Model: **UT-6804**

(Product Name: 4-Port Serial Device Server)

Datasheet

1. Overview

a） Introduction

UT-6804 series serial communication server, also known as terminal server or serial server, is a converter between asynchronous serial port RS232/422/485 and Ethernet. It is an independent intelligent device with CPU and embedded OS and complete TCP/IP protocol stack. Complete bidirectional transparent data transmission between RS232/422/485 and Ethernet, allowing RS232/422/485 serial devices to immediately connect to the network.

Features: Support dynamic IP (DHCP) and static IP, support gateway and proxy server, and can transmit data through the Internet. Provide two-way transparent transmission of data, realize serial port to TCP/IP function, users do not need to make any modifications to the original system. Internal integration of ARP, IP, TCP, HTTP, ICMP, SOCKET, UDP, SNMP, MQTT, MODBUS and other protocols. And the device supports secondary development and provides an interface for custom protocol access. All programs, there are setup wizards, as long as you can use a computer.

UT-6804 Serial Server

UT-6804 MT Serial Server

b）Main Features

Hardware Features

☆ Provide virtual COM driver software for Windows;

☆ With serial port, it can connect various serial devices such as terminal, Modem, barcode machine, cash register, ISDN, terminal adapter, serial printer and PC, and can realize remote control function;

☆ With a Reset button, it can be reset by force when the machine crashes;

☆ With 10/100M adaptive Ethernet port;

☆ Each serial port provides 5 signals, including RXD, TXD, RTS, CTS, GND;

☆ 32-bit embedded 400MHz CPU, 128M RAM, powerful overall performance;

☆ The network port and power supply have independent indicator lights to easily indicate the working status;

☆ The device provides secondary development interface to meet user-defined protocol porting requirements.

Software features

★ Support ARP, IP, ICMP, UDP, TCP, HTTP, DHCP, SNMP, MQTT, MODBUS and other protocols.

★ Support Windows extended serial port mode

A complete set of extended serial port (com) drivers based on Windows platform, and provides a simple and easy-to-use management program under Windows platform, which can drive up to 1024 serial ports under Windows. In this mode, each serial port of the serial port server can be mapped to the local COM port of the Windows host. This means that using these serial ports is like using the local COM ports on the host computer, and it also means that all existing software or communication modules applied to the original serial port devices can be used directly without modification.

★ Terminal server parameter configuration

It can be connected to the terminal server through the web for configuration, so that you can easily apply the serial port server to your work.

★ Support software upgrade

Support software upgrades to facilitate product function expansion, performance improvement and maintenance.

★ Support status monitoring

On the device, not only indicators are provided to analyze the working status of the server, but also statistics on the input/output data of the network port and each port are provided for system administrators to analyze.

Safety features

UT-6804 series serial server adopts the following several security mechanisms to ensure that users can use this product safely enough.

☆ The server management password can be set, and only the system administrator can manage the terminal server, so as to prevent unauthorized modification of the serial server server and ensure the security of the serial server configuration;

☆ The host name to be logged in to the port can be limited, and the host user who has not been backed up by the limited port will not be able to access the server to ensure the safe access of the server;

☆ Since the serial server is connected to the network during its work, in order to ensure its security in network access;

☆ You can limit the hosts or network segments that are allowed to access the server, and unauthorized users who are not backed up in the host list and network segment list will not be able to access the server through the network;
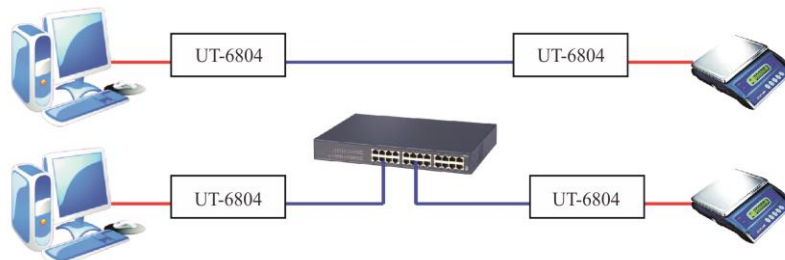
Serial port server factory IP address 192.168.1.125 Subpage code 255.255.255.0
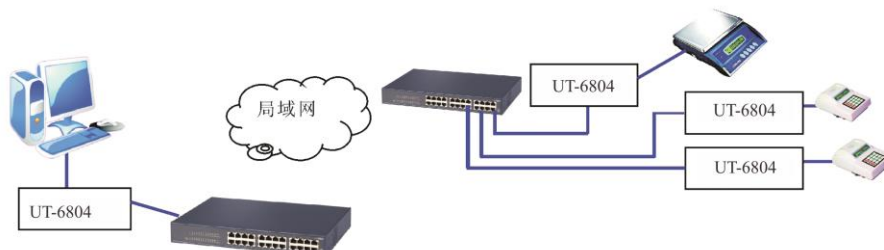
c）Product application mode
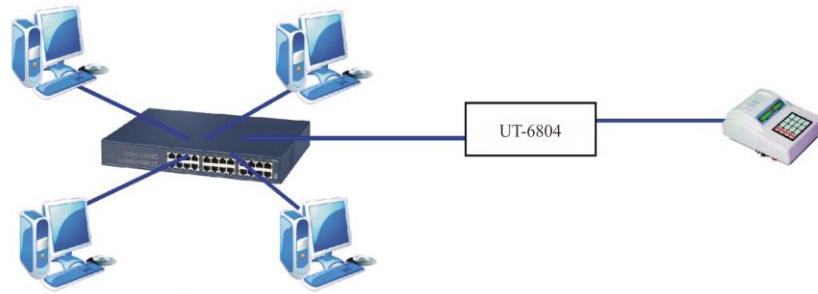
1、Virtual serial port mode

2、Point-to-point mode

3、Point-to-multipoint mode

4、Multiple host mode (up to 6 hosts)

2.Installation Instructions

a）Software installation instructions

1. IP address search and change software

For details, see the attachment
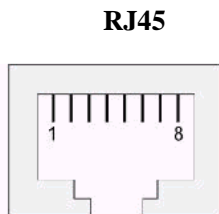
2. Virtual serial software

For details, see the attachment

b）LED indicator instructions

Model \ Rank	PWR（Red）	RUN（Green）	Tx（Green）	Rx（Green）	LAN（Green、Yellow）
UT-6804 series	√	√	×	×	√

c）Serial port pin definition instructions

1、UT-6804 serial port pin definition:

RJ45

RJ45	RS-232	RS-485 HALF	RS-485 FULL	RS-422
1	TxD	DATA+	TxD+	TxD+
2	RxD	DATA-	TxD-	TxD-
3	RTS		RxD+	RxD+
4	CTS		RxD-	RxD-
5				
6	GND	GND	GND	GND
7				
8				

2、UT-680MT serial port pin definition：
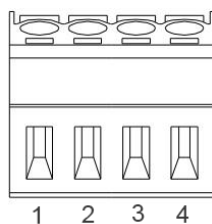
3.81 terminal	RS-485	RS-422	Instruction
1	T/R+	TX+	Send/Receive+
2	T/R-	TX-	Send/Receive-
3		RX+	Send+
4		RX-	Send-

3、UT-6804 Serial server RJ45 network port pin definition：

UTEK TECHNOLOGY

RJ45
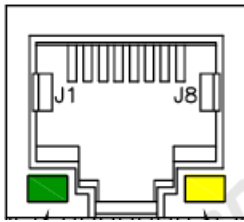
5	EIA/TIA 568B	Denifition	Introduction	EIA/TIA 568B
1	Orange-white	TX+	TX+	TX+
2	Orange	TX-	TX-	TX-
3	Green-white	RX+	RX+	RX+
4	Blue	Data+	Data+	Data+
5	Blue-white	Data-	Data-	Data-
6	Green	RX-	RX-	RX-
7	Grown-white	Data+	Data+	Data+
8	Grown	Data-	Data-	Data-

3. Technical Parameters

a）Technical Parameters

Model		UT-6804
Serial port number		4
CPU		32bit 400MHZ
RAM		128M
Serial port	Raud rate	300-921600bps
	Check Digit	Nove、Odd、Even
	Data bits	5、6、7、8
	Stop bits	1、2
	Flow control	RTS/CTS、XON/XOFF
	Serial port form	RJ45
	Serial port protection	±4KV ESD protection
	Signal	RS232：RxD/TxD/GND/RTS/CTS、RS422：TXD+/RXD+/TXD-/RXD-/GND、RS485：Data+/Data-
Network port	Rate	10/100M adaptive
	Network port form	RJ45
	Network port protection	Built-in 1.5KV Electromagnetic Isolation
Software	Protocol	ARP、IP、ICMP、UDP、TCP、HTTP、DHCP、SNMP
	Virtual COM	Windows
Environment	Operating temperature	-40℃~85℃
	Operating humidity	5%~95%
	Storage temperature	-40℃~85℃
	storage humidity	5%~95%
Power		DC12~48V、350mA@12Vmax
sppearance	Material	Metal housing
	Scale	

b）Product configuration table (subject to a set of equipment)

Accessories / Model	Serial server host	Power adapter	Software	Manual & Warranty	RJ45 to DB9 male cable
UT-6804 series	1	1 个 DC12V/1A	1	1	1

4. WEB operation instructions for UT-6804 serial serial server

System content

Content	Function
Home	Set device-related information
System settings	Set device network configuration, user management, SNMP settings, mqtt settings
Serial port settings	Set serial port parameters
Operating mode	Set the working mode of the device
Status query	Query various configurations and statuses of devices
Device management	Manage device operations

a）System catalog

System catalog---system home page (display serial server information)

device ID	Serial server number
device name	Serial server name
enterprise name	User enterprise name
Maintenance personnel, contact information	Fill in the name and contact information of the equipment maintenance personnel to facilitate the internal management of the user company
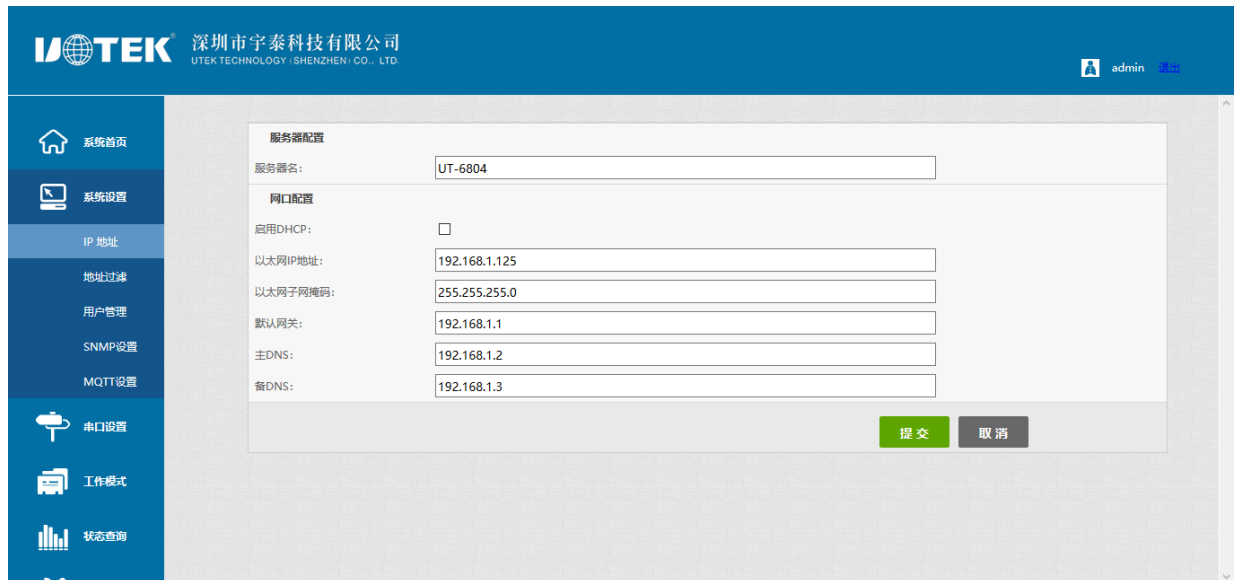
b）System Settings

