

New
UHF RFID Reader
Demo User Manual

Version control

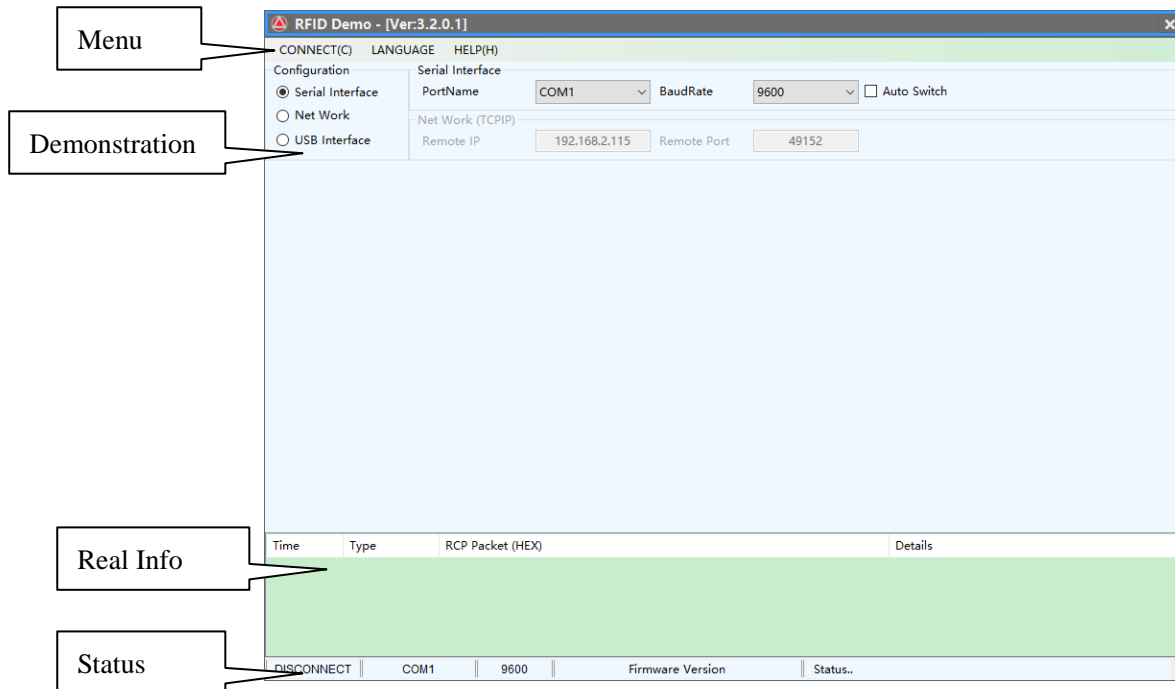
Change Date	Version	Changes
2012-06-10	V1.0	Initial version
2015-01-29	V3.2	The new interface revision
2015-09-17	V3.3	Add new Communications

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1. Introduction

This demo is used to read and write the 915MHz tags;

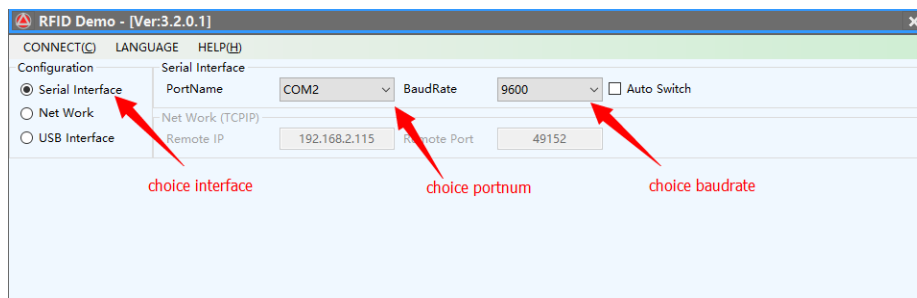


2. Communications

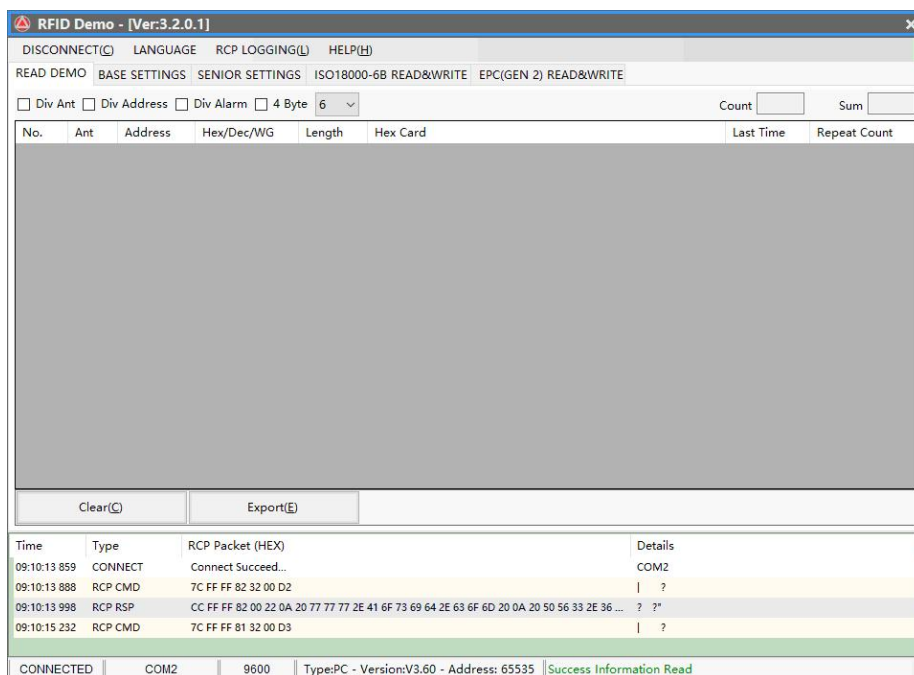
2.1. Serial Interface

2.1.1. Connect reader to the computer with serial port (make sure the right connections, and obtain the computer serial number);

2.1.2. Choice the method of communication to “Serial Interface”, select right port name and baud rate:



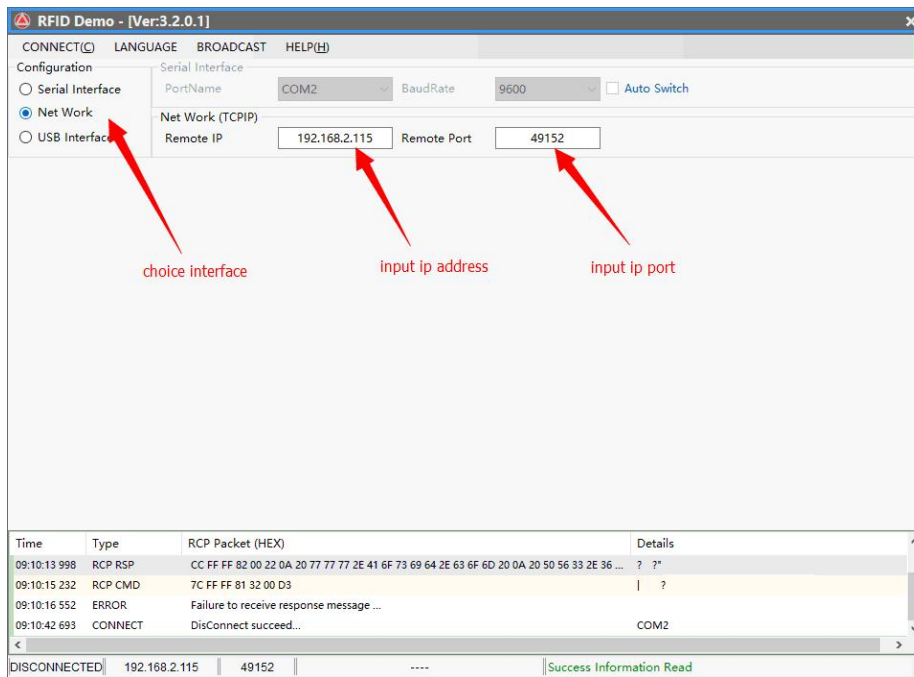
2.1.3. Click “CONNECT”, if be connected then screen is show as follow;



