SOYAL Software Series
V240322

SOYAL®
ACCESS & INDUSTRIAL CONTROL

Software Manual
323D Master

System Requirements

- Operating System: Win7/ Win10, Windows Server 2012/2016/2018, hyper V
- Processor Server: Intel® Pentium® and above
- Installed Memory (RAM): min. 8GB
- Hard Disk: 80GB of free space
- Built-in 10/100M RJ-45 networking and USB transmission interface



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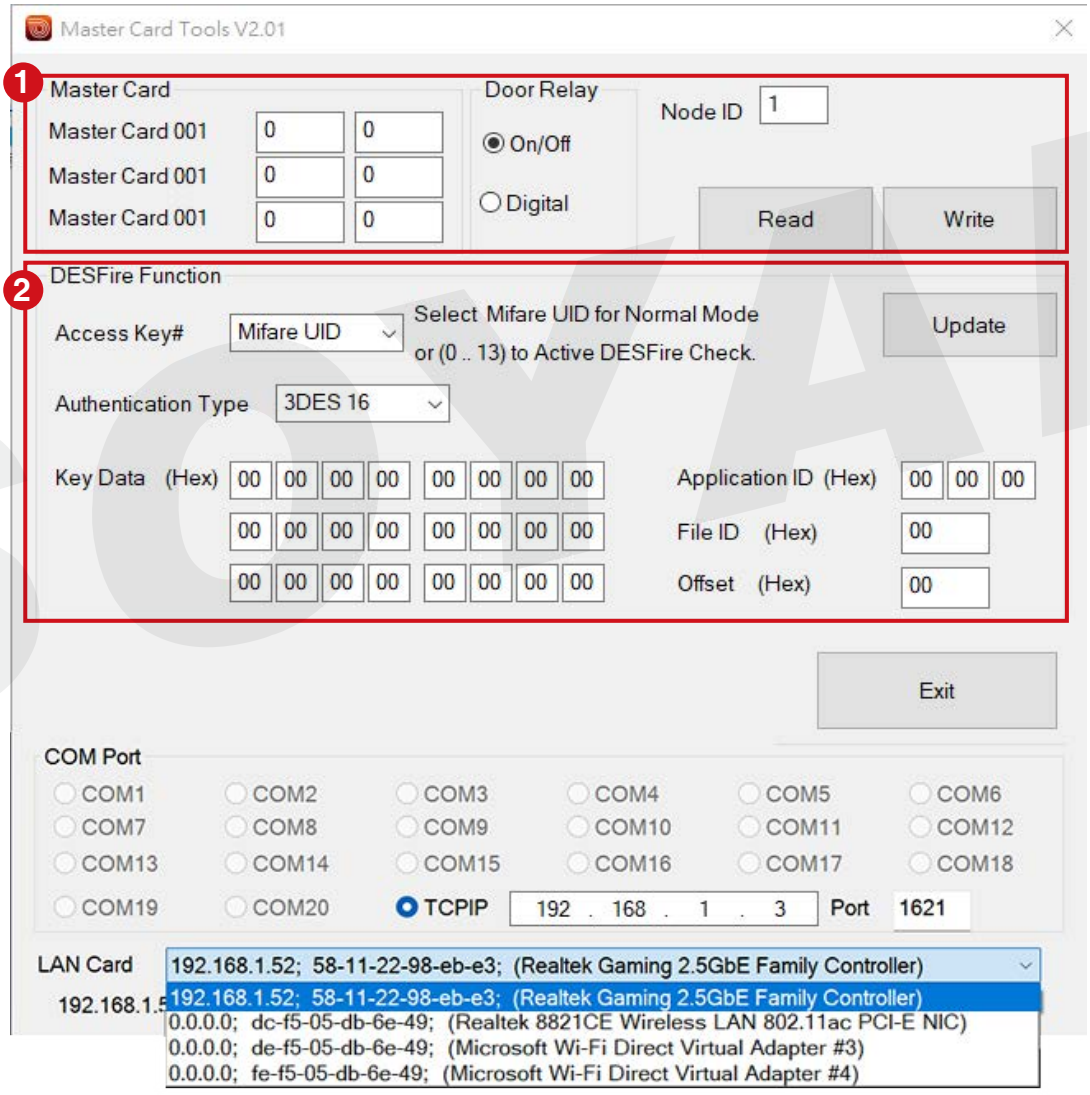
4-1 FAQ 09
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1. Software Main Features

