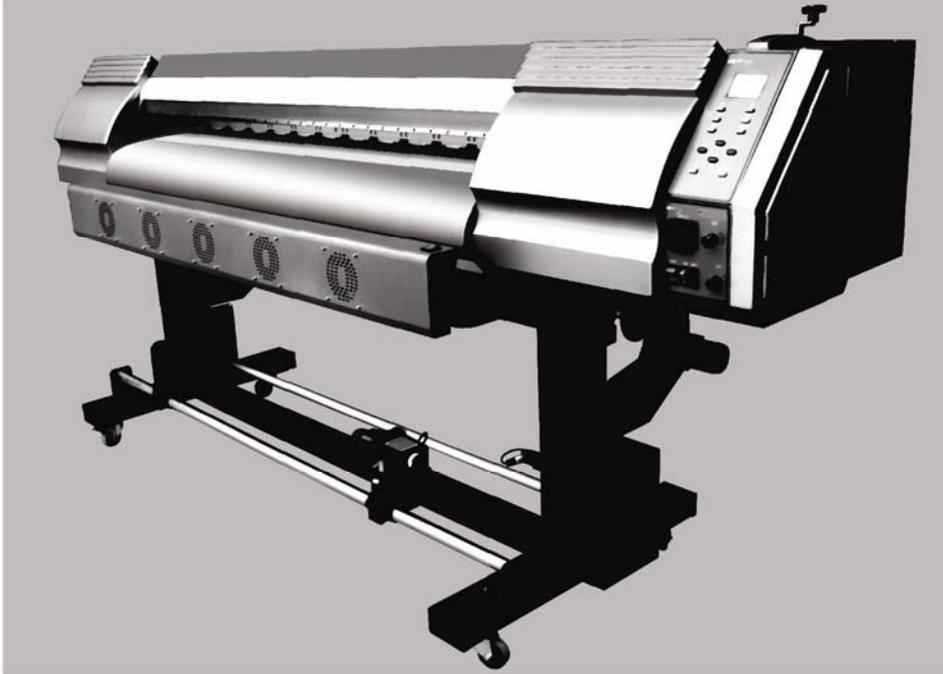


High definition printer

ULTRA-9000

OPERATION MANUAL



Firstly, we congratulate you that you own a high capability ultra9000 printer—Wit-Color Ultra 9000 printer. Then thank you for your support. You need to solve problems according to this manual, so you need to read it carefully. Based on the catalogue, you will find the content easily.

Attention

Wit-Color is the brand of Shanghai Wit-Color Digital Science & Technology Co., Ltd. Wit-Color has the copyright of Ultra 1000 2000 3000 4000 9000 solvent printer and ultra9000 printer, include every spare parts, boards and software. Every company and individual can not copy, especially can not copy and transmit this manual without any authorization.

Ultra 9000 has passed 3Q Conformity of Quality Manangement System Certification, QC Quality Certification, ISO9001 Quality Certification. And Ultra 9000 is up to the standard of printing equipments. Please pay attention the following enviroment when you use the printer:

1. Please keep the printer away from electromagnetism: Television、High speed electirc machine、High-tension cable、mobile phone、radio, etc. These equipments will produce electromagnetic interference.
2. Please keep the room temperature between 15 and 30 Celsius degree while printer is working. Too high and low temperature will reduce the using life and affect the quality of the image.
3. The room should be in smooth grand and connet with grand wire.
4. Please avoid putting the machine under sunlight, the printer should be in ventilation and favorable humidity.
5. Please keep the room clean, avoid operating the machine under dust.

During carry the printer, displacement is unavoidable. If this situation happen, the engineer will adjust it. You can not return back or ask for compensating according to this issue.

Within the warranty time, we will provide service for life except the damaged by human, bilging and lighting strike. Please read this manual carefully, if you have any questions, contact with the distributor or maintainer as soon as possible. Out of warranty time, we will provide servece based on the agreement.

If the information of products is changed, we will not announce.

The description and picture is based on the real packing container.



Please obey above description to avoid unnecessary issue.

Character:

Epson generation 5th print head—DX5

Ultra 9000 adopt the new-type micro piezoelectric printhead with a resolution of 144dpi. Total is 1440 nozzles divided into 8 lines, every lines have 180 nozzle, every color in two lines. Hence, DX5 printhead has high precision and high speed character.

Depending on different output types, variable ink drop technology can generate 3 kinds of micro ink drops in different sizes. Ink size is freely optional between 3.5pl-9pl. Achieve a pretty, fine, smooth and particle-free tone transition. In conjunction with RIP software, variable ink drop technology makes this printer even highly applied in appreciation field for flawless quality.

Falut-Tolerant Feather Technology

Both Ultra9000 printer could make perfect printing,because the new generation system had made the optimal calibrations in software and internal parameters of EPSON print head.By thin technology,when the users print solid color image,not only the color is vivid and bright,but also the ink consumption is less obviously.Thus the printing cost was saved effectively.

LCD Control panel

New LCD control panel could run the machine independently. The new functions are cleanout, absorb the ink, flash, print test strip, formfeed, go back and replacement. In the new Ultra 9000, you can print the image from the USB directly.

USB control board

Eco-solent print adopt USB control board and USB2.0. Only one USB cable can achieve printing, also USB control board has memory, they will record the data automatically.

High Speed system

The AC servo motor of the ultra9000 printer has high speed and high precise position-setting character. In mechanical part, adopt imported linear rail, timing belt with steel wire and copper gear. Also adopt 180dpi encoder strip.

Discrete ink control system

Ultra9000 printer adpot discrete ink control system: indepent ink control board, indepent sub tank and electric pumb to make the printing smooth. The new inductor has ink lact warning system.

Qucik heating and air drying system

Two units heating and air drying system are the new function of the ultra9000 printer. The pre-heating is good for media to absorb the ink, to make the image

more vivid. After heating is good for ink to coagulate, superadd the air dtying system, the media will dry as the printing finish.

Auto feeding and take-up system

The feeding system adopt photoelectricity system, it can afford 100 KG media. Also the double feeding roller can make feeding more smooth.

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please read this manual Seriously

Caution

Contain copyright and announcements

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Safety Precautions

Describe about the printer environment
safety precautions and ink protect

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Before Use

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Chapter 2

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Describe how to use the printer and operation

Chapter 3

Advantage Of The Printer

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Problem Solving

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Sign:

Please pay attention to the sign during reading



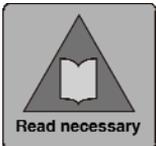
Serious operation will cause serious consequence.



Warning operation, wrong operation will destroy printer.



Hint operation, hint for detail information.



"Have to read" sign.

1 Check up the spare parts

Every Wit-Color printer has free charge spare parts package. After getting the printer, please check the spare parts and keep them. Any questions, please contact with Wit-Color agents.

	EPSON DX-5 × 1		Ink sac × 10
	USB Cable × 1 Power Cable × 1		Tube × 1unit: Φ 4 tube × 1M Φ 6 tube × 3M
	CD × 2 1:Printer Software × 1 2:RIP Software × 1 Dongle × 1		Screw × 20 M8 × 16:8PCS For foot stool M6 × 16:8PCS For bed M5 × 16:6PCS For ink box M6 × 12:2PCS For fans holder
	Water filter × 4		Instrument screw × N
	Three leg connector × 8		Screw for printhead × 6 Screw for ptinthead × N
	Quick connector × 1Bag		Syringe × 1
	Date Cable × 1unit: 24Pin Date Cable × 2 22Pin Date Cable × 1 31Pin Date Cable × 4		Swab × 10

Chapter One Before installation Notice

Ultra9000 print dimension and installation position:

Ultra 9000 1601 printer

Packing wooden case dimension:

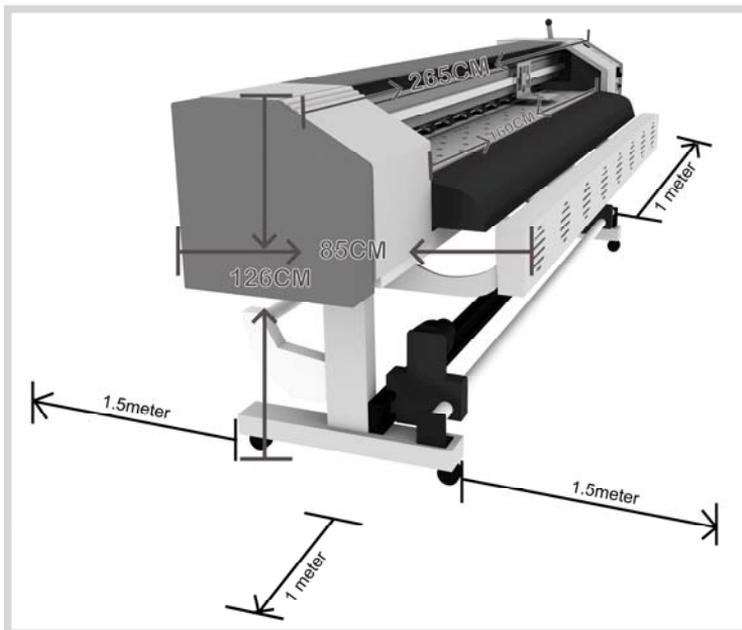
Length*width*height:3.2*1*1.2(meter)



Printer dimension:

Length*width*height:285*85*126(cm)

You need to leave some space around the machine, like at least 150CM for before and back, at least 100CM for left and right.



Power supply:

- 1、 To make sure the connection with ground wire is right, one machine for one power bar.
- 2、 Power supply: use 50Hz 220V AC ($\pm 10\%$)
- 3、 Machines rated power is 2000 watts, The UPS must be higher than 2500watts

- 4、 Don't use damaged power line, please use the power line which is above 3000W.
- 5、 Don't use extensive USB cable and the USB cable with shield function.
- 6、 When the machine shut down, you can connect or pull out the power supply.

Environment:

- 1、 Please stay enough space for machine, and keep away from magnetic equipments.
- 2、 Please keep the room clean and comfortable.
- 3、 The printer should be on the smooth ground and avoid leaning, because leaning will cause printing precision.
- 4、 The printer should not be in the aisle and keep the air flowing in the room.
- 5、 The printer should not under the sun or near the heater, also avoid changing the temperature and humidity suddenly.
- 6、 Working requirements: temperature: 15-30 celsius, humidity: 40%-70%, too high and low temperature will cause the image.
- 7、 Keeping away from caustic liquid and gas.



Please follow the right order to operate.

Removing package note:

The package is made of wood, only the technician can remove the package by screwdriver independently. Please do not use hand to work.

- 1、 The weight of the equipment is 300KG, so using forklift is necessary for carrying.
- 2、 Working gloves can protect your hands from scratching.
- 3、 Please loss all the screw from the top to the bottom.
- 4、 Because the length of screw is 5cm, please throw it everywhere.

Removing ultra9000 printer:

- 1、 Please removed the machine by at least 6 people.
- 2、 You need to carry the body of the machine, do not carry the bilateral chassis.
- 3、 For safty, please avoid lefting anything in the machine, and locking the side cover.
- 4、 When lifing and putting, please pay attention to avoid colliding.
- 5、 Don't pull the carriage if it is not in the original position.



Be careful with printer.

Ink notice:

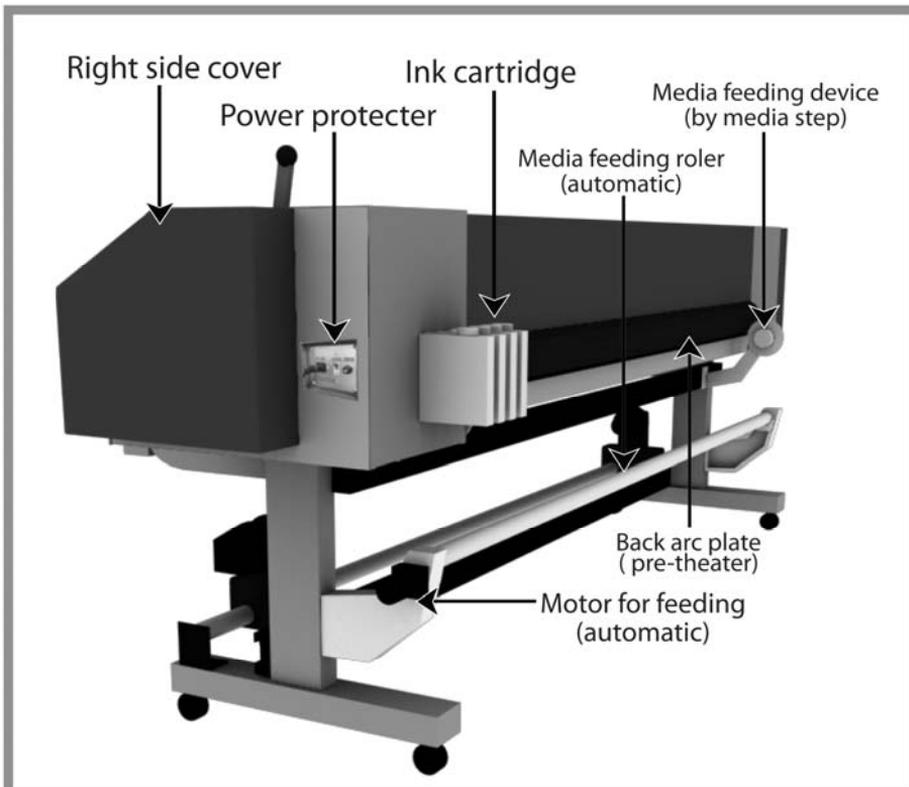
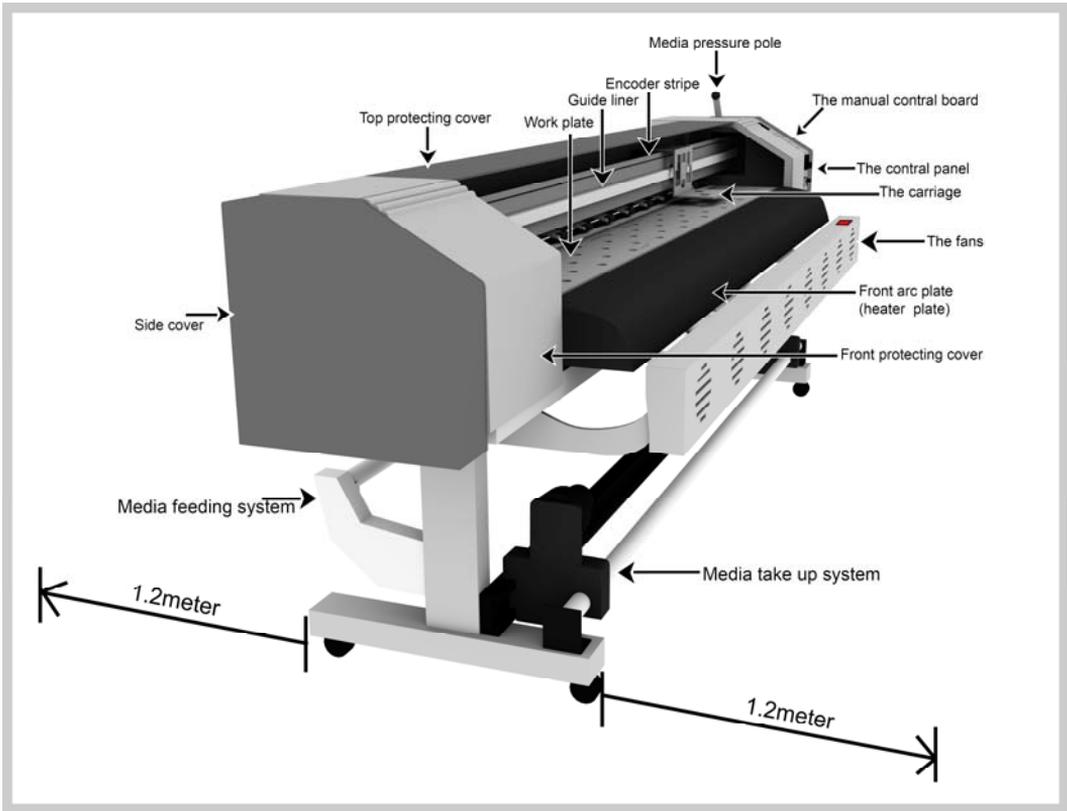
- 1、 Please keep the ink bottle away from children, pregnant women and the old.
- 2、 If ink drop on skin, please use soap to clean. If ink spary in your eyes, wash eyes immediately, or go to hospital when you feel uncomfortable.
- 3、 Please store the ink in a shady and cool place.
- 4、 If you want to get the best printing image, please use the ink within two months.
- 5、 Don't open the ink cap totally, just a small piece for the ink tube.
- 6、 Don't shake the ink bottle, or the ink will leak out.
- 7、 Don't throw the discarded ink bottles everywhere.
- 8、 Keeping dust away from ink.



Avoiding throwing ink bottle from environment.
Avoiding dust from going into ink to block printhead.

Chapter Two Ultra9000 printer

1、 Ultra9000 printer structure



2、 Spare parts name (attached sheet at bottom)

3、 Parameter

	Model	Ultra 9000 1801(W\S)
Print head	Technology	Piezoelectric printing technology-DX5 (water-based)
	Amount	2 \ 1unit(s)
	Color	4 color
	Resolution	1440dpi\2160dpi\2880dpi
	Injection distance	2~5 MM
Ink	Type	WITCOLOR Ultra9000 Ink M、 Y、 C、 K、
	Ink supply system	Sub-tank\Ink cartridge(✓)
Heating Drying	Heating system	Work plate heating : temperature controller 30C°adjustable Output drying: 10~60C° manual regulation
	Drying system	Fan outside air draft inside
Media	Dimension	Valid dimension: 1800mm
	Type	Photo paper、 lightbox tablets、 PP paper、 indoor media
	Maximum weight	100KG
	Transmission	USB2.0
	RIP software	Photoprint \ Maintop(✓)
	System	WindowsXP VISTA

	Environment	temperature : 15°C ~ 30°C humidity : 30 ~ 90%	
	Power Supply	frequency: 50Hz voltage: 220 AC (±10%)	
	Power	Maximum power: 2000W, Printing power: 800W	
	Machine Dimension	Length*weight*height 290×78×120 (cm)	
	Machine Weight	220kg	
Output	Model	m ² /h (1heads)	m ² /h (2 heads)
	4PASS	16	32
	6PASS	12	24
	8PASS	8	16

4、 Installation notice

One. Removing the package:

- 1、 First you need to loss screws on the top, and then remove the top cover.
- 2、 Second you need to loss the side screws, and then remove the side cover.
- 3、 The machine is fixed on the wooden frame by three screws, you need to loss three screws, then you can remove the machine.
- 4、 Third take off the firmware on the machine.
- 5、 Finally open the machine package, accessory package and adjunct package. Please check the machine and accessory is complete.

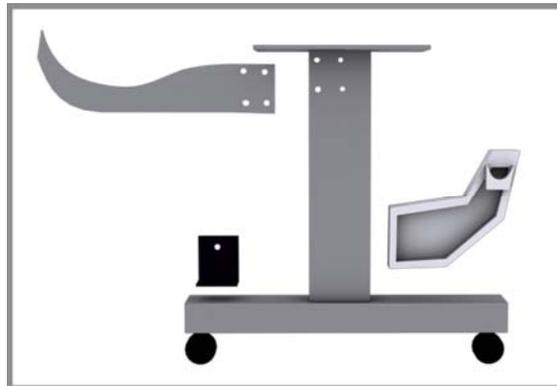
The machine is packed by packing diaphragm. The following items are under the machine: two units foot stands, beam, feeding roller, ink trunk and an accessory package.

Two. Equipment installation:

Please install the machine from the bottom to the top, and all the Hexagon socket head cap screw need shrapnel and shim.

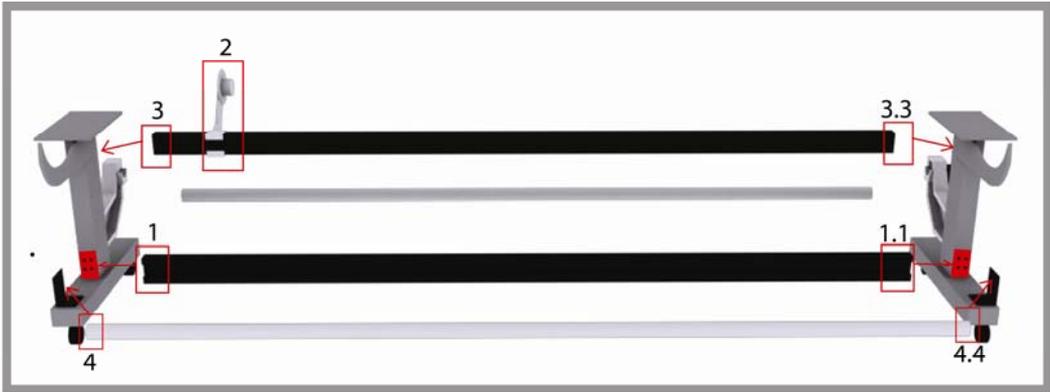


1、Machine's frame installation: left foot stand + right foot stand, When you install the beam, the media feeding sensor and dry frame should be in the opposite position and you should use eight Hexagon socket head cap screws.

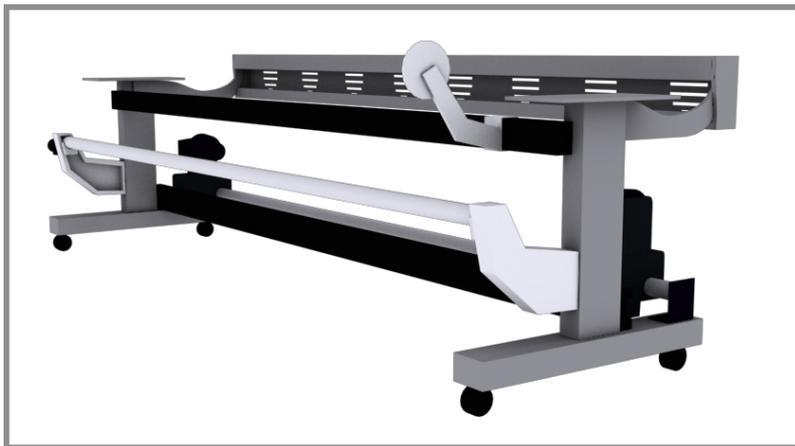


2、 After frame installation, you need to lock the truckles. Four people carry the body part on the frame, and use three screws to fixup which is under the body.

3、The body part and foot stand should be fixuped by six Hexagon socket head cap screws which on the sides. Four units M6*16 and two units M5*16. The tool should be less than M5 screwdriver.



- 4、 The side screws will fixup the body and frame and when you fixup the right side, you need to fixup the ink case at the same time.



- 5、 To install the drying fun by M6*12 Hexagon socker head cap screws.
 6、 Finally loss the screws on the carriage and move it.



Attention: During installation, please do not screw down all the screws

one by one, you need to screw down all the screws at the same time. Also do not screw down so hard, you should take off the body, and install again.



Pay attention to any cables which will not be damaged by any machine part.

Three. Inspection work after installation

- 1、 After installation, push and pull the carriage to make sure the distance between carriage and working plate is the same and the plate is smooth.
- 2、 Then check the encoder sensor parallel with the encoder stripe.
- 3、 After that, make sure the machine is grounding and static voltage is less than 1V.
- 4、 When you plug in power, the blade, printhead maintenance station and carriage will do testing. The process is below: the blade moves down→printhead maintenance station moves down→carriage moves right→carriage replace→printhead maintenance station moves up.

Attention: Do not install the print heads in first testing.

- 5、 Self testing done, using multimeter tests every voltage: 42.5V、14、5V. Turn off the power, and install the print head.



You have to read if this is your first time to install the printer.

Four、 Ink system and print head installation

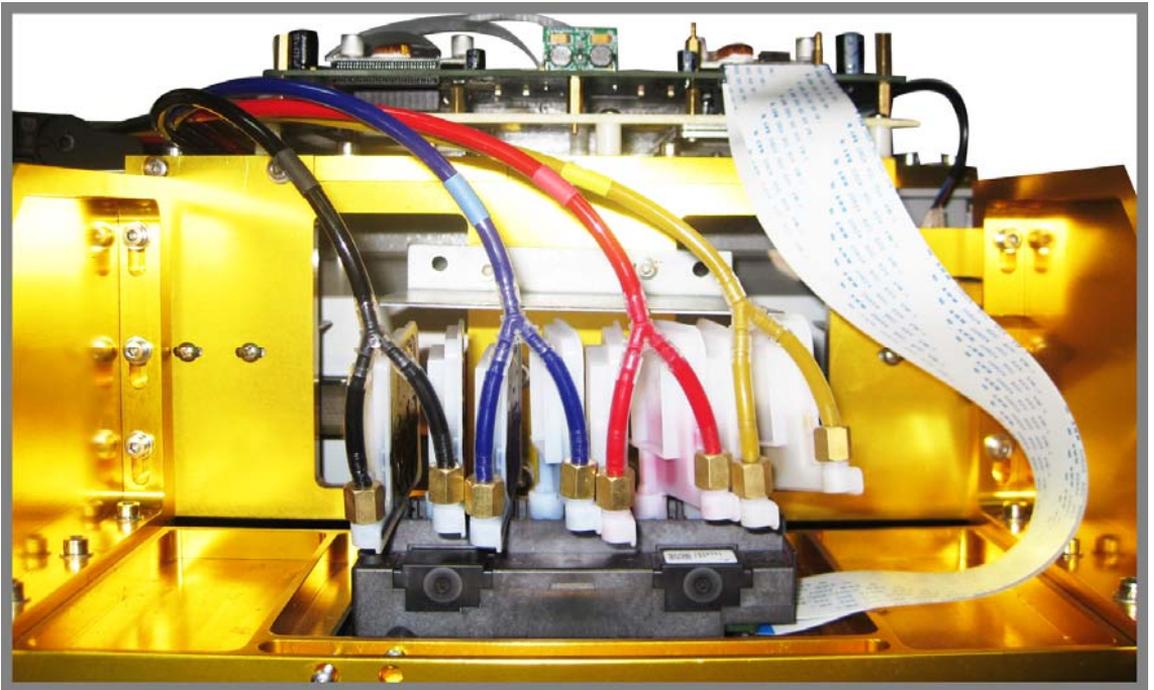


Before installation, please adjust the suction nozzle position.

