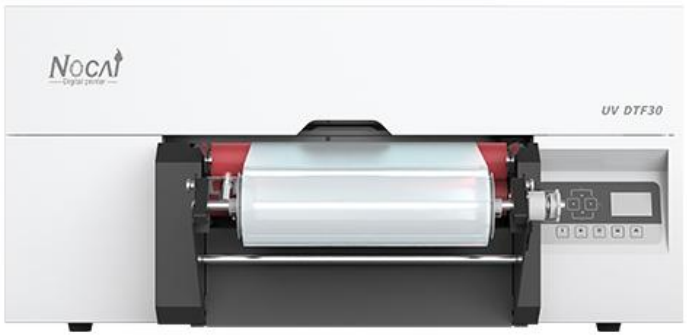
NC-UVDTF30



User Manual

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

Catalogue

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 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 analysis

1.1 Graphic analysis of the front and side of the machine

① Printing platform 300mm

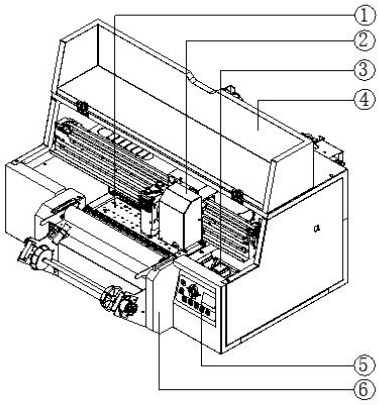
② Ink cart

③ Cap top

④ Machine cover

⑤ Keyboard panel

⑥ Front coiled material



1.2 Graphic analysis of the back of the machine

①Tear Film Motor Air Interface

②220V power switch

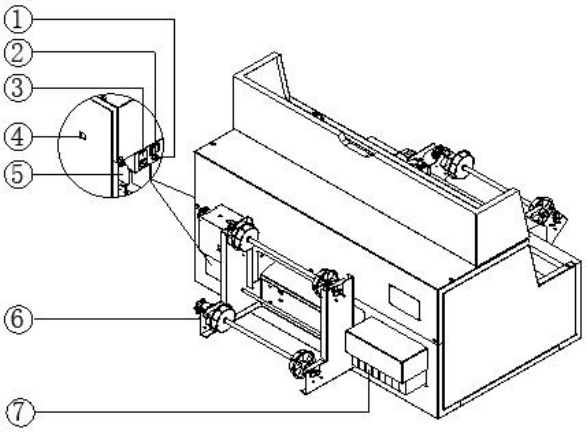
③220V power connector

④Cable connector

⑤Waste ink bottle

⑥Back coiled material

⑦Ink cartridge



1.3 Graphic analysis of internal structure

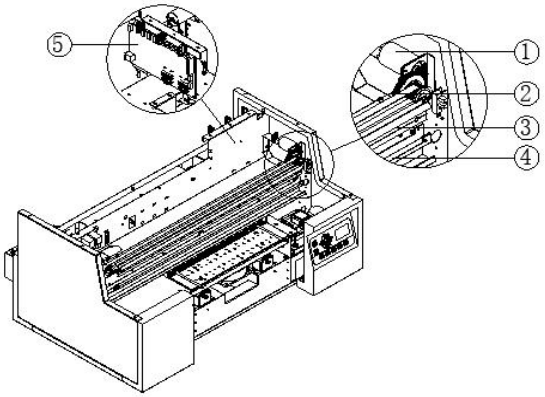
①X-axis motor

②Original site sensor

③Rail

④Encoder strip

⑤Mainboard



1.4 Graphic analysis of front coiled material

①Scale

②Crystal heating axis

③Paper-moving shaft

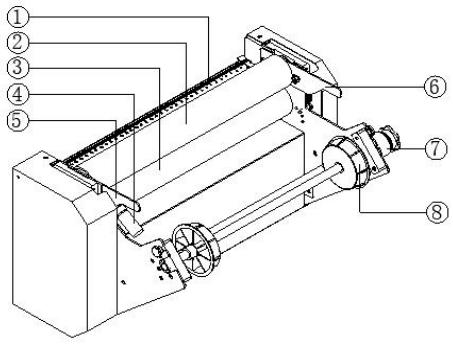
④Infrared detector

⑤Left platen lifter

⑥Right platen lifter

⑦Strength adjustment of film release device

⑧Coiled socket



1.5 Graphic analysis of back coiled material

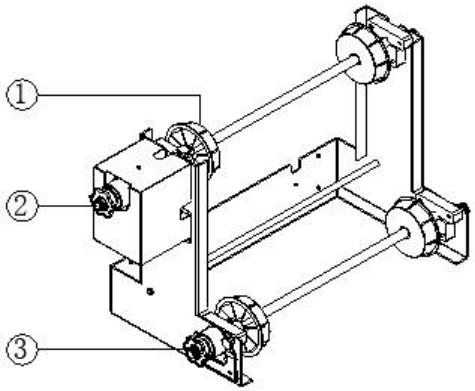
①Coiled socket

②Strength adjustment of film release device

③Strength adjustment of paper release device

④Film release motor

⑤Direction adjustment of film release motor



1.6 Graphic analysis of the cart of the machine

①Damper

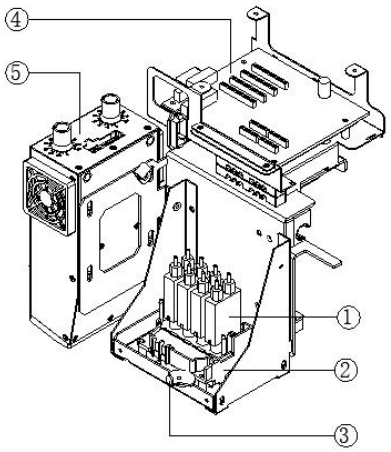
②Printhead

③Printhead adjust sheet metal

④Cart board

⑤Air-cooled UV lamp

⑥Right limit sensor



1.7 Ink station

①Wiper

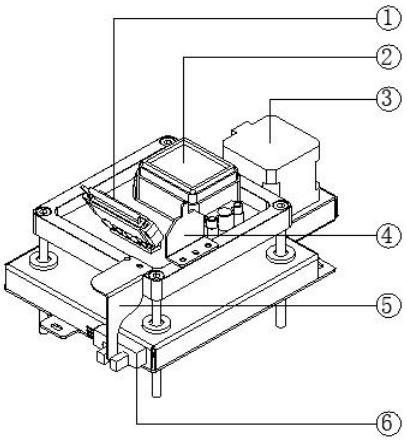
②Cap top

③Ink station motor

④Mixed sheet metal of cart

⑤Sensing sheet metal of ink station

⑥Ink station original sensor



1.8 Graphic analysis of product keyboard panel

①The cart move to the right

②Backward paper movement

③The cart moves to the left

④Forward paper movement

⑤Printhead detection

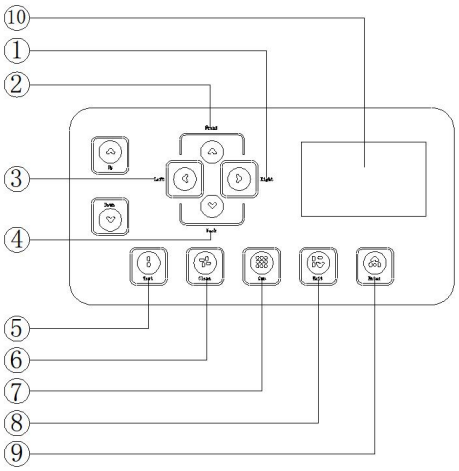
⑥Automatic cleaning

⑦Control switch of suction platform

⑧Exit key

⑨Enter key

⑩Keyboard display panel



Preparations before using

Preparation work before powering up the machine after removing the outer packaging includes ensuring that the machine is properly placed, removing the machine's fixed sheet metal, and confirming that the power-on and power-off actions are normal and that the machine is moving properly.

2.1 Confirmation of machine placement environment

2.1.1 Confirm the installation site

2.1.2 If there is no problem with the level and strength of the floor and the table of the installation place, move the cart to the 4 corners of the platform and measure the distance from the platform at each point. If the maximum and minimum values do not exceed the difference of 0.3mm or more (including 0.3mm), it is OK.

2.1.3 Installation places should be not exposed to direct sunlight, uneven ground, large temperature changes, vibration, direct air blowing from air conditioners and other equipment, and places where open flames are used.

2.1.4 No chemicals were placed around the installation site.

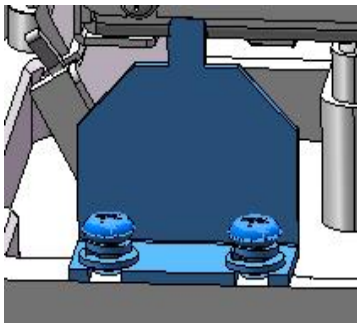
2.1.5 There is no large noise-producing equipment in the vicinity.

2.1.6 Equipment installation environment, temperature 20 ℃ ~ 30 ℃, humidity 30% ~ 65%Rh (no condensation). In addition, make sure that the accuracy of the temperature is 20 ℃ ~ 25 ℃, the temperature change is less than ± 10 ℃ / h. Ink storage place, the temperature is 15 ℃ ~ 35 ℃, lightproof environment.

2.2 Disassembly of machine fixed sheet metal

Cart fixed sheet metal needs to be removed before powering up the machine. As is shown in the following:

Detailed picture is as following:



2.3 Assure operate-on normal

Confirm the normal appearance of the machine is placed firmly, observe the machine power supply voltage marking is 220V or 110V, and it can only be used by matching the local power supply voltage.

The machine is connected to the power supply, open the main power switch at the rear of the machine, the machine begins to initialize the action, the specific action is as follows:

【Ink station and wiper drop at the same time→Drop a bit→Platform move forward→Platform moves back to rear limit→Cart moves to the left for a bit→Platform moves right to limit

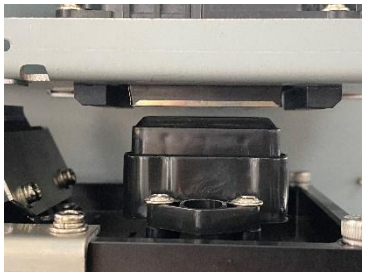
position→The cart moves left over the inking station→Ink station header】

2.4 Debugging actions for cleaning

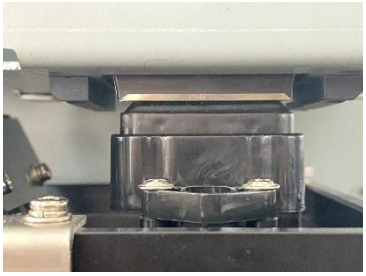
Click'**ENTER**'to the function menu, click'ENTER'to the setting menu, click'ENTER'to the ink station. It is necessary to set the five actions of ink station origin, head height, flash height, wiper height, and wiper position in sequence.

Enter the ink station settings and the ink station unseals the header automatically ， lift and lower the ink station and moves the cart to the left and right by the four buttons**'FRONT'、'BACK'、'RIGHT'、'LEFT'**

Ink station origin：Align and center the printhead with the cap top. Click'**ENTER**'. Keep the option of Ink Station Origin. Click'**ENTER**'to keep the setting.As is shown in the figure on the right：



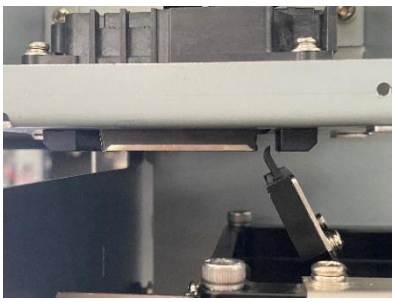
Head height setting：With the ink station original site is completed, raise the ink station to the point where the cap top is pressed against the printhead to the halfway point. Click'**ENTER**', and keep the setting.As is shown in the figure on the right：



Flash height setting：With the ink station original site is completed, raise the ink station to the state where the cap top is just close to the printhead. Click'**ENTER**'， keep the option of flash height， click'**ENTER**'to keep the setting， As is shown in the figure on the right：

Wiper height setting：Move the wiper to a position midway between the printhead crash bar and the printhead, and the ink station rises until the wiper is aligned with the printhead.Click'**ENTER**', keep the option of wiper height.Click'**ENTER**'to keep the setting. As is shown in the figure on the right：

Wiper position setting：Move the wiper to the center where between the right end of the nozzle bumper and the nozzle. Click'ENTER'， keep the option of wiper position， click 'ENTER'to keep the setting.As is shown in the figure on the ri



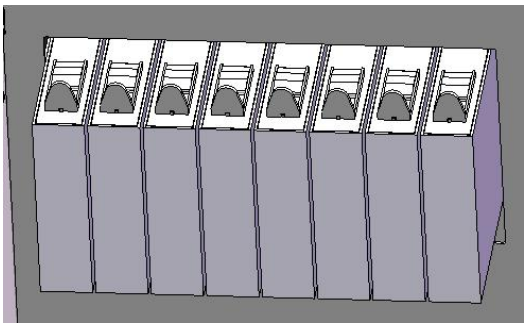
Adding ink to a machine and checking the status of ink output from the printhead

3.1 How to add ink

Notice：The machine has an ink encryption function, there is Ink ID on the ink bottle. Register and activate to generate ink authorization code to use. The ink bottle had been activated when the new machine was generated , it is recommended that customers should take a photo to back up the ID of the ink bottle in order to activate to use.

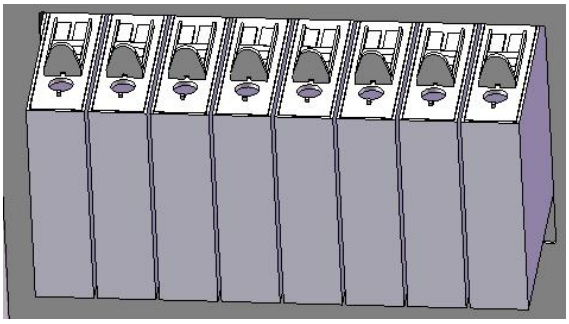
Follow the prompts of color to add the corresponding ink as shown in the figure below.

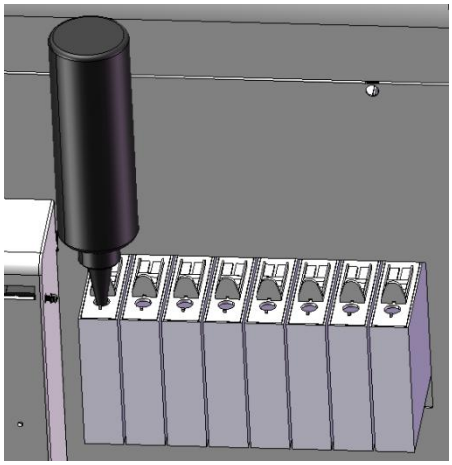
When adding ink, in order to prevent the ink from leaking out and contaminating the shell sheet metal, you need to do protective measures. You can use paper towels to wrap the mouth of the bottle. After adding ink, pay attention to the surrounding hygiene.



◀Confirm the cartridges on the back of the machine

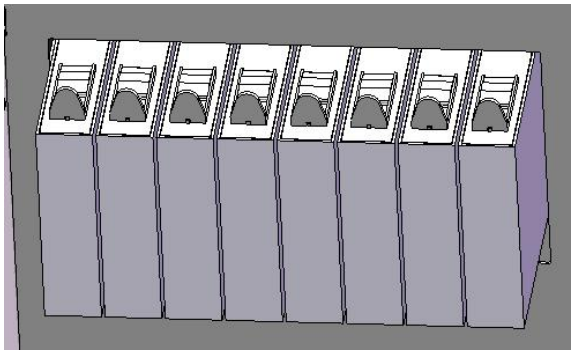
Smooth away the stopper of the ink port▶





◀Add ink

Set back the stopper ▶



As shown in the figure above, it is the ink adding port, note that the color of the ink bottle matches the color of the ink cartridge indication, take K for example, the ink adding process is as follows:

①Confirm the cartridges on the back of the machine;

②Push the tabs at the ink port of the K cartridge inward gently so that the round ink port leaks out.

③Open the conical cap of the K ink bottle, break the sealing layer and then tighten the conical bottle mouth, the mouth of the bottle is aligned with the position of the round ink adding port of the K color ink cartridges, squeeze the ink bottle gently until the ink is squeezed out.

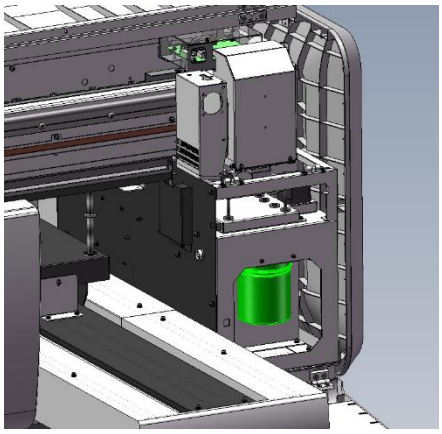
④Set back the ink stopper.