1. System settings---IP address settings (set serial port service networking IP parameters)
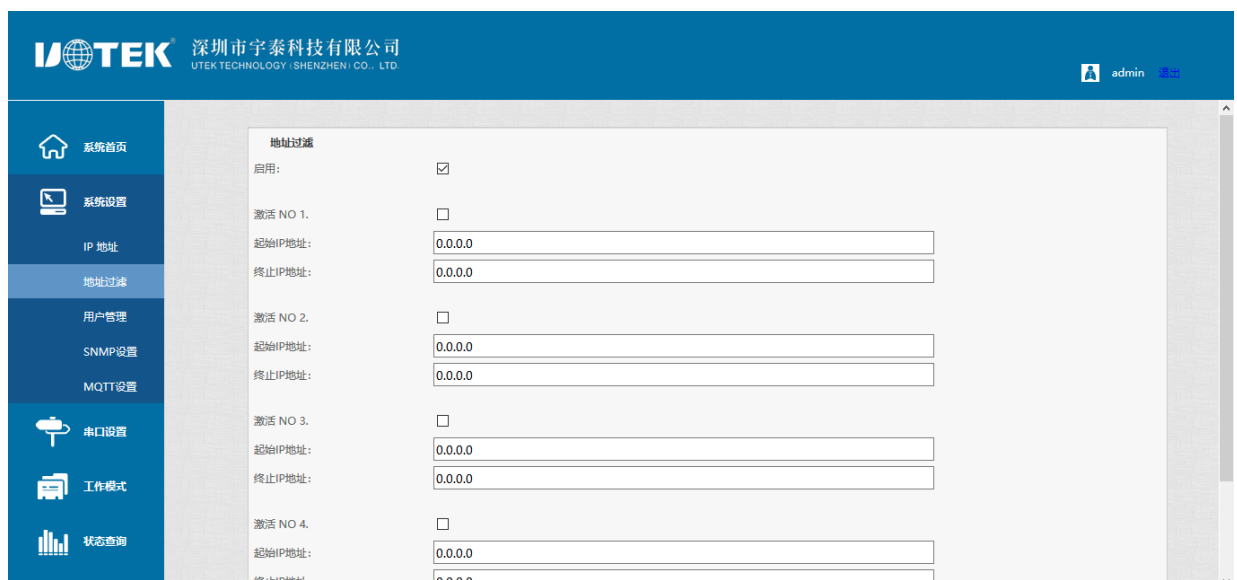
server name	Set serial server name
DHCP enabled	If checked, the serial server automatically obtains the IP address
Ethernet IP address	Set the Ethernet IP address of the serial server

Ethernet Subnet Mask	Set the Ethernet subnet mask of the serial server
Default Gateway	Set the default gateway of the serial server
main DNS	Set Primary DNS
Backup DNS	Set up alternate DNS
submit and cancel	Submit (After setting the above options, you must submit to complete the setting, and the new IP address will take effect immediately after submitting, you can use the newly set IP address to access the device), Cancel (do not modify)

2. System settings---Address filtering (set serial port service to filter network addresses)

Enable address filtering	Only after this item is checked can the address filtering function be enabled, and a total of 4 groups of Ethernet IP network segments can be filtered.
Activate NO.x	If this option is checked, the current group IP network segment can be filtered.
starting IP address	Set the starting IP address of the filter segment
Terminate IP address	Set the terminating IP address of the filter segment
submit, cancel	Submit (after setting the above options, you must submit to complete the setting), cancel (do not modify)

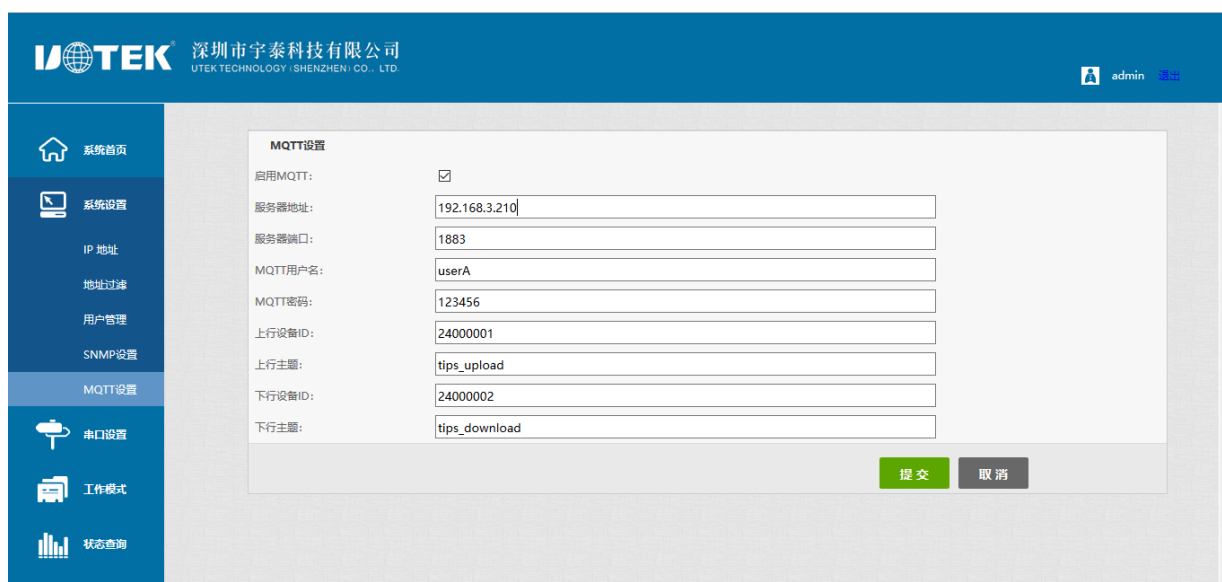3. System Settings---User Management (set the user management account information of the serial port service)
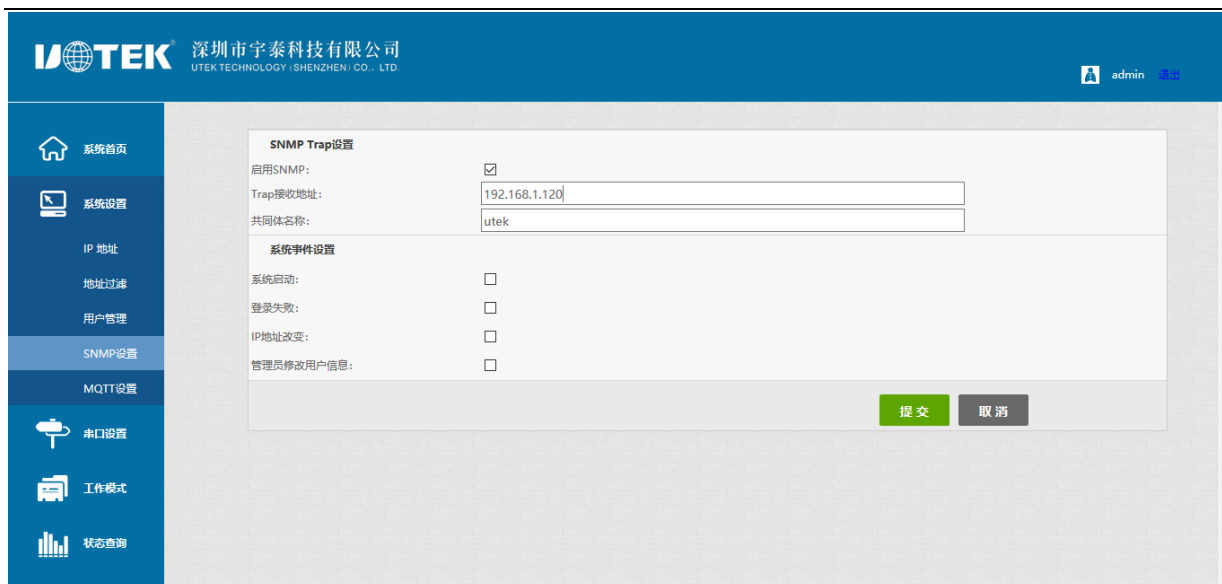
Modify	Modify the current user password
Delete	Delete current user information

