# NC-SLP20

# User Manual

Please read this manual carefully before you use this machine
and keep it handy for future reference.

# Catalogue

Notice . . . . . 1

Machine introduction and graphics analysis . . . . . 2

1.1 Graphic analysis of the front of the machine ..... 2
1.2. Graphic analysis of the back of the machine ..... 3
1.3 Diagram of X-axis transmission ..... 3
1.4 Analysis of the print cart ..... 4
1.5 Analysis of ink station ..... 4
1.6 Analysis of the take-up and coiled material assembly ..... 4
1.7 Assembly analysis of print platform ..... 5
1.8 Analysis of pressing paper holder ..... 5
1.9 Analysis of waste ink cartridge ..... 5
1.10 Analysis of key board ..... 6

Machine initialization confirmation . . . . . 7

2.1 Preparation ..... 7
2.2 Confirm that the initialization process is normal ..... 7
2.3 The machine is moving normally ..... 7
2.4 Feed paper ..... 7

How to add ink . . . . . 10

Install and setup the driver . . . . . 13

4.1 Install the driver ..... 13
4.2 Computer requirements and IP settings ..... 13
4.3 Install Future Rip ..... 14
4.4 The setup and introduction of driver function ..... 16
4.41 Driver settings ..... 17
4.42 Basic setting ..... 18
4.43 Calibration ..... 20
4.44 Advanced ..... 26

Maintenance method and announcements . . . . . 32

5.1 Maintenance method of printhead ..... 32
5.2 Ink station maintenance ..... 33
5.3 Rail maintenance ..... 33
5.4 Change the damper ..... 33
5.5 Change the cap top ..... 33
5.6 Maintenance of shell sheet metal ..... 33

Commom trouble-shooting method . . . . . 34

6.1. Common examples of ink-supply suspension problems ..... 34
6.1.1 Test strips are all out ..... 34
6.1.2 Partial ink-supply suspension problems ..... 34
6.1.3 The ink-supply suspension problem of test strip is severely and partially ..... 35
6.1.4 Almost all of the test strips have the problem of ink-supply suspension ..... 35
6.1.5 The test strip lacks a complete color ..... 36
6.1.6 All test strips are blank ..... 37
6.1.7 Color mixing: large area color mixing ..... 37
6.1.8 Ink flying of test strip ..... 38
6.2 RIIN indicates demo version ..... 38
6.3 UV lamp is off ..... 38
6.4 Ink does not dry ..... 39
Introduction of board circuit and common errors ..... 40

# Notice

**Please read these instructions before using the machine**

1. Machine should not be used by children or the disabled.If needed,please under the supervision;
2. Please use original supplier's spare parts and ink under instruction;
3. Make sure the power voltage is same as power cable and machine which shown on the Nameplate;
4. Only suitable to be used indoors and better suggest to have air conditioning inside the room to keep stable working temperature and humidity;
5. Dismantle the wooden case and the foot cup fixed frame and put it on a stable table before using;
6. Do not use the machine in a environment which has fire,dust and wetness;
7. Do not use the machine in a humid house;
8. Do not put sundries on the machine or the platform and surroundings;
9. Please keep a stable temperature in the working room,not suggest to use machine where environment over 30 degrees or below 15 degrees;
10. Do not use any broken cable to provide electricity;
11. If power supply is broken,please stop to using the machine;
12. Power off machine when you clean or fix machine;
13. Please use the machine according to local legal policy;
14. Make sure the head not touch anything before sending picture printing.Height sensor do not work when meets transparent materials;
15. When machine is working,eyes will feel sick if staring at the UV lamp for a long time,better suggest to wear ultraviolet-proof glasses;
16. When needed to move the machine,at least require 4 people to lift. Do not move the machine together with other parts. And remember to take take off the power charger when move the machine;
17. When adding ink, you may touch ink tube,ink bottle and ink cap and some parts,please protect in advance;
18. The table which used to put the machine should be make sure it's stability to place the machine and protect machine from shaking during working;
19. Not recommended to use UV LED lamp high load printing for a long working time;
20. Make sure machine is normally grounded;
21. Do not use the machine in thunderstorm day,avoid lightning strikes;
22. If your ink is not come from Nocai, after sale service will not be provided.

# Machine introduction and graphics analysis

## 1.1 Graphic analysis of the front of the machine

①Rear cover

②Front cover

③Side cover 2

④Side plate of front cover

⑤Front right shell

⑥Paper receiver

⑦Keyboard assembly

⑧Front left shell

⑨Driving wheel assembly of X-axis

⑩Components of print platform

⑪Components of cartridge

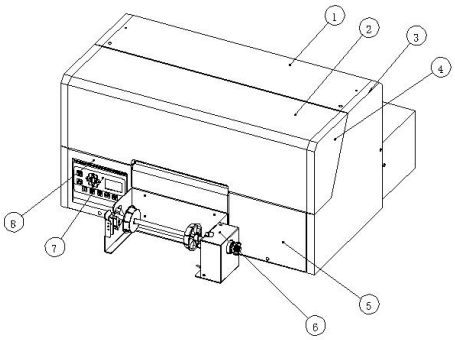
⑫Circuit board for controlling temperature

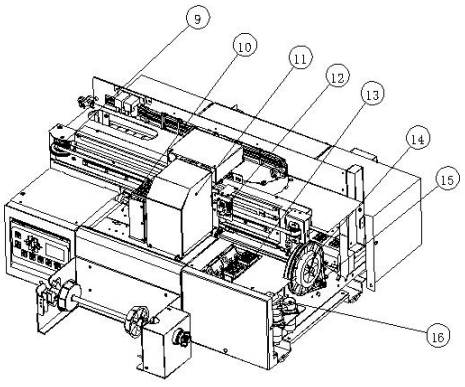
⑬Components of ink station

⑭Synchronous wheels of Y axis

⑮Driving gear of Y axis

⑯Pristaltic pump



## 1.2. Graphic analysis of the back of the machine

①Rear electrical box cover

②Power supply

③Coiled assembly

④Rear cover

⑤Rear cover a

⑥Nameplate

⑦Rear cover b

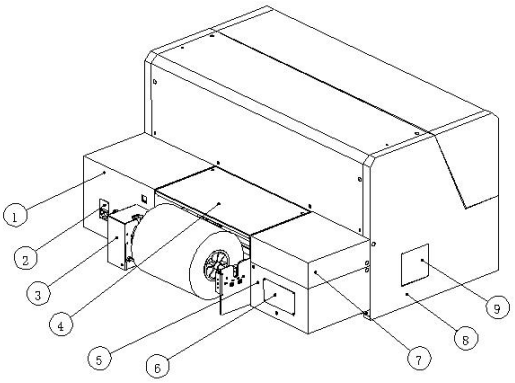
⑧Side plate 1 of shell

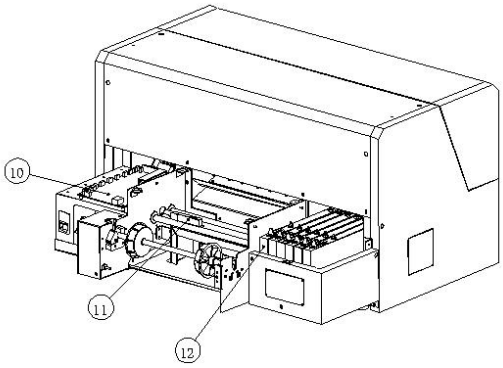
⑨Small flip

⑩Mainboard

⑪Label sensor

⑫Rectangular cartridges




## 1.3 Diagram of X-axis transmission

①Timing pulley on the left side of the rail frame

②Cylindrical helical gears

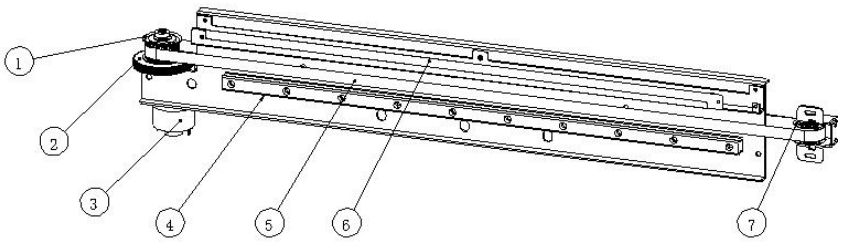
③Ink cartridge DC motor

④Linear guide rail of X-axis

⑤Timing belts

⑥Encoder strip

⑦Head driven wheel (no teeth)



## 1.4 Analysis of the print cart

①UV lamp

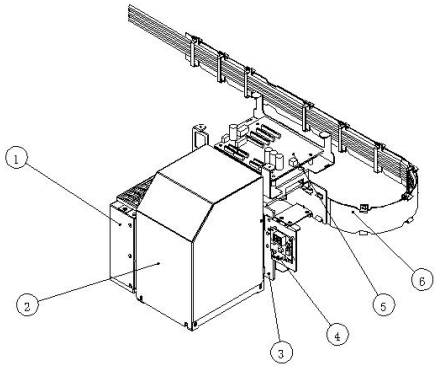
②Heated cover plate for ink cart

③Backplate of ink cart

④Circuit board for controlling temperature

⑤Head board

⑥Steel belt assembly




## 1.5 Analysis of ink station

①Wiper

②Wiper holder

③Fixing block of wiper

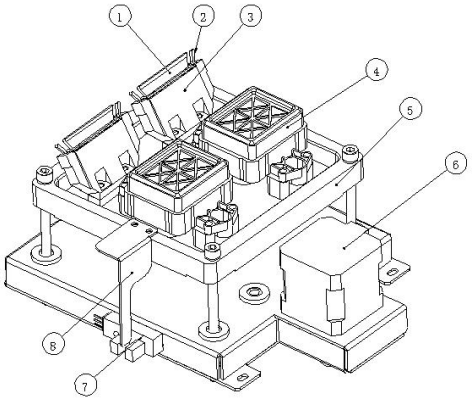
④Cap top

⑤Holder of cap top

⑥Wiper motor

⑦U-shaped sensor

⑧Induction sheet metal of the ink station




## 1.6 Analysis of the take-up and coiled material assembly

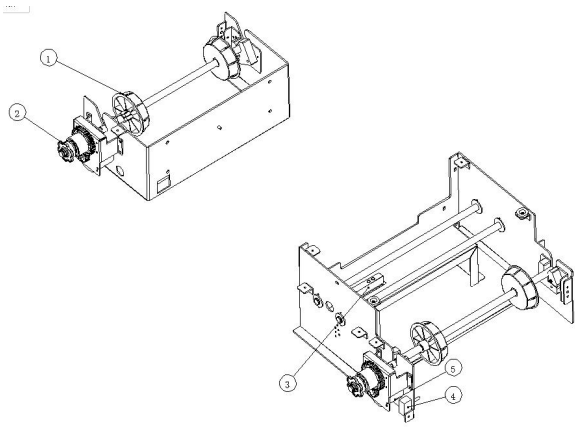
①Coiled sleeve

②Dampener

③Label sensor

④Forward and reverse switch

⑤Delivery motor



## 1.7 Assembly analysis of print platform

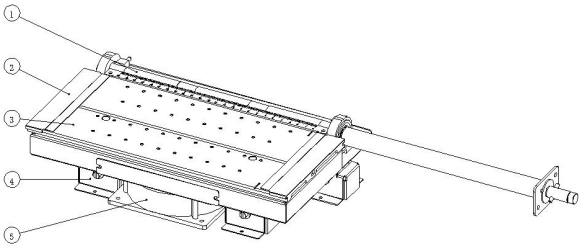
①Rubbing shaft

②Tools for press the paper

③Print platform

④Adjustment device of platform

⑤Centrifugal turbine fan




## 1.8 Analysis of pressing paper holder

①Clamping wheel shaft core

②Clamping roller bracket

③NO.4 wheel gear

④NO.3 wheel gear

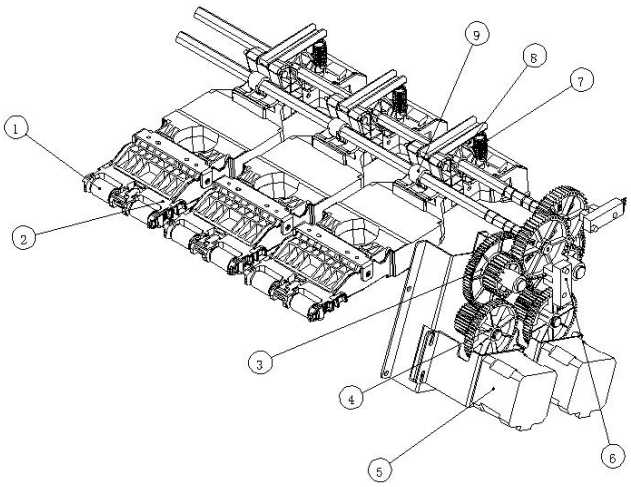
⑤Wiper motor

⑥U-shaped sensor

⑦Extension springs

⑧Pressure adjustment cam

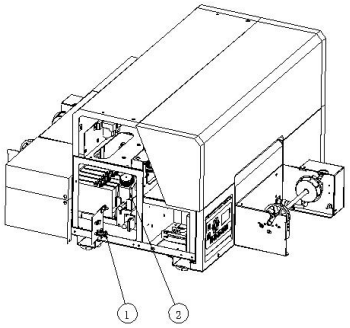
⑨Lift the paper cam




## 1.9 Analysis of waste ink cartridge

①Interception valve

②Waste ink cartridge(With floats)



## 1.10 Analysis of key board

①UP:The press wheel rises

②Down: The press wheel is lowered

③Test:Print test strip

④Clean:Shortcut key of Clean

⑤Suction:Suction platform button

⑥Exit:Exit key

⑦Enter:Enter key

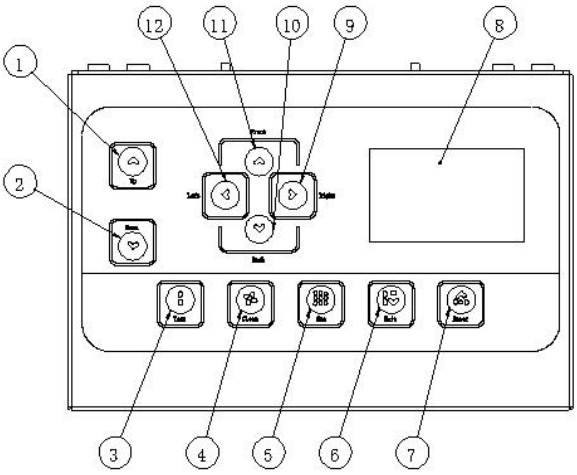
⑧Display panel

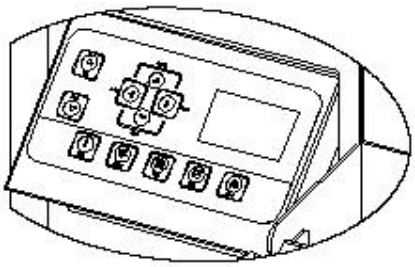
⑨Right:Move the cart to the right

⑩Back:The paper is fed by the rubbing wheel

⑪Front:The paper roller is unwinded

⑫Left:Move the cart to the left



# Machine initialization confirmation

## 2.1 Preparation

Make sure that the machine looks normal and is placed securely, and can match the power supply voltage (220V or 110V) of the machine.

## 2.2 Confirm that the initialization process is normal

Turn on the main power switch at the rear of the machine, click the power button on the front panel, the machine will start the initialization action.

