EPSON TX800-12H Flatbed Printer Control System User Manual

上海瑞汇实业有限公司

Shanghai Rainbow Industrial Co., Ltd.

Preface

Thank you for purchasing and using this product of WellPrint. In order to let you better use this product, please read this manual carefully before using the product. If you have any questions while using the product, please feel free to contact us by phone or email.

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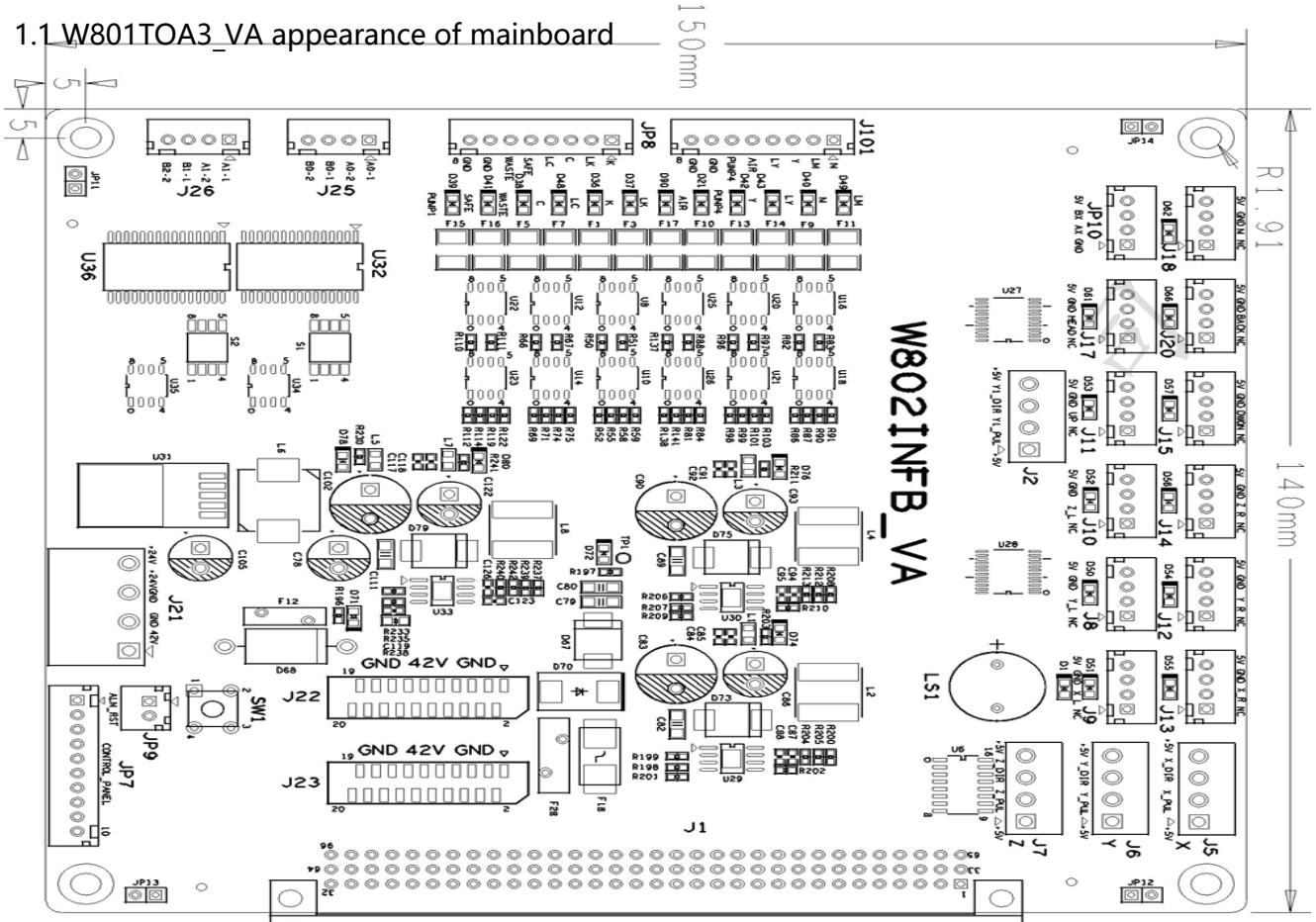
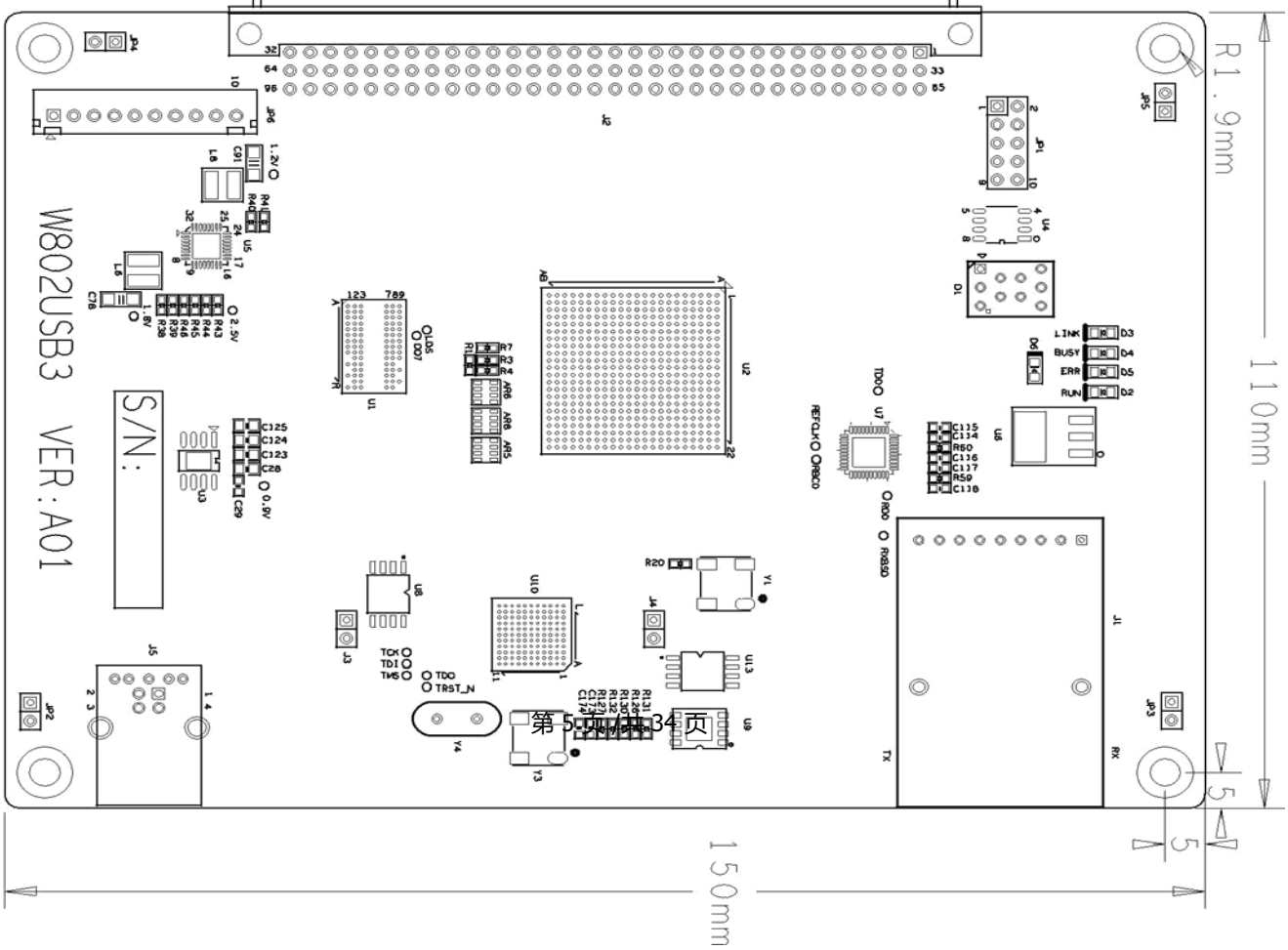
一、Board instructions

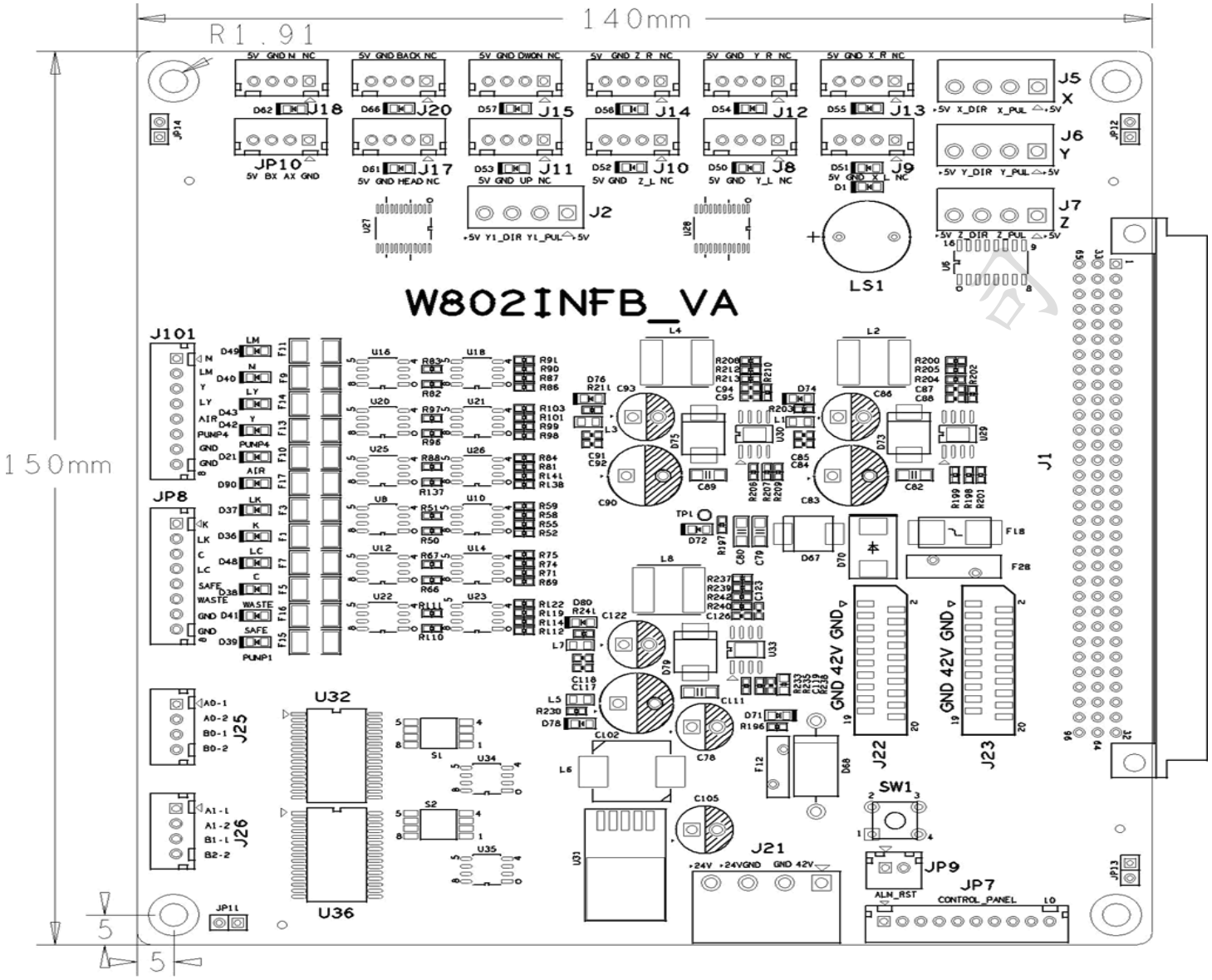
1. W801TOA3_VA mainboard

1.1 W801TOA3_VA appearance of mainboard





1.3W801TOA3_VA mainboard interface instructions



J21：Main board power supply, need to connect 12V, 24V, 42V (sequentially connection according to the board screen printing), and the current requirement above 5A

