

SUBLISTAR

ATools Pro Operation Manual

Catalogue

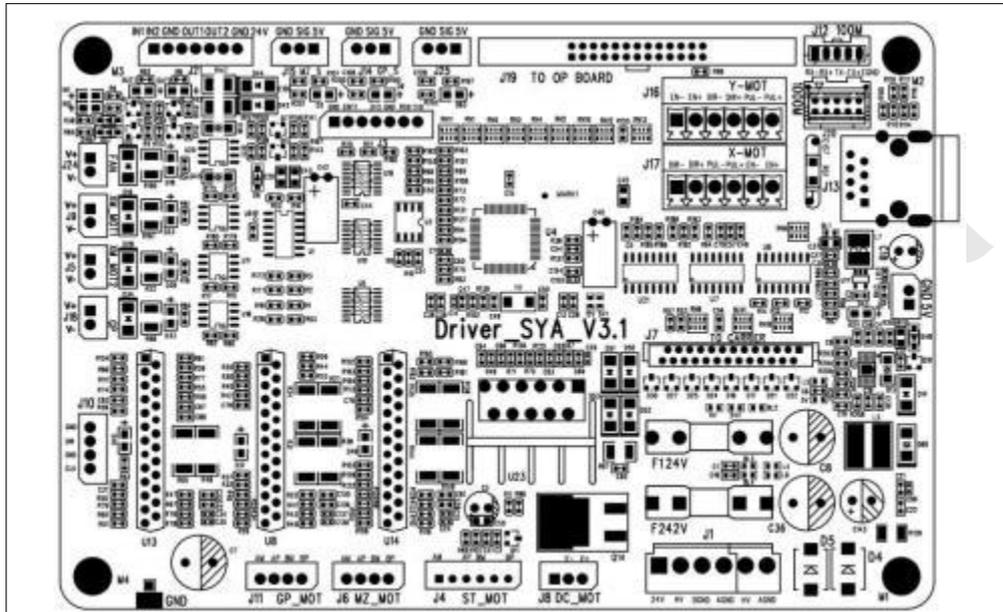
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Chapter I Precautions

1. The board should be handled with care to prevent damage to components;
2. Please select standard 24V and 42V power supply;
3. A cooling fan shall be installed at the place where the spray plate is installed to ensure air circulation and prevent the high temperature around the board from affecting the printing effect or damaging the board;
4. The power supply output voltage on the left limit, right limit and grating input interface is 5V/24V, please select the matching sensor;
5. When connecting peripherals, please confirm that the wire sequence is correct and not inserted askew or incorrectly for many times to prevent the board or nozzle from burning when starting;
6. It is forbidden to plug and unplug peripherals when the power is on. Be sure to turn off the power first, and then plug and unplug after all the power indicators on the board are off;
7. The equipment must be properly connected to the ground. The board 24V ground wire must be independent and cannot be connected with the 220V ground wire;