The process is as follows:

【The ink station descends to its lower limit→ the wiper moves forward for a short section, then turns back to the rear limit→ the cart moves left for a short section→ the paper roller feeds a little, then the paper roller returns for a little→ the cart moves right to the limit, and then turns to the left and moves above the ink station (head-sealing position), → the head goes back to teh ink station → OK】

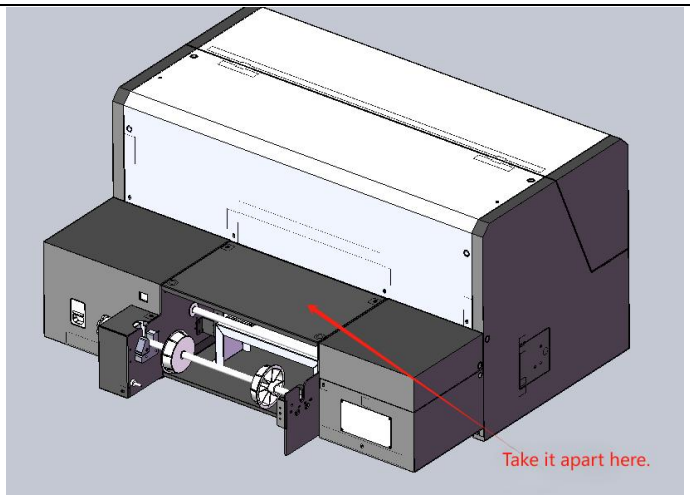
## 2.3 The machine is moving normally

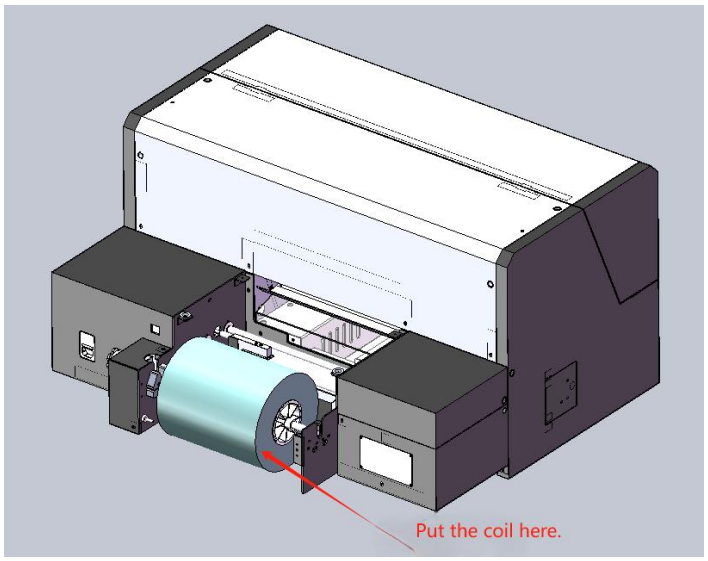
【The cable connects the computer and the machine→ opens the driver software→ the lower left corner shows that the connection is normal→ the left and right front and back control in the driver, and the Z-axis controls the up and down→ machine can feedback normally】

## 2.4 Feed paper

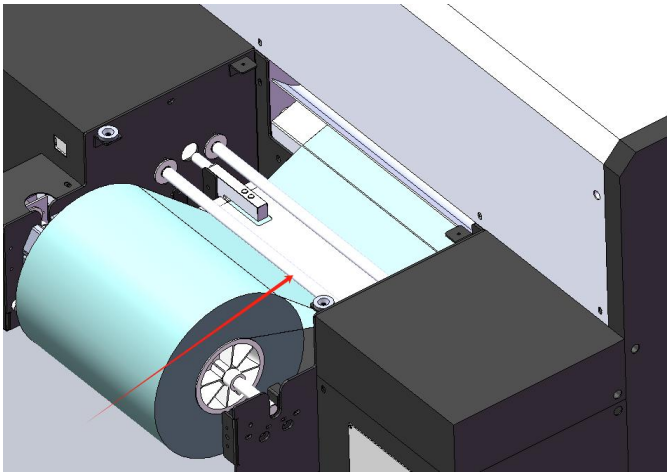
【Remove the protective sheet metal → put the printing material on the coiled sleeve→→ click UP on the button board → push the printing material into the middle of the paper roller→ pull the printing material out from the other end→ roll the printing material onto the sleeve at the other end of the machine】

The diagram is shown below:

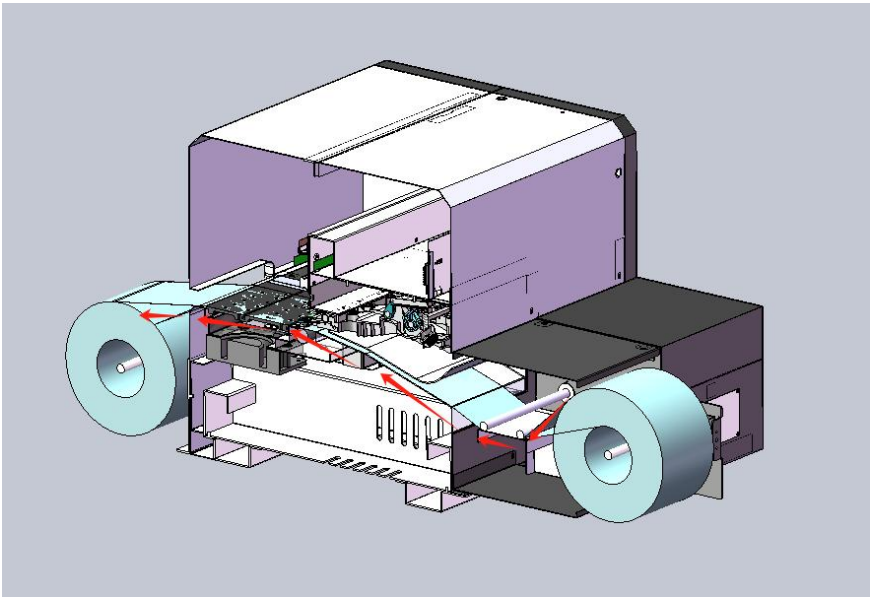


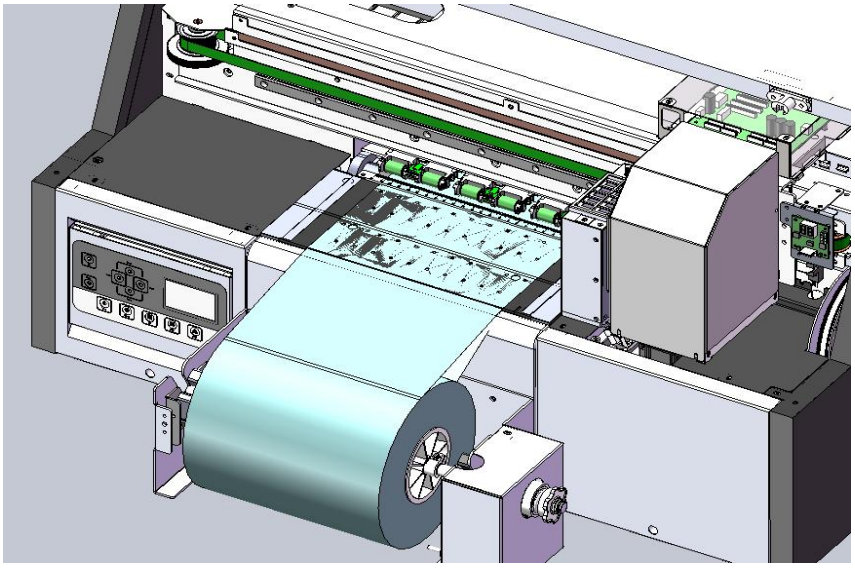

Note: There are two ends on the coil sleeve at the back of the machine, one has limited sheet metal, and the other end is unlimited sheet metal, the end of the unlimited sheet metal needs to be removed, and then the printing material is placed in the reel, and then the disassembled end is closed



Note: When the coiled material is installed, the coil needs to be threaded under the pressing shaft and the sensor along the feeding direction, and cannot be inserted into the middle of the pressing mechanism directly, otherwise the sensor will not work, and the step in the Y direction will be inaccurate. As shown in the image:

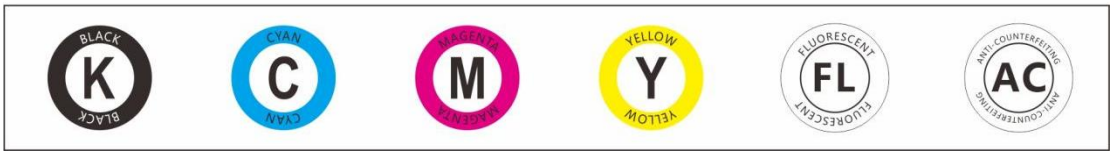


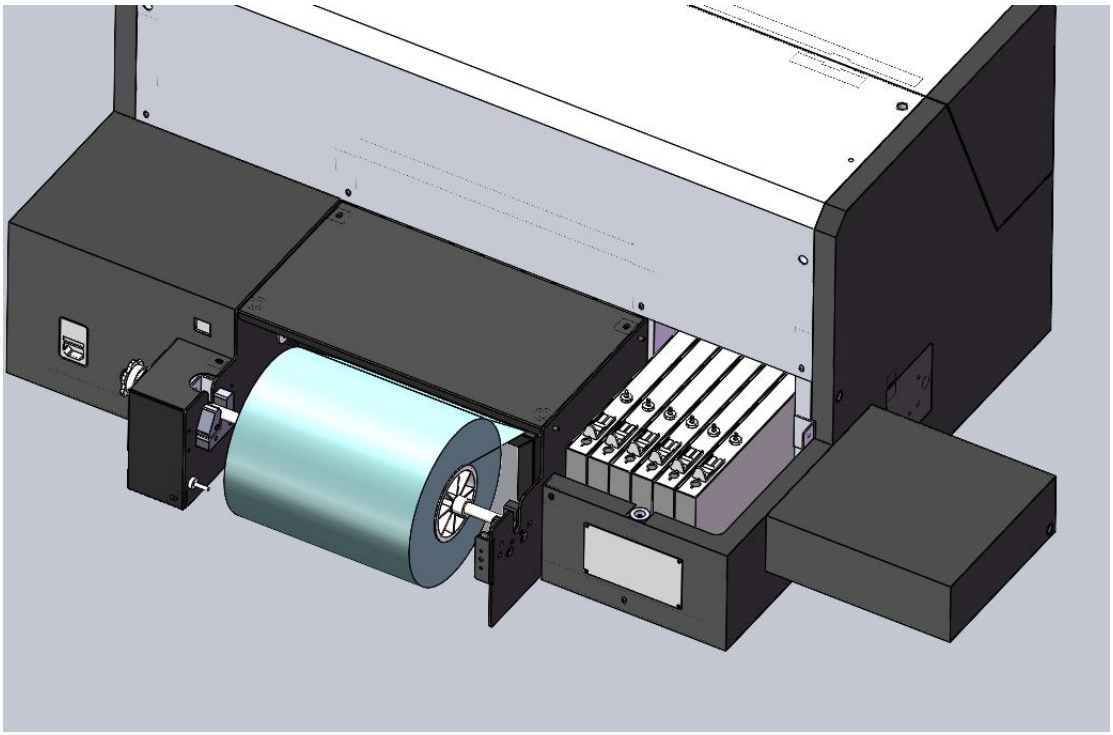
When the printing material is installed, press "BACK" continuously to move the paper, and check whether the paper is offset by the ruler on the front side of the paper roller. If it is offset, please adjust the nut at the delivery motor until the paper is smooth and not offset. As shown in the image:



# How to add ink

According to the figure below, find the corresponding ink cartridge according to the prompts. Please loosen the fixing screw of the ink cartridge sheet metal and remove the ink cartridge sheet metal, and then add the corresponding ink according to the logo on the shell sheet metal.



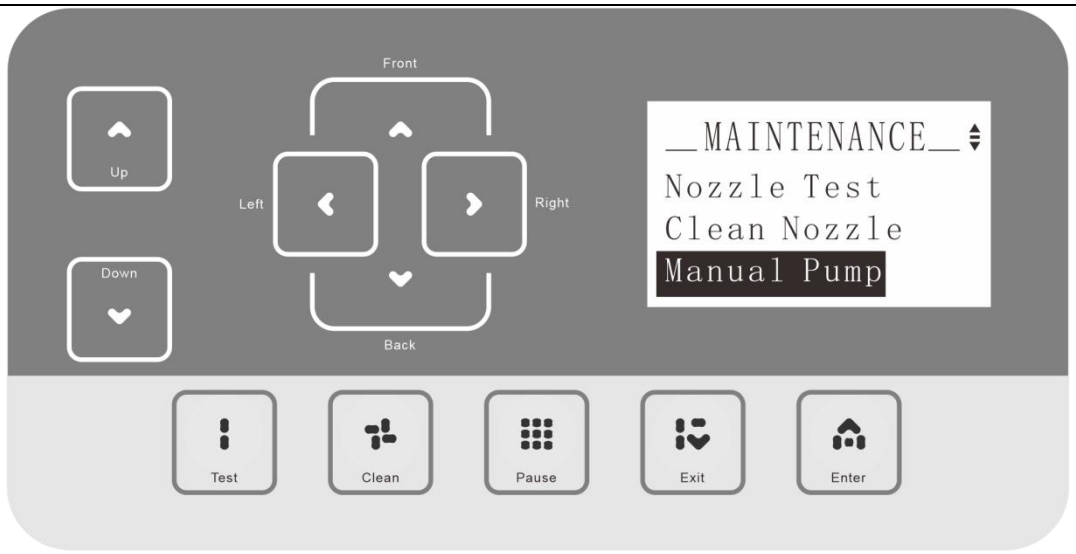
When adding ink, in order to prevent the ink from leaking out and contaminating the shell sheet metal, protective measures need to be taken, and the bottle mouth can be wrapped with a paper. After adding ink, pay attention to the surrounding hygiene.

Then add ink manually, and the process and reference are as follows:

1.Click the "Enter" key on the key panel to enter the menu

2.Select the Equipment Maintenance and click "Enter" to enter the menu

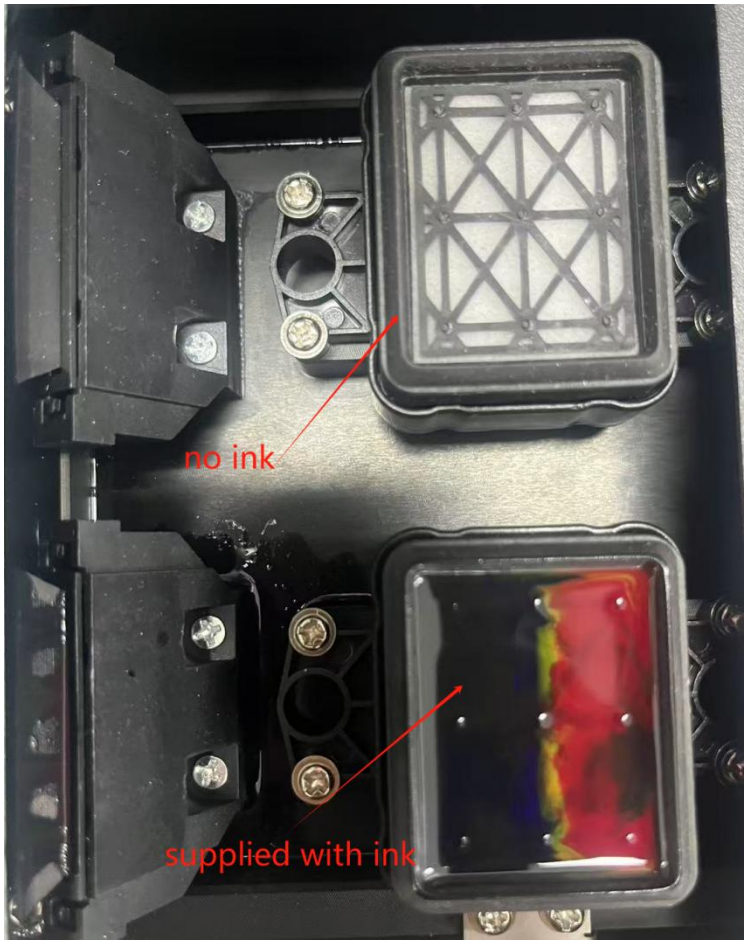
3.Add the ink manually and click "Enter" to add

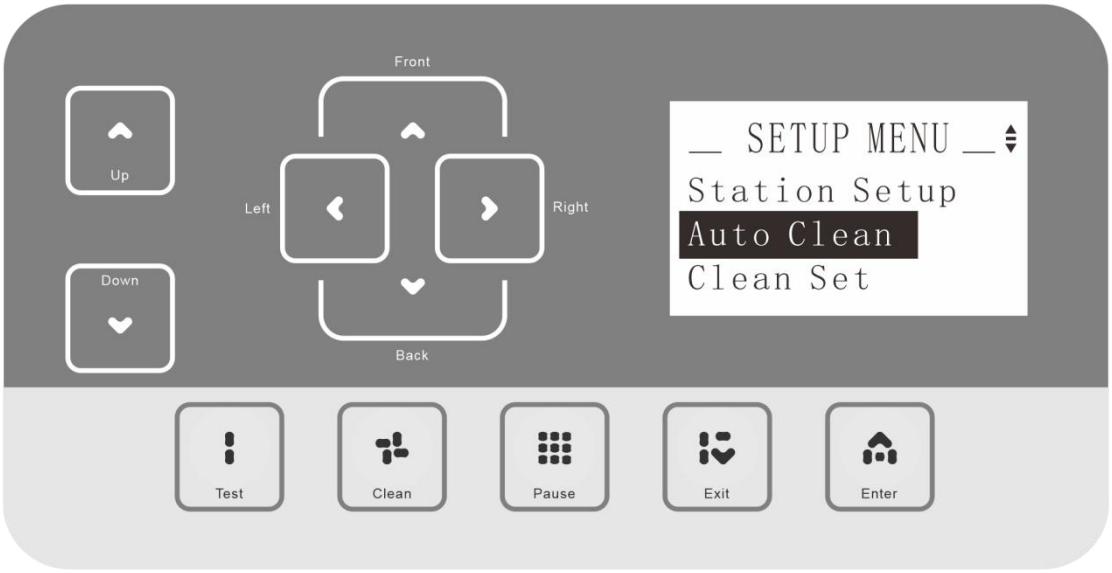



After clicking OK, the machine starts to pump ink, and the pumping time is usually about 25-30 seconds.

