

**Model: UT-6311C-EU**

**(Product Name: 10/100M to 1-Port RS-232 Serial device Server)**

# User Manual



**UTEK TECHNOLOGY (SHENZHEN) CO., LTD.**

Add: Room1001, Building 7, Skyworth Innovation Valley, No. 8, Tangtou No.1 Road, Shiyan Street, Shiyan Old Street, Bao 'an District, Shenzhen

Tel: +86-755-81202008

Fax: +86-755-27886083

Http: [www.uotek.com](http://www.uotek.com)

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# 1 .Serial Device Server Overview

## 1.1 Product Description

UT-6311C serial communication server, also called terminal server or serial server, is a converter between asynchronous serial port RS232 and Ethernet. It is a standalone intelligent device with CPU and embedded OS and complete TCP/IP protocol stack. It completes transparent data transmission between RS232 and Ethernet in both directions, and allows RS232 serial devices to connect to the network immediately.

Product features: Support dynamic IP (DHCP) and static IP, support gateway and proxy server, can transfer data through Internet. Provide two-way transparent data transmission, realize serial port to TCP/IP function, users do not need to make any modification to the original system. Internal integration of ARP, IP, TCP, HTTP, ICMP, SOCKET, UDP, MODBUS and other protocols. And the device supports secondary development, providing interfaces for custom protocol access. All procedures, there is a setup wizard, as long as you can use the computer can be used.



UT-6311C-EU Serial Device Server

## 1.2 Main Features

### 1.2.1 Hardware Feature

- Support virtual COM driver software for Windows
- With serial port, it can be connected to various serial devices such as terminal, Modem, barcode machine, cash register, ISDN, terminal adapter, serial printer and PC to realize remote control function.
- With Reset key to force reset when the machine is dead.
- With 10/100M adaptive Ethernet port.
- Each serial port provides 5 signals, including RXD, TXD, RTS, CTS, GND.
- 32-bit embedded 120MHz CPU with powerful overall performance.
- Independent indicator lights for network port and power supply, convenient to indicate working status

### 1.2.2 Software Feature

- Support ARP, IP, ICMP, UDP, TCP, HTTP, DHCP, MODBUS
- Support Windows extended serial mode  
A complete set of extended serial port (com) drivers for Windows-based platforms and a simple and easy-to-use Windows-based hypervisor that 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 just like using the local COM ports on the host computer, and it also means that all existing software or communication modules applied to the existing serial devices can be used directly without modification.
- Terminal server parameters configuration  
Web connection to the terminal server for configuration makes it extremely easy to put the serial server to work.
- Support software upgrade  
Supports software upgrades, protecting the user's investment.
- Support for 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, which can be analyzed by the system administrator.

### 1.2.3 Security Feature

UT-6311C serial device server adopts the following kinds of security mechanisms to ensure that users can use this product safely enough.

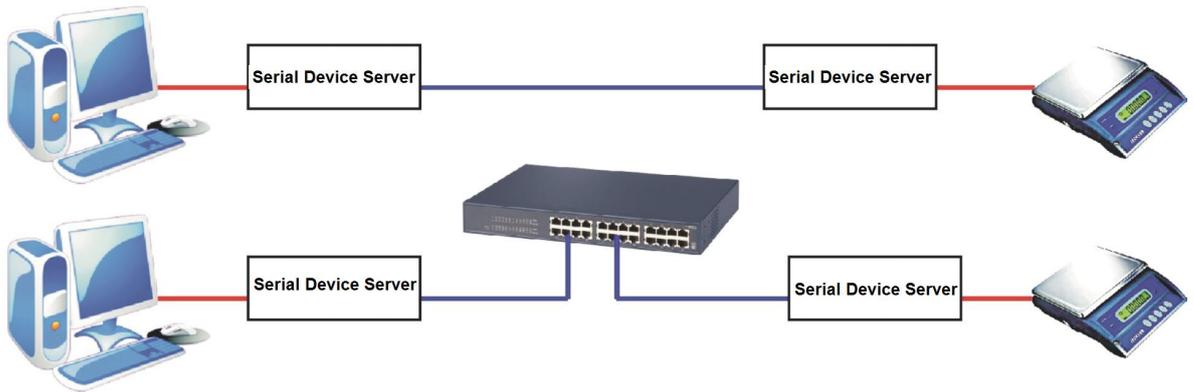
- The server management password can be set to prevent unauthorized persons from making arbitrary changes to the serial server to ensure the security of the serial server configuration.
- The host name to which the port is to be logged in can be qualified, and users of hosts that have not been backed up through the qualified port will not be able to access the server to ensure secure access to the server.
- The possibility to restrict the hosts or network segments allowed to access the server, unauthorized users who are not backed up in the host list and the network segment list will not be able to access the server through the network.
- Serial server Factory IP address 192.168.1.125 Subnet code 255.255.255.0

## 1.3 Product Application Mode

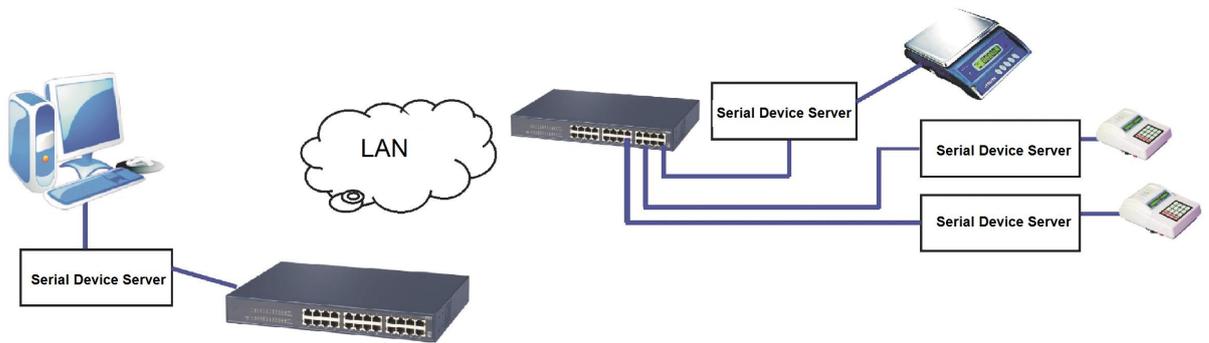
### 1.Virtual serial port mode



2. P2P Mode



3. P2MP Mode



4. Multi-host mode (up to six hosts)

## 2. serial device server installation instructions

### 2.1 Software installation instructions

2.1.1 IP address finder and change software

Attachment for detail

2.1.2 Virtual serial software

Attachment for detail

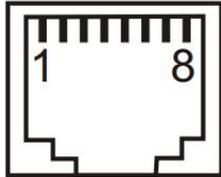
### 2.2 LED indicator description

Definition Name	Light color	Function	Status
PWR	Red	Power indicator	Always bright
RUN	Green	System operation indicator	0.5S light, 0.5S off alternating flash
DATA	Green	Serial data sending and receiving indicator	Blinking with data, off without data

### 2.3 pin definition description

1. Ethernet RJ45 Interface Definition:

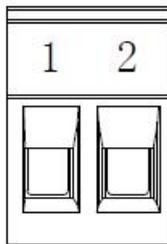
The 100Base-T pinout is defined in the following table.



Pin No.	MDI signal	MDI-X signal
1	BI_DA+/TX+	BI_DB+/RX+
2	BI_DA-/TX-	BI_DB-/RX-
3	BI_DB+/RX+	BI_DA+/TX+
4	-	-
5	-	-
6	BI_DB-/RX-	BI_DA-/TX-
7	-	-
8	-	-

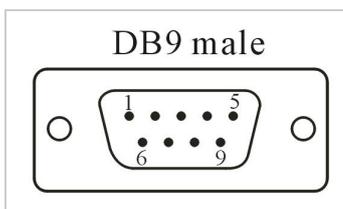
Note: "TX±" is sending data±, "RX±" is receiving data±, "-" is not used

2. Power interface terminal definition:



5.08 Terminal block	Description
1	Negative power supply V-
2	Positive power supply V+

3. RS-232 pin definition:



DB9 male	RS-232
1	N/C
2	RXD
3	TXD
4	N/C
5	GND
6	N/C
7	RTS
8	CTS

## 3 Serial Device Server Technical Parameter

### 3.1 Product Technical Parameter

CPU	32bit 120MHZ	
RAM	256K	
Ethernet interface	10/100M (embedded 1.5KV electromagnetic isolation) adaptive MDI/MDI-X Ethernet interface, RJ45 interface method	
Serial	Serial	RS-232
	Serial port form	DB9 Male(Pin)
	Baud rate	300-921600bps
	Check bit	Nove, Odd, Even
	Data bit	5, 6, 7, 8
	Stop bit	1, 1.5, 2
	Flow control	RTS/CTS, XON/XOFF
	Serial Signal	RS232: RxD/TxD/GND/RTS/CTS
Indicator light	Power indicator light PWR,Running indicator light RUN	
Power connector	DC-005 DC socket or 2Pin 5.08 terminal for power supply, with built-in protection against reverse connection, to avoid damage to the equipment by wrong positive and negative connection	
Power range	DC 5V±5%	
Function buttons	1 factory reset button RESET	
Max. operating current	≤ 80mA@5V	
Housing	Metal housing, protection class IP30	
Installation method	Wall-mounted	
Operating environment	Storage temperature: -40~85°C	
	Operating temperature: -40~85°C	
	Relative humidity: 5 ~95% (Non-condensing)	
Altitude	0~4000m	
Dimensions L×W×H	100mm×80.8mm×30mm(Without mounting parts)	
Weight	270g	