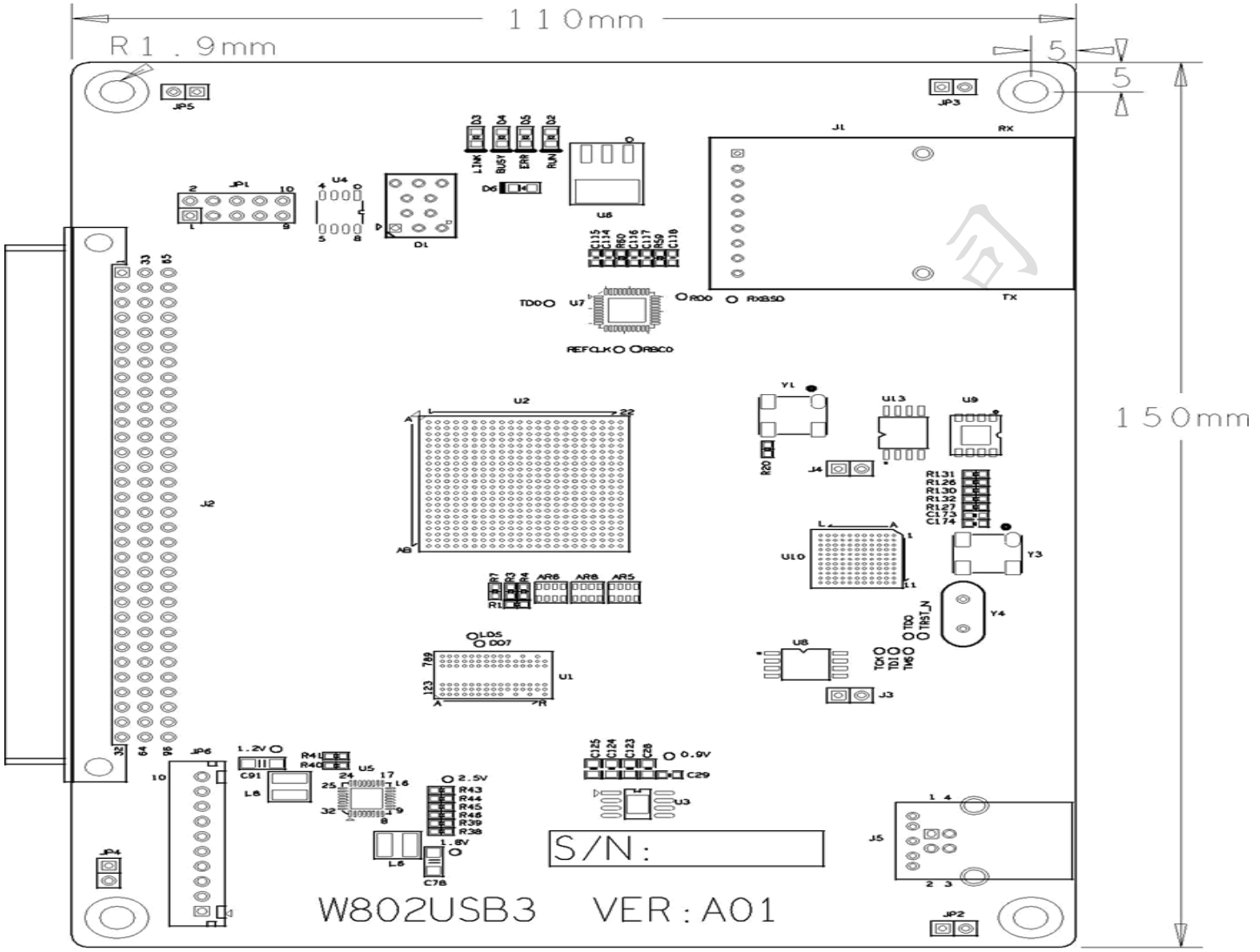
J5：X-Moto signal J6：Y-Moto signal J7：Z-Moto signal (DIR, DIR-, PUL, PUL-)

J26：Moto1 Wiper motor interface J25：Moto 0 Lift motor interface

X origin limit (J13 right, j9 left)，Y origin limit (J8feed, J12back)，Z origin limit (J10 down, j4 up)，ink lift limit (J11 up, J15 down)，wiper limit (J17 out, J20 back) , (J18, JP10) standby, (port from left to right is + 5V, GND , signal)

J101：Cleaning Unit (LM: Ink Pump 1, Ly: Ink Pump 2, Output Voltage 24V)

JP7：Keypad port



J1：Fiber interface J5：USB interface

1.4W801TOA3_VA mainboard notes

1、The power supply of the board is 24V and 42V, with the current above 5A. Power module 220V input recommended plus a two-stage filter.

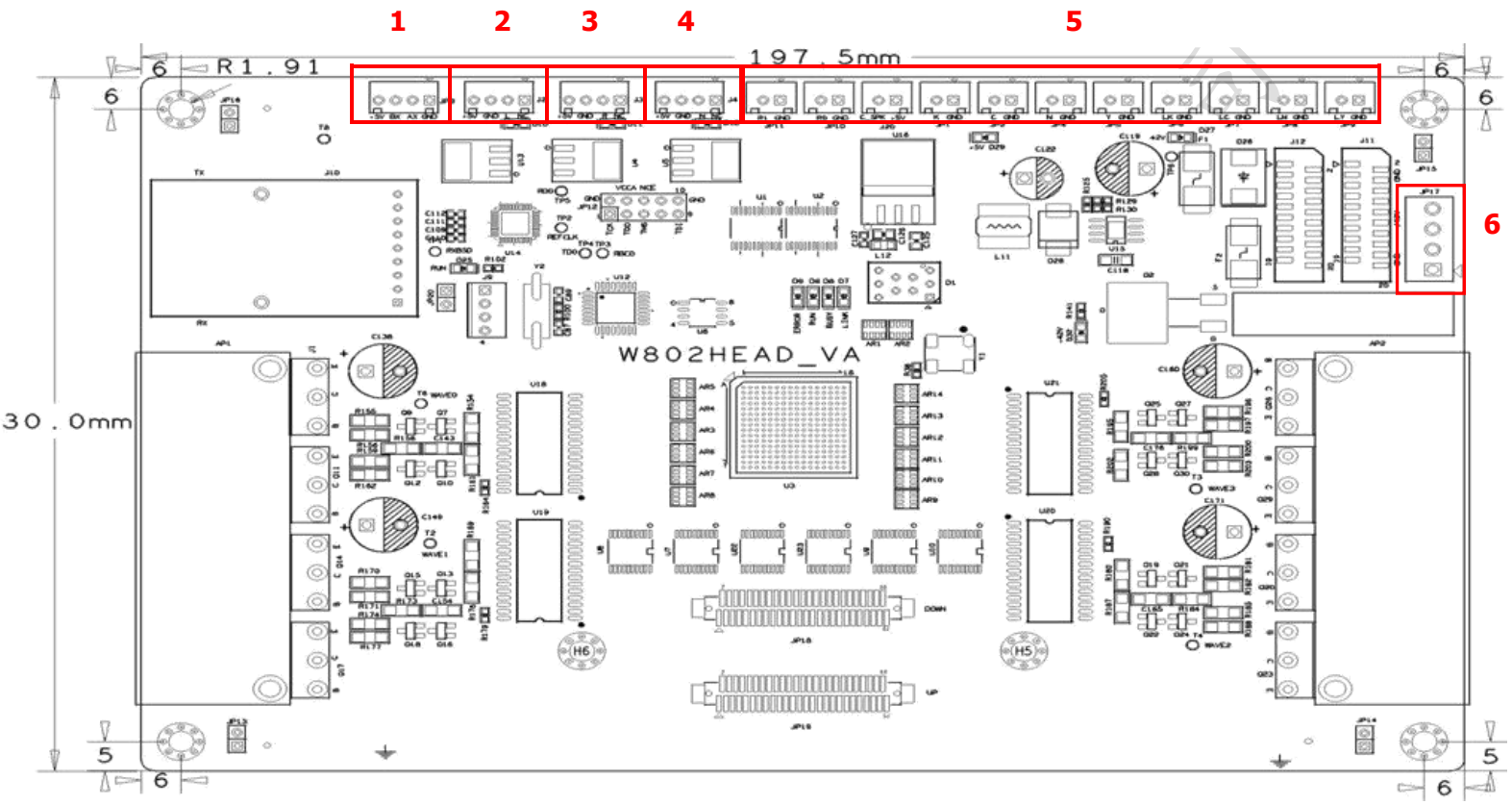
2、The board must be reliably grounded in the process of use it. The board fixing screws should be in full contact with the shell, and the shell should be connected with the large conductor embedded in the earth. The middle hole of the equipment power socket also shall be reliably grounded

3、Ambient temperature required by the equipment：15℃-30℃; Normal temperature range for board：0℃-75℃

4、The installation place of the mainboard shall ensure the air circulation around the board to prevent the excessive temperature around the board from affecting the printing effect or damaging the board. Floors should be easy to clean and free from dust and static.

2、W803HDON_VA spray plate

2.1W803HDON_VA spray plate



1，JP3 raster decoder port (left to Right: +5V，B，A，GND)

2，J2 origin left limit interface. (Interface from left to right is + 5V, GND, signal)

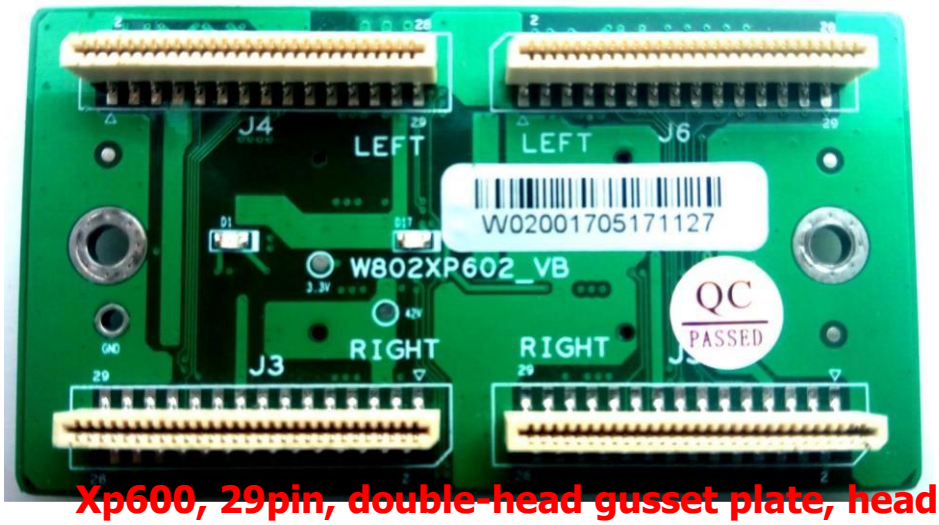
2，J3 origin right limit interface. (Port from left to right is + 5V, GND, signal)

3，J4 standby interface

4，Secondary ink supply port

6， +42V power interface (note positive and negative)

2.2W802HEND_VA XP600 gusset plate

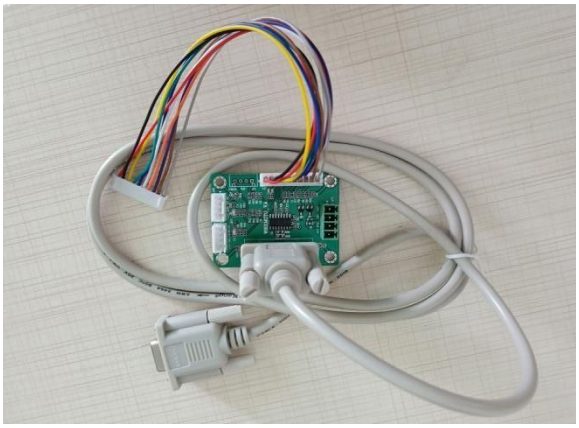


Xp600, 29pin, double-head gusset plate, head data line for the same surface

3. External touch panel

At present, there are two kinds of screens, one is 4.3-inch display control (left), the other is Kunlun Tongtai 7-inch (right)