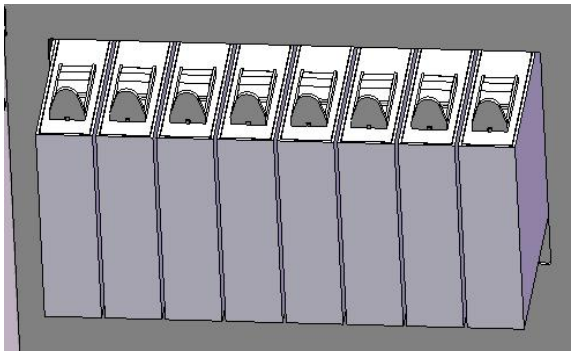
3.2 Inking and manual cleaning

Inking

In the standby status, click 【RIGHT】→【Machine maintenance】→【Manually inking】→【Enter】, click OK and start pumping ink. Observe the waste ink bottle until a few seconds after the ink has

been withdrawn to confirm that the ink path is clear. The damper has completed the ink storage, click 【Exit】, as is shown in the figure below:





▲Pay attention, after the ink in the waste bottle flows out of the ink tube smoothly, click"Exit"

Automatic cleaning

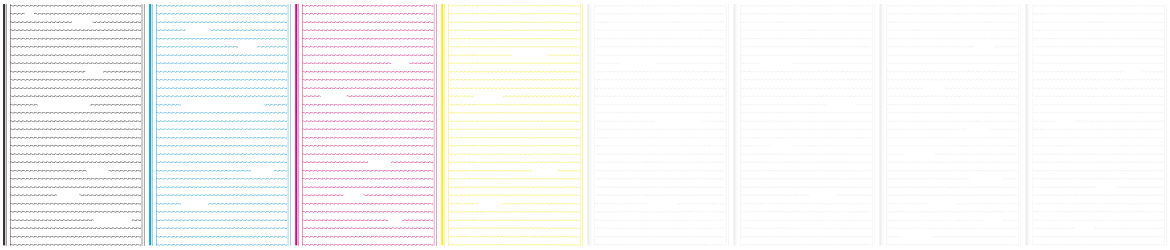
In the standby status, click **【RIGHT】→【Machine maintenance】→【Automatic cleaning】→【Enter】**. The machine will start cleaning automatically after clicking OK.

3.3 Test for printing nozzles

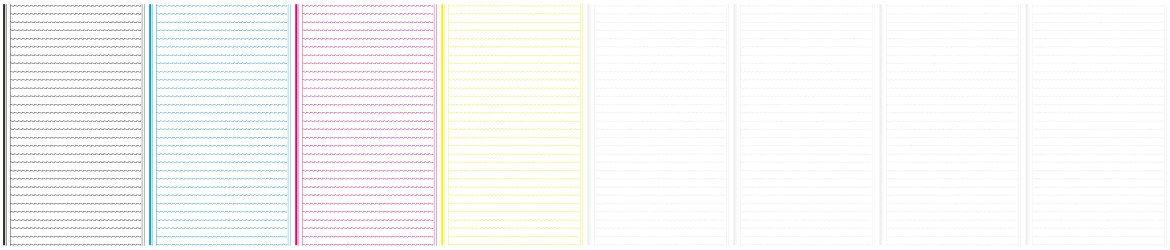
Click **【TEST】** to print test strip for printing status, if there is a lack of color or broken ink phenomenon, please continue to clean the printhead manually until the test strip get out fully.The ink installation is completed!

Reference:

Ink-breakage for test strip, needle-breakage, continue to"Automatic cleaning"



The normal status of the test strip is shown below:



Future Rip Installation

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

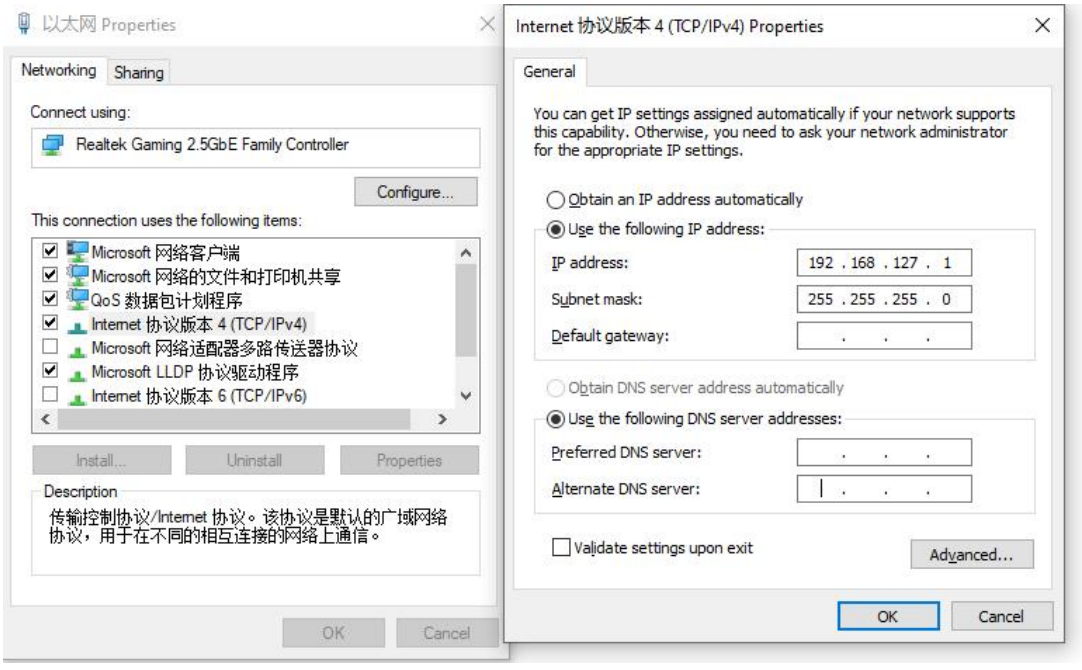
4.1 Future RIP Hardware introduction

Including two parts:Future RIP installation package and dongle.The following picture is dongle， and the serial number is on the front.

4.2 Computer configuration requirements and IP settings

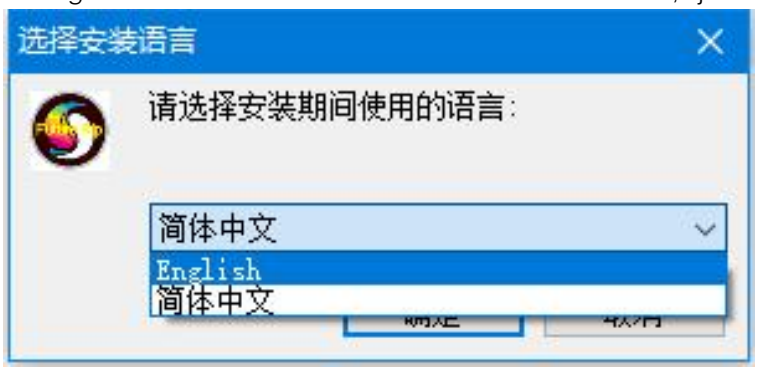
①System version： must be Win7, Win8, or Win10 on a 64-bit system.
Display language：Chinese or English
CPU：Recommended to choose i5 or above or equivalent;
Memory: 8GB or more recommended;
Hard disk: 500GB or more recommended.
②Computer must be equipped with Gigabit network card and gigabit network cable, only in this way software can be normal online.
③IPv4 address of the computer is set to be obtained automatically. Not choose IPv6.

Operation：Find the two icons  ，click right button，choose【Open network and Internet setting】-click Change Adaptor choice， double-click local connection (or Internet)-click attribute-cancel tick Inter protocol version 6（TCP/IP6）tick Inter protocol version4（TCP/IPv4）double-click and open it-Fill in the IP address, click OK。

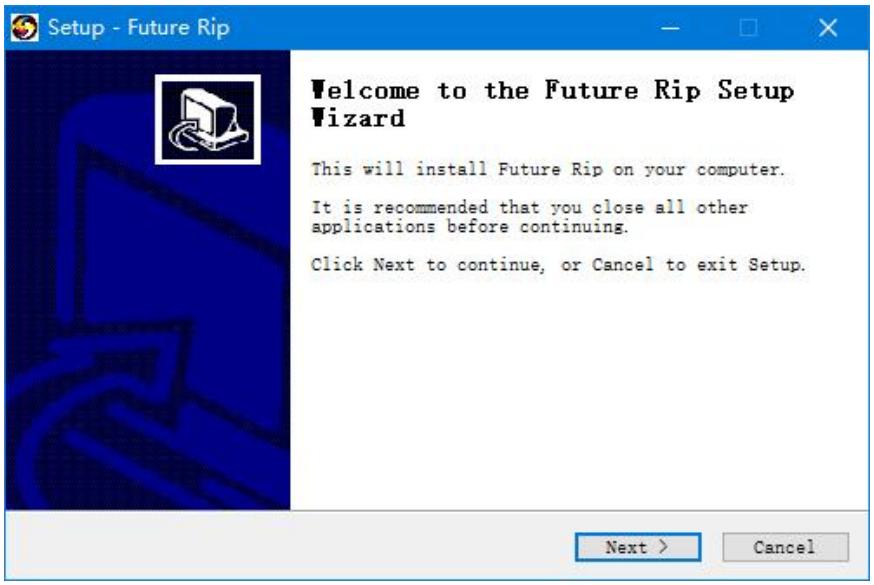


4.3 Install Future Rip

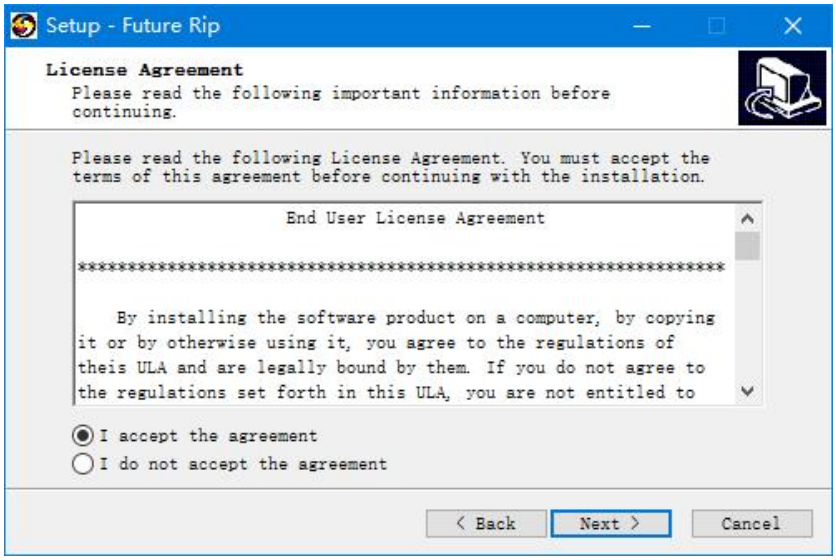
Open the file called Future Rip， get it from after-sales or download it from official website www.happycolor.com.cn. Find and open Future RIP.exe. As an administrator to operate with right-click， choose “Agree” and click on the Next and Installation in turn， just as the following：



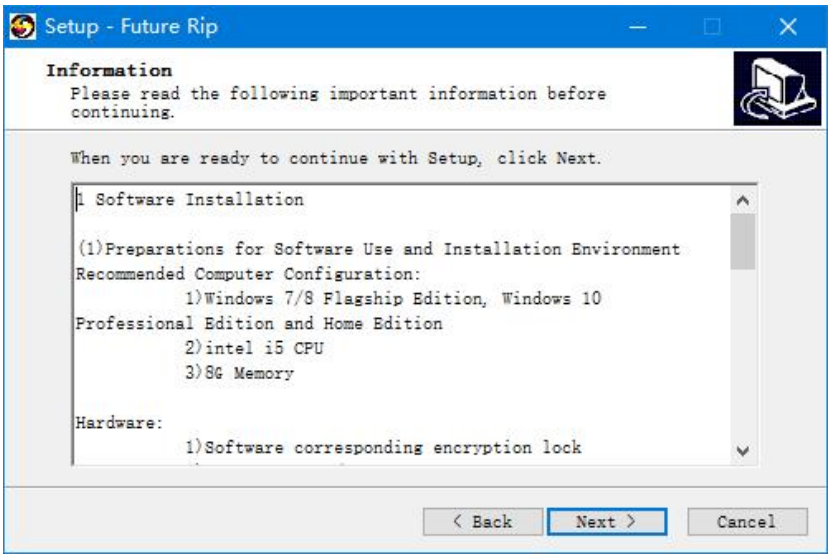
You can choose Chinese or English， click“OK”， it will appear such a pop-up window：



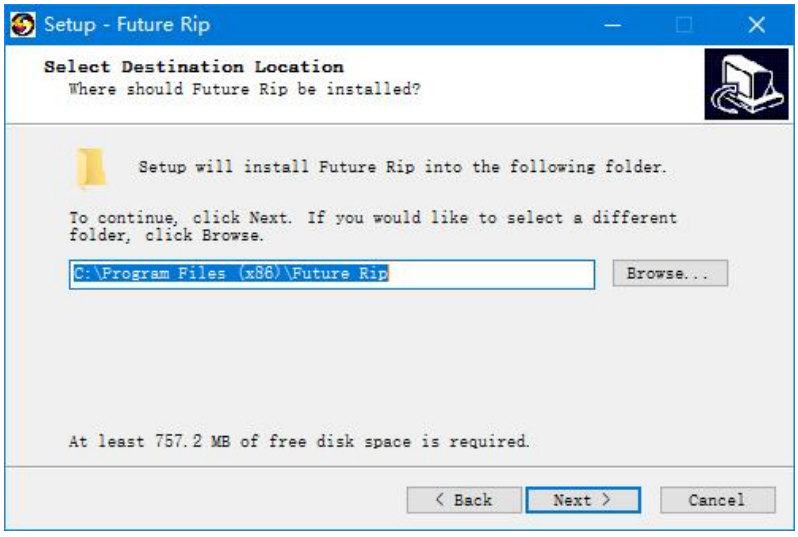
Click Next， the pop-up window is as follows：



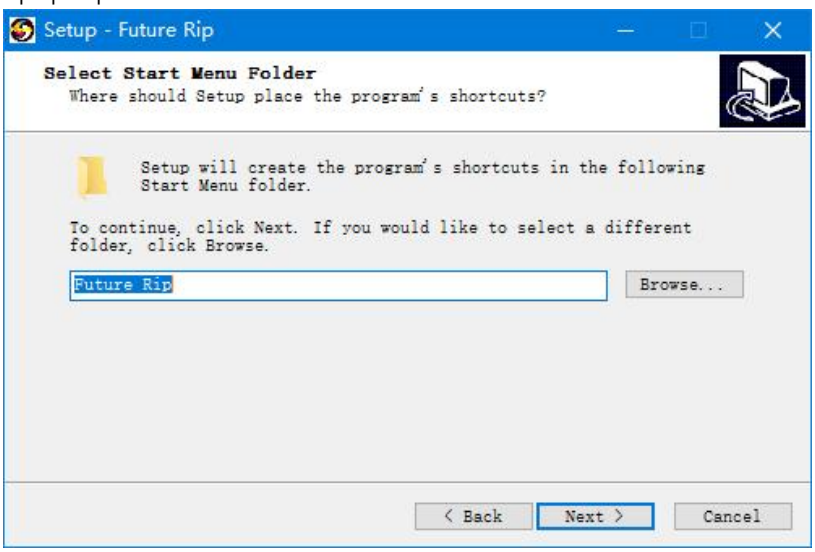
Click Next, the pop-up window is as follows:



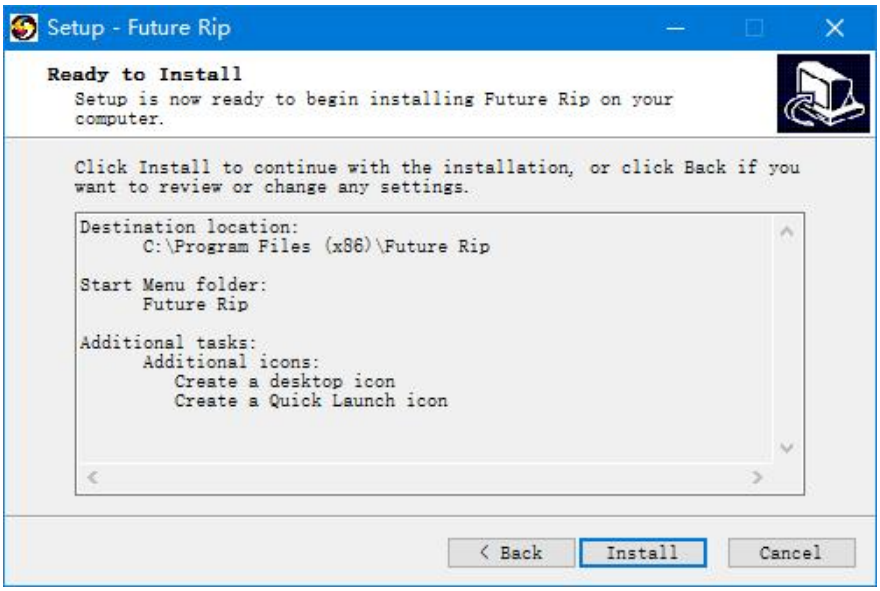
Click Next, the pop-up window is as follows:



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



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

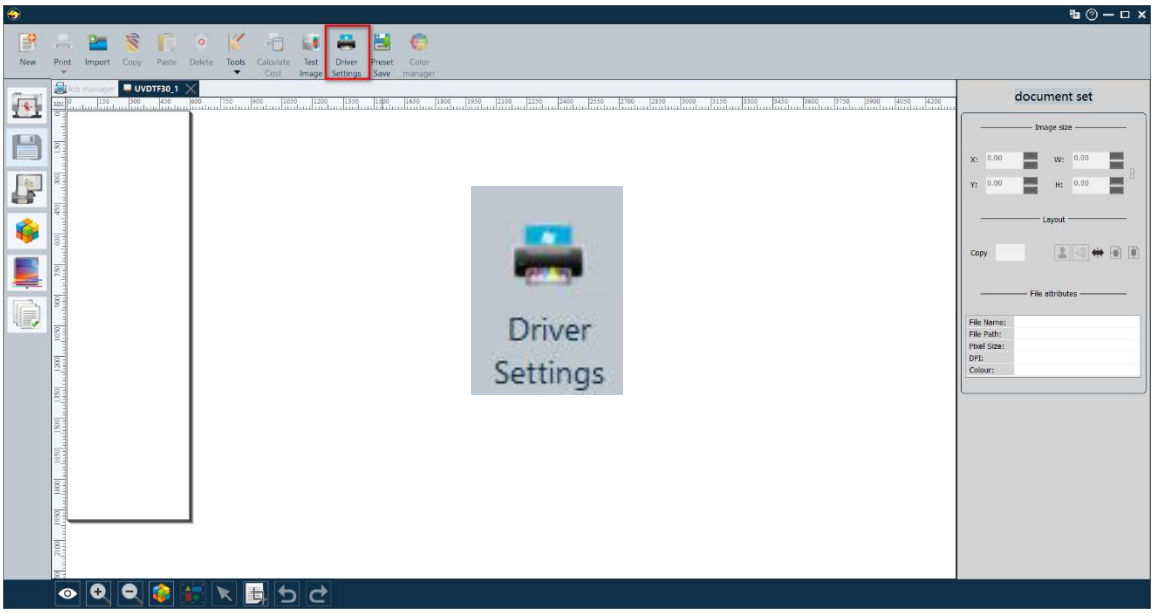


Click Install, the computer will generate such an icon 

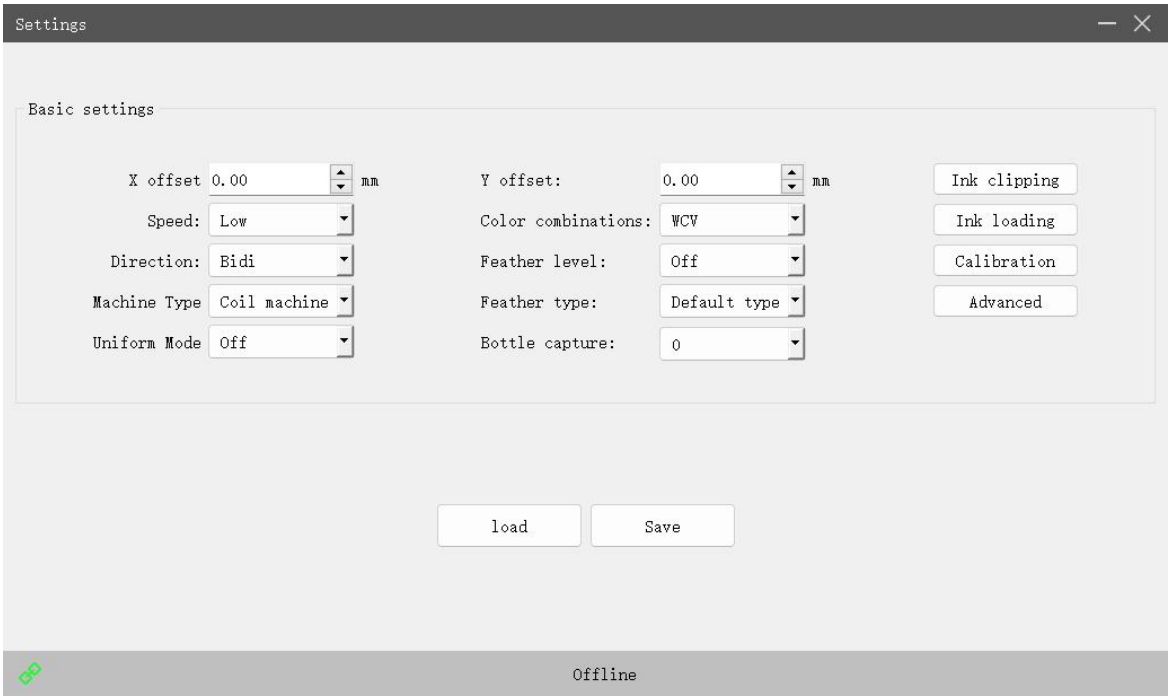
Driver settings explanation

5.1 Open driver settings

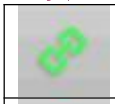
Open【Future RIP.exe】,the pop-up window is as follows:



Click Driver Settings . When there is a green chain， it means the driver has operated on， the picture is as the following： It is successful when the lower left corner of the display is always on-line, while blinking means not on-line successful.



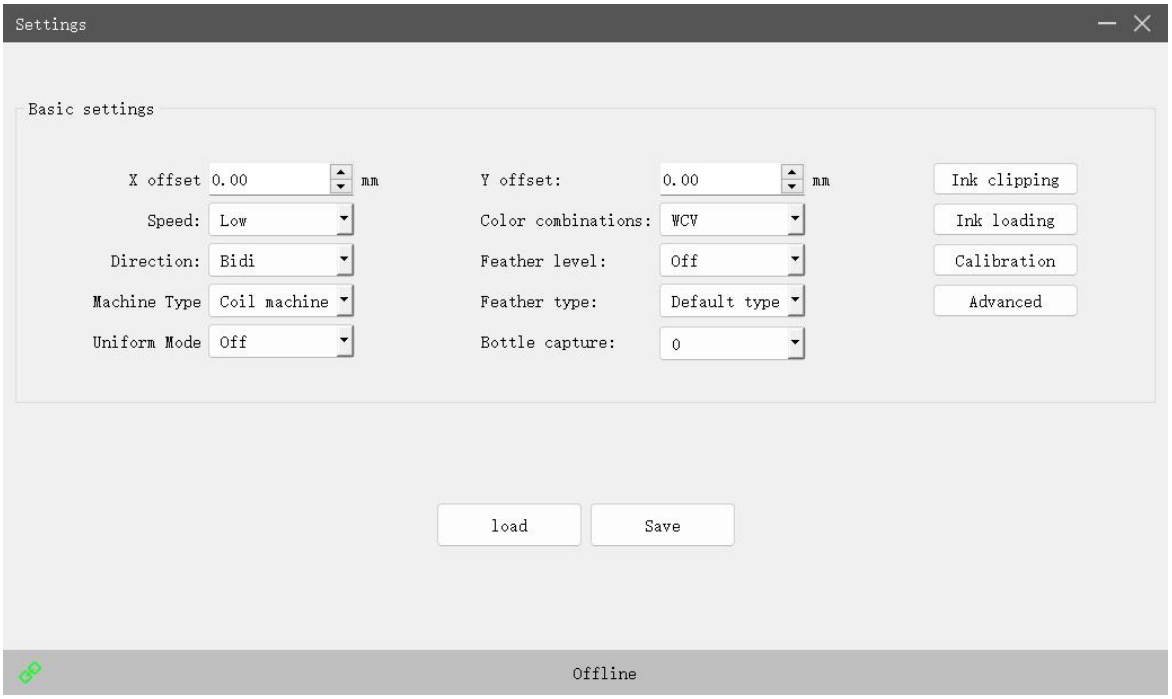
1.Automatic online success is green, not online is red.

	Normal situation of network cable
	Network cable disconnected status

5.2 Driver setting explanation

There are some details,the picture is as follows:

The interface of the software is divided into three parts①Basic setting、②Calibration、③Advanced setting.



There are the detailed information:

5.2.1 Basic setting

X offset Y offset: It is to set the offset position of the calibration chart and picture relative to the starting point of the platform, and it is recommended that both be set to 0.

Printing speed： High-speed， medium-speed， low-speed.These are the printing speed for printhead.

Color combinations：C single color，W single white，V single varnish，WC white color，CW color white，CV color varnish on bright surface，WCV white color varnish on bright surface，CWC color white color， WCV（F） white color varnish(frosted)

This is the color when you are printing. For example, if you select White, prints only white ink; if you select Color, prints only color ink; and if you select White Color, prints white color ink.

Printing direction： There are three parts for printing ,the left， the right and bidirection.

Feather mode：You can chosoe close、low、middle、high；The higher the feathering, the better the quality of the printout accuracy, but the slower the printout speed will be.

Machine change： flatbed printer（Print any material on a flat surface）、coiled machine（coiled mode）、cylinder printer（print straight material）.

Feather type： default， enhancement mode， choose standardization generally.

Uniform mode： Uniform Mode is activated when the printhead has serious needle breakage.

Add ink： Automatic inking for 30 seconds

Ink cutoff setting： For example, if you feel that the ink volume is too much or too little when printing, you can adjust it here. Percentage ink volume reduction and multi-PASS ink volume printing.

5.2.2 Calibration

Click Calibration， the software pop-up calibration process screen is shown below.

Material setting

Material choice： Customers need to save and use different parameters when replacing different printing materials, each material has a set of corresponding calibration parameters, so that it can be easily printed and used.

Horizontal large print accuracy: 480 DPI.

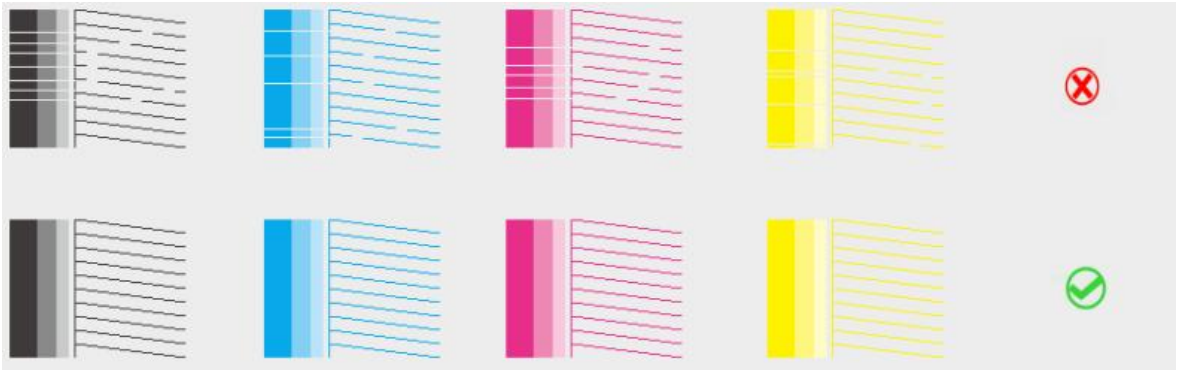
Printing speed： When higher calibrations are required, the parameters can be calibrated at high, medium, and low speeds, and in general, only high speeds need to be calibrated.

Calibration process

When installing, replacing, or bumping the printhead on a new machine, perform the calibration in order from top to bottom to complete the calibration.

Nozzle test

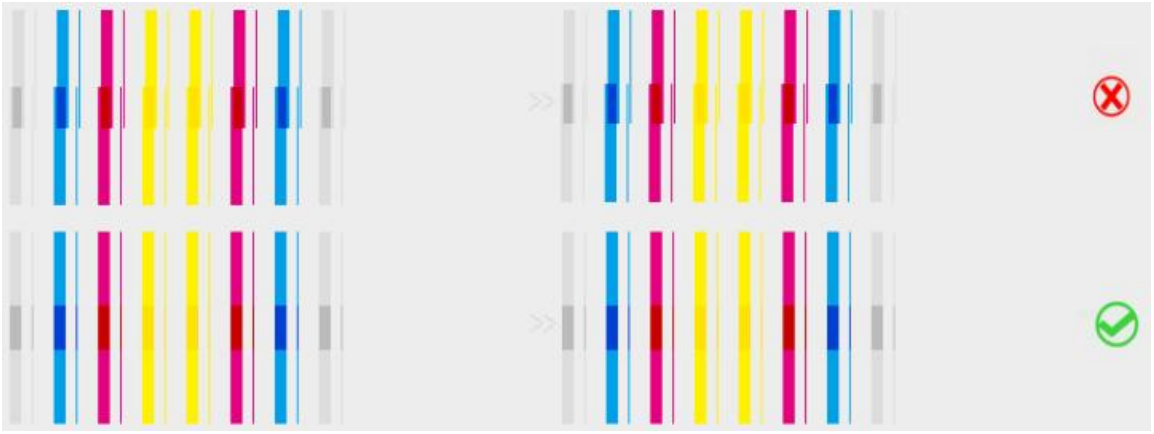
Compare to the schematic, the wrong result is the state of diagonal spraying for broken needle and pulling situation for color block, clean the nozzle. The correct result is that the state is full of uniform color block.



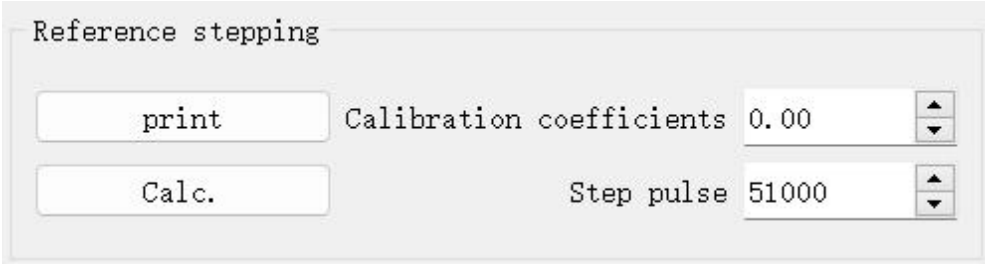
After confirming that the nozzle status is OK, click Vertical check。

Vertical check

If the nozzle is offset vertically to the left or right, you need to loosen the nozzle fixing screws and twist to the left or right gently to adjust.

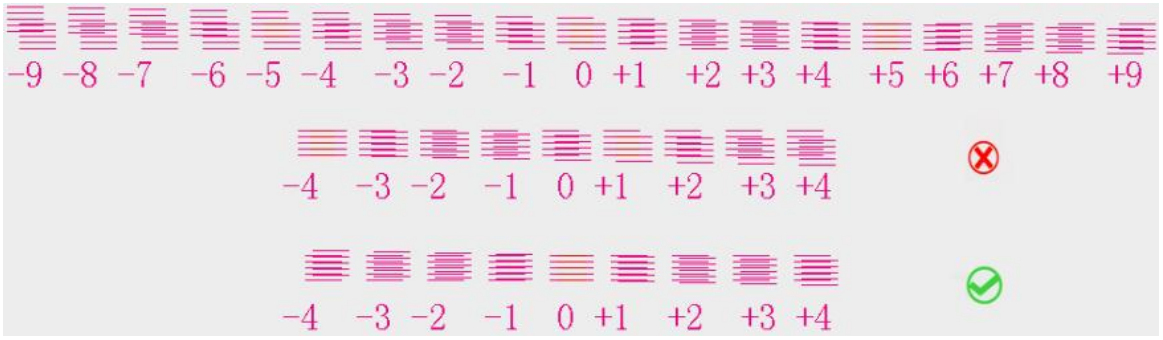


Reference stepping

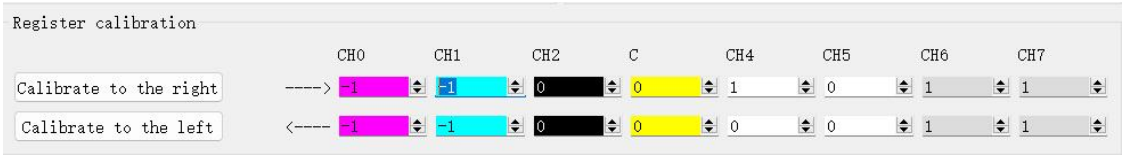


The first step is to click on Print in the Baseline step and the calibration line will appear as shown below

Compare to the schematic diagram, the incorrect result is the overlap position of calibration line and reference line is not the 0 position, please enter the value in the input box to the right of the print button according to the alignment line and reference line. And then click on the following [Calculate] button for calibration. The correct result is that the calibration line and reference line coincide at position 0.