After the inking is completed, you can [Click "Exit" to return to the main interface, click "Left" to move the cart to the left, and check whether there is ink on the cap top.

If there is sufficient ink on the cap top, the ink is loaded successfully, as shown in the figure:

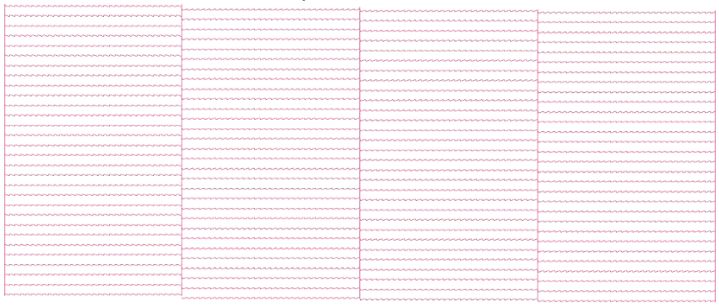


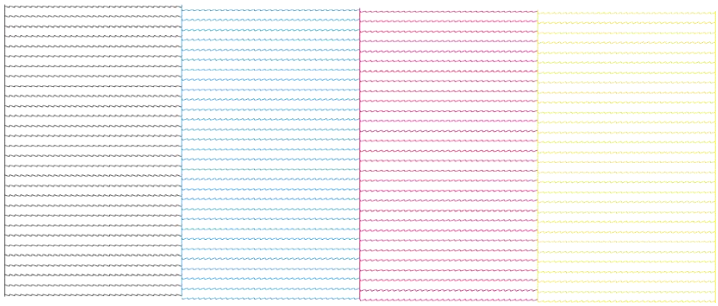



Then click "Auto Clean", click "Enter" , and the machine will clean the nozzle automatically.

Click [TEST] to print the test strip, if there is any lack of color or ink-supply suspension problem, please continue to clean the nozzle manually until the test strip is complete, and the ink installation is completed.

The normal state of the test strip is as follows:





The machine goes into standby and waits for the software to be installed.

# Install and setup the driver

Future RIP is the control software of the printer, which is mainly divided into two parts: image processing and driver setting.

## 4.1 Install the driver

1.Future RIP Hardware introduction

It includes two parts: installation package of Future RIP and the dongle. The following is the picture of the dongle and there is serial number on it.

## 4.2 Computer requirements and IP settings

①System version： must be Win7, Win8, or Win10 on a 64-bit system.

Language: Chinese or English

CPU： i5 or above or equivalent;

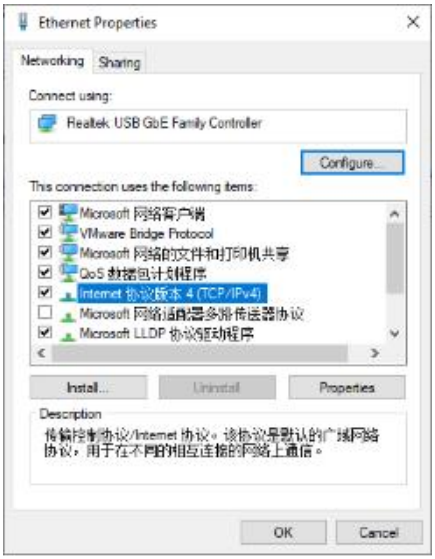
Memory: 8GB or more;

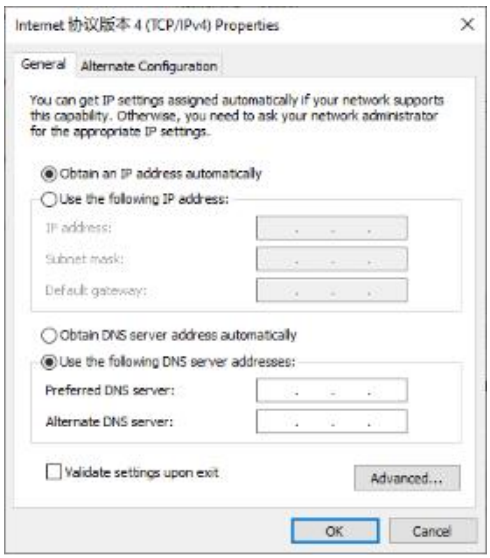
Hard disk: 500GB or more

② Computer must be equipped with Gigabit network card and gigabit network cable, only in this way the software can be normal online.

③IPv4 address of the computer is set to be obtained automatically. Not IPv6.

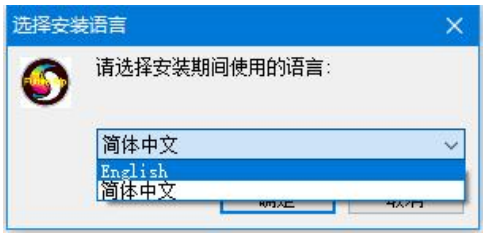
Operation: Find the two icons ， click right button, choose【Open network and Internet setting】 -click Change adaptor， double-click Local connection (or Ethernet)-click Attribute-cancel tick Inter protocol version 6 （TCP/IP6） and tick Inter protocol version 4 （TCP/IPv4） and double-click and open it， -choose and obtain IP address automatically. Click OK to finish it.



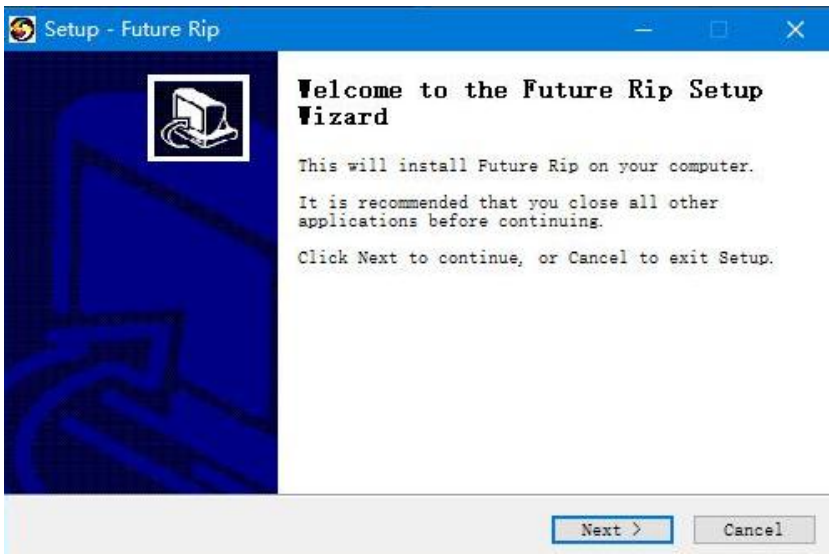



## 4.3 Install Future Rip

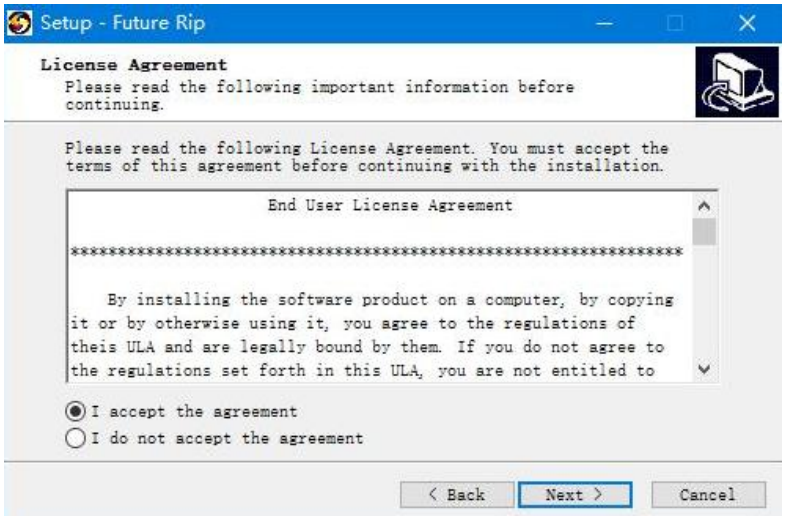
Open the file named Future Rip，you can download it from official website: www.happycolor.com.cn. Find the procedure and open Future RIP.exe. Click Right as the administrator, choose "Agree" "Next" "Install" in turn, just as the following:



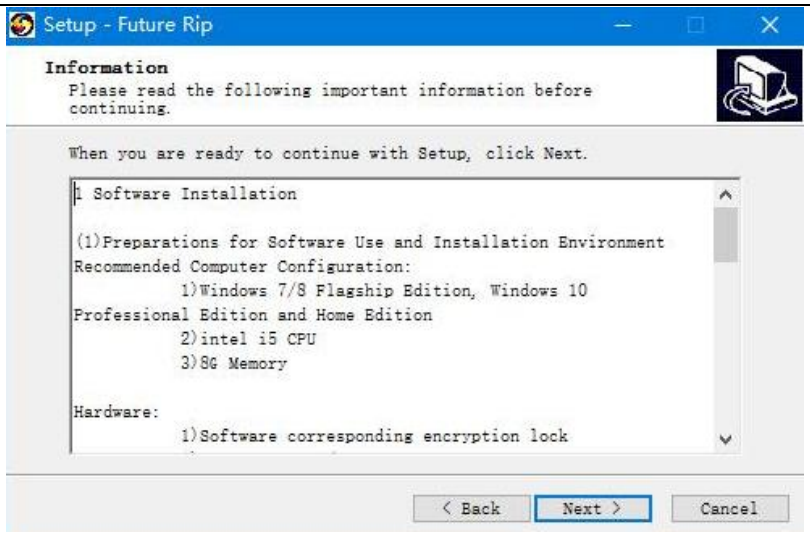

You can choose Chinese or English，click"OK"，it will appear such a pop-up window:




Click Next，the pop-up window is as follows:




Click Next，the pop-up window is as follows:

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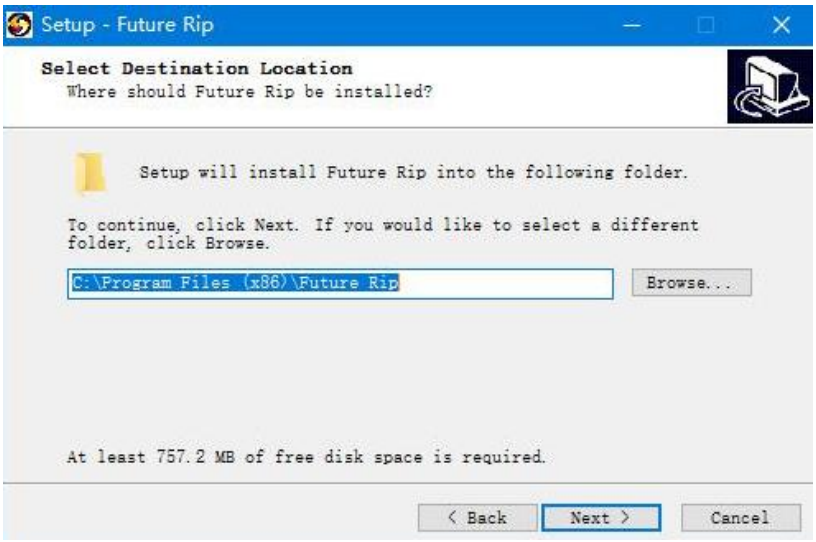


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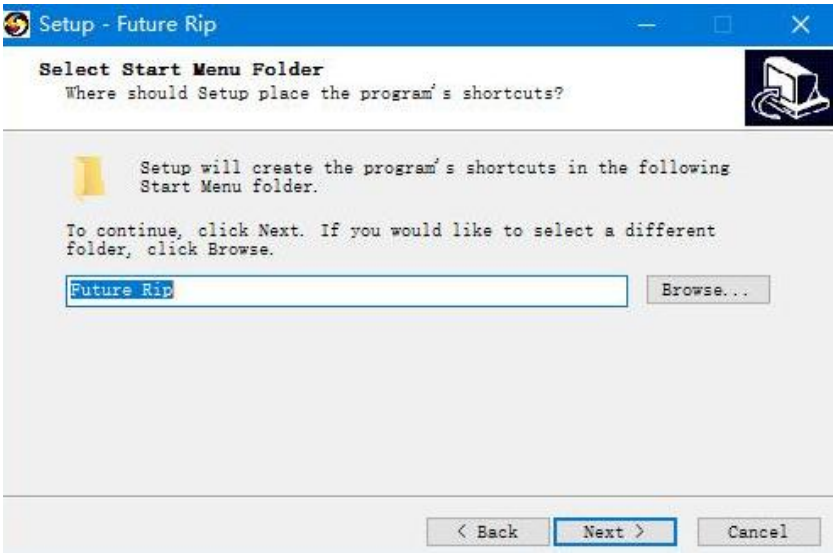
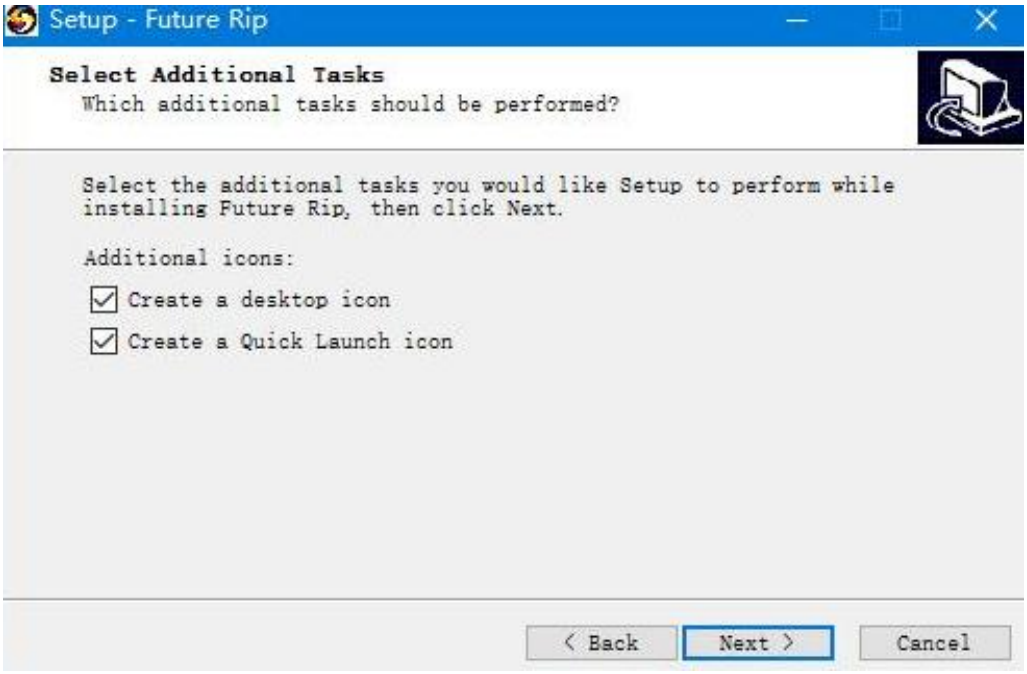
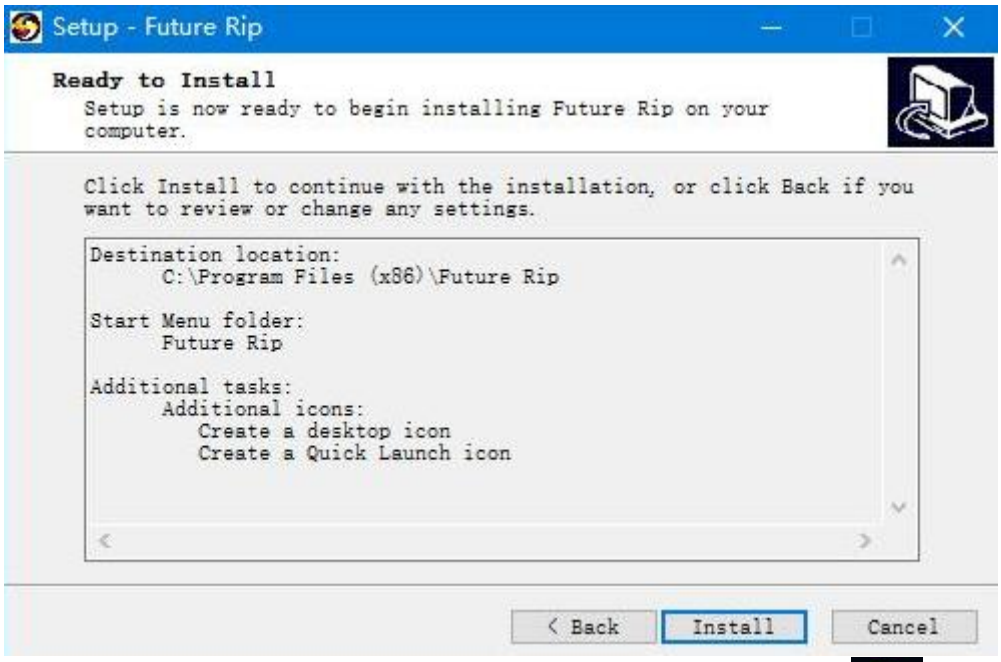


