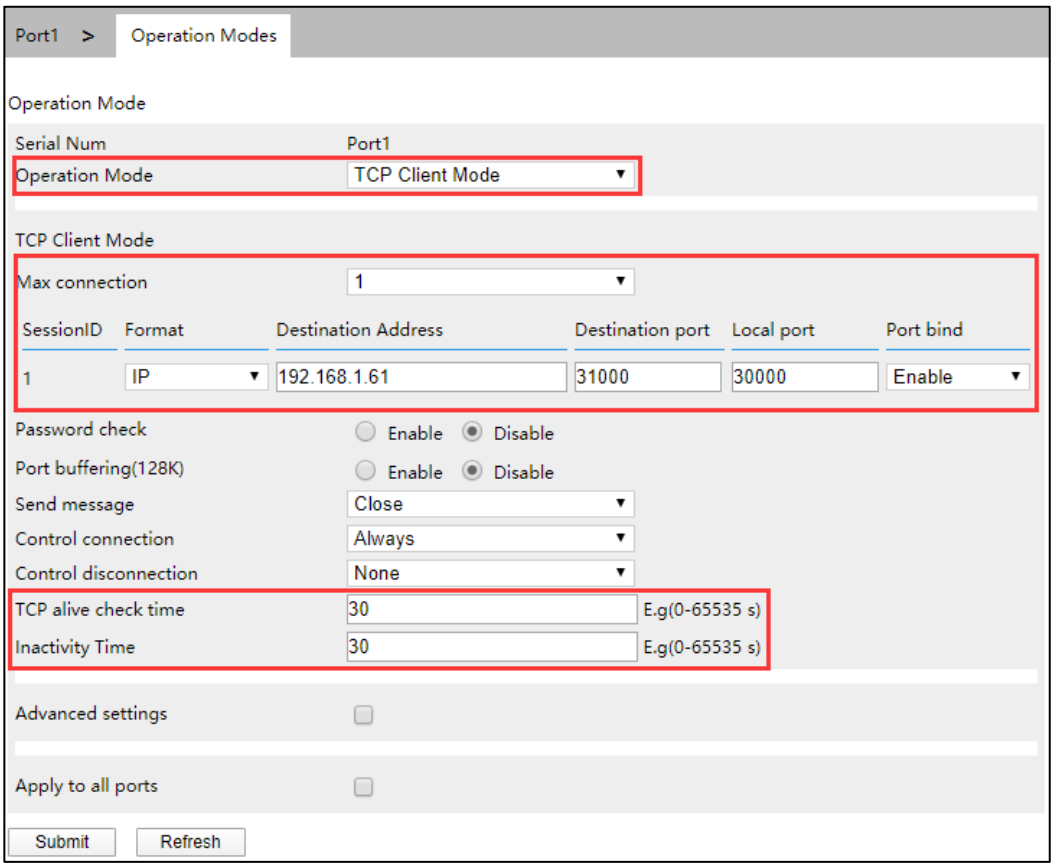
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

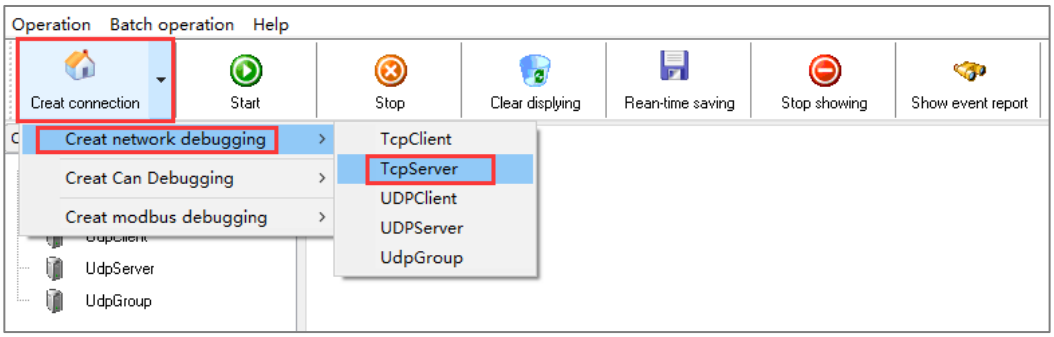
Step 3 Configure the working mode of the serial server.

1. Log in to the Web configuration interface and select "Operation Modes > Port1".
2. Click the "Operation Mode" drop-down list box and select "TCP Client Mode".
3. Click “Max connection” drop-down list box, and select “1” to establish one session connection.
4. In the “Format” drop-down list, select “IP”.
5. Enter the host PC's IP address "192.168.1.61" in the destination address text box.
6. Enter the host PC's local port number, 31000, in the destination port text box.
7. In the “Port bind” drop-down list, select “Enable”.
8. Enter the local port number "30000" of the serial server in the "Local port" text box.
9. Enter "30" in the "TCP alive check time" and "Inactivity Time" text boxes.
10. Other parameters remain the default, click "Submit".

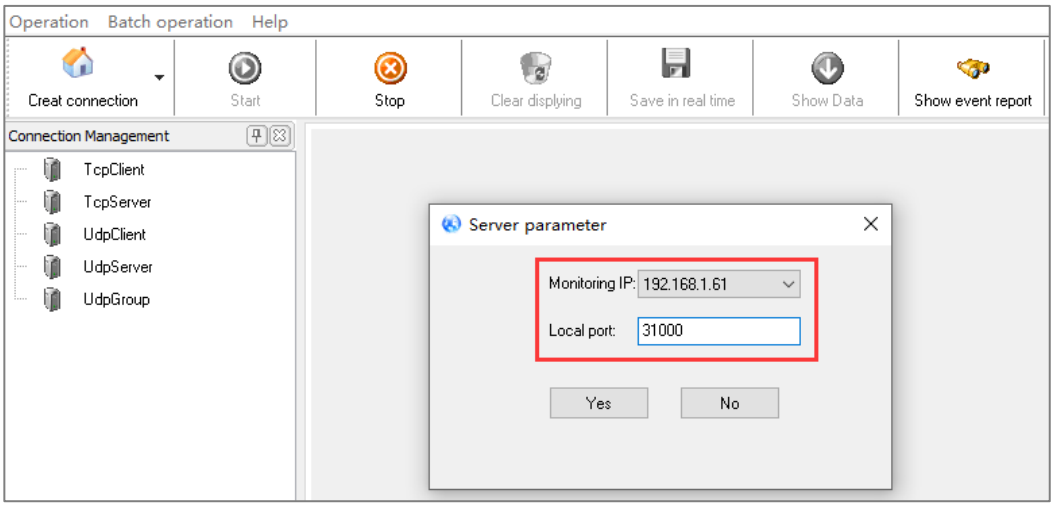


Step 4 Run the debug assistant software to create a TCP server for the host.

1. Install and run “DebugTool” software, click “create connection” drop-down list, and select “Create network debugging > TcpServer”.



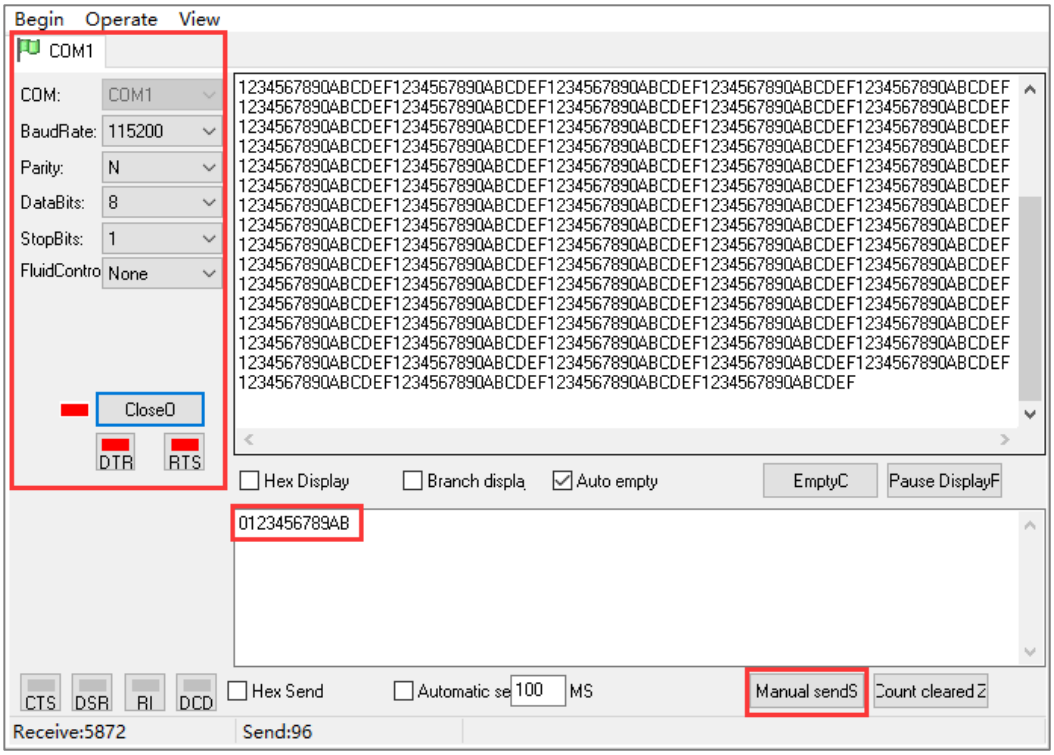
2. In the “Monitoring IP” drop-down list box, select the IP address "192.168.1.61" of the host PC (that is, the TCP server).
3. In the "Local Port" text box, enter the local port "31000" of the host PC (that is, the TCP server) and click "OK".



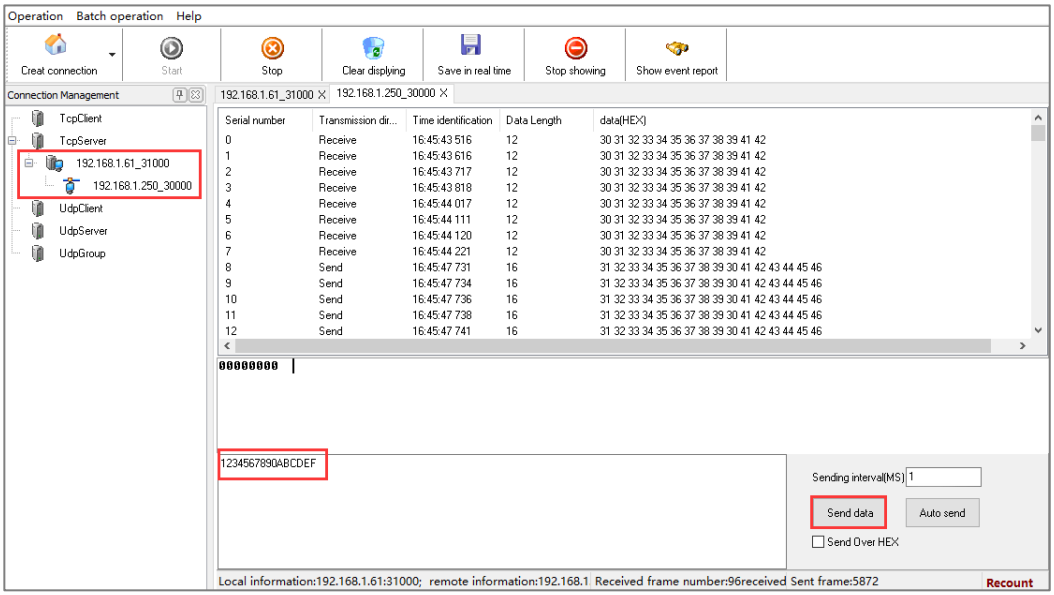
4. Choose the created TcpServer connection, click "Start".

Step 5 Simultaneously run "ComTest" and "DebugTool" software, test the communication between serial server (TCP client) and the host PC (TCP server).

1. Install and run the ComTest, and click “Begin > New Windows” in the start menu.



2. Add serial port "COM1" window, and configure serial port number, baud rate, parity and data bit and other parameters consistent with "Communication Parameters" of WEB interface.
3. Open the serial port signal of "COM1", for example, enter the serial port information "0123456789AB", and click "Manual send".
4. Run the "DebugTool" software, in the TcpServer option box to check the serial information received by the host PC. Similarly, the host PC can also send messages to serial port devices.



10.5 UDP Server Mode

Background Introduction

Assuming that the serial port "COM1" of the serial server is operating under "UDP server mode", passively waiting for one host PC to connect, and the host can read or send Ethernet data to a serial device. Compared with TCP mode, UDP protocol is faster and more efficient.

The parameters of the serial server (UDP server) are as follows:

- IP Address: 192.168.1.250
- Local Port: 30000
- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

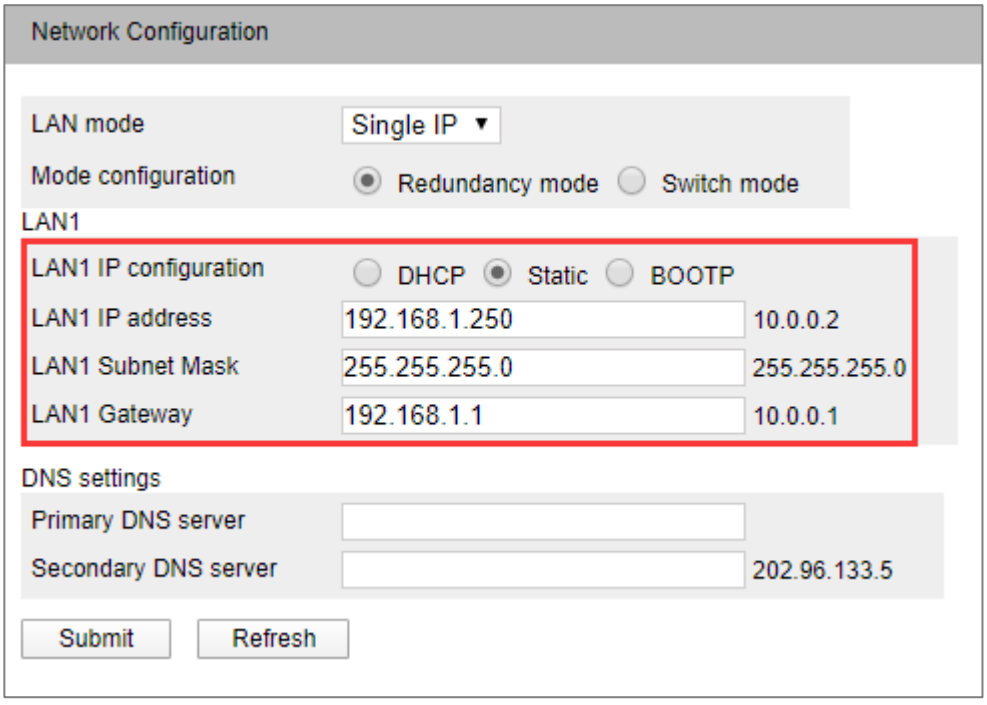
Host PC (UDP client mode) parameter information as follow:

- IP address: 192.168.1.61
- Local Port:31000

Operation Steps

Step 1 Configure the IP address of the serial server.

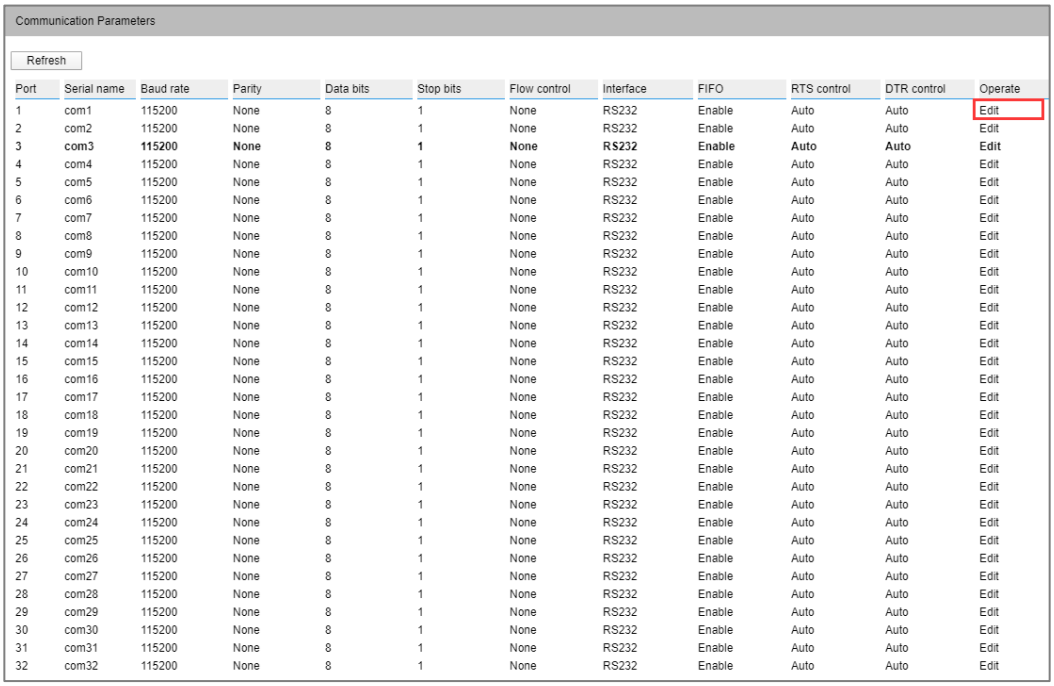
1. Log in to the Web configuration interface and select "Network Configuration".



2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway" corresponding to the serial server.
3. Other parameters remain the default, click "Submit".

Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".

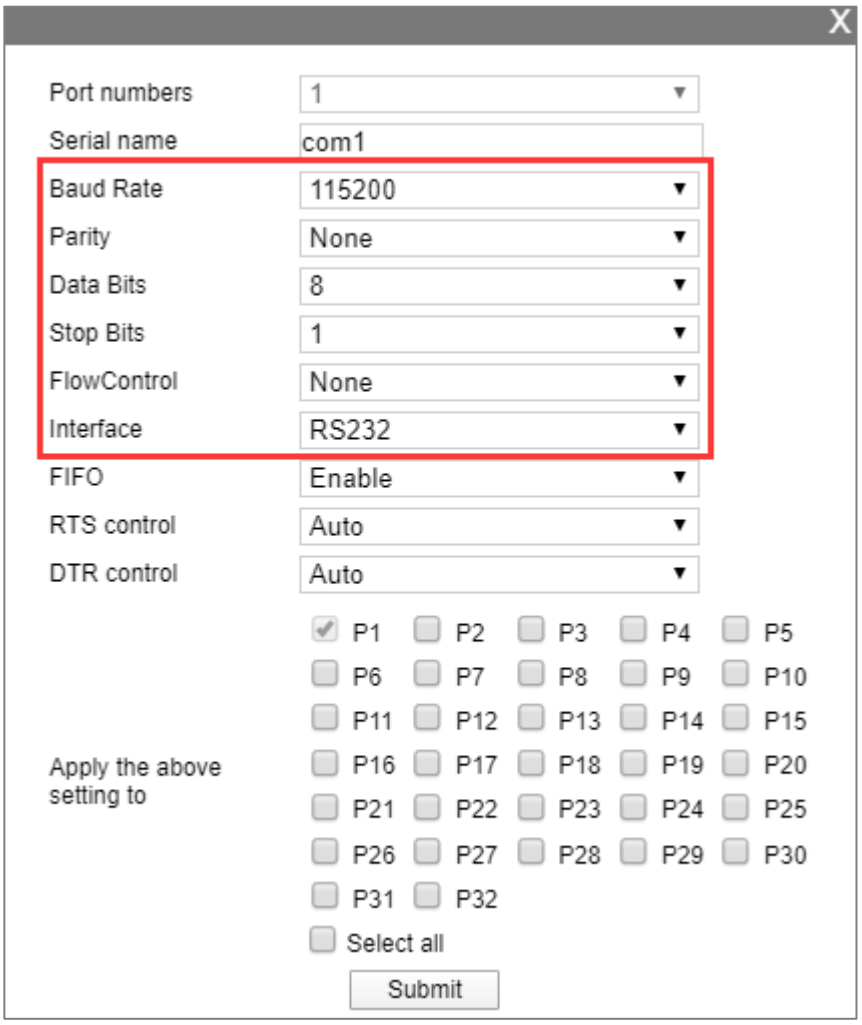


Communication Parameters

Refresh

Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	**com3**	**115200**	**None**	**8**	**1**	**None**	**RS232**	**Enable**	**Auto**	**Auto**	**Edit**
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

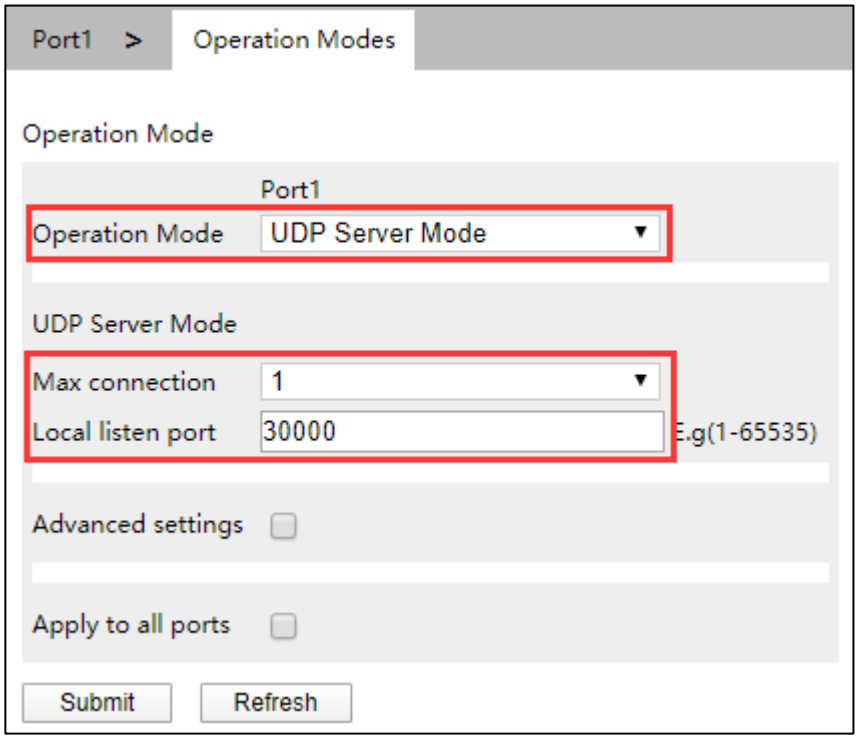
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

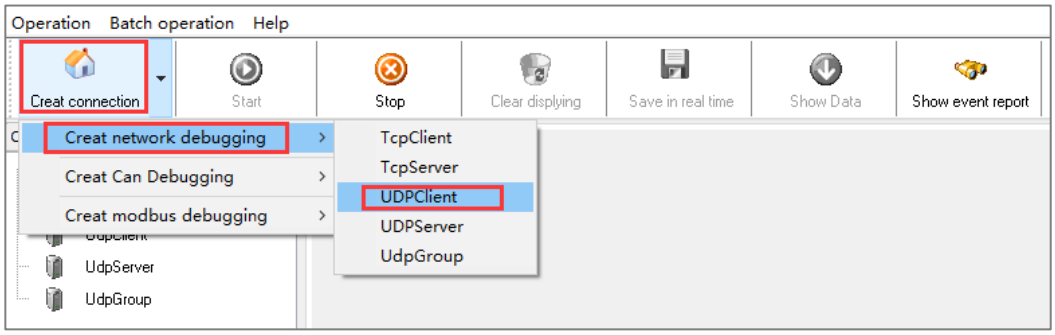
Step 3 Configure the working mode of the serial server.

1. Log in to the Web configuration interface and select "Operation Modes > Port1".
2. Click the “Operation Mode” drop-down list box and select “UDP Server Mode”.
3. Click the "Max connection" drop-down list box and select "1".
4. Enter "30000" in the "Listen port" text box.
5. Other parameters remain the default, click "submit".

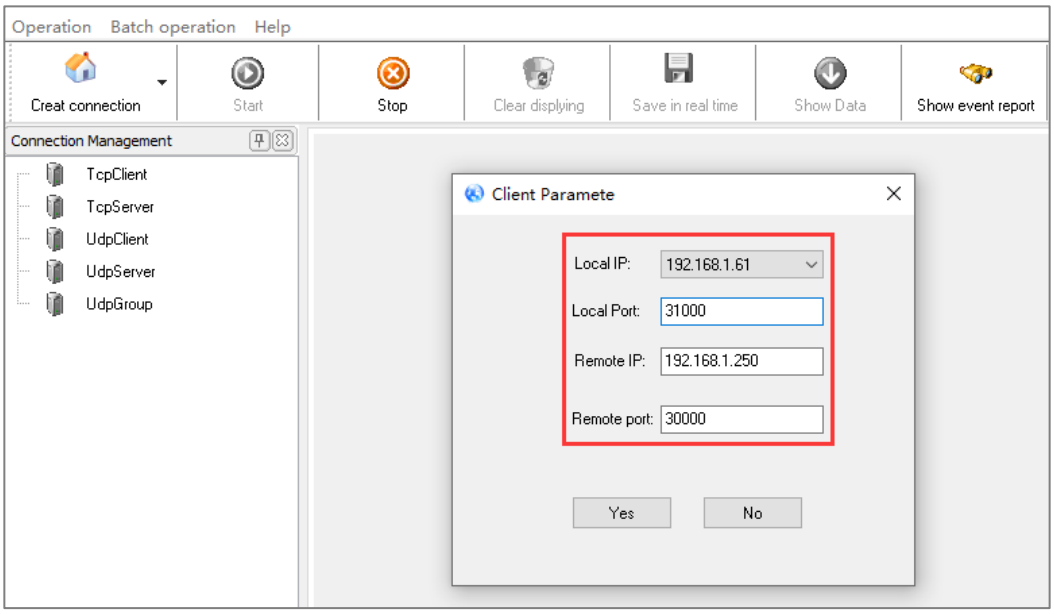


Step 4 Run the "DebugTool" software, create UDP client for the host.

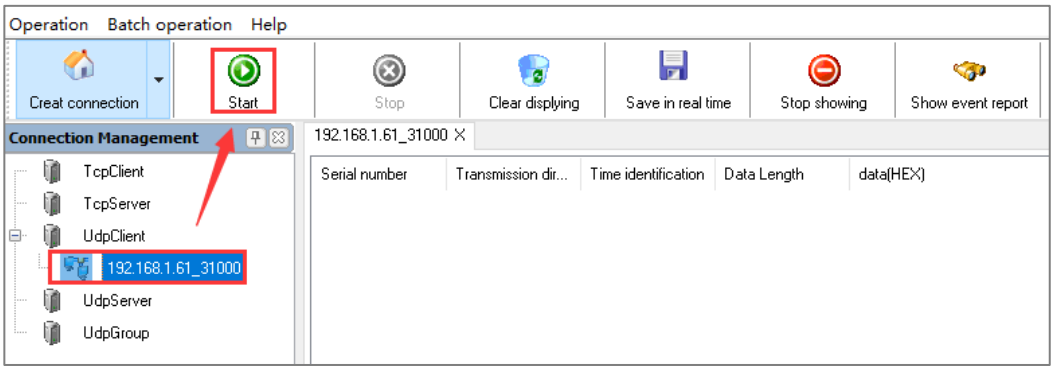
1. To install and run "DebugTool" Software, click “Create Connection” drop-down list box and choose “Create Network Debugging> UDP Client”.



2. In the "Local IP" drop-down list box, select the IP address "192.168.1.61" of the host PC (that is, the Udp client).
3. Enter the port number "31000" for the host PC (that is, the Udp client) in the "Local Port" text box.

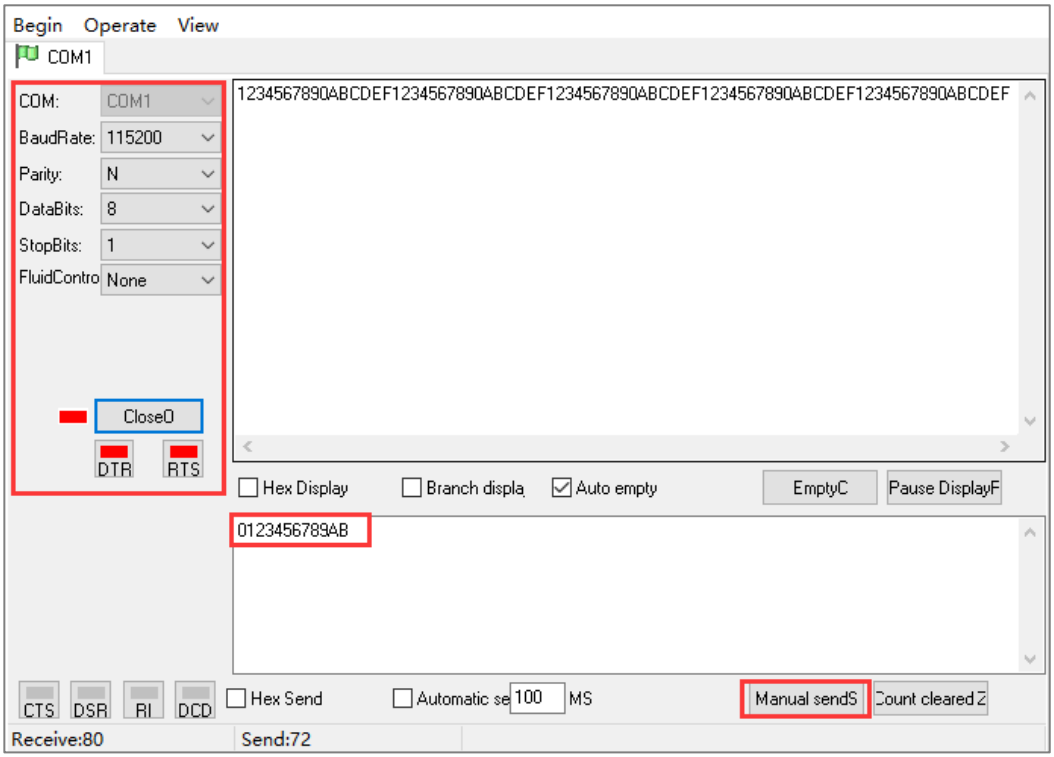


4. Enter the IP address "192.168.1.250" of the serial server (that is, the Udp server) in the "Remote IP" text box.
5. In the “Remote Port” text box, enter the port number “30000” for the serial server (that is, the Udp server), and click “Yes”.
6. Choose the created UdpClient connection, click "Start".

