# NC-UVDTF60


# User Manual

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

# Catalogue

# Notice

## Please read this instruction cartefully 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 itself,machine printing table 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 u 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 2 people to lift.Do not move the machine together with other machine parts.And remember to take take off the power charger when move the machine;
17. When add ink,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 provide.

# Machine Introduction

## 1.1 Graphic analysis of the front and side of the machine

①Printing platform 600mm width

②Key panel

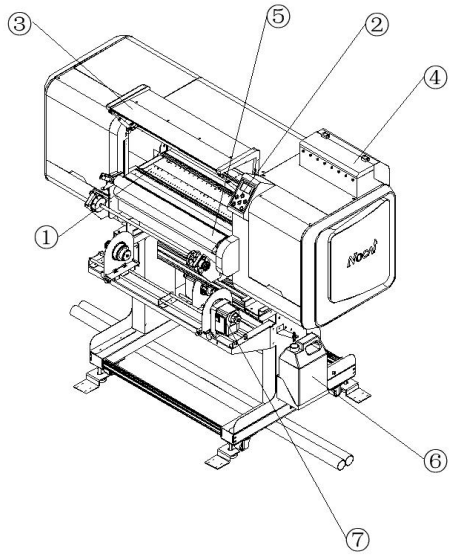
③Machine cover

④Ink tank

⑤Crystal paste heating shaft

⑥Waste ink bottle

⑦Paper take-up motor and switch




## 1.2 Graphic analysis of the back and side of the machine

①Power switch

②Power interface

③Paper take-up reel power interface

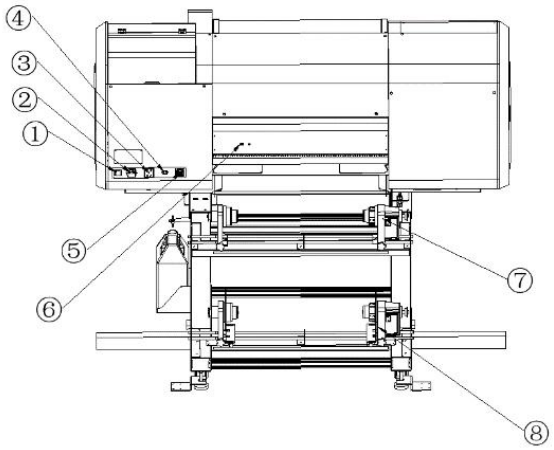
④Network cable interface

⑤Electrical cooling fan

⑥Paper cartdboard

⑦Film tearer

⑧Paper feeder




## 1.3 Beam Diagram

①X-axis motor

②X-axis motor

③Timing belt

④Transmission optical axis A

⑤Encoder strip

⑥Trunk drag chain

⑦X axis driven pulley

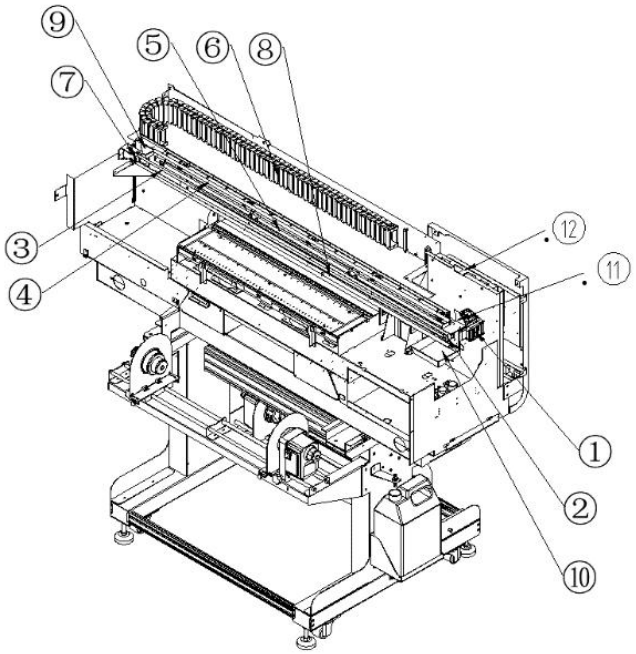
⑧Transmission optical axis B

⑨X-axis left limit plate

⑩Ink truck leaking ink fountain

⑪X-axis right limit plate

⑫Electrical box bottom plate




## 1.4 Printing cart diagram

①Head board

②Colored UV light on the right side

③Anti-collision shrapnel

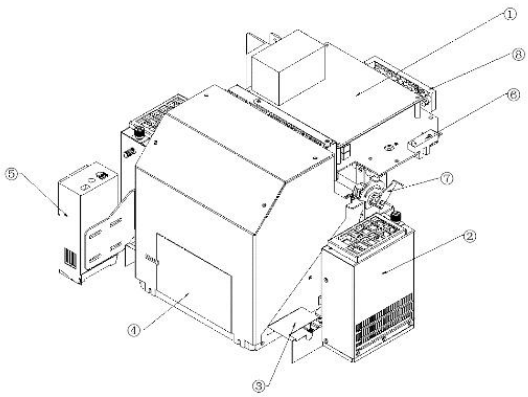
④Cart heating plate

⑤Varnish UV lamp

⑥Right limit sensor

⑦Ink cart height adjustment handle

⑧Ink tube transfer mold



## 1.5 Ink station

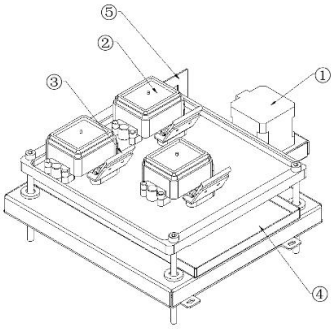
①Ink station motor

②Cap top

③Wiper

④Ink station leaking ink fountain

⑤Ink station induction sheet metal



# 1.6 Product control panel diagram

①Machine display panel

②UP: Eject paper

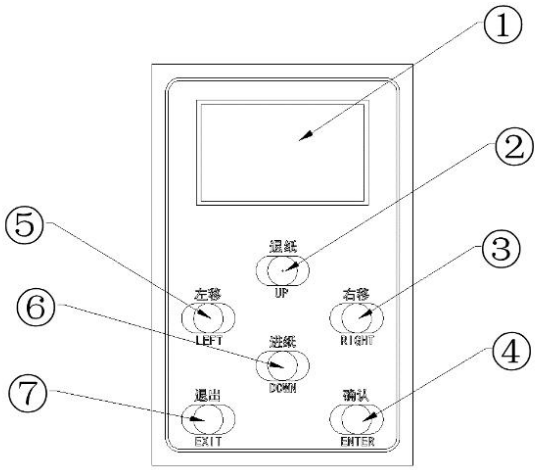
③RIGHT: Move right

④Enter: Set confirmation key

⑤LEFT: Shift left

⑥Down: Feed paper

⑦Exit: Set the exit button




# 1.7 Machine ink cartridge diagram

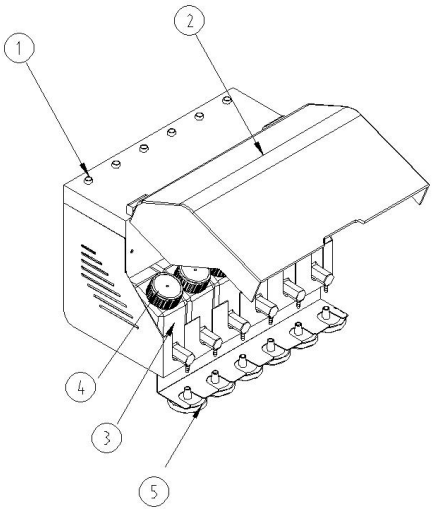
①Ink alarm indicator light; prompts the remaining ink amount

②Ink cartridge cover: guarding ink cartridge

③Ink tank; store inks

④Ink tank cap: the cap of the ink tank

⑤Butterfly filter: Filters impurities of the ink

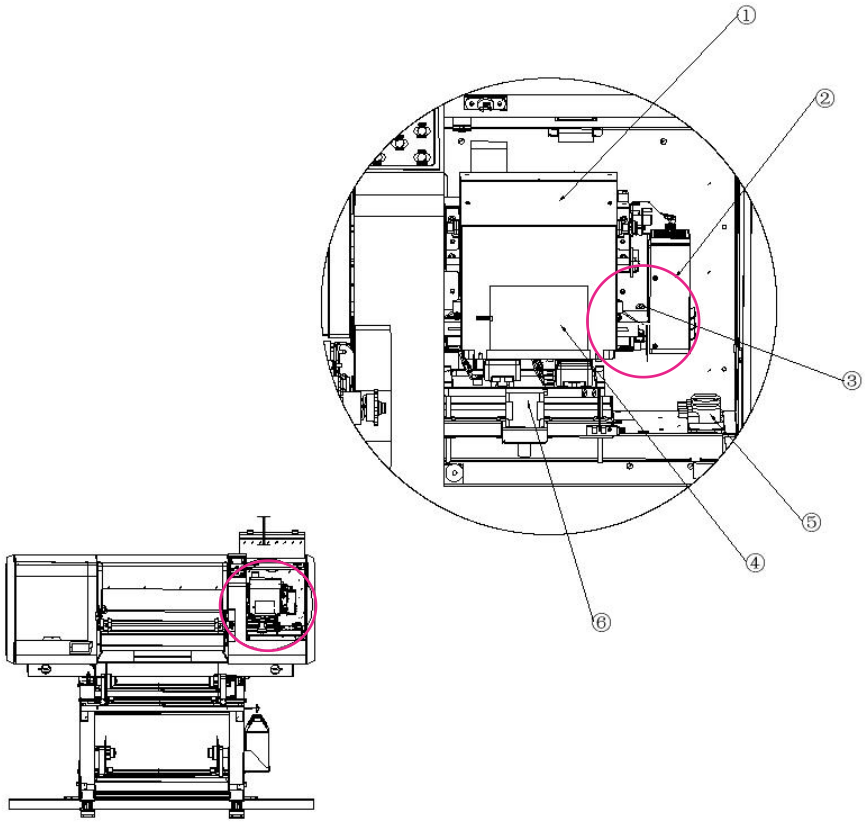


# Preparation before usage

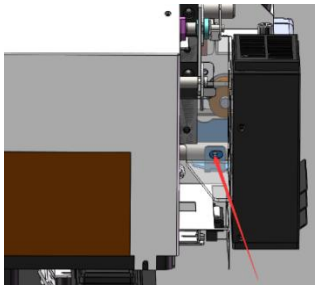
The preparation work before powering on the machine after removing the outer packaging includes ensuring that the machine is placed appropriately, removing the machine's fixed sheet metal, and confirming that the power-on and startup actions are normal and the machine moves normally.

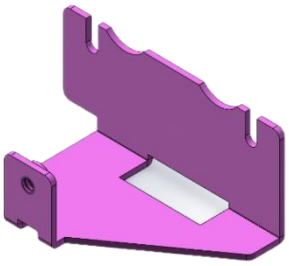
## 2.1 Disassembly of machine fixed sheet metal

Before powering on the machine, you need to remove the fixed sheet metal that fixes the cart. Icon ③ as shown below




Detailed pictures are as follows:





## 2.2 Confirm that the boot operation is normal

Make sure that the appearance of the machine is normal and it is placed firmly. Check whether the power supply voltage mark of the machine is 220V or 110V. It must match the local power supply voltage before it can be used.

Connect the machine to the power supply, turn on the main power switch at the rear of the machine, and the machine begins to initialize. The specific action process is as follows:

[The ink station and the scraper blade descend simultaneously → the cart moves a short distance to the left → the cart moves right to the limit → the cart moves left to the top of the ink station → the head of the ink station is sealed]

# Add ink to the new machine and confirm the ink output status of the print head

## 3.1 How to add ink

1) As shown in the picture below, add the corresponding ink according to the color prompts.
2) When adding ink, in order to prevent the ink from leaking and contaminating the shell sheet metal, protective measures need to be taken. You can wrap the bottle mouth with tissue.
3) After adding ink, tighten the ink bottle cap properly.


**Automatic cleaning**

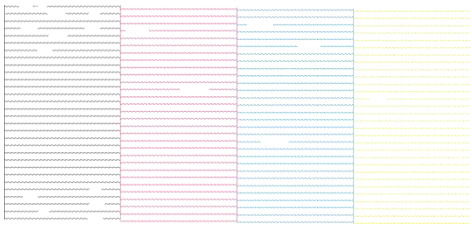
In standby mode, click [RIGHT] → [Equipment Maintenance] → [Auto Cleaning] → [Enter] on the control panel board. After clicking the confirmation button, the machine will start cleaning automatically.

## 3.2 Print test strips

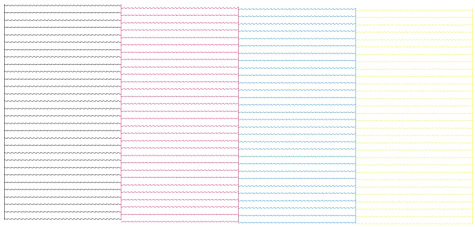
Click [TEST] on the button panel to print the head status test strip. If there is a lack of color or ink breakage, please continue to clean the print head manually until the test strips are all out and the ink installation is completed.

Reference is as follows:

The nozzle test has broken ink and needle, and needs to continue "automatic cleaning"



The normal status of the nozzle test is as follows:



# Future Rip install

Future RIP is printing control software, which is divided into two parts: image processing and driver settings.

## 4.1 Future RIP Hardware introduction

There are two parts: Future RIP installation package and dongle. The picture below shows the dongle, with the number on the front.

## 4.2 Computer configuration requirements and IP settings

①System version: It must be win7, win8 or win10 of 64-bit system.

System display language: must support Chinese and English

CPU: It is recommended to choose i5 or above or equivalent specifications;

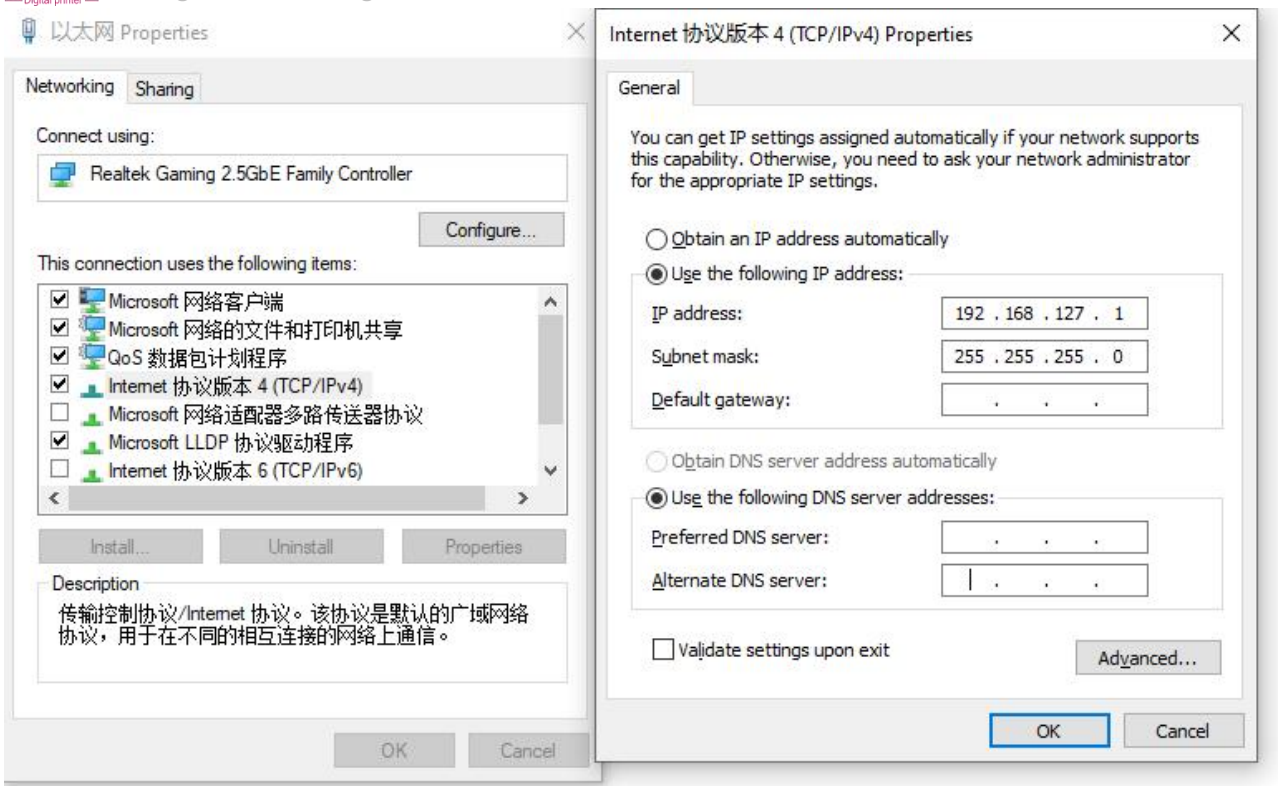
Memory: 8GB or more recommended;

Hard drive: 500GB or more is recommended.

②The computer must be equipped with a Gigabit network cartd and a Gigabit network cable so that the software can be connected normally.

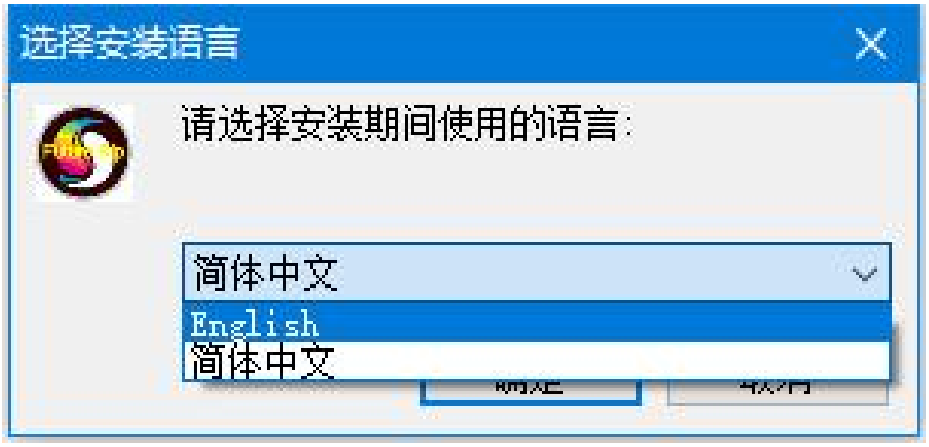
③Set the computer's IPv4 address to automatically obtain an IP address, and do not choose IPv6. Only then can the driver automatically connect normally.

 The operation is as follows: Find the icon in the lower right corner of the desktop, right-click, select [Open Network and Internet Settings] - click Change Adapter Options, double-click Local Area Connection (or Ethernet) - click Properties - do not choose Inter Protocol Version 6 (TCP/IP6) Select Inter protocol version 4 (TCP/IPv4) and double-click to open, - fill in the IP address, click OK, - OK to complete.

