UV Flatbed Printer(Epson series)
Operation Manual

Before reading this manual：

- This manual may be changed without prior notice。
- Without our approval or permission, this manual may not be copied and extracted

- In order to avoid the accidents, we recommend you be sure to read this manual carefully before operation.
- If some of the content in this manual needs to be corrected, we will not notice before issued.
- Injury or accident caused by improper operation, we do not bear any responsibility.
- If you use a third-party without our training to provide maintenance or after-sales service, once any failure, damage caused , as well as the loss of your business interests, we do not bear any liability.

Contents

Letter to the user：

1.The company provide you with high-quality after-sales service, and ask you to use this printer according to this manual strictly.

2.The machine is prohibited to do any modification or unauthorized installation of other equipments, especially for the electrical parts, ink system and printhead system. Because they may affect the performance of the machine or cause damages to the printer.

3.The Company set the printer regular maintenance requirements,the maintenance are very important to the printer to keep a good state always.

4.If there are any problem, please do not hesitate to contact us, we will send the professional engineer to provide door-to-door service.

5.If there are anything unclear when reading this manual, please contact us, we'll make the detailed explanation to you.

Chapter I Safety Awareness Guide

1. Warning signs

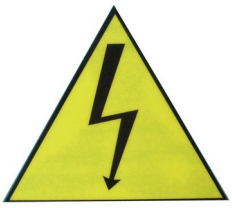
Before read this manual, you should be aware of following signs:

The yellow warning signs means you should pay special attention or serious prohibit such actions, otherwise it will cause damage to the equipment or personal safety.

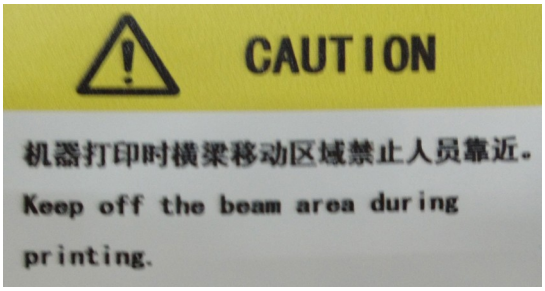
1) Prevent gear pinch：

2) Prohibition

3) High voltage power supply



4) Cautions description



The blue signs is used to remind customers for better operation and usage.

5) Wear glasses:

6) Note here

The red signs is the prohibit marking and means to prohibit this operation.

7) Prohibition of station

8) Pressure-prohibition (precision at here, to prohibit pressure at the top or place heavy objects)

2. Other signs:

：Indication signs describe the easier method in operation;

 ：Describe warned the implementation of a program or an operation;

 ：You should comply with the instruction, in order to prevent an accident or injury;

 ：means prohibition.

3. Instructions

UV flatbed machine using the UV ink and cleaning fluid, please read the following instructions before using UV flatbed machines:

1. Cleaning fluid spilled into the human eye can damage the cornea and affect vision, in the operation of inkjet printers or ink and cleaning fluid , so do not wear contact lenses, you must wear protective gloves and glasses.

2. The cleaning fluid may irritate eyes, skin and throat, inhaled its vapors can cause dizziness and other symptoms.

3. Non-smoking, place the beacon, fire, stove, heater and halogen lamps prohibited within 10 meters of the machine.

4. Before starting the machine, make sure the fresh air ventilation device is working properly.

5. Ink and cleaning fluid must be stored in approved storage cabinet. To maintain storage cabinet is always sealed and shading. If there are damage of the ink and cleaning fluid, please move them to a clean cabinet.

6. Once the ink or cleaning fluid spilled, please clean it up immediately.

7. The cleaning cloth to wipe ink should be stored in a sealed cabinet away from fire up to 10 meters, UV flatbed machine waste is flammable dangerous.

8. Check the waste tank twice each shift, filled empty.

9. Waste ink and cleaning fluid is dangerous and must be burned, and it can not be down in the sewer and landfill prohibited.

10. With good anti-wear goggles and gloves when cleaning nozzle, ink system or deal with the ink, cleaning fluid and the waste.

11. There should be an emergency switch which can cut off the power supply of the UV flatbed machine.

12. When the machine is in working condition do not repair electronic components, especially the parts of the distribution box.

13. Untrained personnel can not handle the ink and cleaning fluid or operate the

machine.

14. There should be safety regulations ground for the UV flatbed machine with other equipments.

15. UV flatbed machine must be installed on a clean, flat cement floor, anti-static blanket or ceramic tile floor to reduce the risk of static electricity accumulated.

16. Waste storage jars must be sealed, anti-fire, on ground.

17. Do not fight the fire with water on machine or near it, only with dry powder, foam or carbon dioxide type fire extinguisher.

18. When the machine is working, keep hands clean.

19. Do not climb on the machine shelves and tables, it may be harmful to the body.

20. When the machine is working, make sure that the covers are closed.

Chapter II Basic Parameters

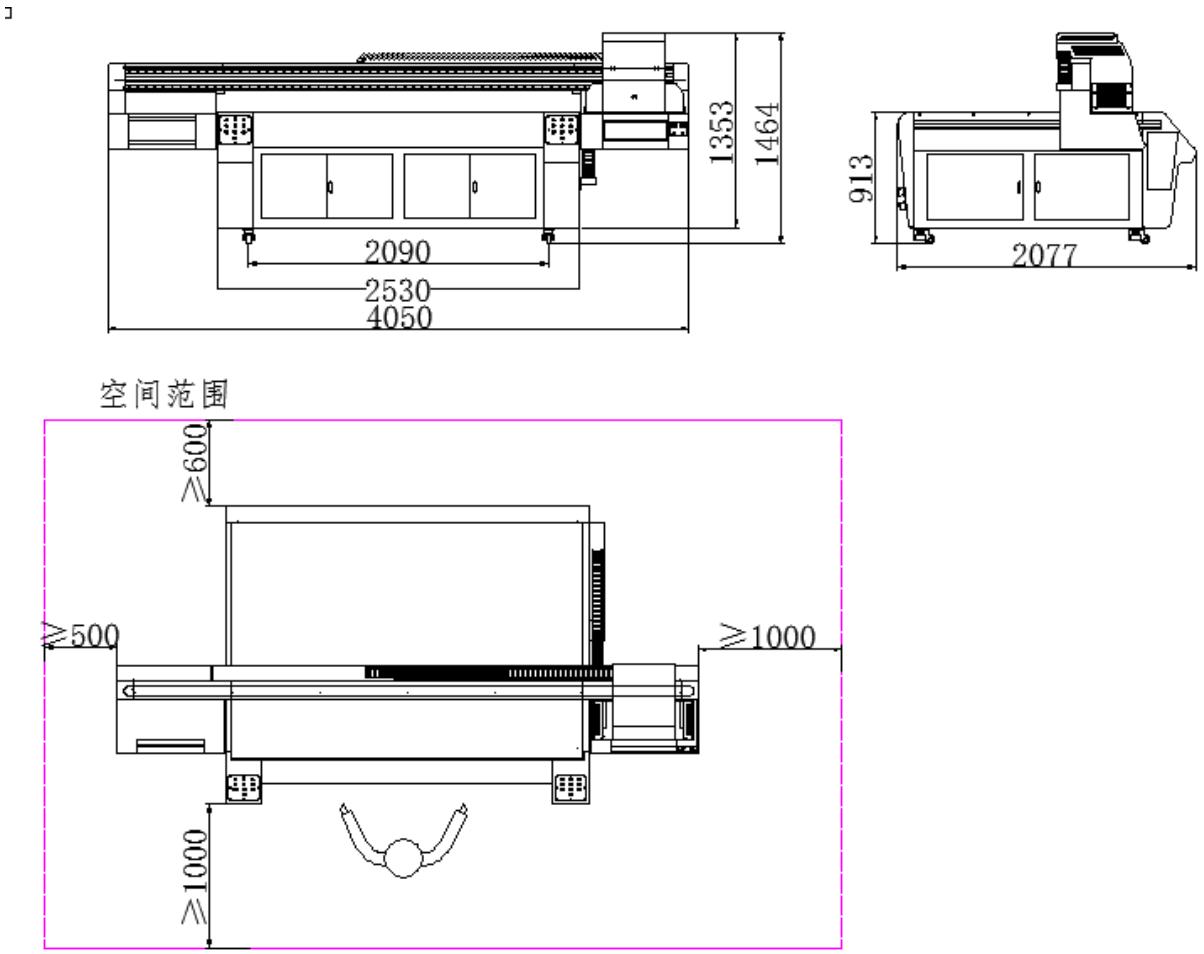
Printhead Technology	Drop-on demand piezo electric
Printhead control	Printhead voltage is software adjustable
Printhead Type	EPSON DX5 Printhead 180 nozzles*8 lines
Printhead Number	1/2
Ink Characteristics	UV Curing Ink
Ink reservoirs	Refillable on the fly while printing/1000ml per color
LED UV Lamp	more than 20000-hours life
Color Control	ICC based color,curves and density adjustment
Printhead arrangement	CMYK+W+V
Printhead Cleaning System	Automatic Cleaning System, Automatic Dry-preventing System
Guide Rail	Taiwan HIWIN
Working Table	Vacuum Sucking
Printing Size	YC1313:1.30x1.30m
	YC2513:2.50x1.30m
	YC2515:2.50x1.50m
	YC2025:2.00x2.50m
	YC2030:2.00x3.00m
Print Interface	USB2.0
Media Thickness	1- 100mm, higher can be customized
Printing Resolution&Speed	360x720DPI(4pass) 20Sq.m/h(2 EPSON DX5 Printhead)
	360x1080DPI(6pass) 15Sq.m/h(2 EPSON DX5 Printhead)
	720x720DPI(8pass) 10Sq.m/h(2 EPSON DX5 Printhead)
Life of printed image	3 years(outdoor),10years(indoor)
File Format	TIFF,JPEG,Postscript,EPS,PDF etc.
RIP Software	UltraPrint/Photoprint
Power Supply	220V 50/60Hz(10%)

Power	1100W
Operation Environment	Temperature 20 to 28℃,Humidity 40% to 60%
Warranty	1 year exclude the Print head,Ink filter, Ink pump

Chapter III Equipment Installation

1. Site Preparation

The requirements of printing space as the following diagram, for example YC2513:



Besides the print space, you'd better install ventilation system keep good air circulation.

1) Power Supply

According to the chapter II requirements, connect the corresponding power in the site, and each power requires the installation of earth leakage protection device.

Tip: good ground is very important, strongly requires the user to pull a ground alone, it played an important guarantee for the printer stable work .

2) Anti-static floor

All types of sheet metal generated a lot of static after UV light, so anti-static flooring or carpet is necessary.

3) Out of the box move the machine to the appropriate location

Upon opening the box, the worker should be equipped with the appropriate security measures, such as safety helmet, gloves etc. This machine is heavy machinery, so be careful when use the forklift. After moved to the corresponding location, then open the box.

Tip: out of the box, it is best to comply with the order from top to bottom.

When move the machine, please use the forklift or the flat dray.

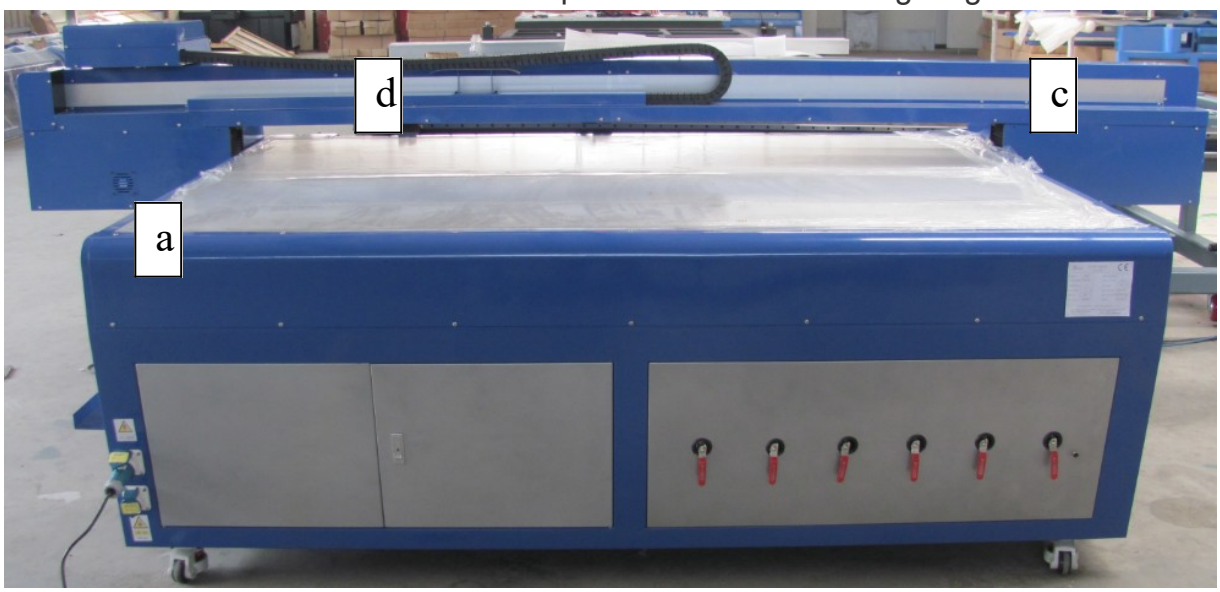
After opening the box don't rush to install machines, you should first check box with the equipment list, carefully check all the equipment in the box, if there are any missing, please contact the supplier.

2. Adjustment

1) Horizontal Adjustment

To ensure the machine in the best working status, the horizontal adjustment is necessary. It includes horizontal in front-to-rear and left-to-right level. Normally it is difficult to adjust the horizontal level with the general gradienter, so we used pipe adjustment when installation. The methods as following:

① Set the reference point: take the printer table as the basis, four angle is set to a, b, c, d, take the front right corner "a" as a reference point, adjusting the other three points "b, c, d", enables them to achieve the horizontal position. As the following diagram:



② Inject some water in the nylon tube, and adding a few drops of ink, so that to see the water level;

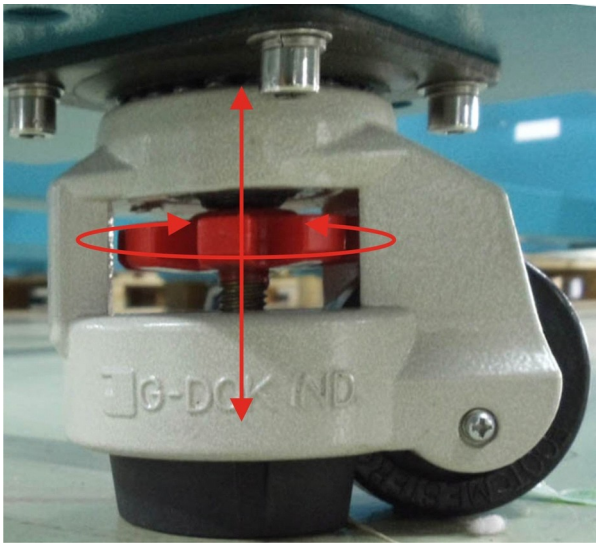
③ The above work requires two or three people to complete. The left “a” reference point requires one person handheld hose at the point “a”, one person handheld horse at the point “b” and not move hose.

④ When all are ready, ask "a" point personnel moves up and down the hose, until the water level of the hose in the the same place with point:a”;

⑤ Watch the level of point “b”, now point "b" will occur in two situations: one situation is the water level in the hose is higher than point "b",it means point "b" too low, adjust the feet under point “b”, to raise the "b" point;

Water level higher than point “b” water level lower than point “b”

⑥ Another situation is the water level in the hose is lower than point "b",it means point "b" too high, use same methods to adjust the feet under point “b”, to reduce the "b" point;



⑦ At the end, the water level in the two hoses both at point "a" and pont "b". Thus shows the two points at the same horizontal position;

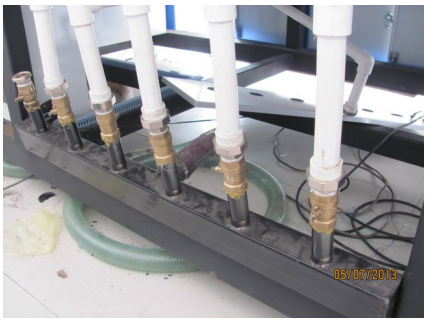
⑧ See point "a" as a reference point, adjust point "b" and point "c" at the same horizontal position with the same method.

3. Vacuum Pump Installation

Vacuum pump will produce relatively large noise when worKing, try to install it far from the printer or outdoors.

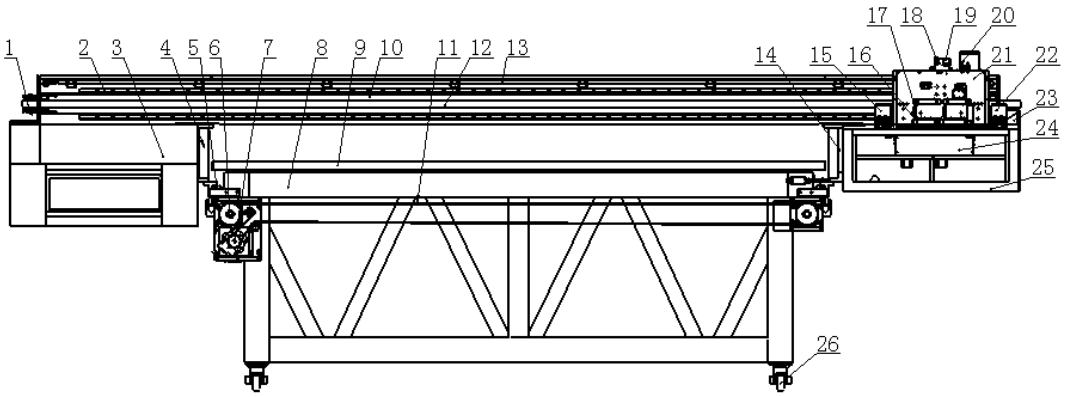
1) Connect one end of the pipe to the vacuum pump.

2) Connect another end of the pipe under the flatbed of the machine



Chapter IV Overview

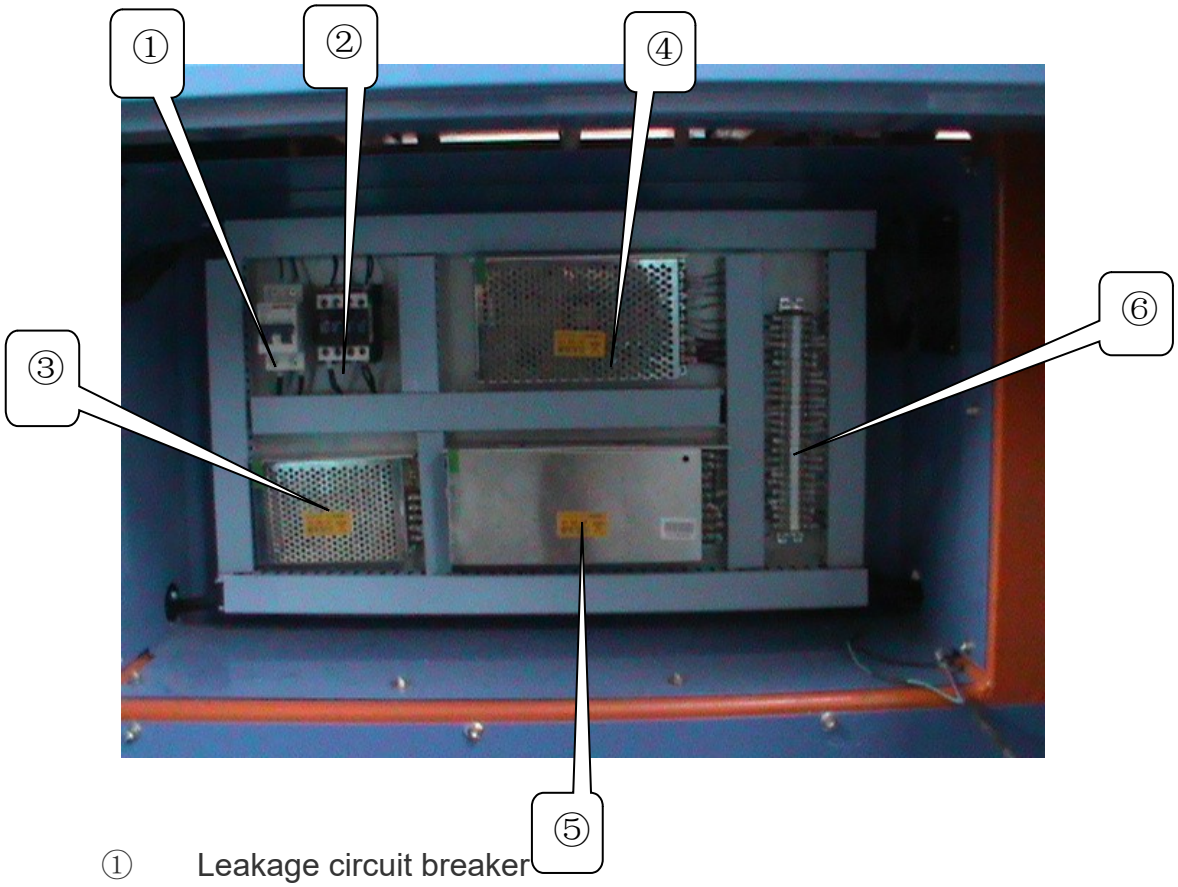
1. Appearance



1、X-axis belt tension
2、X-axis guide rail and slider
3、left box
4、Left Lifting Units
5、Y-axis guide rail and slider
6、Y-axis screw bar
7、Y-axis motor
8、bed
9、table
10、crossbeam
11、Y-axis belt
12、X-axis belt
13、X-axis encoder
14、Right Lifting Units
15、left UV lamp
16、Printhead
17、Ink sac
18、pressure regulating valve
19、negative pressure meter
20、secondary ink Cartridges
16、printhead carriage
22、right UV lamp
23、X-axis motor
24、Ink carriage
25、right box
26、Casters

