

# Operation Manual

Thank you very much for purchasing FY series printer

***FY-3278N***



- In order to use **FY** series printer correctly and safely and understand this product's capability, please read this manual carefully.
- This manual includes equipment structure, description, technical parameters, operation manual, safety information, application of software, etc.
- This manual is subject to change without notice.
- Contents herein contained are believed to be correct, however, please contact us if you find any error or something not clear enough.
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10<sup>th</sup> May. 2010











Version : 1.0

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## 1.1 Important Safety Measures






Please read the following instructions before using the printer. Follow cautions and instructions which are labeled on the printer.

-  Do NOT block the opening on the top of the printer.
-  Do NOT insert any object into the printing platform. Prevent spilling liquid onto the printer.
-  ONLY 220V can be applied.
-  Connect all the power cord to a single socket extension. Avoid sharing the socket with the devices which will be on and off frequently.
-  Avoid using the socket with self-timer control and with the switch on the wall.
-  Keep a distance between any device which will release electro-magnetic field, such as wireless phone.
-  Do NOT use damaged power cord.
-  If using an extra power cord, keep in mind that the total ampere of this device does not exceed the assigned ampere of the power. Also, the total ampere of all the device which connect to single socket cannot exceed the assigned ampere.
-  Do NOT try to repair the printer.
-  When encounter the following circumstance, disconnect the power and contact your local distributor for support:
  - Power cord or plug is damaged;
  - Liquid is spilled onto the printer;
  - The printer falls down or the surface is broken;
  - Printer does not run normally.






## 1.2 Handling Printer Caution

-  Do NOT move the carriage when the power is on.
-  Always use the power switch to turn on or off the printer. Do NOT try to remove the data cable or the power cord when the machine is on.
-  Make sure the carriage is stabilized in the origin position during transport.
-  Do NOT touch printing platform during printing.

## 1.3 Handling Ink Tank Caution

-  Please store ink tanks at the place where children cannot reach. Do NOT let children touch the ink tank.
-  If ink is spilled into eyes, immediately wash with water and see your doctor.
-  Do NOT shake the ink tank, this may cause leakage.
-  Please often check the ink content in main ink tank, avoid unnecessary loss due to lack of ink.
-  Please often check the waste ink tank and replace it in time when it becomes full.

## 1.4 Printer Installation Site

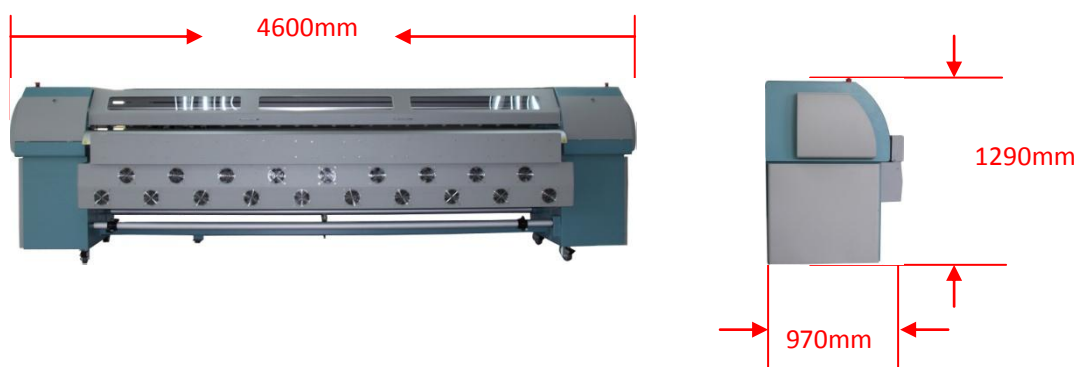
-  Place the printer on a level floor otherwise it will not operate normally.
-  Avoid placing the printer in the area with huge change of temperature and humidity. Do NOT expose the printer to direct sunlight or heat.
-  Avoid placing the printer in any possible shaking or vibrating area.
-  Leave enough space around the printer to ensure normal ventilation.
-  Place the printer close to the power socket so that power cord can be removed and plugged easily.

## Chapter 2 Preparation and Procedures for Assembling

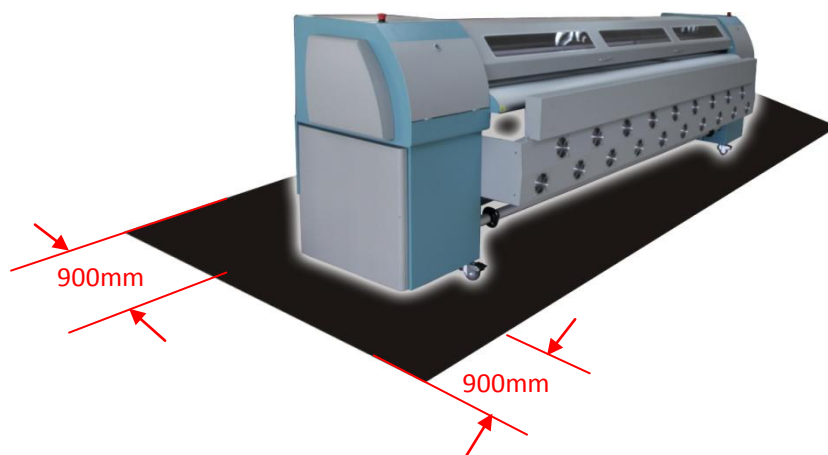
### 2.1 Environment requirement

Keep the room temperature between 20—30℃, and the humidity between 40—60%. Air conditioner and humidifier may require. Keep a distance from strong radiation field. The floor must be level.

Machine Dimension:



L:4600mm      W:970mm      H:1290mm



Leave at least 900mm of space around the machine.

## Chapter 2 Preparation and Procedures for Assembling

### 2.2 Electrical requirement

The printer only supports AC 220V. A transformer is needed if the area is using AC110V.



The printer must be well grounded ( the grounded voltage should be less than 0.3V, and the grounded resistance should be less than  $3\Omega$  ).



UPS and voltage stabilizer is highly recommended.



Be caution of 3278D heater connection wire. (Total power consumption is 7000W and 32A). The ampere of UPS or voltage stabilizer must be higher than 32A!

**Note:** The total power consumption of the machine cannot be higher than the assigned power on the socket.

### 2.3 Computer requirement

1) Basic requirement:

- CPU: 2.0 GHz or higher
- Memory: 1Gb or higher
- Hard disk: 80 Gb (recommend 20Gb free space)
- Mother board: USB connection equipped
- Network card
- Operating system: Microsoft Windows (2000, XP)

2) Recommendatory requirement:

- CPU: 3.0 GHz or higher
- Memory: 2 Gb or higher
- Hard disk: 200 Gb or higher (NTFS format)
- Mother board: USB connection equipped
- Network card
- Operating system: Microsoft Windows (2000, XP)

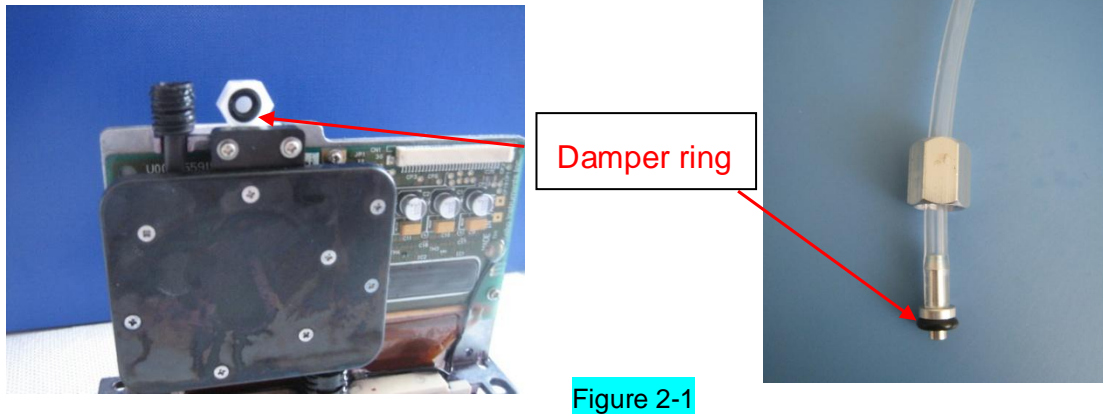
**NOTICE:** Suggest user format your hard disk into 2 partitions (NTFS). The first partition is used for installing OS and other software, the second partition is used to save pictures and work files.

## Chapter 2 Preparation and Procedures for Assembling

### 2.4 Procedures of Assembling

- 1) Move the packing box to the working site and avoid strong shaking.
- 2) Disassemble the wooden packing box from top to bottom. Check whether the parts are complete or not according to the packing list.
- 3) Lift the printer out by a forklift, and move it to the installation site.
- 4) Check if the printer is level.
- 5) Get rid of all the parts that stabilize the carriage holder, and install all the spare parts.
- 6) Move the carriage to the right of printer, then move back to the left manually. During this process, check if there is abnormal resistance and carefully inspect the belt & the encoder sensor are situated in proper position.
- 7) Ground the printer. The grounded voltage shouldn't be more than 0.3V, and the grounded resistance should be less than  $3\Omega$ .
- 8) Connect the USB cable between printer and computer. Check if the wires and data cables are plugged in properly.
- 9) Install the output and the rip software.
- 10) Turn on the printer, and keep your hand on the emergency button for turning off the printer if problem happens suddenly.
- 11) Send a file to print to test the condition of the printer.
- 12) Clean the whole ink supply system with special solvent. Then empty the ink sub-tanks, and repeat the step twice. At last, empty the remained solvent in the ink supply tubes through ink sub-tanks.
- 13) Fill the main tank up with ink. Then empty the ink sub-tanks, and repeat the step twice, in order to ensure there is no mixture of ink and solvent in the ink supply system.
- 14) Dip the aluminum tube connector into the solvent and clean them, in order to ensure no any sundries exist.
- 15) Turn off the printer. Take the black washer out from the white cap on the top of the damper, and then place the washer in the aluminous cap. (Figure 2-1) Stabilize the printhead with screws. Connect the tube, and tighten the aluminous cap at the ink incoming part on the top of the damper. Finally, connect the data cable.

## Chapter 2 Preparation and Procedures for Assembling



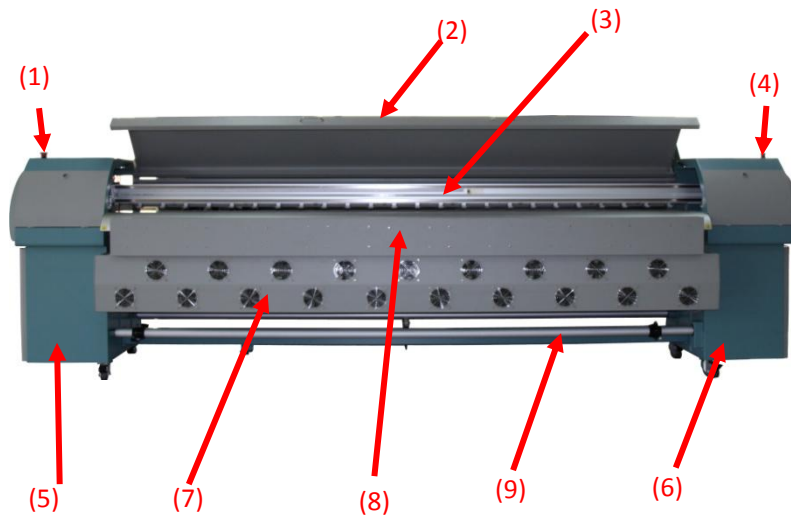
**! Attention A:** When assemble the aluminous cap, you should screw on the aluminous cap perpendicularly avoiding to damage the screw thread of the damper.

**! Attention B:** When assemble new printhead, it's unnecessary that you flush the printhead additionally with solvent. It's because there isn't protective fluid in printhead nozzles.

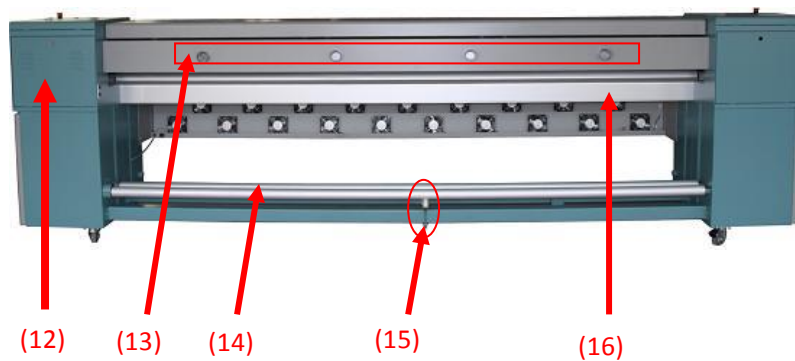
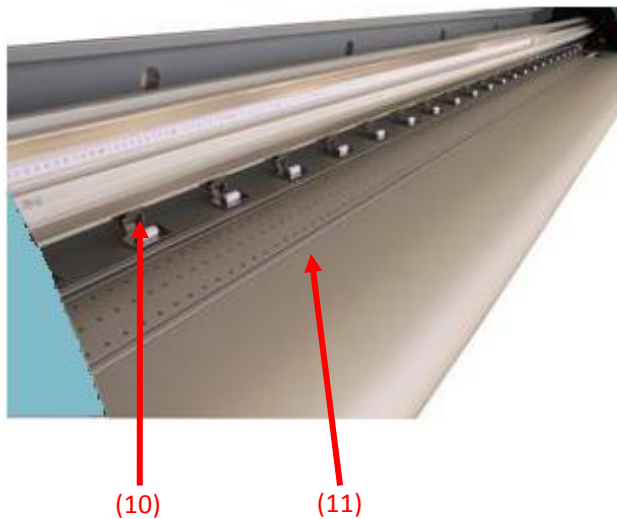
- 16) Fill the printhead with ink by using positive pressure, then wipe the ink droplet on the surface of printhead plate with sponge stick.
- 17) Print nozzle checking and observe the condition of printheads. It is recommended to keep a copy of the test for reference in the future.
- 18) Printhead alignment.
- 19) Start to Print.