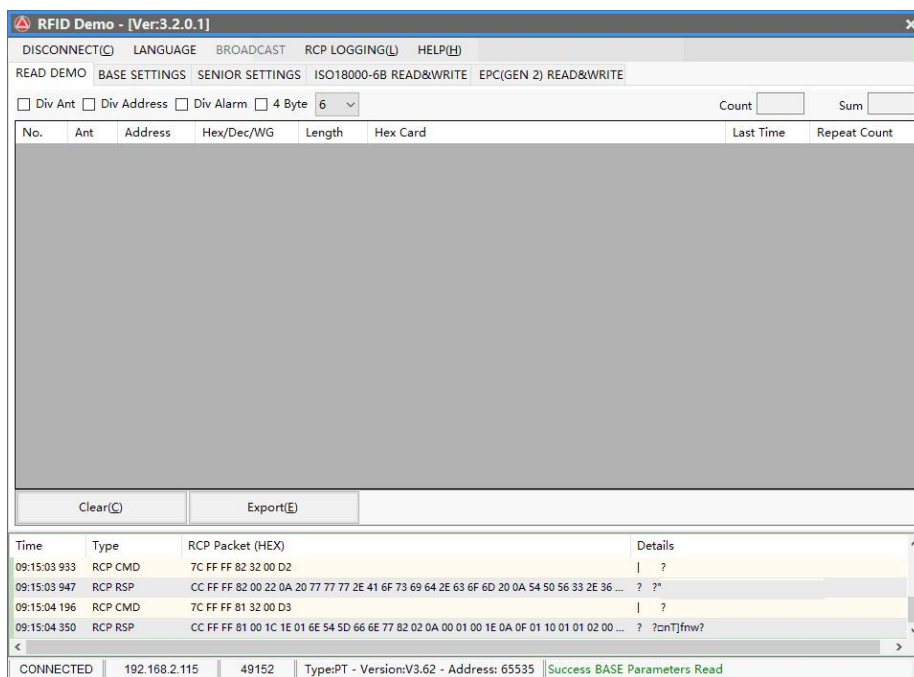
2.2. Net Work

2.2.1. Connect reader to LAN;

2.2.2. Choice the method of communication to “Net Work”, input reader IP Address and IP Port:

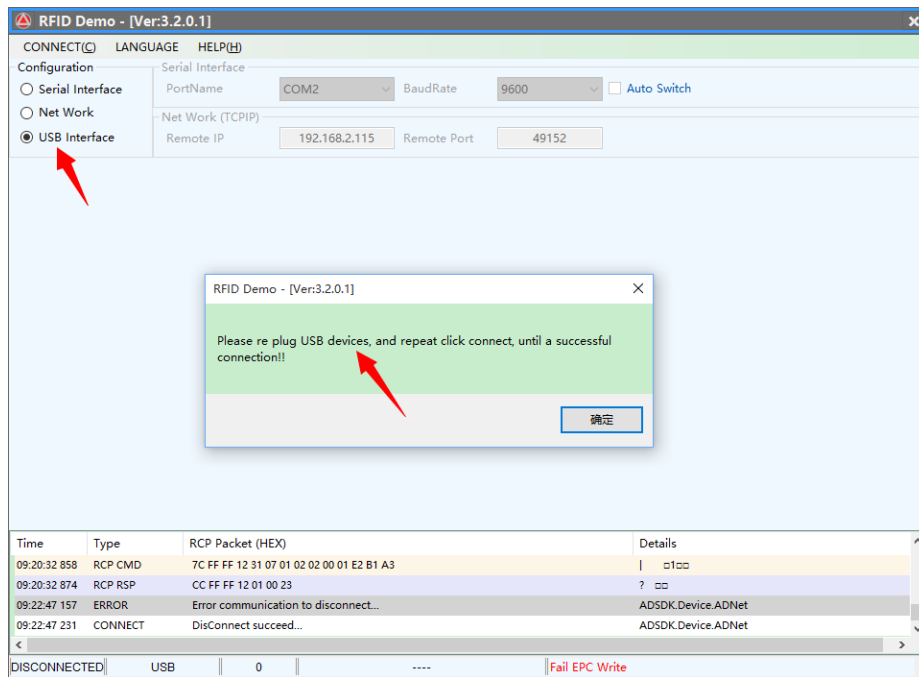


2.2.3. Click “CONNECT”, if be connected then screen is show as follow;

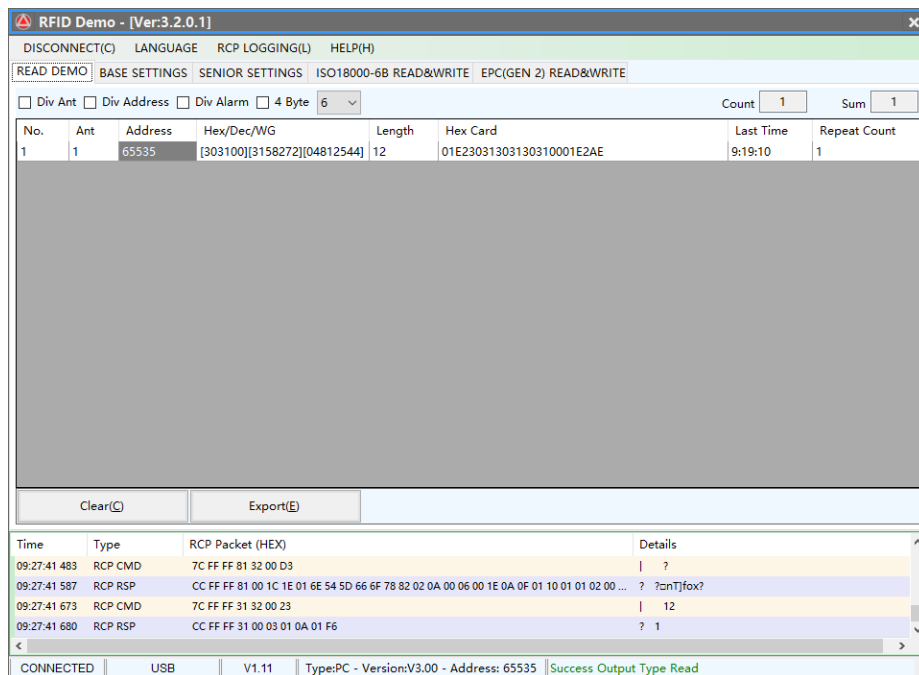


2.3. USB Interface

2.3.1. Choice the method of communication to “USB Interface”;



2.3.2. Click “OK”, and Re plug the USB, than Click “CONNECT” In 5 seconds. Until show follow form;



3. Parameters

The software must connect the reader then it can be set parameters, choice the “BASE SETTINGS” Table;

RFID Demo (Version:3.2.0.0) - English - SERIAL

DISCONNECT SETTINGS RCP LOGGING LANGUAGE(语言) HELP

READ DEMO **BASE SETTINGS** SENIOR SETTINGS ISO18000-6B READ&WRITE EPC(GEN 2) READ&WRITE

Wiegand Parameters Input Zone

Byte Offset: 0 Byte Pulse Width: 10 *10us Out Interval: 30 *10ms Pulse Period: 15 *100us

Basic Parameters Input Zone

Work Mode: Passive Output Mode: 3-TCPIP Read Interval: 10 ms

Power Size: 30 dBi Trigger: Close Same ID Interval: 1 s

Buzzer: Enabled Card Type: EPC(GEN 2)Single-Tag

Senior Parameters Input Zone

Antenna: ☒ ANT 1 ☐ ANT 2 ☐ ANT 3 ☐ ANT 4

Freq Parameters Input Zone

Hopping Enabled: Enabled China America Europe Hopping Value: 902.0 - 925.0 MHz

Get Para(G) Set Para(S) Default All(A)

