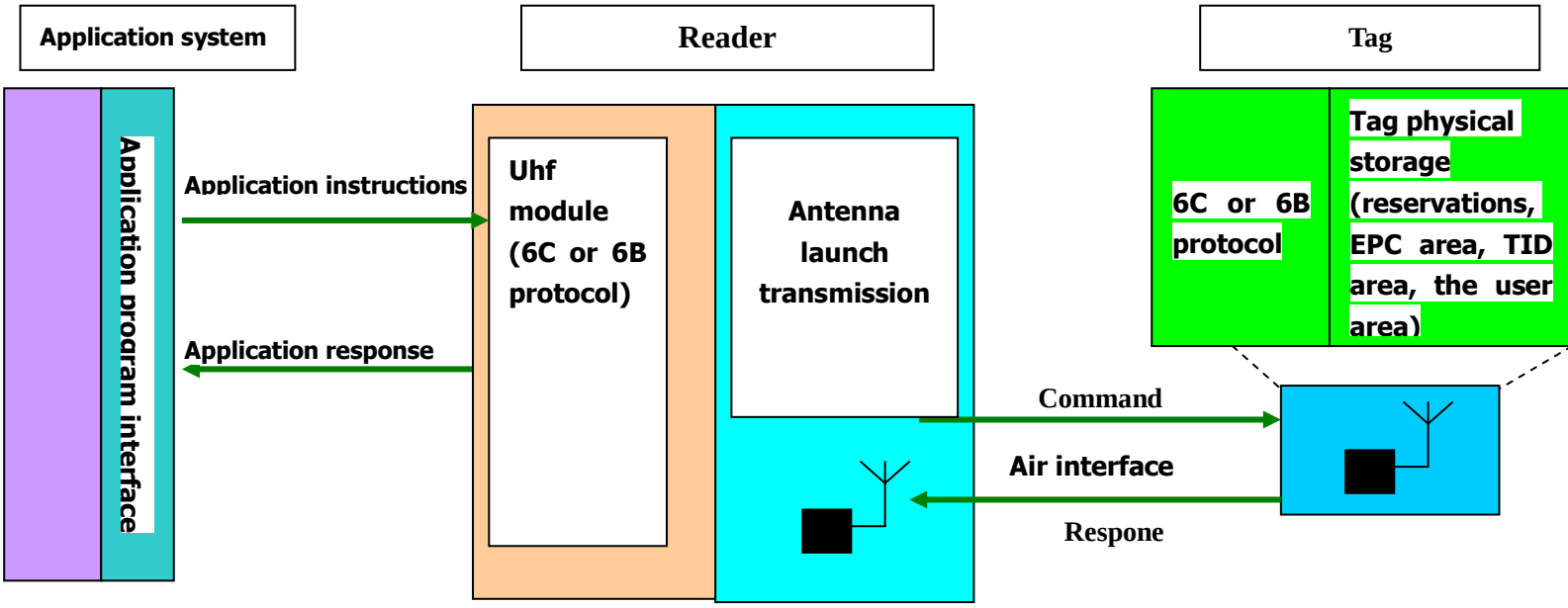
EPC DEMO Software User Manual

The principle of work

A complete set of RFID systems, is by the Reader and electronic TAG and application software system composed of three parts, the working principle is: the Reader a particular frequency launch radio energy to electronic TAG , used to drive the tags circuit will internal data sent out, this time Reader will receive interpret data sequence, for applications made corresponding processing.