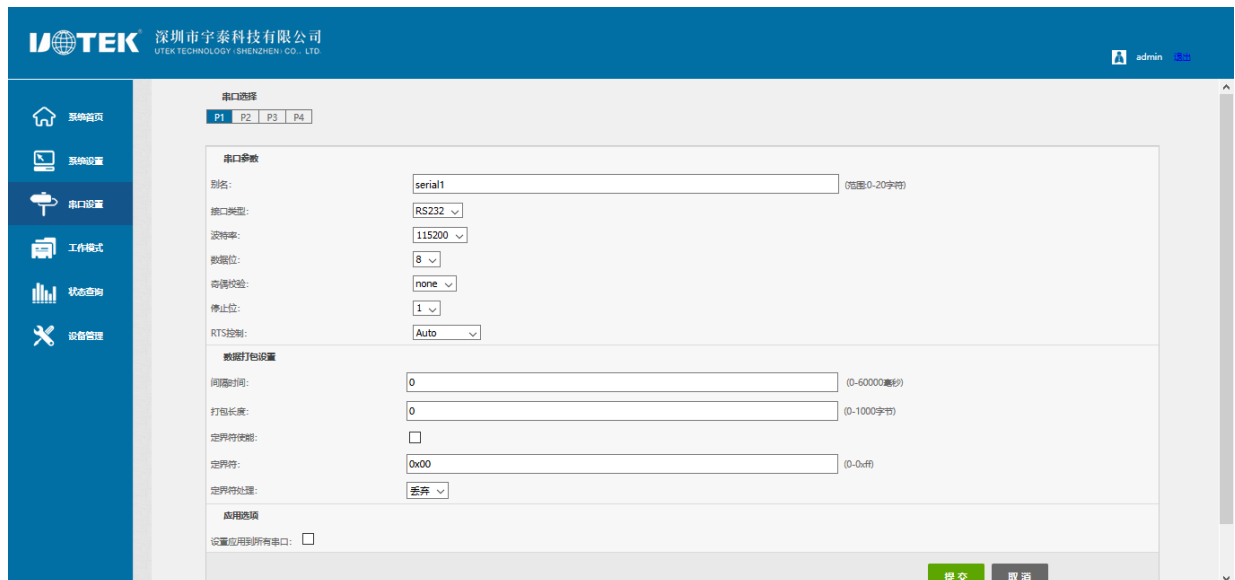| Add user	Add new user account name
user name	Set the new username added
password, confirm password	Set the password for the new user added
Permission	Select the newly added user authority. Users is the user authority account. By default, only one administrator user is allowed on a device.
submit, cancel	Submit (after setting the above options, you must submit to complete the setting), cancel (do not modify)
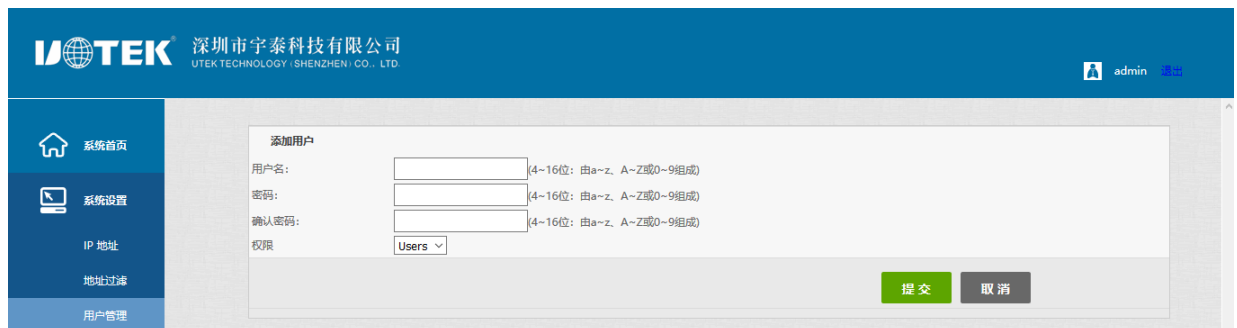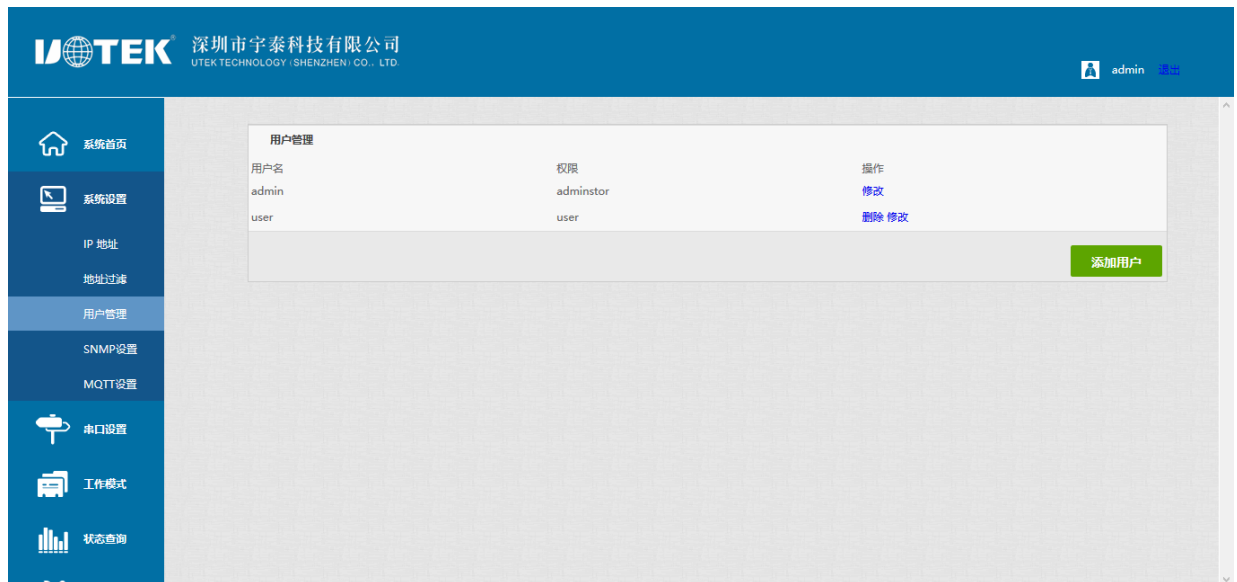
4. System Settings---SNMP Settings (Set the SNMP Trap parameters and options of the serial port service)

Enable SNMP	Check to enable Simple Network Management Protocol
Trap receiving address	Set Trap server address
Community	Set the community name of the network management protocol
system startup	Check to enable sending system startup time signal
Login failed	Check to enable sending login failure event signal
IP address change	Check to enable sending IP address change event signal
Administrator change password	Check to enable sending the administrator password change event signal
submit, cancel	Submit (after setting the above options, you must submit to complete the setting), cancel (do not modify)

5. System settings---MQTT settings (set the MQTT parameters and options of the serial server)

Enable MQTT	Check to enable MQTT, and the device will create an MQTT client task
server address	Set MQTT server address
server port	Set the MQTT server port number
MQTT username	Set the username information for MQTT login
MQTT password	Set the user password information for MQTT login
Upstream device ID	Set the client ID for publishing the topic
Upstream theme	Set Post Topic
Downstream Device ID	Sets the client ID that subscribes to the topic
Downside theme	Set up subscription topics
submit, cancel	Submit (after setting the above options, you must submit to complete the setting), cancel (do not modify)

c）**Serial port settings**

Serial port settings (serial port communication settings)

Alias	Set serial server serial port alias
Interface	Interface type (including RS232/485/422)

Baud rate	Serial port baud rate (the value should be consistent with the baud rate of the device connected to the serial port)
Data bit	Data bits (the default is 8, which should be consistent with the device connected to the serial port)
Parity	Parity digit (including None, Even, Odd, the default is None, which should be consistent with the device connected to the serial port)
Stop bit	Stop bit (the default is 8, which should be consistent with the device connected to the serial port)
RTS control	Optional Auto, XON/XOFF, CTS/RTS three modes
Intervals	Data Packing Interval
Packing length	The length of the data pack
Delimiter enable	Tick Enable Delimiter
Delimiter	Set the encoding of the delimiter of the transmitted data (0-0xff)
Delimiter handling	Choose to keep or discard
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameter settings comply with the rules, save it to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

d）Working mode (server working mode)

1、TCP Server Mode (TCP server mode)

Operating mode	Work Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
listening port	Set the command port of the serial port (range 0-65534)
Maximum number of connections	Number of hosts connected to the device (up to eight)
TCP keep alive time	Set the keep-alive time of the TCP connection
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check this item)

2、TCP Client Model (TCP client mode)

Operating mode	Work Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
TCP keep alive time	Set the keep-alive time of the TCP connection
Target IP address	Set the IP address of the connected target host
Target port	Set the destination port for the connection
Local port	Set the local port number of the serial port service
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

3、UDP Client Model (UDP client mode)

Operating mode	Work Mode Options
Command protocol	No other compatible agreement

compatible	
Data protocol conversion	Currently only supports transparent transmission
TCP keep alive time	Set the keep-alive time of the TCP connection
Target IP address	Set the IP address of the connected target host
Target port	Set the destination port for the connection
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

4、Remote Pair Master Mode

In this mode, the device creates a TCP client service, and only supports connecting to a TCP server service for communication

Operating mode	Work Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
TCP keep alive time	Set the keep-alive time of the TCP connection
Target IP address	Set the IP address of the connected target host
Target port	Set the destination port for the connection
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

5、Remote Pair Slave Mode

In this mode, the device creates a TCP server service, and only supports one TCP client service for connection and communication.

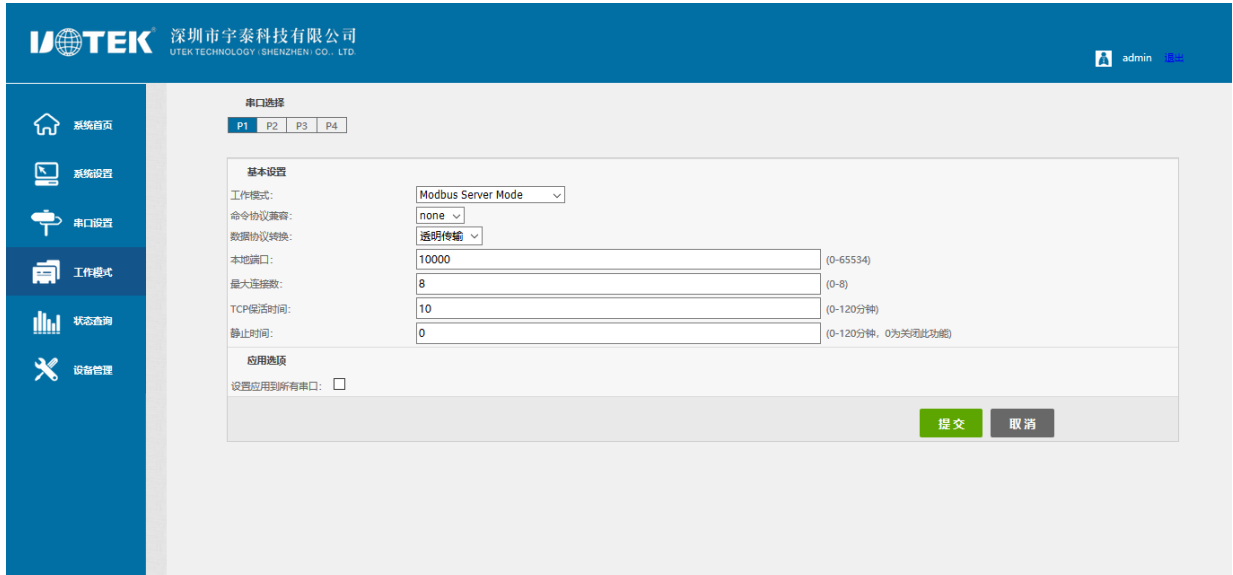| Operating mode	Work Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
TCP keep alive time	Set the keep-alive time of the TCP connection
Local port	Set the port number for the device to create a TCP server
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)
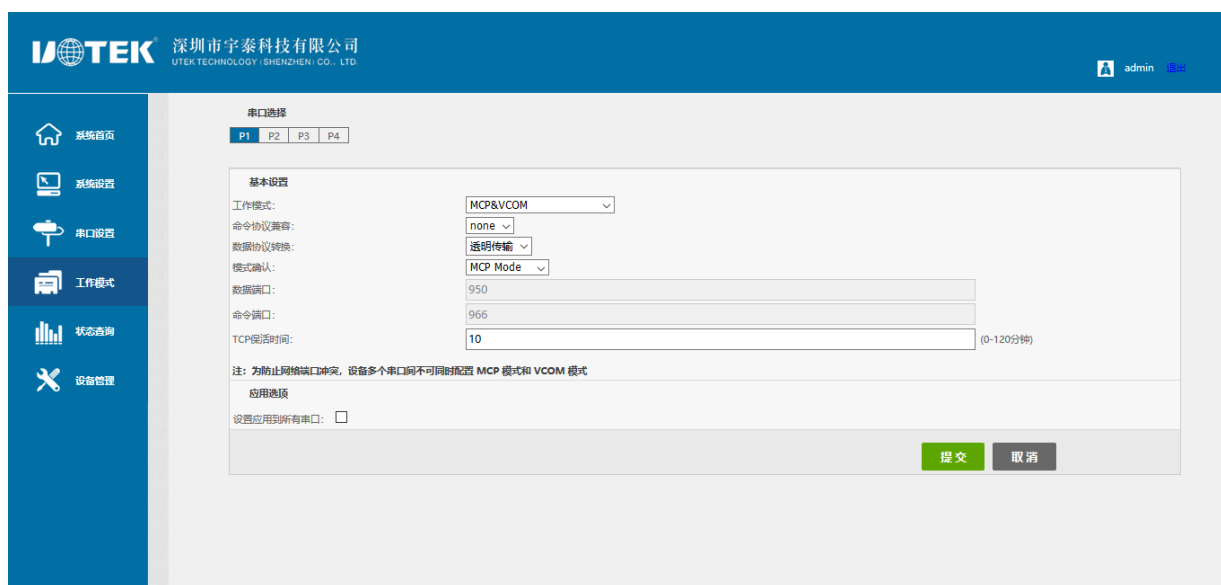
6、MCP&VCOM Mode (TCP/IP virtual serial port mode)