2. Electrical System

1) Electric distribution box



① Leakage circuit breaker

② AC contactor

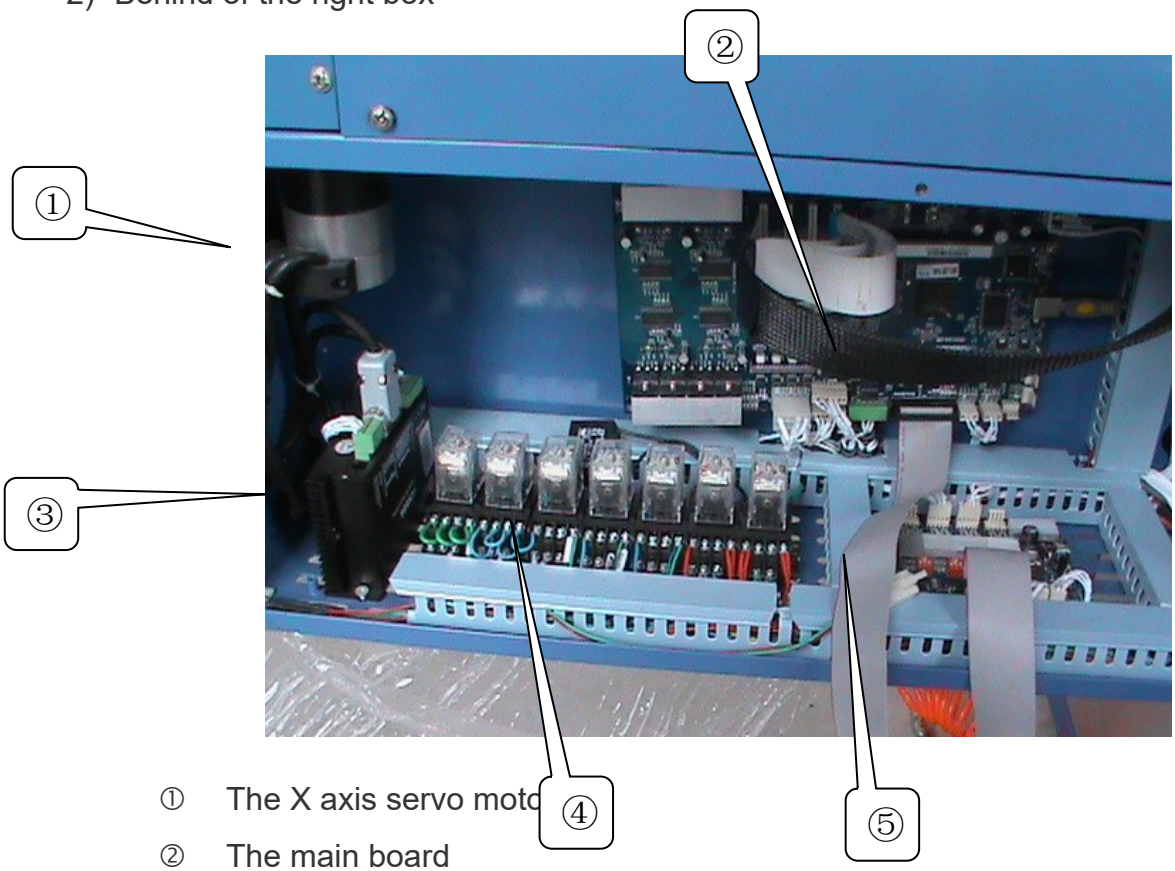
③ The 12V switching power supply

④ The 24V switching power supply

⑤ The 40V switching power supply

⑥ Contact terminals

2) Behind of the right box



① The X axis servo moto

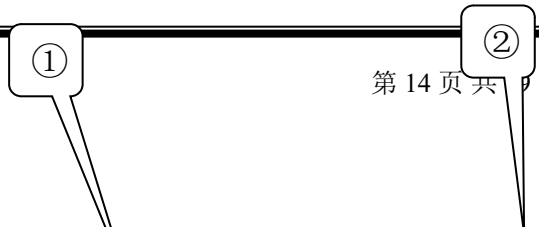
② The main board

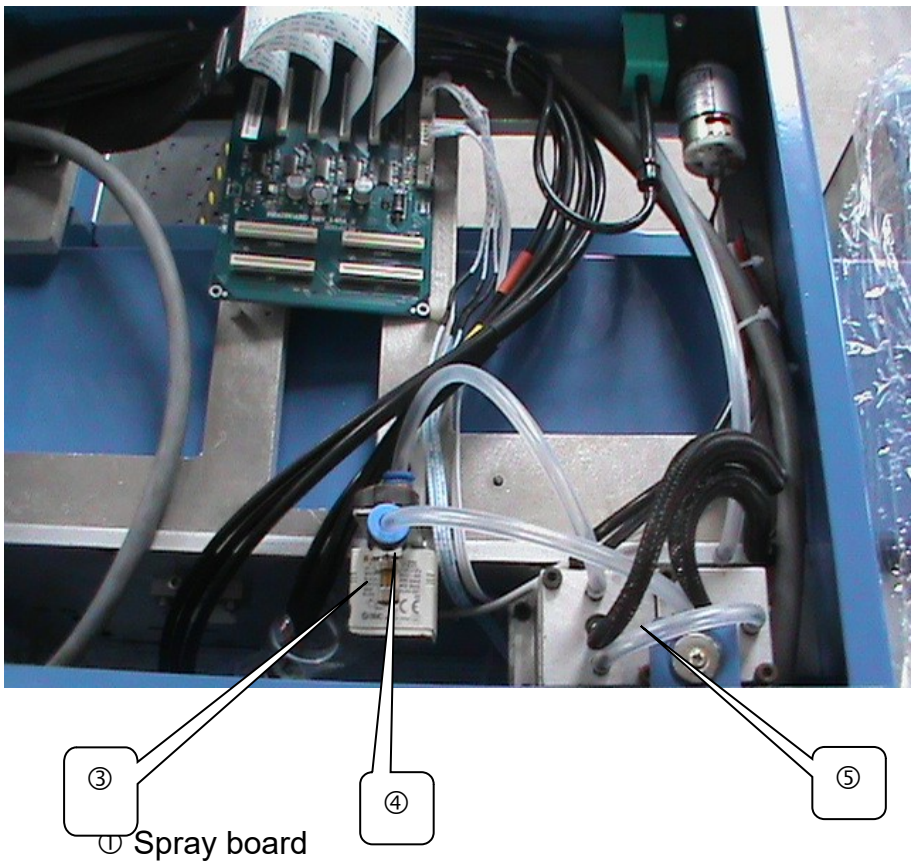
③ The X axis servo motor driver

④ Relay units

⑤ Ink carriage board

3) Printhead units





① Spray board

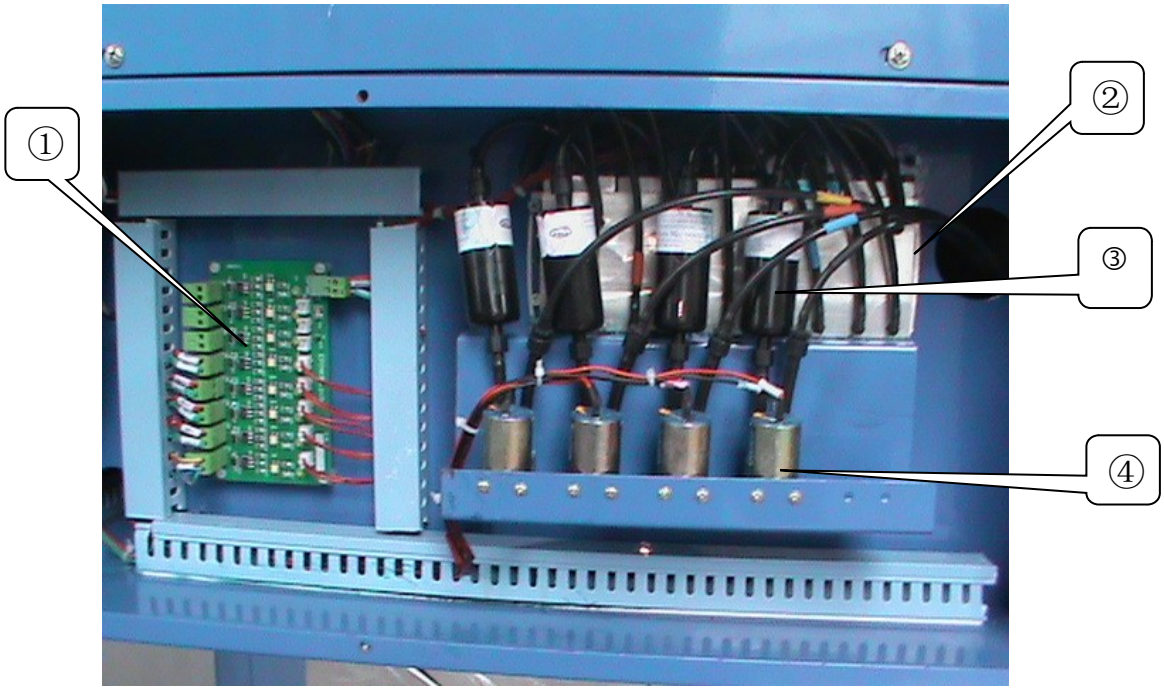
② White ink negative pressure pump

③ White ink negative pressure display

④ White ink negative pressure valve

⑤ White ink secondary tank

3. Ink supply system



① Ink supply board

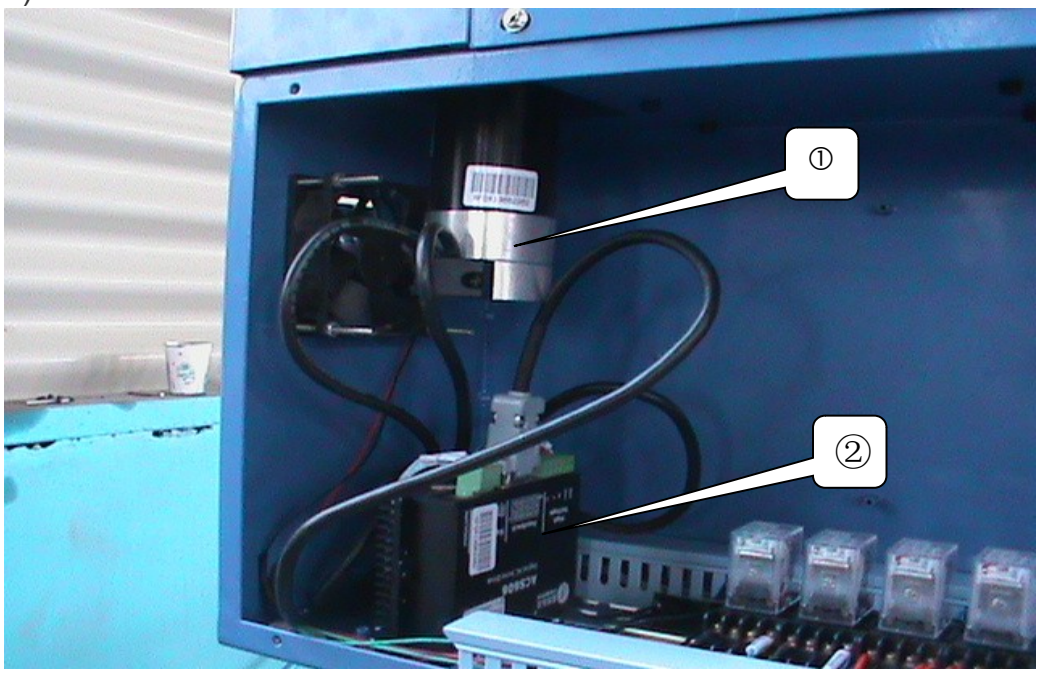
② Secondary ink tank

③ Ink filter

④ Ink pump

4. Transmission Parts

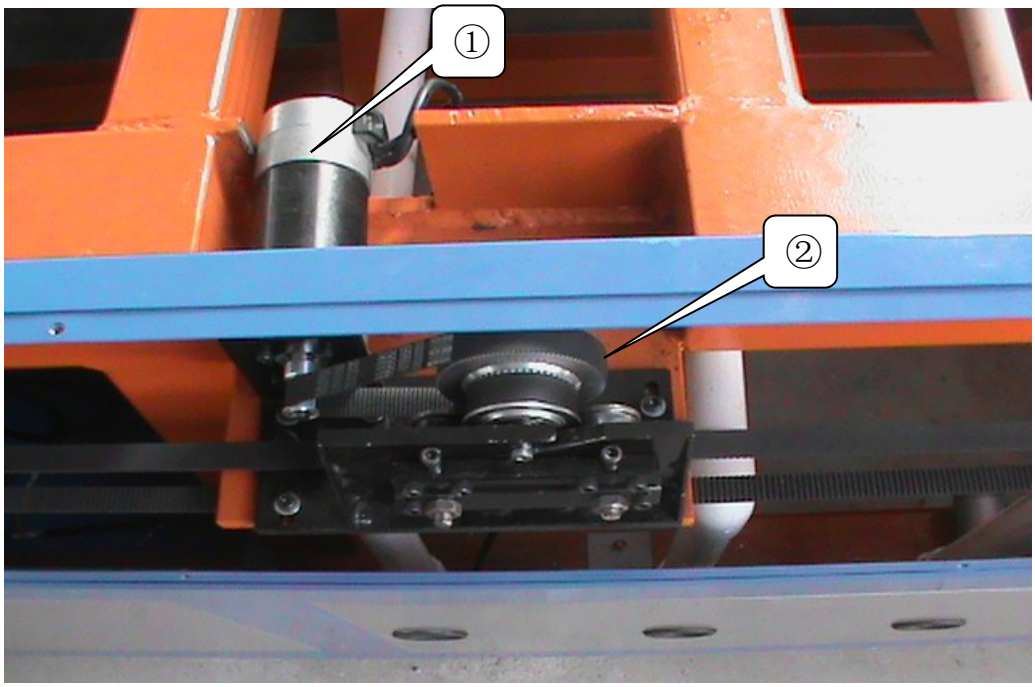
1) X axis



① X axis servo motor

② X axis servo motor driver

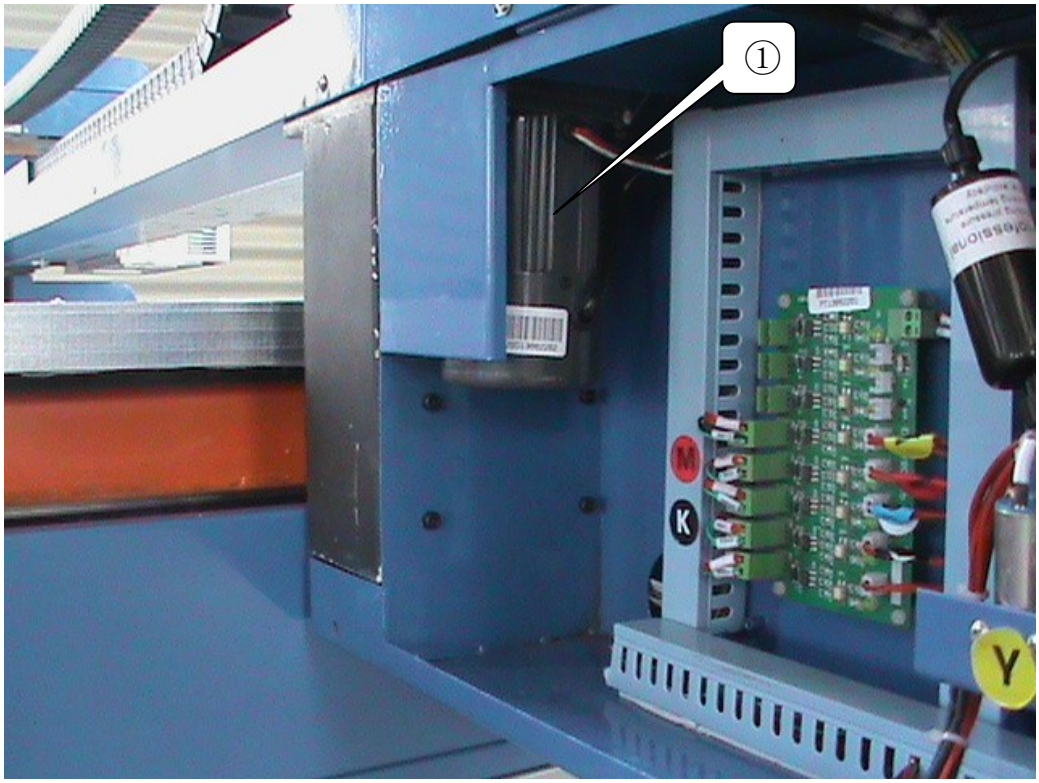
2) Y axis



① Y axis servo motor

② Y axis Tensioner Components

3) Z axis

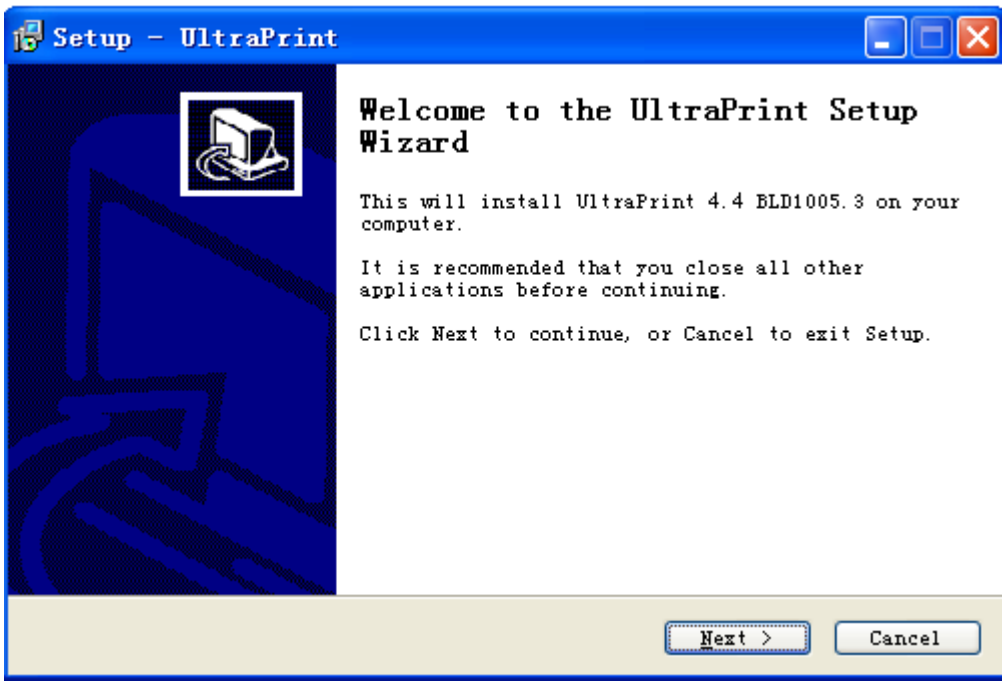


① Z axis servo motor

Chapter V Software Installation

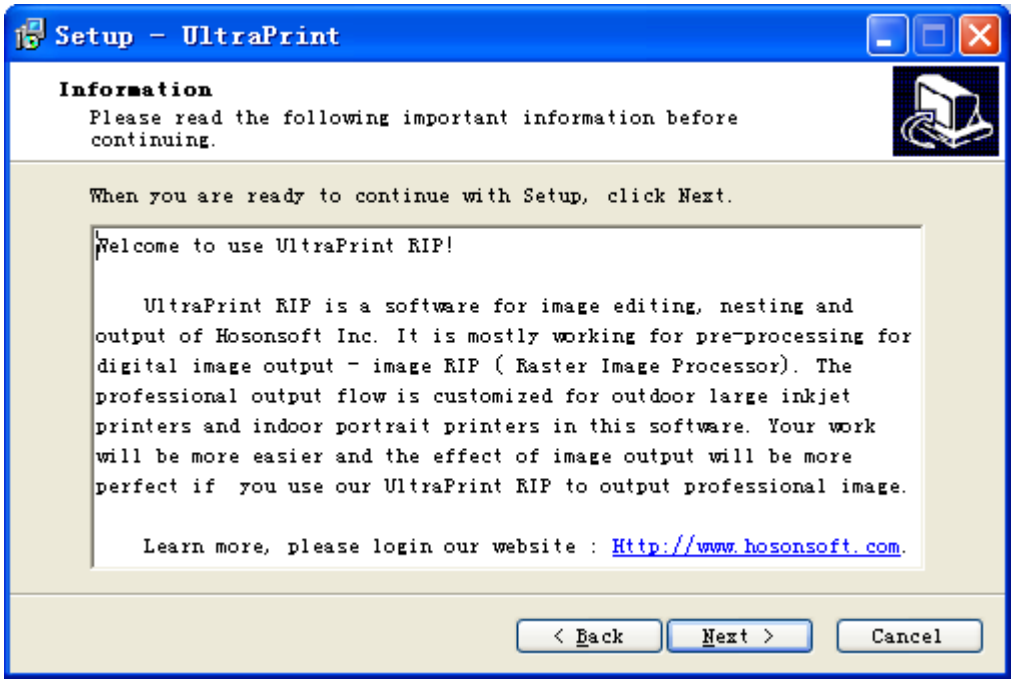
1. Ultraprint Software Installation

Ultraprint software running on WIN XP system with a CD-ROM and a dongle. Put the CD into the drive, open the software, take UltraPrint_Setup_Hsepn_EN_4.4 BLD1005.3.exe as an example, the installation program runs.