1. Main Features

1. The software can set 3pcs of Master cards for Controller; when controller is working on standalone Mode, use Master card to quickly add/ delete user cards.
2. The software can encrypt DESFire Encoder AR-837-P and DESFire Controller; then use the encrypted DESFire Encoder to encrypt DESFire user cards on standalone working mode, which is fast, convenient and safe.



2. Master Card Operation Setting

2-1 / Applicable Model

1 Home Series (H Series) Controller



Applicable Model Name:

AR-101-H / AR-723-H / AR-721-H / AR-725-H / AR-331-H / AR-321-H / AR-888-H / AR-757-H / AR-323-D / AR-888-W

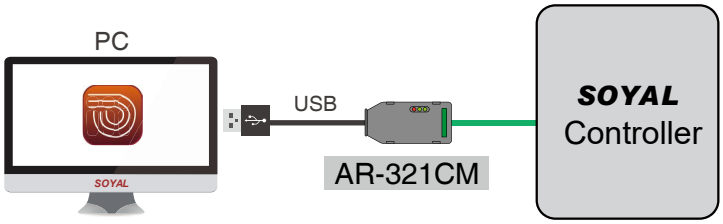
2 Enterprise Series (E Series) Controller



Applicable Model Name:

AR-725-E / AR-331-E&EF / AR-837-E&EF / AR-727-E / AR-327-E

2-2 / Product and System Structure

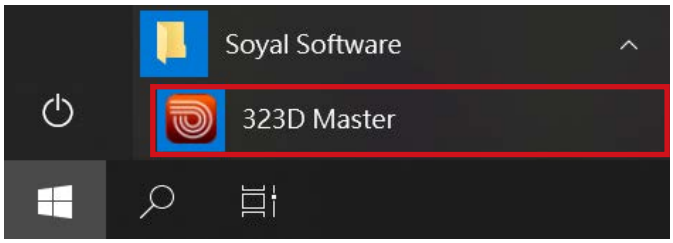


2-3 / Execute 323DMaster