Chapter II Board Description

2.1 Main board interface description

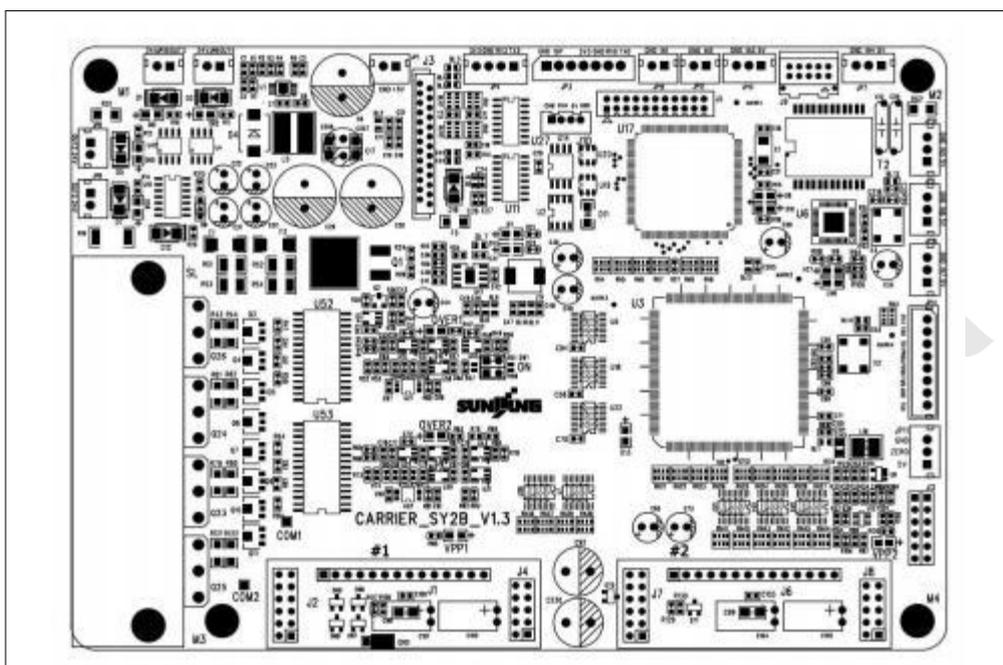


Interface	Pin	Interface	Pin
J1 Power supply (24V/42V)	24V: 24V+ DGND: 24V - HV: 42V+ AGND: 42V -	J3 Program input and read serial port data	/
J4 Step Feeding	AM: A + AP: A - BM: B + BP: B -	J5/J9 Ink pump motor1 Ink pump motor 2	+ : 24V+ - : 24V-
J6 Ink station motor	AM: A + AP: A - BM: B + BP: B -	J8 DC Motor	V-: V+:
J11 Blade motor	AM: A + AP: A - BM: B + BP: B -	J12 100M interface	/
J13 network interface	/	J14 Blade sensor	GND: 5V - SIG: signal line 5V: 5V +
J15 Ink station sensor	GND: 5V - SIG: signal line 5V: 5V +	J16 Paper feeding motor	DIR- : DIR+ PUL- : PUL+ :
J17 trolley motor	DIR- : direction DIR+ PUL- : pulse PUL+ : pulse	J18 Eject blade	+ : 24V+ - : 24V -

J21 UV Heating	24V: 24V+ GND: 24V- OUT1/ OUT2: output IN1/IN2: input	J24 Suction	+ : 24V+ - : 24V-
J25 Paper measuring sensor	GND: 5v - SIG: signal wire 5V: 5V +		

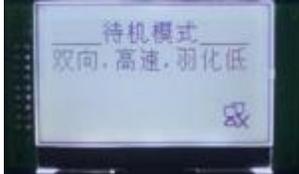
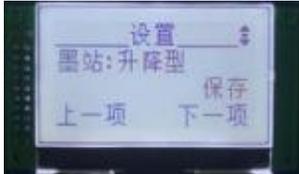