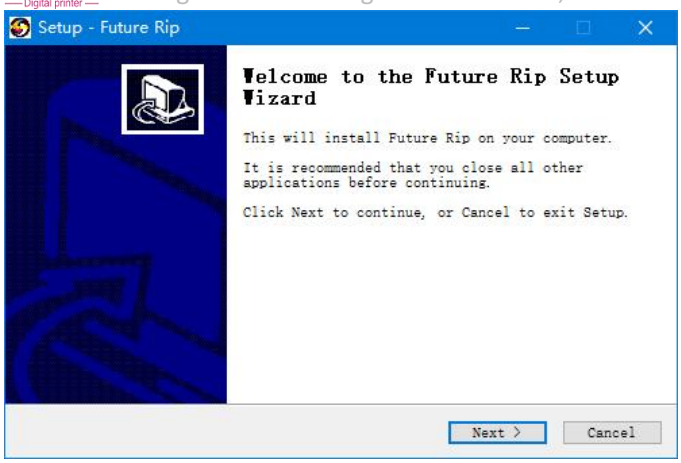



## 4.3 Install Future Rip

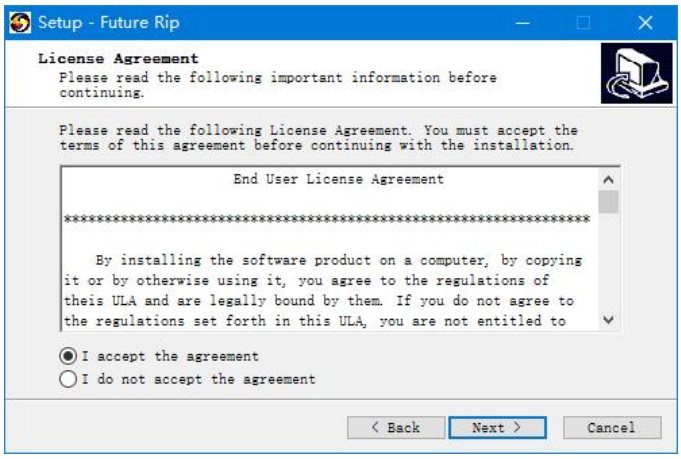
Open the file package named Future Rip on your computer, obtain it from after-sales service team or download it from our official website www.gznuocai.com.cn. Find and open the Future RIP.exe program, right-click to run as administrator, and check the box to agree. , Next step, click Install to complete, the details are as follows:



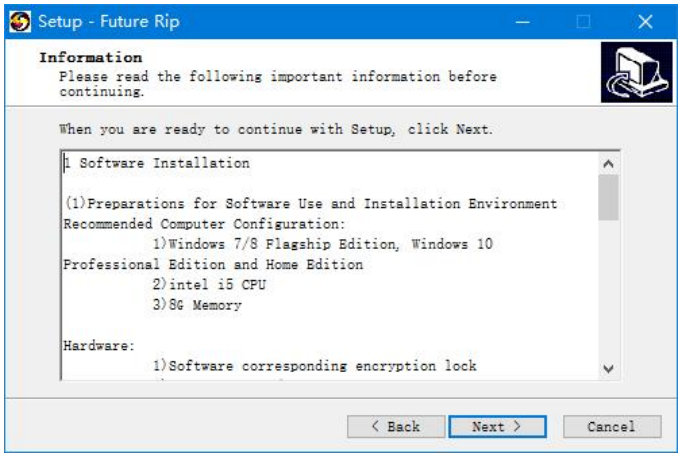

In this interface, you can choose to install Chinese and English displayed. Click "Confirm" and the pop-up window will appear as follows:



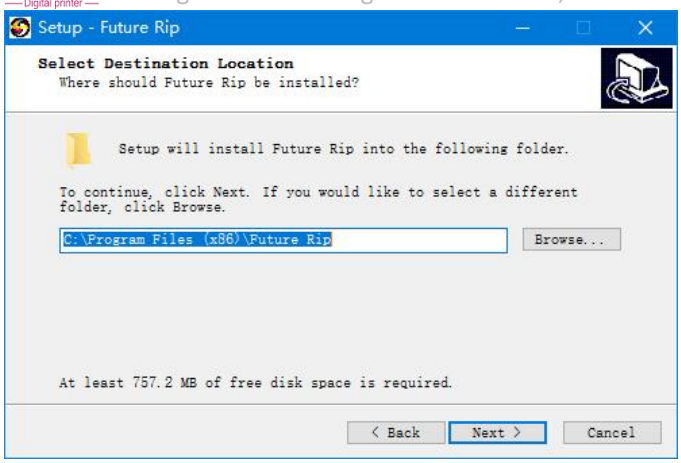

Click Next and the pop-up window will appear as follows:



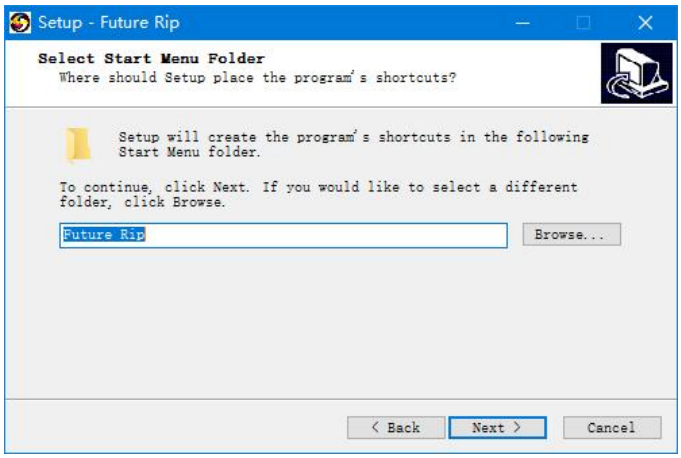

Click Next and the pop-up window will appear as follows:



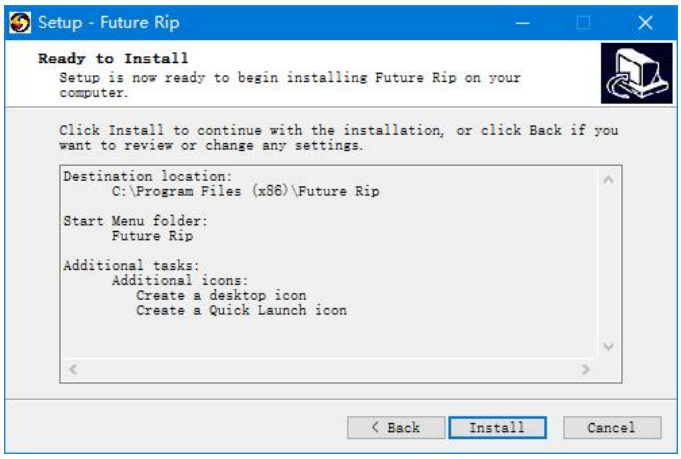

Click Next and the pop-up window will appear as follows:




Click Next and the pop-up window will appear as follows:




Click Next and the pop-up window will appear as follows:

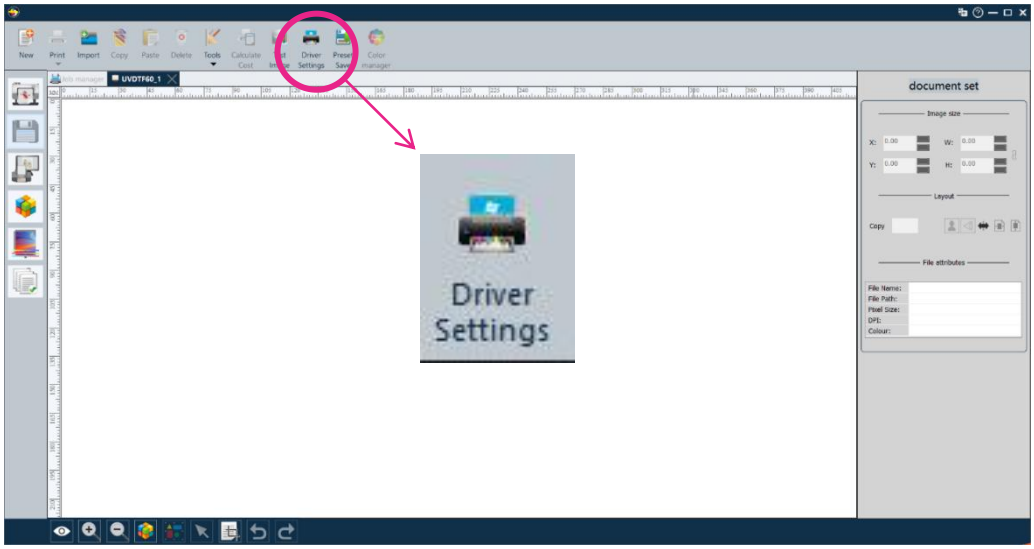



Click Install and the software will be installed. Generate startup icon on computer desktop 

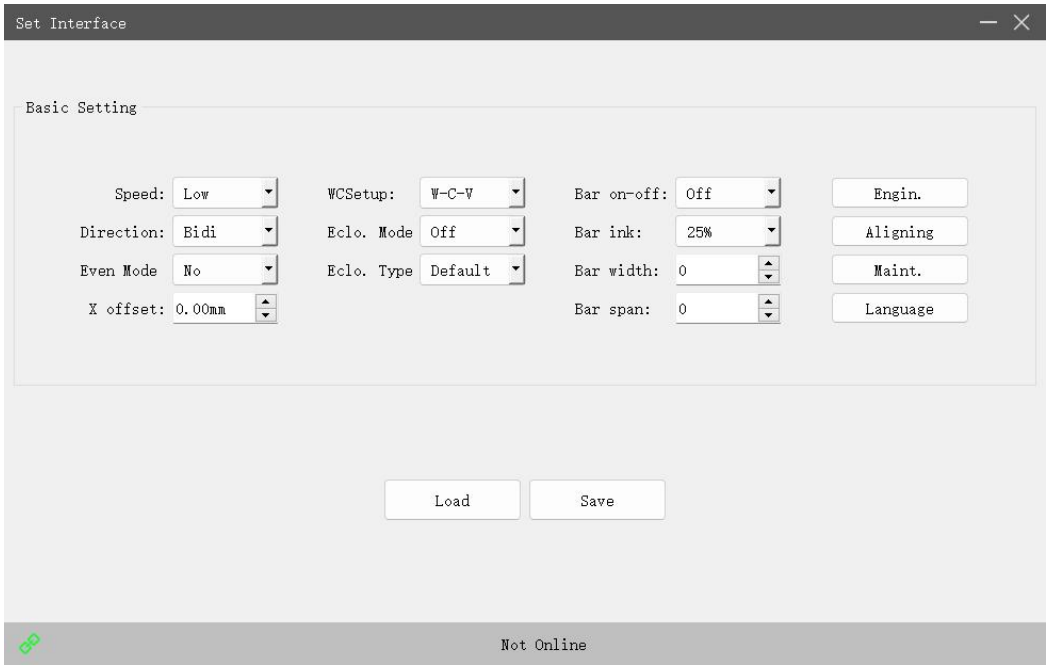
# Driver settings explanation

## 5.1 Open driver settings

Double-click to open the desktop icon **[Future RIP.exe]**, the pop-up window is as follows:




Then click the Driver Settings button. When the green hinge icon is displayed in the lower left corner, it means that the driver is online, as shown in the figure below: the lower left corner displays a solid light of successful connection, and a flashing light of not successful connection.

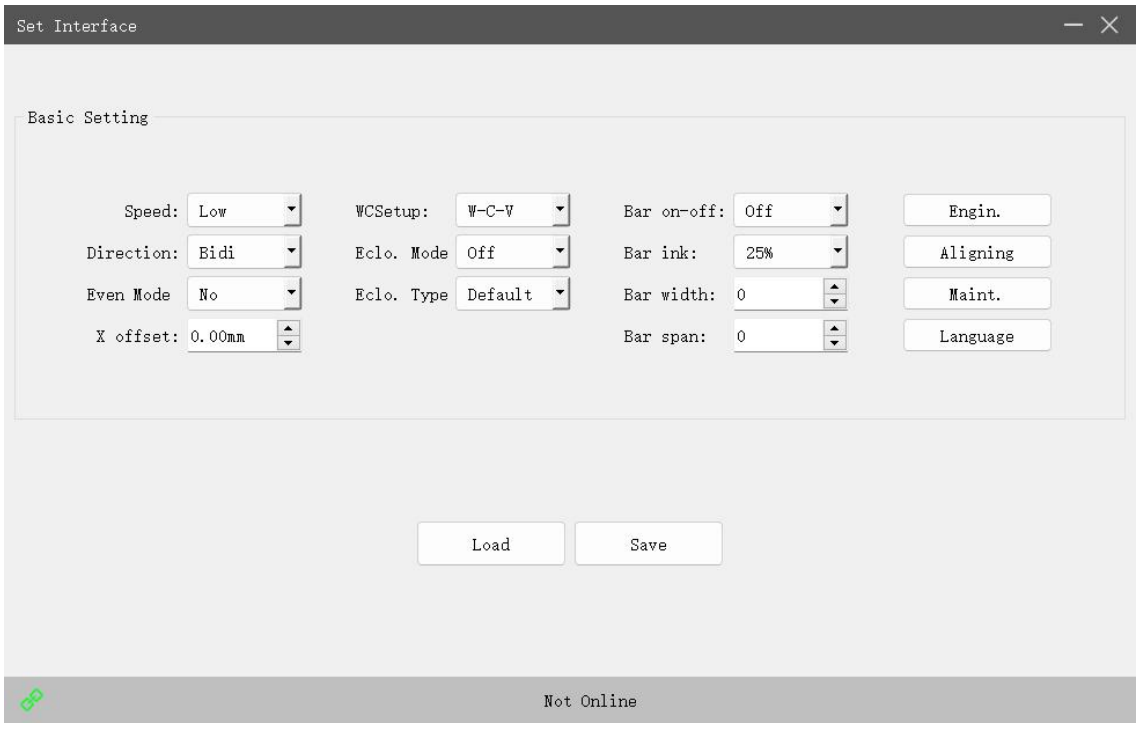



The green light indicates successful automatic connection, and the red light indicates failure to connect automatically.

| Icon | Demonstration of status icon |
|---|---|
|  | Normal connection status of cable |
|  | Power-off status of cable |

## 5.2 Driver setting explanation

Let's introduce it in detail, as shown in the figure below:
The software display interface is mainly divided into four parts: ① basic settings, ② calibration, ③ engineer mode, ④ system maintenance.




The details are as follows:

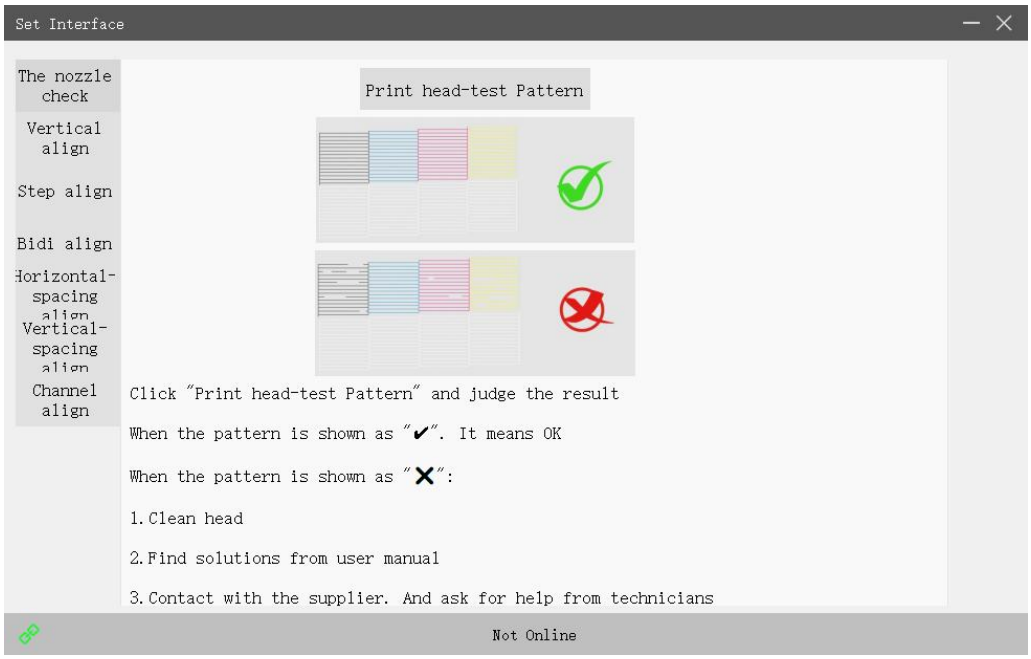
## 5.2.1 Basic settings

**X white edge:** sets the offset position of the calibration chart and the picture relative to the starting point of the platform printing. It is recommended to set both to 0.
**Printing speed:** You can choose high speed, standard, low speed, and high precision. The four speeds are the speed of the print head printing.
**Color combination:** optional: single color, single white, single varnish, white color, white varnish, colored

varnish.
It is the color selected when printing. For example: select white, and only white ink will be printed; select color, and only color ink will be printed; white color, and white color ink will be printed.
**Printing direction:** There are three options: printing to the left, printing to the right, and bidirectional printing, which are the printing directions of the print head.
**Feathering mode:** You can choose close Feathering, Low Feathering, Medium Feathering, or High Feathering to effectively improve the printing quality. The higher the feathering you choose, the better the printing accuracy and quality will be, but the slower the printing speed;
**Feathering type:** Default type, enhanced mode, default type selected by default.
**Uniform mode:** Turn on the uniform mode when the print head needle is seriously broken.
**Ink loading:** automatic inking for 30 seconds
**Ink cutoff settings:** For example, if you feel that the amount of ink is too much or too little when printing, you can adjust it here. Percent ink volume reduction and multi-PASS ink volume printing.

## 5.2.2 Calibration

Click the calibration button, and the software will pop up the calibration process interface, as shown in the figure below.
**Material settings**
**Material selection:** Used when customers need to save and use different parameters when changing different printing materials. Each material corresponds to a corresponding set of calibration parameters for easy printing and use.
**Large horizontal printing accuracy:** This model chooses 480DPI.
**Printing speed:** When higher calibration requirements are required, parameter calibration can be performed for height, medium speed, and low speed respectively. Generally speaking, only high speed needs to be calibrated.
**Calibration process**
When a new machine is installed, replaced or hits the print head, perform calibrations in sequence from mechanism calibration to complete the calibration work.