After installing SoyalToolSetup ,Run 323D Master on your computer,

On your computer > Start > Soyal Software folder > click to run 323D Master

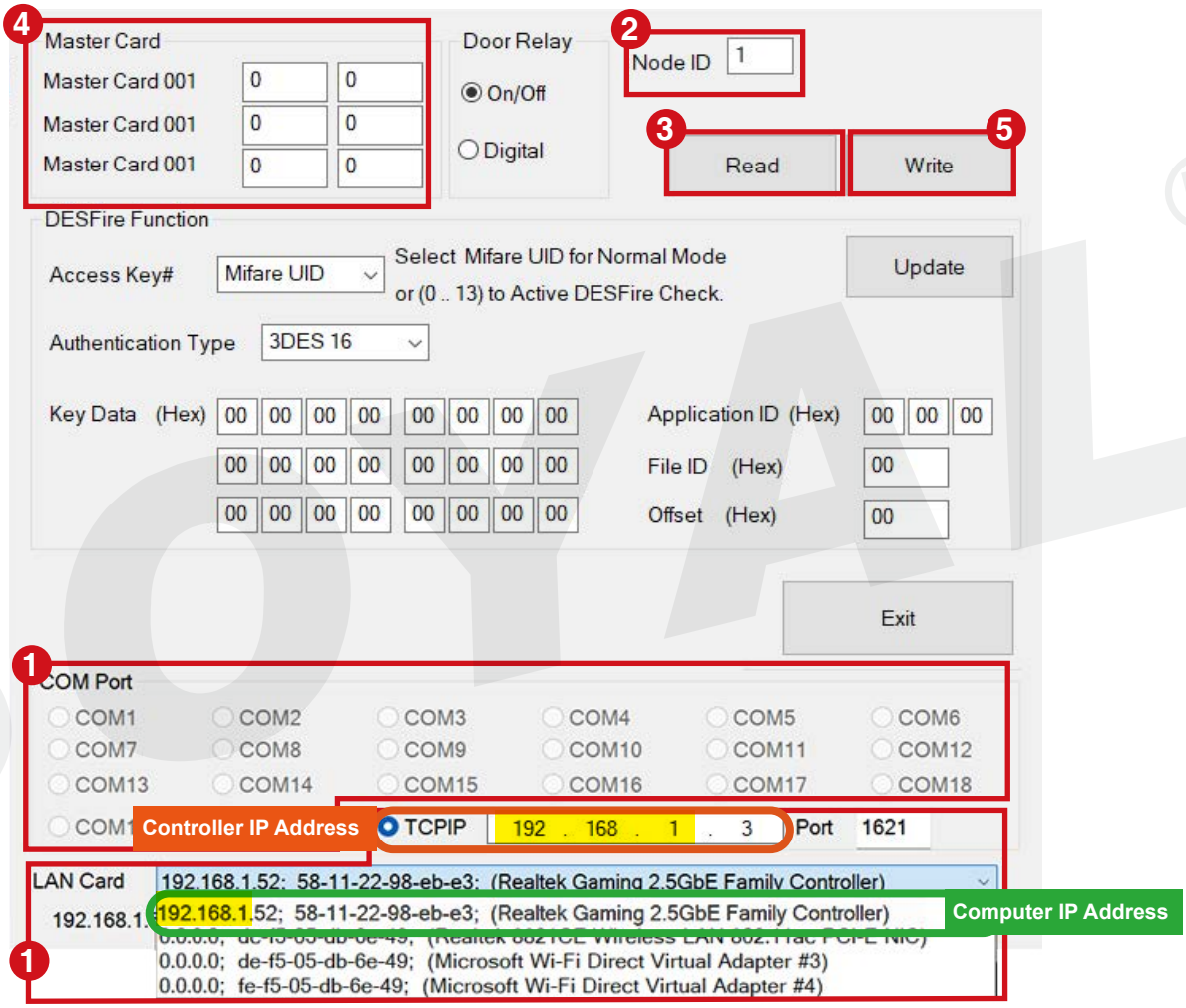
2. Master Card Setting



Note :

- If your computer has running 701 Server software, you need to close 701Server before running this software to avoid communication port being occupied.
- Please make sure to install USB Driver before running the software.

2-4 / Software Operation Steps



STEP 1 : Select the COM Port or TCP/IP of the actual connected device
(Note: If selecting TCP/IP, the IP address of the card reader and the computer must be in the same network segment, for example, 192.168.1.XXX.)

STEP 2 : Enter the Node ID of the controller

STEP 3 : Click 【Read】to read the current Master card setting from the controller.

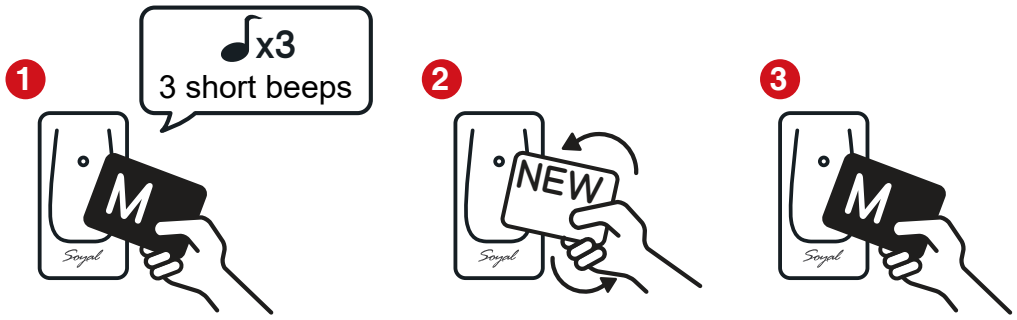
STEP 4 : One Controller can enter up to 3 different card numbers as Master Card.

