

RTX200A/B Scanners User Manual



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Video introduction and User Guide:

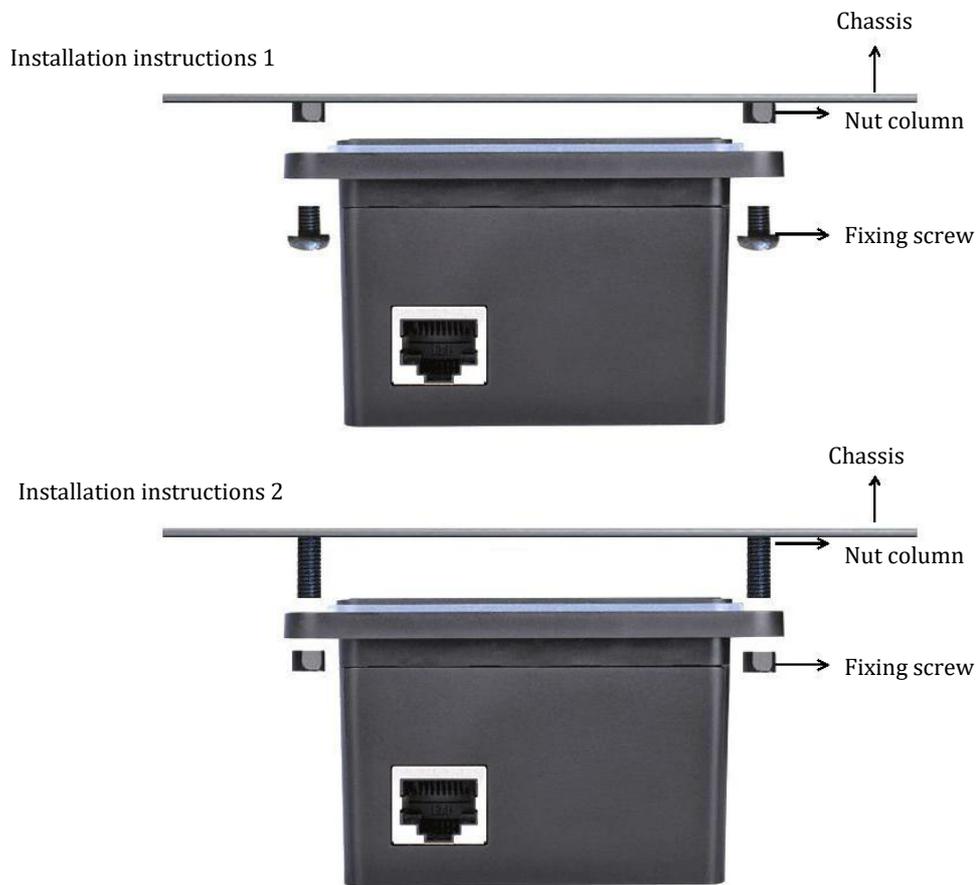
<https://youtu.be/seTemau-ExA>

Installation and Disassemble

RTX200A Installation



RTX200B Installation



Installation instructions 1

Nut column diameter does not exceed 5.8mm, through the scanner to fix the round hole outside diameter.

The diameter of the screw part of the fixing screw is not more than 4mm, tighten the nut from the back through the hole inside diameter

When the plate thickness is 2mm, the maximum nut height is 3.5mm

When the plate thickness is 1.5mm, the maximum height of the welded nut on the steel plate is 4mm

Installation instructions 2:

Screw column diameter not more than 4mm is okay, directly through the scanner to fix the round hole internal diameter

