



2018

Desktop Single-card Card Printer

## Operation Instruction



*Excellent quality  
Perfect service*

**Model: Seatory S20**

Shenzhen Seatory Technology Co., Ltd.

## Statement

### ● Copyright

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All the pictures and specifications in this manual are made to help description, while the actual specifications shall be subject to order. If any query, please refer to the products specifications on the website of Shenzhen Seaory Technology Co., Ltd.

### ● Warranty

With respect to warranty conditions and restrictive clauses, please refer to the Warranty Card enclosed in the printer package. Thanks for choosing Seaory S Series card printer, to start a successful cooperation between us. A variety of high quality personalization of identification cards, visa cards, and membership cards etc. can be realized through simply operation of these card printers. You shall make sure that printer consumables you bought are from original manufacturer. To know more information, please visit our website: [www.seaory.com](http://www.seaory.com). If any errors found, please let us know by mailing to: [info@seaory.com](mailto:info@seaory.com).

### ● Sign Indicates



Special Warning Message



More In-depth Information Notice

### ● Warning Sign

	<p>Label meaning: The equipment with the label is only designed and evaluated according to the altitude of 2000m. Therefore, it is only applicable to the safety application below the altitude of 2000m. When used above the altitude of 2000m, there may be safety risks.</p>
	<p>Label meaning: The equipment with the logo is only designed and evaluated in accordance with the non-tropical climatic conditions. Therefore, it is only suitable for safe use in non-tropical climatic conditions. When used in tropical climatic conditions, there may be safety risks.</p>

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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# 1. Product features

## 1.1 Main function

- A. Single-sided printing
- B. Manual feeding
- C. Back-end manual feeding, alarm for no card, few card, defective card slot was full
- D. Card holding, timeout automatic recovery
- E. Card feeding or exit mouth can be flexible change
- F. Optional Modules
  - ①Dual interface card encoding module
  - ②Contactless ID card encoding module
  - ③UHF chip card encoding module
  - ④Magnetic stripe card encoding module
- G. Support full panel YMCKO ribbon, half-panel 1/2 ymckO ribbon, Single colors ribbons (Black, White, Red, Blue, Gold, Silver)

## 1.2 Features

- A. Adopt high resolution dye sublimation(direct-to-card) print method
- B. Continuous card printing ability, save time and labor cost
- C. Easy and user-friendly operation
- D. Light body, easy maintenance
- E. Low noise
- F. High printing speed

# 2. Product parameter

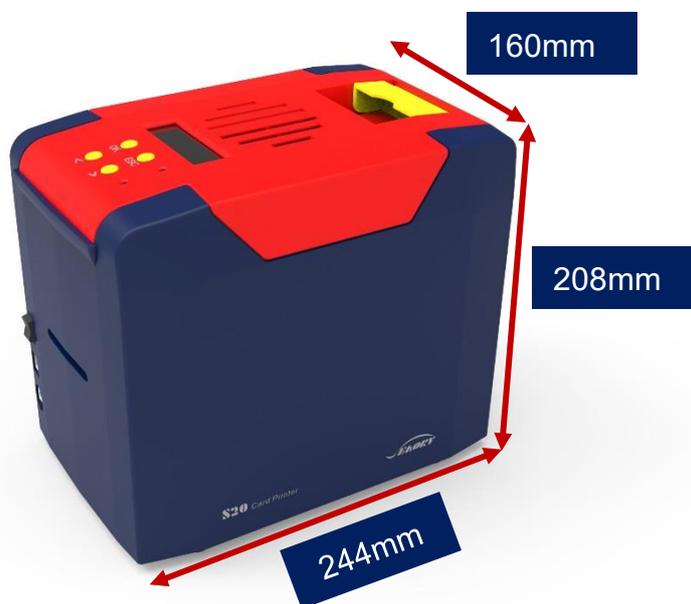
Product Name	Seaory S20 desktop single-sided card printer
Print Method	Dye sublimation (Direct-to-card)
Power Supply	AC 100~240V, 50/60 Hz DC 24-25.5V, 2.7 A
Print Dimension	ISO CR80 (53.98mm×85.60mm) edge-to-edge printing
Print Resolution	300dpi × 300dpi (300dpi × 600dpi optional)
Print Speed	Monochrome printing: 3-5s per card(single-sided) Full-color (YMCKO) printing: 20s per card(single-sided)
Card Material	PVC / composite PVC / other material upon request and validation

Card Thickness	0.3-1.05mm
Memory	128M
Operation system	Driver support: Windows XP/7/8/10, Windows Server 2003/2008/2012/2016, Linux, Android
Display	Chinese:8 characters per line, 2 lines English:16 characters per line, 4 lines Support multi-language
Operating condition	Regular running temp.: 15°C-30°C (59-86°F), 20%-65%, RH non-condensing Lowest / Highest running temp.: 0°C(32°F)/40°C (104°F), 20%-65% RH non-condensing
Storage condition	Temp.: -5°C-70°C(23-158°F), 20%-70% RH non-condensing

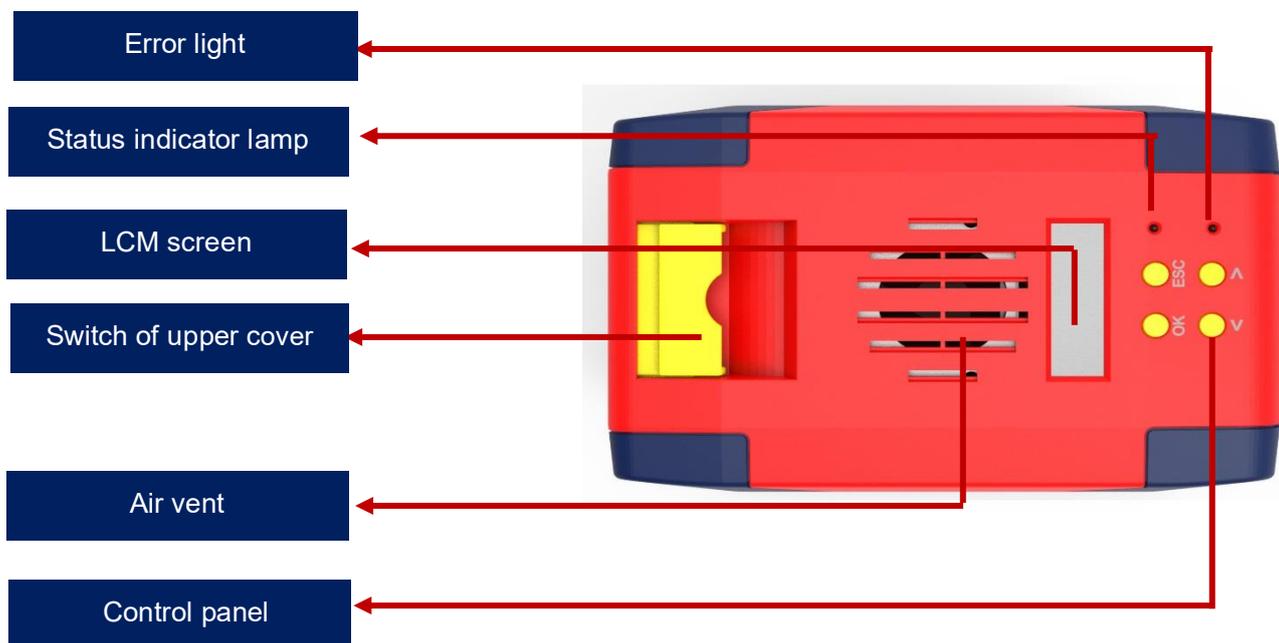
### 3. Product introduction

#### 3.1 Product Size

S20 card printer size : 244mm(L)×160mm(W) ×208mm(H) ,Net weight : 4.5Kg



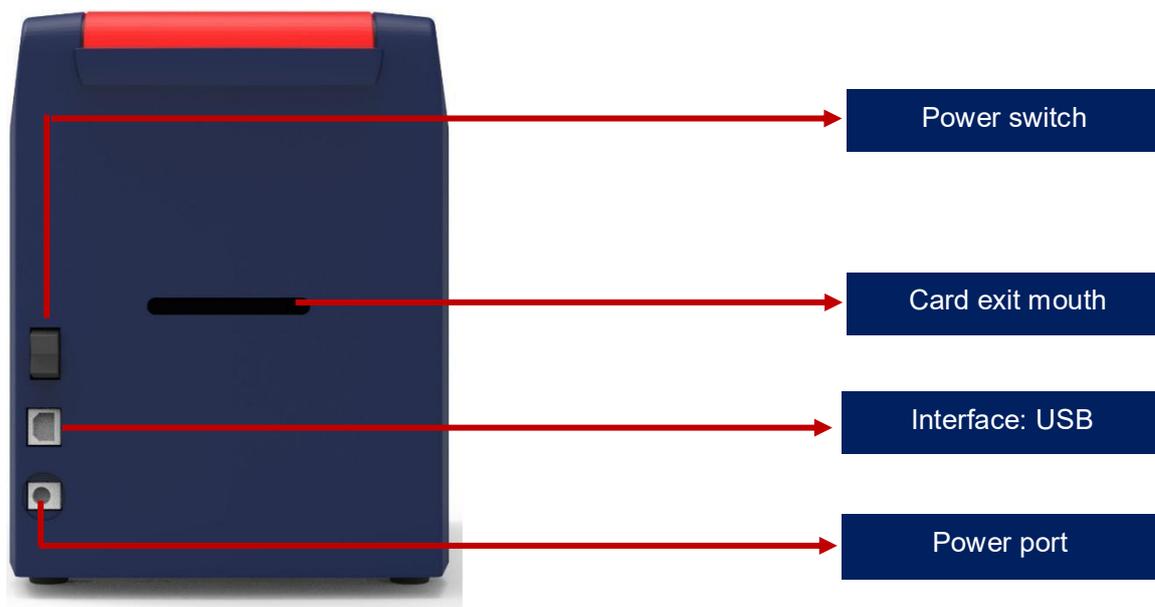
### 3.2 Roof



#### Main function description:

- (1) Switch of upper cover: Lift this switch to open the cover.
- (2) Control panel buttons: Query and set card printer parameters.
- (3) LCM Screen: Display card printer parameters and status.
- (4) Air vent: Release the heat generates by card printer and print head.
- (5) Error light: Turns to red when the card printer is not ready or failure.
- (6) Status indicator lamp: Green light indicate the card printer is working normally.

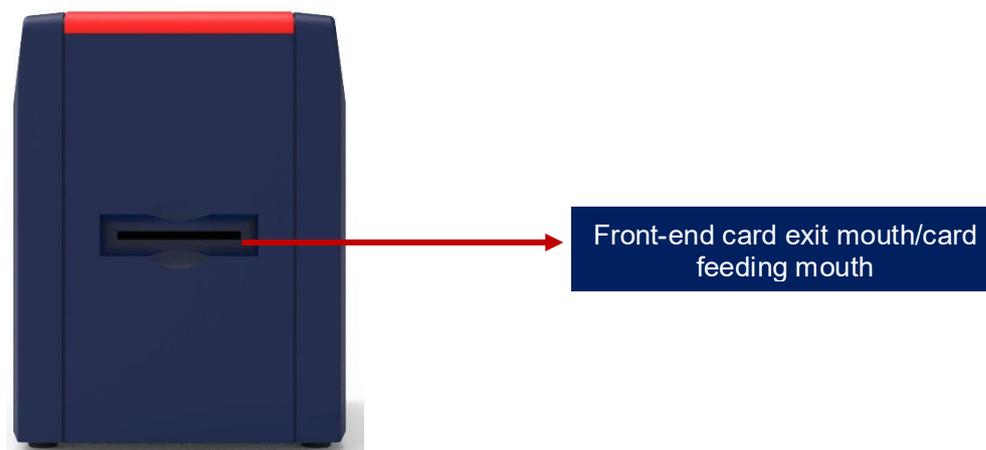
### 3.3 Back-end



#### Main function description:

- (1) USB Interface: USB-B type interface, connect directly to PC side.
- (2) Power port: DC24-25.5V 2.7A.
- (3) Power switch: connect or disconnect power.

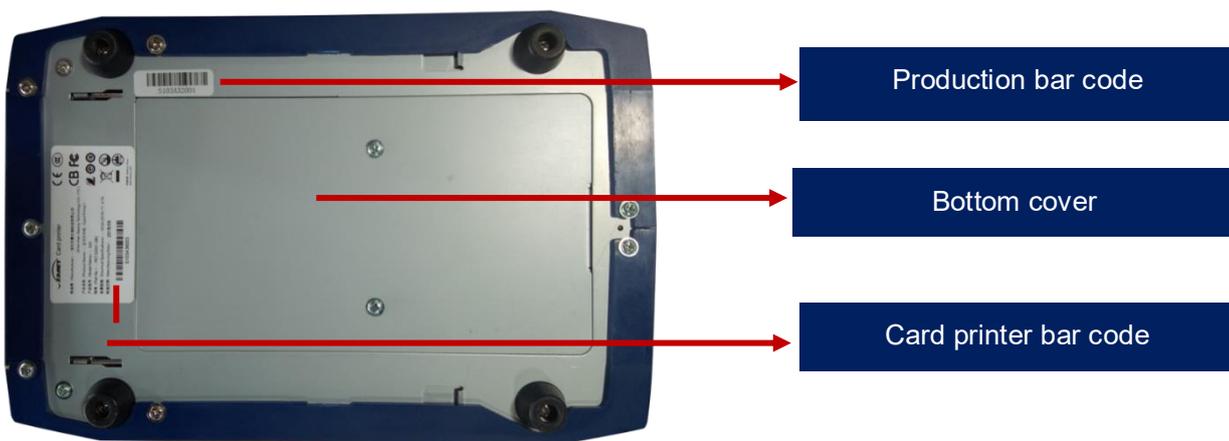
### 3.4 Front-end



**Main function description:**

Card exit mouth: It can be Manual single card feeding mouth or Back-end card exit mouth. Card spit out length can be set freely.