## 3.1 Machine Structure:

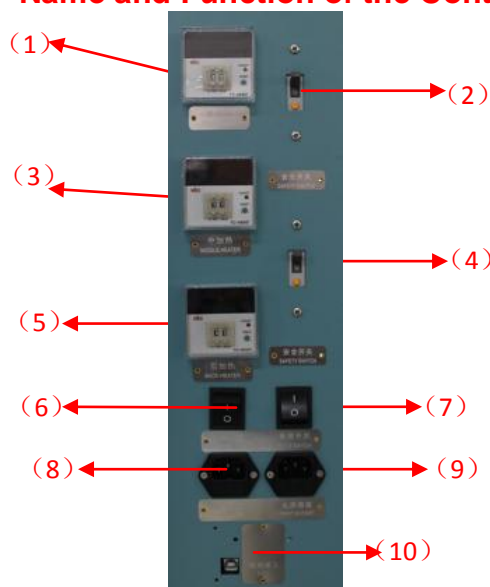


- (1) Left Emergency Stop
- (2) Cover
- (3) Girder
- (4) Right Emergency Stop
- (5) Left Machine Box
- (6) Right Machine Box
- (7) Cooling Fan
- (8) Heating System
- (9) Take-up Bar
- (10) Pinch Roller
- (11) Printing Platform

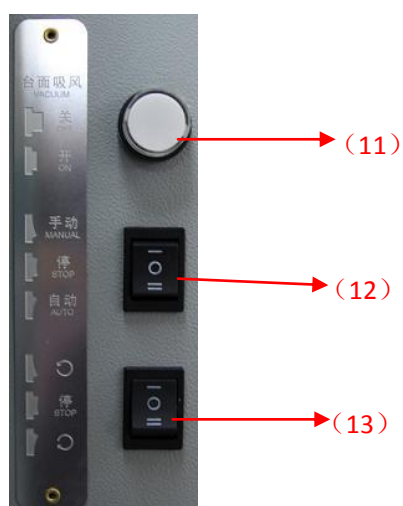


- (12) Circuit Controlling Box
- (13) Exhaust Emission
- (14) Media Feeding Poles
- (15) Machine Main Girder
- (16) Right Machine Box

## 3.2 Name and Function of the Controlling Parts

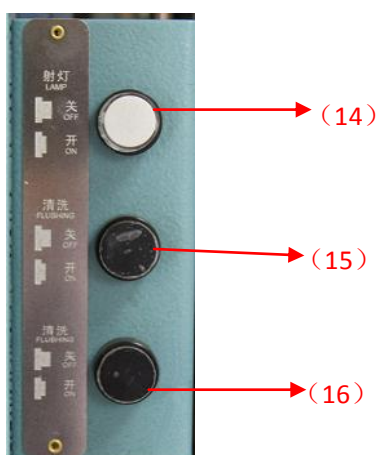
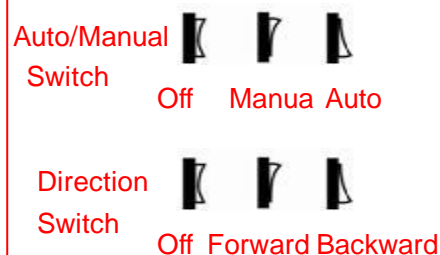


- (1) Front Heater Controller
- (2) Heater Safty-switch
- (3) Middle Heater Controller
- (4) Printer Safty-switch
- (5) Rear Heater Controller
- (6) Heater Power Switch
- (7) Printer Power Switch
- (8) Heater Power Socket
- (9) Printer Power Socket
- (10) USB Cable Connector



- (11) Media Suction Switch
- (12) Take-up auto/manual switch
- (13) Turning Direction Switch

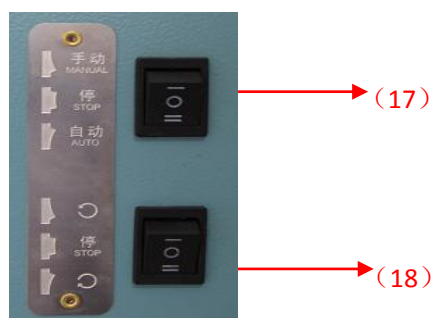
## Instruction of Take-up System Switch



- (14) Lighting Switch
- (15) Solvent Cleaning Switch
- (16) Solvent Cleaning Switch

**Note:**

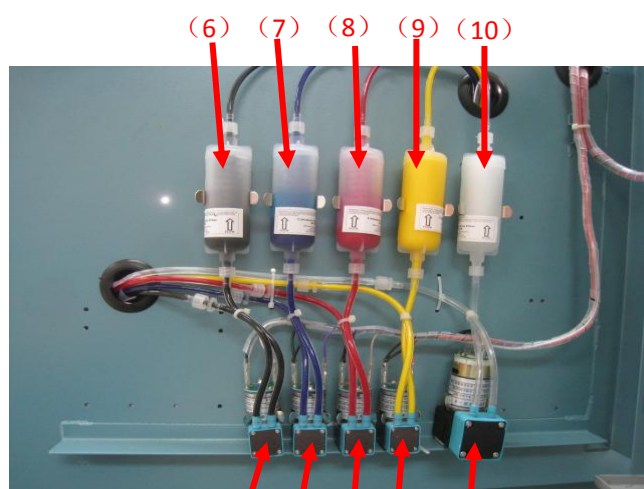
To clean printhead properly with Flush, you have to connect the solvent tube and the ink tube, then press 21 and 22 button at the same time.



(17) Feeding auto/manual switch

(18) Turning Direction Switch

### 3.3 Ink Supply System



(1) K ink pump

(2) C ink pump

(3) M ink pump

(4) Y ink pump

(5) Solvent pump

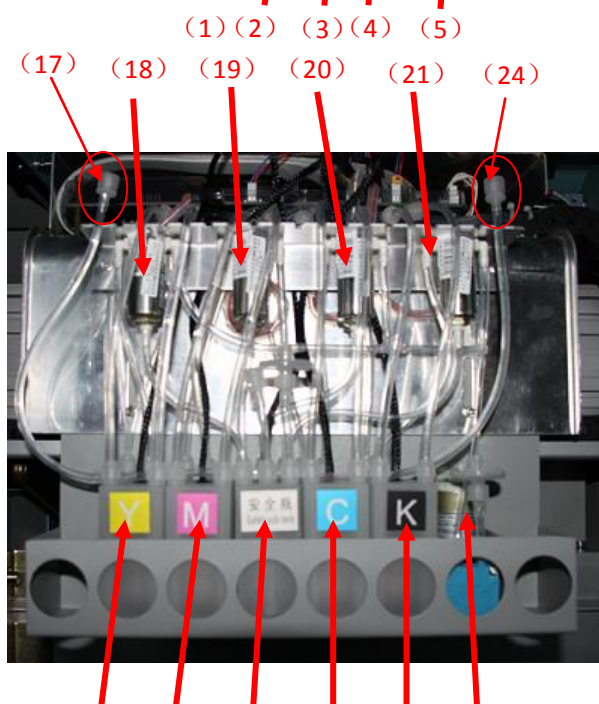
(6) K filter

(7) C filter

(8) M filter

(9) Y filter

(10) Solvent filter



(11) Y elec mag. valve

(12) M elec mag. valve

(13) C elec mag. valve

(14) K elec mag. valve

(15) Y subtank

(16) M subtank

(16) Safety subtank

(21) C subtank

(22) K subtank

(23) Air pump

(24) Solvent tube

! Note: Connect the solvent tube to the ink tube before start solvent flushing!

! After finish solvent flushing, empty the solvent in the tube. Cap the solvent tube.

**4.1 Characteristics**

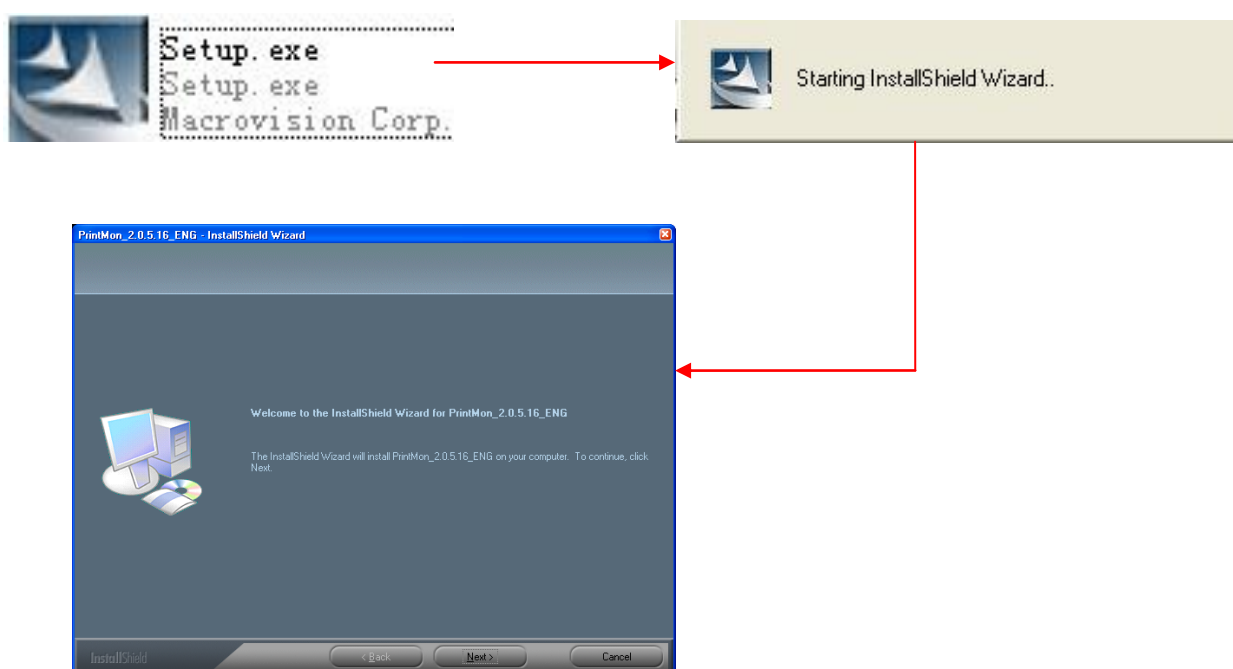
- **SPT 510\_50pl** printheads x 8;
- Resolution: 1080\720\360\180 DPI;
- Colors: 4 colors ;
- Print mode: 1,2,3,4 Pass;
- Output mode: File or TCP/IP(Rip and Print at the same time);
- Output preview: Convert prn/prt file into a small bmp file for previewing;
- Print intelligently: Skip white area;
- Setting of multi-printing;
- Automatically flash jetting: Automatically clean printheads by flash jetting during printing;
- Home flash jet: Prevent nozzles of printheads block while not in printing state;
- Color bar: Prevent nozzles clogging, and observe nozzles status. Able to set the width of color bar and the distance from image;
- Able to align printheads, step difference ,and bi-direction difference;
- Able to print uni-direction or bi-direction and mirror ;
- Edge feather: Lighten pass line;
- Cleaning System: Setting of auto-cleaning with Solvent;
- Individual Positive Pressure Cleaning System: Clean with ink for each color, and avoid the waste of ink;
- Chinese and English version for you.

## 4.2 Software Installation

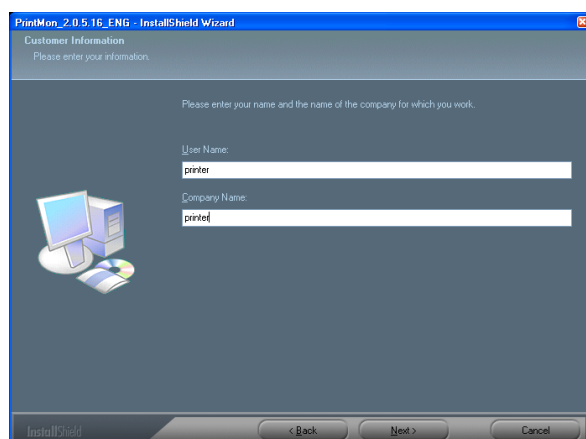
This software consist of printer driver, printing adjustment and picture printing functions. Running this software requires a certain hardware and software condition. Herein, you are going to be introduced the operating system environment required, software and hardware configuration and software installation.

Please follow the following steps to install the software.

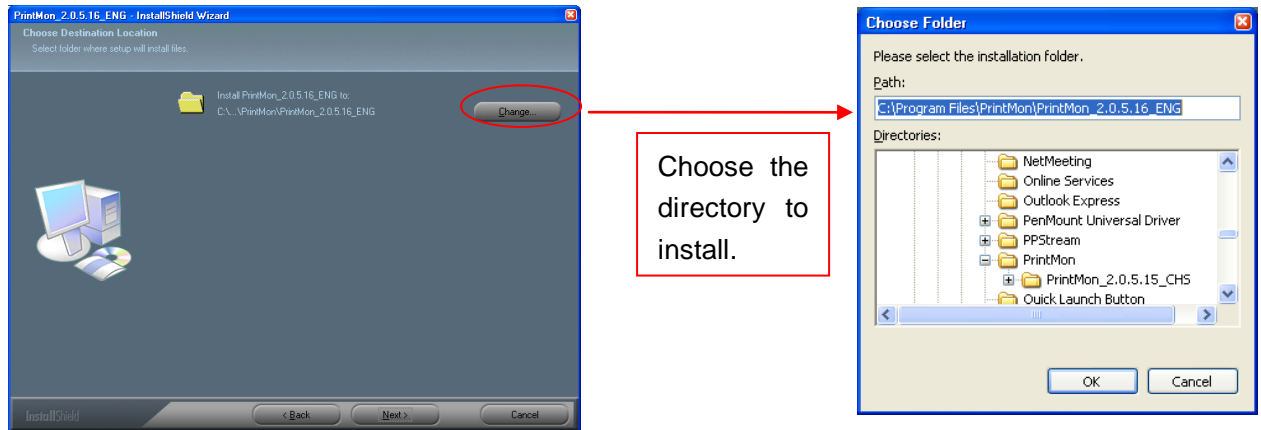
- 1) Double-click the “Setup.exe” file in the installation disk, start installing as shown below,



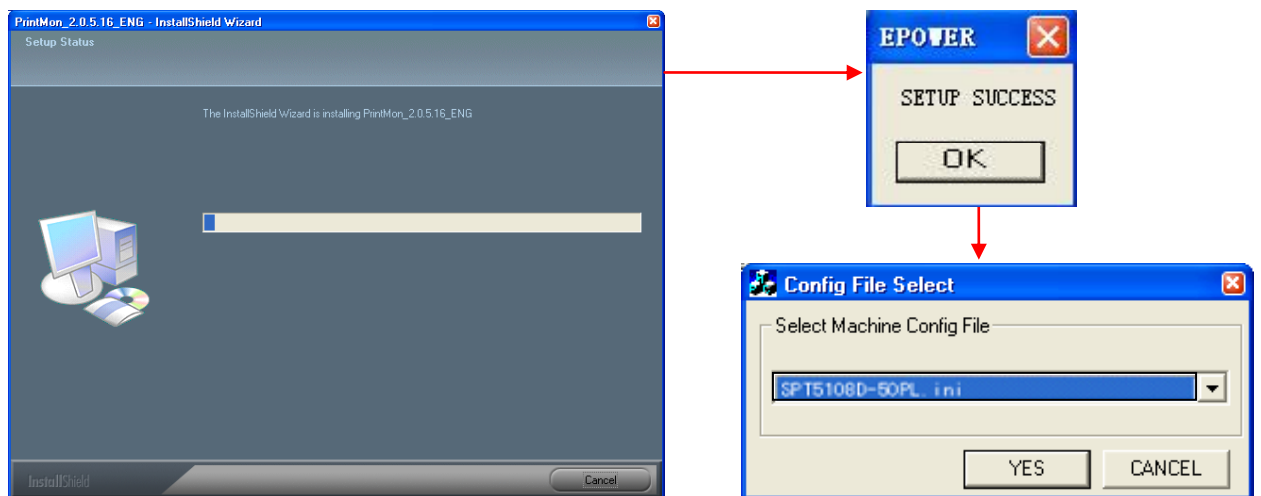
- 2) Then follow the above instruction, click “Next”, the following interface will show up, you have to enter the user and company names as well.