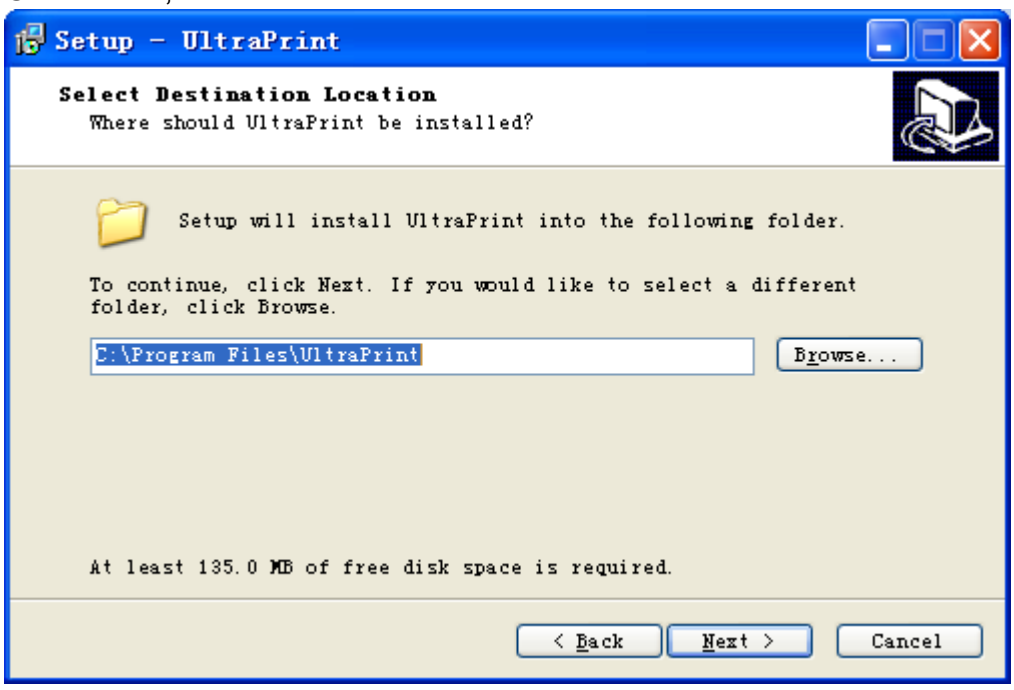


Click “next”

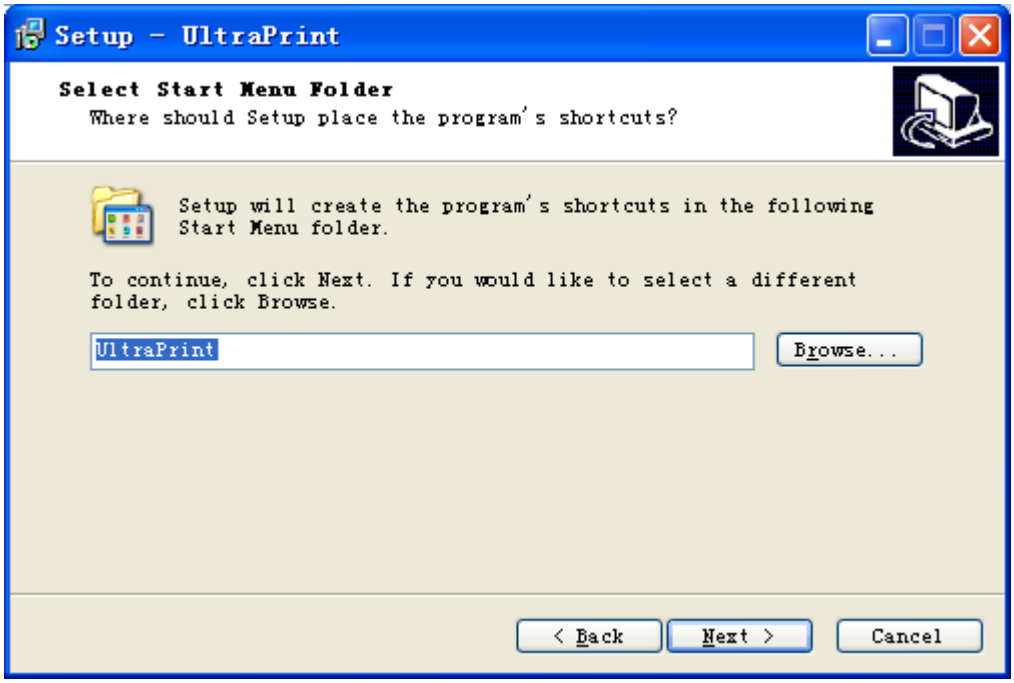
Choose “Accept”, and then click “next”,



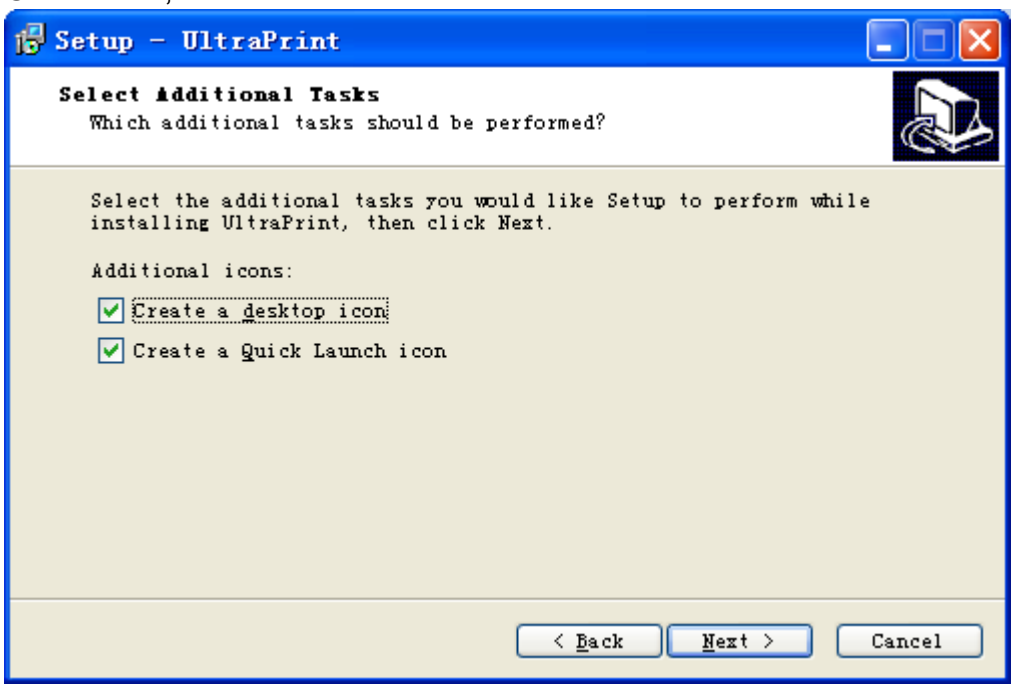
Click “next”,



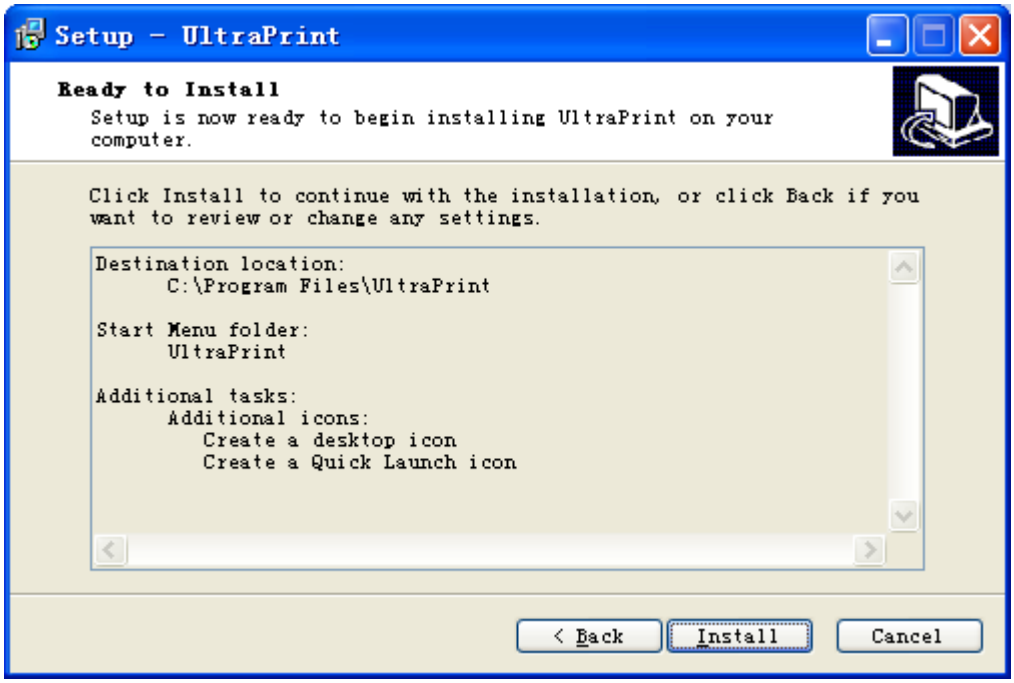
Click “next”,



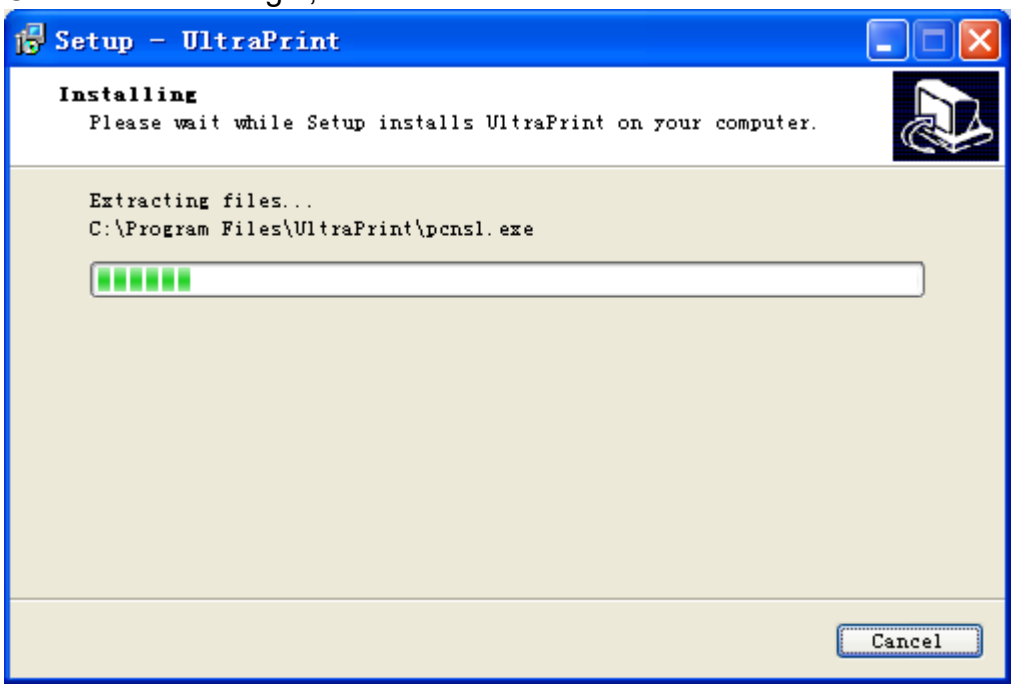
Click “next”,



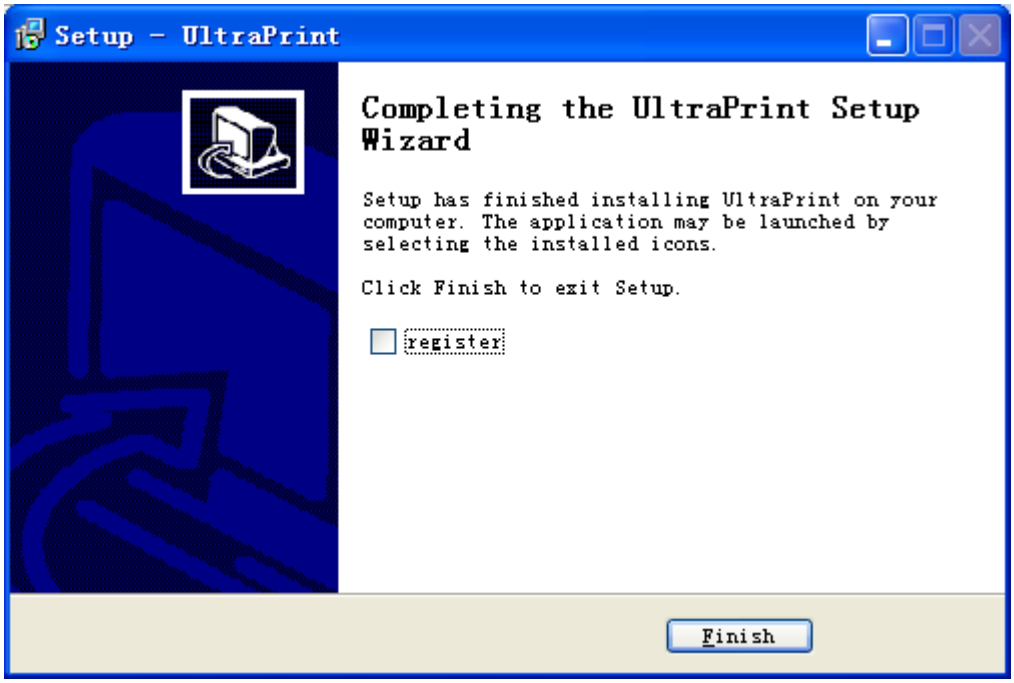
Click “next”,



Click “install” to begin,



Several seconds later,

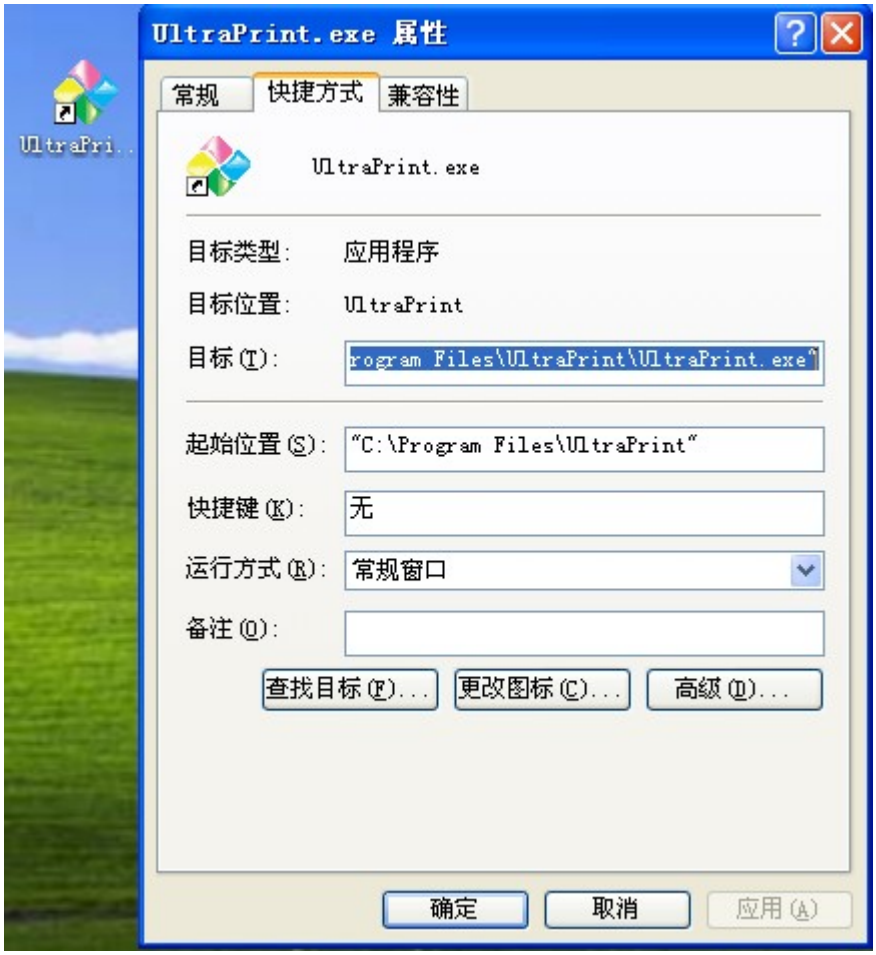


After installation click "Finish", plugged the dongle into the PC's USB interface.

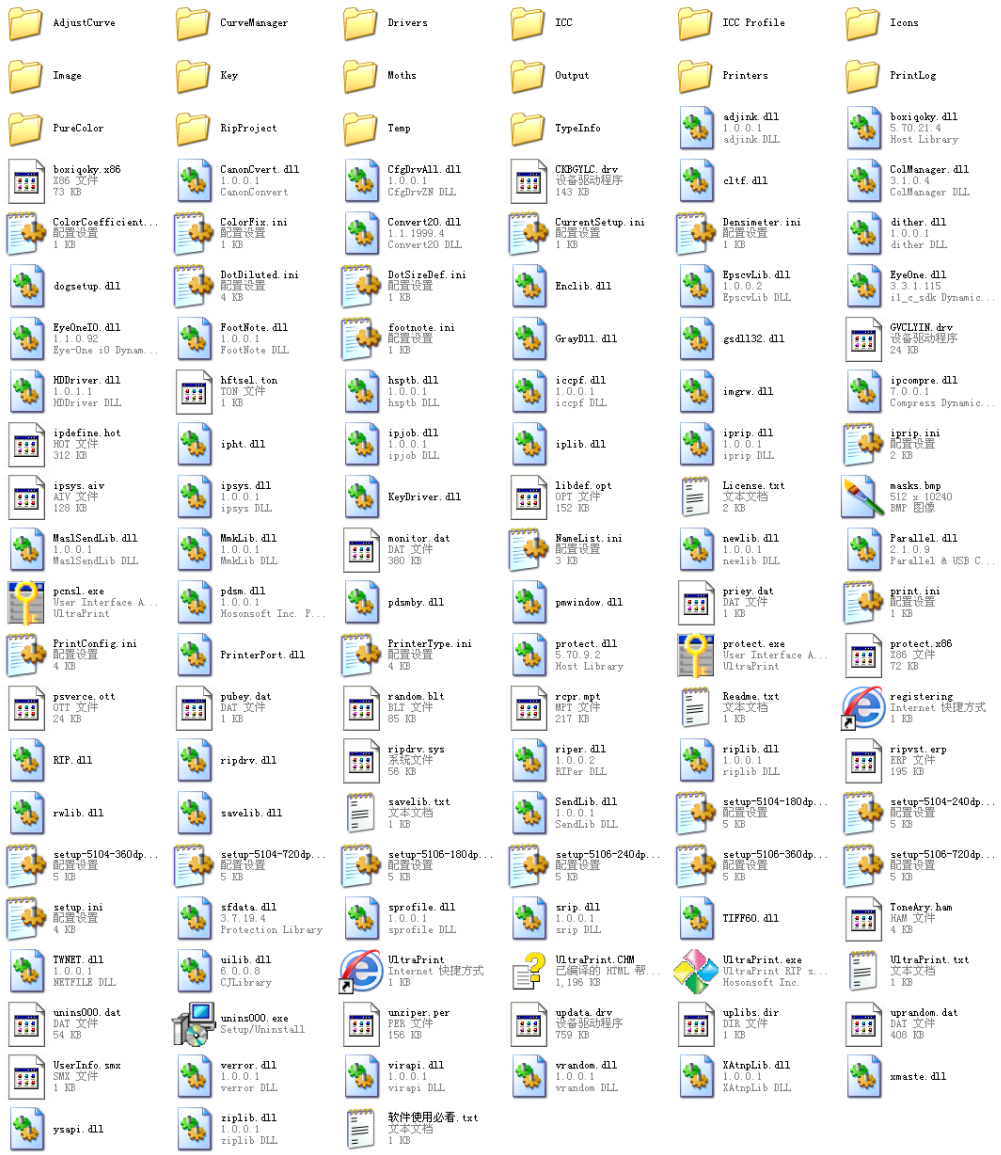
Uninstalling the software

Click right button 

,property



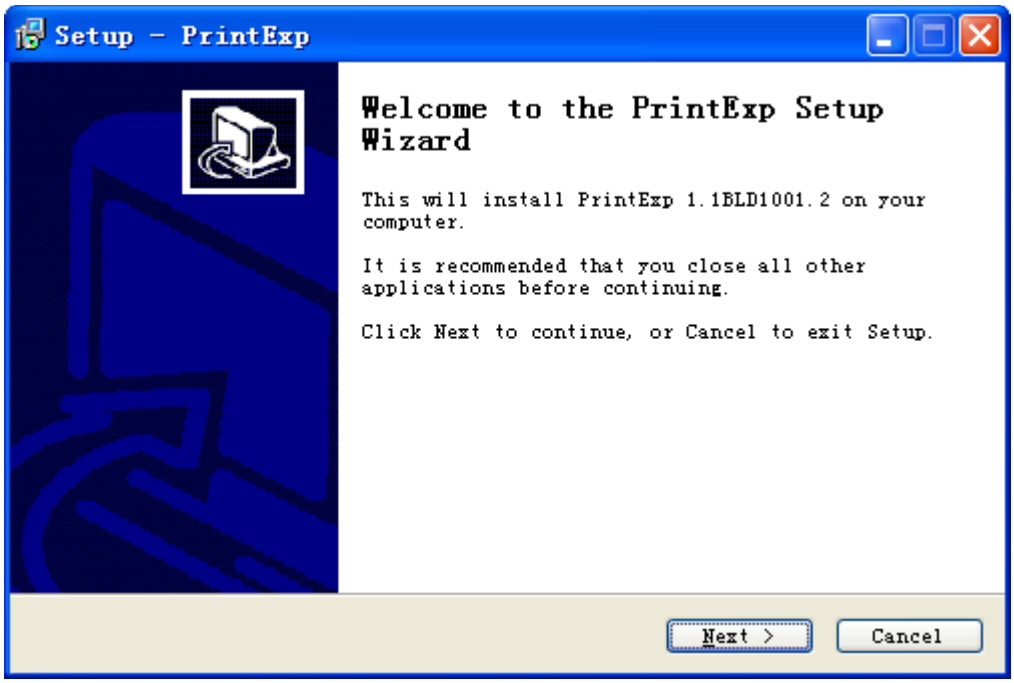
Click "Find Target"



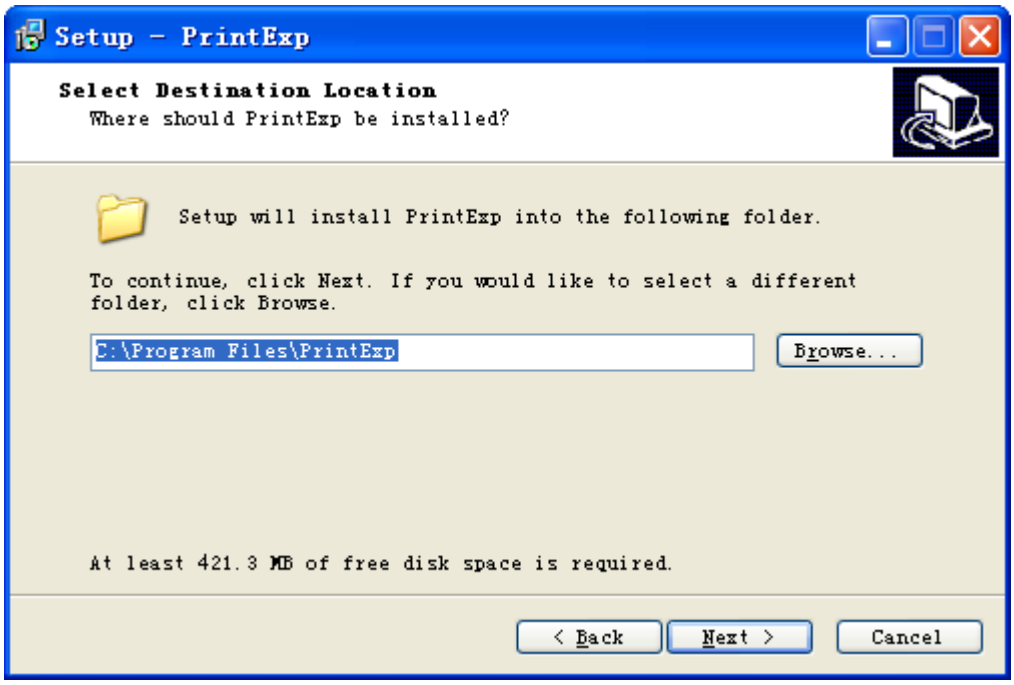
Double click left mouse button to uninstall the software.