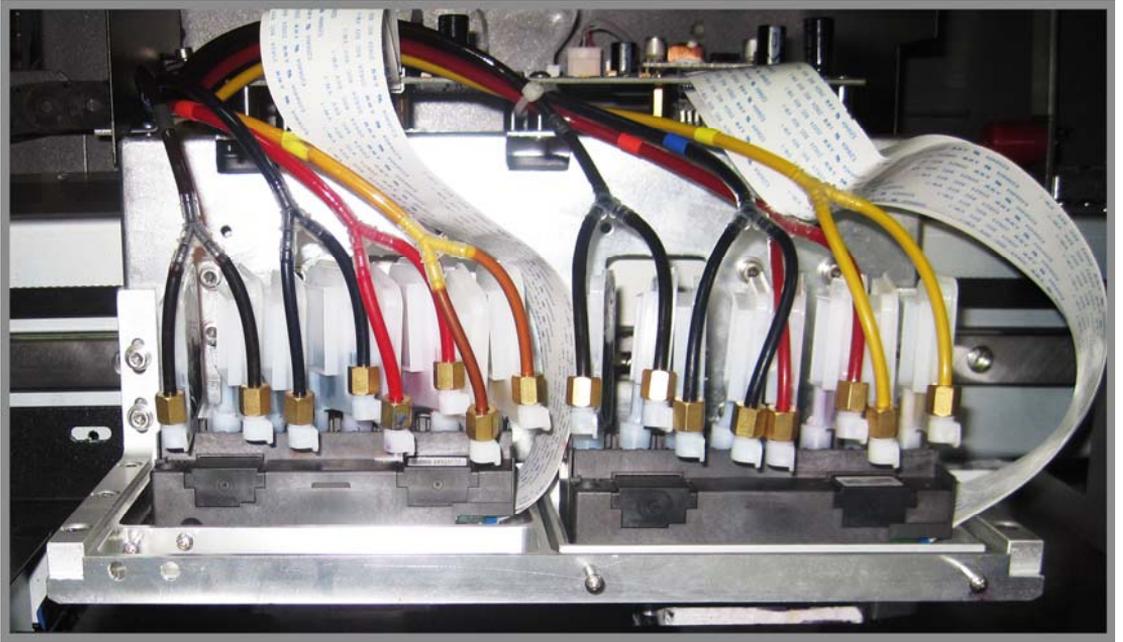
1. Ink sac and filter installation:

Ink Sac: function of ink sac is to save ink and provide stable ink to printhead. The memory steel disk in ink sac, when the ink sac lacks of ink, sub tank will offer the ink. Usually the amount of ink should be above 50% in the ink sac. (If not, please contact with technical or Wit-Color factory.)

For the safty of the ink filter and damper, the technician needs to install them by himself. Please take it carefully, or it will damage.



Ink Sac installation picture



Two print heads

Every print head has four group of ink, the order from left to right is K C M Y.

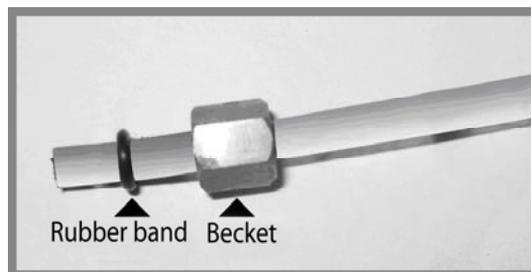
How to install ink sac:

1. From spare parts package, you need to take a $\phi 4$ ink tube, and divide it into 8 pieces, and every piece is 6-8CM. Showed in picture one, and take the screw cover and rubber ring.

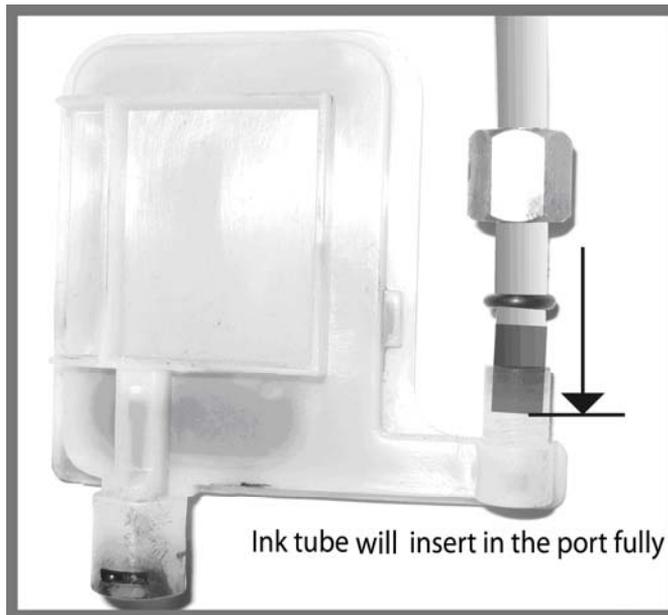
2. Put the ink tube with rubber ring into ink sac, and tighten screw. **Attention: Don't push ink sac during installation.** See picture two.

3. After install the printhead, then install ink sac and printhead connection.

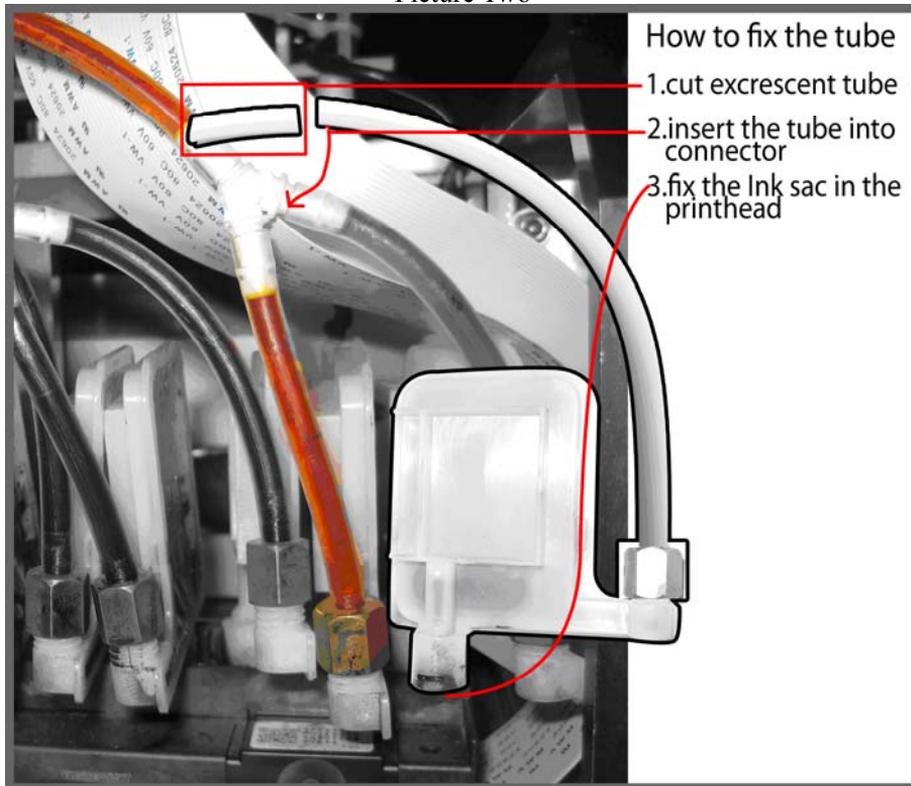
After installing printhead, put the ink sac on printhead, and cut the extra ink tube. The detail showed in picture three.



Picture One



Picture Two



Picture three

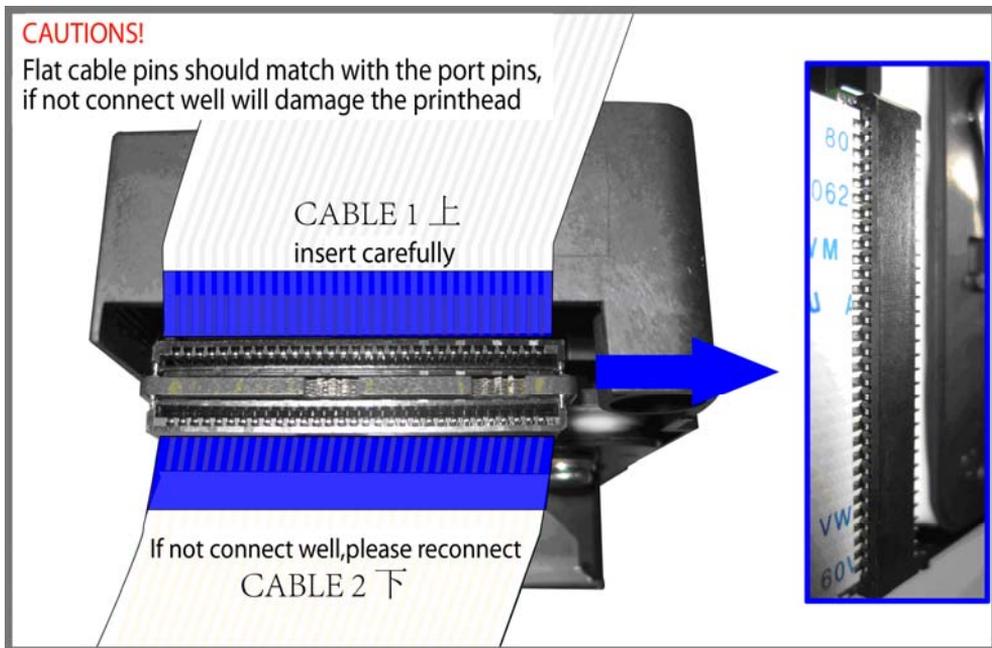
2. Print head installation:

The print head of ultra9000 and water based is different. The cover with golden yellow is ultra9000, and the cover with light grey is water based. Attention! Please

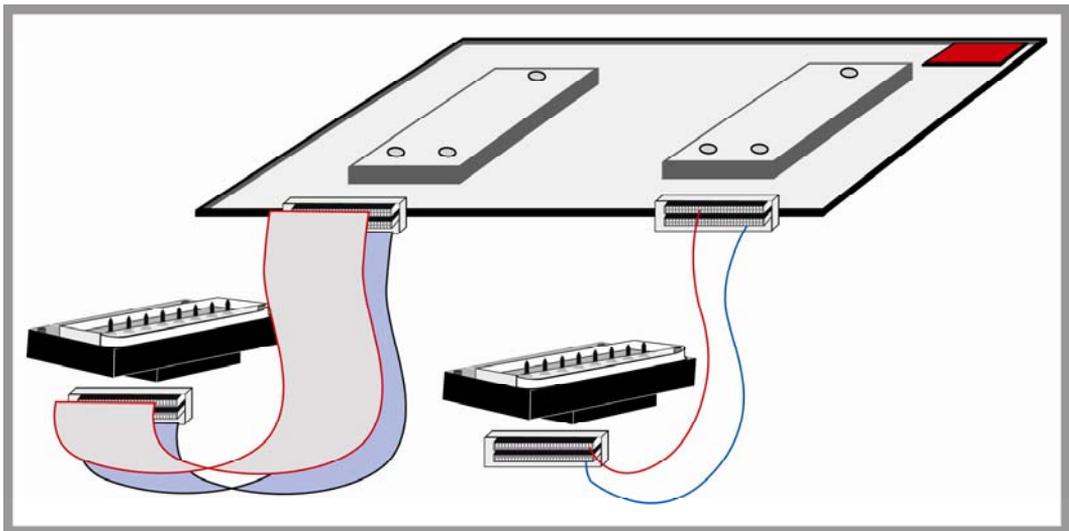
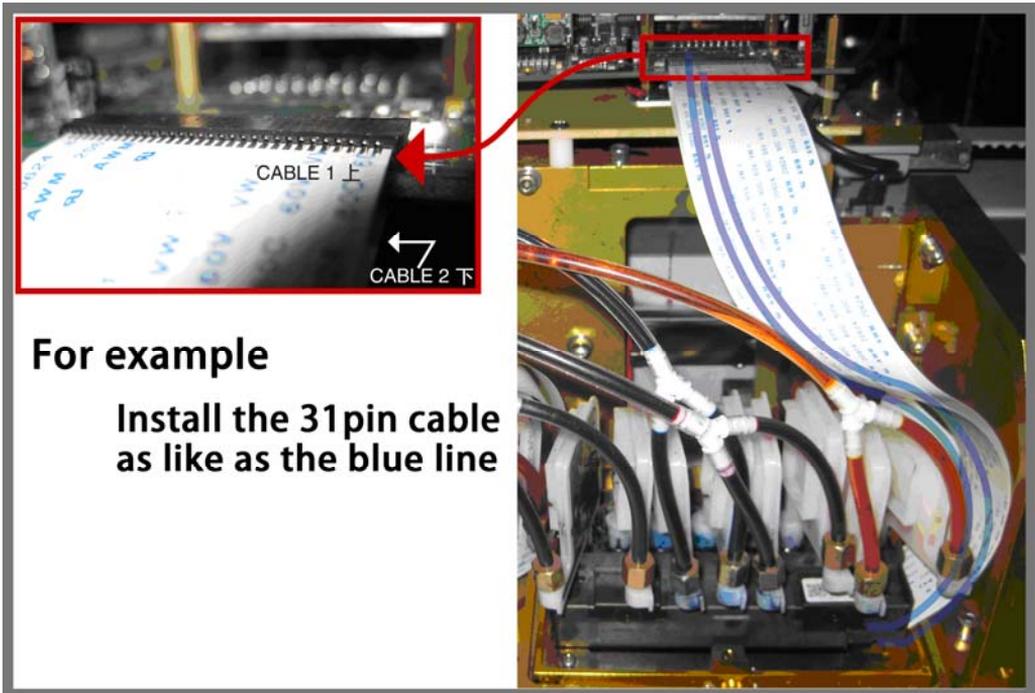
turn off power before install printhead.

Attention: You need to lower the suction nozzle and blade height before installing printhead.

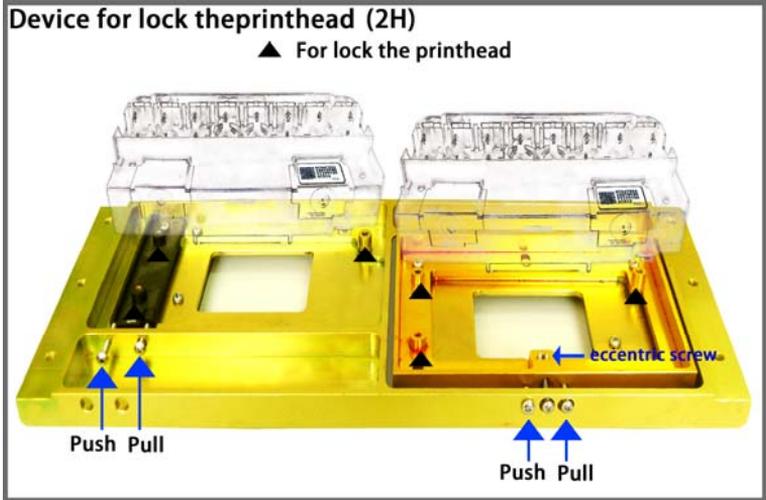
1. Printhead cable installation (Picture one). Printhead cable has upper and lower, and every one has 31P. First insert "CABLE 1" cable, and then insert "CABLE 2" cable. Be careful with cable, or it will cause printhead short circuit.
2. Put printhead in slot of carriage, and three screws to fasten it. See picture three.
3. Connect print head cable with print head board. "CABLE 1" cable should connect with the appointed interface on printhead board. "CABLE 2" is the same. See picture two.
4. Any question, please confirm with Wit-Color factory or distributor.



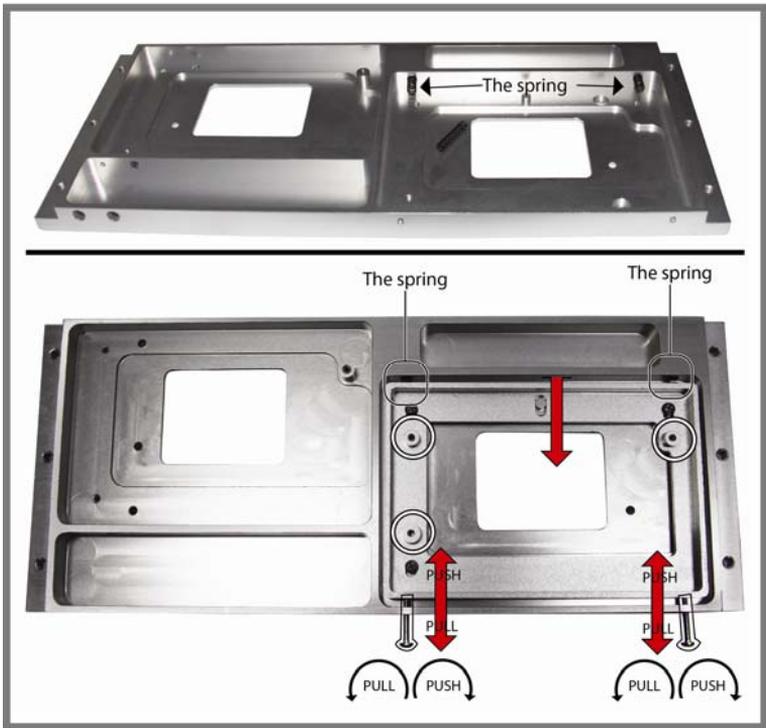
Picture one



Picture two



Picture three



New version

After installation, move to next step.

How to install cleaning solution and ink.



1. **install some cleaning solution to clean the tube.**
2. **install ink.**

Please read carefully to ultra9000 printer testing.

Chapter three Printing (Printer operation and inspection introduction)

Software guid: include software installation and operation introduction

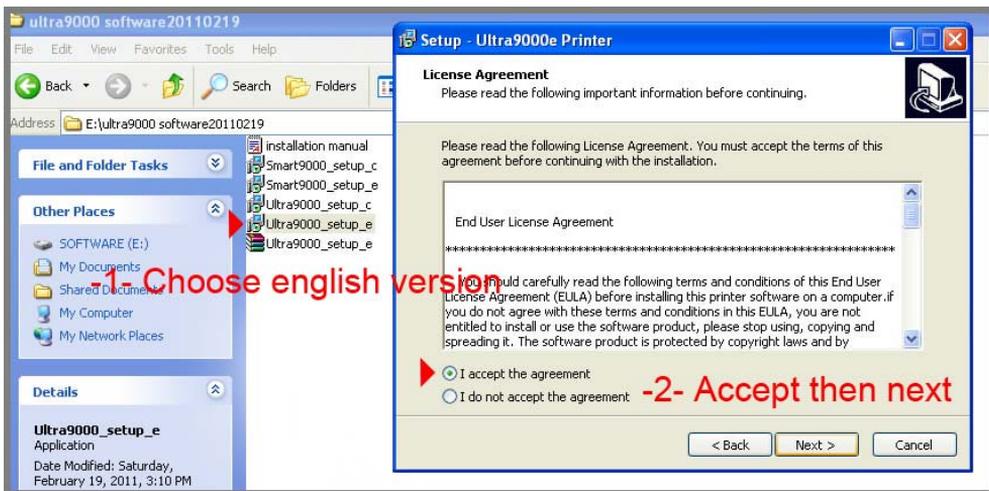
One、Software installation:

(There are two sets of CD in spare parts package: 1、witcolor ultra9000 software and USB driver. 2、RIP software of Maintop.)

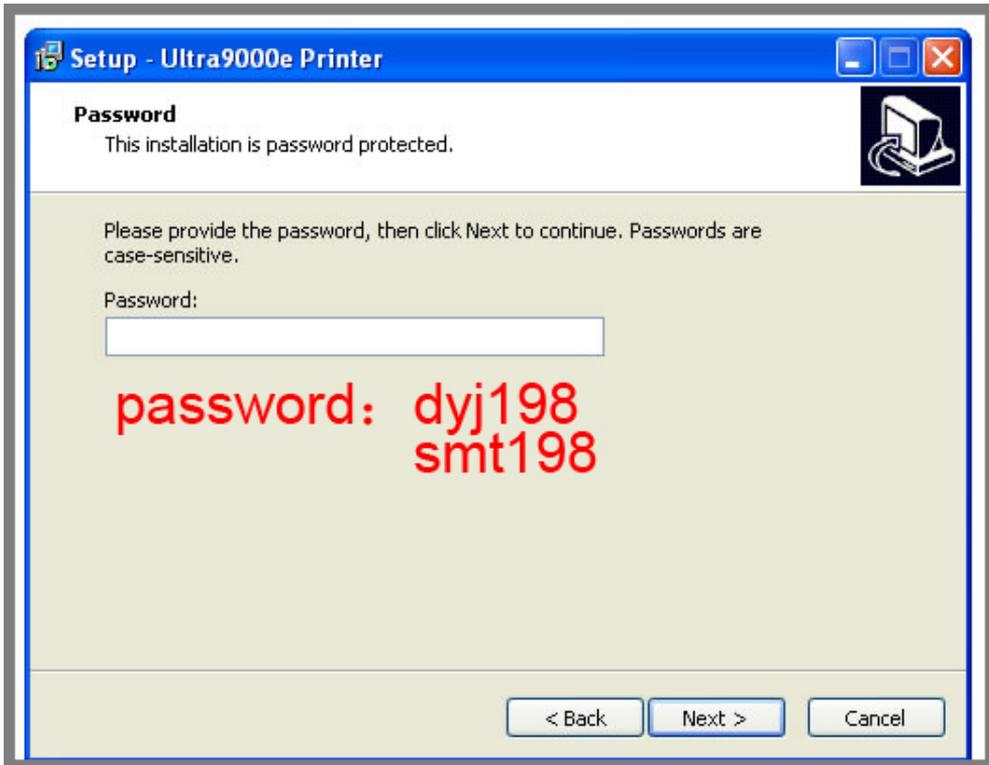
1. Put witcolor CD into computer device.
2. Connect USB cable to computer's USB, and open the CD to choose software.