Time	Type	RCP Packet (HEX)	Details
10:09:53.660	RCP RSP	CC FF FF 82 00 22 0A 20 77 77 77 2E 41 6F 73 69 64 2E 63 6F 6D 20 0A 20 50 56 33 2E 30 30 4E ...	
10:09:53.926	RCP CMD	7C FF FF 81 32 00 D3	
10:09:54.078	RCP RSP	CC FF FF 81 00 1C 1E 01 6E 54 5D 66 6F 78 82 03 0A 00 03 00 1E 0A 0F 01 10 01 01 02 00 02 00 ...	nTJfox
10:09:54.106	RCP CMD	7C FF FF B9 22 00 AB	
10:09:54.188	RCP RSP	CC FF FF B9 00 1C C0 A8 02 89 FF FF FF 00 C0 A8 02 01 00 C0 5E 45 A2 6C 31 37 C0 A8 01 64 0...	^E I17 d

CONNECTED COM1 9600 Type:P - Version:V3.00 - Address: 65535 Success TCPIP Parameters Read

Change any parameters, need to click on "Set Para" button then the parameters of Reader will be changed;

3.1. Base Settings

RFID Demo (Version:3.2.0.0) - English - SERIAL

DISCONNECT SETTINGS RCP LOGGING LANGUAGE(语言) HELP

READ DEMO **BASE SETTINGS** SENIOR SETTINGS ISO18000-6B READ&WRITE EPC(GEN 2) READ&WRITE

Wiegand Parameters Input Zone

Byte Offset: 0 Byte Pulse Width: 10 *10us Out Interval: 30 *10ms Pulse Period: 15 *100us

Basic Parameters Input Zone

Work Mode: Passive Output Mode: 3-TCPIP Read Interval: 10 ms

Power Size: 30 dBi Trigger: Close Same ID Interval: 1 s

Buzzer: Enabled Card Type: EPC(GEN 2)Single-Tag

Senior Parameters Input Zone

Antenna: ☒ ANT 1 ☐ ANT 2 ☐ ANT 3 ☐ ANT 4

Freq Parameters Input Zone

Hopping Enabled: Enabled China America Europe Hopping Value: 902.0 - 925.0 MHz

Get Para(G) Set Para(S) Default All(A)

3.1.1. Parameter specifies

3.1.1.1. Wiegand Parameters Input Zone

Wiegand Parameters is associated with the wiegand interface of controller, just when the output mode of reader is choice Wiegand26 or Wiegand34 then it can be effective.

Byte Offset: The EPC tag have 12 byte data, default output first 3 or 4 byte data, If you set a byte offset value, the output data will start from the set value;

Out Interval: invalid;

Pulse Width: be associated with the wiegand interface of controller;

Pulse Period: be associated with the wiegand interface of controller;

3.1.1.2. Basic Parameters Input Zone

Work Mode: Include Command, Active and Passive;

1. **Command:** Reader do not work, when PC send command to Reader then it work once, and response PC;
2. **Active:** Reader work, and if read the tag then auto send data to PC;
3. **Passive:** Reader work, do not auto send data to PC, when PC send command to reader then it send last data to PC;

Output Mode: Include RS232(USB)、RS485(WIFI)、TCPIP、CANBUS、Syris、Wiegand26 and Wiegand34;

1. **RS232(USB):** Serial Interface, main to connect PC, one serial interface just can be connect one reader;
2. **RS485(WIFI):** Serial Interface, main to connect PC, one serial interface just can be connect MULT reader(MAX 32);
3. **TCPIP:** Net Work, Through LAN or WAN for communication with PC;
4. **CANBUS:** Controller Area Net-work Bus;
5. **Syris:** Taiwan Syris controller protocol;
6. **Wiegand26:** Wiegand controller protocol;
7. **Wiegand34:** Wiegand controller protocol;

Data:	Wiegand	http://baike.baidu.com/view/557637.html
	RS485	http://baike.baidu.com/view/196467.htm
	RS232	http://baike.baidu.com/view/196461.htm
	TCPIP	http://baike.baidu.com/view/7649.htm
	CANBUS	http://baike.baidu.com/view/985423.htm

Read Interval: the frequency of reader read tag;

Note: Usually more than 10 ms, too small will shorten the service life of the reader.

Power Size: Set the transmit power size, the maximum value of 30;

Trigger: Include Close and Low Trigger

1. **Close:** Close trigger to read tag;
2. **Low Trigger:** Trigger level lead connected to the low level effective;

Same id Interval: The same tag data is transmitted only once in the set time;

Buzzer: enabled the buzzer;

Read Type: type of tag can be read;

1. **ISO18000-6B:** just read the ISO18000-6B protocol tag;
2. **EPC (GEN 2) Single – Tag:** just read the EPC(GEN 2) protocol tag at a time;
3. **ISO18000-6B + EPC (GEN 2):** read the EPC(GEN 2) protocol tag and ISO18000-6B protocol tag;
4. **EPC (GEN 2) Multi – Tag:** just read the EPC(GEN 2) protocol tag;
5. **EPC (GEN 2) Multi – Data:** just read the EPC(GEN 2) protocol tag, In addition to read default EPC District 12 byte of data can be read in other areas outside the data (select the category, can be in the advanced parameters set to read other areas of the location of the data length, a maximum of 12 bytes);

3.1.1.3. Senior Parameter Input Zone

Antenna: Aiming at the multi channel card reader application parameters (split card reader), the integration of the default 1card reader antenna;

Max Tags: when switch the read type to “EPC (GEN 2) Multi-Tag”, limit max tag count once read;

Other Memory: when switch the read type to “EPC (GEN 2) Multi-Data”, EPC data + Memory bank data;

Start Address: when switch the read type to “EPC (GEN 2) Multi-Data”, Memory bank data start address;

Length: when switch the read type to “EPC (GEN 2) Multi-Data”, Memory bank data length;

3.1.1.4. Freq Parameter Input Zone

Hopping Enabled: Enabled hopping; usually choice enabled;

3.2. Senior Settings

TCP/IP Config			
IP Address	192.168.2.137	IP Port:	49152
Subnet Mask:	255.255.255.0	GateWay:	192.168.2.1
Mac Address:	5E-45-A2-6C-31-37	Network Mode	Server
Server IP	192.168.1.100	Server Port	49153
		<input type="button" value="Get Para(S)"/> <input type="button" value="Set Para(S)"/> <input type="button" value="Default(D)"/>	
Address Config			
Old Address:	65535	New Address:	65535
		<input type="button" value="Set Address"/>	
SYRIS Config			
Syris SN:	00000001	Syris ID:	1
		<input type="button" value="Set Syris"/>	
Time Config			
Now Time:	2015/1/29 11:54:48	Reader Time:	--
		<input type="button" value="Get"/> <input type="button" value="Set"/>	
Soft Config			
<input type="button" value="IO1 Open"/> <input type="button" value="IO1 Close"/> <input type="button" value="IO2 Open"/> <input type="button" value="IO2 Close"/> <input type="button" value="SoftReset"/>			

3.2.1. Parameter specifies

3.2.1.1. TCPIP Config

IP Address: Local IP address;

IP Port: Local IP port;

Subnet Mask: Local subnet mask;

Gateway: Local gateway;

Mac Address: Local Mac address;

Network Mode: choice the reader run mode, include server and client;

Server IP: remote IP;

Server Port: remote port;

3.2.1.2. Address Config

Protocol address of reader, can be set;

3.2.1.3. SYRIS Config

Can be set the reader Syris No., this No. can be used when the output mode is “5-Syris”;

3.2.1.4. Time Config

Custom version reader can be used;