### Nozzle test

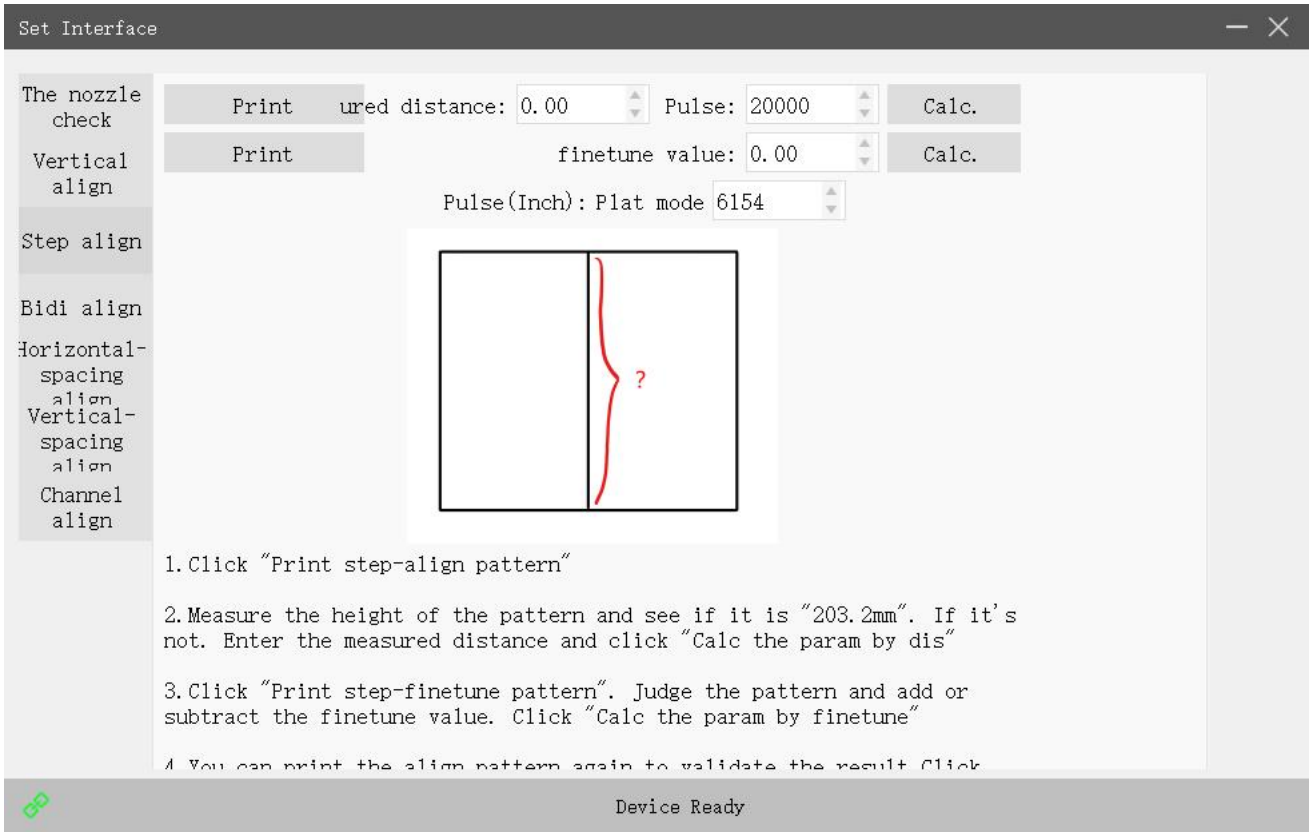
Comparing with the schematic diagram, the wrong result is that the state shows broken needles, oblique spraying and color block drawing. Clean the head. The correct result is the state of full color block uniformity.

After confirming that the head status is OK, click vertical Check.

### Institutional calibration

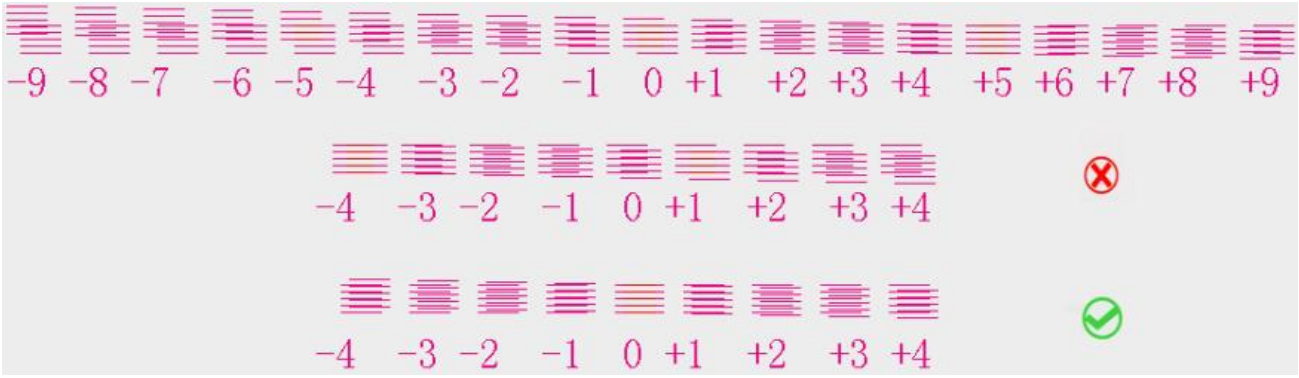
If the print head is vertically offset to the left or right, you need to loosen the print head fixing screw and twist it slightly left or right to adjust.

**Step calibration**

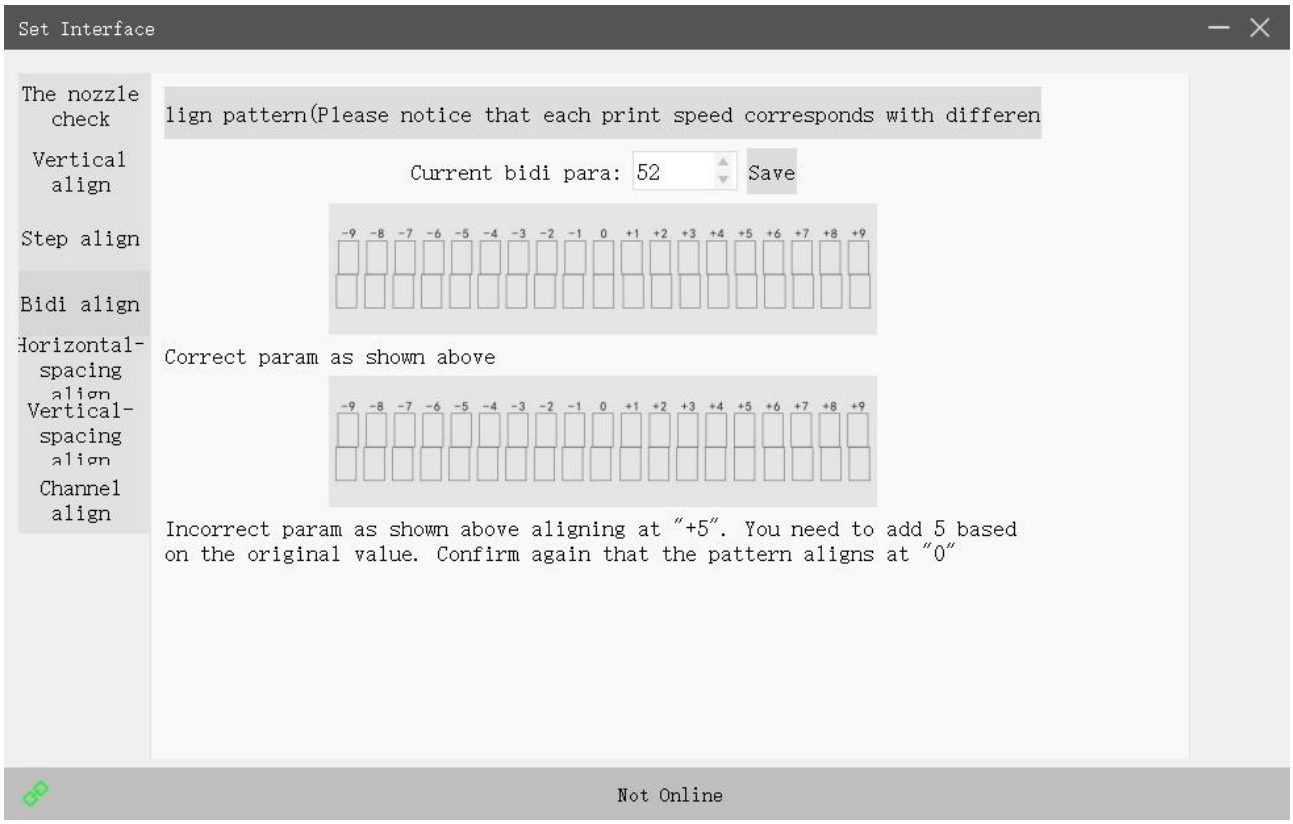



First of all, the first step is to click print on the reference step, and the calibration line as shown below will appear.

For the schematic diagram, the wrong result is that the alignment position of the calibration line and the reference line of the calibration chart is not **at the left 0 position.** Please enter the value of the coincidence position of the alignment line and the reference line into the input box to the right of the print button, and then click the **[Calculate]** button below to perform calibration. . The correct result is that the calibration line and the reference line coincide at position 0

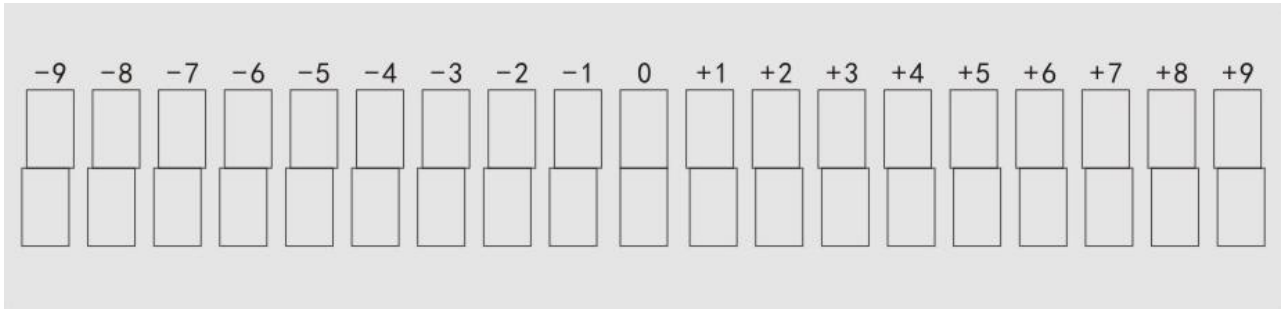


**Bidirectional calibration**

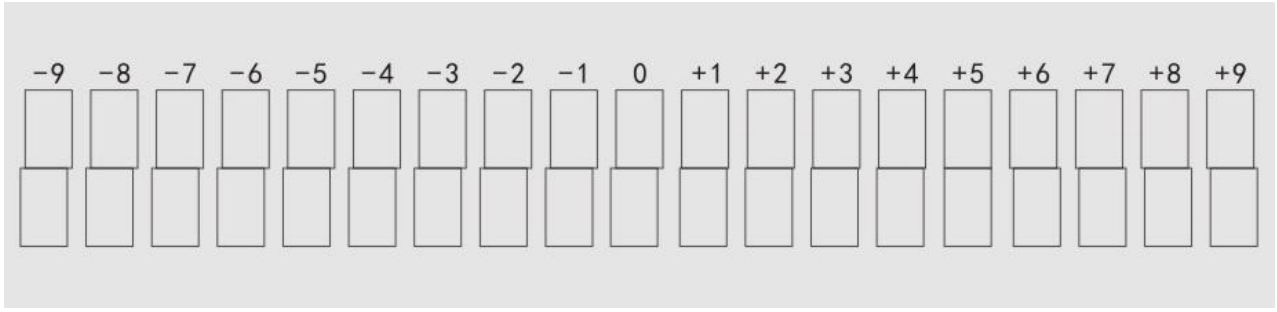



Click "Print Bidirectional Calibration Pattern" and follow the method shown in the figure above. After the adjustment is OK, click Next. The software enters the main calibration interface and automatically selects the horizontal distance between the heads.

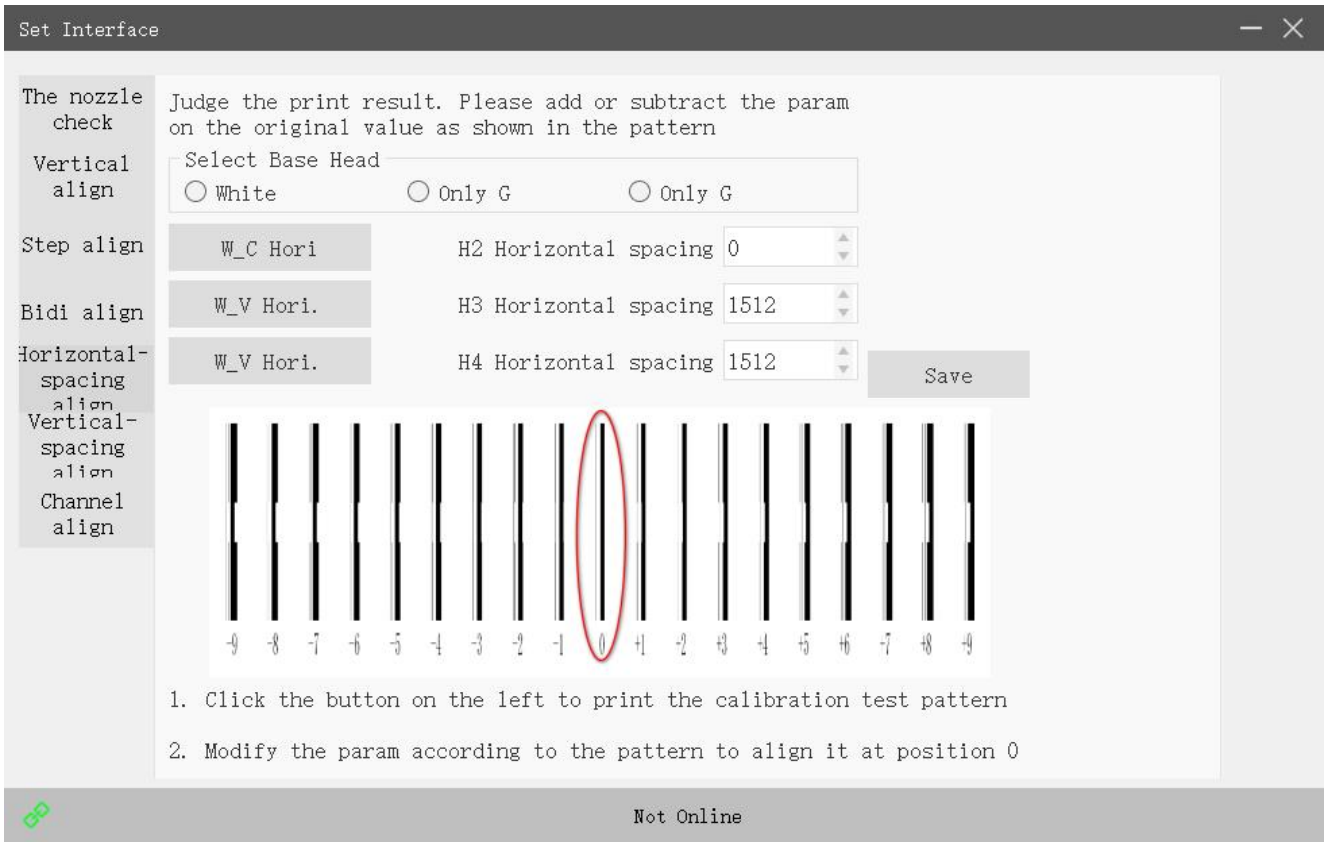
**As shown in the figure, the 0 position has been aligned**




**The picture below shows the calibration misalignment 0 position.**

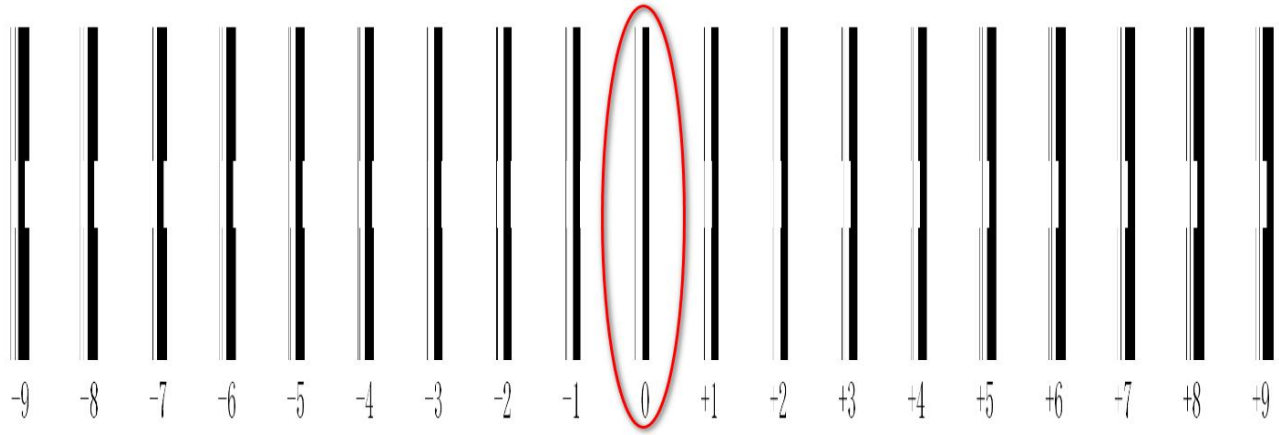


## Head horizontal spacing calibration



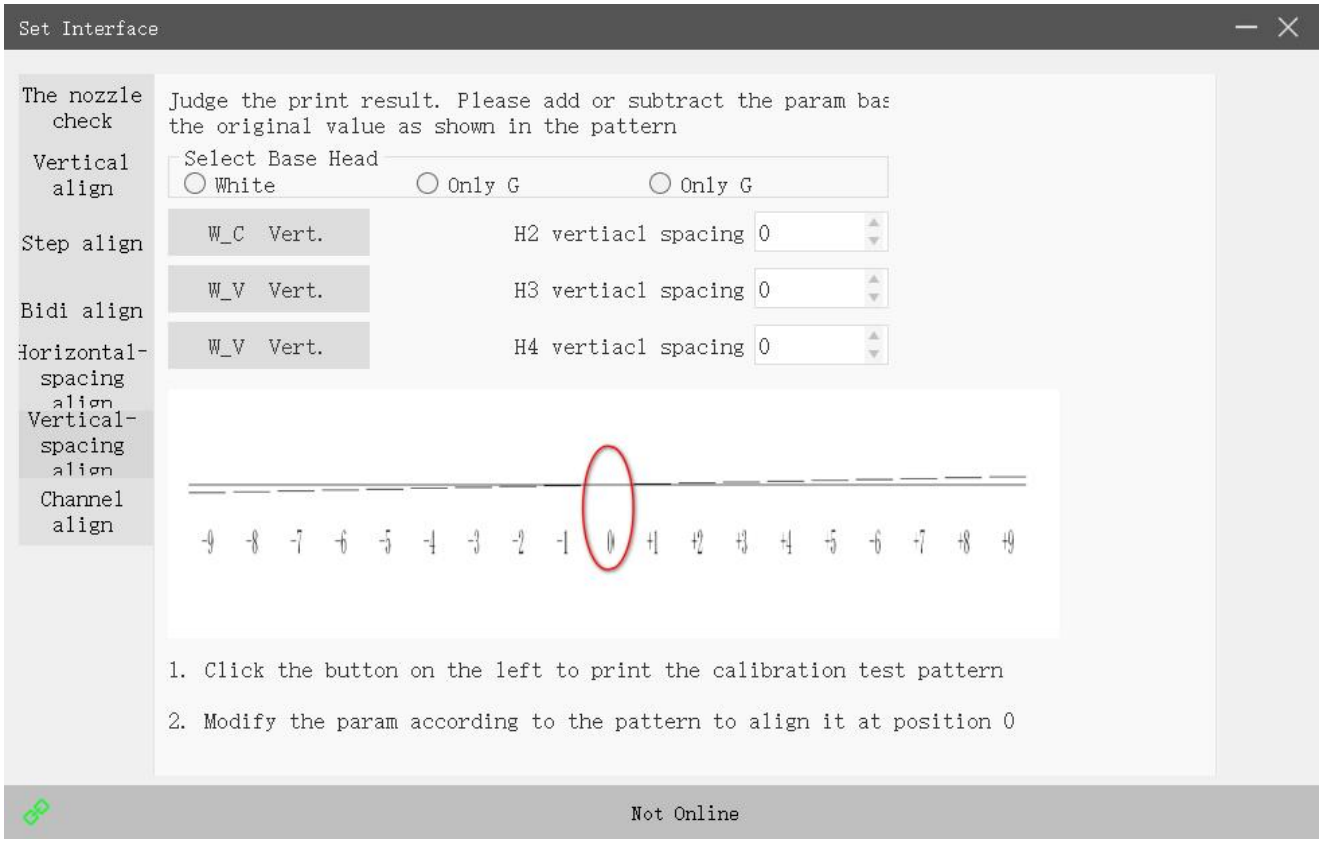

With color as the benchmark, observe the printed calibration chart and check the overlap of the black and white lines. For example, if "+3" black and white line tones overlap best, the current horizontal spacing coefficient will be increased by 3; if "-3" black and white line tones overlap best, the current horizontal spacing coefficient will be reduced by 3. Debug multiple times until the black and white lines corresponding to the number "0" have the best overlap and become a straight line.

