

---

Comprehensive demo of reader demo R2000 series

# User Manual

Version: V1.03

Editing time: 2020-10-26

Editor: Yang Zhi

Auditor: Lu Leping

---

## Contents

---

1,Development kit document guidelines.....	4
2,Software interface description .....	4
3,Software connection .....	5
1. Serial port.....	5
2. Network port (RJ-45).....	6
4,Basic operation.....	11
1. Card reader .....	11
2. Data output.....	13
5,Tag operation .....	13
1. Read and write tag data .....	13
2. Lock or unlock tags.....	15
3. Destroy the label.....	16
6,Reader parameter settings.....	16
1. Operating mode .....	16
2. Antenna parameter setting.....	17
3. Frequency setting:.....	18
4. Device number setting: .....	19
7,Other operations .....	19
8,Communication parameter setting .....	21
9,Language settings.....	22
10, FCC WARNING .....	23

---

## Description

Shenzhen Jietong Technology Co., Ltd. (hereinafter referred to as our company) reader device as a non-universal device and software, the comprehensive version of the demo software integrates our multi-series device demo software as a whole, in order to make it easier for you to quickly understand and develop our company's RFID reader, this description is specially edited.

This manual corresponds and only corresponds to the "RFID Reader Comprehensive Demo Version Software V2.32" software, which is suitable for our R2000 series readers. When using and reading this manual, it is recommended to consult our business manager or technical support engineer to confirm whether the reader is R2000 series. (For non-R2000 devices, please refer to the operating instructions under the other two files in the doc folder.)

The following is a description of the materials used for the demonstration and the equipment used for the demonstration:

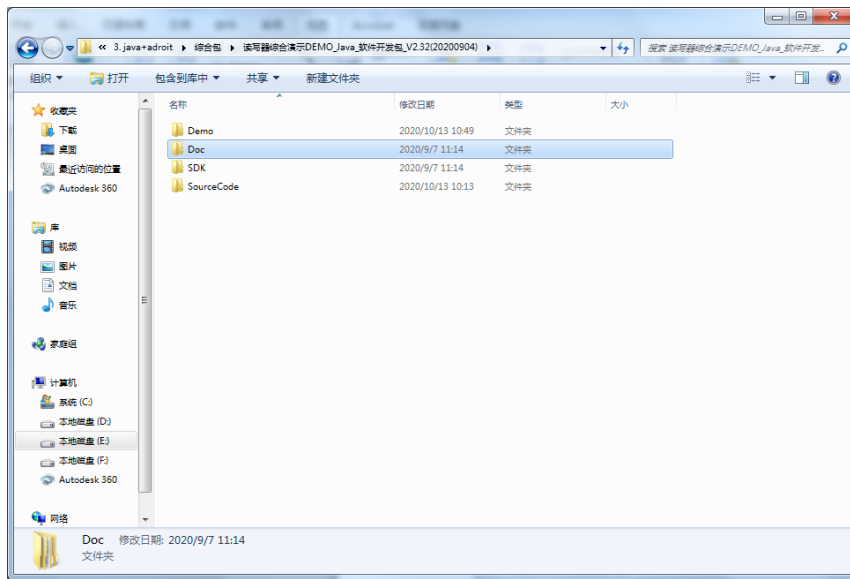
System	Windows 7 SP1 64-bit operating system
Software	RFID reader comprehensive demo version software V2.32
Reader model	R2000 series JT-932 multi-port reader
Reader firmware	J6.5/V1118-32
Data connection line	RJ-45 standard crystal head twisted pair

The operation manual is only for demonstration and does not refer to specific equipment parameters. The parameters and functions listed in the text may differ from the actual ones. For specific equipment parameters, please refer to the equipment specifications.

## 1,Development kit document guidelines

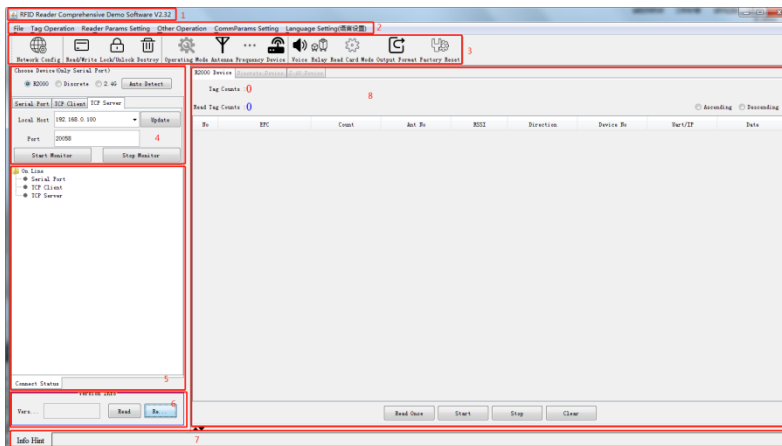
The "Reader and Writer Comprehensive Demo DEMO\_Java\_Software Development Kit\_V2.32" development kit provides a comprehensive version of our company's Java rapid development SDK. The development kit includes our company's R2000 series, separator series, 2.4G series and many other series secondary development SDK. The development kit contains "Demo", "Doc", "SDK", "SourceCode" four folders, one-to-one correspondence-demo software, development protocol description and operating instructions, library files, sample codes.

The Doc folder is divided into three folders, "2.4G", "Dis (separator)", and "R2K", corresponding to the respective development documents of our three series of products. When using the development kit, please be clear about the series of the purchased equipment. For details, please consult the business manager and technical support engineer. This instruction is the instruction under the folder "R2K".



## 2,Software interface description

Find the "...\Reader and Writer Comprehensive Demo DEMO\_Java\_Software Development Kit\_V2.32\Demo" folder "Hybrid-Reader.exe" executable file, double-click to start the program to enter the basic interface of the software main body of "RFID Reader Comprehensive Demo Version Software V2.32". As shown below:



- 
- ① Title bar: Display the current software name and version.
  - ② Menu bar: All software functions and parameter settings can be found in the menu bar corresponding options.
  - ③ Shortcut bar: displays all the functions and parameter setting buttons of the currently selected device type, click to enter the sub-page.
  - ④ Select device column: Select the corresponding device type according to the provided device model or specification. The specific device type can be obtained from the business manager and technical support. This description only introduces the functions of the R2K device.
  - ⑤ Connection status bar: Displays the currently online and connected devices, click to select to perform various operations and settings on the selected device.
  - ⑥ Version information bar: Click the read button to query the firmware version number of the currently selected device.
  - ⑦ Information prompt bar: displays the current execution status of the operation.
  - ⑧ Data display bar: Display all tag data and corresponding output data fed back from the currently selected device or the currently connected device.

### 3,Software connection

---

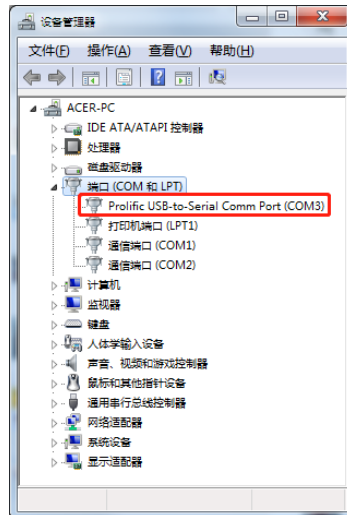
**Preparation before connection:**Before opening the DEMO software, please check and confirm whether the hardware device you want to connect to has been powered on, connected and processed in the standby working state. (For specific wiring methods and interface descriptions, please refer to our equipment specifications or equipment manuals.)