2.2 Trolley board interface description

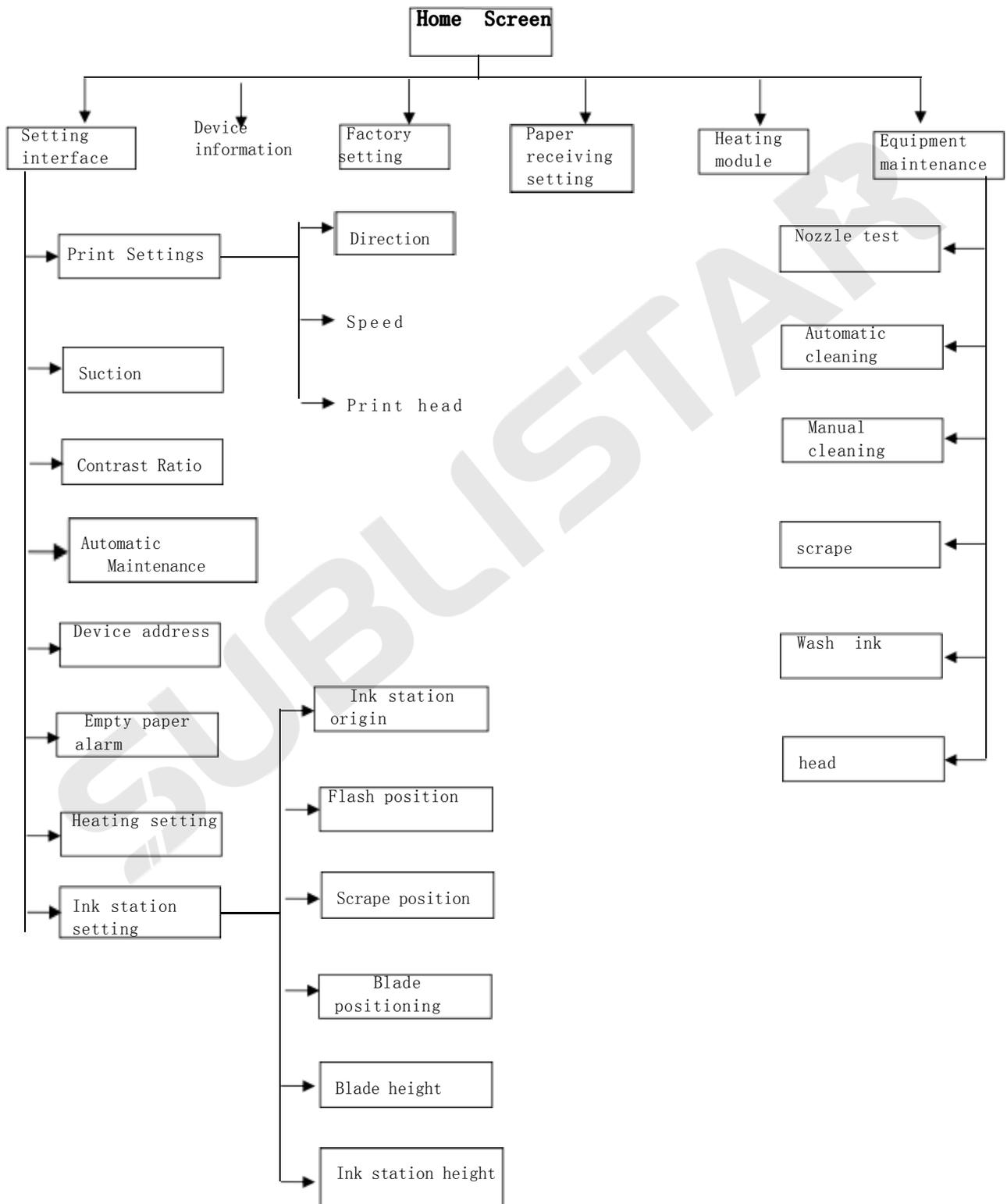


Interface	Pin	Interface	Pin
J3 26P Flat cable	/	JP11 Origin sensor	5V: 5V+ ZERO: signal GDN: 5V -
J9 Gigabit network interface	/	J10 Raster decoder	/
Nozzle 1/nozzle 2	/		

Chapter III Panel Interface

Name	Picture	Description
Standby mode interface		Normal startup
Engineer mode interface		Press and hold up+down+left+right to power on
DEGUG Mode interface		Press up+right+exit to powder on

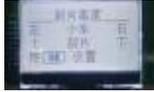
3.1 Description of standby mode function menu