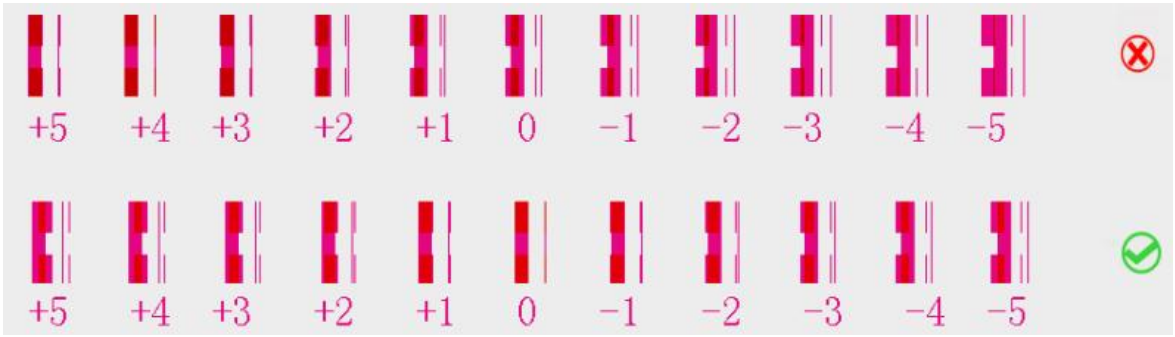


Register calibration

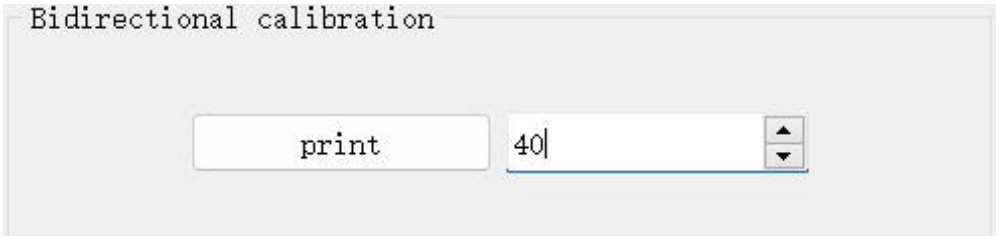


Click left calibration, the machine will print calibration diagram. As is shown in the following picture:

The incorrect result is the overlap position of calibration line and reference line is not the 0 position, please enter the value in the corresponding color box according to the alignment line and reference line. The correct result is that the calibration line and reference line coincide at position 0.

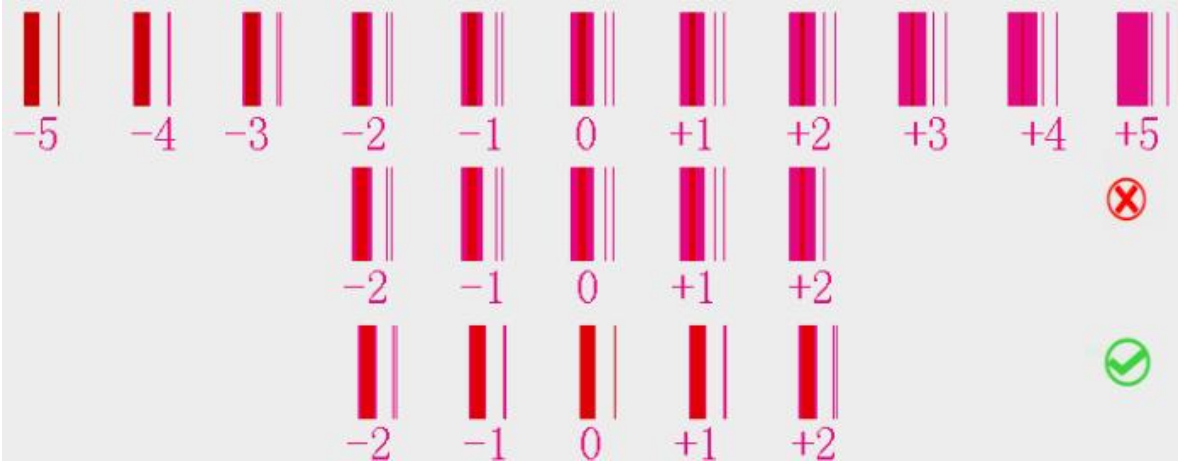


Bidirectional calibration

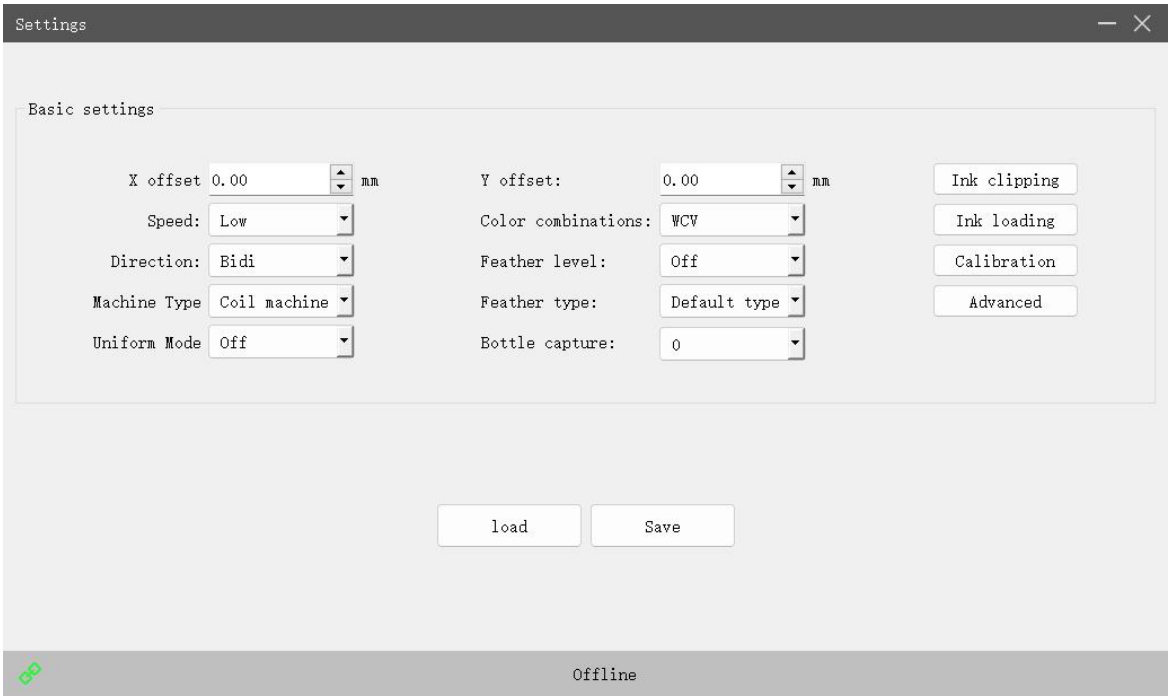


The calibration chart and debugging method are shown below:

Compare to the schematic diagram, the incorrect result is the overlap position of calibration line and reference line is not the 0 position, please enter the value in the bidirectional offset box according to the alignment line and reference line. The correct result is that the calibration line and reference line coincide at position 0.



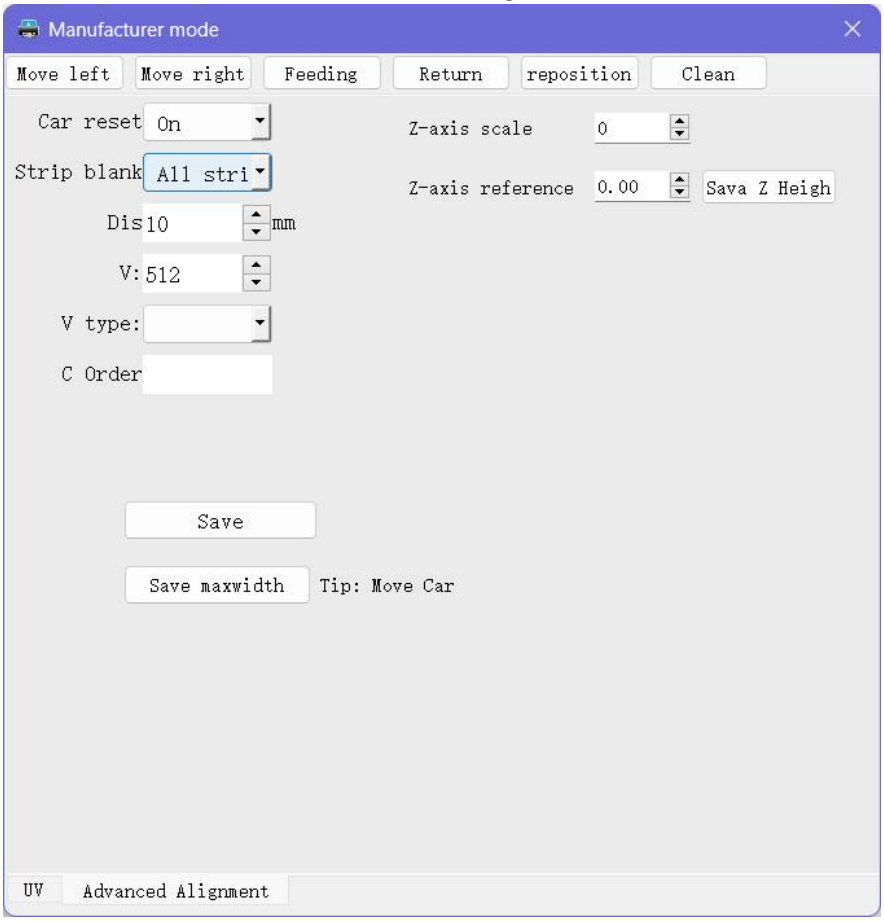
Advanced



Click Advanced, the pop-up window interface is as follows, including three parts: Factory Settings, Version and Advanced Settings.

Factory settings

Enter passpord：enter 222222 to the advanced settings



Move left： Move the cart to left

Move right： Move the cart to right

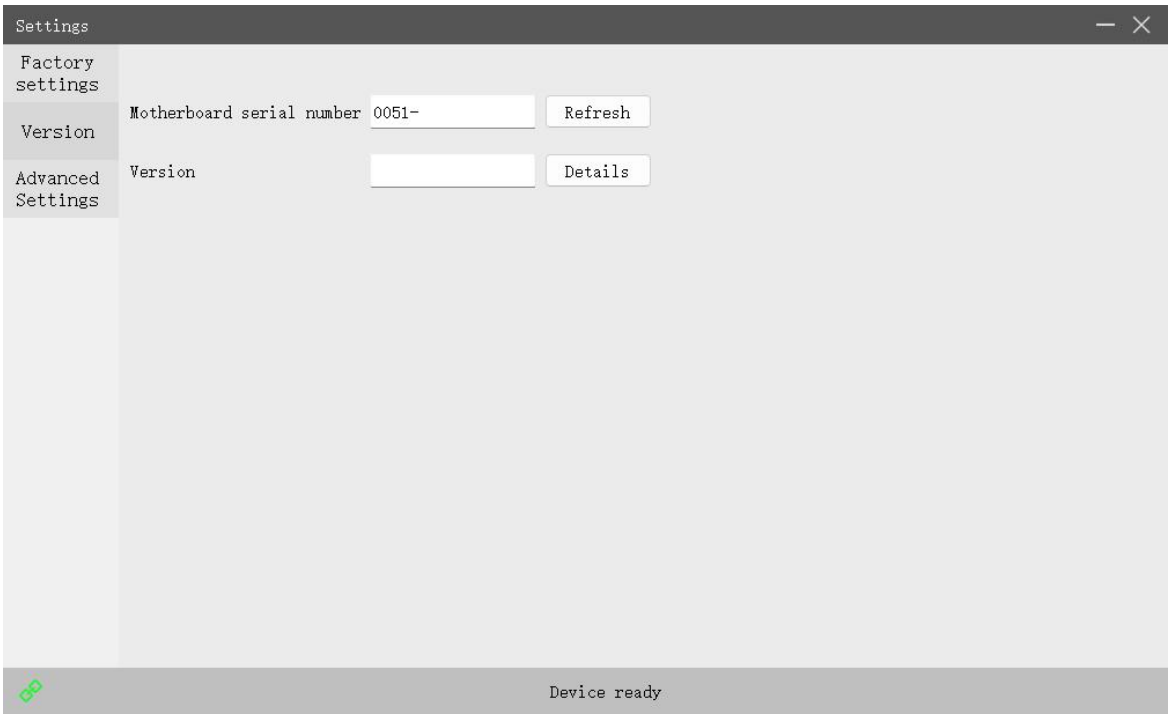
Feeding: moving the platform forward

Return: moving the platform backwards

Reposition: the cart returns to the original point, the platform returns to the rear limit position
Clean: Clean the printhead automatically
Advanced settings

Platform reset： The platform is reset to find the origin automatically and return to the forefront before printing, on by default.
Skip the blank area： Switch on and off. Skip against blank areas in the image when switch on.
Blanking distance: UV lamp irradiation buffer distance after printing is completed.
Voltage adjustment： 512-600， the default voltage is 512. If the nozzle is in good condition without floating ink phenomenon, it is recommended not to adjust too high, it is very easy to burn the nozzle if the voltage is too high. Please do not mobilize without professional guidance.
Voltage type： Professional abbreviation for waveforms, printing different height falls for different waveforms. You can choose according to the height drop behind.For example： S waveform 0~3mm， can print products with a height drop of up to 3 millimeters. Default S waveform.
Color Ink Sequence: It means that the driver identifies and controls the inkjet color sequence, and the order written by the driver should be the same as the order of the test strips printed by the machine, otherwise it will cause the color to be printed incorrectly, and the default color sequence is: KCMYWWVV.
Keep Maximum Width: Keep the maximum distance the cart will move. When you use it, move the cart to the maximum width you need to reach and click Save.
Cleaning Ink Conservation: Sets the amount of ink consumed for cleaning and flash spraying.
Z-axis ratio: set the gear ratio of Z-axis, the default setting is 6700
Z-axis reference height: set the maximum rise distance of Z-axis, default setting is 96

UV lamp
UV lamp control parameters for the region, it is recommended to use the default settings, do not change arbitrarily, otherwise it may lead to the ink does not dry, if you need to change, please contact the manufacturer after-sales assistance.



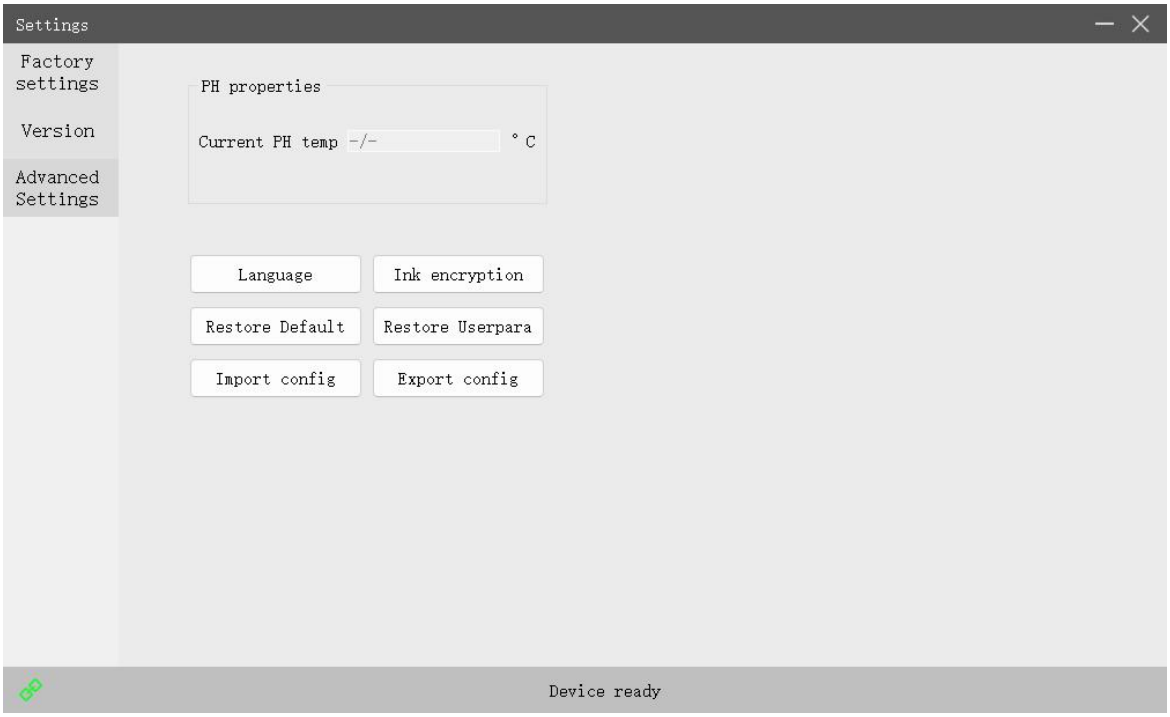
Version

Version mainly shows: Mainboard serial number , version

Refresh: Refresh the current mainboard serial number display.