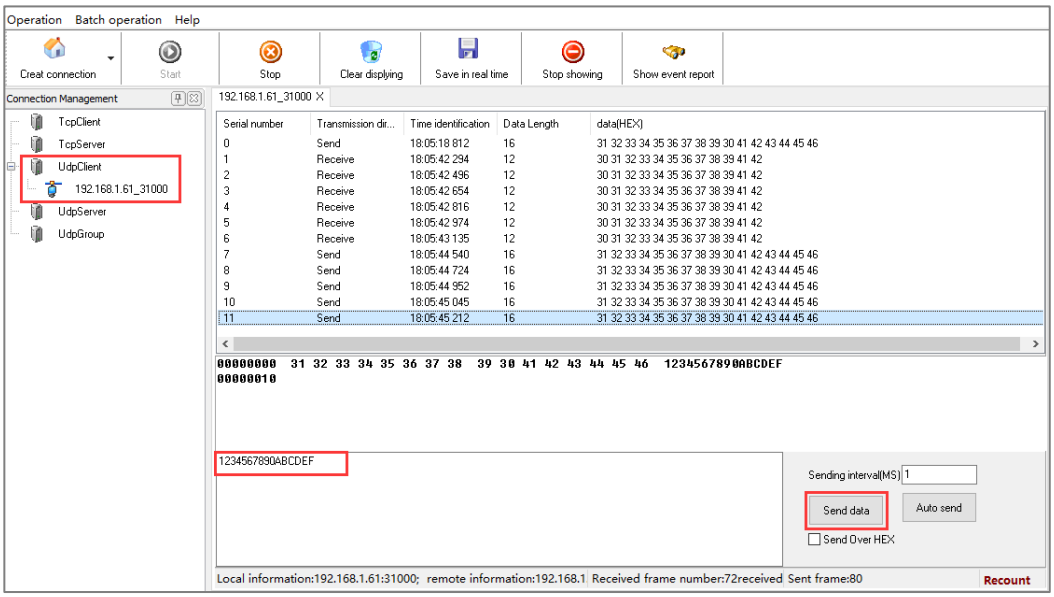


Step 5 Simultaneous operation of the "DebugTool" and "ComTest" software, test the serial server (UDP server) and the host PC (UDP client) to communicate with each other.

1. Install and run the ComTest, and click “Begin > New Windows” in the start menu.
2. Add serial port "COM1" window, and configure serial port number, baud rate, parity and data bit and other parameters consistent with "Communication Parameters" of WEB interface.
3. Open the serial port signal of "COM1", for example, enter the serial port information "0123456789AB", and click "Manual send".



4. Run the debug assistant software and check the serial port information received by the host PC. Similarly, the host PC can also send messages to serial port devices.



10.6 UDP Client Mode

Background Introduction

Assuming that the serial port "COM1" of the serial server works in the "UDP client mode", it initiates a connection with a host PC, and the host can read or send Ethernet data to a serial device. Compared with TCP mode, UDP protocol is faster and more efficient.

The parameters of the serial server (UDP client) are as follows:

- IP Address: 192.168.1.250
- Local Port: 30000
- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

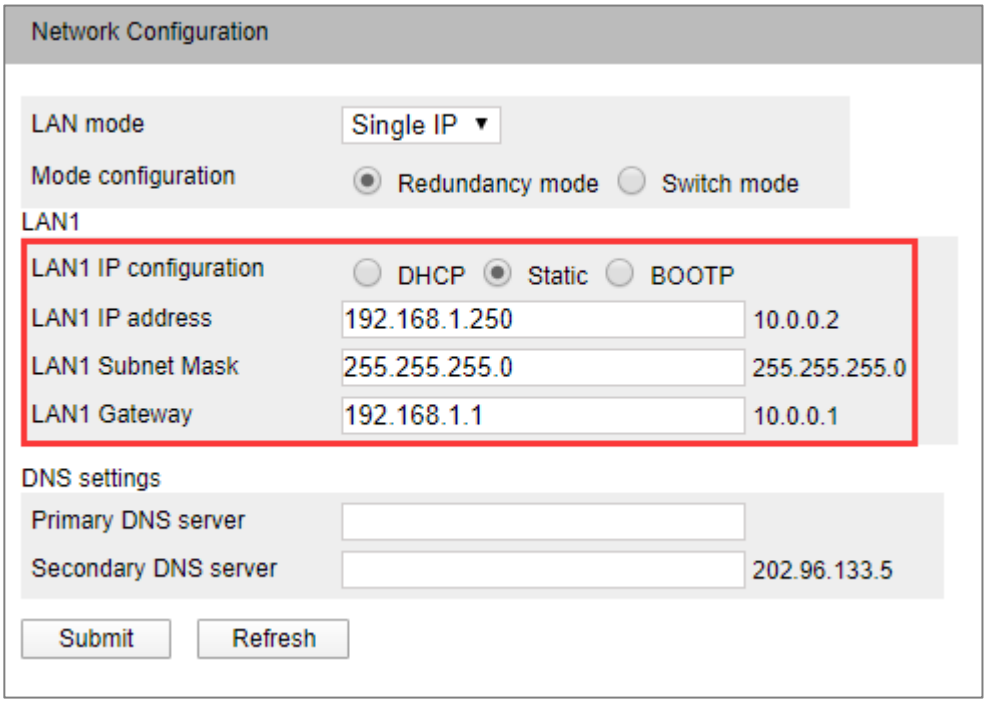
Host PC (UDP server mode) parameter information as follow:

- IP address: 192.168.1.61
- Local Port:31000

Operation Steps

Step 1 Configure the IP address of the serial server.

1. Log in to the Web configuration interface and select "Network Configuration”.

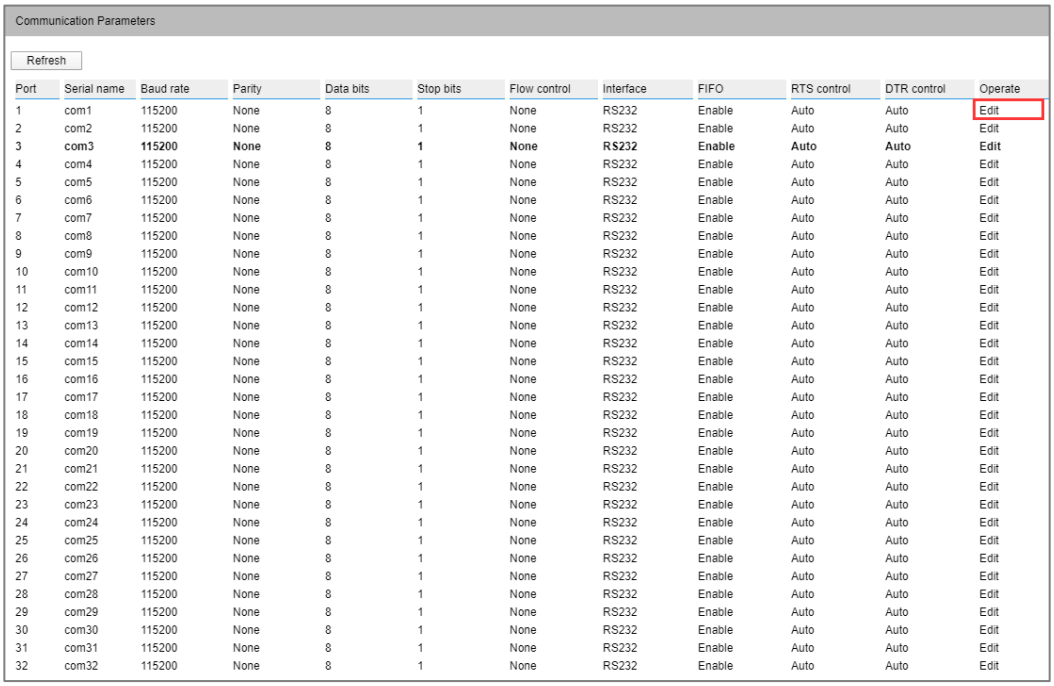


2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway" corresponding to the serial server.

3. Other parameters remain the default, click "Submit".

Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".

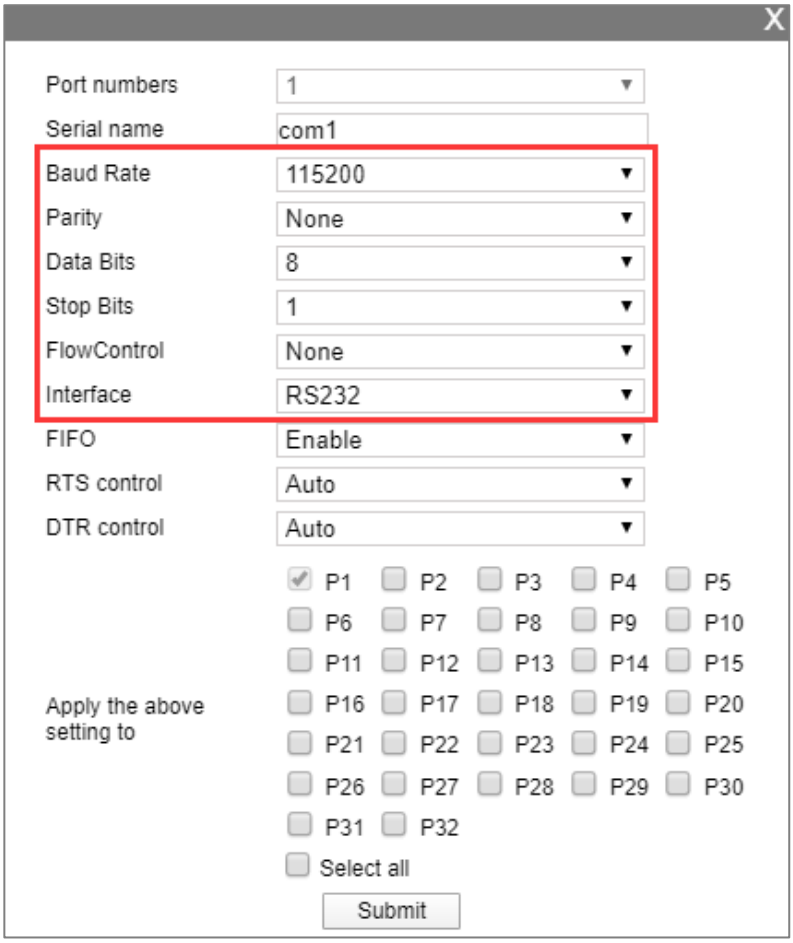


Communication Parameters

Refresh

Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

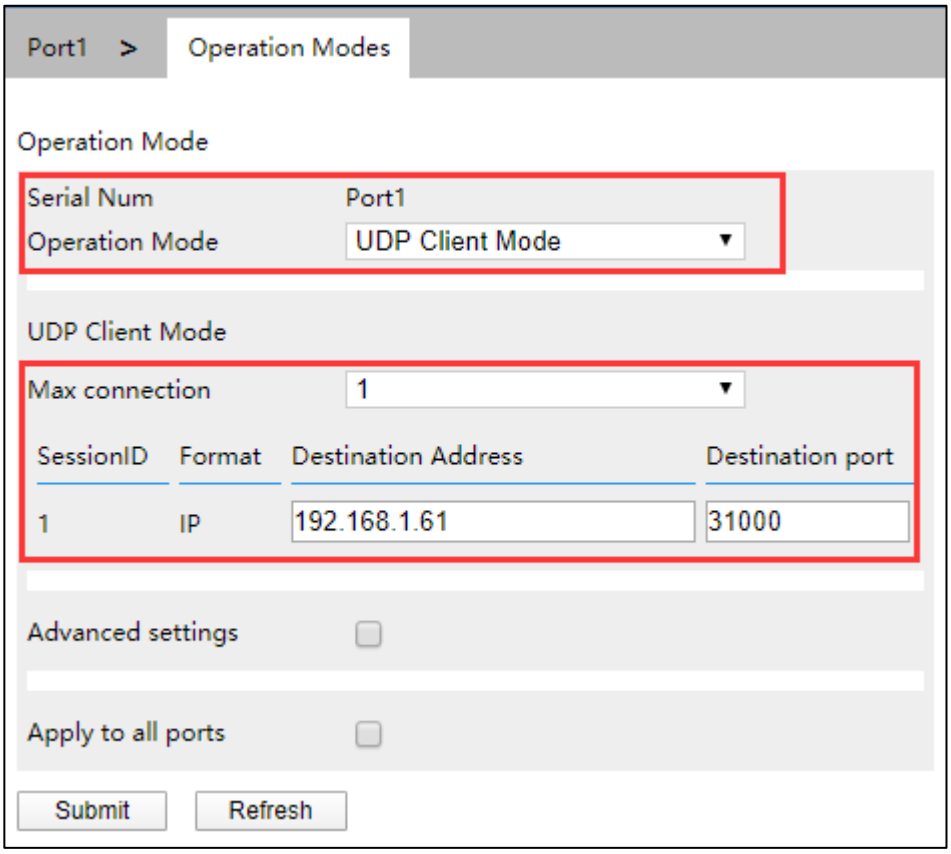
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

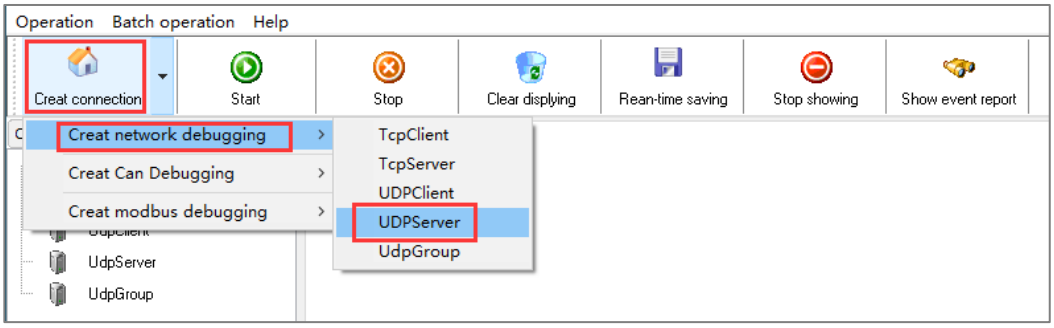
Step 3 Configure the working mode of the serial server.

1. Log in to the Web configuration interface and select "Operation Modes > Port1".
2. Click the “Operation Mode” drop-down list box and select “Udp Client Mode”.
3. Click “Max connection” drop-down list box, and select “1” to establish one session connection.
4. Enter the host PC's IP address "192.168.1.61" in the destination address text box.
5. Enter the host PC's local port number, 31000, in the destination port text box.
6. Other parameters remain the default, click "Submit".

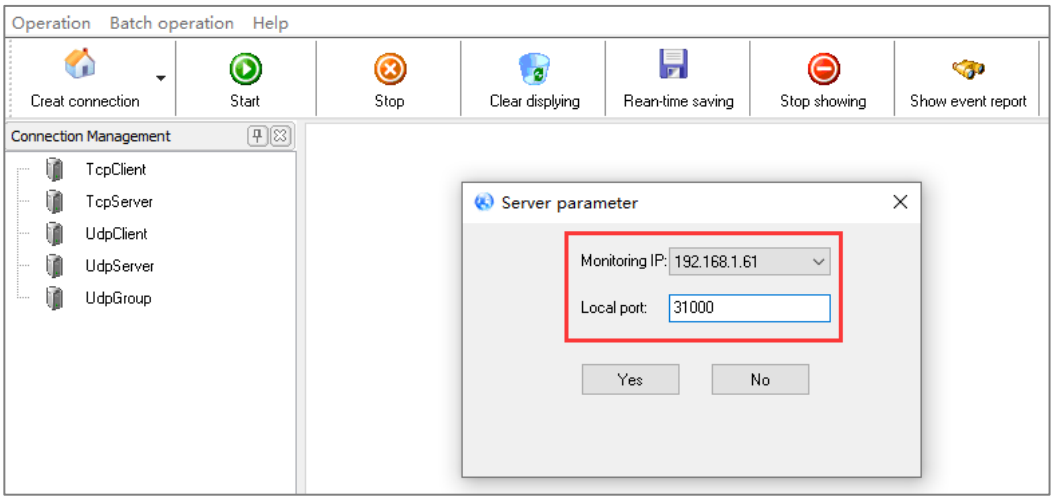


Step 4 Run the “DebugTool” software to create a UDP server for the host.

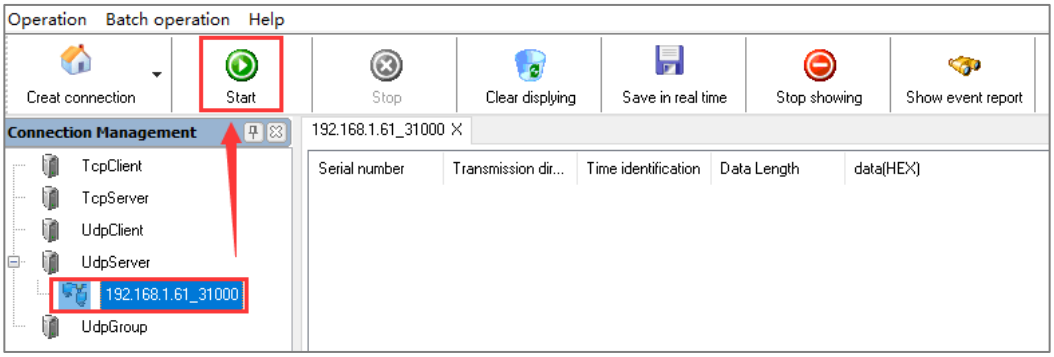
1. Install and run “DebugTool” software, click “create connection” drop-down list, and select “Create Network Debug > UDPServer”.



2. In the “Monitoring IP” drop-down list box, select the IP address "192.168.1.61" of the host PC (that is, the UDP server).
3. In the “Local Port” text box, enter the local port "31000" for the host PC (that is, the UDP server) and click “OK”.

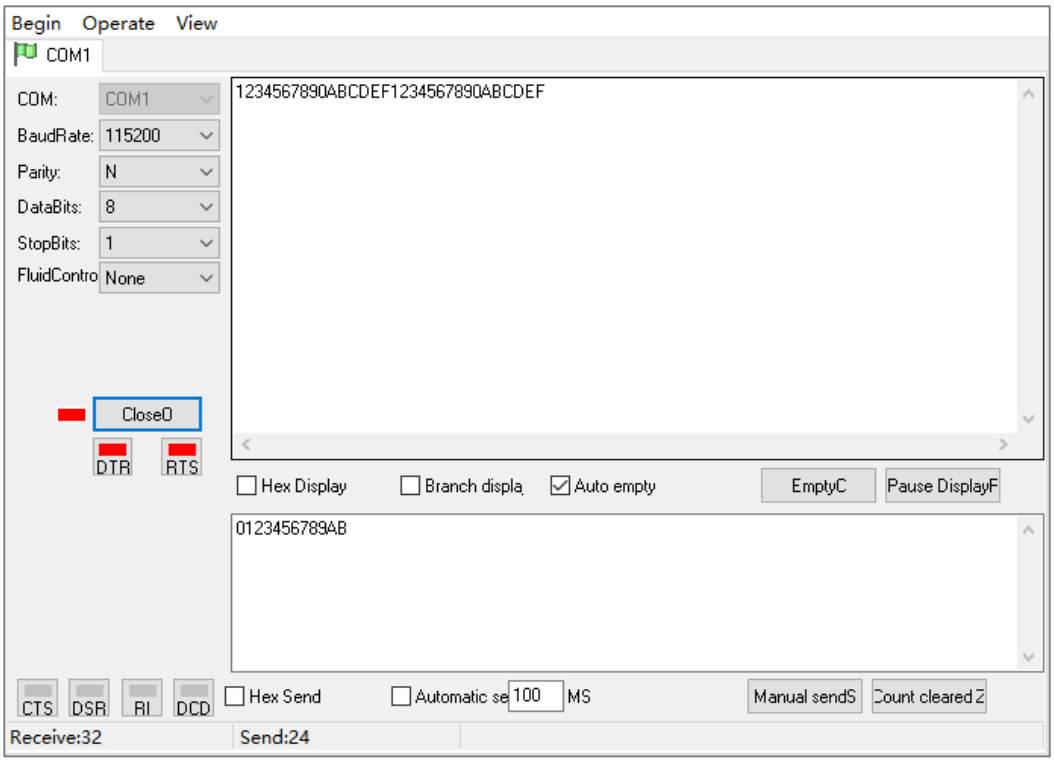


4. Choose the created UdpServer connection, click "Start".

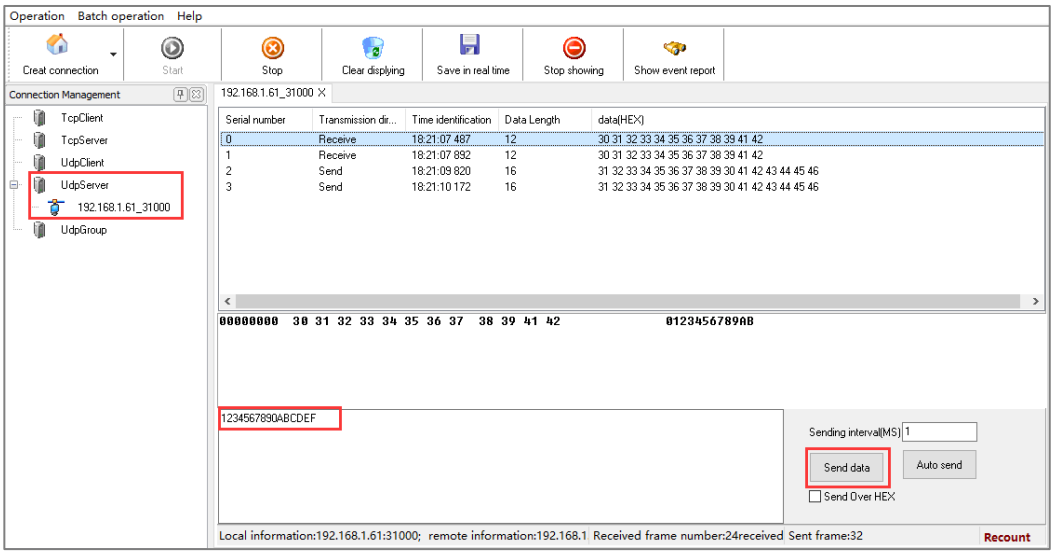


Step 5 Simultaneously run "ComTest" and "DebugTool" software, test the communication between serial server (UDP client) and the host PC (UDP server).

1. Install and run the ComTest, and click “Begin > New Windows” in the start menu.
2. Add serial port "COM1" window, and configure serial port number, baud rate, parity and data bit and other parameters consistent with "Communication Parameters" of WEB interface.
3. Open the serial port signal of "COM1", for example, enter the serial port information "0123456789AB", and click "Manual send".



4. Run the “DebugTool” software and view the serial port information received by the host PC in the UdpServer option box. Similarly, the host PC can also send messages to serial port devices.



10.7 UDP Rang Mode

Background Introduction

When the router, switch and other devices do not support multicast function, the serial device server can work in the UDP Rang mode to achieve multicast function. Assuming

that the serial port COM1 of the serial device server is connected to the host computer, it needs to transmit the serial data to two hosts that specify the same network segment "192.168.1.61" to "192.168.1.62" through the UDP protocol at the same time.

The parameters of the serial server (UDP server) are as follows:

- IP Address: 192.168.1.250
- Local Port: 30000
- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Host A (UDP client A) parameter information as follow:

- IP address: 192.168.1.61
- Local Port:31000

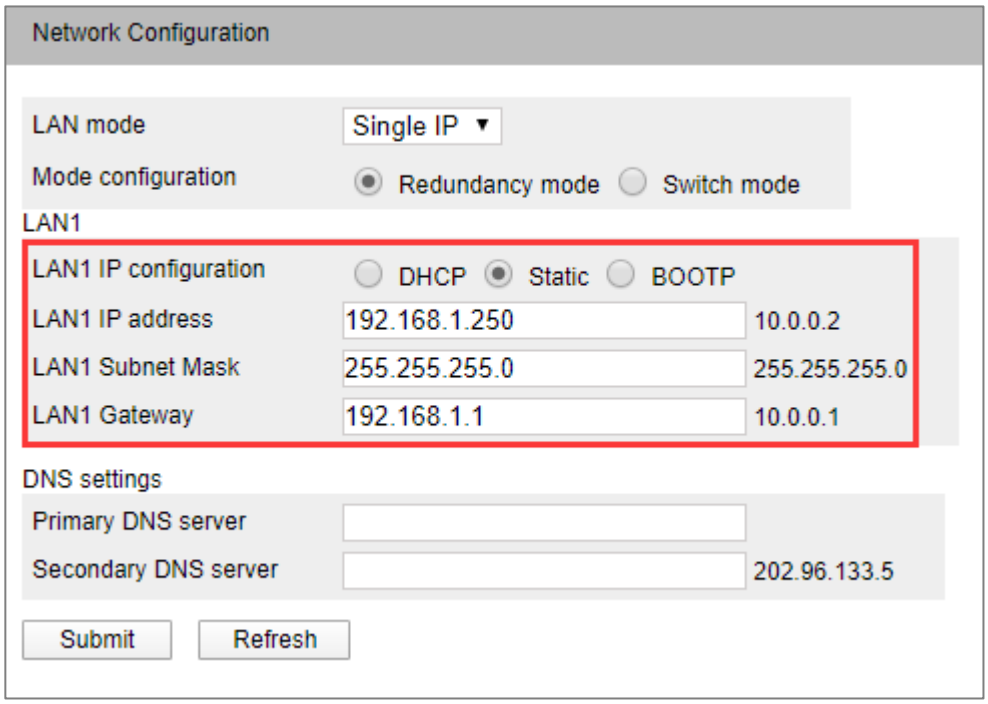
Host B (UDP client B) parameter information as follow:

- IP address: 192.168.1.62
- Local Port:31000

Operation Steps

Step 1 Configure the IP address of the serial server.

1. Log in to the Web configuration interface and select "Network Configuration".

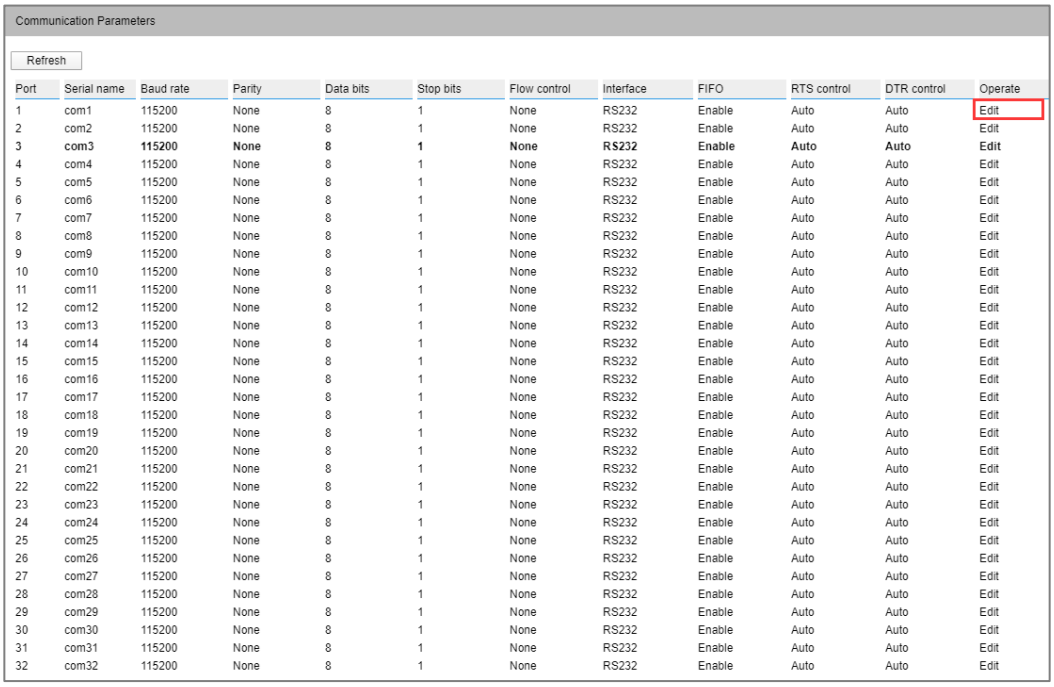


2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway" corresponding to the serial server.