- 1、 The reader antenna has been connected;
- 2、 The data connection with the computer (host computer) has been connected (RS232 / RJ45, etc., R2000 readers do not support RS485 transmission due to the large amount of data transmission);
- 3、 The equipment has a normal and stable power supply;

#### 1. Serial port

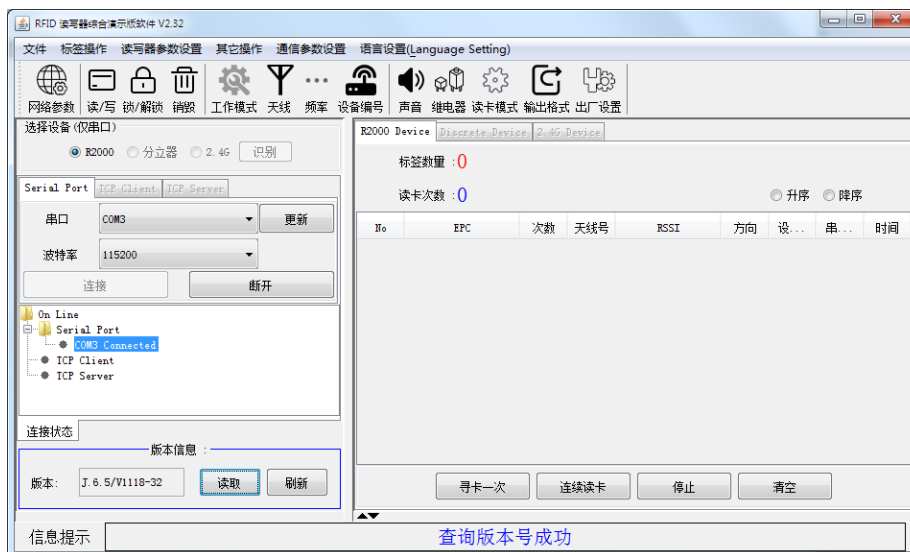
---

Please confirm the specific serial port number and serial port parameters of our equipment before serial port connection. View the serial port number on Windows: Control Panel-Device Manager-Port (COM and LPT). If the corresponding serial port is not found, please check the serial port driver or physical connection. The serial port of our company only supports parallel serial cable;**The device defaults factory serial port parameters as baud rate 115200/230400, data bit 8 and stop bit 1.**



Please note when connecting the Demo software. After opening it, select [R2000] in the device selection bar. Note that this step cannot be omitted. If the selection is wrong, a connection failure exception will occur.

When the connection between the device and the host computer (computer) is RS232 (serial port), select the [Serial Port] page in the device column, select the corresponding com number in the previous step in the drop-down box of the serial port position, and select the default baud rate 115200/230400, Click the [Connect] button. If you ignore the step of querying the serial port number, you can click the [Update] button to automatically search for the device's serial port number.

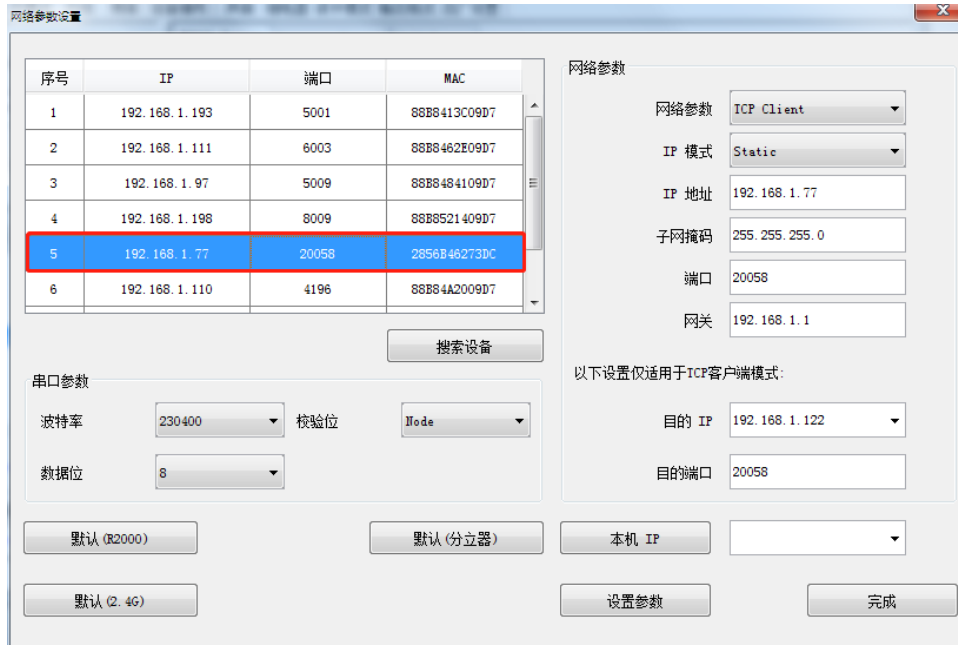


As shown in the figure, the information prompt bar shows that the connection is successful and the corresponding serial port connection data appears in the connection status bar to indicate that the data connection is successful. At this time, you can click the [Read] button in the version information bar to query the device firmware version number. If the version number query fails, please repeat the above steps, confirm the connection is normal, and consult our technical support staff.

## 2. Network port (RJ-45)

When the device is connected to the computer (host computer) by RJ45 (network port communication), select the device column [TCP Client] or [TCP server] page.

Click [Network Parameters] in the shortcut bar (or select Communication Parameter Settings-Network Parameters in the menu bar) to enter the network parameter setting page. Left-click [Search Device] to automatically search for all our devices in this local area network.



As shown in the figure: Click the device shown in the list to view the communication parameters of the currently selected device RJ45 (network port) on the right. At this time, the communication parameters of the device's RJ45 (network port) can be modified, and the modified parameters must conform to the local LAN communication address protocol.

**[Network parameters]:** Both the reader's network working mode is divided into two types: the client (TCP Client) and the server (TCP server).

**[IP mode]:** Both the reader network card parameter acquisition method, divided into two methods: static IP (Static) and DHCP acquisition (Dynamic/dynamic acquisition). The static IP parameters need to be defined by the user, and the IP address will not be changed automatically after the setting is completed. DHCP acquisition method The reader automatically acquires the IP assignment of the route to the LAN device, and the route setting may change according to different route settings.

**[IP address]:** The IP is preset at the factory, but access to the LAN does not necessarily conform to the LAN IP address definition. Please consult the user's network administrator for the assignment of the LAN IP address.

**[Subnet Mask]:** One of the network card address parameters, please consult the user's LAN network administrator for specific parameters.

**[Port]:** Data output channel, only works when the reader device is used as [TCP server].

**[Gateway]:** One of the network card address parameters, please consult the user's LAN network administrator for specific parameters.

**[Destination IP]:** The IP address of the server when the reader is used as [TCP Client].

**[Destination port]:** The reader is used as a [TCP Client] to transmit data to the server's receiving port. In this mode, the connection port needs to fill in the destination port.

**[Local IP]:** Obtain the local IP address automatically.

**[Set parameters]:** Write the filled network card parameters and corresponding data into the network card to complete the setting.