Chapter I Product Parameters

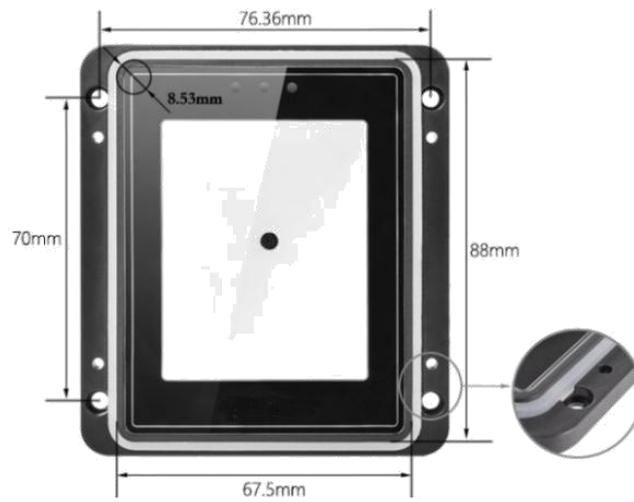
Appearance parameters

RTX200B

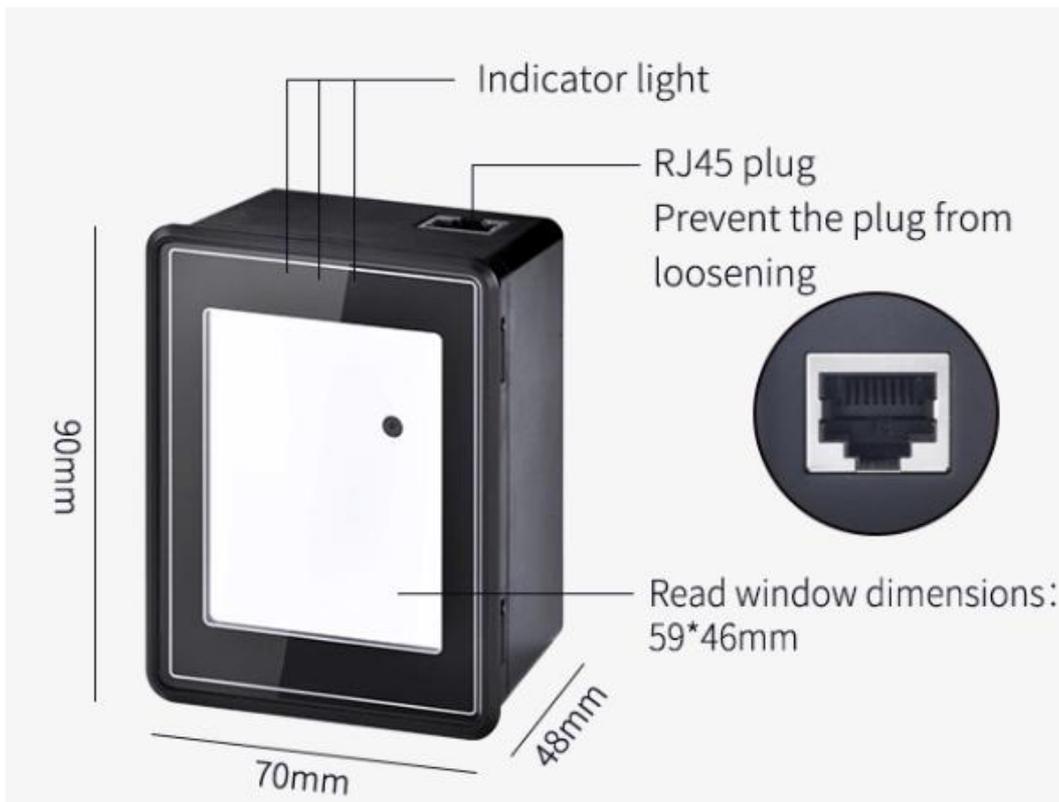


Picture 1-1





RTX200A



Size parameters

Table 1-1 Appearance parameters

Parameter Type	RTX200B	RTX200A
physical dimension	95*84*48mm	95*70*48mm
Reading window size	59*46mm	59*46mm
Installation method	Embedded installation	External installation
Materials	ABS	ABS
Hole Size	67.5*88mm Corner radius 4.27mm	67.5*88mm Corner radius 4.27mm

Reading parameters

Table 1-2 Reading parameters

RTX series QR Code Reading parameters	
Image Sensor	300,000 pixel CMOS (640*480)
light source	Led diffuse lighting (white lighting, red indicator)
Instruction	Buzzer, three blue LED status indicators, red LED indication
Identification code	QR Code, Data Matrix, EAN_13, EAN_8, RSS_14, CODE_39, CODE_93, CODE_128, ITF, Code Bar, Inverse Code, Mirror Code, etc.
Print contrast	≥ 25%
Reading accuracy	≥ 7mil
Reading speed	70ms/times
Field of view angle	Horizontal field of view 77° , vertical field of view 60°
Reading angle	Tilt ± 40° , deflection ± 30° , rotate 360°
Depth of field	0mm~55mm (15mil QR Code)

Device parameters

Table 1-3 Specific parameters

Technical indicators	Specific parameters
Microprocessor	32-bit 1G CPU, high-speed DDR memory
Data interface	RS232 (9.6 ~ 115.2kbps), USB1.1 (HID-KBW, HID-POS), custom HID (add USB development interface, high-speed transmission)
Data line	RS232 data line (USB power supply interface + DB9 data interface), USB cable, TTL line
Operating temperature	-20~70 degrees Celsius
Storage temperature	-40 to 80 degrees Celsius
Humidity	Relative humidity 0%~95%
Ambient light intensity	0~80,000LUX
Operating Voltage	Supports 5~15V wide voltage input
Working current	0.15A (5V) or 0.05A (15v)
Maximum power Consumption	0.75W
Maintenance Requirements	Support remote maintenance and online upgrade
Materials	Body: Imported PC window: Tempered glass
Operating System	Supports Windows (xp.7.8.10), Linux, Android, Mac, etc.

Chapter II Wiring instructions

Pin definitions

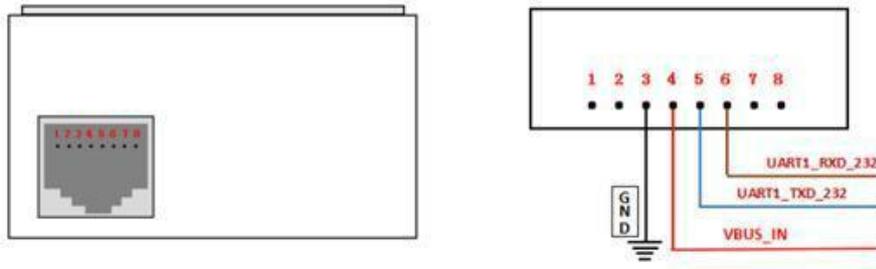


Table 2-1

RTX200 external output interface is RJ45 crystal head, pin definition is as follows:

PIN#	Signal Name	I/O	Description
1	NC	NC	
2	NC	NC	
3	GND	-	Power ground
4	VCC	-	Power input
5	TX-232	Output	Serial 232 level output
6	RX-232	Input	Serial 232 level input
7	UART1_TXD_TTL	Output	TTLinterface XMIT
8	UART1_RXD_TTL	Input	TTLinterface RxDn

Table 2-2 wire sequence table

USB interface

The usage steps are as follows:

1. First connect the RJ45 plug of the data line with the scanner;
2. Connect the USB port on the other end of the cable to the PC (or control board).