STEP 5 : Click 【Write】to write Master card numbers to controller.

STEP 6 : After completing master card settings, please note that you need to power off the controller first and then power on again before you can enable the master card to add/delete user cards.

2. Master Card Setting

2-5 / Adding Tags by Master Card



STEP 1 : Swipe Master Card and stay till the controller sounds 3 short beeps, which means the programming mode is entered, then remove Master card.

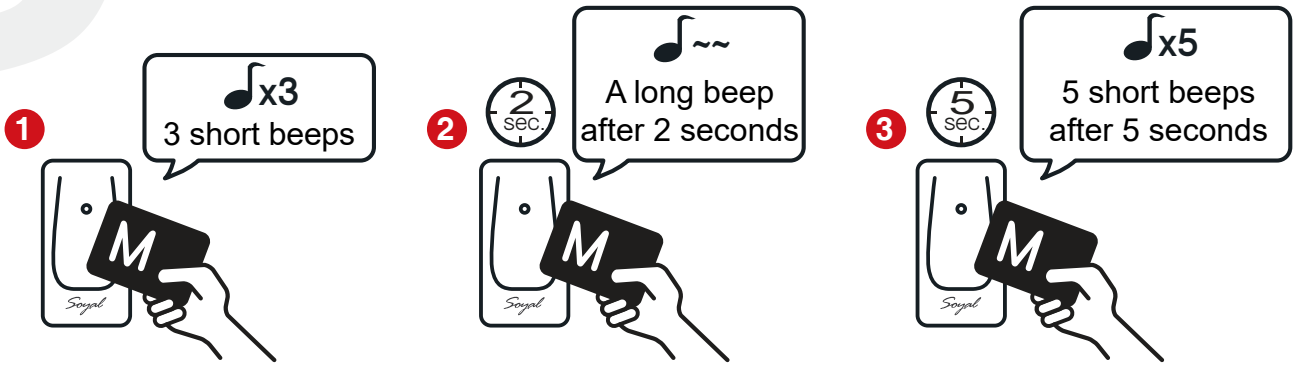
STEP 2 : Swipe the new cards to controller one by one until finishing all cards you want to add.

STEP 3 : Swipe Master Card again to exit programming mode.

Note :

- If the controller is with LCD Screen, the operator will see that the controller will enter the programming mode after swiping Master card, please follow the instructions to proceed to the next step to add a new card.

2-6 / Deleting All Tags by Master Card



STEP 1 : Swipe Master Card and stay till the controller sounds 3 short beeps, which means the programming mode is entered, then remove Master card.

STEP 2 : Stay Master card for 2 seconds, the controller sounds a long warning beep.

STEP 3 : Continue to stay Master card for 5 seconds, the controller sounds 5 short beeps, which means all card numbers has been deleted from controller.