See picture 1

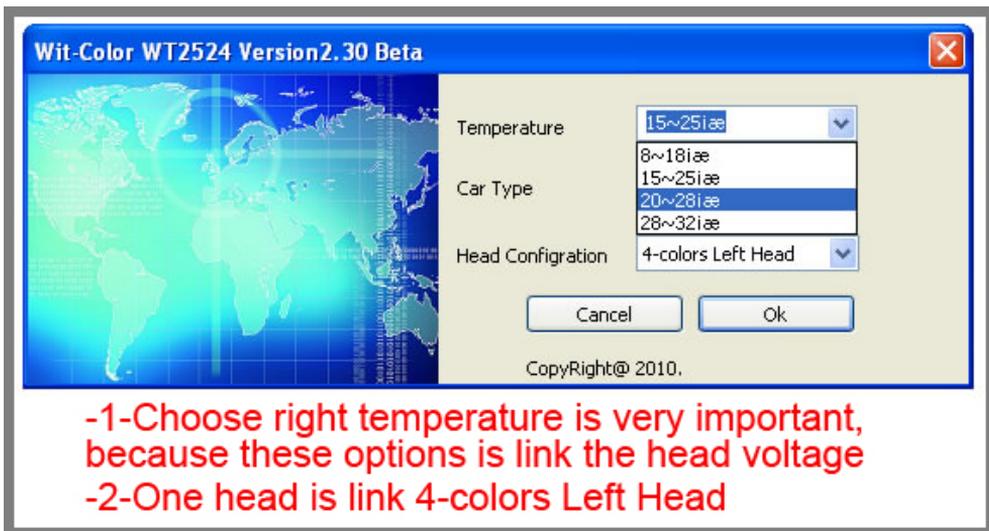
3. Install the printer software, the password is: dyj198 or smt198. picture 2
4. Open software, and choose the temperature. the right temperature is important. Picture 3
5. Power on the printer. the PC will find the USB driver. Picture 4
6. Install the USB driver consult the picture 5.6.7.8



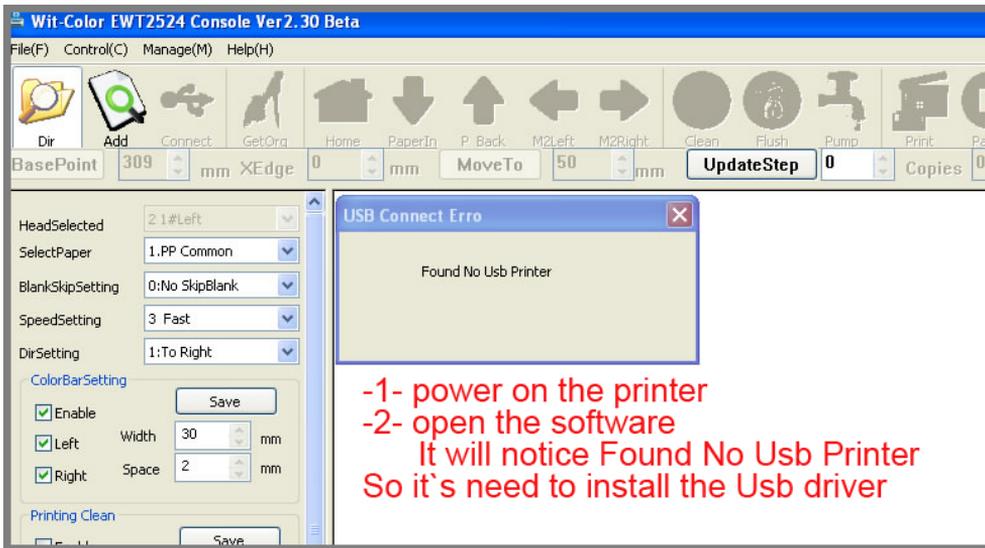
Picture1



Picture 2



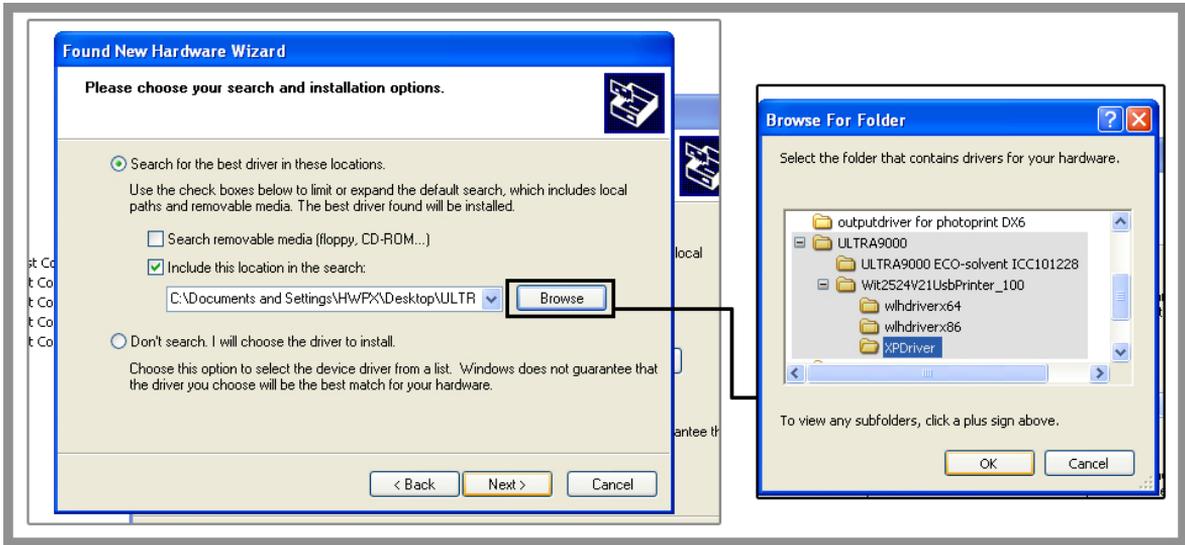
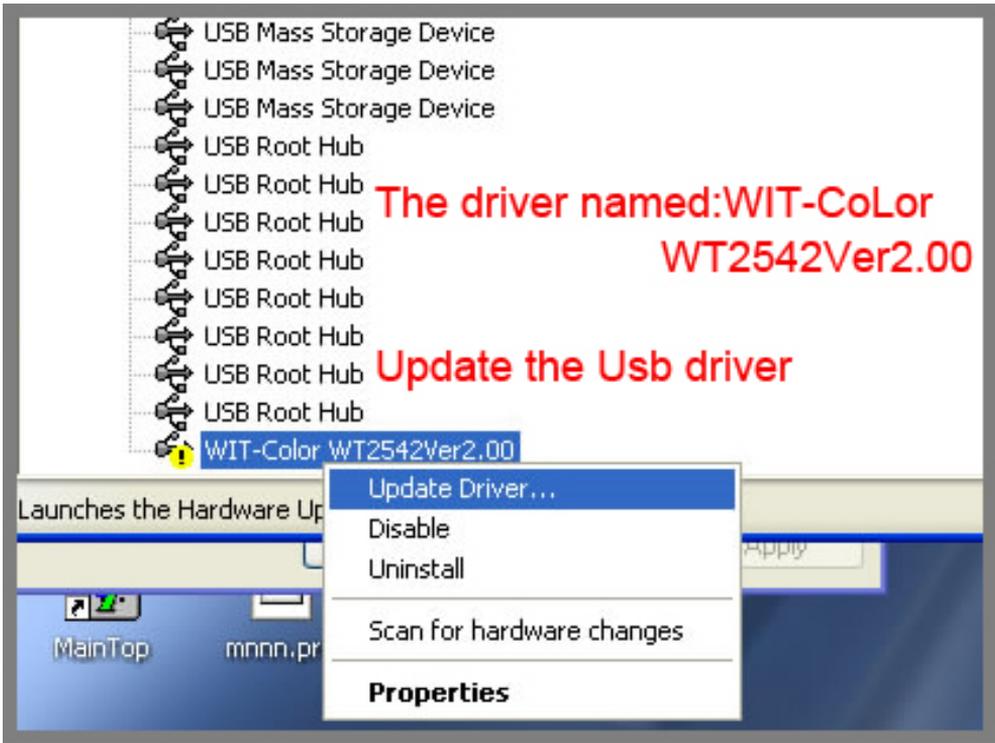
Picture 3



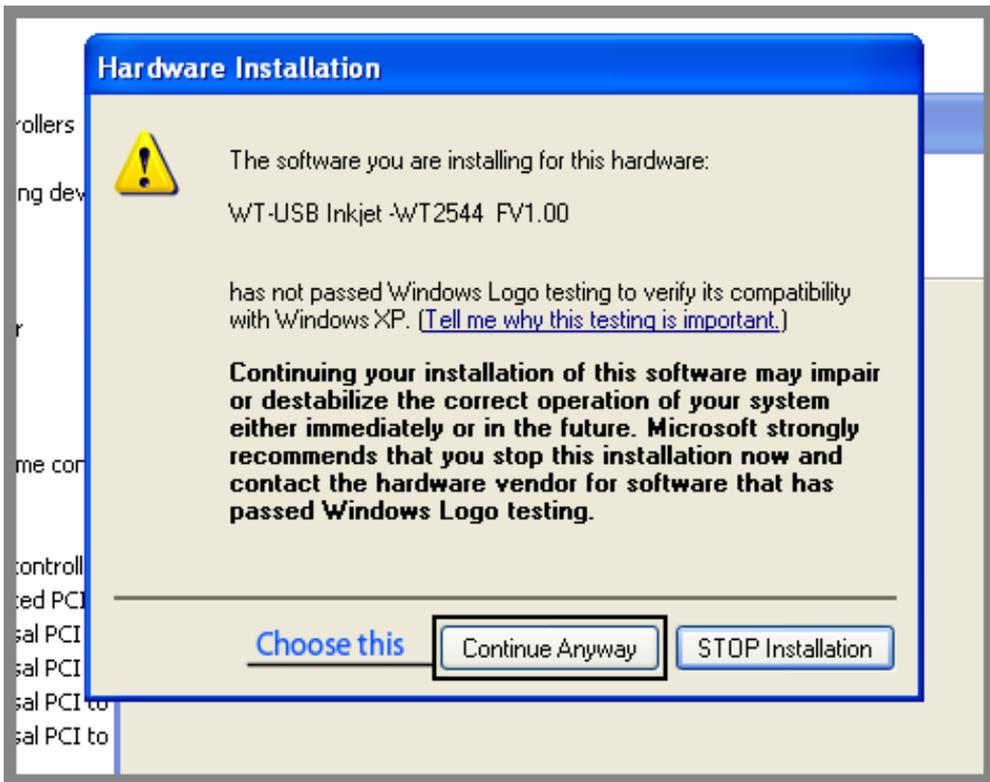
Picture 4



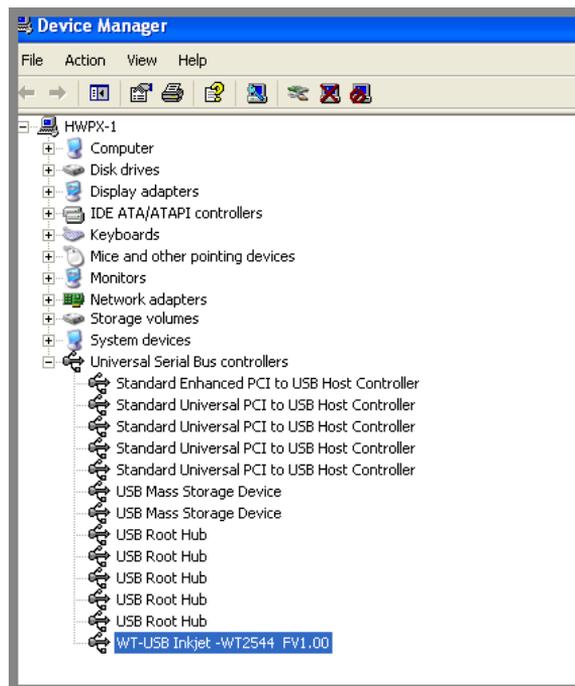
Picture 5



Picture 6



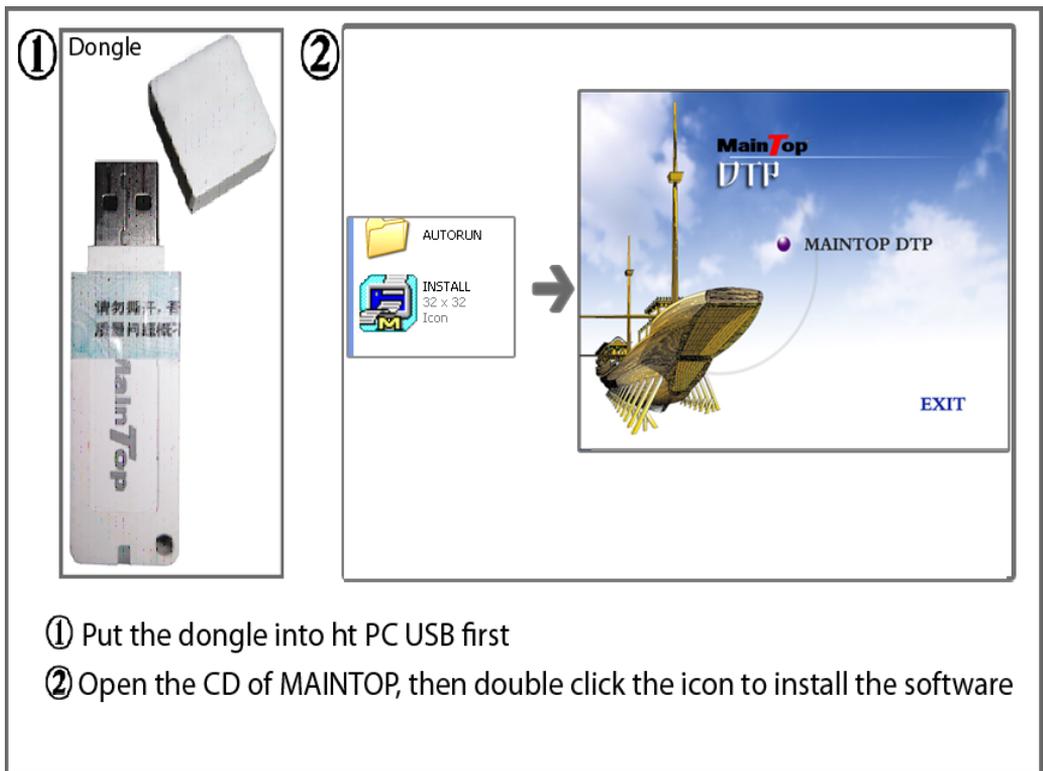
Picture 7



Picture8

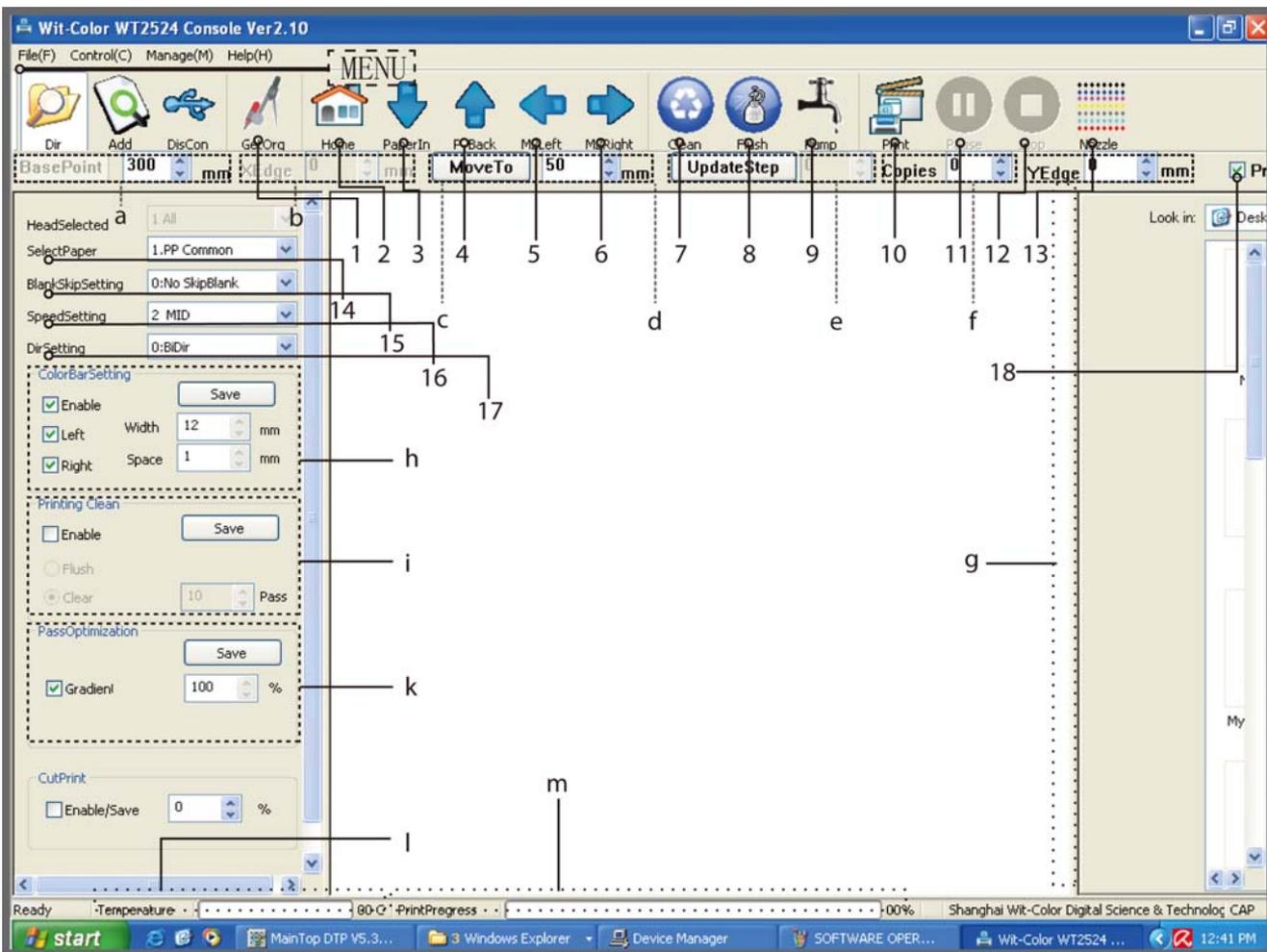
Maintop software installation

1. Put dongle of Maintop into computer USB. See picture
2. Put Maintop CD in computer device, and double click icon, the installation program will appeared. (If your computer has anti-virus software, please close it.)
3. Maintop installation interface:

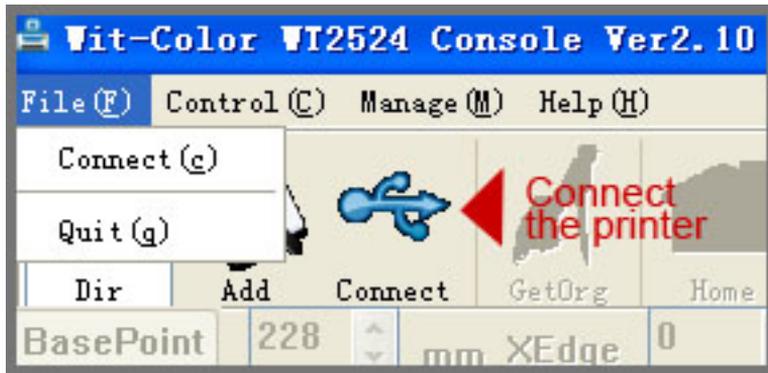


First install Maintop DTP v5.3, and then install other documents based on your requirment.

Two、 Software guides



Menu bar:



“Document”: include " open file" "new function".

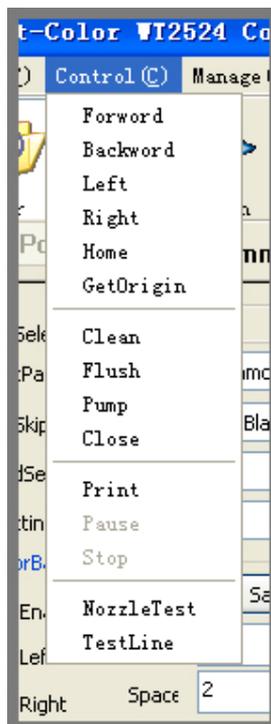
Choose “open file”, it will show “g” area. “g”

“Console”: include operate the desktop function.

connect\disconnect: USB cable to connect computer and printer.

Turn on printer, after " self-testing", printer could operate.

(☆) Self-testing: Turn on printer, mechanical parts and boards will be self-testing.



“Configure maintenance”: Engineer Setting



Click equipment management to enter software and printhead information

“**Help**”: About Ultra 9000 information

Operator Interfaces:

1-“GetOrg”the fuction is set the workpoint (basepoint) -where the printer start to print.you can use the “5””6”move left or move right, the car will move.find where you want to print.then click the “GetOrg” the car will come home automatic.

2-“Home” Click this buttom, then the carriage will go back to original place automatically. If the carriage does not come back, you should click this button.

3-“Paper In” press this botton for long time, the media go forwarder, release this botton, it will stop. The direction key in the key board have the same function.

4-“P Back” the same function like last one, but the direction is opposite.

5-“Move left” press this botton for long time, the suction nozzles will go down, and carriage will move left. The direction key in the key board have the same function.

6-“Move right” the same function like last one, but the direction is opposite.

7-“Clean” click“clean”, the nozzles will be wasted, and the process is: suction nozzle go up to seal up the print head –ink pump work –suction nozzle absorb the ink –suction nozzle go down –blade go up –carriage moves left –blade scratches print head –blade goes down –carriage resets –print head flash –suction nozzle go up to seal up print head. If you can hear nosize of motor, it is normal.

Hint: pay attention carriage position, when carriage is at home, you can clean it.

Clean could solve block print head problem, but more over, the print head will be

damaged. Also pay attention to the position the suction nozzle and printhead maintenance station.

8-“Flush” function: “Flash” divided into four steps: first click: flash within the suction nozzle. Second click: suction nozzle goes down. Third click: flash in the air. Fourth click: flash finished

Attention: Don’ t observe the print head when flash in the air, or ink will make you feel uncomfortable.

9-“Pump” function, when you click “absorb ink” button, it starts, and click again, it stops. If you didn't use machine for a long time, we suggest you that absorb ink function first, and then clean function. ◦

Attention, “absorb ink” Button has start and stop functions.

10-“Print” Function. Click print, the dialogue will show how many pages you want to print and Y-axis margin. Input how many you want to print, or press down key in the key board, and print.

11-“Pause” when you click “pause” Button, carriage will move to home, and then “pause” Button will change into “continue”. Then three buttons will appear: 1、Clean (7) 2、Continue 3、Stop (12)。 You can press “clean” to clean the print head, and then “continue” to print. Or you can just stop it.

12-“Stop” During printing, click “cancel” can stop printing, and carriage goes home.

13-“Test nozzle” print color swatch to check 1440 nozzles are ok.

14-“Select paper” there are some types of media that you can choose: PP back glue, PP paper, photo paper, lightbox tablets. The type you choose is the same as the media you use.

15-“Blank skip setting” has two options. One is “do not blank skip”, and the other one is X and Y axis have blank skip.

16-“Speed Setting” have high, media and low speed option.

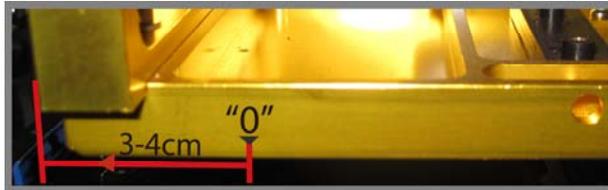
17-“Dir setting” have bi-direction(two way), left and right printing option.

18-“Preview” If you choose RIP before printing, you could check the setting to confirm whether you need to preview or not. Preview can check the image quality, but it wastes some time. After preview, you can print.

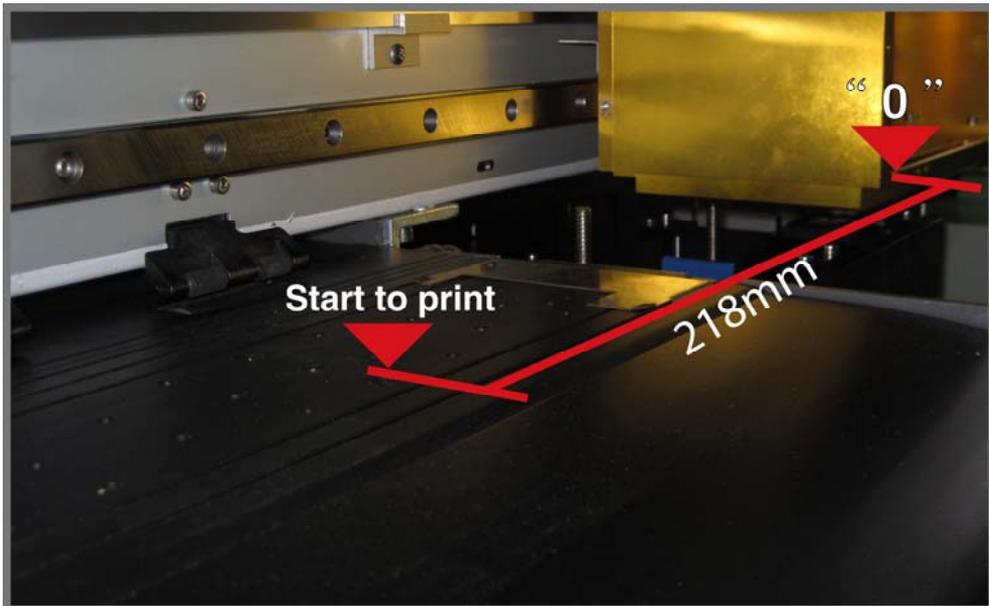
a-“**BasePoint**” Input the value of the workpoint, you could check the carriage location. Like “189” means carriage will start to print in 189mm.

Length unit: mm

About “0” position: When the carriage is back to printhead maintenance, “0” position is 3-4CM left. The error is between 1-2 cm. Like picture:



Working point calculation: From "0" to media edge, measure the working point by ruler. Shown in the picture:



(You could calculate "0" position. For example, the working point is 218, "0"

position is from the media edge to the carriage 218mm.)

b-“X edge” , this function is shielded.

c-“Move to” Like if the position is “189mm”, and you want to move 30mm to left, then you need to input”189-30=159mm”, then click “move to” botton, click “home” to reset the original location.

d-“Update step” during printing, you can update the step. If the grinning of white ground happen, decrease the stepping value. If the banding line happen, increase the stepping value. Please see Chapter five.

Attention: Please check chapter 5, how to increase and decrease value.

e-“Copy” If you want to copy more than one time, so after RIP, input how many you want to copy, like 20.

f-“Y edge” During copy process, you can set the number of margin between two images. Then click “ Y edge” to confirm.” Maintop software do not need this function.

g-“Search range” Find appointed documents during printing.

h-“Color Bar Setting” function can set color swatch’s parameter. “Enable” can choose whether you need to set or not; “Left” to set the width of color swatch; “Right” to set the distance between color swatch and image; “Width” to show the width of color swatch; “Space” to show the distance between color swatch and image space. After changing the data, please click “save” .

i-“Printing Clean”. In this function, you have three choices, but only “enable” and “clean” could use. After “Clean” you could change in period. And then “save”.

k-“Pass Optimization” –Gradien(the fault-tolerant feather)function, you need to input the number: 0-100. If you donot choose, it will affect printing. You can not change the number during printing.

l-“Temperature” this function has not opened yet.

m-“Print Progress” is to check how many percent finished.

Please be familiar with above software control

Three、 Control panel instruction

Function: You can use control panel without computer. Functions are carriage movement, media feeding, suck ink, flash, clean and print color swatch.

Control panel:



- 1、 **Connection:** the control panel connect with printer, or computer connects with printer. Press once, the control panel connects with printer. Press twice, computer connects with printer.
- 2、 **Reset:** Press once, carriage returns to printhead maintenance.
- 3、 **Testing:** To test nozzles' status based on color swatch.
- 4、 **Stop:** Stop printing.
- 5、 **Cleaning:** The function is the same as "cleaning" in the software.
- 6、 **Pause/Start:** Pause or start during printer
- 7、 **10 Up and down key:** Make the media go forward and backward.