Table 2-3 USB wiring

RT232 Serial Port Wiring

The usage steps are as follows:

1. Firstly, connect the RJ45 plug on the data line with the scanner;
2. Connect the RS232 interface on the data cable to the PC (or control board);
3. Then connect the USB port of the data cable to the 5V power supply, which can be the USB port on the computer, or other USB ports that can provide 5V power supply;
4. After the power is turned on, the auxiliary lighting of the product will be turned on. After hearing the "buzz" sound, the scanner will enter the working state.

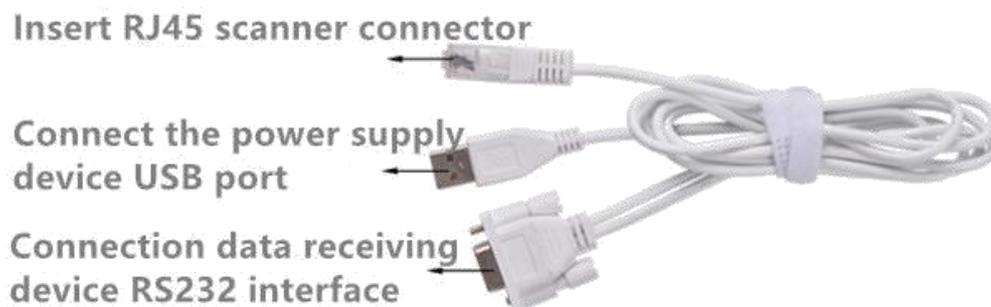


Table 2-4 RS232 wiring

TTL Wiring

TTL interface

Please connect according to the TTL line sequence.



Table 2-5 TTL wiring

Please do remember the input power supply should be 3.3v, and can't be more than 3.3v.

Chapter III RTX200_WIFI Connection & Configuration Guide

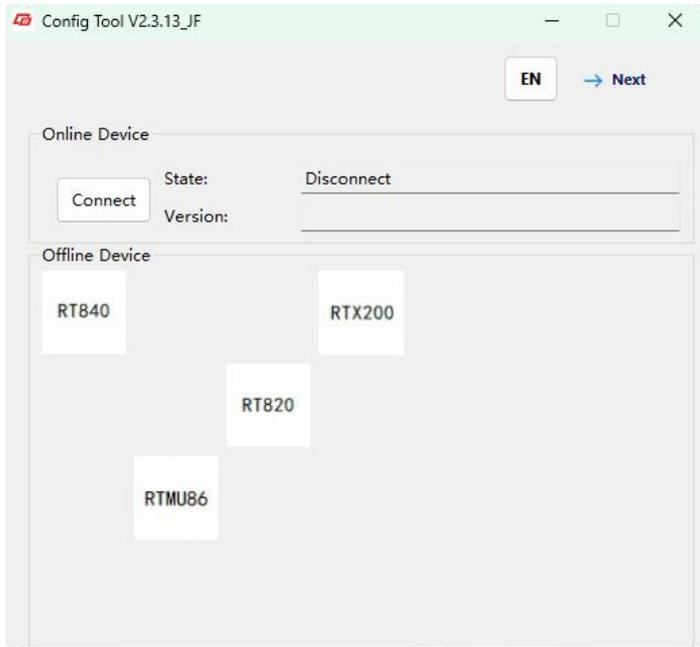
1. Hardware connecting

Use the USB to RJ45 cable to connect to the scanner (for power supply)