The TCP/IP virtual serial port mode works in the Windows system environment. The port on the serial port server is mapped to the virtual COM port of the local host through the driver program, so that the upper-end software originally based

on the COM port operation does not need to be modified, as if it is applicable to the local real COM port. The driver can support up to COM1024, which makes the monitoring of serial devices more flexible and convenient, and multiple connection resources can also be used for connection backup.

Operating mode	Work Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
TCP keep alive time	Set the keep-alive time of the TCP connection
Mode confirmation	Since the MCP and VCOM modes correspond to different virtual serial port software, it is necessary to confirm one of them when selecting this mode.
Data port	This is the port corresponding to the virtual serial port software driver for data communication (not configurable)
Command port	This is the port corresponding to the virtual serial port software driver to monitor the connection status (not configurable)
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

7、Modbus Server Mode

In this mode, the device creates a TCP server mode, the data protocol is the standard Modbus-RTU frame format for communication, the Ethernet network is used as the Modbus master station, and the serial port is used as the Modbus slave station.

Operating mode	Work Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
TCP keep alive time	Set the keep-alive time of the TCP connection
Local port	Set the local port number when creating a TCP server service
Maximum number of connections	Set the maximum number of connections

Static time	Set the static time, when there is no data communication within the set time, the server will actively disconnect the client
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

8、Modbus Clinet Mode

In this mode, the device creates a TCP client mode, the data protocol is the standard Modbus-RTU frame format for communication, the Ethernet network is used as the Modbus slave station, and the serial port is used as the Modbus master station.

Operating mode	Working Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
TCP keep alive time	Set the keep-alive time of the TCP connection
Target IP address	Set server IP address
Target port	Set the server port number
Local port	Set the port number bound when the device creates a client locally
Reset	Cancel the configuration information of the current line to re-enter
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

9、MQTT Mode

Operating mode	Working Mode Options
Command protocol compatible	No other compatible agreement
Data protocol conversion	Currently only supports transparent transmission
MQTT enable	Set the current serial port to work with MQTT service enabled
Submit, cancel	Submit (after setting the above options, you need to click "Submit" to check whether the parameters are compliant and save the page, if the parameters comply with the rules, set them to the device), cancel (no modification)
Apply to all serial ports	Apply to all serial ports (If the settings of each serial port are the same, you can check the sub-item)

e）**Status query**

Serial communication parameters	View serial port interface type, baud rate, data bits, stop bits, parity, flow control related parameters, click "refresh" to update to the latest status

Network connection status	Check the network connection status of the serial port, click "Refresh" to update to the latest status
Serial communication status	Check the communication status of the serial port, click "Refresh" to update to the latest status

Serial communication parameters

network connection status

Serial communication status

f）Device management

Firmware upgrade	Select the local new version software package, click Start to upload file information to upgrade the device
Restore Factory	Click "Restore Factory Settings", the serial port server will restore to the factory default settings
Port restart	Check the port that needs to be restarted, and restart the port after submitting
System restart	Click "Restart" to restart the serial server.

Firmware Upgrade

Restore

Factory
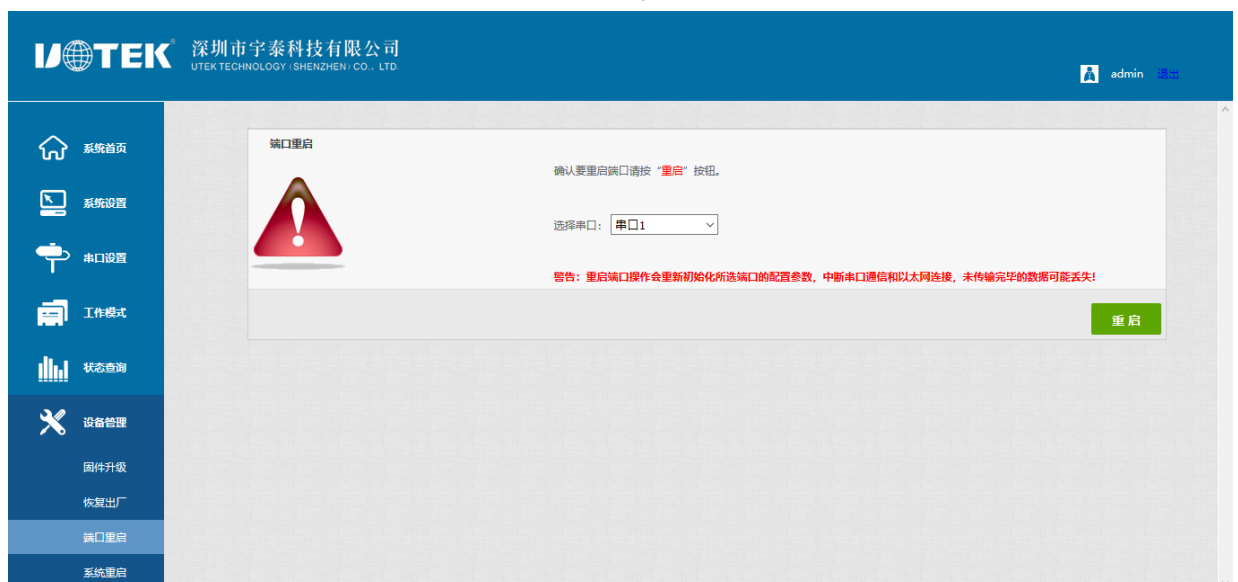
Port restart

System restart

Five: UT-6804 Series Serial Server Troubleshooting Instructions

a) Running serial_ethernet_connector_CH.exe cannot find the IP address of the serial port server

1. First check whether the physical connection is normal or not, whether the network cable (distinguish between crossover cable and direct connection cable) and power supply are connected, observe the power indicator light, LAN light, ACT (when connected to a 10M network, this light is off, and only when it is 100M Bright)

2. The host network card is or is available, and can communicate with other local hosts.

3. Close all tools and software that can block broadcast packets (do not open the firewall that comes with the system)

4. When entering the configuration through the browser and setting the IP, it is suddenly disconnected abnormally, such as: power failure, and then the device cannot be searched. Enter the configuration through the console port to reset the IP.

b) Can't open serial port

1. Make sure the network is working normally and can ping the server

2. Check whether the virtual serial port has been established successfully

3. Check the working status to see if the port is occupied

4. Delete the corresponding COM port remapping in the registry

c) Can't send and receive data

1. Make sure the serial port can be opened normally

2. Observe whether the IP and port number under [connected to 0 from 1] under [Serial port to Ethernet tool] prompts "connected", if there is no increase, check the connection between the serial port and the upper network

3. Observe whether the values of "sent" and "received" under [connected to 0 from 1] under [Serial port to Ethernet tool] have increased. If there is no increase, check the connection between the serial port and the upper network. Increment, "received" does not increase Test detection connection between serial ports

d) Forget the password you set before

1. By pressing and holding the "reset" button for 5 seconds and then releasing it, the device enters the factory reset mode. When the RUN light returns to the 1s interval and flashes slowly, the device resets to the factory settings. At this time, the factory default account password admin: admin can be used to log in to the system , the factory IP address is static: 192.168.1.125.

e) Sending and receiving data is garbled

1. Check whether the wiring is correct. Our 485 equipment should pay attention to the problem of parallel wiring.

2. Check whether the line distance exceeds the standard distance and the quality of the line (it can also be extended by extending the line transceiver or optical isolation)

3. Check whether the set serial port parameters (baud rate, data bit, stop bit, parity bit, etc.) match the bottom device

4. Separate from the customer's upper-end software, use the network or serial port debugging assistant to receive normal data. If normal data can be received, the problem may be related to the packaging mechanism. waiting time.

f) Can't be connected as a TCP server

1. Confirm that there is no other PC connected to the corresponding port of the serial communication server: enter [Statistics] of the serial communication server to view [Active TCP Information]

2. Whether [Authentication] in [Detailed Parameters] is [none]

If none of the above methods can solve your problem, please contact the manufacturer