**3.5 Bottom**

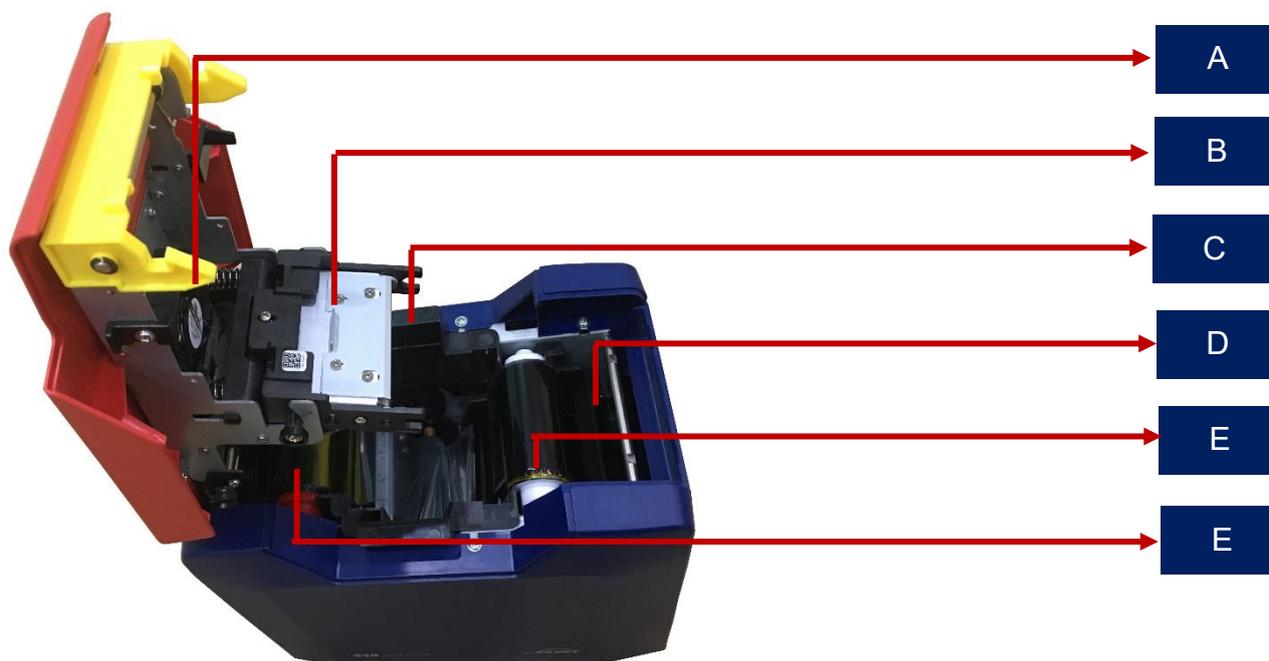


**Main function description:**

Bottom cover: Place to install Magnetic stripe card and chip card encoding module.

**i** Card printer bar code: Information needed when you need technical services from us.

### 3.6 Internal structures

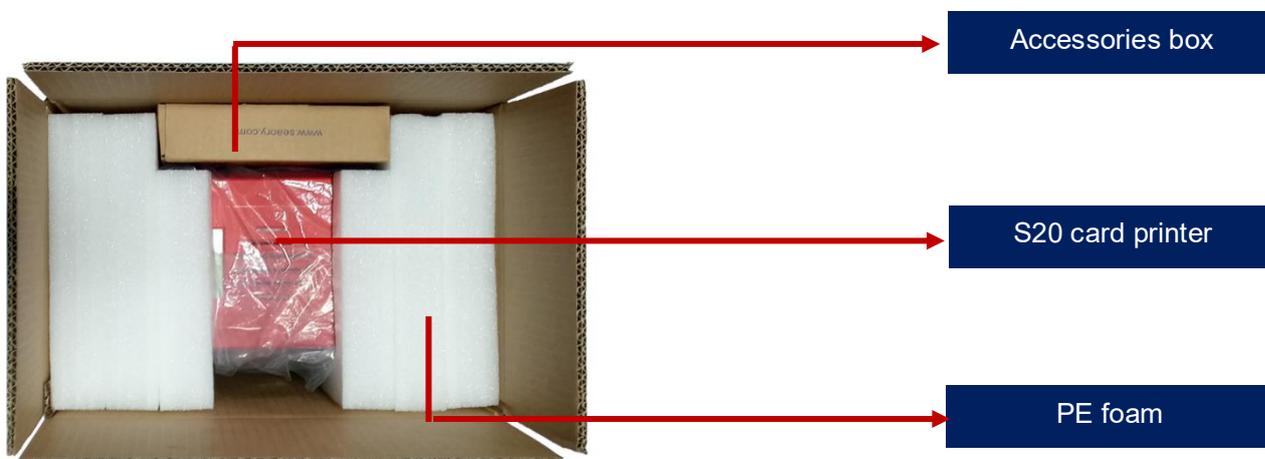


#### Main function description:

- A Air fan: absorb and release the print head's heat when it works.
- B Print head: need regular cleaning.
- C Ribbon cartridge: accessory to install ribbon.
- D Cleaning roller: sticky card surface dust, improve the printing effect.
- E Ribbon pickup roller: recycle used ribbon.
- F Ribbon supply roller: unused ribbon ends.

## 4. Accessories included

### 4.1 Open-case inspection



### 4.2 Accessories list



Cleaning stick  
1PC



Power adapter  
1PC



Power cable  
1PC



USB cable  
1PC



CD  
1PC



Cleaning roller  
1PC



Cleaning card  
5PCS



Warranty card  
1PC

### Main function description:

- (1) Power adapter: convert DC voltage.
- (2) Power cable: connect to power adapter.
- (3) USB cable: communication connection between PC and card printer.
- (4) Cleaning roller: sticky card surface dust, improve the printing effect.
- (5) Cleaning card: double-sided 3M standard card, cleaning card printer internal card passing channel dust.

(6) Warranty card: need to use it while supply technical service, please keep it properly.

(7) Cleaning stick: cleaning the print head.

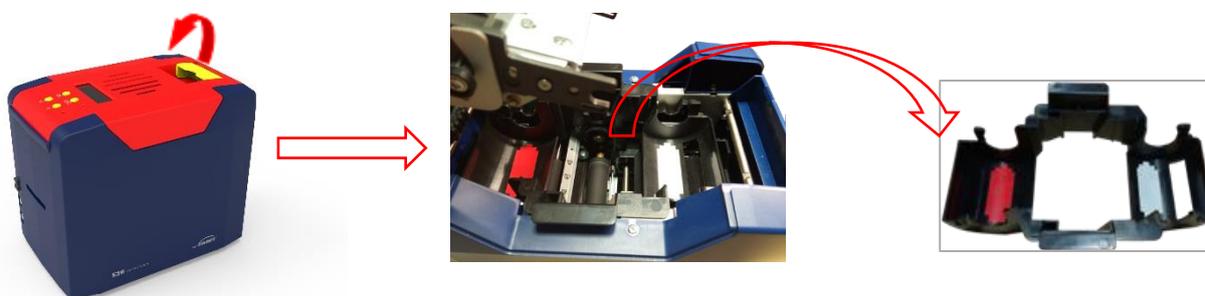
(8) CD: storage ICARDE software, card printer driver, Operation instruction etc.

## 5. Installation and usage

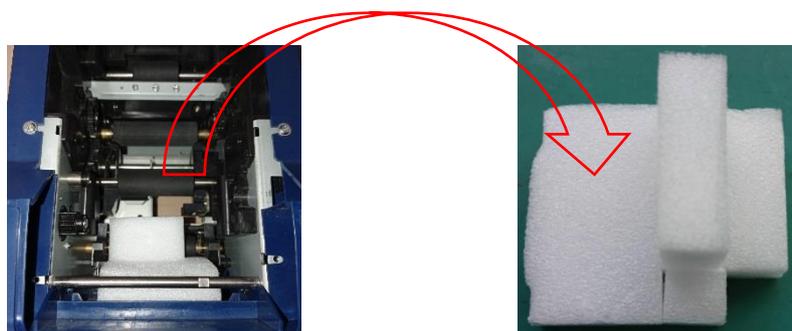
### 5.1 Install cleaning roller

Step1: Gently lift the upper cover switch, open upper cover.

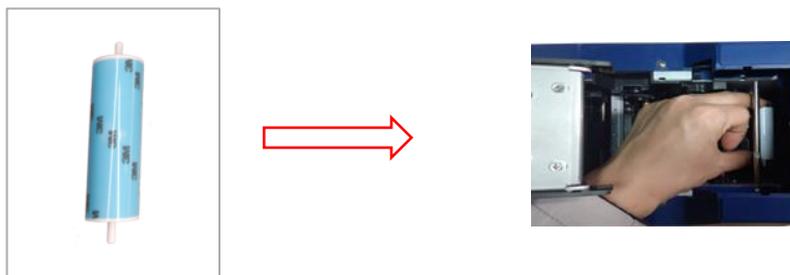
Step2: Take out the ribbon cartridge.



Step3: In order not to interrupt the normal work of card printer, please follow below image to take out of the pearl wool which inside the printer (It's unnecessary to place pearl wool when card printer is normal working)



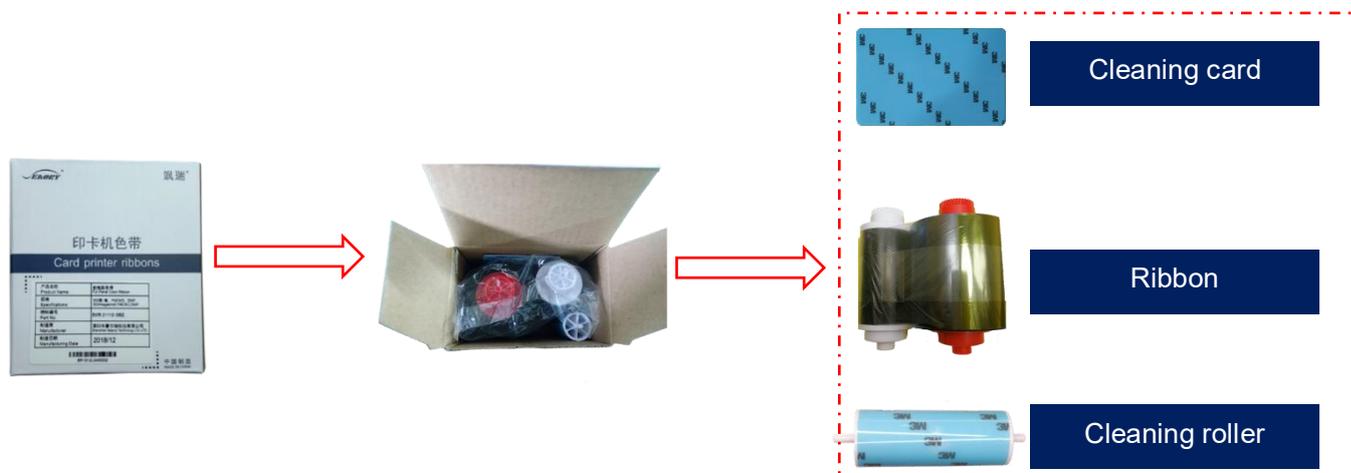
Step4: Remove 3M hyaline layer on cleaning roller surface, take the cleaning roller's both sides by hand. After pushing into the mounting position, gently press down.



The purpose of cleaning roller is to absorb the dust on the card and card feeding roller, improve the printing effect.

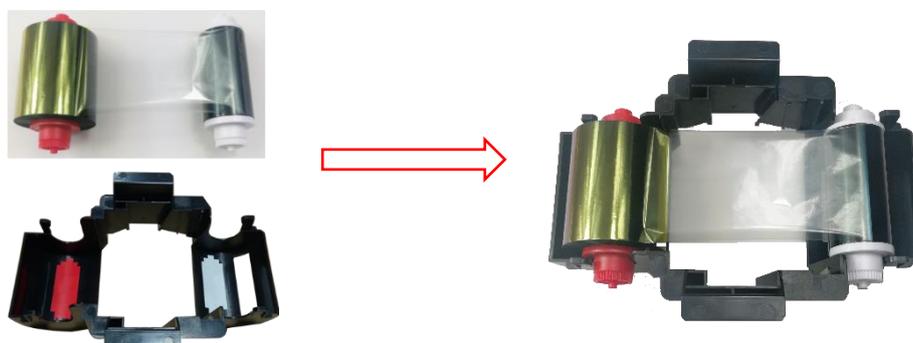
### 5.2 Install ribbon

Step1: Open the ribbon box, takeout the ribbon.



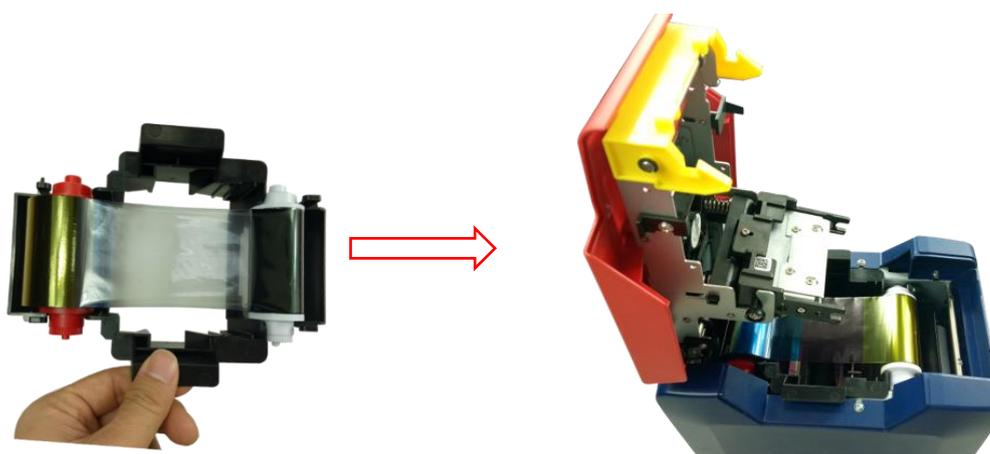
In order to ensure the normal use of the printer, please use Seatory original ribbon.

Step2: Install the ribbon into the cartridge according to the color direction.



**i** Red roller supply with unused ribbon. White roller supply with used ribbon.

Step3: As shown in picture below, take ribbon cartridge's side, install the ribbon cartridge and close the upper cover.



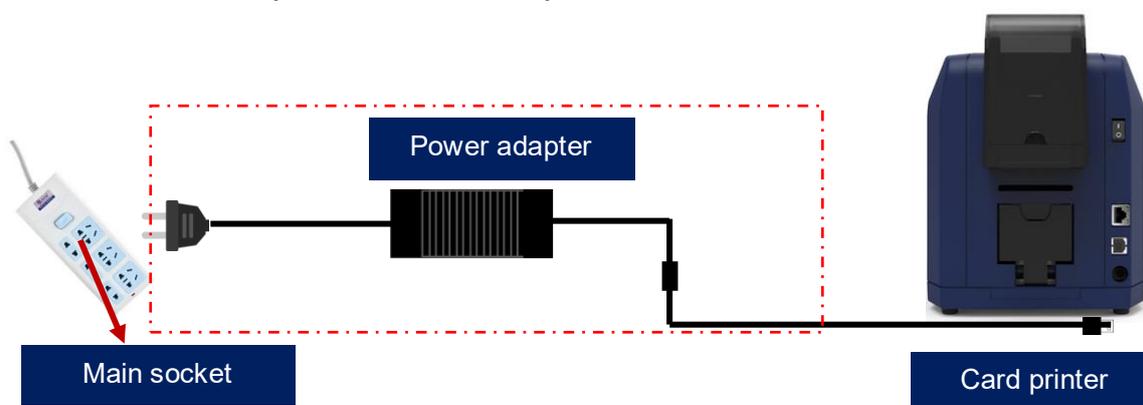
Ribbon mounting direction: Red roller close to the Back-end card exit mouth(left), white roller close to the input hopper (right).

### 5.3 Wiring installation

Step 1: Take out the power cable and power adapter from the accessories box. Connected all cables as below picture.



Step 2: The power adapter DC output connected to the card printer power interface, and the power line AC input connected to the mains socket.



**i** To ensure the card printer work stably, please use Seaory original power adapter.

### Step 3: Communication interface cables installation

USB communication interface installation: USB-A interface (square type) connect to PC end and USB-B interface (round type) connect to card printer's USB port.



## 6. Driver installation

### 6.1 Operation system

Support Windows XP/7/8/10, Windows Server 2003/2008/2012/2016, Linux, Android

### 6.2 Notice before installation

(1) Card printer driver can be download from accessories box's CD or official website :[www.seaoryprinter.com](http://www.seaoryprinter.com).