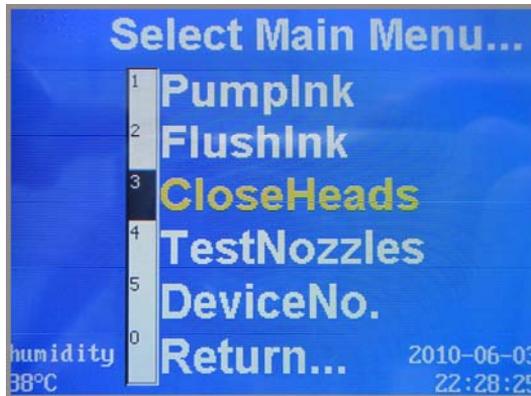
8、 9 Left and right key: Make the carriage moves left and right.

11、 Menu: Include suction nozzle, flash, cover printhead, nozzle testing and get back.

12、 Confirmation/Starting point

Set working point: 1.Move carriage.2Click Confirmation/Starting point.

Carriage returns back to printhead maintenance



Picture One

Four、 Maintenance—Testing

Software testing

1: Open “Manage” to choose “Engineer Model” .



Menu are: “ Carriage/Head Adjustment” “Speed Setting”“Software

Adjustment”“Paper Pass Step Adjustment”“Net Setting” “Driver Setting”.

Operation process:

Step One: Mechanical adjustment. Make suction nozzles and printhead maintenance are at suitable position.

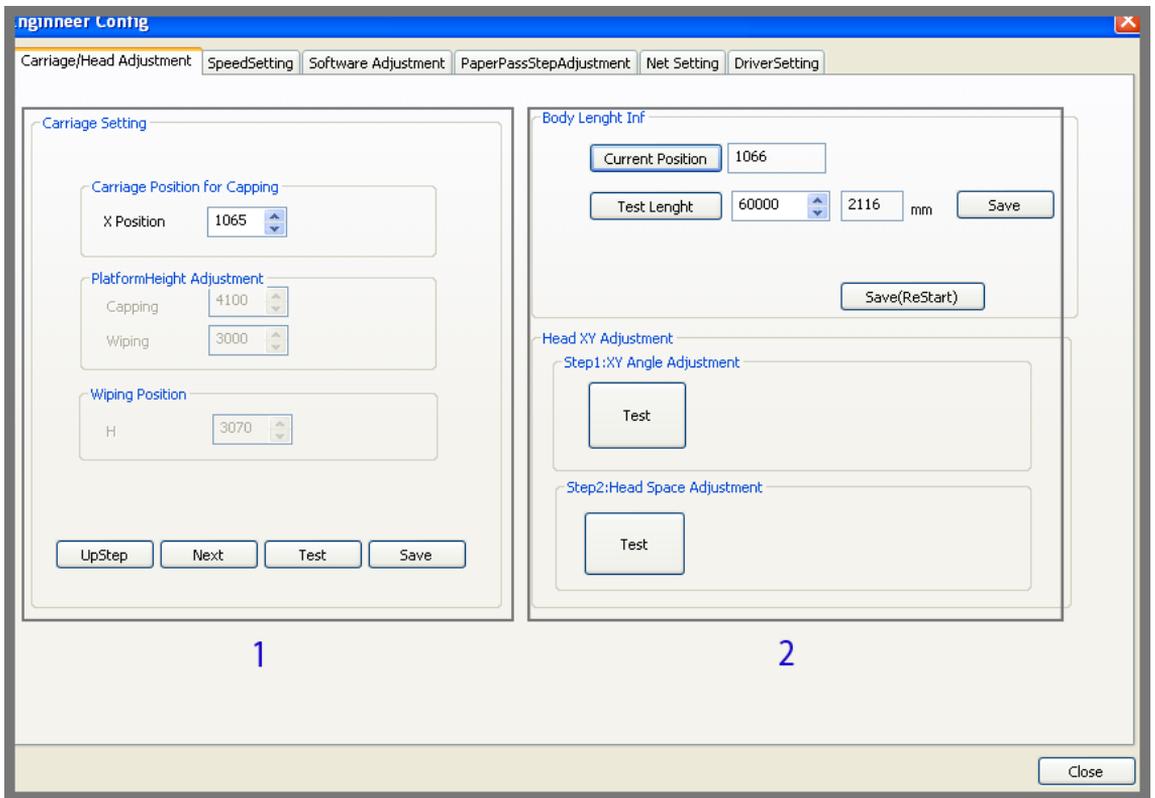
Step Two: Speed adjustment. To adjust the stay period of every pass.

Step Three: Feeding adjustment. To adjust the feeding of every pass.

Step Four: Software adjustment. To adjust bi-direction printing of every pass.

If it's your first time to operate printer, please follow above steps.

Maintenance:

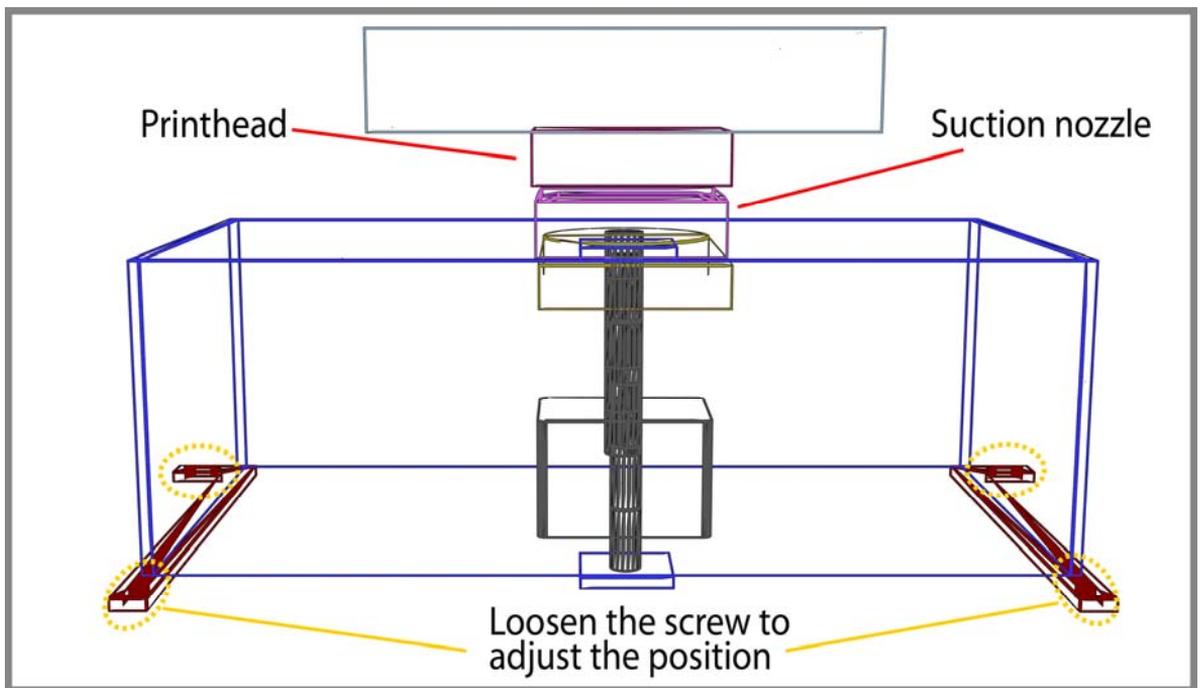


“Adjust the printhead maintenance station and position fo suction nozzle.”

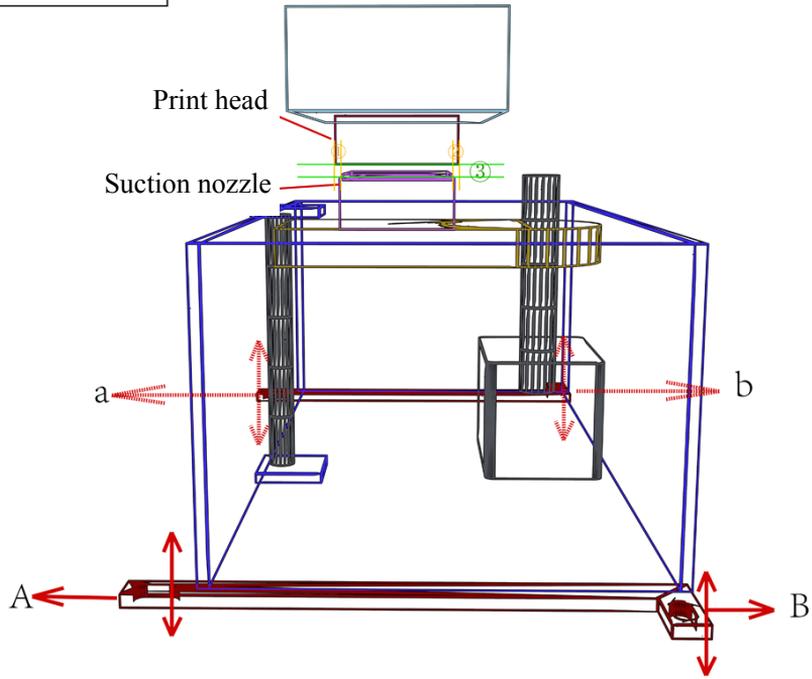
This part contain two sections, I : **Manual adjustment**, II : **Software adjustment**.

I : Manual adjustment

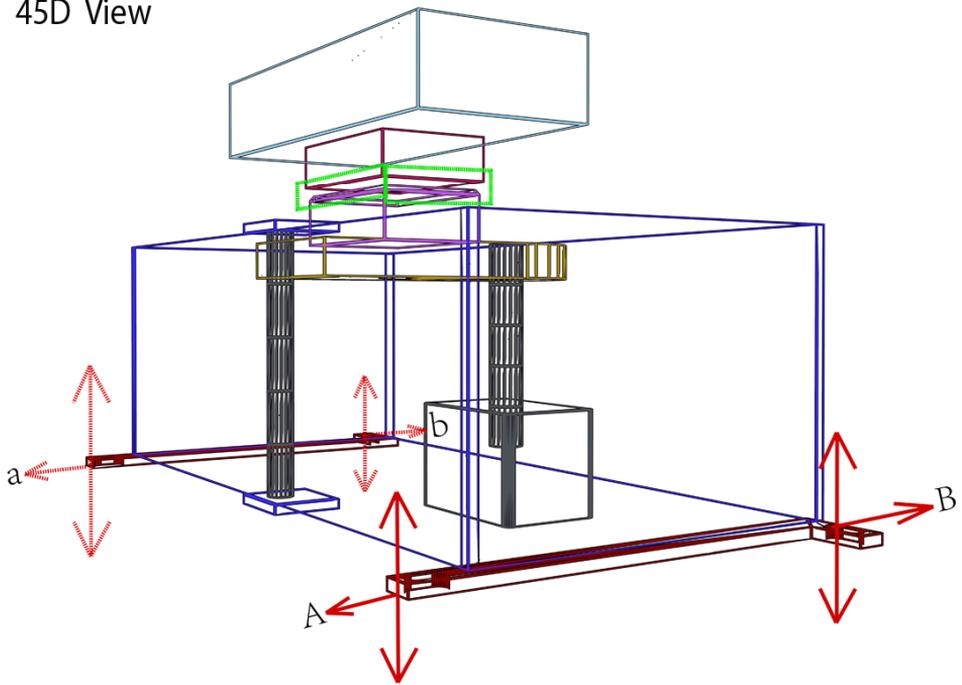
During transportation, the position of suction nozzles will move, so you need to move to the appropriate position. Show in the picture:



Right view



45D View



Based on "software adjustment", you could adjust the position of suction nozzle.

Printhead installation Notice:

Before installation, lower the suction nozzle and blade's height. See next chapter.

Based on the software to adjust the height of suction nozzle and blade, avoid peaking the printhead. The suitable height is: suction nozzle height is 2000; jetting height is 1200; blade height is 1200.

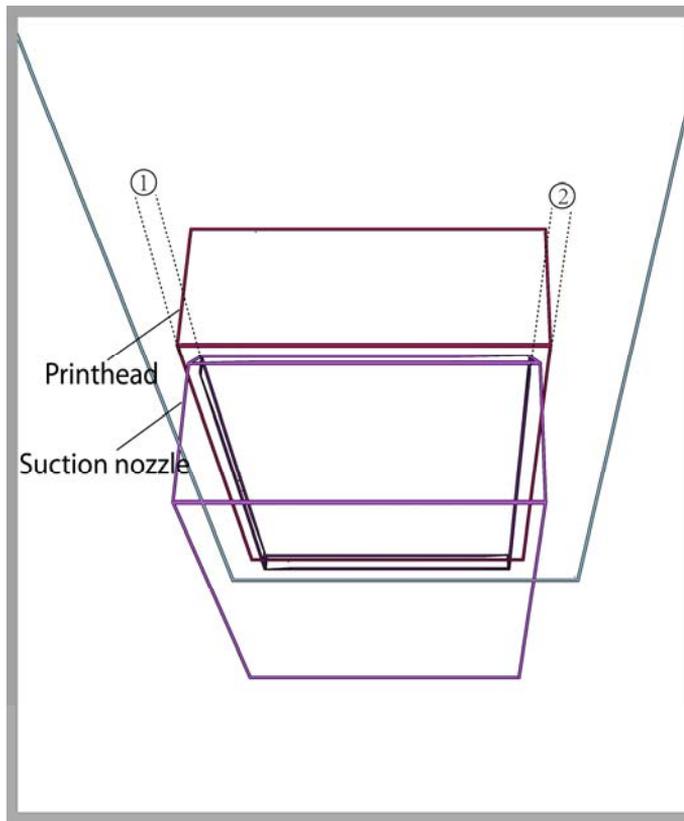
One、 Observe print head and suction nozzle

After installing printhead, to increase "printhead maintenance station" and "suction nozzle" height. **Attention: the stand on suction nozzles do not touch print head.** Testing value: 3400. (Different model, different value. Please don't increase the height too high.)

The best observe height: Suction nozzles just touch print head.

Observe the position, if ok, please move to the next Software adjustment.

To check suction nozzle and print head position, suction nozzle should leave 1mm away from print head based on " software adjustment".



Picture two

Two、 Adjustment case:

The position of suction nozzle and print head should be equal and parallel.

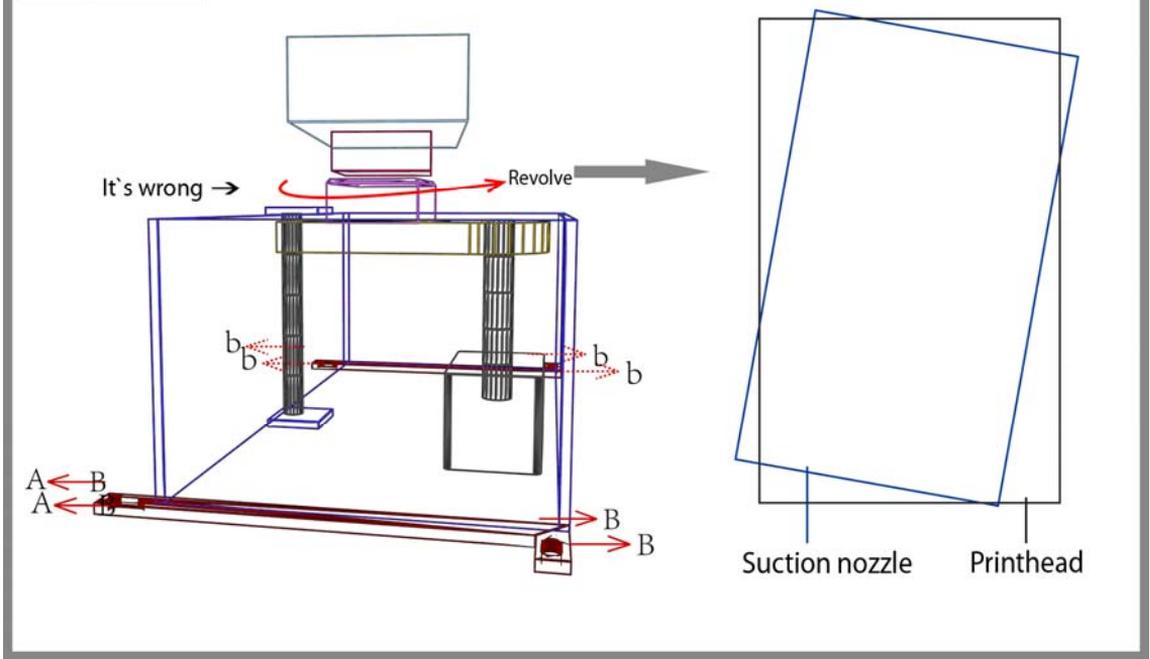
①② should be parallel and have same distance in front and back. ③the height is parallel.

①②case: If suction nozzle and print head are not parallel, lose four screws on print head maintenance station to move to the suitable position.

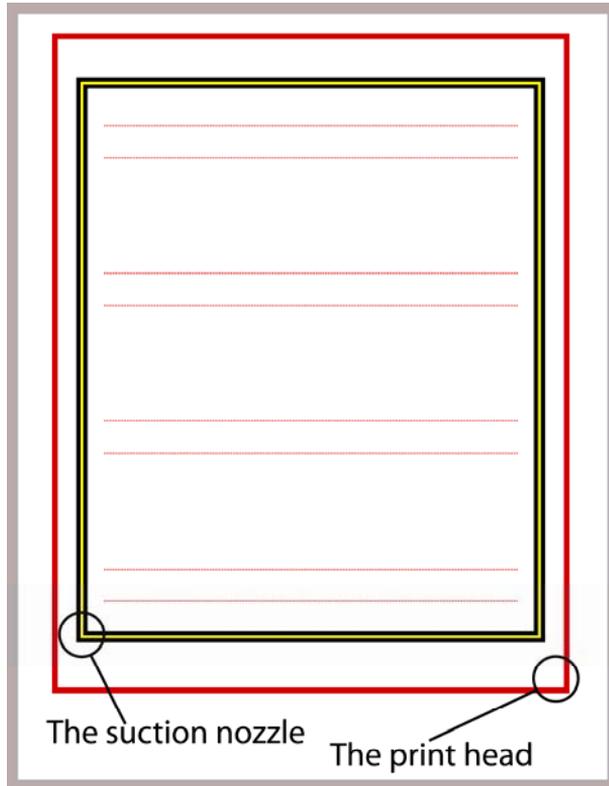
③case: If the height of suction nozzle and print head are not parallel, loss four screws, and block up the lower position. See picture one.

Slope adjustment case:

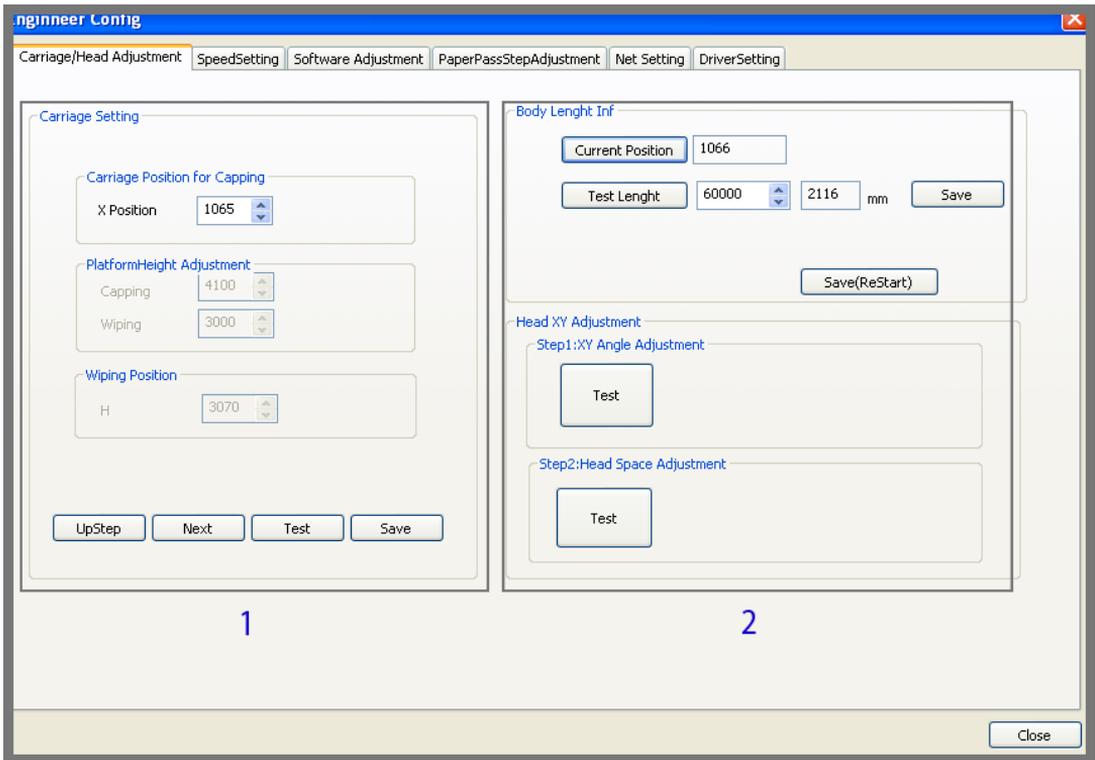
Example



Right position:



“ II Software adjustment”:



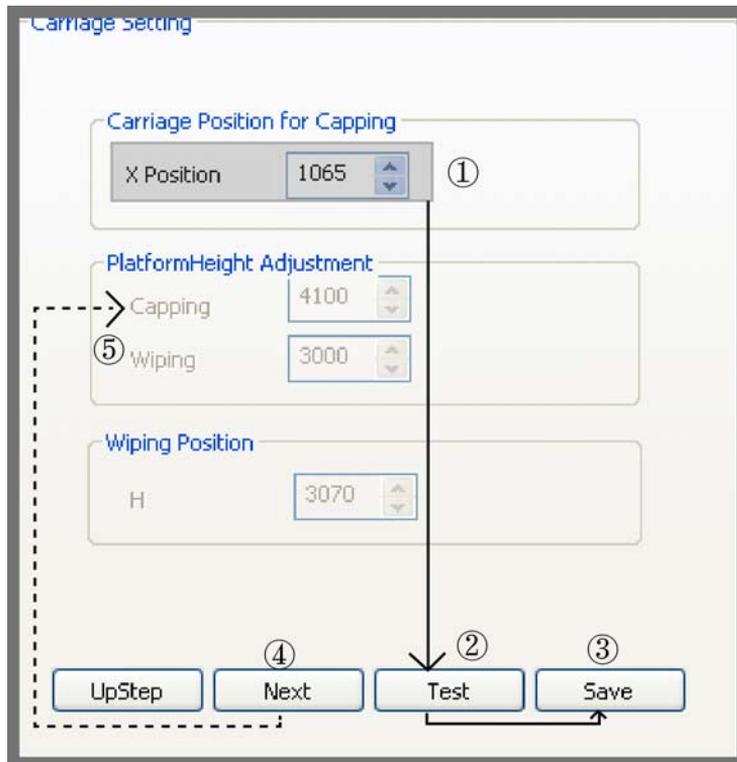
Part“1” To adjust suction nozzle and blade.

Part“2” To adjust the horizontal and vertical position of print head.

(Attention: After “physical adjustment”, then you can start to change “software adjustment” .)

Part“1”: include: “Carriage Position for Capping”、 “Platform Height Adjustment” and “Wiping Position”.

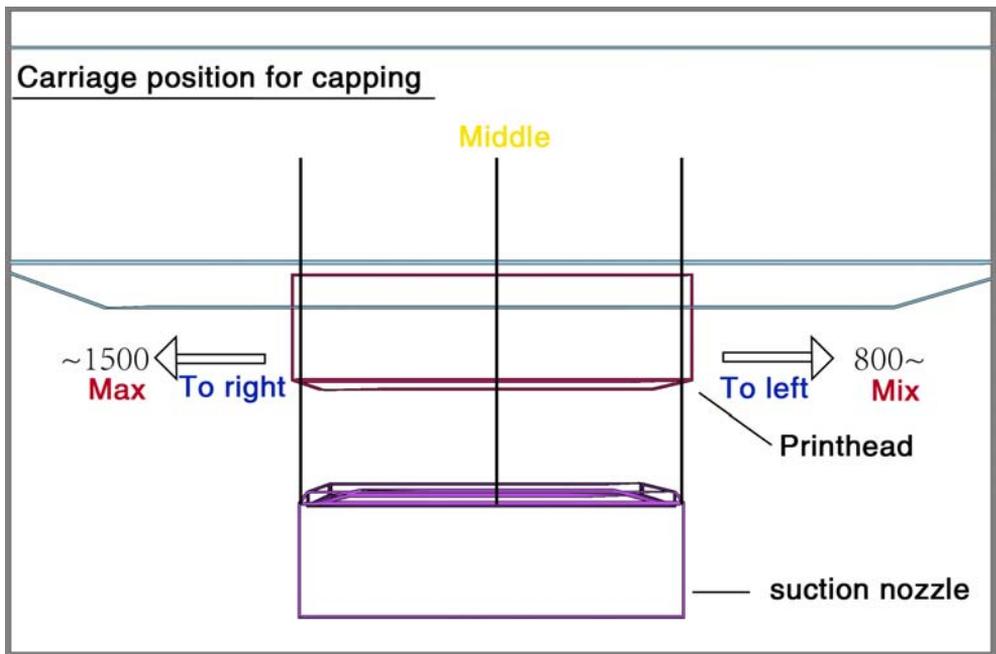
“Carriage Position for Capping”: to adjust the position of printhead and suction nozzle. You need to set a number, so the carriage and suction nozzle will be at the same place.