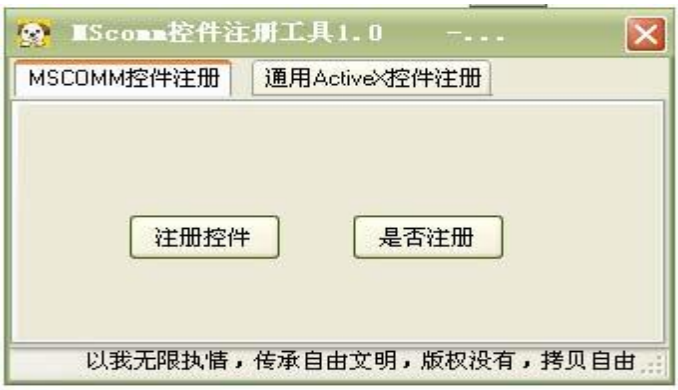
1. The preparatory work before using

Firstly，operate on computer which has not been installed VC ++ as follows：

Secondly，after decompressing 

，double click 

. At last，it will appear the picture as below：

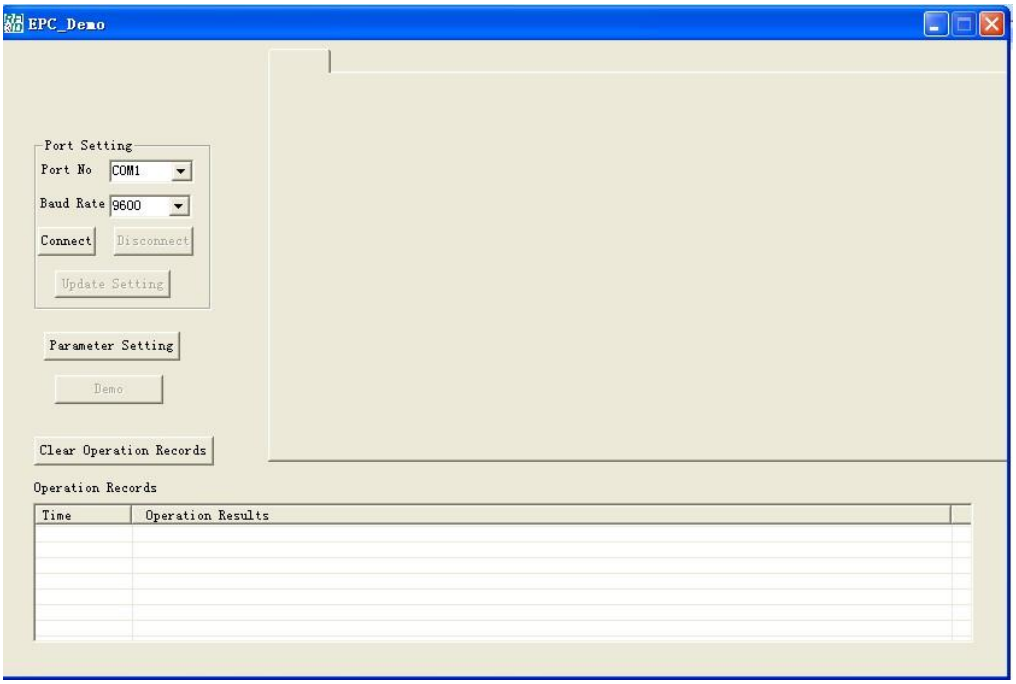


Click "Register control" once is ok.

2. Run Demo software

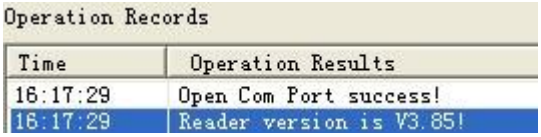
Double click 

, and it will run Demo software , then appears picture as below：



The interface after running Demo

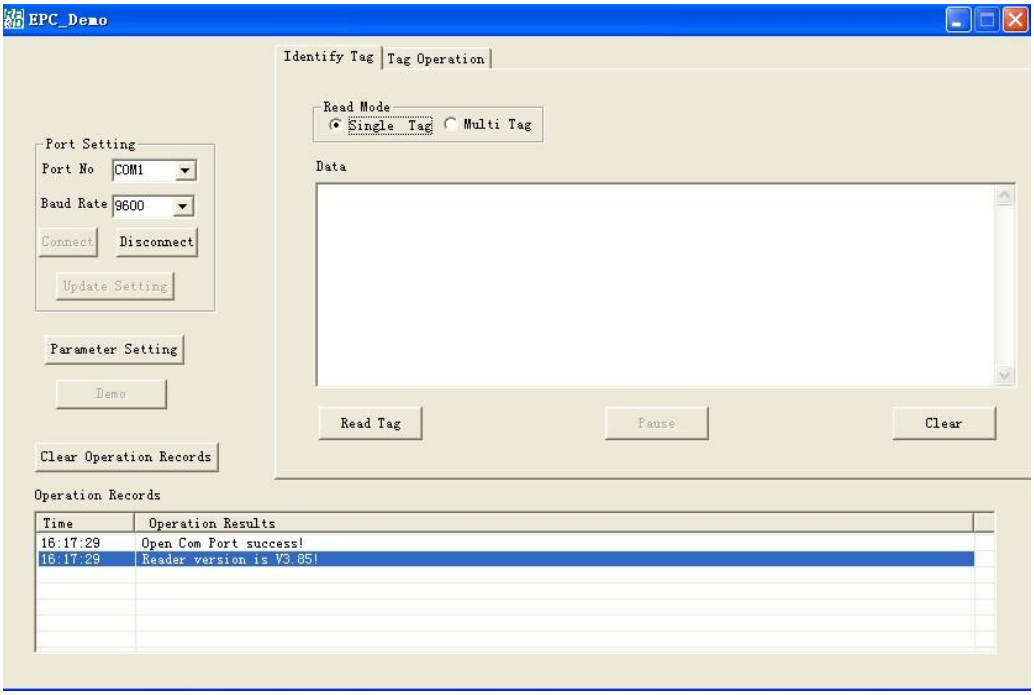
Before clicking the setting parameters, please choose the correct serial port, then click the "Connect" button. After connecting , in the "Operation Record" column , there will be the following tips：