3. DESFire Encryption Setting

3-1 / Applicable Model

1 DESFire Encoder AR-837-P



2 Home Series (H Series) Controller – Frequency: 13.56MHz (Mifare)



Applicable Model Name:
AR-101-H / AR-321-H / AR-323-D / AR-331-H / AR-721-H / AR-723-H / AR-725-H / AR-757-H / AR-888-H

3 Enterprise Series (E Series) Controller – Frequency: 13.56MHz (Mifare)



Applicable Model Name:
AR-331-E&EF / AR-327-E / AR-725-E / AR-727-E / AR-837-E&EE / AR-837-EA / AR-837-EL / AR-837-EF9DO

4 Wiegand Reader(K/U Series) – Frequency: 13.56MHz (Mifare)

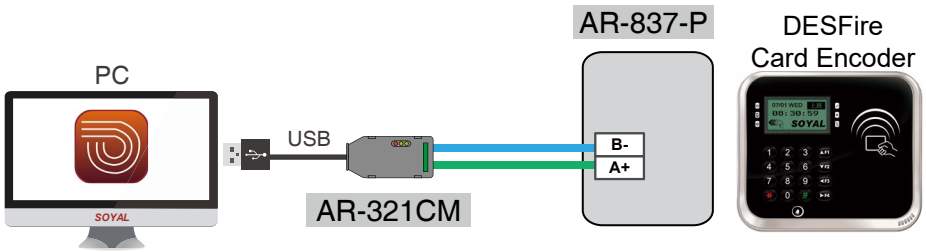


Applicable Model Name:
AR-101-U / AR-321-K&U / AR-331-K&U / AR-721-K / AR-723-U / AR-725-K&U / AR-888-K&U / AR-888-UL