3. Other parameters remain the default, click "Submit".

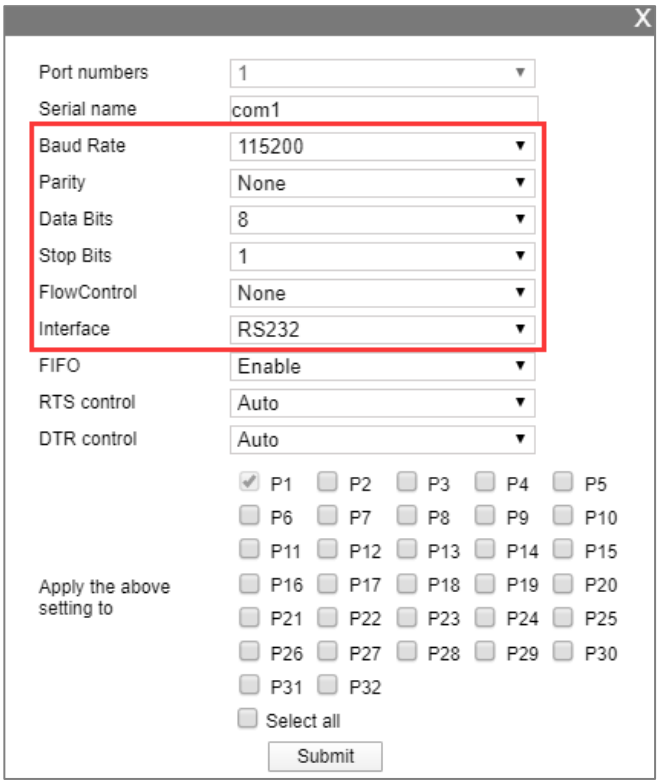
Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".



Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

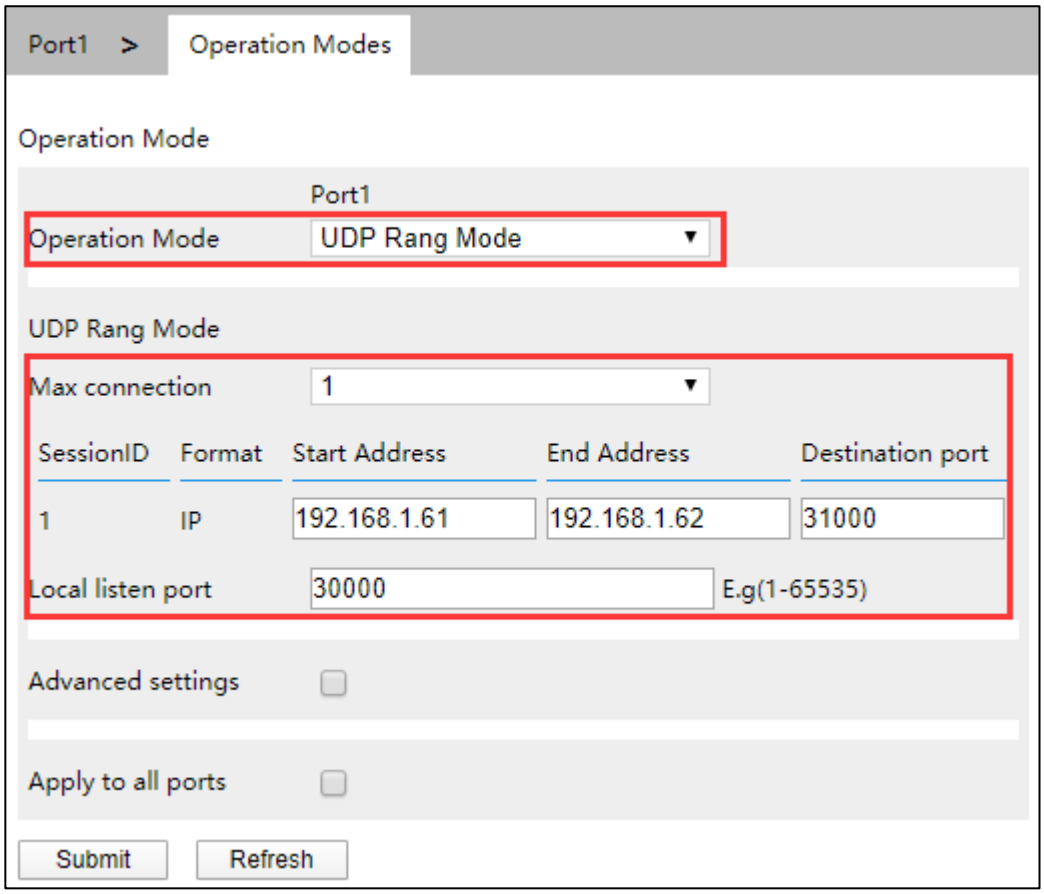
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity Bits” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

Step 3 Configure the working mode of the serial server.

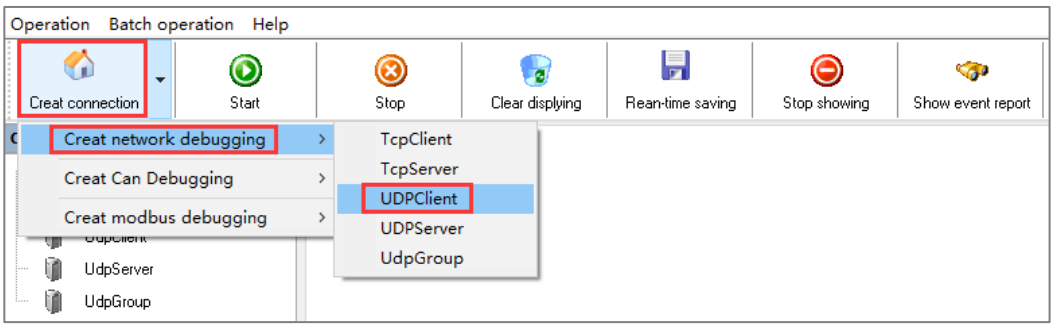
1. Log in to the Web configuration interface and select " Operation Modes > Port1".



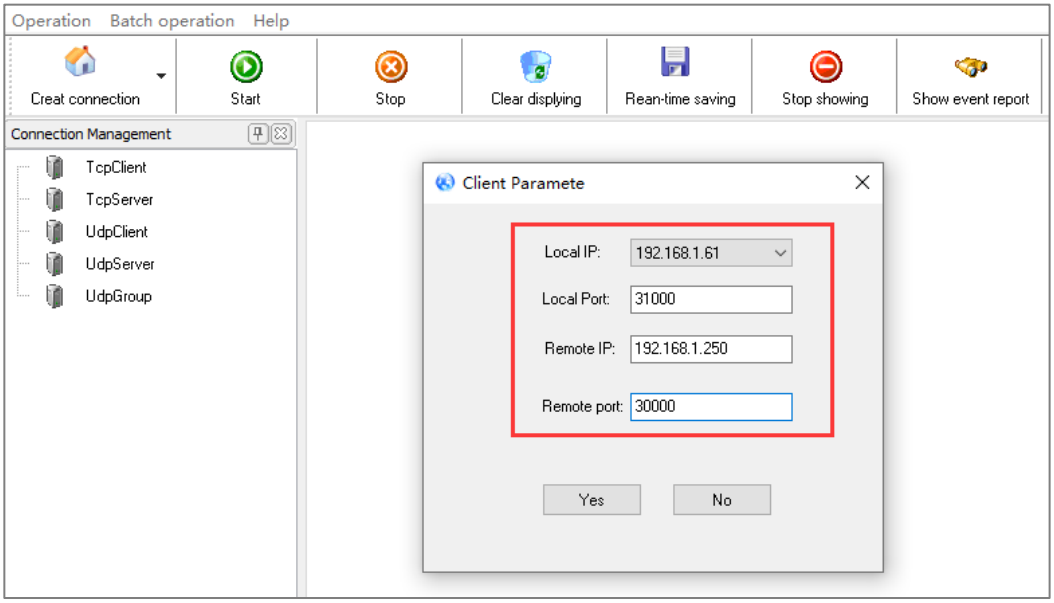
2. Click the “Operation Mode” drop-down list box and select “UDP Rang Mode”.
3. Click “Max connection” drop-down list box, and select “1 “.
4. In the "Start Address" and "End Address" text boxes, enter the IP address "192.168.1.61" of Host A and the IP address "192.168.1.62" of Host B, respectively.
5. Enter the port number "31000" of the host in the "Destination Port" text box.
6. Enter the port number "30000" of the serial device server in the "Local listen port" text box.
7. Other parameters remain the default, click "Submit".

Step 4 Run the debug assistant software on host A to create Udp client A.

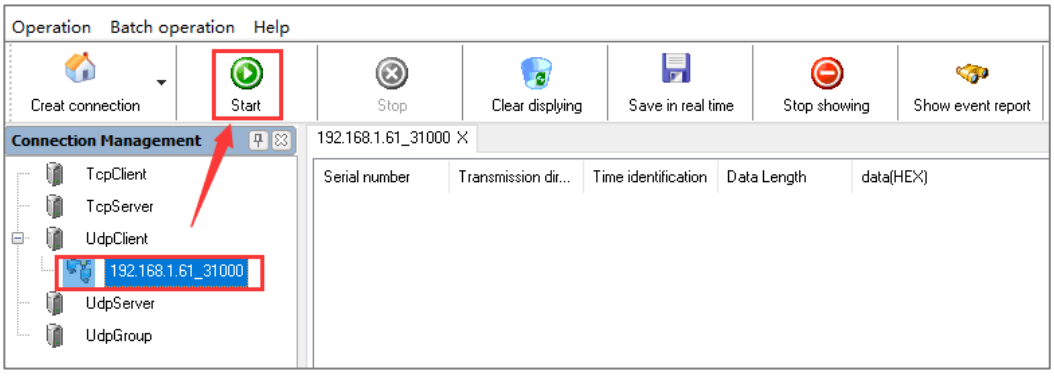
1. To install and run "Debug Tool" Software, click “Create Connection” drop-down list box and choose “Create Network Debugging> UDP Client”.



2. In the “Local IP” drop-down list box, select the IP address "192.168.1.61" of the host A (that is, the UDP client A).
3. In the “Local Port” text box, enter the local port "31000" for the host A (that is, the UDP client A).
4. Enter the IP address "192.168.1.250" of the serial server (that is, the Udp server) in the "Remote IP" text box.
5. In the “Remote Port” text box, enter the port number “30000” for the serial server (that is, the Udp server), and click “OK”.

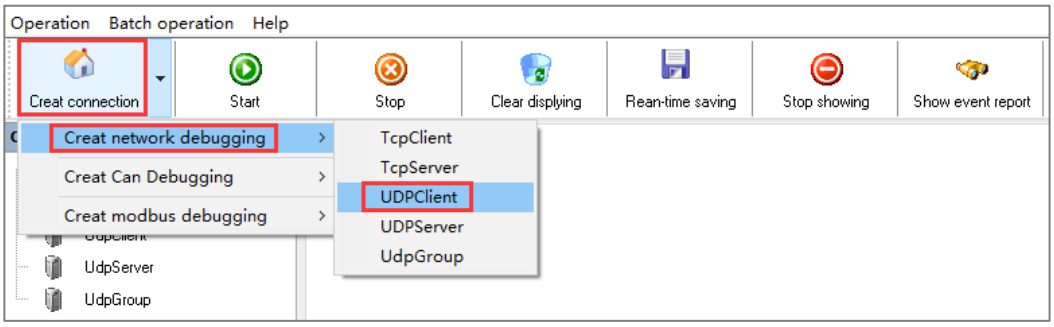


6. Choose the created UdpClient connection, click "Start".

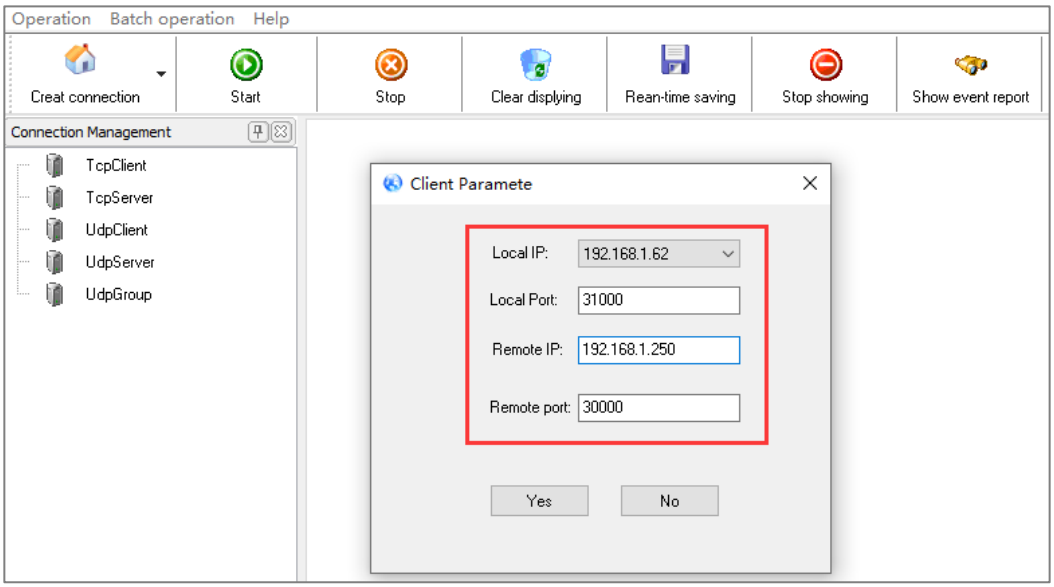


Step 5 Run the debug assistant software on host B to create Udp client B.

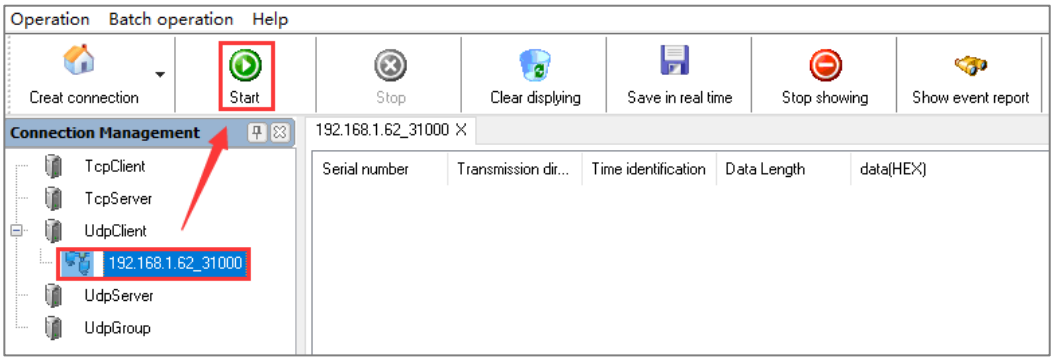
1. To install and run "Debug Tool" Software, click “Create Connection” drop-down list box and choose “Create Network Debugging> UDP Client”.



2. On the pop-up "Local IP" drop-down list box, choose the IP address of host B (Udp client B) "192.168.1.62".
3. In the “Local Port” text box, enter the local port "31000" for the host A (that is, the UDP client A).
4. Enter the IP address "192.168.1.250" of the serial server (that is, the Udp server) in the "Remote IP" text box.
5. In the “Remote Port” text box, enter the port number “30000” for the serial server (that is, the Udp server), and click “OK”.

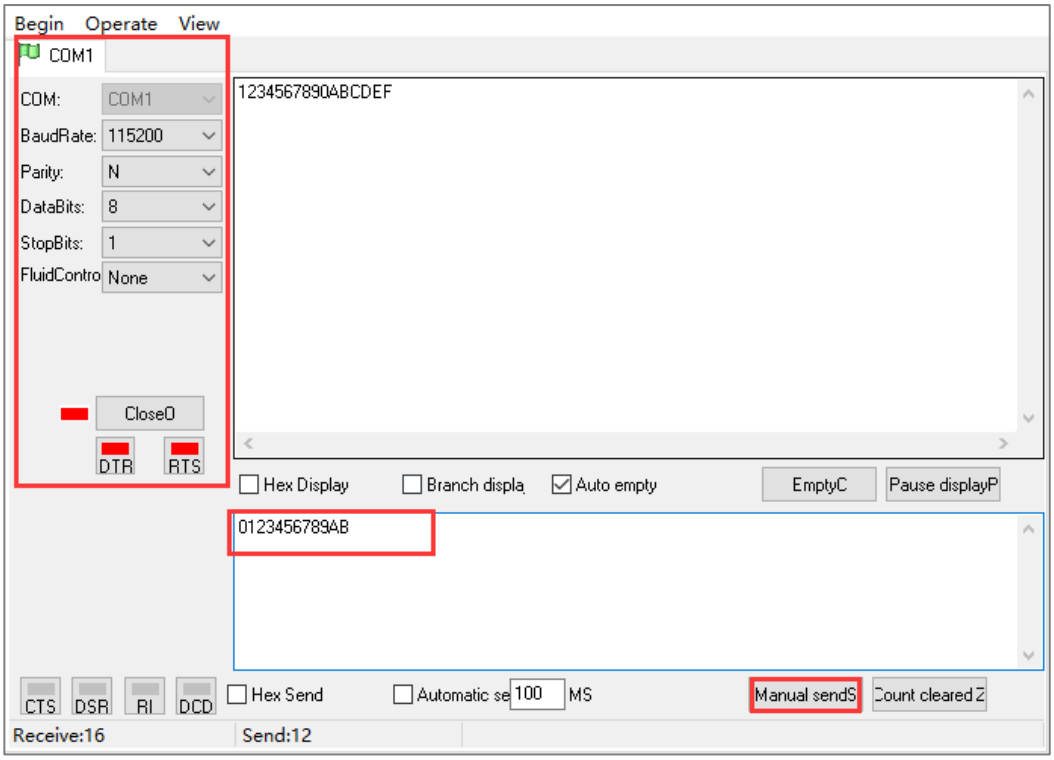


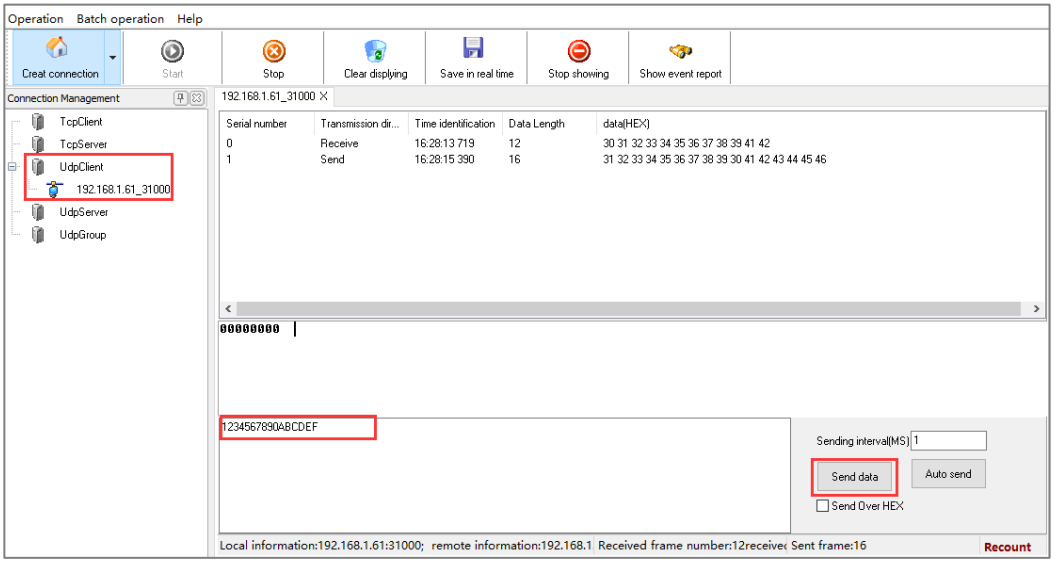
6. Choose the created UdpClient connection, click "Start".

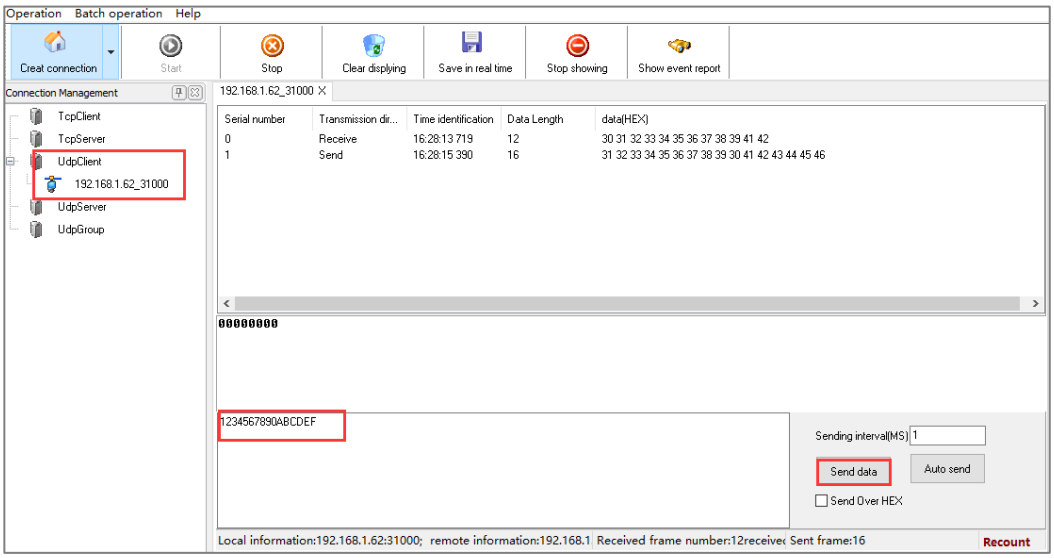


Step 6 Simultaneous operation of the "DebugTool" and "ComTest" software, test the serial server, host A and host B to communicate with each other.

1. Install and run the ComTest, and click “Begin > New Windows” in the start menu.
2. Add serial port "COM1" window, and configure serial port number, baud rate, parity and data bit and other parameters consistent with "Communication Parameters" of WEB interface.
3. Open the serial port signal of "COM1", for example, enter the serial port information "0123456789AB", and click "Manual send".
4. Run the Debug Assistant and check the serial port information received by host A and host B in the UdpClient option box. Similarly, host A and host B can also send information to the serial device.







10.8 UDP Multicast Mode

Background Introduction

It's assumed that serial server IP address is "192.168.1.250", user needs to add the serial server to the multicast address "239.0.0.0". So that the serial server through the UDP protocol can make the serial device data through unicast or multicast sent to one or more hosts, but also can receive from one or more host unicast or multicast data, complete multipoint-to-multipoint communication.

The parameters of the serial server are as follows:

- IP Address: 192.168.1.250
- Local Port: 30000
- Baud rate: 115200

- Parity bit: None
- Data bit: 8
- Stop bit: 1

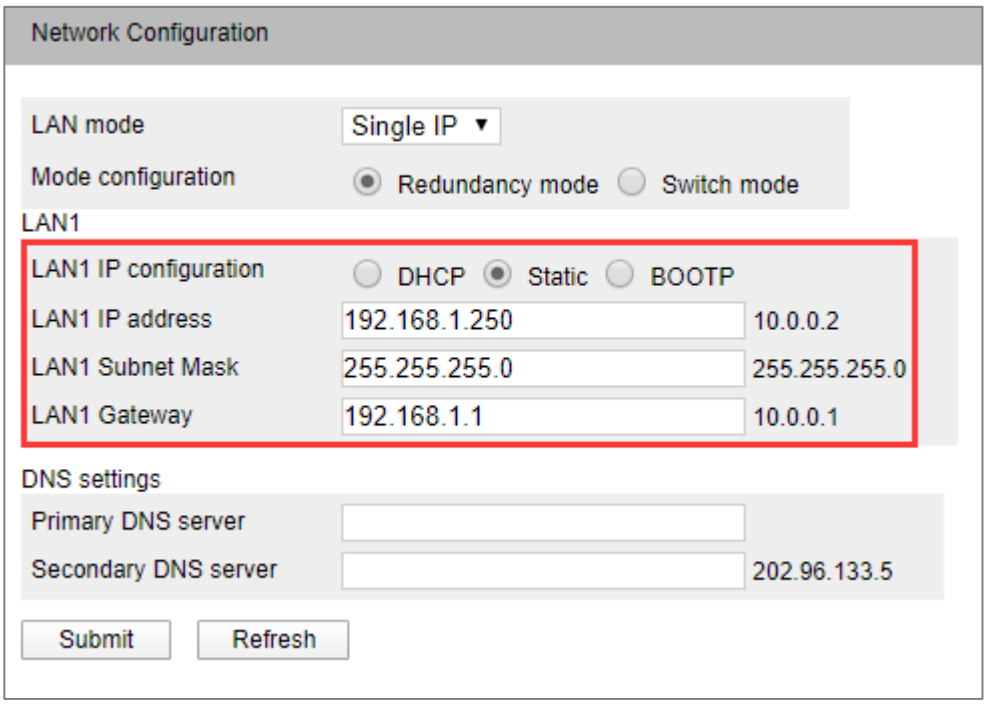
Host PC parameter information as follow:

- IP address: 192.168.1.61
- Local Port:31000

Operation Steps

Step 1 Configure the IP address of the serial server.

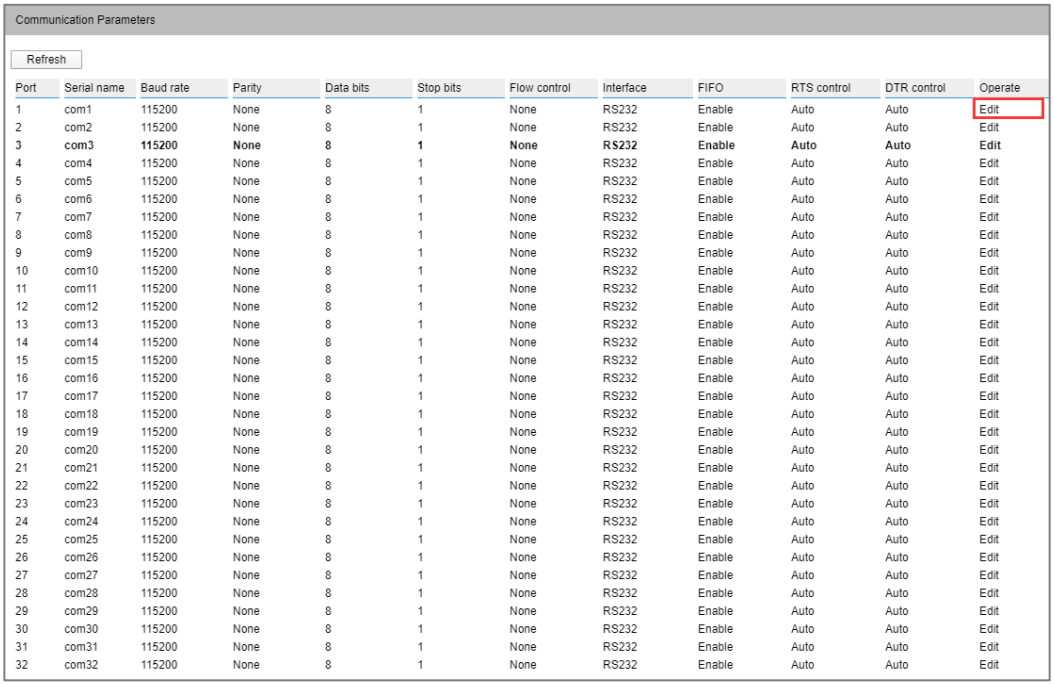
1. Log in to the Web configuration interface and select "Network Configuration”.



2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway " corresponding to the serial server.
3. Other parameters remain the default, click "Submit".

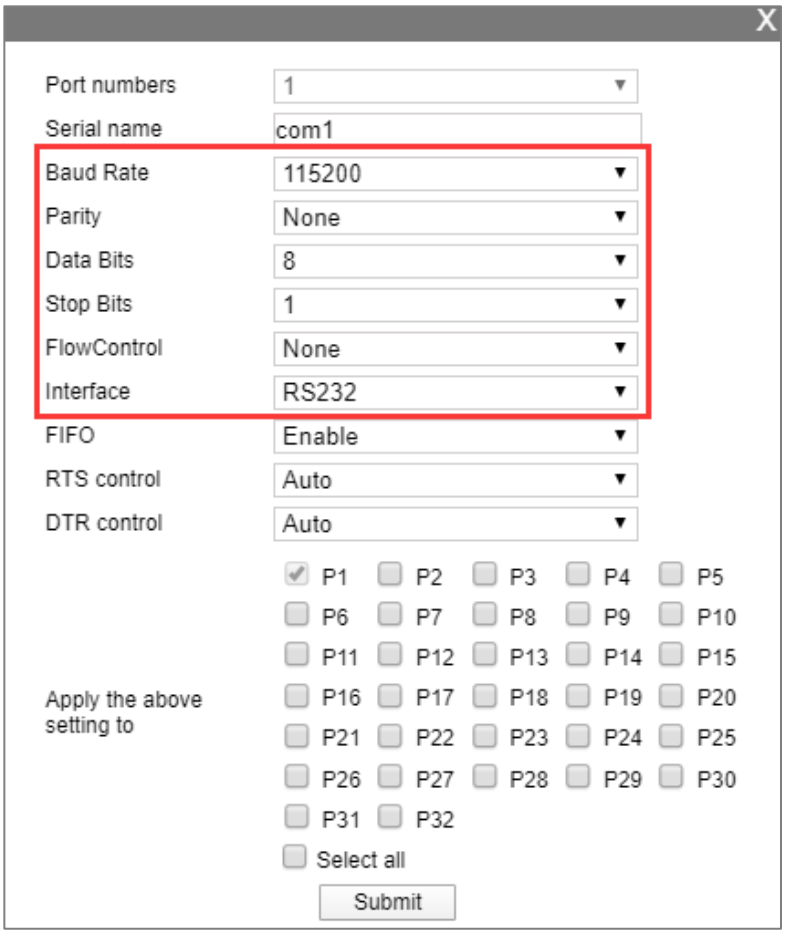
Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".



Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	**com3**	**115200**	**None**	**8**	**1**	**None**	**RS232**	**Enable**	**Auto**	**Auto**	**Edit**
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

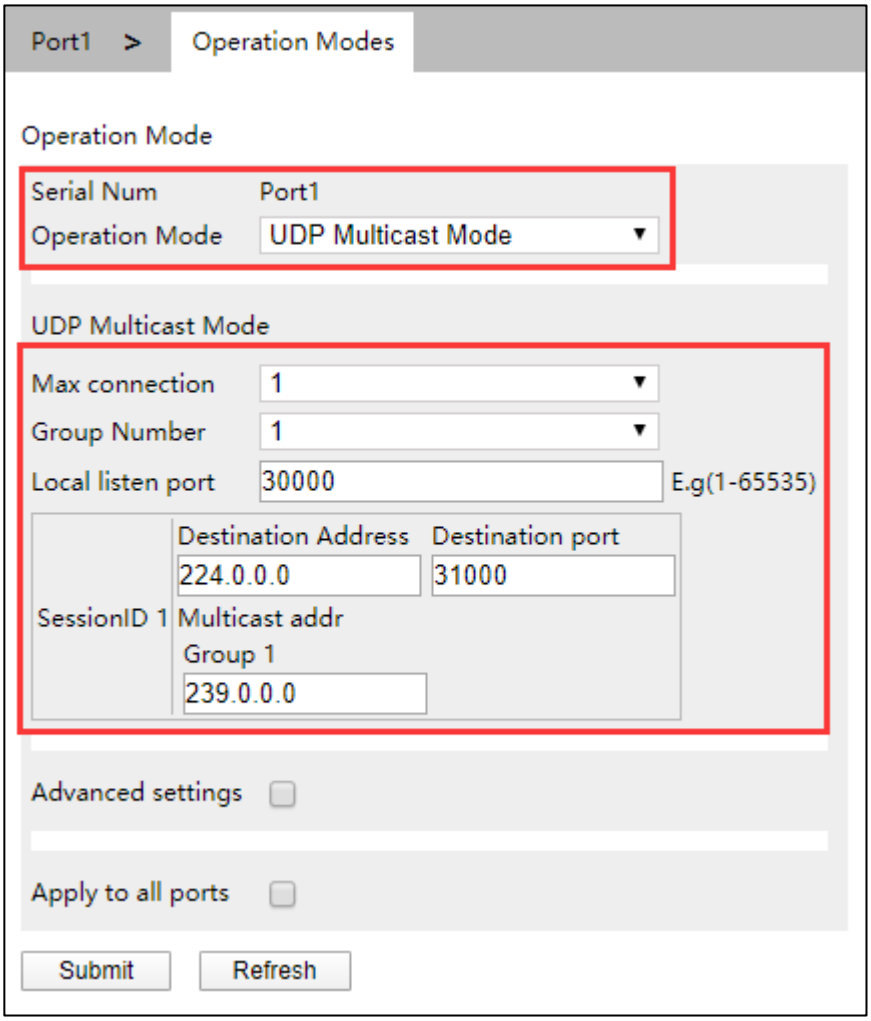
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

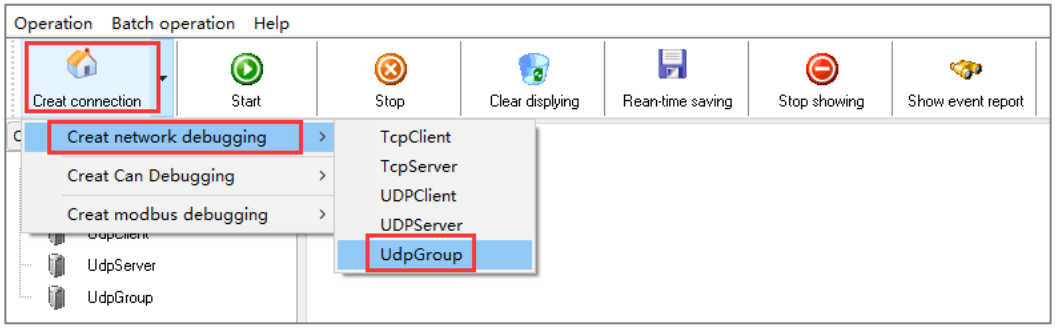
Step 3 Configure the working mode of the serial server.

1. Log in to the Web configuration interface and select "Operation Modes > Port1".
2. Click the “Operation Mode” drop-down list box and select “UDP Multicast Mode”.
3. Click “Max connection” drop-down list box, and select “1” to establish one session connection.
4. Click the “Group Number” drop-down list box and select “1”.
5. Enter "30000" for the local port number of the serial port server in the listen port text box.
6. Enter the group address "224.0.0.0" of the host PC in the "Destination Address" text box.
7. Enter the host PC's local port number, 31000, in the destination port text box.
8. Enter the group address "239.0.0.0" of the host PC in the "Multicast addr Group 1" text box.
9. Other parameters remain the default, click "Submit".

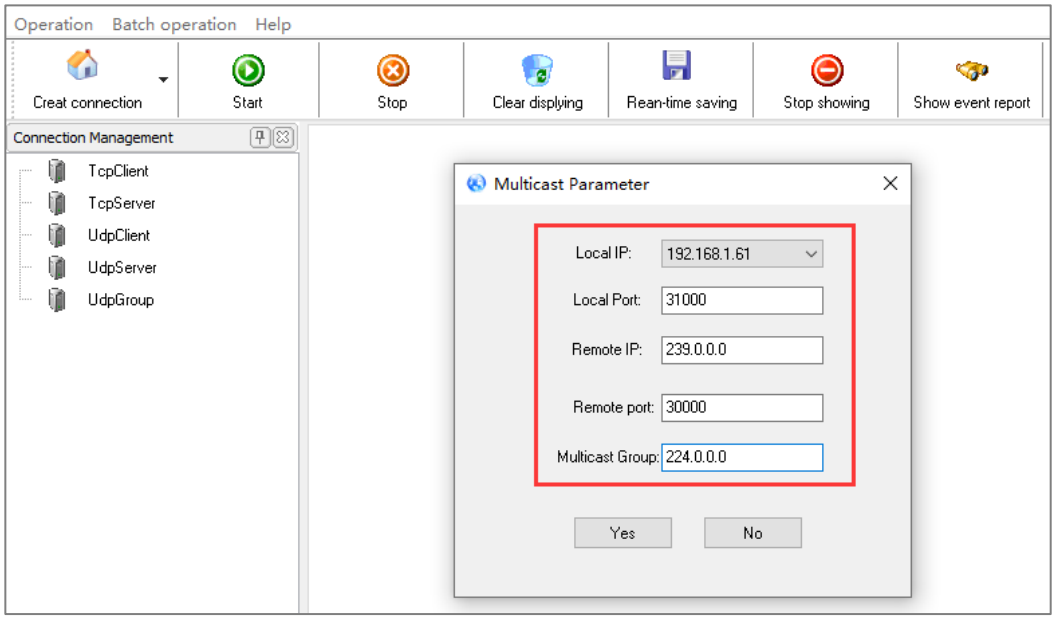


Step 4 Run the “DebugTool” software to create a UDP multicast server for the host.

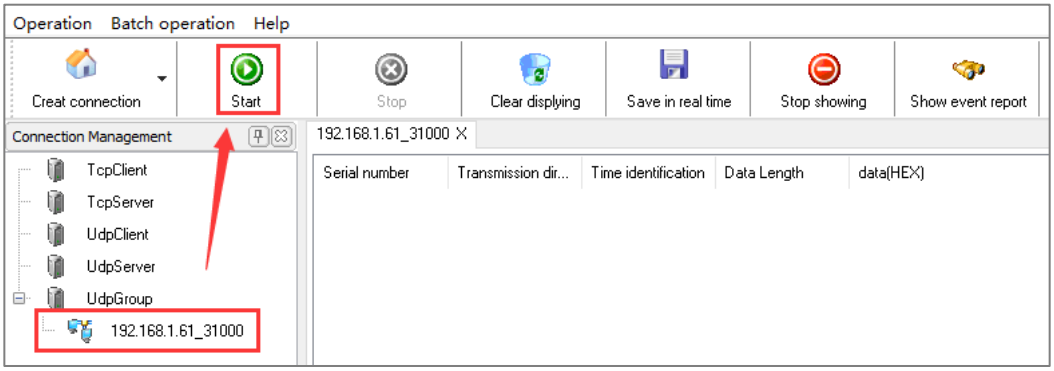
1. Install and run “DebugTool”, click “Create Connection” drop-down list, and select “Create Network Debug” > “UdpGroup”.



2. In the "Local IP" drop-down list box, select the IP address "192.168.1.61" of the host.
3. In the “Local Port” text box, enter the local port "31000" for the host.
4. In the “Remote IP” text box, enter the IP address "239.0.0.0" for the serial device server.
5. In the “Remote Port” text box, enter the local port number "30000" for the serial device server.
6. In the “Multicast” text box, enter the multicast group address "224.0.0.0".

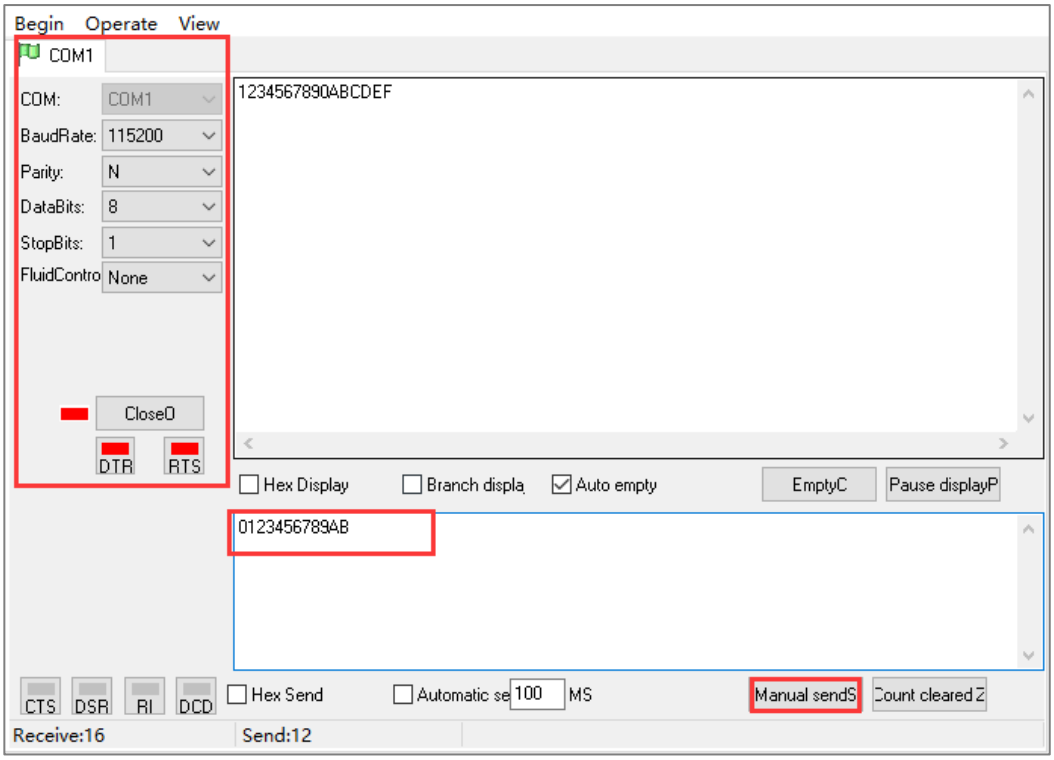


7. Choose the created UdpGroup connection, click "Start".

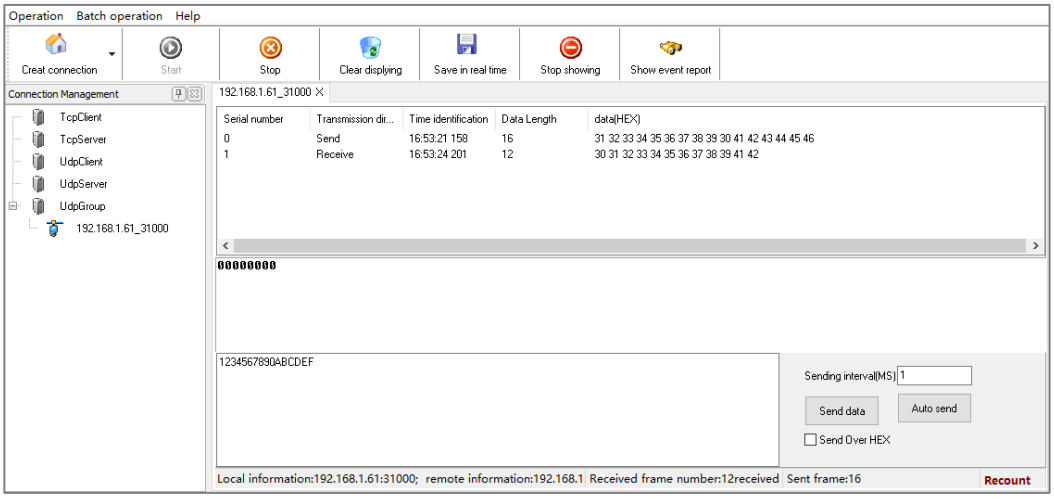


Step 5 Simultaneously run "ComTest" and "DebugTool" software, test the communication between serial server and the host PC.

1. Install and run the ComTest, and click “Begin > New Windows” in the start menu.
2. Add serial port "COM1" window, and configure serial port number, baud rate, parity and data bit and other parameters consistent with "Communication Parameters" of WEB interface.
3. Open the serial port signal of "COM1", for example, enter the serial port information "0123456789AB", and click "Manual send".



4. Run the “DebugTool” software to check the serial port information received by the host PC in the UdpGroup option box. Similarly, the host PC can also send messages to serial port devices.



10.9 Pair Slave & Master Mode

Background Introduction

Pair mode requires two serial server devices to work together to break the serial data transmission distance limit. The two serial servers in this mode establish a network connection with each other via Ethernet and transparently transmit data from the respective serial port to each other.

Assume that serial device server A uses pair slave mode to passively wait for a connection.

The serial device server B uses the pair master mode to actively connect the serial device server A.

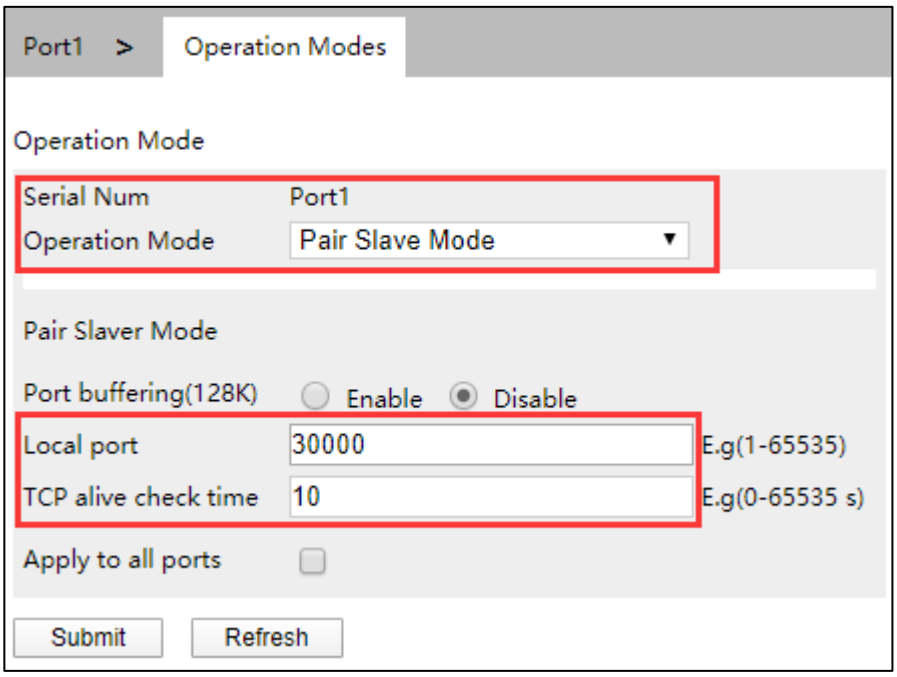
The serial port that serial server A and serial port B connect with the computer is “COM1”.

The "dest address" of the serial server B is the IP address "192.168.1.254" of the serial server A. The “dest port” of the serial server B is the listening port "30000" of the serial server A.

Serial device server A configuration steps

Step 1 Log in to the Web configuration interface and select "Operation Modes > Port1".

Step 2 Click the “Operation Mode” drop-down list box and select “Pair Slave Mode”.



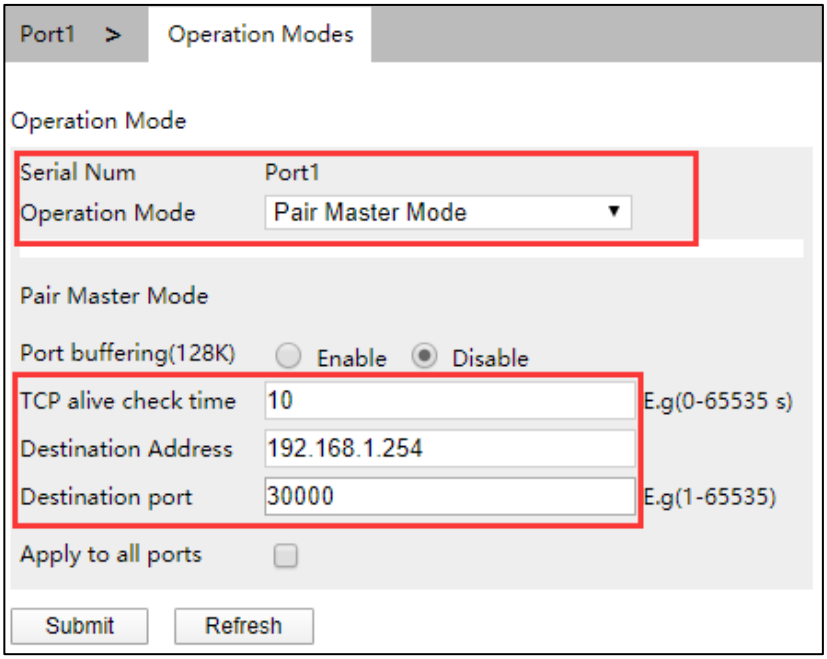
Step 3 Enter "30000" in the "Local Port" text box.

Step 4 Other parameters remain the default, click "Submit" to finish the settings.

Serial device server B configuration steps

Step 1 Log in to the Web configuration interface and select "Operation Modes > Port1".

Step 2 Click the "Operation Mode" drop-down list box and select "Pair Master Mode".



Step 3 Enter the IP address "192.168.1.254" of the serial device server A in the "Destination Address" text box.

Step 4 Enter local port "30000" for serial port server A in the destination port text box.

Step 5 Other parameters maintain the default, click "Submit".

After the completion of the above configuration, serial server A and serial server B establish connection successfully, and they can send and receive serial data from each other.

10.10 Telnet Mode

Background Introduction

The PC connects to the Port 1 of serial port server through RS-232 to access the server on the network.

Assume the IP address of the serial port server is 192.168.1.250; The IP address of the server is 192.168.1.10.

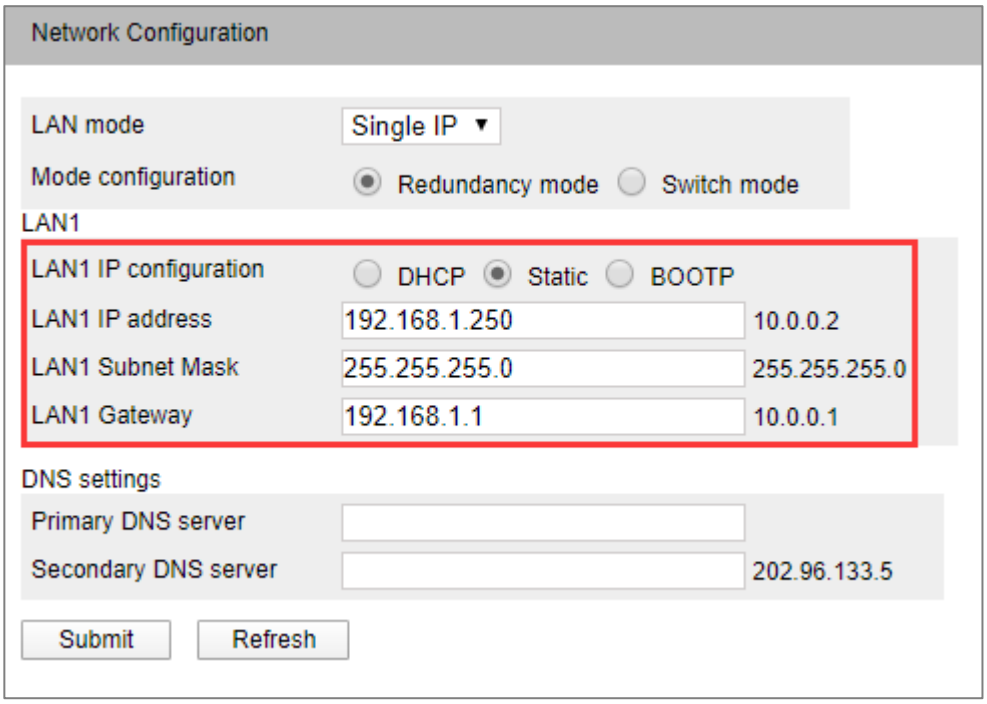
The serial port information is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Operation Steps

Step 1 Configure the IP address of the serial server.

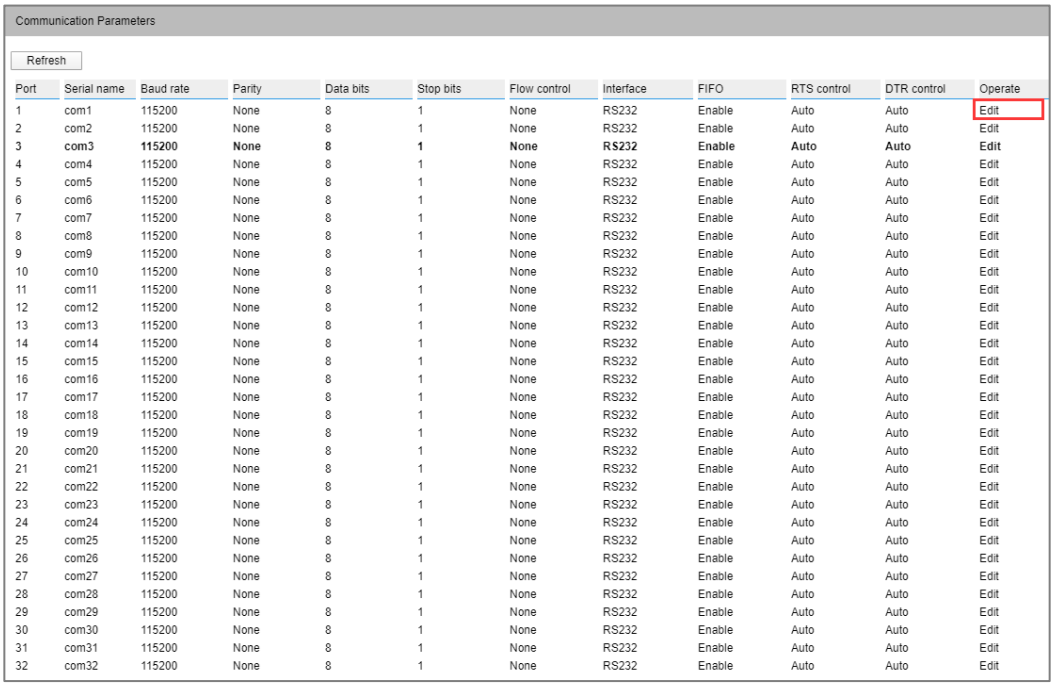
1. Log in to the Web configuration interface and select "Network Configuration".



2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway " corresponding to the serial server.
3. Other parameters remain the default, click "Submit".

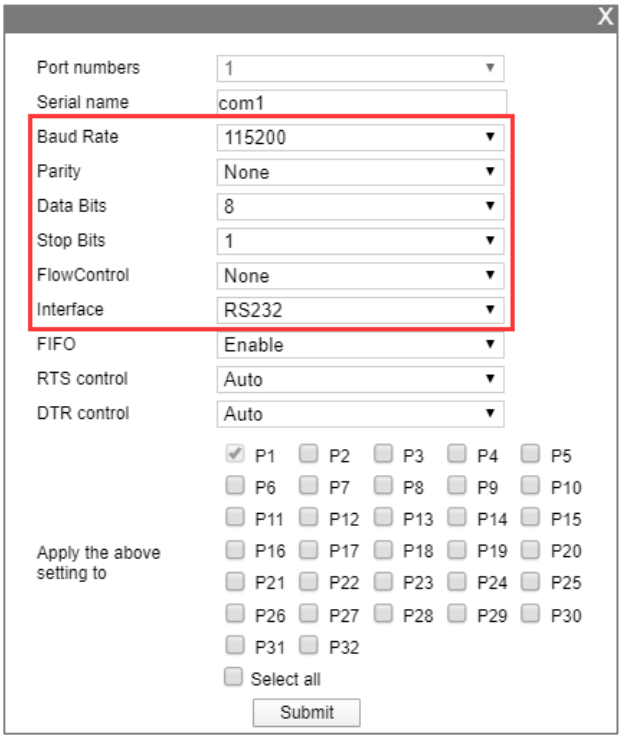
Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".



Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	**com3**	**115200**	**None**	**8**	**1**	**None**	**RS232**	**Enable**	**Auto**	**Auto**	**Edit**
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

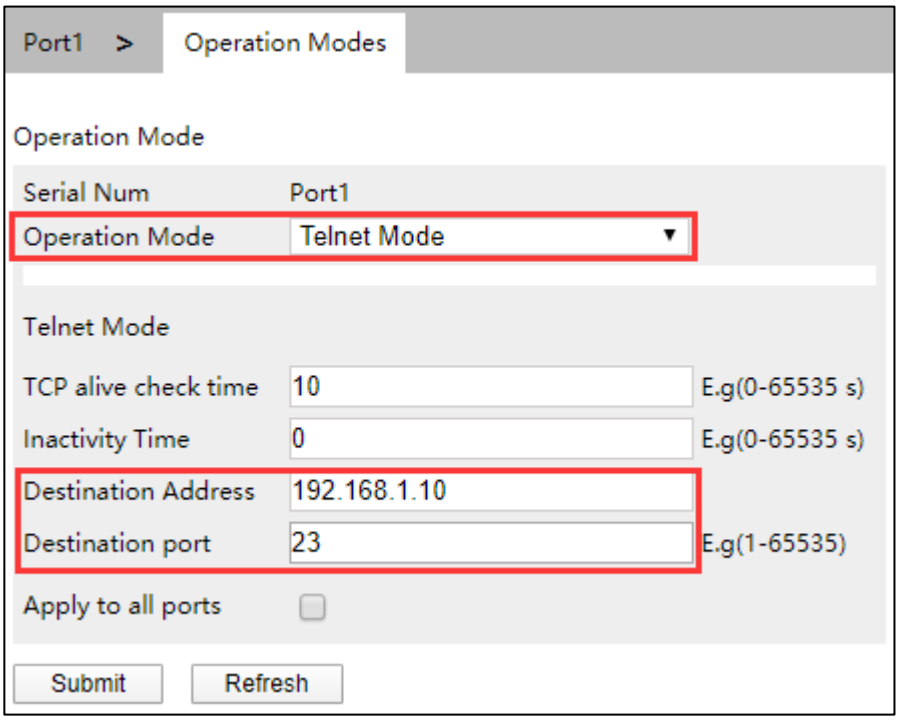
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

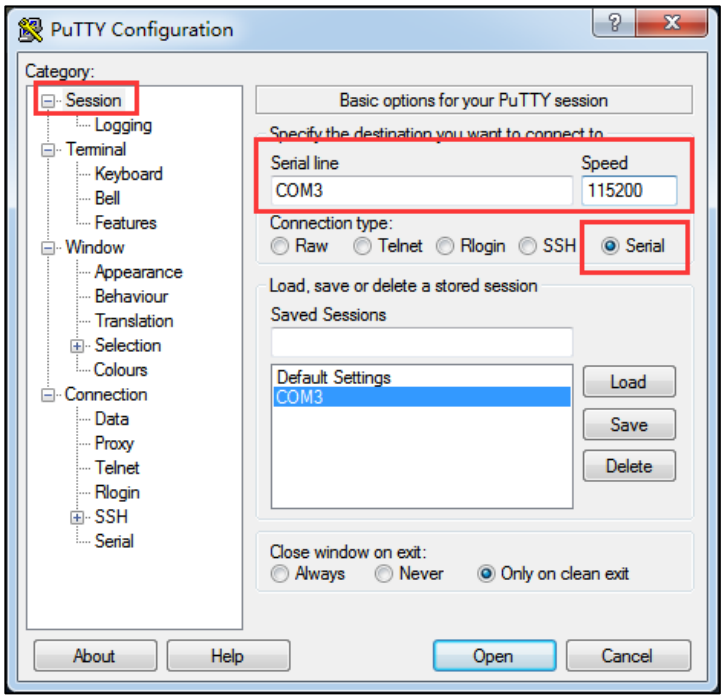
Step 3 Configure the working mode of the serial server.