Hints after connecting successfully

2.1 Function Demonstration Description

After linking successfully, it will appear the interface of function demonstration.



The successfully connection interface and tag identification interface

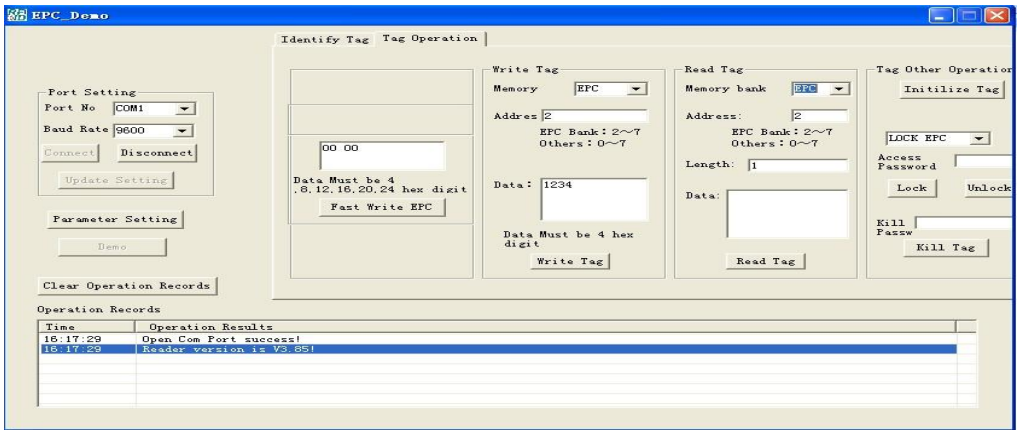
3. 1 Tag Identification

You can choose to read single-card or read multiple cards through two single-choosing frames. After selecting reading mode，click on "Reading" button， it can display the ID number of the cards which have been read in the "data" column.

●"Pause" button is invalid in the mode of reading single-card，however，in the mode of reading multiple cards ，it is suspended for reading multiple cards.

●"Clear Operation Record" button is to clear the ID number which has read.

3. 2 Tag operation



Interface of Tag Operation

Tag Operations include: reading tags, writing tags, initializing tags locking tags, unlocking tags and destructing tags.

Tag are dicided into four areas: Reserved area、EPC area、TID area、User area。

Reserved area (in not locked, for reading and writing):

Address: 0-3, Among them, the address: 0-1 storage: 8(hex) number of inactivated password; and the Address: 2-3 storage: 8(hex) number password.

EPC area (in not locked, for reading and writing) :

Address: 2-7 storage: 24(hex) number ID

TID area (or without locking, is not allowed to write, can only be used in not locked, can be read from) :

Address: 2-5 storage: the only global 8(hex) number ID

User area (in not locked, for reading and writing) :

Address: 0-31 storage: user data

3.2.1 Reading tags

Area number: there are only four areas to choose : the "RESERVE area", "EPC area", "TID Area" and "USER area".

Address: the input range is: 0-7, exceeds this area there will be tips.

Length: the input range is: 1-8, exceeds this area there will be tips. The unit is Word (1Word = 2 Byte).

Note: EPC area address ranges from 2-7, the maximum length is 6, reserved area address ranges from 0-3, the maximum length is 4.

After setting up the parameters above, click on "Read Tag" button, then you can read the data in the area which has been set up, and displays in the "Data" column.

3.2.2 Writing Tags

Area number: There are four area numbers as well . but when choosing "reserving area", the following parameters will all get gray, prohibiting users to write "reserving area."

Address: the input range is 0-7, but when the area number is selected as the "EPC", the address 0 and 1 can not be written.