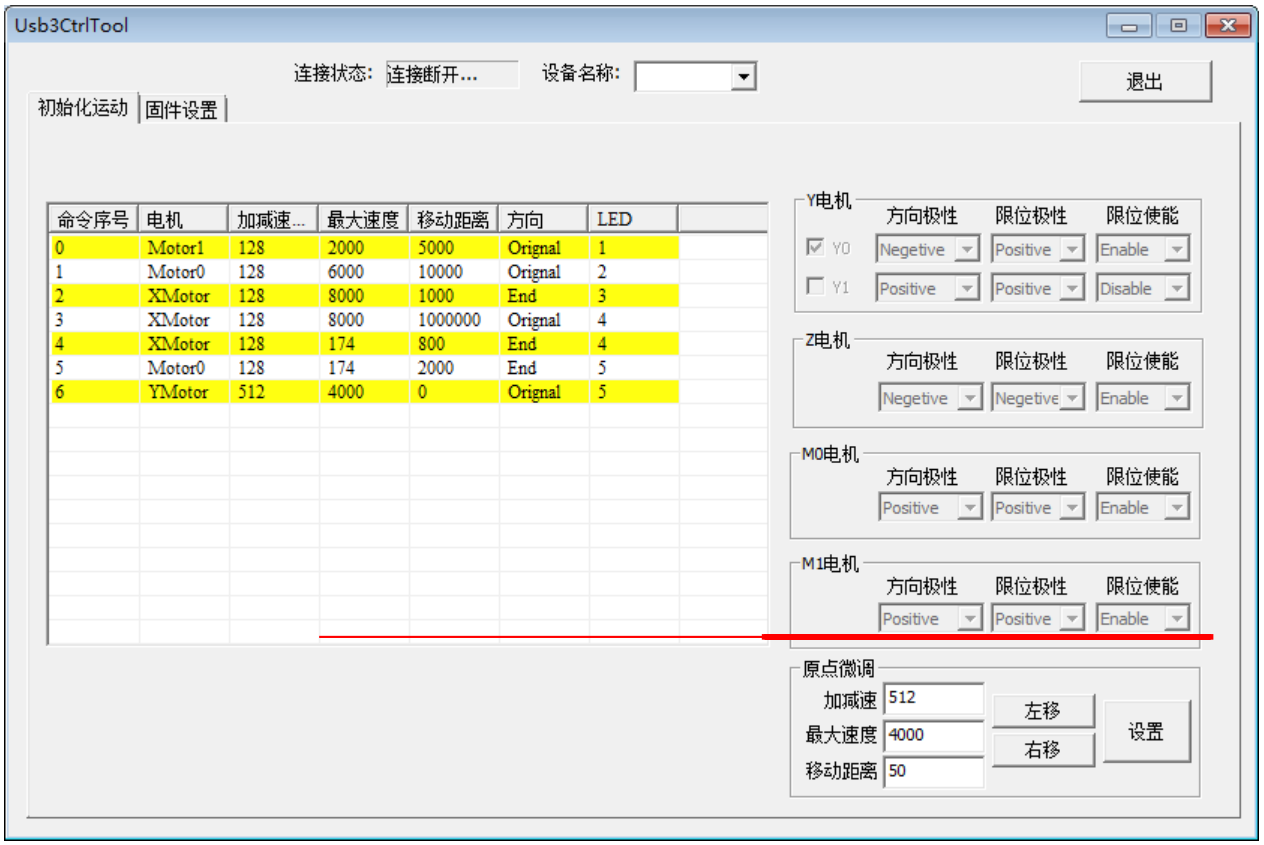
The main interface of the two pumping screems is the same, as shown blow:



When using the touch screen, the small board as shown in the left picture shall be connected to the main board, and it shall be connected to the screen through 232 direct data line

4. Startup initialization

4.1USB3.0 board startup initialization configuration file download tool



4.2Instructions for USB boot action tool

1、Firstly, the USB driver should be installed after the board is powered on. When the connection status of the tool interface shows that it has been connected, the tool interface can be used to set parameters.

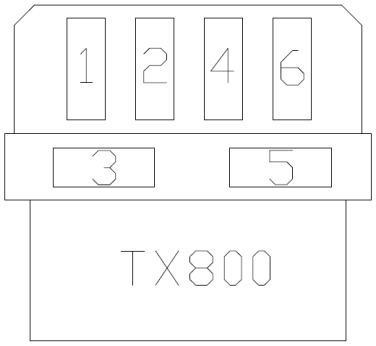
2、The tool shows that it is connected. First click the load file, find the parameter file configured by the technician, and then click download to write the boot parameters into the board.

3、Origin fine tuning setting：After power on, you also need to load the file first, and then click on the initialization action interface to set the speed and movement distance, and click move left and right. When the head and platform corresponding, then click Set, and then go back to the firmware setting interface and click Download, and then restart the machine.

Note: Before the 3.0 board is shipped, the parameters are set according to the customer machine model. Generally, tools are not be used, but only used when the parameters do not correspond or the origin needs fine-tuning.

二、 Head ink sequence

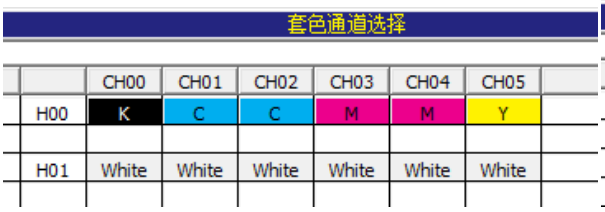
1.1Head color sequence



Four colors, in order 123456 -- K, C, C, M, M, Y; six colors, in order 123456 -- K, C, M, Y,

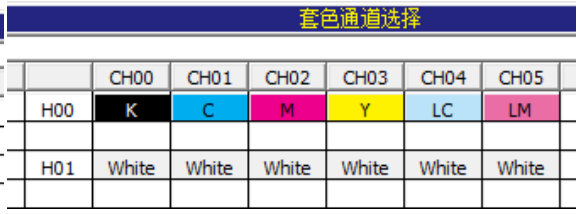
LC, LM

1.2Color offset



套色通道选择

	CH00	CH01	CH02	CH03	CH04	CH05
H00	K	C	C	M	M	Y
H01	White	White	White	White	White	White



套色通道选择

	CH00	CH01	CH02	CH03	CH04	CH05
H00	K	C	M	Y	LC	LM
H01	White	White	White	White	White	White

1.3Supported resolution and PASS numbers

FOUR-COLOR PRINT CHANGE POINT: use SingleDot4

360 X 720 2 PASS

720 X 720 4 PASS

720 X 1080 6PASS

720 X 1440 8PASS

PRINT SingleDot: use SingleDot1, SingleDot2, SingleDot3

720 X 720 2 PASS

720 X 1080 3 PASS

720 X 1440 4 PASS

720 X 2160 6 PASS

720 X 2880 8 PASS

SIX-COLOR PRINT CHANGE POINT: use SingleDot4

360 X 720 4 PASS

360 X 1080 6 PASS

720 X 720 8 PASS

720 X 1080 12 PASS

PRINT SingleDot: use SingleDot1, SingleDot2, SingleDot3

720 X 720 4 PASS

720 X 1080 6PASS

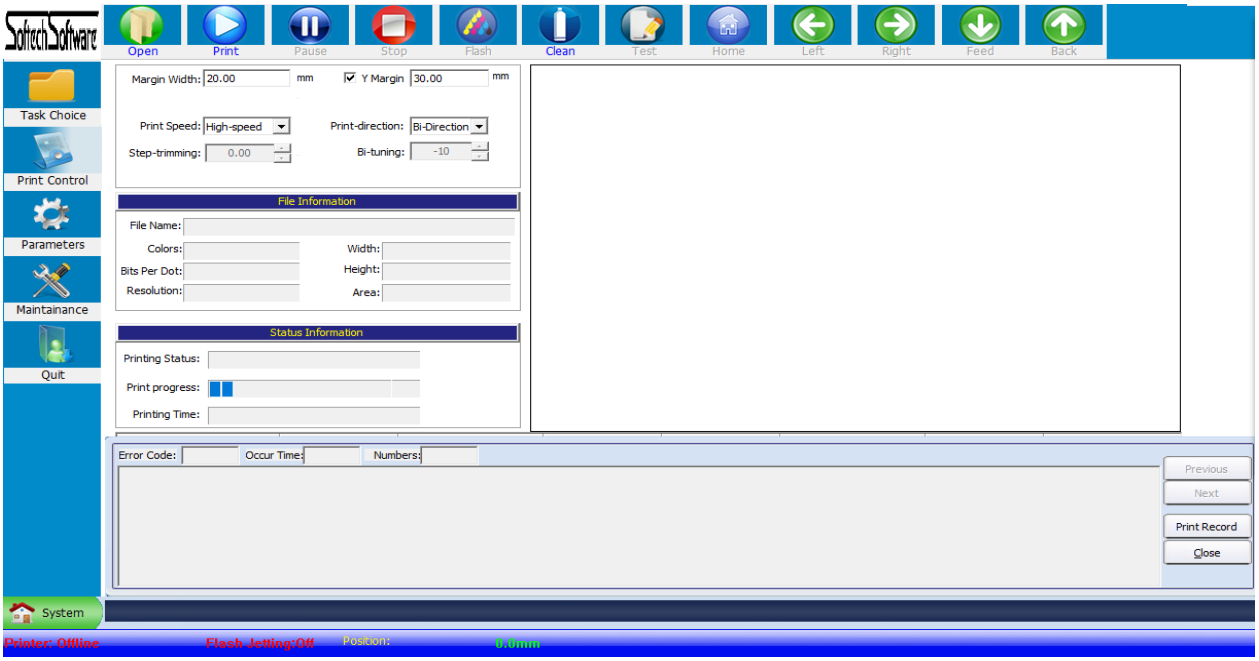
720 X 1440 8 PASS

720 X 2160 12 PASS

720 X 2880 16 PASS

三、Software Instructions

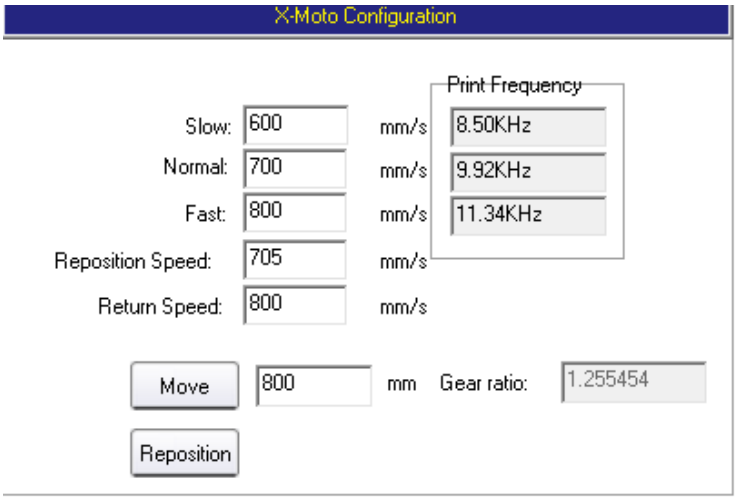
1. Software home screen



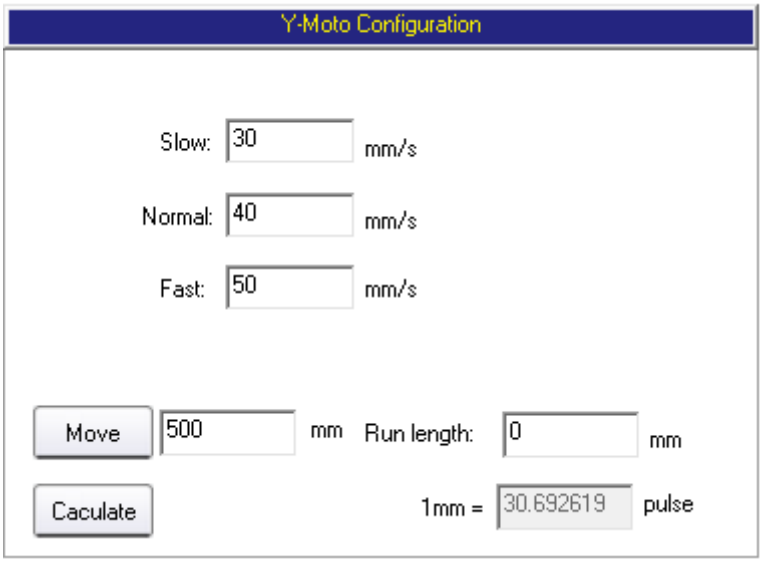
After the initialization of the board, connect the board to the computer through the USB data line, insert the dongle, and after opening the software, the printer status in the lower left corner will display “high”, as shown in the figure below:

2. Software debugging steps

2.1Calibrated gear ratio



Click the Maintenance, Motion setting，you can see the left picture as shown. Firstly, fill in a smaller value(100) after the Move, click the Move, at the same time, the software will display the cartridge position in the left bottom corner(if it shows negative，it means the raster decoder is backwards in polarity, changing its A and B line decoder sequence, eventually restart the machine). Click the Reposition, and then fill in a larger value, half of the format width, and then click the Move, click Reposition after the cartridge position stops. Finally, fill in the format width size; click Move, and the click Reposition.