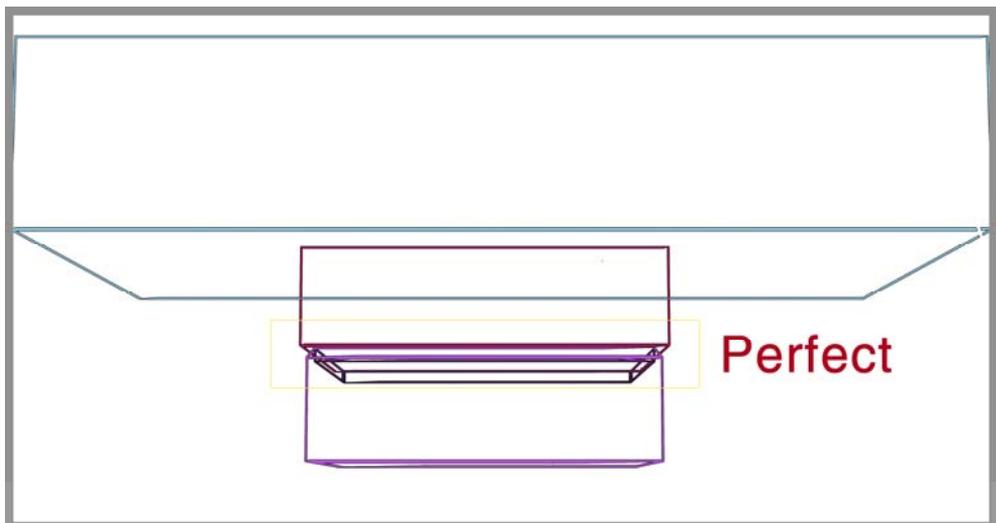
Parameter setting and save are①②③④, increase or decrease the number, and test. After testing, click “save” .

About" testing" key: Do not increase the value too much.

If increase the number, the carriage moves to left; If decrease the number, the carriage moves to right.



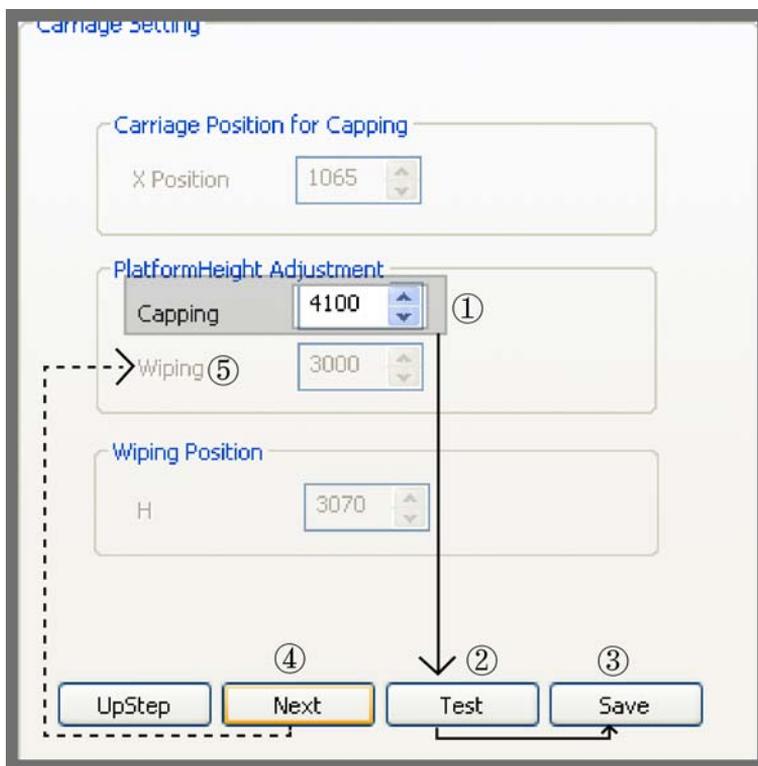
The proper position:



After adjusting, please save.

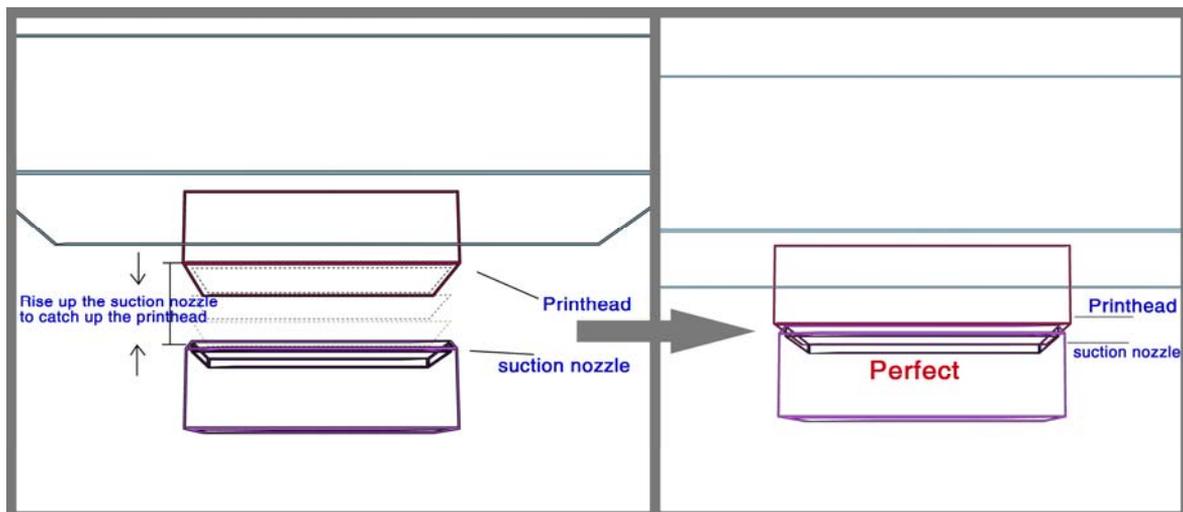
“Suction Nozzle(Capping) Height Adjustment”: this function have two parts, one is suction nozzle height and spit ink height. Suction nozzle height is the how far the suction nozzle can go up. The number is bigger, the suction nozzles go higher. (Suction nozzles move too high will damage the print head) Testing

value: around 3400



Process: ①②③④。 (The number should be below 100 in testing.)

The proper situation: (Suction nozzle and printhead are coincident.)



After adjusting suction nozzle height, you could test based on pump function.

You need to use the cleaning solution to wash the printer follow the steps.

Attention: water based printer only adopt water based cleaning solution,

1. To install ink: The arrangement of sub tank is YMCK, and insert the ink tubes to ink bottle. (Don't open the cap fully.)

The ink pump will pump the ink until the sub tank is full.

2. Put waste ink tubes into waste bottle. (waste ink tube connect with ink pump)

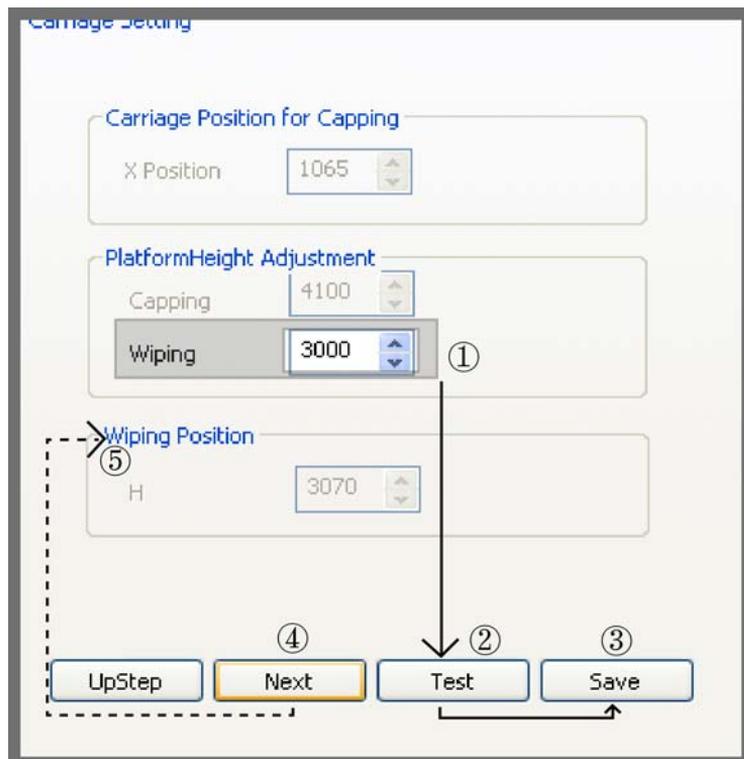
3. Click "pump" in software. After 5-10s, the ink will go to ink sac and print head.

If not, please adjust suction nozzle and printer.

“Wiping”Flush height:

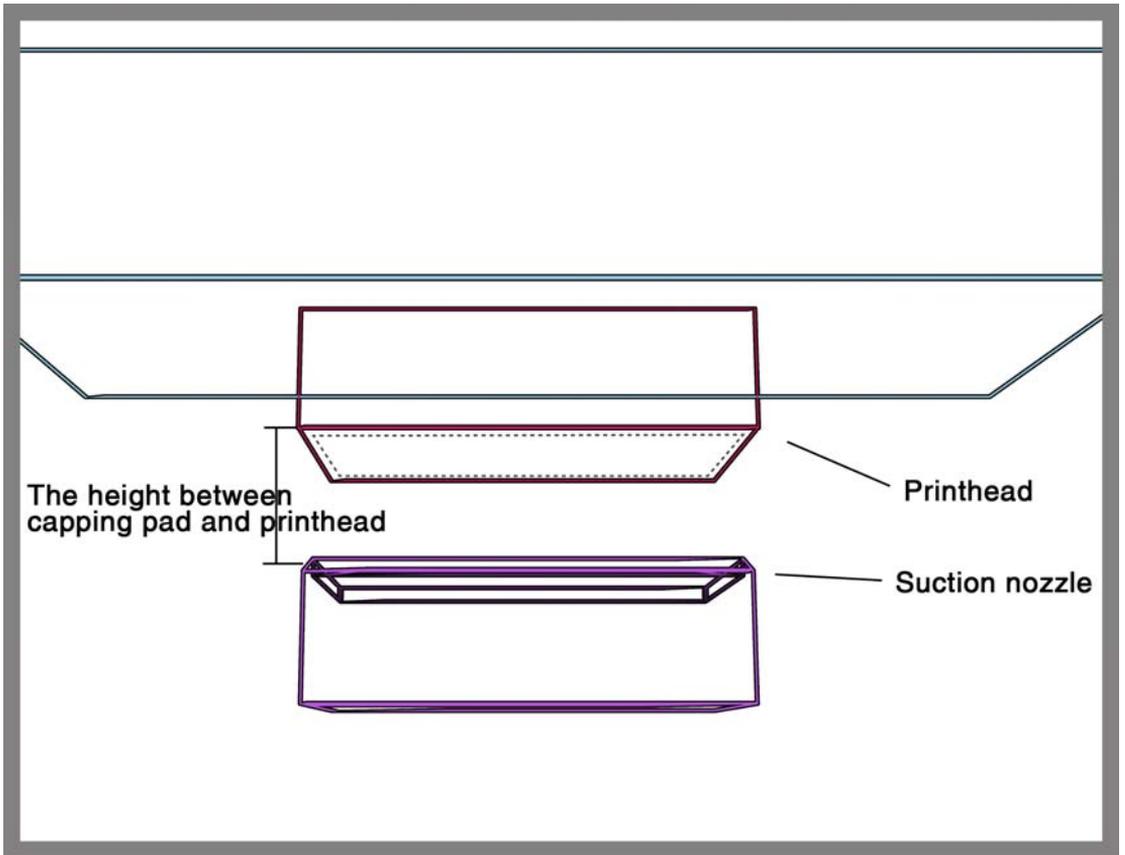
The height between capping pad and printhead. The number is small, the capping pad moves down. (The number value of “ink jetting height” should be higher than “capping pad height” .)

Testing value: 1000。

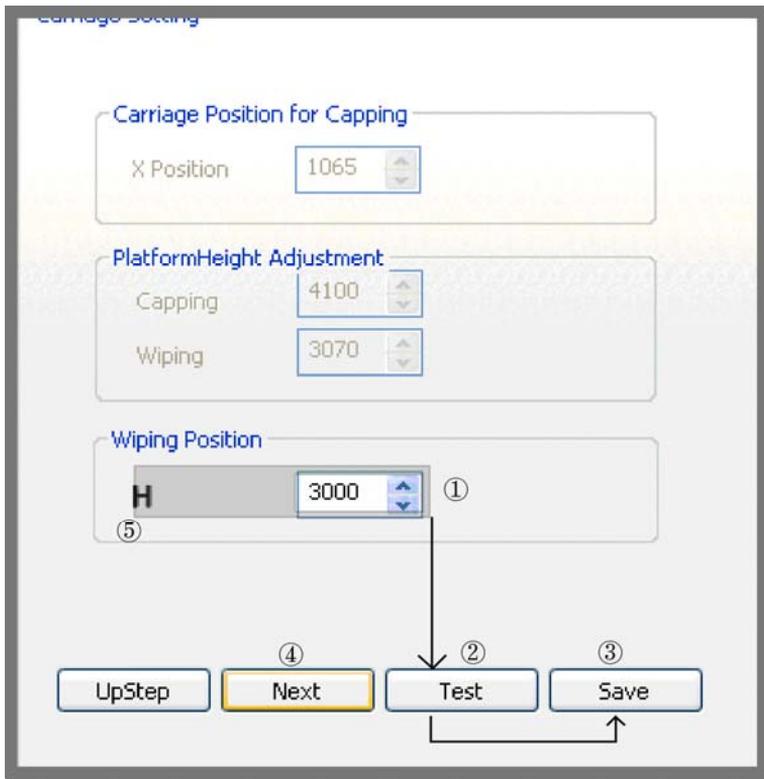


Process: ①②③

Ink jetting height example:



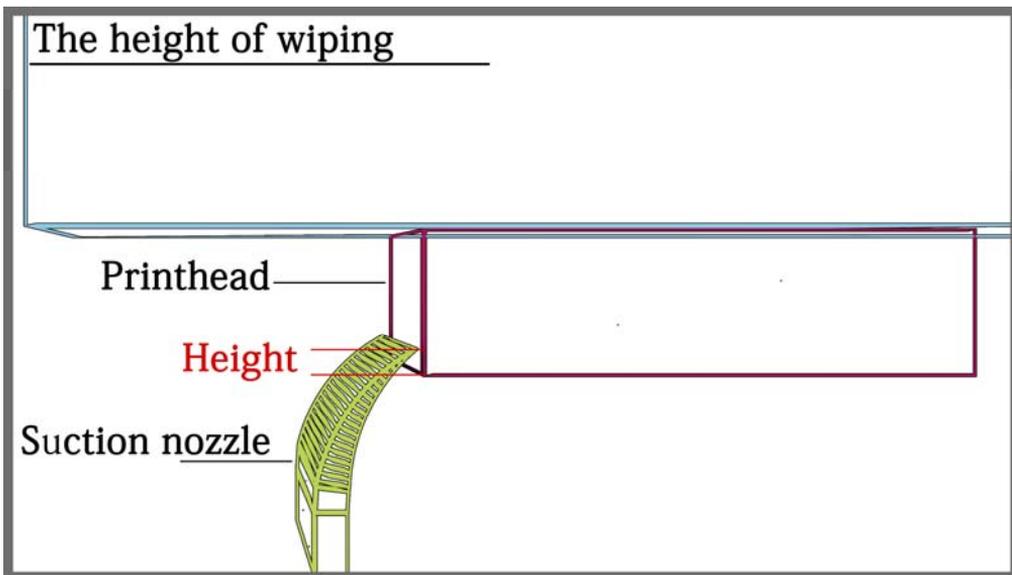
“Wiping Position”H:



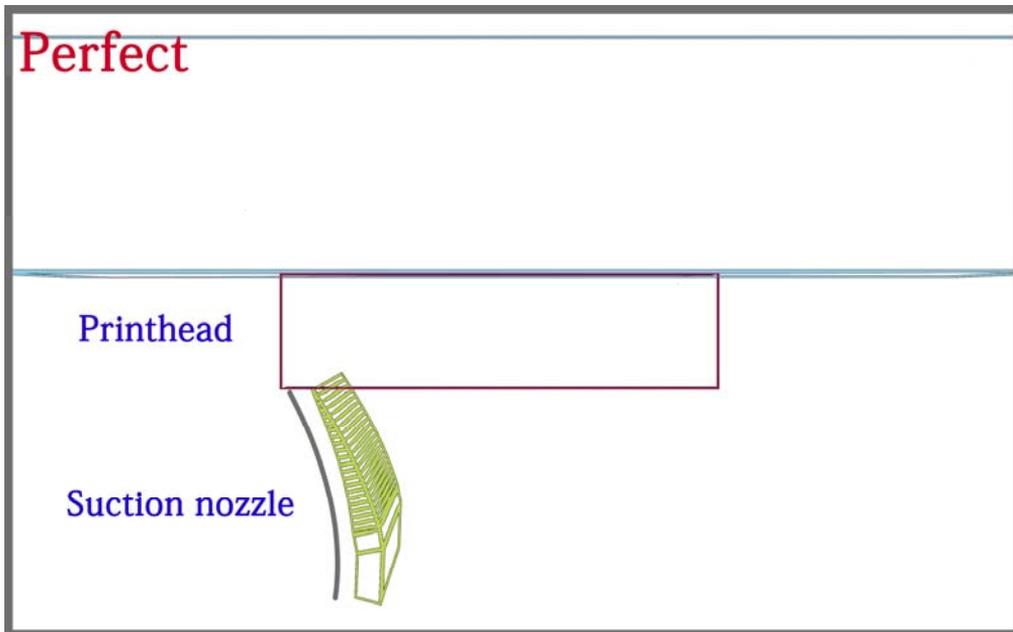
Wiping position: is the distance between wiping and print head during cleaning.

The edge of wiping should be 2-3mm higher than print head.

Testing Value: around 2600



The best state is reversed bending:



After setting wiping height, please click " clean" to waste the print head.

The print head will be in good performance after cleaning, and you can check the state of heads.

For new printer, you could pump ink several time, and every time should be 5-10s, and then clean.

New print heads will not pump properly, but during printing, the print head will be smooth.

Part “2” to adjust the horizontal position of print head.

Body Length Inr

Current Position 1066

Test Length 60000 2116 mm Save

DO NOT CLICK THIS PART

Save(ReStart)

Head XY Adjustment

Step1:XY Angle Adjustment

Test ①

Step2:Head Space Adjustment

Test ②

One. Mechanical length information

Default information, do not change.

Two. Print head spacing test

I .setp1: XY position testing- Print head horizontal calibration

Print head horizontal calibration: to adjust horizontal position of print head.

Print head must install horizontally.

Requirements: Black, Magenta and yellow should be in same line.

The following picture show X-axis horizontal calibration:

If your printer is One head printer:

Color swatch only has one print head:

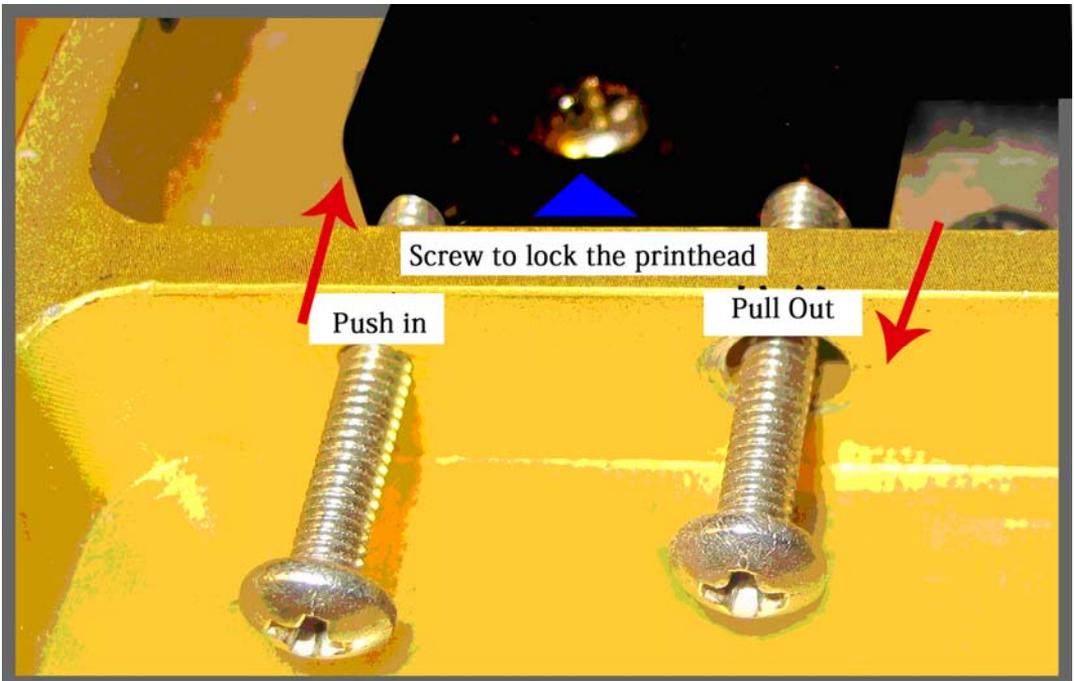
Single print head: adjust Magenta-Black and Yellow-Black are in the same line. Show in the picture

Contraposition theory:

Ink Order: K C M Y(from left to right), Y is fixed point, and K match Y, then the print head is parallel.

Adjustment way:

There are two screws on carriage: pull screw and push screw. When black line is above magenta line in picture 1, loss left push screw, and tight right pull screw; When black line is below magenta line, loss right pull screw, and tight left push screw. See picture



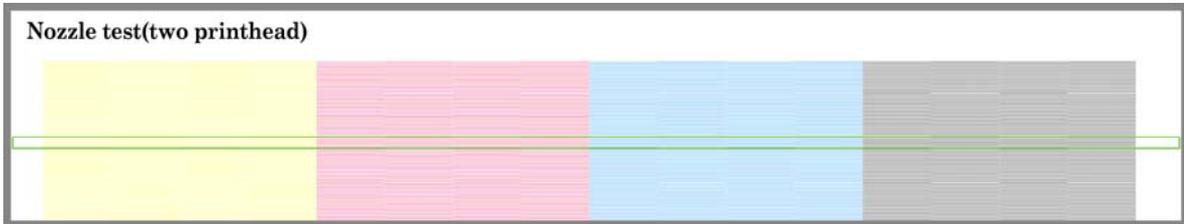
Print head calibration screw

If your printer is Two print heads printer

First adjust print head one overdyer, and then adjust print head two.

5. Adjust Magenta-Blank and Yellow-Blank in one line of print head one.
6. The overdyer of print head 2 should be next to print head 1.

Ideal state:

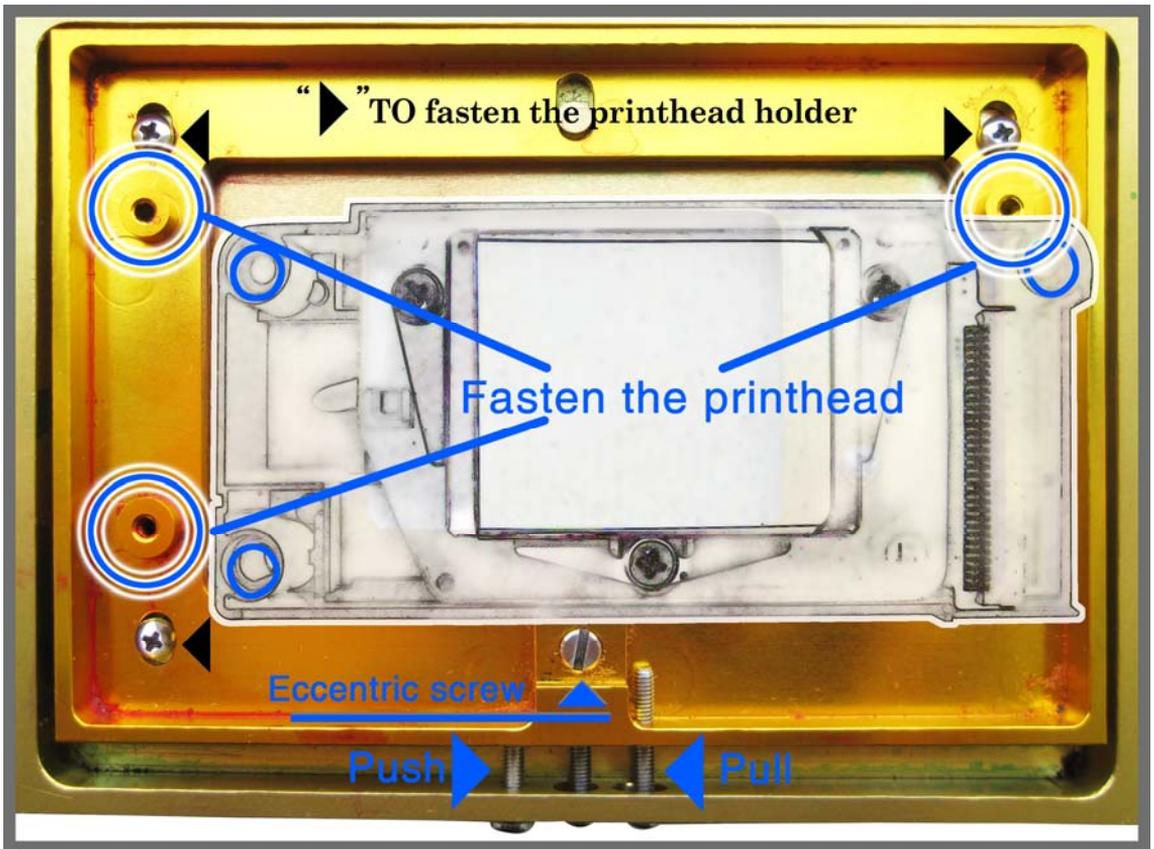


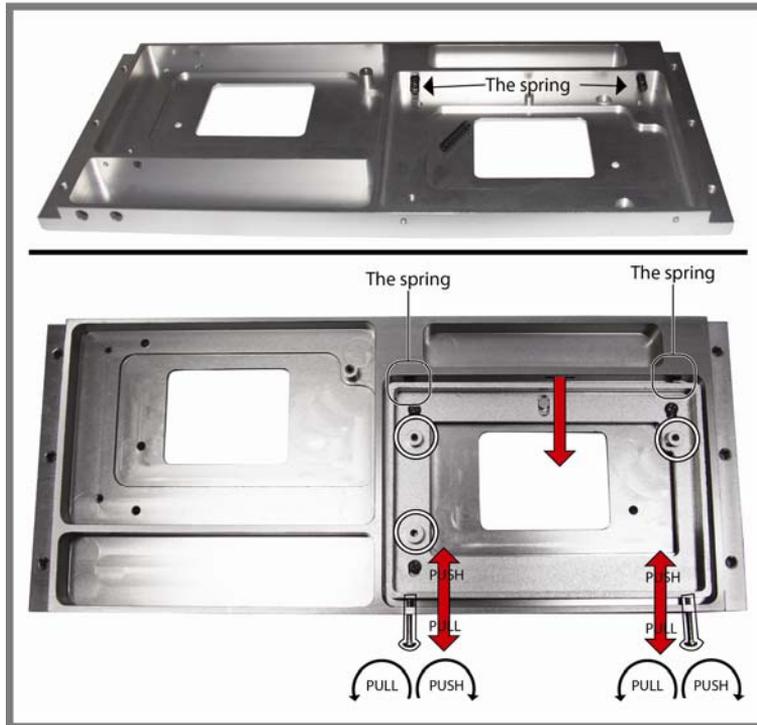
Enlarged view:



Two print heads- Right side print head (see below):

Same way as single print head, attention: right print head could move.