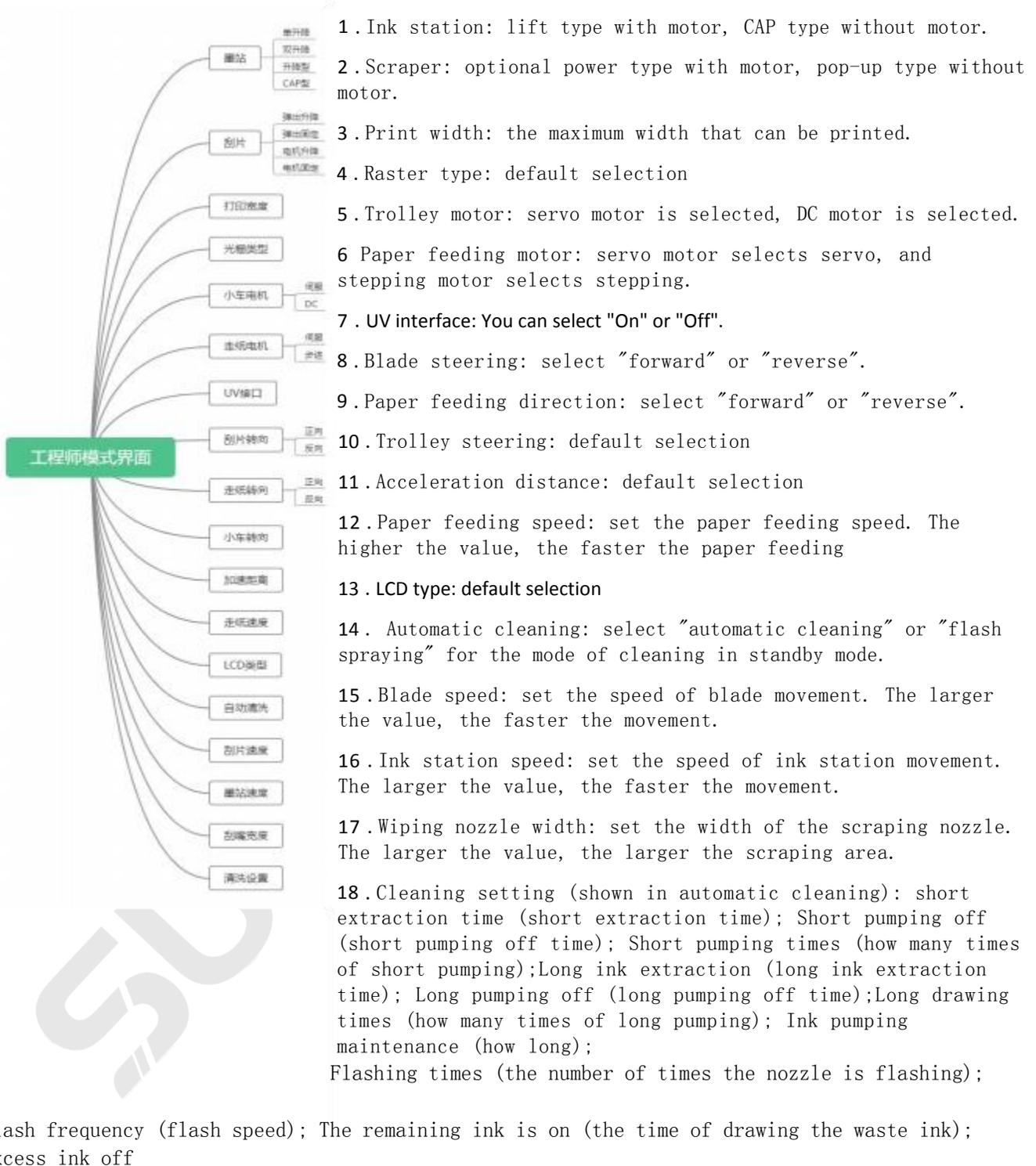
Name	Picture	Description
direction		Set the printing direction (one-way/two-way), speed (low speed/high speed), nozzle, feather (high/medium/low/off), and realize this function through the printing setting control device.
speed		Print speed, you can select "Standard" or "High"
Print head		Select "left head", "right head" or "double head" for printing
Suction		The wind force of the platform fan can be set to level 1 - 16
contrast ratio		Panel screen contrast, the higher the contrast, the more obvious the contrast ratio
Automatic maintenance		Time interval for automatic maintenance of the machine in standby
Device address		The IP address of the printer. You can select a default address or a custom address
Empty paper alarm		Test the use of materials; When it is turned on, an alarm will be given when the material is used up
Heating setting		Select "ON" or "OFF"
Ink station origin		Position of trolley in standby
Flash position		Position of the car before printing and during ink washing

Wiper position		The position of the nozzle after scraping
Blade positioning		The position of the motor blade moved out when scraping the nozzle

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Blade height		The height of the blade when scraping the nozzle
Nozzle Test		Print the test strip to facilitate viewing the nozzle status
Automatic cleaning		Perform ink pumping, nozzle scraping, flash spraying, head sealing and other actions
Manual cleaning		Ink pumping only
scrape		The car is moved out, and the blade scrapes and cleans the nozzle
Wash ink		Sprinkler flash
head		The ink cartridge and the nozzle surface are closed