1. Log in to the Web configuration interface and select "Operation Modes > Port1".
2. Click the Operation Mode drop-down list box and select “Telnet Mode”.
3. Click “Max connection” drop-down list box, and select “1” to establish one session connection.
4. Enter "192.168.1.10” in the host PC's IP address in the destination address text box.
5. Enter “23” in local port number in the destination port text box.
6. Other parameters remain the default, click "Submit".



Step 4 Run the third party software PuTTY on a PC to test the communication between the host PC and the server.

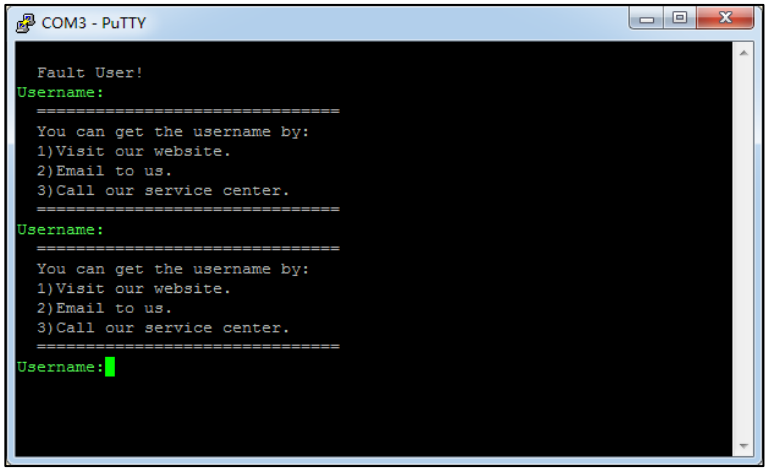
1. Install and run the PuTTY software.



2. Click "Session" and select "serial" serial port communication in the input field of "Connection type";
3. In the "Serial line" text box, enter the local serial port number for PC to connect with serial port server;

4. Enter “115200” baud rate in the "Speed" text box;

5. Click “Open” button to open the COM session interface and start accessing the server.



10.11 Reverse Telnet Mode

Background Introduction

The PC connects to the serial port server through Ethernet to access the server device or Console port connected under the serial port.

Assume the IP address of the serial port server is 192.168.1.250.

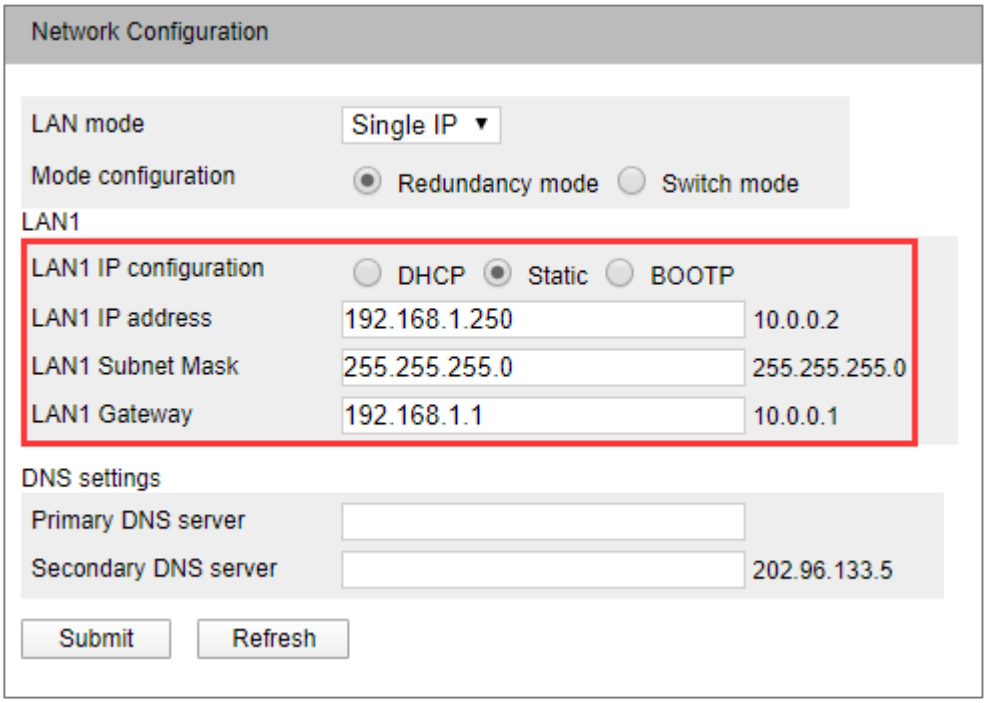
The serial port information is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Operation Steps

Step 1 Configure the IP address of the serial server.

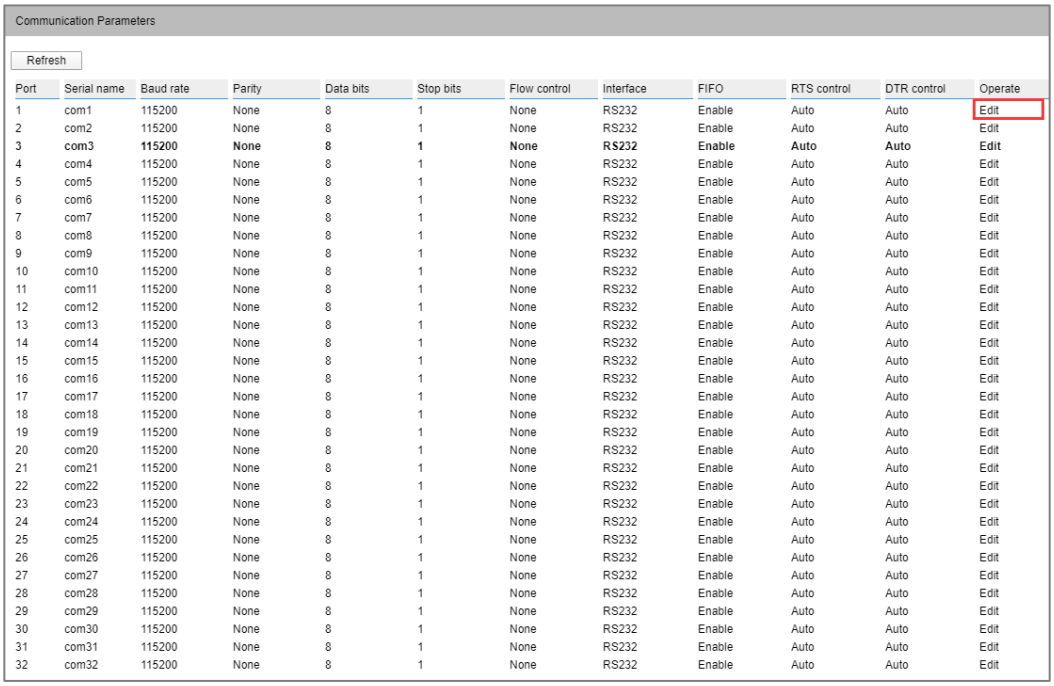
1. Log in to the Web configuration interface and select "Network Configuration”.



2. In the "LAN1" option box, enter the “LAN1 IP configuration”, " LAN1 IP address", " LAN1 Subnet Mask" and " LAN1 Gateway" corresponding to the serial server.
3. Other parameters remain the default, click "Submit".

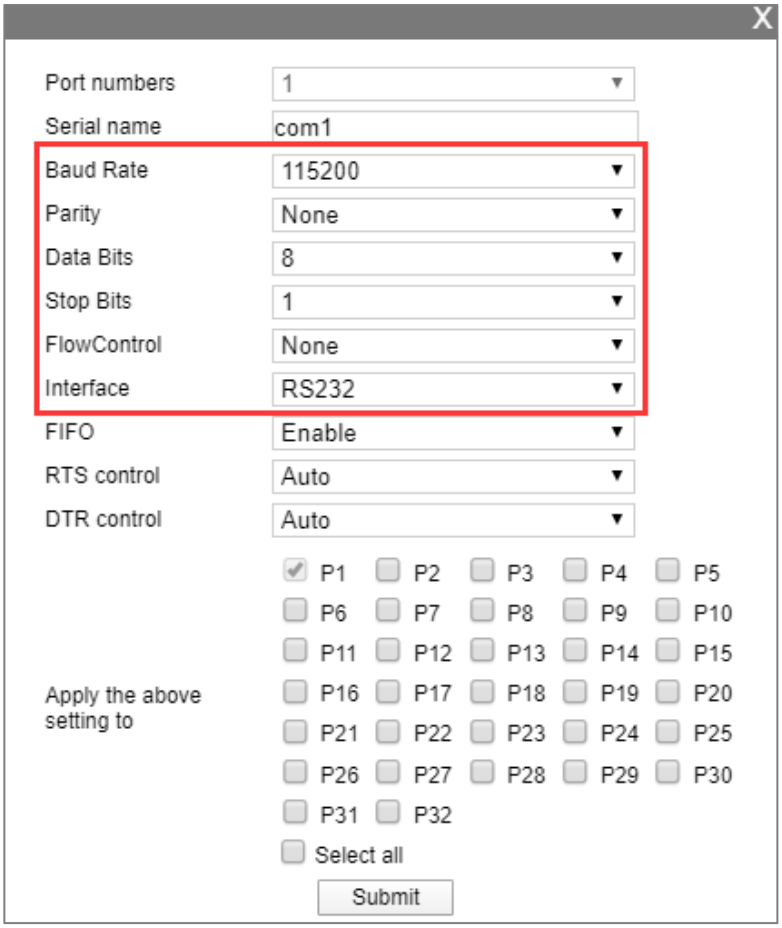
Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".



Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

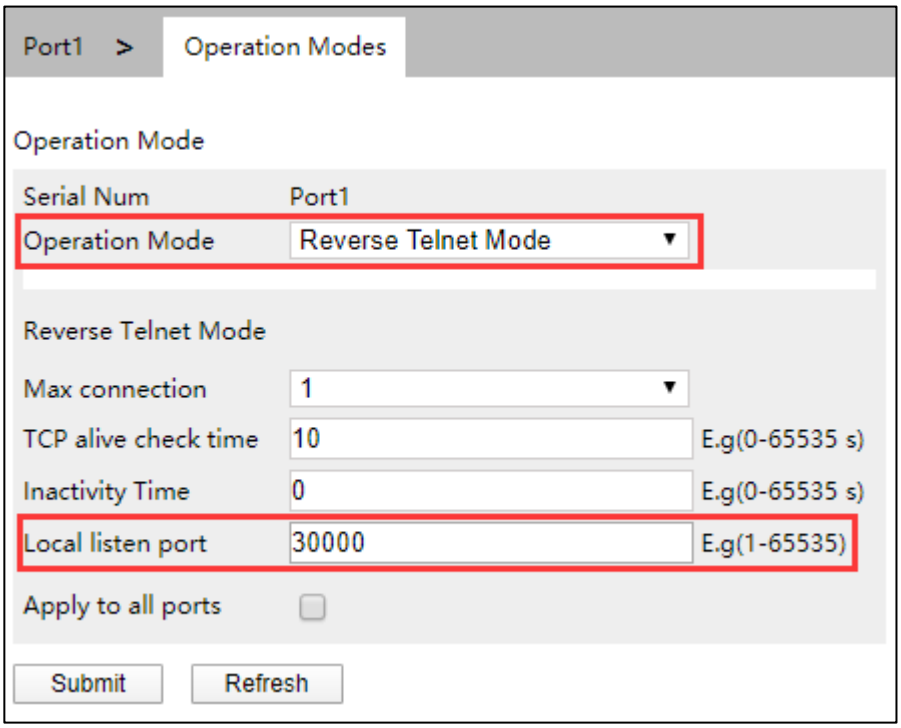
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

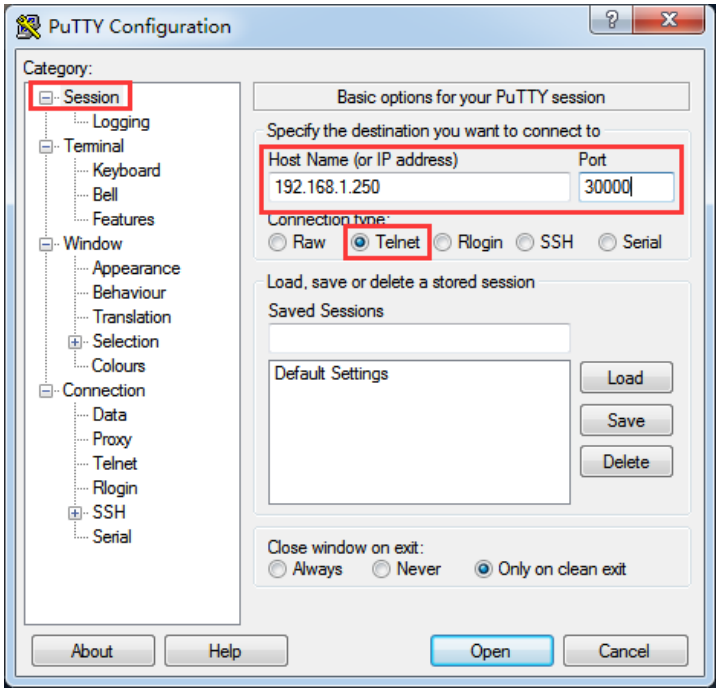
Step 3 Configure the working mode of the serial server.

1. Log in to the Web configuration interface and select "Operation Modes > Port1".
2. Click the operation mode drop-down list box and select “Reverse Telnet Mode”.
3. Click “Max connection” drop-down list box, and select “1” to establish one session connection.
4. Enter the local port number "30000" in the listening port text box.
5. Other parameters remain the default, click "Submit".



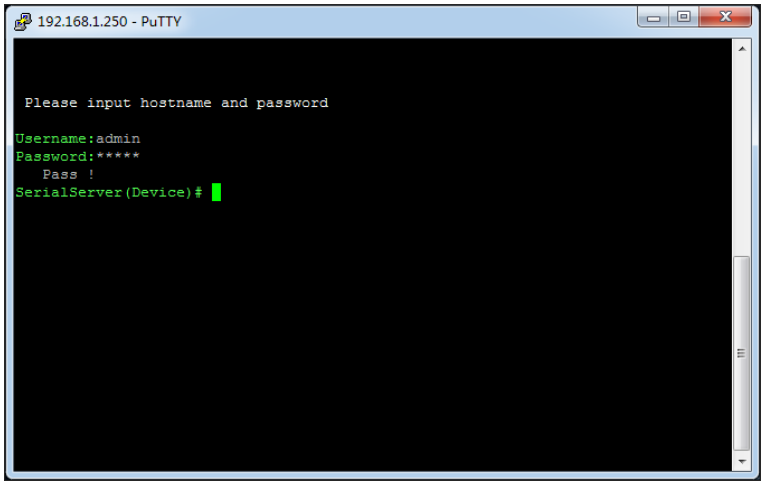
Step 4 Run the third party software PuTTY on a PC to test the communication between the host PC and the server.

1. Install and run the PuTTY software.



2. Click “Session” and select “Telnet” protocol communication in the Connection type input field.
3. Enter the IP address "192.168.1.250" of the serial port server in the "Host Name" text box.

4. Enter the serial Port server listening Port number "30000" in the "Port" text box.
5. Click “Open” button to open the Telnet session interface and start accessing the server.



10.12 RFC2217 Mode

Background Introduction

The PC connects the serial port server link port through Ethernet, and maps the serial port Port1 to the local COM2 port on the PC. Meanwhile, the real serial port COM1 of PC is connected with the serial port server Port1.

Assume the IP address of the serial port server is 192.168.1.250.

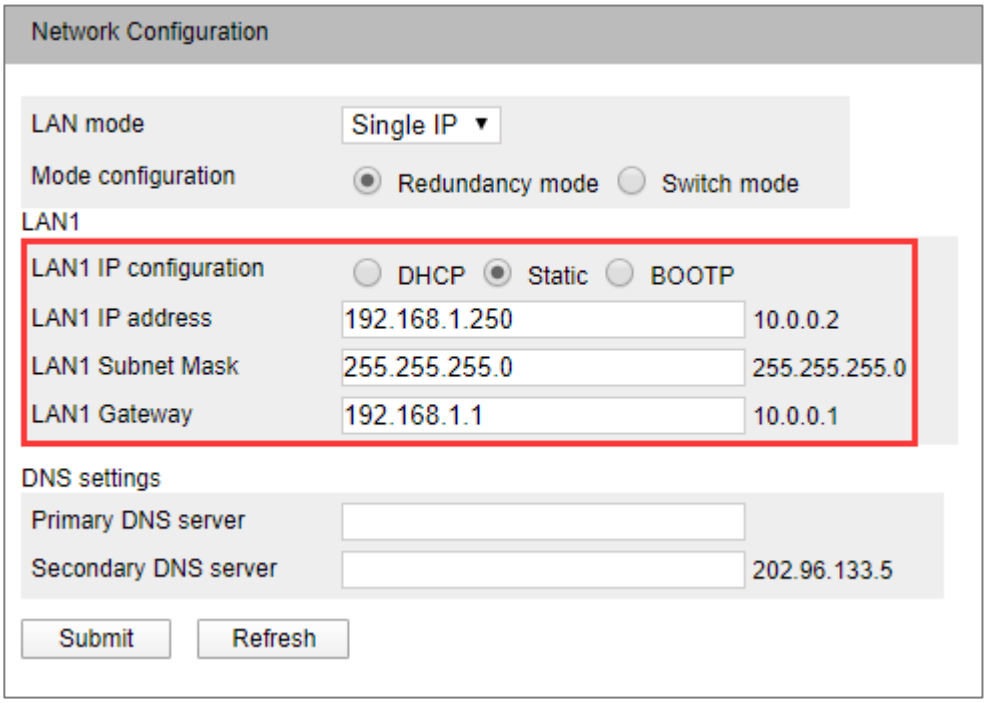
The serial port information is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Operation Steps

Step 1 Configure the IP address of the serial server.

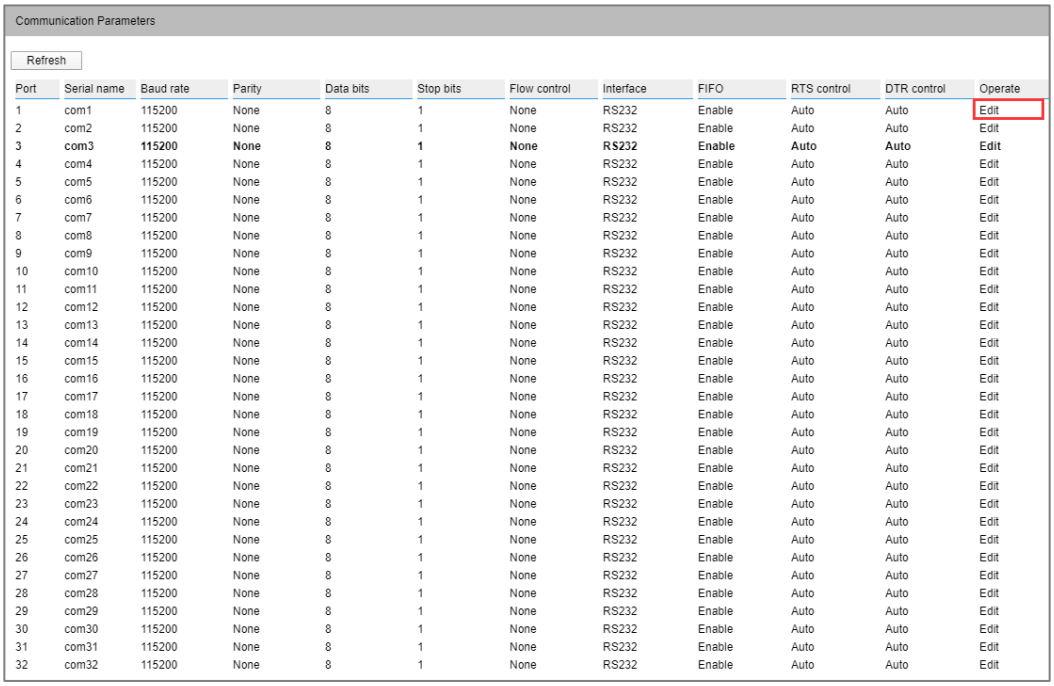
1. Log in to the Web configuration interface and select "Network Configuration”.



2. In the "LAN1" option box, enter the “LAN1 IP configuration”, "LAN1 IP address", "LAN1 Subnet Mask" and "LAN1 Gateway" corresponding to the serial server.
3. Other parameters remain the default, click "Submit".

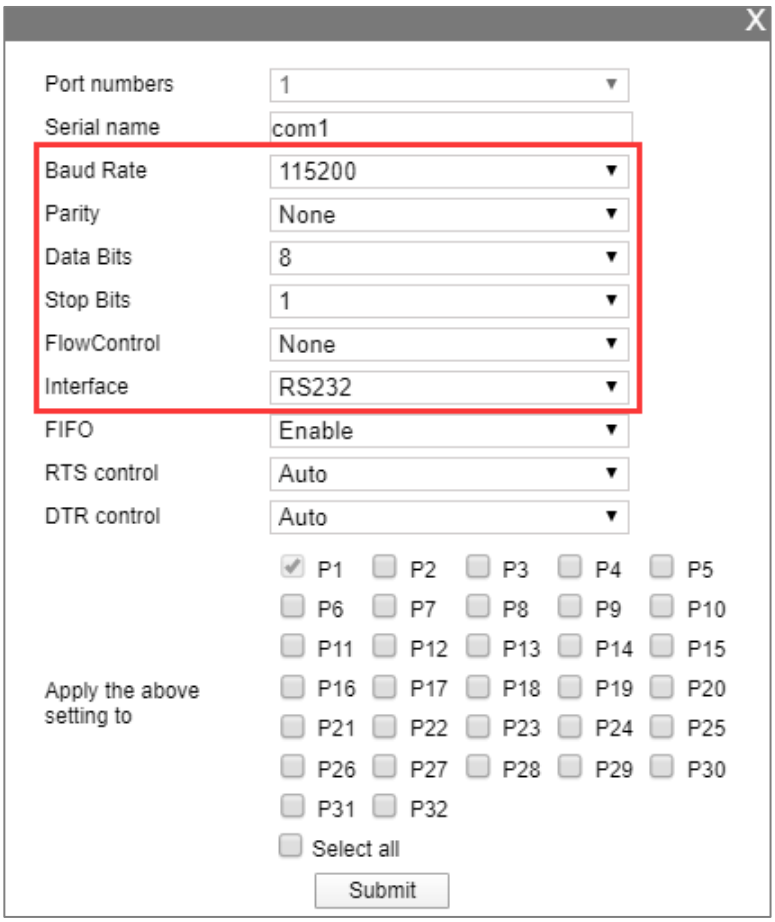
Step 2 Configure the serial port parameter information.

1. Log in to the Web configuration interface and select "Communication Parameters".
2. In the serial port 1 entry, click "Edit".



Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

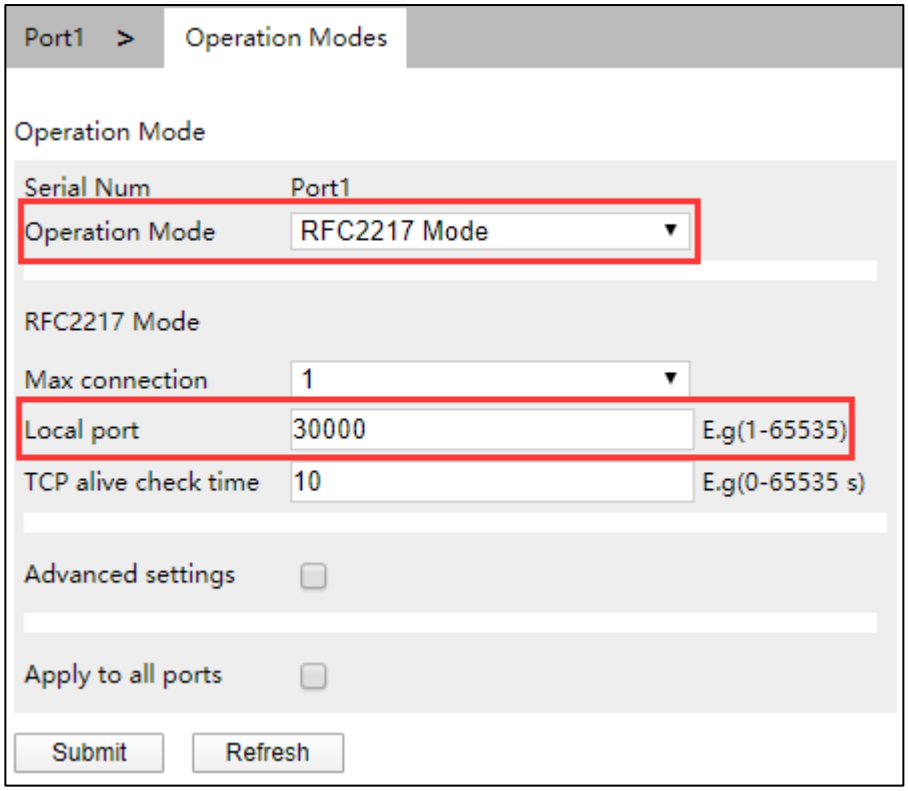
3. Set the “Baud Rate”, “Data Bits”, “Stop Bits” and “Parity” in the “COM Settings” option box.



4. Other parameters remain the default, click "Submit".

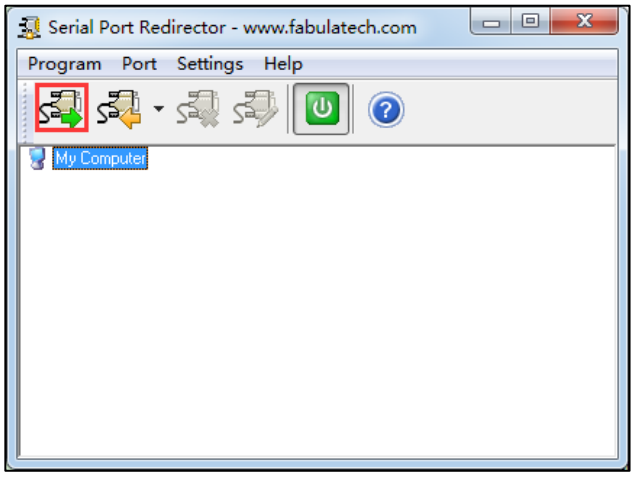
Step 3 Configure the working mode of the serial server.

1. Log in to the Web configuration interface and select "Operation Modes > Port1".
2. Click the operation mode drop-down list box and select “RFC2217 Mode”.
3. Click “Max connection” drop-down list box, and select “1” to establish one session connection.
4. Enter the port number of the device "30000" in the local port text box.
5. Other parameters remain the default, click "Submit".

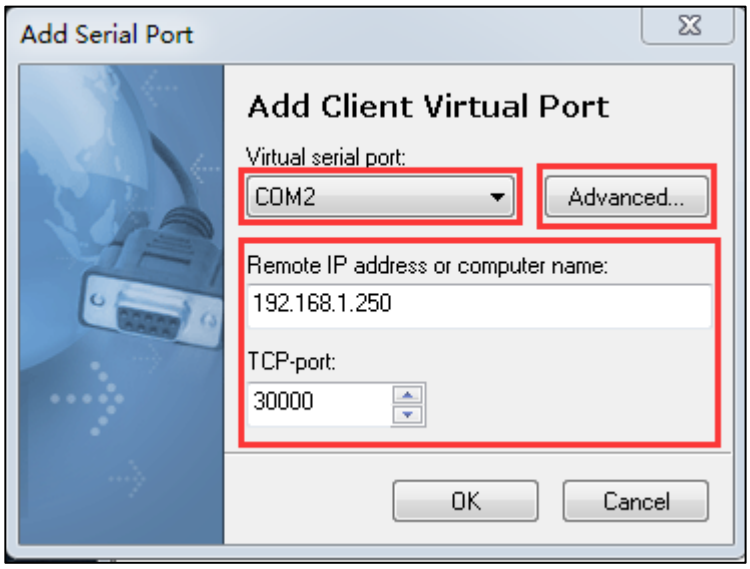


Step 4 Run the third-party software "Serial Port Redirector" on the PC, which is a virtual COM Port.