(2) Some antivirus applications will stop the driver installation, so please close all antivirus applications before installation. After finished, you can open all antivirus applications.

(3) Please do not power on card printer until the driver installation is completed.

**i** The driver will be continuously updated, the version number will be the actual version.

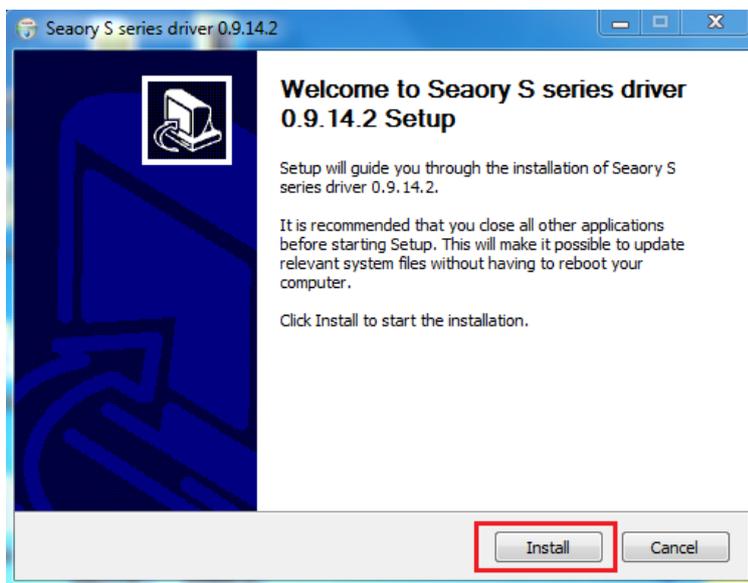
(4) Connect card printer power supply and USB communication interface in advance (please refer to 5.5 wiring installation).

### 6.3 Driver installation steps (USB communication interface)

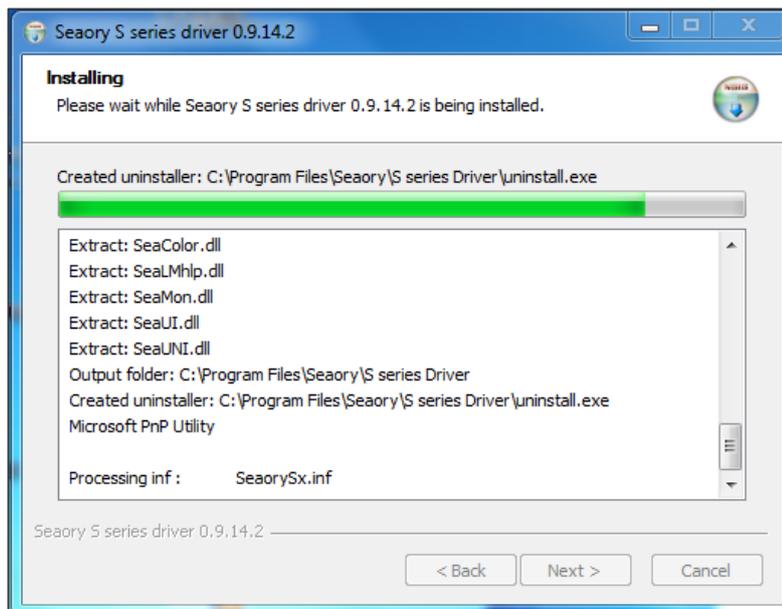
Step 1: Double-click the icon “Seaory S series driver exe”.

**i** Please install driver by administrator and close all antivirus applications before installation.

Step 2: Then click “Install” button as show in below picture.



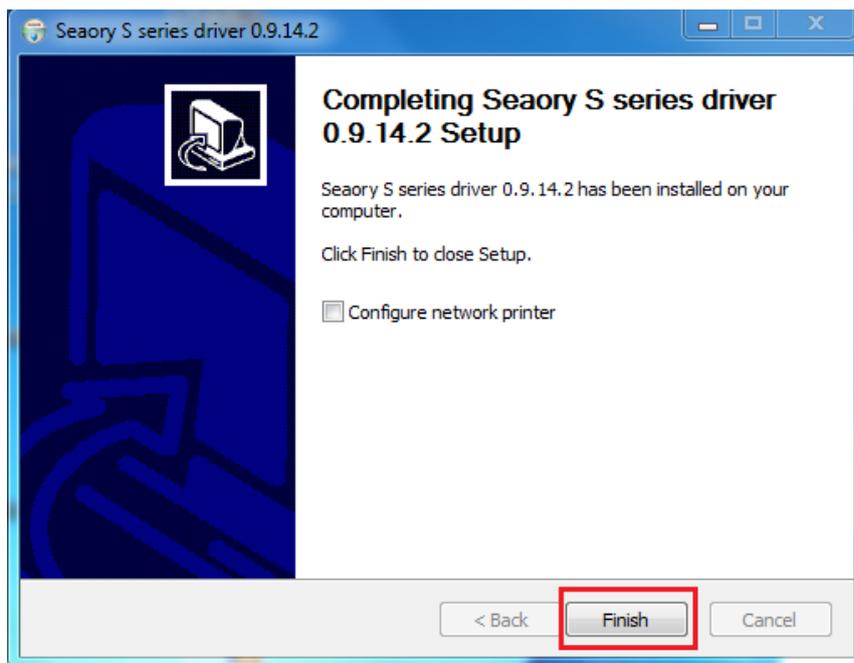
Step 3: Wait for one minute.



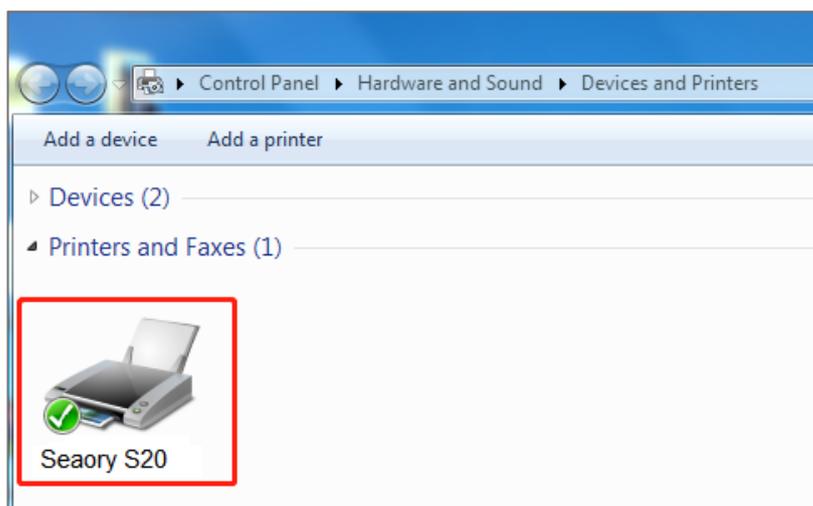
Step 4: Please select always trust software from “Shenzhen Seaory Technology Co., Ltd.” in the pop-up windows, then click the “Install” button.



Step 5: Please click the “Finish” button as show in the below picture, then the driver has been installed.

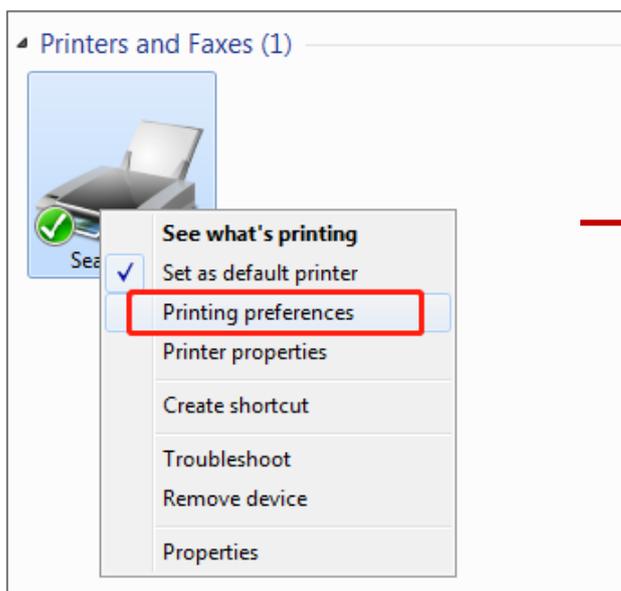


Step 6: Turn on the card printer power switch, then card printer driver will install automatically. After it, click “Control panel – Hardware and sound – Devices and printers” you can find Seaory S20 was installed completely.

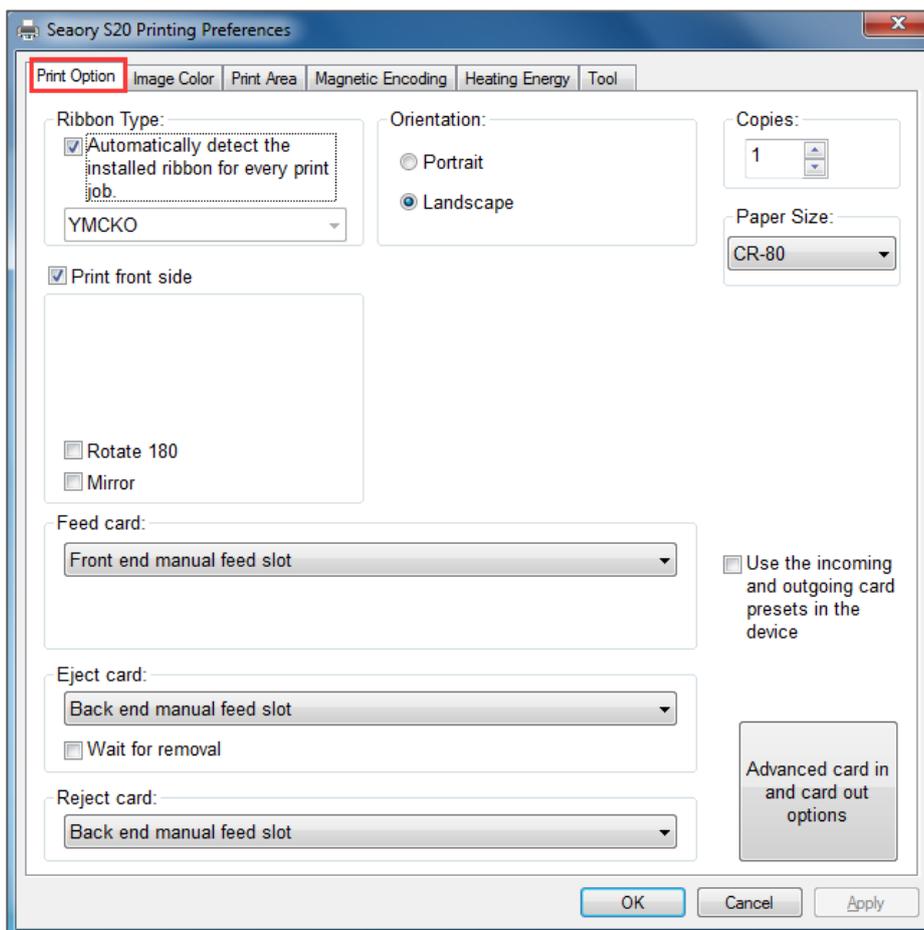


## 7. Driver setting

### 7.1 Printing preferences



Put your mouse on the selected "Seaory S20 printer", and click the right button, from the printer menu, select "Printing preferences".

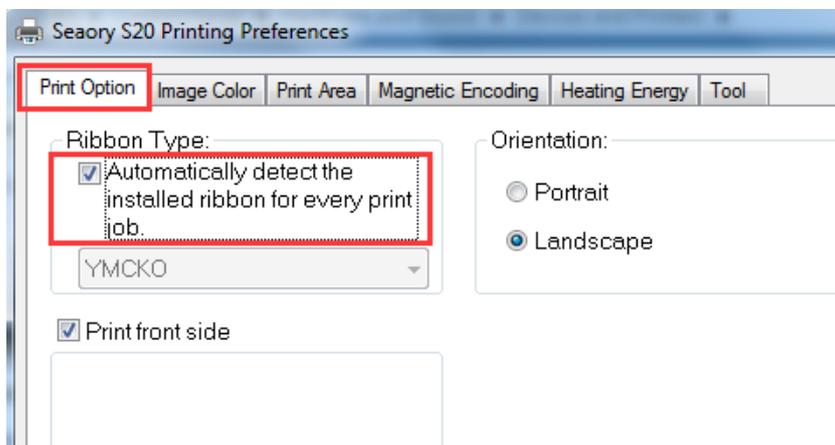


Printing preferences page

## 7.2 Ribbon type setting

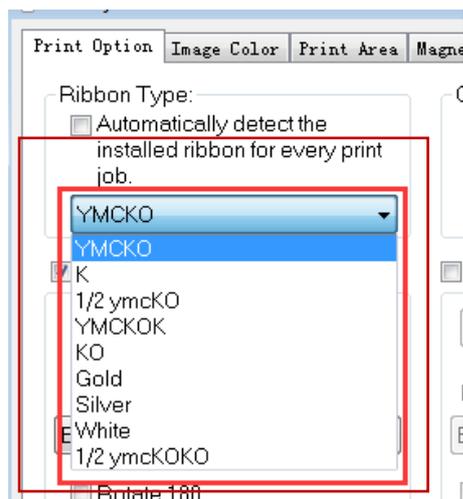
Put your mouse on the selected “Seatory S20 printer”, and click the right button, from the printer menu, select “Printing preferences”.

Automatically detect the installed ribbon for every print job” is default chosen.



**i** Automatic detect the installed ribbon is default option and suggest to keep it.

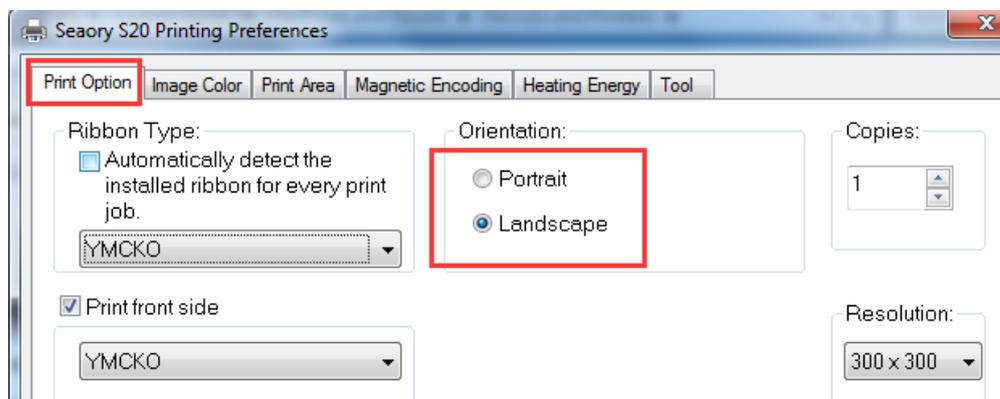
(2) When “Automatically detect the installed ribbon for every print job” was cancelled, the ribbon type needs to be set manually between below choices.