5: Accessories

a）Remote devices Management

1. Equipment query

The serial port of the device works in MCP&VCOM->VCOM Mode and connect the device, start the attached software "VCOM" (as shown in Figure 1), select remote devices Management->Add Device, and pop up the search interface for

searching all UT-6804 series IPs in the network; As shown in Figure 2, select the "Search" button to search for all UT-6804 series IP addresses and basic information on the network, as shown in Figure 3; then select "cancel" in Figure 3 to get the device information list in Figure 4 , click OK to display the search device information on the VCOM interface, as shown in Figure 5, the device has been added;
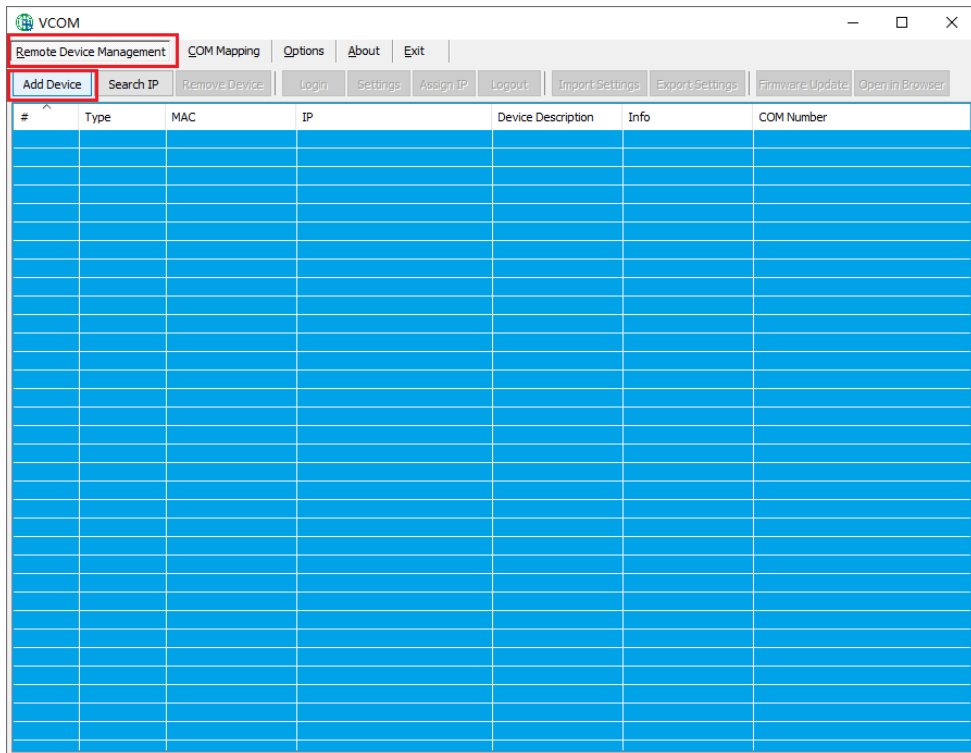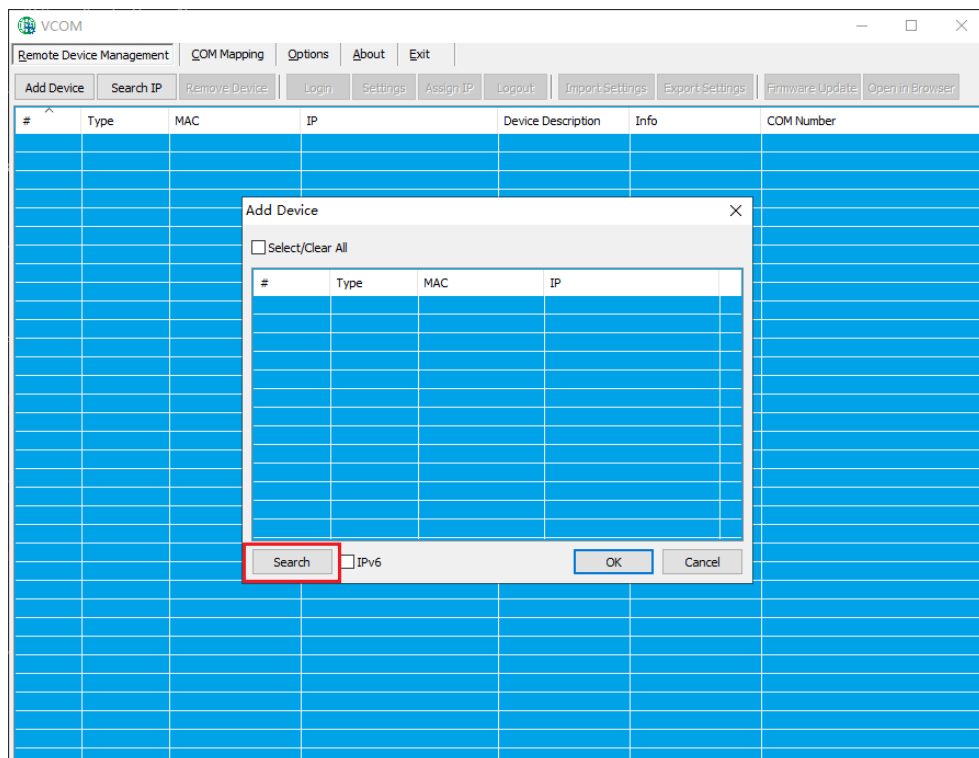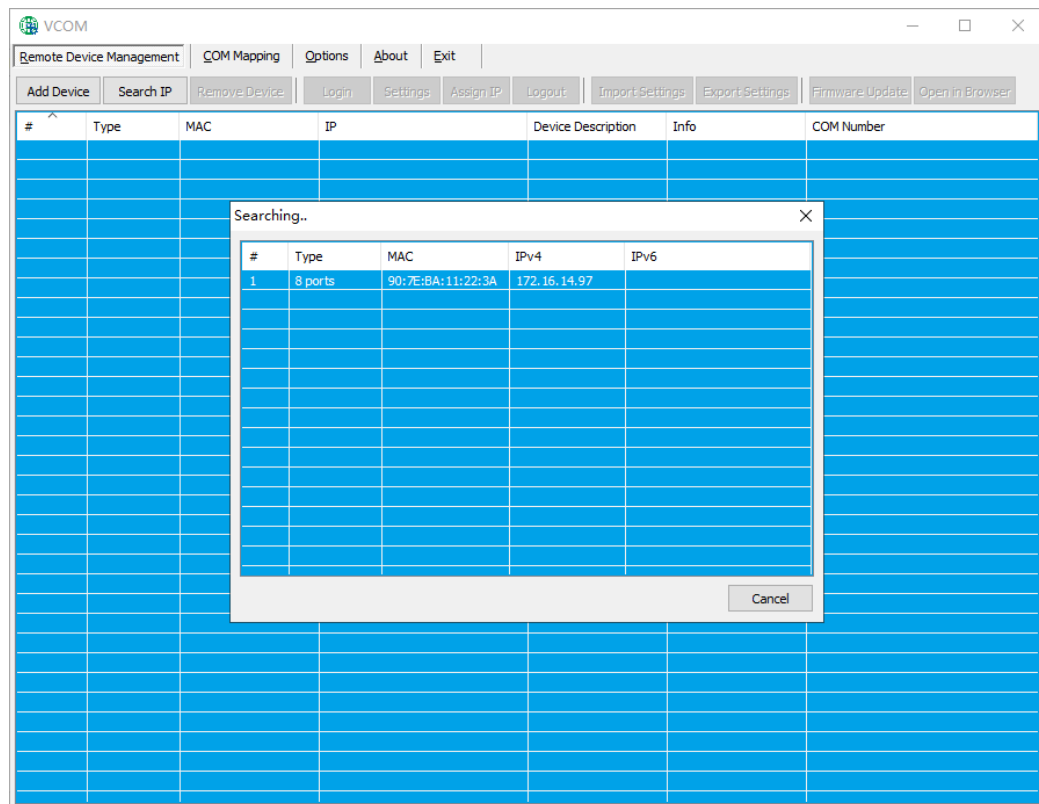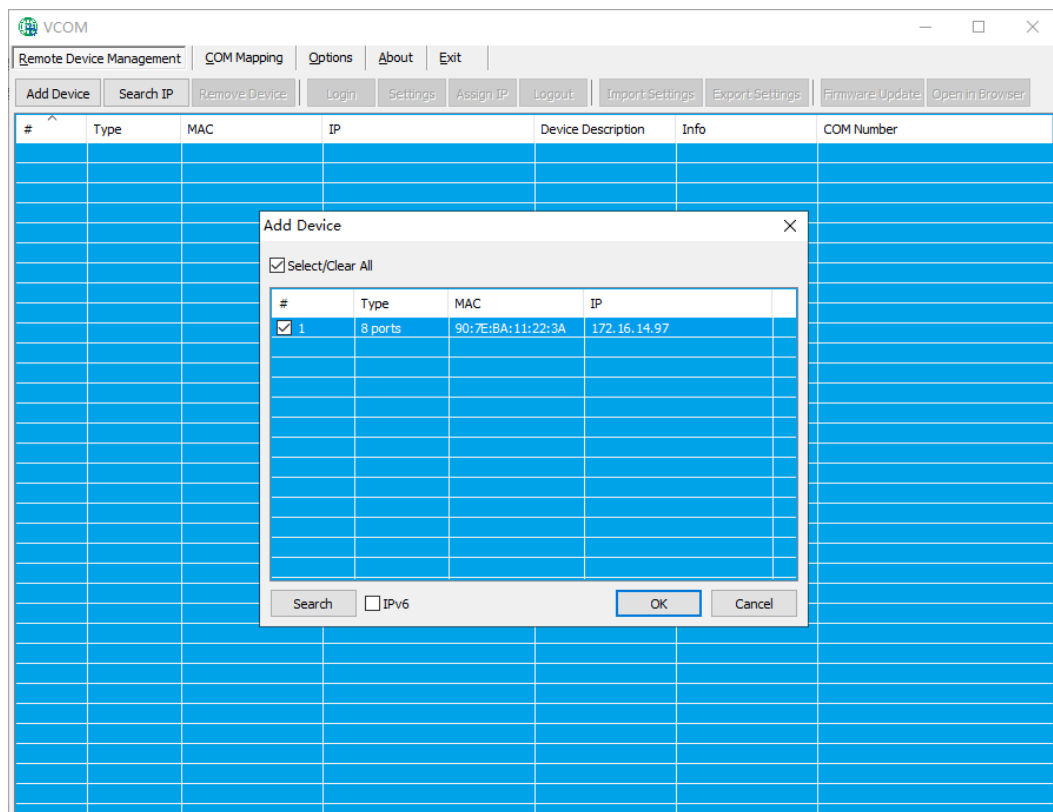

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

2. Jump to the web page to log in

In the software "VCOM", first select the added device, and then select the remote devices Management interface, click "Open in Browser" to enter the web page login interface through the IE browser.