Click Next, the pop-up window is as follows:



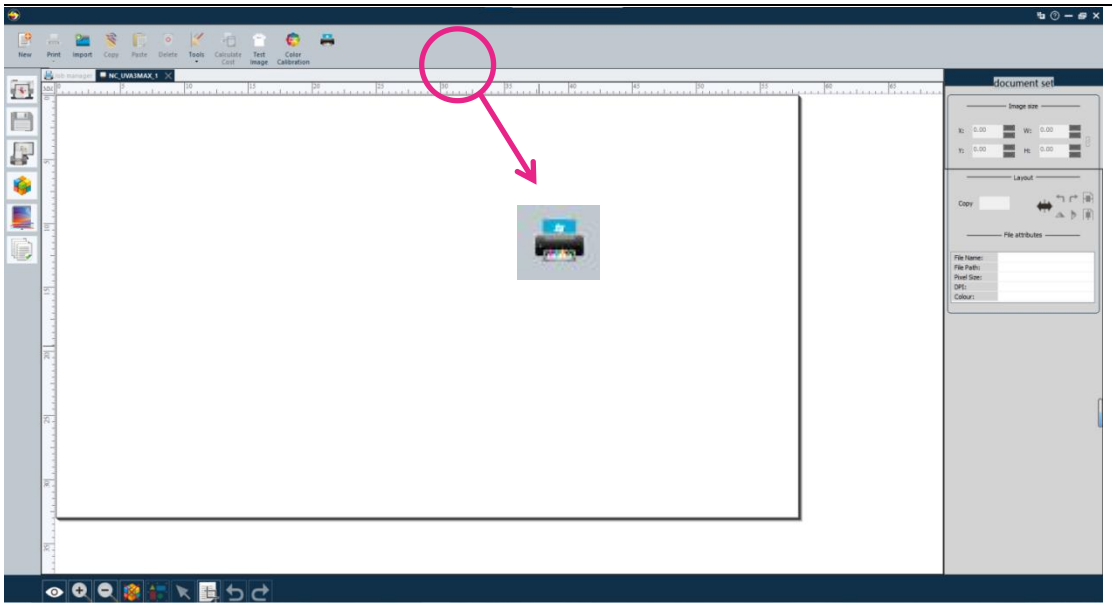

Click Next, the pop-up window is as follows:



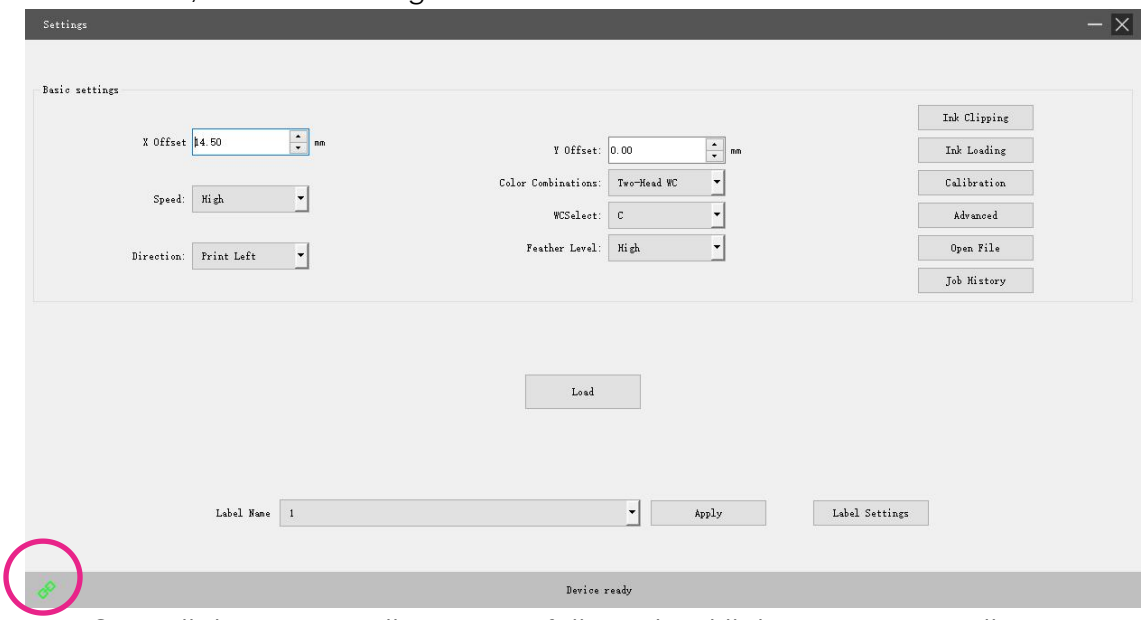

Click Install, there will be such a icon on the computer desktop


## 4.4 The setup and introduction of driver function

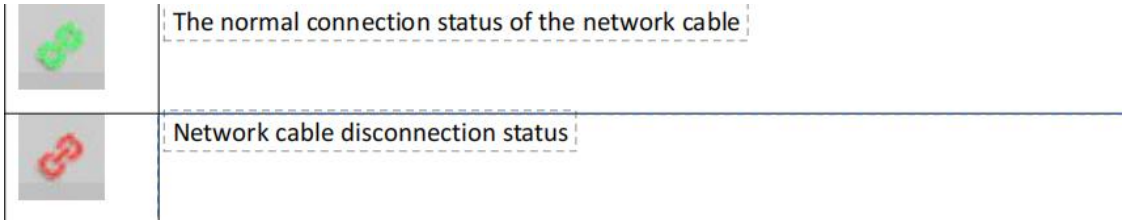
Double click to open the icon 【Future RIP.exe】



Then click on the Driver Settings button. When the green hinge icon is displayed in the lower left corner, it means that the driver has been connected, as is shown in the following figure: the lower left corner shows that the connection is successful, and the flashing means not successful.



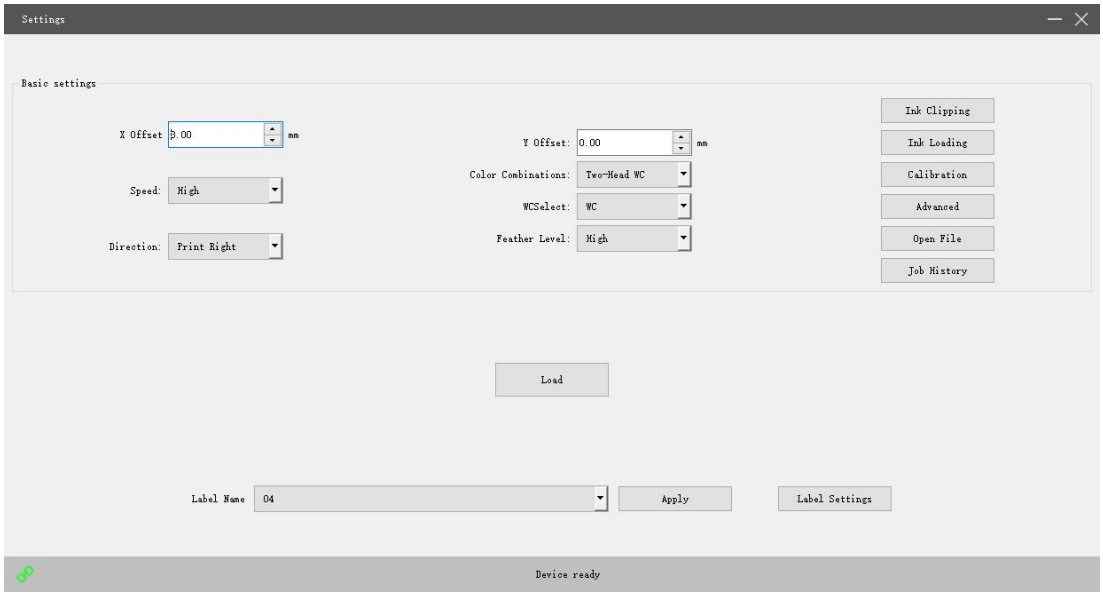

Green light means online successfully and red light means not online.



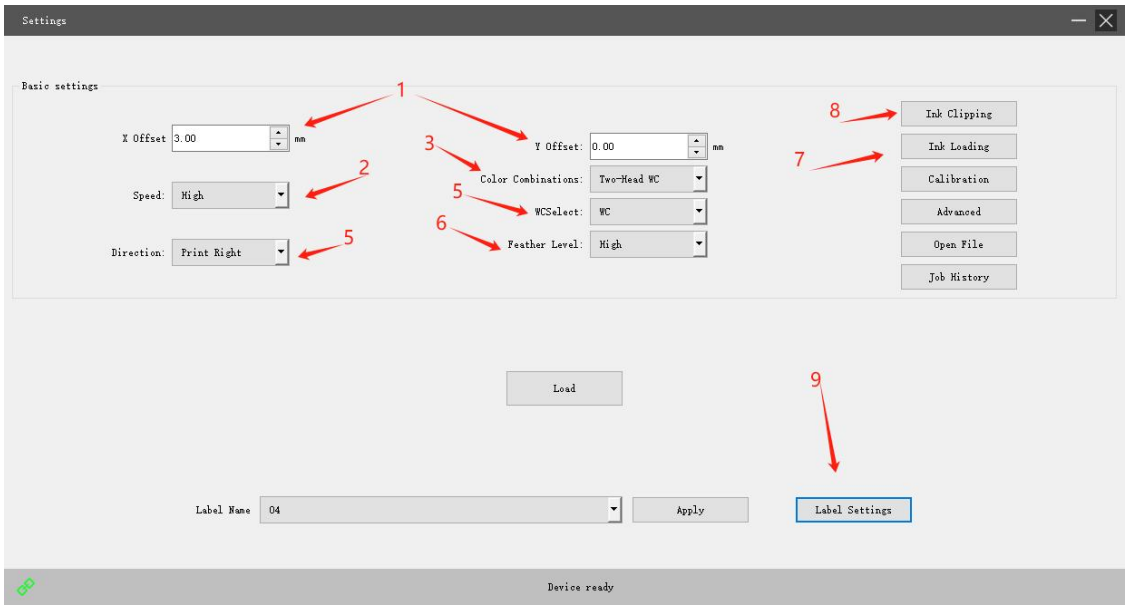

## 4.41 Driver settings

The detailed introduction are as the following:

The software display interface is mainly divided into three parts: ① Basic settings ② Calibration and ③Advanced.




## 4.42 Basic setting




**1.X white edge　Y white edge**: It is recommended to set the offset position of the calibration chart and picture relative to the starting point of the platform printing, and it is recommended to set 0.

**2.Speed**: High speed, medium speed and low speed.

**3.Color combination**: Color of two heads, White color of two heads, Color and varnish of two heads.

**4.White and color combination**: The combination is determined by the color combination. When choosing a color combination of two heads, the white color combination has only "C", which is a single color; When the color combination is double heads of white color, the white color combination is: "C",

"WC", "W" that is single color, white color (or fluorescent, anti-counterfeiting color), single white (single fluorescent anti-counterfeiting)

Note: The color combination and white color combination determine the color when printing. For example: the color combination selects double-heads of white color, and the white color combination selects "C" (single color), then only color ink is printed; Select "W" to print only white ink (or fluorescent anti-counterfeiting); Select "WC" (white color or fluorescent anti-counterfeiting color) to print out the white color ink (or fluorescent anti-counterfeiting color ink).

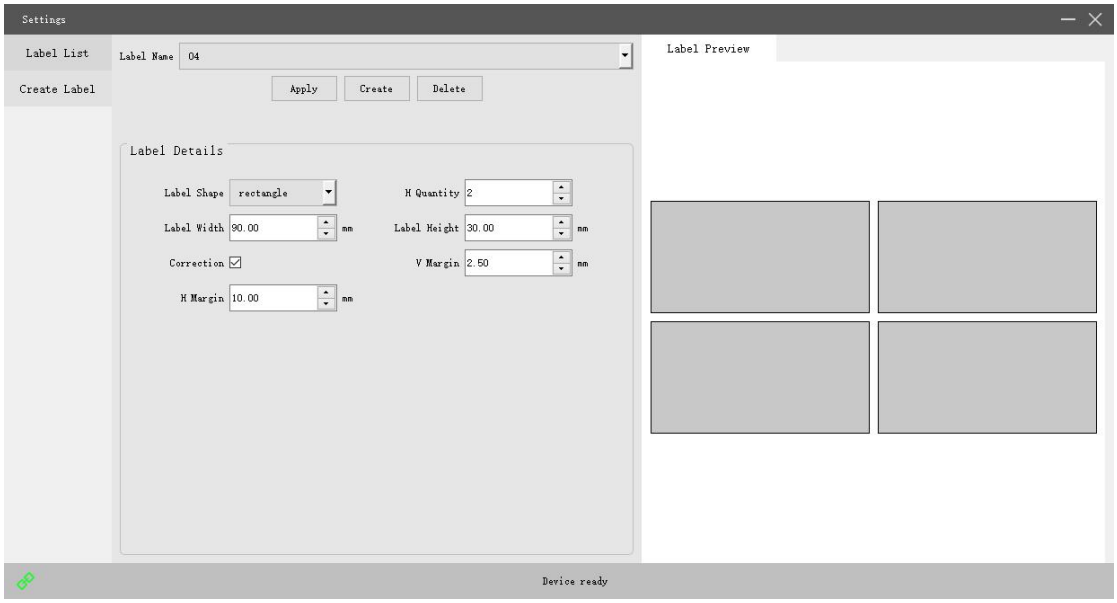
**5.Direction：** Left, right and bidirection.

**6.Feather level**: Close, Low, Meidum, High, High1, High2; The printing quality can be improved effectively, the higher the feathering, the better the accuracy and quality of the effect, but the slower the printing speed will be;

**7.Ink loading：** Load ink 30s automatically

**8.Ink clipping：** For example, if you feel there is too much or too little ink when printing, you can adjust it here. Percentage ink volume reduction and multi-PASS ink volume printing.

**9.Label settings：** They are ordinary roll material and label mode, and the label mode needs to be set according to the size of the printed label. As shown in the
image:




Take a rectangular white label with a width of 90 mm, a height of 30 mm, a row spacing of 2.5 mm, and a column spacing of 10 mm, click the label settings tab on the home page of the printing tool, and select Create Label, and you can see the above interface. Create a tag name, enter parameters in the tag details target bar, and create a tag shape based on the shape, width, height, column spacing, and row spacing of the tag

Note: It is recommended to turn on automatic deviation correction here, which can ensure that the label can be recognized accurately by the sensor and

ensure that the label pattern is in the same position.

## 4.43 Calibration

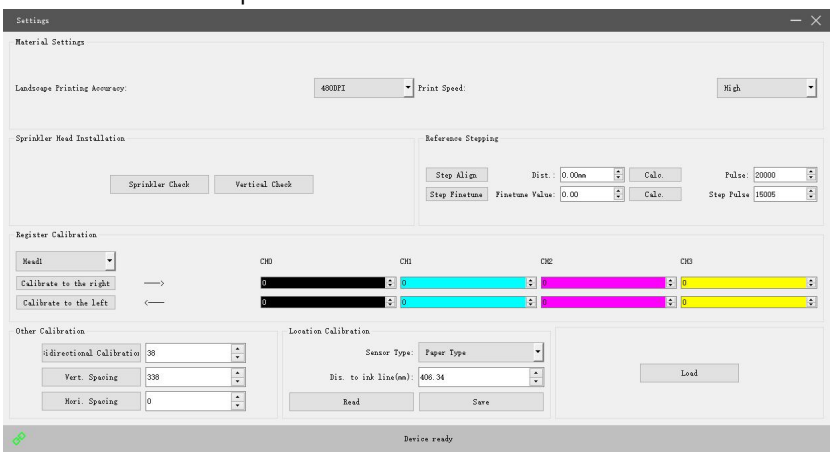
Click the calibration button, and the software will pop-up calibration process interface, as shown in the figure below.

**Landscape printing accuracy**：480DPI or 360DPI

**Print speed**：When higher calibration requirements are required, parameter calibration can be performed at high, medium and low speed, and in general, only high speed can be calibrated.

**The calibration process is as follows：**

When the new machine is installed, replaced, or hits the nozzle, calibrate it from top to bottom to complete the calibration work.




