RFID   READER

SL144 Reader

Operation Manual

Version 2.0
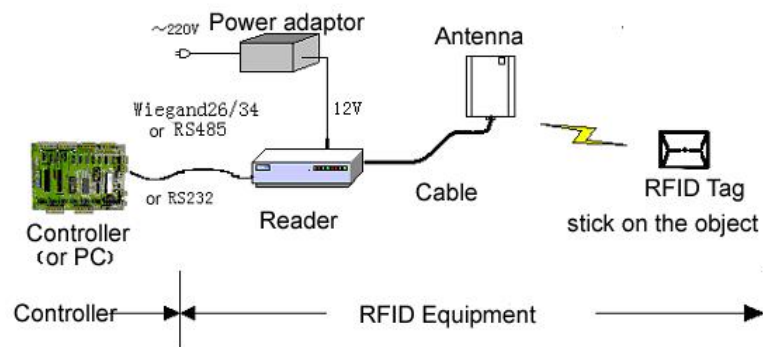# Aug 2019
StrongLink

CATALOGUE

1   Software Operation

1.1   Set up testing system

Connect the equipment as illustrated below, structure a simple reader testing system in the studio:

（1）   Connect the reader to PC through the RS232.

（2）   Run the Demo software of the reader on PC, set reader parameters and test reading, writing for the reader according to the notes below.

1.2   Start up test software

The SDK for SL144 contains『application software』ReaderDemo.exe, this program needs to be in the running in under the environment of Microsoft Windows XP or higher version or the operating system IBM pc-compatible computers. Run ReaderDemo. exe to start this software.

1.2.1   RS232 Connection

Computer can communicate with reader through serial port (RS232). The User need to to do initialized Settings through a serial port when start to set the reader, like set IP address to connect to network.

1. Select the output port, see below.

2. Select the serial port for reader and PC.

3. Click 『ConnectReader』 button, if connected success, Popup the following clew box.

4.   If no reader connected to PC through this serial port, or the selected serial port is wrong, the connection will fail, Popup the following clew box.

1.2.2   RS485 Mode connection

Computer can implement data exchange with reader through RS485 port.

1. Select the output port, see below.

2.   Select the serial port for reader and PC.

3.   Click『ConnectReader』button, if connected success, Popup the following clew box.
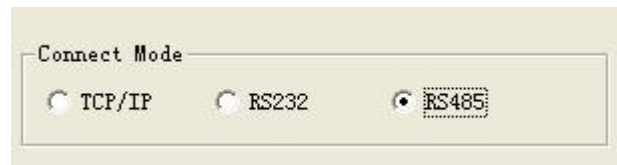

4.   If no reader connected to PC through this serial port, or the selected serial port is wrong, the connection will fail, Popup the following clew box.

1.2.3   Network connection

Upper Computer can implement data exchange with reader through（TCP/IP）.

1. Select the network connection mode, see below.
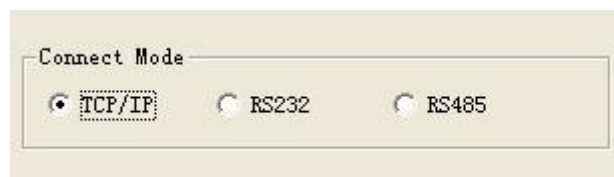
2. Select the reader IP address from the below clew box.

No.	IP Address	port	
1	192.168.7.62	1969	
2	192.168.7.63	1969	
3	192.168.7.66	1969	
4	192.168.7.64	1969	
5	192.168.7.65	1969	
6	192.168.7.68	1969	
7	192.168.7.69	1969	
8	192.168.7.100	1969	

3. Or input the IPAddress of Reader and Port of Reader diredtly,as below;
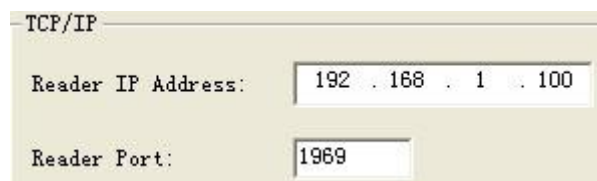
4. Click『ConnectReader』button, if connect success, popup the below clew box.

5. If the reader disconnected to PC through RJ45 port, or the the inputted IP information is wrong, the connection will fail, Popup as below

6. When the user not sure the IP address , chick "Scan", the matched IP are listed :
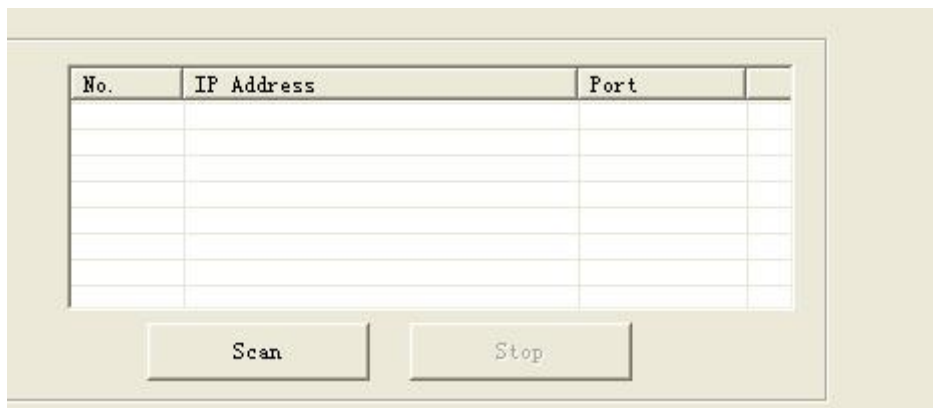
1.3   Set reader parameter