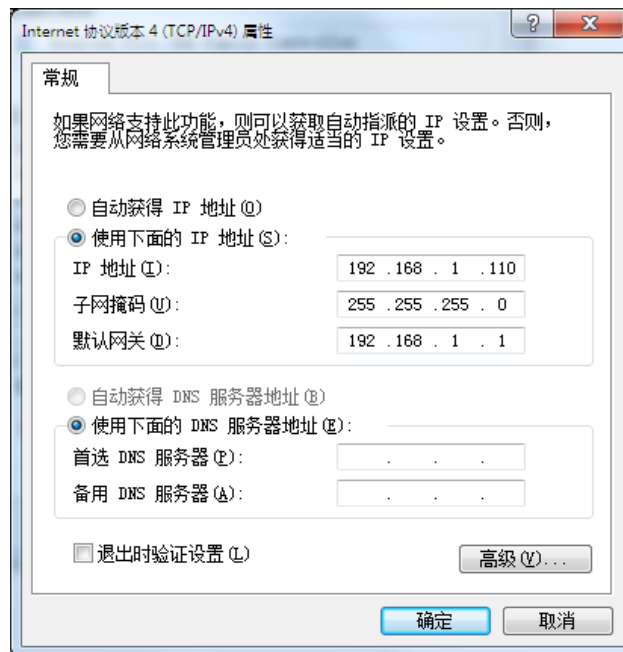
**[Finish]:** Exit the network parameter setting page.

**[Default (R2000)]:** Fill in the factory default network port parameters of the R2000 reader device in the network card parameter text box, and click [Set parameters] to apply the default parameters to the network card.

**[Default (Splitter)]:** Fill in the factory default network port parameters of the splitter reader/writer device in the network card parameter text box, and click [Set parameters] to apply the default parameters to the network card.

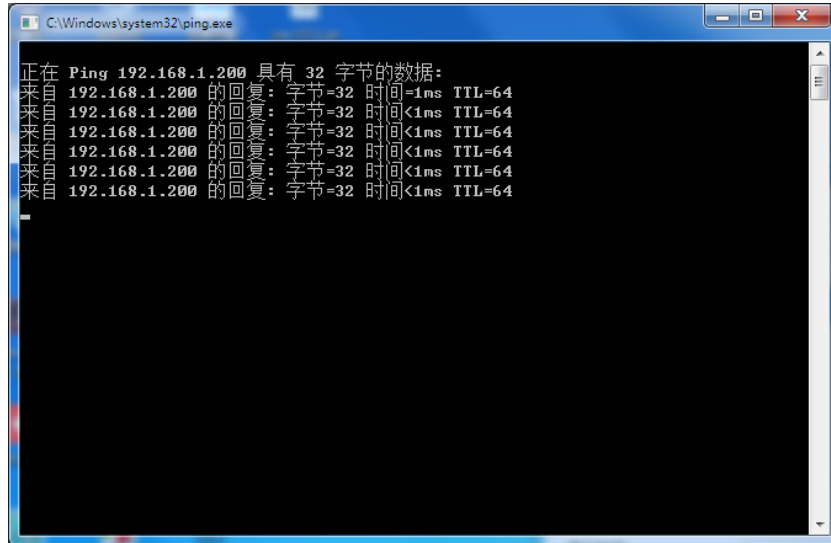
**[Default (2.4G)]:** Fill in the factory default network port parameters of the 2.4G reader device in the network card parameter text box, and click [Set parameters] to apply the default parameters to the network card.

**When a single machine is directly connected (using the RJ45 standard crystal head twisted pair cable to connect the upper computer (computer) and the reader device):** Please modify the IP address of the host computer (computer) to the 192.168.1.xxx network segment. Setting method: Control Panel-Network and Sharing Center-Change Adapter Settings-Local Area Connection, right-click the local area connection and select properties, modify IPv4 settings. As shown below:



After the parameters and IP settings are completed, it is recommended to verify whether the network communication is smooth, hold down the win + R keys and enter ping 192.168.1.200 (the set reader IP address) in the pop-up window-t is fine.

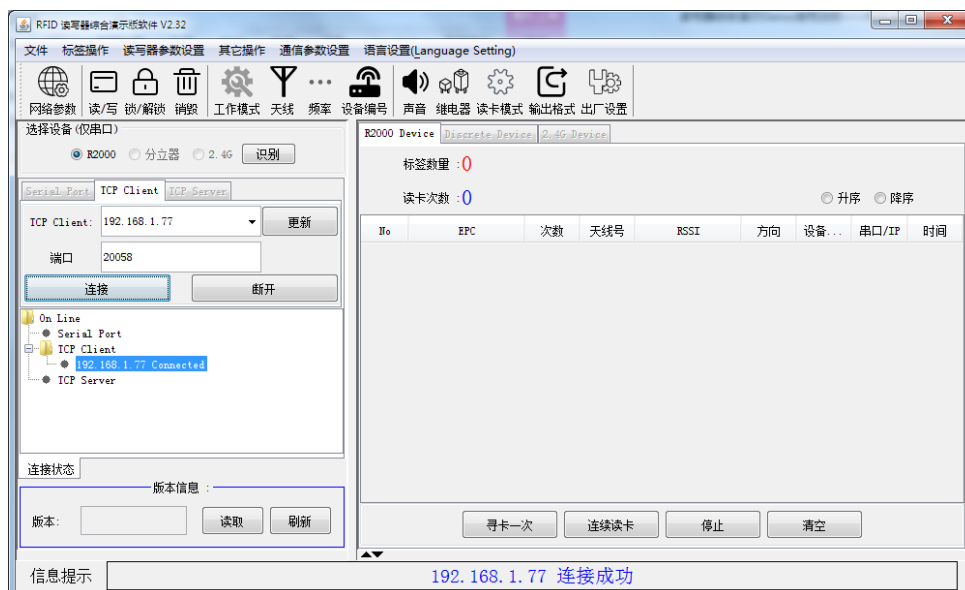




The reader device joins the LAN (the reader uses a standard RJ45 crystal head twisted pair to connect to the router or switch to join the LAN):The host computer (computer) starts the Demo software to enter the network parameter setting interface, and click **[Search Device]**. Select the device displayed in the list on the left, and set the network parameters of the reader at this time. Modify the reader's **[Network Mode]**, **[IP Mode]**, **[IP Address]**, **[Subnet Mask]**, **[Port]**, **[Gateway]**, **[Destination IP]**, **[Destination Port]** and other parameters to make the parameters conform to the LAN Network IPv4 address protocol. Click **[Set Parameters]** to write the filled parameters into the reader network card. For the specific meaning of the network card address data, please consult the network technician or our technical engineer.

After the setting is completed, please also execute the ping command to conduct a preliminary test on the reader network.

After confirming the network, the connection operation can be carried out. When the reader's network parameters are in TCP server mode, the connection method is as follows:

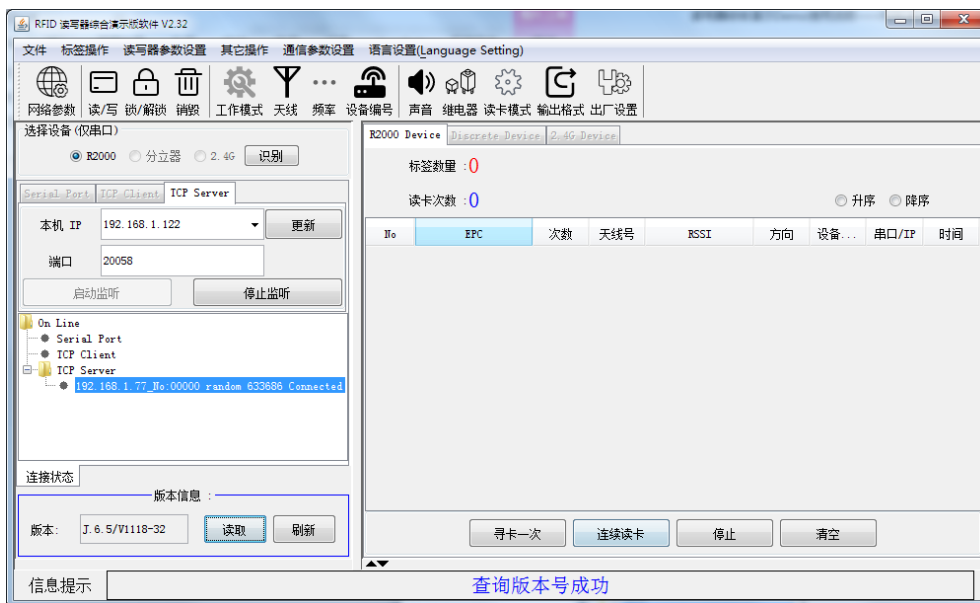


**[TCP Client]:** Fill in the IP address of the device to be connected in the text box, and click the **[Update]** button to automatically obtain the IP address of our device in the LAN.