Data: You must enter a four-bit data which is consist of 0-9 , a-f or A-F.

After setting up the parameters above, then click "Write Tag", and it can write the data in appropriate area. After writing successfully, there will be hints in "Operation Record" column .

3.2.3 Initialize Tags

Click on the " Initialize Tags " button, then it can initialize the tag.

3.2.4 Locking Tags

There are several options for locking tags: "LOCK USER", "LOCK TID", "LOCK EPC", "LOCK ACCES", "LOCK KILL" and "LOCK ALL".When locking tags, you must enter the access-password (the default password is 00000000). The access-password is the address of the second and third word of reserved area, amounting to 4 bytes, 8-bit hexadecimal number.

Note：If the reserve area' password is all 0，then the districts can still be read and written after locking.

LOCK USER：Once the user area locked，the data of the user area only can be read out ，but can not be modified. To change the data of user area again，you must first unlock the user area.

LOCK EPC：Once the EPC area locked，the data of EPC area only can be read out ，but can not be modified. To change the data of EPC area again，you must first unlock the user area.

LOCK TID：The TID area usually without locking，because the data of TID area is unique.It's no need to lock and can not be modified.

LOCK ACCES：Once the reserve area locked，the data of the reserve area only can be read out ，but cannot be modified. To change the data of reserve area again，you must first unlock the reserve area.

LOCK KILL：Once the password is locked，the data of inactivated area cannot be read or modified.To change the data of inactivated area data again，you must first unlock the inactivated area.

3.2.5 Unlock tags

Unlock tags is contrary to locking tags.When unlocking tags，you also need to enter a 8-bit hexadecimal number- password to access. Tags can be read and written normaly after being unlocked in corresponding area.

3.2.6 Destroy tags

When destructing tags，you need to input a eight-bit long password，the password is stored in the address of the second and third word of reserved area，amounting to 4 bytes .Once the tag is destructed，it will get invalid，please keep in mind and use it carefully.

3.2.7 Fast Write EPC

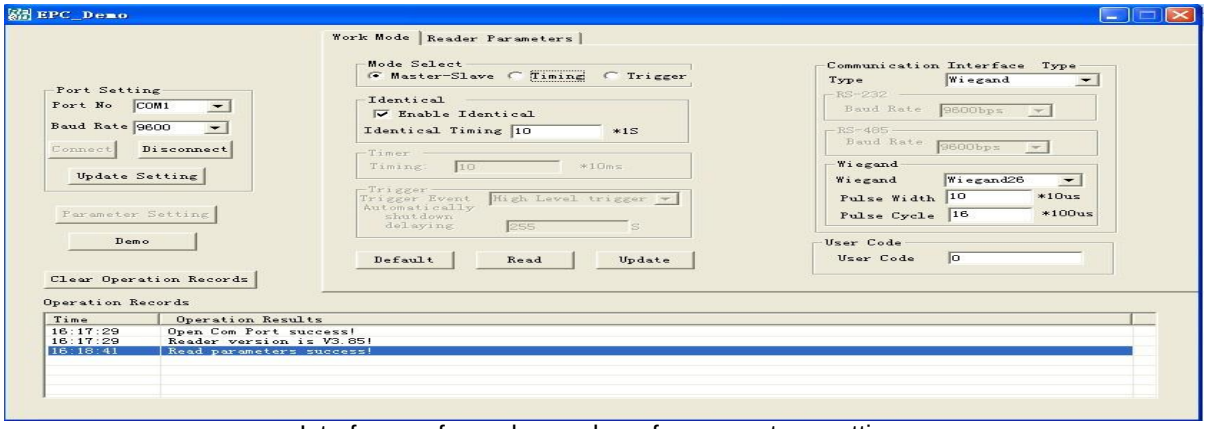
Fast Write EPC operation is shown in this edit -box 00 00

Write in the ID that you want to modify，you can write in 2，4，6，8 bytes.

If you write in 4 bytes as below： 00 00 00 01 . Click the Fast Write EPC , and you will hear the sound of '"BI" if written successful and displays：Fast write EPC success；After writing , the edit-box will automatically add one. That is，00 00 00 02，which means the last four bytes of the next ID number to write is 00 00 00 02.The other bytes remain unchanged.

If you write in 12 bytes as below：00 00 00 00 00 00 00 00 00 00 00 01 . Click the Fast Write EPC , and you will hear the sound of '"BI" if written successful and displays：Fast write EPC success；After writing， the edit -box will automatically add one. That is， 00 00 00 00 00 00 00 00 00 00 00 02，，which means the next ID number to write is 00 00 00 00 00 00 00 00 00 00 00 02.