Below is the operation page for setting parameter for SL144-

『Reader parameter』:
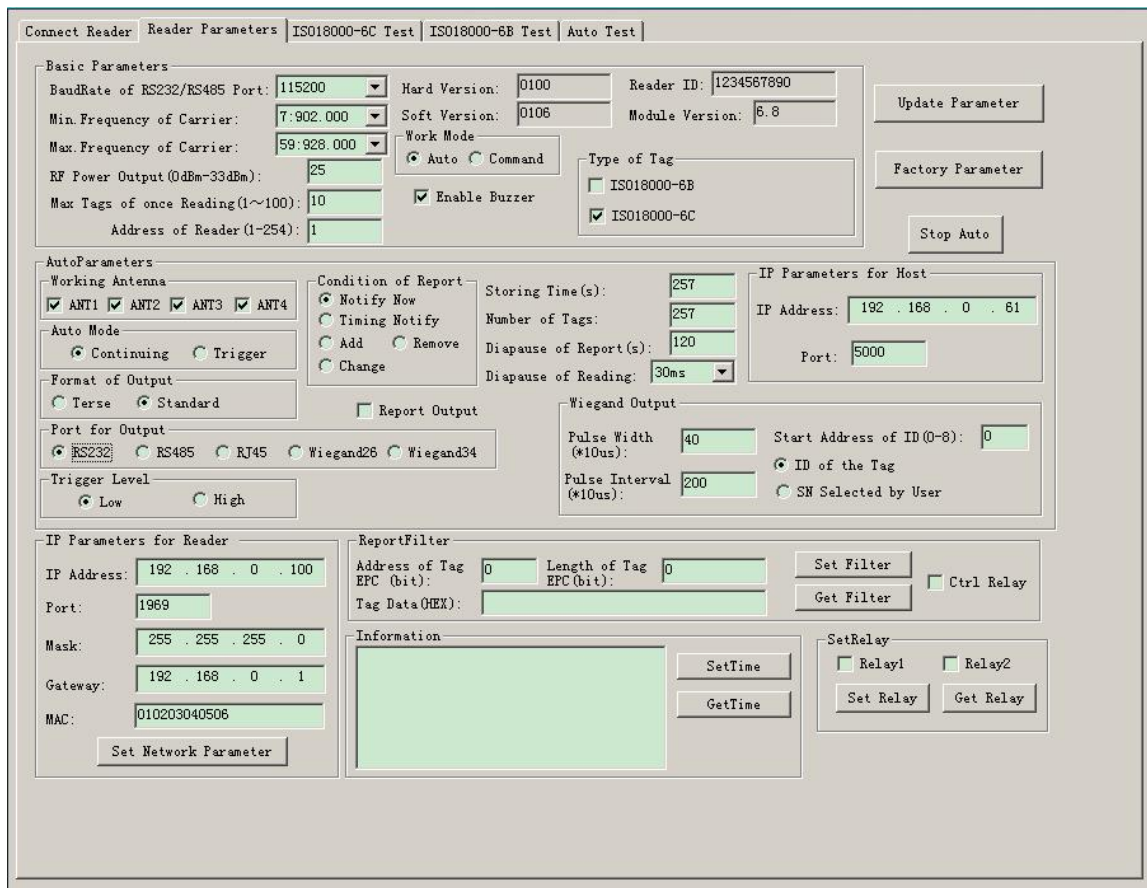
（1） Select Operation Mode

There are 2 modes for SL144 as below:
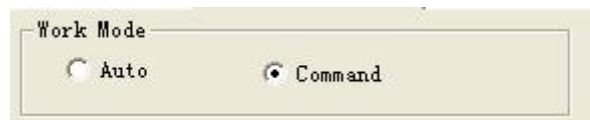
◆ Command: readers begin to work after receive legal control command through RS232 or RS485, and return the command results through that port.

◆ Auto: the reader read tags automaticly and interval,and output the reading results through setting port (Wiegand and RS485 or RS232) when successful. No ourput If read fail or read illegal tag (need validation) .

Remarks:

✦ **Command mode is default setting, unless the user select Timing mode when run the reader**

✦ **Reader no response any instruction in Command work mode, unless below :**

1: Get Version number 2: Set working status (start or stop auto mode) 3: Clear memory 4: Read the record 5: Update 6 reset.

✧ **should select "stop Auto" so that get to command mode or run other else setting when in Auto mode**
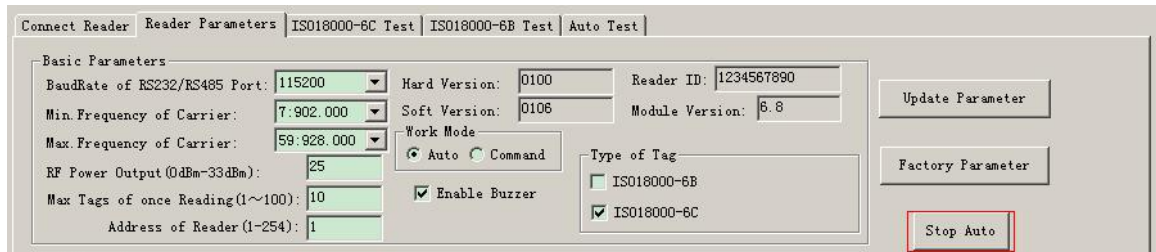
（2） Basic Parameters

No matter in which operation mode, The user need to set 4 parameters as below

◆ Baud Rate of RS232/485 Port: set communication rate of RS232 and RS485 port, 9600, 19200, 38400, 57600, 115200bps option

◆ Max Tags of once Reading: Set the MAX number of labels to read at one time. The quantity on Max Tags of once Reading is according to the requirements. And the less the reading race fast.

◆ RF Power Output: output power for the reader. Usually this param has been set to the optimal before EX-factry. If the profermance is good, please don't modify this param.
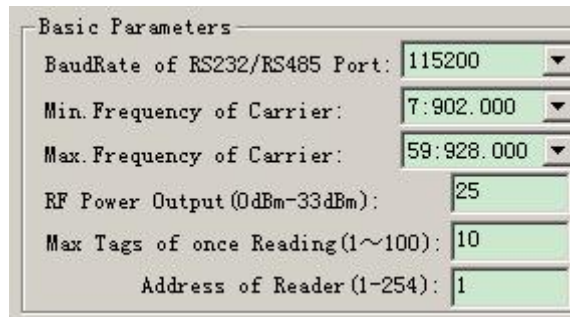
◆ Min. Frequency of Carrie): set the min operation frequency for the reader.

◆ Max. Frequency of Carrier: set the max operation frequency for the reader.

For different countries or regions, there are corresponding choices in the listed working frequency based on local radio rules requirement. Users can choose sensitive frequencies according to local conditions. If choose a Fixed Frequency point, set the Min. Frequency equel same as to Max.Frequency; If Frequency hopping, can choose the Min. Frequency of Carrier for fmin,

http://www.stronglink-rfid.com

Max.Frequency of Carrier for fmax, as long as fmax > fmin. As below:
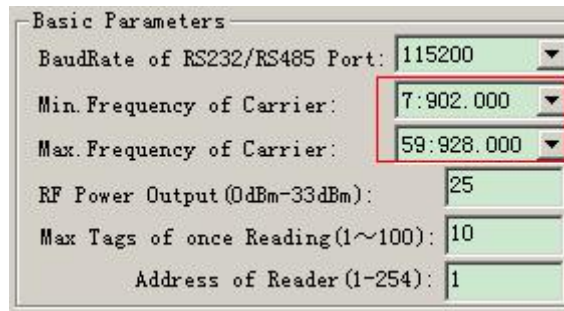
◆ Setting buzzer:

 Close buzzer, the buzzer don't sound when identified tags, only tag information displayed on the PC

 Open the buzzer, the buzzer sound when identified tags, and tag information displayed on the PC

◆ Diapause of Reading(ms)

10,20,30,40 ms option, the longer the less miss-reading
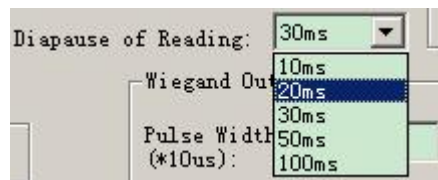
◆ RS485 network

Can make networking through RS485. The user need to set an address for each reader before make networking, and enable the reader can connect with PC through TCP/IP. Address range: 1 to 254.
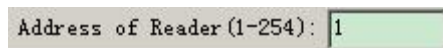
Remarks: 1 and 254 are broadcast address，all readers will return application information after receive command with broadcast address.