Detailes mainly includes: PC driver software version number, FPGA version number, CPU version number, CRC version number.

Advanced settings



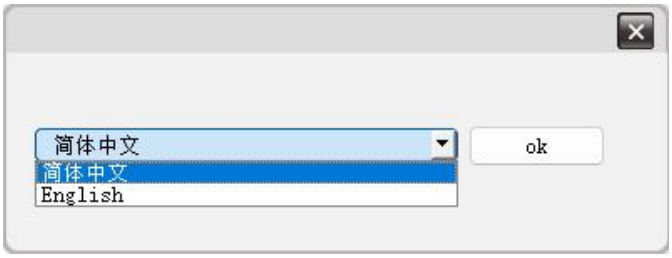
Printhead properties

Current temperature of printhead : The actual temperature of the printhead.

Setting temperature: the setting temperature range is 0-28 degrees, the heating function will be opened when the current nozzle temperature is lower than the setting temperature.

Language

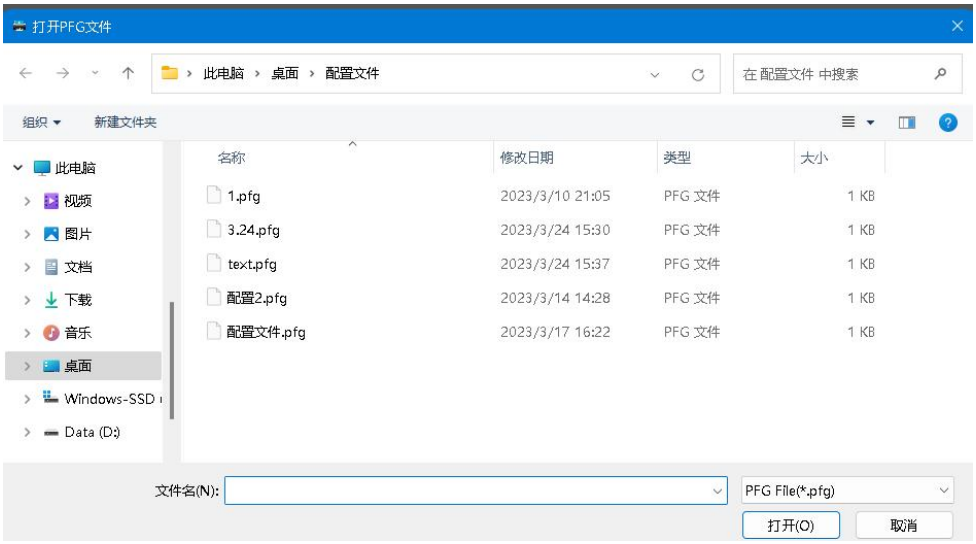
Select the switching language to confirm and switch



Import config

Importing configuration parameter files in the driver

Click to import configuration file, select the configuration file to be imported, and note that the suffix is .pfg, as is shown in the following:

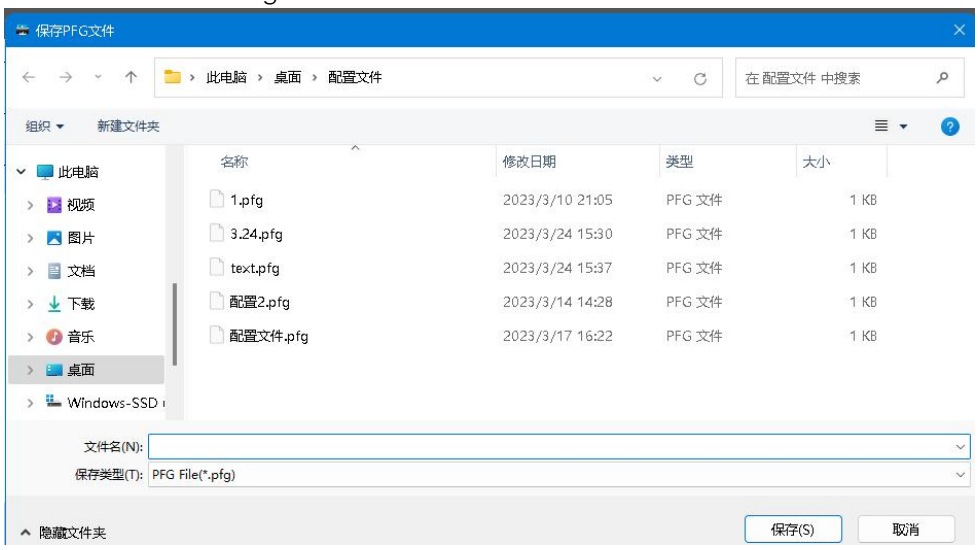


Click on Confirm to import the configuration file

Export config

Exporting configuration parameter files in the driver

Click to export configuration file, enter the file name and note that the suffix is .pfg and keep the file,as is shown in the following



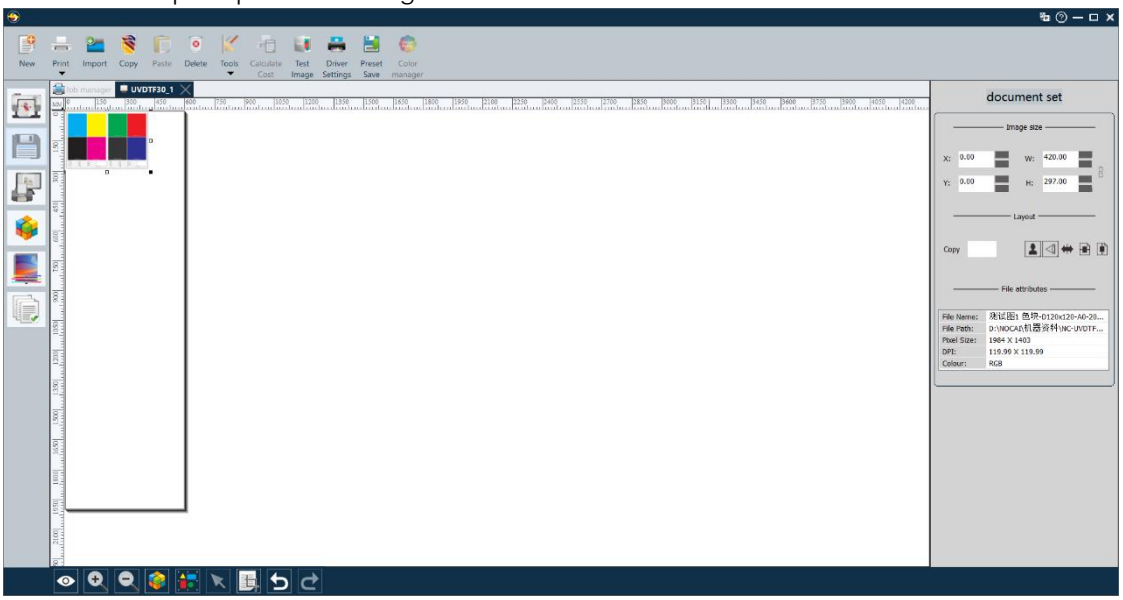
Future Rip Instruction for the usage

6.1 Dongle

- The USB is plugged into the computer, as shown in the figure at the right, and the lights go on and off at intervals, indicating the operation is normal.
- Pay attention to the top center part of the software. Nothing means that the dongle is recognized normally. The display of demo version means that the computer is not plugged into the dongle or the dongle is not recognized normally.

6.2 Function introduction

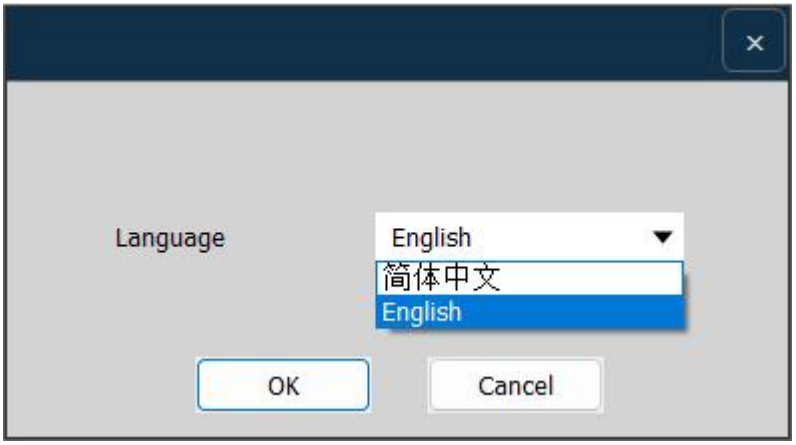
Open the software, and it will pop up the main surface. The following are the brief introduction for the use of print process settings.



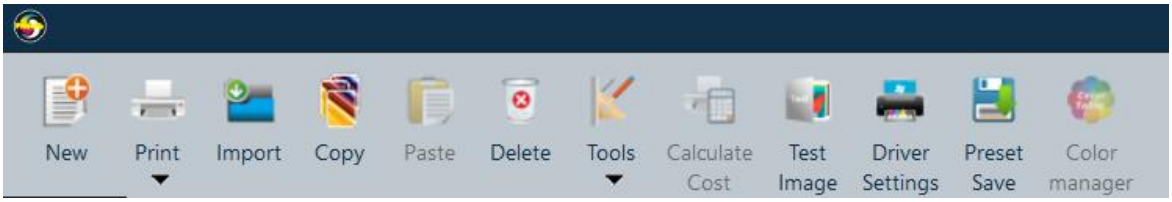
6.2.1 Language switching

Click the icon  , you can choose Engliash or Chinese:

The pop-up window is displayed below:



6.2.2 Navigation bar

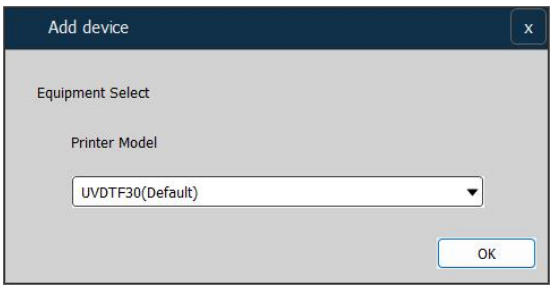


New：A new printing task window
Print：Send to print
Import：Import the picture
Copy：Copy many printing pictures
Paste：Paste the copied picture
Delete：Delete the picture
Driver settings：Driver settings for computer parameters

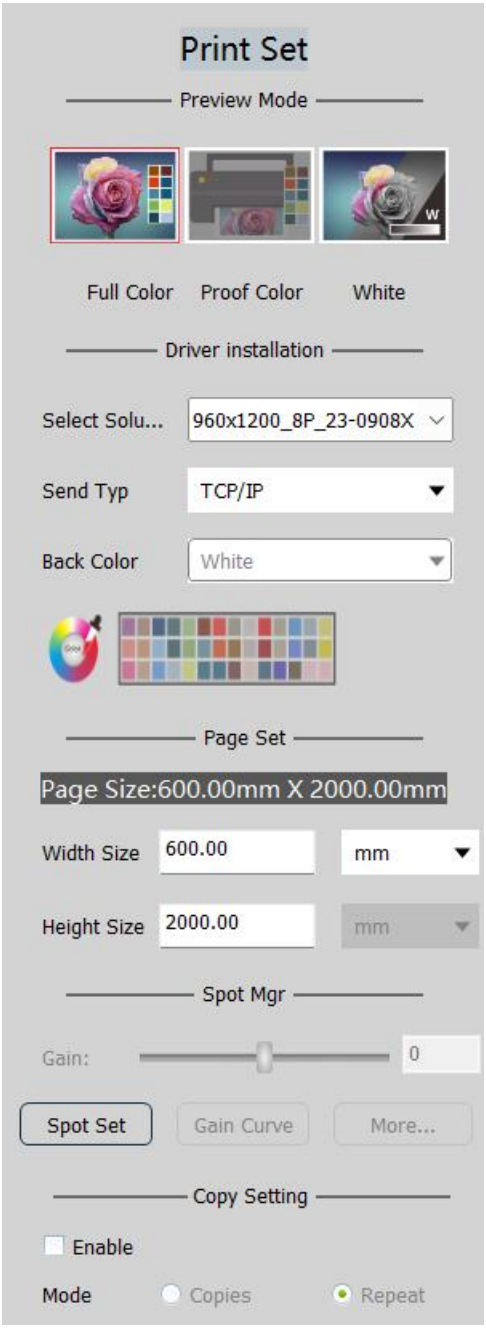
6.2.3 Main function

Icons	Instruction
	Printer manager
	File settings
	Print settings
	Color manager
	Export color calibration
	Job manager

Printer manager
Click printer manager， the pop-up window is shown as follows：



Printer settings tab, the default NC_UVDTF30 model, do not need to change, click OK.



Print settings

Click the icon  the pop-up window is shown as follows:

Driver installation

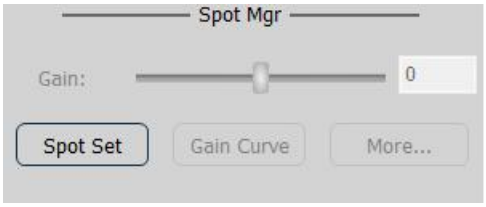
Curve line： default 960x900 6pass，960x1200 8pass

Delivery method： file、network（default network）

Page settings

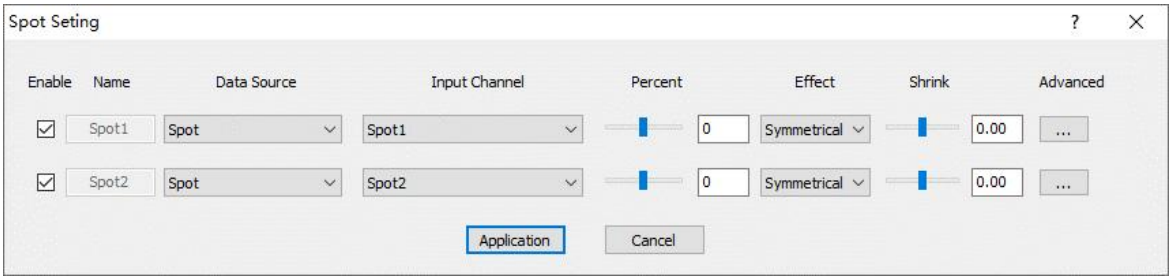
Canvas size: width default 297mm, height default 420mm. (When modifying the size value, click [Enter] key to save)

Spot color manager



Spot color settings

Click 【Spot set】, detailed settings are shown below:



Application： Checking the box enables printing in the corresponding spot color, while leaving it unchecked does not enable spot color printing.

Spot color 1 check white ink to enable white ink spot color printing; Spot color 2 check Varnish 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 same for varnish) to introduce the function:

Empty	No data, white ink that don't come out.
Base color of image (same concentration)	The maximum concentration of image color as a reference, the same thickness of white ink is dispensed in the areas of the colorful image. Transparent and pure white areas are not printed.
Base color of image (image intensity)	Print white ink according to the color of the picture, the deeper the color, the thicker the white ink; the lighter the color, the thinner the white ink; transparent and pure white areas are not printed.
Base color of image (Inverse image concentration)	Print white ink according to the color of the picture, the deeper the color, the thicker the white ink; the lighter the color, the thinner the white ink; transparent and pure white areas are not printed.
Spot color	Print white ink with spot color data from image production; Note: The current Future Rip can print spot-color data, has now supported the export Tiff, PDF, AI and other mainstream formats of the image exported by PS; spot-color production and application please view the spot-color video tutorials;
All	Printing 100% concentration of special colors (white ink or varnish) on the entire image

Input channel： Optional spot color 1、spot color 2
Spot color 1→The 1st spot color data of the spot color data contained in the image
Spot color 2→The 2nd spot color data of the spot color data contained in the image
In general, spot color 1 is chosen for white ink and spot color 2 for varnish.
Density： Increase or decrease the density of the spot color data on the current basis, adjustment
Percent： -100% -- +100%。
Effect： Uniform mode.
Shrink： Spot color data prints shrink or enlarge. Adjustment range：-5 -- +5。

As shown in the figure above, the settings are completed, click 【Application】, and choose to print white ink or varnish spot color data.