### 3.2 Product configuration (based on a set of equipment)

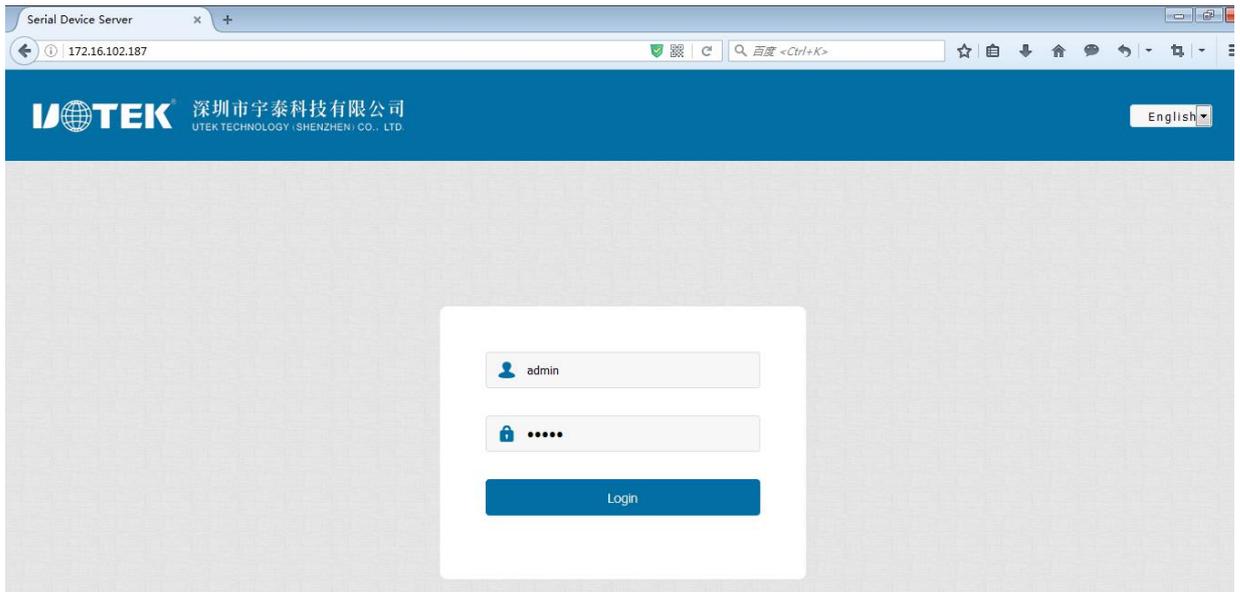
Configuration Model	Serial Device Server Host	Power adapter	Serial type	Number of Interface	Interface Type	Warranty Card
UT-6311C-EU	1	1 DC5V/1A	RS-232	1	DB9 male	1

## 4.serial device server Web operation instruction

### 4.1 System Login

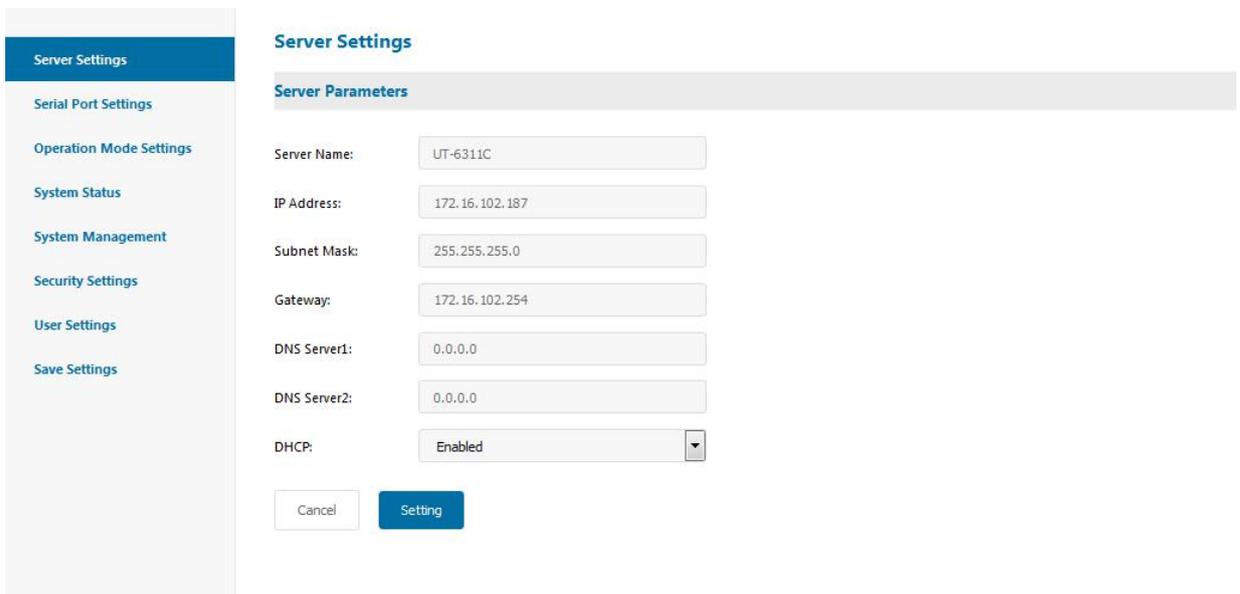
Account	User name input domain, default user name: admin
Password	Password input domain, default password: admin
Login	Click to log in to the system

Chinese/English      Select the interface display language as Chinese or English



### 4.2 System Setting

Model	Model: UT-6311C
IPAddress	System IP address
subnet mask	System IP Mask
Gateway	System gateway address
DNS server 1	Main DNS Address
DNS server 2	Sub-DNS address
DHCP	Whether to enable DHCP service, Disabled /Enabled
Setting	Click on Submit Setting
Cancel	Click to cancel the setting



### 4.3 Serial port parameter setting

Serial Selection	Serial Selection: serial 1or serial 2
------------------	---------------------------------------

Interface Type	Serial working interface type: RS232, RS485/422
Baud rate	Serial baud rate (the value should be the same as the baud rate of the device connected to the serial port)
Data bit	Data bit (default is 8, specific should be consistent with the device connected to the serial port)
Stop bit	Stop bit (default is 1, specific should be consistent with the device connected to the serial port)
Parity bit	Parity bit (including None, Even, Odd default to None, the specific should be consistent with the device connected to the serial port)
Flow Control	Flow control, optional Auto, CTS/RTS two kinds of ways
Interval time	Interval time, can be set from 0-5000ms, default is 0
Frame length	Frame length setting, can set 0-1024Byte, default is 0
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### Serial Port Settings

**Serial Port**

Serial Port:  1

**Serial Port Parameters**

Interface:

Baud Rate:

Data Bits:

Stop Bits:

Parity:

Flow Control:

Interval Time:  (0-5000ms)

Frame Length:  (0-1024Byte)

## 4.4 Serial port work mode settingSerial port work mode setting

### 4.4.1 Datasocket--TCP Server Mode

Connection Mode	Datasocket
Connection Type	TCP Server Mode: The device creates TCP server-side services for client connections
No. of connection	Set the number of connectable clients
Local Port	Local port for the device to create TCP Server service bindings
Warranty time	TCP keep alive time, no data communication in this time interval will automatically disconnect TCP connection
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### Operation Mode Settings

**Serial Port**

Serial Port:  1

**Operation mode Parameters**

Connect Mode:

Connect Type:

Connect Num:  (1-6)

Local Port:  (0-65534)

Keep Alive:  (s)

#### 4.4.2 Datasocket--TCP Client Mode

Connection Mode	Datasocket
Connection Type	TCP Clinet Mode: The device creates a TCP client service to connect to the remote server
No. of connection	Number of connectable servers
Remote IP	Server IP address
Remote Port	Server port number
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### Operation Mode Settings

**Serial Port**

Serial Port:  1

**Operation mode Parameters**

Connect Mode:

Connect Type:

Connect Num:  (1-6)

	Remote IP	Remote Port	Local Port (If 0, the system automatically allocates)
Remote IP1:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10000"/> (0-65534)	<input type="text" value="10000"/> (0-65534)
Remote IP2:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10001"/> (0-65534)	<input type="text" value="10001"/> (0-65534)
Remote IP3:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10002"/> (0-65534)	<input type="text" value="10002"/> (0-65534)
Remote IP4:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10003"/> (0-65534)	<input type="text" value="10003"/> (0-65534)
Remote IP5:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10004"/> (0-65534)	<input type="text" value="10004"/> (0-65534)
Remote IP6:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10005"/> (0-65534)	<input type="text" value="10005"/> (0-65534)

### 4.4.3 Datasocket--UDP Client Mode

Connection Mode	Datasocket
Connection Type	UDP Clinet Mode: The device creates a UDP service to communicate with the remote UDP
No. of connection	Number of connections to the server
Remote IP	Remote UDP IP address
Remote Port	Remote UDP port number
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

### 4.4.4 VCOM virtual serial mode

TCP/IP virtual serial port mode works in the windows system environment, through the driver to map the port on the serial server into a virtual COM port of the local host, so that the original COM port-based operation of the upper software without any modification as if the application of the local real COM port, the driver can support up to extend to COM1024, making the monitoring of serial devices More flexible and convenient, multiple connection resources can also do connection backup.