◆ Which protocol to read(ISO18000-6B,6C option)
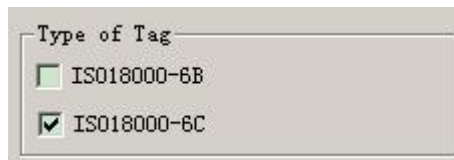
（3） Set network parameter

The used should set the network parameter when connect the reader to PC by TCP/UDP.
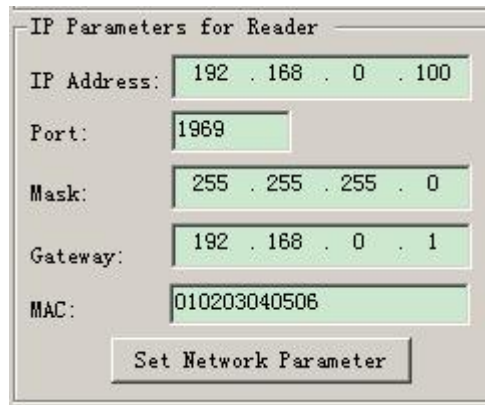
Remarks: The repeated MAC address is no permit

（4） Set Relay (Option)

◆ Relay work: Check Relay1 and Chick SetRelayStay

◆ Relay work off: No check Relay1

Remarks: Relay is option function, parts readers without this function

（5） Auto Mode Parameters

◆ Working process
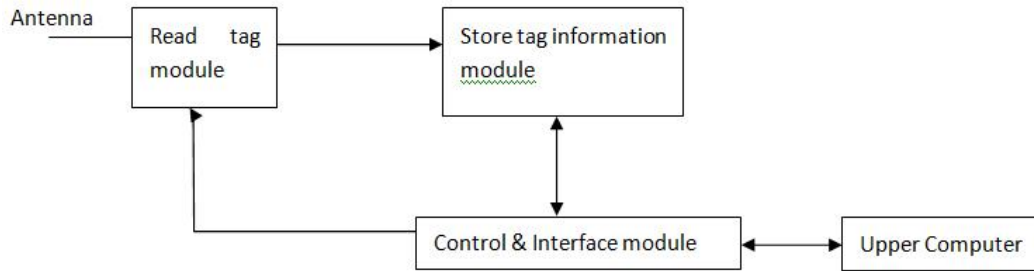
✧ Read tag module: In Charge of Reading only, Timing or Triggering work way option. The User can set on Interval of reading,Reading from which Antenna, Triggering level,which tyre of tag to be read

✧ Store tag information module: In charge of Store read-tag information, such as the reading time, store capacity.

✧ Control & Interface module: Manage the process of reading and exchange date with Upper computer.
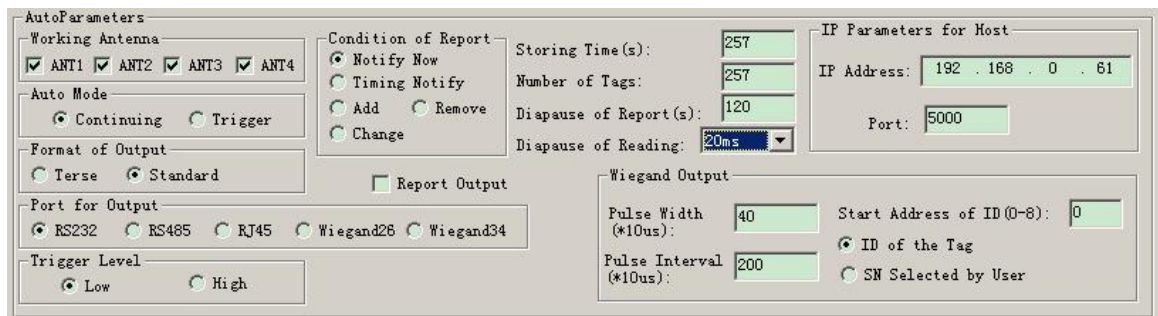
◆ Work way: Continuing or Tigger
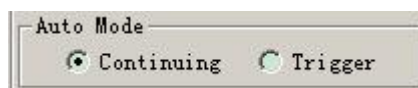
✧ Continuing: the reader read tags in interval, and output the reading results through setting port (Wiegand and RS485 or RS232) when successful. No output If read fail or read illegal tag (need validation) .

✧ Trigger: reader detects signal variation on FIN1 pins automaticly, when detect low electricity at ordinary times; reader starts to send a signal, read label numbers. When FIN1 pins in high level, stop reading card. The readed card number output through the setted data port. If read invalid card, then output 0xffffffff. There are 2 modes: Low Level or High Level
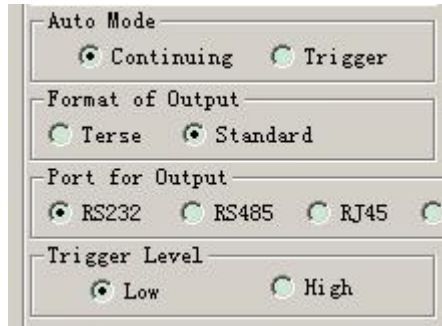
◆ Reading from which antenna : Only ANT1

◆ Port for Output

Remarks: If output is Wiegand, interval is 1s for output Tag ID

◆ Wiegand output format

3 output forms on Pulse Width & Pulse Interval .Pulse Width IS 40 and Pulse Interva is 200 are default setting.