2. PrintExp Software Installation

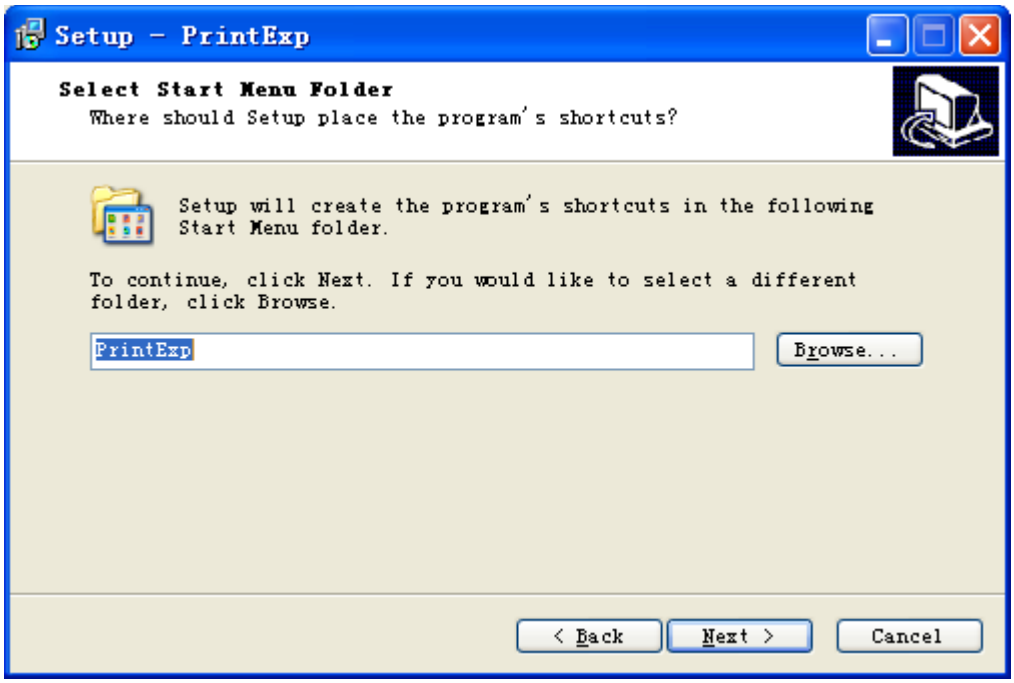
PrintExp software running on WIN XP system with a CD-ROM and a dongle. Put the CD into the drive, open the software, take PrintExp_UVEPDX5_PB-SDLY16H4C+W_EN_1.1BLD1001.2.exe for example, the installation program begins.



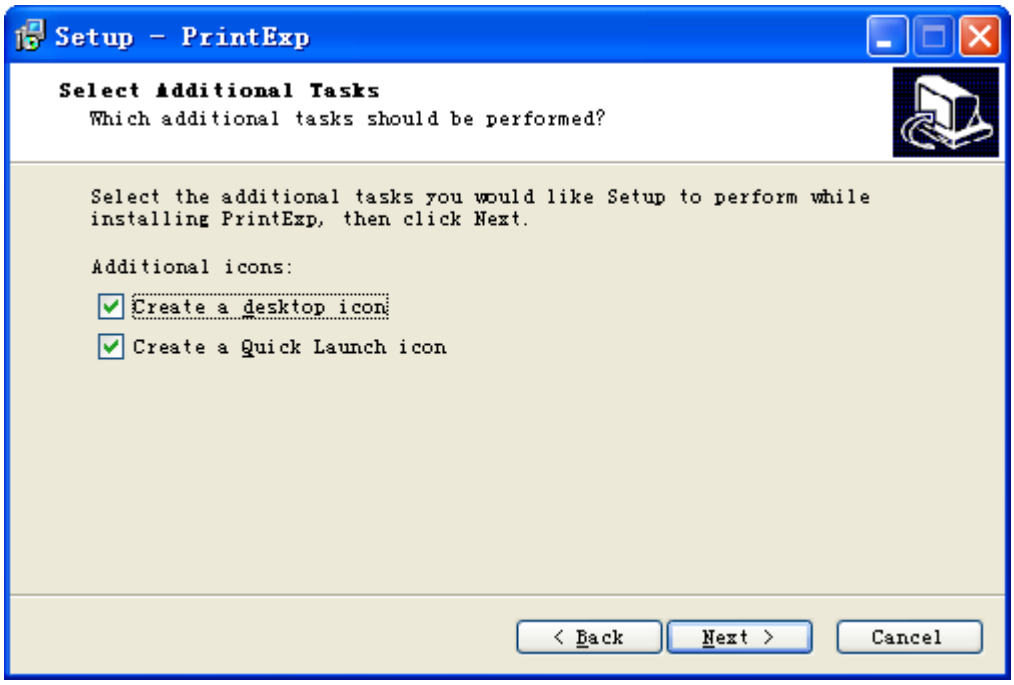
And then click “Next”



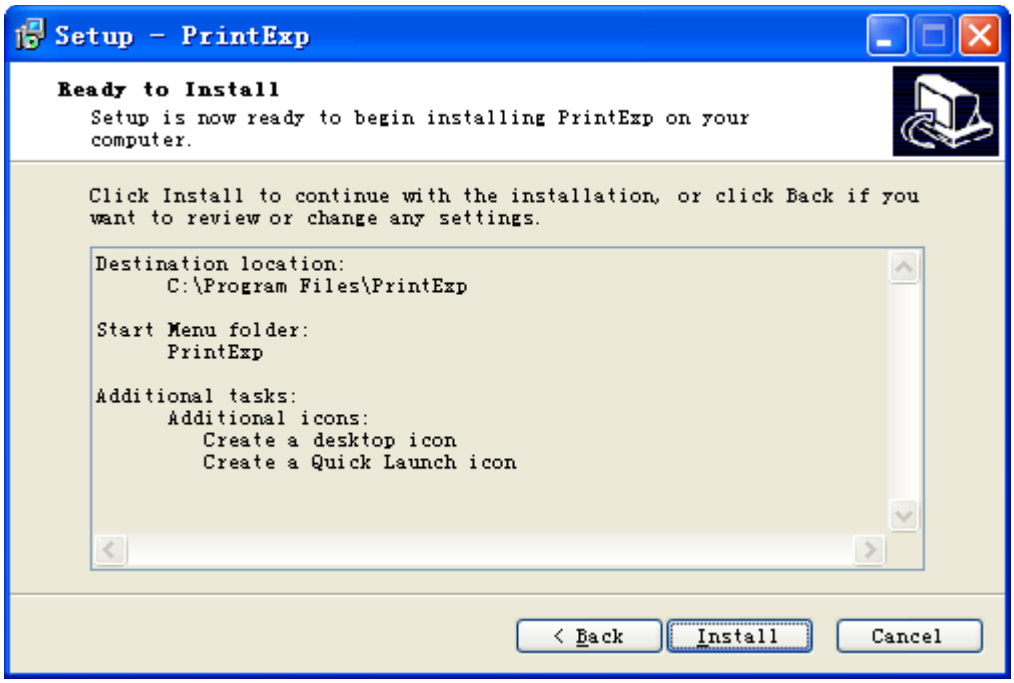
Select the software installation path, the default C: \ Program Files \ PrintExp disk, you can browse to select the directory you want to install, and then click "Next"



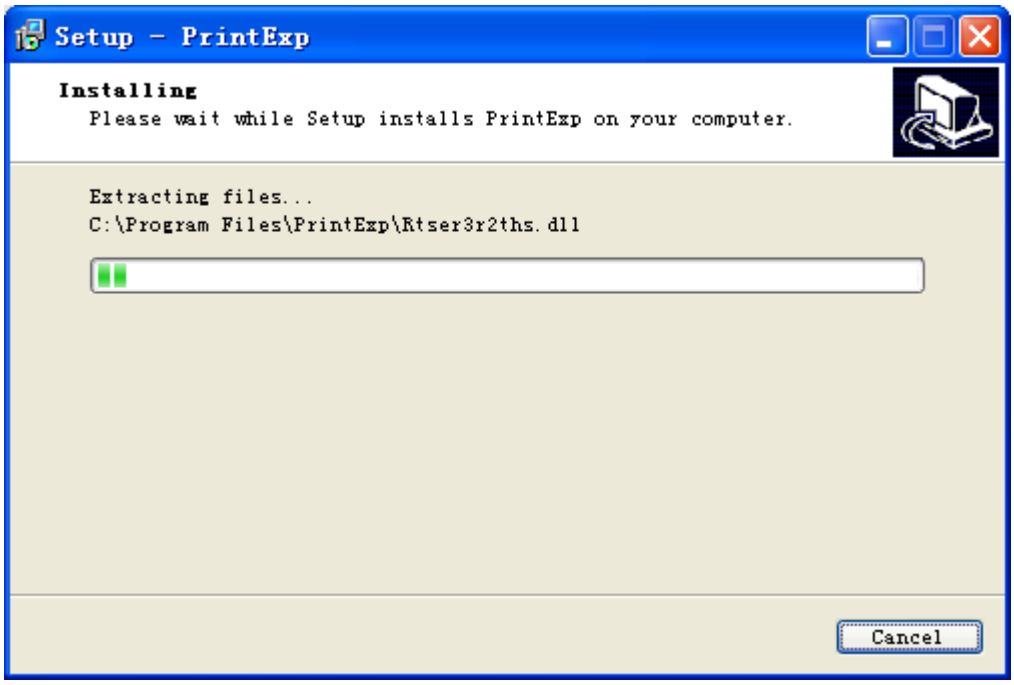
And then click “Next”



Whether to create a shortcut, and then click "Next":

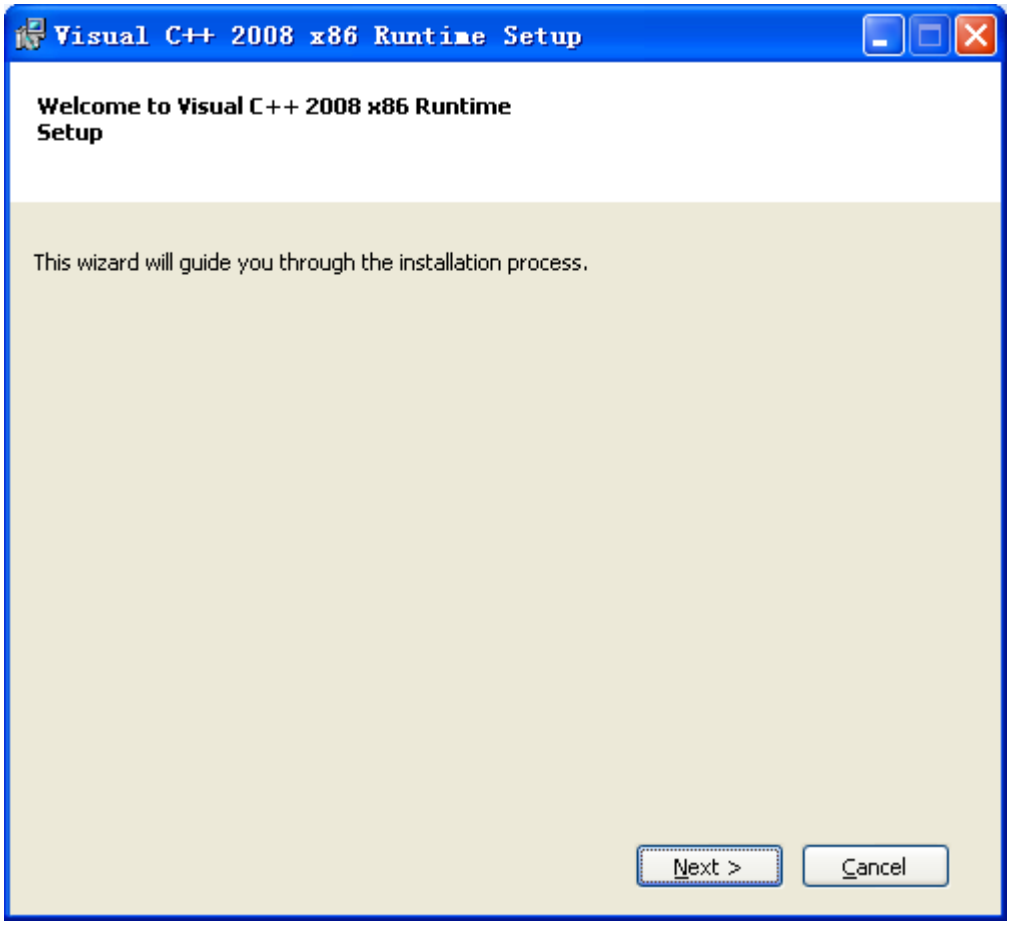


And then click "Install"

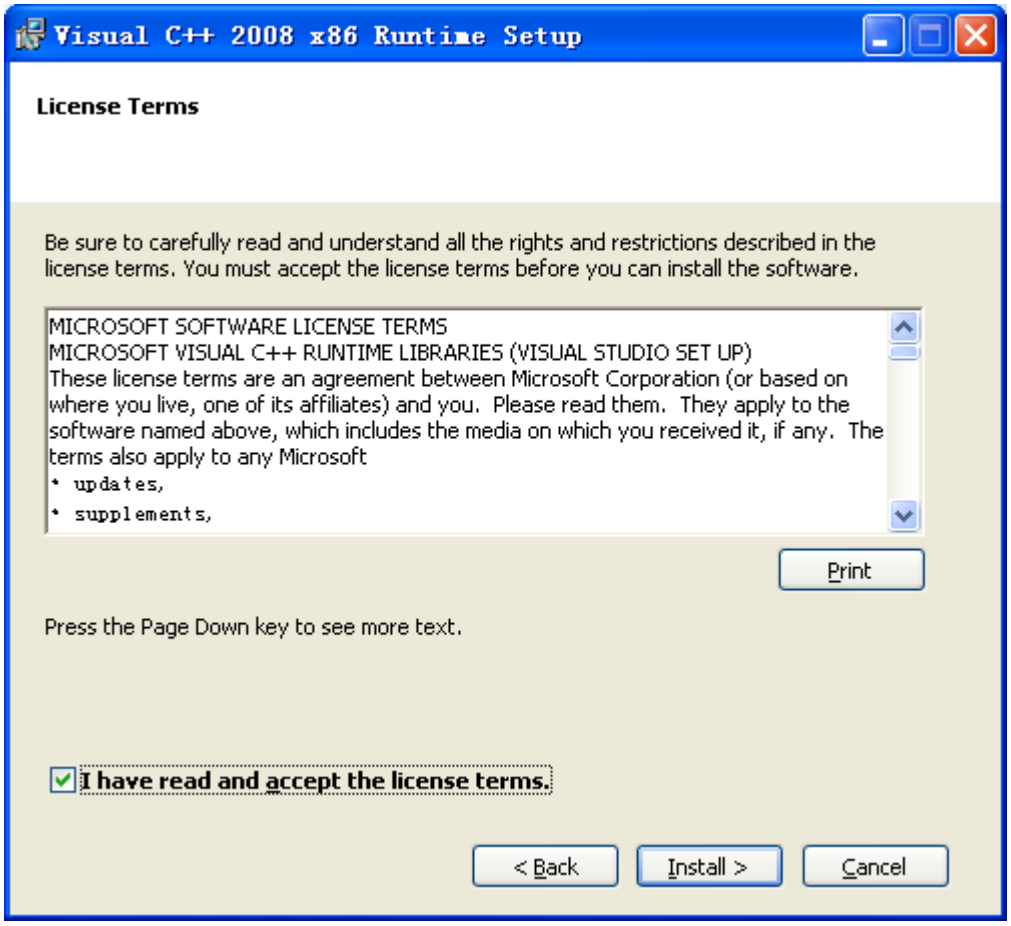


Software is being installed.

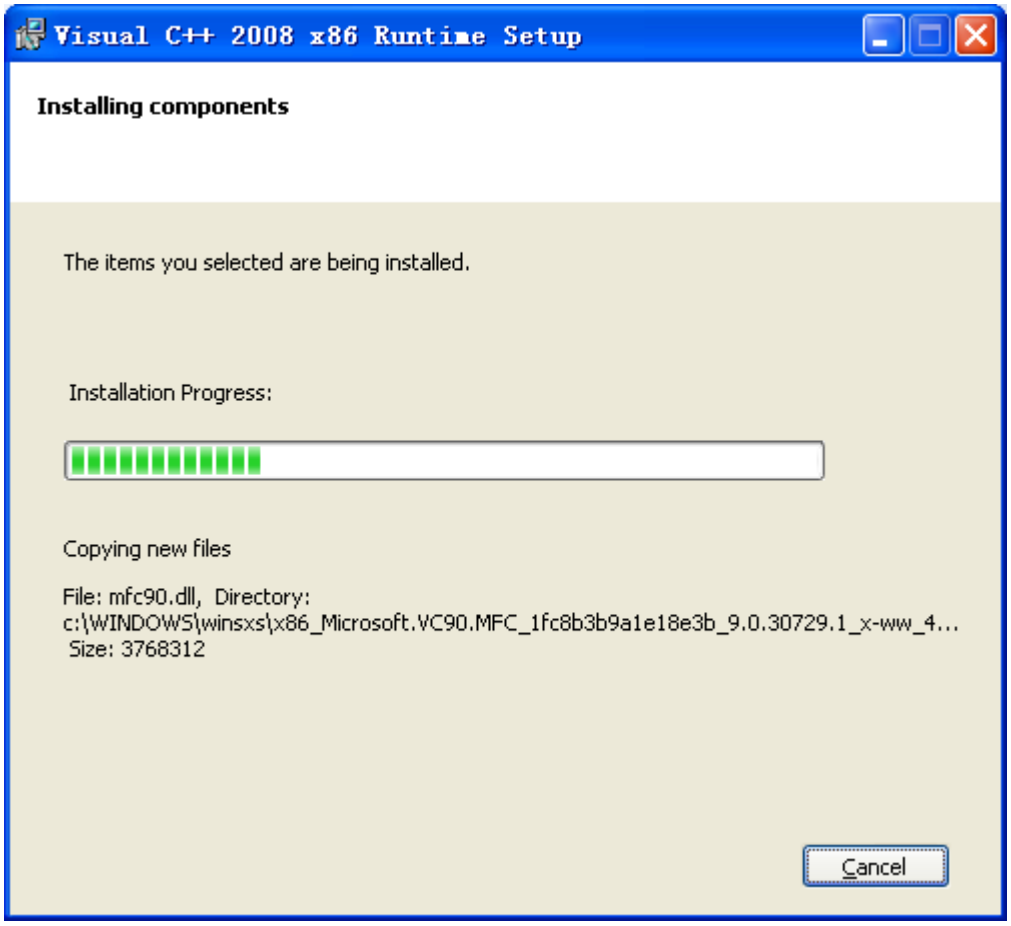
At the end of the installation software will automatically run the environmental installation package required, as shown below:

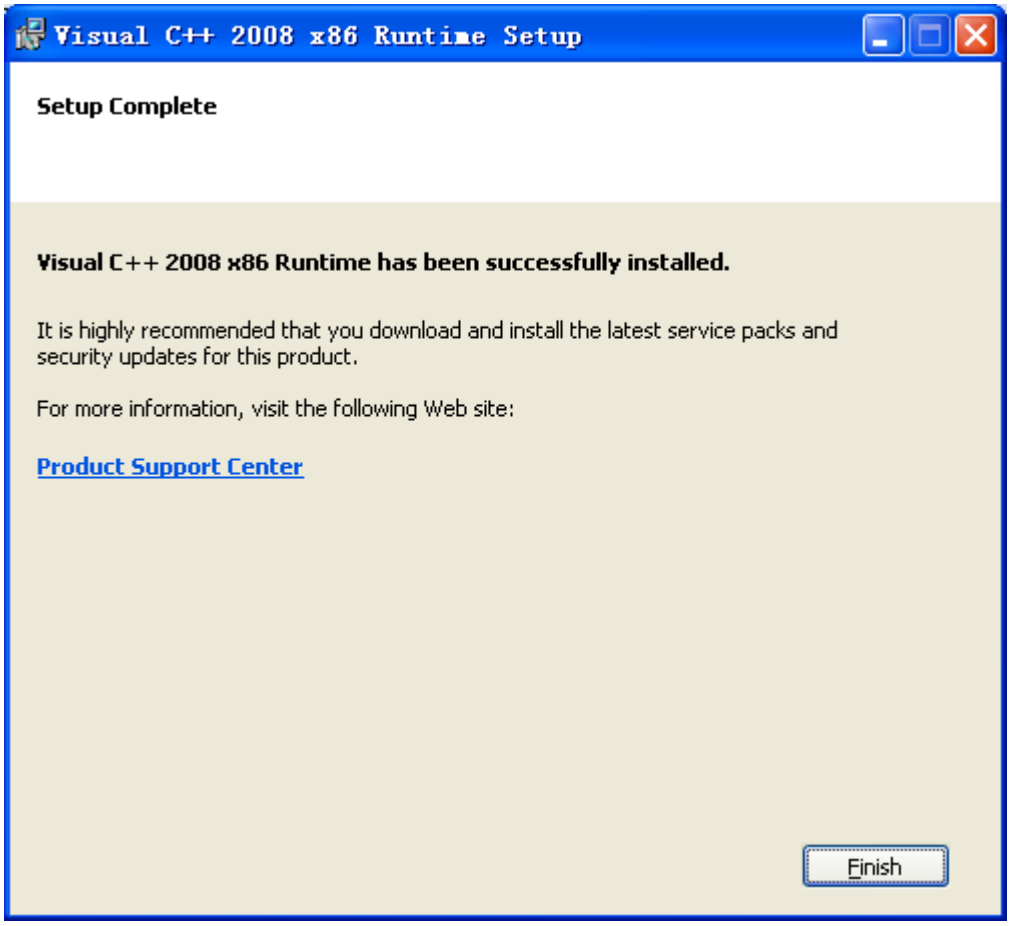


And then click "Next"