Firstly, mark the material, then fill in 100 after the Move, clicks the Move. Mark the material again after its move is completed. Measuring the actual moving distance with a ruler, fills in the Run length, and click Calculate.（Note: only click one time of Calculate each time）

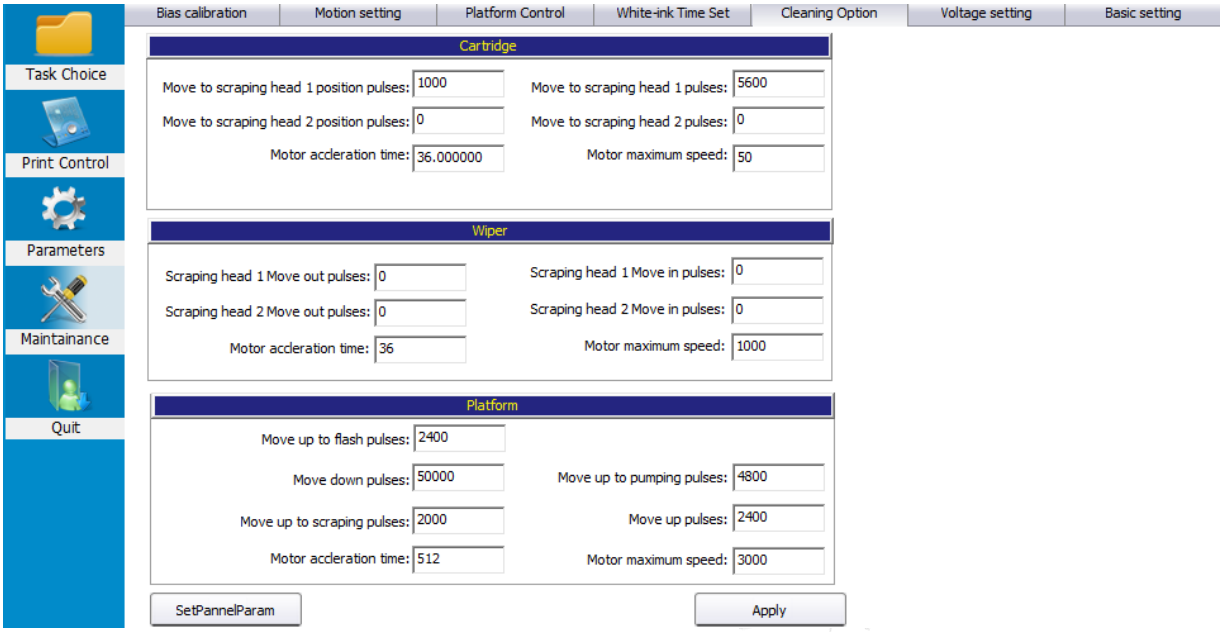
The second time, fill in 300, click Move， measure the actual run length, and then click the Calculate.

The third time, fill in 600, click Move， measure the actual run length, and then click the Calculate.

Note: After gear ratio is calibrated, click the application button at the bottom of the interface to save the parameters

2.2Cleaning option

Click the Maintenance, cleaning option, as shown in the following picture:



Cleaning steps

1、The ink pad move down to the lower limit（platform move down pulses）

2、The ink pad move up against the head to absorb the ink（platform move up to pumping pulses）

3、The ink pump began to pumping (the pumping time can be set through the tool)

4、After pumping，wait for a certain time to prevent ink suction, when the air pressure inside the ink pad is balanced（tool setting, make sure more than 3 seconds）

5、The ink pad move down to the lower limit（platform move down pulses control）

6、The ink pump pumps the waste ink from the pad

7、Cartridge move left to origin scraping position（cartridge move to scraping head 1 position pulses）

8、Platform move up to scraping height（platform move up to scraping pulses）

9、Move the scraping to the head, prepare for scraping（scraping head I move out pulses）

10、Cartridge moves to scraping（cartridge move to scraping head 1 pulse）

11、The ink pad move down the lower limit（platform move down pulses）

12、Scraping reposition（Scraping head 1 move in pulses）

13、Cartridge reposition

14、The ink pad move up to flash jetting position（platform move up to flash pulses）

15、Head began to flash jetting

16、The ink pump pumps the waste ink from the pad

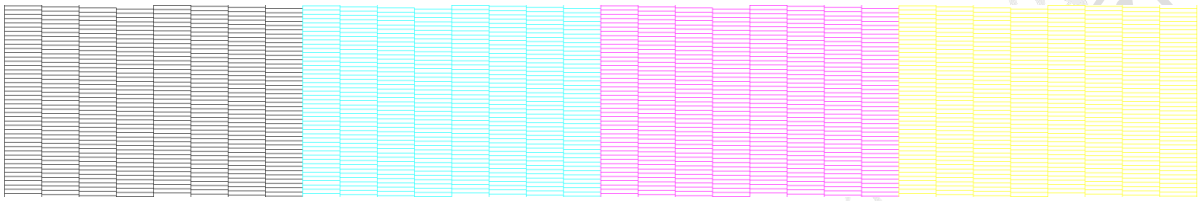
17、The ink pad move down to the lower limit（platform move down pulses）

18、The ink pad move up to standby height（platform move up pulses）

2.3Head status

On the home screen of the software, press the Test, and select the Head status from the drop-down menu

The head status is shown in the following figure:



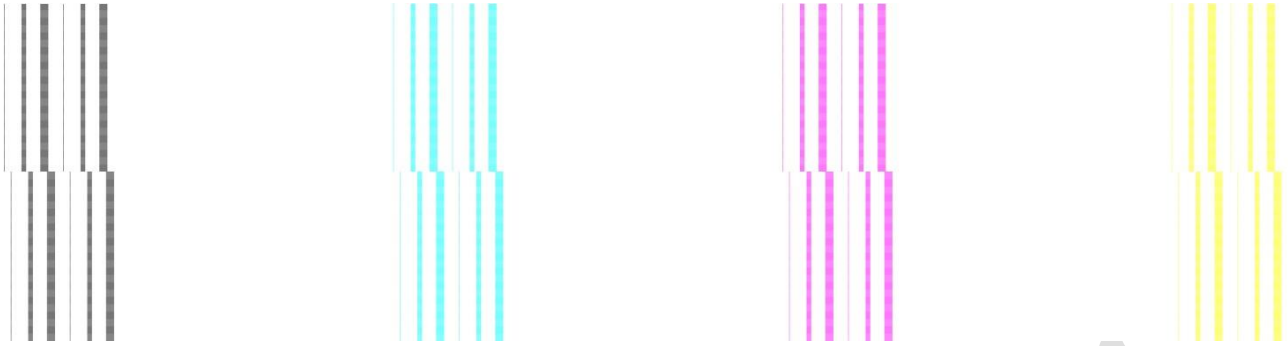
2.4Vertical calibration

On the home screen of the software, press the Test, and select the Vertical calibration from the drop-down menu

The vertical status is shown in the following figure:

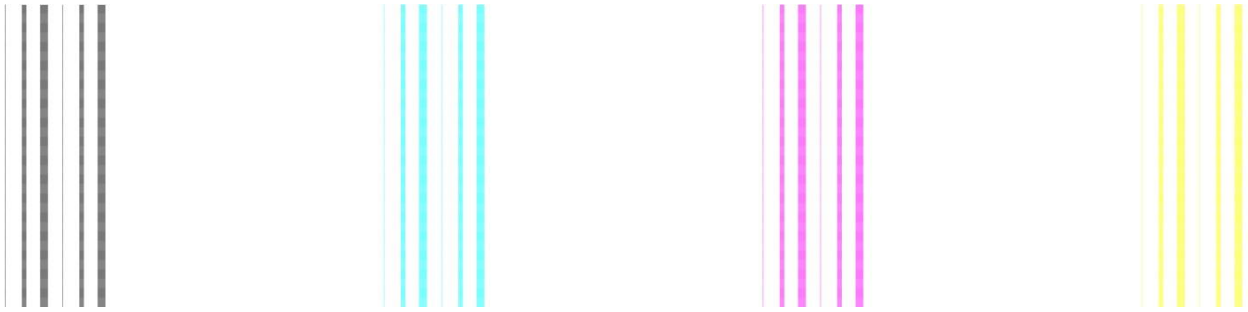
The vertical status as shown in the figure is obviously wrong, so it is necessary to adjust the head. The situation shown in the figure should be adjusting the head "left front push" and "right back pull".

The vertical status is shown in the following figure:



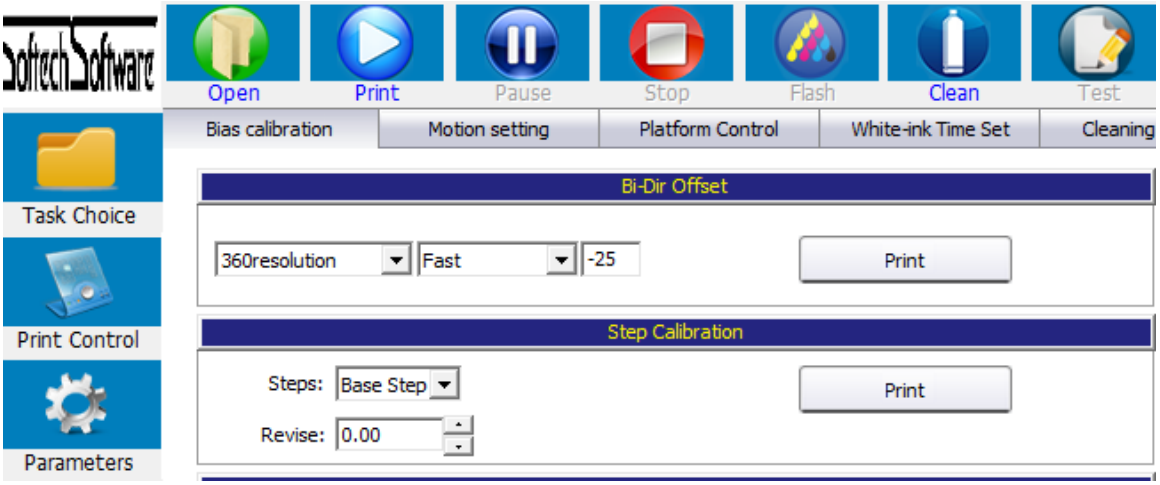
The vertical status as shown in the figure is obviously wrong, so it is necessary to adjust the head. The situation shown in the figure should be adjusting the head "left back pull" and "right front push".

The vertical status is not adjusted until it reaches the following figure shown:

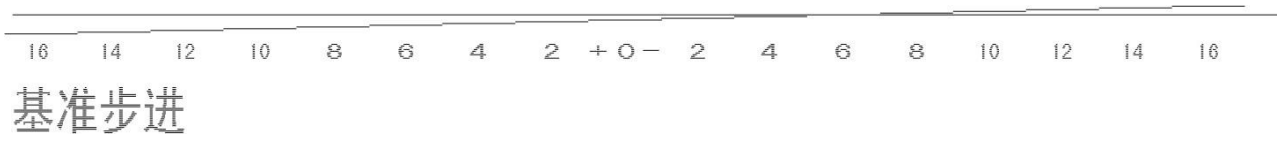


2.5Step calibration

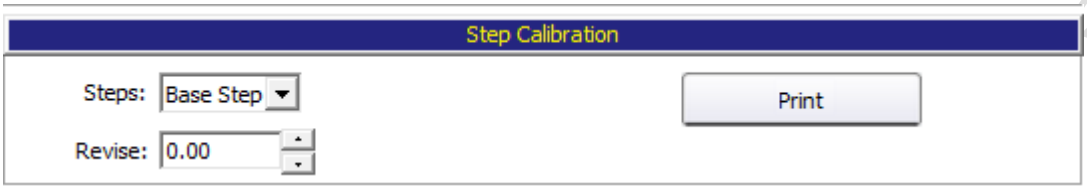
Click the Maintenance, select Bias calibration, Step calibration, lastly click Print, as shown in the following picture.