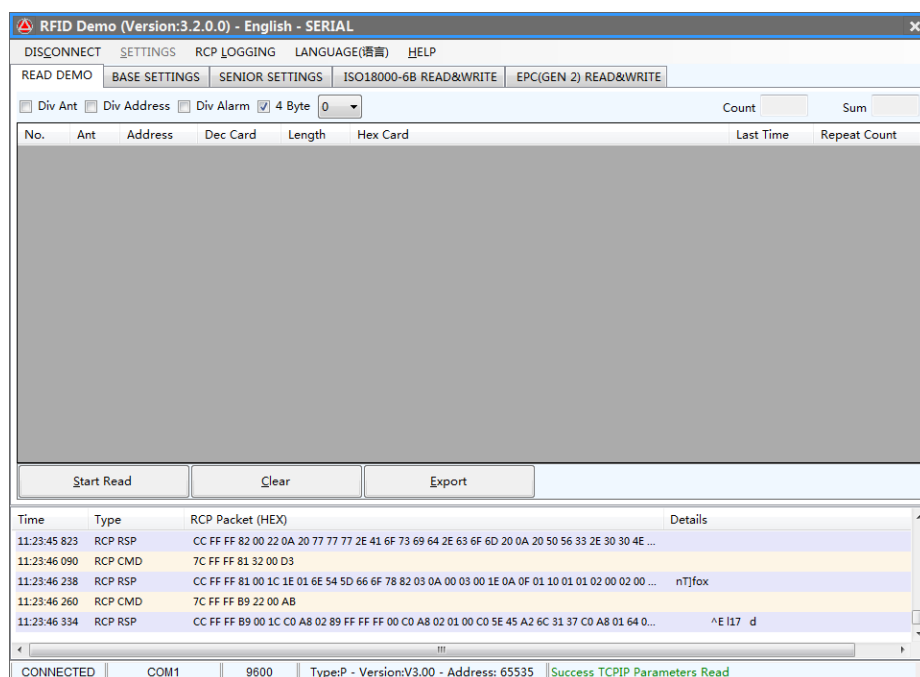
3.2.1.5. Soft Config

Custom version reader can be used;

Tables A. Write Card Number

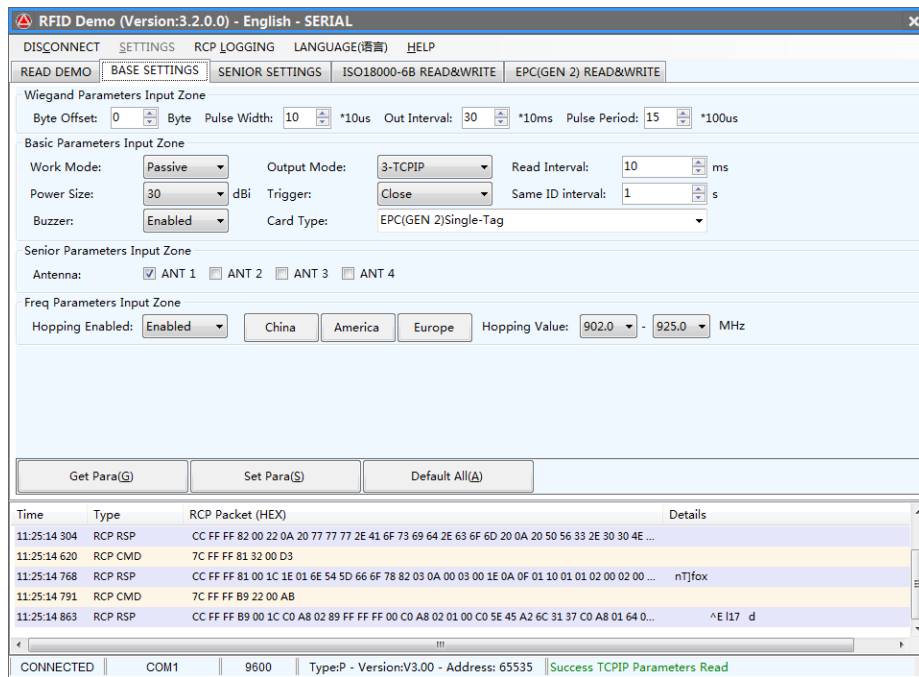
Wiegand26 Write Card (3 Byte Card)

1. Connect reader to the computer with serial port (make sure the right connections, and obtain the computer serial number);
2. Open the “RFID Demo.exe”; Choice the right serial port, choice 9600 baud rate, and then press the “Connect” button;

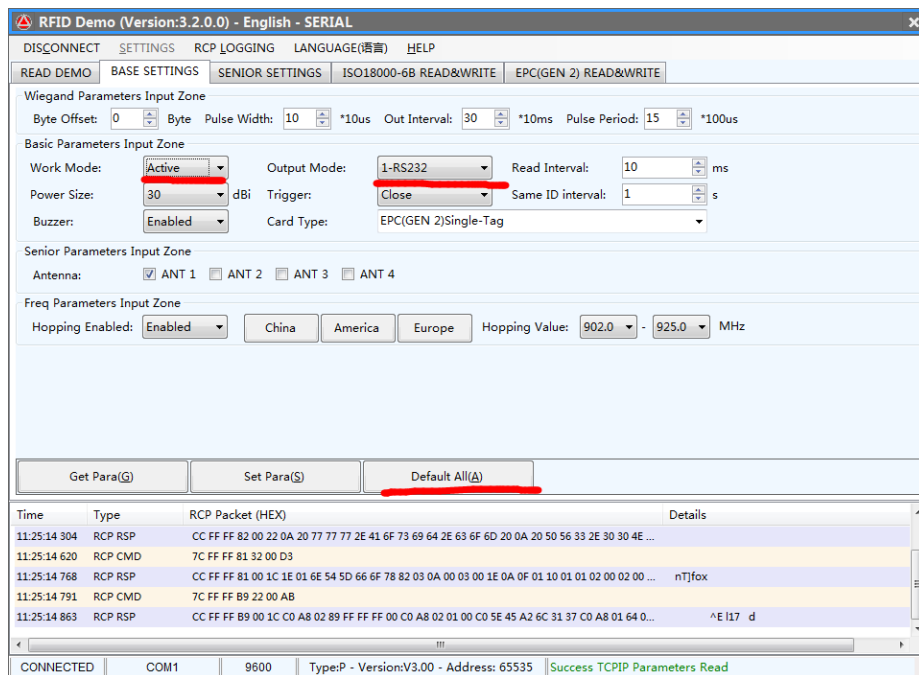


3. Choice table “BASE SETTINGS”;

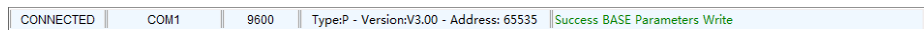
User Manual



- Press “Default All” button, and switch work mode to “Passive” and switch output mode to “1-RS232”;



- press “Set Para” button, if the current status show green than said set success, else said set fail;



- Choice table “EPC(GEN 2) READ&WRITE”, and press “F8” 5 times;

RFID Demo - [Ver:3.2.0.1]

DISCONNECT(C) LANGUAGE BROADCAST RCP LOGGING(L) HELP(H)

READ DEMO BASE SETTINGS SENIOR SETTINGS ISO18000-6B READ&WRITE **EPC(GEN 2) READ&WRITE**

EPC(GEN 2) Identify
Card No: 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00 Identify(E)

EPC(GEN 2) Read
Block: 1-EPC Address: 2 Length: 2 (Length not more 16)
Data: Read(A)

EPC(GEN 2) Write Card
Block: 1-EPC Address: 2 Length: 2 (Length not more 16)
Data: 00-00 Write(R)

Quick Write Card Zone(Weigand Card)Max 4 Byte
Card Type: Wiegand26 Card Position: 7 ☒ Auto Add 1 ☐ Auto Hex
Current Read Num:
Be Written Num:
Write Num: DEC: 00123567 HEX: 01-E2-AF WG: 001,58031 Add 1 Decrease 1 Read Tag(F9) Write Tag(F12)

Time	Type	RCP Packet (HEX)	Details
09:15:03 933	RCP CMD	7C FF FF 82 32 00 D2	?
09:15:03 947	RCP RSP	CC FF FF 82 00 22 0A 20 77 77 77 2E 41 6F 73 69 64 2E 63 6F 6D 20 0A 54 50 56 33 2E 36 ...	? ? *
09:15:04 196	RCP CMD	7C FF FF 81 32 00 D3	?
09:15:04 350	RCP RSP	CC FF FF 81 00 1C 1E 01 6E 54 5D 66 6E 77 82 02 0A 00 01 00 1E 0A 0F 01 10 01 01 02 00 ...	? ? cnT]fnw?