After debugging is completed, click Save.

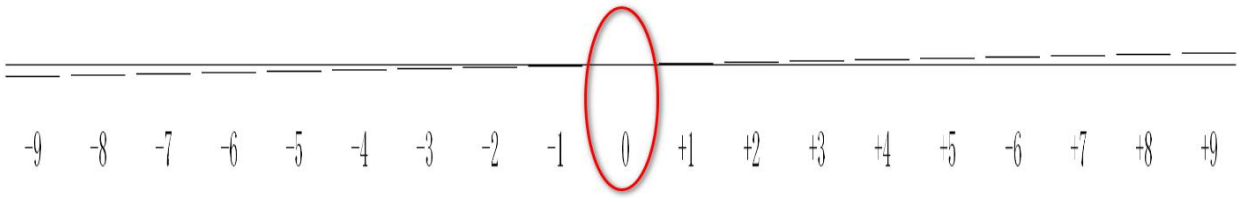



Click Next, the software will enter the calibration main interface and automatically select the head vertical spacing calibration.

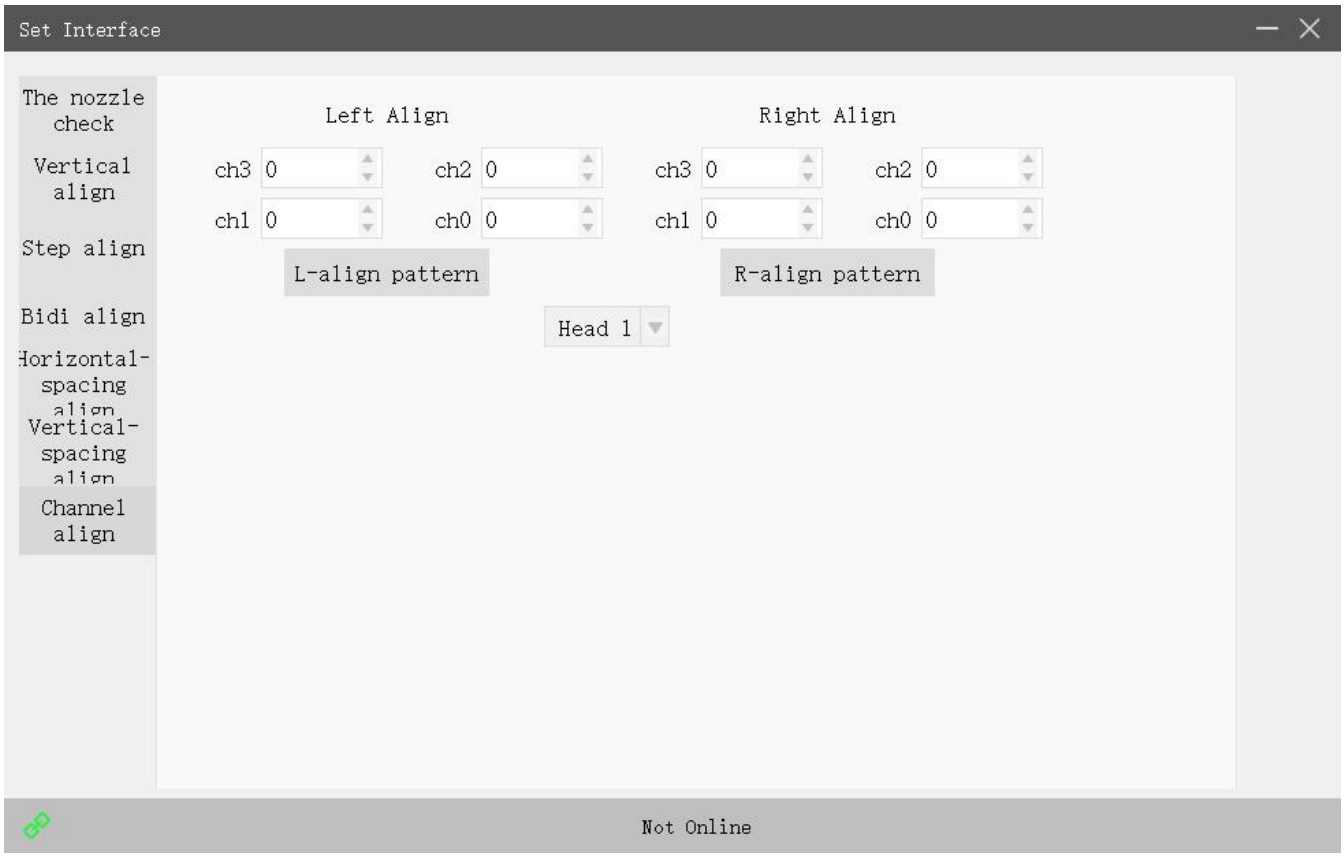
## Head Vertical Spacing Calibration




Adjust as shown in the figure below until the black and white lines corresponding to the number "0" have the best overlap and become a straight line.

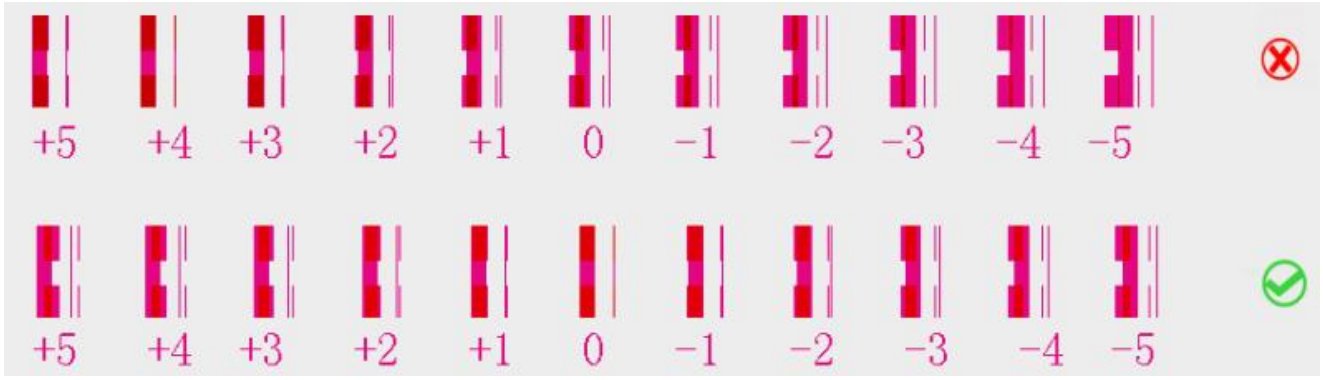


## Color registration calibration

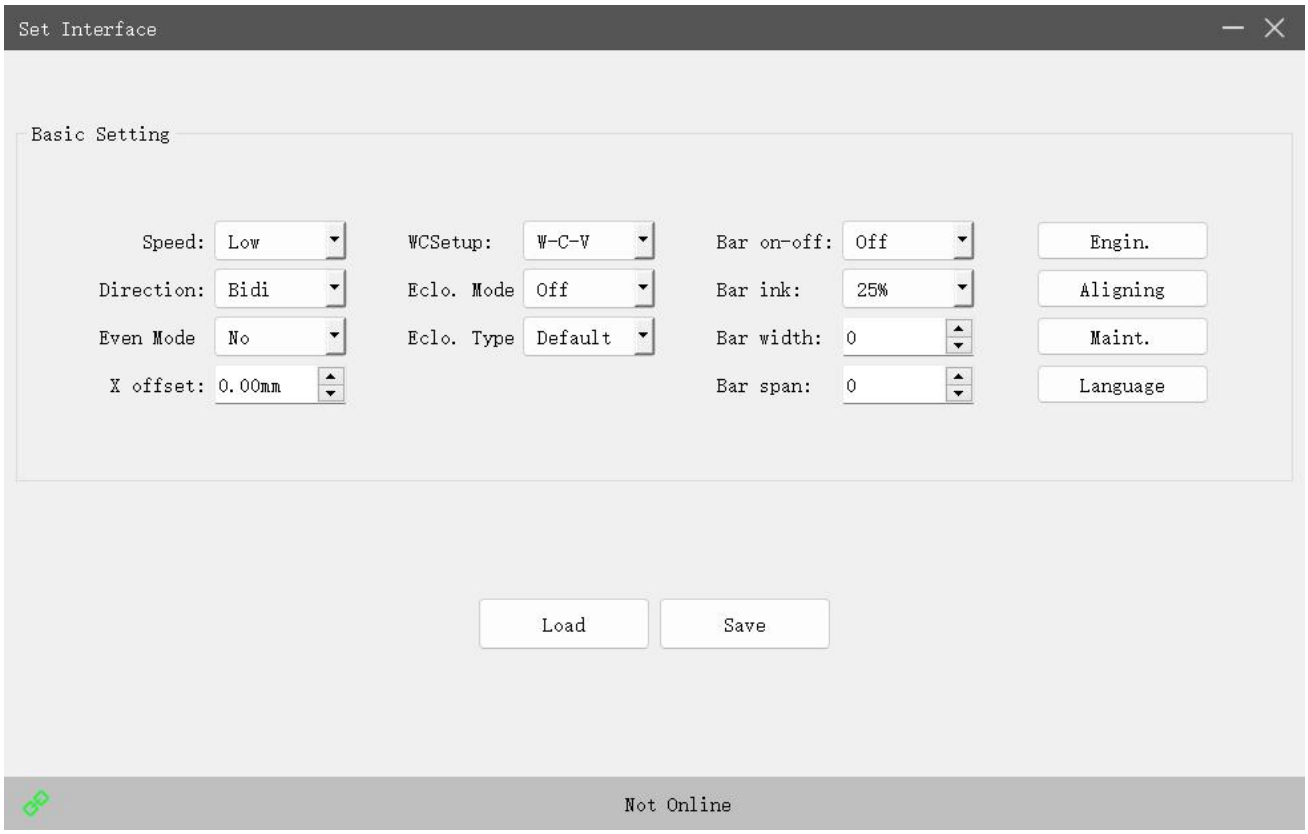



Click Print Left Alignment Pattern or Print Right Alignment Pattern, and the machine will print a calibration chart. As shown below:

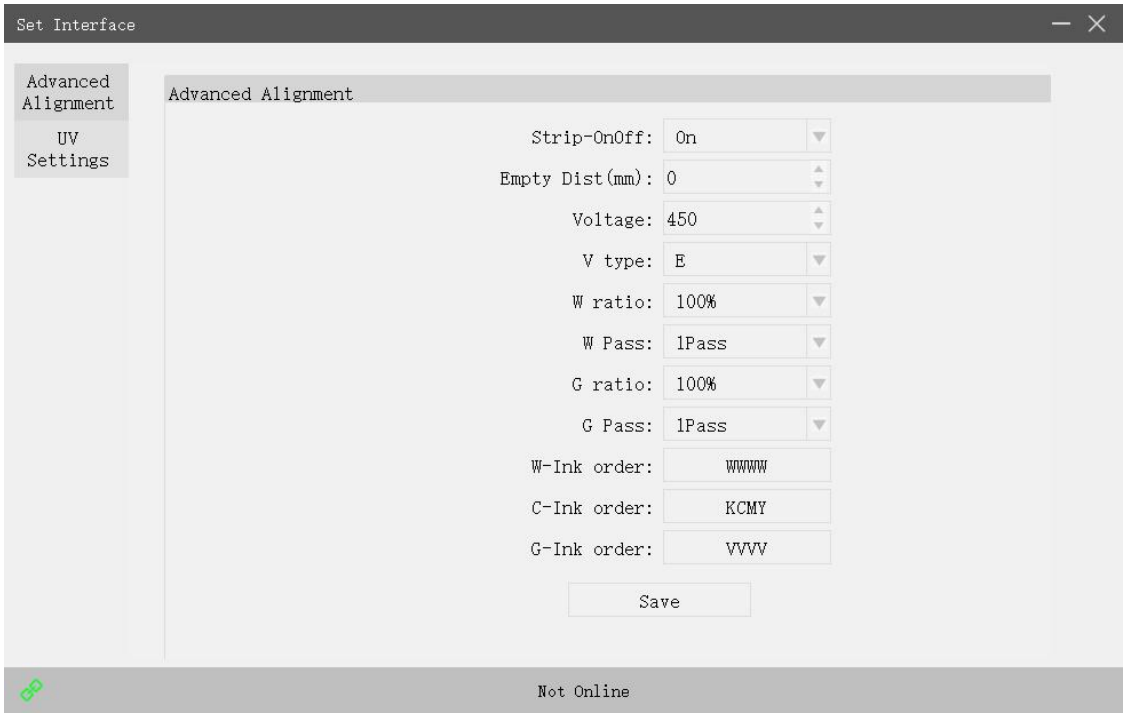
The wrong knot is that the coincidence position of the calibration line and the reference line of the calibration chart is not at the 0 position. Please add or subtract the value of the coincidence position of the calibration line and the reference line on the original basis and enter it in the corresponding color box. The correct result is the coincidence position of the calibration line and the reference line is at position 0.



## Engineer mode




Click on Engineer Mode, and the pop-up window will appear as follows.




## Advanced settings

Whether to jump white: divided into on and off. Turn it on to skip printing for blank areas in the image.

Idling distance: the distance that the cart travels backward after printing, in mm.

Voltage adjustment: default 512. According to the actual printing situation, the value can be added or subtracted under the guidance of the after-sales technician.

Voltage Type: Default S. Suitable for standard printing height 2-3mm.

White ink ratio: divided into 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%. The white ink output can be proportionally reduced.

Number of white ink passes: divided into 1Pass to 10pass.

Varnish ratio: divided into 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%. The amount of varnish ink output can be reduced proportionally.

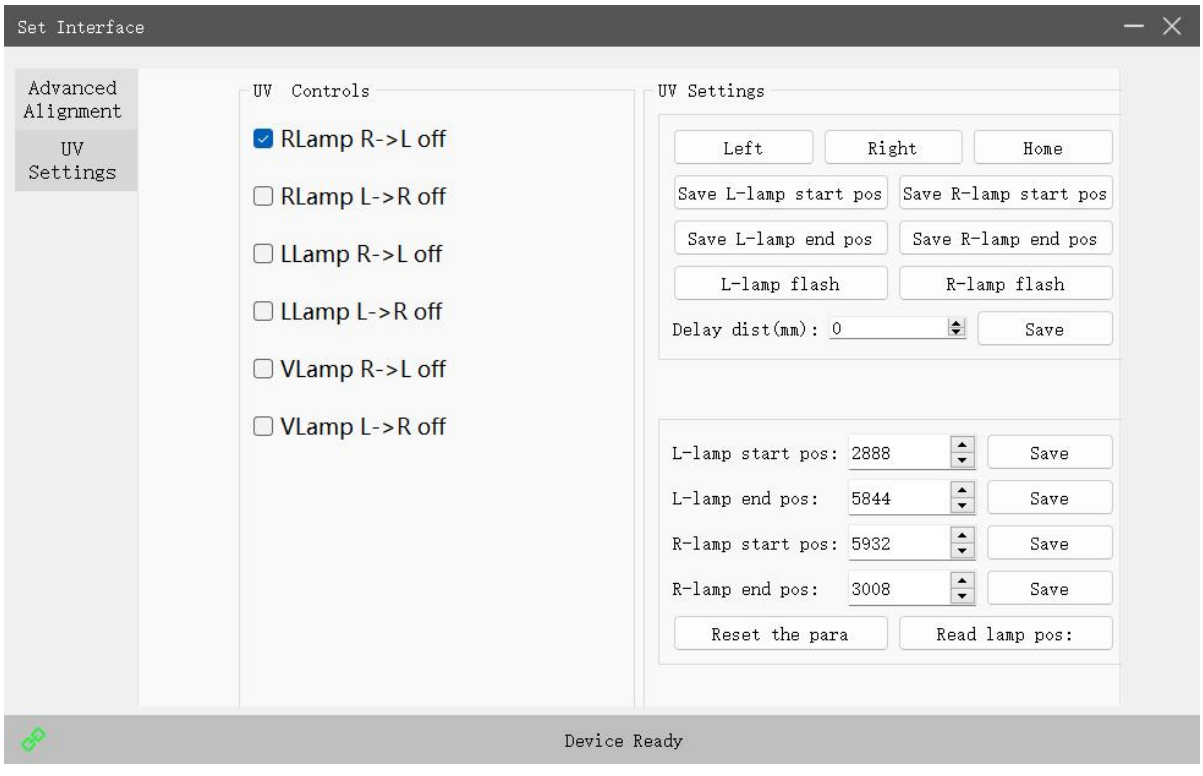
White ink sequence: Default is WWWW. Change W to N,, which means closing the corresponding channel.

Color ink sequence: The default KCMY, channel cannot be closed.

Varnish sequence: Default VVVV. Change V to N, which means closing the corresponding channel.

Number of times of varnish: divided into 1Pass to 10pass

**UV settings**



①Print a test picture first

②Move the small cart so that the left UV light is aligned with the starting point of the test chart.

③Click the UV left light to flash. After confirming the position, click the starting position of the left light to save the parameters.