Connection Mode	VCOM
Warranty time	TCP warranty time
Data Port	Data communication port
Command Port	Command port for maintaining virtual serial port connections after mapping
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

#### 4.4.5 MCP Virtual Serial Mode

Similar to VCOM, this mode works in the windows system environment, through the driver to map the port on the serial server into a virtual COM port of the local host, so that the original COM port-based operation of the upper end of the software without any modification as if the application of the local really COM port, and the difference with VCOM mode is the use of different Windows driver software, to be compatible with The difference between VCOM mode and VCOM mode is the different driver software used under Windows, in order to be compatible with many port mapping software.

Connection Mode	MCP
Warranty time	TCP warranty time
Data Port	Data communication port
Command Port	Command port for maintaining virtual serial port connections after mapping
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

#### 4.4.6 Modbus--TCP Server Mode

The device supports standard Modbus-TCP and Modbus-RTU frame protocol.

Connection Mode	Modbus
Connection Type	TCP Server Mode
No. of connections	Number of connected clients
Local Port	Local port for the device to create TCP Server service bindings

Warranty time	TCP warranty time
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### Operation Mode Settings

Serial Port

Serial Port:  1

Operation mode Parameters

Connect Mode:

Connect Type:

Connect Num:  (1-6)

Local Port:  (0-65534)

Keep Alive:  (s)

#### 4.4.7 Modbus--TCP Client Mode

Connection Mode	Modbus
Connection Type	TCP Client Mode: The device creates a TCP client service to connect to the remote server
No. of connection	Number of connectable servers
Remote IP	Server IP address
Remote Port	Server port number
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### Operation Mode Settings

Serial Port

Serial Port:  1

Operation mode Parameters

Connect Mode:

Connect Type:

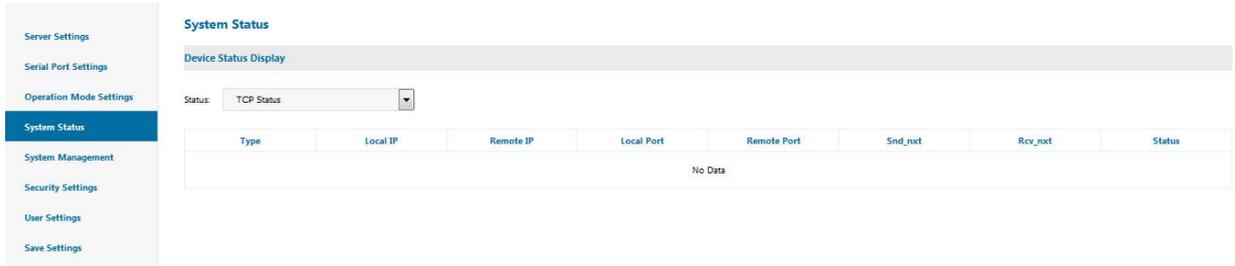
Connect Num:  (1-6)

	Remote IP	Remote Port	Local Port (If 0, the system automatically allocates)
Remote IP1:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10000"/> (0-65534)	<input type="text" value="10000"/> (0-65534)
Remote IP2:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10001"/> (0-65534)	<input type="text" value="10001"/> (0-65534)
Remote IP3:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10002"/> (0-65534)	<input type="text" value="10002"/> (0-65534)
Remote IP4:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10003"/> (0-65534)	<input type="text" value="10003"/> (0-65534)
Remote IP5:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10004"/> (0-65534)	<input type="text" value="10004"/> (0-65534)
Remote IP6:	<input type="text" value="0.0.0.0"/>	<input type="text" value="10005"/> (0-65534)	<input type="text" value="10005"/> (0-65534)

## 4.5 System Status Inquiry

### 4.5.1 TCP Status

Display the current system TCP connection status



### 4.5.2 UDP Status

Display the current system UDP connection status



### 4.5.3 Serial Port status

Display the current system serial port configuration status and data sending and receiving statistics



Ser	Total RX	Total Tx	RTS	CTS	DTR	DSR
1	0	0	OFF	OFF	OFF	OFF

## 4.6 System Management

Firmware Version	Display the current device firmware version number
Hardware Version	Display the hardware version number of the current device
Restore factory	Click the button to restore factory setting

setting	
Firmware Upgrade	Click to select the upgrade file to upgrade the current device firmware version

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### System management

#### System Information

Firmware Version: SF-v1.1.1

Hardware Version: HD-038-20010990

#### Load Factory Default

Load Factory Default settings: Load Factory Default

#### Upgrade Firmware

Select The Firmware And Upgrade: Select File Upgrade

## 4.7 Security Setting

IP address filtering settings, IP segments in the filter range will not be able to access the server through WEB.

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### Security Settings

#### IP Filter Settings

	Start IP Address	End IP Address	Status
Rule 1:	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/>	Disabled <span style="font-size: 0.8em;">▼</span>
Rule 2:	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/>	Disabled <span style="font-size: 0.8em;">▼</span>
Rule 3:	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/>	Disabled <span style="font-size: 0.8em;">▼</span>
Rule 4:	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/>	Disabled <span style="font-size: 0.8em;">▼</span>

Cancel
Setting

## 4.8 User Setting

Logout	Clicking on Logout will exit the WEB login
Modify password	Modify the login password: enter the old password, the new password, and confirm by entering the new password again
Setting	Click on Submit Setting
Cancel	Click to cancel the setting

- Server Settings
- Serial Port Settings
- Operation Mode Settings
- System Status
- System Management
- Security Settings
- User Settings
- Save Settings

### User Settings

#### Logout

Log out of current login: Logout

#### Change Password

Original Password:

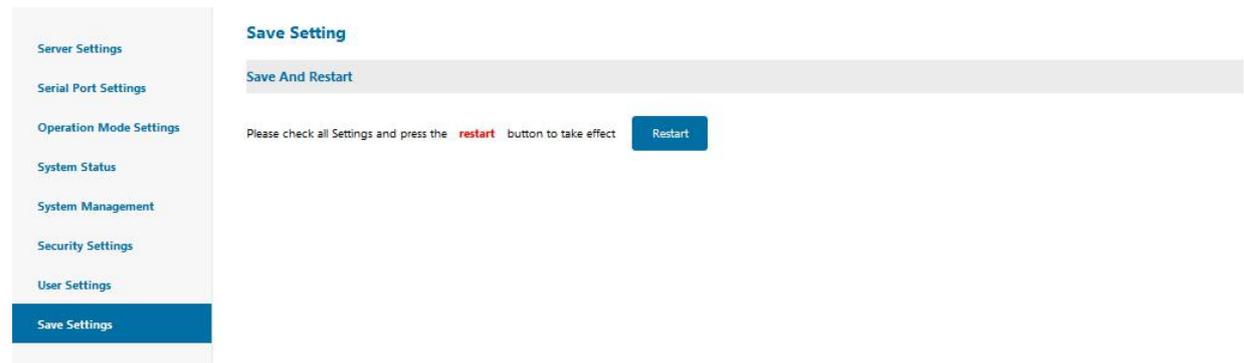
New Password:

Confirm Password:

Cancel
Setting

## 4.9 Save Settings and Take Effect

Click the Reboot button system to make the configuration take effect.