- 3) Click "Next", installation path is available to choose.




- 4) By clicking "Next", the installation progress will appear, then click "Confirm", "configuration file options" dialog box will appear as shown below. Then, choose the **SPT5108D\_50pl.ini** file which corresponding to the print head.

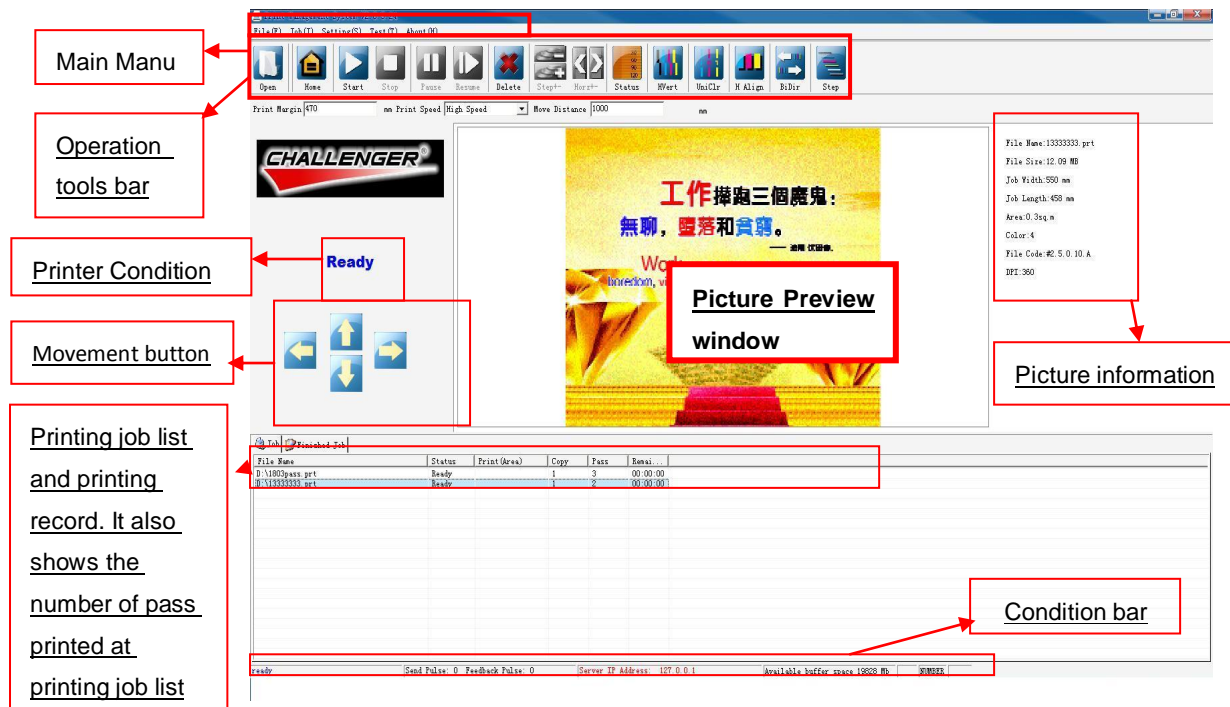


- 5) Click "Yes" to finish installation.

### 4.3 Software Interface

#### a) Control panel introduction:

Find the following shortcut icon , double-click the icon to open the software. Let us take a look at the main interface first.

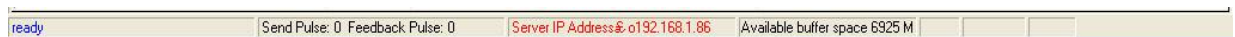


#### b) Main Menu



Through the operation toolbar, we can speed up the implementation of commands which are commonly used in the software. There are various kinds of adjustment buttons, their functions are the same as they are found in the corresponding menu.

#### c) Status Bar



From the left to the right, "Function Description", "Send Pulse", "Feedback Pulse", "Flash Jetting Status", "Server IP Address", and "Available Buffer Space" respectively.

Function Description: Displays the current printer status

Send/Feedback pulses: Display the Send/Feedback pulses as the carriage move so that user can judge the problem according to the data.



## Chapter 4

## Basic Operation


Flash Jetting Status: Display the Flush Jetting Status when repositioning and display the Flash Jetting is off when printing is taking place.

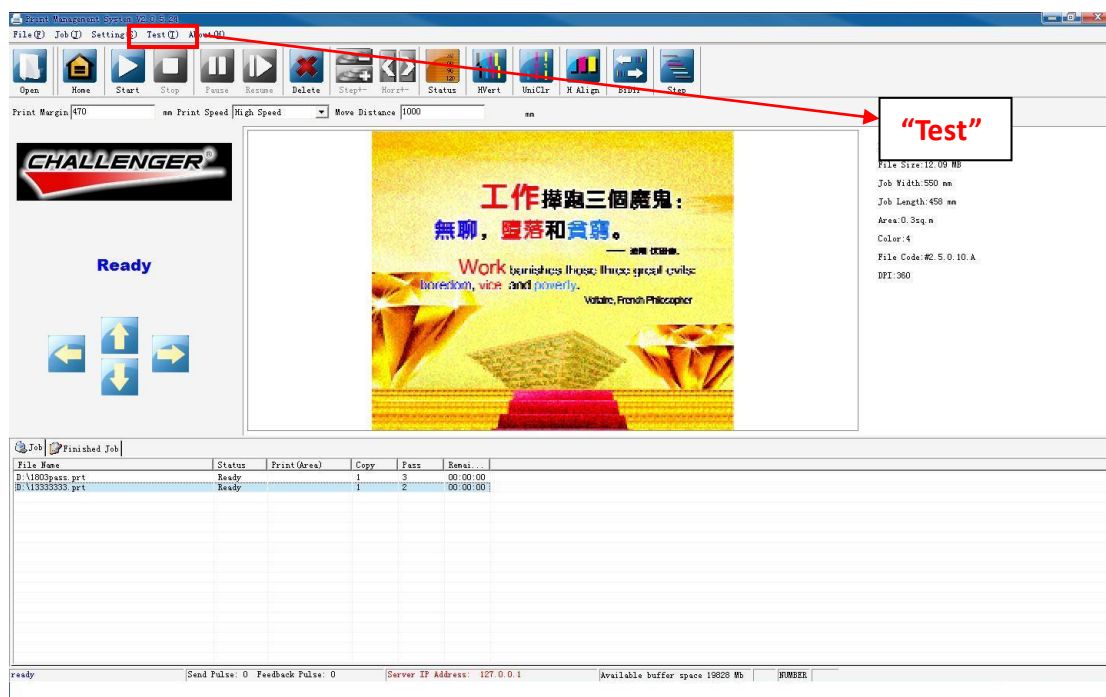
Server IP address: Display Local IP address, the IP address of the printer is 127.0.0.1 when online printing is taken place.

Available Buffer Space: Buffer zone is a temporary place for saving the file at times of net printing. When the buffer space is smaller than 500M, it turns RED to warn the user.

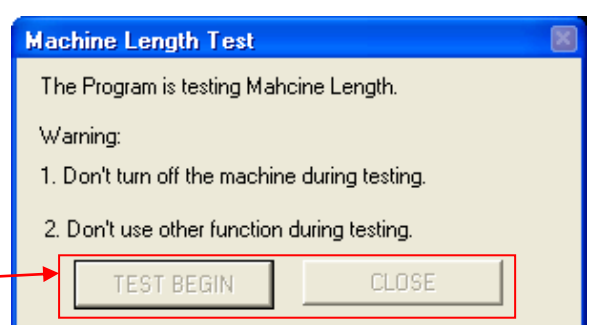
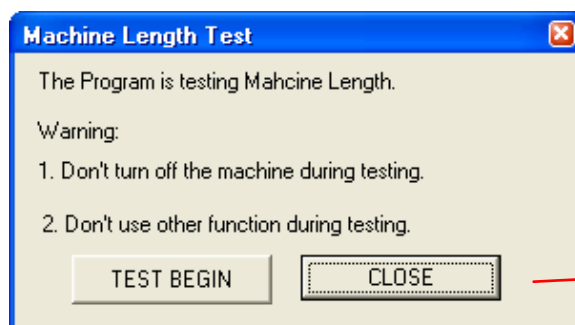
### 4.5 Software Initialization

#### 1) Printer initialization (Brand new printer has to be initialize according to the following instruction)

1.1 Double-click the icon  to open the software, the interface will be appeared as below:

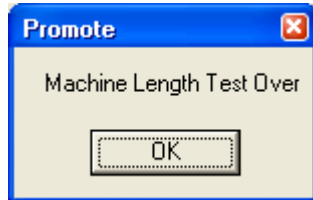


#### 1.2 Machine Total Length: Select "Test" ---> "Machine Total Length"



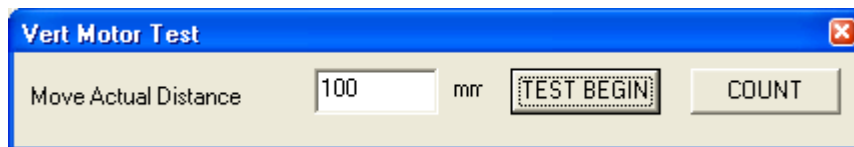


Click "Test Begin" to start measuring the machine length and calculating the X motor gear ratio. The carriage will move back and forth twice, and the following dialog will show up after finish testing.

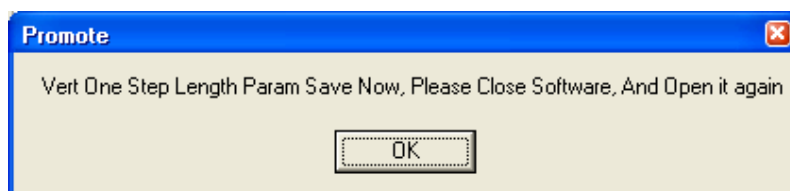
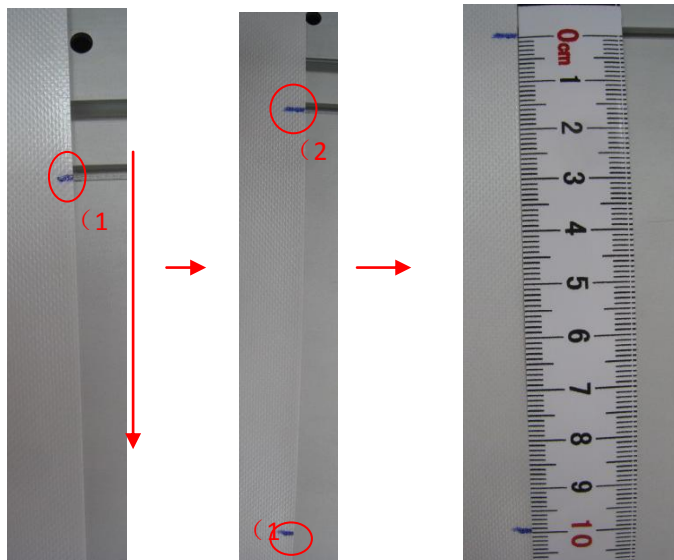


Then, click "OK" to finish testing.

### 1.3 Y motor gear ratio setting: "Test" --> "Y motor Param Setting"

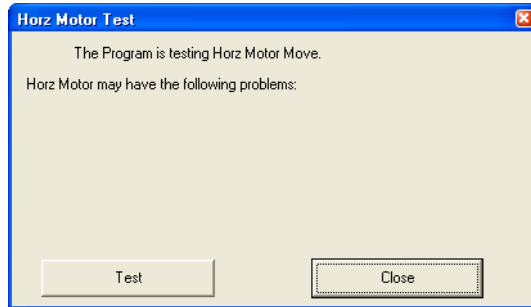


First of all, we marked a sign (1) on a certain place of the printer platform, then click "Test Begin", the media will be fed a bit, then mark a sign (2) on the same position. Use a ruler to measure the distance between (1) and (2) as shown below. Enter the actual measurement results into "Move Actual Distance", then click "Count", the following dialog will show up.



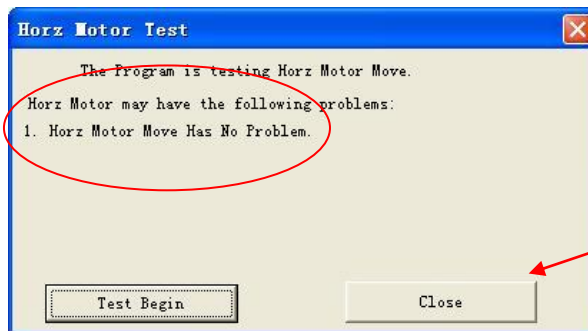
Click "OK" to quit the software. Restart the software and redo the "Y motor Param Setting" until the actual feeding distance is 10mm.