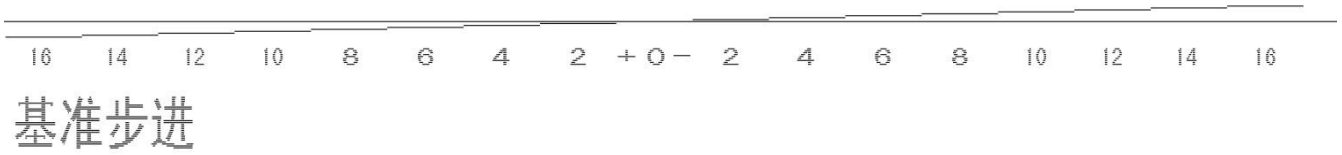
In the Steps, select Base step, click Print，the cartridge began to print：



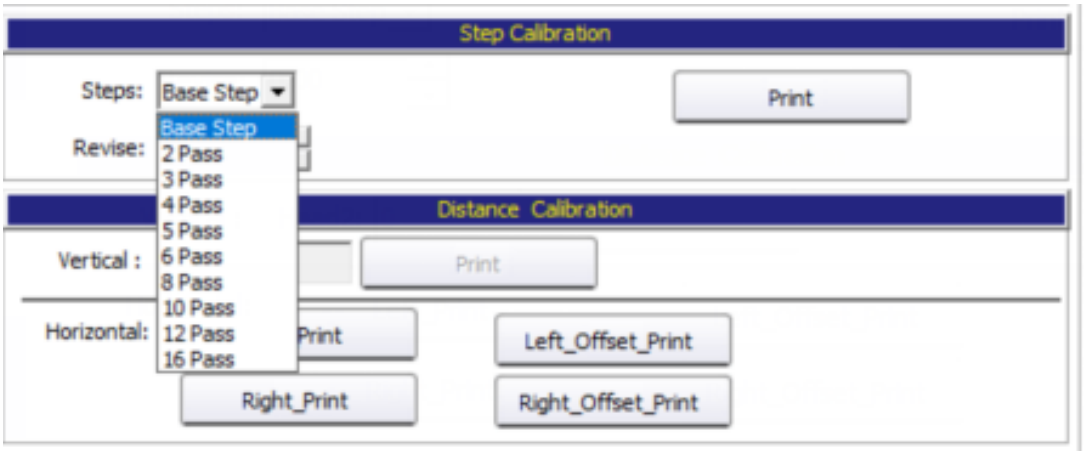
As shown in the above figure, the position of -6 is overlapped, which proves that there is an error of -6 in the Base step. Input -6 in the Revise, click the Apply at the bottom of the interface



Click the Print again, as shown in the following figure:



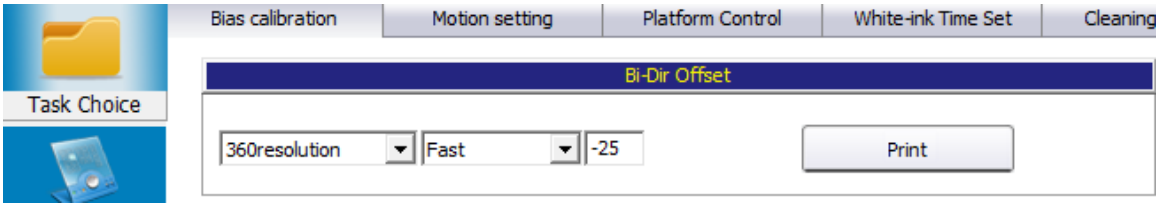
Overlap at position 0, which proves that the Base step is well adjusted. If it does not overlap at position 0, continue to adjust the parameters and continue to print until it can overlap at position 0 each time



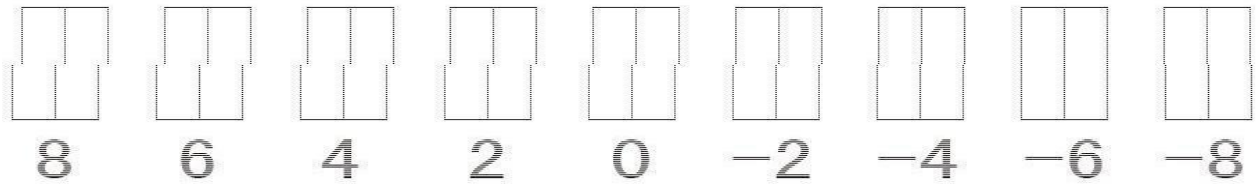
Select the drop-down menu of the Base step, different PASS numbers can be selected. After selecting respectively, it can be calibrated through click Print.

2.6Bi-Dir Offset

Click the Maintenance，select Bias calibration，as shown in the following picture:

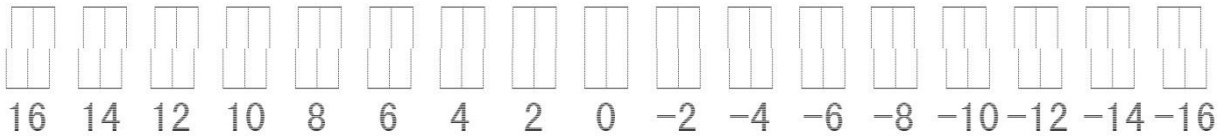


Firstly, the corresponding resolution should be selected. The default is 360resolution. Select the corresponding speed and adjust the bidirectional values of slow, normal and fast. Click the Print lastly.



The above figure is aligned above and below the position of 6, indicating that in the case of normal speed, the bidirectional deviation is -6. Add -6 to the adjustment box in the back, and click the Apply

Click Print:

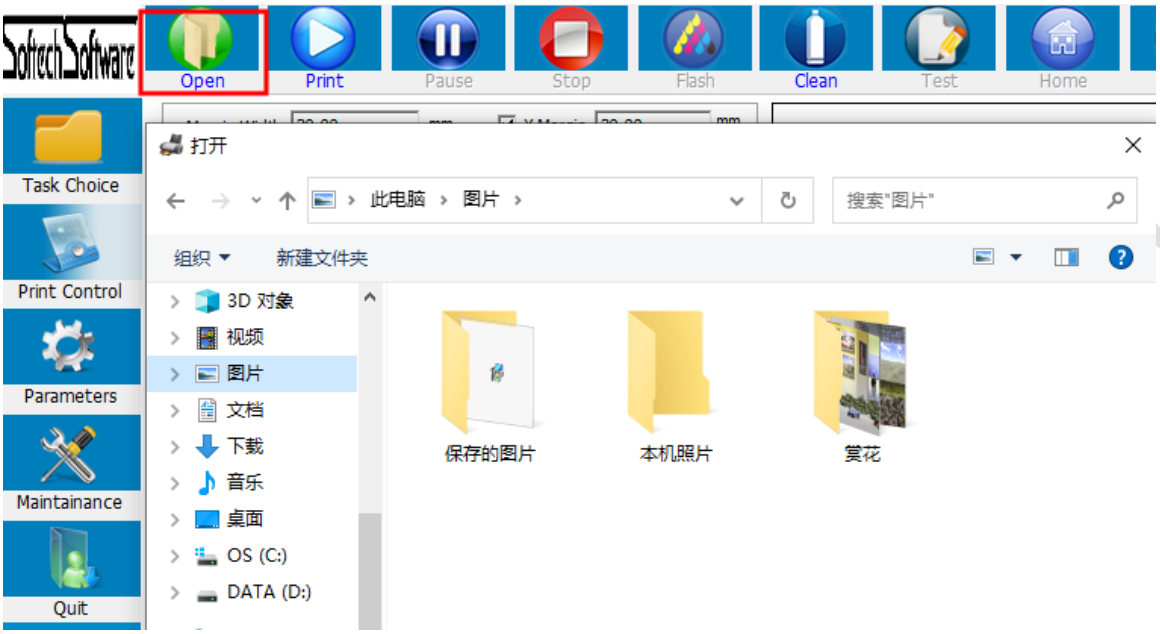


When aligned at position 0, which proves that bidirectional value adjustment is completed.

Instructions for Bi-Dir Offset resolution select: 720X720 4PASS' s corresponding bidirectional calibration is 360resolution，When select 8 PASS, the corresponding is 180resolution； 720X1080 6PASS 360resolution，12PASS ，180 resolution； 720X1440 8PASS 360resolution， 16PASS 180resolution

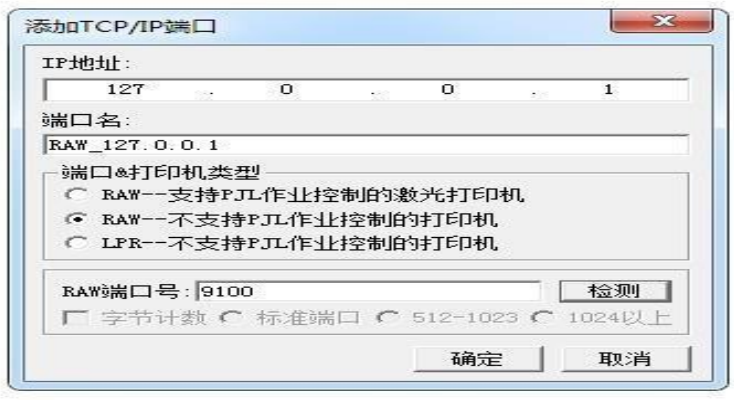
3. Load print file

There are three options for loading print file. The first is to click the Open in the main menu bar and find the PRN file with good RIP. After selecting it, double-click or click Open in the bottom to open it.



The second is click the Task Choice in the main menu bar to find the path where the RIP file is stored, and double-click the file to be printed

The third is using RIP software directly printed. Set the port, 127.0.0.1



When you double-click to print the task, the task properties box pops up, as shown in the figure below:

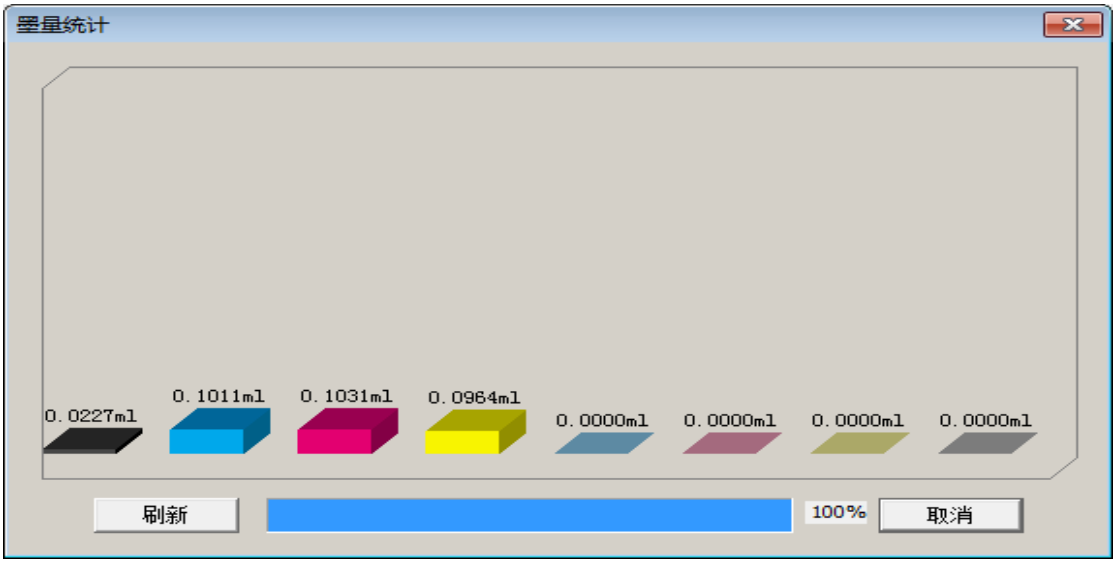
Task properties:

Repeating printing can be selected. After selecting the Repeat printing, the front end will be reposition each time the printing is completed, and then the same PRN task will be printed at the stating position of the margin width

Multiple setting, transverse amplitude and longitudinal amplitude can be set, interval can be set, and the unit of interval is mm

Area printing, you can manually select a part of the file for printing, when the area printing, the repeated printing and multiple setting are invalid