### 7.3 Printing orientation setting

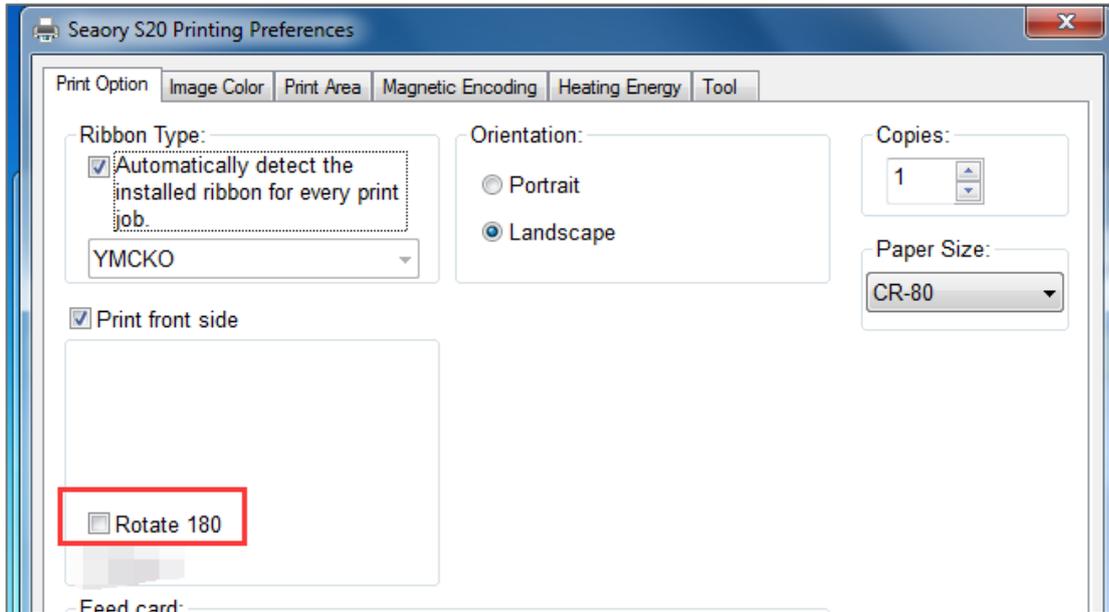
(1) Put your mouse on the selected “Seatory S20 printer”, and click the right button, from the printer menu, select “Printing preferences”.

Portrait or landscape. Default selected landscape orientation.



### 7.4 Printing page rotate setting

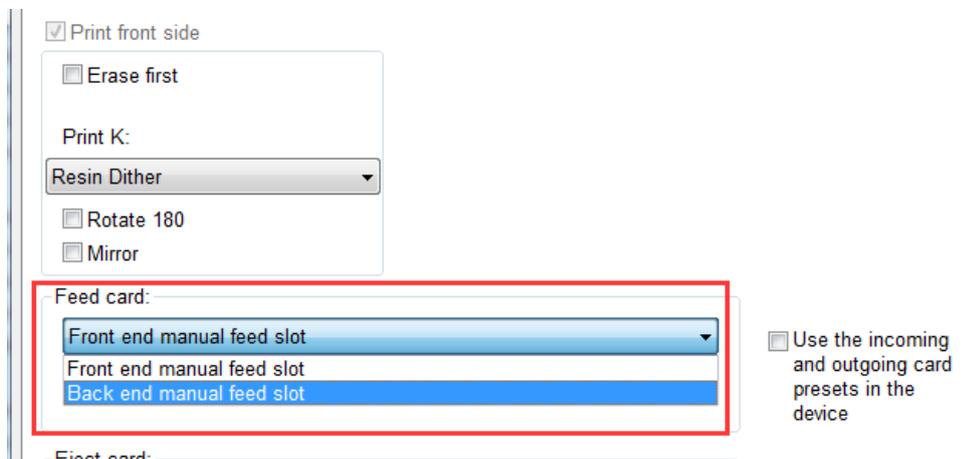
Default not selected, if selected “rotate 180”, the printing page will rotary 180 degree.



### 7.5 Feeding card mode setting

Put your mouse on the selected “Seaory S20 printer”, and click the right button, from the printer menu, select “Printing preferences”.

Defaulted: Manual feeding card piece by piece from front end manual feed slot. Feeding from back end slot optional.



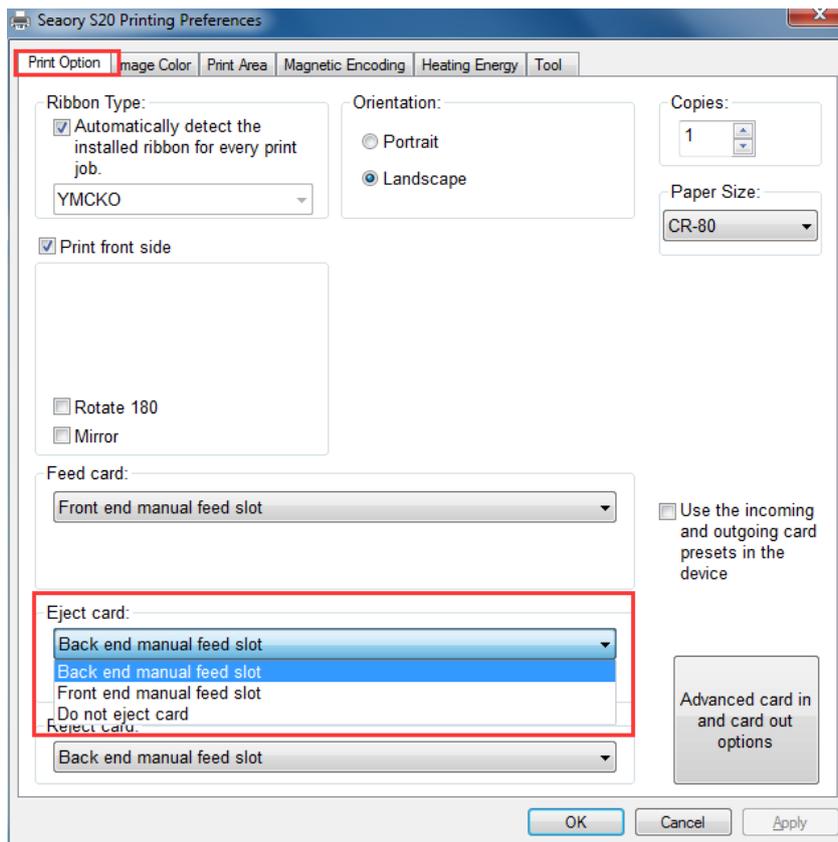


## 7.6 Eject card setting

Put your mouse on the selected “Seaory S20 printer”, and click the right button, from the printer menu, select “Printing preferences”.

Defaulted: Card moving out from “Back end manual feed slot “after finished printing.

Card moving out from “Back or Front end manual feed slot “Or “Do not eject card” are optional.

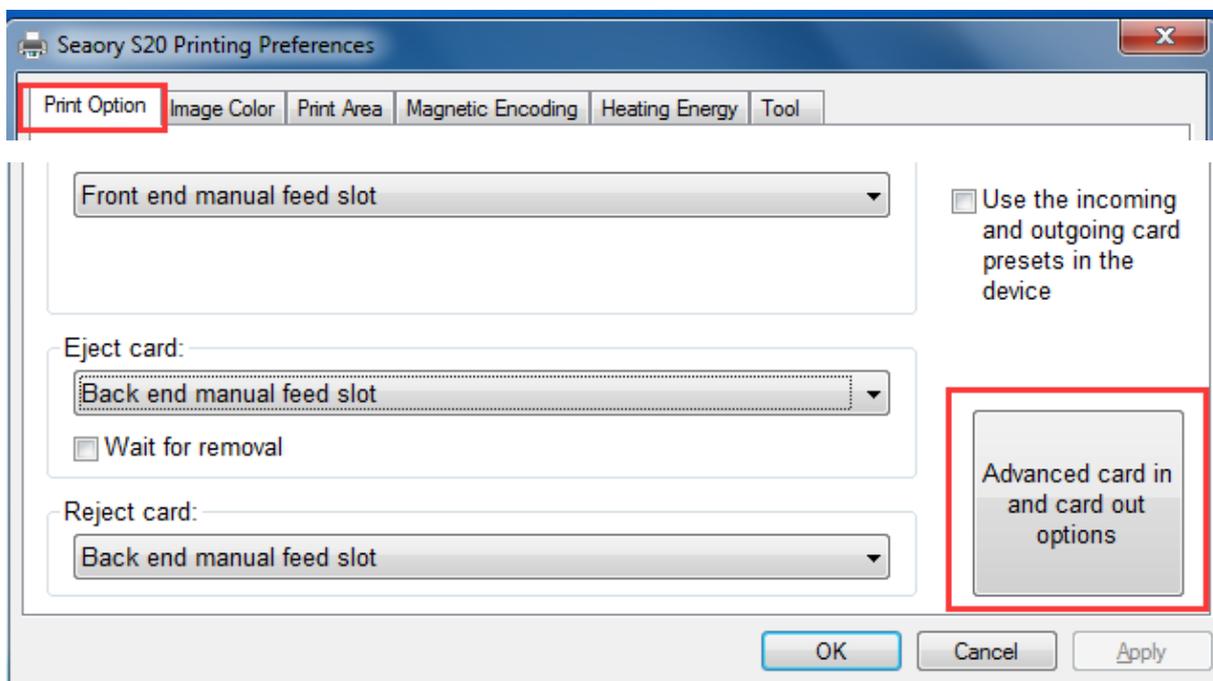


Wait for removal: After printing, the card keep in printer card moving track and will not spit out.

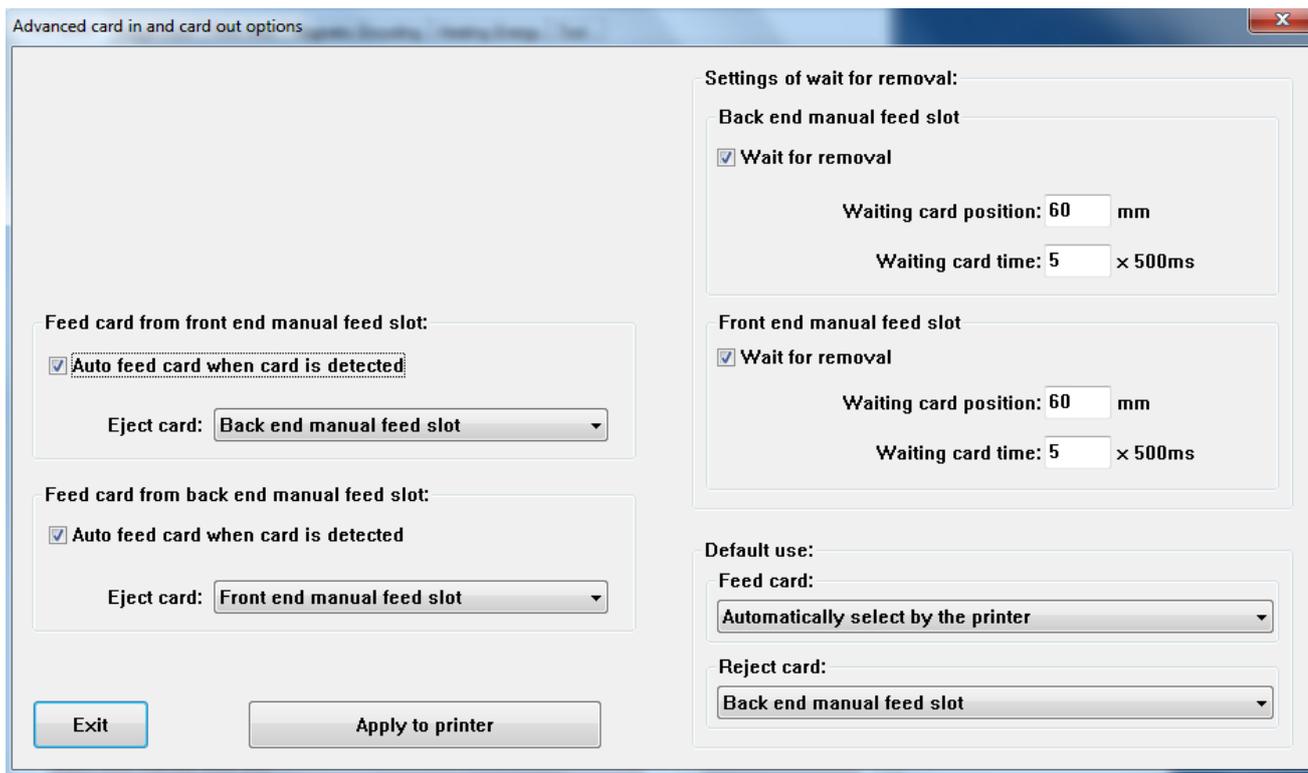


## 7.7 Advanced card in and card out options setting

Default setting as below:



It can adjust according to the actual application requirements.



Advanced card in and card out options

Settings of wait for removal:

Back end manual feed slot

Wait for removal

Waiting card position: 60 mm

Waiting card time: 5 × 500ms

Front end manual feed slot

Wait for removal

Waiting card position: 60 mm

Waiting card time: 5 × 500ms

Default use:

Feed card: Automatically select by the printer

Reject card: Back end manual feed slot

Feed card from front end manual feed slot:

Auto feed card when card is detected

Eject card: Back end manual feed slot

Feed card from back end manual feed slot:

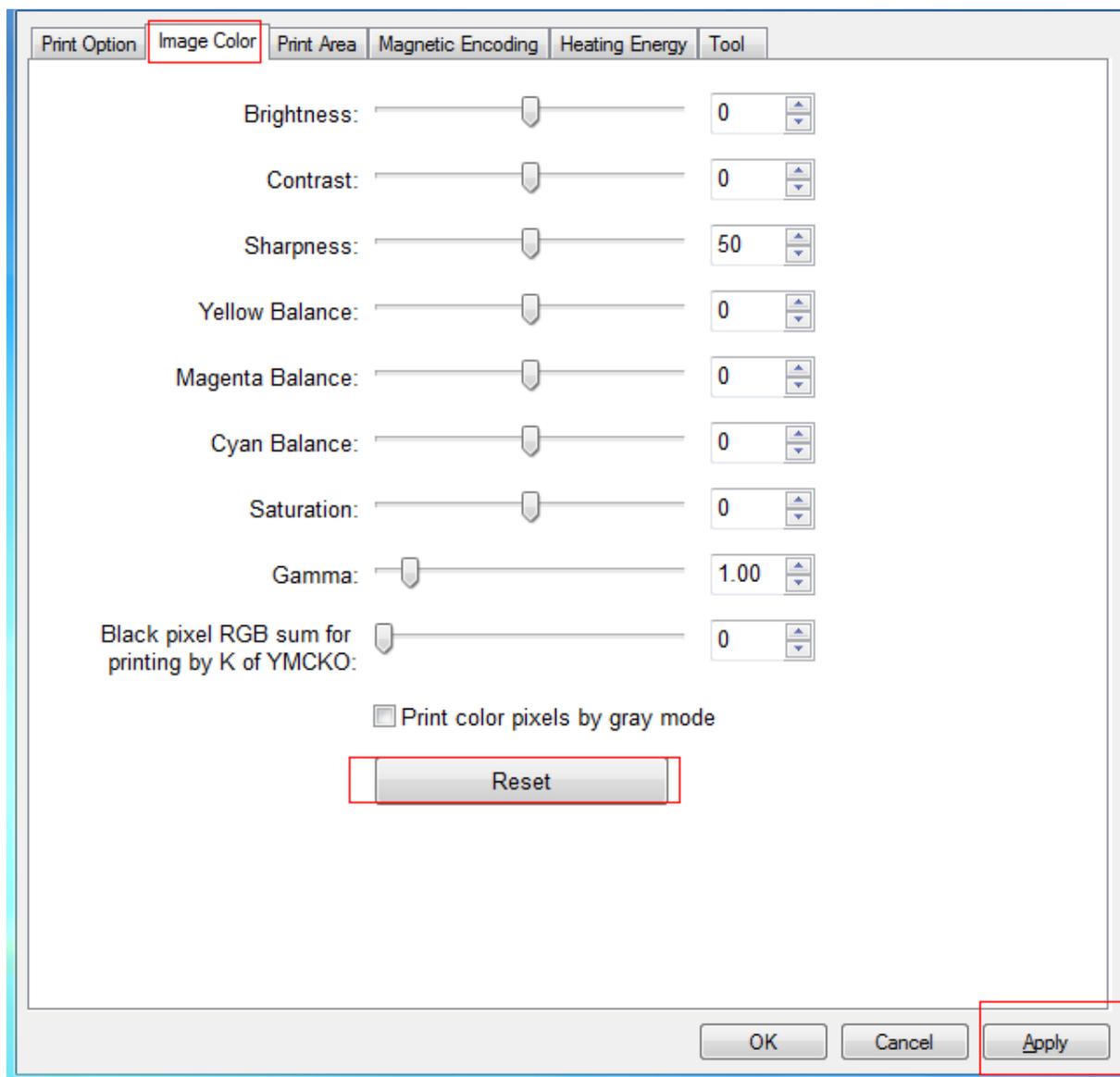
Auto feed card when card is detected

Eject card: Front end manual feed slot

Exit      Apply to printer

## 7.8 Image color setting

The driver default is optimal, normally it does not need to change, if has to, you can custom.