## 5 Server Troubleshooting Instruction

### 5.1 Virtual serial software can not search the IP address of the serial server

- First of all, check the physical connection is or normal, network cable (distinguish between cross-line and direct line) and power supply is connected, observe the power indicator, LAN light, ACT (connected to the 10M network, this light does not light, 100M light)
- The host network card is or available, can not communicate with other local hosts
- Close all the tools and software that can block broadcast packets (do not open the firewall that comes with the system)
- In the browser to enter the configuration, set the IP when the sudden abnormal disconnection, such as: power failure, after the device can not be searched, by long press the device "reset" button 5s to restore the factory settings, the factory IP address is static: 192.168.1.125

### 5.2 Cannot open serial port

- Make sure the network is working properly and can ping through the server
- Check whether the virtual serial port is established successfully
- Check the working status to see if the port is occupied
- Delete the corresponding COM port in the registry and remap it.

### 5.3 Cannot transmit or receive data

- Ensure that the serial port can be opened normally
- Observe whether the IP and port number under [connected to 0 from 1] of [serial to Ethernet tool] prompt "connected", if it does not grow, check the connection between the serial port and the upper network.
- Observe whether the value of "Transmit" and "Received" under [connected to 0 from 1] of [serial to Ethernet tool] has grown, if not, check the connection between the serial port and the upper network, if the value of "Transmit" has grown, check the connection between the serial port and the upper network. If "transmit" has grown, "received" has not grown to detect the connection between the serial port
- Check whether the created Ethernet service matches with the corresponding serial port

#### 5.4 Forget the password you set before

- By pressing and holding the device "reset" button for 5 seconds and then release, the device restores the factory settings, at this time, the factory initial account password admin: admin to log into the system.

#### 5.5 Transmitting and receiving data is garbled

- Check whether the wiring is correct, 485 devices should pay attention to the parallel problem.
- Check whether the line distance exceeds the standard distance and the quality of the line (also by lengthening the line transceiver or optical partition)
- Check whether the set serial port parameters (baud rate, data bits, stop bits, parity bits, etc.) match the bottom device
- Detached from the client's top software, with the network or serial debugging assistant can receive normal data, if you can receive normal data, the problem may be related to the packaging mechanism, you can set the length of the packaging and packaging waiting time in the "serial port settings".

#### 5.6 Cannot be connected when acting as a TCP server

- Confirm whether the current network environment is normal
- Confirm that the IP address and port number of the client connection are correct
- Confirm that there is no other PC connected to the corresponding port of the serial communication server

If the above methods can not solve your problem, please contact the manufacturer

## 6 VCOM software operating instruction

### 6.1 Device Remote Management

#### 6.1.1 Equipment Inquiry

After connecting the device, start the attached software "VCOM" (Figure 1 below), select Remote Device Management - "Add Device" to bring up the search interface to find all the UT-6312 series IP addresses in your network; as shown in Figure 2, select the "Search" button to find all the UT-6312 series IP addresses and basic information in your network; as shown in Figure 3, click the "OK" button in Figure 3 to display the search information in the VCOM interface. "button to find all the UT-6312 series IP addresses and basic information of the network you are in; as shown in Figure 3, click the "OK" button in Figure 3 to display the search device information in the VCOM interface, as shown in Figure 4.