## 4.3.1 Check the nozzle

Comparing with the schematic diagram, the result error is that the state of ink-supply suspension and filament situation, please clean the nozzle. The correct result is that the state is noraml and distributed evenly. The correct result is shown in the following image:

**图4.3.1 Complete test strip**

If it is abnormal, the reason is mostly incomplete inking, so trying manual inking again may solve this problem directly, and the test strip is not presented fully with the following intentions:

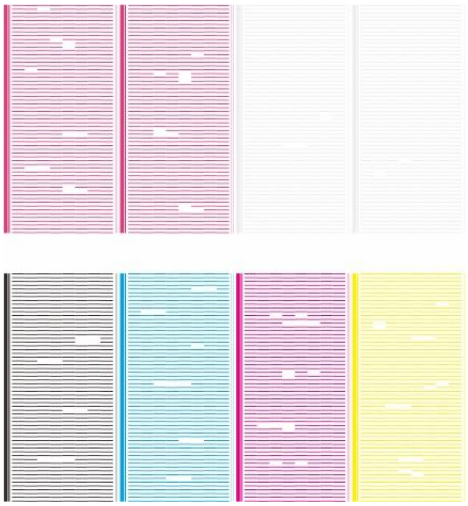


**图4.3.2 Incomplete test strip**

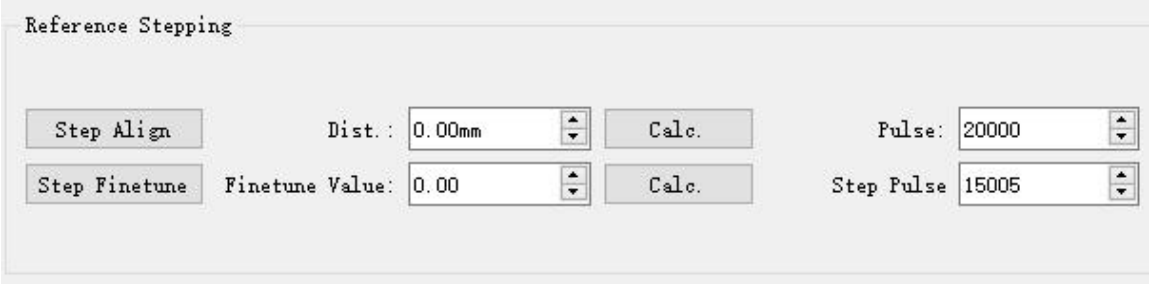
After confirming that the printhead is in good condition, click Vertical Check.

## 4.3.2 Vertical check

If the nozzle is vertically offset to the left and right, you need to loosen the fixing screw of the nozzle and twist it to the left and right gently to adjust. When the calibration lines on the upper and lower parts of the calibration chart coincide, the vertical calibration is successful. As shown in the image:

**图4.3.3 Correct vertical calibration**

## 4.3.3 Reference stepping




First of all, click Print in the Reference stepping, and there will appear the following calibration line

For the schematic diagram, measure the length of the calibration chart, fill in the Distance item in the step calibration tab, and click Calculate to get the approximate value of the Step Pulse.

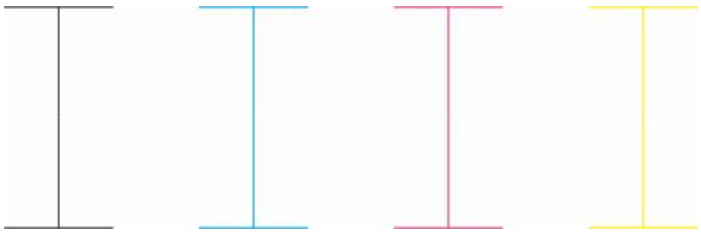


**图4.3.4 Schematic diagram of step calibration**

However, there may be errors in the value measured manually, it is necessary to use step fine-tuning after step calibration, as shown in the following figure:

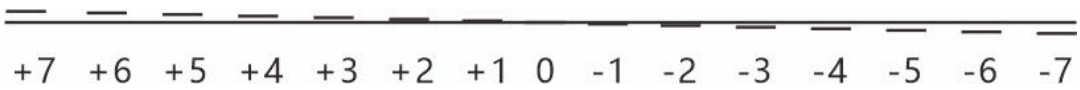
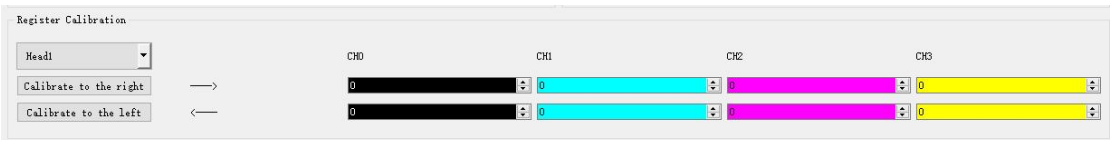



**图4.3.5 Fine adjustment schematic diagram of step calibration**

Select the value points where the three calibration lines coincide, add or subtract the parameters in the Fine-tuning Factor tab, and click Calculate. After calculation, print the calibration chart again and check that the coincidence point of the calibration line is not set in the "0" position. If it is in the "0" position, the calibration is complete.

## 4.3.4 Register Calibration



Click on the left calibration and the machine will print the calibration chart. As shown in the figure below:

The wrong result is that the calibration line and the reference line coincide in the calibration diagram is not in the 0 position, please add or subtract the values of the calibration line and the reference line on the original basis and enter it in the corresponding color and corresponding box, the correct result is that the calibration line and the reference line coincide in the 0 position.

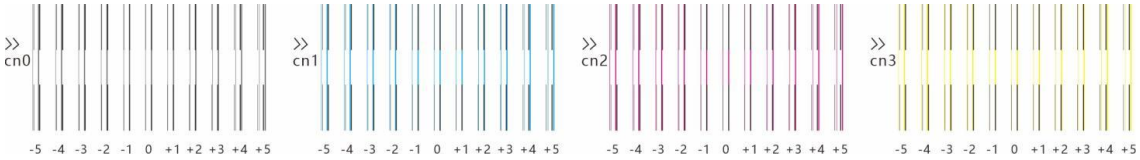



**图4.3.6 Register calibration to the right**

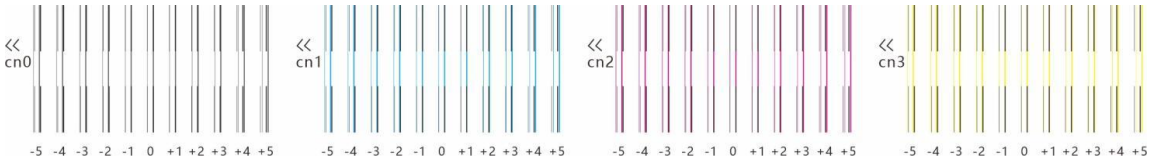
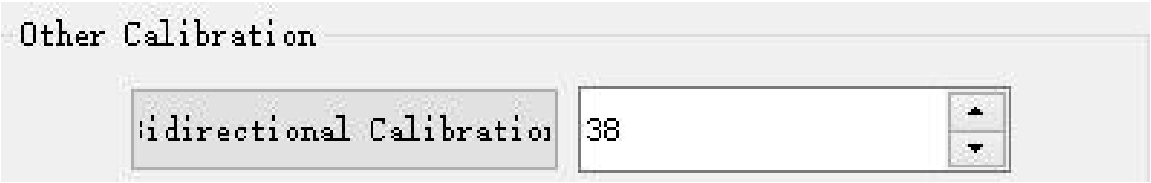



**图4.3.7 Register calibration to the left**

## 4.3.5 Bidirectional calibration




The calibration diagram and debugging method are as follows:

Comparing with the schematic diagram, the wrong result is that the calibration chart and the reference line coincide at 0, add or subtract from the original base according to the location of the overlapping point of the baseline and the reference line, and enter the value in the offset box.

The correct result is that the calibration line and reference line coincide at the 0 position.

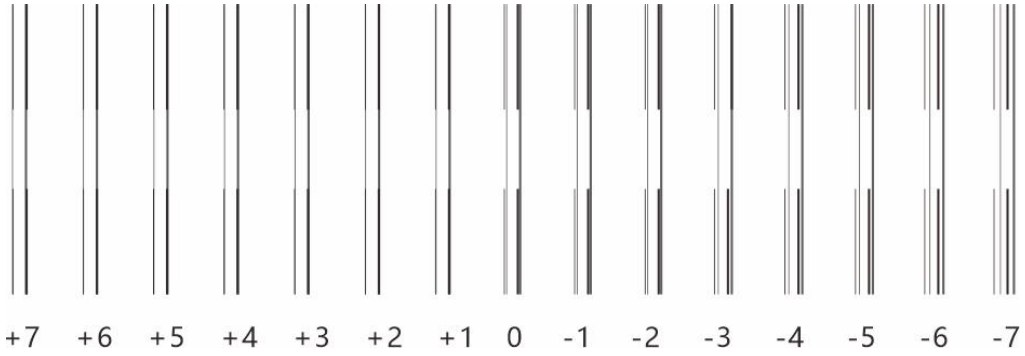



**图4.3.8 Bidirectional calibration**

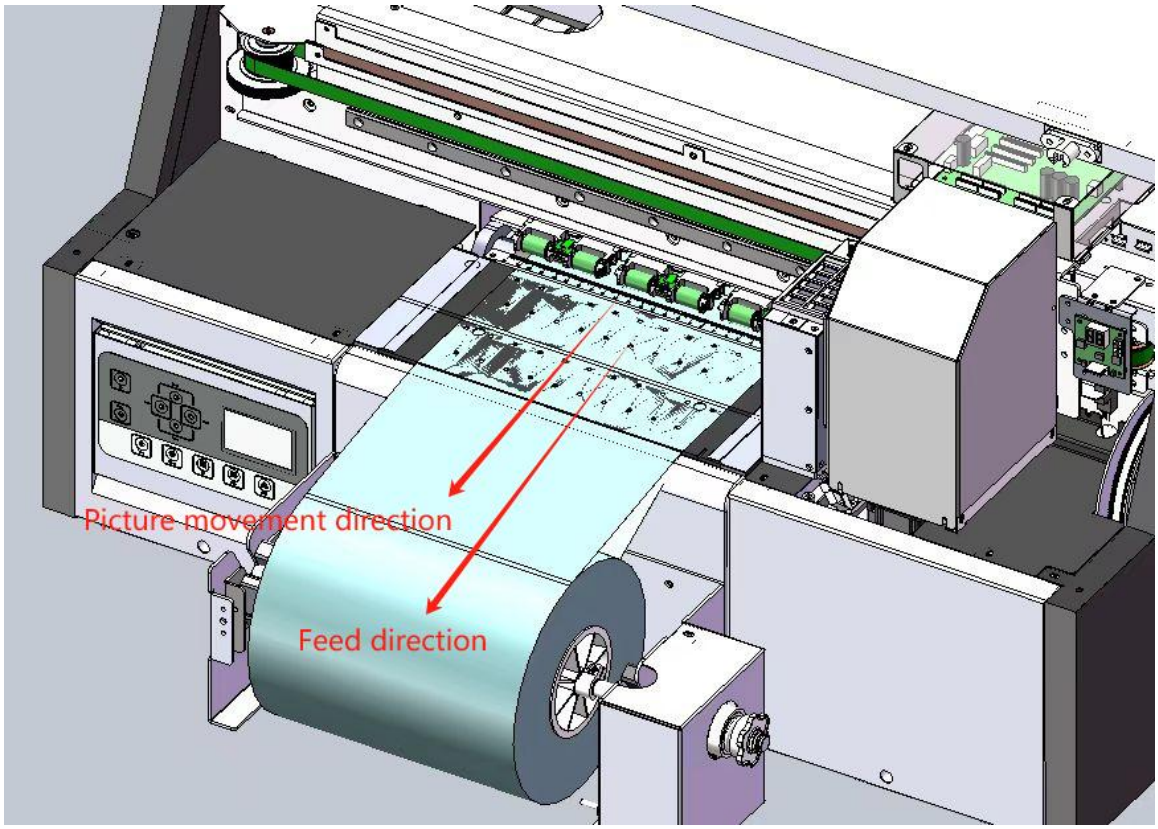
### 4.3.6 Positioning correction

This is a calibration process that is carried out on the premise that the label is printed

The sensor type is the paper feed type by default, and it is recommended to keep the default

The Y tab is used to correct the Y axis offset, and when the parameters of the tab increase, the picture will be offset in the same direction as the feed, and vice versa, in the opposite direction of the feed, that is the unwinding direction.

The distance to the ink line is used to fine-tune the position of the picture during the printing process in label mode, and the ink line moves along the direction of paper feeding, and vice versa.




### 4.3.7 Sensor correction

The sensor adjustment process is shown below:

## Self-learning

Press the+and - keys simultaneously for more than 1 second. When the red light goes out, release the key and the red light will flash. Pull the label back and forth for self-learning;

## Switch Switching

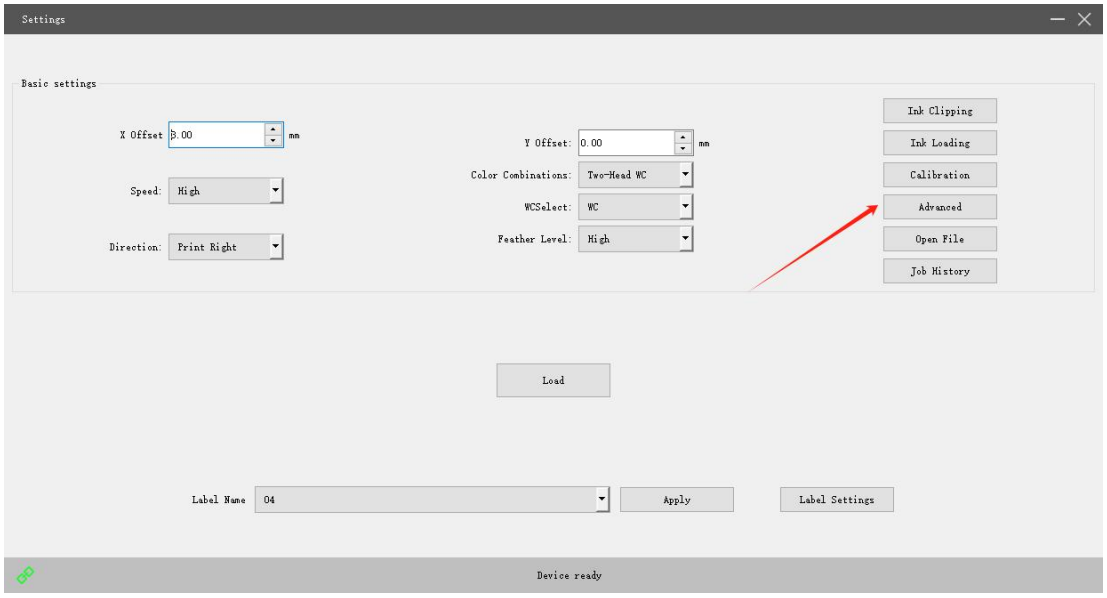
Press the+and - keys simultaneously for more than 3 seconds, and the green indicator light will switch (normally open/normally closed has already been switched)Change completed), release the button;

## Sensitivity Modulation

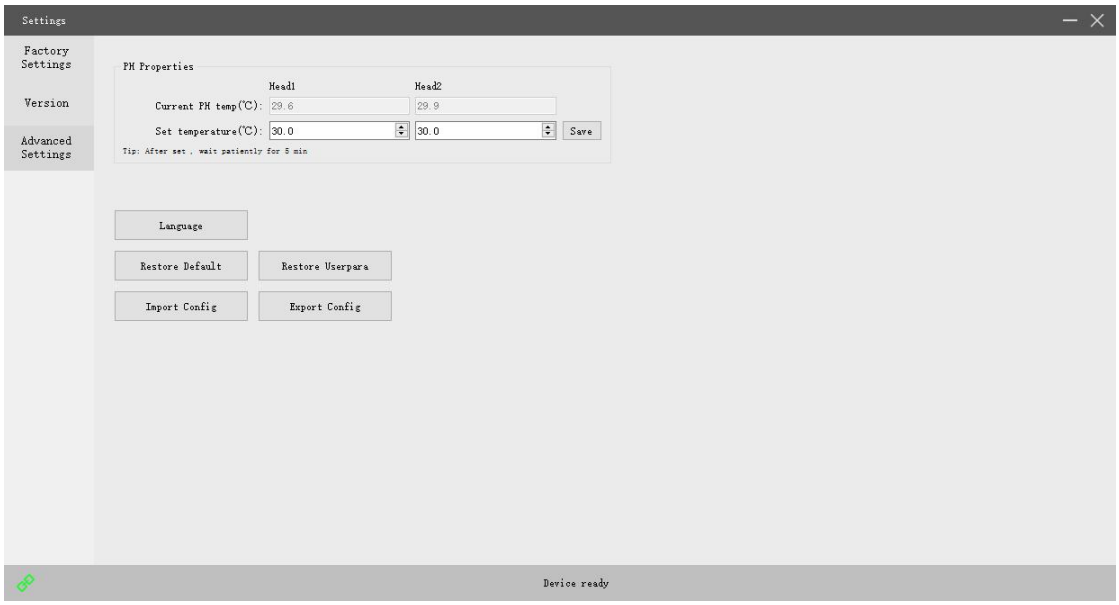
Pressing the+or - keys alone can fine tune the threshold;

Press the plus and minus button, when the red light flashes, release the button, and press the BACK and FRONT of the button panel to start the paper feeding. When the red light is no longer flashing, the paper is drawn again, if the sensor is in the label position, the green light is on, and the green light is off in the non-label position, it proves that the sensor calibration is successful, if it is not successful, please learn again until the sensor correction is completed.