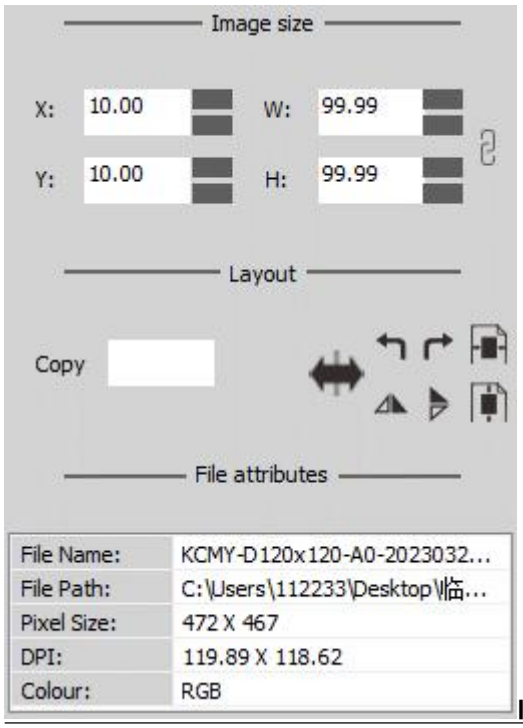


Image size

Click **Image size**  , the right side of the interface is shown in the following：

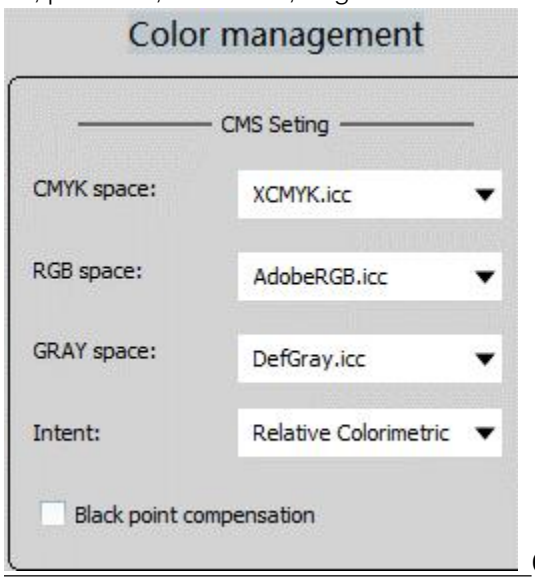
Location and size
X white edge and Y white edge modifies the offset image
Width of W Picture, Height of H Picture modifies the size scaling.

	Constrain the width and height ratio, one-way zoom mode
	Constrain the width and height ratio,proportionate zoom mode

Type setting：
Shortcut icons for copying multiple images, auto-typesetting, rotating 90°left, rotating 90°right, centering horizontally, mirroring horizontally, mirroring vertically, centering vertically and more.

File nature：

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



Color management

Click the icon  the details are shown as follows:

CMS settings

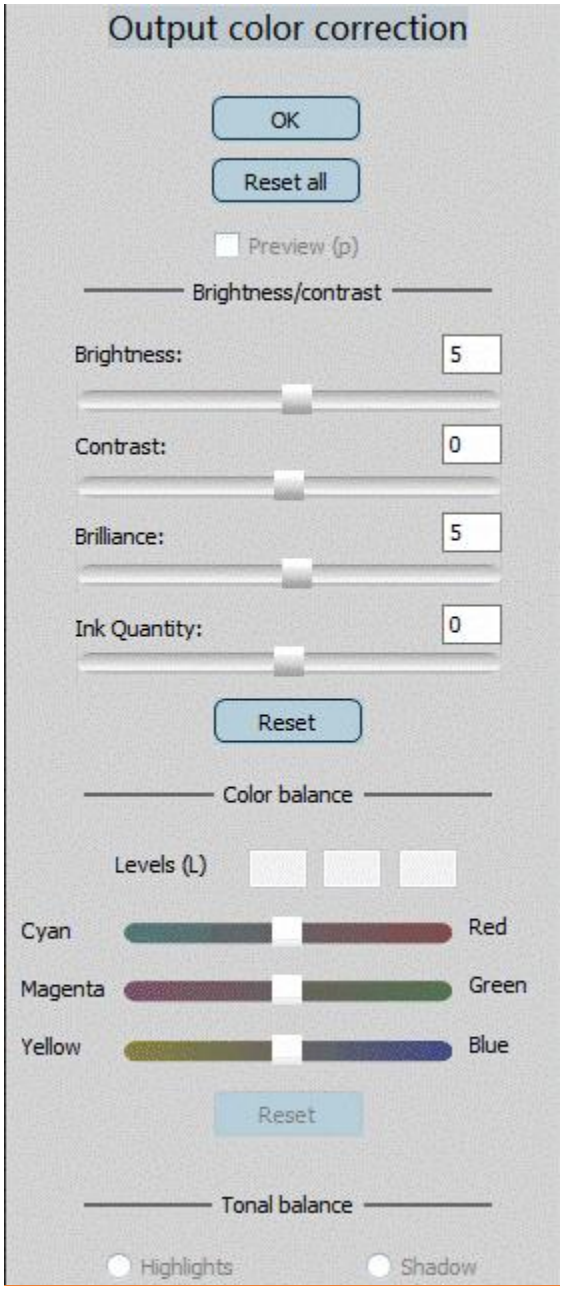
1.CMYK space

2.RGB space

3.GRAY space

4.Intent

5.Black point compensation



Output color correction

Click the icon  , the details are shown as follows:

Brightness/Contrast

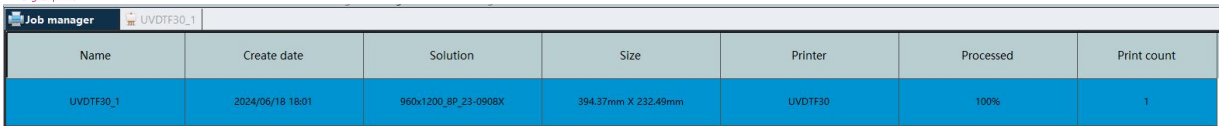
Brightness, Contrast, Vividness, Overall Ink Volume Adjustment.

Color balance

R、G、B adjustment themselves

Job management

Click the icon  the details are shown as follows:



Marking job management（printing data for picture，printing history)：name，date，type，size.

6.2.4 Bottom Function Key

	Preview
	Enlarge
	Shrink
	Curve line is allowed when the indicator stays lit
	No curve line
	All in
	Select image to move
	Crop function for marking image size

Operation and procedures introduction of sampling

Take printing PP paper as example， the following are the operation and procedures introduction of sampling.

7.1 Ensure printing height through printing material

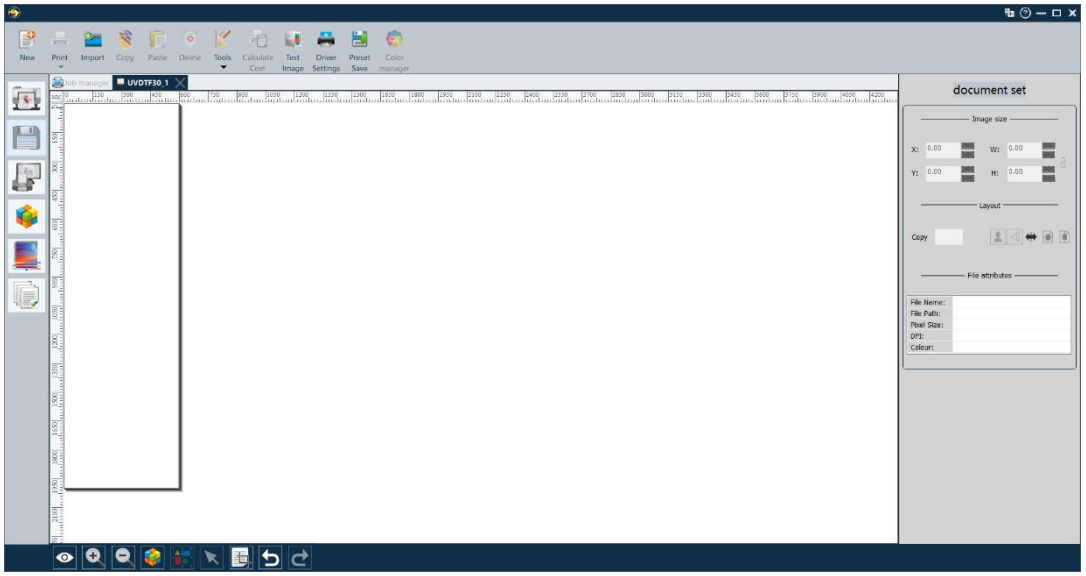
Put the appropriate size of PP paper to the platform so that it fits tightly to the platform. And click the [SUC] button on the panel to turn on the suction platform.

Confirm that the height between the printhead and the paper surface is between 2 and 3 mm.

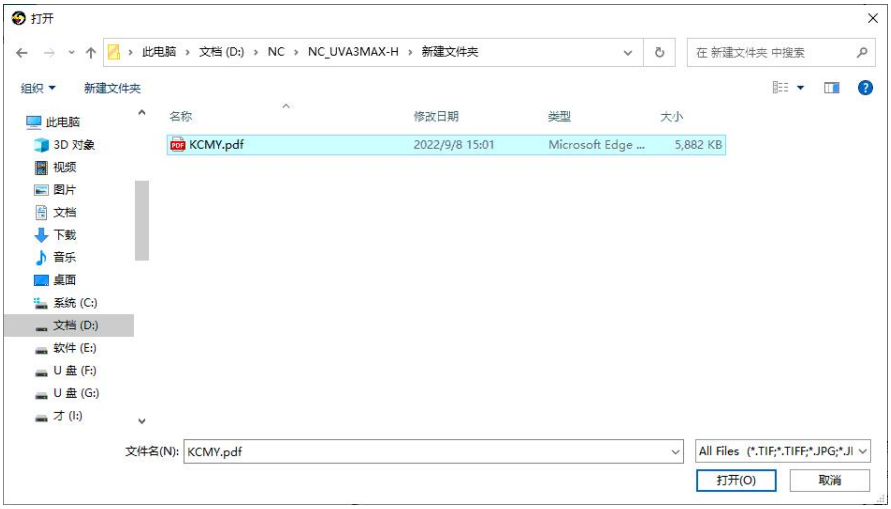
7.2 Import pictures

Open **Future Rip.** Click【Import】 

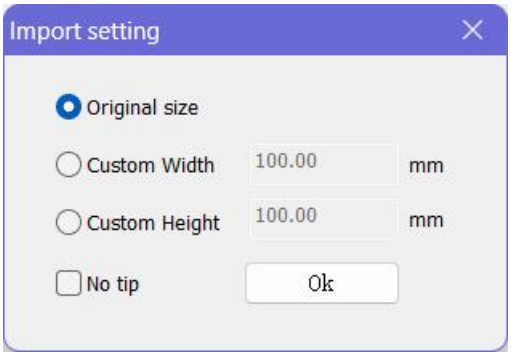
，find the stored picture, select and click to open it.



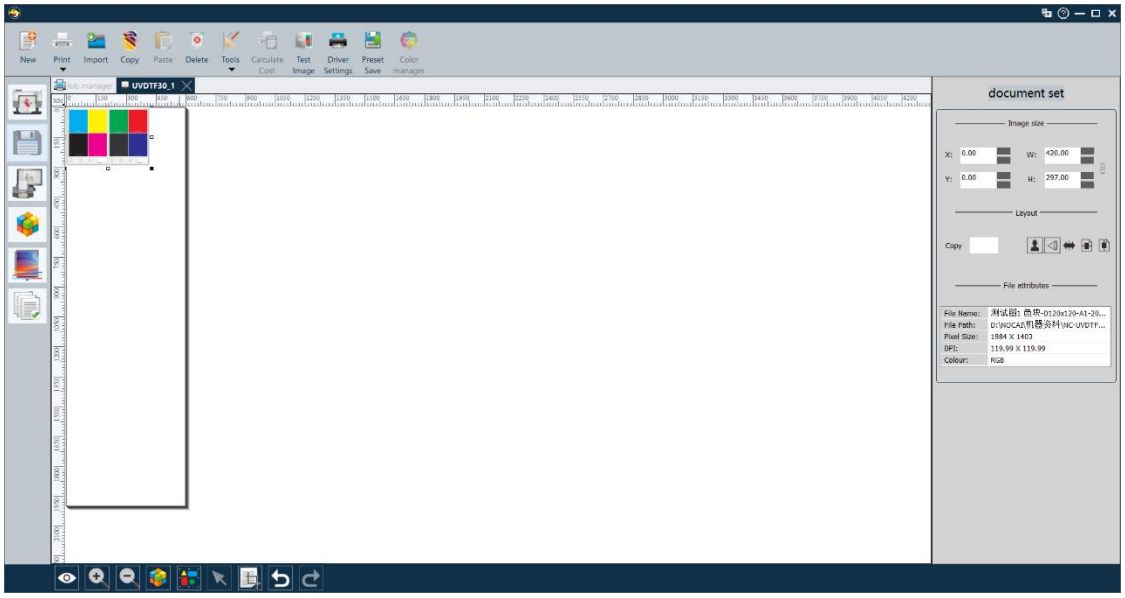
The pop-up window is as follows, select the image and click Open



The pop-up window is as follows, click OK

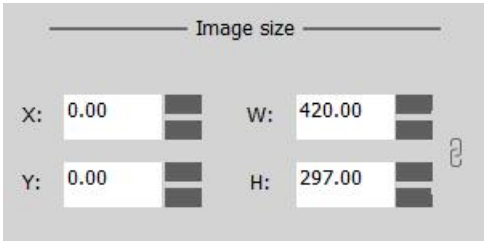


The details are as follows:



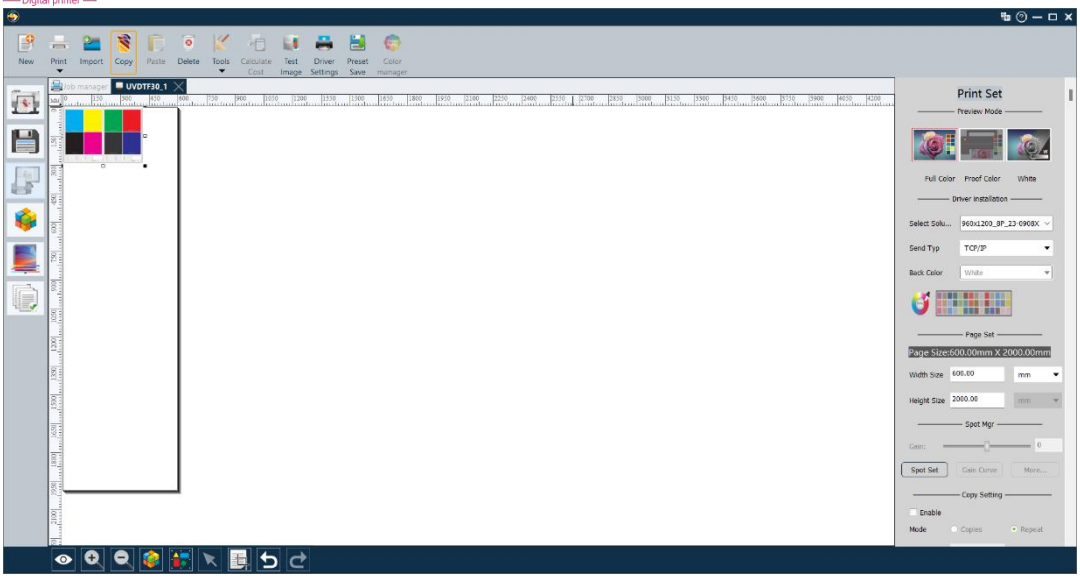
7.3 Confirm printing condition

Picture deviation

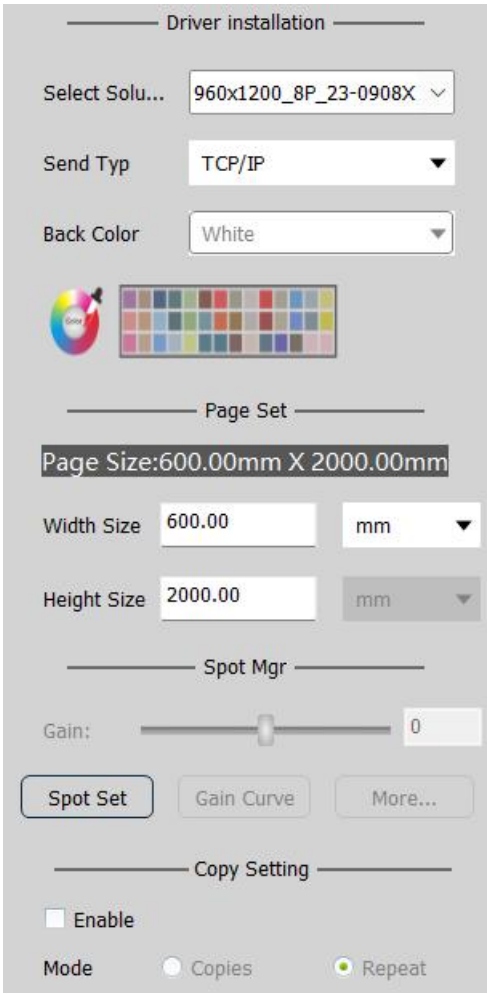


Click the icon  , set the offset position to the right for 10mm and 10mm to the bottom.