b） COM Mapping

1) Create a virtual serial port

1. In the software "VCOM", select COM Mapping—Add COM, and the "Add Device" window will pop up, as shown in the figure below, and then click OK.
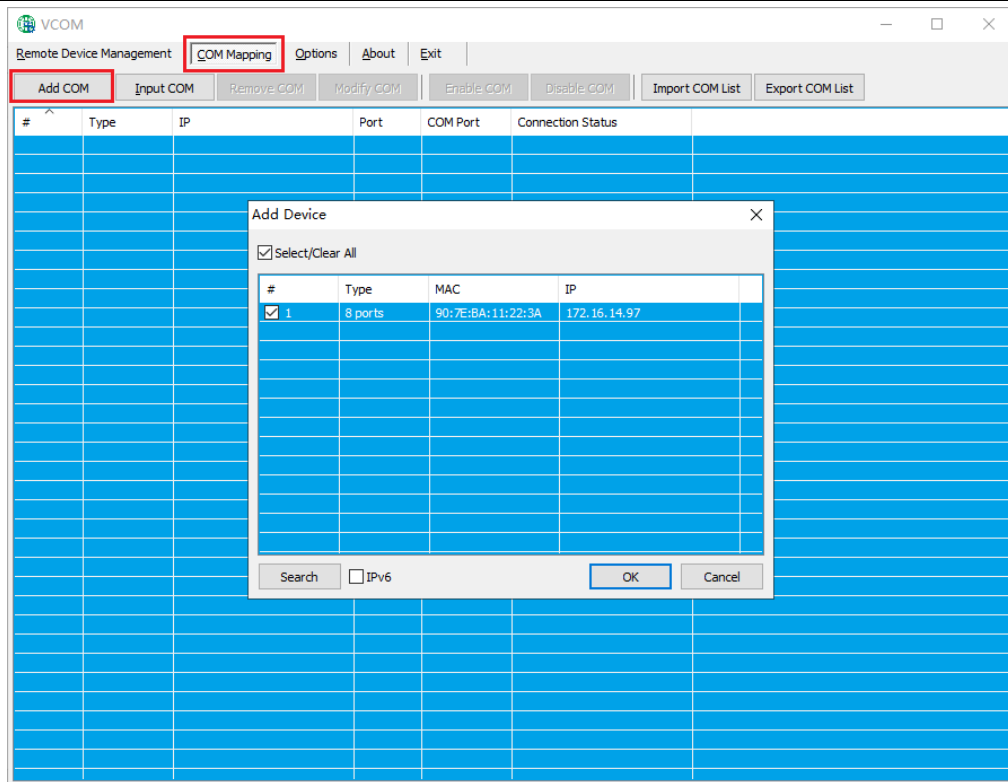
2. After that, the following interface will pop up, that is, the corresponding virtual serial port has been created.
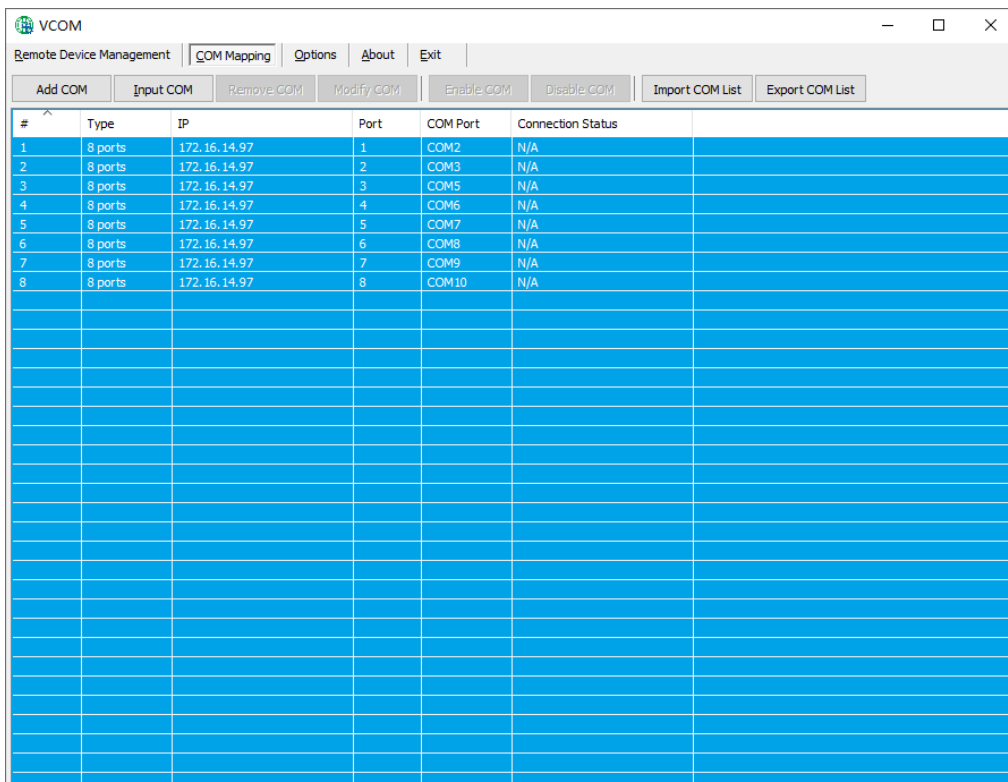
1） **Delete the virtual serial port**

In the software "VCOM", first select the virtual serial port to be deleted, and then select the COM Mapping interface, click "Remove COM" to delete the virtual serial port, as shown in the figure below
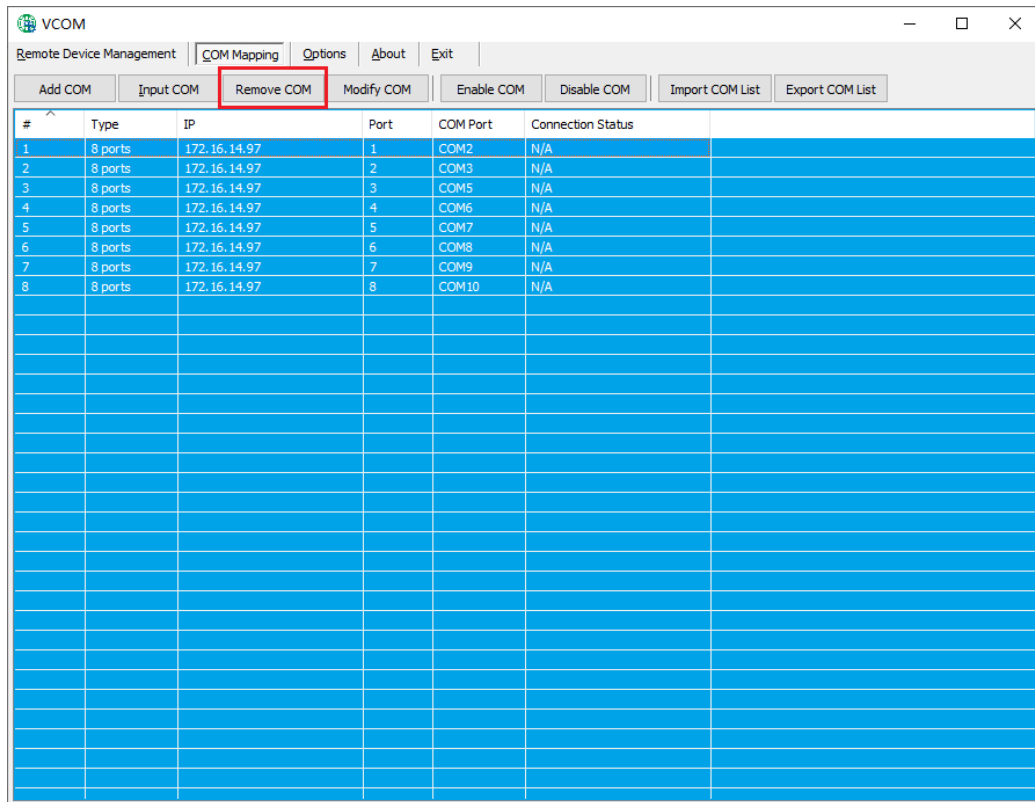
2） Modify the virtual serial port

In the software "VCOM", first select the virtual serial port to be deleted, then select the COM Mapping interface, click "Modify COM" to pop up the interface as shown in Figure 1, and then select "COM6" to modify the corresponding "COM6" of Port4 to " COM11", as shown in Figure 2:
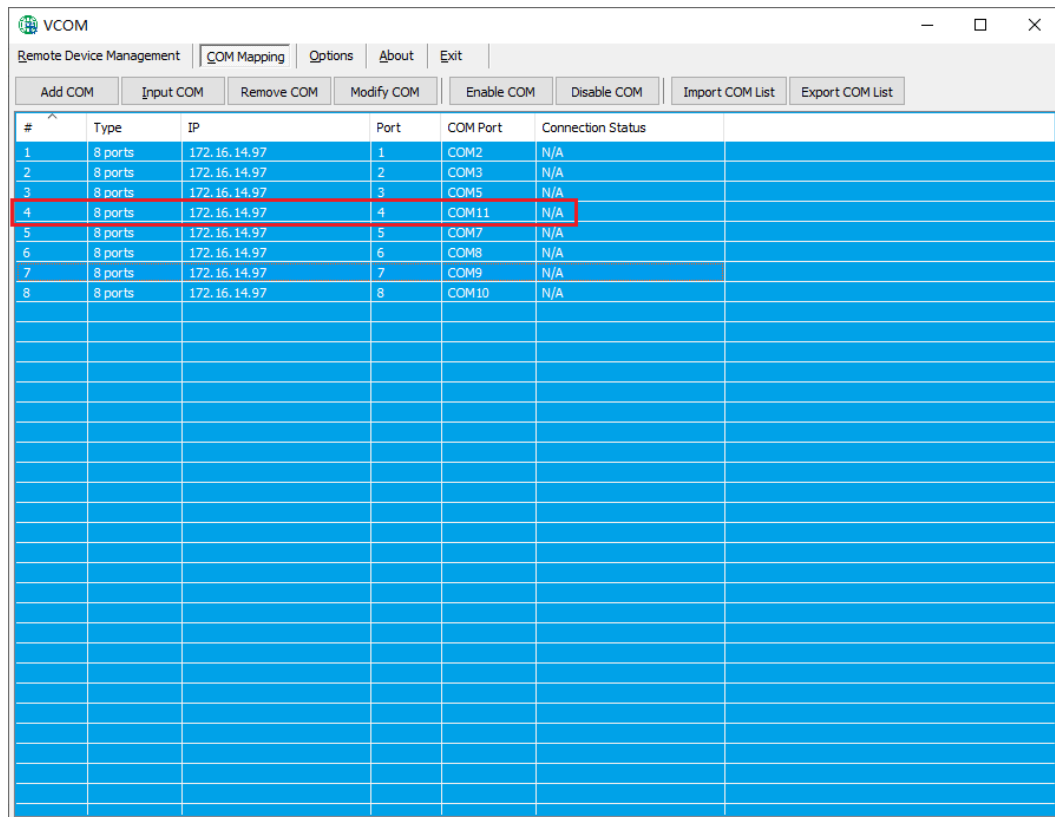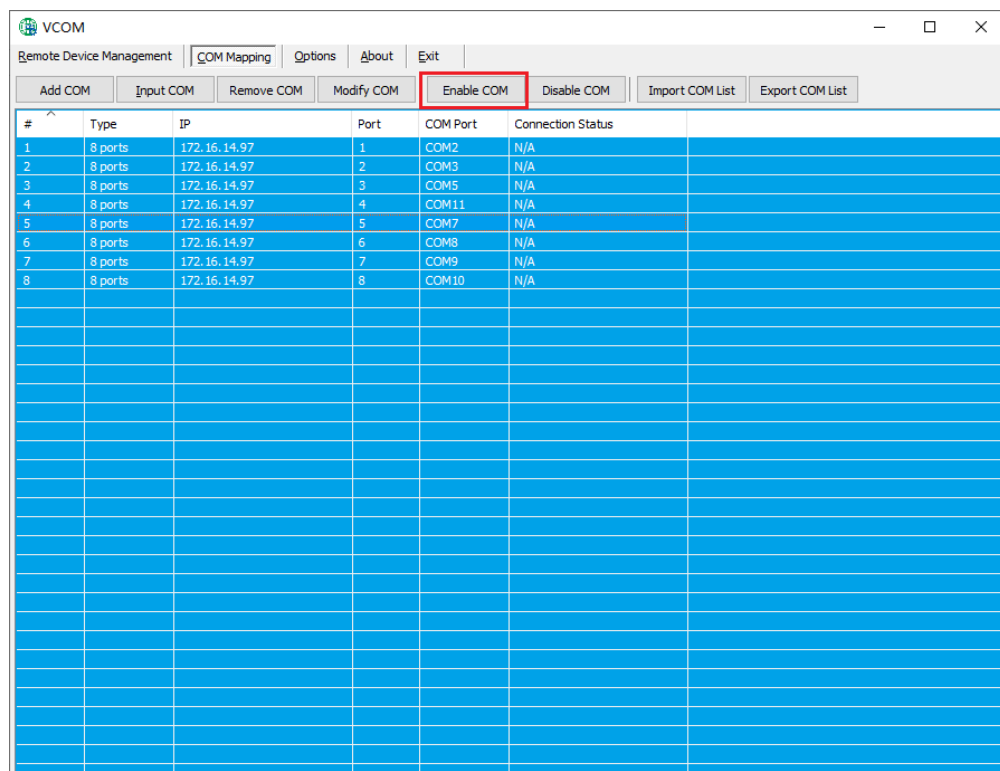
Figure 1