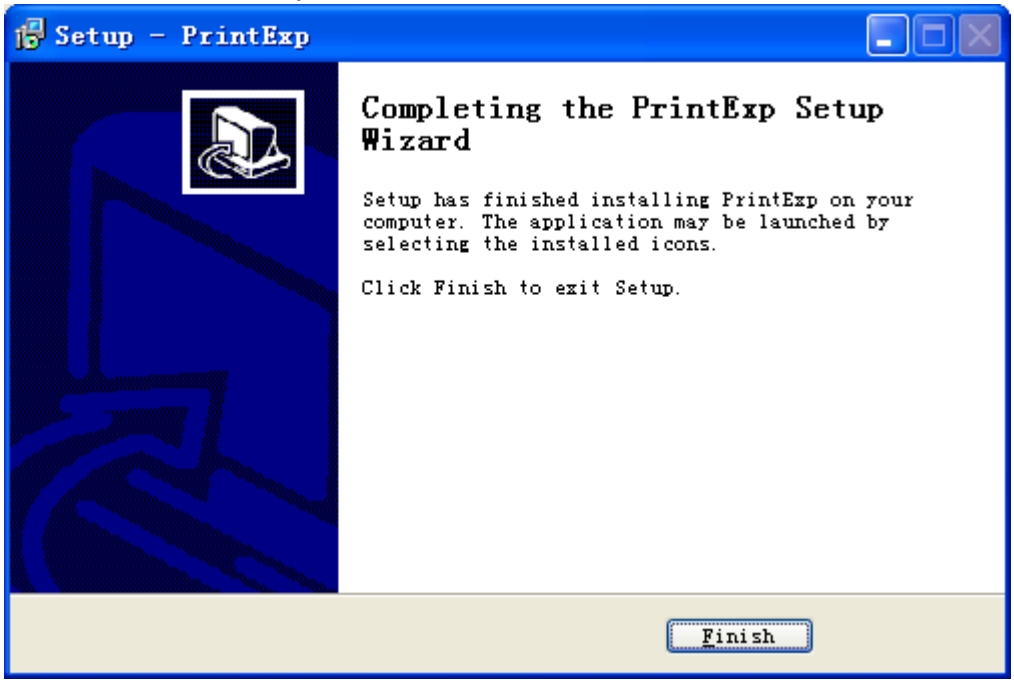


Select "I have read and accept the license terms" and then click "Install"


Visual C++ 2008 x86 Runtime Setup
Installing components
The items you selected are being installed.
Installation Progress:
Copying new files
File: mfc90.dll, Directory:
c:\WINDOWS\winsxs\x86_Microsoft.VC90.MFC_1fc8b3b9a1e18e3b_9.0.30729.1_x-ww_4...
Size: 3768312
Cancel



Click "Finish" to complete the installation



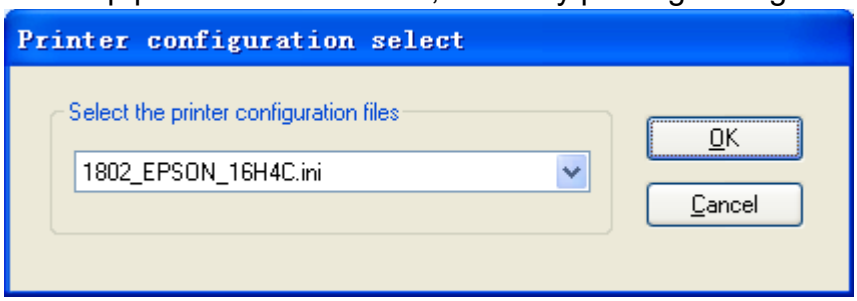
Click "Finish" to complete the installation

Chapter IV PrintExp Software

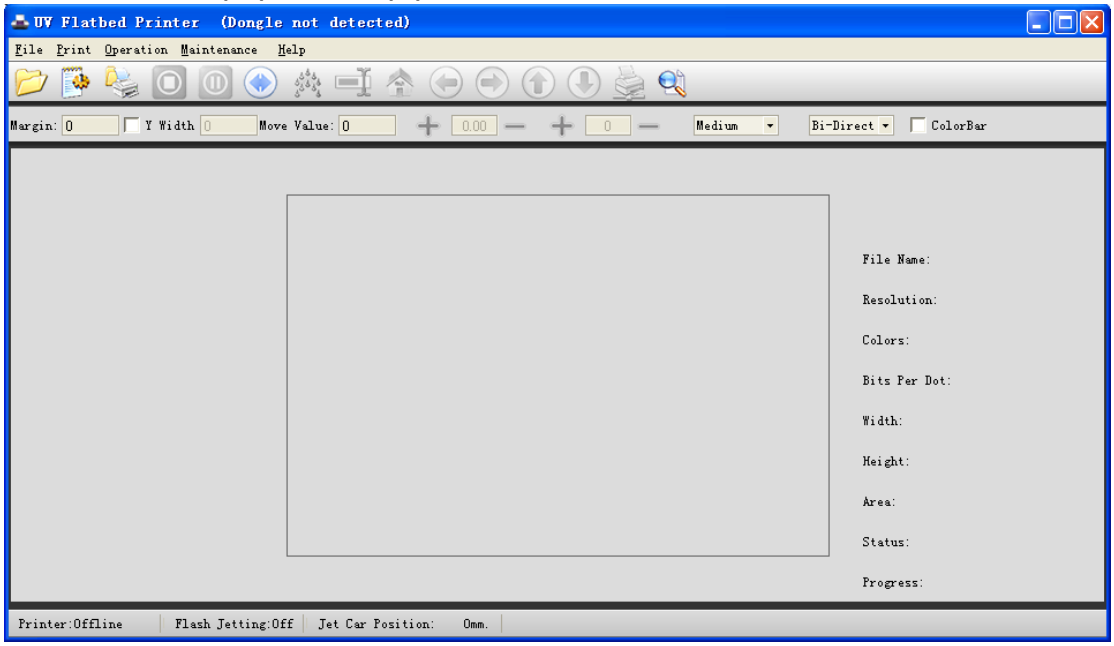
1. Interface Description

Double click 

, Or in the "Start / Programs" found inside PrintExp click will appear PrintExp print control software, "so early printing Configuration" window, as shown below:



Click "OK", will pop PrintExp print control software's main interface, as shown below:

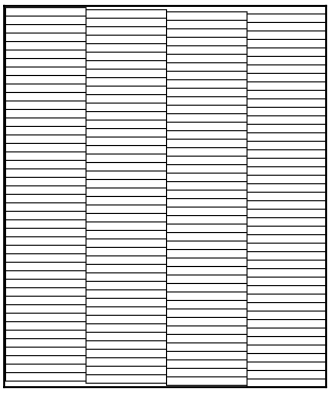


1) Toolbar

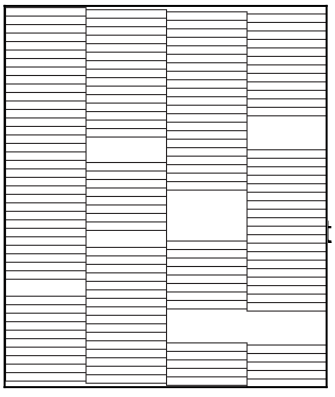
From left to right are:
Open: Select to open the specified RIP image format
Setting: Software Function setting options
Print: Print this job
Stop: Cancels the current print job
Pause: Pause the current print job
Cleaning: cleaning nozzle
Flash spray: spray nozzle origin position switch flash
(Reposition: carriage back home
Move left : printhead carriage move to the left
Move right: printhead carriage move to the right

Move back: print crossbeam back
Move forward: print crossbeam forward
Test print: Test button is divided into two sub-options “nozzle status ”and “vertical alignment”
①Head status: check the current nozzles, if there is clogging or lost needles. If there are, please cleaning the print heads and then print the status picture again until the spray holes all-out. Click “Head Status” appears as shown below:

Head Status Diagram



→ ok, normal print



→ lost needles, cleaning nozzles, so as not to affect the print quality

②Vertical alignment: Check the physical location of the nozzle whether it is horizontal and

Vertical.

Upper and lower parts in a straight line is OK

Upper and lower two parts are dislocation, we have to adjust the pratical position of the nozzles to be vertical.

Voltage settings: Set the nozzle voltage

From left to right are:

Margin: printhead carriage printing start position

Move value: the carriage moved as the specified value

Step: step fine-tuning when printing

Bi-directional: the two-way fine-tuning when printing

Print speed: the speed of the carriage, optional (low-speed, medium-speed, high-speed, top speed)

Print direction: the print direction of the carriage, optional(one-way-to-left, one-way-to-right, two-ways)

Color bar: Add a color bar

2) The status bar

Printer: Display whether the printer is connected

Flash: Display whether the flash turns on

Carriage Location: Display the carriage location

3) Print job information bar

Top: display print job information

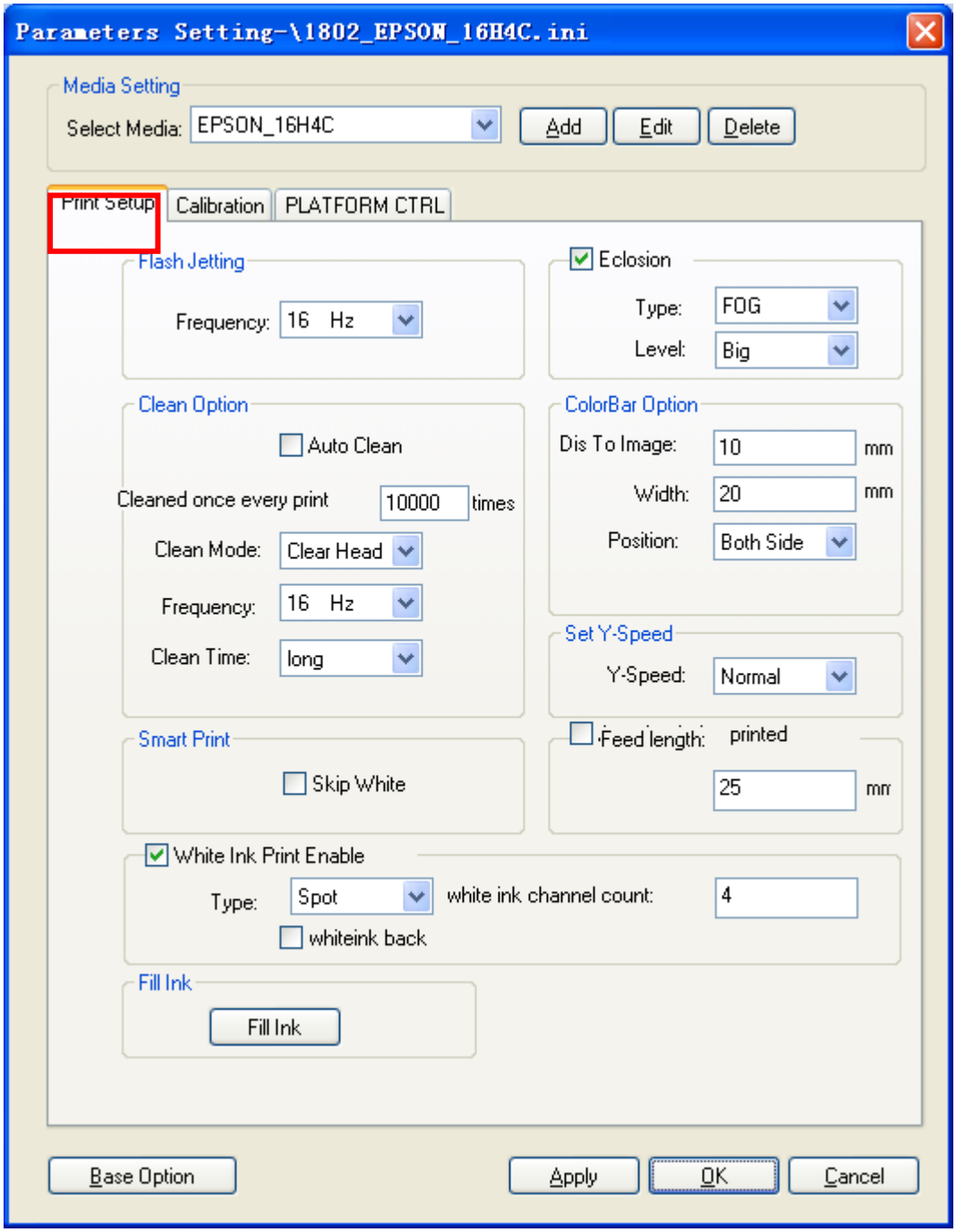
Below: print job queue box

2. Parameter Settings

1) Media setting

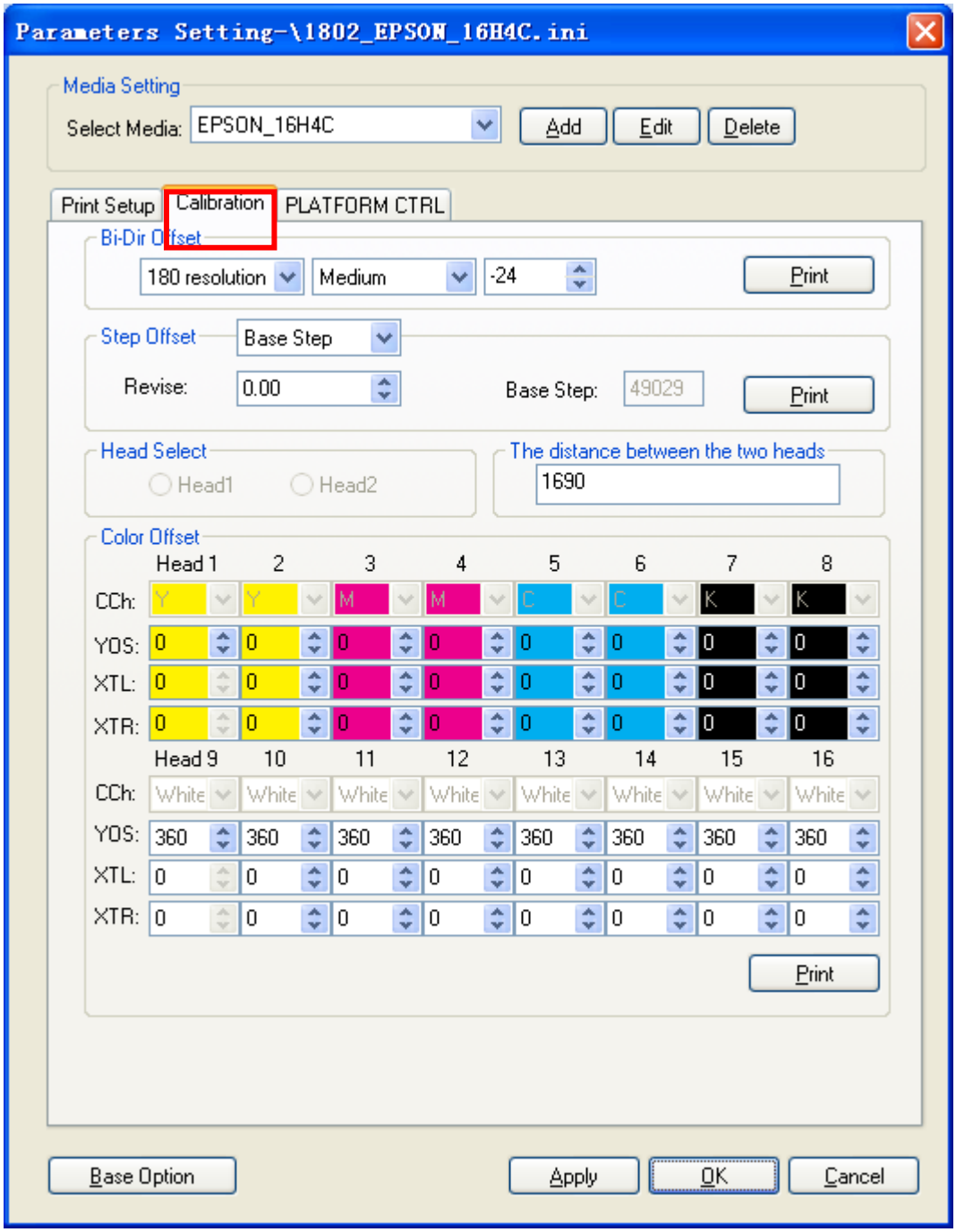
Select media:according to different media to save the configuration parameters, the user can add their own medias and save the parameters of the media.

① Print Setup

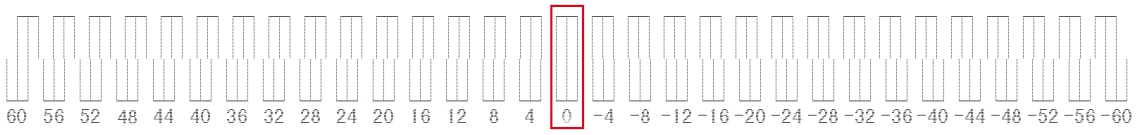


a. Flash Jetting
Frequency: spray nozzle flash frequency amplitude (1Hz ~ 4KHz)
b. Clean option
Auto clean: will auto clean in the printing process, it is flash spray mode (according to the following settings to clean)
Cleaned once every print… times: cleaning after print how many times
Clean mode: auto clean flash jetting mode
Frequency: flash jetting frequency
Clean time: set auto clean time
c. Smart print

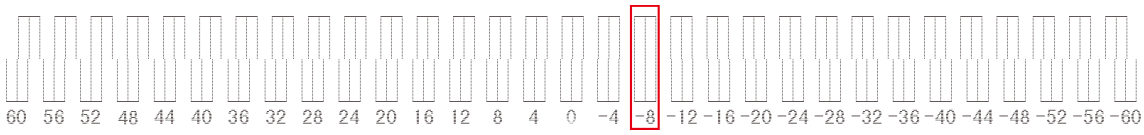
Skip white: Skip does not print a blank screen
d. Eclosion: the nozzle edge feathering and soften PASS line, can be adjusted according to the type and magnitude of value adjustment feathering effect
e. Color bar Option
Dis to image: color bar from the edge to the image position
Width: set the width of the color bar
Position: where the color bar of the print image position, optional (the left side of the image, the right side of the image, on both sides)
f. Set Y-speed: set the speed of Y axis, optional(slow, medium, and fast speed)
Automatic feeding after printing: Automatic feeding after the job done
White ink print enable:when use white ink software, choose this option
2)Calibration



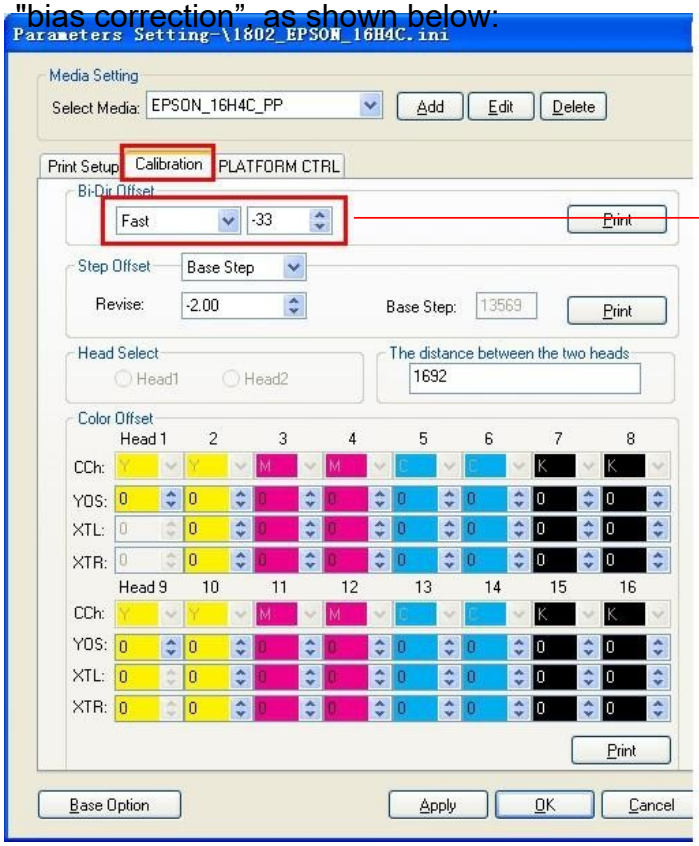
① Bi-directional offset:test if the carriage print back and forth in the same position(optional print speed, medium-speed printing, high-speed printing, the choice of three speeds for printing images, the three print speeds are required calibration) Click the "Print calibration map" as shown below:



Take “0” as basis，align with “0”，OK



As shown above, if the "0" position is not aligned but are aligned at “-8” position, then we should make correction in the software,select the main interface toolbar ---- "Settings" ---- "bias correction”, as shown below:



Print a test chart view on what value the vertical, and then based on the value of the original addition and subtraction operation, the input point after the "Apply" and then print a test chart view, until the “0” position vertical.

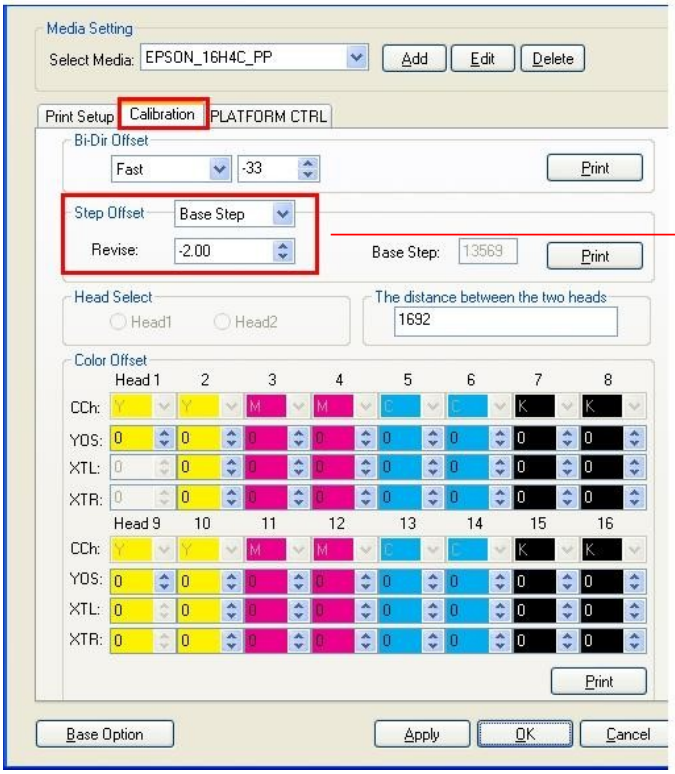
When the upper and lower two black lines in the vertical position “0”, means the bidirectional printing is accurate; if “-8” is in vertical position, we should minus 8 in the block corresponding to the print speed. After saving, do test print again until the “0” position is vertical.

On the contrary,if it is vertical in the position “8” , then we should plus 8 in the block corresponding to the print speed , saved and print a test again until the “0” position is vertical.