As the picture:



Click Print set，



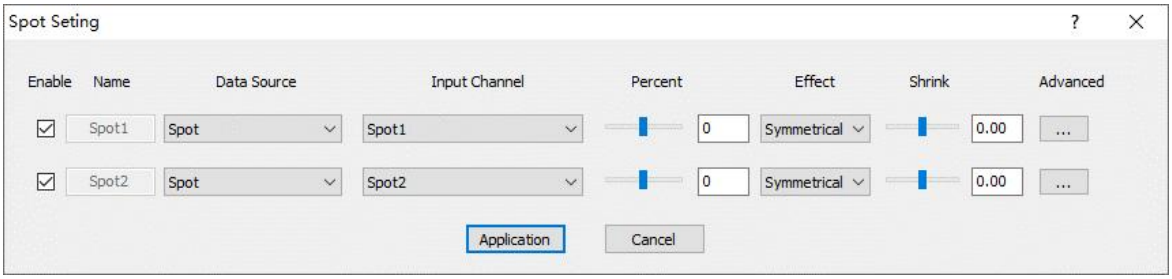
The details are as follows：

①Curve line（default: 960x900 6pass，960x1200 8pass）

②Setting the network is the sending method

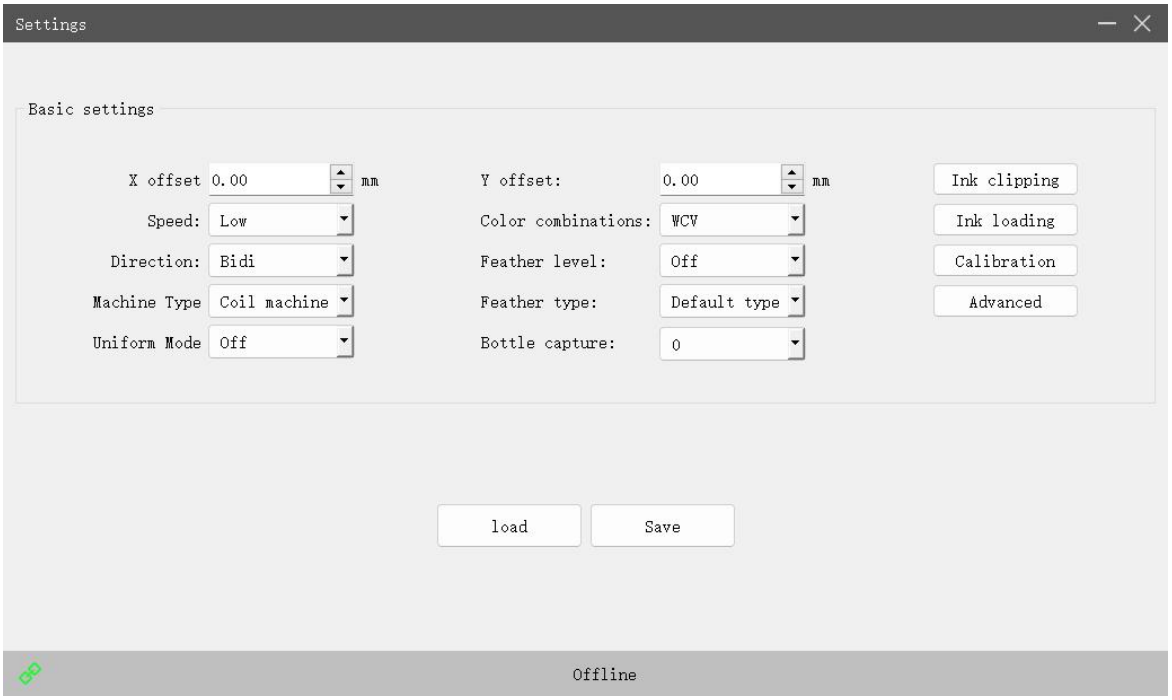
③Confirm page setting: width 297mm,set height 420mm

④Spot setting：Set the picture spot color, white ink choose spot color 1, varnish choose spot color 2, default the effect to be the uniform mode.



7.4 Confirm driver setting parameter

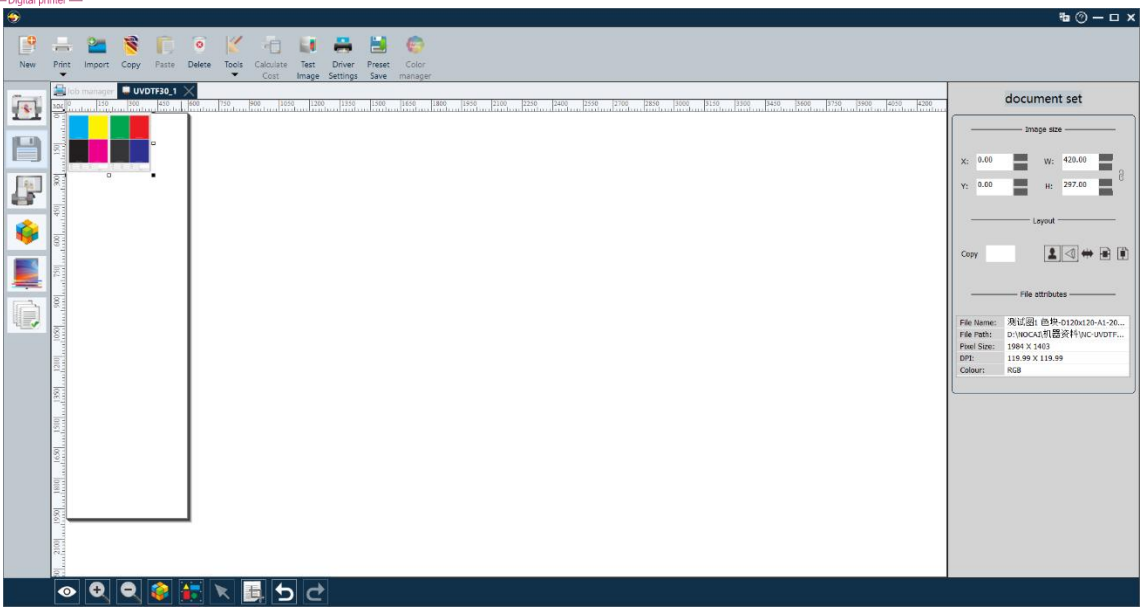
Click  on the Future RIP surface,the icon pop-up is as follows:



Confirm the X-white border, Y-white border, printing speed, color combination, feathering selection, printing direction, printing type, calibration parameters and other information.

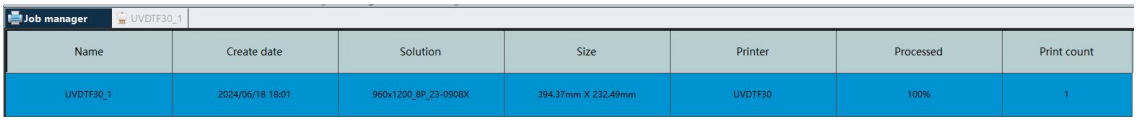
7.5 Send to print

Back to Future RIP interface



Click the icon 

. Click on the print and the window will pop-up to the printing list.



Maintenance method and announcements of machine

8.1 Maintenance method of printhead

①There is a board chip inside the nozzle, which is directly inserted with the nozzle line. You need to pay attention to the nozzle line and nozzle 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 for blow-drying.Only in this way can you test whether the test is burned or not, and remember not to use with a water boot, otherwise it will burn the nozzle and the nozzle board.

②Due to the nozzle plug and the printhead line is tightly connected, not unplug. 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 observe 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 do a good job of maintenance, adhere to the daily power-on once and test strip printing, test strip broken ink to be automatically cleaned to ensure that the test strip is normal. You can print a small picture, you have to use the cleaning fluid 3-5 drops of ink in the ink cap top when more than 3 days of vacation unattended. And then combine and seal the nozzle and the ink cap top,which will play a certain role in the protection of the ink cap top.

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 regularly carry out the uniform mixing of the ink and open the cartridge at the white ink mixing switch when using the machine.

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

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

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

8.2 Ink station maintenance

Due to the combination of printheads and cap top for ink extraction or cleaning, there will be ink dripping on the inside of the ink station or on the sheet metal, so be sure to use alcohol to scrub regularly or in time to keep the ink station clean.

8.3 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 in a certain period of time, in order to avoid corrosion and astringency of the guide rail for lacking of oil. If you find that there is black oil in the guide rail, you need to use alcohol to wipe firstly and then add lubricant.

8.4 Change for damper

Replacement is recommended once every 3 months.

8.5 Change for cap top

Replacement is recommended once every 3 months.

8.6 Maintenance of shell sheet metal

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

Common trouble-shooting method

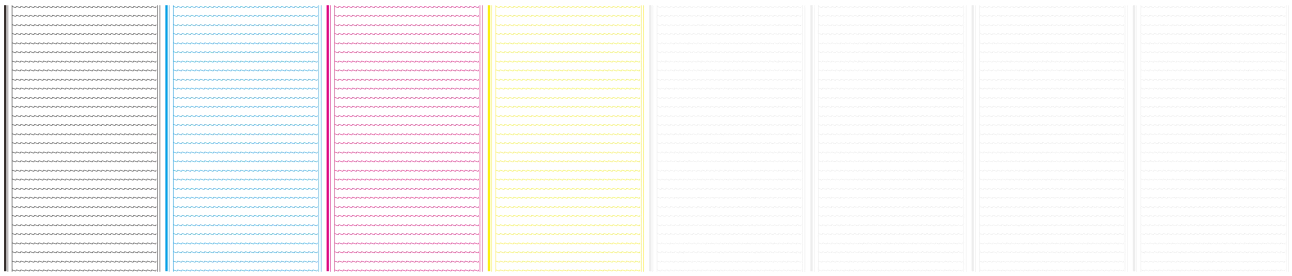
9.1 Power-on initialize error procedure

Error code	Possible reason	Advice
Ink limit station loss CODE:4 LV:5 CAP SENSOR LOSS	Possibility 1. Limit not connected or damaged Possibility 2.Ink station motor not connected or damaged	Please check if there are problems of the limit sensors and motor
Y destination limit loss CODE:4 LV:5 Y1_1 SENSOR LOSS	Possibility 1. Limit not connected or damaged Possibility 2.Y motor is not connected or damaged	Please check if there are problems of the limit sensors and motor
Loss of encoder CODE:39 LV:5 GRATING LOSS	Possibility 1.Wrong setting of encoder polarity Possibility 2.Wrong setting of motor polarity Possibility 3.Motor is not connected or damaged	1、Modify hardware configuration to configure polarity of encoder and motor 2、Check for proper motor wiring
X destination limit loss CODE:12 LV:5 CARRIER REV -1	Possibility 1.Limit not connected or damaged	Please check if there are problems of the limit sensors and motor

9.2 Ink-breakage problems for test strip

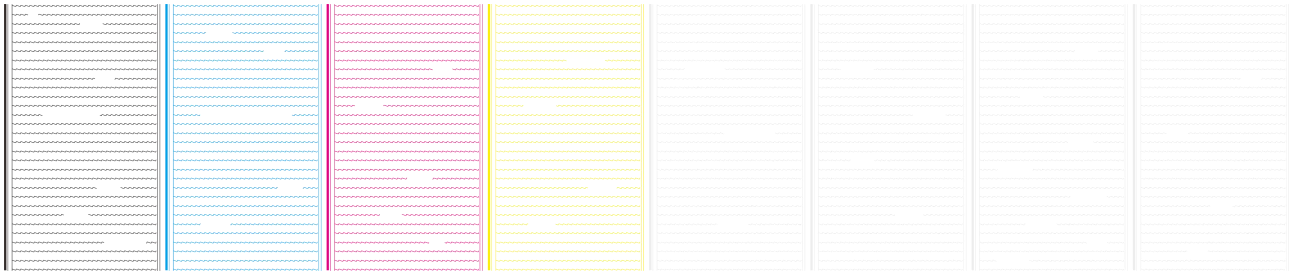
Common examples of ink-supply suspension problems， as is shown in the picture：

9.2.1 Test strips are all out



Explanation: Normal condition. This status indicates that the machine printheads are in good condition.

9.2.2 Partial ink-breakage of the test strip



Explanation: Ink-breakage of test strip partially. This is caused by the corrosion damag to ink on the printhea.You can clean it automatically. If automatic cleaning can not resolve this problem, you can continue to use, it does not affect the results.

9.2.3 Severe ink-breakage on test strip partially

Solution:

1.Pump the ink by the syringe, test whether the ink can flow normally, to rule out the possibility of clogging, leakage, if there are any problem, please replace the damper.

2.After replacing the damper, if you pump ink from the damper, there is still a clogging phenomenon, please test the ink tube, and whether the damper head is clogged.

3.Cleaning the printhead manually to ensure that the printhead is not clogged.

Overview of the problem: If there are the problems above, usually the clogging of printhead and damper, please prioritize the test them.

9.2.4 Almost total ink-breakage on the test strip

Solution:

1.After auto-cleaning, check whether it can pump ink, if not, please replace the new ink cap top or re-adjust the position.

2.Check whether there is any ink residue on the surface of the printhead, if there is a single color ink drop, please replace the corresponding damper, if there is a multi-color ink drop, please check whether the wiper can scrape the mirror surface of the printhead normally during the automatic cleaning process.

3.Manual cleaning, use a syringe to flush the printhead, check whether the printhead is clogged.

Overview of the problem: if the above multi-color ink breakage problem occurs. The possibility of printhead clogging is relatively small generally, a detailed examination of the cap top and the ink pumping and scraping of the printhead is normal.

9.2.5 Test strip is lack of color block

Solution:

1.Pump ink from the damper by syringe to ensure that the ink can flow out properly, and clean the printhead manually to ensure that the printhead is not clogged .

2.Check whether there are stains on the connection of printhead cable, if any, please clean up and retest or replace the printhead.

3.Unplug the printhead cable and check whether the contacts of the printhead cable are oxidized or damaged, if so, please replace the printhead cable and plug it in before testing.

4.Change the headboard

The above problem of a color is missing, the general situation is that the printhead voltage is not normal transmission, the common problems are: printhead board, printhead line, printhead problems. And it is also possible that a separate ink can not supply normally, or the printhead is blocked.

9.2.6 No test strips at all

Solution:

1.Unplug the printhead cable and check whether the contacts of the printhead cable are oxidized or damaged, if so, please replace the printhead cable and plug it in before testing.

2.Check whether there is any ink stain on the printhead cable connection interface of the printhead, if so, please clean and retest or replace the printhead.

3.Change the headboard.

Overview of the problem: There is ink in the the printhead plug generally or the customer misuse the printhead after replacing the printhead, resulting in a short-circuit of the printhead, burned headboard or printhead, because the printhead will damage the headboard, but the headboard does not damage the printhead. It is recommended to prioritize the replacement of the printhead and printhead line.