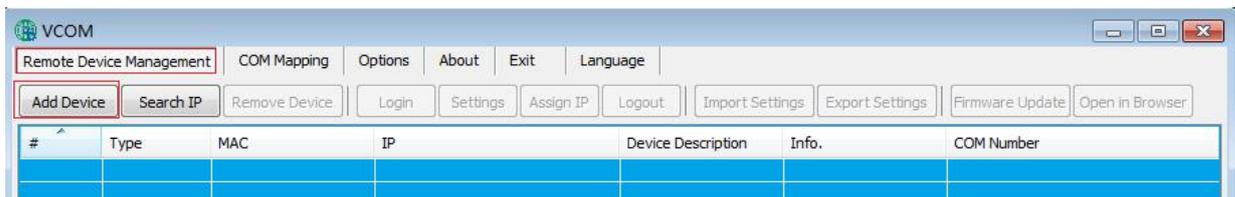


Figure 1

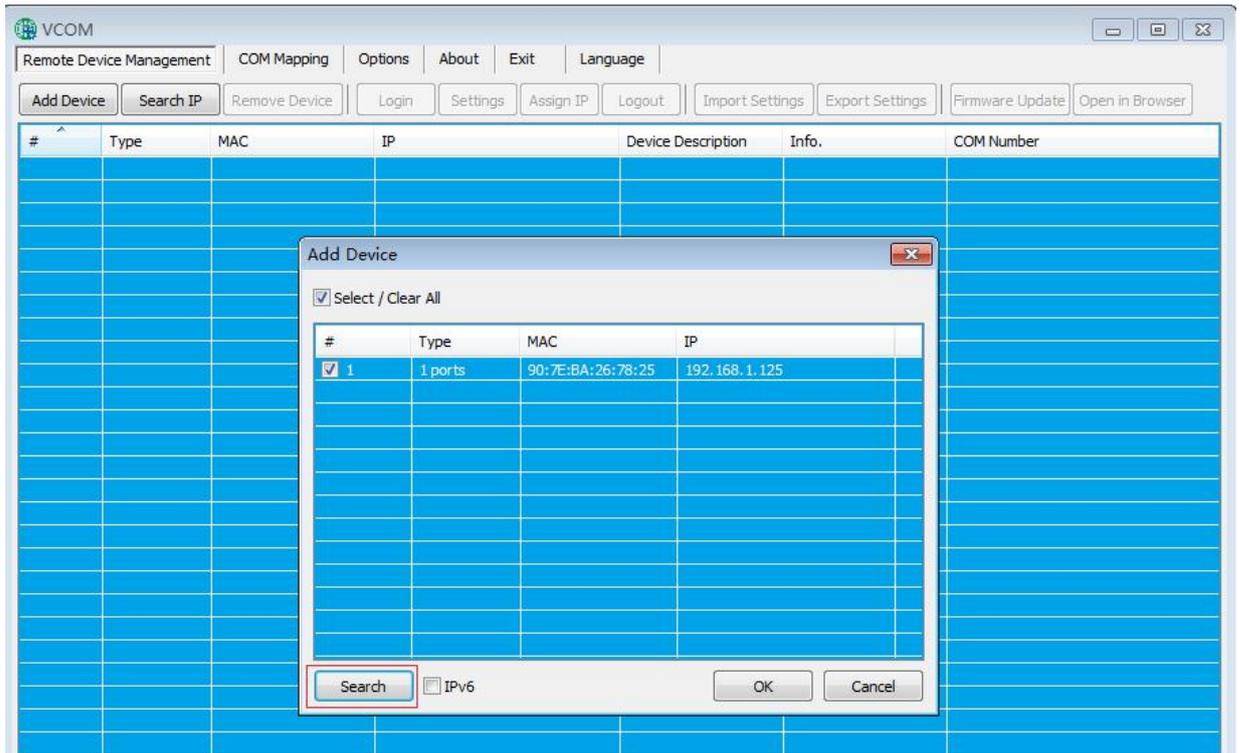


Figure 2

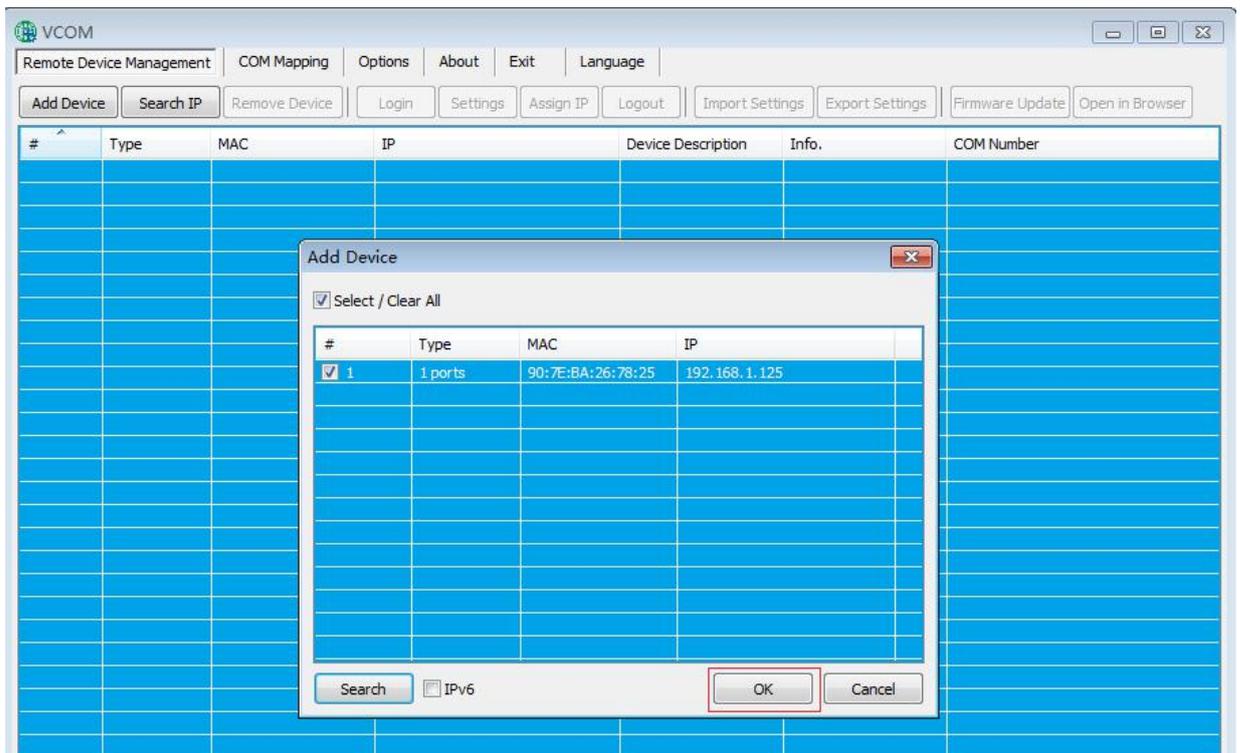


Figure 3

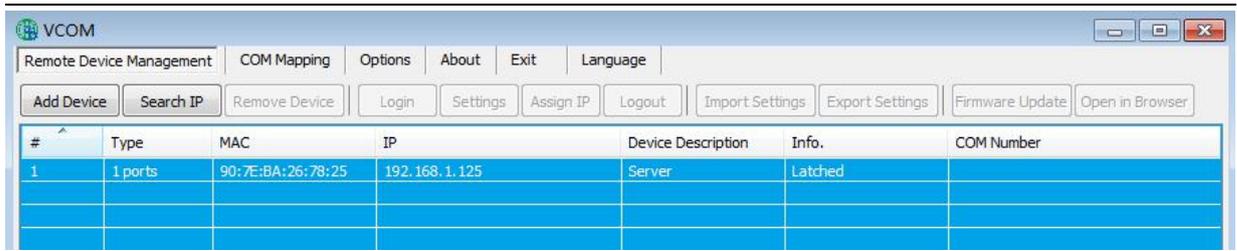


Figure 4

### 6.1.2 Delete serial device information

In the software "VCOM", first select the device information, then select the remote device management interface, click "Delete Device" to delete the device information, as shown in Figure 5 below

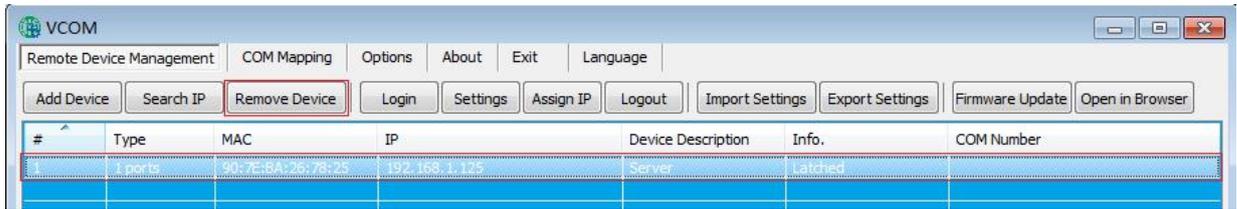


Figure 5

### 6.1.3 Jump to web login

In the software "VCOM", select the remote device management interface, click "Open in browser", and then you can enter the web login interface through IE browser. As shown in Figure 6

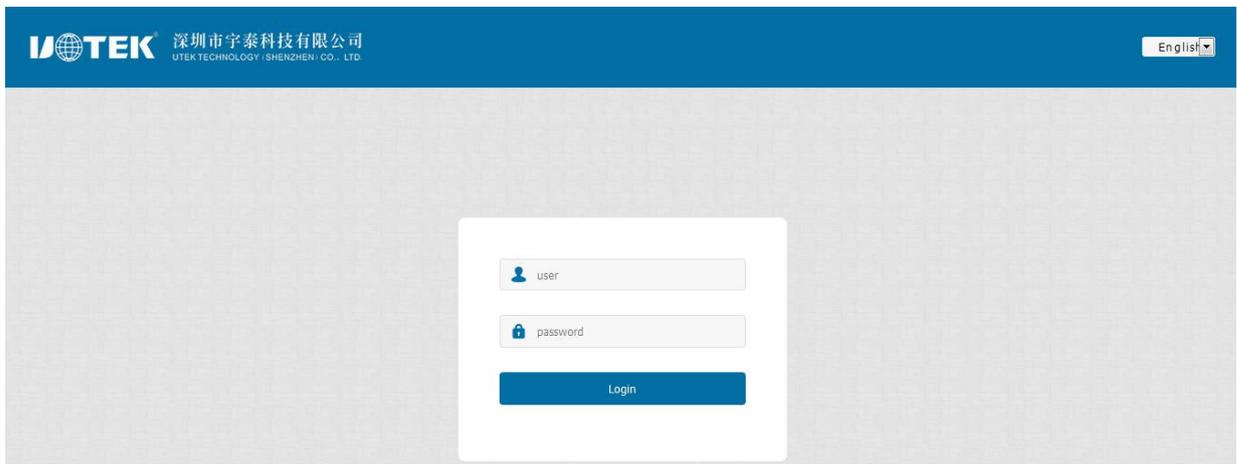


Figure 6

## 6.2 Communication port mapping

### 6.2.1 Create virtual serial port

- In the software "VCOM", select Communication Port Mapping - Add Communication Port to bring up the "Add Device" window, Figure 7 below

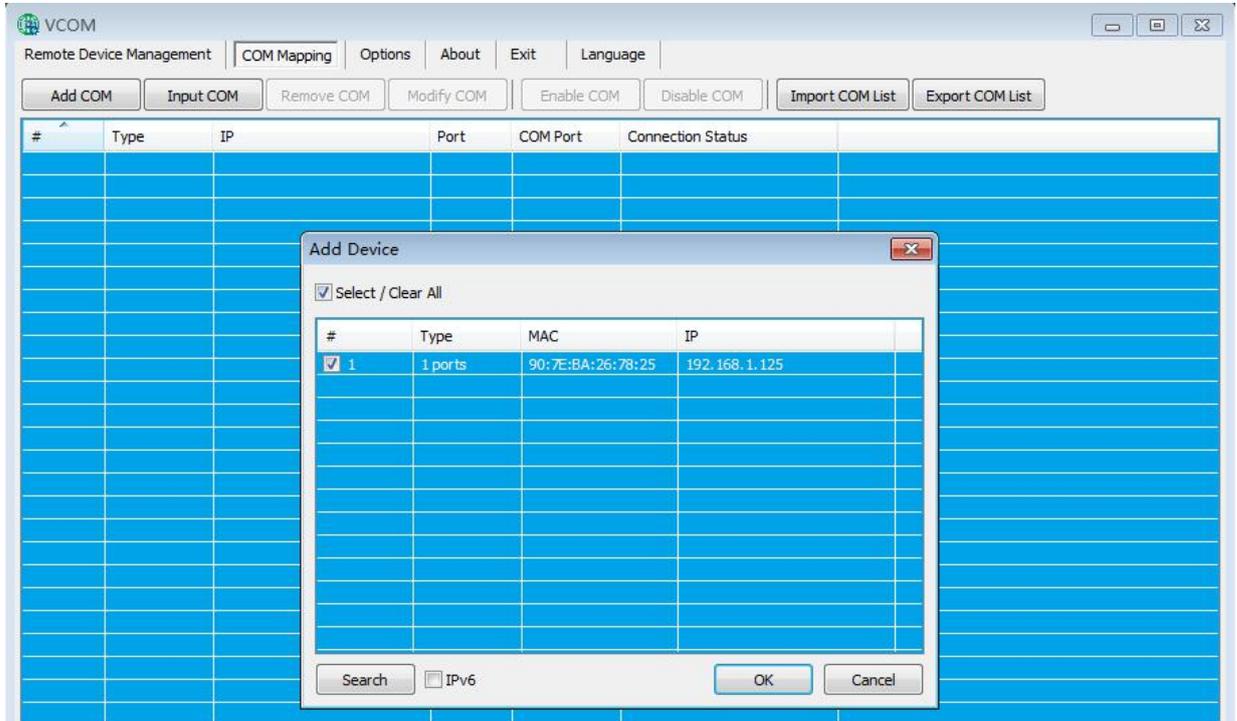


Figure 7

- The "Add Device" window appears, select the device and click "OK" as shown in Figure 8 below