Pulse Width	Pulse Interval	Output waveform Pulse Width	Output waveform Pulse Interval
40	200	400us	2ms
10	160	100us	1.6ms
5	100	50us	1ms

◆ ID Output start address (0-8)

It is for tag ID, there is 8Bytes on Tag ID, address0-8
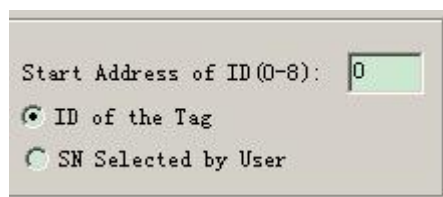
✧ The relationship among ID Output start address, tag protocol ,output ID (output is Wiegand 26)

ID Output start address	ISO18000-6C (11223344556677889001122)	ISO18000-6B (E0044BDF23010000)
0	223344	044BDF
1	334455	4BDF23
2	445566	DF2301
3	556677	230100
4	667788	010000
5	778899	Unuseble
6	889900	Unuseble
7	990011	Unuseble
8	001122	Unuseble

✧ The relationship among ID Output start address, tag protocol ,output ID (output is Wiegand 34)

ID Output start address	ISO18000-6C (11223344556677889001122)	ISO18000-6B (E0044BDF23010000)
0	22334455	E0044BDF
1	33445566	044BDF23
2	44556677	4BDF2301
3	55667788	DF230100
4	66778899	23010000
5	77889900	Unuseble
6	88990011	Unuseble
7	99001122	Unuseble
8	00112200	Unuseble

✧ The relationship among ID Output start address, tag protocol ,output ID (output is RS232,485)

ID Output start address	ISO18000-6C (11223344556677889001122)	ISO18000-6B (E0044BDF23010000)
0	11223344556677889001122	E0044BDF23010000
1	11223344556677889001122	E0044BDF23010000
2	11223344556677889001122	E0044BDF23010000
3	11223344556677889001122	E0044BDF23010000
4	11223344556677889001122	E0044BDF23010000
5	11223344556677889001122	E0044BDF23010000
6	11223344556677889001122	E0044BDF23010000
7	11223344556677889001122	E0044BDF23010000
8	11223344556677889001122	E0044BDF23010000

◆ What to be read from Tag:
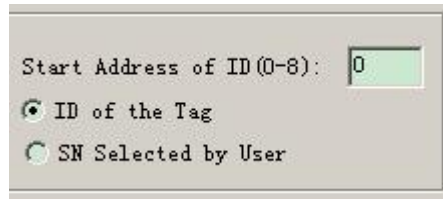
The User take UID number as tag ID general, sometime User define ID and take it due to Project requirement, especially in Access control case.

	ISO18000-6C	ISO18000-6B
ID of the Tag	EPC	ID
SN Written by User	TID	The data from 220～223 of user

✧   The relationship among output form, output tag ID bits and and tag protocol.

	ISO-18000-6C	ISO18000-6B
RS232/485/RJ45	All EPC bits	All ID bits
wiegand 26	The operating param 『initial address of output card』 determin output 32bits of 64 bits ID	The operating param 『initial address of output card』 determin output 24bits of 64 bits ID
wiegand34	The operating param 『initial address of output card』 determin output 32bits of 64 bits ID	The operating param 『initial address of output card』 determin output 32bits of 64 bits ID

◆   Format for Output

Two ourput formats: Terse or Standard: Appendix A with destription

Format of Output
○ Terse   ● Standard

◆   IP Paramters for Host

IP Parameters for Host
IP Address: 192 . 168 . 0 . 61
Port: 5000
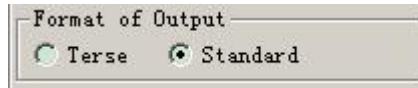
The reader transfer tags ID to upper PC in Auto mode, so the IP Address of upper PC need to be setted

Remarks: Check "Enable Report Output" ☑ Report Output **means the reader output 00000000 EPC ID to upper pc if read nothing in Fixed time**

◆   Condition of Report: the output tad ID way in Auto mode

Condition of Report
● Notify Now
○ Timing Notify
○ Add   ○ Remove
○ Change
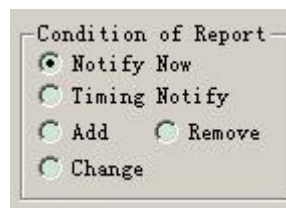
✧   Notify now: reader will send all tag information in memory module to host only when receiving the "notify now" command from host.

✧   Timing Notify: reader will send the tag information read within the interval time at intervals.

✧   Add: when reader read tags not in memory module, it will send the tags information to host and store the tags information in the reader.

✧   Remove: when the storage time of tag in memory module is out, reader will send the tag information to host, and delete the tag information from reader.

✧   Change: when tag is added or deleted in memory module, reader will send the tag information to host.

Storing Time(s):   257
Number of Tags: 257
Diapause of Report(s):   120
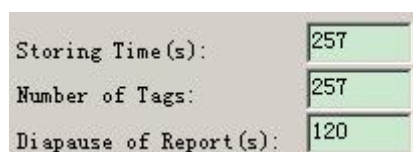
◆ Storage time:The time of read tags information stored in memory module. The unit: second. The parameter controls the work mode of memory module.

◆ Number of tags : the max quantity of store tag ID which be read. If the quantity more than Max, the earlies record is instead by last one.

◆ Diapause of reports:How long the read transfer the tag ID to upper PC.

Remarks: the "Dispaude of reports" is unworkable in "Notify now" report

（6） Set Reader Time
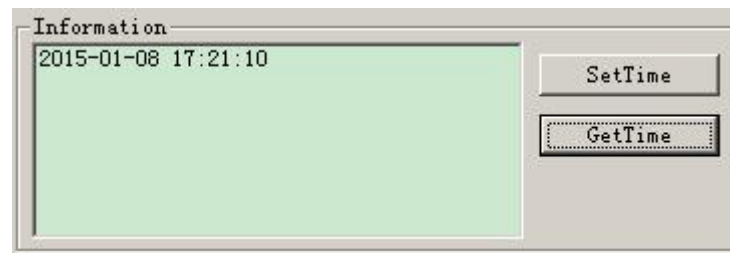
✧ Read time : Upper PC get the what time of read

✧ Set time: Upper PC update the time to read

（7） Set Filter: Reader identify the coincident tags base on Filter
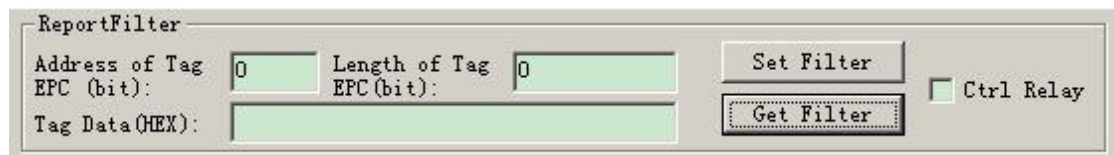
1; Start address of tag EPC, Bit unit, Such as 6.

2: Length of Tag EPC, Bit unit, Such as 3.

3: Tag data (hexadecimal): Such as 4.

The setting is for continuous bit in tag ID, All coincident tags be read,

When the coincident Tag EPC NO.length is not on a multiple of 4 bits, fill 0 for completely. Such as EPC 0530000000000000000000000 and FD70000000000000000000000 are both coincident tags, should be read.

Remarks: if ask to Aralm when read the coincident tag, check "Relay 1"

（8） Update Paramter : for update the Basic Paremeter and Auto Model Paramter

（9） Factory Paramter: Back to the factory parameter.