② Step Offset:If the printed image is correct, whether there is overlapping or separate between Passes (stepping calibration is divided into a base step, 2PASS, 3PASS, 4PASS, 6PASS, 8PASS, the first step calibration reference, and then stepping calibration for each PASS), click on the "Print calibration graph" as shown below:

Overlapping on “0” is OK

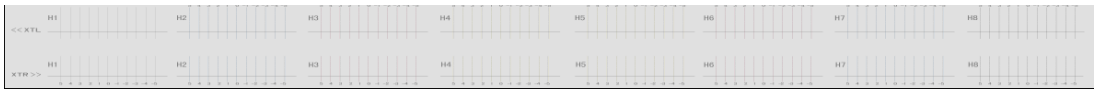
As shown above, if there is no overlap at the position "0" , but overlap at position “3”, then we should make correction in the software. Select the main interface toolbar ---- "Settings" ---- "bias correction”, as shown below.



Print a test chart to view which value is overlapped, then the original value based on subtraction operation, the input point after the "Apply" and then print a test chart view, until the 0 position overlap so far.

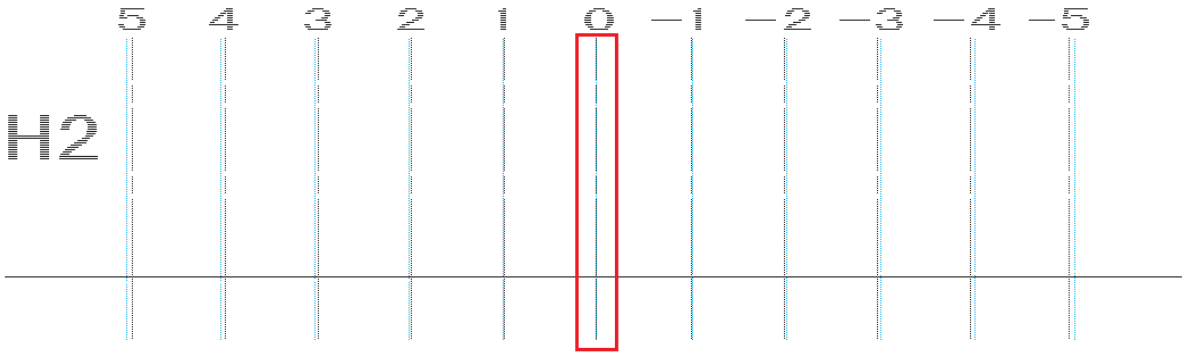
When the black line overlap at the “0” position, proves the base step is accurate; if overlap at the position “3”, we should plus 3 in the block behind the "Revise", and then click "Apply", and print the test chart again until overlap at the “0” position. On the contrary, if it is overlapped at the position “-5”, we should minus 5, and then click "Apply", and print the test chart again until overlap at the “0” position.

③ Head Select: When using the a single head for printing, you should select which head to use in the software.
④ The distance between the two heads: When print the head status, if there is a gap between the left and right heads, you should adjust the distance between the two heads, the original value plus or minus, until aligned.
⑤ Color offset: color offset of the printheads, divided into the left print color offset and right print color offset , click “Print calibration graph” is shown below:

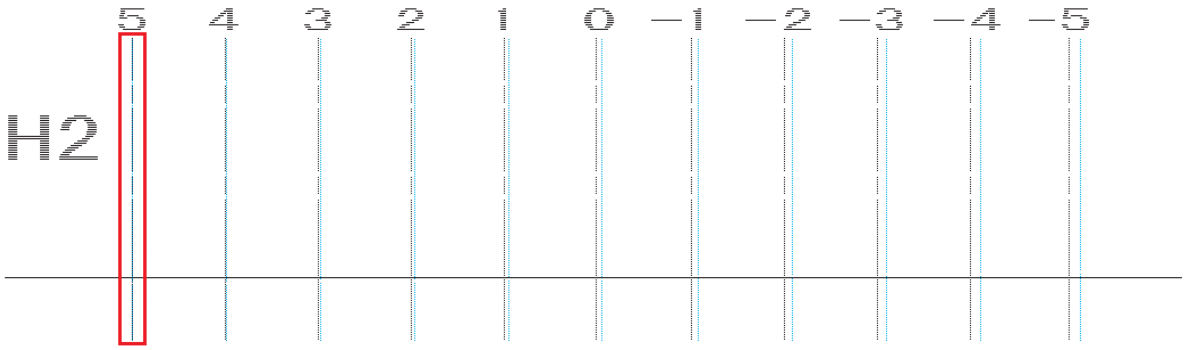


Each Color calibration charts

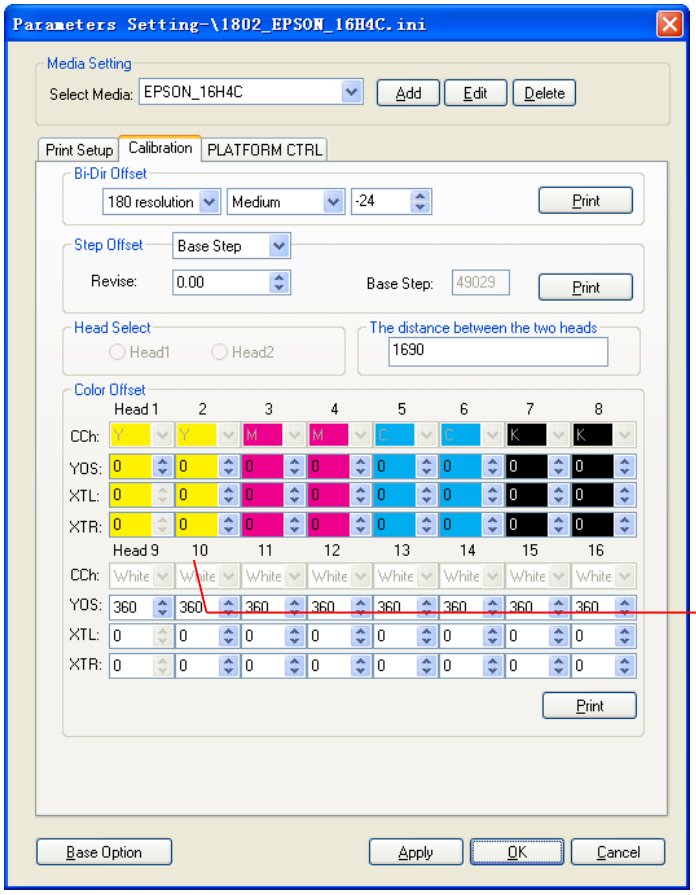
Take Right print H2 as example,



At position “0”, the cyan lines completely overlapped by the black lines is OK



Select the software main interface toolbar ---- "Settings" ---- "Calibration", as below:



Make addition and subtraction on the basis of the original value.

Make addition and subtraction on the basis of the original value.

Make addition and subtraction on the basis of the original value.

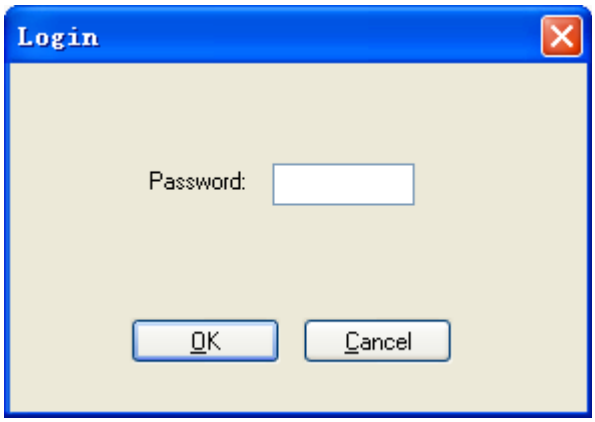
addition and subtraction on the basis of the original value.

After input the data, click "Apply", and then print a calibration graph, observe whether the overlap is at the “0” position, if not, revise it, until overlap at the “0” position.

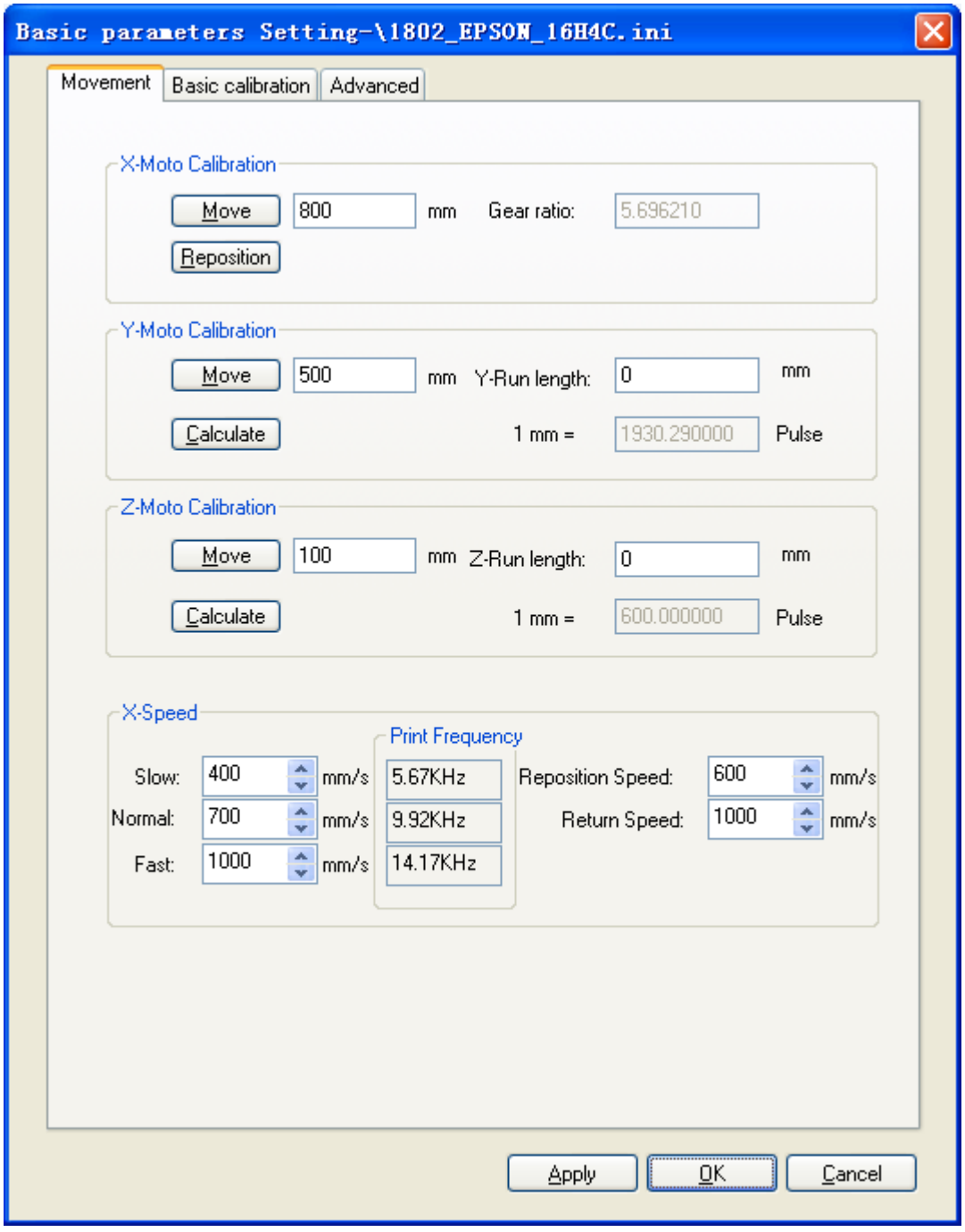
According with the above method, make calibration of the left offset \ right offset H2, H3, H4, H5, H6, H7, H8 position, and then print the test chart again, until overlap at the “0”position.

3. Engineer Management

Click the “base option” settings, a dialog box as shown below:



Enter the appropriate engineers password, click OK, enter the basic parameters setup options, as shown below:



1. Movement Parameter Settings

1）X-motor calibration: carriage default 800 pulse value to move, until the carriage is stopped, click the “reposition” to calculate the gear ratio automatically.

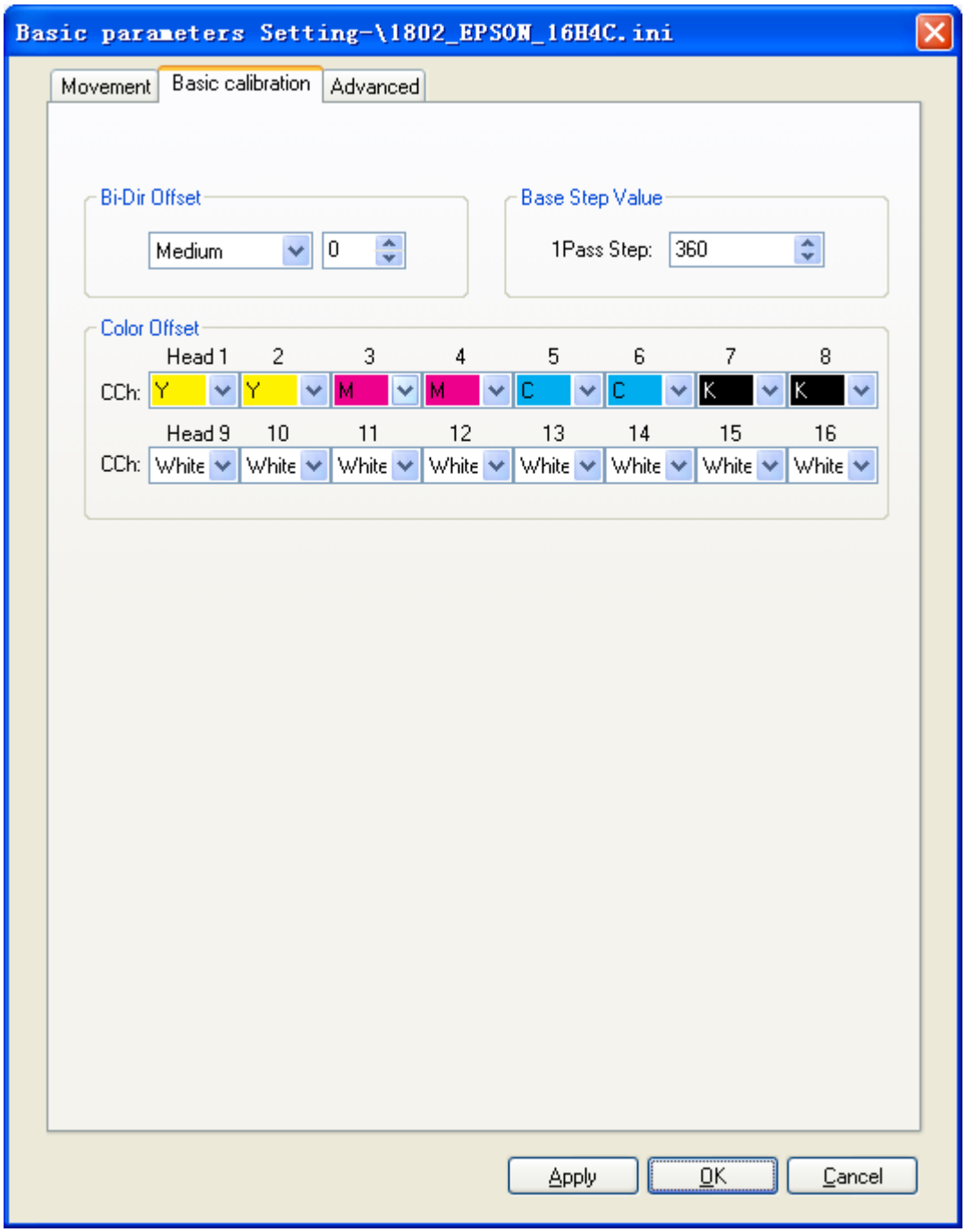
2）Y-motor calibration: When make the Y-Motor calibration, please mark the material , and then click “Move” (default 800 pulse value), to be walking the paper from the paper stop measurement, fill in the box go behind the cloth length measurement the value, and then click the calculation.

3）X-speed:the speed of the carriage is corresponding to the speed value of slow, normal, and fast printing setting.

4）Reposition Speed: the speed of the carriage back to origin after the printing job.

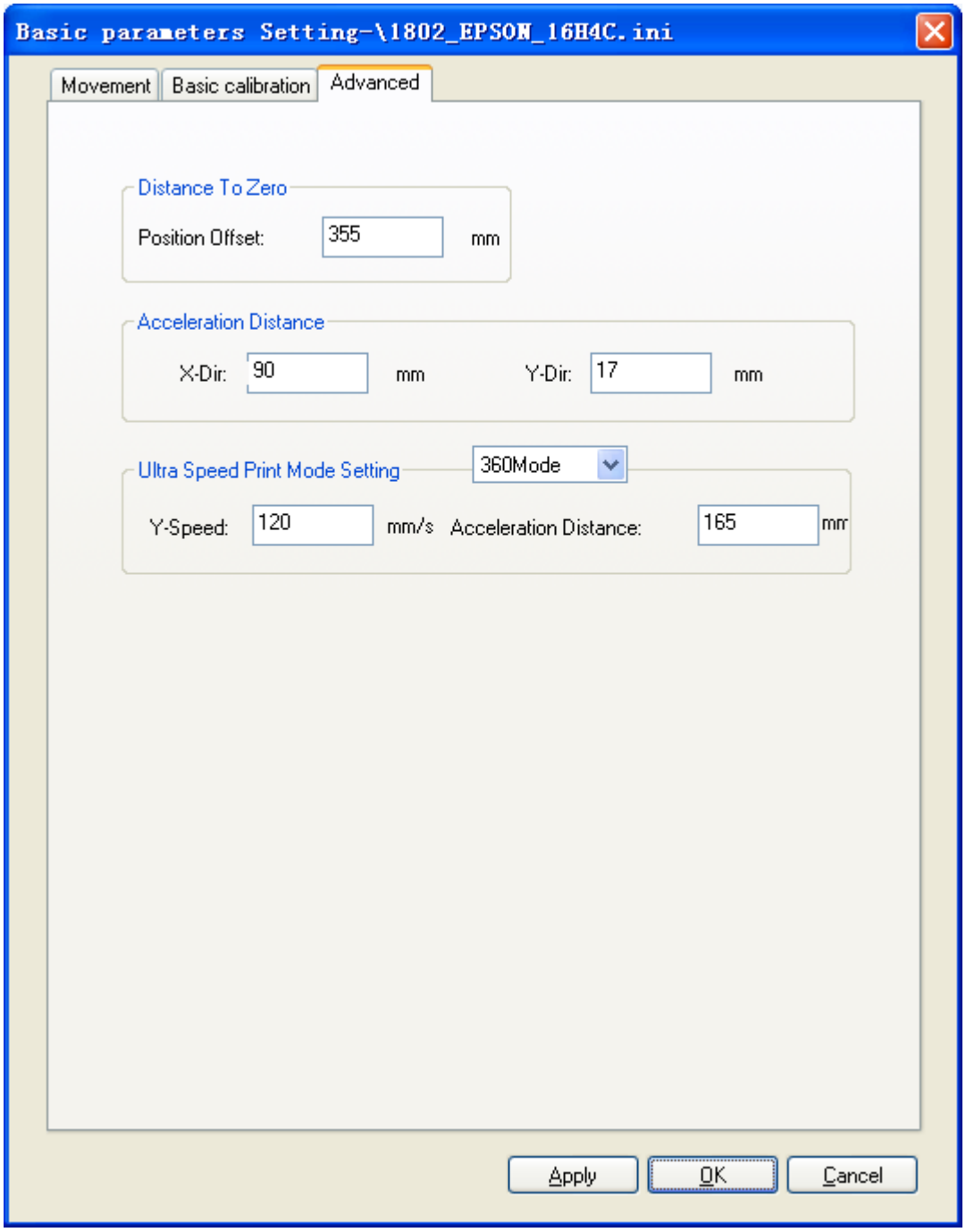
5）Return Speed: the speed of the carriage end 1PASS Print, under left-one-way

or right-one-way print job.
2. Basic Calibration



1) Bi-Dir calibration: low-speed, medium-speed, high-speed printing base value
2) Basic Step value: 1PASS step base value
3) Color offset: physical space between each color

3. Advanced



1) Distance to zero: When the rail “0” position with the carriage origin are not in the same place, the distance between the rail “0” position to the origin place of the carriage.
2) Acceleration distance: the distance of the carriage accelerates from rest to the uniform print status.
3) Ultra speed print mode setting: the speed of ultra Print speed is fast printing, it is used to guarantee the increase of the feed rate or the acceleration distance for the normal printing under the case of fast printing.