**[Port]:** Fill in the [Port] in the network parameters, do not fill in the [Destination Port].

**[Connect]:** After filling in the connection parameters, click the [Connect] button to connect to the reader device. After the connection is completed, the currently connected and online device IP will be displayed in the connection status bar, and the information prompt bar will display "Device IP connection successful". At this time, click the [Read] button in the version information bar to query the firmware version of the currently selected device. The information bar displays "reading the version number successfully". If the reading fails, please return to the connection preparation and repeat the above steps to confirm that the network connection is normal.

When the reader's network parameters are in TCP Client mode, the connection is as follows:



**[Local IP]:** The text box is the server IP. When the demo is connected, it is the local IP address of the host computer. Click the [Update] button to automatically obtain the local IP address and fill in. The host computer with multiple network cards needs to click the small triangle to enter Select the network card where the [Destination IP] in [Network Parameter Settings] is located in the drop-down box.

**[Port]:** Fill in the [Destination Port] in the network parameters, do not fill in the [Port].

**[Connection]:** After filling in the connection parameters, click the [Start Monitoring] button to enable server port monitoring. At this time, the currently connected and online device IP will be displayed in the connection status bar, and the information prompt bar will display "TCP service started successfully". At this time, click the [Read] button in the version information bar to query the firmware version and information of the currently selected device The column displays "read version number successfully". If the reading fails, please return to the connection preparation and repeat the above steps to confirm that the network connection is normal.

**Note:**

- 1、 When using the network to connect the reader, you need to turn off the anti-virus software and system firewall;

- 
- 2、 When the reader is connected as a TCP server (server), the upper computer (computer) can only be used as a TCP Client (client); similarly, when the reader is used as a TCP Client (client), the upper computer can only be used as a TCP server (Server);
  - 3、 Serial parameters such as baud rate on the network parameter page must not be modified unless necessary. The serial parameters in the communication mode must be modified before modification, and the corresponding serial baud rate and other parameter values must be remembered after modification.

## 4, Basic operation

---

### 1. Card reader

---

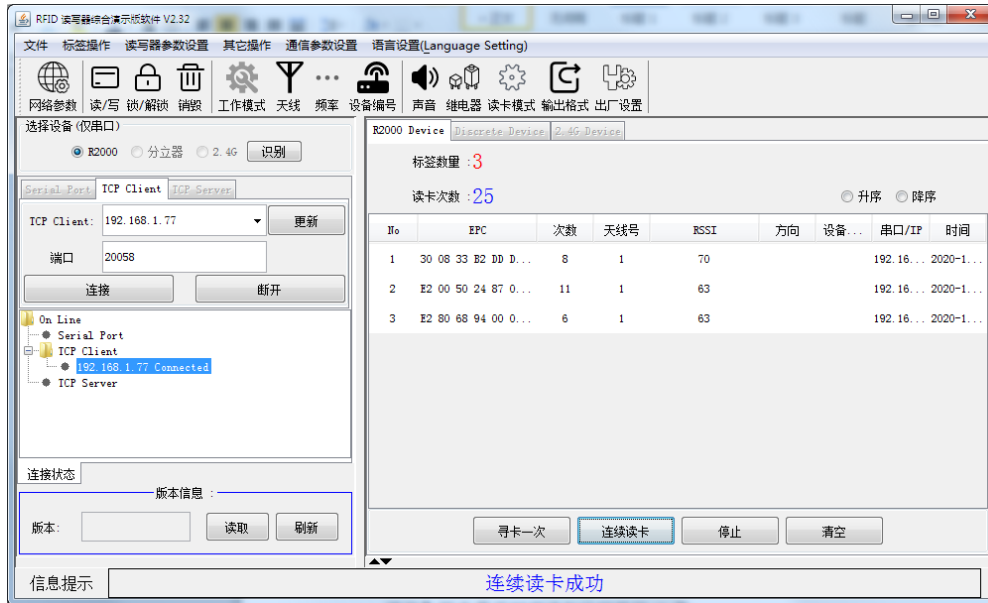
The data display column of the basic interface of the main software is the basic card reading demo interface, which has four buttons: [Find card once], [Continuous card reading], [Stop], and [Clear].

There are two ways to read the card: "Find the card once" and "Read the card continuously".

Find card once: select the reader device to be operated in the connection status bar, and left-click the [Find Card Once] button to execute the "Find Card Once" operation. Each time you click [Search Card Once], the Demo software will send a card search command to the reader by default, so that it can read the card once. If the card reading is successful, the ID number of the corresponding read tag will be displayed in the [Data Display Column].

Continuous card reading: Select the reader device to be operated in the connection status bar, and left-click the [Continuous Card Reading] button to execute the "Continuous Card Reading" operation. Click once on the [Continuous Card Reading] button. The Demo software will send a continuous card reading command to the reader, allowing it to continuously search for the card. If the card is successfully read, the ID number of the corresponding read tag will be displayed in the data display column. Until the user actively clicks the [Stop] button, the Demo sends a stop reading command to the reader to stop the external card search.

as the picture shows:



Interface display data and button introduction:

[Search Card Once]: Select [Search Card Once] in the data display column, and click [Search Card Once] each time, the DEMO software will send a card search command to the reader by default, allowing it to read the card once. If the card reading is successful, the ID number of the corresponding label will be displayed in the [Card Search Demo] area.

[Continuous Card Reading]: Click [Continuous Card Reading], the DEMO software will send the card finding command to the reader by default by default, so that it can find the card continuously. If the card reading is successful, the ID number of the corresponding read tag will be displayed in the [Card Search Demo] area.

[Stop]: Click the "Stop" button once when you need to stop the continuous punching. Note: If the device is in the state of continuous card reading, you need to stop the continuous card reading before you can perform other functional operations.

[Clear]: When the DEMO software is not in the card reading state, click this button to clear the data displayed in the demo area.

[Number of tags]: The total number of different ID numbers read by the device is the number of tags.

[Reading times]: The total number of times all tag ID numbers have been read, which will be scrolled when reading the card.

[Ascending order] and [Descending order]: Sort the found label data from large to small or from small to large.

[No.]: The sequence number of the software to read the label data list.

[EPC]: Tag (card) EPC or TID data, which is the tag ID number.

[Number of times]: The total number of times a single label (card) has been identified.

[Antenna No.]: Applicable to multi-channel reader/writer equipment, which means that the tag data is currently recognized by the antenna of the channel number. It will be displayed only when this option is checked in the [Search card data output format].

[RSSI]: rssi antenna detection value, you need to check this option in [Search Card Data Output Format] to display it.