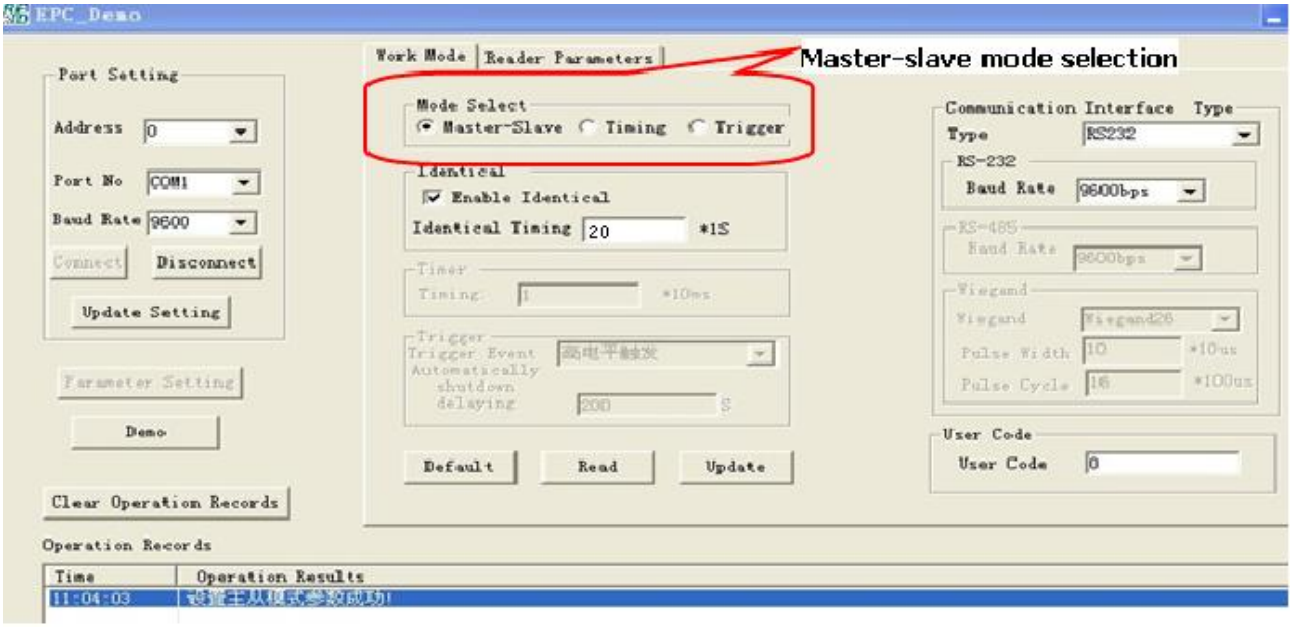
4. Parameter Settings

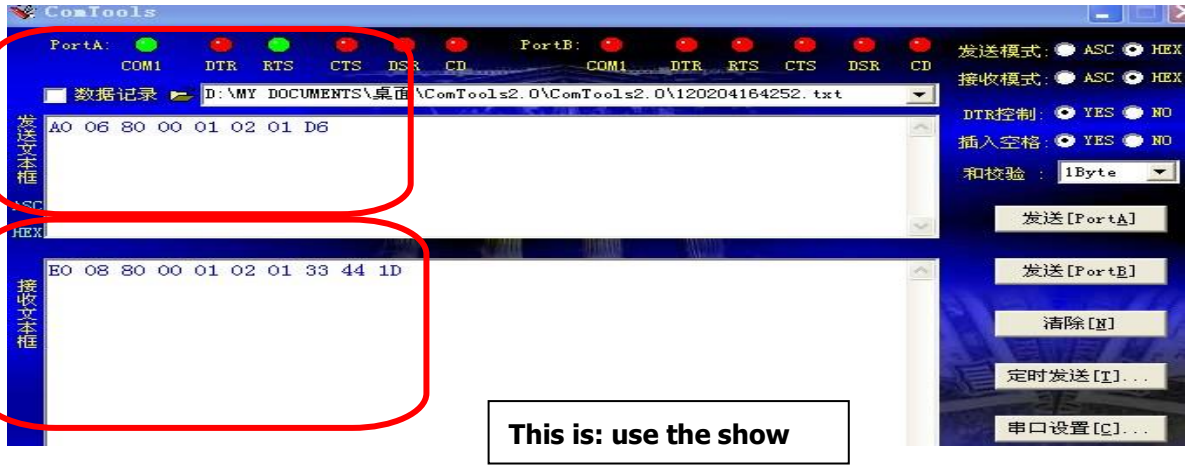


Interface of work mode of parameter setting

4. 1 Parameter setting of work mode

4.1.1 Parameter setting of Master-slave worke mode





Machine to send command

The reader receive the PC's command, return to command

This is: use the show

Master-slave working mode is a mode that the operation of reader/writer is fully controlled by the host , under the Master-slave working mode, the setting of parameters of reader/writer is relatively simple.