3. PrintExp Error code

Error Code	Error Description	Solutions
30011	Loading the driver file failure	1. Checking whether the setup is complete 2. To uninstall the software then reinstall
30012	From the driver file loading interface function failure	
30013	The function vector table failure	
30014	Initialize the printer failure	1. Check whether the power is connected to printing equipment 2. Check whether the host computer and the printer USB connection is normal 3. Check whether the printing equipment card is normal
30015	Release the drive abnormal	1. Check whether the printer is connected properly
30016	USB communication speed transmission status alarm	1. Checking whether the USB connection line is normal 2. Restart the hardware
30017	USB communication access to the printer status failure	1. Check whether the printer is connected properly 2. Restart the software 3. Restart the hardware
30018	Initialize the printer abnormal	
30019	Reset motion abnormal	1. Check whether the motor module is normal 2.Check whether the printer is connected properly 3. Restart the software
30020	Stop motion abnormal	
30021	Wait for stop motion timeout	
30022	Acquiring the carriage position error	1. Check whether the printer is connected properly 2. Restart the software
30023	Acquiring the motion state abnormal	
30024	Start the specified motion abnormal	1. Check whether the configuration file matches 2. Check whether the printer is connected properly 3. Restart the software
30025	During Motor movement, unable to to perform the next movement action	
30026	Micro spraying state setting	

	error	
30027	Acquiring micro spraying state error	
30028	Printing process abnormal error	1. Check whether the configuration file matches 2. Check whether the printer is connected properly 3. Restart the software 4. Restart the hardware
30029	The data processing abnormal error	1. Check whether the configuration file matches 2. Check whether the printer is connected properly 3. Restart the software
30031	Data interleaving error	1. Check whether the configuration file matches 2. Restart the software 3. Restart the hardware
30032	Copy data to the nozzle buffer error	
30033	Movement distance beyond the range error	1. Shorten the movement distance setting 2. Check whether the configuration file matches. 3. Restart the software and whether the hardware version matches 4. Restart the hardware
30034	Initialize print parameter error	1. Check whether the INI configuration file matches 2. Check whether the software setting parameters are within the normal range. 3. Restart the software
30035	The motherboard fiber receive abnormal	1. Confirm the motherboard fiber interface is plugged in 2. Restart the hardware
30036	Spray board fiber receive abnormal	1. Confirm the spray board fiber interface is plugged in 2. Restart the hardware
30037	Spray board origin limit signal is	1. Check whether the spray board

	triggered.	connected
30038	Motherboard origin limit signal is triggered	with the origin limit switch normally 2. Restart the hardware
30039	Spray board end limit signal is triggered	1. Check whether the spray board connected with the end limit switch normally 2. Restart the hardware
30040	Motherboard end limit signal is triggered	1. Check whether the motherboard connected with the end limit switch normally 2. Restart the hardware
30041	Lack of data during printing	1. Check whether the PRN file is normal 2. Check whether the board signal light is normal 3. Restart the software 4. Restart the hardware
30042	Write data to the card failure	1. Check whether the printer is connected properly 2. Check whether the board signal light is normal 3. Restart the software 4. Restart the hardware
30043	Do not support the specified data combination	1. Temporarily do not support the current setting of nozzle groups 2. Reset the nozzle groups in the configuration file
30044	Print 1Pass data, the printed data accumulated number error	1. Check the encoder strip 2. Check the USB interface 3. Restart the machine and the software
30045	Print file number of color channels is greater than the actual print color channel number	1. Check whether the number of the PRN color channel meet the number of the actual output color channel
30046	The current PRN dot number do not match the nozzle dot number	1. Check whether the current PRN dot number is consistent with the nozzle dot number
30047	Read 1PASS data failure	1. Please contact the software provider

30048	Not the right model	1. Please select the correct configuration file
30049	Motherboard fiber module abnormal	1. Please contact the software provider
30050	Spray board fiber module abnormal	
30051	Carriage position over the print start position	1. Please replace the X motor driver
30052	The YDPI of graphic is too small	1. Please re-RIP graphics
30053	The carriage run too fast	1. Please lower the carriage speed
30054	The control panel is connected abnormal	1. Please turn off the machine and reinstall the control panel, then restart the machine
30120	The function input parameter error	1. Check whether the configuration file matches 2. Restart the software
30121	Print length error	1. Lessen the margin value 2. Lessen the image size
30122	Memory allocation error.	1. Check whether the PRN file is normal 2. Check whether the configuration file matches
30123	File not found or file error	
33001	The motherboard fiber receive abnormal	1. Please contact the software provider
33002	Spray board fiber receive abnormal	
33003	Lack of data during printing	
33004	Spray board origin limit signal is triggered.	
33005	Motherboard origin limit signal is triggered.	
33006	Spray plate end limit signal is triggered	
33007	Motherboard end limit signal is triggered	
33008	1PASS print data abnormal	
39000	Illegal memory access or flow abnormal	1. Check whether the configuration file matches 2. Check whether the printer is connected properly 3. Restart the software 4. Restart hardware

Chapter VII Rip Software-Ultraprint

1. Introduction

UltraPrint is used for the image editing, typesetting, output software. And it is mainly used for pre-processing the digital image output - Image RIP (Raster Image Processor).

2. Start Method

There are three ways to open the software, you can use one of them:

1) Double-click the software icon-UltraPrint on the desktop .

2) Open the 'Start' menu, select 'Programs' menu item, enter UltraPrint item, click UltraPrint.

3) In the 'Explorer' project file by double-clicking the canvas (ie with '. Rpj' suffix).

3. UltraPrint software operating procedures

Below by an example to demonstrate the operation of the software UltraPrint. If now there is a need to print an image, the image size is 2.4 × 2.0 meters, the image file has been processed by PhotoShop (or other image processing software) and kept in a directory on the disk, the file named a. tif.

1) Firstly, you should plug the dongle into the computer.

2）Then start UltraPrint software.

3）Open the 'File' menu, click 'Printer Setup' menu item (or just press Shift + P keys), complete the appropriate printer settings.

4） Open the 'File' menu, click 'Canvas Settings' menu item (or just press Shift + C key), to complete the corresponding canvas settings.

5）Click the toolbar  'New' button (or 'File' menu in the 'new canvas' menu item), create a new canvas items.

6）After establish a blank canvas, you can add image a.tif to the canvas , then you will see the image on the canvas.

7）After add images, you can set the output image size. If the image to be printed on the canvas more than one, then you also need to complete the image typesetting.

8）When layout is finished, you can print images. Click on the toolbar  'Print' button to print. Printing time is related to the image size. during the printing process, it will show the printing status, so you can know the current progress. And you can interrupt the printing process anytime.

9）After printing, you can exit UltraPrint software, or create a new canvas project to do another print job.

Precautions

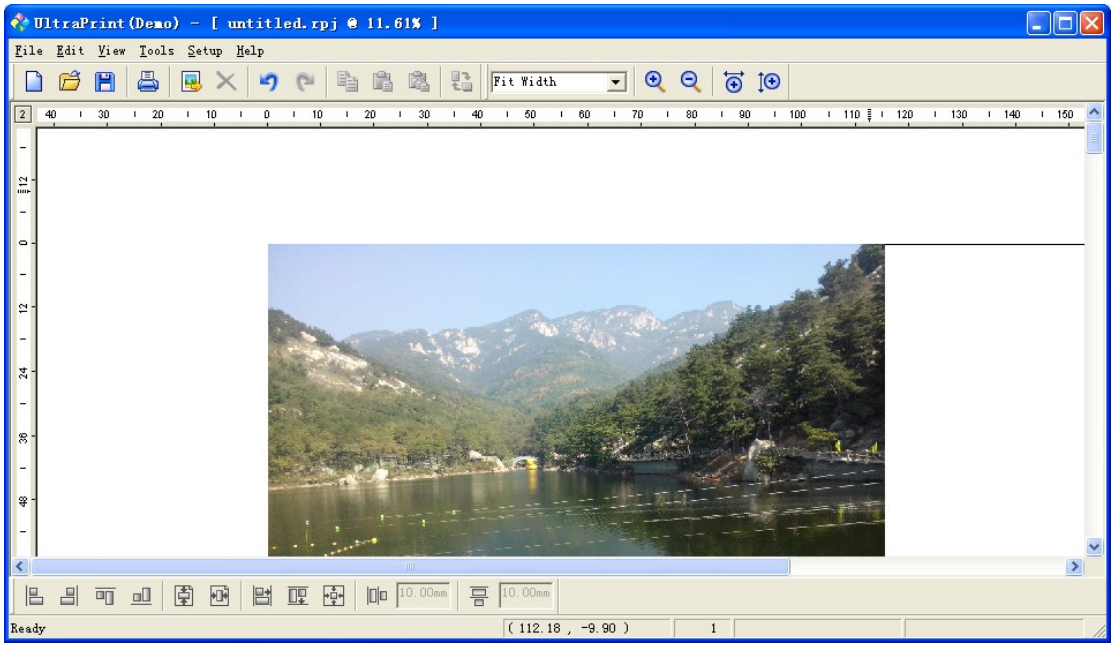
● UltraPrint can save the printer settings and canvas setup automatically, so next time you don’t need to change he parameter settings again

● After the layout you should make sure images are within the canvas, otherwise UltraPrint will refuse to print.

● When printing begins, UltraPrint software will take up a lot of memory, if your memory configuration is low, printing time will a little longer.

4. Software Interface Usage Various Regions

UltraPrint interface is divided into six functions, namely: menus, toolbars, rulers, canvas area, the area outside the canvas, and message alert as below:



The following will describe their specific uses.

1) Menu: there are all the features in the menu items, including the new canvas items, add images, printing and so on. You can complete the the various operations through the menu.

2) Toolbar: The toolbar are the shortcut icons commonly used in the operation of the menu for your convenience.

3) Ruler: to show the actual size of the canvas and the image as well as location, UltraPrint software set scale (including horizontal and vertical rulers). Via the ruler you can determine the canvas and image size, as well as the position. There are six scales on the rulers: inches, millimeters, centimeters, meters, sending cards, point. You can set the appropriate scale unit by right-click in the ruler line, and, select the scale units in the pop-up menu).

4) Canvas area: When you create a canvas project. The software interface will shows a rectangular box with a black border. This rectangle is called canvas. The rectangle area is called the canvas area. You can imagine this is a true canvas. And then we will do various operations in this region(such as adding an image, moving image, etc.).

5) Canvas outside: in the software interface, the area outside the canvas become 'canvas outer', these areas are beyond the operating range. If you place the image to the area outside, there will pop up the prompt when print.

6) Information prompt area: This area will provide you with real-time informations of current

software, such as menus and toolbar functions,the number of images on the canvas, the image name, and the current cursor position, ruler scale and so on. In the process of running the software, it will help you to complete a variety of operations.

Precautions

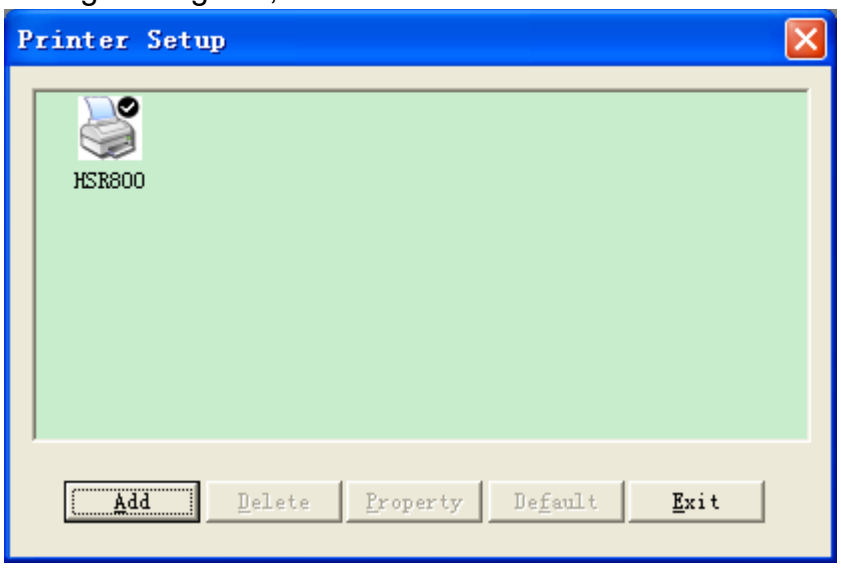
For menus, toolbars and message alert zone description, please see the corresponding function descriptions.

During the software running, you can also right-click pop-up context menu to perform various operations.

5. Printing Guide

Selection and setting of the printer

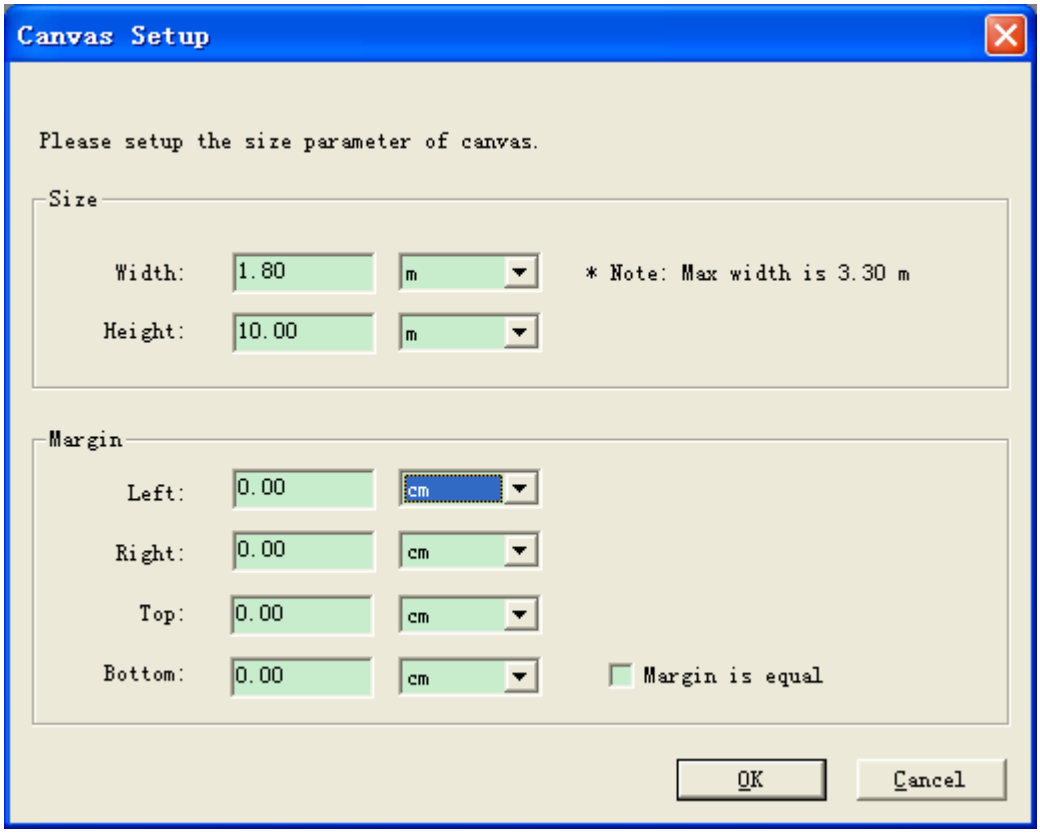
1) In the menu "File" and select "Printer Setup", the program will pop up the printer settings dialog box, as shown below:



2 Set Default Printer: select the corresponding printer, click "Set as Default" button, the corresponding printer as the default printer.

Canvas Set

Click 'File' menu 'Canvas Setup' menu item, the program will pop up a dialog box to set the canvas, as shown below:



Here you can complete the setup of the canvas size and canvas left side and relevant parameters. And you can choose measurement units, including inches, millimeters, centimeters, meters, picas, points, etc. After completed, click 'OK' button to exit.

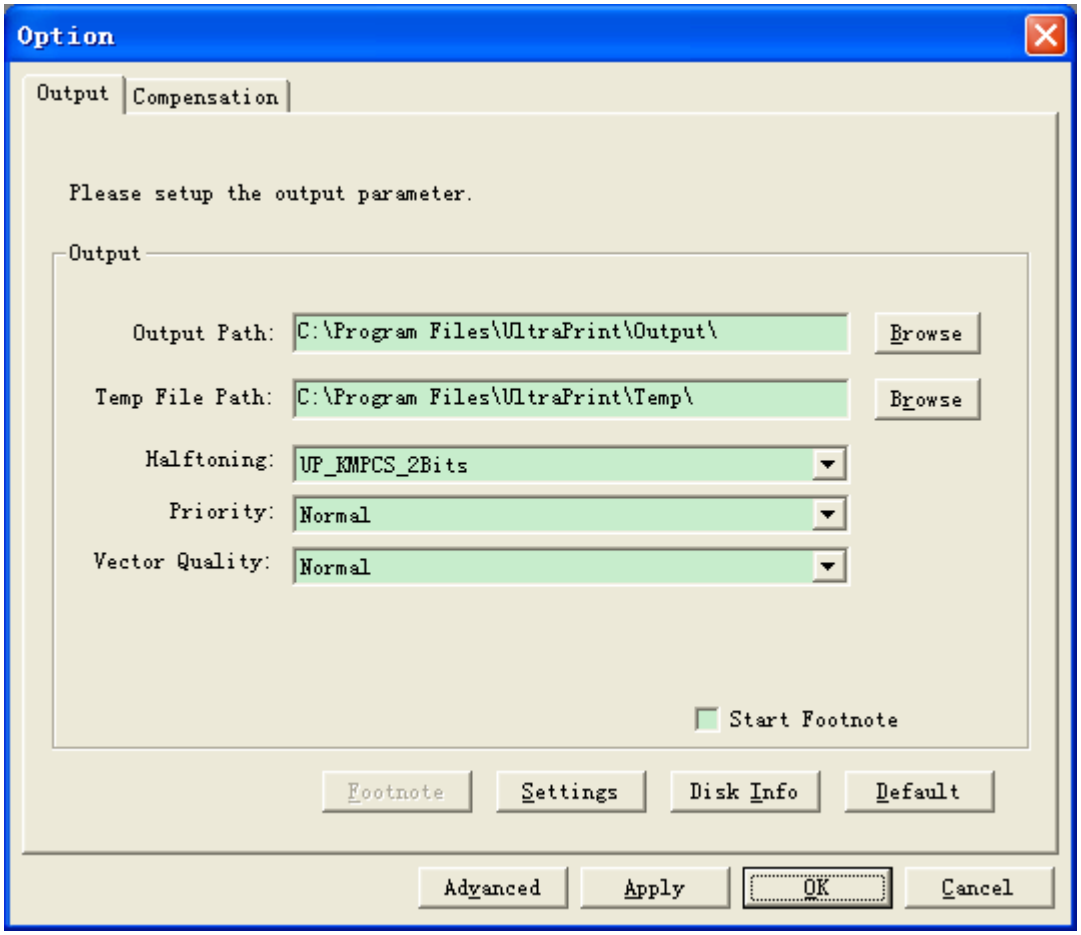
Precautions

Set the width of the canvas can not exceed the width of the current printer, there is max width displayed at the end as well.

Set blank canvas edge, if left side is same, you can select “margin is equal”, so the other three is automatically set to the same value.

Output settings:

Click on the 'Settings' menu 'Options ...' menu item, the program will pop up a comprehensive settings dialog box, select the 'Output' settings page, as shown below:



Where you can set the output parameters:

1) Output path, specify the print file storage location, the output port is only valid when the port is the file.

2) Temp file path, the temporary file storage location when the specified program is processing,when you exit the program the temporary file will automatically be deleted.

3) Half-toning : Select the image Screening methods.

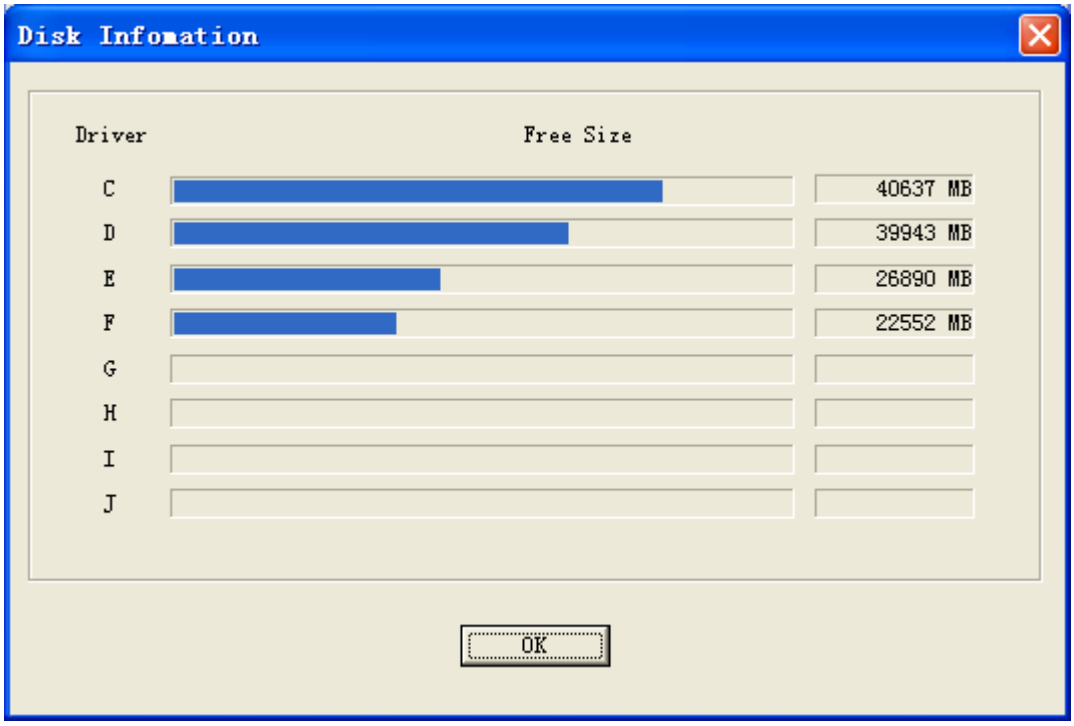
4) Priority: Select the output print process priority.

5) Vector Quality: Select the print quality of the vector file.

6) White ink option(if there is): Choose white ink printing method.

7) Default: the current setting items related to options page back to default settings.

8) Disk information, because the print file size is generally larger, the output path to be considered when setting the path where the remaining disk space, you can click "Disk information" to check the local disk space. As shown below:



Here you can see the current computer disk usage condition, and completed your settings.

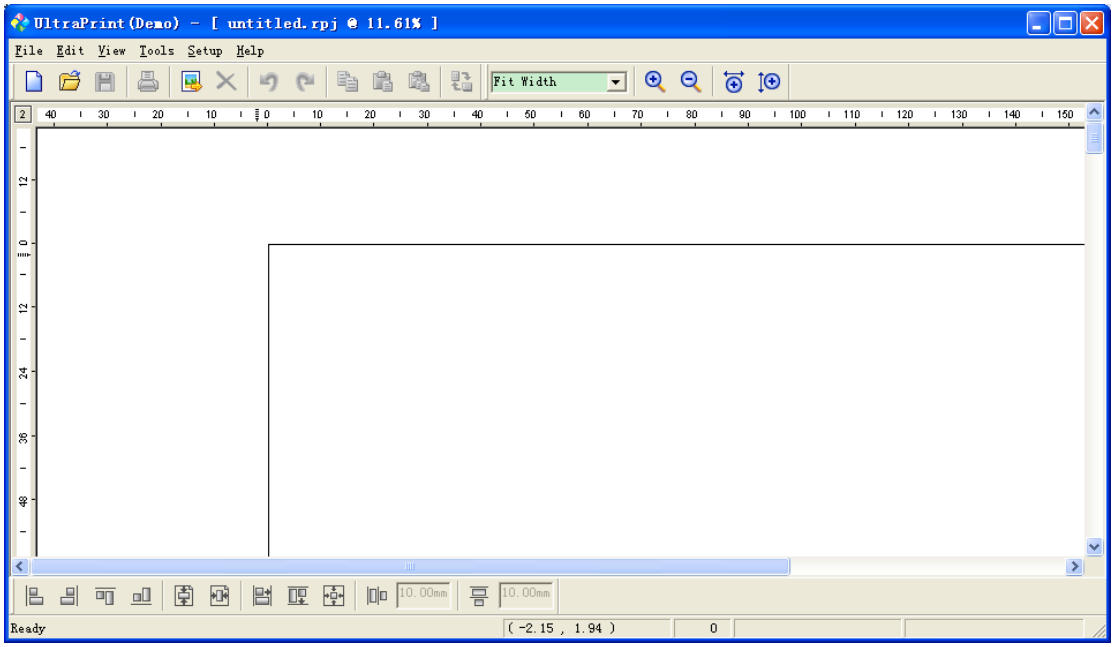
Precautions

Because the output image was relatively large, we recommend that you choose the remaining space 4000 MB (4 GB) or more, in order to ensure that the disk data will not overflow.

If you want to restore the default settings for the output settings, you can click on the interface to set the "Default Settings" button.