Figure 2

3） **Enable virtual serial port**

In the software "VCOM", first select the virtual serial port that needs to be disabled, and then select the COM Mapping interface, click "Enable COM" to enable the corresponding virtual serial port, as shown in the figure below

4） **Disable the virtual serial port**

In the software "VCOM", first select the virtual serial port that needs to be disabled, and then select the COM Mapping interface, click "Disable COM" to disable the corresponding virtual serial port, as shown in the figure below
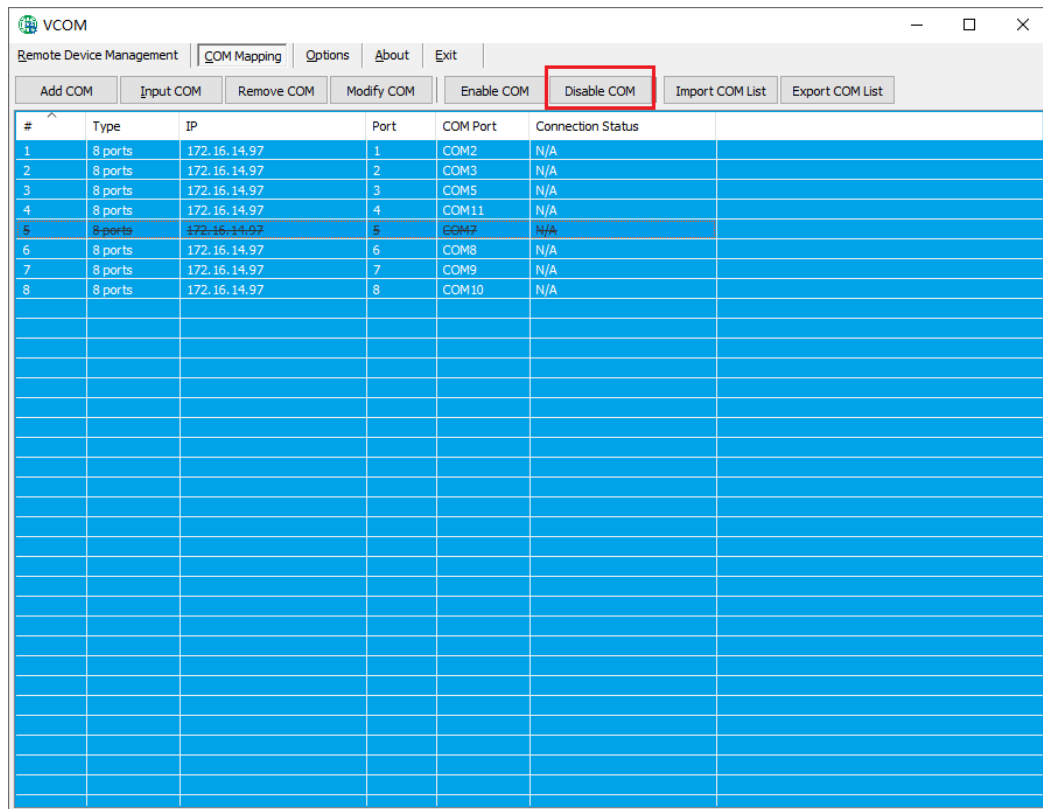
5） **Import virtual serial port list**

In the software "VCOM", select the COM Mapping interface, click "Import COM List" to pop up the interface as shown in Figure 1 below, click "Browse", select the saved virtual serial port configuration information as shown in Figure 2, and click "OK" It can be imported successfully, as shown in Figure 3.
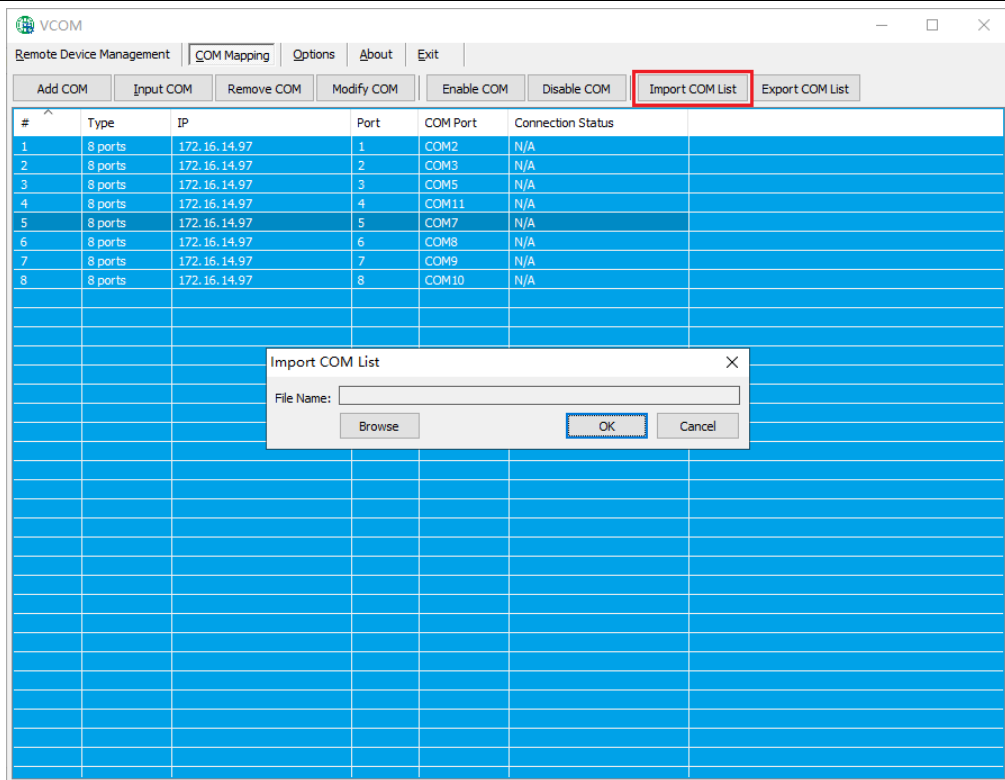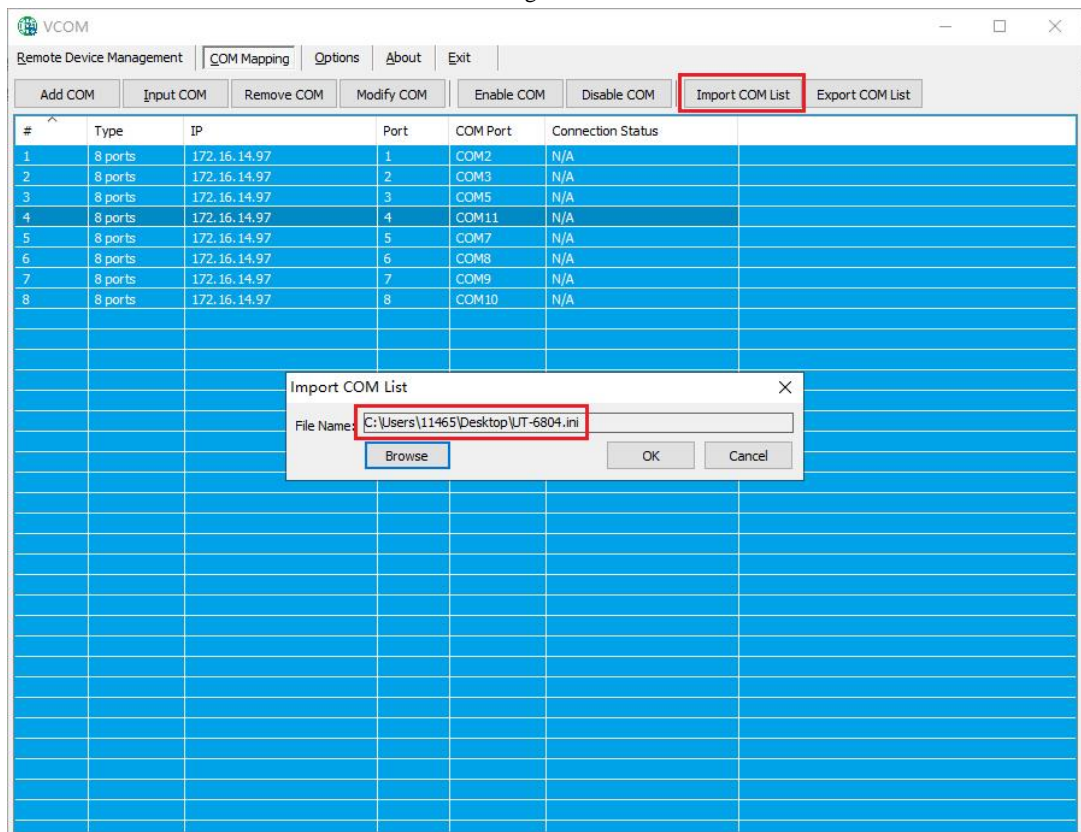
Figure 1