New version

II.step: Print head Y-axis testing

The same as " print head horizontal calibration"

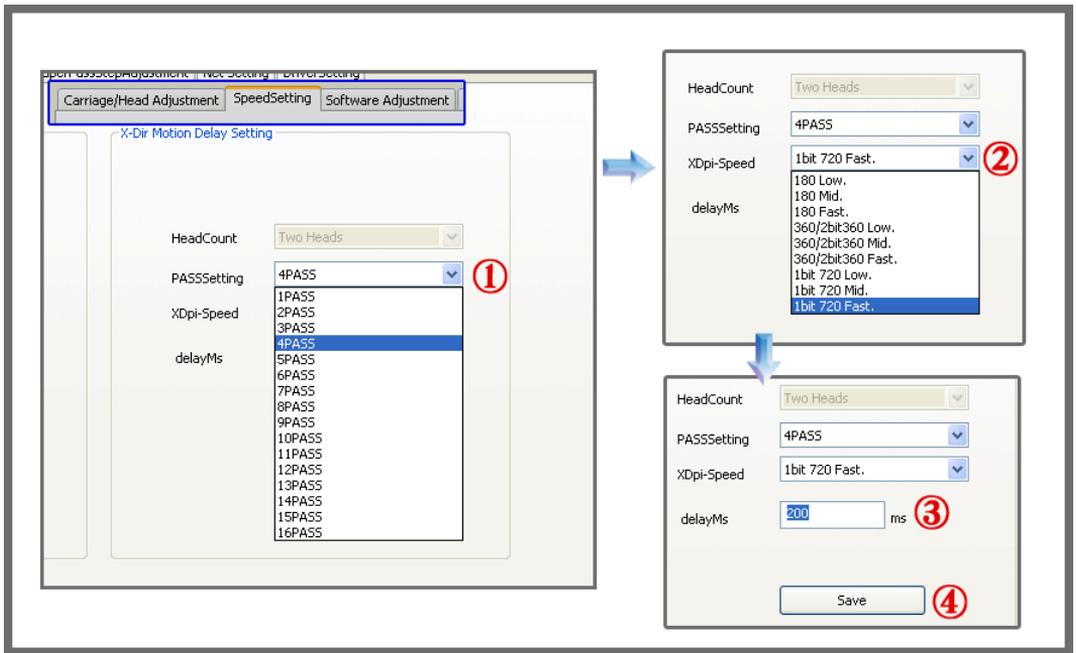
“Speed setting”:

Speed setting is to set carriage stop time for every pass.

Adjustment way:

1. Choose different pass number: mainly 4, 6, 8 pass
2. Choose different DPI speed
3. Input stop time
4. Save

(Change every stop time for different DPI speed of 4, 6, 8 pass)

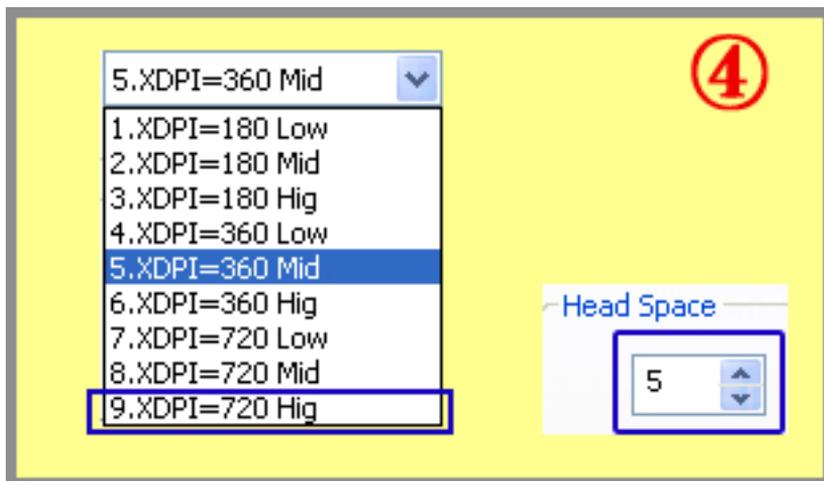
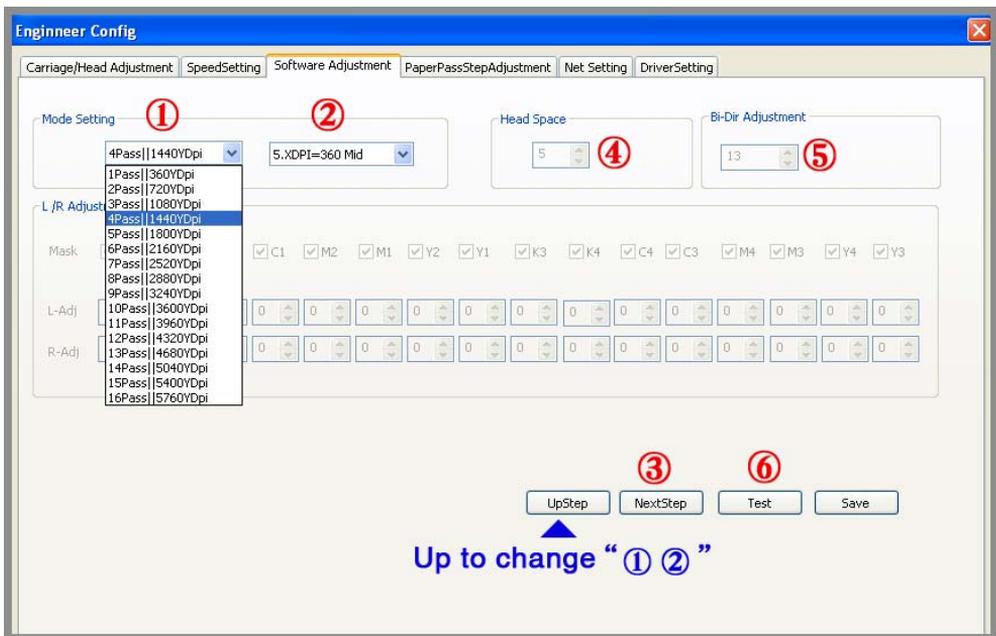


Stop time is short, the speed will be faster, but error will happen. Testing value: 150ms

Main parameter setting:

	4PASS	6PASS	8pass
180 Low speed	200 ms	200 ms	200 ms
180 Medium speed	200 ms	200 ms	200 ms
180 High speed	200 ms	200 ms	200 ms
360 Low speed	200 ms	200 ms	200 ms
360 Medium speed	200 ms	200 ms	200 ms
360 High speed	200 ms	200 ms	200 ms
720 Low speed	200 ms	200 ms	200 ms
720 High speed	200 ms	200 ms	200 ms
720 High speed	200 ms	200 ms	200 ms

“Software calibration”:

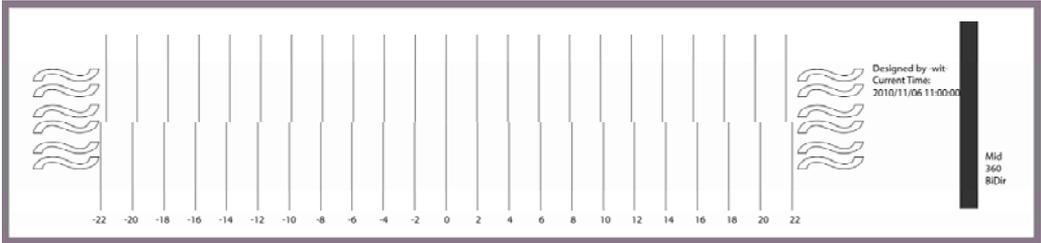


720Hig is for adjust two head space

To adjust software calibration of every Pass.

- ① Choose printing speed and resolution, like “4PASS”, “6.XDPI=360 High speed calibration”, and then click next.
- ② Choose the distance between two heads. Function: To adjust the distance between two heads by software. The printing lines should be perpendicular to 0. (Only two heads printer has this function, also in 720 high speed can active this function.) One head printer can go to next step

③ Go to bi-direction calibration. Click "testing", then print color swatch.



Color swatch function:

Two lines should be align at "0" position.

For example:

Showed value: 15, the perpendicular line align at "4" position, then 15 plus 4 is 19.

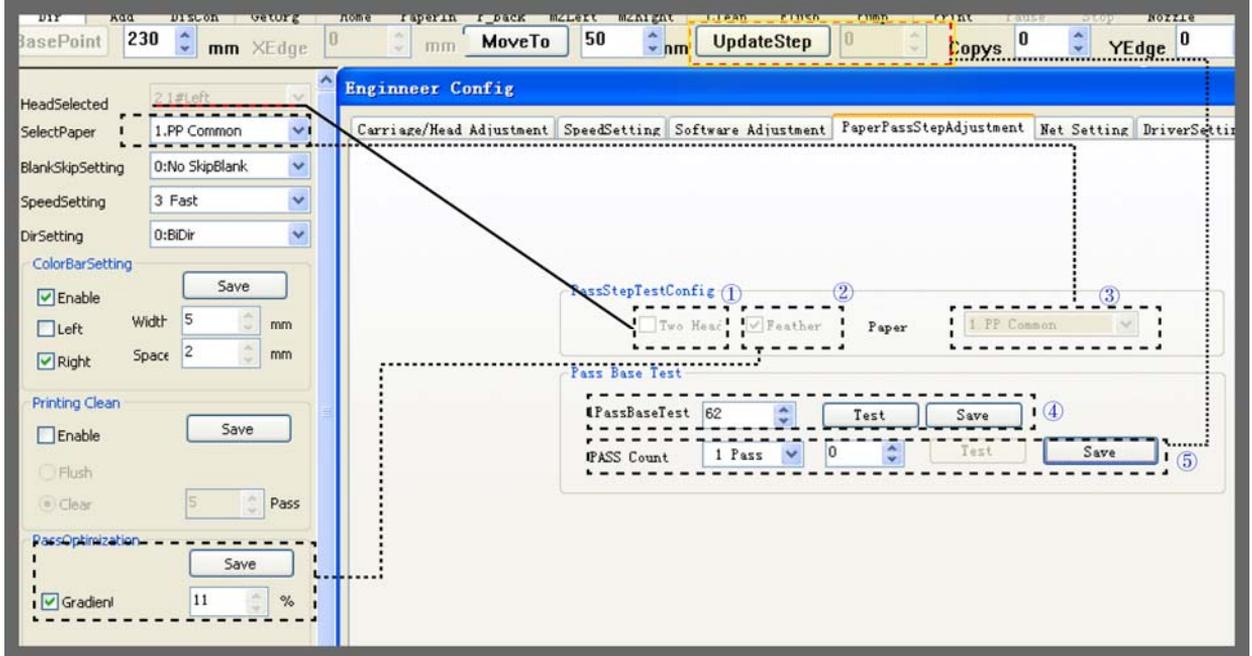
If align at "-6" position, then 15-6 is 9.

You need to change every resolution, every speed and every pass, the bi-direction is the same in the same speed, then save. For example, the value of 360 high speed 4 pass is 15, then other pass also is 15.

④ Then go to Left and Right calibration, but only Dx4 need to calibrate, Dx5 print head do not need.

Need to adjust:

Resolution	4PASS	6PASS	8PASS
180DPI Low speed	√	√	√
180DPI Medium speed	√	√	√
180DPI High speed	√	√	√
360DPI Low speed	√	√	√
360DPI Medium speed	√	√	√
720DPI Low speed	×	×	×
720DPI Medium speed	×	×	×
720DPI High speed	×	×	×



Picture one

“Forward calibration”

Process: ①②③④⑤, 5 steps

Instruction:

Every pass, every feather, even every paper has different forward instructions. Even our engineer adjusts the forward value before delivery out, but different media has different forward value.

①: Choose the amount of print head. (When open the software, you could choose.)

②: The forward value is different if you open feature function or not. But feature function can make the performance more vivid.

How to choose feather function: There is a " Feather function" button in software, click the button, and save. Like picture②.

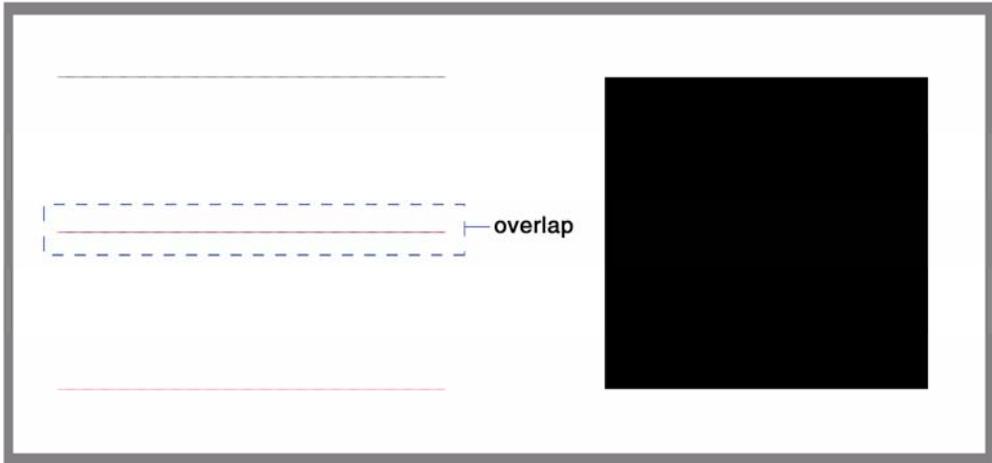
(You need to have feature function during printer, and the value is from 0-100.)

③ Choose media. The thickness of every media is different, so the forward value is different.

How to choose media type: choose " media choice" in software, for example PP Paper, and then click " forward calibration".

We provide PP paper, PP back glue, photo paper and film paper. Showed in picture three.

④ 1pass calibration. This is belong to forward calibration, and value is around 100. See below picture.



Picture Two

For example:

Middle line are magenta and black, they overlap.

Large view:



Picture Three

⑤ Stepping micro adjustment of every pass: the function is micro adjust stepping. The value will be saved automatically.

For example: When you printer in 4 pass on photo paper, you find there is slight overlap. After printing, put the value you want to add. For example:'

original value is 4, you want to add 2, then you just enter 6 and save. The value will save. Next time, when you use the same media, the value will not change.

Stepping micro adjustment(Update step):

During printing, you could use "update step" function in the software to change the stepping. (See picture one, yellow area) You could enter the value directly, and it will save automatically. The value could be positive or negative. Example: 4、 -4。

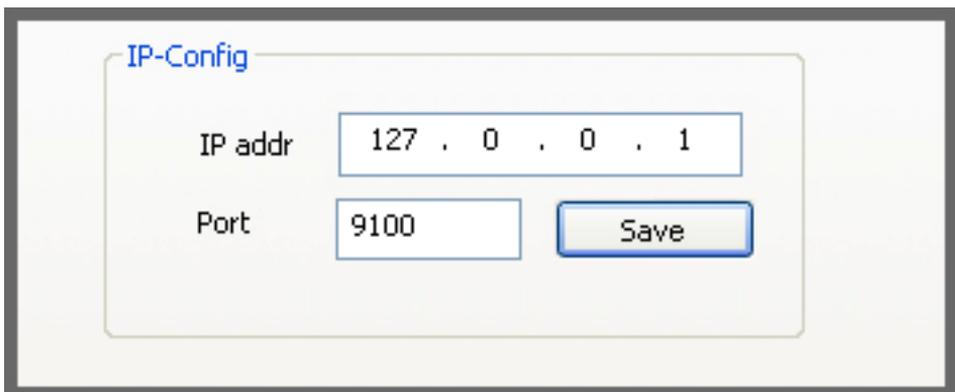
The new value should be changed according to the original value.

For example: In "PP Paper", 4 pass mode, the original value is 4, but if you want to add 4, then you need to enter 8, not4. Or if you want to minus 6, then you can enter -2 directly.

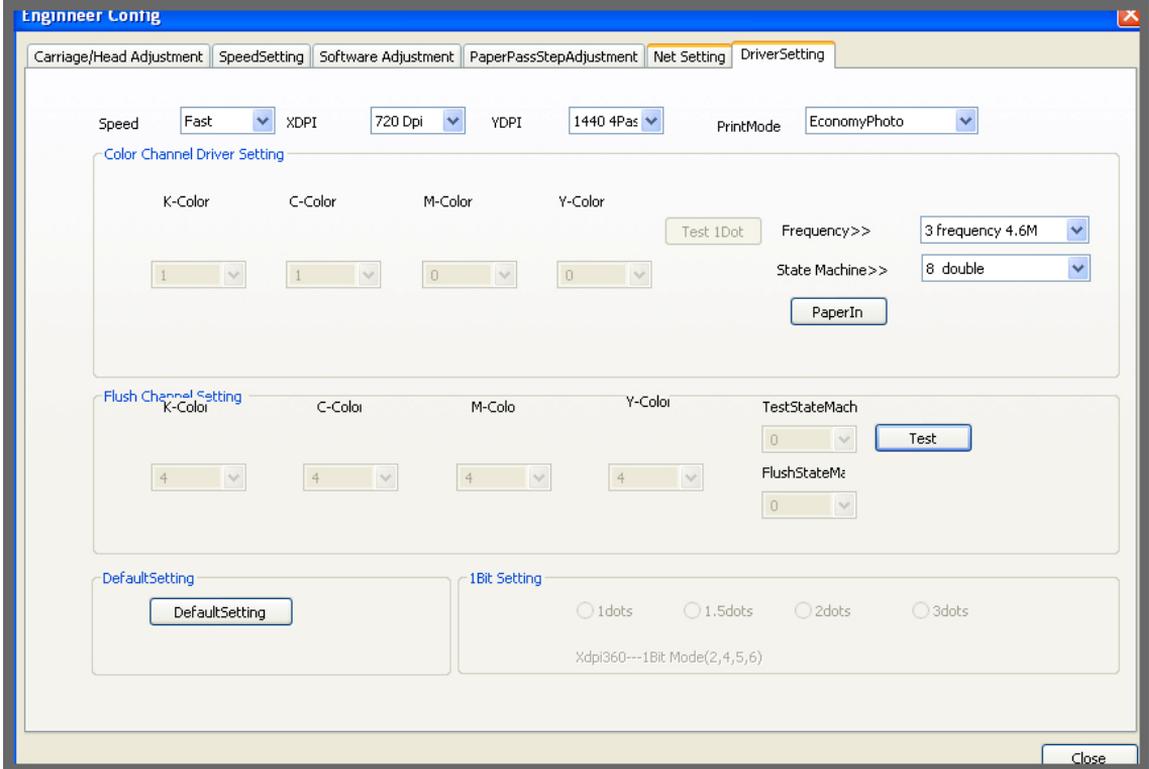
Unit: Impulsion 1 millimeter=200 impulsion

“Internet Setting”

This function is used print directly in maintop software, the data should be the same as the valve in the main top print manager.



“Driver setting”



You don't need to change the data, if you change the data carelessly, you could contact Wit-Color or distributor to recover the data.

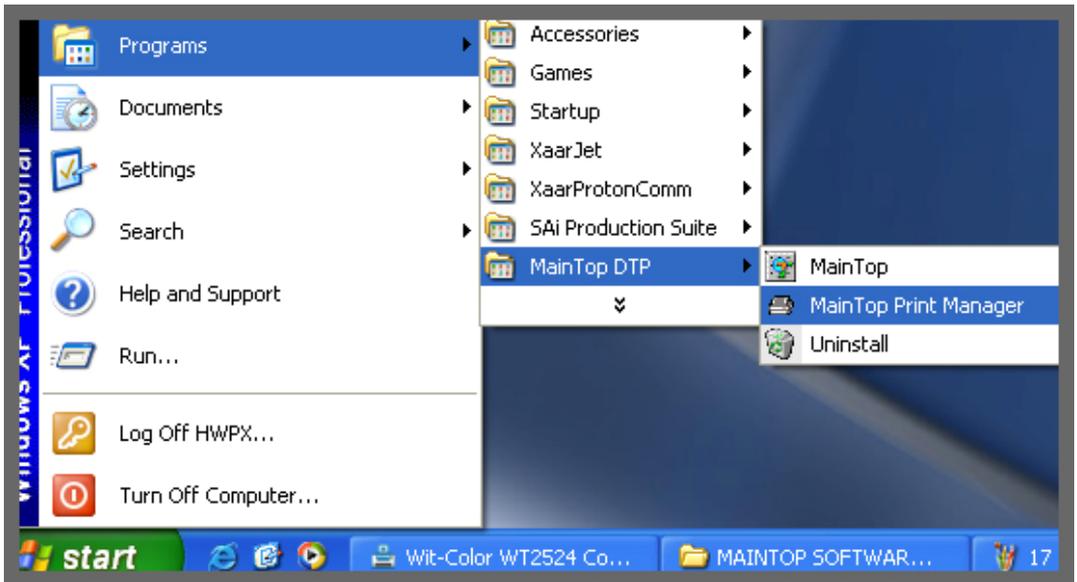
Maintop printing setting

Maintop setting

Many kinds of printer use Maintop software, but in this manual, we only introduce ultra9000 printer.

Maintop printing system

Step one, enter Maintop printing system

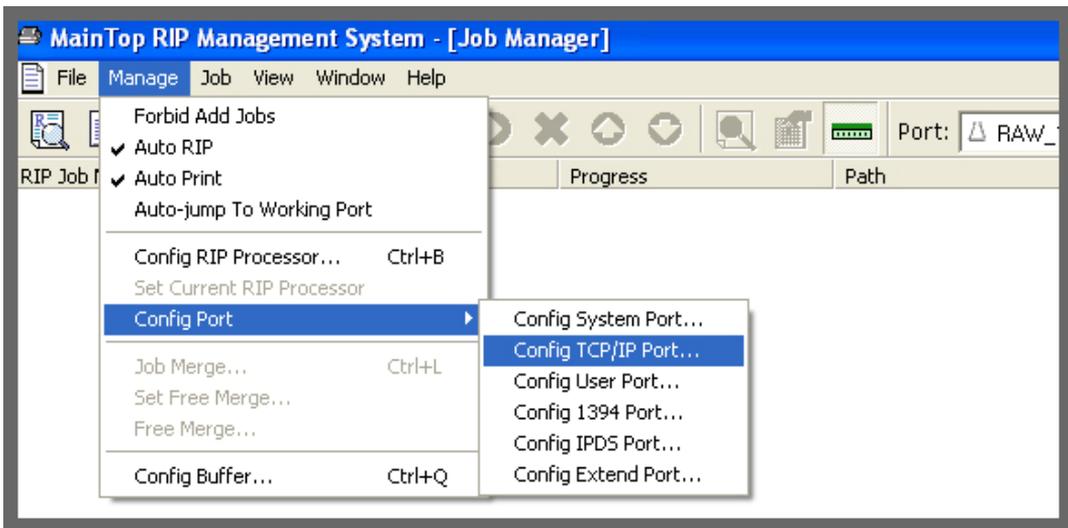


Step two, **TCP/IP port** setting

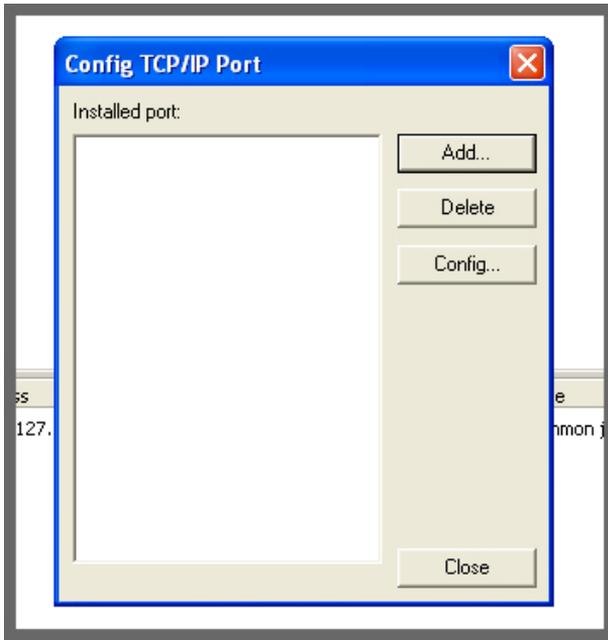
Choose " maintop print Manager" in menu bar

①②: “Auto RIP”.“Auto printing” this function need to active

③: Set **TCP/IP port** like below:



Step three, add port and set the port attribute value



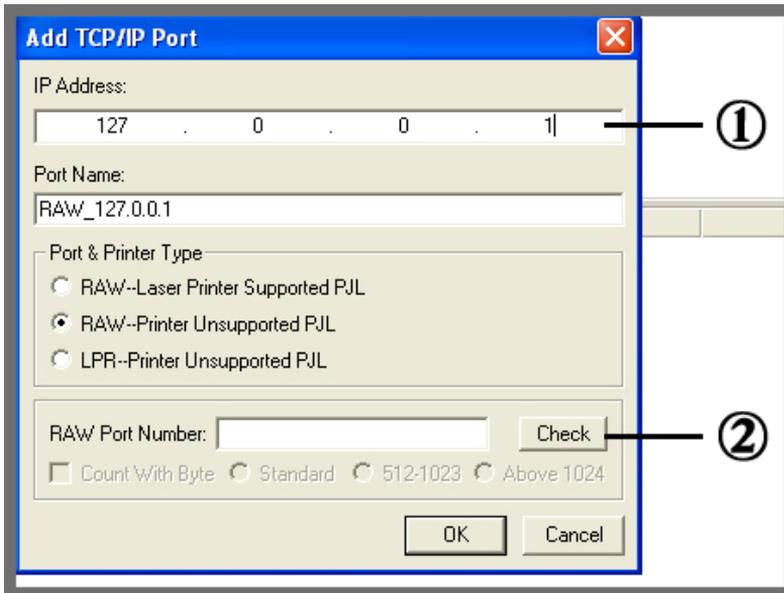
① Set a available IP address

IP address: 127.0.0.1

② Set an available RAW port, after setting please do the testing.