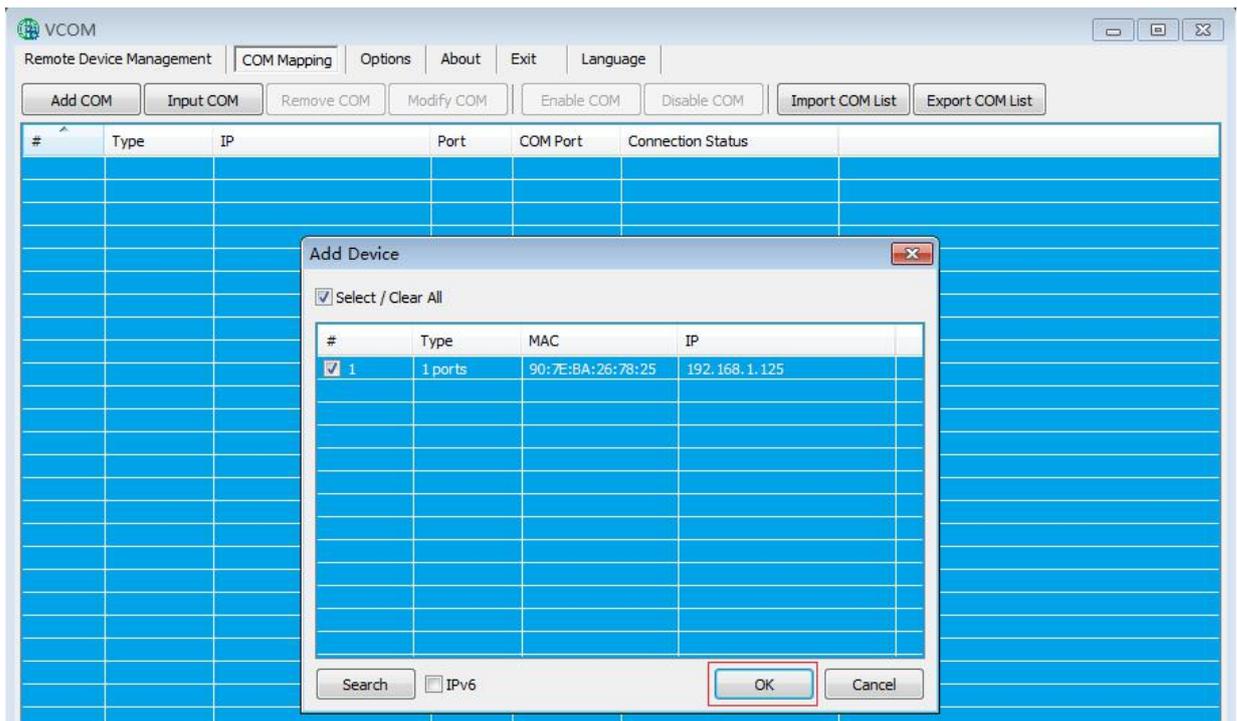


Figure 8

- After that, the following interface will pop up, that is, the corresponding virtual serial port is created, as shown in Figure 9



Figure 9

### 6.2.2 Delete the virtual serial port

- In the software "VCOM", first select the virtual serial port to be deleted, and then select the communication port mapping interface, click "Delete Communication Port" to delete the virtual serial port, as shown in Figure 10 below

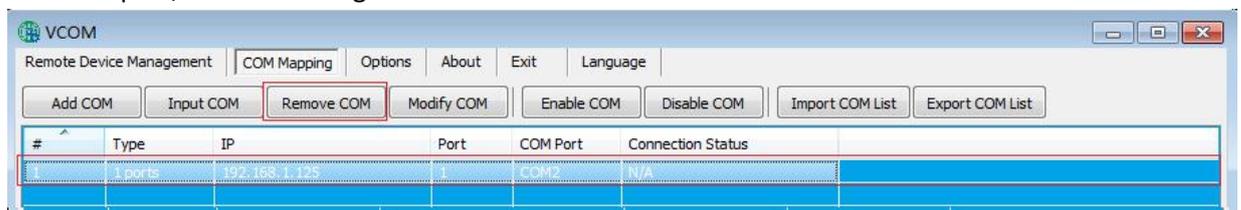
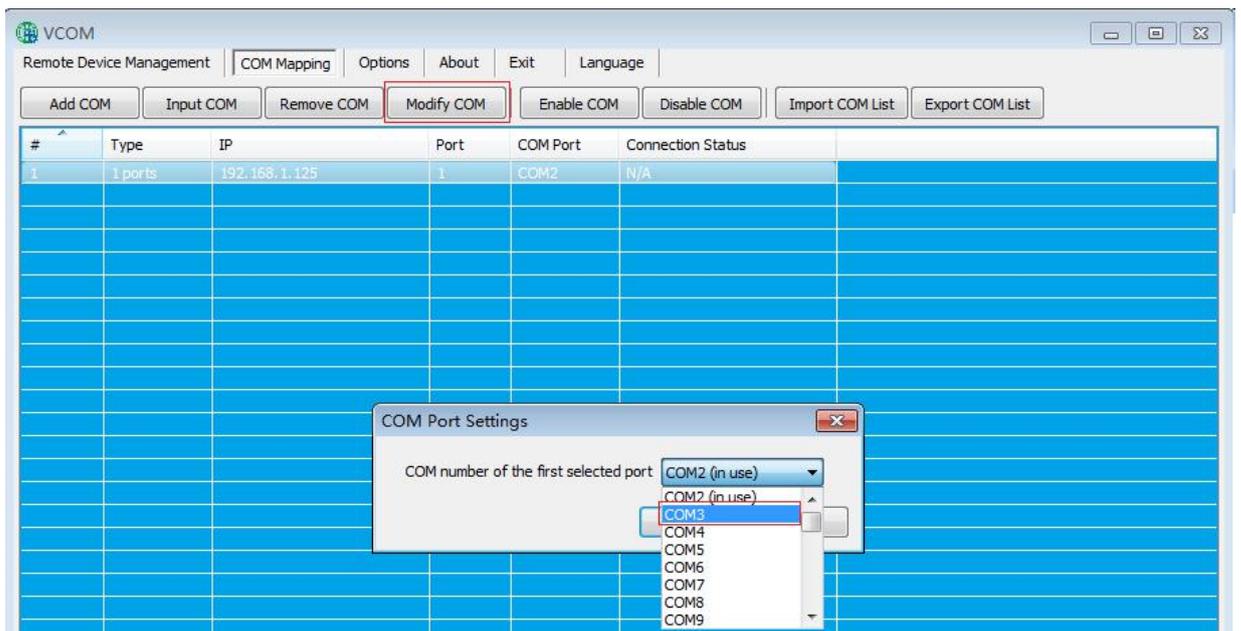


Figure 10

### 6.2.3 Modify virtual serial port

In the software "VCOM", first select the virtual serial port you need to modify, then select the communication port mapping interface, click "modify communication port number" pop-up interface as shown in Figure 11 below, and then select "COM2 "You can modify Port1 corresponding to "COM2" to "COM4", as shown in Figure 12



Figure

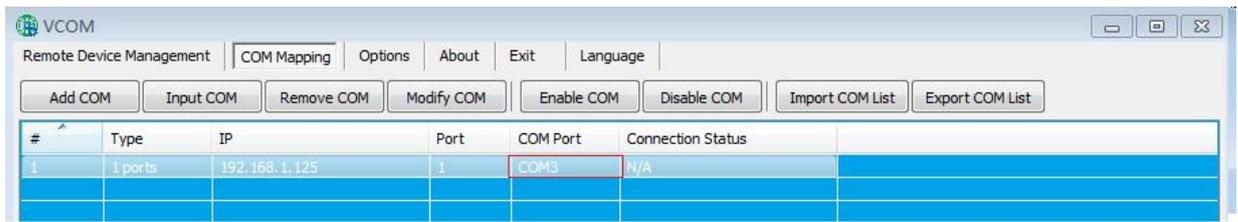


Figure 12

### 6.2.4 Enable virtual serial port

In the software "VCOM", first select the virtual serial port to be disabled, and then select the communication port mapping interface, click "Enable Communication Port" to enable the corresponding virtual serial port, as shown in Figure 13 below

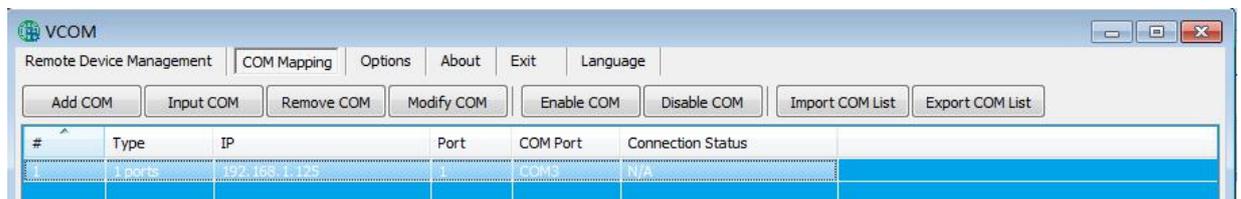


Figure 13

### 6.2.5 Disable virtual serial port

In the software "VCOM", first select the virtual serial port to be disabled, and then select the communication port mapping interface, click "Disable communication port" to disable the corresponding virtual serial port, as shown in Figure 14 below

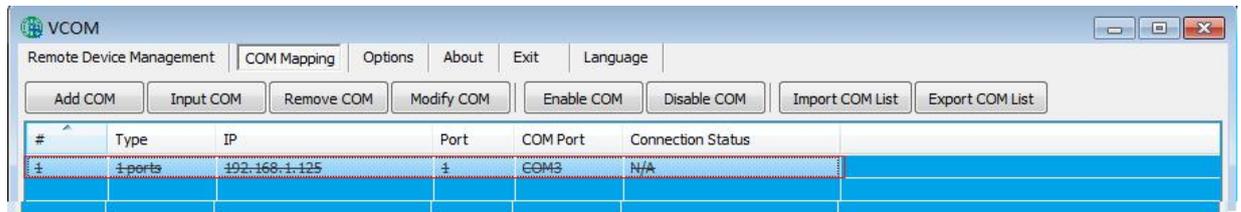


Figure 14

### 6.2.6 Importing virtual serial port list

In the software "VCOM", select the communication port mapping interface, click "Import communication port list" to bring up the interface as shown in Figure 15 below, click "Browse", select the saved virtual serial port configuration information as shown in Figure 16, click "OK" to import successfully. Click "Browse", select the saved virtual serial port configuration information as shown in Figure 16, and click "OK" to import successfully.