CONNECTED | 192.168.2.115 | 49152 | Type:PT - Version:V3.62 - Address: 65535 | Success BASE Parameters Read

7. switch Card Type to “Wiegand26”, switch Card Position to “0” and checked the “Auto Add 1” ;

Quick Write Card Zone(Weigand Card)Max 4 Byte

Card Type: Wiegand26 Card Position: 0 ☒ Auto Add 1 ☐ Auto Hex

Current Read Num:

Be Written Num:

Write Num: DEC: 00123567 HEX: 01-E2-AF WG: 001,58031 Add 1 Decrease 1 Read Tag(F9) Write Tag(F12)

8. Input card number into textbox of “Written Num”;

Quick Write Card Zone(Weigand Card)Max 4 Byte

Card Type: Wiegand26 Card Position: 0 ☒ Auto Add 1 ☐ Auto Hex

Current Read Num:

Be Written Num:

Write Num: DEC: 00123567 HEX: 01-E2-AF WG: 001,58031 Add 1 Decrease 1 Read Tag(F9) Write Tag(F12)

9. Put the tag into the reader 's effective placed range, and press “Write Tag” button;

Quick Write Card Zone(Weigand Card)Max 4 Byte

Card Type: Wiegand26 Card Position: 0 ☒ Auto Add 1 ☐ Auto Hex

Current Read Num: 123567 [HEX: 01E2AF] Comparison Succeed!

Be Written Num: 123567 [HEX: 01E2AF] Write Succeed!

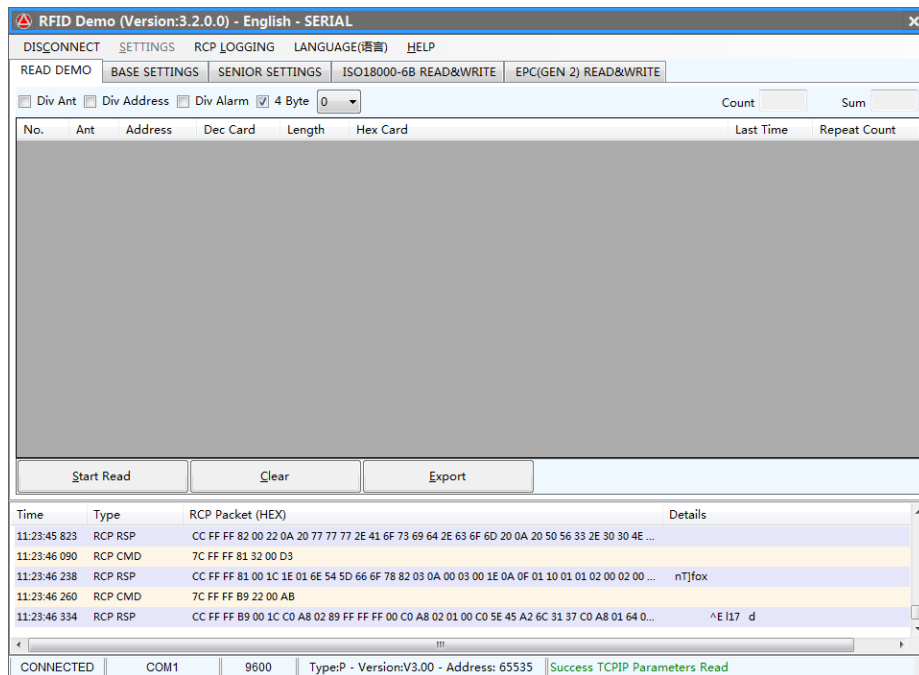
Write Num: DEC: 00123568 HEX: 01-E2-B0 WG: 001,58032 Add 1 Decrease 1 Read Tag(F9) Write Tag(F12)

Write Succeed Status

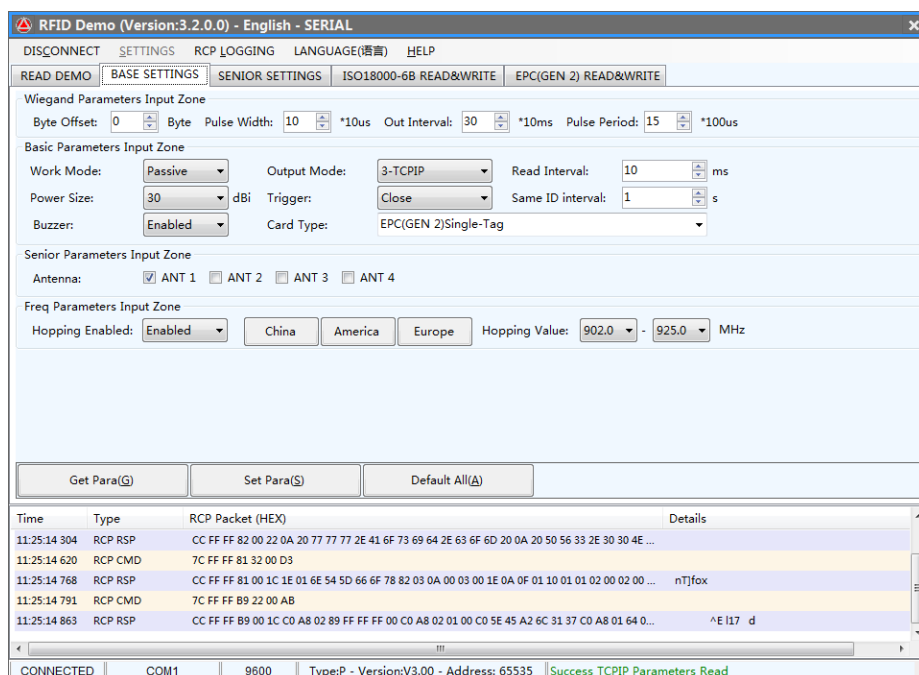
10. Try to write card number again without succeed;

Wiegand34 Write Card (4 Byte Card)

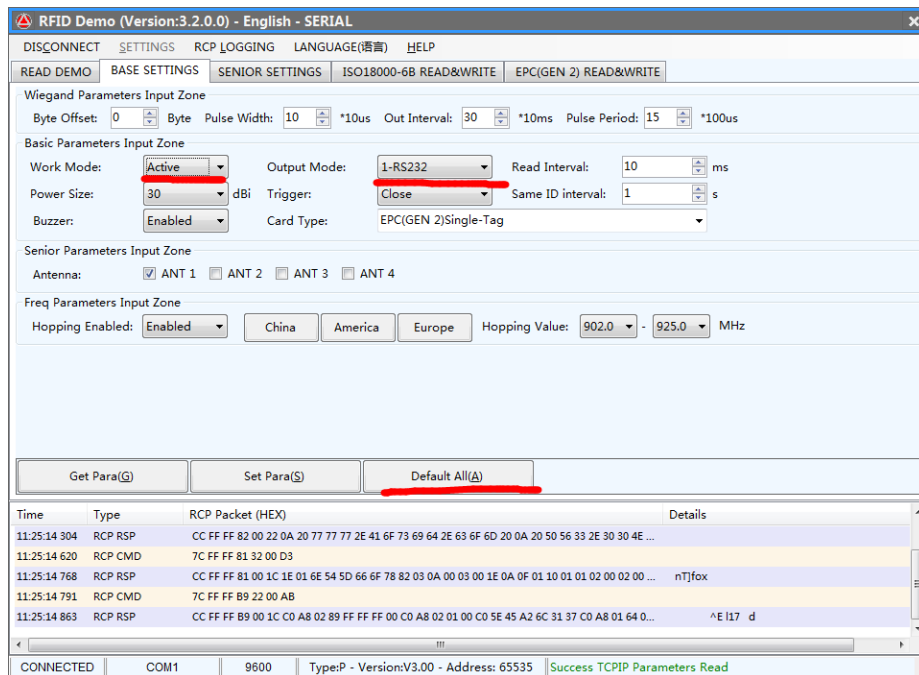
1. Connect reader to the computer with serial port (make sure the right connections, and obtain the computer serial number);
2. Open the “RFID Demo.exe”; Choice the right serial port, choice 9600 baud rate, and then press the “Connect” button;