---

[Direction]: The port number of the currently triggered infrared or photoelectric switch, which requires an external photoelectric switch and other equipment, and the entry and exit direction of the access door should be checked in the [Card Search Data Output Format].

[Equipment ID]: The device ID of the current item tag (card) is identified, and it will be displayed only when this option is checked in the [Search Card Data Output Format]. Note: For details, please refer to the following equipment number entry.

[Serial port/IP]: The specific data output address of the device that has identified the current item tag (card).

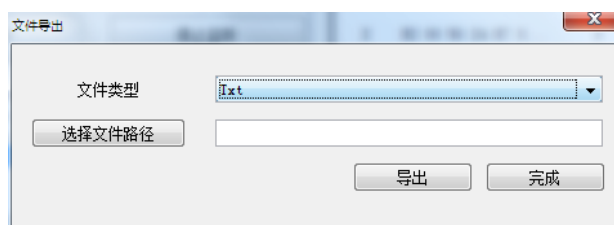
[Time]: The local time when the current label data is received locally.

## 2. Data output

---

All the data displayed in the data display column (that is, all the identified label data) can be exported into three formats: text file (TXT), table (Excel), and Word file.

Export method: Select the menu bar-File-Export to enter the file export interface, select the file format (TXT, Excel, Word) to be exported, and then select the specific file path to export to. As shown below.



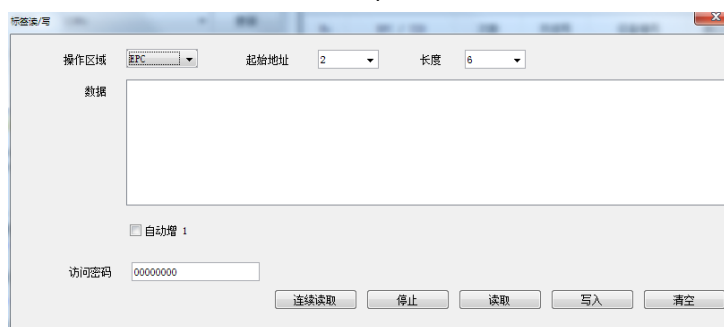
## 5, Tag operation

---

### 1. Read and write tag data

---

Click the label operation in the menu bar-read/write label data; or click the [read/write] button in the shortcut bar to enter the label read/write interface.



The functional operation of tag reading and writing is mainly to read or write data in each area of the tag (the TID area can only be read but not written).

[Reserve (reserved area)]: Address: 0-3; Address: 0-1 stores 32-bit kill password (kill password or destroy password), the default is: 00 00 00 00; 2-3 stores 32-bit access password (Access), The default is: 00 00 00 00. When this area is not accessed or encrypted, the data in the area can be rewritten at will.

---

[EPC (EPC area)]: Address: 2-7; store 96bit ID number, which is the area where the data read out by our device by default is usually stored. When this area is not accessed or encrypted, the data in the area can be rewritten on demand.

[TID (TID area)]: Address: 0-5; store 96-bit globally unique and non-rewritable ID number.

[User (User Area)]: Address: 0-31; store 512bit data. By default, each address is 00 00. When this area is not accessed or encrypted, the data in the area can be rewritten at will.

The above description of each area is based on the Alien H3, a more commonly used tag chip as an example. For different chips, the corresponding area data and actual functions may be different.

1, Place the tag directly above the antenna connected to the device, approximately: 3-5cm. (Ensure that there are no other tags around the antenna)

2, Select the area to be read or written in the drop-down menu of the [Operation Area] button (take the EPC area as an example)

The drop-down menu confirms that EPC is selected.

3. Select the appropriate start address in the start address, initially set to: 2(EPC default 2, user area and reserved area default to 0).

4. Select the length of the data that needs to be read or written in length, initially set to: 6(The unit is "word", that is, the data length is 24 bits, totaling 96 bits.)

5. That is, it is now to read or write the data with the starting position of the EPC area: 2, and the length: 6. If it is only to read, just press [Read]; when the read is successful, the corresponding data will appear in the data display column. And in[Information Prompt Bar] Display: Read successfully.

On the contrary, if the reading fails, there is no data displayed in the data box, and "read failed" is displayed in the [Information Prompt Bar]

At this time, you should check the quality of the label again, the placement and the connection of the equipment, antenna, and data line.

If you need to write data with the starting position of the EPC area: 2, and the length: 6, when writing. You need to fill in the data as long as the length setting in the data column.

When the writing is successful, the [Information Prompt Bar] displays "Write Successful". To ensure that the required data has been successfully written, you can click [Clear] at this time, and then click [Read]. After the reading is successful, check whether the data displayed in the data box is the data that needs to be written. After verification, it proves that the writing is successful. On the contrary, if the writing fails, the [Information Prompt Bar] displays "Write Failed".

When the written data is sequentially incremented by 1, and it is a hexadecimal number, you can check it before clicking the [Write] button  自动增1 , When the quick write succeeds, the data in the box will automatically increase by 1.

[Continuous reading]: The reader will repeatedly send the read label command in the designated area to the reader. When the label data is read, the serial number will be marked in the data box and displayed, and there will be no prompt for failure.

[Access Password]: When the password of the reserved area is changed, the access password needs to be changed to specify the password for the user to write data normally when writing data. The default is: 00 00 00 00

---

Note 1: When the corresponding area that needs to be operated is accessed and encrypted, when writing, you need to enter the access password to write; when the corresponding area that needs to be operated is killed and encrypted, you cannot write.

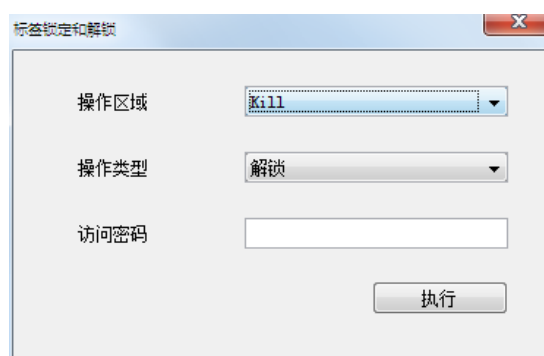
Note 2: The R2000 reader is mainly used for multi-card reading. For card writing operations, only antenna 1 can be enabled, and there should be no other tags in a large area around the reader.

Note 3: When writing non-standard 12-byte data, pay attention to modifying the PC code. For details, please refer to the ISO18000-6C protocol. (Or consult our docking business manager and technical support engineer)

## 2. Lock or unlock tags

---

Click the label operation in the menu bar-lock or unlock the label; or click the [Lock/Unlock] button in the shortcut bar to enter the label lock and unlock interface.



Label lock and unlock: lock is to write and encrypt the EPC area and User area; to write and read encryption to the Reserve (reserved area) and kill (inactivation area). The password is stored in: Reserve (reserved area), address: Access area of 2-3, the general default is: 00 00 00 00.

### Give an example to illustrate the operation steps of [Lock]:

- 1, Place the tag directly above the antenna connected to the device, approximately: 3-5cm. (Ensure that there are no other tags around the antenna)
- 2, In [Operation Area]Select the specific area from the drop-down box, initially set as: ECP area
3. Select the specific operation that needs to be performed in the drop-down box of [Operation Type], and the initial setting is: Unlock. [Operation type] includes: [Unlock] to unlock the label read/write area that has been security-locked; [Permanently writable] to make the label not locked and can be written multiple times; [Security Lock] to lock the label's designated area without access The password cannot be written to the card; [Never write] locks the designated area of the label, cannot be written again, and the data is fixed.
4. Enter the password in the [Access Password], the password is stored in the Access area of the Reserve (reserved area) address: 2-3, if not rewritten, the general default is: 00 00 00 00.
5. Finally click[Execute], after the card is locked successfully, the [Information Prompt Bar] displays "Label Locking Successfully".