3.2 Engineer Mode Menu Description



3.3 DEBUG Mode Description

Name	Description
Print Dug	enter Debug mode when the boot car contacts the origin, click OK at this option
Spit test	Flash test (can be used to flash the nozzle and test the ink output)
Car pos	Trolley position (pull out the trolley motor, move the trolley to different positions and confirm at the same time to verify whether the grating is abnormal)
Ink Motor	Ink pump motor (can verify whether the ink pump interface of the board has output, and if the light is on, there is output)
Fan Motor	Fan motor (can verify whether the board fan interface has output, and if the light is on, there is output)
Left/right lamp	UV light interface (can verify whether the board UV light interface has output, and if the light is on, there is output)
Midia	Paper feeding motor (verify the paper feeding motor interface)
CAP	Ink station motor (verify ink station motor interface)
WIPER SENSOR	Blade sensor interface (verify whether the blade sensor works, and there are two states for blocking and not blocking the blade sensor)
CAP SENSOR	Ink station sensor interface (verify whether the ink station sensor works, and there are two states for blocking and not blocking the ink station sensor)

Chapter IV Calibration tool software

4.1 Tool running environment

1. PC system: win XP/7/8/ 10
2. Memory: 4.0G memory
3. Hard disk space: 100GB hard disk

4.2 Tool introduction

Tool structure design	Description
 <pre>graph TD; A[校准工具] --> B[设置IP及联机]; A --> C[双向校准]; A --> D[步进校准]; A --> E[维护]; A --> F[打印设置]; A --> G[高级设置];</pre>	<p>The specific functions and requirements of the tool determine the basic idea and overall architecture of the overall design of the tool, which is the guiding direction of tool design and the basic goal of tool development. The design of tools is based on the specific functions and requirements of tools, and the design of tools is also based on achieving the specific functions and requirements of tools. Therefore, at the beginning of the design, the specific functions and requirements of the tool should be clarified.</p> <p>The tool is divided into several modules, including "Set IP and Online" module, "Bidirectional Calibration" module, "Step Calibration" module, "Maintenance" module, and "Print Settings" module, "Advanced Settings" module.</p>

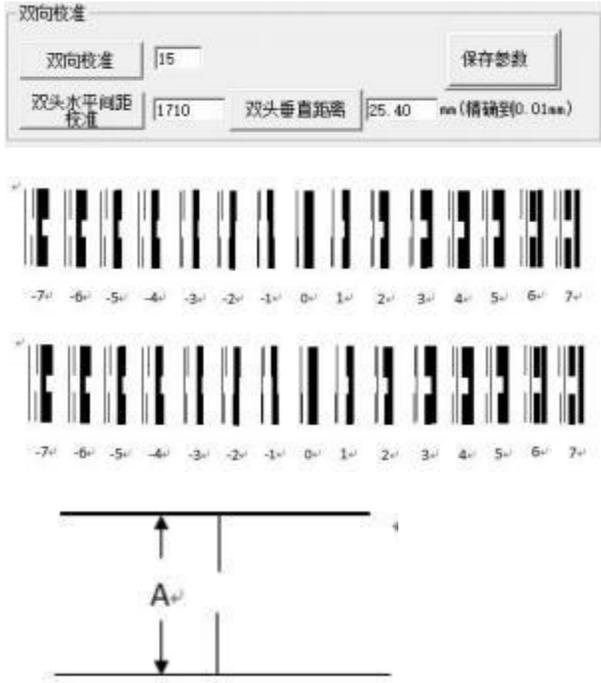
4.3 Tool description

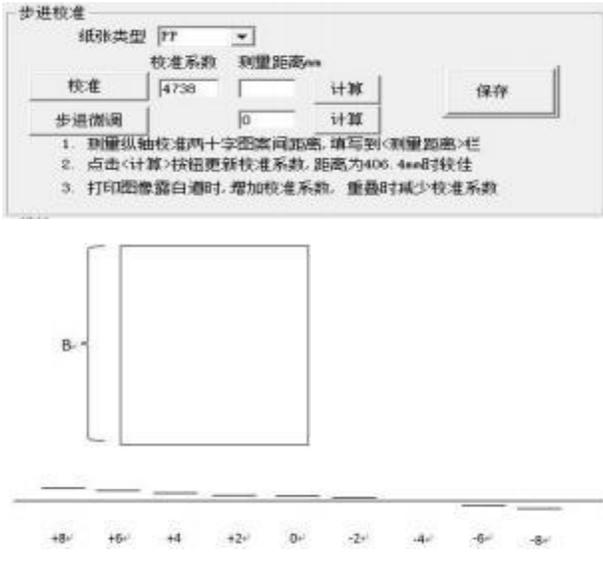
Print tool interface



The tool is mainly divided into six parts, namely "Set IP and Online", "Bidirectional Calibration", "Step Calibration", "Maintenance", "Print Settings" and "Advanced Settings". Users can operate the machine according to different functions to achieve the best printing effect.