This series of demonstration program of reader/writer is the example of using the Master-slave worke mode.

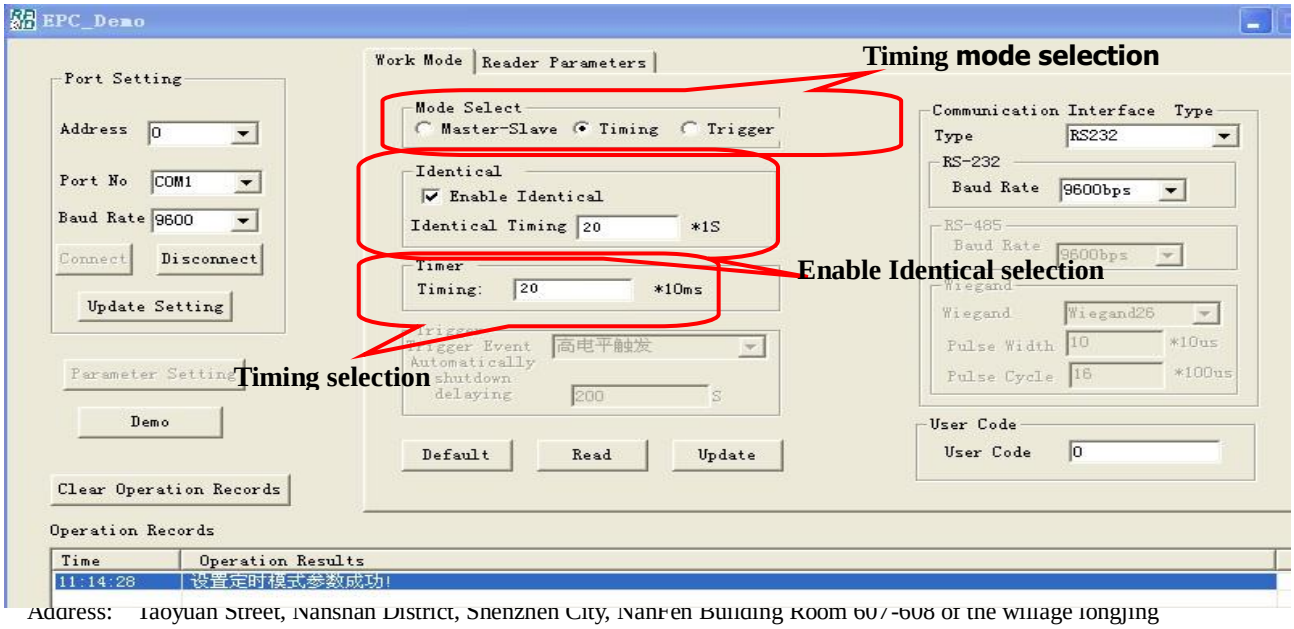
Operation instructions:

Default parameters: Click on the "default" button, the working parameters revert to the default parameters.

Read parameters: In the state of successful on-line, click on the "Read" button, then you can read the setting value of the current parameters in reader/writer.

Update parameters: In the state of successful on-line, after setting parameters , click the "Update" button to write the setting value of the current parameters into reader/writer.

4.1.2 Parameter setting of timing worke mode



Timing work mode is in accordance with setting time intervals. It's a periodic identification tags worke mode, the following is the detailed description of each parameter.

● Timing intervals: When in timing working methods, the reader/writer identify the timing intervasl of tags timingly.

● ID neighboring identification: The reader/writer achieve a function of ID data filtering. If you select ID neighboring identification, then after the reader/writer identifies the tag ID data each time, It will make a comparison with the valid tag ID data . If it is the same as before, it will discard this tag ID data.If not , it will judge the tag for the new effective ID data. If ID neighyboring identification is no t selected, all the tag ID datas identified by the reader/writer is valid .