2   The reading and writing test for Tag ISO18000-6C

2.1   The program for reading and writing

(1) The storage of tag ISO18000-6C.

Four partitions:

A. EPC: for storage EPC code, it can store 96bits EPC code at most. Read & write.

B. TID: area for storage the ID number setted by the factory, have two kinds of ID number

32 and 64 bits at present. Read Only

C.   User: Each company has a rule.

D.   Password: 32bits access password and 32bits kill password. Read & write.

The four partitions are all with write proction. Write protection means unwriteable when in unsate situation or never writeable   Read protection means unreadable on the password Partition

(2)   The reading and writing process for ISO180000-6C tag.

A.   Selection: select a partition From 4 Partitions,then select tags according to specified data in this partition.

B.   Inquiry tag one by one: identify all the tags one by one based on the selection.

C.   Access: access an identified tag. Such as read& write the four partition, set read write protection and modify password

(3)   Tips:
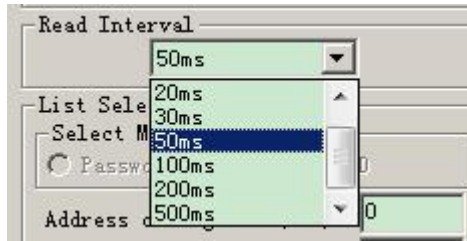
A.   『No Tag!』: read nothing

B.   『The memory isn't exist』store memory is not exist

C.   『The memory has been protected』

D.   『Power is not enough』

E.   『Password is error』

F.   『Write Fail！』

G.   『Write Successfully』

(4)   Set antenna.
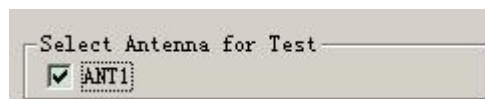
(5)   Set Read Interval

The reading interval can select from:10、20、30、50、100、200 ,and 500ms,default is 50ms.

2.2 Transparent read the EPC No.

Operating steps are as below:

Firstly, select EPC bank, see below:
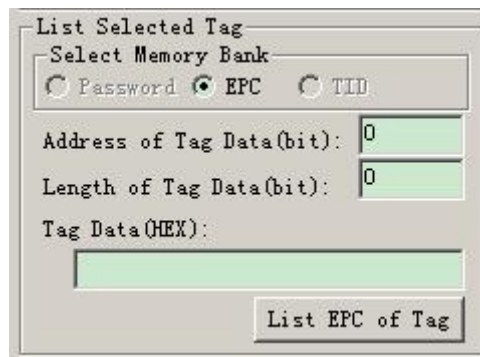
Secondly, set the initial address of data bank to be zero, 0 represents identify all the tag in transparent. as below:
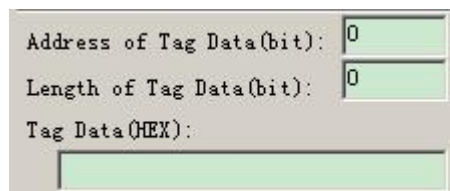
Thirdly, click 『List EPC of tag』 button, reader get EPC Number Based on the second step. The identified EPC No. showed in the top right corner 『List ID of Tags』 dialogue frame.

No.	EPC	Success	Times	EPC Length
1	E2009055331501872050 3D61	86	274	06
2	E2009150501401042750 04C1	16	274	06

2.3 Get EPC No. according to the EPC data

According to the specific data segment in EPC bank, choose tags meet the condition, read the EPC number.
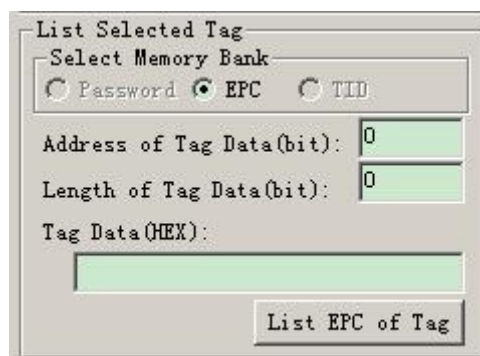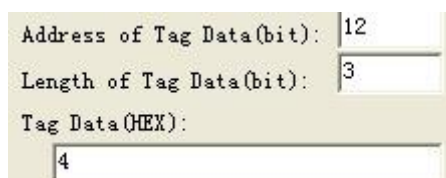
Operating steps are as below:

Firstly, select EPC bank, see below:

Secondly, set the 〖initial address of data〗 bank, unit with Bit, the start address only should be whole number Such as the 12.

Thirdly, set the 〖 length of the data〗, unit by Bit, such as 3.

Fourthly, select 〖Tag data (HEX)〗 for the unit, such as 4, see below. Here the so-called conditions is aimed at a regional data in some tags consecutive patients (bit), who meet the conditions of the tag will be read. The length of the conditional values is not mulriple 4Bits, low fill 0.

Fifthly, press "identification tag" button, reader began to read the label EPC number according to the first four steps setted conditions. Illustrate: see chart 5.1, radiation field have eight tag, if have to meet the conditions: data area initial address is 12, the data length is 3 (namely needs to compare three), selected data is C, the only one card whose ID 555555555555555555555 meet, and list to show, see figure 4.3 (because the start bit of card id 12, need to compare the condition of the length is 3, if meet conditional values for hexadecimal 4 or 5 (010 low fill a zero convert 0100 or 0101). Be identified label's EPC number displayed in the upper-right corner "show identified label ID" as below:

No.	ID	Success	Times	EPC Length
1	5555555555555555555555555	7	7	06

2.5 Get EPC bank data of the specified tag

EPC bank of ISO18000-6C tag have three parts, sequence is as follows:

➢ CRC-16 is PC value and the redundancy circular check code of EPC No, CRC are 16bits, is the BF50H in the picture.

➢ PC comperent from the length of EPC No. and application code.The length of PC value is 16bits, is the 3000H in picture.

➢ EPC is EPC No. Picture as below: E200H (the first character of EPC No.).