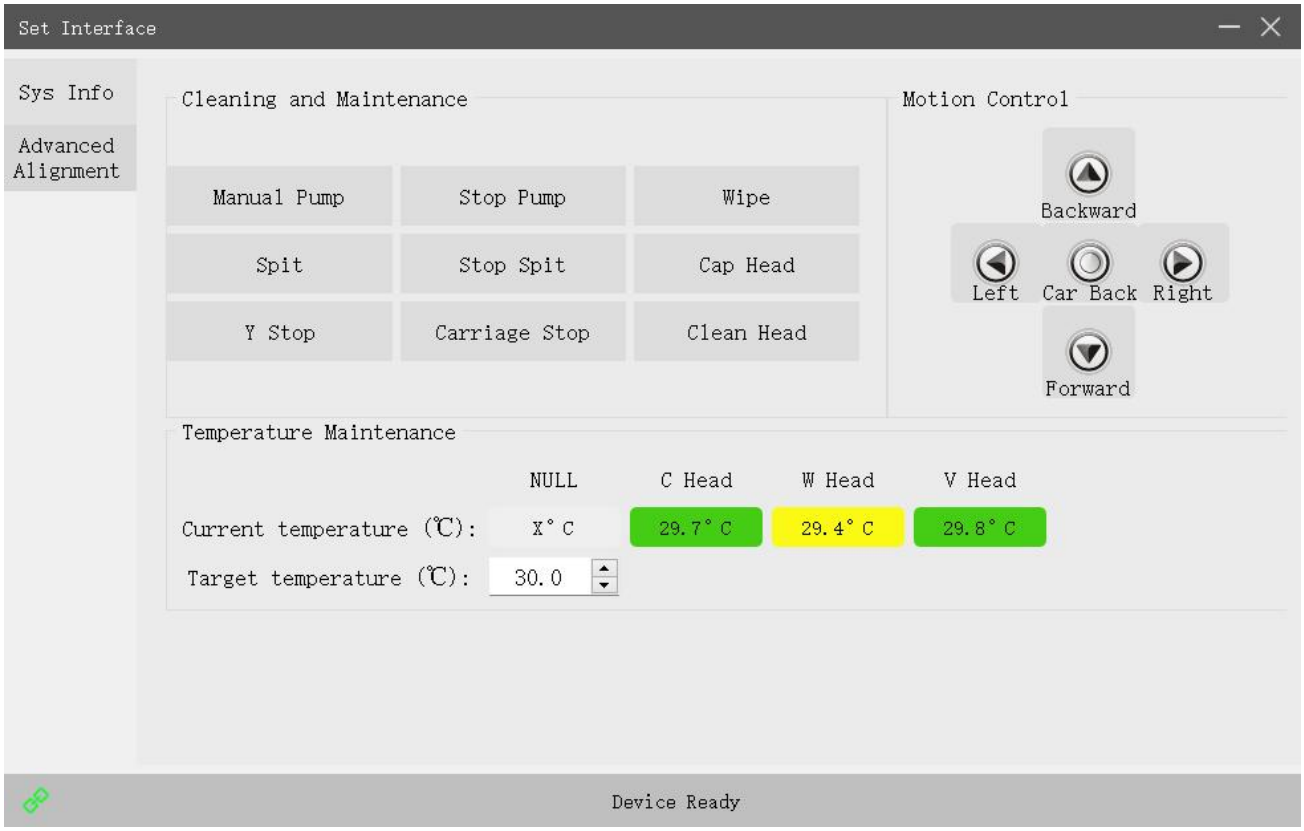
④Move the cart so that the left UV light is aligned with the end point of the test chart.

⑤Click the UV left light to flash. After confirming the position, click the left light to end the position to save the parameters.

⑥Click to read the light position and click Save

⑦Calibration completed

**System maintenance**

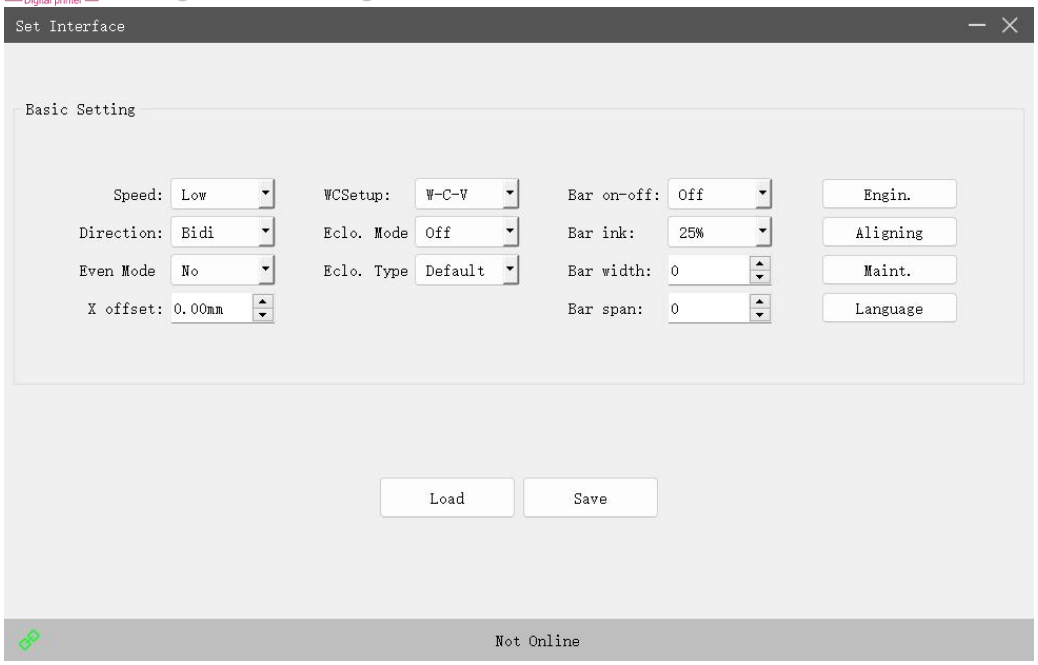



Print head temperature maintenance

Current print head temperature: This is the actual temperature of the print head currently being read.

Set target temperature: The set temperature range is between 0-28 degrees. If the current print head temperature is lower than the set temperature, the heating function will be turned on and stopped at the set temperature.

**language selection**




Click on the language pop-up window as follows


After selecting, click OK

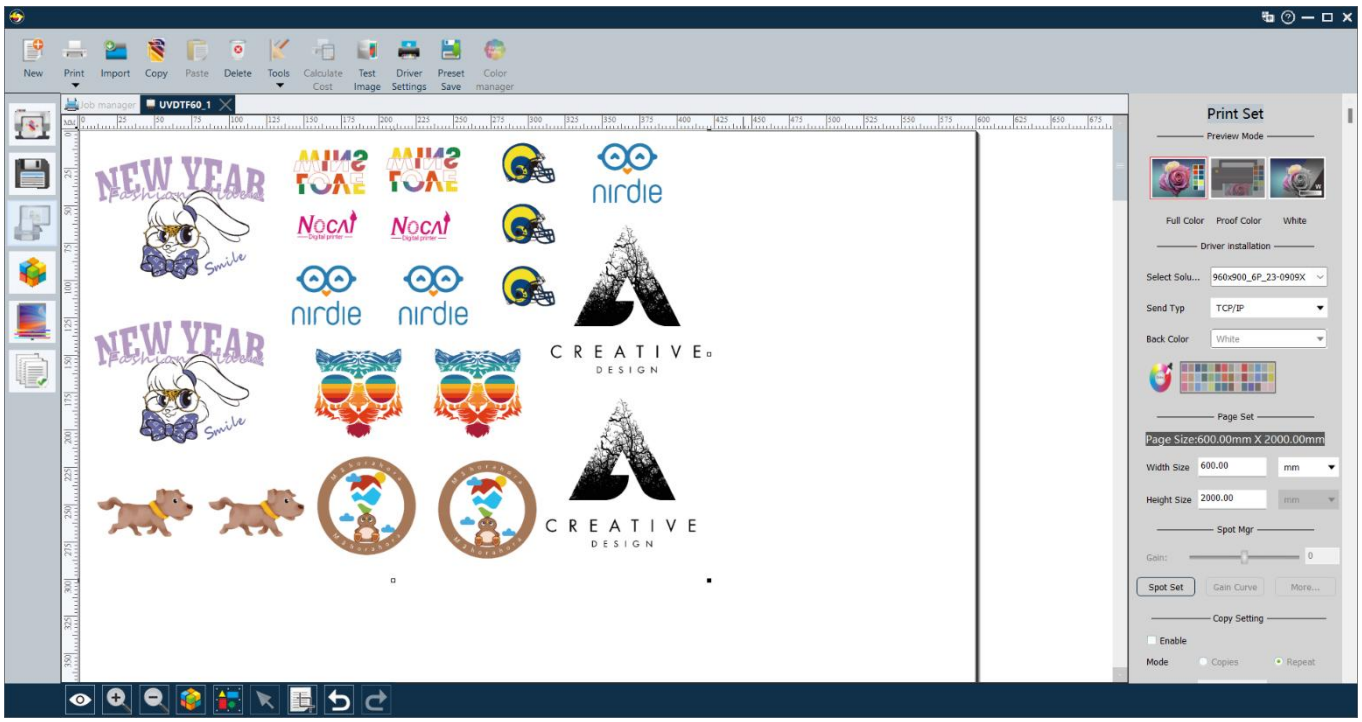
# Future Rip introduction

## 6.1 Dongle

-  Plug in the dongle to the computer. As shown in the picture on the right, the light will turn on and off at intervals, indicating normal operation.
- Observe the top middle part of the software. No display indicates that the dongle recognition is normal. Display (demo version) indicates that the dongle is not inserted into the computer or the dongle recognition is abnormal.

## 6.2 Function introduction

Open the software and the main page of the software will pop up. The following is a brief introduction to the printing process settings and usage.

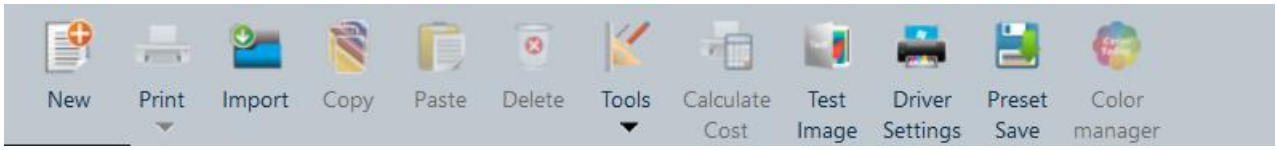



## 6.2.1 Language switching

 Click the icon displayed in the upper right corner of the software to switch between Chinese and English:

The pop-up window displays as follows:


## 6.2.2 Navigation bar




New: Create a new print task canvas window.

Print: Send for printing.

Import: Import pictures.

Copy: You can copy multiple copies of printed pictures

Paste: Paste the copied image

Delete: Delete the picture

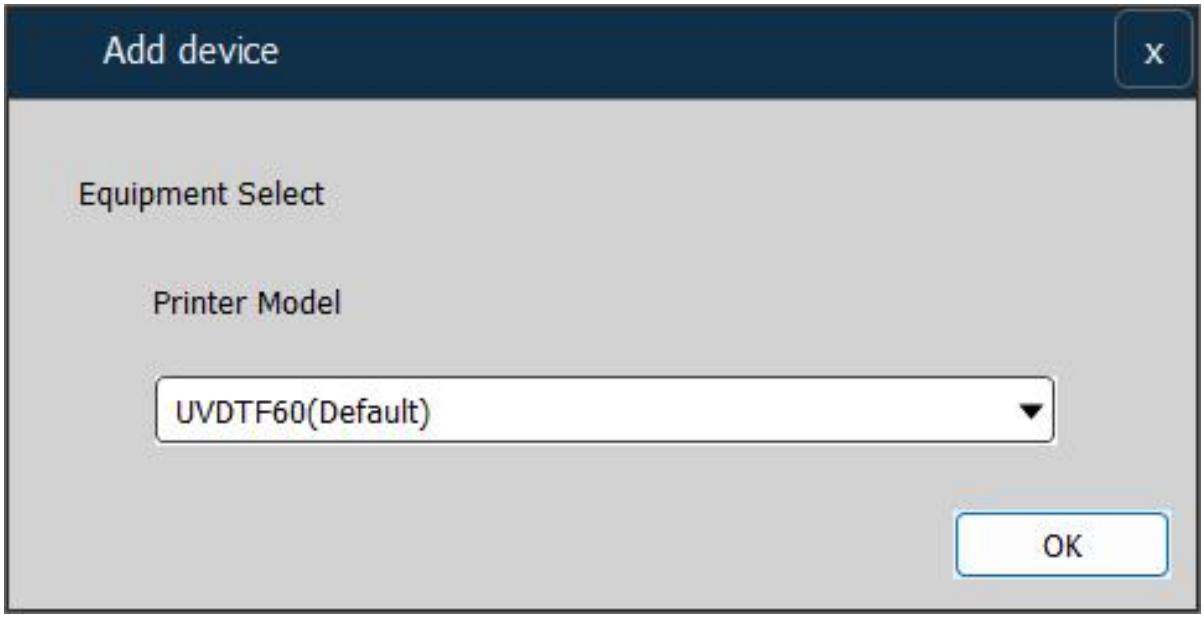
Driver settings: printer driver parameter settings.

# 6.2.3 Main function

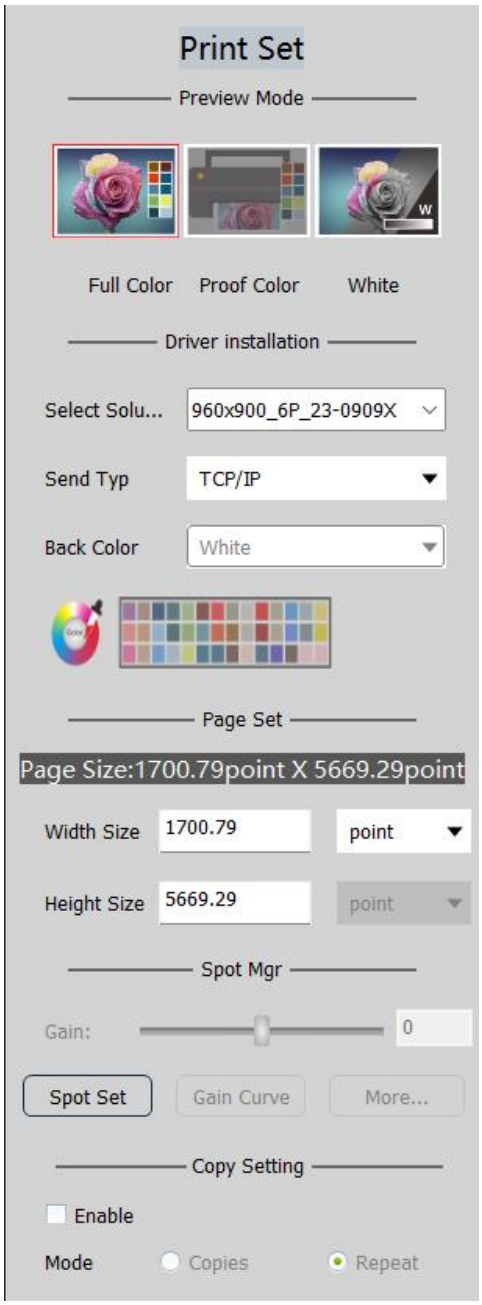
| Icon | Direction |
|---|---|
|  | Printer management |
|  | Document settings |
|  | Print Setting |
|  | Color management |
|  | Output color correction |
|  | Job management |

Printer management

Click the printer management icon and the pop-up window will appear as follows:




Printer settings tab, the default NC_UVDTF60 model does not need to be modified, just click OK.




Print Settings

Click the print settings icon  and the pop-up window will appear as follows:

**Driver installation**

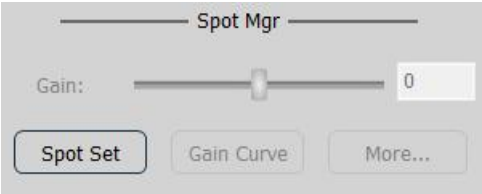
**Select curve:** default 960x900 6pass, 960x1200 8pass

**Sending method:** file, network (default network)

**page settings**

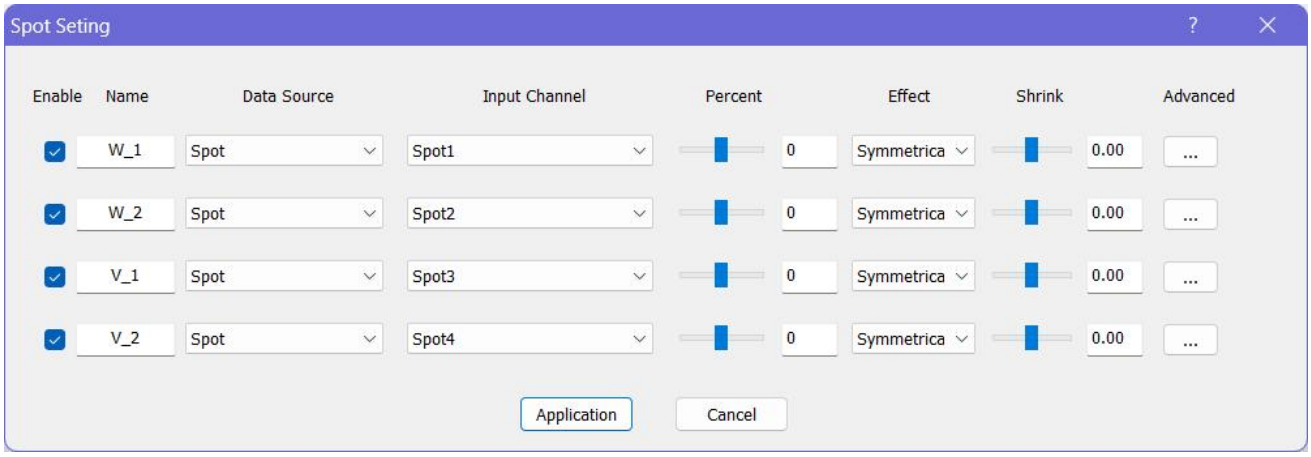
**Canvas size:** The width size defaults to 600mm, and the height size is unlimited. (When modifying the size value, press the [Enter] key on the keyboard to save)

Spot color management




**Spot color settings**

Click **[Spot Color Settings]** in the software menu bar, and set it in detail as shown below




**Application:** If checked, the corresponding spot color printing will be enabled. If not checked, spot color printing will not be enabled.

check white ink for spot colors 1 and 2 to enable white ink spot color printing; check varnish for spot colors 3 and 4 to enable varnish spot color printing;

**Data source:** Select the ink output method corresponding to the spot color. Take white ink printing as an example (the varnish is the same) to introduce the functions:

| | |
|---|---|
| **blank** | There is no data, which means white ink cannot be printed. |
| **Image background color (same density)** | Based on the maximum color density of the image, white ink of the same thickness is printed on the colored areas of the image. Transparent and pure white areas do not print. |
| **Image background color (image density)** | White ink is printed according to the color of the picture. The darker the color, the thicker the white ink, and the lighter the color, the thinner the white ink; transparent and pure white areas are not printed. |
| **Image background color (inverse image density)** | White ink is printed according to the color of the picture. The darker the color, the thinner the white ink, and the lighter the color, the thicker the white ink; transparent and pure white areas are not printed. |
| **spot color** | Print white ink using the spot color data when the image was created; Note: Currently, Future Rip prints spot color data and currently supports images in mainstream formats such as Tiff, PDF, and AI exported from PS; for the production and application of spot colors, please view the spot color video tutorial; |
| **all** | Print the entire image with 100% concentration of a special color (white ink or varnish) |

Input channel: Spot color 1, spot color 2, spot color 3, spot color 4 can be selected.

Spot color 1→the first spot color data contained in the picture.

Spot color 2→The second spot color data contained in the picture.

Spot color 3→The third spot color data contained in the picture.