In order to verify that it has been successfully locked, you can verify it in the [Tag Read and Write] area, the steps are as follows:

- 
1. Place the tag directly above the antenna connected to the device, approximately: 3-5cm. (Ensure that there are no other tags around the antenna)
  2. As shown in the figure below, select the number operation area and set the starting position and length.
  3. Click [Read], after reading successfully, the data will be displayed in the dataIn the box. Then change the data slightly, initially set it to: E2 00 55 66, and then click [Write], you can try to click it multiple times, [Information Prompt Bar], it only displays: "Label Write Failed".
  4. When other data needs to be written to the EPC area, the EPC area needs to be unlocked first.

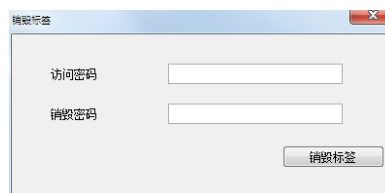
**Note:** After the EPC area and the User area are locked, they cannot be written but can be read when unlocked;

After the Reserve (reserved area) {kill area + Access area} is locked, it cannot be read or written without entering the access password.

### 3. Destroy the label

---

Click the label operation in the menu bar-destroy the label; or click the [Destroy] button in the shortcut bar to enter the destroy label interface.



[Destruction label]: The destruction password is stored in the Reserve (reserved area), address: 0-1 Kill area, the default is: 00 00 00 00. Fill in the corresponding password data in the text box after [Destroy Password], and click the [Destroy Label] button to destroy the label.

**Note:**

1. [Destroy tags] The action is irreversible, please operate with caution!
2. Refer to the content of [Read/Write Label] for label placement and location when [Destroy Label].

## 6,Reader parameter settings

---

[Reader parameter setting] is the third from the left in the menu bar. The menu bar includes: [Working Mode], [Antenna Setting], [Frequency Setting], [Device Number] and other options.

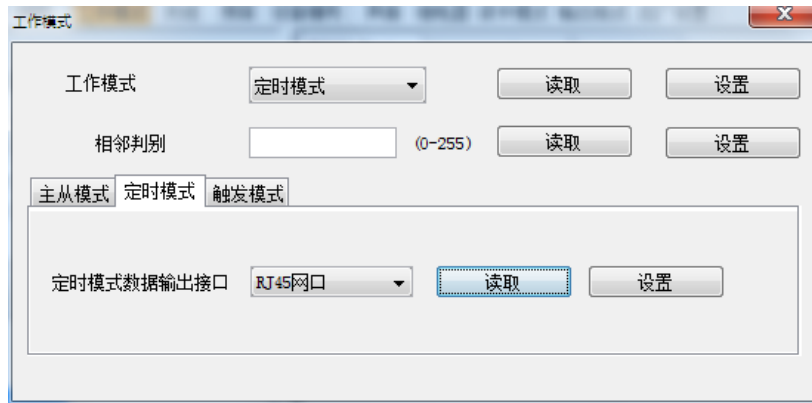
All parameter settings performed by the user on the reader device are written into the motherboard flash, and the parameters will not be refreshed after a power failure.

### 1. Operating mode

---

Menu bar reader parameter setting-working mode; or click the [working mode] button in the shortcut bar to enter the working mode interface.





All our reader/writer devices have the following three working modes: master-slave mode, timing mode, and trigger mode. Generally, the default factory settings are: [Timer Mode], [Timer Mode Data Output Interface] defaults according to the device model. as the picture shows.

[Master-Slave Mode]: In this working mode, the reader works under the control of the host computer (computer) or other controllers. The reader and the controller can communicate through one of RS232, RS485 or Ethernet interface. This way of working supports all the functions provided by the secondary development kit.

[Timing Mode]: The reader will automatically read the card in a certain period (configurable), and the read data will be output through the designated communication port. [Timing mode data output interface] You can select the method by which the data information read in the timing mode is transmitted to the upper computer (computer). Generally the default is the channel corresponding to the device model, including [RJ45 network port], [Serial port], [RS485], [WiFi], [2.4G], etc. The operation of the label in this way is read-only. When the required parameters are set, click [Set], after the setting is successful, there will be a prompt message. To verify that the setting is successful, you can select another working mode, and then click [Read] to see if the working mode you need to set is displayed, if not, set it again.

[Trigger mode]: This mode requires an external infrared, photoelectric switch or similar on-off switch peripherals. When a high level is input on the trigger input port, the reader will start to read the card periodically and will automatically shut down after a period of time. In [Trigger Delay], enter the delay time; in [Trigger Mode Alarm Time], set the time for the relay to automatically close after triggering. When the required parameters are set, click [Set], after the setting is successful, it will display: Working mode parameter setting is successful. To verify that the setting is successful, you can select another working mode, and then click [Read] to see if the working mode you need to set is displayed, if not, set it again.

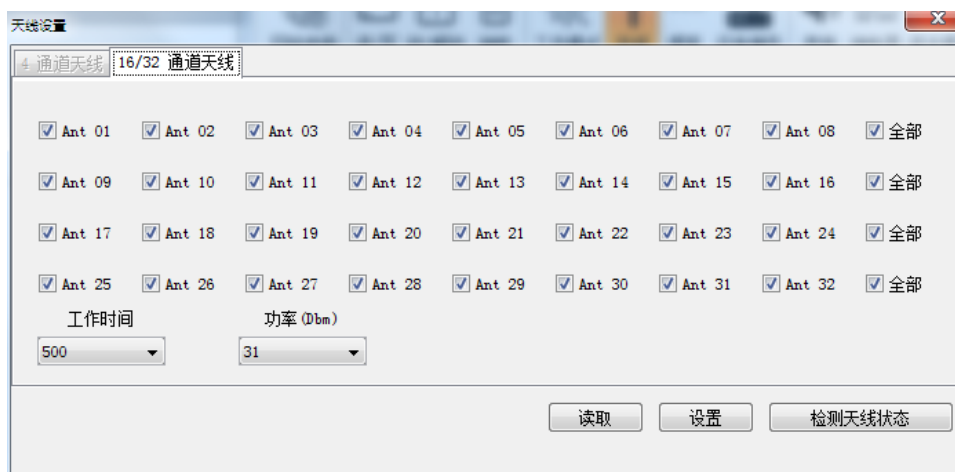
[Adjacent discrimination]: When the adjacent time is set (1-255 can be set, the unit is second), within this time, the same tag number will only be sent to the computer (upper computer) no matter how many times it is read. ) Upload once.

**Note:** For the specific wiring sequence or pin definition of the terminal, please refer to the specifications of the corresponding read-write device.

## 2. Antenna parameter setting

Menu bar reader parameter setting—antenna setting, or click the [antenna] button in the shortcut bar to enter the antenna setting interface.

R2000 reader equipment currently has four channels, 4 channels, 8 channels, 16 channels, and 32 channels. Due to the difference in the number of antenna channels, 4 channels have a separate configuration page, and 8, 16, and 32 share a common interface. When entering the interface, the Demo software will automatically identify the number of channels of the current reader. If you do not automatically enter the relevant page, please select the page to enter.



The working mode of the multi-channel antenna is polling mode. There is one and only one antenna working at the same time. When selecting the antenna channel, it needs to be configured according to the actual wiring.

[Read]: Read the current antenna configuration of the device and verify whether the port configuration is correct.