2. RTX200 settings

Run ConfigTool, , select RTX200, then Click **Next**

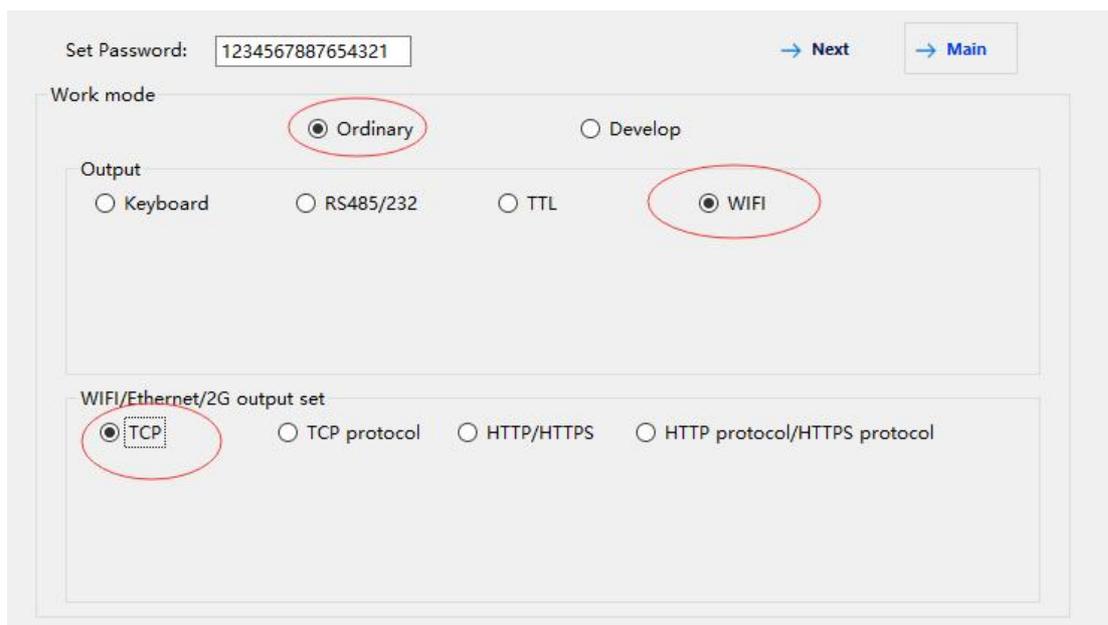


A. Work mode settings

Work mode: Ordinary

Output: WIFI

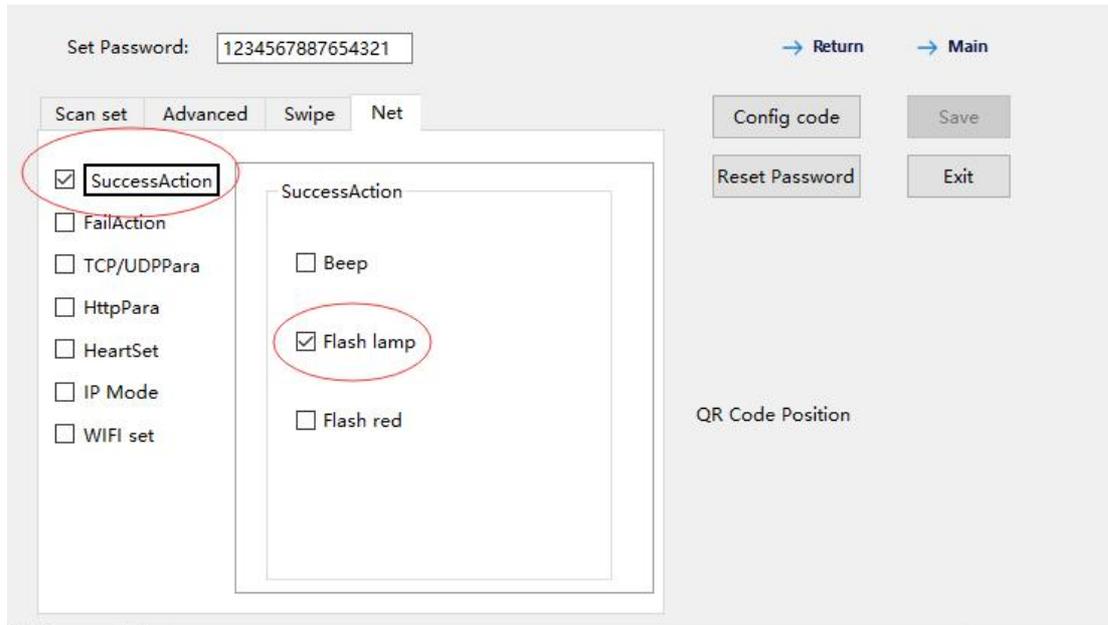
WIFI/Ethernet/2G output: TCP



B. NET settings

Set the action after successfully reporting data (Optional)

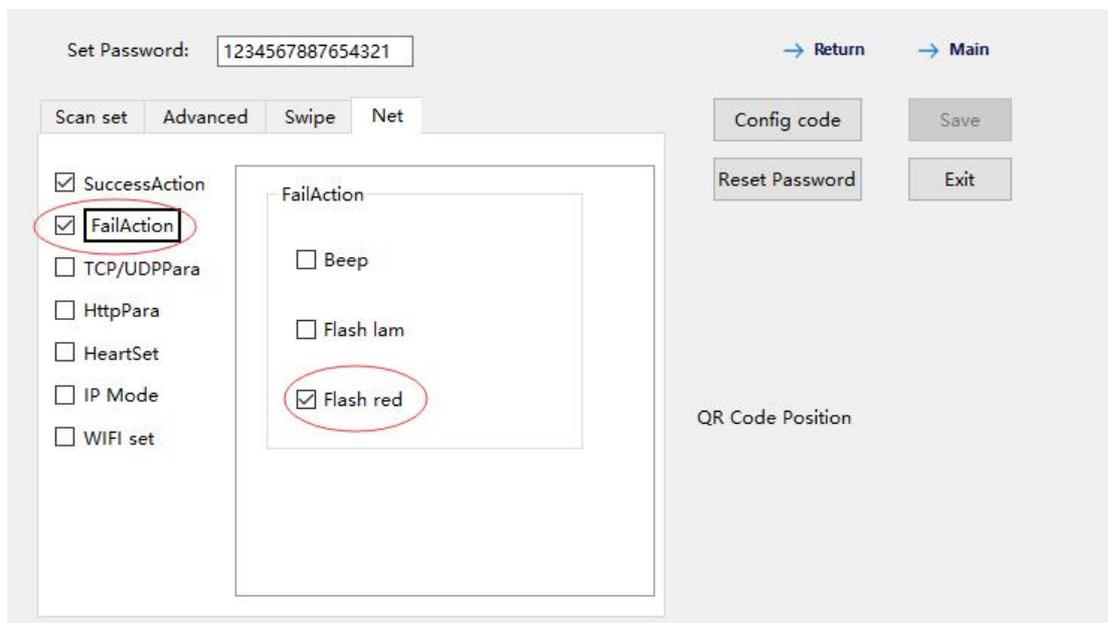
SuccessAction: Flash lamp (Optional)