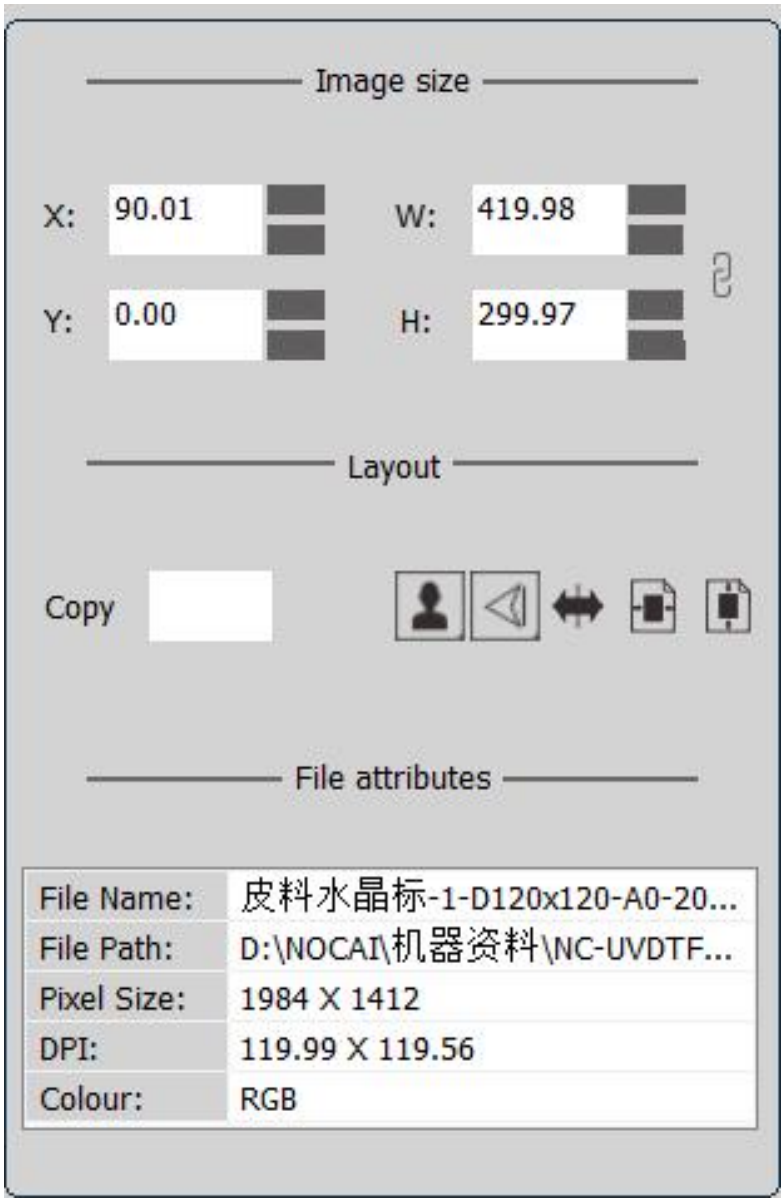
Generally, choose spot color 1 for white ink and spot color 2 for varnish.

**Density:** Based on the current value, the spot color data increases or decreases the printing density. The adjustment range is -100%-+100%.

**Effect:** Both select even mode.

**Reduce and enlarge:** Spot color data printing is reduced or enlarged and diffused. Adjustment range: -5 to +5.

As shown in the picture above, after the settings are completed, click [Apply] and choose to print white ink or varnish spot color data.




**Document settings**

Click the document settings  icon. The right side of the interface displays as follows:

**Location and size**

X white edge Y white edge to modify the offset image,

W picture width, H picture height modification size scaling.

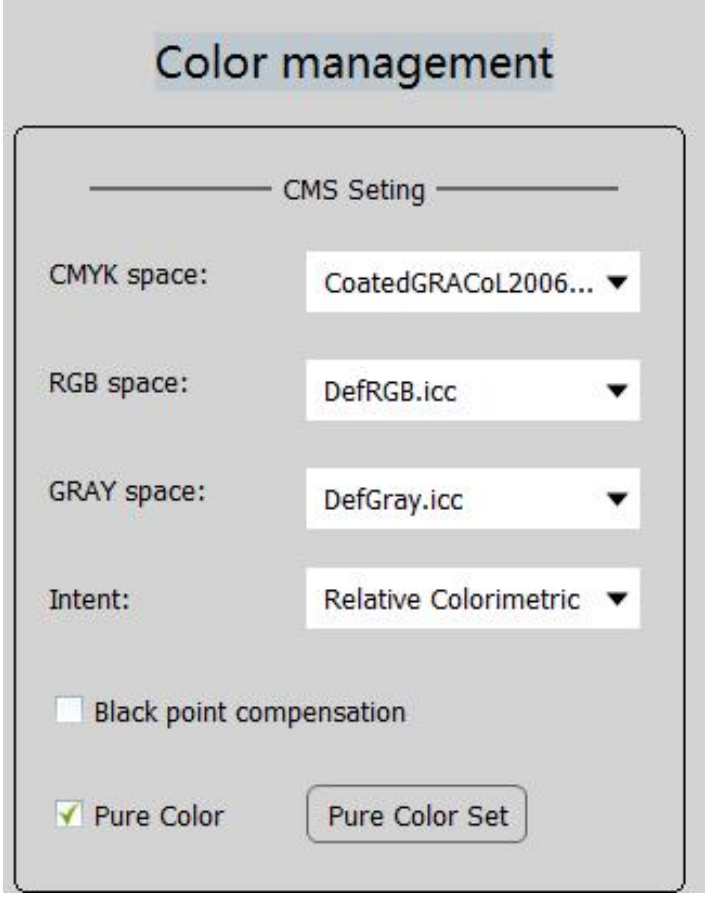
| | |
|---|---|
| | Constrained aspect ratio, one-way scaling mode |
| | Constrained aspect ratio, proportional scaling mode |

**Typesetting:**

Copy multiple pictures, automatically layout, rotate 90° to the left, rotate 90° to the right, center horizontally, mirror horizontally, mirror vertically, center vertically and other shortcut icons.

**File properties:**

File name, file path, pixel size, resolution, original color system




Color management

Click the color management icon  as detailed below:

CMS settings

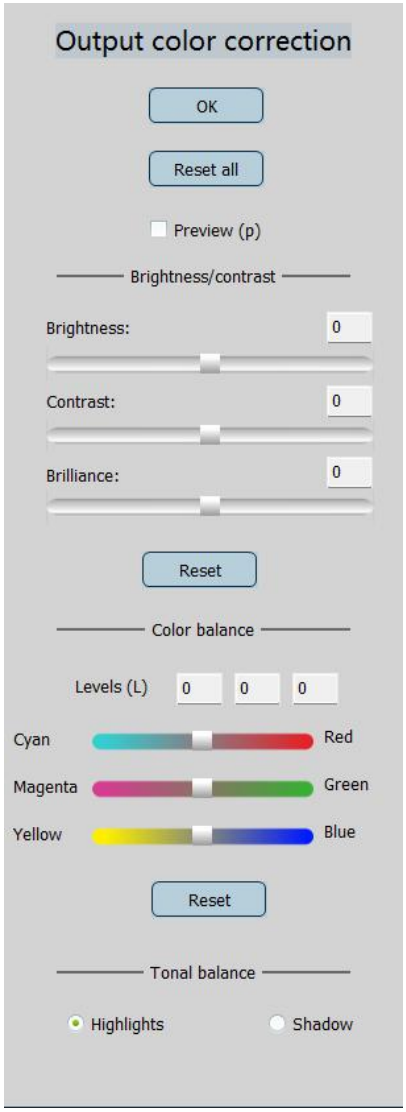
1. CMYK space

2. RGB space

3.GRAY space

4. Intention

5. Black spot compensation




Output color correction

Click the output color  correction icon, as detailed below:

**Brightness/Contrast**

Brightness, contrast, vividness, and overall ink volume adjustment.

**Color balance**

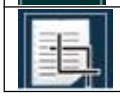
R, G, B color adjustment.

**Job management**

Click the function management icon  for details as follows


Identification job management (display print image data, print history): name, time, file type, size printer,

## 6.2.4 Bottom function keys

| | |
|---|---|
|  | Preview page |
|  | Enlarge |
|  | Small |
|  | The logo is always on and the curve is turned on. |
|  | The curve is off |
|  | Select all |
|  | Select picture to move |
|  | Logo image size cropping function |

# Introduction to proofing operation process

Taking printing UV DTF as an example, we will introduce the printing operation process.

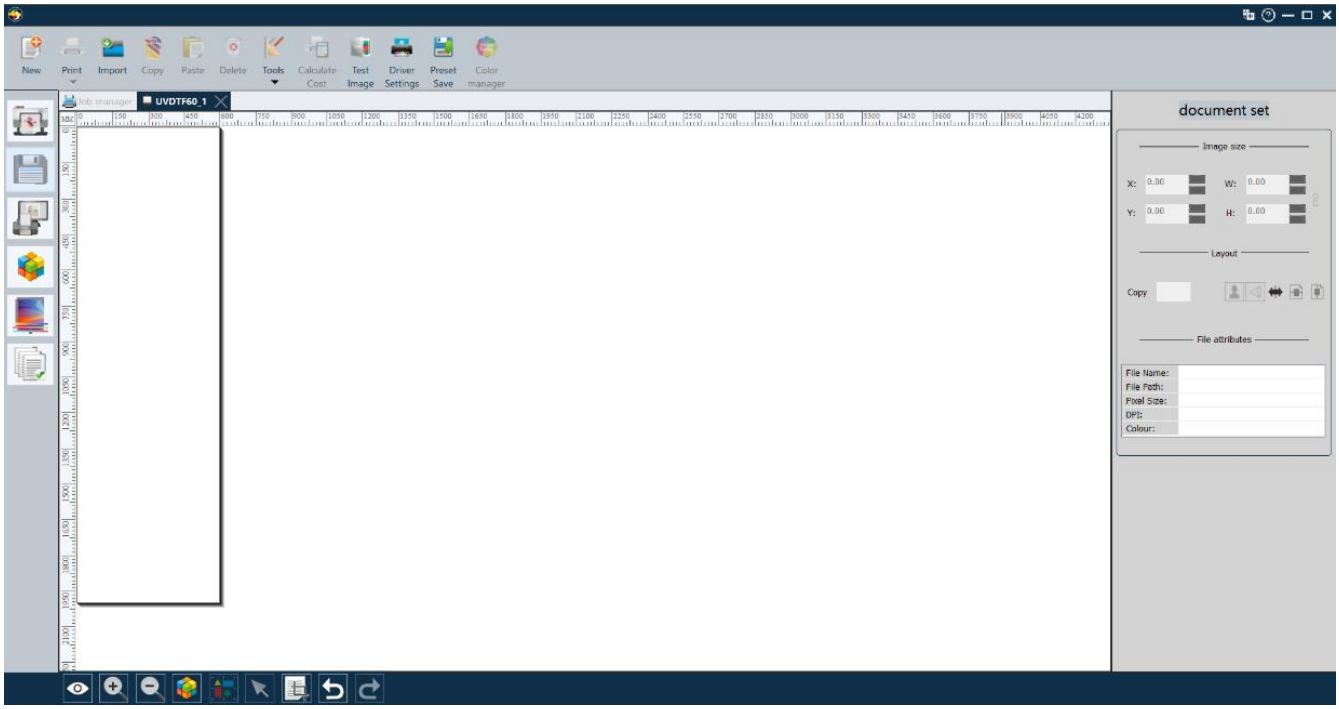
## 7.1 Place printing materials and confirm the printing height.

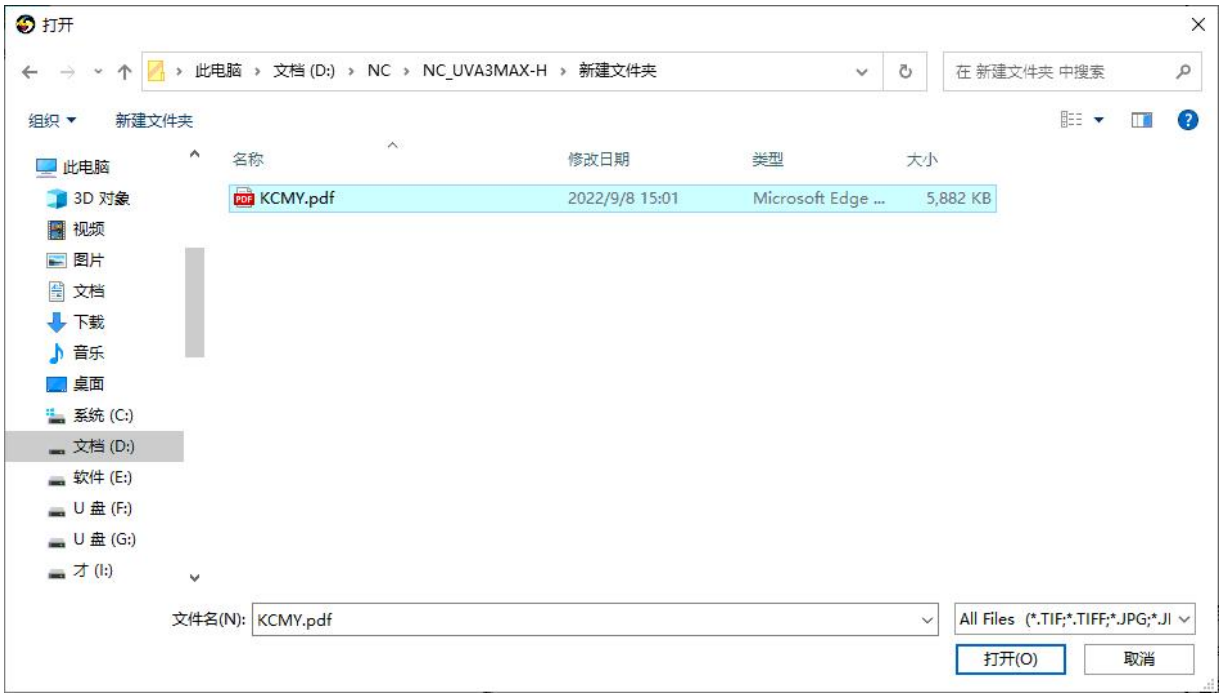
Lay the A film of appropriate size onto the platform so that it fits tightly with the platform.
Printing height of the print head, confirm that the height difference between the print head and the paper surface is between 2-3mm.

## 7.2 Import pictures

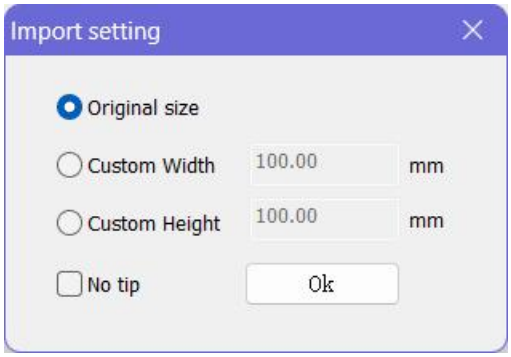
Open the Future Rip software, click the **[Import]** button in the upper left corner of the software 

, find the stored picture, select it and click to open.

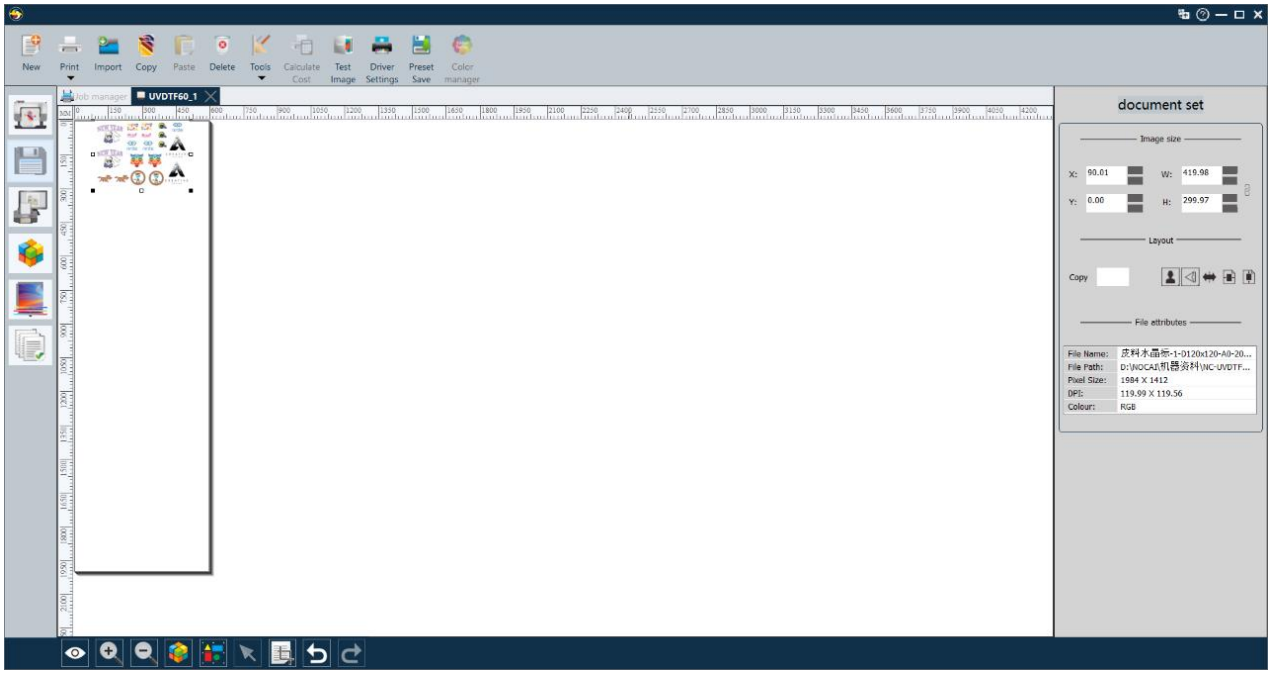





The pop-up window is as follows. Select the picture and click to open it.