Figure 2

6） **Export virtual serial port list**

In the software "VCOM", select the COM Mapping interface, click "Export COM List" to pop up the interface as shown in Figure 1 below, click "Browse", select the path of the virtual serial port configuration information to be saved, and click "OK" to export Success is shown in Figure 2
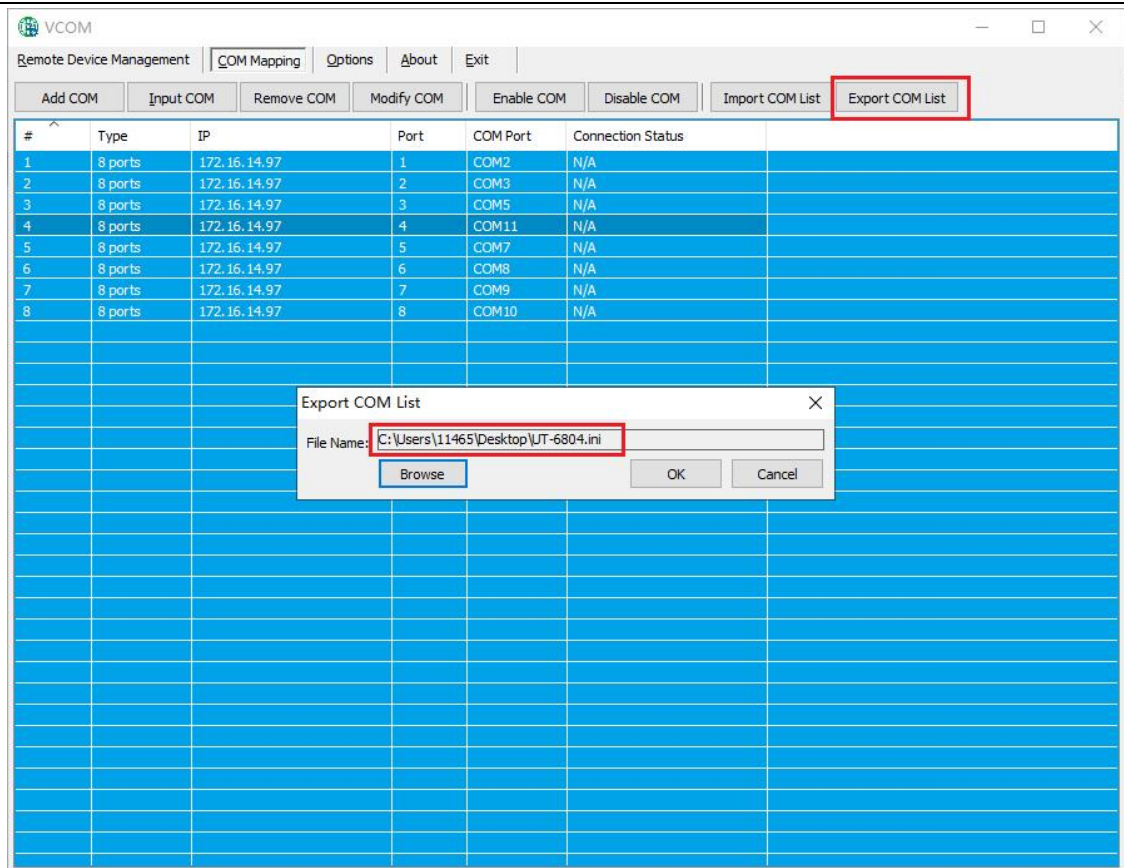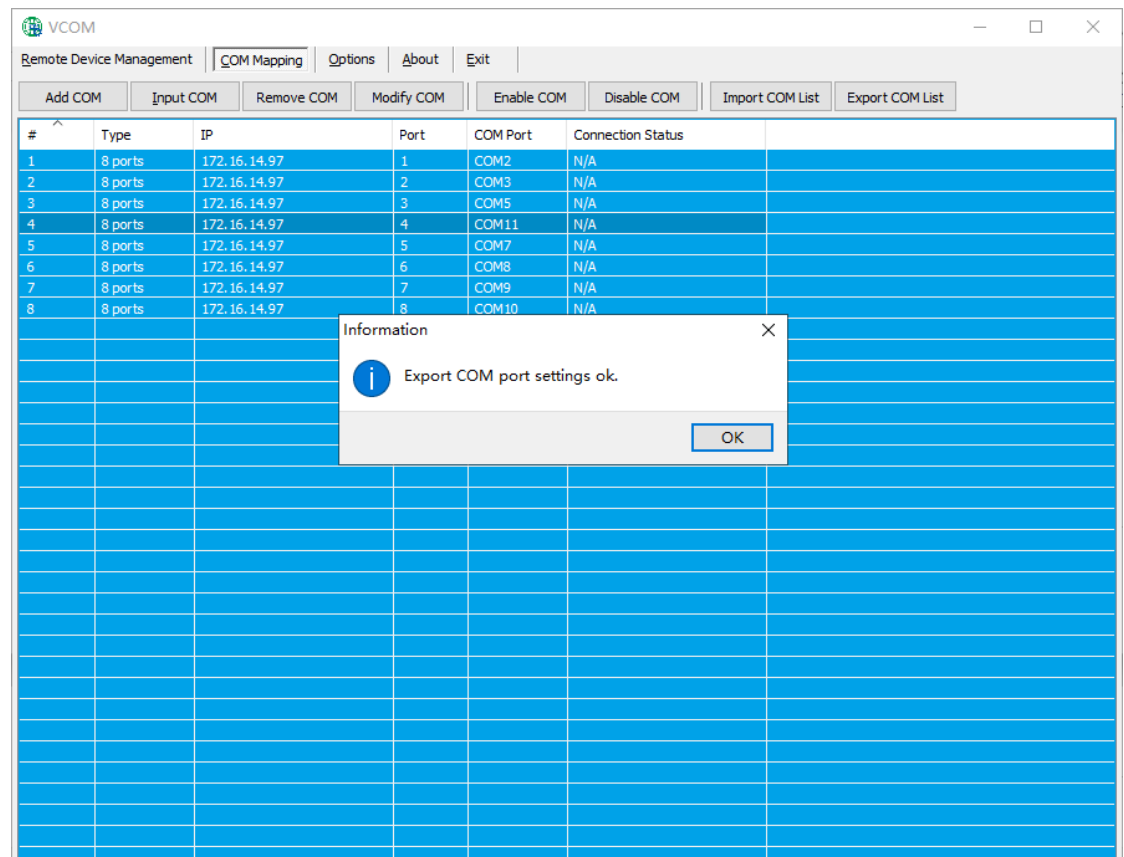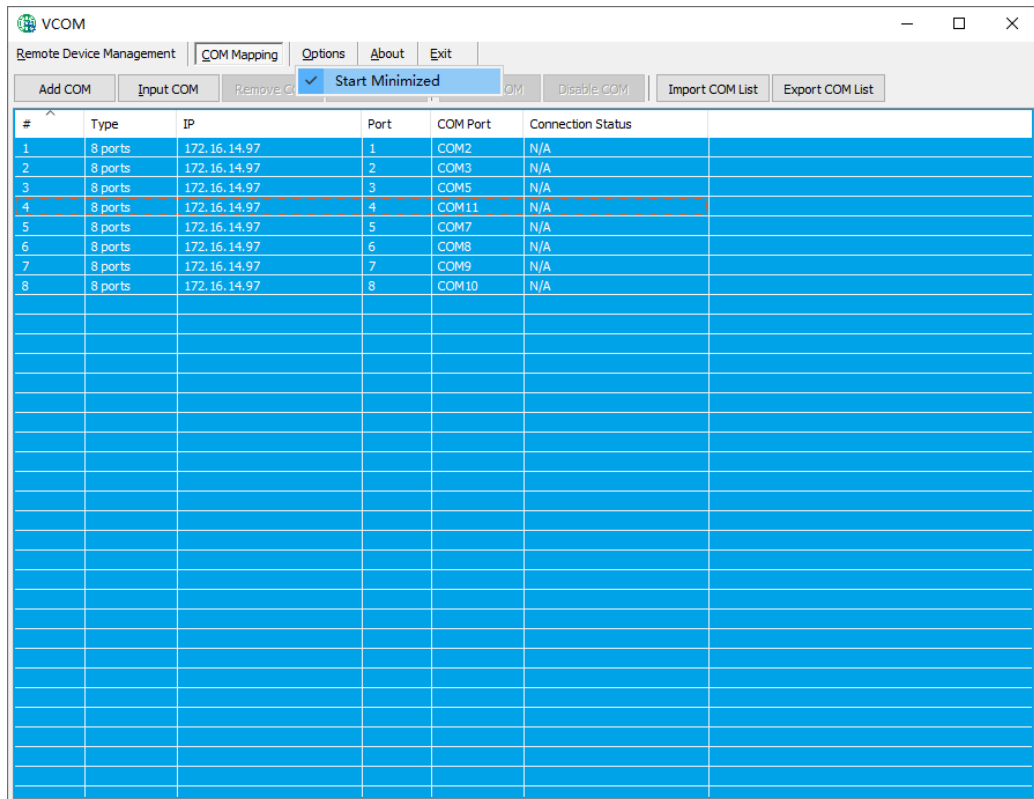
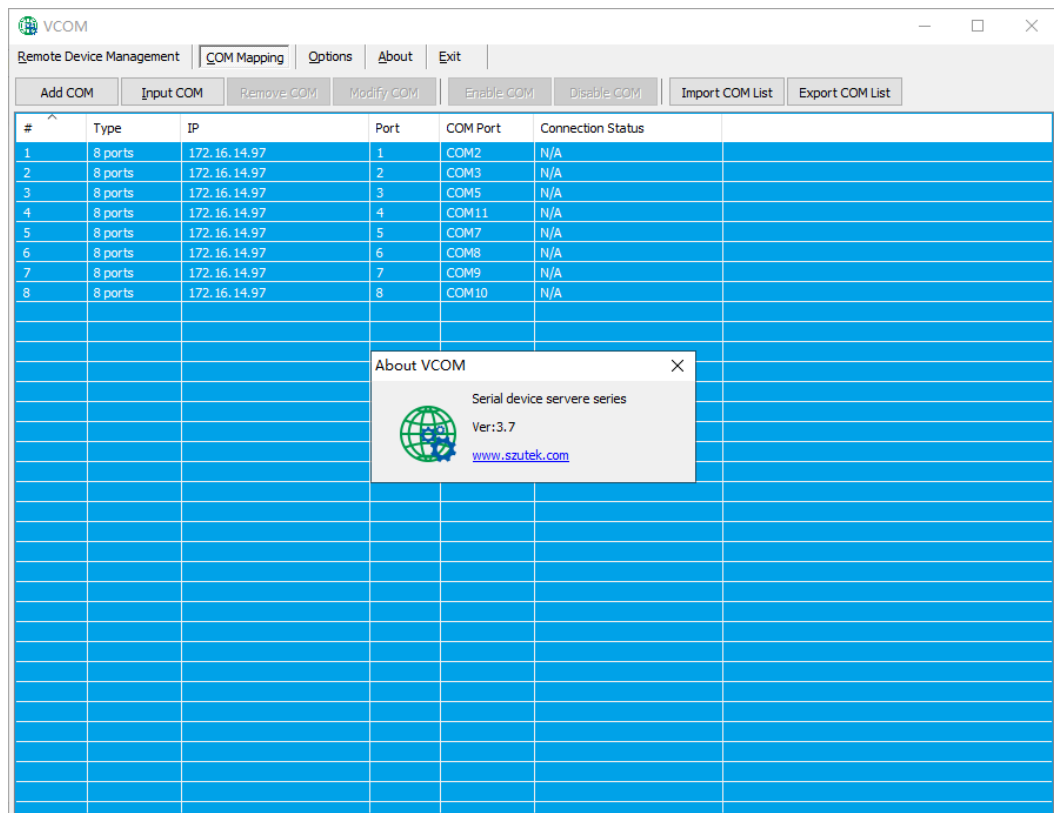Figure 1

Figure 2

c）Options

When choosing to open the VCOM software, whether the software is opened directly or minimized to the taskbar; the

software is minimized to open in the taskbar by default, and the configuration is shown in the figure below

d）About

Click the "About" button to view the software version information as shown in the figure below

e）Exit

Click the "Exit" button to exit the software