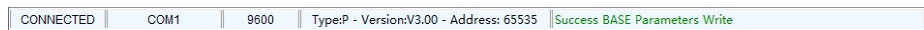
3. Choice table “BASE SETTINGS”;



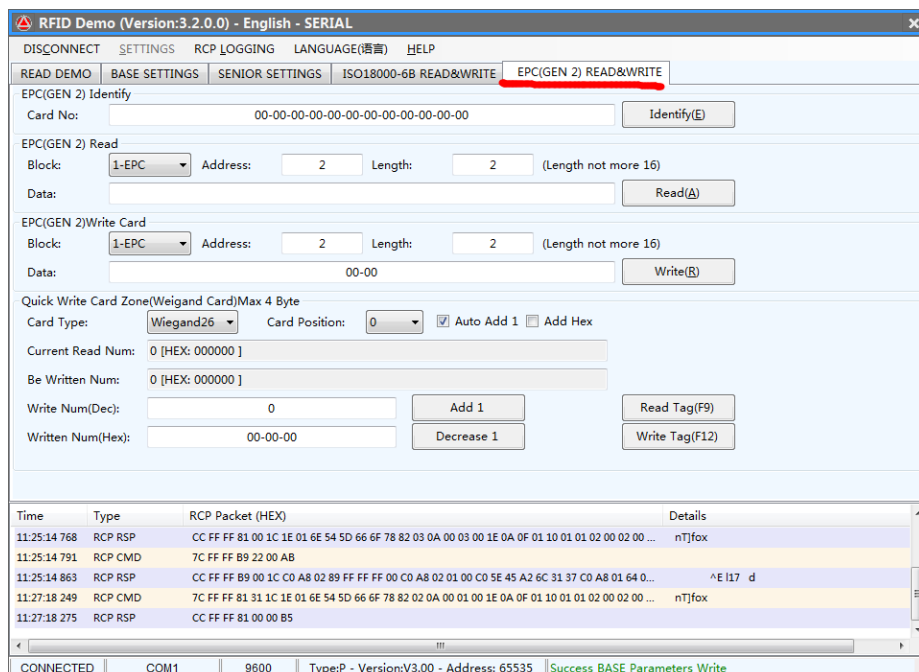
4. Press “Default All” button, and switch work mode to “Passive” and switch output mode to “1-RS232”;



5. press “Set Para” button, if the current status show green than said set success, else said set fail;



6. Choice table “EPC(GEN 2) READ&WRITE”, and press “F8” 5 times;



7. switch Card Type to “Wiegand34”, switch Card Position to “0” and checked the “Auto Add 1” ;

User Manual

Quick Write Card Zone(Weigand Card)Max 4 Byte

Card Type: Card Position: ☒ Auto Add 1 ☐ Auto Hex

Current Read Num:

Be Written Num:

Write Num:

DEC	HEX	WG
0000123569	00-01-E2-B1	00001,58033

8. Input card number into textbox of “Written Num”;

Quick Write Card Zone(Weigand Card)Max 4 Byte

Card Type: Card Position: ☒ Auto Add 1 ☐ Auto Hex

Current Read Num:

Be Written Num:

Write Num:

DEC	HEX	WG
0000123569	00-01-E2-B1	00001,58033

9. Put the tag into the reader 's effective placed range, and press “Write Tag” button;

Quick Write Card Zone(Weigand Card)Max 4 Byte

Card Type: Card Position: ☒ Auto Add 1 ☐ Auto Hex

Current Read Num: Comparison Succeed!

Be Written Num: Write Succeed!

Write Num:

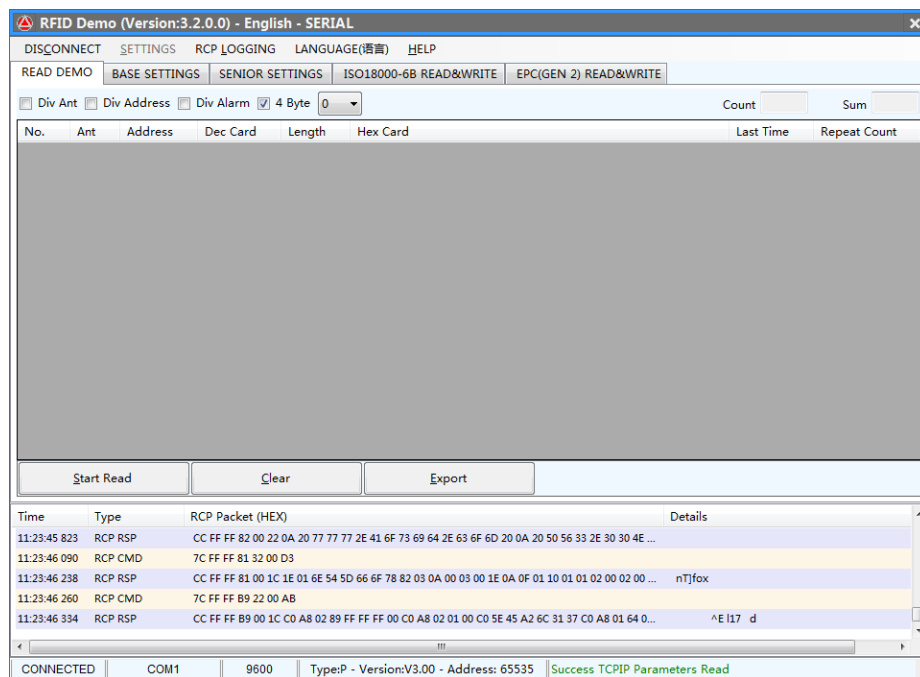
DEC	HEX	WG
0000123569	00-01-E2-B1	00001,58033

Write Succeed Status

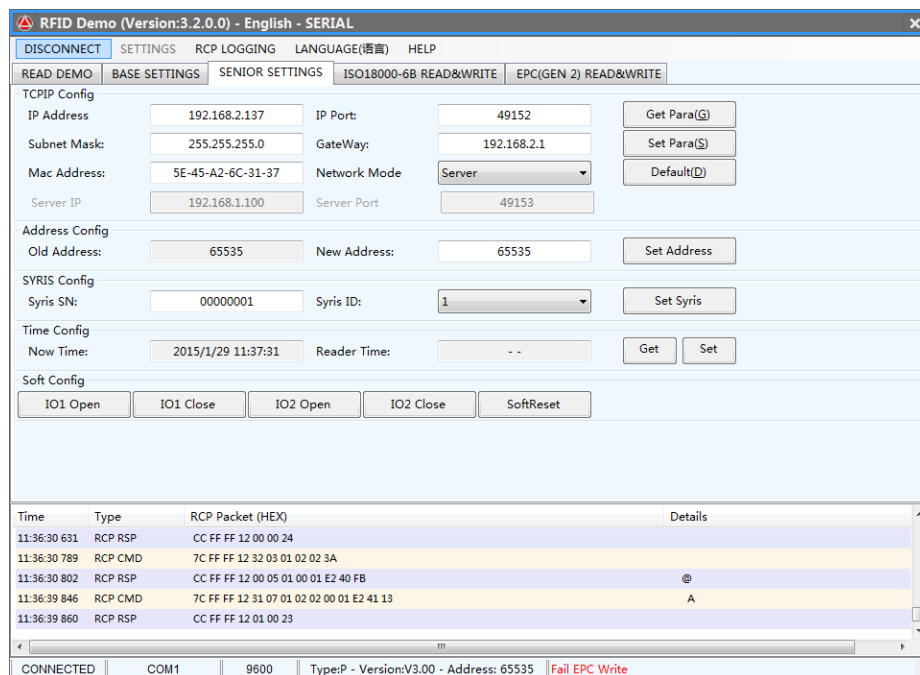
10. Try to write card number again without succeed;