The screenshot shows the 'Net' configuration page. At the top, there is a 'Set Password' field with the value '1234567887654321'. Below it are navigation buttons for 'Return' and 'Main'. The main configuration area has tabs for 'Scan set', 'Advanced', 'Swipe', and 'Net'. Under the 'Net' tab, there is a list of options: 'SuccessAction' (checked), 'FailAction', 'TCP/UDPPara', 'HttpPara', 'HeartSet', 'IP Mode', and 'WIFI set'. The 'SuccessAction' option is circled in red. To the right of this list is a sub-panel titled 'SuccessAction' containing three options: 'Beep', 'Flash lamp' (checked), and 'Flash red'. The 'Flash lamp' option is also circled in red. On the right side of the screen, there are buttons for 'Config code', 'Save', 'Reset Password', and 'Exit'. At the bottom right, there is a label 'QR Code Position'.

Set the action after failed to report data (Optional)

FailAction: Flash red (Optional)



The screenshot shows the 'Net' configuration page, similar to the previous one. The 'Set Password' field still contains '1234567887654321'. The 'Net' tab is selected, and the 'FailAction' option is checked and circled in red. The sub-panel titled 'FailAction' contains three options: 'Beep', 'Flash lam', and 'Flash red' (checked). The 'Flash red' option is also circled in red. The rest of the interface, including the 'SuccessAction' list, navigation buttons, and 'QR Code Position' label, remains the same as in the previous screenshot.

Set the server address and port to which the data is uploaded (*Necessary)

Address: server address, IPV4, such as 192.168.4.1

Port num: server port, Range 0-65535

Set Password: 1234567887654321

→ Return → Main

Config code Save

Reset Password Exit

QR Code Position

Scan set Advanced Swipe Net

SuccessAction
 FailAction
 TCP/UDPPara
 HttpPara
 HeartSet
 IP Mode
 MAC address

TCP/UDPPara

Address: 192.168.1.1

Port num: 8080

接收超时 (<=5秒): 2

HeartSet

It is recommended to set heartSet when WIFI output is set to TCP, TCP protocol

WIFI/Ethernet/2G output set

TCP
 TCP protocol
 HTTP/HTTPS
 HTTP protocol/HTTPS protocol

Set Password: 1234567887654321

→ Return → Main

Config code Save

Reset Password Exit

QR Code Position

Scan set Advanced Swipe Net

SuccessAction
 FailAction
 TCP/UDPPara
 HttpPara
 HeartSet
 IP Mode
 WIFI set

HeartSet

Switch: Open Shut

Heart time: 60

Heart conter: hello

Heart time: default 60s

Heart conter: content

The device will send Heart conter to the server at regular intervals after setting

IP mode setting

It is recommended to set to **Dynamic IP** to automatically assign IP addresses.

Dynamic IP: IP address is automatically assigned by router DHCP

Static IP: manually specify the IP address, when set to static IP, you must input the IP address, Subnet mask, Gateway, the format is as follows:

Set Password:

→ Return → Main

Scan set Advanced Swipe Net

SuccessAction
 FailAction
 TCP/UDPPara
 HttpPara
 HeartSet
 IP Mode
 MAC address

IP Mode
 Dynamic IP Static IP

IP address:
Subnet mask:
Gateway:
DNS:

Config code Save
Reset Password Exit

QR Code Position

WIFI configuration

Set Password:

→ Return → Main

Scan set Advanced Swipe Net

SuccessAction
 FailAction
 TCP/UDPPara
 HttpPara
 HeartSet
 IP Mode
 WIFI set

WIFI set
Wifi name:
WIFI password:

Config code Save
Reset Password Exit

QR Code Position

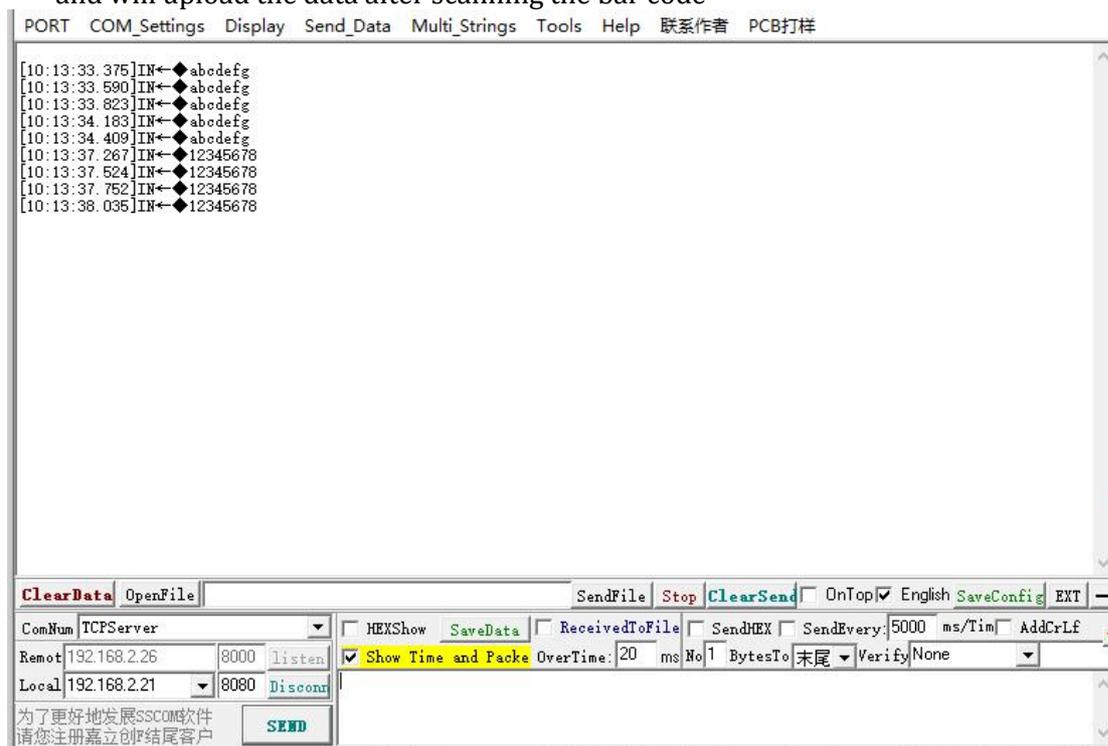
C. Scan settings

Click “**config code**” to generate the configuration code, use the scanner scans the configuration code (from computer screen directly) to complete the setting



For detailed usage of the configuration tool, please refer to "Configuration Tool User Manual".

After the configuration is complete, the device automatically connects to the specified server, and will upload the data after scanning the bar code



3. Communication protocol

As a client, the scanner can initiate HTTP or TCP/IP requests to the server and process the response returned by the server. The interface specification is defined as follows

TCP/TCP protocol

The format of the requested TCP/IP server IP address is: xxx.xxx.xxx.xxx

The requested TCP/IP server port format is: 0-65535

SuccessAction
 FailAction
 TCP/UDPPara
 HttpPara
 HeartSet

TCP/UDPPara
 Address:
 Port num
 接收超时 (<=5秒) :

HTTP/HTTPS

The requested HTTP server path format is: http://serveraddr:port/path

Among them:

serveraddr——The domain name or IP address of the server

port——The server port

path——The server path

The requested HTTP type is POST

SuccessAction
 FailAction
 TCP/UDPPara
 HttpPara
 HeartSet

HttpPara
 Address:
 接收超时 (<=5秒) :

A. TCP

WIFI/Ethernet/2G output set

TCP
 TCP protocol
 HTTP/HTTPS
 HTTP protocol/HTTPS protocol

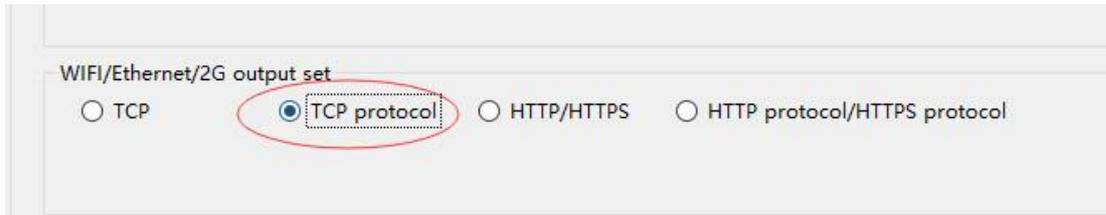
The scanner sends the original scanned data to the server.

The server:

```

[10:13:33.375]IN←◆abdefg
[10:13:33.590]IN←◆abdefg
[10:13:33.823]IN←◆abdefg
[10:13:34.183]IN←◆abdefg
[10:13:34.409]IN←◆abdefg
[10:13:37.267]IN←◆12345678
[10:13:37.524]IN←◆12345678
[10:13:37.752]IN←◆12345678
[10:13:38.035]IN←◆12345678
[10:14:08.045]IN←◆hello
[10:14:38.043]IN←◆hello
[10:15:08.043]IN←◆hello
[10:15:38.041]IN←◆hello
[10:16:08.040]IN←◆hello
[10:16:38.039]IN←◆hello
[10:17:08.038]IN←◆hello
[10:17:38.037]IN←◆hello
    
```

B. TCP protocol



The format of the content sent to the server is: `vgdecoderesult=xxx&&devicenumber=xxx`

Among them:

`vgdecoderesult=xxx`—Where xxx represents the decoded result string

`devicenumber=xxx`—Where xxx represents the scanner device number (can be set in the main interface: **Advanced** -> **Device num**)

The format of the response is: `code=xxxx&&desc=xxx`

Among them:

`code=xxxx`—xxx indicates the server processing result code, 0000 indicates success, others indicate errors

`desc=xxx`—xxx represents server processing description

For example:

Device->The server

```
vgdecoderesult=12345678&&devicenumber=0
```

The server->Device

```
code=0000&&desc=ok
```

C. HTTP/HTTPS



The HTTP packet format is as follows:

Device-The server

```
POST /test HTTP/1.1
Host: 192.168.4.1:8080
Accept: */*
Content-Type: text/html; charset=UTF-8
Content-Length: 7
```

```
abcdefg
```