Can read any EPC block data, operating steps are as below:

The first step, select EPC storage area, as below:

The second step, select tag, for example 『E2009055331501872050 3D61』, as below:

The third step, select the start 『 address of Tag data』, unit by word, such as 0,

The fouth step, set the 『length of the tag』, unit by word, such as 3,

The fifth step, press 『read』 button, reader began to read the label EPC number according to the first four steps setted conditions. The data displayed in the upper-right corner.
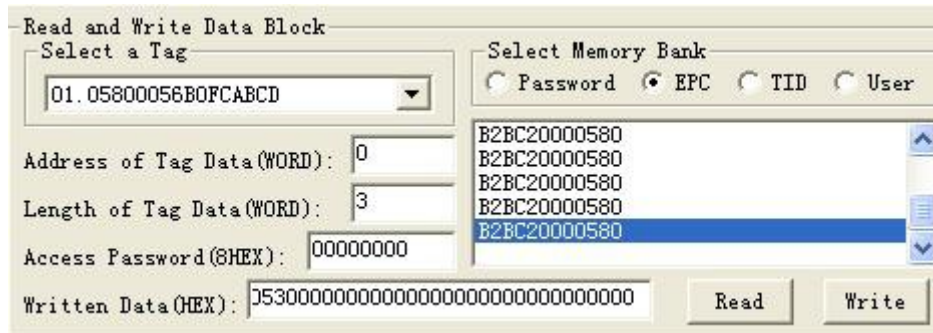
2.6 Read the TID bank data of specified tag

Can read any TID block data, operating steps are as below:

The first step, select TID storage area, as below:

The second step, select tag, for example 『E20090553315018720503D61』, as below:

The third step, select the start 『address of Tag data』, unit by word, such as 0, as below:

The fouth step, set the length of the tag, unit by character, such as 3, as below:

The fifth step, press 『read data』 button, reader began to read the label TID number according to the first four steps setted conditions. The data displayed in the upper-right corner.

2.7 Read the USER bank data from specified tag

Can read any USER block data, operating steps are as below:

The first step, select USER storage area, as below:

The second step, select tag, for example 『E20090553315018720503D61』, as below:

The third step, select the 『address of Tag data』, unit by word, such as 0, as below:

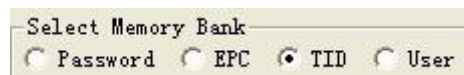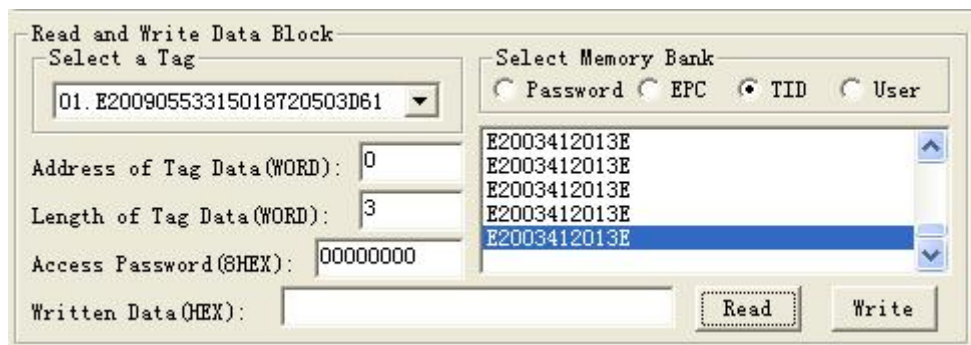The fouth step, set the 『length of tag Data』, unit by word, such as 3, as below:
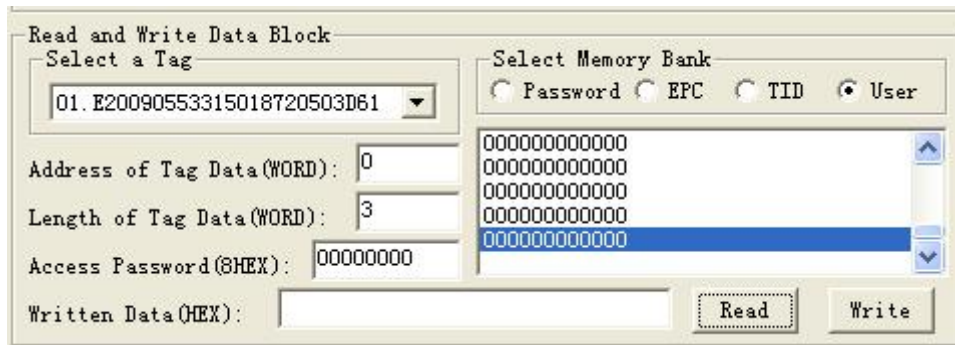
The fifth step, press 『read』button, reader began to read the label USER number according to the first four steps setted conditions. The data displayed in the upper-right corner.

2.8 Get PASSWORD bank data from the specified tag

If the password does't be read protection, it can read any password block data; the password bank has two parts as below:

(1) Kill password: 32bits

(2) Access password: 32bits

Operating steps are as below:

The first step, select password storage area, as below:
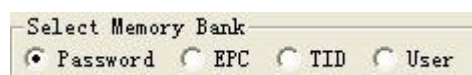
The second step, select tag, such as 『77777777777777777777777』, see below:

The third step, select the 『address of Tag Data』, unit by word, such as 0, as below:

The fouth step set the 『 length of tag Data』, unit by word ,such as 4, as below:
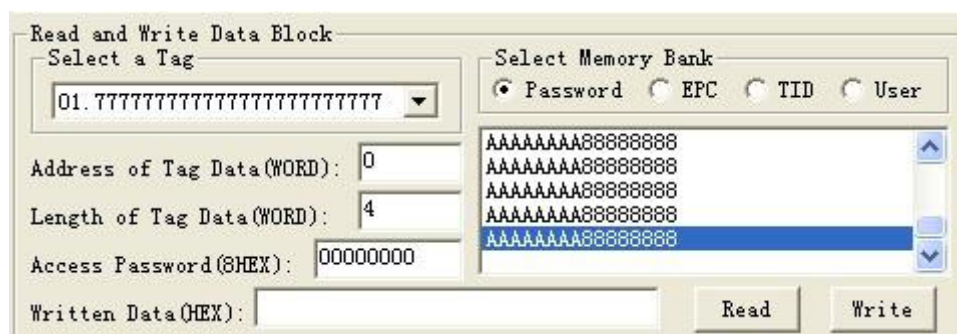
The fifth step, press 『read data』 button, reader began to read the label USER number according to the first four steps setted conditions. The data displayed in the upper-right corner. AAAAAAAA is kill password, 88888888 is access password.

2.9 Write to EPC bank

Can write16、32、48、64、80 or 96bits EPC No. to the EPC bank at present. CRC-16 and PC value automatic generation according to written EPC. The operation steps are below:

The first step, select EPC storage area, as below:
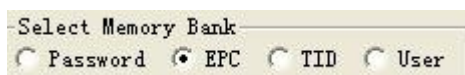
The second step, set the EPC No. length, such as 6, means 9bBits, as below:

The third step, if the EPC bank has been set password lock, should fill 『Access password』, such as 88888888, see as below:

The fourth step, fill EPC No. to 『writen data (HEX)』, united by HEX,such a 『45679464ABCDABCD35467684』.

The fifth step, press『write data』button, reader began to write the label EPC data according to the first four steps setted conditions. The written data displayed in the upper-right corner.

The sixth step, get EPC No., check if the written right or not.

Remarks:

(1) Put only a tag in the write radio frequency, otherwise, several tags may all writed the same EPC No. As write EPC No. don't choose a specified tag, so don't have to choose 『select a tag』.