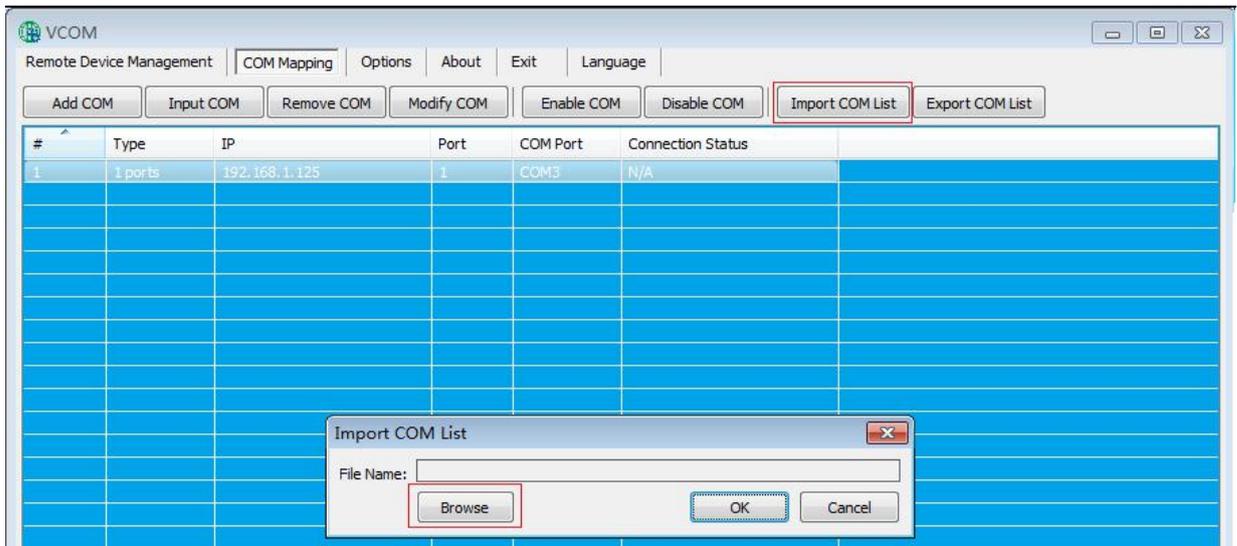


Figure 15

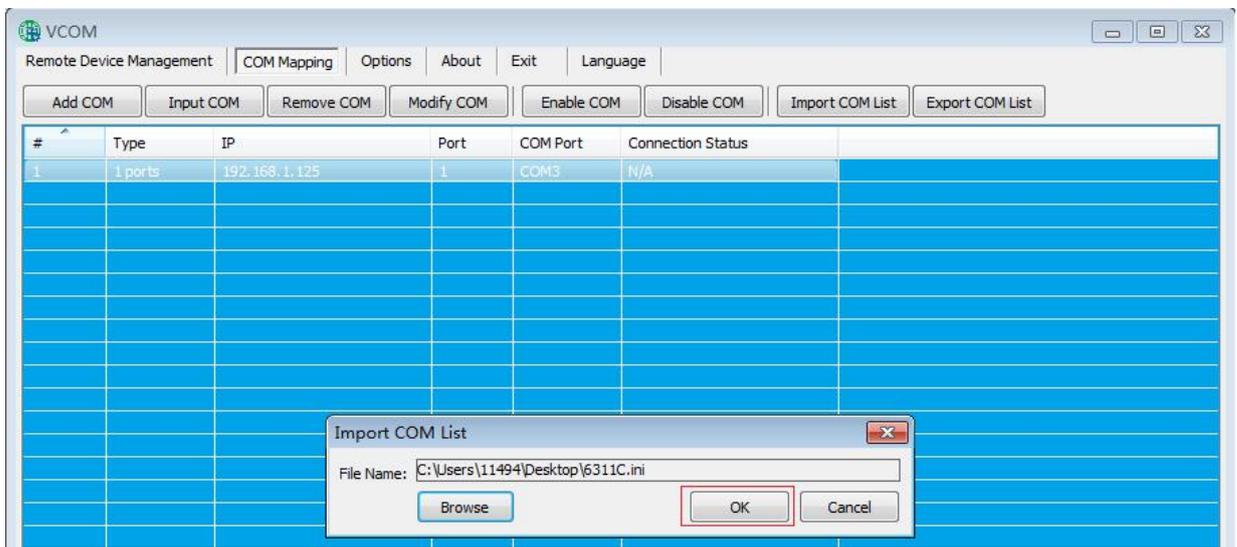


Figure 16

### 6.2.7 Exporting virtual serial port list

In the software "VCOM", select the communication port mapping interface, click "Export communication port list" to bring up the interface as shown in Figure 17 below, click "Browse" and select the path of the virtual serial port configuration information to be saved as shown in Figure 18, click "OK" to export successfully as shown in Figure 19. After clicking "Browse", select the path of the virtual serial port configuration information to be saved as shown in Figure 18, and click "OK" to export successfully as shown in Figure 19.