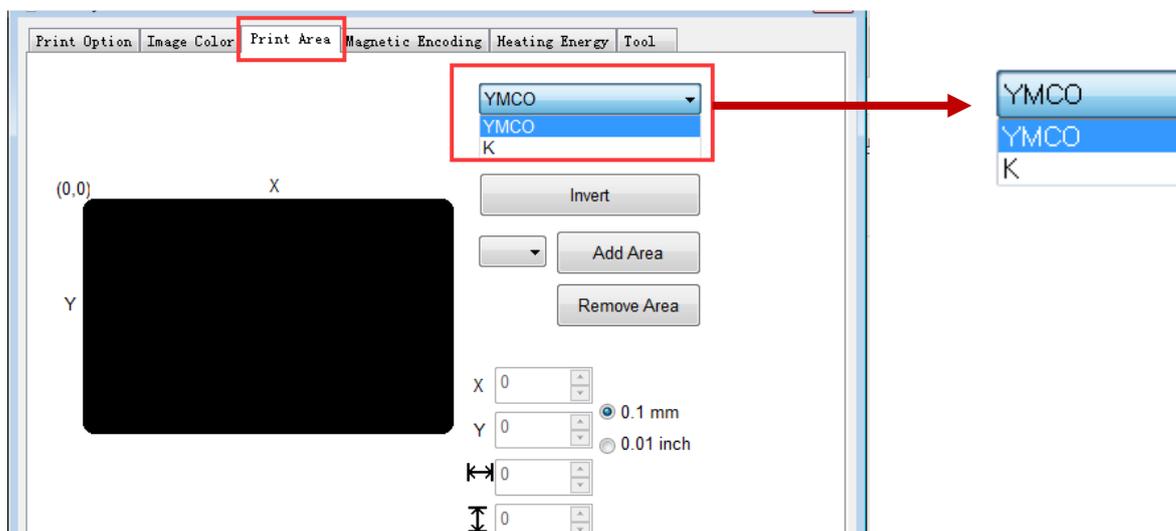


Reset: means restore factory default image color setting.

Apply: means after setting new parameter value, click “apply” to take effect.

## 7.9 Print area setting

(1) Default print area is full page printing.

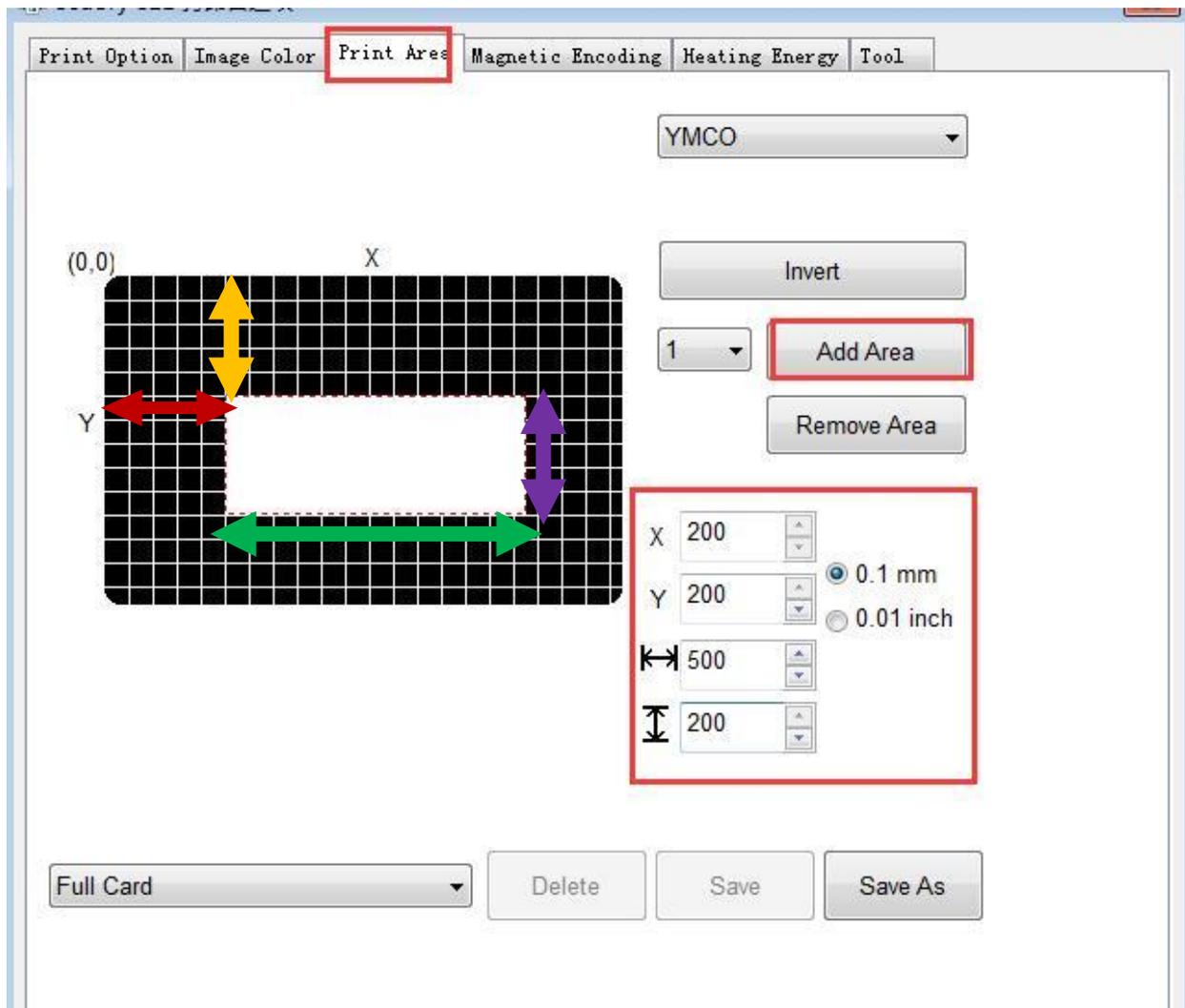


Default YMCO and K are edge to edge printing.

Default edge to edge printing.

**i** The black area in above picture is the printing area.

(2) Customize printing area



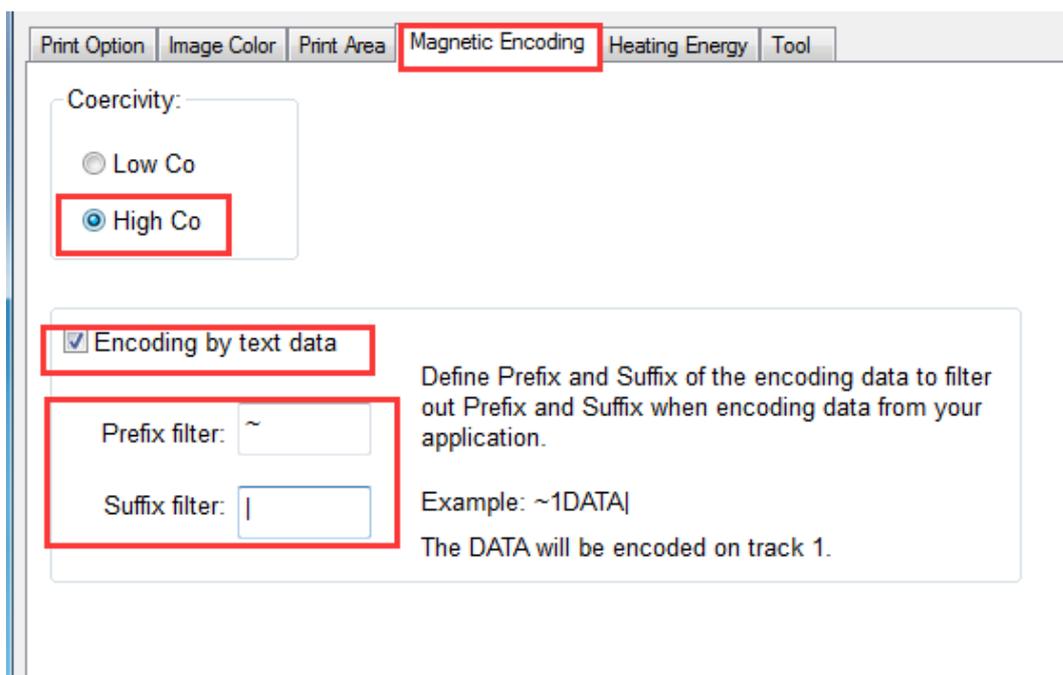
Click "add area", input or adjust X,Y value and length and width value.

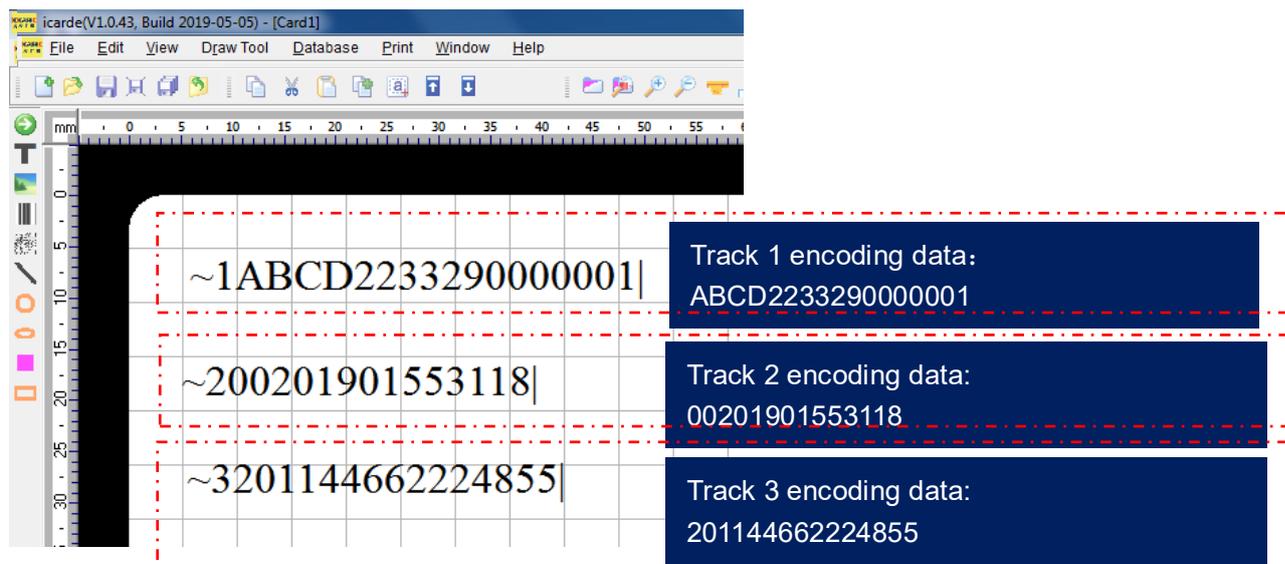
- Red double arrow: represents the distance from the X-axis to the white area.
- Yellow double arrow: represents the distance from the Y-axis to the white area.
- Green double arrow: represents the white area (no printing area) length.
- Purple double arrow: represents the white area (no printing area) width.

**i** The black area in above picture is the printing area, white area is no printing area.

### 7.10 Magnetic encoding setting

Function: for any software to edit the text between the filter characters, when printing, the printer encoding the same text.

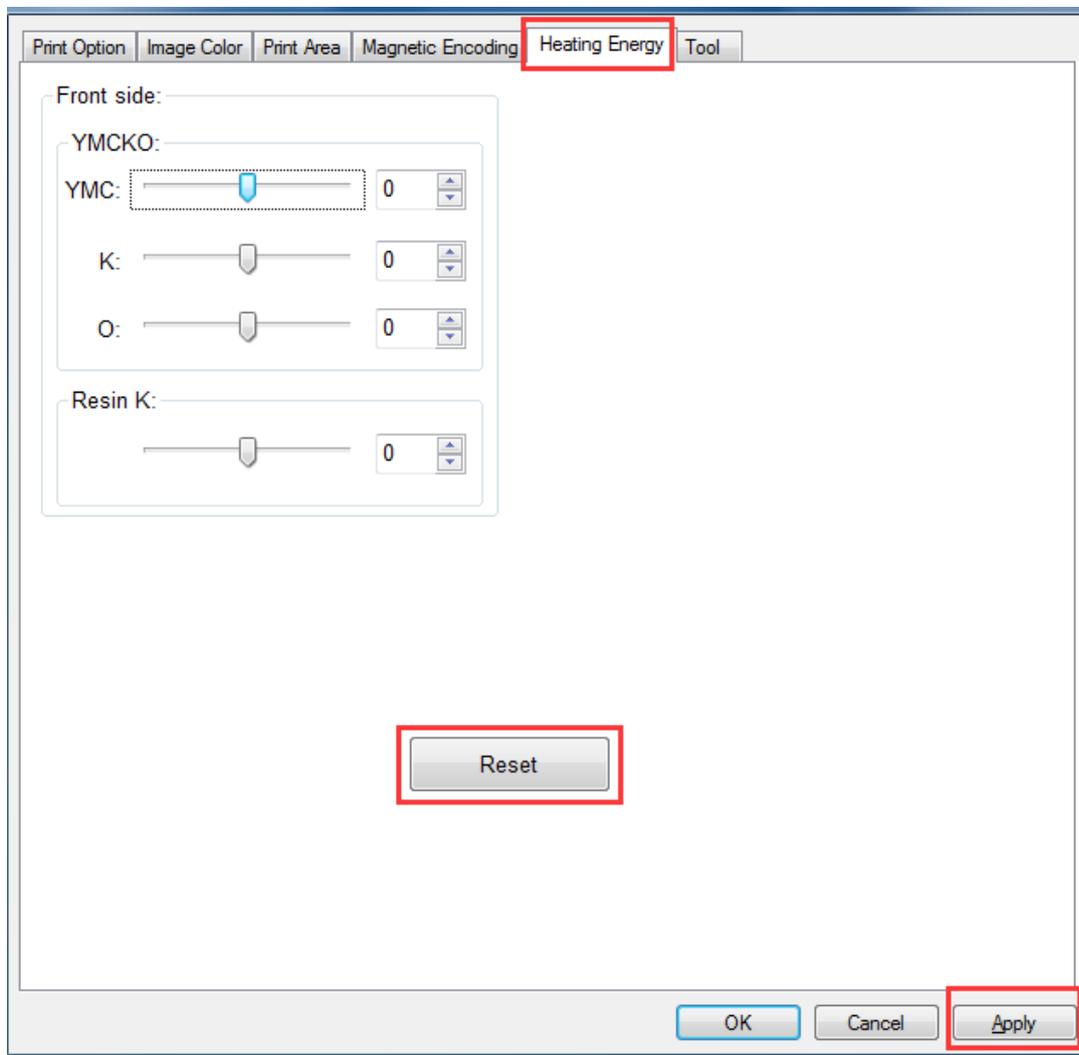




"~1" means track 1 , "~2" means track 2, "~3" means track 3. "|" means stop code.