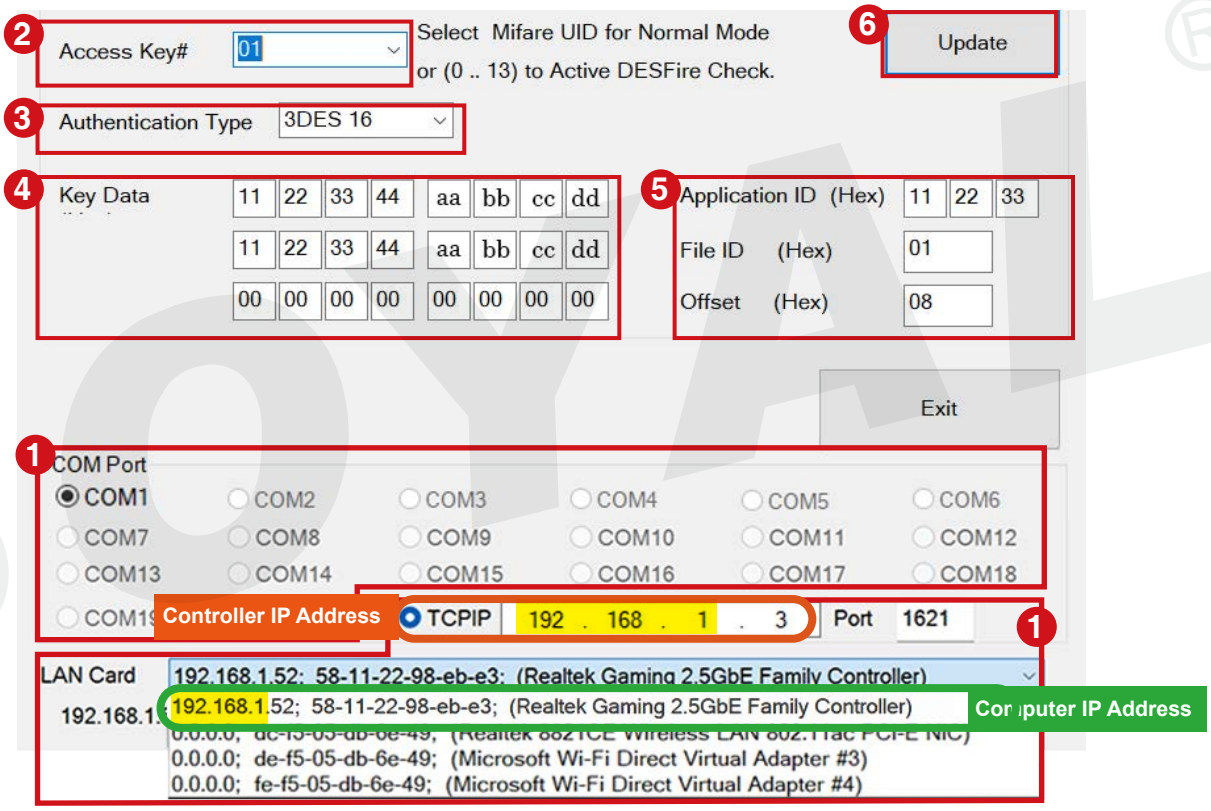
3. DESFire Encryption Setting

3-2 / Set up DESFire Key for Encoder AR-837-PD by the software 323D Master

- **STEP 1** : Connect Encoder AR-837-P to computer via USB Converter



- **STEP 2** : Execute Software "323D Master" and follow the below operation to set up:

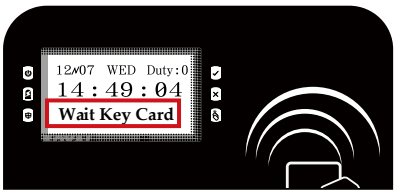


1. Select the COM Port or TCP/IP of the actual connected device
   (Note: If selecting TCP/IP, the IP address of the card reader and the computer must be in the same network segment, for example, 192.168.1.XXX.)
2. Select 01 in the drop-down bar of Access Key# (It is fixed to select 01 when use SOYAL DESFire Encoder AR-837-DP to program DESFire Card)
3. Select 3DES 16 in the drop-down bar of Authentication Type
4. Enter Key Data in Hex format (Note: The clients can set Key data by themselves and please remember it after set).
5. Enter Application ID 11 22 33 (fixed value); File ID 01 that should be same as Access key; Enter Offset 08 (fixed value)
6. Click "Update" to write the setting to DESFire Encoder.

3. DESFire Encryption Setting

3-3 / Program and encrypt DESFire cards by DESFire Encoder 837PD and DESFire Launch Card

- **STEP 1** : Please restart AR-837-P before operate, the LCD screen will show “Wait Key Card”

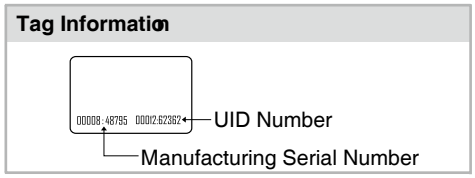


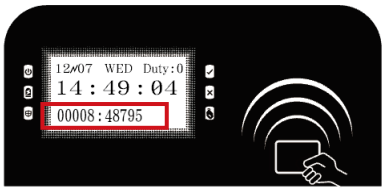
- **STEP 2** : Swipe DESFire Launch card on the right reading area to activate the encoder’s programming mode. After sounding a long beep, the LCD screen show “Ready to Launch” with thesequential quantity number “0”



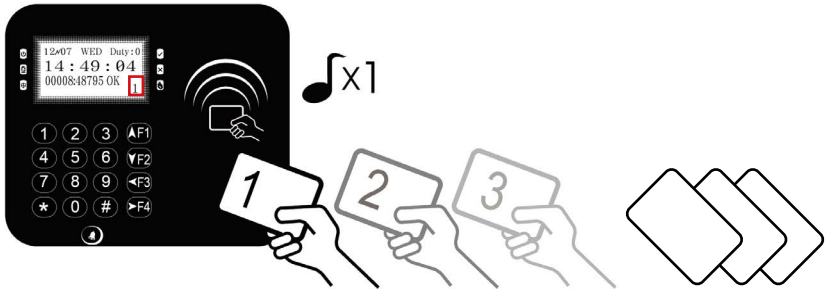
- **STEP 3** : Enter 10 digital lowest sequential number as start new card ID from the first card and enter # as end.