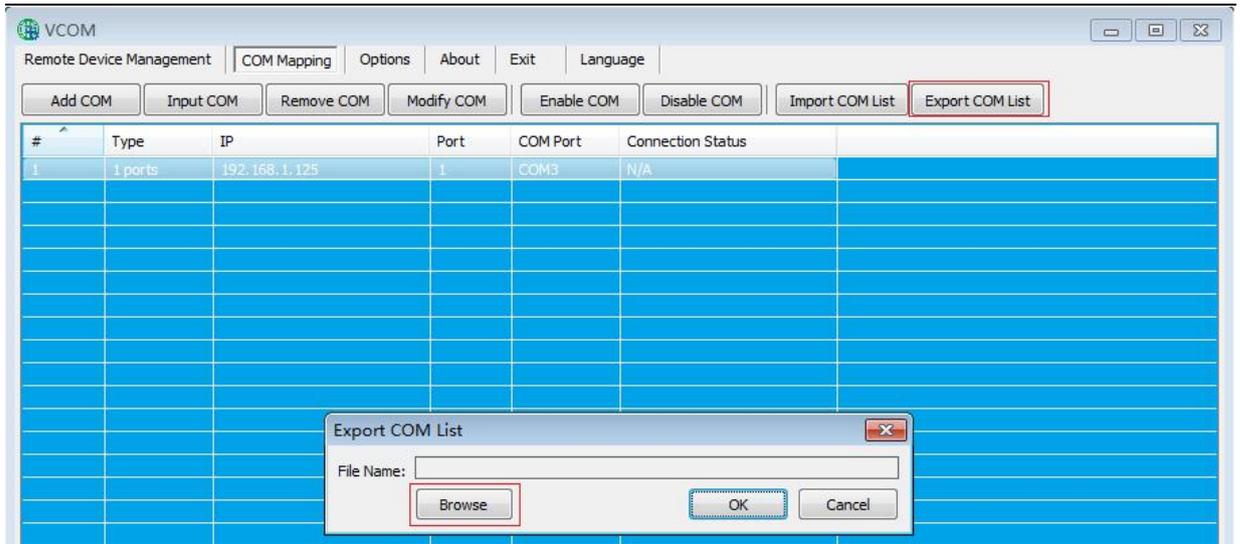


Figure 17

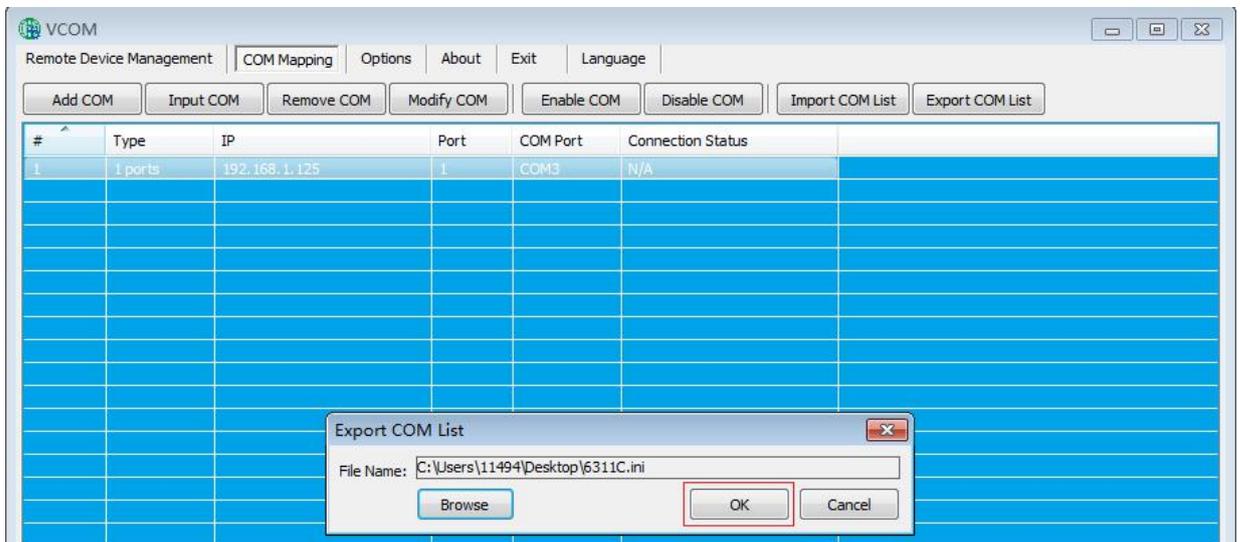


Figure 18

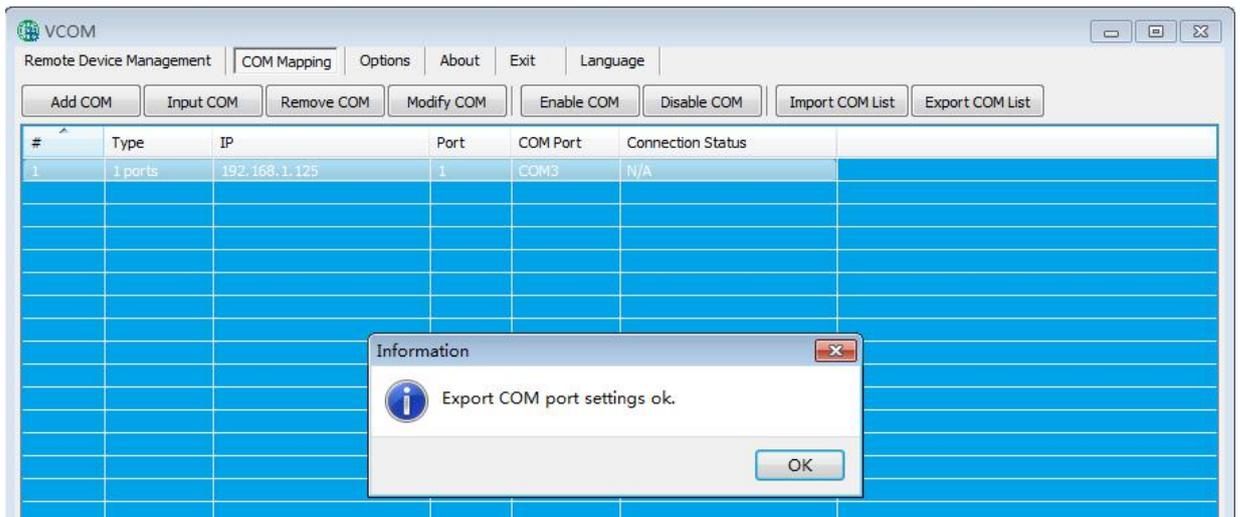


Figure 19

### 6.3 Options

Select whether to open the VCOM software directly or minimize it on the taskbar when opening it; by default, the software is minimized on the taskbar, as shown in Figure 20 below

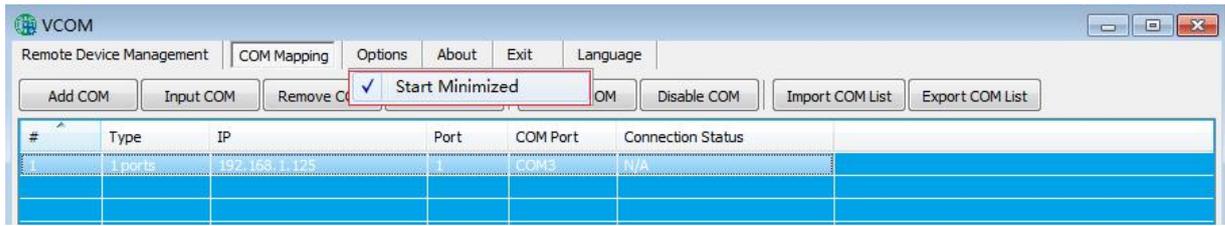


Figure 20

#### 6.4 About

Click the "About" button to view the software version information as shown in Figure 21 below

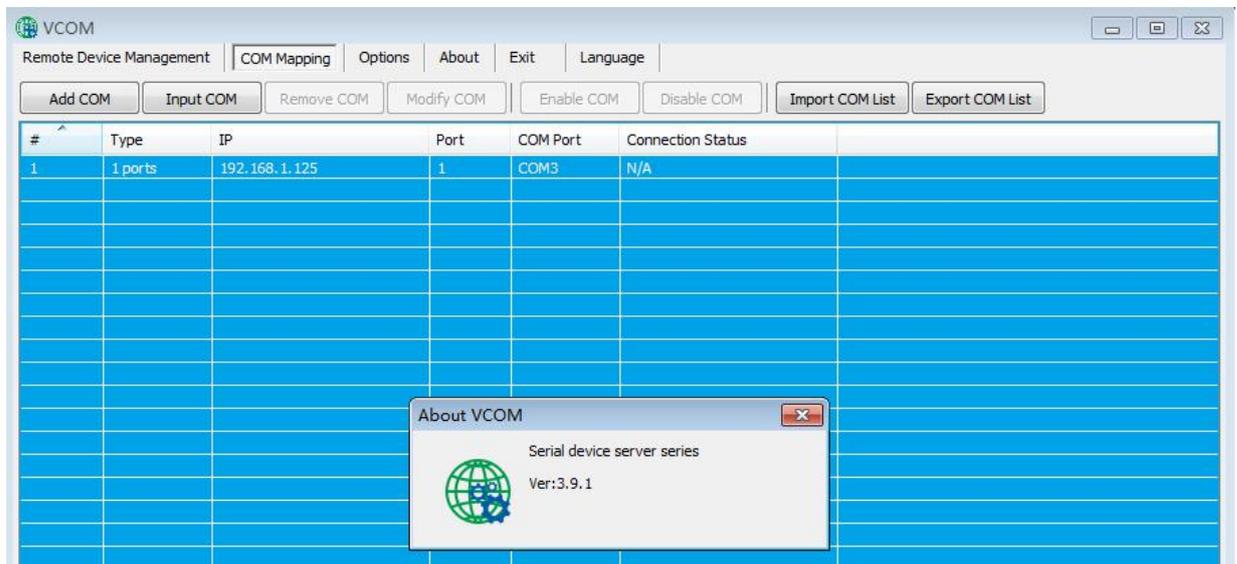


Figure 21

#### 6.5 End

Click the "Exit" button to exit the software

#### 6.6 Switch between Chinese and English

Click to select the Chinese and English interface, as shown in Figure 22

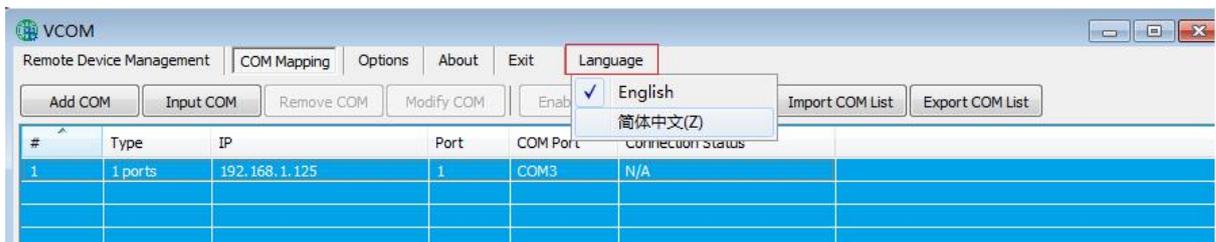


Figure 22