## 4.44 Advanced

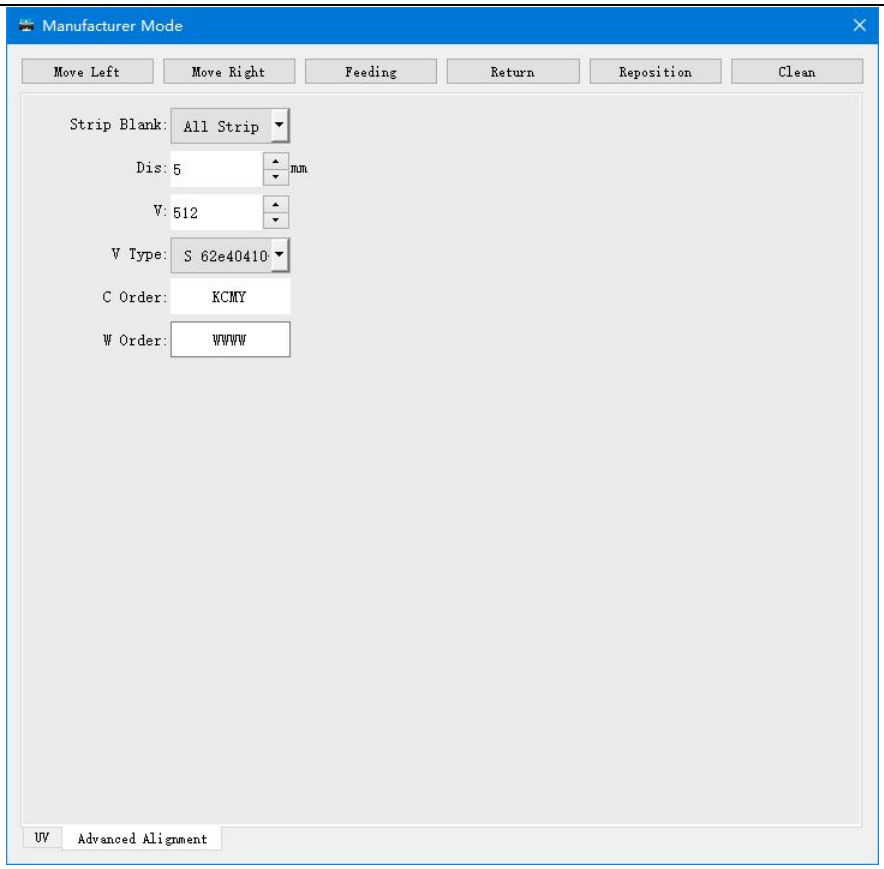



Click Advanced, there are three parts:Factory Settings, Version and Advanced Settings.




## 4.4.1 Manufacturer Mode

Enter password: Input 222222 to Advanced Settings.




Move Left：the cart moves to the left
Move Right：the cart moves to the right
Feeding：The paper roller feeds
Return：The paper roller returns
Reposition：The cart moves to the origin
Clean：Clean automatically

**Advanced settings**

1.Strip blank：On and Off.

2.Distance of empty print： After the printing is completed, the UV lamp illumination can buffer distance.

3.Voltage adjustment：512-600， Default 512. Generally, if the nozzle is in good condition and there is no ink flying situation, it is not recommended to adjust the parameters of this option, the voltage of the nozzle is too high and it is easy to burn the nozzle, do not adjust it without professional guidance.

4.Voltage type： It is also called waveform, different height should choose different waveform. It can be selected according to the height difference. For example, the S waveform is 0~3mm, and the height difference can be made within 3 mm. The S-standard waveform is used by default.

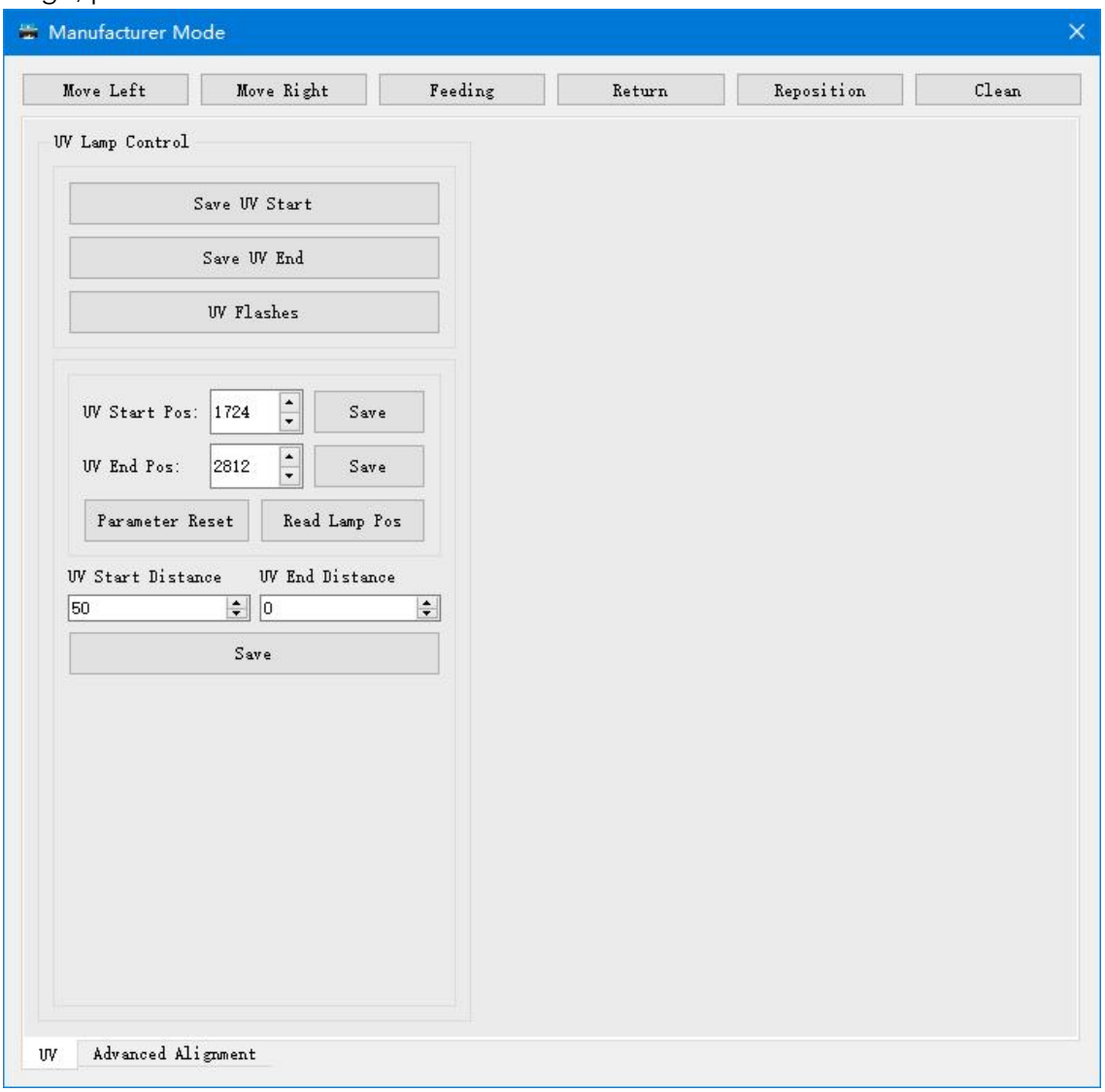
5.Color order： It refers to the driver can recognize and control inkjet color sequence, and the order written by the driver should be kept with the order of the test strip, otherwise it will cause color printing errors, and the default color

order is: KCMY. (Note: The ink sequence of color ink is determined by the position of the damper with the ink sequence of the test strip, so please do not easily replace the position of the ink sac, if you need to replace it, please contact the manufacturer for after-sales assistance)

White order: The white ink order is the ink sequence of the No.1 nozzle, that is, the four-channel white. If fluorescent anti-counterfeiting is selected, the white ink order of the No.1 nozzle is two-channel fluorescent ink plus two-channel anti-counterfeiting ink, so the ink sequence is: "fluorescence", "fluorescence", "anti-counterfeiting" and "anti-counterfeiting". (Note: Please do not change the order of the damper, if you need to replace it, please contact the manufacturer for after-sales assistance.)

## UV Lamp

For the UV lamp control parameter, it is recommended to use the default settings, do not change them at will, otherwise the ink may not dry, if you need to change, please contact the manufacturer's after-sales assistance.

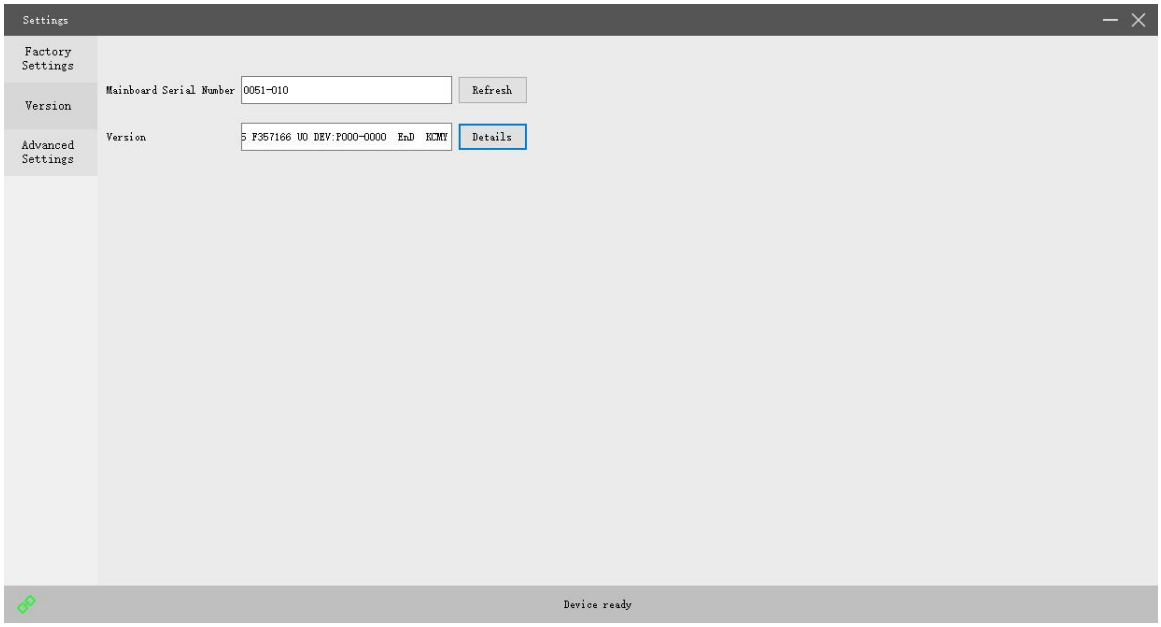


## 4.4.2 Version information

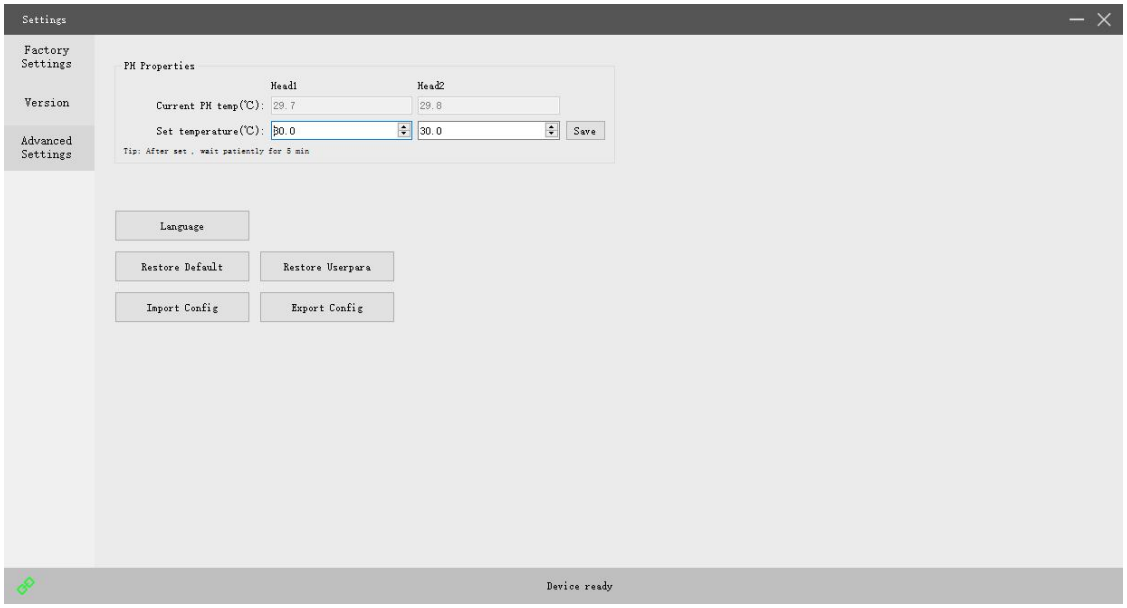
Version information：Mainboard serial number、Version

Refresh：Refresh the current mainboard serial number

Detailed information: PC serial number of driver software, FPGA serial number, CPU serial number and CRC serial number




### 4.4.3 Advanced settings




**PH Properties**

Current PH temp：Actual temperature of the printhead

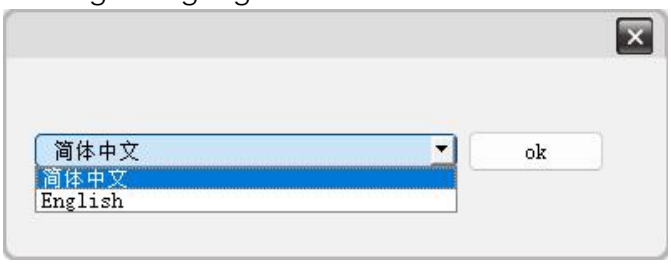
Set temperature：0-30，When the current PH temperature is lower than the set temperature, the heating function will be turned on until the set temperature stops.

Note: The temperature of the nozzle will only appear when the nozzle is connected and the connection is successful

At the same time, the factory setting temperature of the temperature control panel on the heating cover of the equipment is 30 degree, if you need to change, it is recommended to consult the manufacturer's after-sales personnel.

## Language

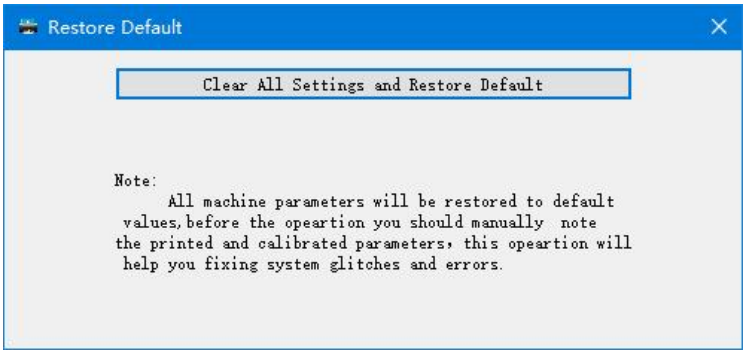
Please choose Change Language

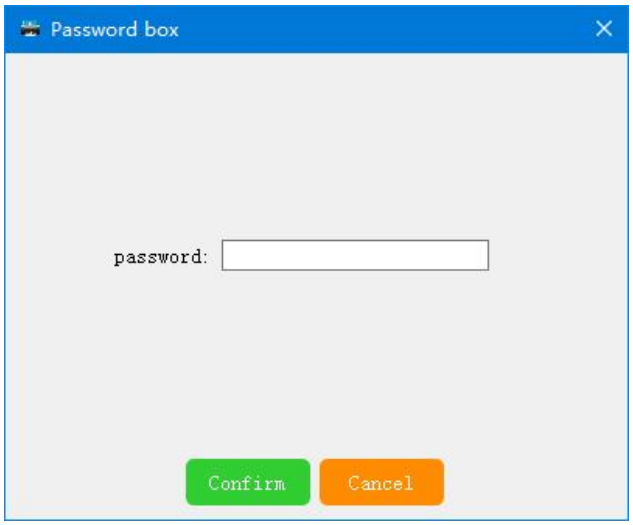



## Factory reset

Clear the program and driver setting parameters, and restore them to factory settings.