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Set IP address		
Bidirectional calibration		<p>Bi-directional calibration:</p> <p>Click the "two-way calibration" button to print the calibration strip. When the two-way value is accurate, it is at "0", and the line is consistent. If it does not match, find the group of lines that match according to the trend, and write the corresponding value to the two-way calibration box.</p> <p>Double-head horizontal spacing calibration:</p> <p>Click the double-head horizontal spacing calibration, and the machine prints the horizontal calibration bar. When the two-way value is accurate, it is at "0", and the line is consistent. If it does not match, find the group of lines that match according to the trend, and write the corresponding value to the two-way calibration box.</p> <p>Vertical distance between two heads:</p> <p>When the vertical spacing value is accurate, it is at "0", and the line is consistent. If it does not match, find the group of lines that match according to the trend, and write the</p>

		<p>corresponding value to the two-way calibration box.</p>
<p>Step calibration</p>		<p>Paper type:</p> <p>Select the corresponding paper type according to the corresponding paper material. Because the paper material is different, the thickness will be different, and the step will be different.</p> <p>Calibration:</p> <p>Click the "Calibration" button, print the calibration map, fill in the measured step calibration distance, and click Calculate.</p> <p>Step adjusting:</p> <p>Click the "step adjust" button to print the step trim calibration bar. Fill the corresponding value in the fine adjustment box when the lines match, click "Calculate", and then click</p>

		<p>the "Save" button in the step calibration after debugging.</p>
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Maintenance		<p>Printing: printing test strips</p> <p>Print test page: load PRN format file to print</p>
More		<p>Cleaning nozzle: automatic cleaning</p> <p>Head: close the nozzle and ink cartridge</p> <p>Normal ink pumping: ink loading</p> <p>Powerful ink pumping: manual cleaning</p> <p>Ink flushing: flash spraying by the nozzle</p> <p>Stop: stop all actions</p>
More	 <p>1 图 :</p> <p>2 图:</p>	<p>Vertical test: it is normal when the nozzle is vertical</p> <p>Mechanism test: the channel is aligned left and right, up and down, without overlap and separation.</p> <p>Parallel line test: the correct position is shown in Figure 1</p> <p>Vertical test: 1 channel and 6 channels in a single nozzle are respectively</p>

printed with calibration strips. Look at the number corresponding to the kiss line. If the number is large, the nozzle is high, as shown in Figure 2, the nozzle is high on the left and low on the right.

Note: After printing the calibration strip, if debugging is required, the nozzle position needs to be adjusted manually.

Import and export file:

Import configuration file: import the modified parameters to the tool.

Save configuration file: save the modified parameters to the computer.



Location of printing origin: click this button to locate the printing origin after moving the trolley left and right.

Ink station origin positioning: click this button to locate the ink station origin after moving the trolley left and right.

Flash spraying position positioning: click this button to locate the flash spraying position after moving the trolley left and right.

Return to origin: click this button to return the car to the original position.

Move left and right:

	<p>click to move the car left and right.</p> <p>Feed and return paper: click to feed and return paper.</p> <p>Stop the trolley or paper feeding: click to stop the trolley or paper feeding.</p>
<p>Flash printing setting: flash printing setting (off): turn off flash printing.</p> <p>1-7: corresponds to how many pass flash shots are printed. Flash width: width of flash strip Flash position: position of nozzle during flash</p> <p>UV lamp control: see the UV lamp manual for detailed operation methods</p>	

Print Settings



Note: The print head emits ink before printing pictures to make the print head better