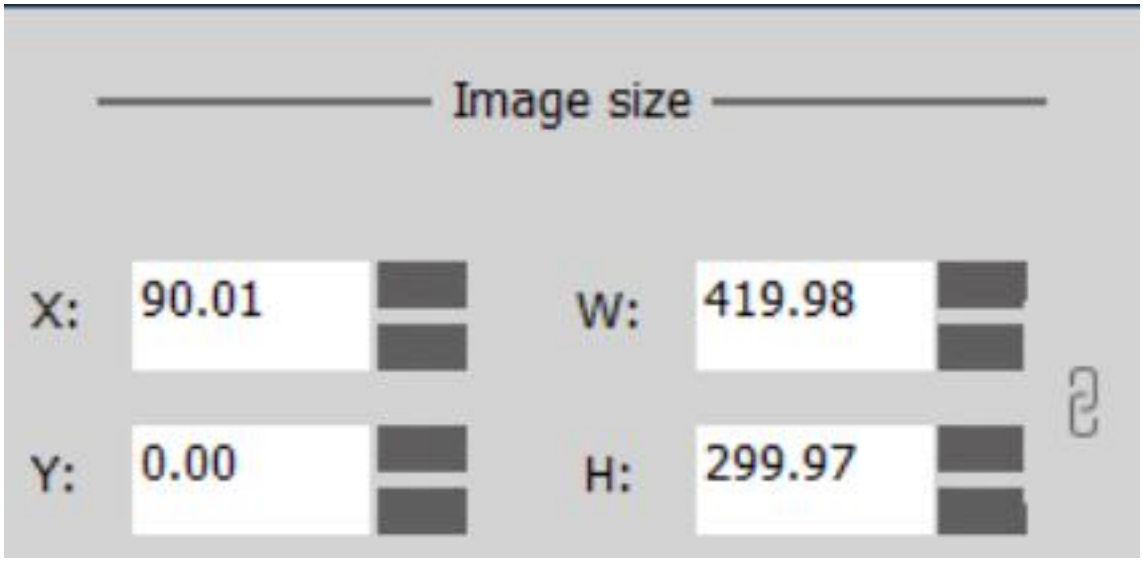



Details are as follows:



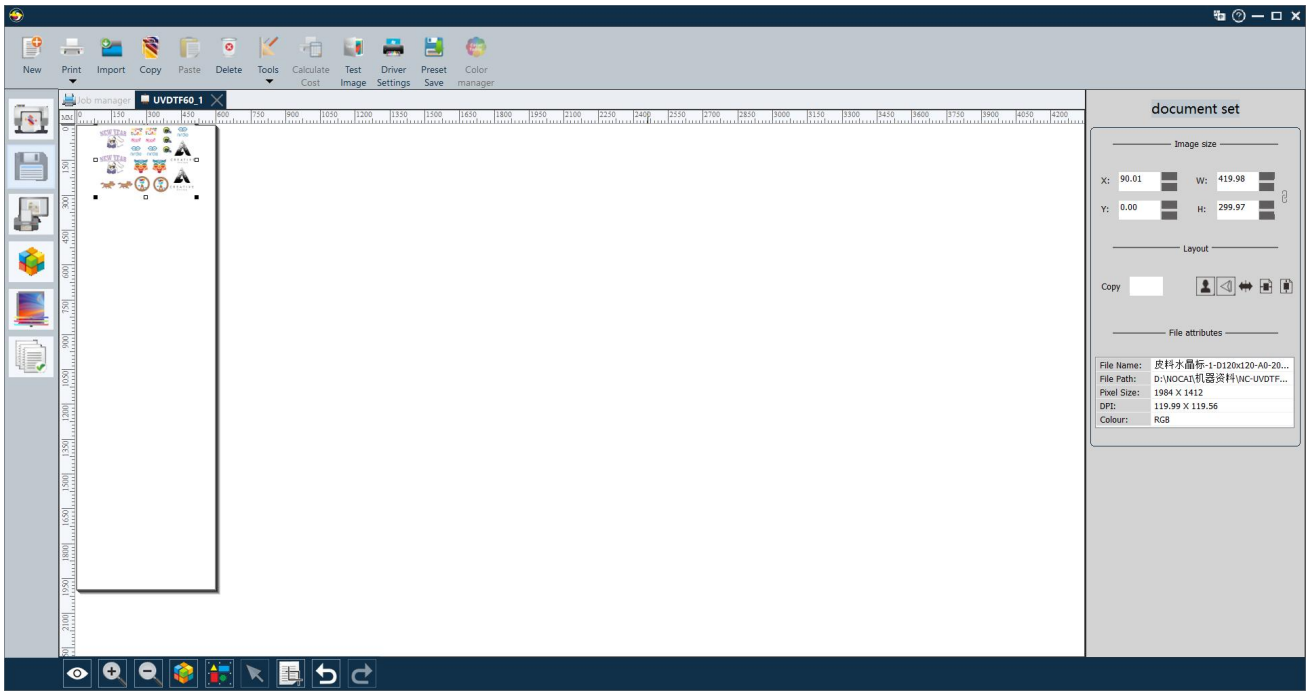
# 7.3 Confirm printing conditions

Image offset

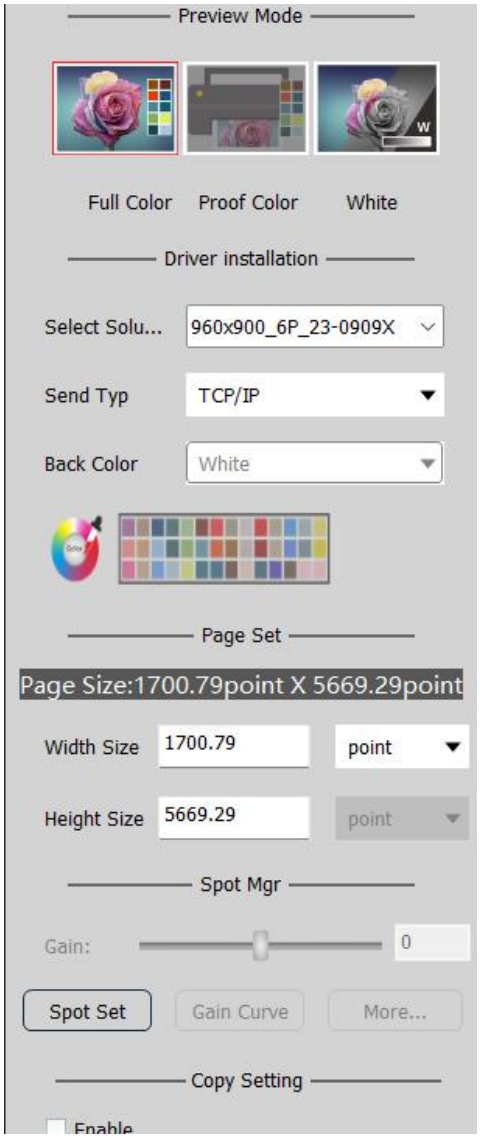



Click the document settings icon  and set the offset position to move 10mm to the right and 10mm down.

As shown on the right:




Click print setting



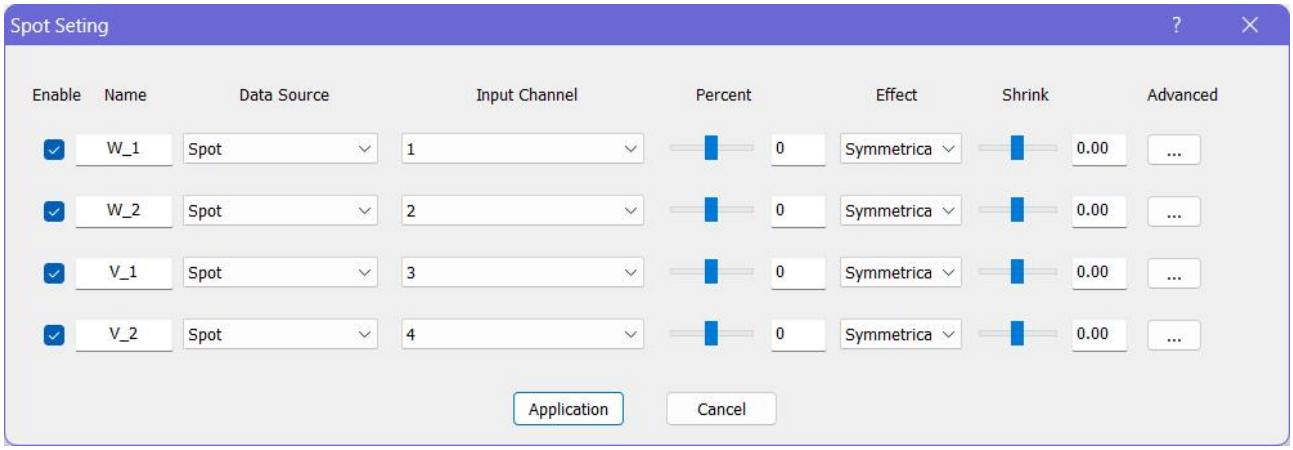

Details as below

① Choose icc (icc default 960x900 6pass, 960x1200 8pass)

②Select internet as the sending method

③ Confirm the page set to be width 297mm, height 420mm

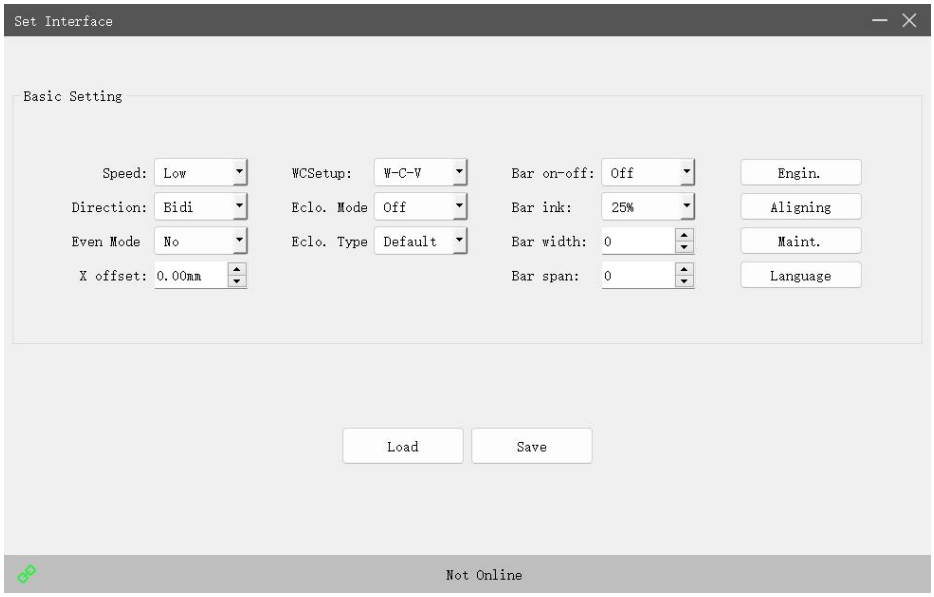
④Spot color setting: Set the spot color of the picture, select spot color 1 and spot color 2 for white ink, select spot color 3 and spot color 4 for varnish, and the effect defaults to even mode.



# 7.4 Confirm driver setting parameters

Click on the driver settings icon 

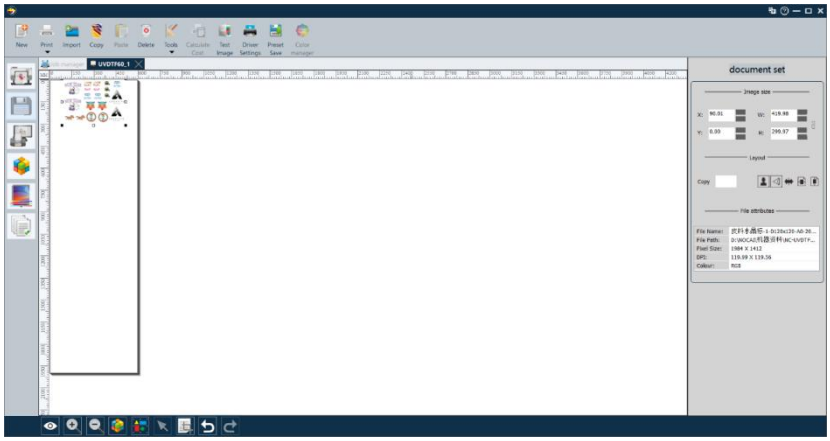
in the Future RIP interface as below:




After confirming the X white edge, printing speed, color combination, feathering selection, printing direction, calibration parameters and other information,

# 7.5 Send to print

Return to Future RIP interface




Click the print icon 

in the upper left corner,Printing is now available. After clicking print, a window will pop up to the print list. Perform edge printing.

# Machine maintenance methods and precautions

## 8.1 Maintenance methods of print head

① There is a board chip inside the print head, which is directly inserted into the print head cable. Pay attention to the contact part between the head cable and the head. Be sure to prevent ink dripping. Once it is found that there is water in the head cable part and the head, please remove it immediately. Turn off the machine for a while, disassemble it and blow dry it before trying it again to test whether it is burned. Remember not to bring water into the machine to use it, otherwise the head and head plate will be burned.

② Since the head cable is closely integrated with the head socket during use, it is generally not easy to unplug and plug in. Therefore, after a long time,contact oxidation, damage, misalignment or other contact merging may occur, so before unplugging and plugging the head cable Always pay attention to cartefully observe whether these problems occur, and eliminate or replace the head cable, otherwise the head or head board will be burned.

③When you are not using the machine, you must do a good job of maintenance, and insist on turning it on once a day and printing test strips. If the ink on the test strip breaks, you need to automatically clean it to ensure that the test strip is normal. You can print a small picture. If you are not on vacation for more than 3 days, When taking carte of it, you should use 3-5 drops of cleaning fluid in the ink-absorbing pad, and then seal the nozzle with the ink-absorbing pad, which will have a certain protective effect.

④After adding the machine ink to the ink cartridge, use the method of adding less and more often. The warranty lifetime of the ink after opening is 3 months. If it exceeds 3 months, it will deteriorate, which will affect the printing effect and cause nozzle clogging. It is recommended that the user stir the ink regularly and evenly. And turn on the ink stirring function when using the machine.

⑤ It is best to keep the height of the head from the printing material at 2-3mm. Check the printing height in time to avoid damage to the head.

⑥The sheet metal of the cart must be cleaned regularly to avoid affecting the head.

⑦ Avoid printing on transparent, translucent and other light-transmitting materials, which may cause nozzle clogging.

## 8.2 Capping station maintenance

Since there will ink drops remained on the capping station on sheet metal after cleaning or ink sucking, the capping station should be cleaned regularly on time by alcohol.

## 8.3 Rail maintenance

The machine guide rail includes the cart guide rail,The contact between the guide rail and the slider is based on lubricating oil. Please add lubricating oil to the guide rail within a certain period of time to prevent the guide rail from being rusted and jerky due to lack of oil. It needs to be wiped clean with alcohol before adding lubricating oil.

## 8.4 Damper replacement

Suggestion: replace it each 3 months.

## 8.5 Cap top replacement

Suggestion: replace it each 3 months.

## 8.6 Shell sheet metal maintenance

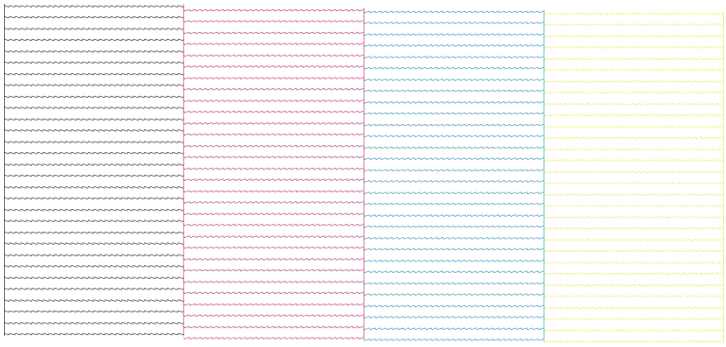
Keep the shell clean, and if there is any ink leakage, please scrub it to avoid the corrosion of the ink on the outer paint surface of the sheet metal

# Common Trouble-shooting problems

## 9.1 Nozzle test line break problems

Examples of nozzle test line break problems are as follows:

### 9.1.1 Normal nozzle test with full heads printed

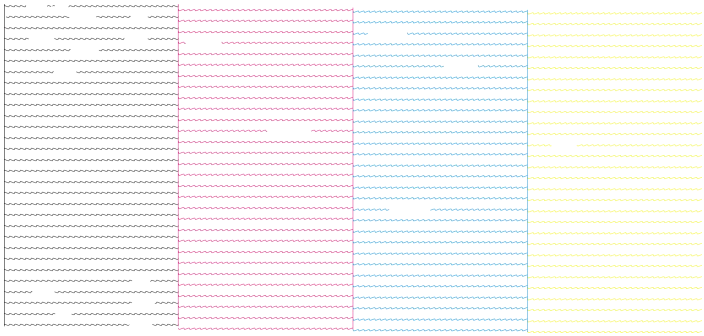


Mark: This nozzle test means the goods condition of the print head.

### 9.1.2 Partial ink line break of the nozzle test

Note: The partial ink line break problem of nozzle test caused by the corrosion damage of the ink to the print head heads. You can choose automatic cleaning. If the automatic cleaning cannot solve the problem, you can continue to use it without affecting the effect.

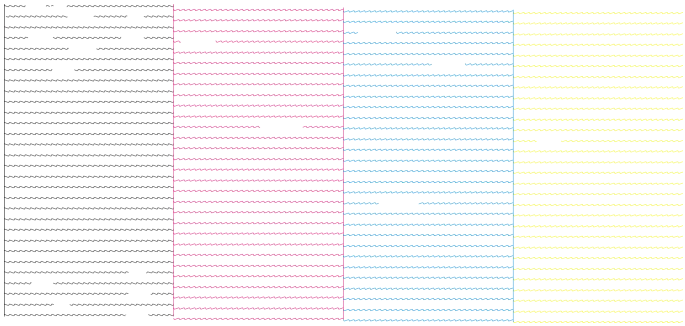
## 9.1.3 Severe ink line break in the nozzle test



Solution:
1. Use a syringe to extract the damper, 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 the ink of the damper is still blocked, please check whether the ink tube and the cartridge head of the damper are blocked.
3. Manually clean the print head to ensure that the print head is not blocked.

Problem overview: The above problems are usually caused by dampers and clogging of the heads. Please check them first.

## 9.1.4 Ink break in all the color of nozzle test

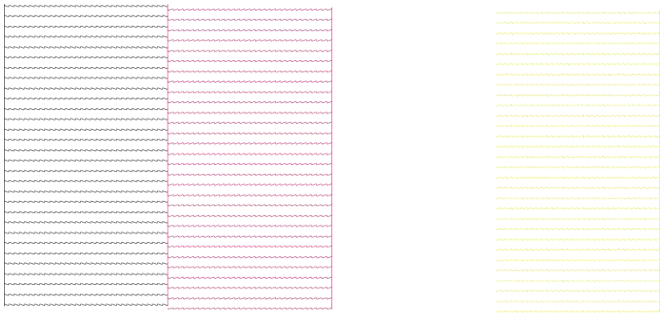


Solution:
1. Automatic cleaning, check whether the ink can be pumped, if the ink cannot be pumped normally, please replace the new cap top or re-adjust the position.
2. Check whether there is any ink residue on the surface of the head. If there is a single color ink droplet, please replace the corresponding ink bag. If there is a multi-color ink droplet, please check whether the scraper can scrape the head mirror normally during the automatic cleaning process.
3. Manual cleaning, use a syringe to flush the head, and check whether the head is blocked.

Summary of the problem: The above-mentioned multi-color ink breakage problem is generally less likely to be blocked by the head. Check in detail whether the ink suction and scraping of the

cap top and the head are normal.

## 9.1.5 Color missing in the nozzle test



Solution:
1. Unplug and plug the head wire to check whether the contacts of the head wire are oxidized or damaged. If so, please replace the head wire and plug it in again.
2. Check whether there are ink stains on the head line connection interface of the head. If there is, please clean it up and re-test or replace the head.
3. Replace the cart board.
4. Use a syringe to extract the ink from the damper to ensure that the ink can flow out normally, and manually clean the head to ensure that the head is not blocked (The above problem is that one color is missing alone. Generally speaking, the voltage of the print head is not transmitted normally.

The common problems are: the print head plate, the print head line, and the print head, but it cannot be ruled out that there is no normal ink supply for a single ink, and the print head is blocked.