✻ → Enter 10 digital lowest sequential number #





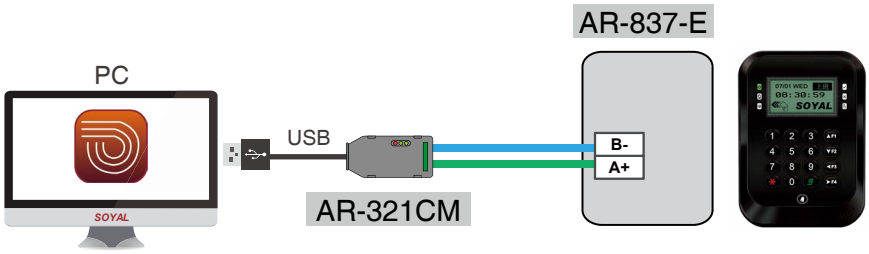
- **STEP 4** : Swipe the first card to AR-837-PD; if the encoder sounds one beep and the sequential number increase from 0 to 1, it means the first card has been successfully programed; next swipe the batch of cards one by one, the sequential number displayed on LCD screen will automatically increase, till finish all cards.



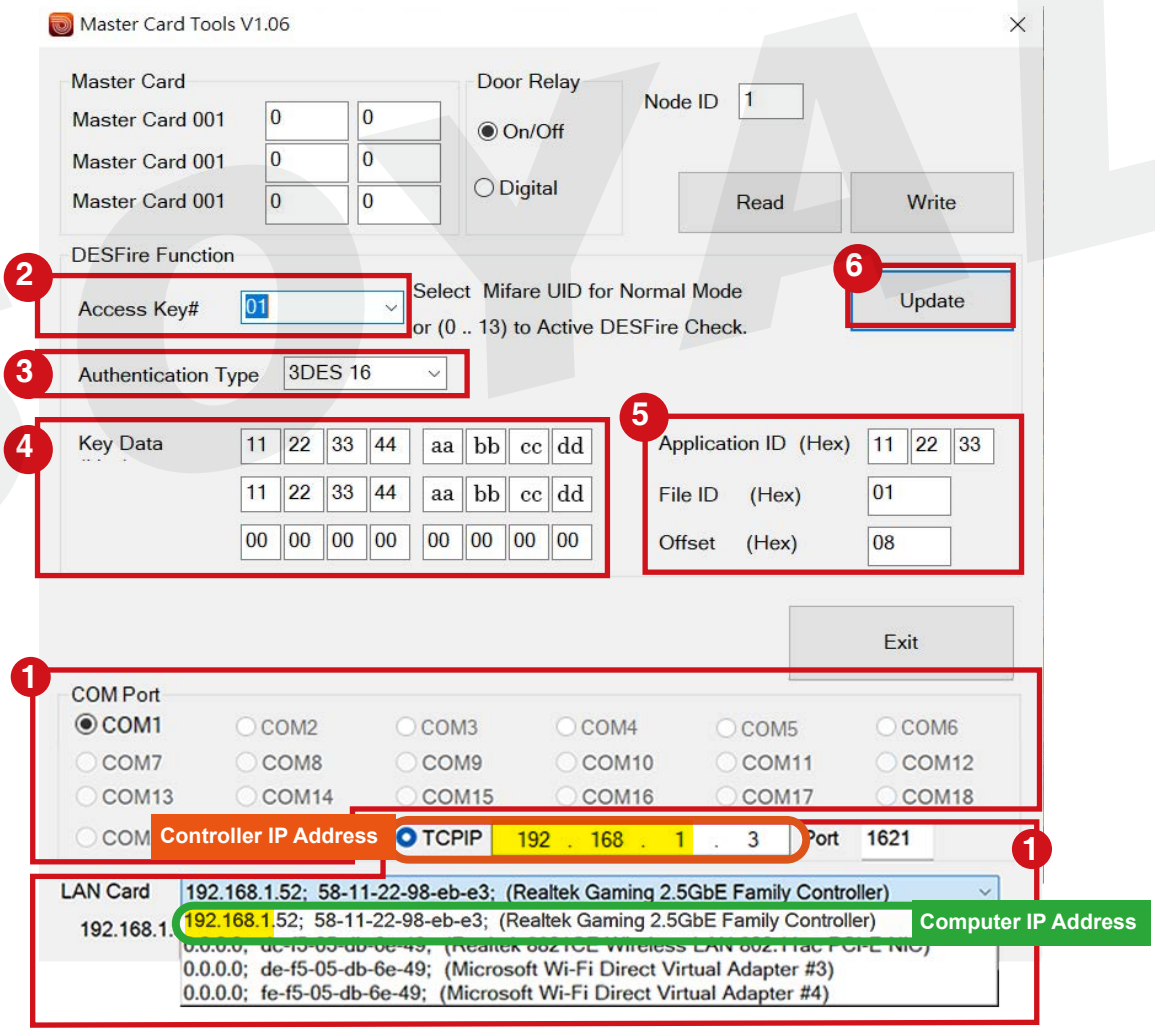
3. DESFire Encryption Setting

3-4 / Set up DESFire Key for Controller and WG Reader by software 323D Master (We use LCD Controller 837E as demo)

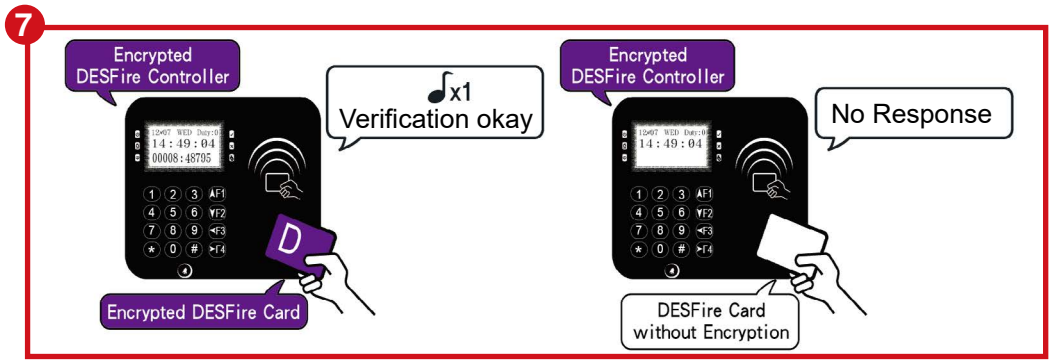
- **STEP 1** : Connect Encoder AR-837-P to computer via USB Converter



- **STEP 2** : Execute Software “323D Master” and follow the below operation to set up:



4. Reference



1. Select the COM Port or TCP/IP of the actual connected device
   (Note: If selecting TCP/IP, the IP address of the card reader and the computer must be in the same network segment, for example, 192.168.1.XXX.)
2. Select 01 in the drop-down bar of Access Key# (The setting should be same as Part1: DESFire Encoder AR-837-PD)
3. Select 3DES 16 in the drop-down bar of Authentication Type
4. Enter Key Data in Hex format. (The setting should be same as Part1: DESFire Encoder AR-837-PD)
5. Enter Application ID 11 22 33 (fixed value); File ID 01 that should be same as Access key;Enter Offset 08 (fixed value).
6. Click “Update” to write the setting to controller.
7. Test that the DESFire encrypted controller only read the encrypted DESFire card; If swiping the general DESFire card without encryption, there will be no response; if the encryption key and setting doesn’t match, the controller will respond to one error warning.

4. Reference

4-1 ／FAQ

- How to transform master card back to general mifare card?
- How to set a master card for AR-323D?
- The Difference of Reminder Sounds Using Master Card between 725H and 725E

4-2 ／YouTube Videos

- 《323D Master》 Mater Card Setup & DESFire Encoding Features Guide
- 《323D Master》 Mater Card Setup Setting step
- 《323D Master》 Mater Card Setup Setting step