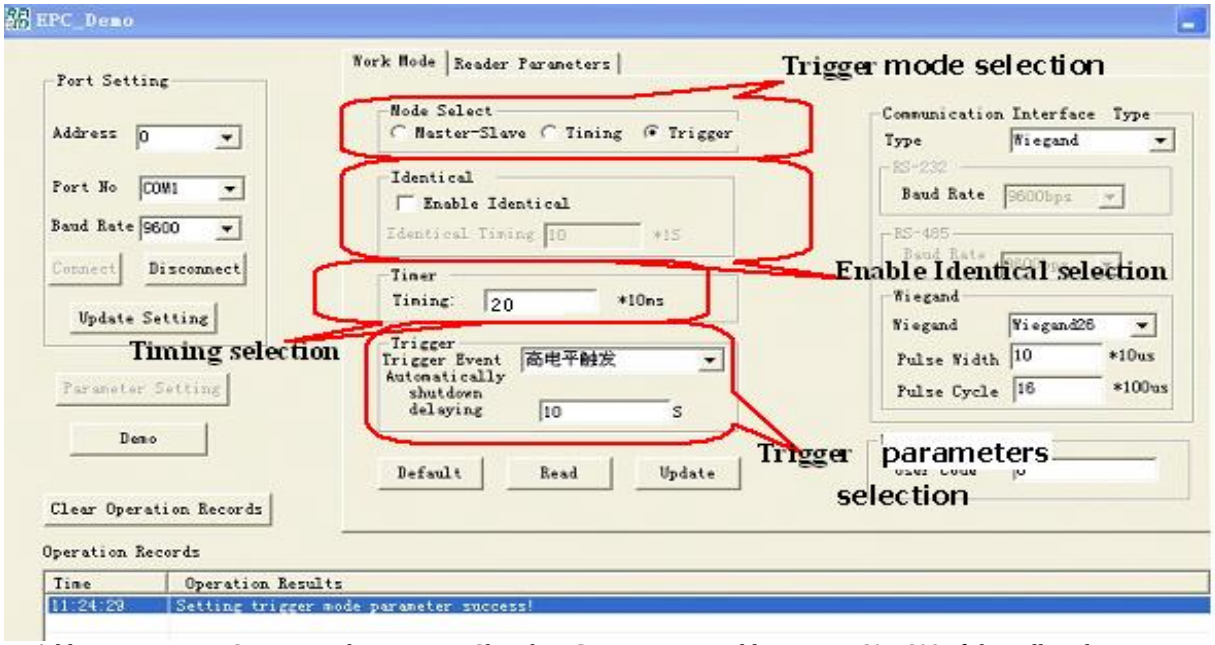
Operation instructions:

Default parameters: Click on the "default " button, the working parameters revert to the default parameters.

Read parameters: In the state of successful on-line, click on the "Read " button, then you can read the setting value of the current parameters in reader/writer.

Update parameters: In the state of successful on-line, after setting parameters , click the "Update" button to write the setting value of the current parameters into reader/writer.

4.1.3 Parameter setting of triggering worke mode



In the mode of Triggering，the reader/writer usually does not identify the tag，only in the case of being triggered by an external triggering source does it starts identificating the tag. Reader/writer begin to identify the tag in accordance with the timing intervals in the case of being triggered effectively by triggering source.

After the trigger signals are deleted and delayed "Trigger Stop Time"，the reader/writer stops identifying tags timingly.

Reader/writer which triggering work mode can reduce the working poYour of reader/writer. Th e following is a detailed description of the working parameters.

●Timing intervals： In triggering worke mode， reader/writer begin to identify the tag in accordance with the timing intervals in the case of being triggered effectively by triggering source.

●Triggering： The option can be high level triggering or triggering close.

Automatically shutdown delaying：This setting is under the triggering mode， automatically shutdown delaying time after the triggering signal is deleted.

Operation instructions：

Default parameters：Click on the "default" button， the working parameters revert to the default parameters.

Read parameters：In the state of successful on-line， click on the "Read" button， then you can read the setting value of the current parameters in reader/writer.

Update parameters：In the state of successful on-line， after setting parameters， click the "Update" button to write the setting value of the current parameters into readers.

4．2 Communication Interface parameters

● Communication Interface type：according to the different communication interface of reader/writer and controller， you can choose Wiegand，RS-485 interface，or RS-232 interface.

When the output interface option is for the RS-232 interface settings， the following working parameters related with RS-232 interface need to configure.