Body content is the original data of the scanned code

D. HTTP/HTTPS protocol



The HTTP packet format is as follows:
Device-The server

```
POST /test HTTP/1.1
Host: 192.168.4.1:8080
Accept: */*
Content-Type: text/html; charset=UTF-8
Content-Length: 53

vgdecoderesult=12345678&&devicenumber=0&&otherparams=
```

The server->Device

```
HTTP/1.1 200 OK
Content-Type: text/plain; charset=utf-8
Content-Length: 9

code=0000
```

The content format is:

vgdecoderesult=xxx&&devicenumber=xxx

vgdecoderesult=xxx——Where xxx represents the decoded result string

devicenumber=xxx——Where xxx represents the scanner device number (can be set in the main interface: **Advanced** -> **Device num**)

The format of the response is: code=xxxx

xxxx indicates the server processing result code, 0000 indicates success, others indicate errors

Chapter IV Application configuration

USB Communication Setting

Connect the device directly to the computer through the USB cable. The device defaults to the analog keyboard output. The output data will be show up where you put the cursor, as shown below:

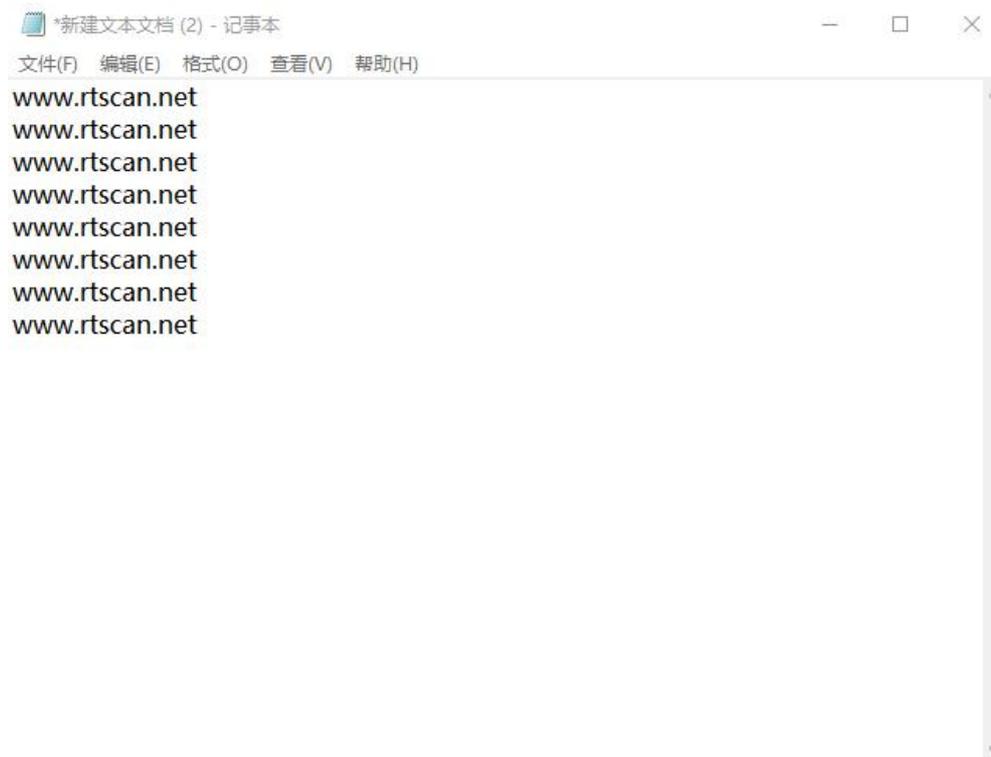
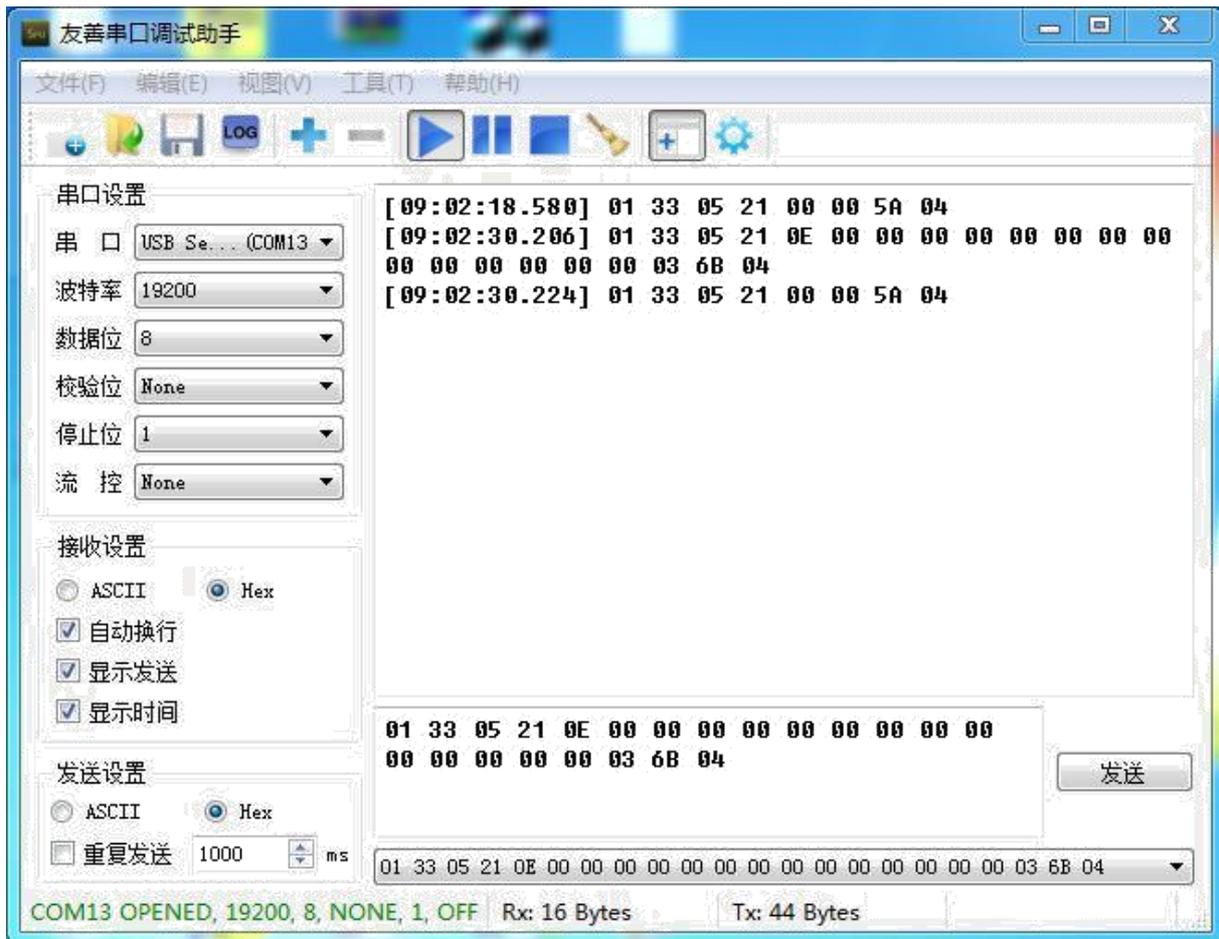