Tables B. Change Reader TCPIP Configuration

1. Connect 915MHz reader computer serial port (make sure the right connections, and obtain the computer serial number);
2. Open the “RFID Demo.exe”; Choice the right serial port, choice 9600 baud rate, and then press the “Connect” button;



3. Choice table “SENIOR SETTINGS”;



4. change the parameters in “TCPIP Config” and Click “Set Para” button to set;

TCPIP Config			
IP Address	192.168.2.137	IP Port	49152
Subnet Mask	255.255.255.0	GateWay	192.168.2.1
Mac Address	5E-45-A2-6C-31-37	Network Mode	Server
Server IP	192.168.1.100	Server Port	49153

Get Para(G) Set Para(S) Default(D)

5. if pop Attention widows, you must reset reader power;

RFID Demo (Version:3.2.0.0) - English - SERIAL

DISCONNECT SETTINGS RCP LOGGING LANGUAGE(语言) HELP

READ DEMO BASE SETTINGS SENIOR SETTINGS ISO18000-6B READ&WRITE EPC(GEN 2) READ&WRITE

TCPIP Config

IP Address: 192.168.2.137 IP Port: 49152 Get Para(G)

Subnet Mask: 255.255.255.0 GateWay: 192.168.2.1 Set Para(S)

Mac Address: 5E-45-A2-6C-31-37 Network Mode: Server Default(D)

Server IP: 192.168.1.100 Server Port: 49153

Address Config

Old Address: 65535 New Address: 65535 Set Address

SYRIS Config

Syris SN: 00000001 Syris ID: 1 Set Syris

Time Config

Now Time: 2015/1/29 1:11:33 Set

Soft Config

IO1 Open IO1 Close

提示

Set the IP parameters under the network connection need restart the equipment!

确定

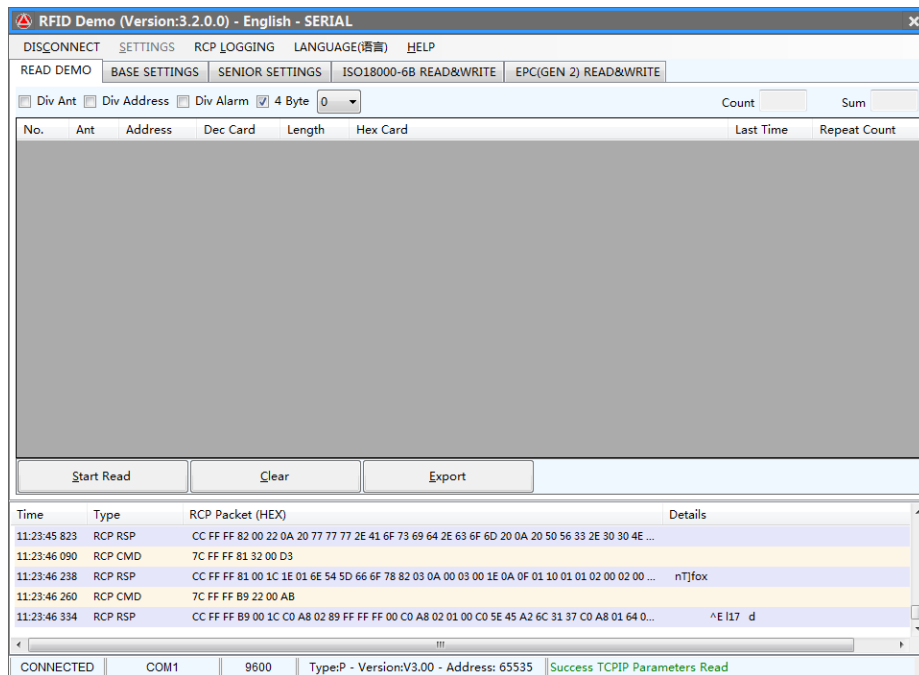
Time	Type	RCP Packet (HEX)	Details
11:36:30 802	RCP RSP	CC FF FF 12 00 05 01 00 01 E2 40 FB	@
11:36:39 846	RCP CMD	7C FF FF 12 31 07 01 02 02 00 01 E2 41 13	A
11:36:39 860	RCP RSP	CC FF FF 12 01 00 23	
11:39:33 770	RCP CMD	7C FF FF B9 21 1C C0 A8 02 89 FF FF 00 C0 A8 02 01 00 C0 5E 45 A2 6C 31 37 C0 A8 01 64 0...	^E l17 d
11:39:33 787	RCP RSP	CC FF FF B9 00 00 7D	

CONNECTED COM1 9600 Type:P - Version:V3.00 - Address: 65535 Fail EPC Write

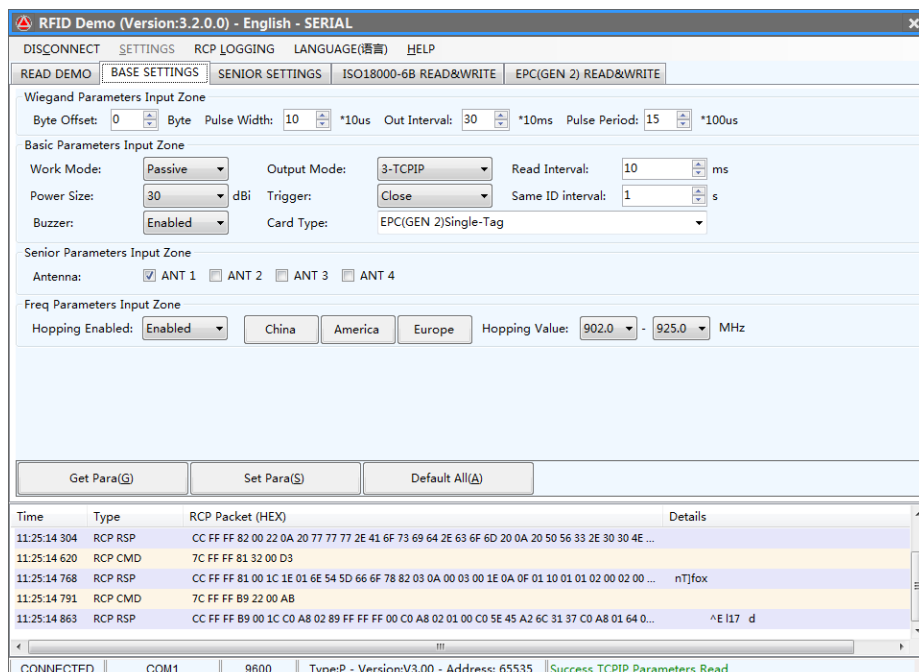
6. try again if set fail;

Tables C. Wiegand Configuration

11. Connect reader to the computer with serial port (make sure the right connections, and obtain the computer serial number);
12. Open the “RFID Demo.exe”; Choice the right serial port, choice 9600 baud rate, and then press the “Connect” button;



13. Choice table “BASE SETTINGS”;



14. Press “Default All” button, and switch output mode “6-Wiegand26” or “7-Wiegand34”;

Basic Parameters Input Zone					
Work Mode:	Active	Output Mode:	6-Wiegand26	Read Interval:	10 ms
Power Size:	30 dBi	Trigger:	Close	Same ID interval:	1 s
Buzzer:	Enabled	Card Type:	EPC(GEN 2)Single-Tag		