Universal RAW port: 9100\9200.

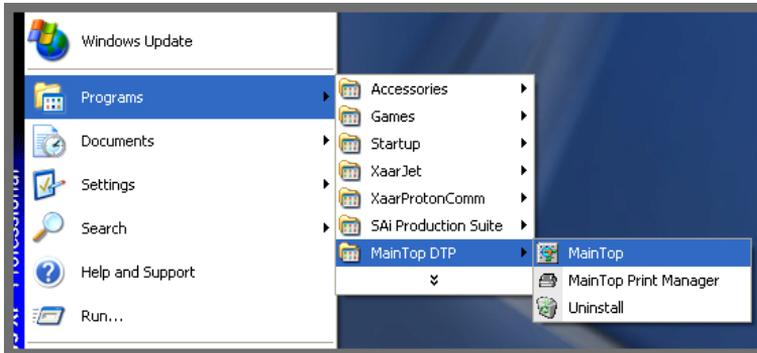
Like picture:



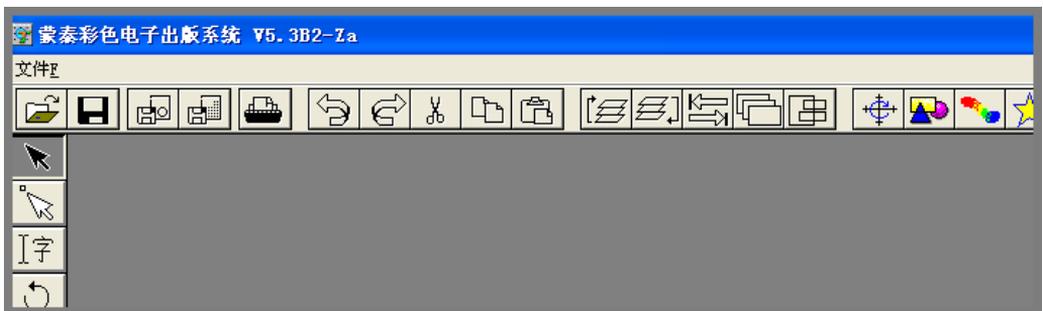
And click confirmation

After that, you can minimize the window.

Step four: Open Maintop software

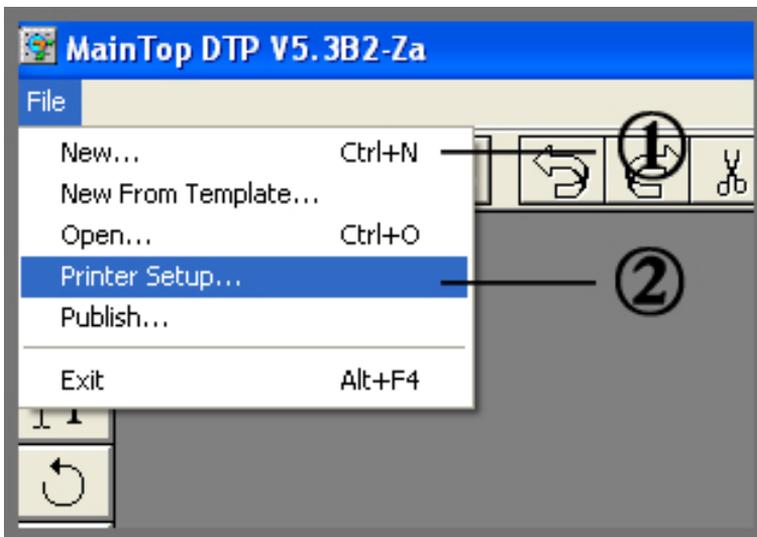


After entering Maintop:

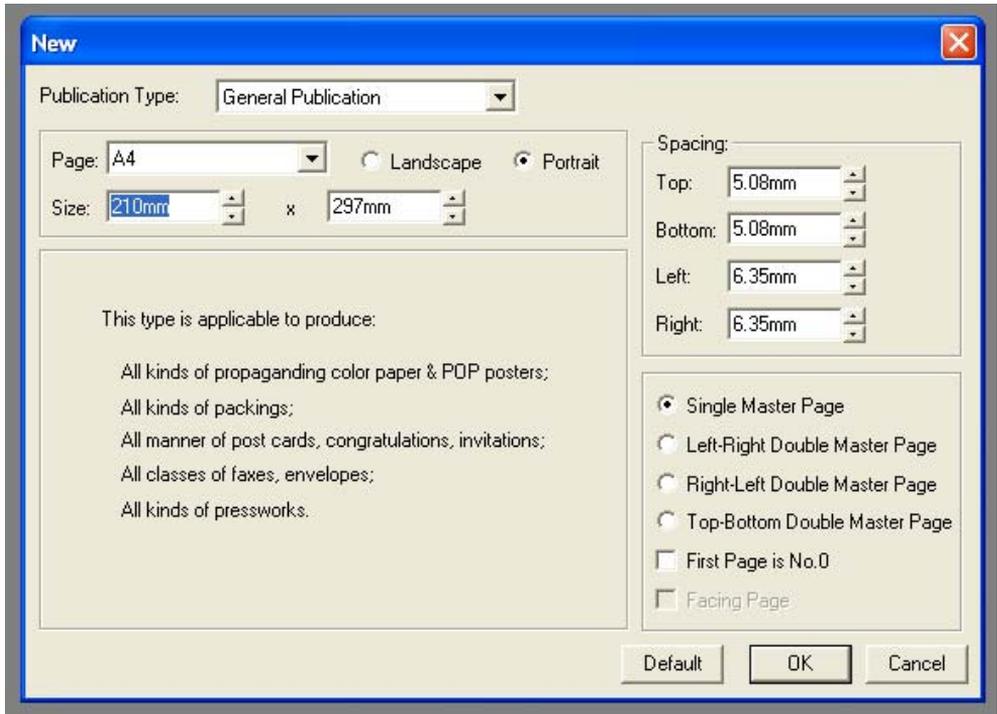


Only has " Document F" in menu bar

You need to " set printer" and " New file N"



①- Click "New file"



" New file" window

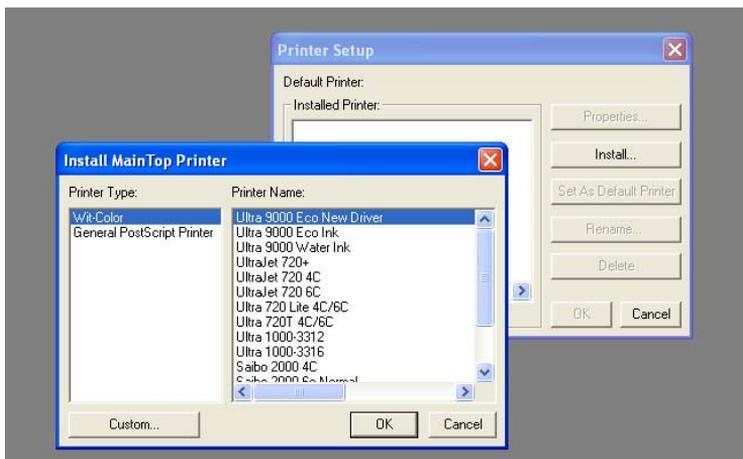
Set media size based on the media, and click "confirm"

(“Media size” is based on the printing image size, please consult " Step five" in the next introduction.)

And get back " File F"

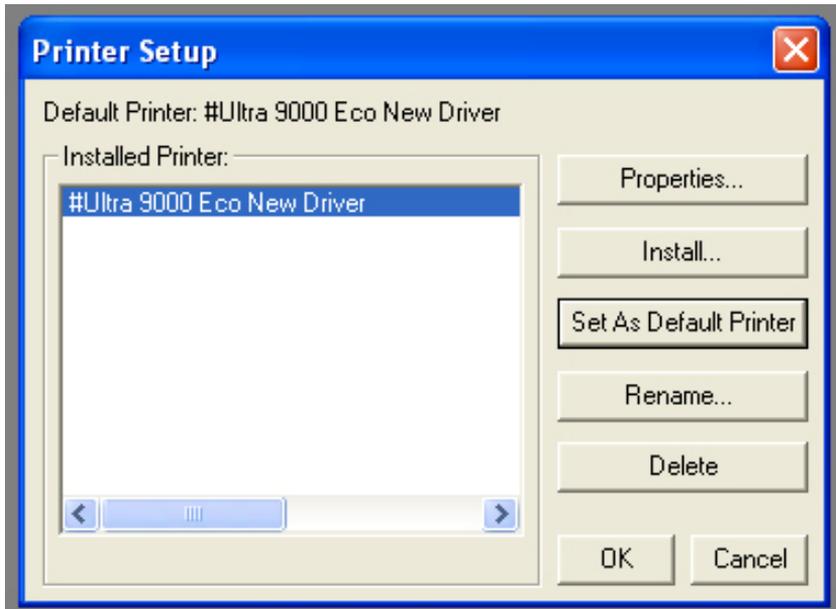
②-“Set printer”. Choose setting printer,

Choose "install Maintop printer":



Choose the ultra9000 Printer

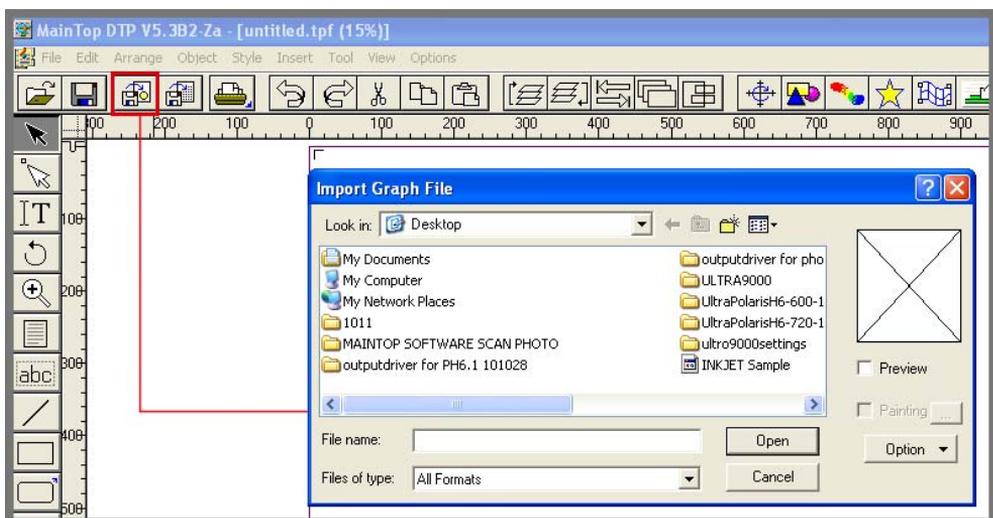
And click " Set as Default Printer"



Step five: Import the image and type setting.

① Click file and import the image (the red mark)

Choose image, like below:



② Image alignment and media setting

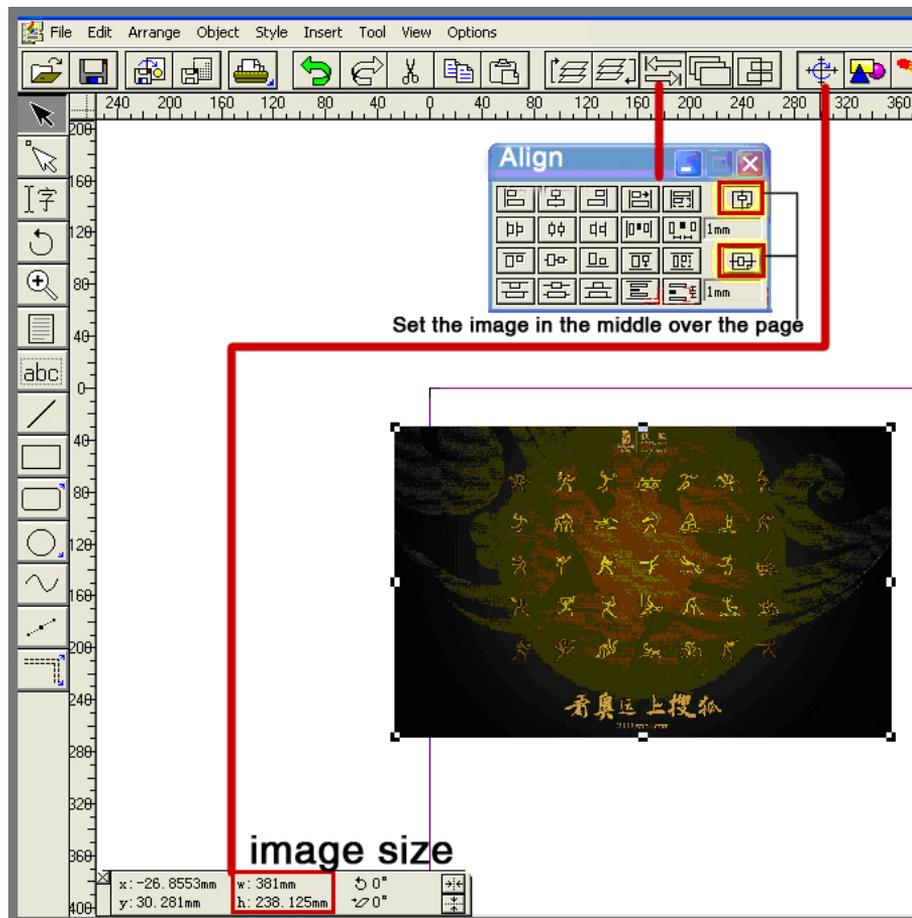
(According to the size of image to set the size in software.)

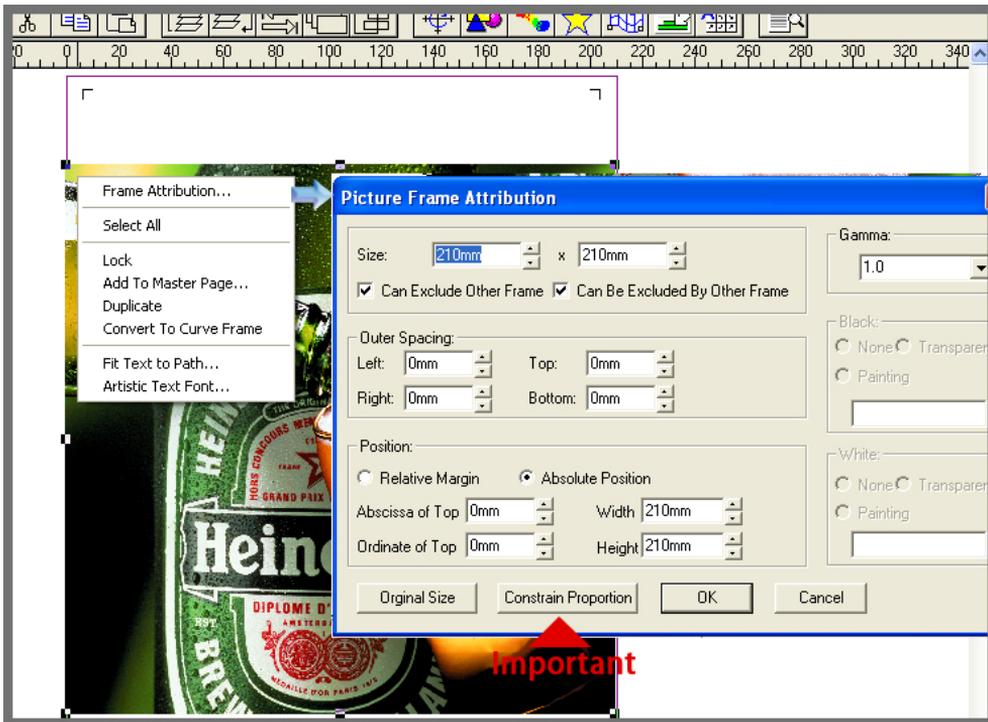
Image alignment (See picture)

1. Click two red functional keys, and two dialogues appear, one is " window alignment", the other one is " image position window"

You could see the image size by clicking the image. See picture

2. Click image and make it in the center. See picture



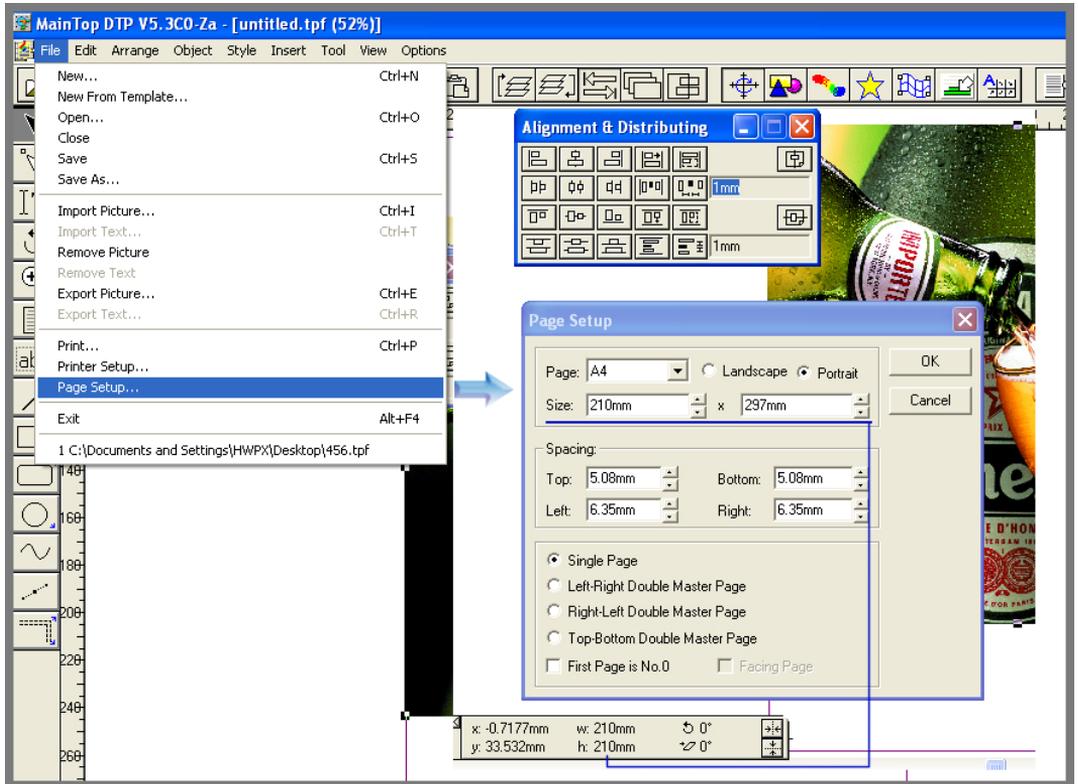


Media setting (See picture two)

Click " file F"

Choose " paper setting" See picture two

And set the paper size as same as image. See picture three.



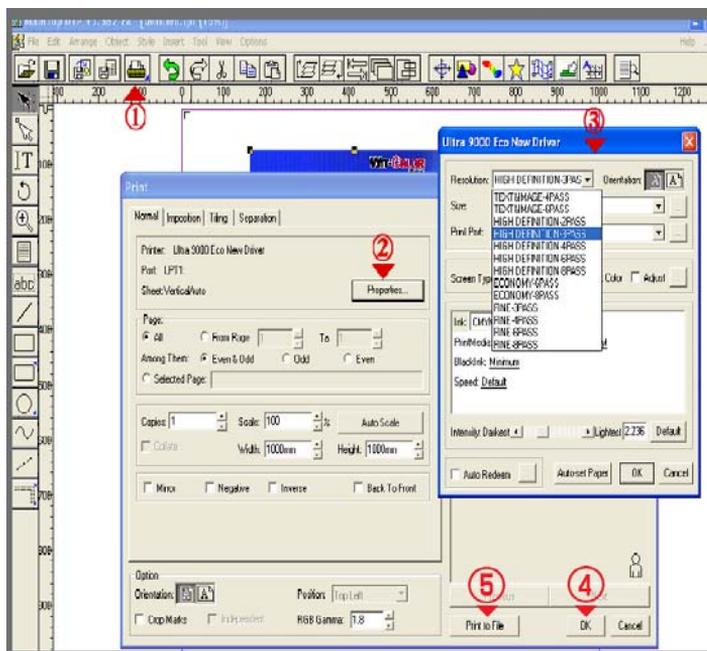
Picture Two

After setting, how to print the image.

Printing operation: See picture one

- ① Click shortcut key, and enter printing setting
- ② Properties: Set printing resolution, printing port and curve. (**Attention: detail information is below.**)
- ③ Enter the properties, set the resolution...
- ④ Print to file .save the image as PRN format file in the hard disk, and open the file into ultra 9000 control software.

⑤Ok(print directly), print the image(you need set the TCP\IP Port)



Picture One

About “②- Properties”. Detail information see [picture two](#)

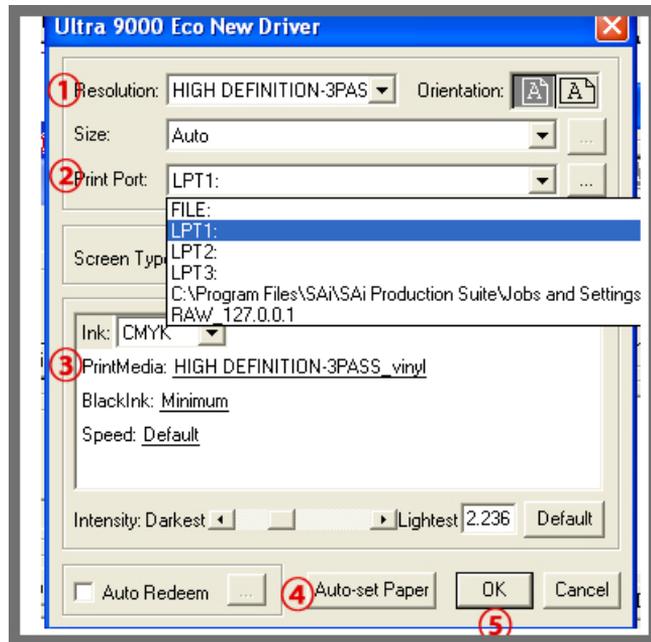
①“Printing resolution” , ultra9000 printer has text, fine and high definition printing. See picture four.

②“Print port”, if you choose printing while RIP, the IP address should be same as in the " Maintop printing manager" which is **RAW.127.0.0.1**

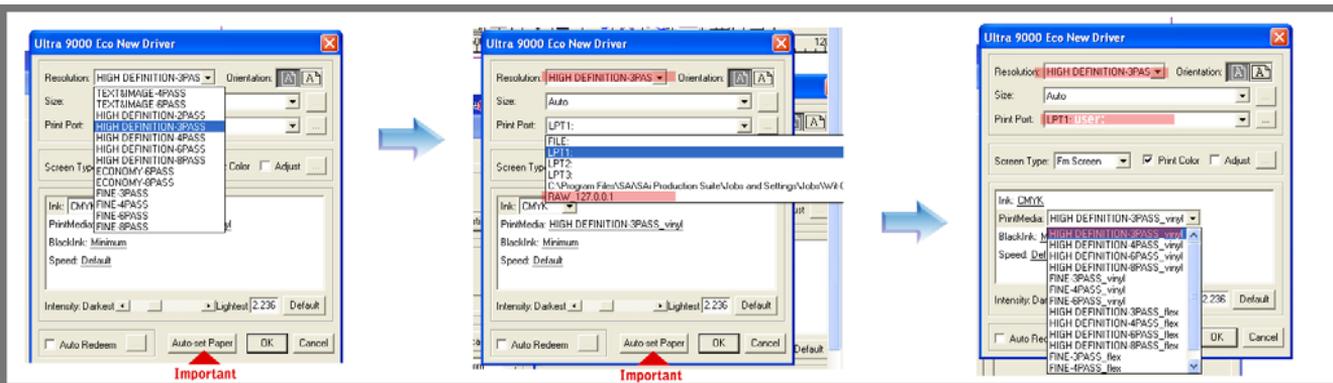
③ “Print Media”, the pass number you choose should be the same as "printing resolution", or the color will be different.