Ink count: represents the amount of ink required for current PRN file

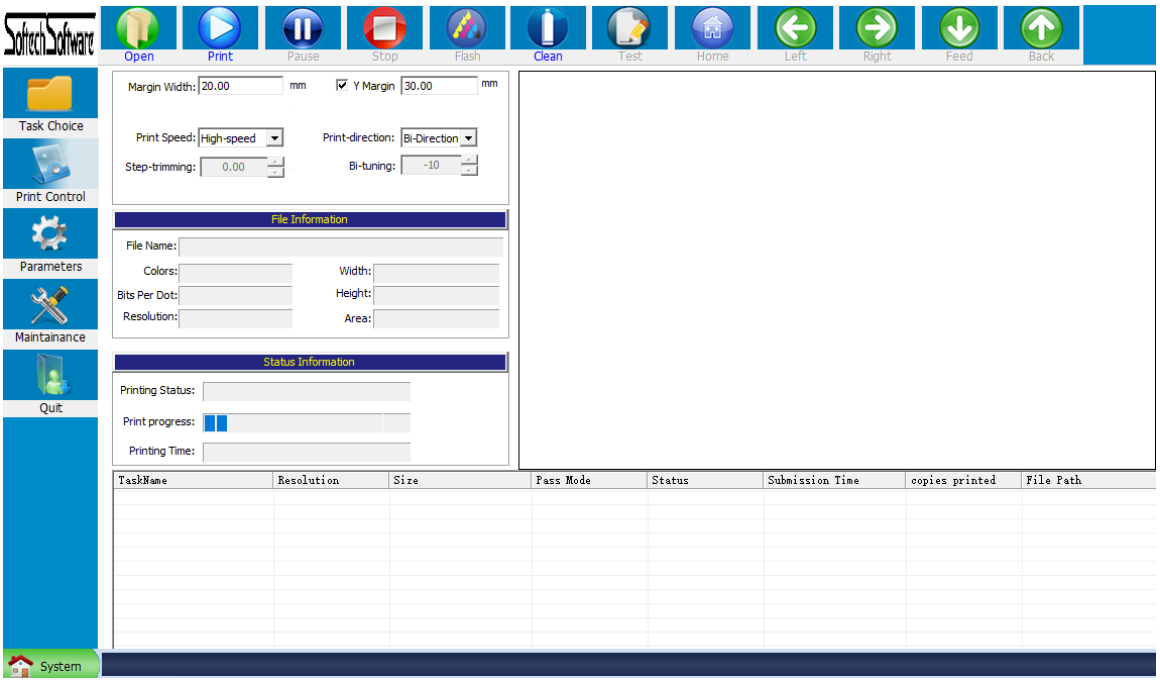


Click the ink volume control under the task choice, and the interface as shown in the following figure:

Selecting ink volume control, which can adjust the ink volume of current PRN file

Note: When the ink volume is intercepted, the output image resolution will decrease and the dot will become thicker. It is generally not recommended to adjust the ink volume here

When you click the OK button below the properties, the task import is completed; you can click the top of the software to print and start printing. At the same time, the software interface will display the file information of the current PRN task, such as colors, area and etc. As shown below:



4. Software function

4.1Title menu bar

Open： Import PRN file with good RIP for printing

Print：After importing the PRN file, select the file and click Print to start printing the current task

Pause：During the printing process, pause the printing, reposition, and the button will change to Continue. Click Continue, and the task will continue to print

Stop：Stop the current print task

Flash：Turn on or off the head standby flash

Clean：When the head is not in good condition, clean it

Test：Head status, vertical calibration

Home：When the car head is not at the origin, right click can make the cartridge directly reposition, back to the origin

Left：The cartridge is moving to the left

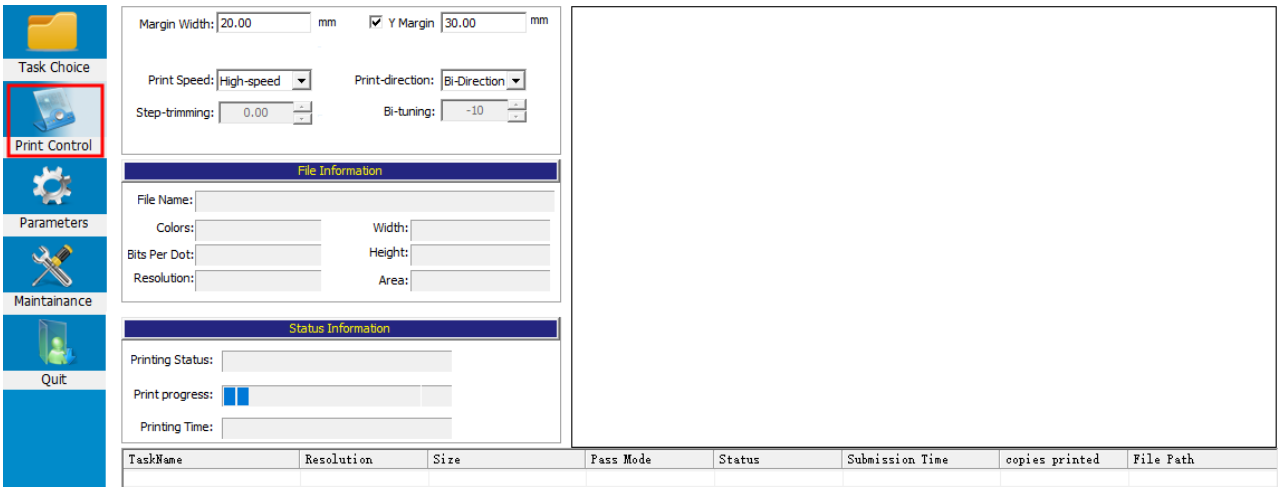
Right：The cartridge is moving to the right

Feed：The material moving forward

Back：The material moving backward

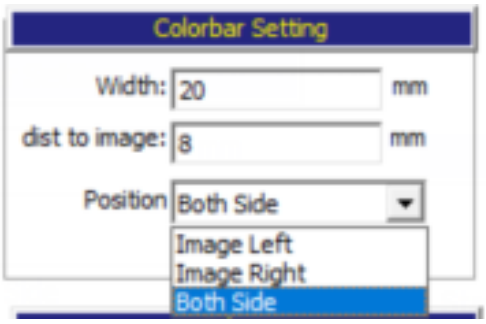
4.2 Print Control Interface

Note: Only the parameters to be used are described



Margin width setting： The initial print position is in the X-Dir of the current PRN file. You can press the key board to move the cartridge to the actual printing position. Click the Set button to set the current position as the initial printing position, and the margin value on the interface will change accordingly

Color bar print: Check the Color bar, which is set in the parameter setting interface, you can set the color width, distant to image and position (image left, image right or both side)

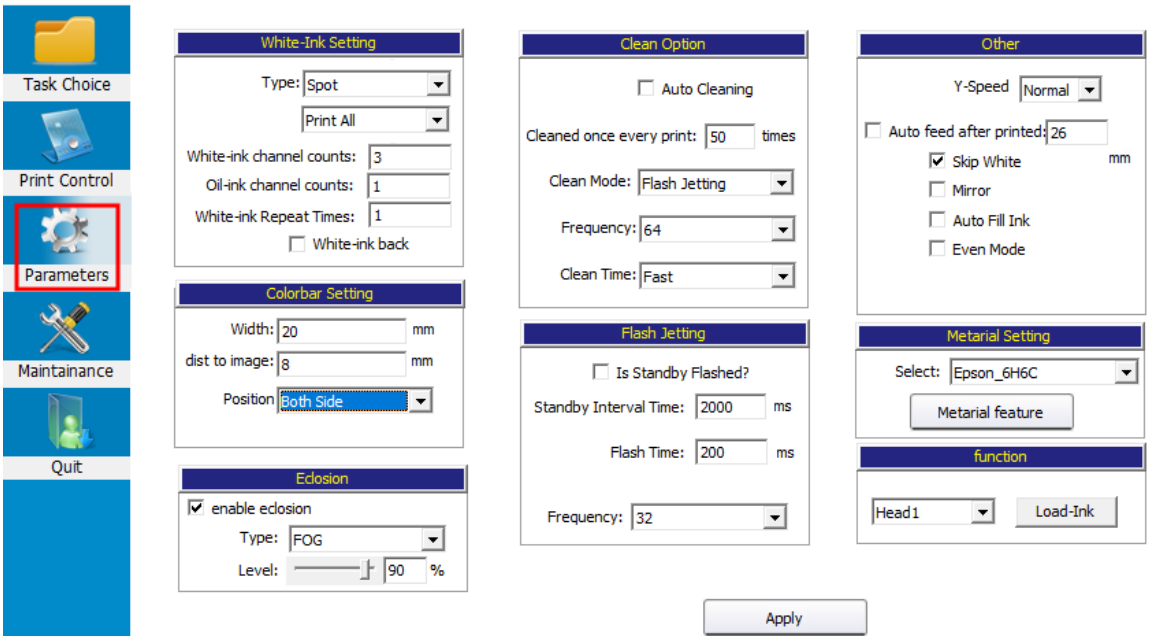


Print queue: When import multiple PRN tasks at the same time, check the queue print, and will be attached to print all the tasks

Print speed: You can choose the print speed as slow, normal and fast. You can adjust it in the Motion setting interface, Maintenance

Print-direction: You can select print-direction as to-left, to-right and bi-direction. When you select bi-direction, you need to debug the bi-directional values first

4.3Parameters interface

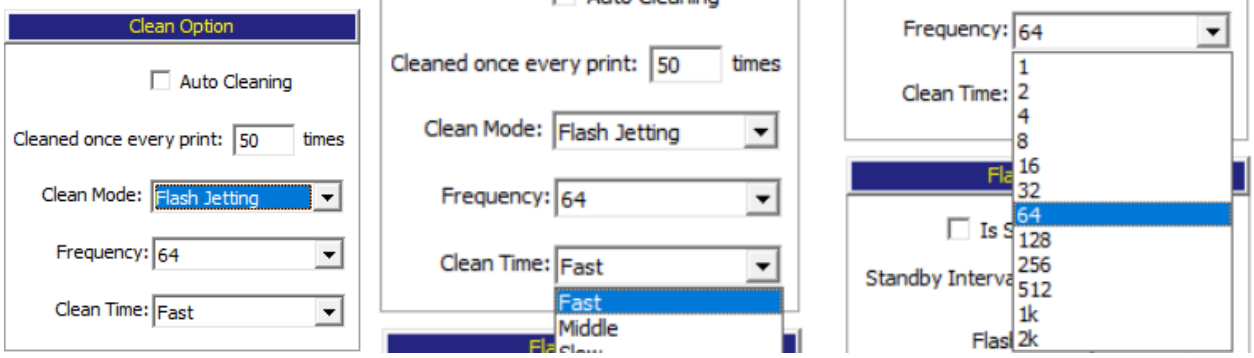


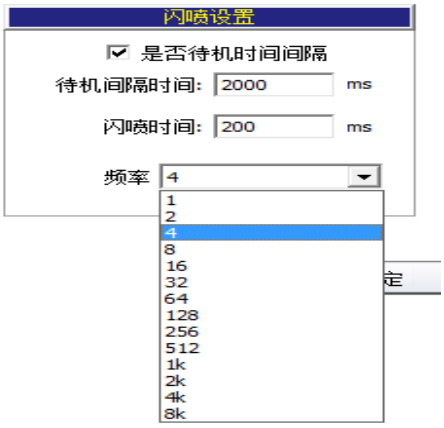
White-ink setting: In photo machine application, only spot color or only-white type are used. The white-ink channel counts don’ t change, using the default values given on the software. When the white-ink needs to be thickened, the white-ink repeat times can be set

Color bar print: You can set the color width, distant to image and position (image left, image right or both side)

Eclosion: By default, you only need to check the eclosion. General choice of type is FOG. The level is adjusted according to the actual situation. The higher is the level, the slower is the speed, and the better is the effect. The enable eclosion is used when print color block, or when the head is in poor state. Turn it on, the printing speed will be reduced, but the effect will be improved a lot. You can actually adjust it according to the printing effect

Auto cleaning: Click OK to start auto cleaning. As shown in the following screen capture: cartridge print 10PASS after printing, it will return to the origin for quick flash jetting with a frequency of 512