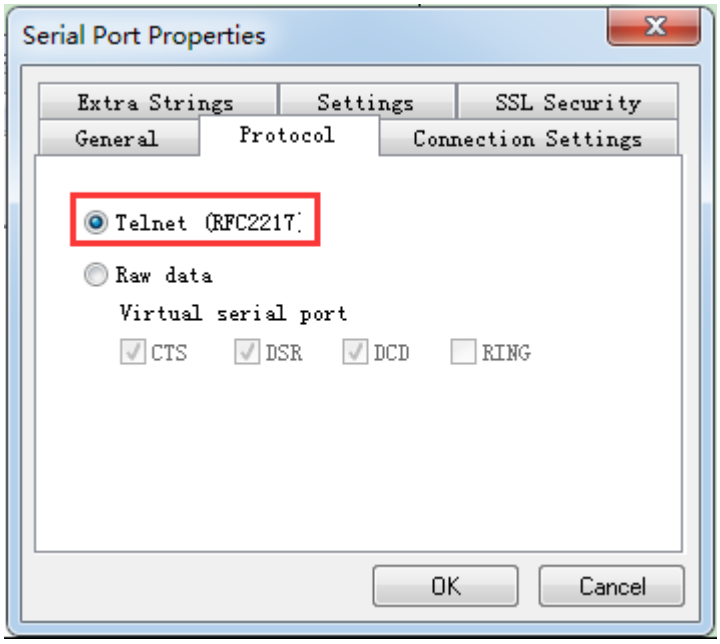
1. Install and run the "Serial Port Redirector" software.
2. Click to add serial port icon "  "



3. In the "virtual serial port" drop-down list, select the COM port that needs to be virtual.



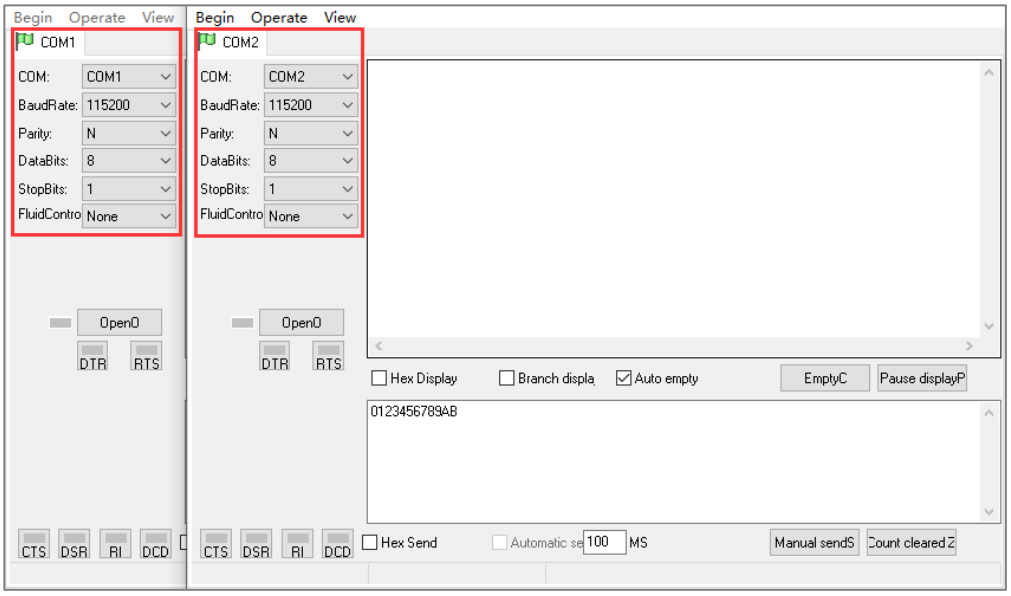
4. Click the Advanced button, select Telnet (RFC2217) in the Protocol configuration option, and click “OK”.



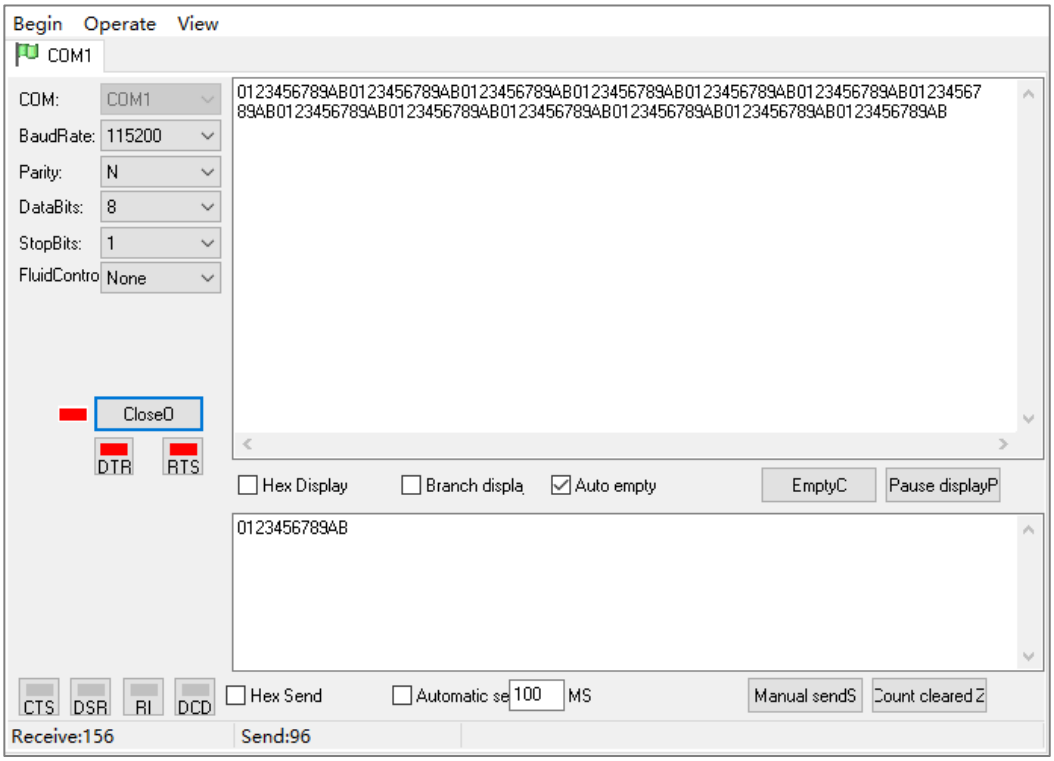
5. Enter the IP address "192.168.1.250" of the serial port server in the "Host Name" text box.
6. Enter "30000" for the local port of serial port server in the "TCP-port" text box.
7. Click “OK”.

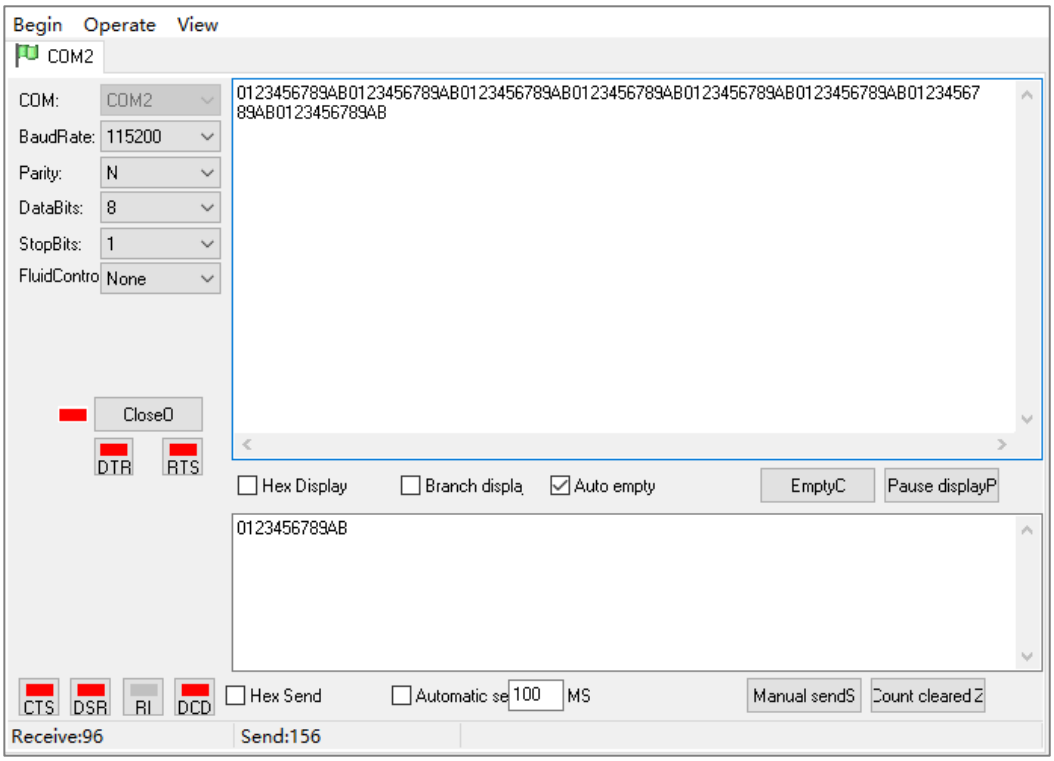
Step 5 Run "ComTest" on PC to test PC virtual COM2 and real serial COM1.

1. Install and run the ComTest software, and click “Begin > New Windows” in the start menu.
2. Add the real serial "COM1" and virtual serial "COM2" two windows, the "COM1" and "COM2" serial port parameter information match.



3. Open “COM1” and “COM2” serial signal respectively, check “automatic sending” checkbox, test and check the data transmission status between real serial port COM1 and virtual serial port COM2.





10.13 Redundant COM Mode

Background Introduction

Assuming that the host is in the backup network environment composed of network A and Network B, the host needs to manage the serial terminal device through the serial server. Now connect the host's own RS-232 serial port, COM1, to the Port1 of the serial server, and install ComTest software to simulate the serial terminal device. At the same time, the host computer installs VSP software, maps the serial port terminal device connected to the serial port server Port1 to the local COM2 of the host computer, and simulates the management terminal by ComTest software. When the network of the serial server switches, the communication between the management terminal (COM2) and the terminal (COM1) can still be normal.

Parameter information of serial terminal is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Host parameter information as follow:

- IP address of connecting network A: 192.168.1.61
- IP address of connecting network B: 172.13.100.110

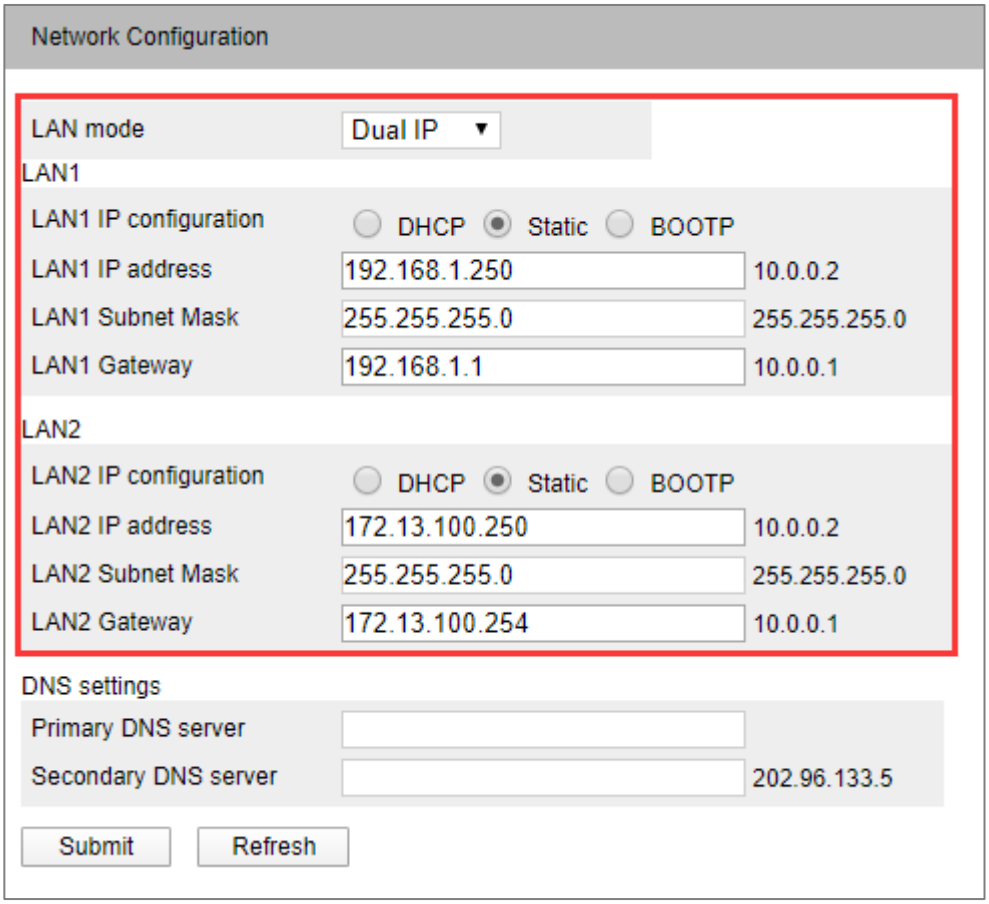
- Data port: 33000
- Command port: 34000

The parameters of the serial server are as follows:

- LAN1 IP Address: 192.168.1.250
- LAN2 IP Address: 172.13.100.250
- Communication parameters: Port1 is consistent with serial terminal parameters
- Working mode: Redundant COM Mode

Operation steps

Step 1 Configure the IP address of the serial server, as shown in the following figure.



1 Log in to the Web configuration interface and select "Network Configuration".

2 In the LAN mode drop-down list, select Dual IP.

3 In the LAN1 area, enter the IP address (192.168.1.250), subnet mask and gateway address of the serial server port LAN1.

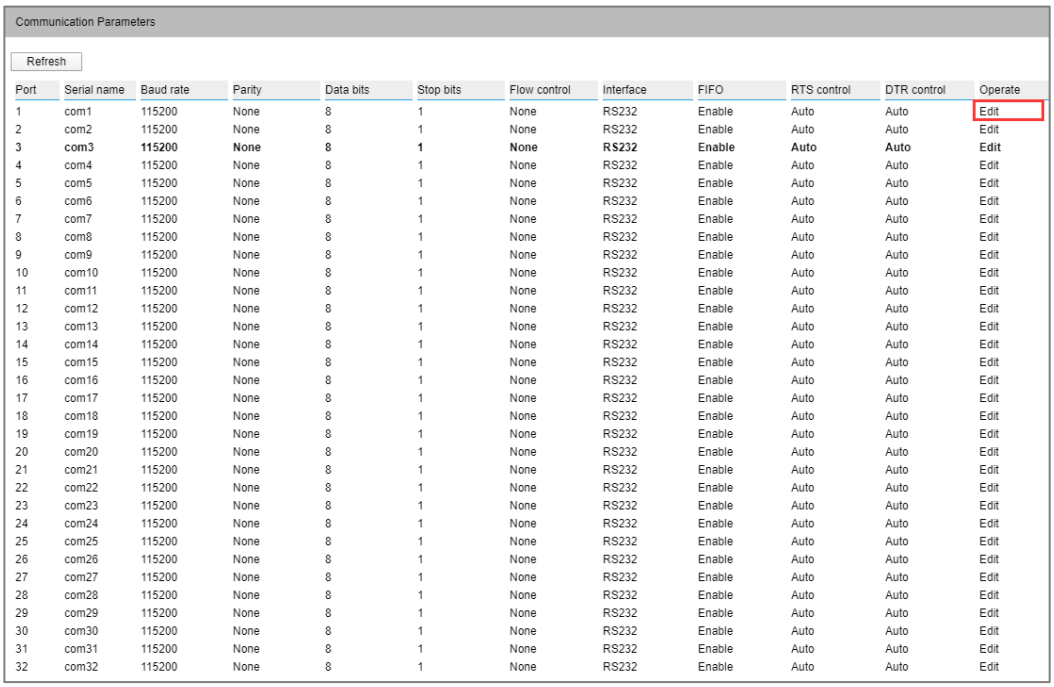
4 In the LAN2 area, enter the IP address (172.13.100.250), subnet mask and gateway address of the serial server port LAN2.

5 Other parameters remain the default, click “Submit”.

Step 2 Configure the communication parameter information of serial server.

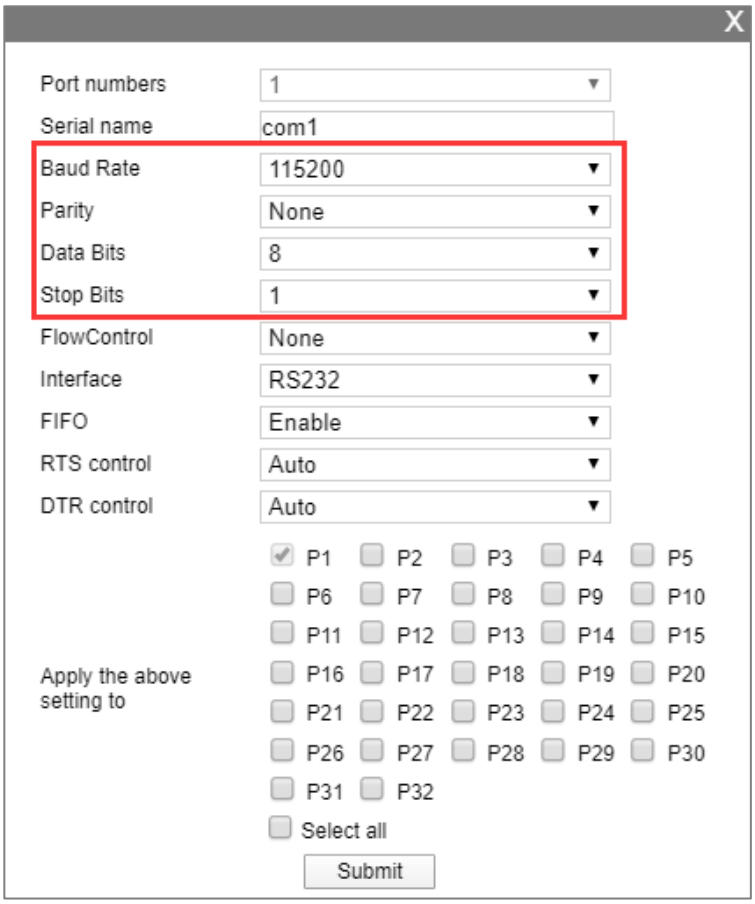
1 Log in to the WEB configuration interface and select "Communication Parameters".

2 In the Port1 entry, click Edit under operation, as shown in the following figure.



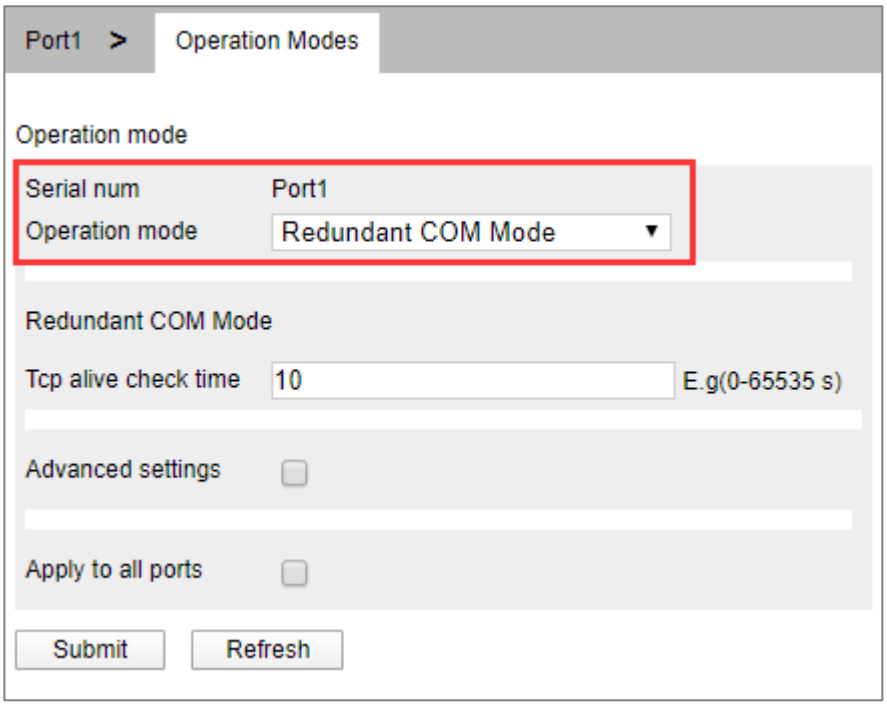
Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

3 In the serial port parameter option box, set "Baud Rate", "Parity", "Data Bits", "Stop Bits" and "interface" parameters respectively, as shown in the following figure.



4 Other parameters remain the default, click “Submit”.

Step 3 Configure the working mode of the serial server, as shown in the following figure.



1 Log in to the WEB configuration interface and select "Operation Modes > Port1".

2 Click the "Operation mode" drop-down list and select "Redundant COM Mode".

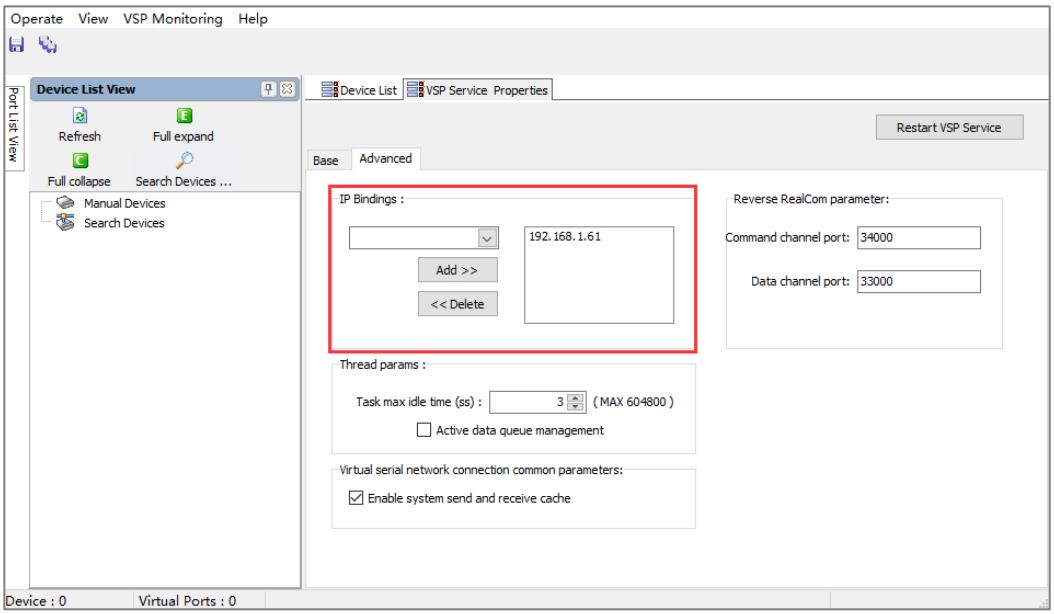
3 Other parameters remain the default, click “Submit”.

Step 4 Run "VSP Manager" software, configure the virtual serial port COM2.

1 Install and run the "VSP Manager" software on the host, and refer to the VSP user manual for the installation process.

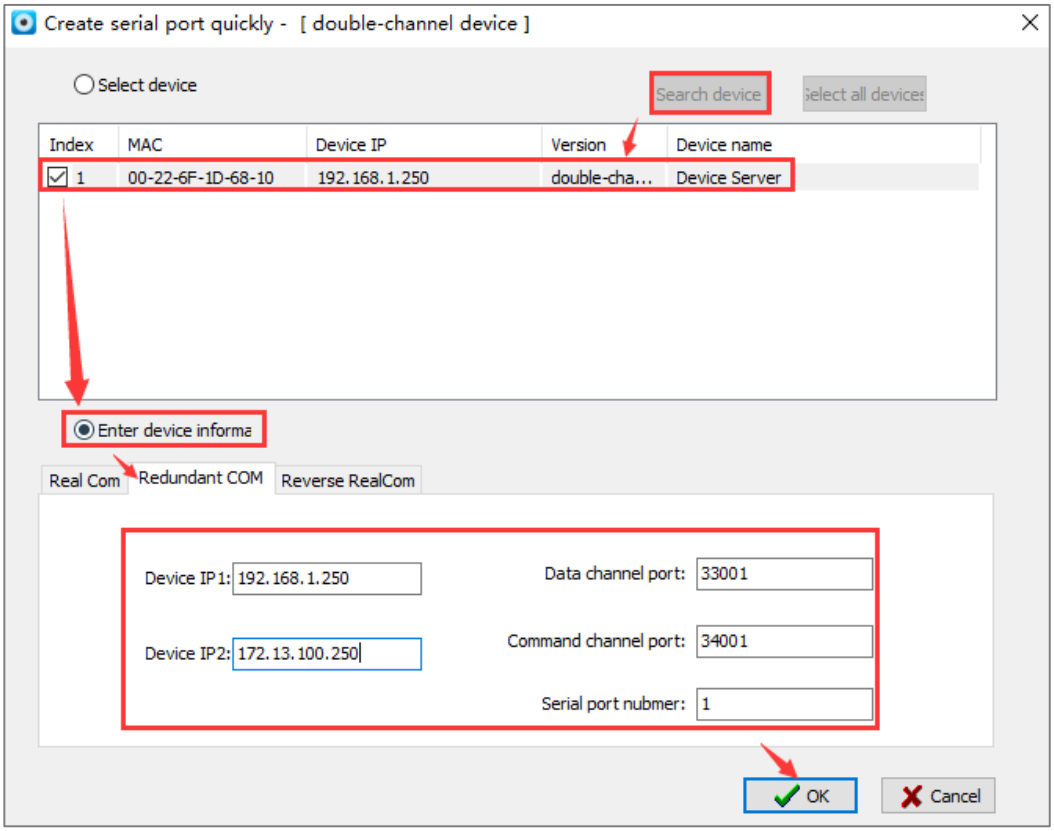
2 On the menu bar, click View > VSP Service Properties, and then click the Advance tab.

3 In the "IP Bindings" area, click the list to select the host IP address "192.168.1.61", and then click the "Add" button, as shown in the following figure.



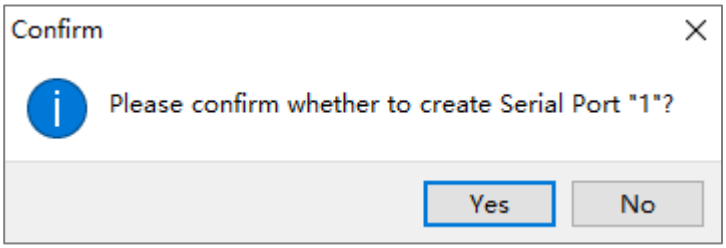
4 In the blank space of "Device List View" on the left, right-click and select "Create serial port quickly".

5 In the "Create serial port quickly" window, create COM2, and the configuration is shown in the following figure.

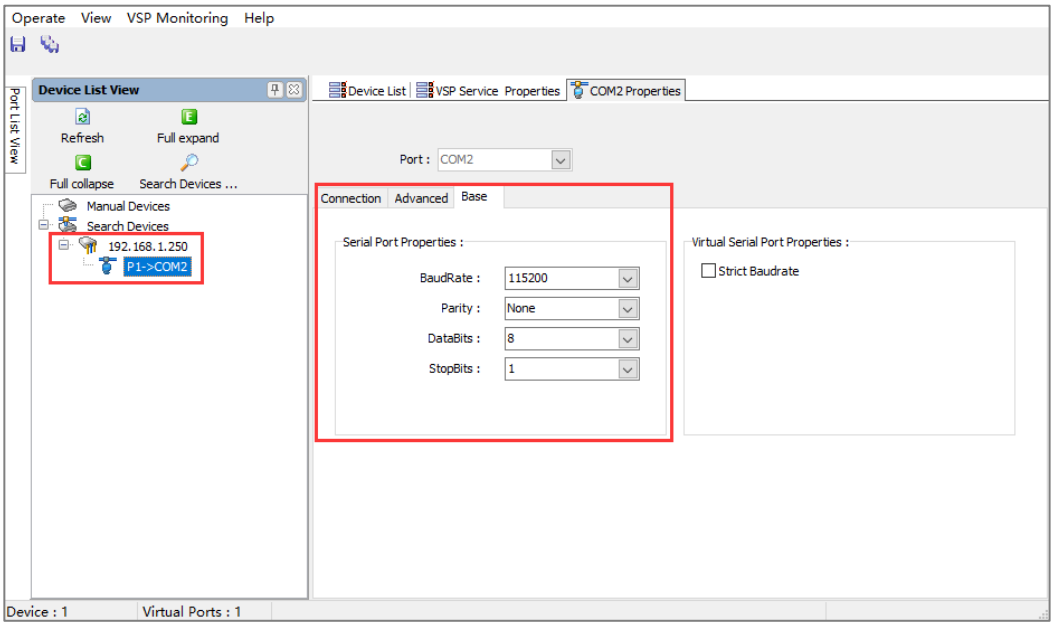


- Check the "Select device" radio box.
- Click the "Search device" button to search the serial port server.

- Check the check box under "Index" in the corresponding serial server entry.
- Click the "Enter device information" radio box.
- Click the "Redundant COM" tab and enter the IP address 1, IP address 2 and serial port number of the device.
- Click “OK” button.
- In the Confirm window, click the Yes button, as shown in the following figure.