(2) All EPC No. are write from address 0, reader don't identify 『address of   Tag data』.

(3) When the written data more than 2 Bytes, show wrong information, may only partial data has been written wrong.

2.10 Write to User bank

The operation steps as below:

The first step, select USER storage area, as below:

The second step, select a tag, such as 『45679464ABCDABCD35467684』, see as below:

The third step, select the initial address of user bank, such as 0, see as below:

The fourth step, set the length of data, such as 4, see as below:

The fifty step, if the user bank has been set password, then has to fill the 『Access password』, such as 88888888 see as below:

The sixth step, fill data to 『written data(Hex.)』, such as 『1234567891234567』.

The seventh step, press 『writte』button, reader began to write the label USER data according to the first four steps setted conditions. The written data displayed in the upper-right corner.

The eighth step, get USER Data, check if the written right or not.

Remark: When the written data more than 2bytes, show wrong information, may only partial data has been written wrong.

2.11 Modify the PASSWORD of tag

The operation steps are as below:

The first step, select password storage area, as below:

The second step, select a tag, such as 『45679464ABCDABCD35467684』, see as below:

The third step, select the initial address of user bank, such as 0, see as below:

The fourth step, set the length of data, such as 2, see as below:

The fifty step, fill the 『Access password』, such as 88888888,   see as below:

The sixth step, fill new password to 『written data(Hex.)』, such as 『AAAAAAAA』.

The seven step, press 『write data』 button, reader begins to write password according to the condition set be the above sixth step, such as write kill the tag. The written data displayed in the upper-right corner.

The eighth step, get new password, check if the written right or not.

Remark: When the written data more than 2bytes, show wrong information, may only partial data has been written wrong.

2.12 Write protection for EPC-TID -USER bank

The TID bank of ISO18000-6C tag is locked and be readable only.

There is protection for reading on EPC bank and USER bank of ISO18000-6C tag , but write, the write protection as below:

➢ Writable from any state- can write without password, and can set to permanently writable, Writable from the secured state or Never writable in the future.

➢ Permanently writable- can write without password, and can't set to be Writable from the

secured state and Never writable;

➢ Writable from the secured state- only can write with the password, and can set to permanently writable, Writable from the secured state or Never writable in the future.

➢ Never writable-can't write even with password.

2.13 Write protection for PASSWORD bank

The password of ISO18000-6C tag can be read and write proteted, the password situation wouldn't effect use the password. Protection function:

Readable and Writable from any state- can read and write without password, and can set to permanently Readable and writable, Readable and Writable from the secured state or Never reader or writable in the future.

Permanently readable and writable- can read and write without password, and can't set to be readable or Writable from the secured state and Never readable or writable;

Readable and Writable from the secured state- only can read orwrite with the password, and can set to permanently readable and writable, readable and Writable from the secured state or Never readable or writable in the future.

Never readable or writable-can't read or write even with password.

Remarks: set read write protect for tag, should know the access password of tag in advance.

2.14 Write protection for EPC bank

The first step, select the EPC bank, as below:

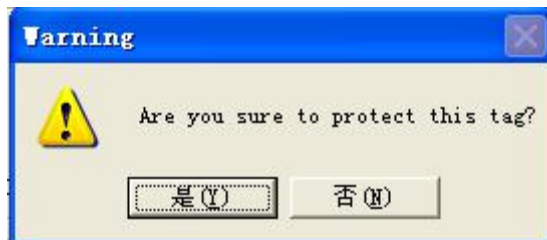The second step, select a tag, such as 〖45679464ABCDABCD35467684〗,as below:

The third step, select the Writable from the secured state (or Writable from any state, or permanently writable or never writable), as below:

The fourth step, fil the l〖access password〗,the access password for tag

『45679464ABCDABCD35467684』is 88888888, see as below:

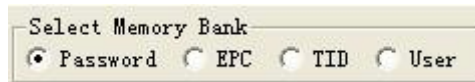The fifth step, press『set protecting』button, popup the below dialogue box:

The sixth step, press『no』, then the above operation invalid, press『yes』,according to the before four step setted condition, if success, popup the below frame, represents the EPC bank has set to be password lock.

The seventh step, write data to EPC bank, check if the set protection suceess or not.

2.15 Write protection for USER bank

The first step, select the USER bank, as below:

The second step, select a tag, such as『45679464ABCDABCD35467684』, see as below:

The third step, select the Writable from the secured state (or Writable from any state, or permanently writable or never writable), as below:

The fourth step, fill the l 『access password』,the access password for tag 『45679464ABCDABCD35467684』 is 88888888, see as below:

The fifth step, press 『set protect』 button, popup the below dialogue box:

The sixth step, press 『no』, then the above operation invalid, press 『yes』,according to the before four step setted condition, if success, popup the below frame, represents the EPC bank has set to be password lock.

The seventh step, write data to USER bank, check if the set protection suceess or not.

2.17 The read-write protect for PASSWORD bank
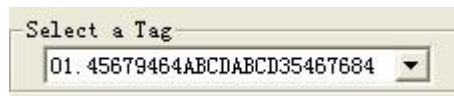
The first step, select the user bank, see below:

The second step, select the access password (or kill password), see as below:
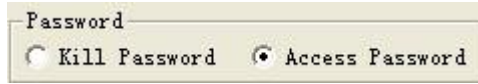

The third step, select a tag, such as 『45679464ABCDABCD35467684』, see as below:

The fourth step, select the Readable and Writable from the secured state (or Readable and Writable from any state, or permanently readable and writable or never readable or writable), as below:
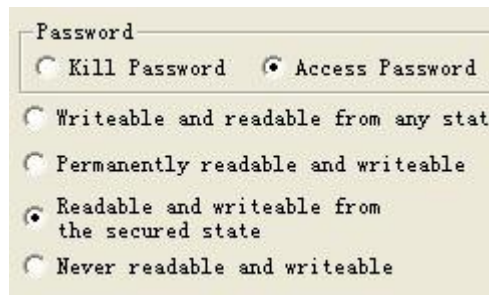
The fifth step, fill the 『access password』, the access password for tag 『45679464ABCDABCD35467684』 is 88888888, see below:
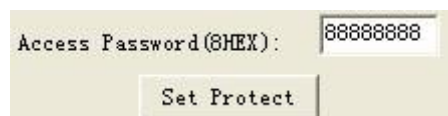
The sixth step, press 『set protect』 button, popup the below frame:

The seven step, press 『no』, then the above operation invalid, press 『yes』,according to the before four step setted condition, if success, popup the below frame, represents the USER bank has set to be password lock.


The eighth step, write data to USER bank, check if the set protection suceess or not.

2.18 Kill tag

Caution: Once the tag has been killed, it does not answer the reader ever.