[Settings]: Write the antenna port number selected by the user into the reader device.

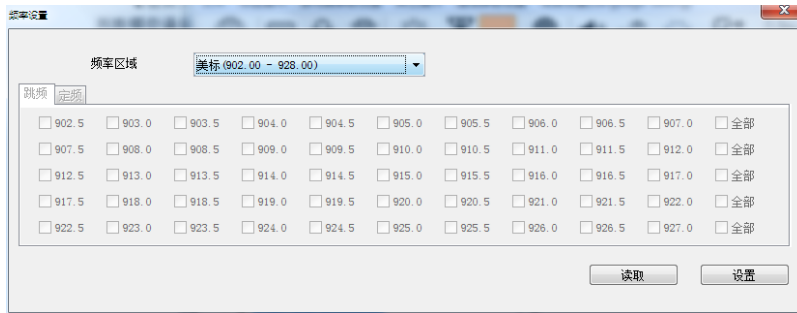
[Working time]: The duration of a single antenna card search, the time unit is milliseconds (ms). For example: set the working time to 500ms, and configure the antenna to reach 4, then the time for one polling to find the card is 2 seconds (s). If it is 8 channels, it is 4 seconds (s).

[Power]: Adjust the parameters of the device's transmit power intensity, R2000 device power parameters 0-33 are adjustable in steps of 1. The factory default parameter is 30, and it is recommended to set the power to 33 for non-special circumstances.

[Detect antenna status]: After clicking, send an antenna detection command to the reader, and the reader will poll the antenna to detect which channels have antennas.

### 3. Frequency setting:

[Frequency]: Frequency is the frequency at which the reader's antenna transmits external signal waves. Different countries and regions have different frequency bands. For example: American standard (902.00-928.00MHz), European standard (866.00-867.50MHz), etc. Our standard reader/writer equipment currently supports both American and European standards.



There are two types of frequency settings: [Frequency Hopping] and [Fixed Frequency]:

[Frequency Hopping]: After setting this mode, the reader will cyclically hop on multiple frequency points in an orderly manner when sending the read tag signal;

[Fixed frequency]: After setting this mode, the reader will only send the signal on the set single frequency when sending the read tag signal.

[Frequency area]: Select the frequency standard, the parameters generally default to the American standard, and cannot be modified at will without permission.

[Frequency Mode]: Select two different frequency operation modes, "Frequency Hopping/Fixed Frequency".

[Default]: Reset the frequency to our company's default standard configuration, and you need to click [Settings] to write the data into the reader.

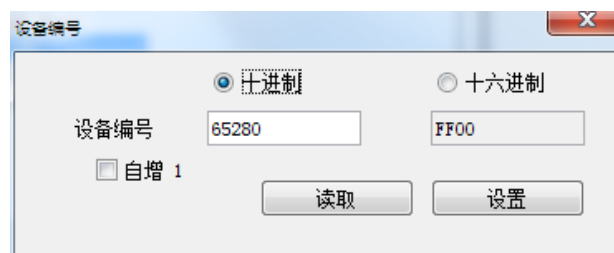
[Read]: Read the current frequency parameters of the device.

[Settings]: Write the current parameters to the reader device.

**Note: It is not recommended to change the frequency configuration without guidance, which may cause unsatisfactory card reading effects.**

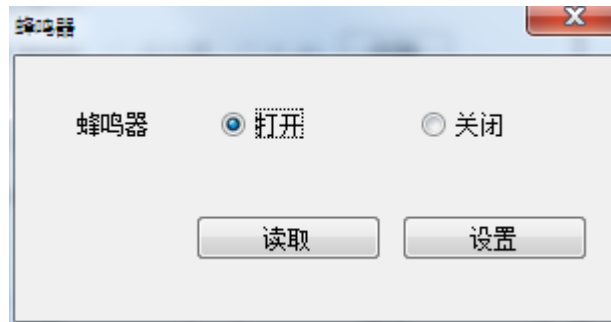
#### 4. Device number setting:

[Equipment Number]: Each reader will have a corresponding device number, and the factory default setting is generally 0. Set a different device number. It is convenient to distinguish the data upload of different devices. The device number is configurable with hexadecimal data 0x00-0xFF.



## 7, Other operations

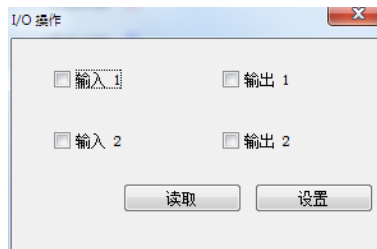
**Buzzer sound:** "Menu bar other operations-buzzer sound" or the shortcut bar [sound] button can enter the buzzer interface. [Close] Turn off the buzzer sound directly; [Close] Turn off the buzzer sound.



[Read]: Read the current setting parameters.

[Settings]: Write the current parameters to the reader device.

**Relay control (customized):** "Menu bar other operations-relay control" or the shortcut bar [Relay] button can enter the I/O operation interface. When the device has a relay signal output and is not controlled by the internal software of the card reader, the relay status can be controlled.



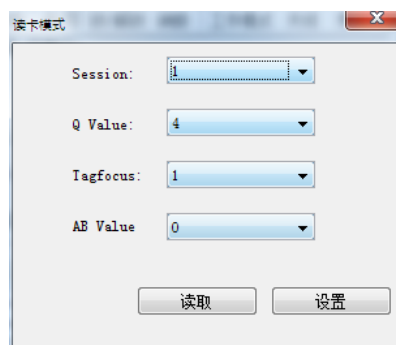
[Input 1/2]: It is the photoelectric input port control, configure the photoelectric input port to be enabled.

[Output 1/2]: It is controlled by the relay. After checking it, click [Settings] to control the relay to close, and the relay enters normally closed. After canceling, click [Settings] to control the relay port, and the relay will enter normally closed.

[Read]: Read the current parameters of the I/O port and display them on the interface. The read success information display column will display "read relay success"

**Note:** Please refer to our equipment specification for specific equipment line sequence and pin definition.

**Card reading mode:** "Menu bar other operations-card reading mode" or the shortcut bar [card reading mode] button can enter the card reading mode setting interface. The card reading mode mainly controls the antenna signal parameters, and fine-tunes the antenna sensitivity and working status.



[Session]: The setting range is 0-3, and the default value is 1.

[Q Value]: The setting range is 0-15, and the default value is 6;

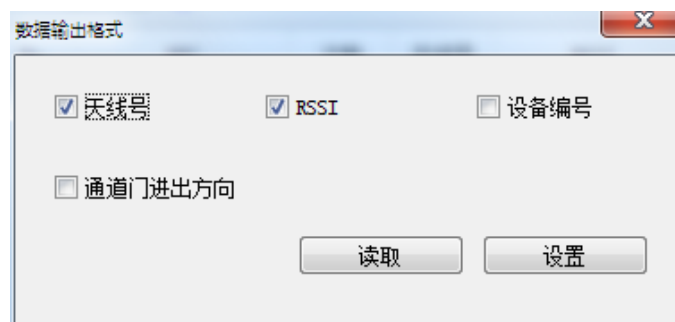
[Tag focus]: 0 means the function is off, 1 means the function is on, the default setting is 1.

[AB Value]: 0 means the function is off, 1 means the function is on, the default setting is 1;

**Note:** If the user is not very familiar with these parameters, it is recommended to keep the product default settings for testing, without changing the relevant parameter configuration.

[Read]: Read the card reading mode setting data of the current device at this time, and display it on the card reading mode interface. The prompt bar of successful reading information will show that the card reading mode is successful.