## 9.1.6 Whole nozzle test missing

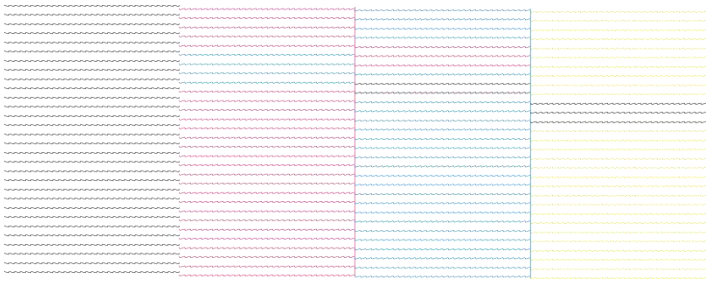


Solution:
1. Unplug and plug the head wire to check whether the contact point of the head wire is oxidized or damaged. If so, please replace the head wire and plug it in again.
2. Check whether there are ink stains on the head line connection interface of the head. If there is, please clean it up and re-test or replace the head.
3. Replace the cart board.

Summary of the problem: The above problems are usually caused by the ink entering the head

outlet or the wrong operation after the customer replaces the print head, resulting in a short circuit of the head, burning the cart board or the head, because the head will damage the cart board, but the cart board will not damage the head, It is recommended to give priority to the replacement of the head and the replacement of a new head line.

9.1.7 Color mixing badly



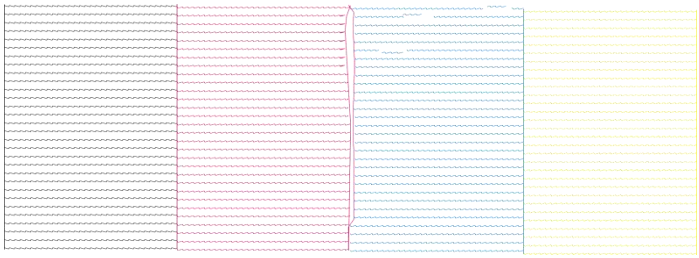
Solution:

1. Please flush the ink first, then print a test strip to observe whether the color mixing situation improves. If not, please check whether there is ink residue on the surface of the head. 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 scraper can scrape the head mirror normally during the automatic cleaning process.

Replace the print head.

Problem overview: When the above problem occurs, firstly detect whether there is ink residue on the surface of the head

## 9.1.8 Ink floating problem



Solution:

1. Check whether the height of the head is within 2-3mm from the printing medium.
2. The printing environment is within the range of 15℃~30℃.
3. Test whether the cap top can pump ink normally.
4. Stir the floating ink evenly, and pump more than 10ml of the damper ink from the syringe, and then clean the print head. If the problem cannot be solved, it is recommended to replace the ink.

Problem overview: If the above problems occur, 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.

## 9.2 Future RIP

Check if the dongle light works or not, if no, replace the dongle or try different USD plug of the computer.

## 9.3 UV lamp doesn't work

1. Check if the uv lamp wire has connection problem or not;
2. Check if the uv lamp power box supply power correct or not. If no, replace the power box;
3. Check the uv lamp connect port on the mainboard and see if there's 24V voltage be supplied. If no, replace the mainbaord;
4. Replace the uv lamp.

## 9.4 Ink not dry

Whole printed picture is not dry.
Please check if the uv lamp works during printing. If no, refer to 12.4 solution.

The edge of printed picture is not dry.

Check and correct the uv lamp parameter;
Confirm the printer device information with Nocai and upgrade the program accordingly if needed.

## 9.5 Error code

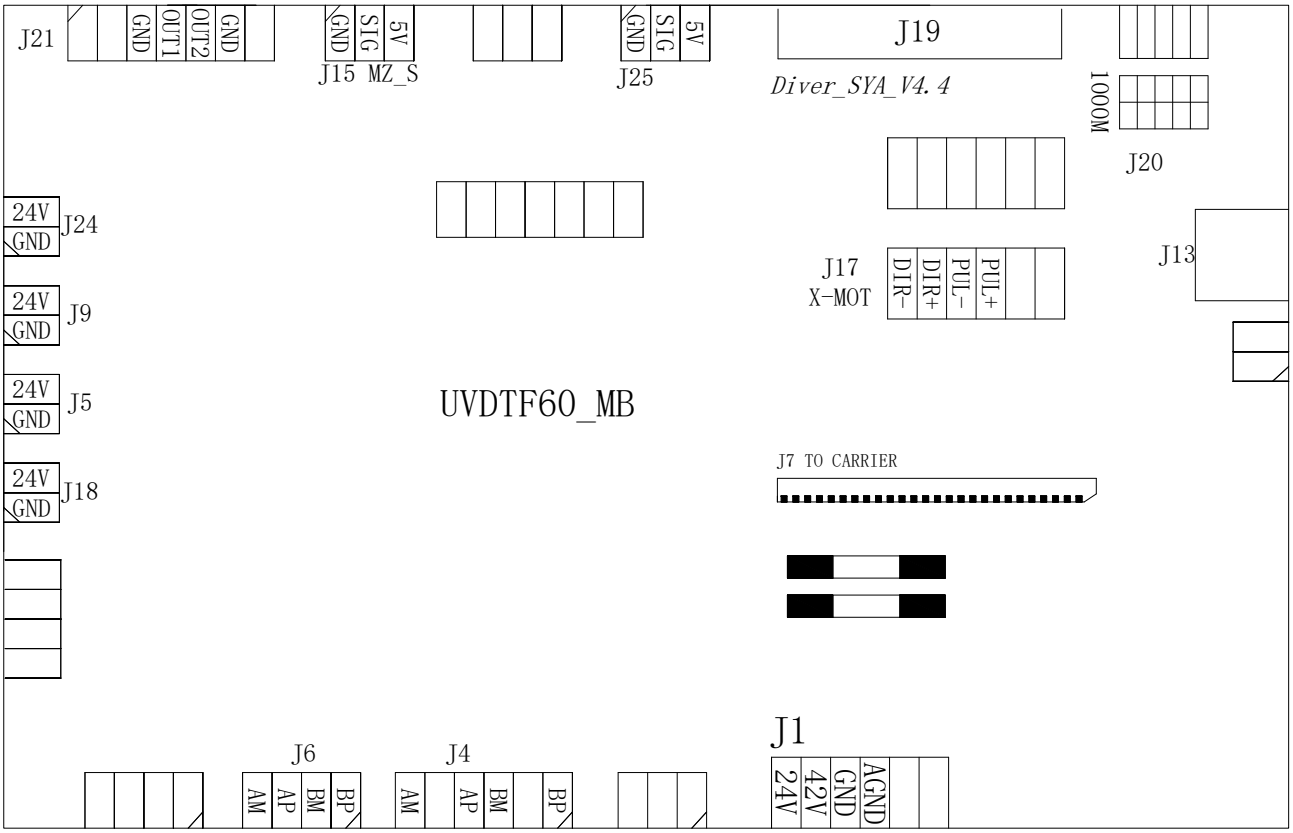
| | |
|---|---|
| Error 1 | Wrong PC driver |
| Error 2 | The available printing area/time is not enough |
| Error 3 | The available printing area/time is 0. |
| Error 4 | Home position limited sensor problem |
| Error 5 | Parameter initialization error |
| Error 6 | Cart error |
| Error 7 | Parameter table ID does not match registration ID |
| Error 8 | Cart transmission ratio is too small |
| Error 9 | Cart transmission ratio is too large |
| Error 10 | UI Parameter initialization error |
| Error 11 | Wavetable is empty |
| Error 12 | Cart reverse error |

| | |
|---|---|
| Error 13 | Printing cartriage stops |
| Error 14 | cart position error |
| Error 15 | Servo motor self-test distance is not enough |
| Error 16 | Driver board alarm |
| Error 17 | The UI parameter ID does not match the cart parameter ID. |
| Error 18 | IIP address conflict error |
| Error 19 | Ink tank initialization error |
| Error 20 | Ink tank level warning |
| Error 21 | Ink tank level is zero |
| Error 22 | UI parameter table beta version |
| Error 23 | No time limit is supported |
| Error 24 | Time limit read error |
| Error 25 | Time limit has expired |
| Error 26 | The time was illegally modified |
| Error 27 | Parameter table head type error |
| Error 28 | Print head automatic detection error |
| Error 29 | UI reset exception error |
| Error 30 | Detect ink station motor or sensor errors |
| Error 31 | Panel nozzle test fill data error |
| Error 32 | Flashjet timeout error before printing |
| Error 33 | nozzle test timeout error |
| Error 34 | SDR startup detection abnormality, cannot be detected |
| Error 35 | Paper pressure sensor error |
| Error 36 | The selected ink sequence does not have a corresponding waveform. |
| Error 39 | Encoder strip missing |
| Error 40 | Waste ink alarm |
| Error 41 | Ultra wide alarm |
| Error 42 | Printing touches the Y maximum limit |
| Error 43 | Printing touches the Z maximum limit |
| Error 50 | Ink level monitoring alarm |
| Error 51 | Ink is not activated |
| Error 101 | For R&D internal testing errors |
| Error 102 | For R&D internal testing errors |
| Error 103 | For R&D internal testing errors |
| Error 104 | The cart has great resistance |
| Error 105 | Cart reverse direction |
| Error 106 | Width exceeds |
| Error 107 | cart zero sensor error |
| Error 108 | Encoder strip detection error |
| Error 109 | SDR detection error |
| Error 110 | PC driver error |

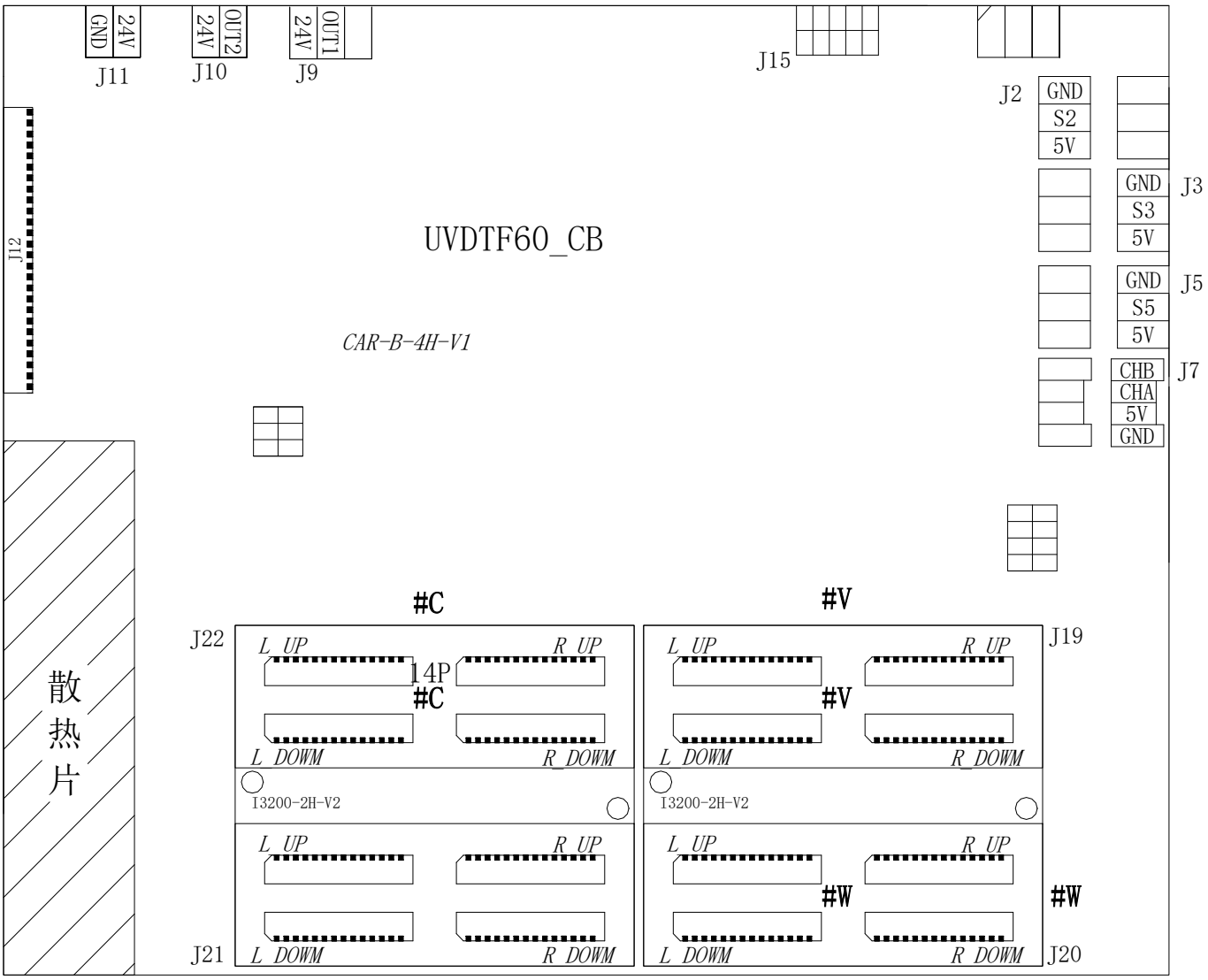
| | |
|---|---|
| Error 111 | Not enough squares |
| Error 112 | Ink lift station sensor error |
| Error 113 | Mainboard and trolley board communication error |
| Error 114 | Print the square number as 0 |
| Error 115 | Fiber optic cannot communicate |
| Error 116 | Empty paper alarm |
| Error 117 | Parameter table ID does not match registration ID |
| Error 118 | Parameter list is invalid |
| Error 119 | There is no main program written on the cartriage board |
| Error 120 | Print head lift motor error |
| Error 121 | Paper feeding limit |
| Error 122 | Paper feed initialization error |
| Error 123 | Anti-collision |
| Error 124 | Anti-collision during initialization |
| Error 125 | Ink spilled |
| Error 126 | Cart transmission ratio is too small |
| Error 127 | Cart transmission ratio is too large |
| Error 128 | Wrong type of head for trolley plate |
| Error 129 | The through-beam sensor pauses printing during printing |
| Error 130 | External ram error |
| Error 131 | Position error when the cart stops |
| Error 132 | The position of the cart is wrong when moving |
| Error 133 | Multi-machine system startup exception error |
| Error 134 | SDR startup detection abnormality, cannot be detected |
| Error 135 | The ink station expansion board is not connected |
| Error 136 | Temperature alarm |
| Error 137 | Humidity alarm |
| Error 138 | FPGA reset timeout |
| Error 139 | Failed to apply for external SRAM for 485 initialization |
| Error 140 | Communication failure in multi-machine system |
| Error 141 | Printing exception in multi-machine system |
| Error 142 | Main ink bottle empty |
| Error 143 | Waste ink bottle full |
| Error 144 | The paper extension board is not connected |
| Error 145 | There is an error in the operation of the paper expansion board |
| Error 146 | Ink pump motor board not connected |
| Error 147 | No network connection from the slave machine |
| Error 148 | Communication failure of master-slave 485 in multi-machine system |
| Error 149 | No time limit is supported |
| Error 150 | Time limit read error |
| Error 151 | Time limit has expired |

| | |
|---|---|
| Error 152 | The time was illegally modified |
| Error 153 | Multi-machine system synchronization failed |
| Error 154 | Head automatic detection error/cart cover is opened abnormally (X33 model) |
| Error 155 | The spreading stick has not fallen |
| Error 156 | Slave machine self-test error |
| Error 157 | ead alarm |
| Error 158 | ead alarm 2 |
| Error 159 | UV light sensor |
| Error 160 | Bottle clamping front sensor |
| Error 161 | Bottle clamping sensor |
| Error 162 | bottle lift sensor |
| Error 163 | White border is too big |
| Error 164 | Retract the paper to the end |
| Error 165 | Ink supply timeout |
| Error 166 | SWATH print waiting cart timeout |
| Error 167 | Cancelable ink station error |
| Error 168 | head temperature is too high |
| Error 169 | head voltage power supply abnormality |
| Error 170 | Distributed message distribution connection timeout |
| Error 171 | The currently selected wavetable is empty |
| Error 172 | The ink station sensor error occurred during the movement of the trolley. |
| Error 173 | The head is inserted backwards, wrongly, incorrectly, and ink is inserted. |
| Error 174 | There is a problem with the connection line between the secondary development data cartd and the control cartd. |
| Error 175 | The cart is detected to be stopped, but the current pass printing is not completed. |
| Error 176 | The machine head negative pressure gauge will alarm if the air pressure difference is too large. |
| Error 199 | CPU exception error (program ran away, access to address prohibited) |

# Introduction to board line definition




J1 motherboard power supply
J4 Y motor
J6 ink station motor
J18 ink pump varnish
J5 ink pump color
J9 ink pump white
J24 platform suction
J21 OUT1→car heating; OUT2→ink stirring
J15 ink station limit
J25 empty paper signal
J19 display line-26P
J20 Gigabit cable
J13 network cable interface
J7 TO CARRIER motherboard-car board cable 26P
J17 X-MOT




J12 motherboard trolley board cable 26P
J11 UV lamp control power supply
J10 UV lamp control left lamp + varnish
J9 UV light control right light
J15 Gigabit cable
J2 anti-collision left
J3 anti-collision right
J5 origin limit
J7 grating sensor
J22 color nozzle
J19 varnish nozzle
J20 white ink nozzle

# Maintenance rules

## 11.1 After-sales, quality ensure policy

From the date of the contract, the whole machine is covered by a one-year warranty, except for accessories such as printheads, cap top, ink pumps/peristaltic pumps, ink tubes, ink cartridges and damper that come into direct contact with the ink. If the technician is required to provide door-to-door service, the buyer shall bear the technician's round-trip transportation, accommodation and accommodation costs.

## 11.2 Ask for help

If you have any problems during using the machine, please ask for help according to the following steps:
11.2.1 Check the user manual
11.2.2 Search the official website for more information.(https://www.gznuocai.com/)
11.2.3 Keep in touch with the local dealer for help.

## 11.3 User information column:

| User information column | |
|---|---|
| Name: | |
| Product: | |
| Model: | |
| Detailed address: | |
| Phone number: | |

## 11.4 Non-warranty item

11.4.1 If the product is damaged, it is due to the ink that doen not come from Nocai.
11.4.2 If the product is damaged, it is because that the printer is not used under wrong environment(such as

power voltage, temperature and humidity)
11.4.3 Failure and damage caused by improper storage by the user (such as rodent infestation, insect infestation, liquid infiltration, foreign body ingress, etc.), or loss of parts
11.4.4 Breakdowns and damage caused by human factors.
11.4.5 Failure and damage caused by failure to follow the usage method and main matters noted on the product instructions.
11.4.6 Failure and damage caused by the user's handling.
10.4.7 Force majeure.

## 11.5 Warranty policies

115.1 In the event of loss or damage of the included accessories (manuals, software), Nuocai does not provide them again.
11.5.2 We do not assume any responsibility for indirect losses incurred by users or future earnings due to product failures.

## 11.6 Precautions

11.6.1 Move.
11.6.1.1 Do not forcibly pull the ink frame beam and print table when moving the printer.
11.6.1.2 Two people are required to hold the printer's foot cup and move it smoothly.
11.6.2 Operating environment

| | | |
|---|---|---|
| Operating environment | Temperature | 25℃-28℃ |
| | Humidity | 35%-65% |