## 7.11 Heating energy setting

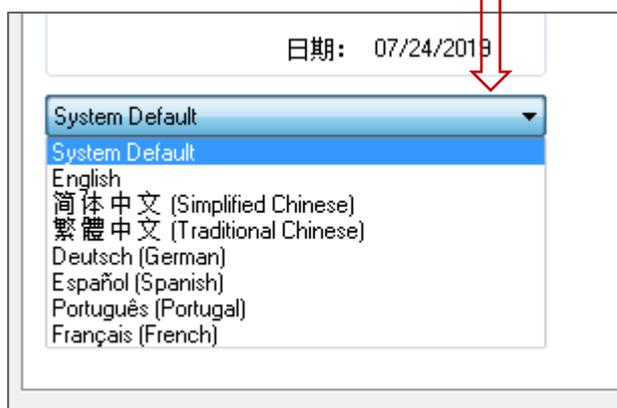
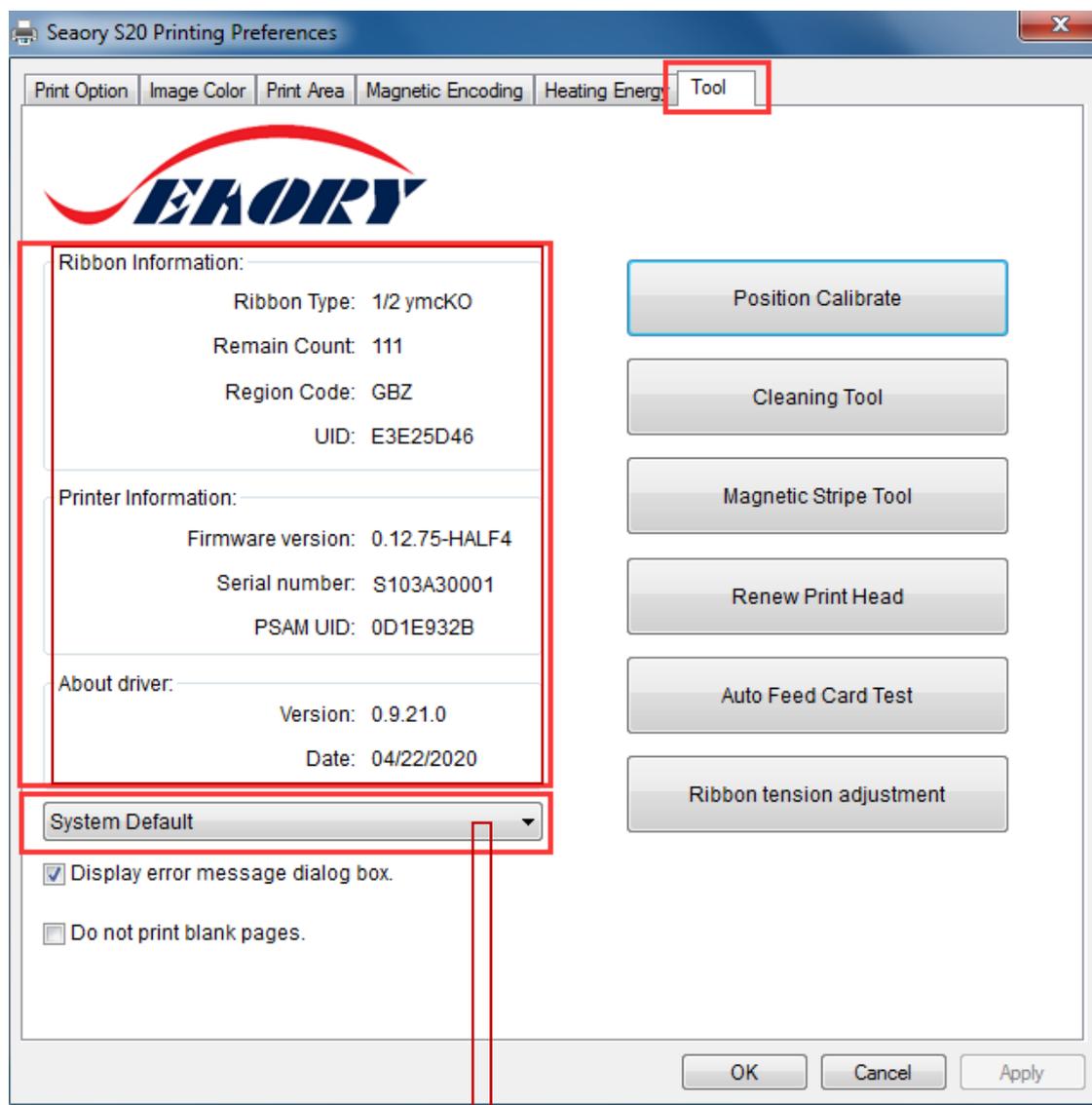
When the printing color is relatively light, it's necessary to increase the heating energy value. When the printing color is dark or ribbon is easy to break, the heating energy value need to decrease.



- YMCKO is for YMCKO ribbon
- Resin K is for monochrome ribbon
- Reset is to restore factory setting

### 7.12 Tool setting

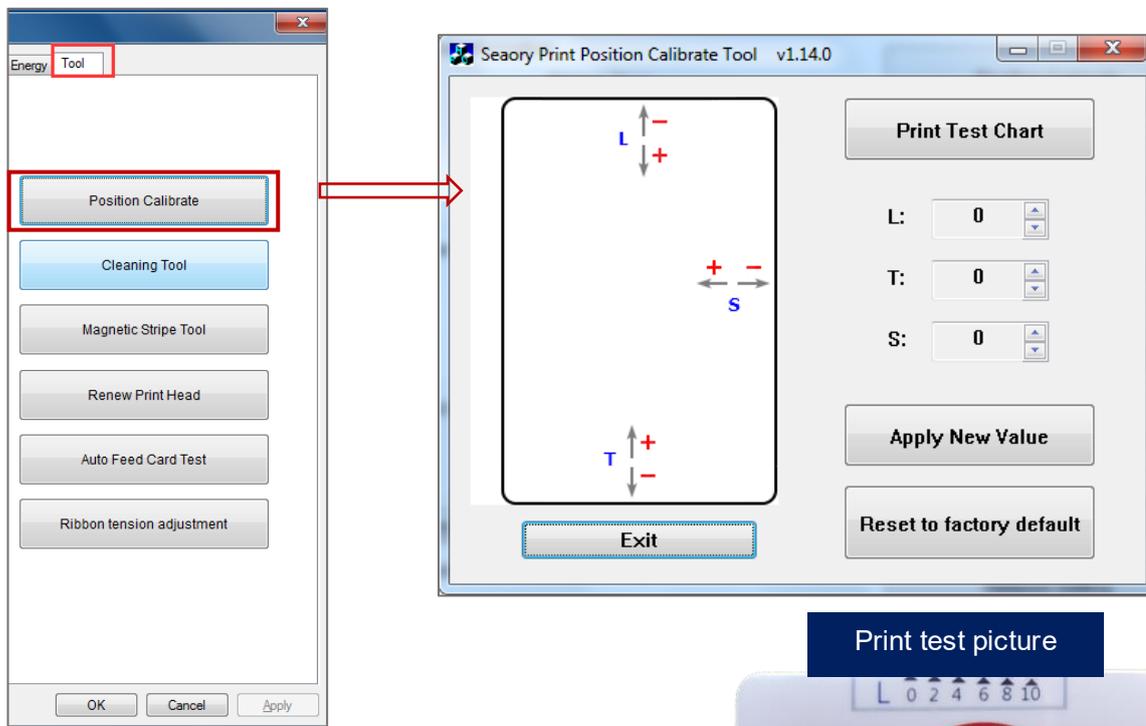
Card printer's related information can be find as below picture.



Driver will choose the same language as your computer operating system during installation. More language will be support in the future.

### 7.13 Position calibrate

To correct the printing position when the white edge appears on cards, and no correction is required by default.



Print test picture



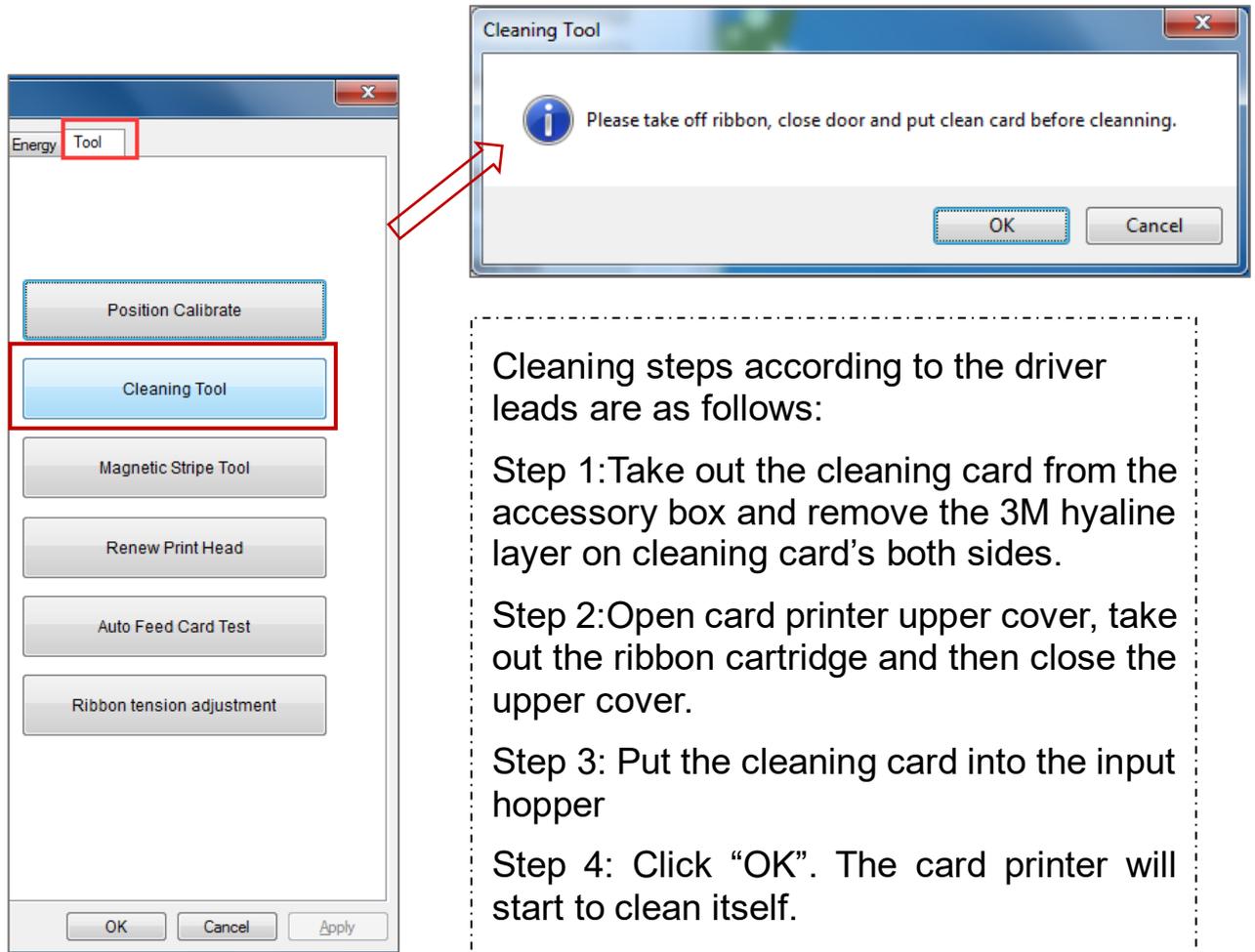
- L is print start position, decrease L value when the start side has white edge.
- T is print finish position, decrease T value when the finish side has white edge.
- Increase the L and T value when the ribbon is easy to break.
- S is print side position, decrease S value when the side has white edge.



It's suggested to add or subtract 1unit parameter value gradually according to the print effect.

## 7.14 Cleaning tool

Deposition of dust or contaminants inside the card printer may cause damage to important parts and affect the printing effect. Therefore, it's recommended to clean the printer when changing the ribbon or at least clean one time a month.



**Cleaning steps according to the driver leads are as follows:**

**Step 1:** Take out the cleaning card from the accessory box and remove the 3M hyaline layer on cleaning card's both sides.