The first step, select a tag『Select a Tag』, such as『22222222222222222222222』, see below:

The second step, fill the kill password to 『Password』(HEX), the kill password of tag 『22222222222222222222222』is 00000000, see as below；
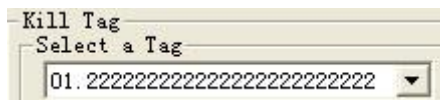
The third step, press 『Delete Tag』button, popup the below frame:

The foutth step, press 『no』, then the above operation invalid, pres 『yes』,according to the before three step setted condition, if success, popup the below frame, represents the tat has been killed.

The fifth step, read the EPC No. to check if killed the tag successful or not.

3   The reading and writing test for ISO18000-6B tag

3.1   Program for reading and writing

If have to test functionality and performance of the reader, it can be made according to the

following way operation. First introduce the operatin way for ISO18000-6B standard tag as below:

3.2   Identify all the tag ID

Operation steps as below:

Set antenna:

Press the 『List tag ID』 button, and put tags in radiation field, reader keep to read tag ID of tag automaticly until pop-up 『List tag ID』 button.The card number showed in the 『List ID of Tags』 frame as below:

Remove the tag during the antenna radio frequency area can test the reading distance and range.

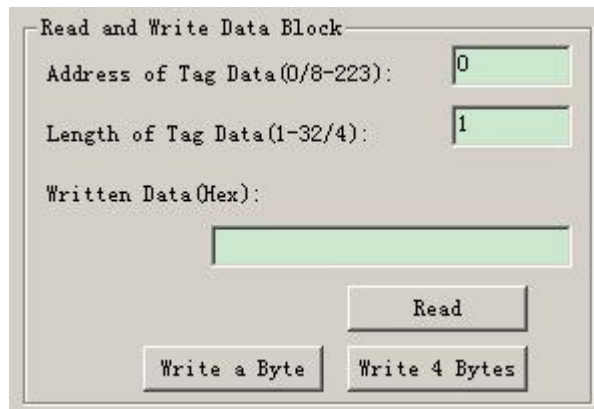# 3.3   Read data

The start address of reading is 0-223.

The length range of reading block is 1-32.

The operating step for testing the reader's 『read』 function is as below:

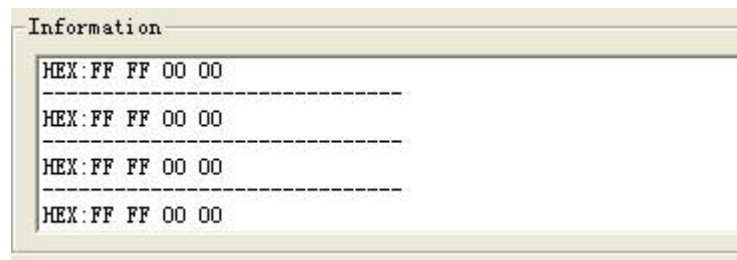◆   Select a tag which will be read from『select a tag』frame (this frame show the result of『list tag of ID』).

◆   Select the initial address and block length of reading operaton.

◆   Press 『read』 button, the program will start repeatly read automaticly until pop-up this button.

◆   The reading result showed at the 『informaiton』.

Each line displayed the result of one reading operation, display with Hex firstly.
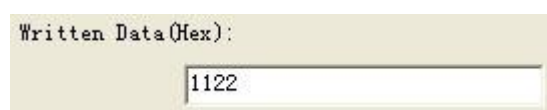

3.4   Write HEX

The initial address range of writing operation is 8-223.

The block length of writing operation is 1-4Bytes.

The operating step of test reader's 『write』 function:

◆   Select a tag which will write data from 『written data』.

◆   Input the initial address of writing operation.

◆ Press 『write a Byte』 button, the program will start repeat write data automaticly until pop-up the button.

◆ Write success or not showed in the 『informaiton frame』, see below.

◆ 『write success！』 represents this operation success.

『write fail!』 represents this operation failed, the reason is tag far from the reader too long or this bank write protection damaged.

Remarks: if the written data more than 4Bytes,『writen fail!』may due to patial bytes written failed.

◆ Select Tags by Condition: users can select the coincident tag ,then click 『List ID of Selected Tags』 button, the tags meet the conditions will be read and show in "List ID of Tags ", uncoincident don't output not be read.

Example:Tag ID is E0040000128A8A01, input 4 to "Address of Tag Data" (0 ~ 233) And 06 in "Condition" , Check "Equal Condition" and click "List ID of selected Tags" button , There is nothing ouput on the "List ID of Tags" (because the start address is 4, reader compare the fourth BYTE of tag as to the condition. i.e., 12, and 12 is not equal to 6, and not meet the condition ,so that the tag is not able to read. If condition is 12,the ID meet it and be read. If the User choose "Unequal Condition" or "Greater than Condition"the tag ID be read. But "Less than Condistion" not, because the start address is 4 , in this tag ID mean 12, the condition is 06, 12 great and Unequal to 06.

3.5   Write protection

The operation step is as below:

◆   Select a tag which will plan to protection from 『select tag』.

◆   Add the address of the tag in 『Address of Tag Data』frame. The address range is 8-223. Such as

◆ Press 『set protect』button, see as below:

◆ Press 『yes』, program will continue protect this tag. If failed, will popup the below dialogue frame:

◆ Press 『yes』,try again, protection success, will pop up the below dialog frame:

◆ Detect the specified bank of the tag been protected or not (detect address range is 0-223).

Press 『detec the protection situation』button, pop up the below frame show that this specifed bank has been protected.

4   Auto Test Setting

Remarks:

the belows only workable when connected with Upper PC

➢   Start or stop Auto work mode

➢   Clear memory

➢   Get Tag information

When turn to Auto mode, the former ID information will be clean

The auto settings should be checked before Auto work.

◆   Whether to display the original records: output the original ID info.

No.	First Time	End Time	Count	Antenna	Type	EPC
1	2012/12/26 11:43:05	2012/12/26 11:43:05	0011	01	04	E20090553315018720503D61

(1):Disc:2012/12/26 11:45:10, Last:2012/12/26 11:45:10, Count:00001, Ant:01, Type:04,
Tag:E20090553315018720503D61

(1):Disc:2012/12/26 11:45:10, Last:2012/12/26 11:45:10, Count:00001, Ant:01, Type:04,
Tag:E20090553315018720503D61

(2):Disc:2012/12/26 11:45:10, Last:2012/12/26 11:45:10, Count:00001, Ant:01, Type:04,
Tag:E20090553315018720503D61

(2):Disc:2012/12/26 11:45:10, Last:2012/12/26 11:45:10, Count:00001, Ant:01, Type:04,
Tag:E20090553315018720503D61

(2):Disc:2012/12/26 11:45:10, Last:2012/12/26 11:45:10, Count:00001, Ant:01, Type:04,