Click Clear All Settings and Restore Default, enter the password: 110000, Click OK, and restore the factory settings parameters

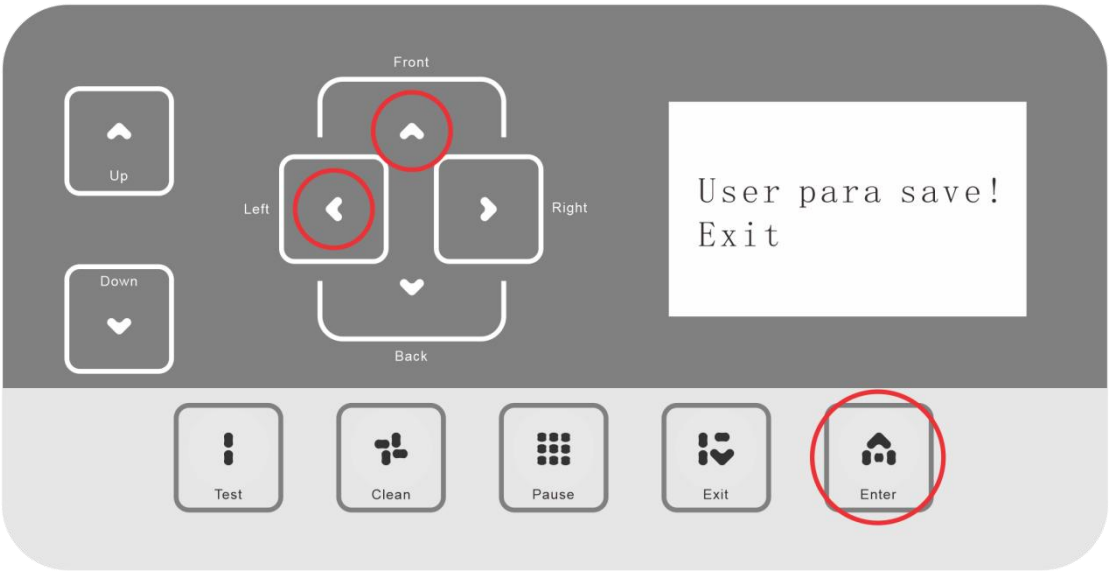


**Reset all settings**

Keep setting function: In the standby interface of the control board, press and hold the LEFT, FRONT and ENTER keys at the same time to save the control board and driver parameters.

The graphic is as following after keeping it.




Restore the saved parameter settings

Click Reset All Settings, enter the password: 16753, Click OK, and restore to the saved control panel and driver settings

# Maintenance method and announcements

## 5.1 Maintenance method of printhead

①There is a board chip inside the nozzle, which is inserted with the nozzle line directly. You need to pay attention to the nozzle line and contact parts, be sure to prevent ink dripping. Once the nozzle line parts and the nozzle has a watery contact, turn off the machine immediately, and removed it to dry it.Only in this way can you test whether it is burned out or not, and remember not to use with water, otherwise it will burn the nozzle and the nozzle board.

②Due to the nozzle plug and the printhead line is connected tightly. So after a long time there will be contact oxidation, damage, misalignment or contact another line, so when unplugging the nozzle line you need to pay attention to check these problems carefully, and exclude or replace the nozzle line, otherwise it will result in the burnt out of the nozzle or nozzle board.

③When not using the machine you must maintain it carefully, adhere to power-on once a day and print test strip, if there is ink-supply suspension problem of test strip, clean it automatically to ensure that the test strip is normal. You can print a picture to check. You have to use the cleaning fluid 3-5 drops in the ink cap top when more than 3 days of vacation unattended. And then combine and seal the nozzle and the cap top,which will protecti it.

④When the ink is added to the cartridge, you'd better use the method of adding less diligently, the expiry of the ink is 3 months after opening.Otherwise it will produce deterioration, which will affect the printing effect and cause clogging of the printhead, it is recommended that the customer stir the ink regularly and open the function of stiring ink when using the machine.

⑤The height of the printhead from the material should be 2-3mm. Confirm the height timely in order to avoid the printhead is damaged.

⑥Nozzle sheet metal of cart must be cleaned regularly to avoid effecting the nozzle.

⑦Avoid printing transparent or semi-transparent or other materials that can cause printhead clogging.

## 5.2 Ink station maintenance

Due to the combination of the nozzle and the cap top for ink extraction or cleaning, ink will leak inside the ink station or on the sheet metal, so it must be scrubbed regularly or keep the ink station clean with alcohol.

## 5.3 Rail maintenance

Machine guide rail contains cart guide rail. There is a basis of lubricant between guide rail and slider, please add it into the guide rail regularly, in order to avoid corrosion and astringency of the guide rail for lacking of oil. If you find that there is black oil on the guide rail, you need to use alcohol to wipe firstly and then add lubricant.

## 5.4 Change the damper

3 months is recommended.

## 5.5 Change the cap top

3 months is recommended.

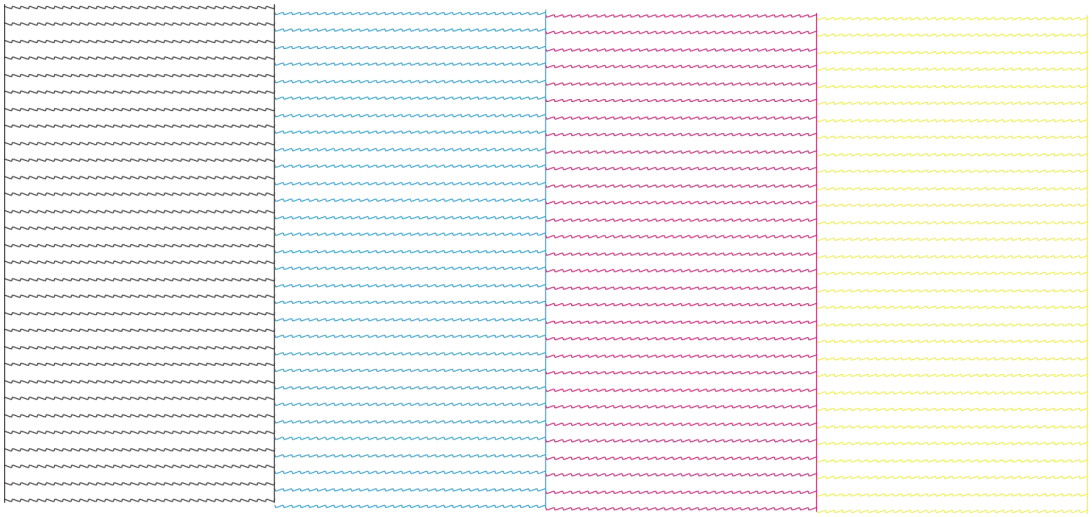
## 5.6 Maintenance of shell sheet metal

Keep the shell clean, if there is any droplet, please scrub it to avoid ink corrosion on the outer paint surface of the sheet metal.

# Commom trouble-shooting method

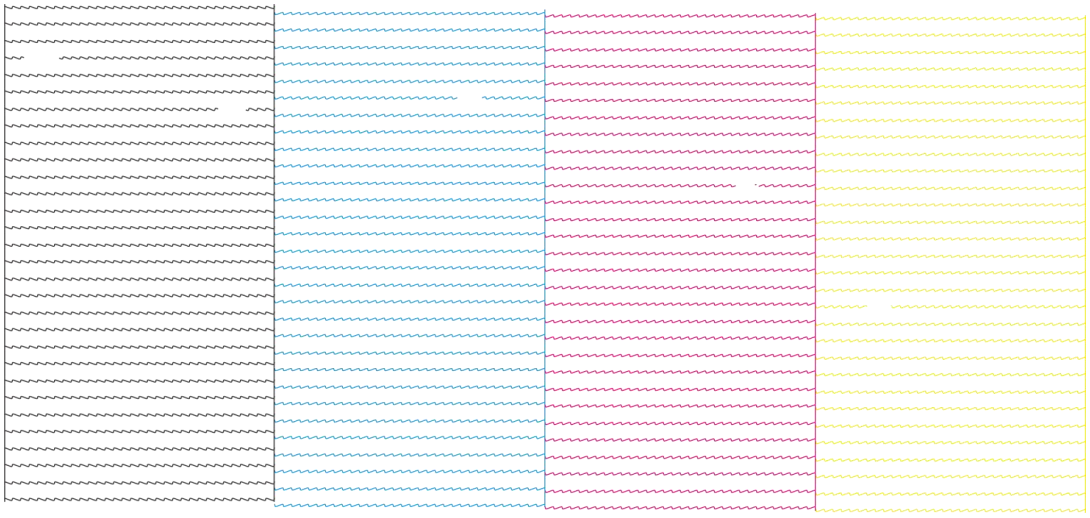
## 6.1. Common examples of ink-supply suspension problems

### 6.1.1 Test strips are all out



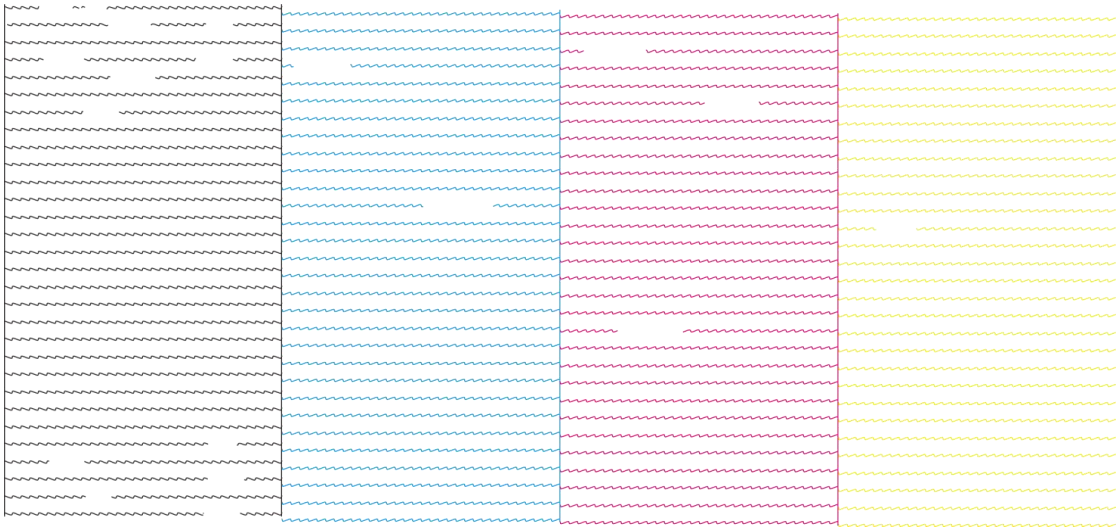
Note:It means the head is normal.

### 6.1.2 Partial ink-supply suspension problems



Note: The partial ink-supply suspension problem of the test strip is caused by the corrosion damage of the ink to the print head. You can choose automatic cleaning. If the automatic cleaning cannot solve the problem, you can continue to use it without affecting the print effect.

### 6.1.3 The ink-supply suspension problem of test strip is severely and partially



Solution:

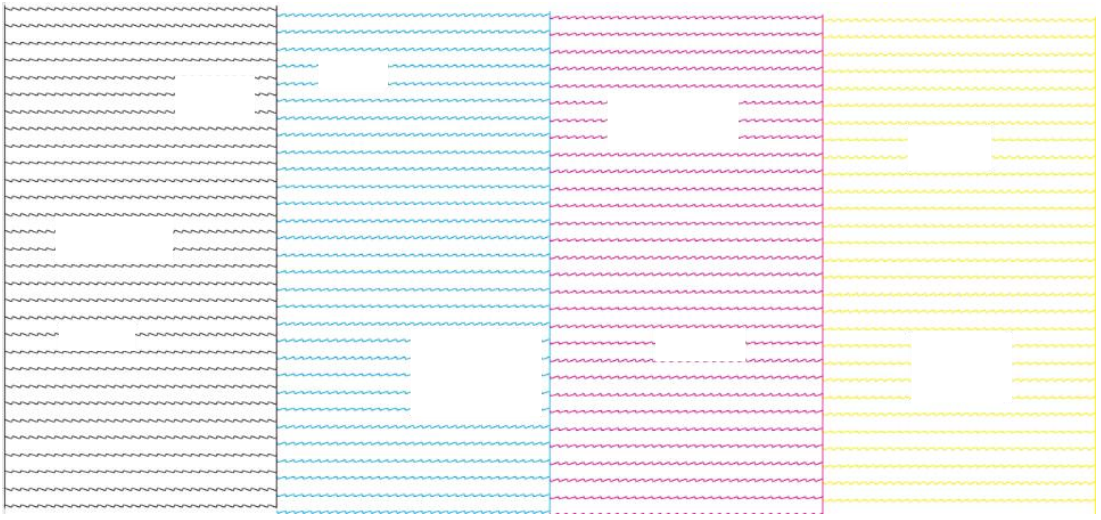
1.Extract the ink by syringe, check whether the ink can flow out normally, and eliminate the possibility of blockage and air leakage. If there is any problem, please replace the damper.

2.After replacing the damper, if it is still blocked, please check whether the ink tube and the cartridge head of the damper is blocked.

3.Clean the print head manually to ensure that the print head is not blocked.

Summary: The above problems are usually caused by clogging of damper and the nozzles. Please check them firstly.

### 6.1.4 Almost all of the test strips have the problem of ink-supply suspension



Solution:

1.Automatic cleaning, check whether the ink can be pumped, if the ink cannot be pumped out normally, please replace a new cap top or re-adjust the position.

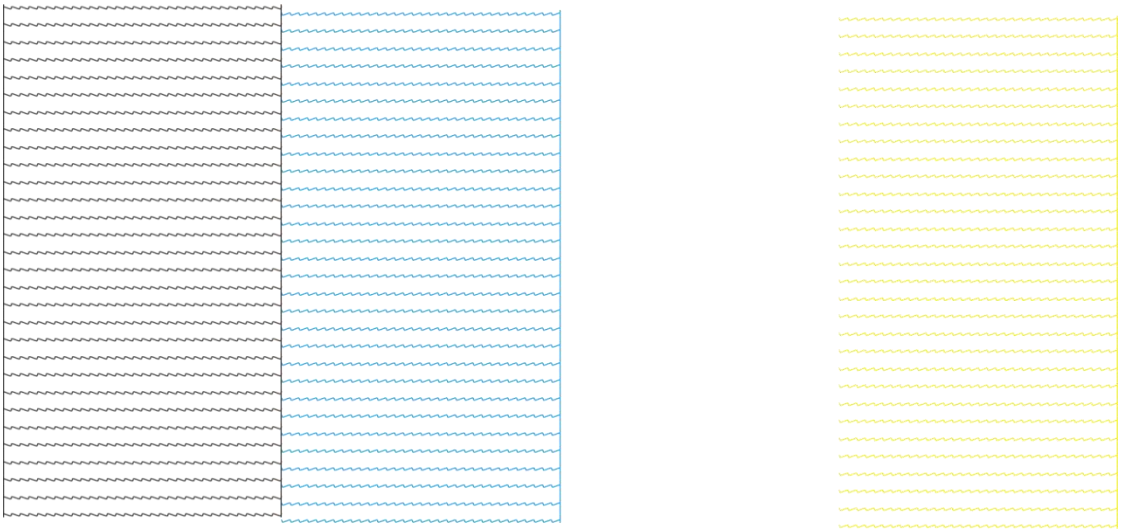
2.Check whether there is residue on the surface of the nozzle, if there are individual color ink droplets, please replace the corresponding damper, if there

are multi-color ink droplets, please check whether the wiper can scrape the nozzle mirror normally during the automatic cleaning process.

3.Clean the head maually, flush the nozzle by syringe, and check whether the nozzle is blocked.

Summary: The above-mentioned multi-color ink-supply suspension problem is generally less likely to be blocked by the nozzle. Check whether the scraping of the cap top and the nozzle are normal in detail.

### 6.1.5 The test strip lacks a complete color

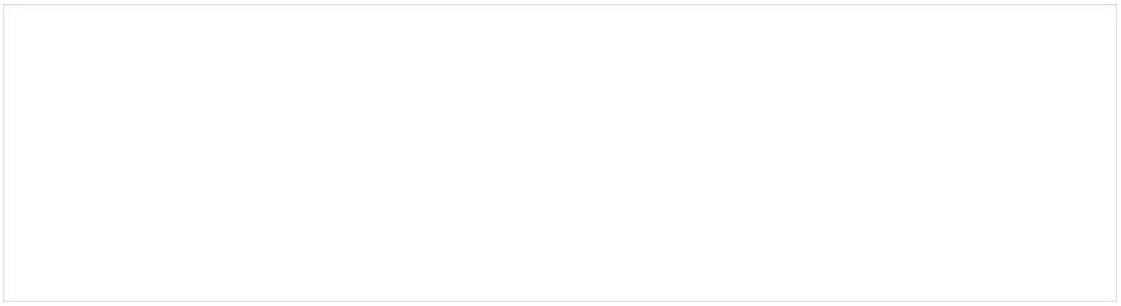


Solution:

1. Pump the ink out by syringe to ensure that the ink can flow out normally, and clean the nozzle manually to ensure that the nozzle is not blocked.
2. Check whether there are stains on the nozzle line connection interface of the nozzle. If so, please clean it and re-test or replace the nozzle.
3. Unplug and plug the nozzle wire to check whether the contacts of the nozzle wire are oxidized or damaged. If so, please replace the nozzle wire and plug it in again.
4. Replace the head board.

The above problem is that a single color is missing, and the general situation is that the nozzle voltage is not transmitted normally, which is always because of head board, head cable, and print head. However, it cannot be ruled out that a single ink does not have a normal ink supply and the nozzle is blocked.