## 1.4 X Motor Test: Select "Test" --> "X Motor Test"



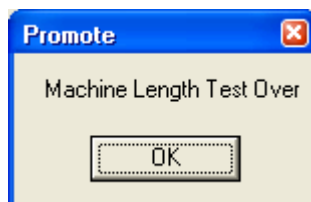
"Close" is not allowed during testing

This step is mainly testing the status of the motor movement, the carriage will move back and forth 20 times as you click on "Test ", The test result will be provided in the following dialog box as it is finished.



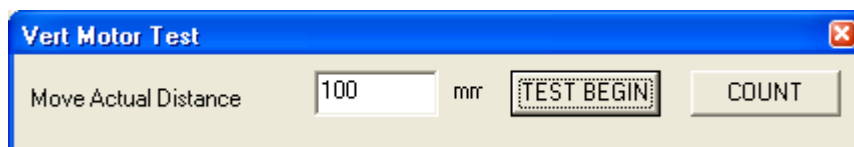
Click "Close" to finish the test.

## 1.5 X Motor Speed Setting: Select "Test" --> "X Motor Speed Setting"

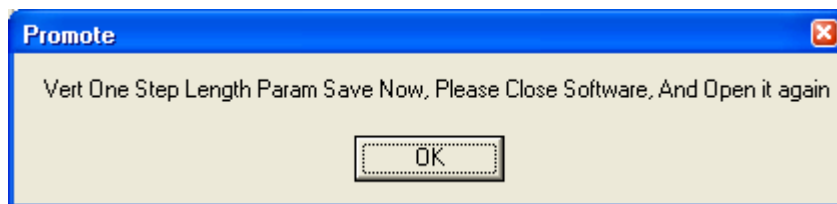
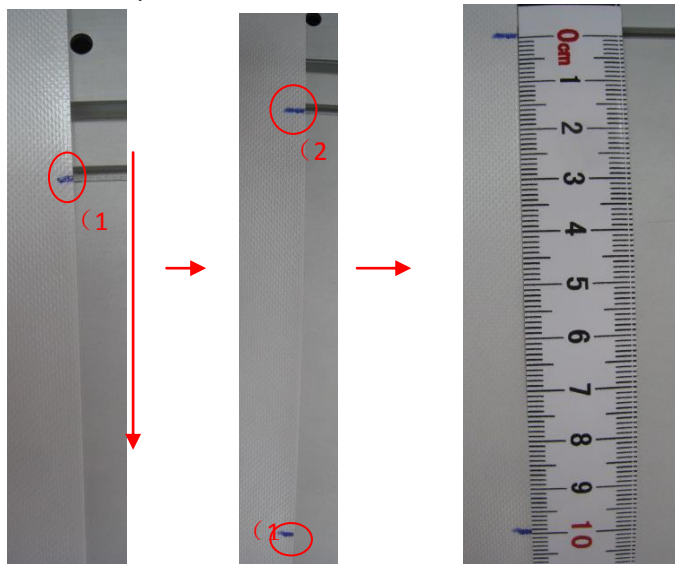


Then,click "OK" to finish testing.

## 1.3 Y motor gear ratio setting: "Test" --> "Y motor Test"

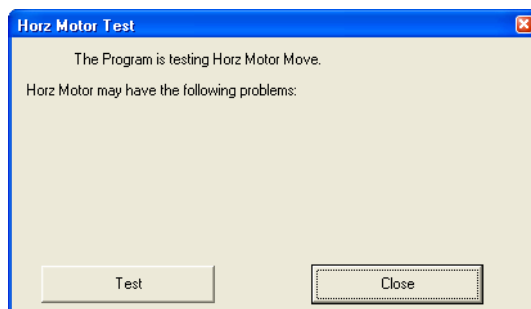


First of all, we marked a sign (1) on a certain place of the printer platform, then click "Test Begin", the media will be fed a bit, then mark a sign (2) on the same position. Use a ruler to measure the distance between (1) and (2) as shown below. Enter the actual measurement results into "Move Actual Distance", then click "Count", the following dialog will show up.



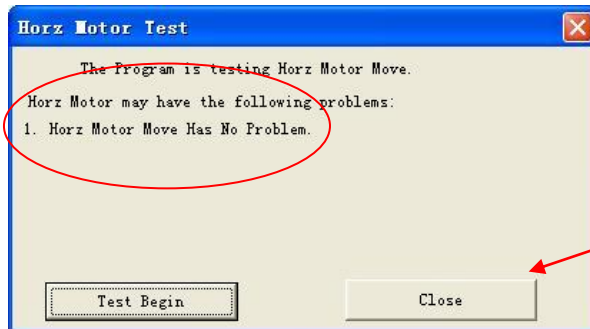
Click "OK" to quit the software. Restart the software and redo the "Y motor Param Setting" until the actual feeding distance is 10mm.

#### 1.4 X Motor Test: Select "Test" --> "X Motor Test"



"Close" is not allowed during testing

This step is mainly testing the status of the motor movement, the carriage will move back and forth 20 times as you click on "Test ", The test result will be provided in the following dialog box as it is finished.



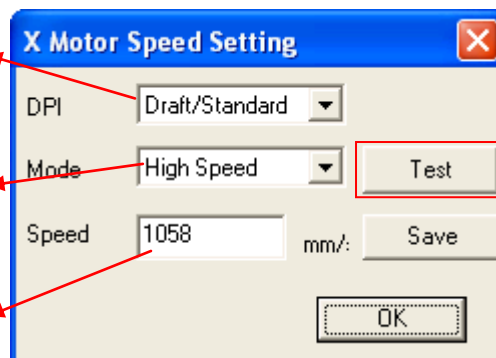
Click "Close" to finish the test.

1.5 X Motor Speed Setting: Select "Test" --> "X Motor Speed Setting"

There are 180,240,360、720 dpi modes .

"Normal speed" and "High speed" are available.

"Actual Speed" left



Click "Test", system will send 1 second pulse.



Carriage Frequency      Speed/Printhead

## Noted: Speed setting:

Draft/Standard mode:	High = 1058 mm/s,
	Normal = 706 mm/s
Quality/ High Quality mode:	High = 793 mm/s
	Normal = 529 mm/s

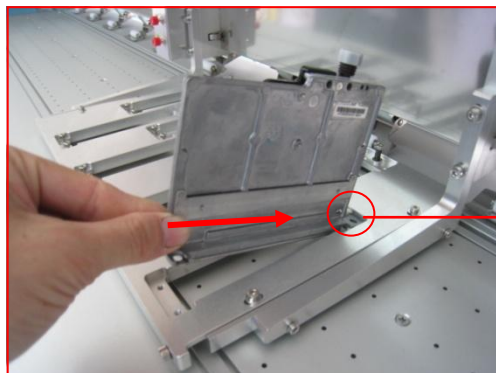
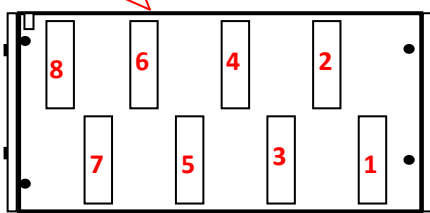
**Note:** After entering the actual speed, have to click "Save" and then click "Test" so that the data could be saved.

(After finish 1.5 step, clean the ink supply system. Install printheads, and apply the ink.)

## 2) Alignment

### 2.1 Printhead installation

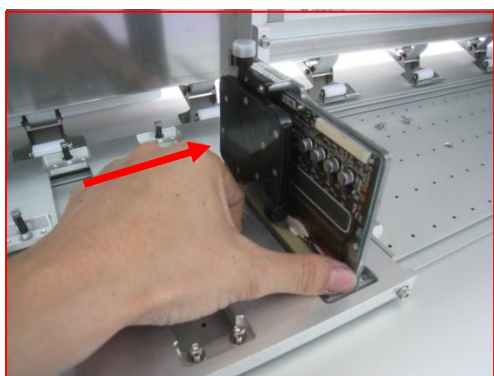
Install printhead according to the following order:



Printhead must be installed under the O-ring!



(2) Move printhead to the right

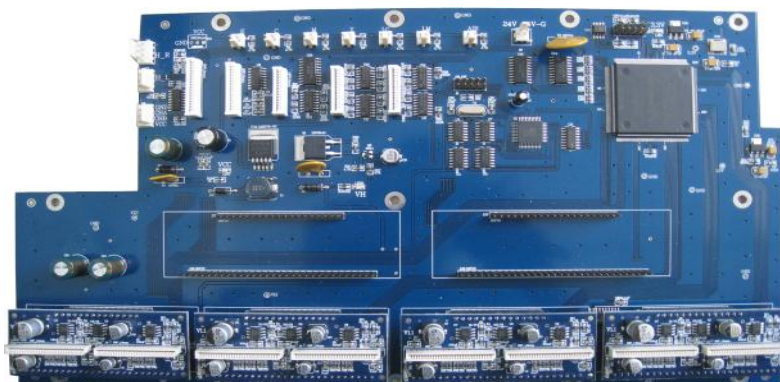


(3) Pull printhead toward outside! Tighten screws.

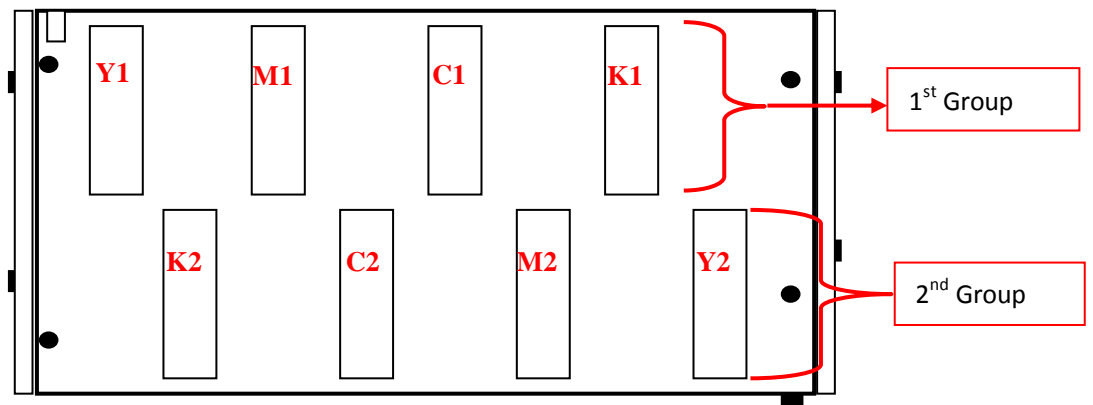


**Note: Install printhead from right to left, and each printhead must installed according the above 3 steps!**

### 2.2 Printhead order Printhead board:



Printhead holder (Diagram):



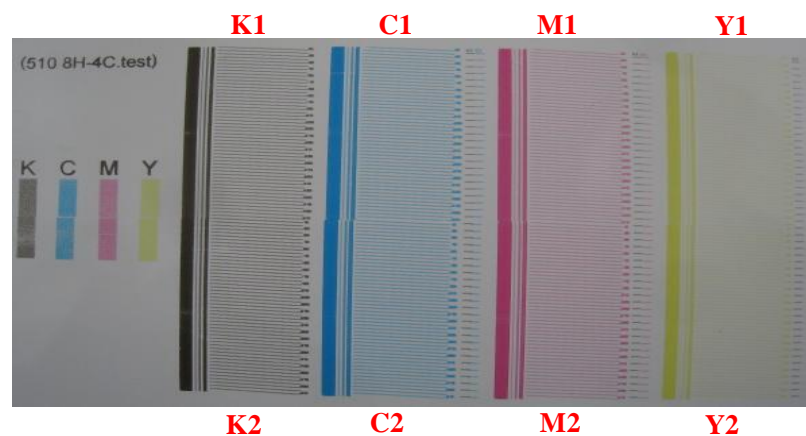
**Connect the printhead to the printhead board according to the above diagram.**

2. 3 Status: After install the printhead, print the nozzle status. Observe the printhead order and position, and the condition of the printhead.

“Status” shortcut on the main interface:



Click “Status” to print the following diagram:



**Turn off the “Feather” before start alignment!**

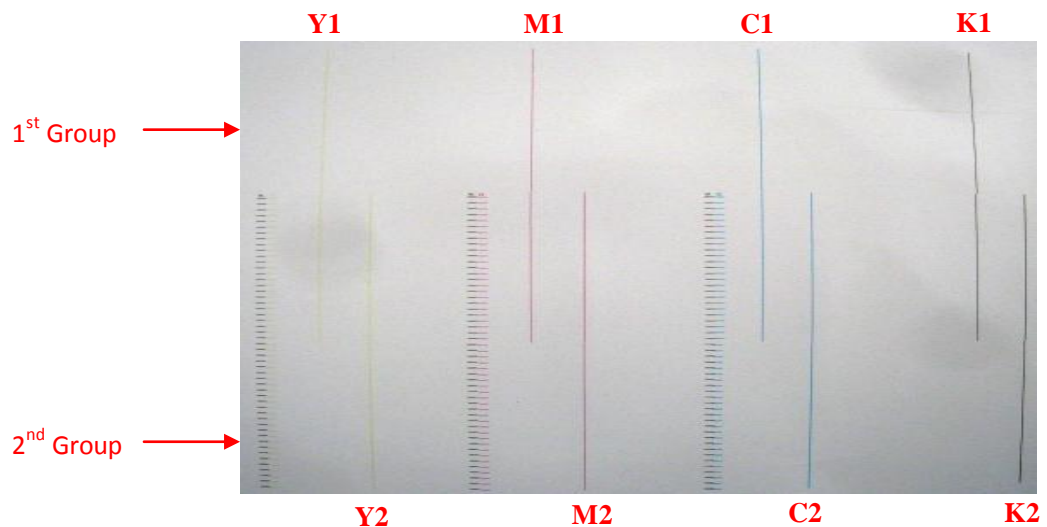
2.4 HVert: Printhead angle alignment. Observe the physical alignment of printheads.