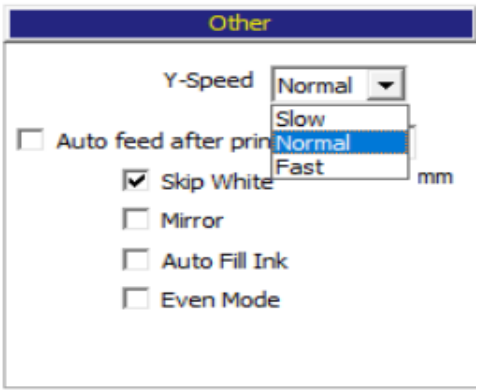




Flash jetting: It is the flash frequency during standby. When checking Is Standby Flashed, intermittent flash will be performed. You can fill in standby time and flash time by yourself, which is set 4-16 as usual

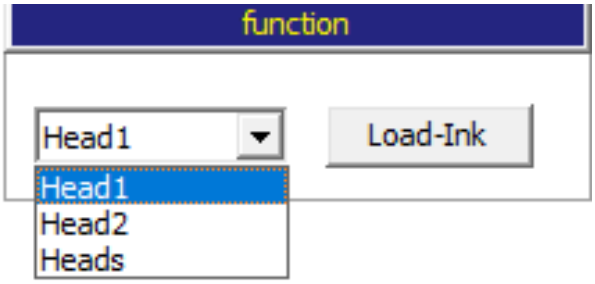
Other setting:

Feeding speed refers to the speed of Y feed; the specific speed can be set in the Y-Moto Configuration, Motion setting, in the Maintenance



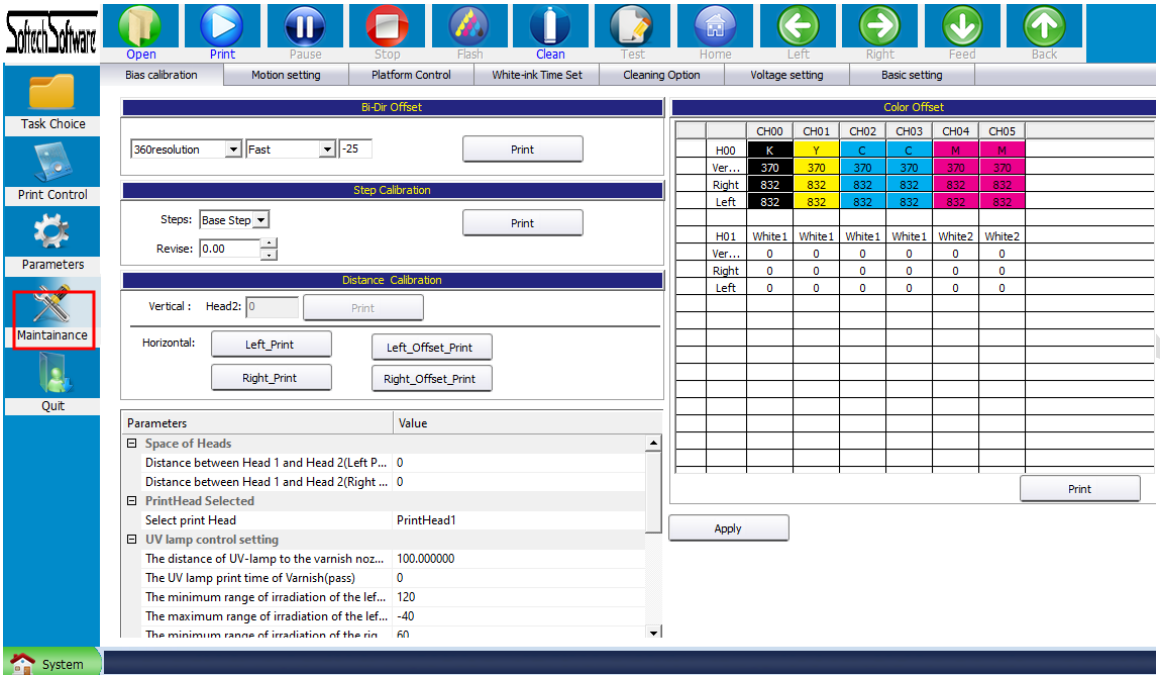
After the current PRN printing is completed, the material moves forward

Skip white, when turned on, empty areas will be skipped in X,Y directions, only print the area of figure (When colorbar is checked, the function of skip white is valid)



Load-ink function: Optional: head1, head 2 and heads. Click Load-ink button, system controls the ink move up to pumping position, the ink pump began to pumping, and the button displays "stop", the ink pump stop pumping ink until manually click the Stop button

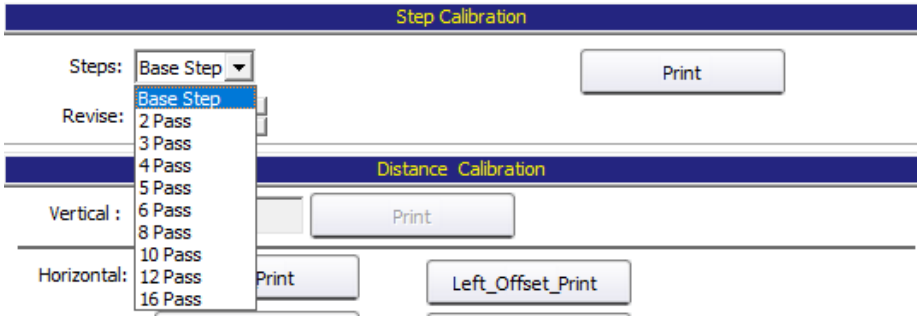
4.4Maintenance interface

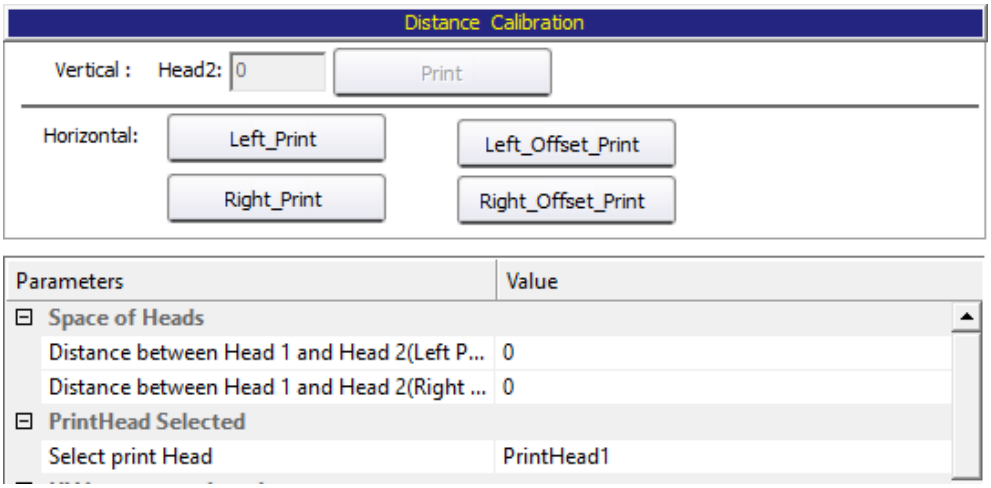


4.4.1Bias calibration

Bi-Dir Offset: Before printing, 180resolution, 360resolution, slow, normal and fast speed calibration chart shall be printed respectively for calibration. The Bi-Dir offset shall be specified in the debugging instructions.

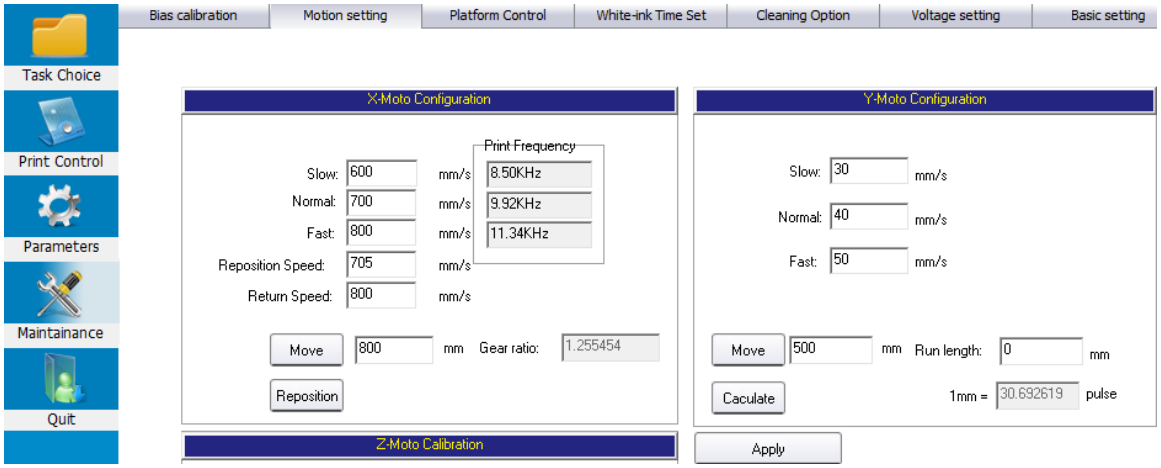
Step calibration: Select the commonly used PASS number , print respectively to see if the Step is correct





Here, use it when it has two heads, and only pay attention to it when it has one head when select print head as PrintHead1

4.4.2Motion setting



X-Moto Configuration: The print speed of the print control interface is set here. Slow and normal speed can be set by you according to the actual situation. Fast speed has certain speed setting, which cannot exceed the flash frequency of the head. At present, the 5th and 7th generation can support 1200mm/s with 360resolution

Reposition speed: When click the Home in the software title menu bar, the cartridge motion speed

Return speed：When one-way printing, the speed of the cartridge return motion

Move、**Reposition**：It is used in calibrating the X gear ratio, and it has introduced in the debug steps

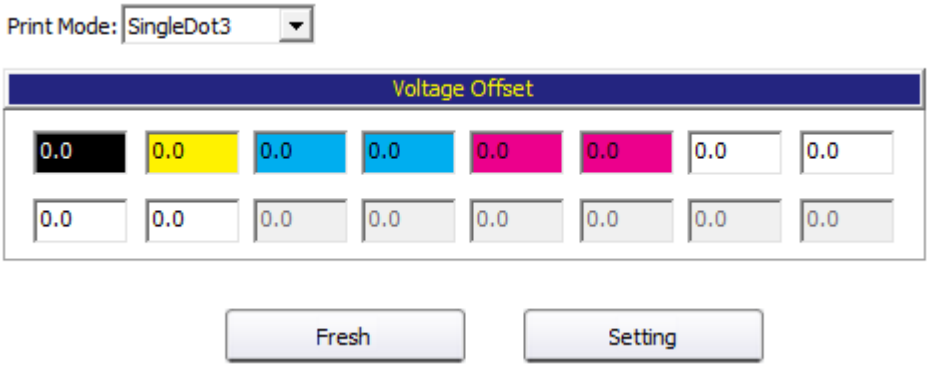
Y-Moto Configuration:

The speed of the feeding motor, divided into slow, normal and fast speed. The corresponding value of feeding speed in other settings on the parameters interface is set here. The faster the feeding speed is, the smoother the printing process will be. However, under the premise of no motor and no step loss, the specific speed needs to be determined by actual debugging

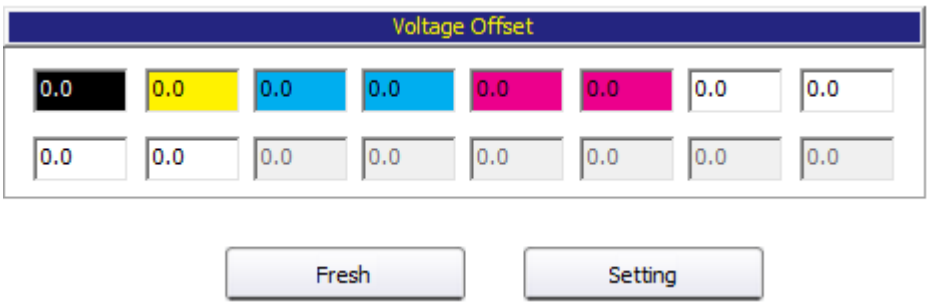
Move、Calculate： It is used in calibrating the X gear ratio, and it has introduced in the debug steps