### 6.1.6 All test strips are blank



Solution:

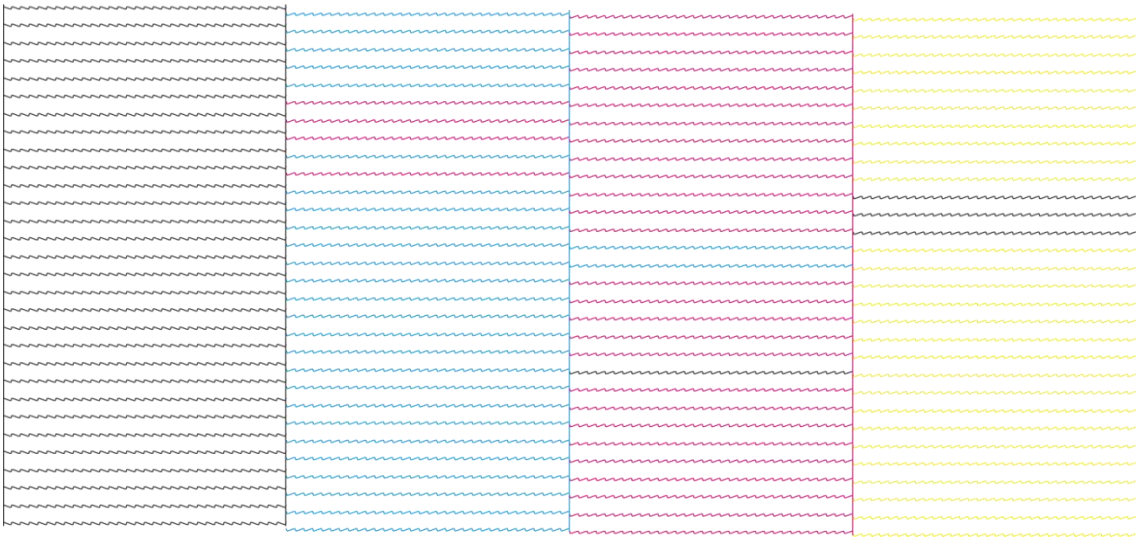
1.Unplug and plug the head cable to check whether the contact point of the head cable is oxidized or damaged. If so, please replace the head cable and plug it in again.

2.Check whether there are stains on the connection part of the head cable. If so, please clean it up and re-test or replace the head.

3.Replace the head board.

Summary: The above problems are usually caused by the ink entering the nozzle or the wrong operation after the customer replaces the print head, resulting in a short circuit of the nozzle, burning the head board or the nozzle, because the nozzle will damage the head board, but the head board will not damage the nozzle. It is recommended to replace the nozzle and the head cable.

### 6.1.7 Color mixing: large area color mixing



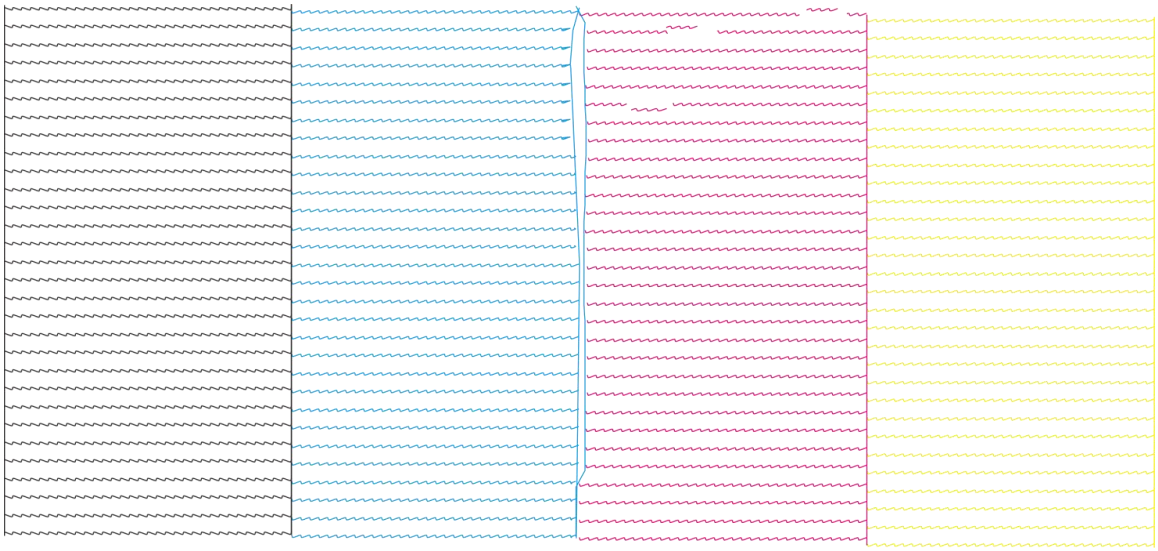
Solution:

1.Please flush ink firstly, then print a test strip to check whether the color mixing situation improves or not. If not, please check whether there is residue on the surface of the nozzle. If there is a single color ink droplet, please replace the corresponding damper. If there is a multi-color ink droplet, please check whether the wiper can scrape the nozzle mirror normally during the automatic cleaning process.

2.Replace the printhead.

Summary: When the above problem occurs, check whether there is residue on the surface of the nozzle firstly .

### 6.1.8 Ink flying of test strip



Solution:

1.Check whether the height of the nozzle is within 2-3mm from the printing medium.

2.The printing environment is within the range of 25℃~30℃.

3.Check whether the cap top can pump ink normally.

4.Stir the ink evenly, and pump more than 10ml of the ink from the damper by syringe, and then clean the print head. If the problem cannot be solved, it is recommended to replace ink.

Summary: If the above problems occur, and if there is no special change in the surrounding environment, it is generally caused by the ink precipitation caused by the machine being put on hold for a long time.

## 6.2 RIIN indicates demo version

1.Check whether the dongle light is on, if not, please change the USB adapter of the computer or replace the dongle.

## 6.3 UV lamp is off

1.Measure the UV lamp is on or off.

2.Check whether the UV lamp power supply is powered on and whether there is voltage output. Replace the UV lamp power supply.

3.Check whether there is 24V voltage output during the printing process of the main board, if there is no output, replace the main board.

4.Replace UV lamp.

### 6.4 Ink does not dry

All products are not dry:

1.Check whether the UV lamp lights up or not during printing. If it does not light up, please refer to the solution of UV light not lighting up.

2.Whether the UV light baffle 1 is in the proper position.

**The edges of the product are not dry:**

1. Whether the UV light baffle 1 is in the proper position.

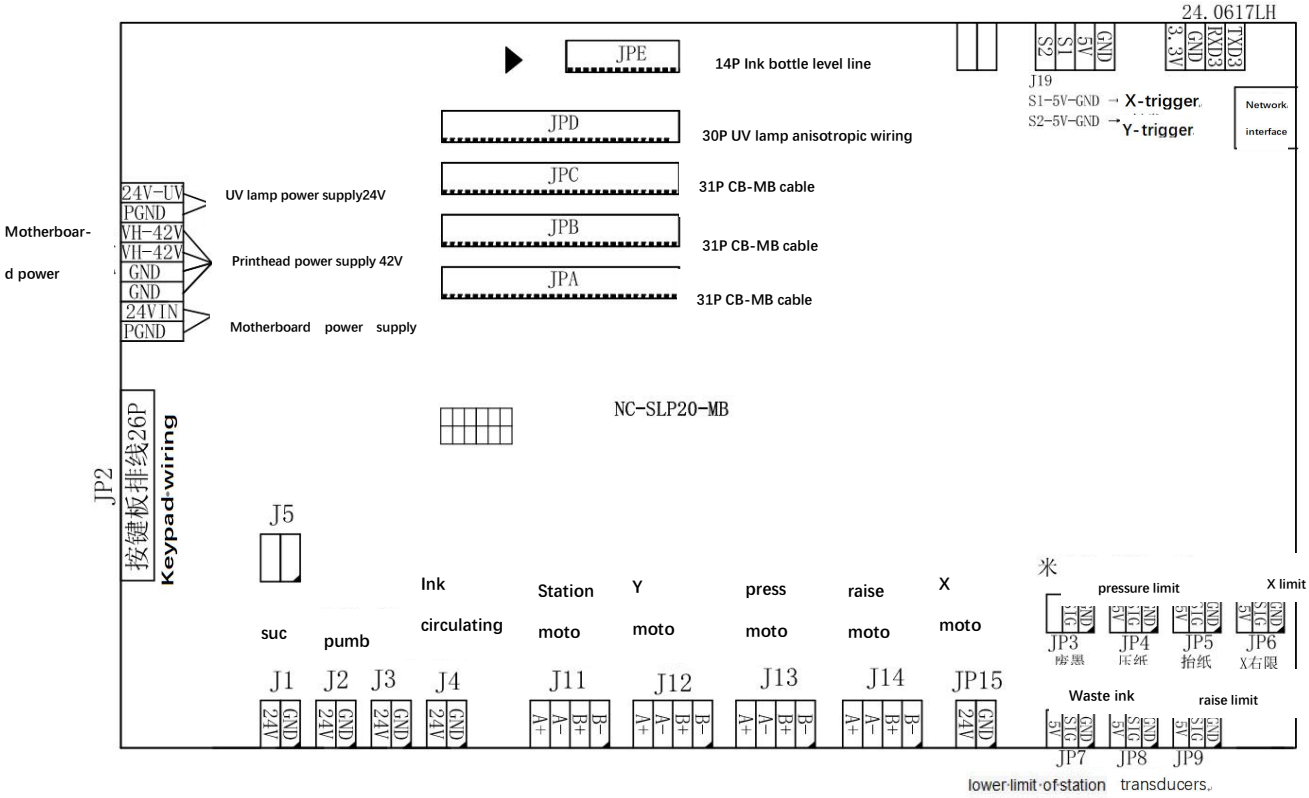
2.In the online driver【Engineer Mode】-【Advanced Settings】-increase the empty distance for printing white color and varnish.

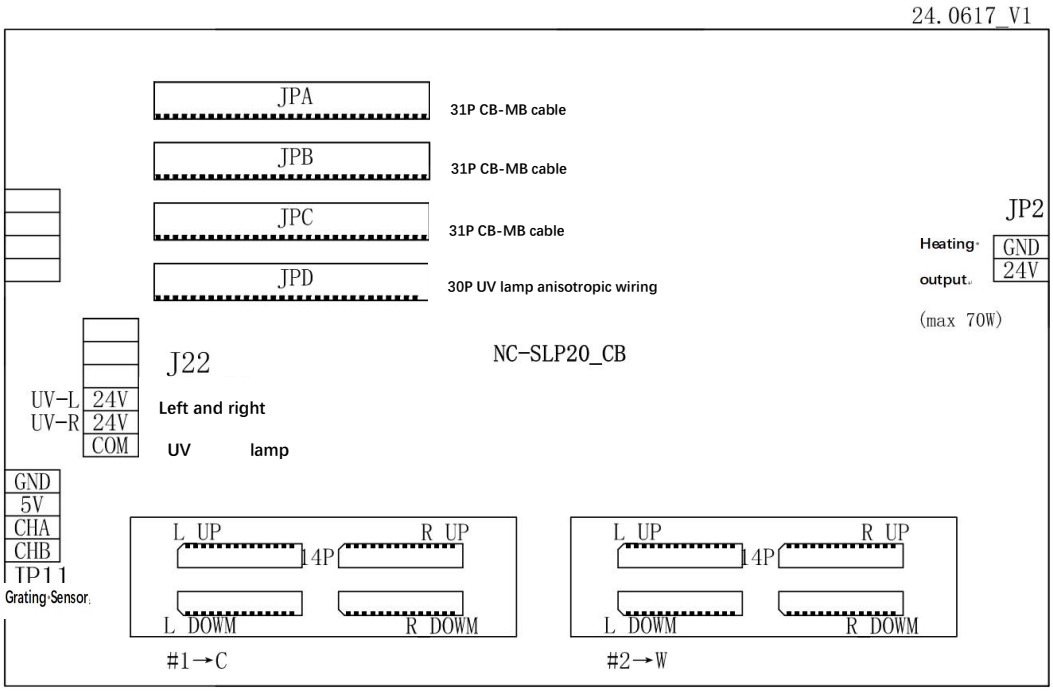
3.Confirm the version number of the device information (pull down the machine settings menu to find the device information).

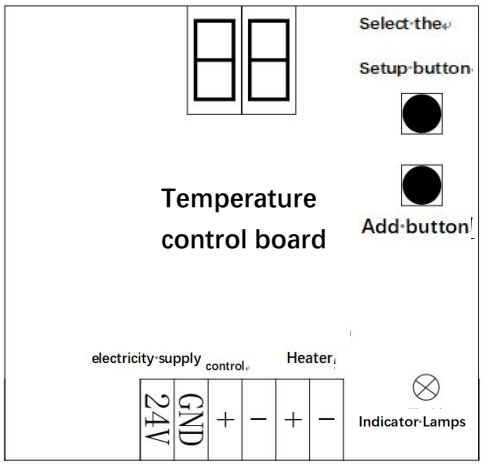
4.The manufacturer confirms the version number and upgrades the machine version.

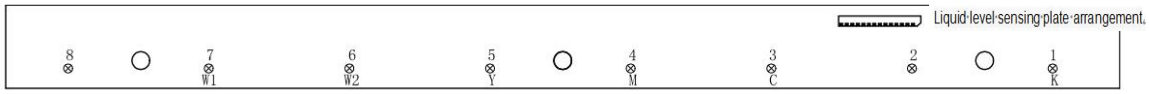
# Introduction of board circuit and common errors

## 7.1 Definition of board






## 7.2 Errors

| Error code | Error display | Explanation | Solution | Notes |
|---|---|---|---|---|
| 4 | CODE:4 LV.:5 CAP SENSOR LOSS | Error of origin sensor | 1、Please check that the origin sensor is plugged in properly and that the circuit is not short-circuited.2、The maintenance mode confirms that the origin sensor is working normally. | |
| 4 | CODE:11 LV.:5 WAVE_TABLE_EMPTR | The wavetable is empty | 1、Confirm the waveform. 2、Confirm the parameter table. | |
| 4 | CODE:12 LV.:5 CARRIER REV -1 | The cart moves to the opposite | 1、The cart moves to the opposite, please check the motor number. 2、There is a problem with the encoder sensor, and the AB line is reversed. 3、Replace the motor. | |

| | | | | |
|---|---|---|---|---|
| 4 | CODE:14 LV.:5 WRONG CAR POS. | The position of the cart is wrong. | 1、Confirm whether the motor signal line is normal and whether the motor power supply is normal. 2、Maintenance mode confirms that the encoder sensor is working normally. 3、The encoder sensor is wired incorrectly. | |
| 4 | CODE:16 LV.:5 Drive Board Alarm | The driver board alarms | 1、Unplug the small adapter of the board and check that the board is normal. 2、Check whether the cable plug is normal. 3、Check the 42V power supply. 4、Replace the board. | |
| 39 | CODE:39 LV.:5 GRATING LOSS. | The encoder sensor is lost, the sensor cannot detect the encoder transformation, it is blocked, or the motor has no output | 1、Check the motor and encoder sensor cable. 2、Check if the machine is stuck. | |
| 40 | CODE:40 LV.:2 WASTE INK ALARM | Waste ink alarms | 1、The waste ink is full | |
| 41 | CODE:41 LV.:5 PRINT_POS_EXCEEDS | Ultra-wide alarms | 1、Check the graphic width. 2、Check X. 3、Check the printing width. | |
| 42 | CODE:42 LV.:5 Arr Y Max Limit | The print reaches the Y maximum limit | 1、The print reaches the Y maximum limit | |
| 43 | CODE:43 LV.:5 Z_MAX_LIMIT | Z anti-collision | 1、Check anti-collision | |
| 44 | CODE:44 LV.:5 IR error/The cart is hit | Infrared alarm/trigger anti-collision | 1、Check that the platen is so high that trigger the infrared sensor. 2、Check the infrared sensor. 3、Check whether the | |

| | | | | |
|---|---|---|---|---|
| | | | anti-collision is triggered. | |
| 50 | CODE:50 LV.:1 INK_LEVEL_WARNING | Ink level monitoring alarm | 1、If it alarms, please add ink | |
| 51 | CODE:51 LV.:1 INK NOT ENABLE | The ink is not activated | 1、Add and activate ink. | |
| 116 | CODE:116 LV.:1 EMPTY_PAPER_ALARM | Lack of paper | 1、Check the material | |
| 173 | CODE:173 LV.:1 HEAD INSERT!!!-5 | Head alarms | 1、Check whether the head cable is plugged in (power off and restart to confirm whether there is a false alarm, check the cable pins when power off, etc., replace the cable, etc.)<br>2、Check whether the printhead is abnormal (confirm whether the printhead is filled with ink, reinsert the cable, and reconnect the printhead)<br>3、Check whether the board is abnormal(Change the board) | |
| 180 | CODE:180 LV.:1 LABLEL_SCAN_ERR | Label detection failed | 1.Remove the label away from the printhead. 2. Label is dirty. 3.The label can not be identified. 4.Adjust the label parameter | |