**Step 2:** Open card printer upper cover, take out the ribbon cartridge and then close the upper cover.

**Step 3:** Put the cleaning card into the input hopper

**Step 4:** Click "OK". The card printer will start to clean itself.



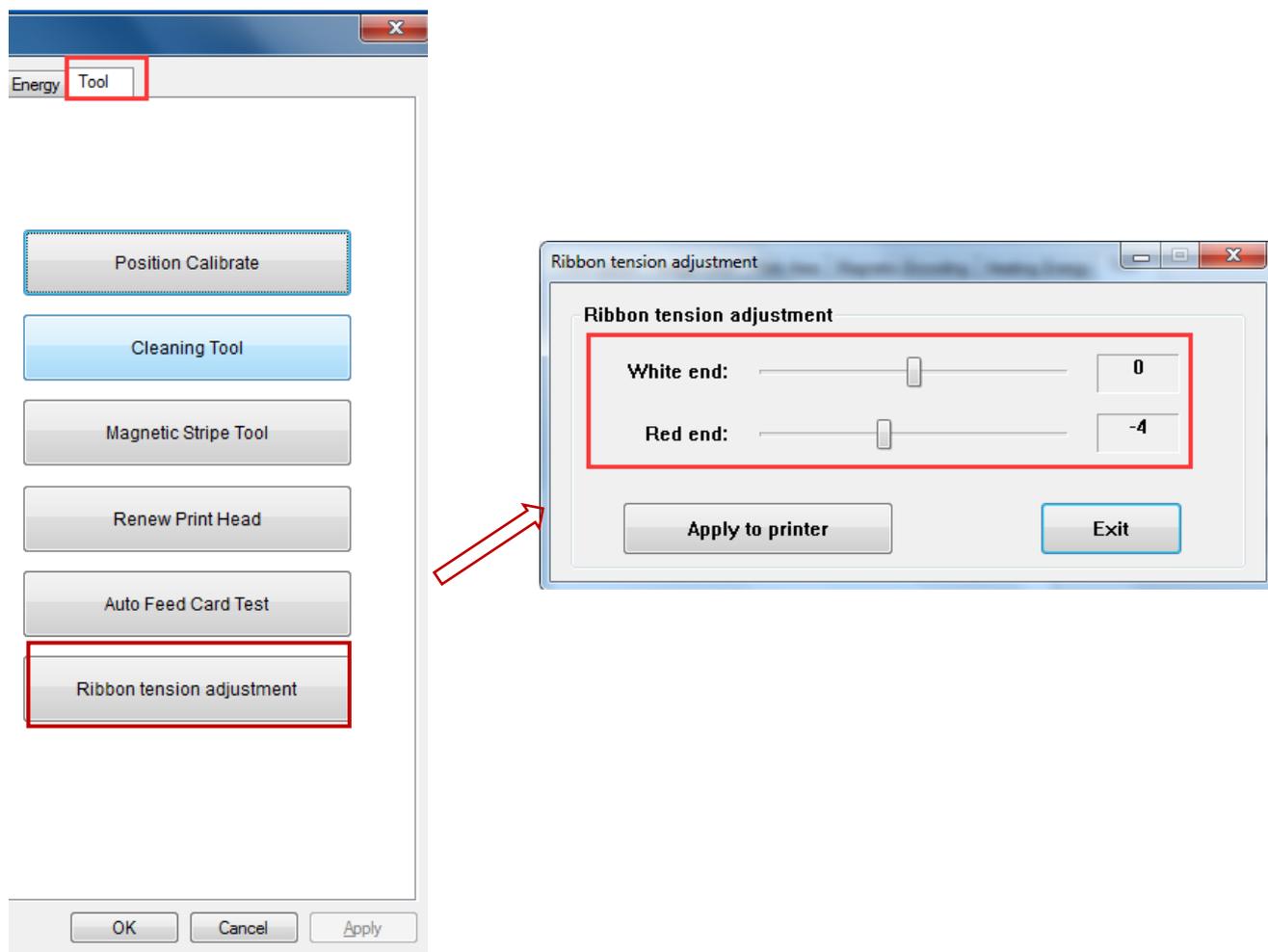
Cleaning card



### 7.16 Ribbon tension adjustment

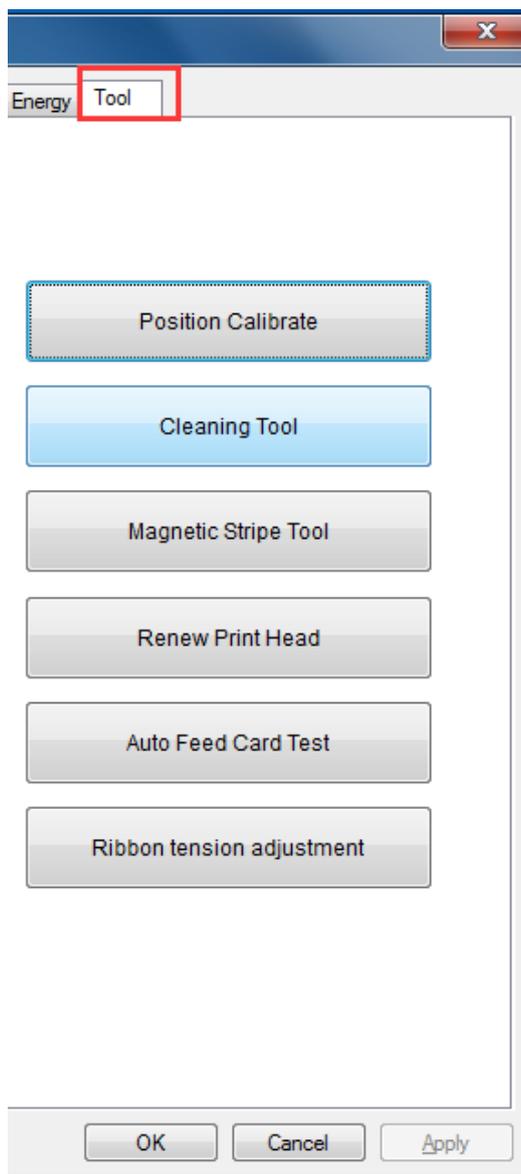
If card's side colored lines appear: Decrease (-) white end value Or increase (+) red end value.

If card's inside colored lines appear: Increase (+) white end value or decrease (-) red end value.



Apply to printer: after setting new parameter value, click “apply” to take effect.

### 7.17 Other tools



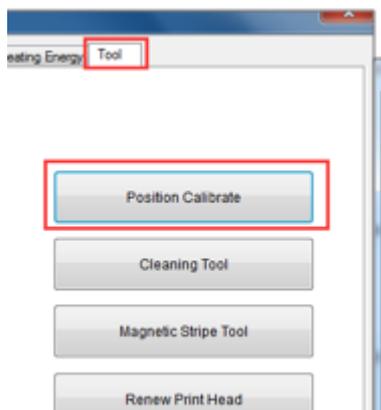
(1) Renew print head: please renew the new print head barcode after replaced print head. Otherwise it may lead to print problem.

(2) Automatic card feeding testing tool: verify the card can be feeding automatically.

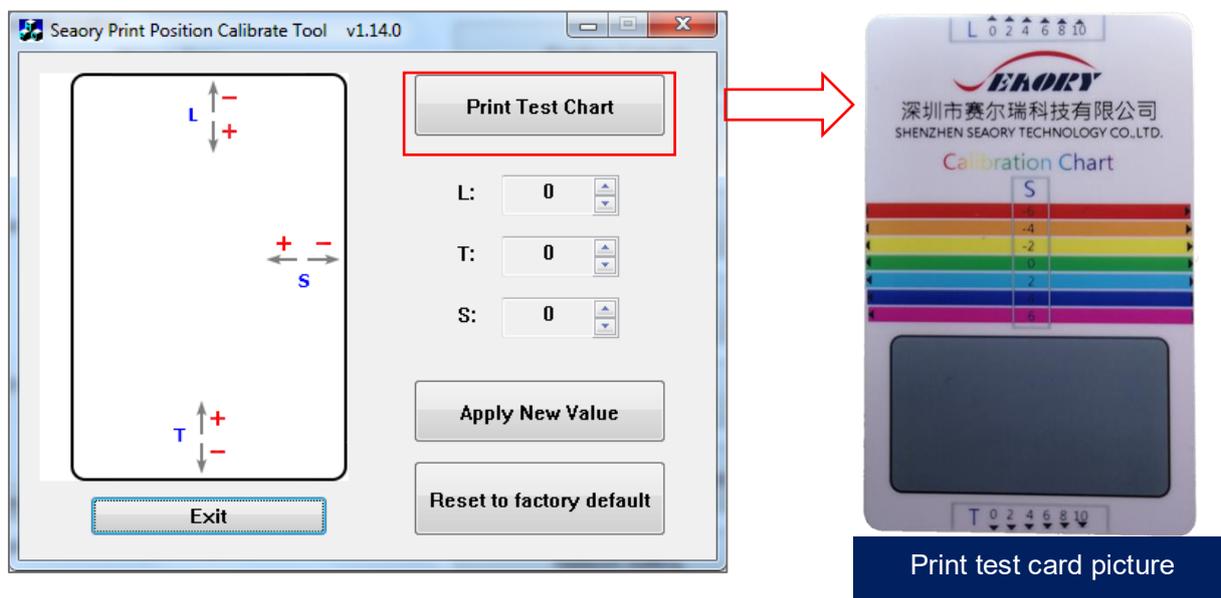
## 8. Print test

### 8.1 Driver test page

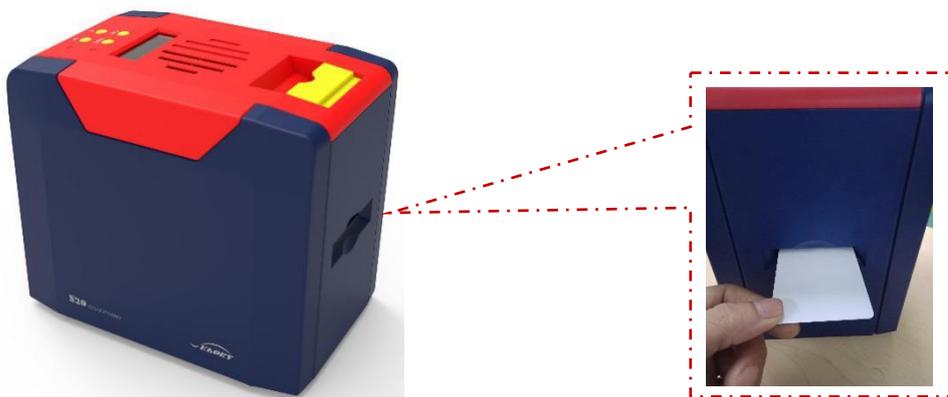
Step 1: Open “Printing preferences”, click “Tool”, find and click “Position Calibrate”.



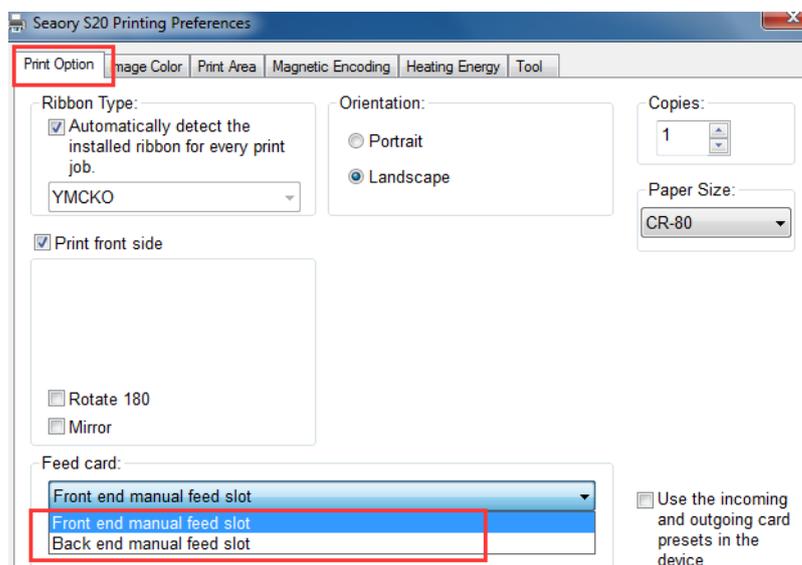
Step 2: Place some white card into input hopper, then click” Print test Chart”.



How to feeding the card:



Card feeding from front-end feeding/exit mouth is default chosen. Manual feeding card piece by piece from Back-end card feeding/exit mouth is optional. You can setting prefer card feeding mouth at “Printing preferences” like below picture.



If you are using chip card or magnetic strip card, please feeding the card like ATM card insert direction.

## 8.2 Seaory iCARDE card design software

After all the above steps are completed, relevant software can be used to print and test the card printer. You can also do print test through Seaory's iCARDE software. For details, please refer to Seaory iCARDE manual.



## 9. Cleaning and maintenance

### 9.1 Replace cleaning roller

The purpose of the cleaning roller is to absorb the dust on the card and improve the printing effect.

Replace cleaning roller after every roll of ribbon use up or one time per month. Operating details please refer to 5.1 section.

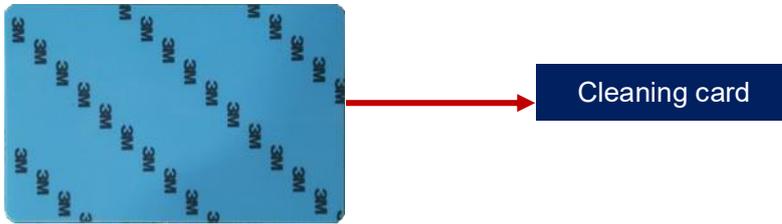
### 9.2 Cleaning card moving path

Deposition of dust or contaminants inside the card printer may cause damage to important parts and affect the printing effect. Therefore, it's recommended to clean the printer when changing the ribbon or at least clean one time a month.

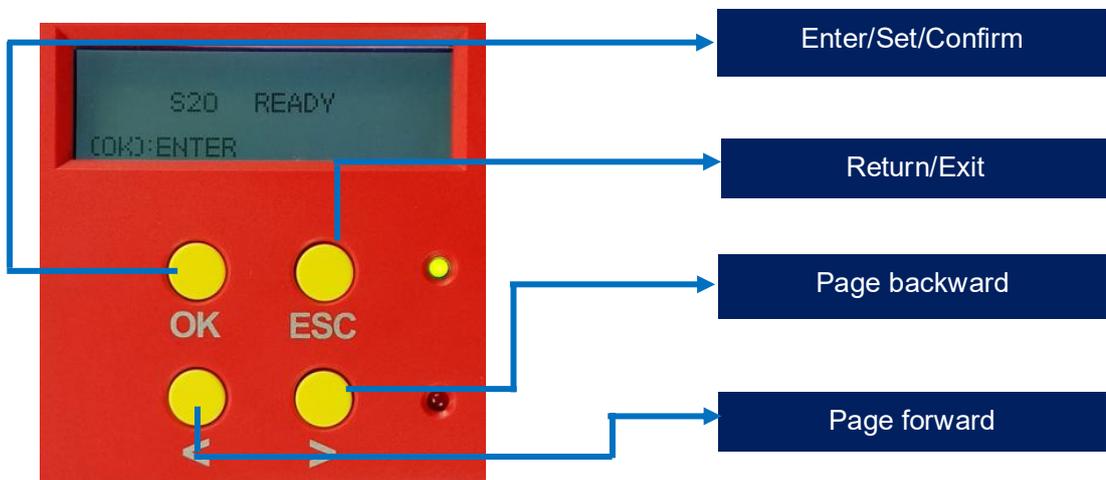
- (1) Driver operating guide please refer to 7.14 section.

(2) LCM operating guide:

Step 1: Take out the cleaning card from the accessory box and remove the 3M hyaline layer on cleaning card's both sides and put it into input hopper.