Function	Description
Direction	One-way: the car only prints once from leaving the starting point to returning to the starting point. Two-way: the car prints twice from leaving the starting point to returning to the starting point.
Feather	Low, medium and high feathering can be selected. Note: The output of the blooming is reduced, but the effect of the drawing is good.
Speed	Speed 1: standard (speed 89cm/s) Speed 2: high speed (speed 100cm/s)
Print head	Right: select only the right nozzle for printing Left: select only the left nozzle for printing Double-head: printing is selected for both left and right nozzles

	colour bar	<p>Off: the color bar function is off</p> <p>Left: only the left color bar function</p> <p>Right: Only the right color bar function is turned on</p> <p>Bilateral: open the left and right color bars at the same time</p>
	Width mm	Width of color bar
	back gauge mm	The distance from the color bar to the printed picture
	Feather type	The default is mode 1, which is separate feathering. The feathering template is different, and the feathering effect is best adjusted according to the actual situation.
	White color setting	<p>White color: both white and colored ink</p> <p>Single white: only white ink</p> <p>Single color: only color ink</p>
	The sequence of White and color ink	<p>White color: print with white ink first, then</p> <p>Color ink and white: color ink is printed first, then white ink</p>



Voltage type: select the best ink output waveform according to the ink property, environmental factors, paper material and other factors. Generally, S waveform is used, and U or A waveform is used in special cases.

Voltage adjustment: increase or decrease the voltage appropriately according to the actual needs (the voltage is limited between 450 and 600).

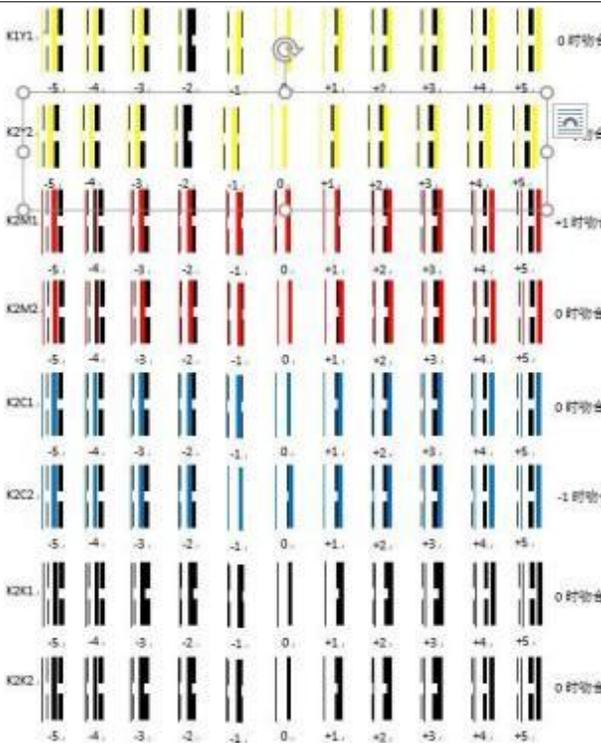
Color: fill in the test bar from left to right.

Advanced Calibration

步进校准			
校准系数	测量距离mm	计算	
2PASS	4738	<input type="text"/>	计算
3PASS	4738	<input type="text"/>	计算
4PASS	4738	<input type="text"/>	计算
6PASS	4738	<input type="text"/>	计算
8PASS	4738	<input type="text"/>	计算

1. 测量纵轴校准两十字图案间距离, 填写到<测量距离>栏
2. 点击<计算>按钮更新校准系数, 距离为406.4mm时较佳
3. 打印图案露白道时, 增加校准系数, 重叠时减少校准系数

Step calibration: fill in the test bar from left to right by color. When debugging the step value of the corresponding pass, click the corresponding pass number button, print the step calibration box, measure the actual distance (unit: mm), fill in the "measured distance", and click "calculate".



Alignment bar one-way left/right alignment:

Left-head-left alignment:

Click the "Left/Right Alignment" button, select the specific nozzle, print the calibration strip, find the line group matching each group, and fill the value in the corresponding box.

The values corresponding to left alignment are shown in the

figure:

The screenshot shows a dialog box titled "左对齐" (Left Alignment) with a sub-section "单向左对齐" (One-way Left Alignment). It lists nozzle types and their corresponding alignment values:

喷嘴	喷嘴
K2M2 [0]	K2K1 [0]
K2C2 [0]	K2C1 [0]
K2M1 [0]	K2M1 [0]
K2Y2 [0]	K2Y1 [0]
喷嘴	喷嘴
K2M2 [0]	K2K1 [0]
K2C2 [-1]	K2C1 [0]
K2M1 [1]	K2M1 [0]
K2Y2 [0]	K2Y1 [0]

A red arrow points to the "喷嘴" (Nozzle) label in the bottom section of the dialog.