9.2.7 Color mixing: large scale of color mixing

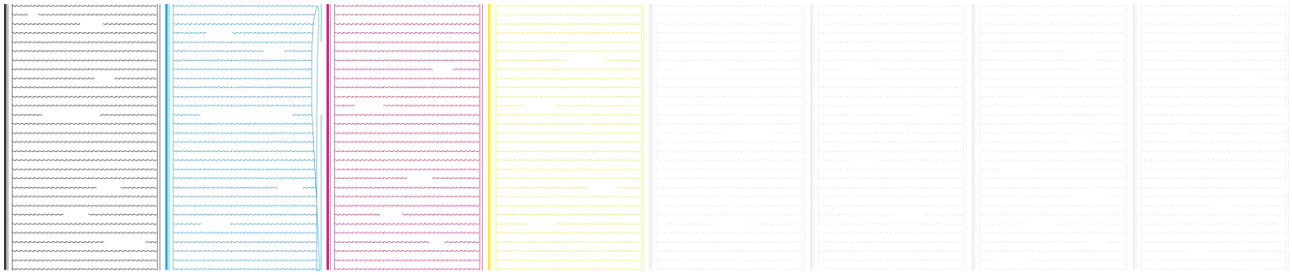
Solution:

1.Please flush the ink first, and then print the test strip to observe whether the color mixing situation improves or not, if not, please check whether there is any ink residue on the surface of the printhead. If there is a separate color ink drop, please replace the corresponding damper. If there is a multi-color ink drop, please check if the scraper can scrape the printhead mirror surface normally during the automatic cleaning process.

2.Change the printhead

Overview of the problem: When the above problem occurs, detect whether there is ink residue on the printhead surface

9.2.8 Ink-floating for test strip



Solution：

1.Check that the height between the printhead and the printing material is within 2-3mm.

2.Printing temperature:25 ℃-30℃

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

4.Stir the floating ink evenly and pump ink 10ml or more by syringe, and then clean the printhead. If it can not be solved, it is recommended to replace the ink.

Overview of the problem: The above problem occurs if there is no special change of the surrounding environment, usually because the machine has been left for a long time, resulting in the precipitation of ink.

9.3 Future RIP prompt software UV(demo version)

1.Check if the dongle light is on, if not, please replace the computer USB connector or replace the dongle.

9.4 UV lamp is off

1.Check the power code of the UV lamp is on or off.

2.Whether the UV lamp power supply is energized, whether there is voltage output, replace the UV lamp power supply.

3.Measure the corresponding terminal of the mainboard, whether there is 24V voltage output during printing. If there is no output, replace the mainboard.

4.Change UV lamp.

9.5 Ink is not dry

All products are not dry：

Check whether the UV lamp is lighted during the printing process, if not, please solve (refer to the UV lamp is not lighted solution)

The edges of the product are not dry：

1.Verify UV lamp calibration parameters.

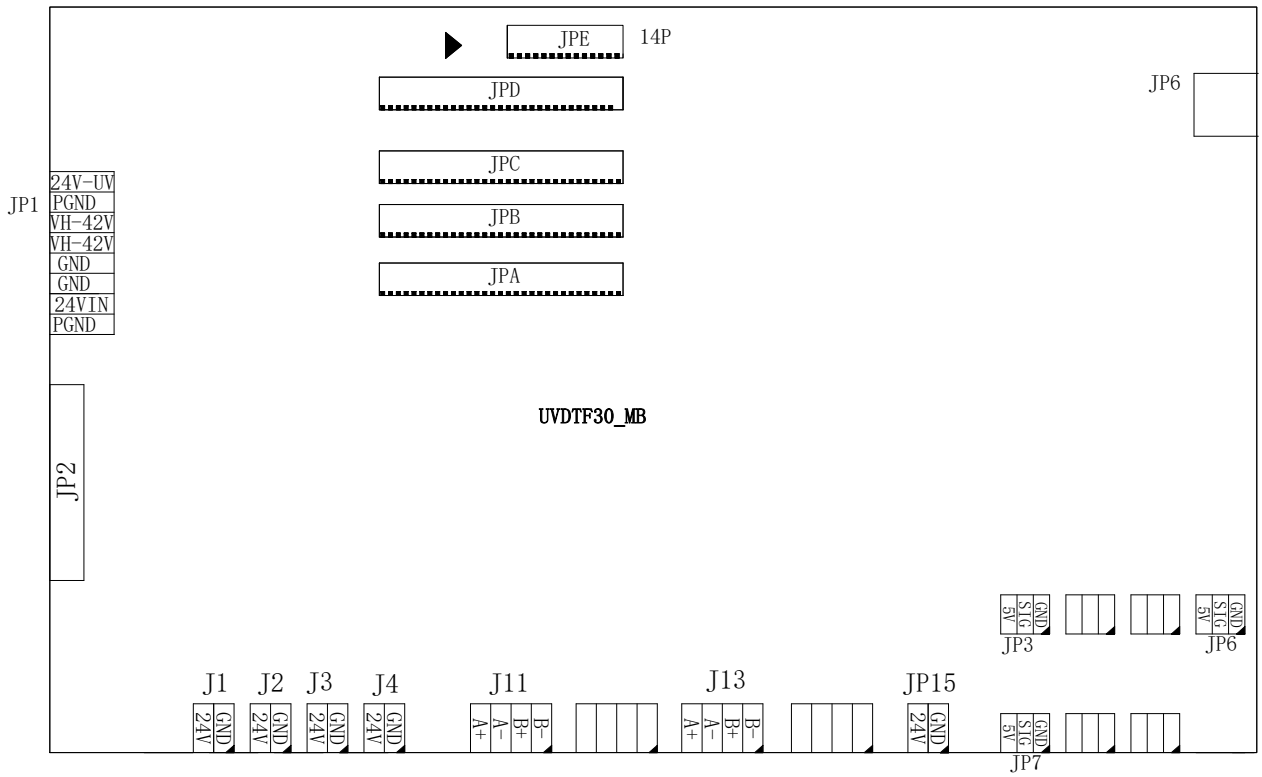
2.The manufacturer confirms the version number of the device information and upgrades the machine with the latest version.

9.6 Error code

Error code 1： Driver misplacement of PC version

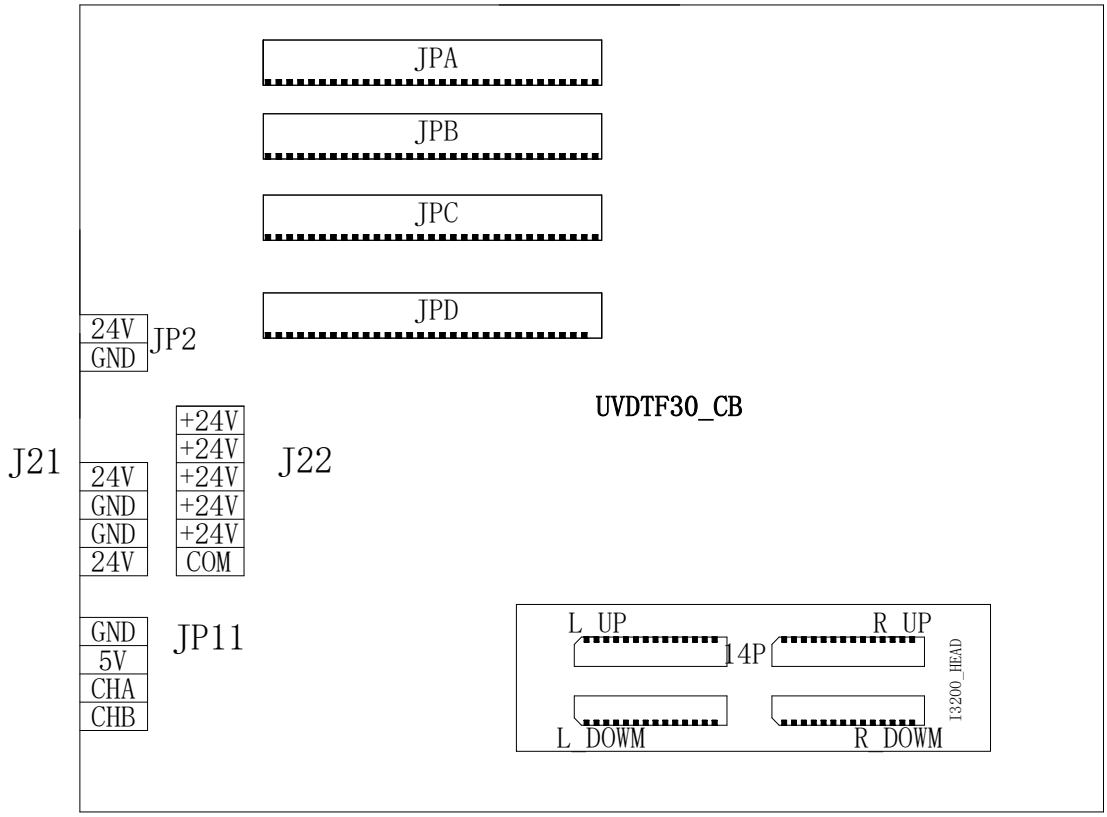
Error code 2：Balance less than a certain amount
Error code 3：Zero balance
Error code 4：Origin sensor error
Error code 5：Parameter initialization error
Error code 6：Carrier strike
Error code 7：Parameter ID dismatch register ID
Error code 8：Car factor minimum limit
Error code 9：Car factor maximum limit
Error code 10：UI parameter initial error
Error code 11：Wave table empty
Error code 12：Carrier reverse error
Error code 13：Carrier print error
Error code 14：Carrier print error
Error code 15：Servo measure diatance low
Error code 16：Drive board over
Error code 17：UI parameter diamatch ID of carrier parameter
Error code 18：IP neterr rrepeat
Error code 19：Ink tank initial error
Error code 20：Ink number limit
Error code 21：Ink number empty
Error code 22：UI parameter table test version
Error code 23：Times limit no support
Error code 24：Times limit read error
Error code 25：Times limit user end
Error code 26：Times illegally altered
Error code 27：Parameter table printhead type error
Error code 28：Printhead auto-detection-error
Error code 29：UI Mainboard reset
Error code 30：Detecting ink station motor or sensor error
Error code 31：Panel nozzle test-data error
Error code 39：Loss of encoder, the sensor can not detect encoder change, blocked or no output of motor
Error code 40：Waste ink alarm
Error code 41：Over-width alarm
Error code 42：Printing can touch the Y maximum limit
Error code 43:Carrier strike
Error code 50：Ink level monitoring alarm
Error code 173：Printhead alarm

Introduction of board circuit



JP2 Mainboard-keyboard cable
JP1 Power supply of mainboard
JPE Signal cable for main ink bottle
JPA、JPB、JPC、JPD Mainboard and cart board cable
JP6 Cable connector

J1 Suction platform
J2 Ink pimp
J3 Ink circulation
J4 Ink circulation
J11 Ink station motor
J13 Paper feeding motor
JP15 XDC motor
JP3 Waste ink alarm
JP6 X right limit
JP7 Bottom limit for ink station



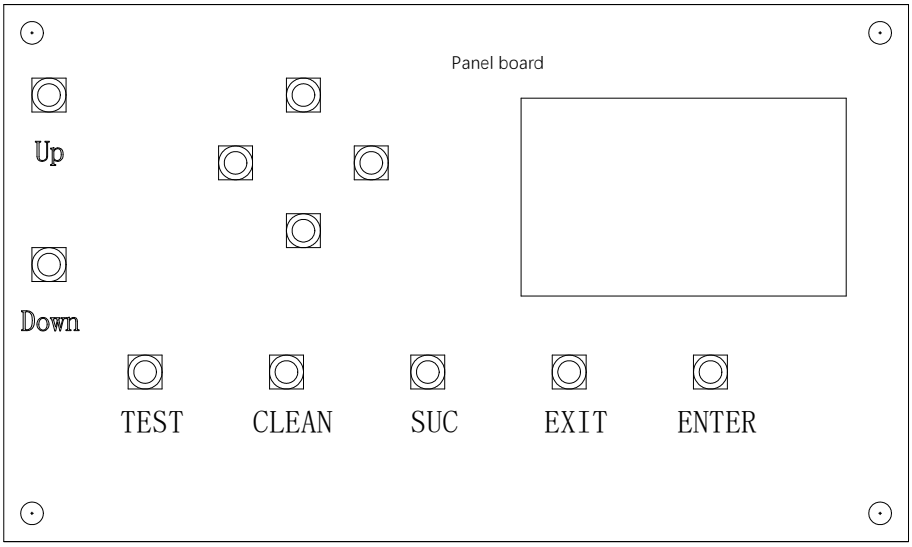
JP11 Raster sensor

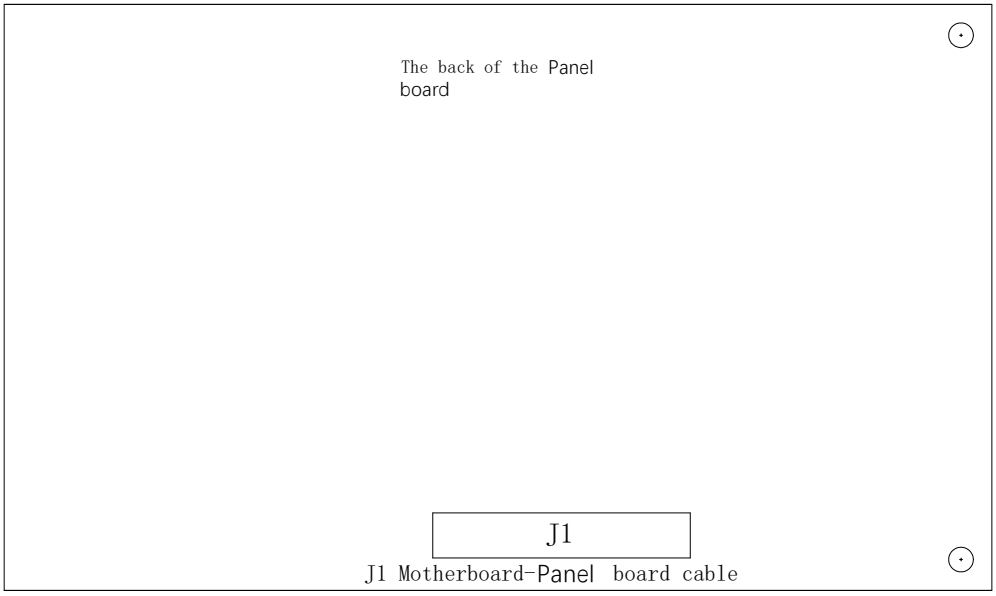
J22 UV lamp control

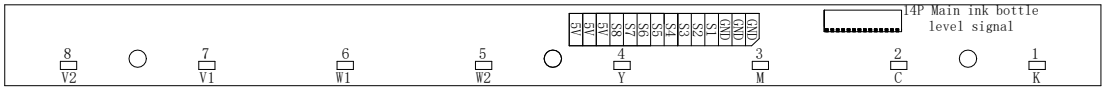
J21 UV lamp supply power

JP2 Heating output

JPA、JPB、JPC、JPD Mainboard and cart board cable




The back of the Panel board
J1
J1 Motherboard-Panel board cable


5V
5V
5V
S8
S7
S6
S5
S4
S3
S2
S1
GND
GND
GND
14P Main ink bottle level signal
8 V2
7 V1
6 W1
5 W2
4 Y
3 M
2 C
1 K

J1 主板-按键板排线

Maintenance rules

10.1 After-sales, quality warranty policies

From the date of contract, we provide customers with one-year warranty, but the printhead, cap top, ink pump, ink tube, ink cartridge and damper and other accessories in contact with the ink are not covered by the warranty. If a technician is required door-to-door service,the customer shall pay for the transportation, food and accommodation cost for the technician.

10.2 Seeking for help

If you have any problems with the machine, please follow the steps below for assistance:：

10.2.1 First check user manual

10.2.2 Please visit the Nuocai website for more product information.(http://www.happycolor.com.cn/)

10.2.3 Contact your local dealer for assistance.

10.3 Customer information column: Refer to the following table

Customer information column	
Name：	
Product：	
Model：	
Detailed address：	
Telephone number：	

10.4 Non-warranty items

10.4.1 Failures and damages are due to the use of inks that are not produced by Nuocai.

10.4.2 Product failures and damages are due to the use of the product in an operating environment other than that specified by Nuocai (e.g. power supply, temperature, humidity).

10.4.3 Malfunctions and damages caused by improper storage (e.g. rodent, insect, liquid infiltration, foreign object entry, etc.)or loss of parts by the user.

10.4.4 Human-caused failures and damage

10.4.5 Damage and malfunctions are caused by not following the instructions for use and main points noted on the user manual.

10.4.6 Malfunctions and damages caused by carrying.

10.4.7 Failure and damage due to force majeure.

10.5 Warranty policies

10.5.1 Loss or damage of random accessories (manuals, software) is not guaranteed to be provided.

10.5.2 We will not be liable for indirect loss or future revenues incurred by users as a result of product failure.

10.6 Announcements

10.6.1 Carry:

10.6.1.1 Do not pull the ink carriage beam and print platform when moving the printer

10.6.1.2 2 people to hold the printer's foot cup in their hands and move it smoothly.

10.6.2 Operating environment

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