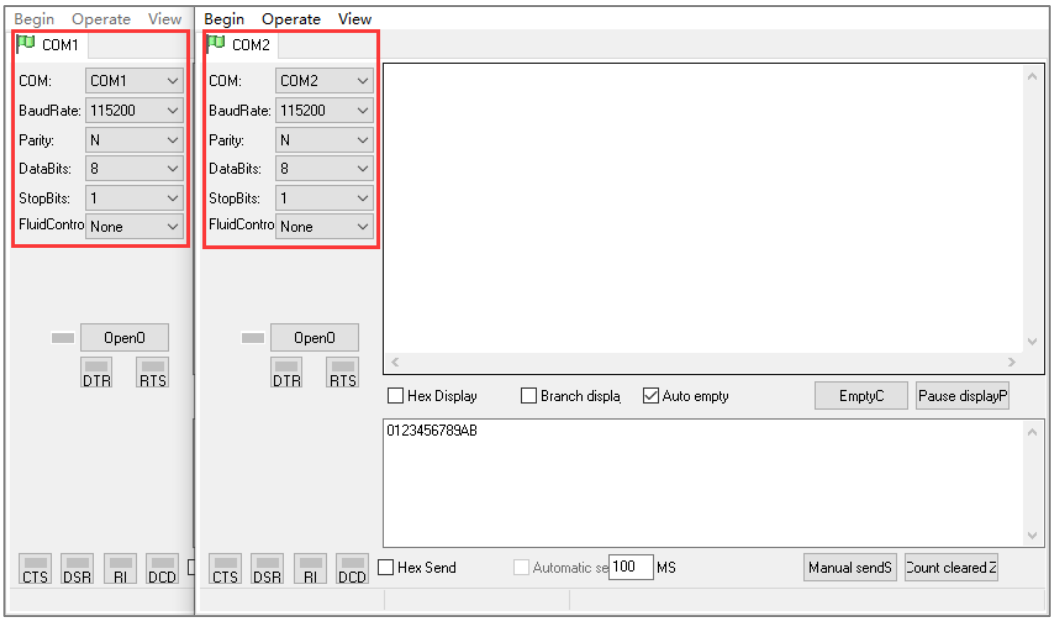
6 Double-click the created COM2, enter the COM2 property page, and then click the "Base" tab. In the "Serial Port Properties" area, configure the serial port COM2 parameters to be consistent with COM1 communication parameters, as shown in the following figure.



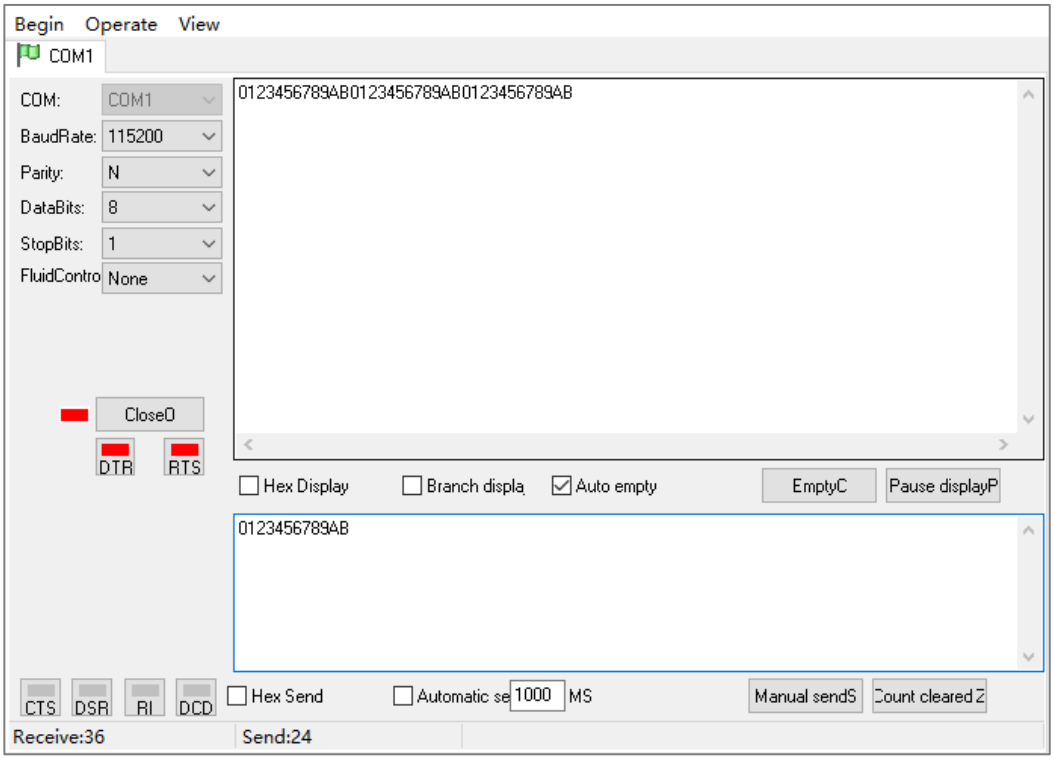
Step 5 Run "ComTest" software to test the communication between terminal COM1 and management terminal COM2.

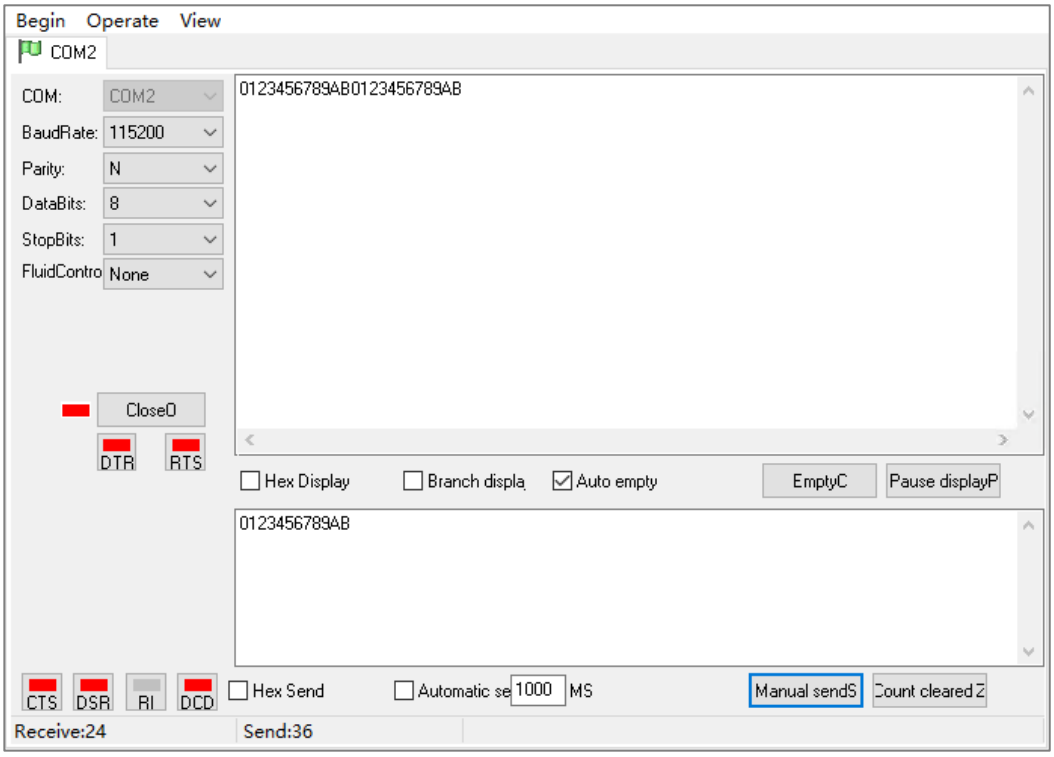
1 Install and run "ComTest" software on the host, click "Begin" in the menu bar and select "New Windows".

2 Add the real serial "COM1" and virtual serial "COM2" two windows, the "COM1" and "COM2" serial port parameter information match.



3 Turn on the serial signals of "COM1" and "COM2" respectively, and click the "Manual send" button to test and check the data receiving and sending status between the real serial port COM1 and the virtual serial port COM2.





Note:

You can simulate network failure by manually disconnecting Network A or Network B, and then view the data communication between COM1 and COM2.

Step 6 End.

10.14 DRDAS RealCom Mode

Background Introduction

Assuming that Host A and Host B are in the same network environment, Host A needs to collect serial data and control serial terminal device in COM form through serial server; While Host B is only used for monitoring or backing up serial terminal device data. Now, another host's own RS-232 serial port, COM1, is connected to Port1 of serial server, and ComTest software is installed to simulate serial terminal device. At the same time, Host A and Host B install VSP software, and map the serial terminal device connected with the serial server Port1 to the local COM2 of Host A and Host B, and simulate the management terminal by ComTest software.

Parameter information of serial terminal is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8

- Stop bit: 1

Host A parameter information is as follow:

- IP address: 192.168.1.61

Host B parameter information is as follow:

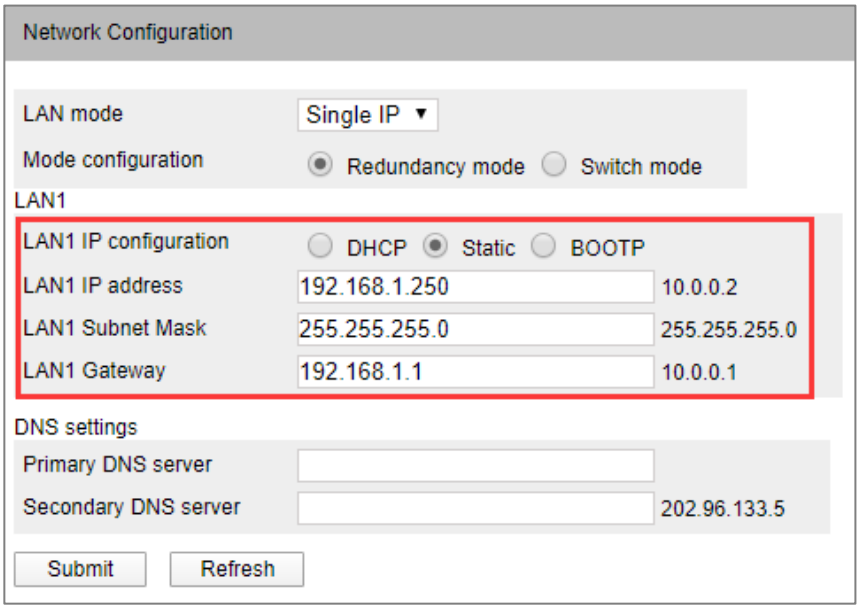
- IP address: 192.168.1.62

The parameters of the serial server are as follows:

- IP address: 192.168.1.250
- Communication parameters: Port1 is consistent with serial terminal parameters
- Working mode: DRDAS RealCom Mode

Operation steps

Step 1 Configure the IP address of the serial server, as shown in the following figure.



1 Log in to the Web configuration interface and select "Network Configuration".

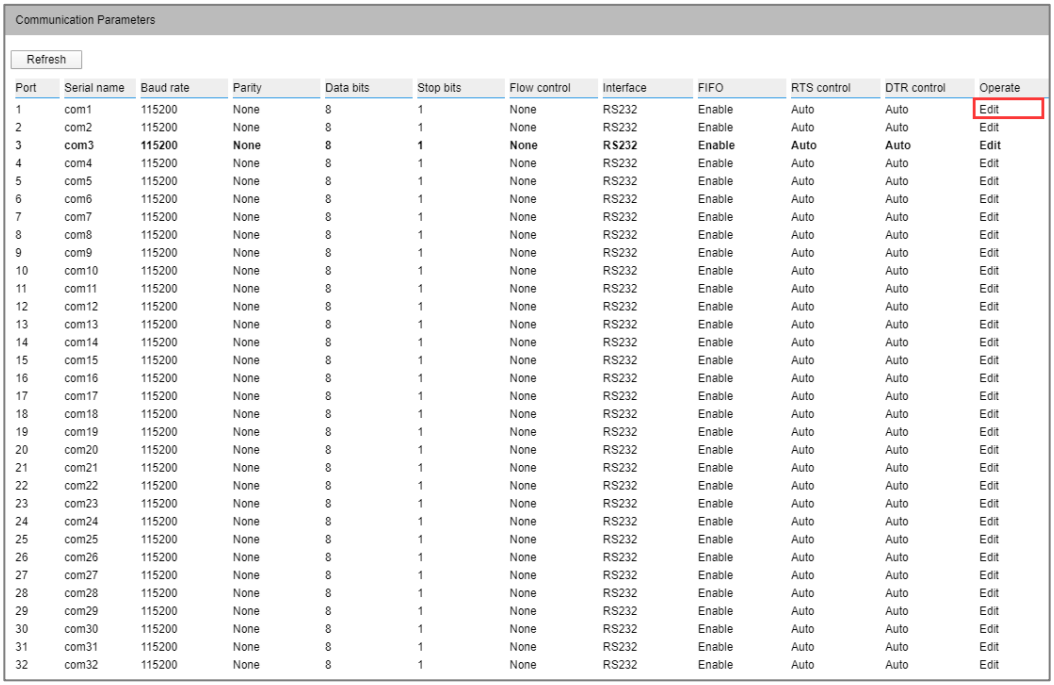
2 In the LAN1 area, enter the IP address (192.168.1.250), subnet mask and gateway address of the serial server.

3 Other parameters remain the default, click “Submit”.

Step 2 Configure the communication parameter information of serial server.

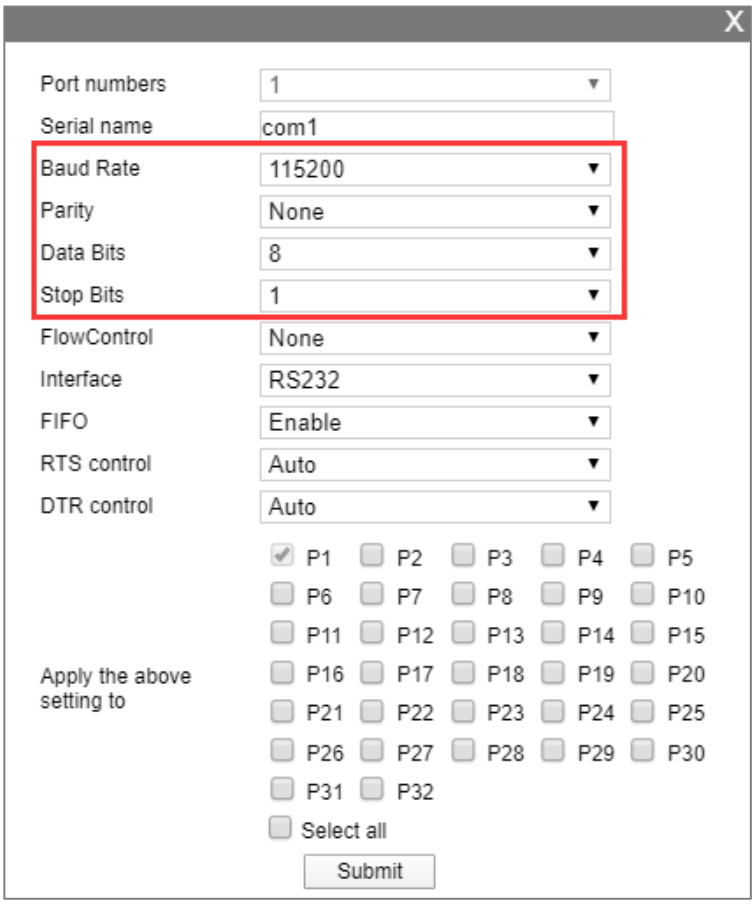
1 Log in to the WEB configuration interface and select "Communication Parameters".

2 In the Port1 entry, click Edit under operation, as shown in the following figure.



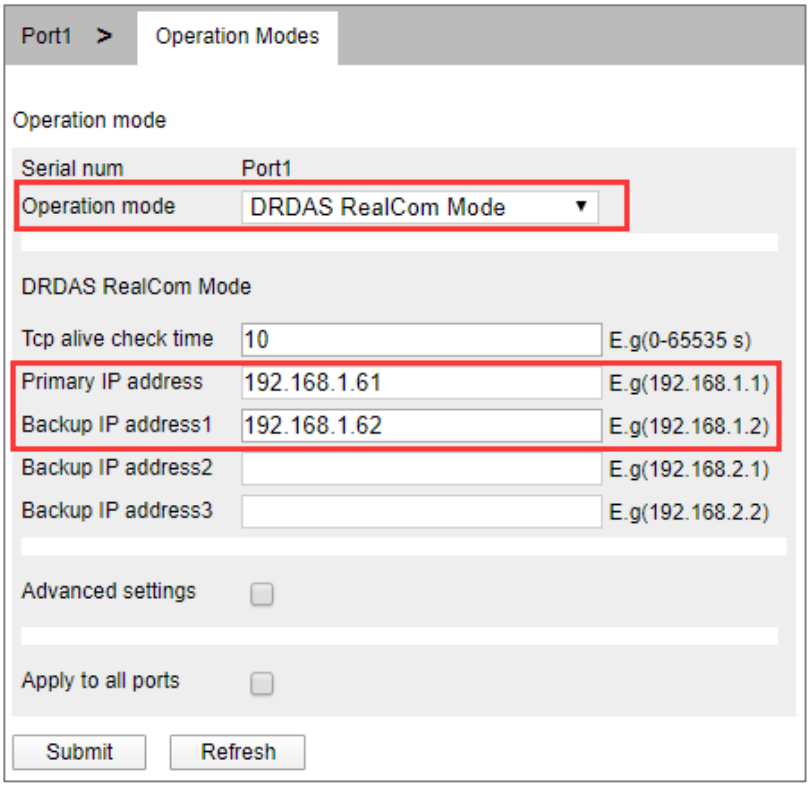
Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

3 In the serial port parameter option box, set "Baud Rate", "Parity", "Data Bits", "Stop Bits" and "interface" parameters respectively, as shown in the following figure.



4 Other parameters remain the default, click “Submit”.

Step 3 Configure the working mode of the serial server, as shown in the following figure.



1 Log in to the WEB configuration interface and select "Operation Modes > Port1".

2 Click the "Operation mode" drop-down list and select "DRDAS RealCom Mode".

3 In the "Primary IP address" text box, enter the IP address of Host A "192.168.1.61".

4 In the "Backup IP address1" text box, enter the IP address of Host B "192.168.1.62".

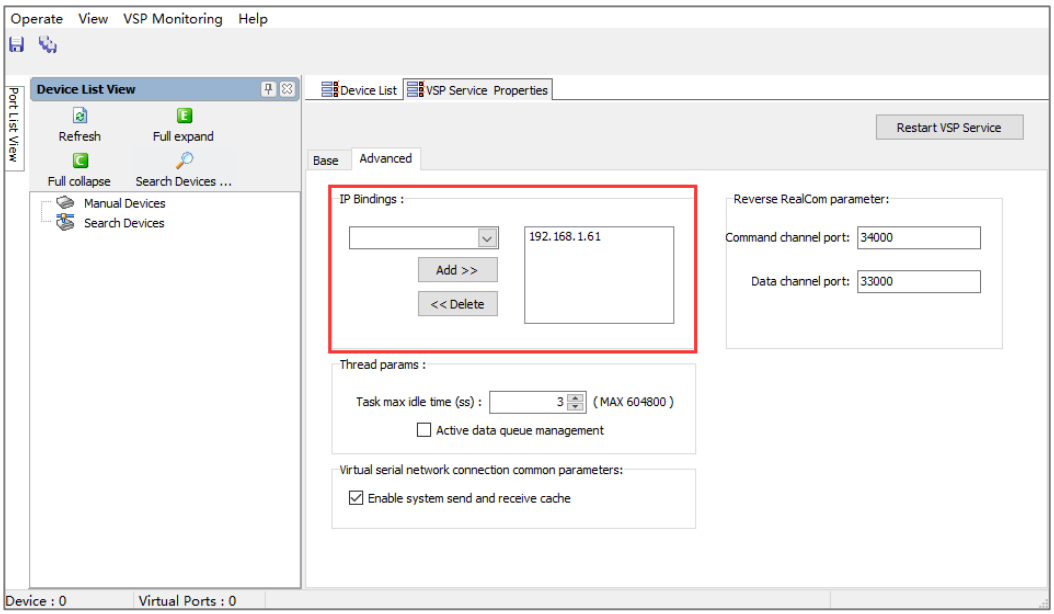
5 Other parameters remain the default, click “Submit”.

Step 4 Run "VSP Manager" software, configure the virtual serial port COM2 on Host A and Host B one by one.

1 Install and run the "VSP Manager" software on the host, and refer to the VSP user manual for the installation process.

2 On the menu bar, click View > VSP Service Properties, and then click the Advance tab.

3 In the "IP Bindings" area, click the list to select the host IP address and then click the "Add" button, as shown in the following figure. (the IP of Host A is 192.168.1.61 and the IP address of Host B is 192.168.1.62)

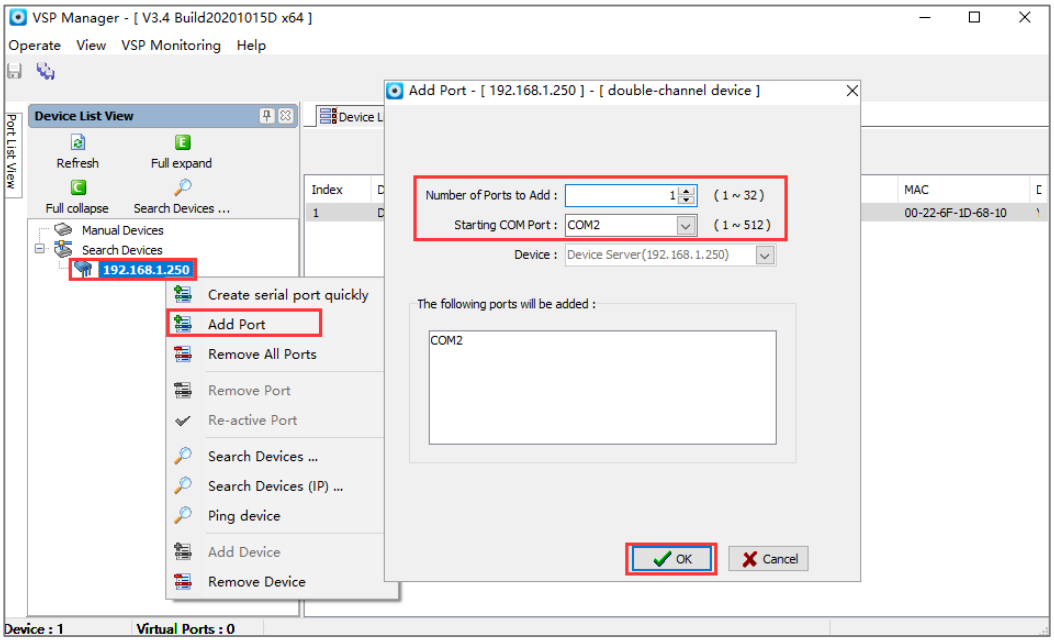


4 In the left “Device List View” area, click the search icon to automatically search for devices.

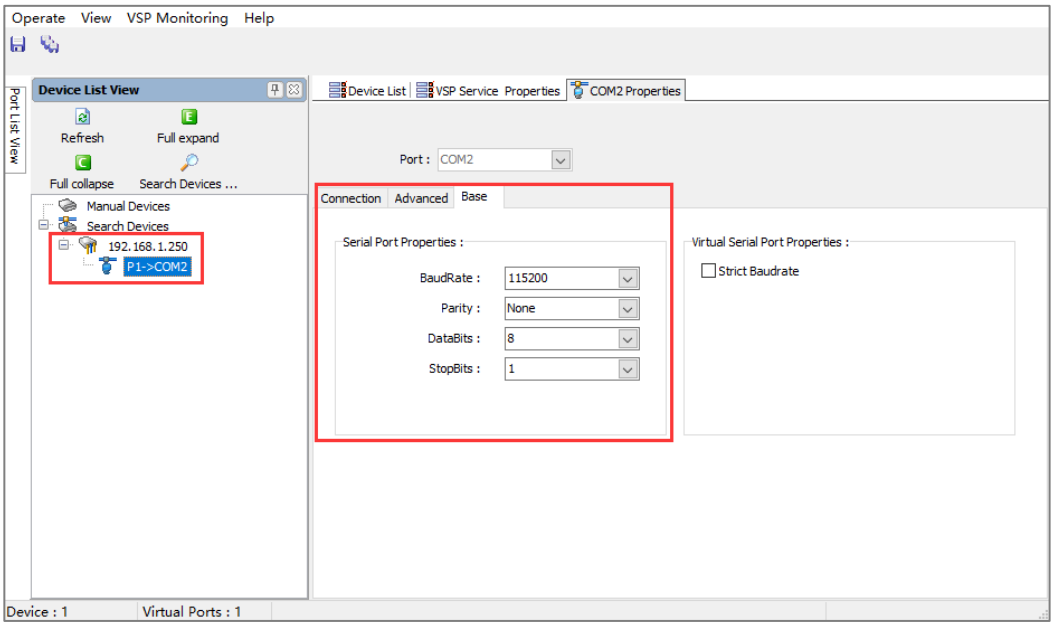
5 In the left “Device List View” area, right-click the IP address of the device and select “Add Port”.

6 In the "Add Port" window, create a serial port COM2, as shown in the following figure.

- Click the "Number of Ports to Add" drop-down list and select the serial port "1".
- Click the "Starting COM Port" drop-down list and select "COM2".
- Click “OK” button.



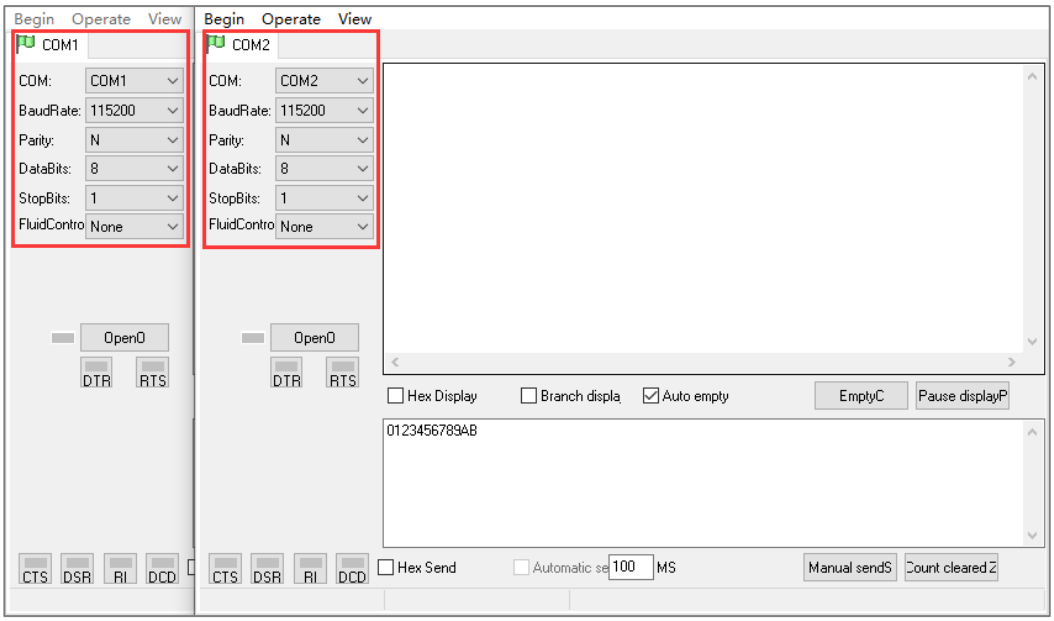
7 Double-click the created COM2, enter the COM2 property page, and then click the "Base" tab. In the "Serial Port Properties" area, configure the serial port COM2 parameters to be consistent with COM1 communication parameters, as shown in the following figure.



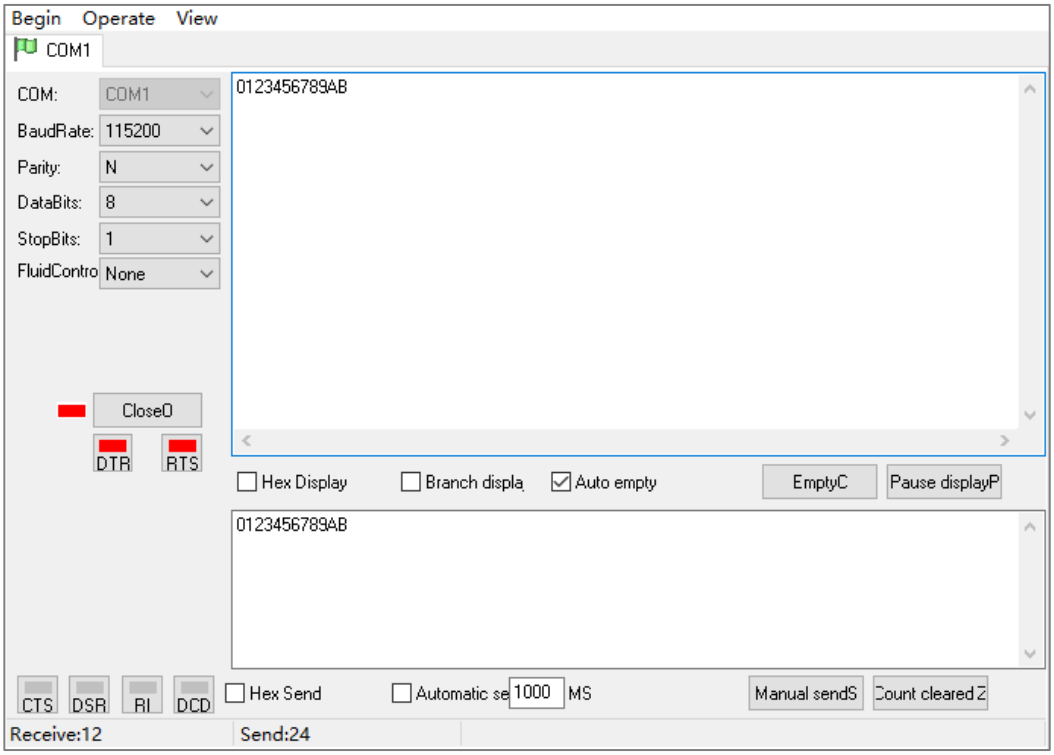
Step 5 Run "ComTest" software to test the communication among terminal COM1, Host A(COM2) and Host B(COM2).