(This step is not aligned well which will affect the following adjustment)

“Printhead Vertical” Shortcut on the main interface:



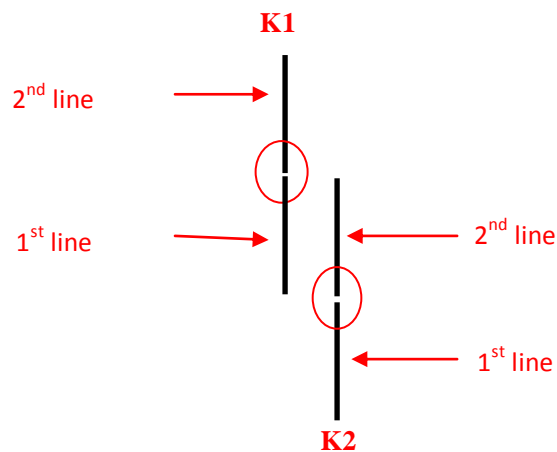
Click “Printhead Vertical”, The following diagram will be printed::



Adjust physical alignment (K in this example):

The first printed line is the reference; observe whether the second printed line is vertically aligned with the first printed line. Three possible situations is shown in the following:

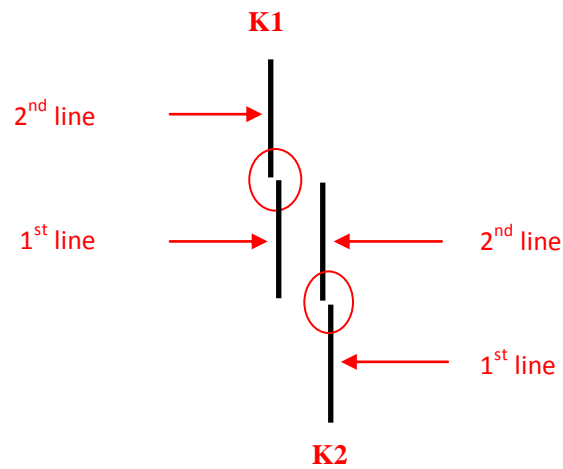
Situation 1: Two printed lines are vertically aligned as following:



No need to align!



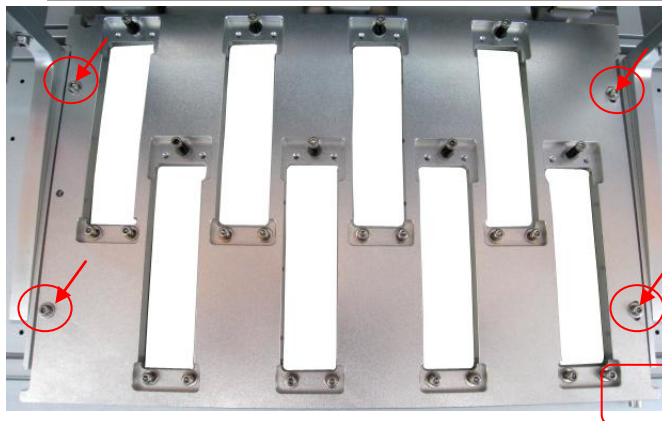
Situation 2: 2<sup>nd</sup> printed line is shifted to the left as following:



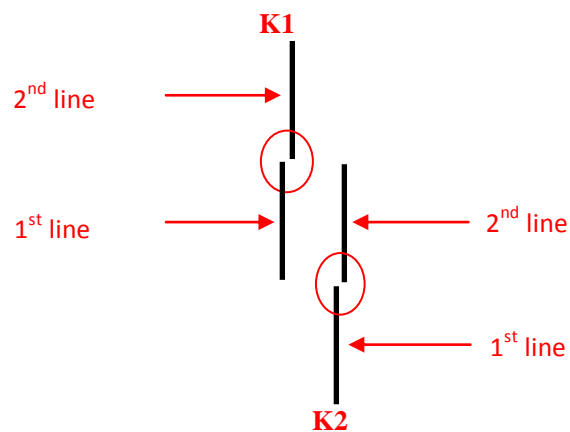
Way to align:

A) Loosen 4 screws on the printhead holder

B) Turn the front screw clockwise



Situation 3: 2<sup>nd</sup> printed line is shifted to the right as following:

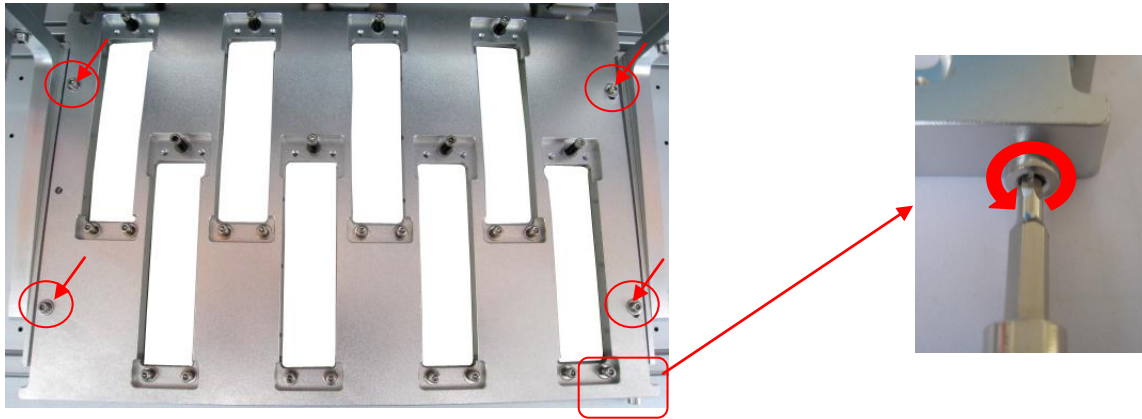




Way to align:

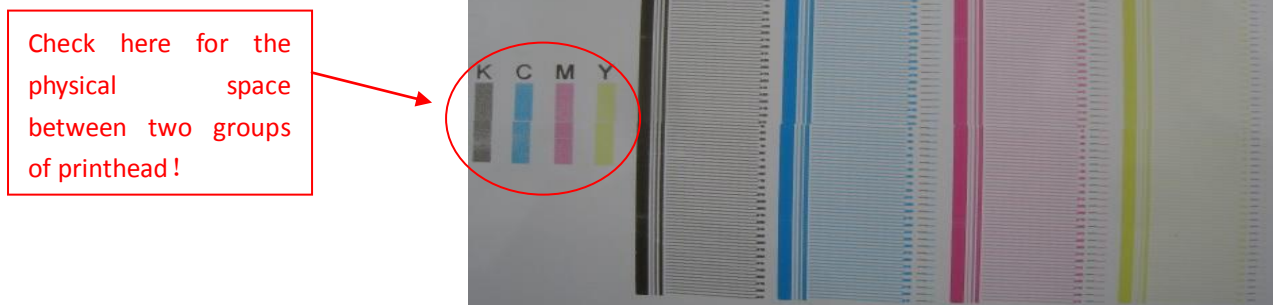
A) Loosen 4 screws on the printhead holder

B) Turn the front screw counter-clockwise

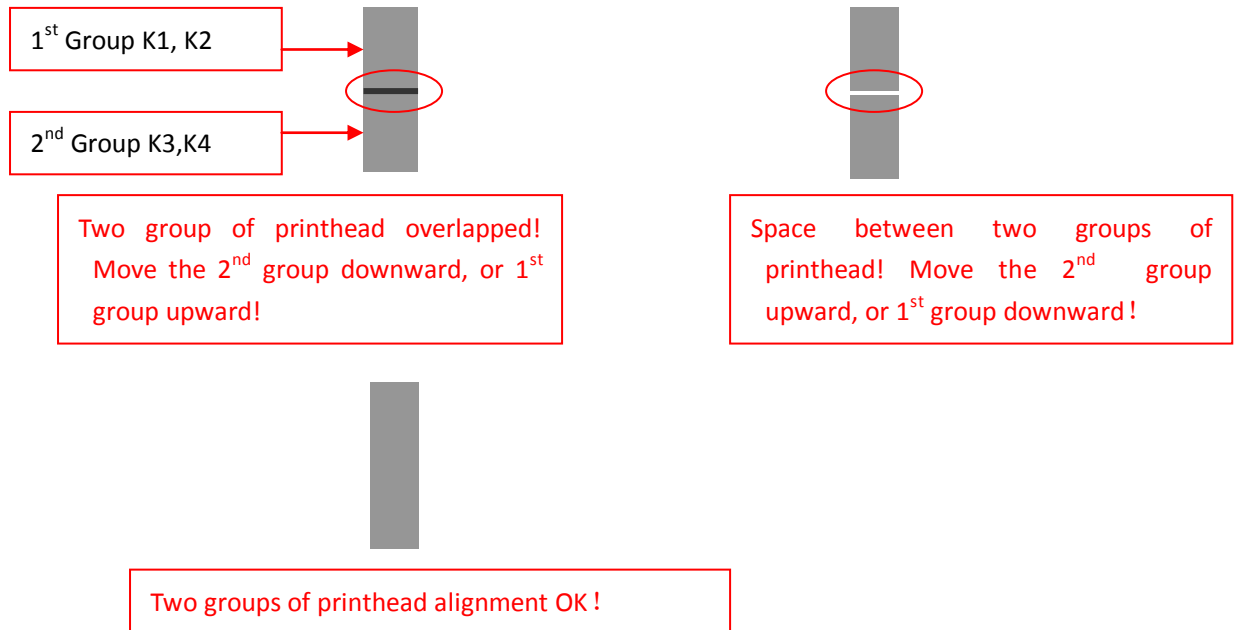


**Note:** Tighten 4 screws on the printhead holder before print the test again.  
Repeat until 1<sup>st</sup> and 2<sup>nd</sup> line are vertically aligned.

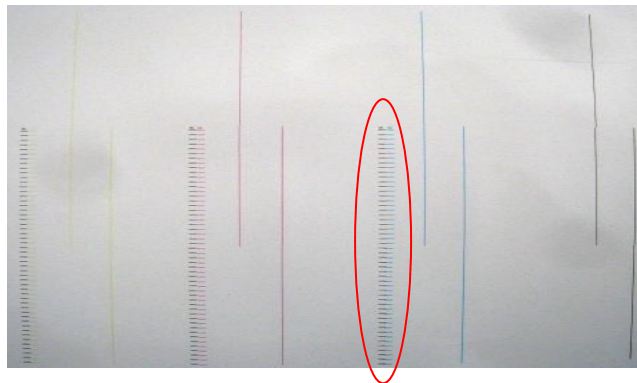
After the vertical alignment is finished, print status to check whether the physical space between 1<sup>st</sup> group and 2<sup>nd</sup> group of printhead is correct:



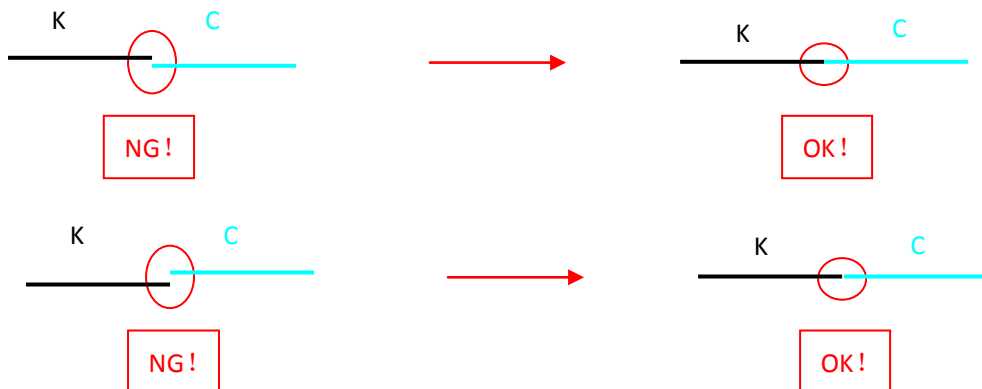
Check the solid color block on the left on printhead status for the physical space between two groups of printhead. Align according to the following method (K is reference):



Observe the head vertical diagram for the vertical alignment. C in the following example:



Vertical alignment to K:



Align M and Y with the same method.  
Physical alignment is finished!

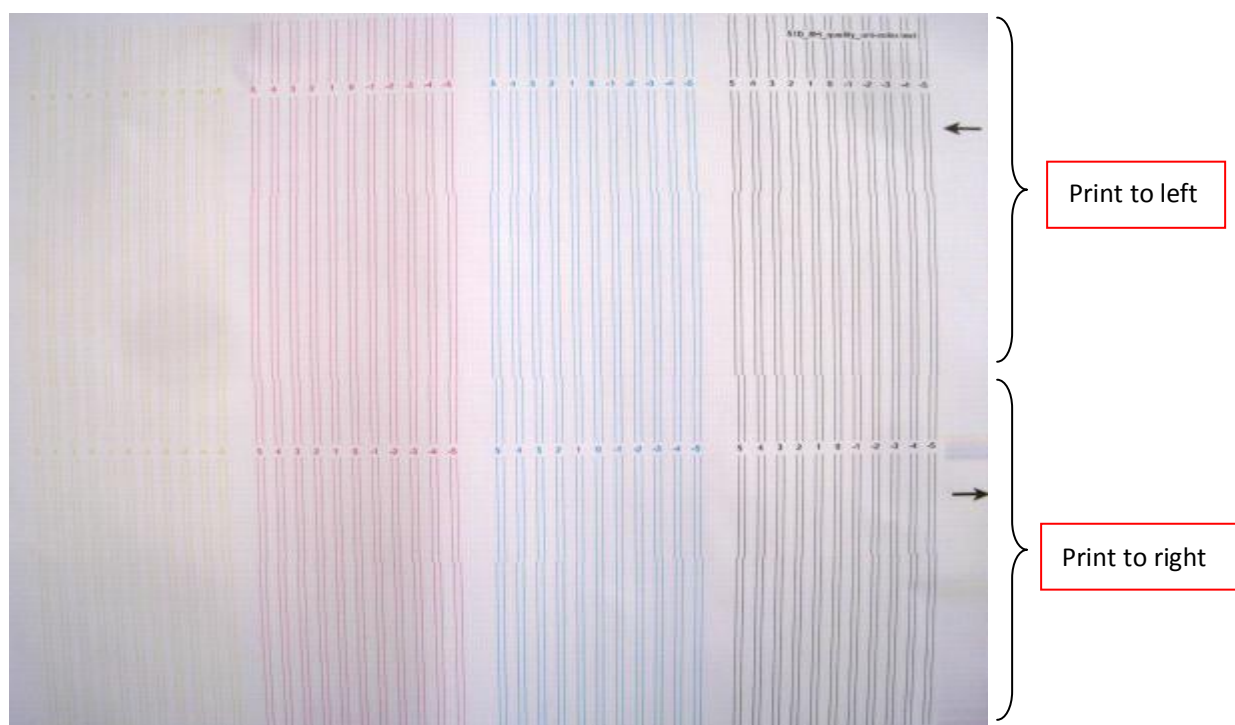
## 2.5 Uniclr Adjustment:

The shortcut of “Unicolor” on the main interface is showed as the below picture:

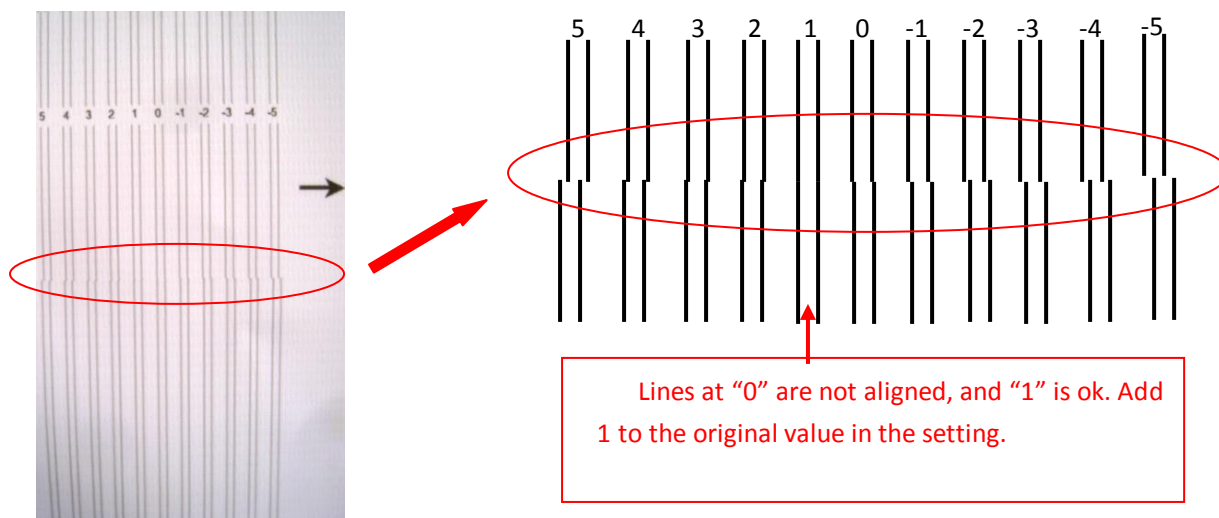


Print the below adjusting picture by clicking the button of “Unicolor”(example for black).

The diagram for “uniclr” is shown in the following:

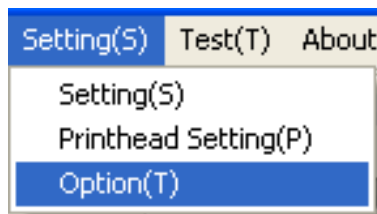


K is shown in the following example. Observe whether lines are aligned at “0” .

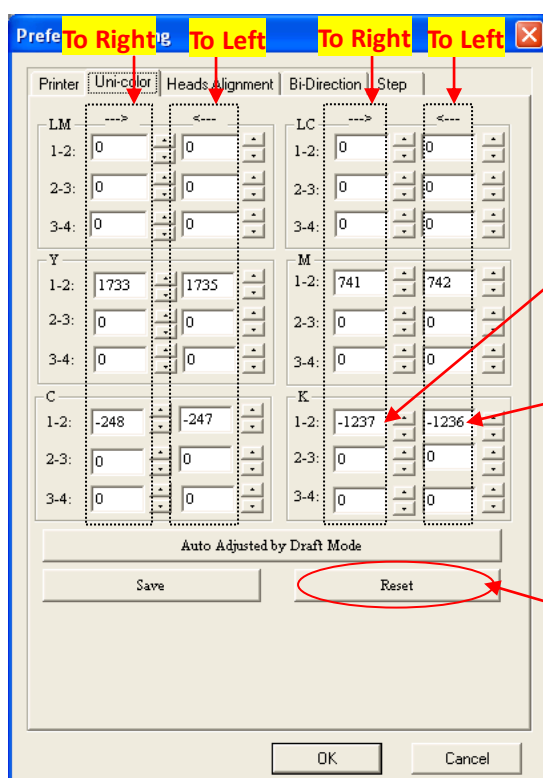


Align method:

Go to "Setting" -> "Option" as following:



Go to "Uniclr":

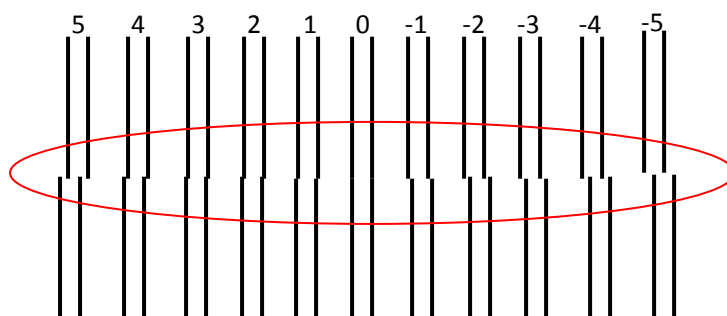


K print to the right should input the value here:  
 $-1237+1=-1236$ . Input -1236

K prints to the left

Reset: Reset the setting to the last saved value.

After values are set, click "Save" and "OK" to do the test again:



Lines are aligned at "0"! K prints to the right is OK.

**Note:** Aligned others colors with the same method. Align Draft/Standard mode, and then click “Auto Adjusted by Draft Mode” to get the setting for Quality/High Quality mode.

**The manufactured setting:**

Draft/Standard mode: K: 1-2== -1241 C: 1-2== -249 M: 1-2== 744 Y: 1-2== 1730

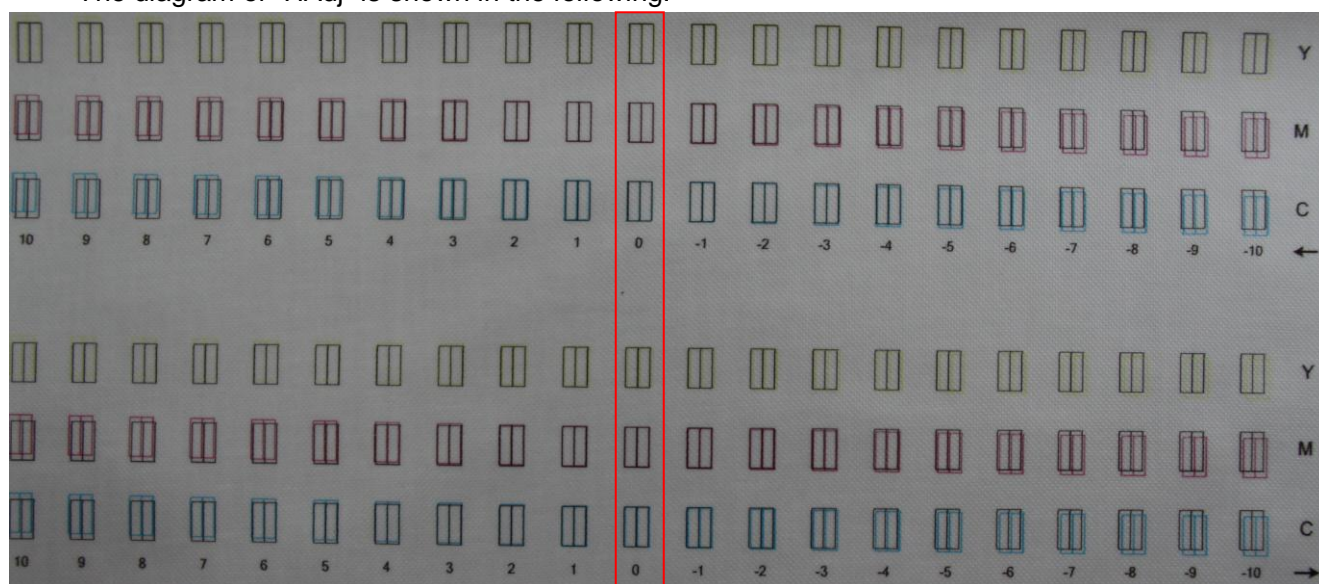
Quality/High Quality mode: K: 1-2== -1654 C: 1-2== -327 M: 1-2== 984 Y: 1-2== 2312

2.6 HAdj: Align all color to match K.

“HAdj” shortcut key is shown in the following:

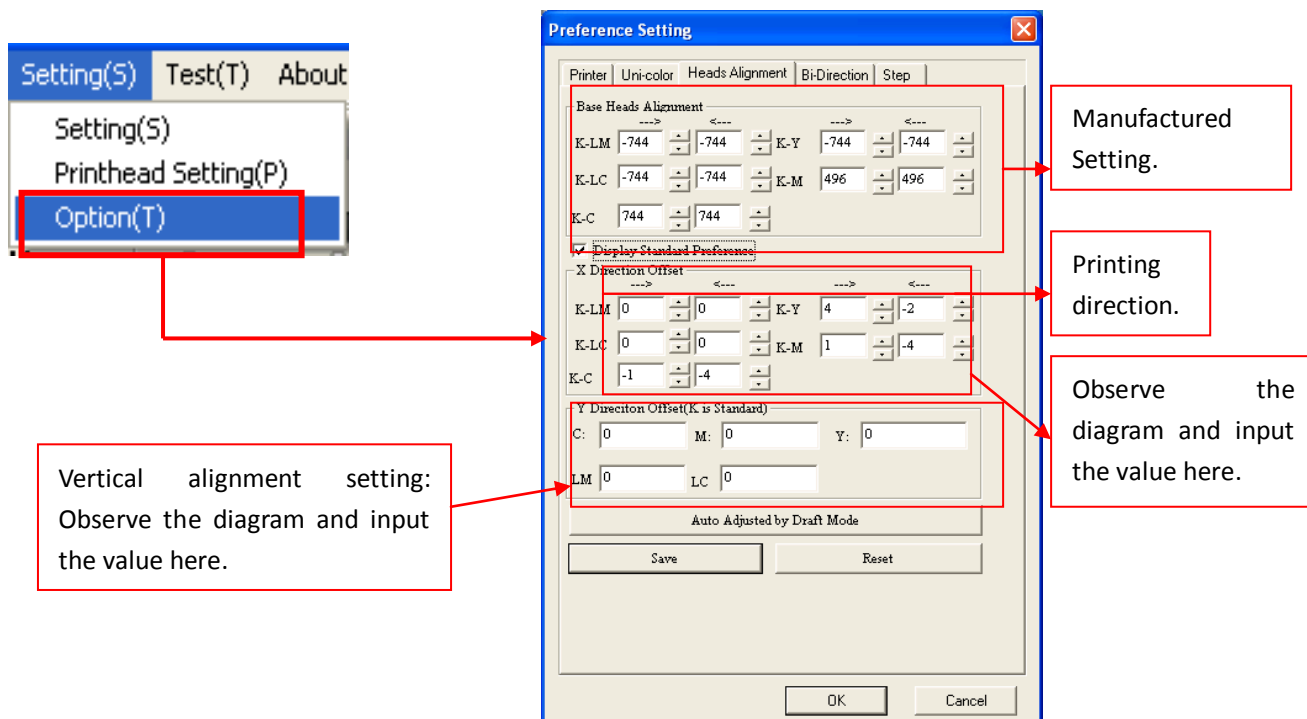


The diagram of “HAdj” is shown in the following:



**Note:** K is the reference. At the “0” point, other color should overlapped on K. If not, look for the rectangle which is overlapped, and input the corresponding value into the “Head Adjustment”.

Go to "Setting" -> "Option" -> "Heads Adjustment" as following:



After input the value, print the diagram again. Repeat until lines are overlapped at "0".

#### The manufactured setting:

Draft/Standard mode: K-C= =744; K-M== 496; K-Y= = -744; K-Lc== -744; K-Lm== -744.

Quality/High Quality mode: K-C= =992 ; K-M== 662; K-Y= = -991; K-Lc== -991; K-Lm== -991.