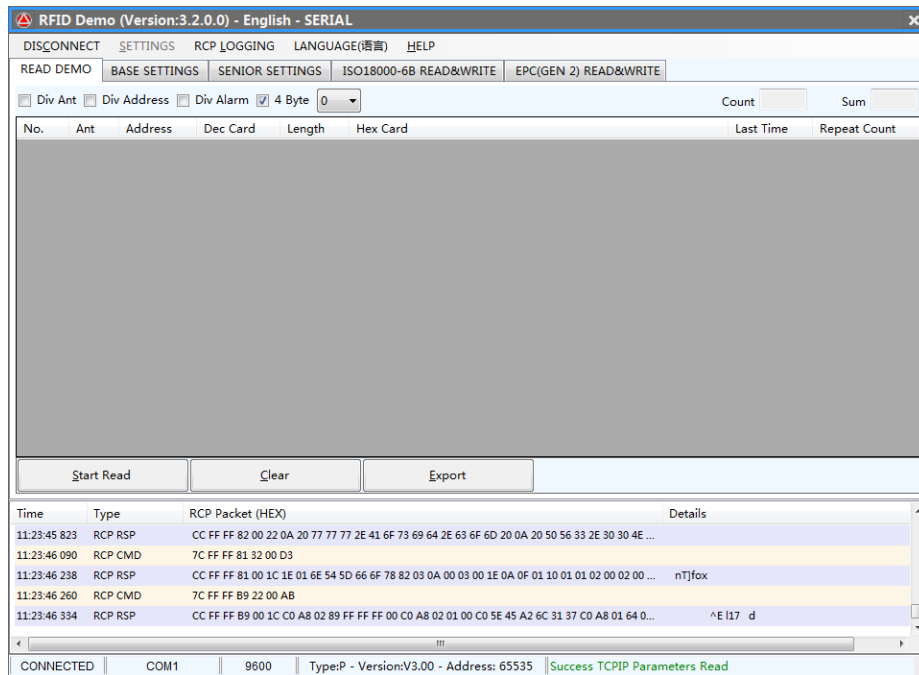
15. press “Set Para” button, if the current status show green than said set success, else said set fail;

CONNECTED	COM1	9600	Type:P - Version:V3.00 - Address: 65535	Success BASE Parameters Write
-----------	------	------	---	-------------------------------

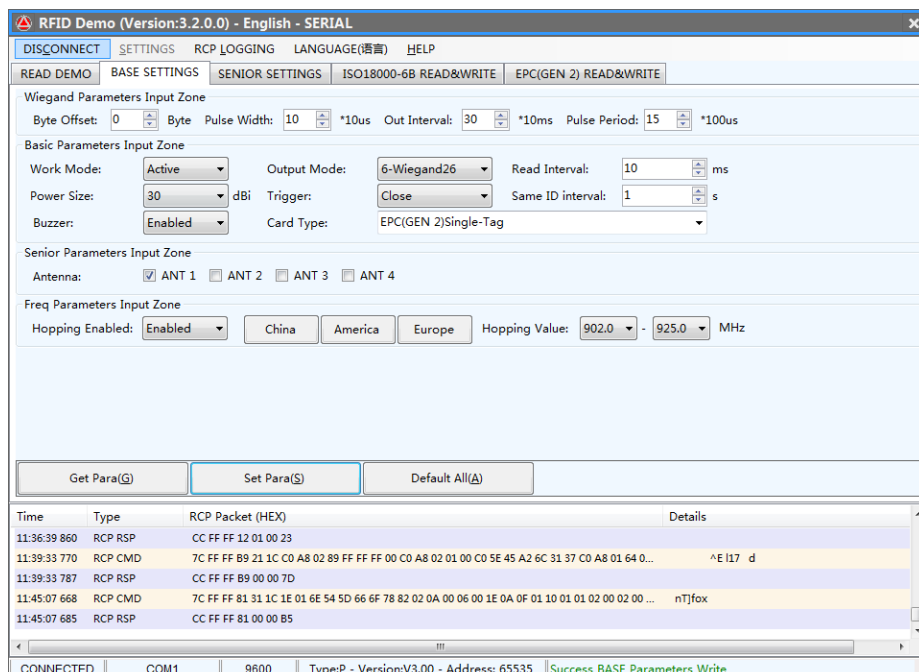
16. try again if set fail;

Tables D. Read Demo

1. Connect 915MHz reader computer serial port (make sure the right connections, and obtain the computer serial number);
2. Open the “RFID Demo.exe”; Choice the right serial port, choice 9600 baud rate, and then press the “Connect” button;



3. Choice table “BASE SETTINGS”;



4. Press “Default All” button, and switch output mode to “1-RS232”;

Basic Parameters Input Zone

Work Mode:	Active	Output Mode:	1-RS232	Read Interval:	10	ms	
Power Size:	30	dBm	Trigger:	Close	Same ID interval:	1	s
Buzzer:	Enabled	Card Type:	EPC(GEN 2)Single-Tag				

5. Press “Set Para” button;

CONNECTED	COM1	9600	Type:P - Version:V3.00 - Address: 65535	Success BASE Parameters Write
-----------	------	------	---	-------------------------------

6. Switch table to "READ DEMO";

RFID Demo (Version:3.2.0.0) - English - SERIAL

DISCONNECT

SETTINGS

RCP LOGGING

LANGUAGE(語言)

HELP

READ DEMO

BASE SETTINGS

SENIOR SETTINGS

ISO18000-6B READ&WRITE

EPC(GEN 2) READ&WRITE

☐ Div Ant

☐ Div Address

☐ Div Alarm

☒ 4 Byte

0

Count 1

Sum 1

No.	Ant	Address	Dec Card	Length	Hex Card	Last Time	Repeat Count

Clear

Export

Time	Type	RCP Packet (HEX)	Details
11:39:33 787	RCP RSP	CC FF FF B9 00 00 7D	
11:45:07 668	RCP CMD	7C FF FF 81 31 1C 1E 01 6E 54 5D 66 6F 78 82 02 0A 00 06 00 1E 0A 0F 01 10 01 01 02 00 02 00 ...	nTJfox
11:45:07 685	RCP RSP	CC FF FF 81 00 00 B5	
11:48:22 272	RCP CMD	7C FF FF 81 31 1C 1E 01 6E 54 5D 66 6F 78 82 02 0A 00 01 00 1E 0A 0F 01 10 01 01 02 00 02 00 ...	nTJfox
11:48:22 292	RCP RSP	CC FF FF 81 00 00 B5	

CONNECTED

COM1

9600

Type:P - Version:V3.00 - Address: 65535

Success BASE Parameters Write

7. scanning tag;

DISCONNECT

SETTINGS

RCP LOGGING

LANGUAGE(語言)

HELP

READ DEMO

BASE SETTINGS

SENIOR SETTINGS

ISO18000-6B READ&WRITE

EPC(GEN 2) READ&WRITE

☐ Div Ant
 ☐ Div Address
 ☐ Div Alarm
 ☒ 4 Byte

0

Count 1

Sum 1

No.	Ant	Address	Dec Card	Length	Hex Card	Last Time	Repeat Count
1	1	65535	[0001E240]123456	12	0001E2402031363385D500AA	11:49:22	1

Clear

Export

Time	Type	RCP Packet (HEX)	Details
11:45:07 668	RCP CMD	7C FF FF 81 31 1C 1E 01 6E 54 5D 66 6F 78 82 02 0A 00 06 00 1E 0A 0F 01 10 01 01 02 00 02 00 ...	nTJfox
11:45:07 685	RCP RSP	CC FF FF 81 00 00 B5	
11:48:22 272	RCP CMD	7C FF FF 81 31 1C 1E 01 6E 54 5D 66 6F 78 82 02 0A 00 01 00 1E 0A 0F 01 10 01 01 02 00 02 00 ...	nTJfox
11:48:22 292	RCP RSP	CC FF FF 81 00 00 B5	
11:49:22 626	RCP RSP	CC FF FF 10 32 0D 01 00 01 E2 40 20 31 36 33 85 D5 00 AA 05	@ 163

CONNECTED

COM1

9600

Type:P - Version:V3.00 - Address:65535

Success EPC IdentifRead