1 Install and run "ComTest" software on each host, click "Begin" in the menu bar and select "New Windows".

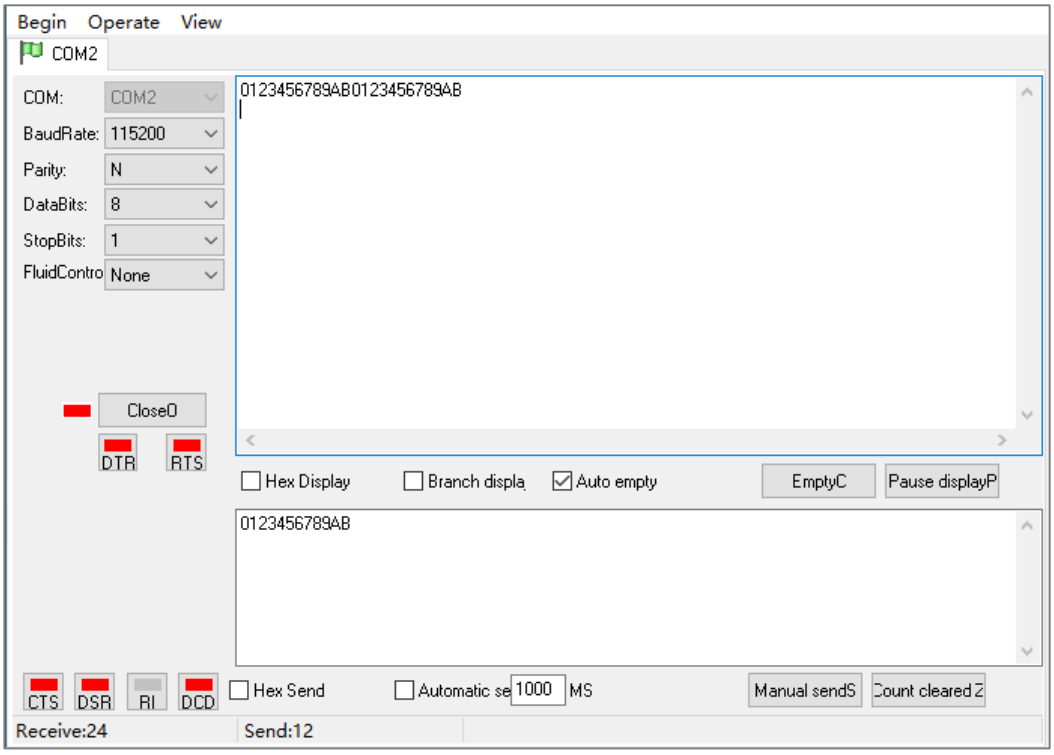
2 Serial port "COM1" is connected to host computer, and serial port "COM2" is connected to host computer and host computer b, and the serial port parameter information of "COM1" and "COM2" is matched consistently.



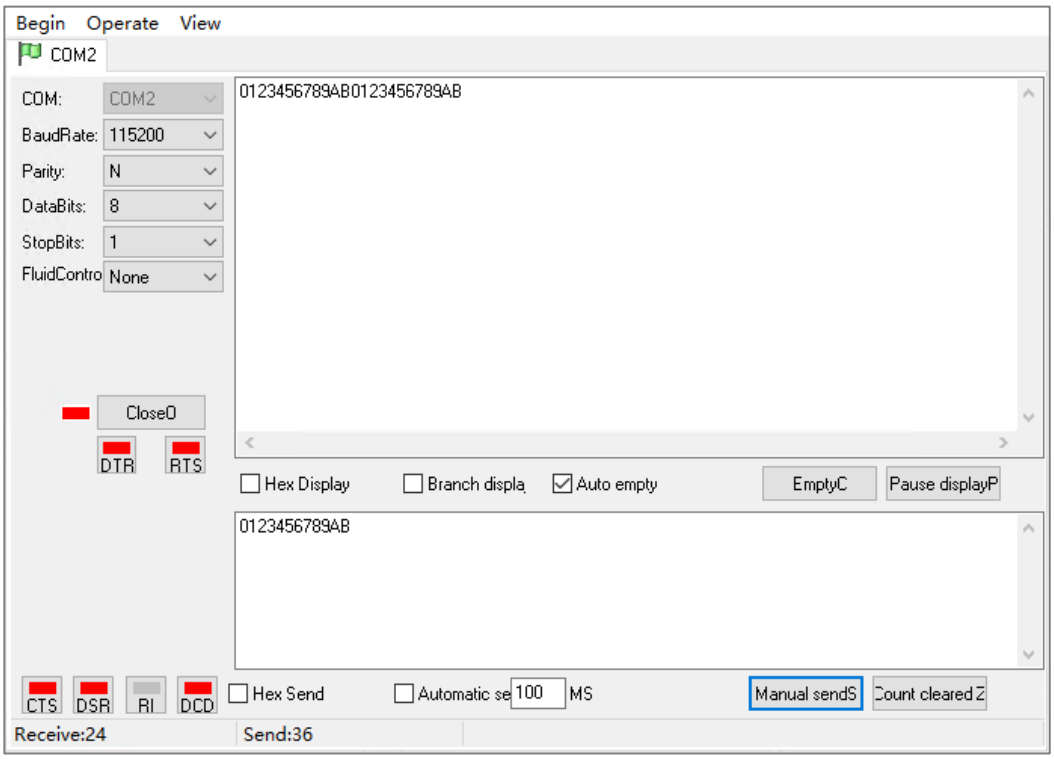
3 Turn on the serial signals of "COM1" and "COM2" respectively, and click the "Manual send" button to test and check the data receiving and sending status between the real serial port COM1 and the virtual serial port COM2.



Host A COM2:



Host B COM2:



Note:

Through the test, it can be found that both Host A and Host B can receive the data sent by COM1; COM1 can receive the data sent by Host A; COM1 does not receive the data sent by Host B.

Step 6 End.

10.15 DRDAS TCP Server Mode

Background Introduction

Assuming that Host A and Host B are in the same network environment, Host A needs to collect serial data and control serial terminal device in TCP Socket form through serial server; While Host B is only used for monitoring or backing up serial terminal device data. Now, another host's own RS-232 serial port, COM1, is connected to Port1 of serial server, and ComTest software is installed to simulate serial terminal device. At the same time, Host A and Host B install DebugTool software, which is used as TCP client to establish connection with serial port server Port1, and the management end is simulated by DebugTool software.

Parameter information of serial terminal is as follows:

- Baud rate: 115200
- Parity bit: None
- Data bit: 8
- Stop bit: 1

Host A parameter information is as follow:

- IP address: 192.168.1.61

Host B parameter information is as follow:

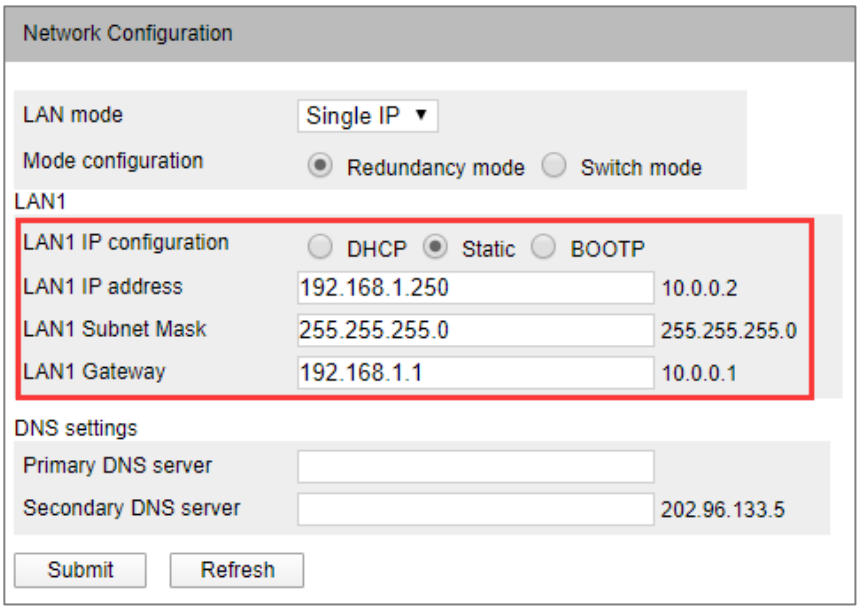
- IP address: 192.168.1.62

The parameters of the serial server are as follows:

- IP address: 192.168.1.250
- Local Port: 30000
- Communication parameters: Port1 is consistent with serial terminal parameters
- Working mode: DRDAS TCP Server Mode

Operation steps

Step 1 Configure the IP address of the serial server, as shown in the following figure.



1 Log in to the Web configuration interface and select "Network Configuration".

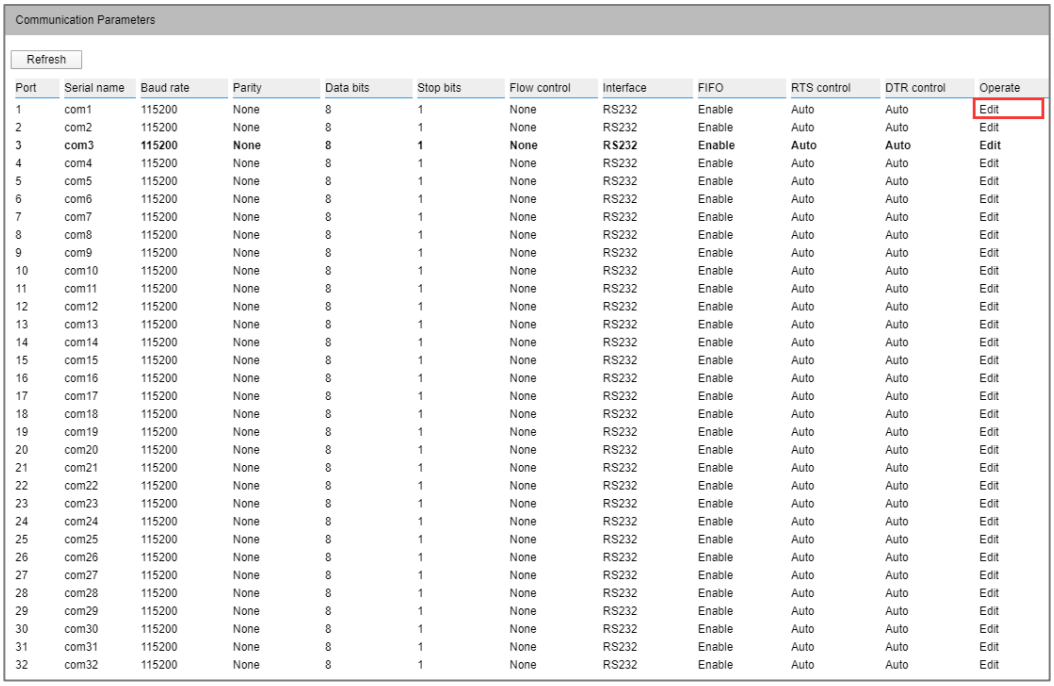
2 In the LAN1 area, enter the IP address (192.168.1.250), subnet mask and gateway address of the serial server.

3 Other parameters remain the default, click “Submit”.

Step 2 Configure the communication parameter information of serial server.

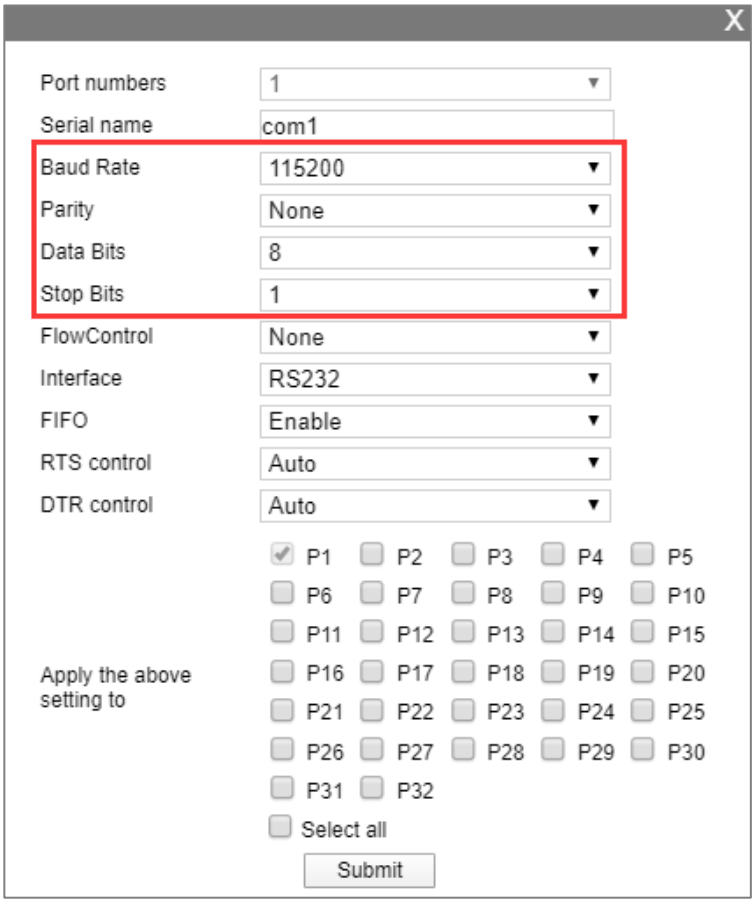
1 Log in to the WEB configuration interface and select "Communication Parameters".

2 In the Port1 entry, click Edit under operation, as shown in the following figure.



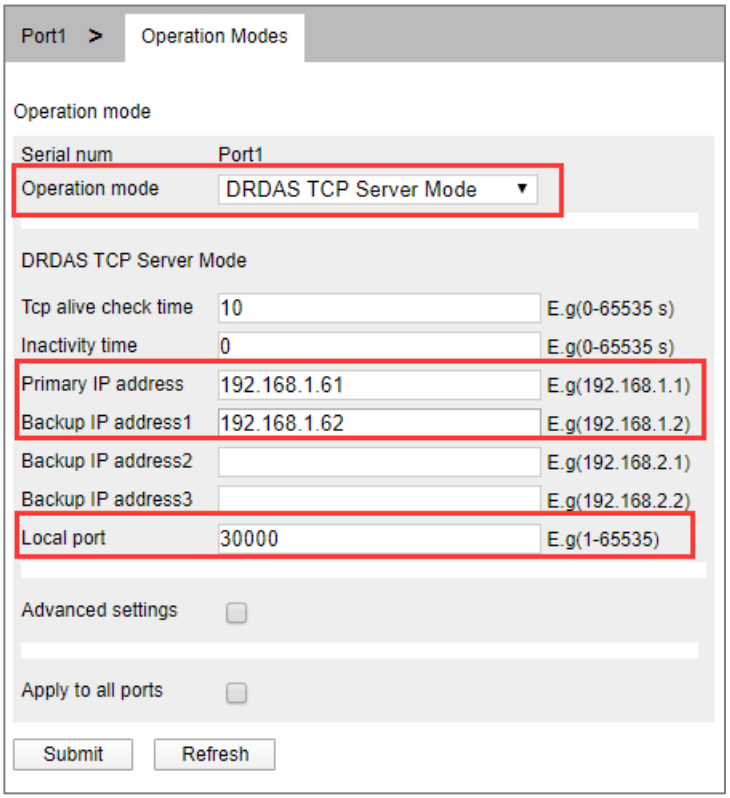
Port	Serial name	Baud rate	Parity	Data bits	Stop bits	Flow control	Interface	FIFO	RTS control	DTR control	Operate
1	com1	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
2	com2	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
3	com3	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
4	com4	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
5	com5	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
6	com6	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
7	com7	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
8	com8	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
9	com9	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
10	com10	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
11	com11	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
12	com12	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
13	com13	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
14	com14	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
15	com15	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
16	com16	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
17	com17	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
18	com18	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
19	com19	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
20	com20	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
21	com21	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
22	com22	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
23	com23	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
24	com24	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
25	com25	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
26	com26	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
27	com27	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
28	com28	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
29	com29	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
30	com30	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
31	com31	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit
32	com32	115200	None	8	1	None	RS232	Enable	Auto	Auto	Edit

3 In the serial port parameter option box, set "Baud Rate", "Parity", "Data Bits", "Stop Bits" and "interface" parameters respectively, as shown in the following figure.



4 Other parameters remain the default, click “Submit”.

Step 3 Configure the working mode of the serial server, as shown in the following figure.



1 Log in to the WEB configuration interface and select "Operation Modes > Port1".

2 Click the "Operation mode" drop-down list and select "DRDAS TCP Server Mode".

3 In the "Primary IP address" text box, enter the IP address of Host A "192.168.1.61".

4 In the "Backup IP address1" text box, enter the IP address of Host B "192.168.1.62".

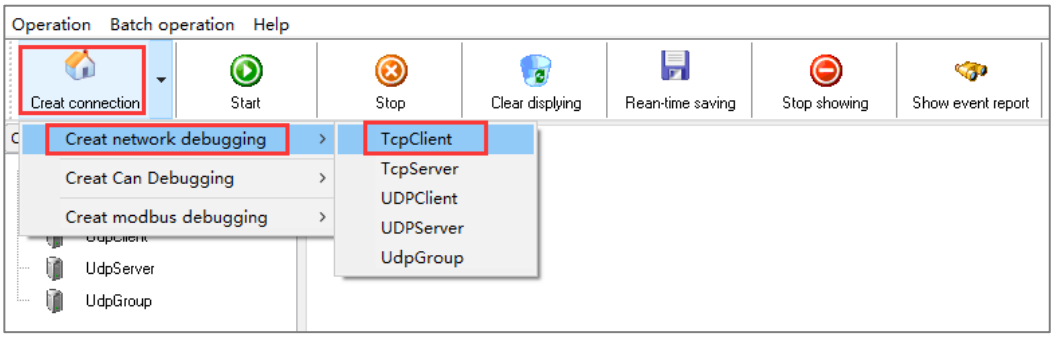
5 Enter "30000" for the local port of serial port server in the "Local Port" text box.

6 Other parameters remain the default, click “Submit”.

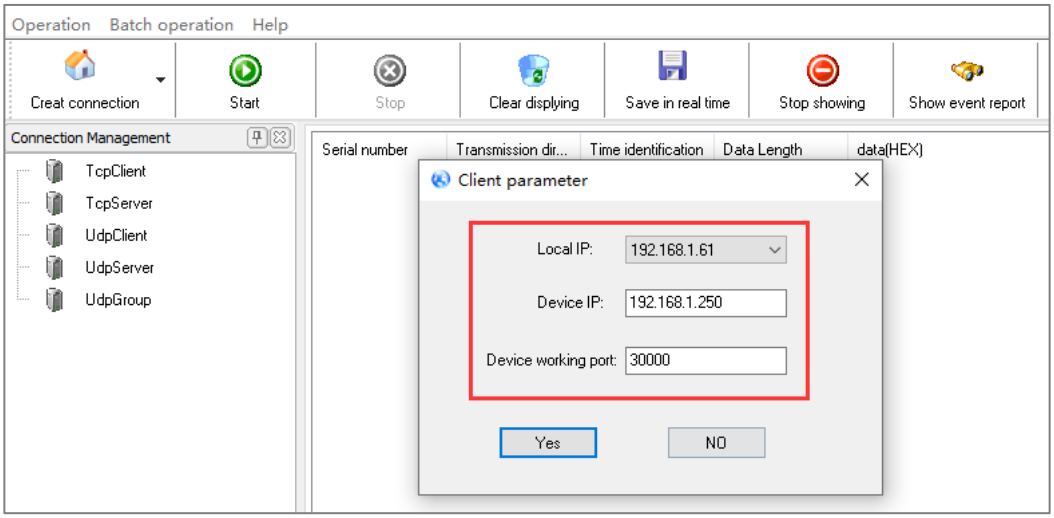
Step 4 Run the "DebugTool" software and configure TCP clients on Host A and Host B in turn.

1 Install and run the "DebugTool" software on the host.

2 On the toolbar, click the “Create connection” drop-down list, and then select “Create network debugging > TCPclient”, as shown in the following figure.



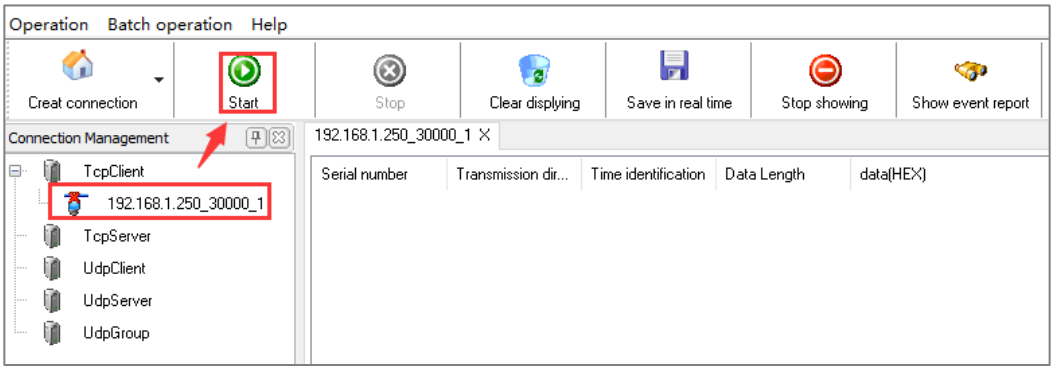
3 On the "Client parameter" serial port, configure TCP connection parameters, as shown in the following figure.



- Click the “Local IP” drop-down list and select the IP address of the binding host. (the IP of Host A is 192.168.1.61 and the IP address of Host B is 192.168.1.62)
- In the “Remote IP” text box, enter the IP address "192.168.1.250" for the serial server.
- In the "Device working port" text box, enter the serial port number "30000".

- Click the "Yes" button.

4 Click to select the established TCP client, and then click the "Start" button, as shown in the following figure.

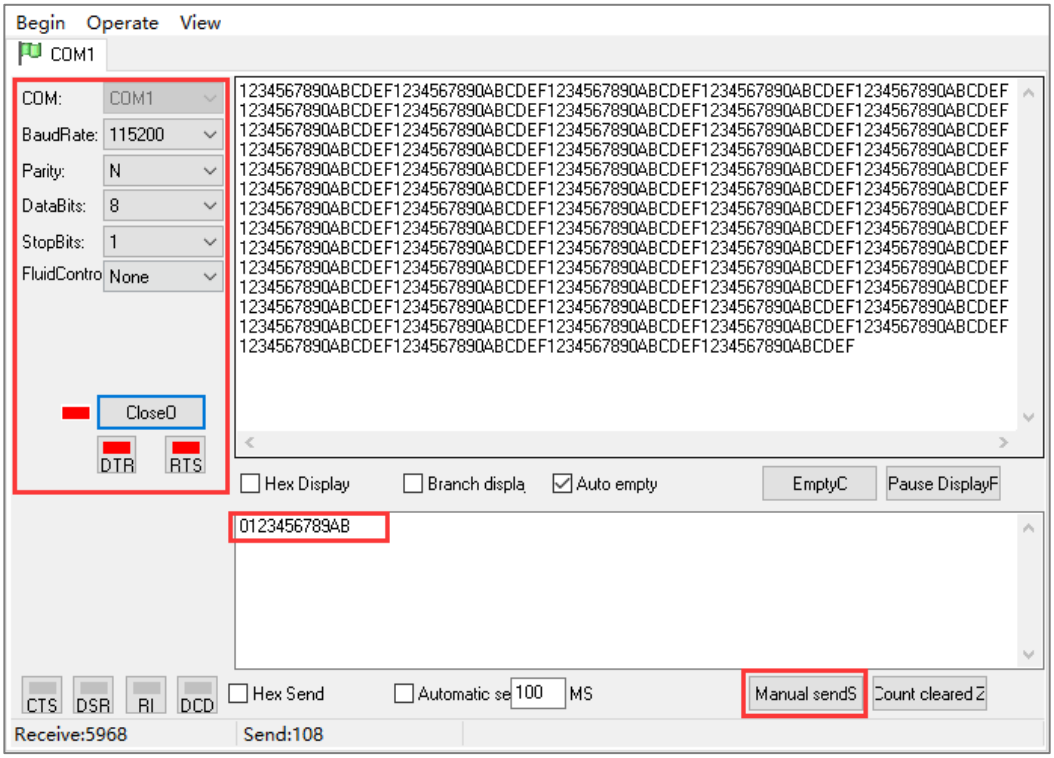


Step 5 Run "ComTest" software and "DebugTool" software to test the communication among terminal COM1, Host A (TCP Client) and Host B (TCP Client).

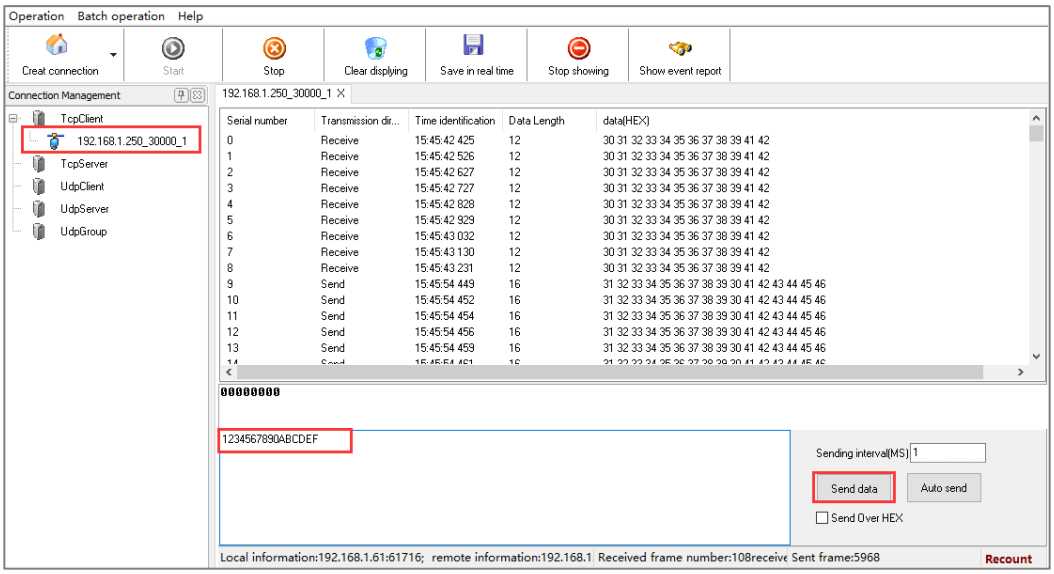
1 Install and run "ComTest" software on the host, click "Begin" in the menu bar and select "New Windows".

2 Connect the serial port "COM1" on the host, and match the serial port parameter information of "COM1" and the serial server Port1.

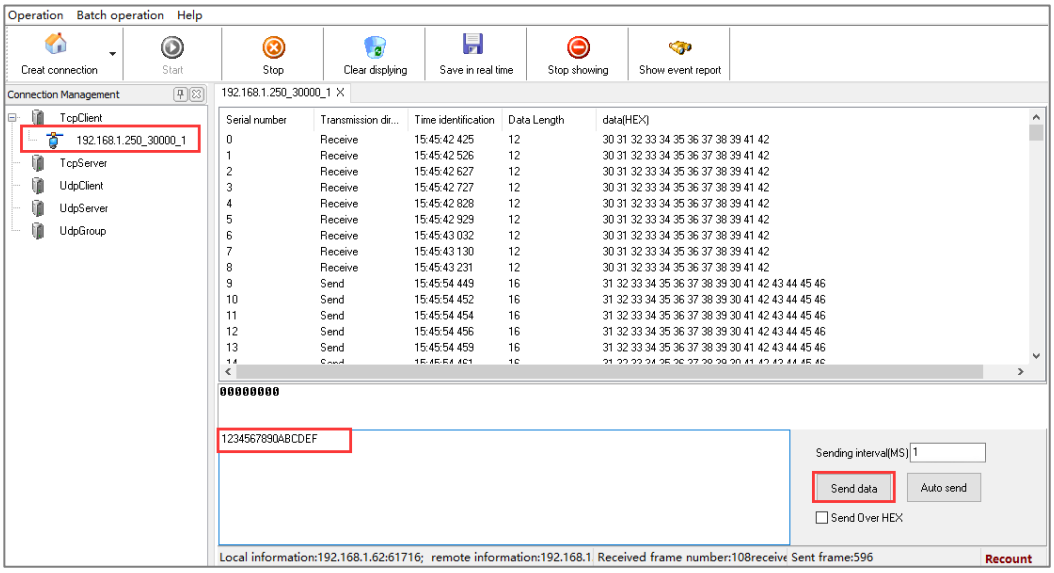
3 Turn on the serial signal of "COM1", click the "Manual send" button, and test and check the data receiving and sending status of real serial port COM1, Host A and Host B.



Host A (TCP Client):



Host B (TCP Client):



Note:

Through the test, it can be found that both Host A and Host B can receive the data sent by COM1; COM1 can receive the data sent by Host A; COM1 does not receive the data sent by Host B.

Step 6 End.