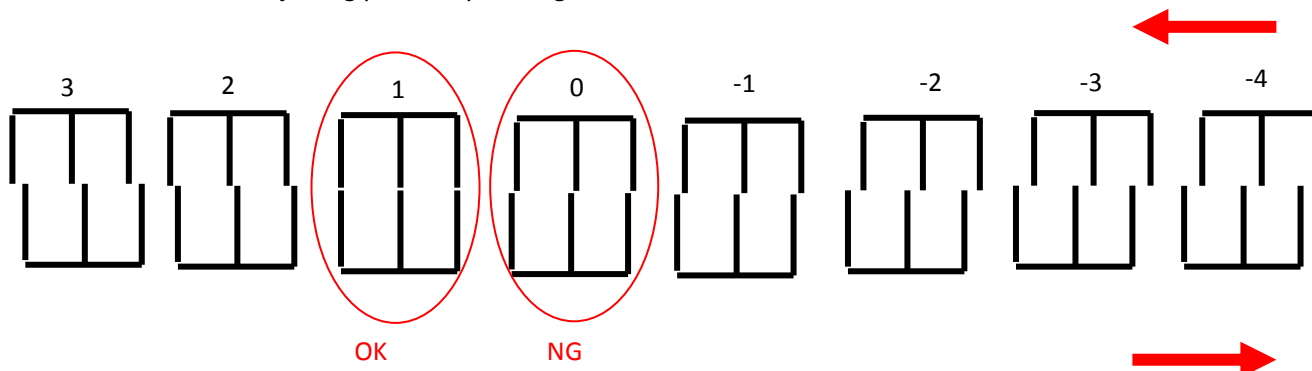
#### 2.7 Bidir (Bi-direction adjustment)

"Bidir" shortcut is shown in the following:



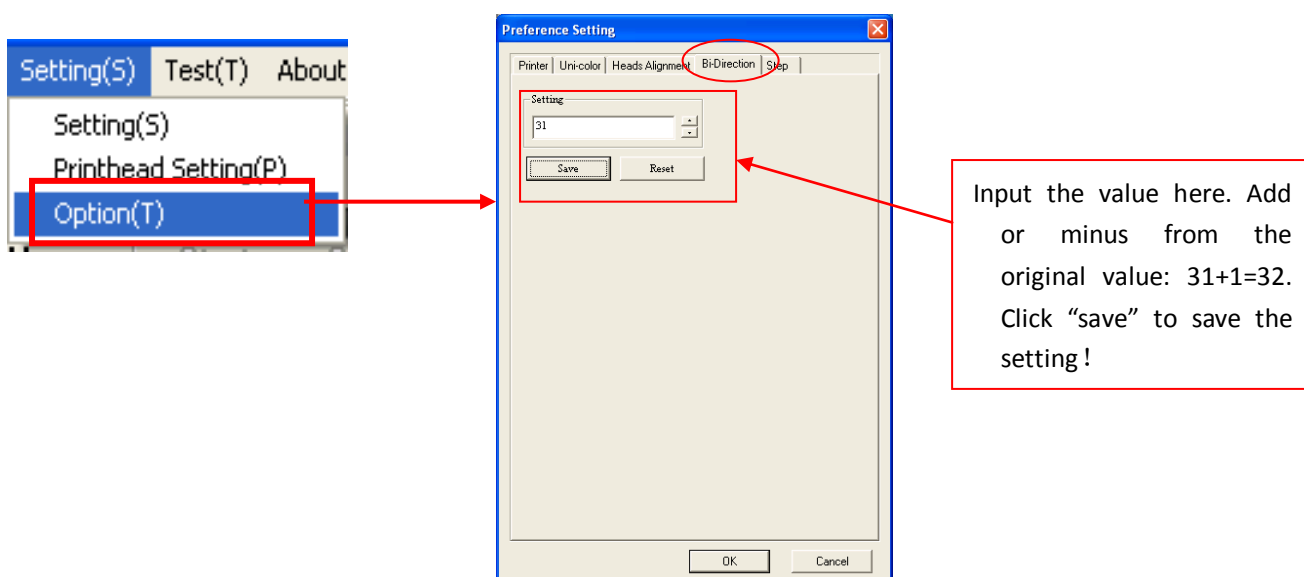
Bidirectional Adjustment will be done while the printing speed changed.

Print the below adjusting picture by clicking the button of "Bidirection".



Lines at “0” are not aligned, and “1” is ok. Add 1 to the original value in the setting.

Go to “Setting” -> “Option” -> “Bi-direction” :



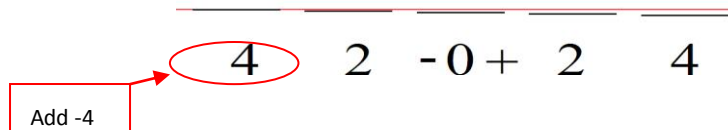
Repeat the test until lines at “0” are aligned!

## 2.8 Step Adjustment

The location for button of “Step” on the menu of shortcut is showed as the below picture:

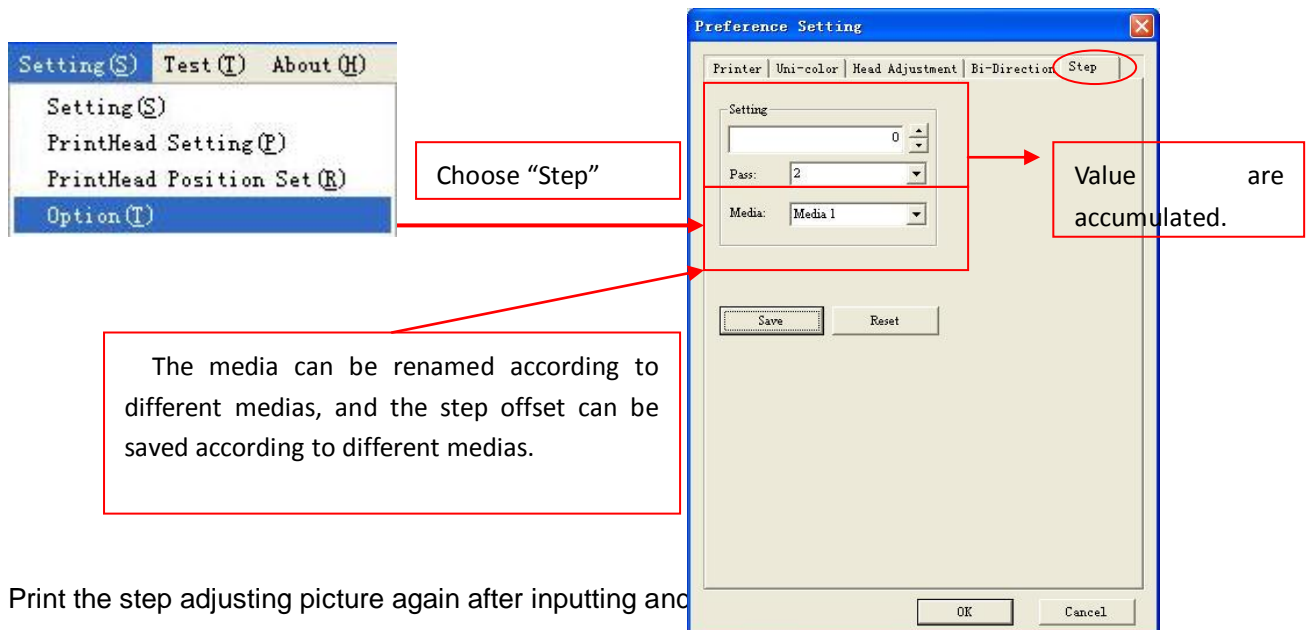


Print the below adjusting picture by clicking the button of “Step”



Make the two lines at “0” as the standard. If the two lines at “0” are not in complete superposition, we need to adjust by software. Just enter “Setting\Option”, showed as the below picture:





Print the step adjusting picture again after inputting and

Adjustment  
is OK !

$$4 \quad 2 \quad -0+ \quad 2 \quad 4$$

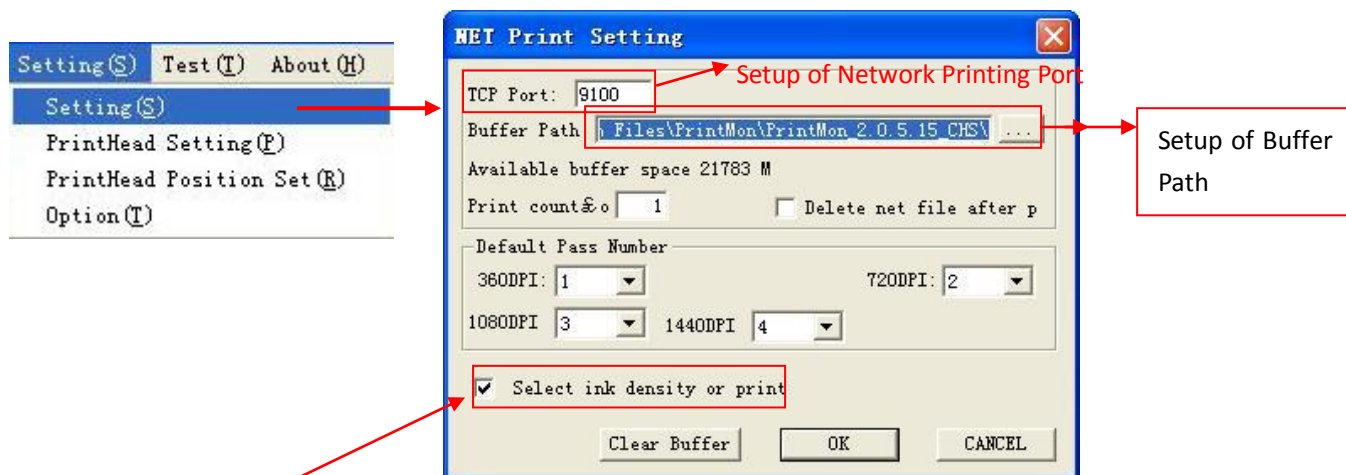
While printing after completing adjustment, there will be a warp for step according to different medias. So the actual step should be adjusted during printing!

**The adjustment of software has been completed now!**



## 4.5 Other Functions

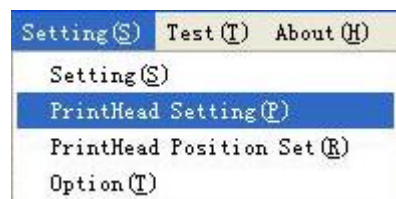
### 1. Network Printing Setup (enter "Setting\Setting")



The ink density can be reduced according to printing effect



### 2. Printhead Voltage Setup (enter "Setting\PrintHead Setting")



The below dialog box will be showed up:

The 'Printhead Setting' dialog box contains several sections for configuring the printhead. Annotations point to specific areas:

- Adjustment of Printhead Voltage Offset:** Points to the 'Printhead Voltage Offset (V)' section, which includes input fields for K1, C1, M1, Y1, K2, C2, M2, and Y2.
- Actual Printhead Voltage:** Points to the 'Printhead Voltage (V)' section, which displays the current voltage for each color channel.
- Actual Printhead Temperature:** Points to the 'Printhead Temperature (deg. C)' section, which displays the current temperature for each color channel.
- Options of Printhead Group:** Points to the bottom section where different printhead models are selected, such as '6Head 6Color 1 Set', '8Head4Color 2 Set', '1020 6Head 1 Set', and '1020 8Head 4 Set'.
- Input Printhead Default Voltage:** Points to the 'Printhead Default Voltage (V)' section at the top, which sets the default voltage for each color channel.

The changed parameters will take effect after clicking the "Setup".

## 3. Printer Setup (enter "Setting\Option")

The 'Setting' menu is shown with the 'Option (T)' option highlighted. An arrow points from this menu item to the 'Preference Setting' dialog box, with the label 'Choose "Printer"'. The 'Preference Setting' dialog box has tabs for 'Printer', 'Uni-color', 'Heads Alignment', 'Bi-Direction', and 'Step'. The 'Printer' tab is selected, showing various settings for print mode, media movement, flash jetting, cleaning, color bar, and feathering. The 'Printer' tab is circled in red.

### 3.1 Printing Mode

There are two options for unidirection and bidirection.

### 3.2 X Direction Mode

This is an option which is used for adjusting printheads alignment. It is recommended that the printheads alignment is adjusted under **Draft/Standard Mode** after installing printheads. For printing pictures of other resolutions, first choose the corresponding resolution under “X Direction Mode”, then click “Auto Adjusted by Draft Mode” and “Save Parameters” under “Uni-color” and “Head Adjustment”. The software will automatically create the corresponding adjusting parameters for printing. During actual printing, the adjusting parameters probably need to be adjusted tinily again.

**Remark: The option is only available for adjusting printhead alignment. For printing pictures, it is unnecessary to choose the corresponding resolution due to the software can automatically get the corresponding adjusting parameters for printing.**

### 3.3 Media Movement after Printing

This is an option which is used for setting the movement direction and distance(mm) of media after completing print.

### 3.4 Flash Jetting Setting

There are three options, 1) (Home) Frequency(Hz): The setup for flash jetting frequency at home with no printing ( The changed flash jetting frequency will be activated after doing the operation of “Save Parameters” and “Home”). 2) (Clean) Frequency(Hz): The setup for flash jetting frequency at home during printing. 3) Num of Time(s): The setup of flash jetting time.

### 3.5 Cleaning Option

There are Two options, 1) No Cleaning and 2)Flash Jetting Cleaning. The “Flash Jetting Frequency” in 3.5 will be activated after choosing the “Flash Jetting Cleaning”. The “Pass” can be set between 0-255Pass.

### 3.6 Color Bar Setting

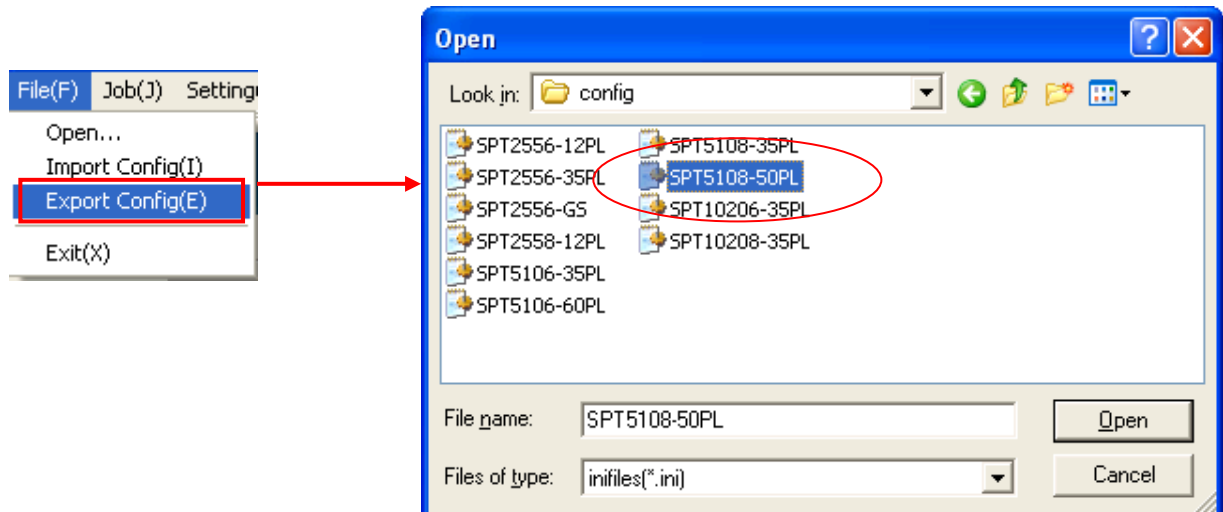
1) Pos: Setup for no color bar, or the position of color bar (in the right/left/both side of the picture). 2) Width (mm): Setup for the width of the whole color bars. 3) Distance (mm): Setup for distance between the color bar and the picture.