Right choice: for example: In fine mode 6 pass of "printing resolution", and in Maintop, you also need to choose 6 pass of fine mode. And then choose the type of media. See picture four.

④Setting media automatically. After setting the above process, double click "auto setting media". You need to pay attention to the height and width.



Picture two



Picture four

After setting, you can print directly.

The computer's configuration will cause delay.

Chapter four. Ultra 9000 advantages and disadvantages

ULTRA9000 is a high resolution, high speed and high saturation printer. It adapts the latest 5th generation Micro Piezo print head, and resolution could reach 5760dpi. You could print photo, wedding photo, cover and catalogue.



ULTRA9000 had text mode, economy mode, high definition mode and fine mode.

Ultra 9000 printing mode

Ultra9000 printer

Mode	Resolution	PASS NO.	
Text Mode (4 Gray Scale)	180X1440	4PASS	
	180X2160	6PASS	

HD Mode (4 Gray Scale)	360X720	2PASS	
	360X1080	3PASS	
	360X1440	4PASS	
	360X2160	6PASS	
	360X2880	8PASS	
Economy Mode	360X2160	6PASS	
	360X2880	8PASS	
Fine Mode	720X1080	3PASS	
	720X1440	4PASS	
	720X2160	6PASS	
	720X2880	8PASS	
Water based printer			
Mode	Resolution	PASS NO.	
Text Mode (4 Grey Scale)	180X1440	4PASS	
	180X2160	6PASS	
Economy Mode	360X2160	6PASS	
	360X2880	8PASS	
HD Mode(Fine Mode)	720X1080	3PASS	
	720X1440	4PASS	
	720X2160	6PASS	
	720X2880	8PASS	

ULTRA9000 Printhead Gray scales: variable dot can control the size of droplet.

So Gray scales is more vivid.

Operational maintenance:

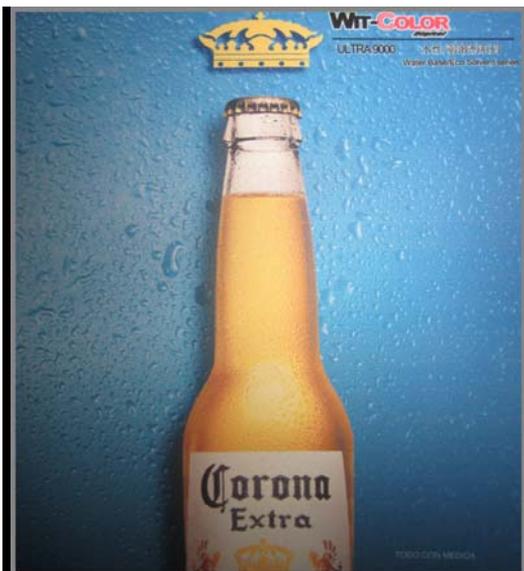
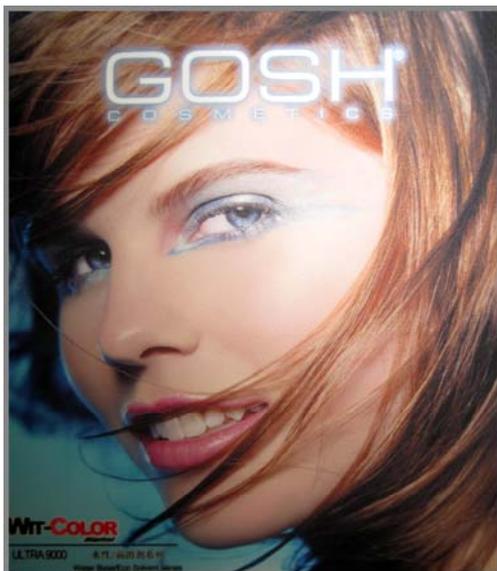
How to keep the printhead well.

3 Put some claeing solvent into suction nozzle

1 Move the carriage to left side by ultra9000 contral software

2 Close the valve
 (before open the printer.turn on the valve first)

4 Make the carriage come home by the “ home ” button on the ultra contral software



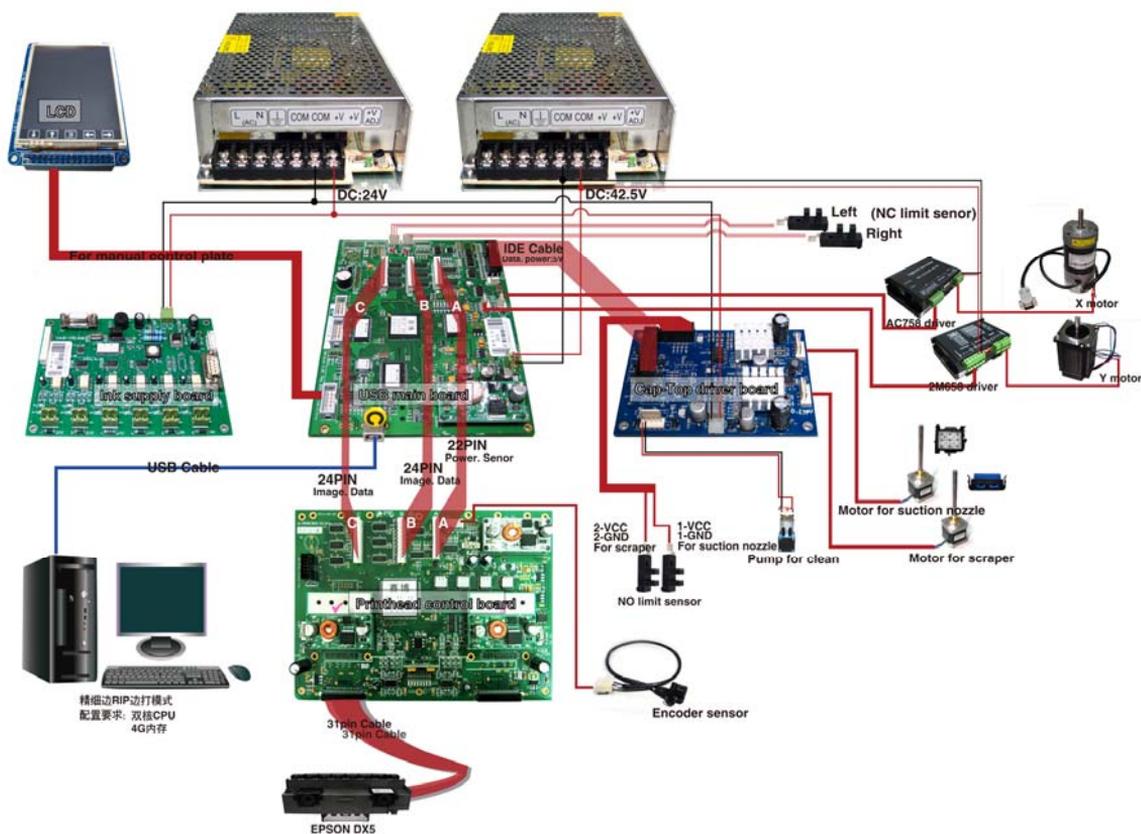


Enlarge view

Chapter five Solve problems

1: Ultra9000 printer circuit operation principle

Ultra9000 operating principle



Main boards connection

Self checking after turning on the printer:

The main boards will do self testing while turn on the power:

- 1、 To make sure the scraper is at the bottom position.
- 2、 To make sure the suction nozzle is at the bottom position.
- 3、 To make sure the blade and suction nozzle are at the bottom position, and carriage move to the home limit sensor.
- 4、 Carriage will move to right until it touch NC limit sensor, and carriage comes home.
- 5、 Carriage comes home, suction nozzles move up to cover print head.



Ultra9000 USB main board singal

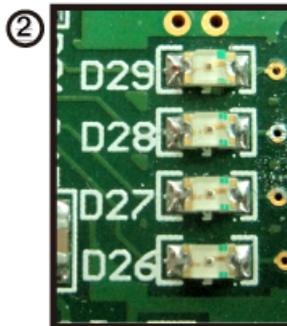


- | | |
|---------------------------------------|-------------------------------------|
| A :power 5v | E :X Driver |
| B :For manual conral plate | F :Y Driver |
| C :For NC limit sensor (Right) | G :Link Cap-Top driver board |
| D :For NC limit sensor (Left) | H :supply power 42.5V |



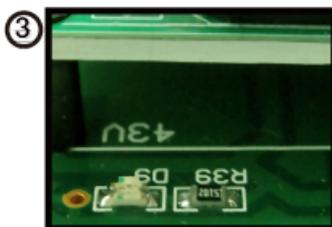
D3:home limit sensor indicate (light)

D4:left limit indicate



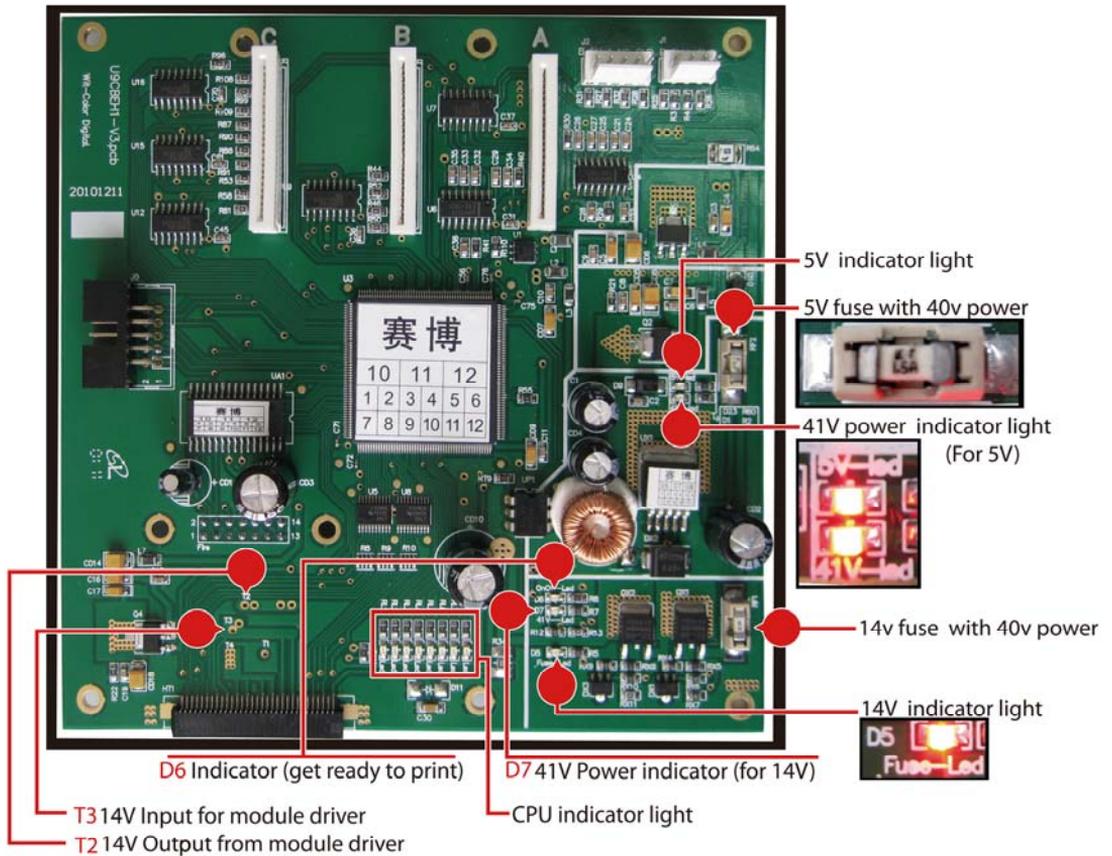
D26:wipper indicate

D27:suction nozzle indicate



D9:5V power singal

PRINT HEAD BOARD INDICATOR FOR ONE HEAD
ULTRA9000



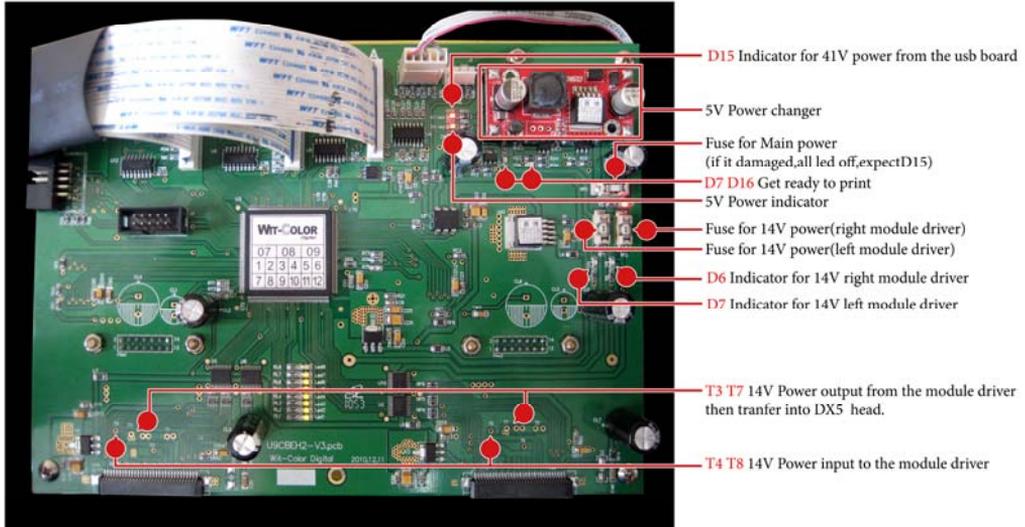
- ▶ 5v power indicator, If the 5v Power changer damaged, it will off
- ▶ D6 Indicator, when click the flush bottom, there will light on.
- ▶ 14v fuse, if it damaged, there is not 14v power, and the 14v indicator will off.
- ▶ T3 14v power from the module driver
If the module driver damaged, it can't be measure 14V

- ▶ D15(alwary on) If there is not power from the usb-board,it will off
- ▶ Fuse for Main power(if it damaged,all led off,expectD15)
- ▶ 5v power indicator,If the 5v Power changer damaged,it will off
- ▶ Fuse for 14 power,if it damaged,there is not 14v power
- ▶ D6 D7 Indicator,when click the flush bottom,there will light on.
If fuse for 14power is damaged,there will not to be light on.
- ▶ T3 T7 14v power from the module driver
If the module driver damaged,it can't be measure 14V

PRINT HEAD BOARD INDICATOR(TWO HEAD)

ULTRA9000

Wit-COLOR
Digital



Mainly problems:

No self testing after turning on power

1: Check the indicator light works well on printhead board. If no light, open the boards box to check whether has 42V of USB board and 24V of printhead maintenance station.

Power works well: check whether the cables fall off. (if the board is new and can not do self testing, then contact with Wit-Color)

2. If blade motor is damaged, and blade can not move down. Then change motor.

3. If blade moves down and can not stop, then the NC limit sensor is damaged.

4. If the suction nozzles can not do self testing, the solution is same as blade.

5. After self testing, carriage does not move, then check driver indicator light. If no indicator signal, then check circuit connect well.

6. If carriage moves to opposite position, check X,Y driver cables. Or the home

limit sensor

7. If only can go forwarder of media and can not go backward, check driver cables and Y driver

8. After self testing, carriage does not print, check printhead board indicator.

Some problems during printing:

1 Can not absorb ink:

Check suction nozzle and print head anastomoses.

Check ink tube which air pump connects with suction nozzle is ok.

2、 Media do not go straight. You need to install the media one more time. One person need to put the media back, and the other person pull the media in the front.

3. The actual printing size is different from the image size. You need to adjust micro stepping.

4. Printing image has crossing:

Check feather value: hight resolution, feather value is 100%。 Feather value is small, and stepping is more accurate. Common customer, we suggest the feather value is around 100%

5.Ink supply alert. If ink pump can not absorb the ink for a long time, you need to change ink, and open boards box, click reset button.

Six、 Note

1、 Test absorb ink or clean ink in the first time, you need to raise the sub tank.

How to raise:

Loss two screws on sub tank, and raise sub tank about 3-4CM, and tight screws.

2、 Check working plate and carriage are parallel.

Pre- printing

1、 Connect ground wire. To confirm static will release in the first time.

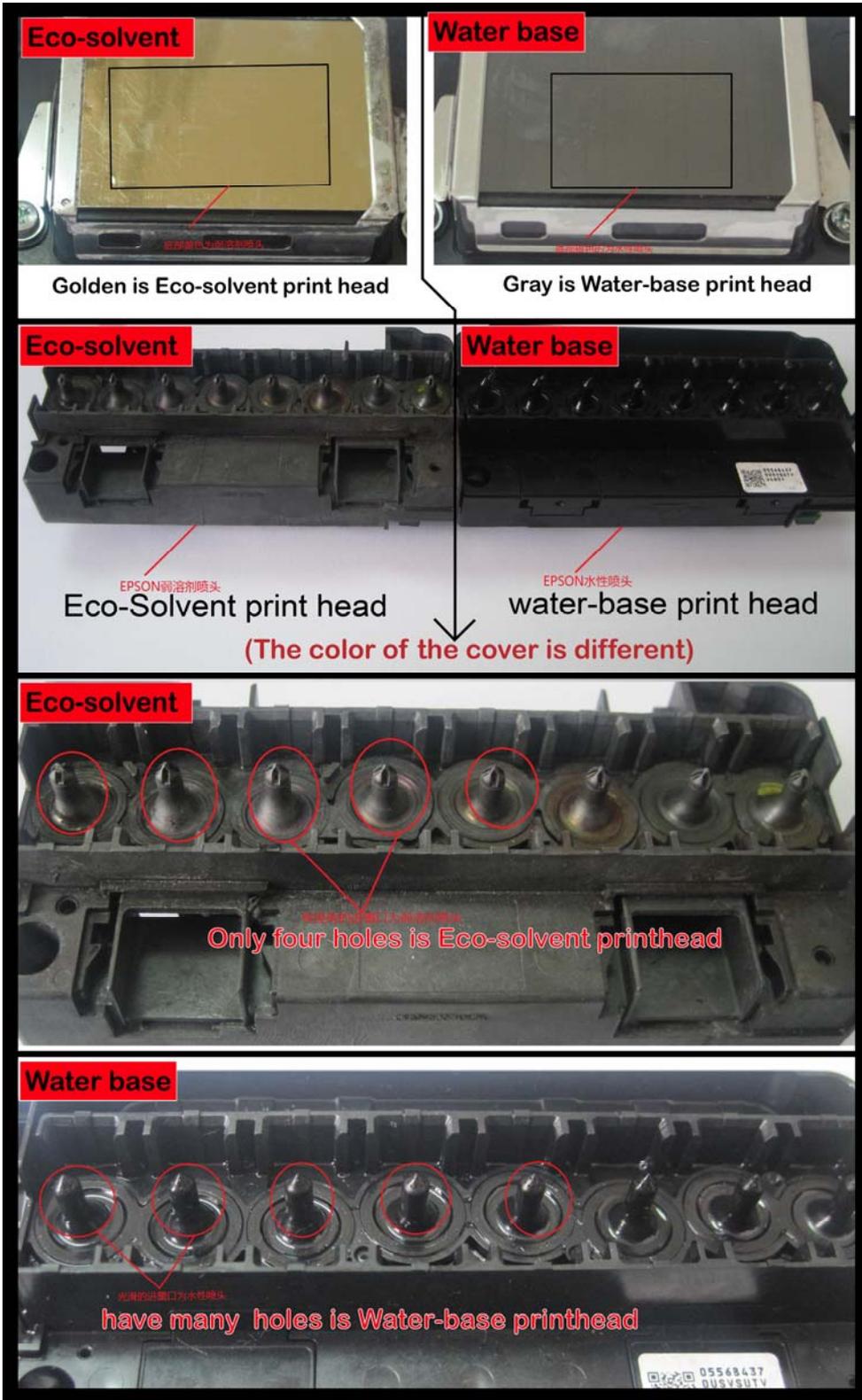
2、 Keep printer stable, if you find out the printer shakes terribly, you need to check the stand is fixed.

- 3、 Keep clean of printer. You need to clean the working plate every day.
- 4、 Clean blade, suction nozzles by pure water, and make sure no ink on blade and suction nozzle. Do not marinate the print head and suction nozzles in cleaning solution.

During Printing

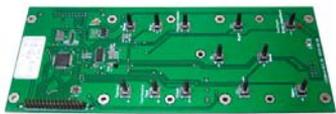
- 5、 After turn on, print color swatch. If print head does not block, you don't need to absorb ink.
- 6、 Before printing, check bi direction is alignment.
- 7、 Check the ink is enough in ink sac. If ink is not at half of ink sac, you could use syringe to work.
- 8、 How to use:
 Take off ink sac from print head, use syringe to fill in the ink, and then install on print head.
- 9、 Check linear rail is smooth every three month.
- 10、 Check the timing belt is elastics.

How to distinguish the printhead



Ultra9000 Ultra9000 printer spare parts

配件位置 Part position	序号 NO.	品名 Description	条形码 Bar code	数量 Qty	备注 Annotation	图片 Picutre
Boards	1	USB 主板/ USB main board	1084	1		
	2	喷头控制板/ Printhead control board	1083	1		
	3	墨栈驱动板/ Cap-Top driver board	0085	1		
	4	供墨板/ Ink supply board	6071	1		
	5	驱动模块/ Driver module	0088	1		
	6	供墨转接板/ Ink supply adapter board	1087	1		
	7	真空风扇控制板/ Vacumm fan control board	7855	1		

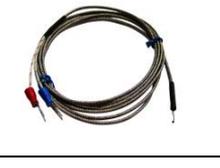
Driver	8	MCAC758 驱动器 / MCAC758 driver	0092	1	
	9	2M658 驱动器/ 2M658 driver	0091	1	
	10	K-200-42 电源/ K-200-42 power	3039	1	
	11	K-150-24 电源/ K-150-24 power	3038	1	
	12	固态继电器/ Solid relay	8040	2	
	13	可控调压器/ Voltage Adjustment Solid Relay	4800	1	
Control switch	14	手动控制面板/ Manual control plate	0080	1	
	15	控制面板显示屏/ Control plate LED	0802	1	
	16	智能温控仪/ Temperature controller	3079	1	

17	滤波器(6A)/ Hertzian filter		1		
18	漏电保护器/ Leakage protector		1		
19	过载保护器/ Over loading protector		1	含 10A 保险丝	
20	双排开关/ Double switch		1		
21	220V 单开关/ 220V switch		1		
22	风扇大开关/ Fan switch		1		
23	放布开关/ Media feeding and take-up switch		1		
24	470K 电位器/ 470K potentiometer		1		
25	5K 电位器/ 5K potentiometer		1		

	26	红色紧急按钮/ Red Emergency Button		1		
	27	常闭光幕探头/ NC limit sensor		2		
	28	常开光幕探头/ NO limit sensor		2		
	29	NC 圆形光电开关/ Media feeding sensor NC	0026	1	送布	
Ink supply system	30	油墨泵（小）/ Ink pump(small)	JYY(B)-Y-10- I	4		
	31	气泵（大）/ Ink pump(big)		1		
	32	二级塑墨盒/ Ink tank	1 进 2 出 1 气	4		
	33	φ4 四路墨管/φ4 tube		1		
	34	过滤器/Air filter		4		

	35	墨囊/Ink sac		4		
Mechanical installation	36	100W 无刷伺服电机/ 100W Brushless servo motor	4069	1	X 轴电机	
	37	57 直流电机/ 57DC moter	0052	1	Y 轴电机	
	38	1:150 送布电机/ 1:150 take-up motor	0053	1		
	39	墨栈丝杠电机/ Cap-Top Lead screw motor	1051	2		
	40	电机铜齿轮/ Copper gear		2	20 齿	
	41	X 轴主动轮/ X-axis main driver gear		1		
	42	X 轴被动轮/ X-axis second driver gear		1		
	43	X 轴 112MXL 皮带/ X-axis 112MXL belt		1		

44	17XL 同步带/ 17XL timing belt		1	5.3 米	
45	Y 轴齿轮/Y-axis gear		1	157 齿	
46	Y 轴 180MXL 皮 带/ Y-axis 180MXL belt		1		
47	HIWIN 滑块/Slide		1		
48	墨栈导轨/滑块/ Cap-Top linear rail & Slide		2		
49	刮片/Scraper		1		
50	吸嘴/Suction nozzle		1		
51	送纸轮 28.06/ Media feeding roller		1		
52	光栅条 180×4200/ Encoder stripe		1		

	53	光栅探头 9730/ Encoder sensor		1		
	54	涡轮风扇/ Turbine type fan		4		
	55	风干风扇/Dry fan		6		
	56	散热风扇/ Radiating fan		1		
	57	加热丝/Heater wire		1		
	58	热电偶/ Temperature controller sensor		1		
Cables	59	USB 数据线/ USB cable		1		
	60	24 芯扁平线/ 24 pin cable		2		
	61	22 芯扁平线/ 22 pin cable		1		

62	31 芯喷头数据线/ 31 pin head cable		2		
63	22 芯 IDE 线/ 22 pin IDE cable		1		
64	常开光幕 IDE 线/ NO IDE cable		1		
65	22 芯扁平线(短)/ 22pin calbe(short)		1	用于供墨转接 板	