Note: After the current interface parameters are modified, click the Apply button below, otherwise the modified parameters will be invalid

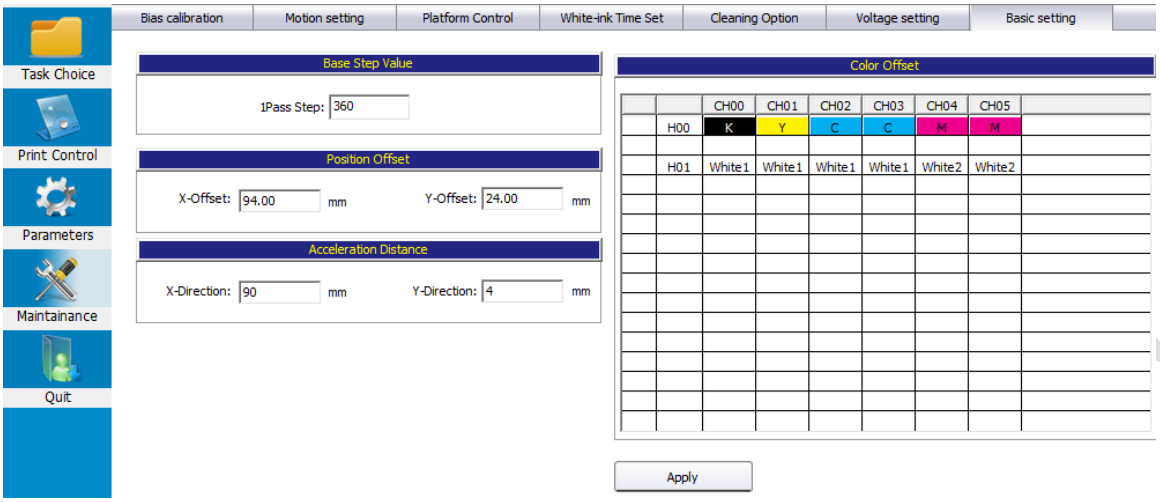
4.4.3Voltage setting



Voltage Offset: You can adjust the jet level (-6 to +6) by changing the waveform voltage to increase or decrease the current ink dot. After filling in the value, click Setting. At this time, the software mag have a lag, because the software is writing voltage offset value to the board, it only needs to wait a moment to restore, at this time the modified voltage offset value into effect



4.4.4Basic setting



Base step value: The default value is 360. The value here is generally not modified, subject to the software

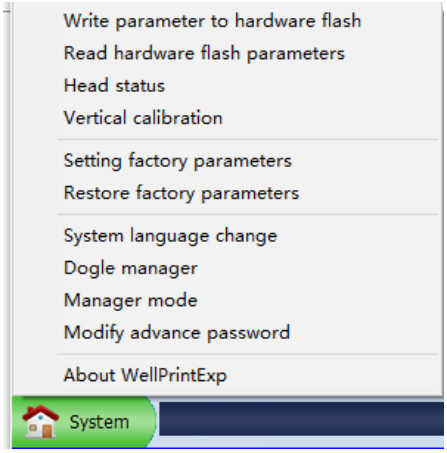
Position offset: The X-Offset value is generally filled in here. When the margin width value is 0, it will be just at the edge of the material. The Y-Offset value has the same meaning, but it is not used in photo machine

Acceleration distance: The distance from static to printing speed acceleration, the greater the value is, the more gentle the car. The smaller the value is, the faster the motor is reversed and the faster the overall speed is. However, the motor is jitter, so an appropriate value needs to be adjusted in practice. In Y-Direction, the stepping distance is short each time, so the acceleration distance is generally set to be small, between 3 and 8.

Color Offset: The ink sequence of the channel corresponds to the flash ink sequence of the head. When the ink sequence needs to be changed, it must be guaranteed that the two channels of one color should be changed together, such as CCMMYYKK, MMYYCCKK, etc. Instead of KCMYMCK, the two adjacent channels should be one color

Note: When the parameters are modified, click the Apply button below to save it, otherwise, it will not take effect

4.4System menu



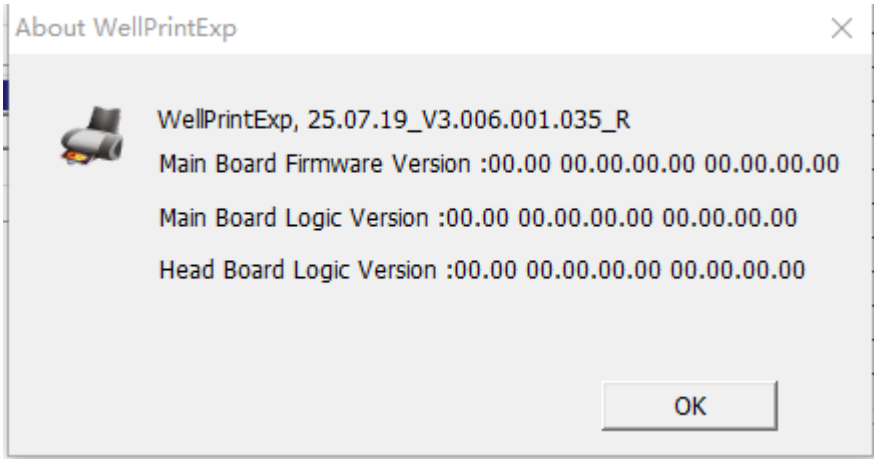
In the system menu, the head status and vertical calibration are the same as the software title menu

bar

After all the software parameters are debugged, you can click the system menu, click Setting factory parameters. At this point, the software will save a copy of current parameters. When the software parameters are abnormal in the later period, you can click Restore factory parameters

Dogle manager: When using a staging dogle, you will need to write a password to continue using it

About WellprintExp, it will display the firmware and logic version number of the current board, which can only be used if the software is normally connected to the board, as shown in the following figure:



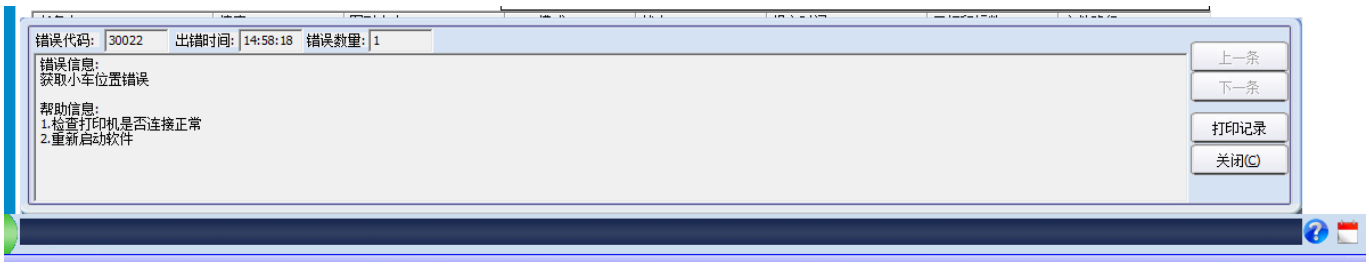
4.5Other display information

The connection status of the printer: It is currently disconnected. It will display “high” when it connected

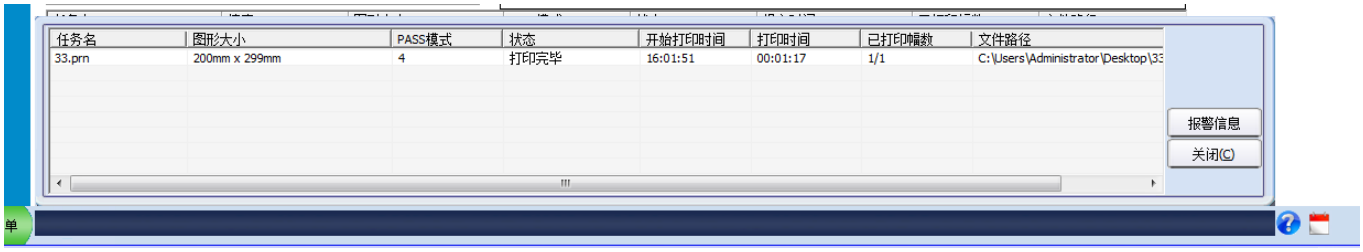
Current flash jetting status: On or off

When the cartridge moves, the real time of the cartridge

In the error message prompt bar, you can click the Question mark button in the lower corner to view the precious prompt message record



The precious bar for the printed PRN file



四、Common fault handling

1. No action on startup

(1) If there is some problem with the connection of data lines, check whether the sequence of optical fiber lines is corresponding

(2) Check whether the single line of the motor is connected correctly, whether the line sequence is correct, and whether the signal line of X-Moto and Y-Moto is connected backwards

(3)Check whether the motor driver is functioning correctly

(4) Verify that the boot action settings are correct and re-import the parameters or firmware

(5)Check the power supply of the board and observe whether the indicator lights of D71、D72、D74, and D80 are on

2. Startup X-Moto move in only one direction

(1) There is a problem with the motor single line. Only 3 data lines are connected. There is a short circuit between the lines.

(2) If the sensor is broken, manually block the sensor to confirm whether the limit sensor is normal

(3) The polarity set for the starting action of the board does not correspond to the actual polarity used (at this time, it can be judged by manually blocking the sensor; if the blocking sensor works normally, it must be set with the opposite polarity).

(4) If the electric driver fails, replace the driver.

3. The software is not online

(1) Confirm whether the startup action is completed

(2) Check whether the computer has identified the driver of the board. If not, the driver shall be reinstalled

(3) Whether the computer has inserted the dongle, and whether the top left corner of the software shows that the dongle has not been detected, re-insert and unplug the dongle

(4) The software version does not correspond, and the software USB type settings do not correspond

4. After the software is online, the cartridge has been moving to the left（Delimit ink

stack type machine easy to appear)

(1) If the software cannot read the raster value, O is always displayed at the bottom left corner of the software. Check whether the raster decoder is normal and whether there is a problem with the line connection

(2) When the software reads the grating value to be negative, the cartridge position in the lower left corner always display the negative number, changes the grating polarity, or changes the A and B line sequence of the decoder

(3) Incorrect machine origin orientation setting

5. No flash head

(1) Board logic, software version and the head type does not correspond

(2) Check whether the head line is inserted well and whether the 16PI data line is inserted correctly

(3) If the board is damaged, replace the board for testing

(4) Change head test

(5) Software flash head area setting is wrong

6. Unable to print the status diagram

(1) If there is no action in the status diagram and PRN file in the software is incorrect, please contact the technical support of WellPrint to solve the problem

(2) The software prompts the 1 PASS data exception，and the software version does not correspond to the board

(3) It is suggested that Y DPI is too small, the software configuration file does not correspond, the status diagram is not set correctly with the software, generally single and double head, head type does not correspond, etc.

(4) The software prompts data interleaving error, and white-ink channel number set by software is wrong; The second decryption software is incorrect

7. The head status is missing

(1) Check whether the line of head is inserted and plug it again

(2) Software system maintenance, basic setting interface and whether the channel is closed

(3) Check the ink sequence of the software and whether it is installed according to the instructions in this manual. In particular, make sure that the ink sequence of the seventh generation head flashing out is of the same color

(4) Take out more ink, whether the ink has not been draw out of the head, the head in the cleaning solution, confirm whether the head is blocked

8. Printing head status spray

(1) Check whether the software, board and the head type are corresponding

(2) Re-insert the head line, and check the 31PI long data line for insertion and skew

(3) Change a small head board and try to change the head line

(4) Replace head test

9. Drawing wire

(1) More needles are missing in the head. Clean the head to ensure that there are fewer needles missing in the head

(2) The more PASS, the more edosion, the better the effect will be

(3) Open and strengthen edosion, will improve the drawing wire, the speed will have a certain decline in the depth of the drawing

10. Draw a picture of the depth and whiteness

(1) Check whether the head is installed at the level of the platform

(2) Whether the step, vertical and Bi-Dir are calibrated well

(3) Open and strengthen edosion, The effect will be significantly improved

11. It is wrong to read 1PASS data, the amount of written data is not equal, and it is wrong to set micro-injection status

(1) If there is a problem with the USB interface or data cable, try to replace the data cable or computer interface

(2) If there is a problem with 31PI long data cable, please re-plug it or replace it

(3) The print speed exceeds the head frequency of the head and reduces the printing speed

(4) Replace the board for testing