**Output format:**"Other operations in the menu bar-search card data output port format" or the [output format] button in the shortcut bar can enter the data output format setting interface.



[Search card data output format] refers to the data display options in the data display column. The main parameters are as follows:

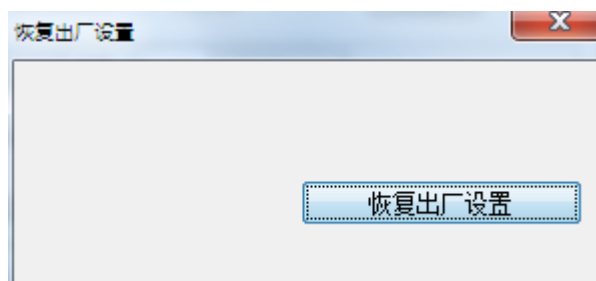
[Antenna No.]: After checking, the card reading channel/antenna number in the data display column is checked by default. Represents the antenna port where the current tag is located.

[RSSI]: After checked, the RSSI antenna detection value will be displayed in the data display column. The default is checked.

[Equipment Number]: After ticking, the device number will be displayed in the data display column. The default is not ticked, that is, it will not be displayed.

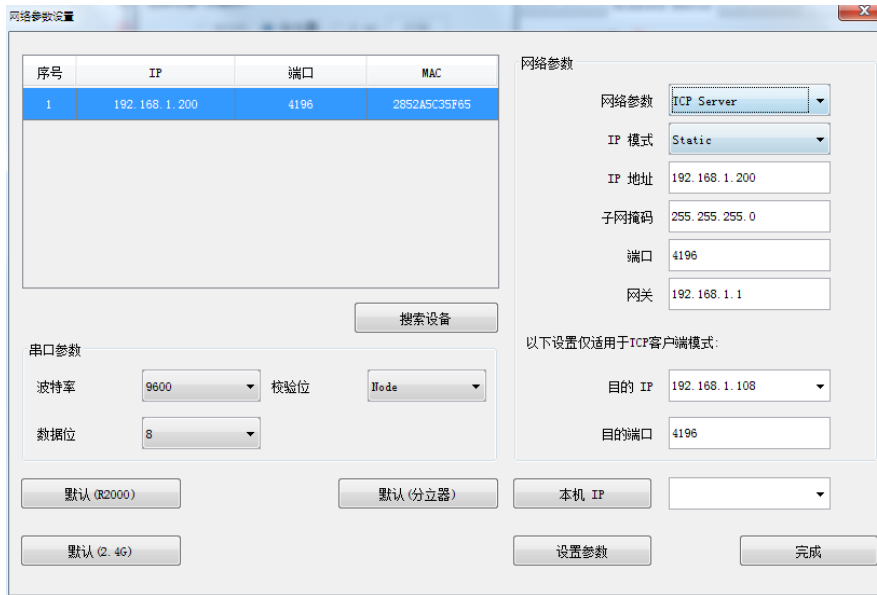
[Access door entry and exit direction]: After checking, the data display column will display which number of infrared or photoelectric switch is triggered when the current tag is recognized. This function needs to cooperate with peripherals such as photoelectric switches.

**Factory settings:**"Other operations on the menu bar-restore factory settings" or the [factory settings] button in the shortcut bar can enter the factory settings restoration interface. Set up when you are unfamiliar with the operation, and when card reading or other abnormalities occur, you can use this function to restore the reader parameters to the factory parameters.



## 8,Communication parameter setting

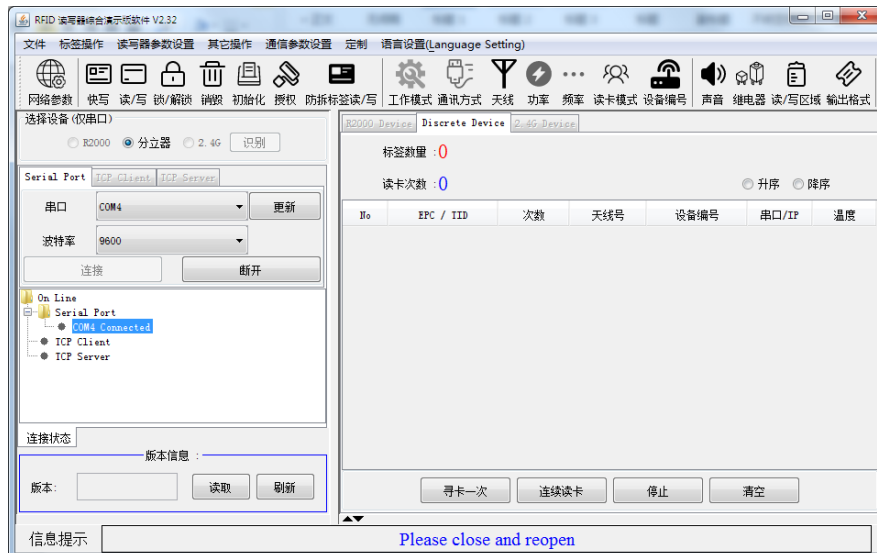
"Menu bar communication parameter setting-network parameter setting" or the shortcut bar [network parameter] button can enter the network parameter setting interface.



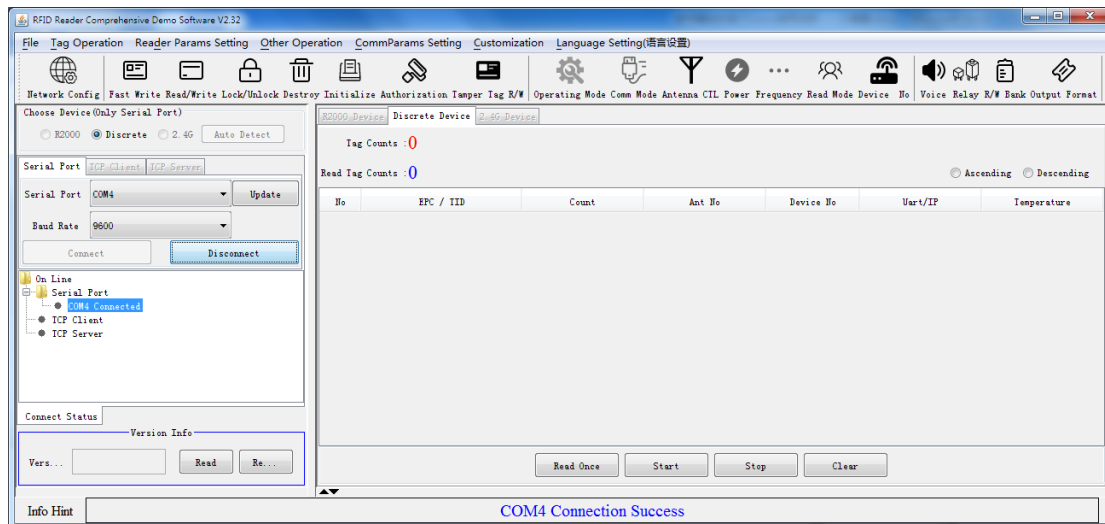
For details [Article 3-The second network port connected by the software.](#)

## 9, Language settings

Select the language setting in the menu bar, you can switch the Chinese and English versions of the software. At the same time, use the text file (TXT) to open under the Demo folder of the development package Config.inifile. Parameter tagType = 0 amended totagType = 1, You can also modify the software language.



Note: After switching, the [Information Prompt Bar] will display "Please close reopen". At this time, please close the Demo software, restart it, and the software will enter the English interface.



## 10, FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.