### 3.7 Feather Setting

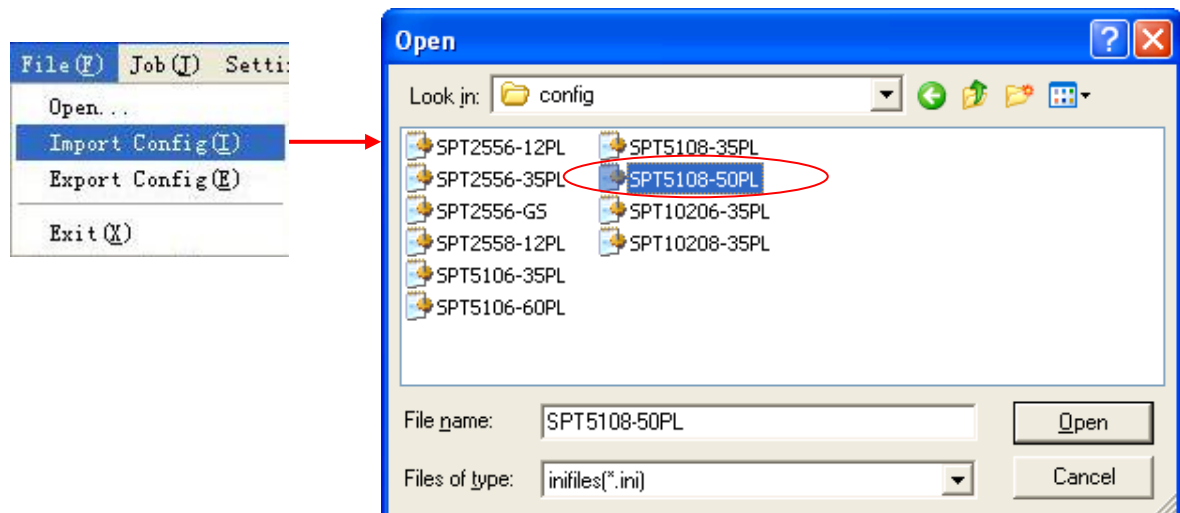
To blur the pass line, feather pass edge. 1) Option: Enable/Disable the feather function.

## 4. Import Config/Export Config

After setting all of parameters, we can export it as a configuration file (enter “File\Export Config”).



We can directly import the configuration file saved before after reinstalling the software or parameters losing. Avoid setting the parameters again (enter “File\Import Config”).



### 5.1 Normal Cleaning:

#### Positive Pressure Cleaning

Press the cleaning button, and then use sponge stick or soft fabric to wipe the surface of the printhead.

**Warning:** Using the material other than sponge stick or soft fabric to wipe the printhead may risk damaging nozzles.

### 5.2 Cleaning procedures for nozzle clogging

- I . Disconnect the tube connector for the tube from the Subtank to the printhead. Wait until the ink finishes dropping almost, and then, connect the tube to the solvent tube. Press both of the flush buttons to clean the printhead with solvent. Stop until the solvent becomes clear nearly.
- II . Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Leave it for 12 hours.
- III. Take the fresh wrap off. Disconnect the tube cover and wait until the solvent is removed almost. Connect the tube to the subtank, and fill the printhead with ink.

The condition of printhead should be improved after performing the above cleaning procedures.

### 5.3 Carriage Bearing and Steel Rail Maintenance

Due to the carriage slides on four steel plates and eight bearing, clean and lubricate four steel plates with grease everyday.

- I . Wipe a thin layer of grease on steel plates to maintain cleanliness and grease everyday before and after usage.
- II . Be aware of the smoothness of the carriage bearing

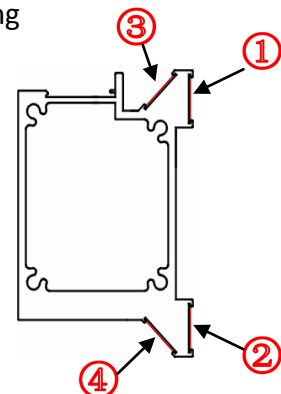
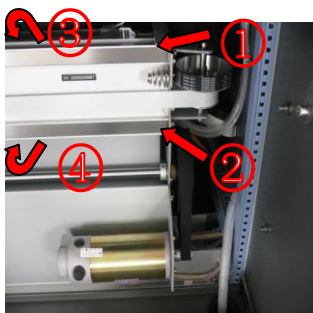


Figure 5-1

#### 5.4 Daily maintenance

- 1) Please print the “**Nozzles Checking**” to make sure all the nozzles are firing fine before switching off the printer. Then switch off the printer.
- 2) Prepare solvent, PE film, and 8 pcs of nonwoven fabric(7cm x 2cm) (Figure 5-2).



Figure5-2

- 3) Place the PE film on the capping, and then place the non-woven fabric which is moistened by solvent on top of the PE film(Figure 5-3)

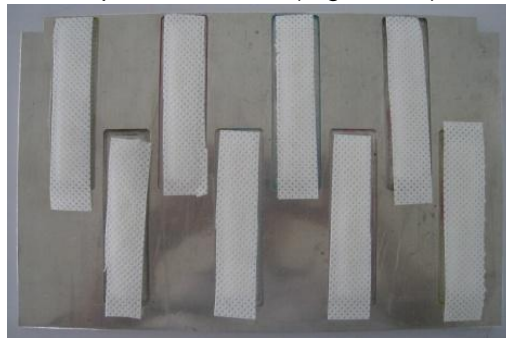


Figure5-3

- 4) Turn off the printer. Move the carriage away from home. Open the waste tank cover. (Figure 5-4)

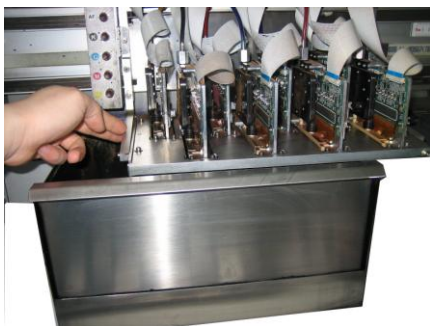


Figure5-4

5) Place the cap in the waste tank, and move the carriage back to home. (Figure 5-5)



Figure5-5

6) Close the cover of waste tank. Finish the daily maintenance. (Figure 5-6)



Figure5-6

### 5.5 Short term shut down (3~7 days)

- 1) Disconnect the tube connector for the tube from the Subtank to the printhead. Wait until the ink finishes dropping, and then, connect the tube to the solvent tube. Press both of the flush buttons to clean the printhead with solvent. Stop until the solvent becomes clear nearly.
- 2) Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Then, push the carriage all the way to the left to seal printheads by the cap.

### 5.6 Long term shut down (More than a week)

- 1) Clean the whole ink supply system by solvent.
- 2) Disconnect the tube connector for the tube from the Subtank to the printhead. Wait until the solvent finishes dropping almost. Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Then, push the carriage all the way to the left to seal printheads by the cap.

**! Attention:** For keeping the ink supply system clean, please replace the filter every 4 months.



### 5.7 Cleaning procedures for nozzle clogging

- 1) Disconnect the tube connector for the tube from the Subtank to the printhead. Wait until the ink finishes dropping almost, and then, connect the tube to the solvent tube. Press both of the flush buttons to clean the printhead with solvent. Stop when the solvent becomes clear.
- 2) Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Leave it for 12 hours.
- 3) Take the fresh wrap off. Disconnect the tube cover and wait until the solvent is removed almost. Connect the tube to the subtank, and fill the printhead with ink.

When printhead needed to be taken out for maintenance, there are long-term and short-term maintenance. Short-term is within one month, and long term is within two months. After two months, printhead need to be installed to the printer and check the nozzle firing again. Maintain the printhead again after checking. Please refer to the following procedure for **used printhead short term and long term storage maintenance**.

The storage condition is shown in the following:

- a) Room temp: 5 - 40 °C
- b) Humidity: 10- 85%
- c) Prevent direct sunlight

### 5.8 Used printhead short term storage maintenance

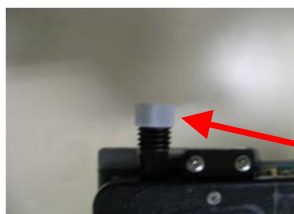
Clean the printhead with solvent, and leave some solvent in the printhead. Remove the printhead together with the tube. Place the non-woven fabric, which is already submerged into solvent, onto the nozzle plate. Wrap the printhead by cling film. Install the printhead onto the original base.

### 5.9 Used printhead long term storage maintenance

- 1) Print a nozzle check for reference
- 2) Clean the printhead by solvent.
- 3) Empty the solvent in the printhead.
- 4) Wipe the solvent surrounding the printhead by non-woven fabric. Do not scratch the nozzle plate.



Step 1



Cap

Tighten the cap. Make sure the washer is in place.

Step 2



Cling Film

Cut the cling film into a piece about 30cm x 30cm. Do not make the film wrinkle.

Step 3



Wrap the surface of the nozzle by the cling film.

Step 4



Make sure there are no bubbles and wrinkles.

Gently remove the air between the film and the surface of nozzles.

Step 5



Seal the printhead on both sides.

Step 6



Wrap the printhead from the edge of the film. Pull the film tightly to seal the printhead as much as possible

Step 7



Wrap the film on the top of the printhead.

Step 8



Stand

Install the printhead stand.

Step 9



Step 10



Put the printhead into the original plastic box.

Step 11



Put the plastic box into the paper box

## Caution:

- (1) Remove the remaining solvent in the printhead totally.
- (2) Tighten the cap properly:  
If the washer is in the proper position, the cap can be tighten easily.  
Do not force to tighten the cap when the position of the washer is not proper.
- (3) Wrap the printhead carefully.

After turning on the printer, the 12V, 24V, and 35V LED on the connecting board are lit on. And also, the D4 LED on the main board is lit on. D1 and D2 LED are lit on when connecting the printer to the computer by USB cable.

After system initialization, the carriage will move back to the home position slowly. The carriage will stop after detect the home magnet. The system is ready to print. At the same time, printhead start flash jetting. Open the printmon software, the carriage will move back to home position again.

**1) After turning on the printer, carriage move back to home normally. The interface of printmon becomes grey:**

- a) Check whether the driver is installed properly. "EPOWER USB DEVICES" should be shown in the device manager.
- b) Check whether the USB cable is defective, or connected improperly.
- c) Check whether the main board is defective

**2) Carriage is not moving after turning on the printer:**

- a) Check whether the 12V LED on the connecting board and D4 LED on the main board are lit on. If those LED are not lit on, check the 12V input.
- b) Check whether the home sensor is defective, or connected improperly.
- c) Check whether the 40P connector on the connecting board and the main board is plugged in properly, or defective.
- d) Check whether the signal cable of the x motor driver is plugged in properly, or defective.
- e) Check the connection between the x motor and the encoder

**3) Carriage is moving to opposite direction after turning on the printer:**

- a) Check whether the signal cable of the x motor driver is plugged in properly, or defective.
- b) Check the connection between the x motor and the encoder

**4) Ink pump keep working:**

- a) Check whether the floating sensor in the subtank is working properly.
- b) Check whether the connection of the 18P flat cable between the connecting board and the printhead board.
- c) Check whether the corresponding LED for this specific color pump is on. If the LED is on, please change the connecting board.

**5) Pump is not working, and the alarm is ON:**

- a) Check whether the 24V power supply is normal.
- b) Check whether the pump is working properly.
- c) Check whether the connection of the 18P flat cable between the connecting board and the printhead board.
- d) Check whether the floating sensor in the subtank is working properly.
- e) Check whether the corresponding LED for this specific color pump is on. If the LED is on, please change the connecting board.

- 6) Flash jetting is normal when turning on. After printing for awhile, does not flash jetting, but printing normally:**
- a) Check whether the encoder is clean, or scratched, or not installed properly.
  - b) The config file is lost. Recalculate the machine length.
- 7) The interface of the software becomes grey. The movement cannot be controlled. Extra solid color is printed :**
- a) Check whether the USB cable is loosened or defective. **(Recommended to use the cable with better anti-interruption)**
- 8) Positioning error during printing:**
- a) Check whether the 12V is normal
  - b) Check whether the X motor belt and the gear is loosened or damaged.
  - c) Check the X motor
  - d) Check whether the encoder is dirty or scratched.
  - e) Check whether the encoder sensor is dirty or defective
  - f) Check the connection of the 18P and 16P flat cable between the connecting board and the printhead board. **(Keep a distance from strong magnetic field. Prevent using instable input power. Equip a UPS and stabilizer)**
- 9) Interruption during printing:**
- a) Check whether 12v is normal.
  - b) Check the connection of the 14P flat cable between the connecting board and the printhead board.
  - c) Check the connection of the cable from DB15 on the connecting board to the servo driver.
  - d) Check whether the USB cable is normal.
  - e) Check whether the grounding is well.
- 10) Reset to home is normal. Carriage is moving, but not printing:**
- a) Check the connection of the wire for the encoder.
  - b) Check the connection of the cable from DB15 on the connecting board to the X servo driver.
- 11) Interruption when printing the printhead status. Ink jetting on the printing platform when calculating the machine length:**
- a) Check whether the encoder sensor is connected properly.
  - b) Check the connection of the 18P flat cable.

Specification		
Model	FY-3278N	
Printhead	SPT510-50PL	
Number of printhead	8Heads	
Max. printing width	3200mm	
Max. media width	3300mm	
Output Quantity	Printing Mode	
	Output(m <sup>2</sup> /h)	
	Draft 2pass	157
	Standard 3pass	109
	Quality 3pass	91
	High Quality 4pass	70
	Compensation 6pass	53
Ink	Type	Solvent or Eco-solvent
	Color	(C,M,Y,K)
	Volume	1 liter or 5 liters main tank
	Ink supply system	Ink level sensor. Auto-pumping
Media	PVC banner, vinyl, film, polyester, etc	
Feeding System	Roll or sheet. Single or double feeding bar. (Max. weight: 120kg)	
Ph. Cleaning System	Individual color purging	
Heating System	Back, middle, front, and extra heater. Infrared drying heater.	
Clamp	Equipped	
Data Transfer	USB 2.0	
Printhead height	Adjustable distance from 2mm~6mm.	
RIP	Maintop , UltraPrint ,	
Input Voltage	AC220V, 50Hz/60Hz	
Printer Dimension/Weight	L5080xW1040xH1670mm /913Kg	
Package Dimension/Weight	L5290xW1260xH1980mm /1300Kg	

Note: Please use the **Compensation Mode** if printheads are not in good condition.

\*\*\*The above data is obtained when printing speed is set to high, values may vary in different computer \*\*\*

~ END ~