Baud rate settings： the initial baud rate value of RS-232 interface only can be sett as 9600.

When the output interface option is for the RS-485 interface settings， the following working parameters related with RS-485 interface need to configure.

Baud rate settings： the initial baud rate value of RS-485 interface only can be set as 9600.

When choose Wiegand interface setting as the output interface， the following working parameters related with Wiegand interface need to configure.

●Wiegand protocol： You can choose Wiegand26， Wiegand32 or Wiegand34.

●Pulse Width： That is，width of the outputting pulse in Wiegand agreement.

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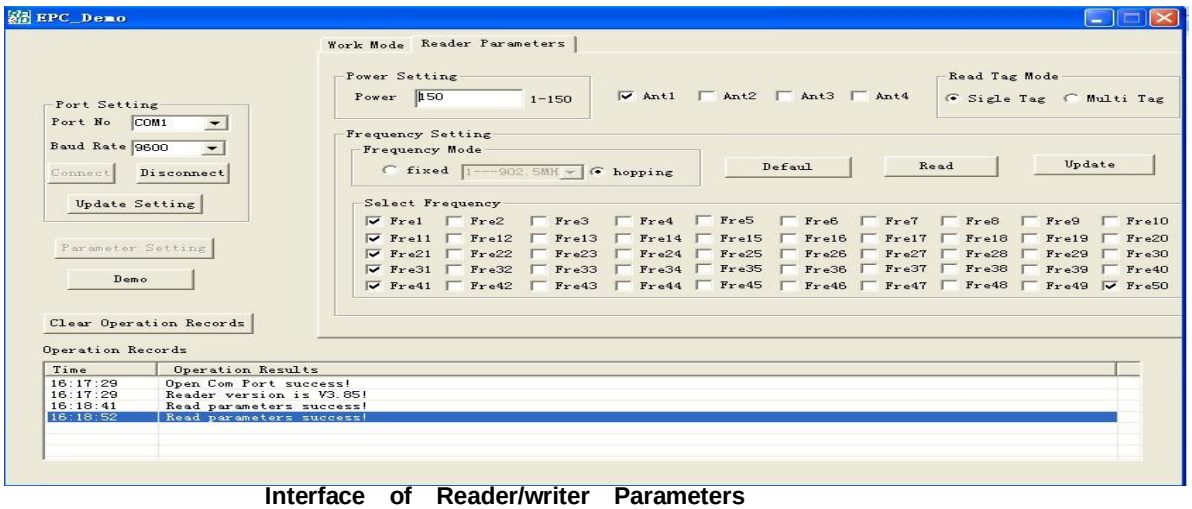
User code： The station address code that users distribute to the reader/writer，once used，is to distinguish with the other equipment. You can set it as 0-ff.

4．3 Reader/writer parameters



Interface of Reader/writer Parameters

The following is a detailed description of Reader/writer Parameters：

●Power settings： Reader/writer RF power value setting， power range of valid values is 0-150，the greater the power value， usually the farther of the effective communication distance between the reader/writer and tag. Power values can be adjusted appropriately in accordance with application requirements.

●Antenna settings： This series readers/writers can be divided into single-channel and multi-channel based on different models， to multi-channel reader/writer，you can choose relevant working antenna according to the actual situation and application requirements of the external access antenna .

●Reading mode： Reading mode can be divided into single-card and multiple- cards . You can choose single-card mode when there is only one card within the effective action range of the reader/writer. Multiple –cards mode use anti-collision algorithm to do tags ID identification，multi-card identification can identify multiple tags within the effective action range of the reader/writer.

●Hopping frequecy settings：The reader/writer can work in the mode of fixed-frequency or frequency-hopping. The fixed-frequency means communication between the reader/writer and tag is under a fixed-frequency.You can select a frequency point from the drop-down list of the frequency point. Frequency hopping means communication between the reader/writer and tag is under the selected frequency point sequence. You can choose the mode of frequency-hopping or fixed-frequency for the reader/writer .

Operation instructions：

Default parameters：Click on the "default " button， the working parameters revert to the default parameters.

Reader/writer parameters：In the state of successful on-line， click on the "Read " button， then you can read the setting value of the current parameters in reader/writer.

Update parameters：In the state of successful on-line， after setting parameters ， click the "Update" button to write the setting value of the current parameters into reader/writer.

Note： The button of "Update" is to make the parameters to be updated after setting of parameters each time， that is， after setting up parameters each time， just click on this button， the parameters just can work.