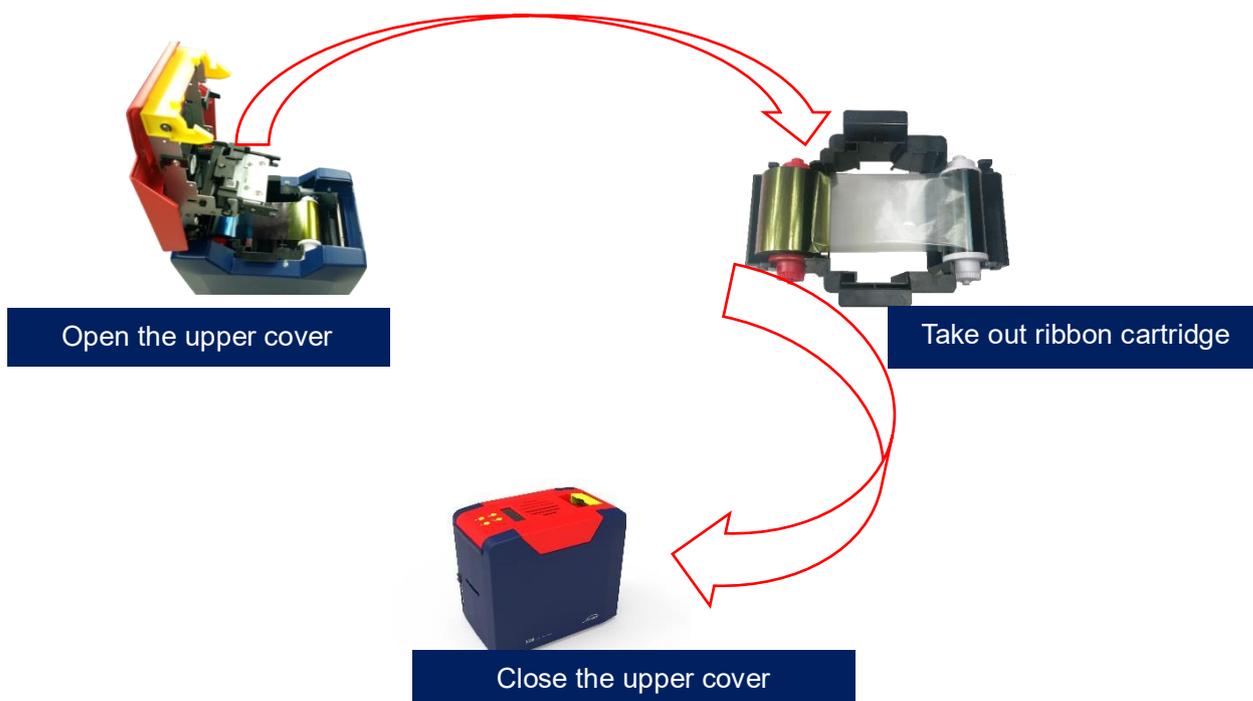
Step 2: When Card printer shows "Ready", press "OK" one time, then press ">" two times.



Step 3: LCM show "Clean function" press "OK" one time. Then LCM will show "Open the cover".



Step 4: Open the cover, take out ribbon cartridge, and then close the upper cover.



Step 5: Press “OK” one time. The card printer will start to cleaning.

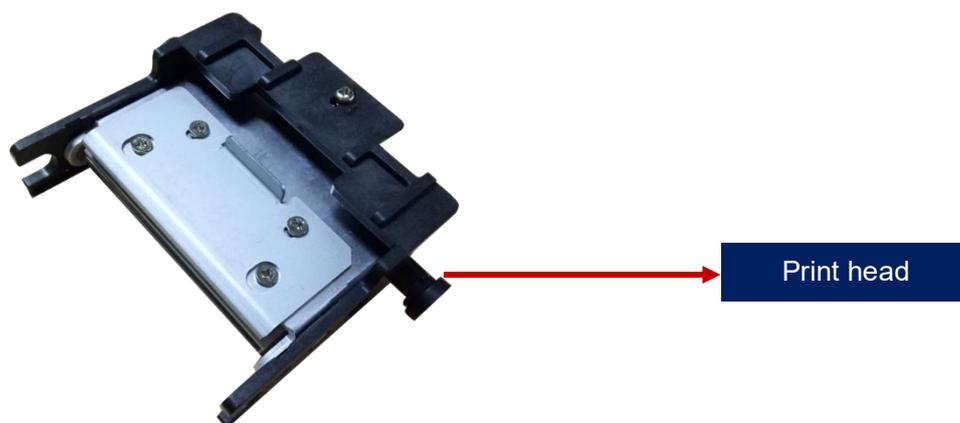


Step 6: The cleaning card will be exit from card exit mouth after finished cleaning. After it, please install the ribbon cartridge and close the upper cover.

### 9.3 Cleaning print head

Print head is the most important and valuable part of card printer. Like a car, it's a consumable product that will eventually breakdown. Only continuous attention to maintenance can extend it's lifespan.

Maintenance method is to use the cleaning stick for cleaning. Clean it every time you change the ribbon or printing effect is poor. And it's also recommended to clean the print head once a month.



#### Cleaning print head steps:

Step 1: Take out cleaning stick from accessories box.



Step 2: Turn off the card printer, open the upper cover and find the print head show in below picture.



Step 3: Wipe the print head in one direction, from left to right or right to left with cleaning stick. Do not wipe back and forth. Generally wipe 3-5 times will be ok.



Wipe in one direction



Avoid print head direct contact with metal objects, sharp objects or fingers, and do not contaminate any liquid to clean the print head.

## 10. Replace print head

In the long-term use of printer, when the expiration of lifespan or no regular cleaning or maintenance or artificial damage, the printing will appear broken needle, blank vertical stripes etc. Then you need to replace the print head.

### Replace print head steps:

Step 1: Take out the new print head and record it's serial number.



Step 2: Turn off the card printer, open the upper cover and find the print head show in below picture.



Step 3: Look closely at the mounting structure on both sides of the print head.



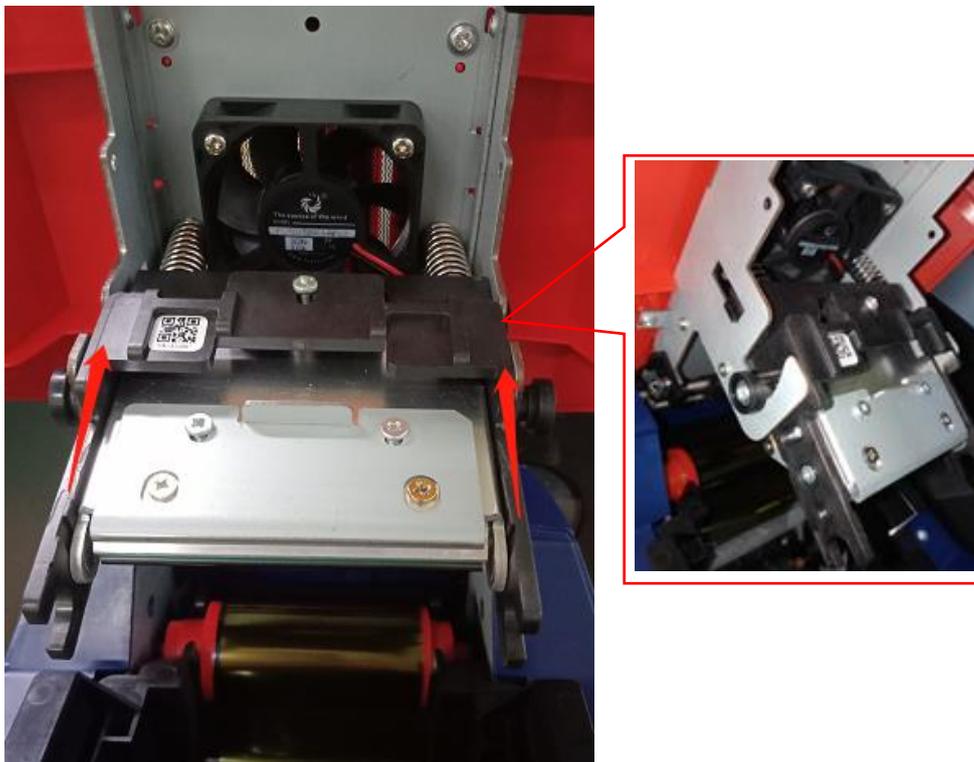
Side



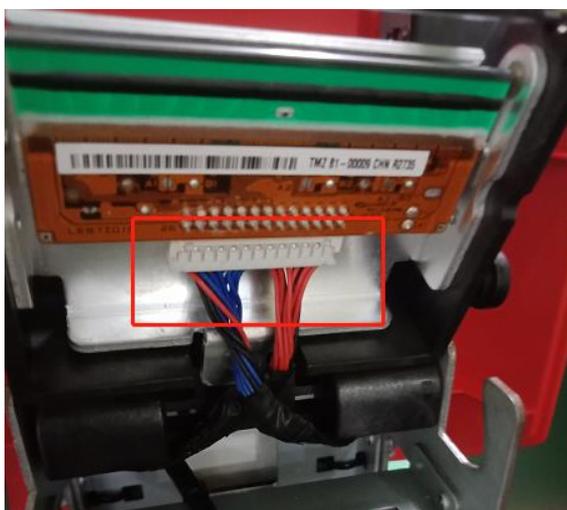
Front

#### Step 4: Remove print head

Hold the print head on both sides by hand and press the print head toward the cover. At this time, the spring will be compressed. Loosen the print head when the small cylinder on both sides of the print head comes out of the metal hook.

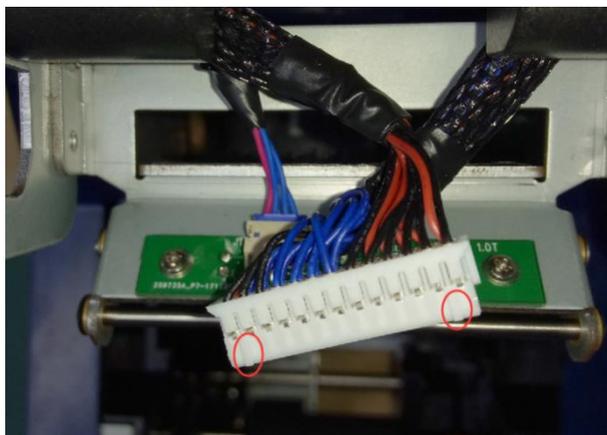


Find the wiring and pull it out from the wiring plug with your hand.



### Step 5: Install new print head

Take out the new print head and connect the print head wiring to the wiring plug. Note that the direction of the wiring plug must be the same as the print head interface.



Finished

Clip the print head onto the hook and hold part A against part B until the cylinders on both sides of part A are stuck on the metal hook.

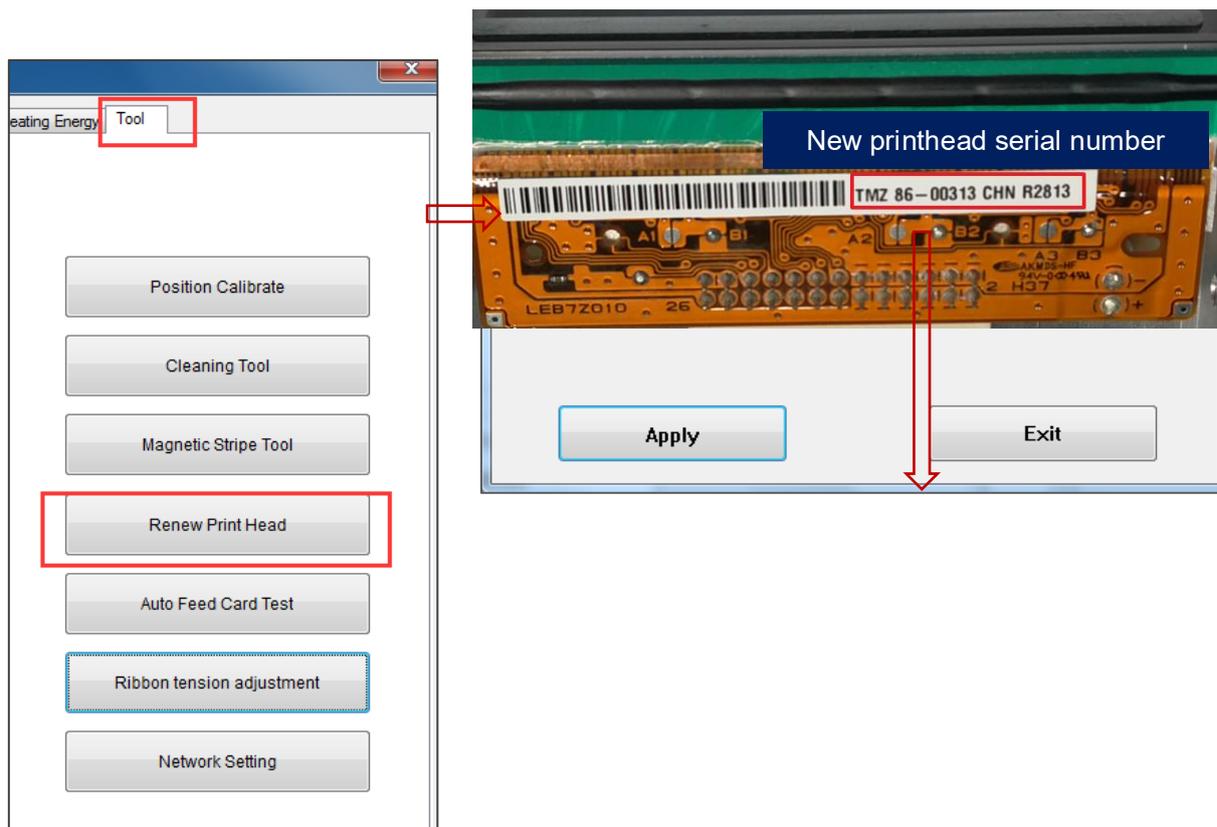


Finished



Step 6: Enter the new print head serial number into the driver. Failure to enter may result in an abnormal print.

Open “Printing preferences”, click “Tool”, find and click “Renew print head”.



## 11. Common fault codes and Solutions

The card printer happen to meet some faults in the process of use, and the most direct way to judge the faults is to see the code displayed on the LCM display screen of the card printer. Find out card printer fault code, you can clearly know the fault reason and find a solution.

Fault code	Fault name	Reason	Solution
CODE:43	<ul style="list-style-type: none"> <li>Ribbon missing</li> </ul>	Ribbon uninstalled	Install ribbon according to operating manual
CODE:46	Ribbon out	Replace a new ribbon	Replace a new ribbon according to operating manual
CODE:5F	Card out	Place some cards	Place some cards according to operating manual
CODE:21	Cover open	Upper cover has not closed	Close the upper cover
CODE:22	Reject box open	Reject box is open	Close reject box
CODE:23	Reject box full	Reject box is full	Take out defective cards
CODE:51	Card feed error	Thickness of card feeding entrance setting is wrong	Adjust the feed card thickness according to the operation manual
CODE:11	Card jam	Unusual card jam	Clean the card moving roller regularly according the to operation manual
CODE:44	Ribbon unsupport	Ribbon chip unsupport	Check the ribbon details by the driver or LCM,and contact the local distributor

## 12. FAQ

### 12.1 When card print no action

- Verify that the card printer driver is installed correctly
- Check power and USB cable connections
- Check ribbons and cards
- Print test picture

### 12.2 When print out the blank card

- Check ribbons and cards
- Please reset the card printer's parameters by driver (Print option – Tool - - Position Calibrate - Reset to factory default ) Or adjust the L,T and S value
- Try to print again after adjust
- Check whether the printing card is CR-80 standard

### 12.3 When partial or error printing

- Check the card printer's setting
- Check the cable and ribbon
- Make sure the cleaning roller is clean
- Check the card is clean or not
- Check the print head

### 12.4 When the printed card has a defect

- The card surface is not clean
- Please clean the card printer by cleaning card
- Print head is not clean or damaged, need to wipe cleaning or replace
- Check whether the cleaning roller need to replace

### 12.5 When the printed card appears white line

- Check whether the ribbon is proper installed

- Check whether the print head is not clean or damaged

## **12.6 When the printed card appears white vertical or color lines**

- Print head maybe was damaged

## **12.7 When the printed card appears blurry image**

- Check whether the ribbon is proper installed
- Check whether the cleaning roller or print head is not clean
- Check whether the printing card is CR-80 standard