Table 4-1

RS232 Serial port Communication Setting

Connect the RS232 cable with host computer, and run any serial debugging tool:



Chapter V. Explanation of the Output Format

Main interface -> Advanced -> Output format:

Ex: read the barcode: **12345678**

1. Direct
Output the scanned original data.
The output is: 38 37 36 35 34 33 32 31
2. Digital Char turn Hex
Convert string to Integer
"12345678" is converted to 12345678 (HEX 00 BC 61 4E)
3. Digital Char turn Hex reverse
Convert string to int, and then int high low
"12345678" is converted to 1315027968 (HEX 4E 61 BC 00)
"12345678" is converted to 5136828 (HEX 4E 61 BC)
4. Hex Char turn Hex
Convert Hex string to Hex
"12345678" is converted to 2018915346 (HEX 78 56 34 12)
5. Hex Char turn Hex Reverse
Convert Hex string to Hex
"12345678" is converted to 305419896 (HEX 12 34 56 78)
6. Decimal turn PIDVID format output
Decimal turn PIDVID format output reverse

Chapter VI Common Faults and Troubleshooting Methods

1, Using serial devices, receive data all 0 / garbled?

The serial port of the client receives data all 0 / full FF / garbled. There are usually several possibilities. It can remind the customer:

- a. Is the baud rate /stop bit /check bit set correctly?
- b. Is the serial TX / RX pin reversed?
- c. Are both sides common ground? Is GND connected together?
- d. When the multimeter measures, is the TX / RX pin in the cable shorted or broken?
- e. Is the cable too long?

2, What are the limitations of various communication interface outputs?

USB keyboard mode can only output letters, numbers, punctuation;

USB secondary development mode can output any character without any restrictions (development mode needs to be configured).

USB keyboard output has restrictions, other interfaces have no restrictions, can output text, Chinese, traditional, special characters and even binary.

3, Android platform USB keyboard output, data will be lost.

Android system has anti-invalid input interference judgment. If the trigger time of 2 buttons is too short, it will be judged as illegal input. Therefore, the configuration tool should be used to set the press and raise time setting over 10ms.

If you are using it on Android, it is not recommended to output directly through USB. It is better to use serial/secondary development.

4. Why does the device not give corresponding feedback after the network device sends the return value according to the communication protocol?

1. Confirm whether the server can receive the data. If yes, whether the protocol mode is modified or not, the feedback behavior of the network device is implemented based on the protocol. Only in the protocol mode can it work normally.

2. The successful transmission behavior we configure in the configuration tool essentially refers to the entire process of scanning data from the scanner, uploading the server, and receiving the return value given by the server. If the successful instruction is sent directly, obviously it cannot be determined as it is a successful transmission behavior.

5. When using a network device, the server can receive data, but it still fails after returning the return value.

The network device has a timeout period. The default setting is two seconds. If the server sends a return value to the device and the interval between scanning the data exceeds this time, the device will determine that the return value will be received. This transmission is a failure. The cause of this phenomenon is generally due to the poor network environment. The solution is to properly adjust the timeout period. It should be noted that the timeout period is set to a maximum of 5 seconds.

6, The device can not connect the configuration tool, but the scan code output is normal.

At present, the new RTX200 devices configuration tool cannot be used in common with the old TX. Please confirm whether the device version is 5.5.X or 1.3.X, and then select the corresponding version of the configuration tool.

In addition, it should be noted that the new version of the configuration tool currently does not have a serial port tool and can only be directly connected through a USB connection to the computer. If the serial port device needs to be configured, it can only be configured by scanning code.