Image Insertion and Choreography

After set up the canvas, in the "File" menu, select "import image" or click on the icon "  "



After add a picture, you can use the following typesetting toolbar for image editing .

Align left:

'Align left' is the left edge of the selected image aligned with the left edge of the activated image. Select two or more images, click on the toolbar layout 'Align left' button (or 'Typesetting' menu in the 'Align left' menu item), to complete the selected image Align left.

Align right:

'Align right' is the right edge of the selected image aligned with the right edge of the activated image. Select two or more images, click on the toolbar layout 'Align right' button (or 'Typesetting' menu in the 'Align right' menu item), to complete the selected image Align right.

Align top:

'Align top' is the Upside edge of the selected image aligned with the Upside edge of the activated image. Select two or more images, click on the toolbar layout 'Align top' button (or 'Typesetting' menu in the 'Align top' menu item), to complete the selected image Align top.

Align bottom:
'Align bottom' is the downside edge of the selected image aligned with the downside edge of the activated image. Select two or more images, click on the toolbar layout 'Align bottom'  button (or 'Typesetting' menu in the 'Align bottom' menu item), to complete the selected image Align bottom.

Center Horizontal:
'Center Horizontal' is to make the selected image on the canvas in the center positioning.

Select one or more images, click on the toolbar layout  'Center Horizontal' button (or 'Typesetting' menu 'Center Horizontal' menu item), to complete the selected image Center Horizontal. When select multiple images Center Horizontal, the program will calculate the true location of each image by the smallest rectangular region combined by a plurality of images.

Center Vertical
'Center Vertical' is to make the selected image on the canvas in the center positioning.

Select one or more images, click on the toolbar layout  'Center Vertical' button (or 'Typesetting' menu 'Center Vertical' menu item), to complete the selected image Center Vertical. When select multiple images Center Vertical, the program will calculate the true location of each image by the smallest rectangular region combined by a plurality of images.

Space Across:
'Space Across' is to make the selected image arranged from left to right by the specified horizontal spacing. Select two or more images, click on the toolbar layout 

"Space Across" button (or 'Typesetting' menu and the 'Space Across' menu item), to complete the selected image to be Space Across arrangement.

Space Down:
'Space Down' is to make the selected image arranged from left to right by the specified horizontal spacing. Select two or more images, click on the toolbar layout 

"Space Down" button (or 'Typesetting' menu and the 'Space Down' menu item), to complete the selected image to be Space Down arrangement.

Same Width:
'Same Width' is to make the selected image width equal with the activated image width.

Select two or more images, click on the toolbar layout 'Same Width'  button (or 'Typesetting' and menu 'Same Width' menu item), to complete the selected image with

equal width.

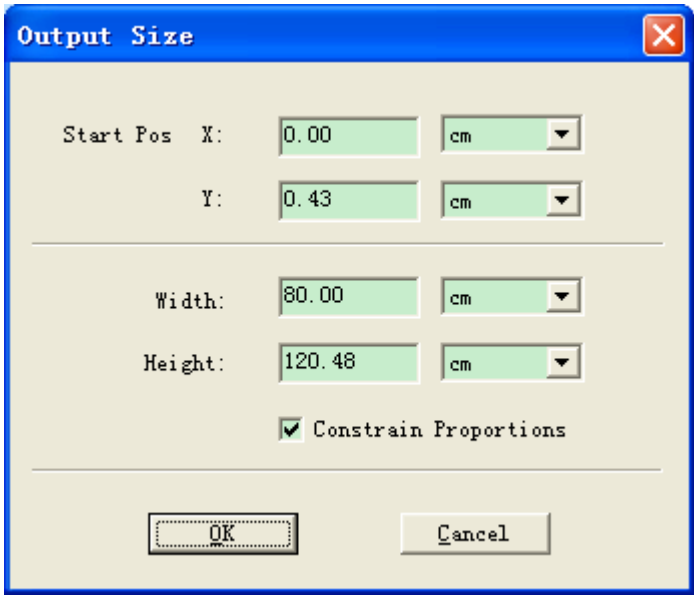
Same Height:
'Same Height' is to make the selected image Height equal with the activated image Height. Select two or more images, click on the toolbar layout 'Same Height'  button (or 'Typesetting' and menu 'Same Height' menu item), to complete the selected image with equal Height

Same Size:
'Same Size' is to make the selected image width, height are equal with the activated image width and height. Select two or more images, click on the toolbar layout  'Same Size' button (or 'Typesetting' menu and ‘Same Size' menu item), to complete the selected image are same size.

Group:
'Group' is to make many images into one group. The images into groups, but their relative positions remain the same, and then you can change the image size, position, rotation, and other properties of the state for the whole images. Group can be carried out between the single images or a single image with a group of images, or multiple groups.

Ungroup:
'Ungroup' is the inverse operation of the Group, effective only to the images into the group , and each time only decomposition step by step. After ungroup, the images or groups will return to the state before. For example: one group is composited by a group and a separate image, the ungroup results is a group and a separate image, rather than multiple separate images.

Modify the picture size:
If you want to confirm the location and size of the output image, you need to complete the following image settings.
Select the image you want to set, click on the right mouse button and select "Output Size" or use the shortcut key "shift + O", the program will pop up the dialog box as shown below:



You can set the position of the image on the canvas and the image output size. When setting the parameters, you can select the length units of measurement you are familiar. UltraPrint provides inches, millimeters, centimeters, meters, picas, and other units of measurement units for your choice.

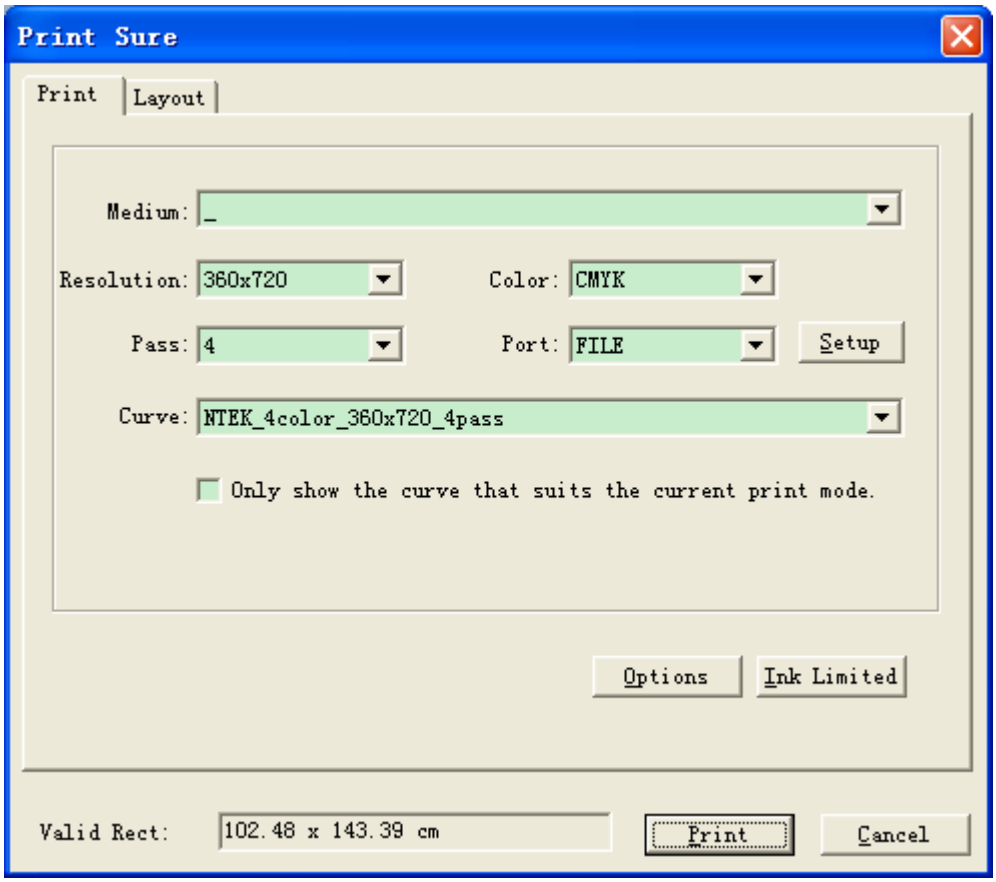
When you set the output size of the image, you can choose whether to constrain proportions. If you select this marker, the image output width and height ratio and the image will enter the width and height ratio of the original agreement, the program selected by default this tag.

Besides, you can adjust the image output size via the mouse approximately :
Select an image, around the image, there are eight black block, then drag the mouse will become available styles you can freely modify the output image size. If you press Ctrl or Shift key, the program will constrain proportions for the image size.

Precautions
When you modify the image output size, only effect to one image you select.

6. Print Confirmation and Parameter Selection

After setting, click "  " to enter the print confirmation dialog. Please ensure that the image to be printed within the canvas. Here you can set the printing precision, color mode, pass number and interface,and then the software will automatically help you to match the corresponding curve, and finally click "print" to output image. And save image ". Prn" format to the specified location.



Here you can set the parameters related to print:

1) Media: Select the print media.

2) Resolution: Choose the required accuracy.

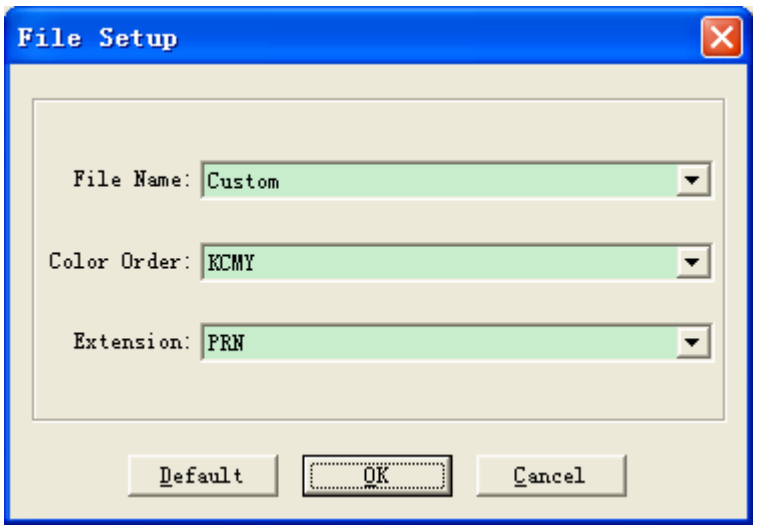
3) PASS: Select the required number of PASS.

4) Color: Select the print color mode.

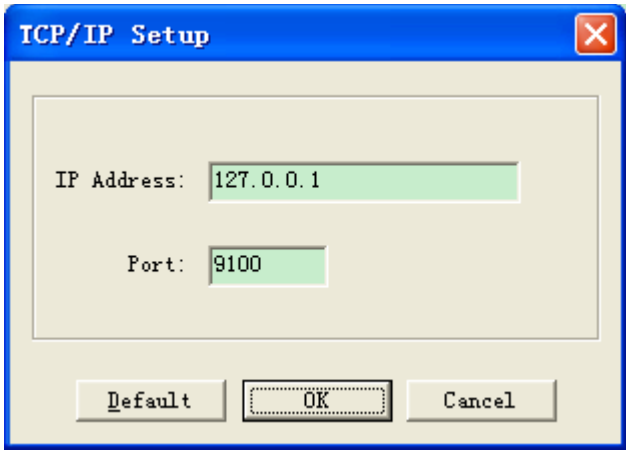
5) Port: If you want to print to a file, then you select the 'FILE' option; if you want to take advantage of network printing RIP and print, then you can select 'TCP / IP' option; if you want to be sent directly data to the printer RIP and print, then you can directly select 'Direct send' option.

6) Select an output port and click 'Setup' button, as the figure below

When the port is FILE, you can set the program about the file name format, output color sequence, the extension and other parameters.



When the port for TCP / IP, the network port settings box:
You can set the program to print to a network port's IP address, port number and other parameters.



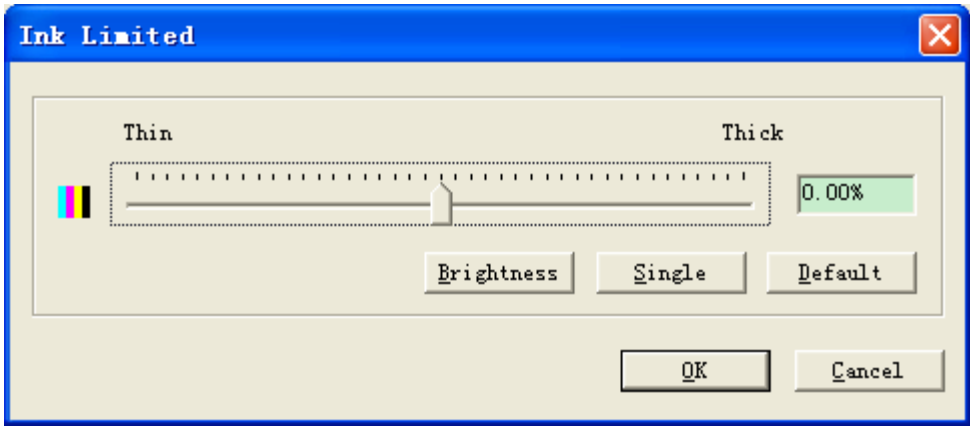
7) Curve: Select the required curve.

8) 'Only show the curve that suit the current print mode': only displays the current printing precision of the corresponding curve.

9) 'Valid Rect': This one is used to check the size of the printed image.

10) Options: valid to the consolidated version.

11) Ink limited: Click on the 'ink limited', the program will pop up a print confirmation dialog, as shown below:

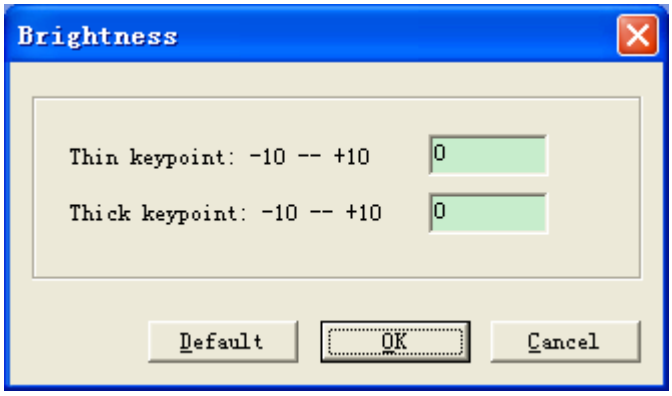


Use the mouse to drag the corresponding color slider or press the keyboard arrow keys to adjust the ink volume. You can also enter the value at the input box directly at the right side of the slider ，or press the up and down arrow keys to adjust the output value. Adjustment is finished click 'OK' button, save and exit.

"Single" button to start adjusting the amount of ink components.

"Default" button to adjust the value of the ink amount to the default state.

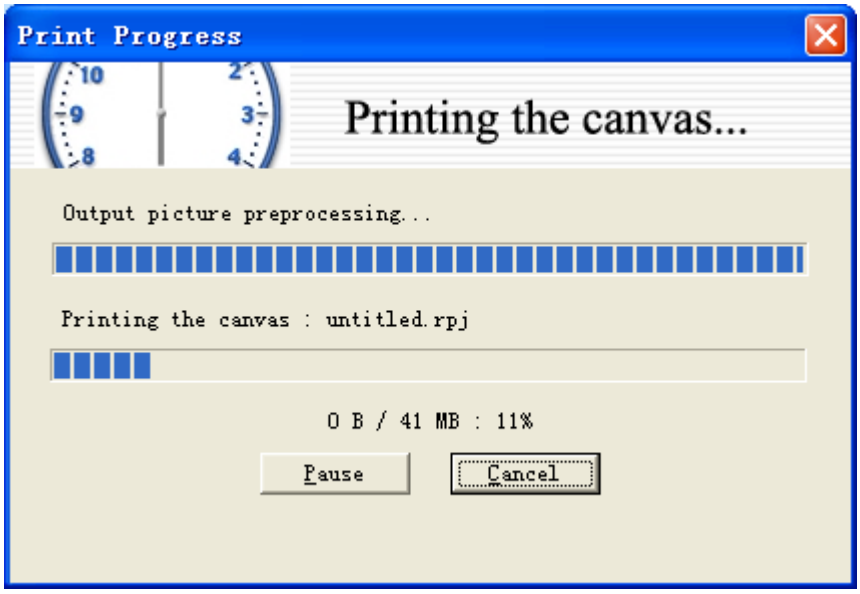
"Brightness" button to start the image output brightness adjustment, as shown below:



Users can adjust the thin keypoint and thick keypoint respectively, in order to adjust the output image brightness.

Print Progress Status:

If you find an error set, you can directly click "Cancel" print.


Print Progress
Printing the canvas...
Output picture preprocessing...
Printing the canvas : untitled.rpj
0 B / 41 MB : 11%
Pause
Cancel

7. UltraPrint Error Code

Code	Description	Solution
0	Operation success	Successful execution
2	No such file found	Maybe the source file is deleted or directory has been modified
3	No such path found	Maybe the source file is deleted or directory has been modified
6	The error print	The possible reason is the current settings of the curve is invalid
32	This file is in use by another program, the process cannot access	There are other procedures implement the file, now unable to access
112	Insufficient disk space	Probably the disk is full, please delete the useless files from the disk or replace the larger disk for storing temporary files. If your output file is larger than 4GB, please confirm your format of the disk file is NTFS.
131	Try to move file pointer to the beginning of the file	Maybe contain special layer, please try again after the merge
183	The file cannot be created	If the file already exists, the file cannot be created.
10053	Your software in the host gave up an established connection	Your software in the host gave up an established connection
10054	Can not send data through the network port	May be cable is not plugged in, or the server is broken links.
10061	Cannot link to the network port	May be cable is not plugged in, or IP address, port is not set correctly
20001	The specified file is a damaged image files	Maybe the source image file is corrupted
20002	cannot recognize the Image format of	May the target file is not supported by the UltraPrint

	the specified file	
20003	Temporary does not support this image format color space	May the color space of the target file is not supported by the UltraPrint
20004	Rotate the image failed	Possible lack of memory or the objects of an operation too much
20005	Channel separate failed	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20006	Scaling the image failed	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20007	Halftone image failed	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20008	Store the image failed	Possible lack of memory, or the path is not correct
20009	Sharpening image failed	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20010	Pretreatment failure	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20011	Canvas image number exceeds the specified value	Canvas image quantity exceed specified maximum number
20012	Temporary does not support this image format	Current image format is not supported by UltraPrint
20013	Decoding the image failed	Decoding format is not supported by UltraPrint
20014	Image size exceeds the specified value, cannot complete the operation	Image size beyond the current specified canvas size, please redefine the file size for this operation

20015	canvas space is not enough	There is not enough space can not paste the specified images
20016	Canvas size is changed	Canvas size is changed, cannot complete the operation
20017	Mirror state operation is not supported	Under Mirror image status can not do this, please change the images to non mirror state and try again
20018	Initialize print mode error	May be because of the lack of relevant documents, please restart the software, if still wrong, please uninstall and reinstall the software.
20019	No image in print area	No selected image in the valid printable area
20101	Failed to open file	Failed to open file, restart the UltraPrint for this operation
20102	Failed to set the file pointer	Failed to set the file pointer, restart the UltraPrint for this operation
20103	Failed to read file	Failed to read file, restart the UltraPrint for this operation
20104	Write file failed	Please make sure you have enough free disk space, and then restart UltraPrint for this operation
20105	Create a temporary file failed	Create a temporary file failed, then restart UltraPrint for this operation
20106	does not support the size of the specified file	The size of the file is invalid, please make sure the file is not corrupted
20107	Failed to create preview files	Please confirm the output port is file port, and set the right output path right
20108	Failed to write preview files	Please make sure you have enough free disk space, and then restart UltraPrint for this operation
20109	Temporary the format of the file is not supported	There is unsupported file format on the canvas, please convert to the supported formats and try again
20110	Lack of	Please confirm wether the current print

	corresponding items in the INI file	configuration INI file match the current printer
20201	Enumerate encryption lock failure	Please confirm the encryption lock is inserted, if the problem still exists after inserted, please replace the encryption lock
20202	Open the encryption lock failure	Please reinsert the encryption lock, if the problem still exists, please replace the encryption lock
20203	Change the encryption lock path failure	Please reinsert the encryption lock, if the problem still exists, please replace the encryption lock
20204	Check the encryption lock failure	Please reinsert the encryption lock, if the problem still exists, please replace the encryption lock
20205	Perform the encryption lock failure	Please reinsert the encryption lock, if the problem still exists, please replace the encryption lock
20206	Close the encryption lock failure	Please reinsert the encryption lock, if the problem still exists, please replace the encryption lock
20207	Failed to encrypt data	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20208	Failed to decrypt data	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20301	illegal access to system resources	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20302	Insufficient memory	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20303	Create a thread failure	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20304	Failed to create	Possible lack of memory, please release the

	event	memory resources, restart UltraPrint and this operation
20305	Failed to help set the mapping file	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20306	Create a mapping file failed	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20307	Close the mapping file failed	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20308	Remove the mapping file failed	Possible lack of memory, please release the memory resources, restart UltraPrint and this operation
20309	Specified window not found	Please make sure the print manager of UltraPrint is already open
20401	Fail to input ICC	Please confirm the ICC Profile in the input ICC file folder
20402	Fail to output ICC	Please confirm the ICC Profile in the output ICC file folder
20403	ICC conversion failed	Please confirm the number of the output color and the number of the selected ICC color number matching. For example, the output 6 color should controlled by 6 color ICC
20404	Color space conversion failed	Please confirm the number of the output color and the number of the selected ICC matching, restart UltraPrint for this operation
20405	Currently the color conversion model is not supported	The specified color space ICC conversion of is not supported currently
20501	Does not support this color mode	To confirm if the color combination is supported, or the image file format is not matching
20502	Initialization algorithm template file failed	Possible correlation algorithm template file is missing, or the file is corrupted
20503	Failed to encode	Maybe the code file version does not match the

	the file header	version of the file, please confirm the version of the file then try again
20504	Failed to compress the data	Maybe the code file version does not match the version of the file, please confirm the version of the file then try again
20505	End of file encoding fails	Maybe the code file version does not match the version of the file, please confirm the version of the file then try again
20506	Failed to create white data	Maybe the code file version does not match the version of the file, please confirm the version of the file then try again
20601	Start printing errors	Maybe the driver file version does not match the version of the file, please confirm the version of the file then try again
20602	Send data error	Maybe the driver file version does not match the version of the file, please confirm the version of the file then try again
20603	Terminate printing errors	Maybe the driver file version does not match the version of the file, please confirm the version of the file then try again
20604	Cancel printing error	Maybe the driver file version does not match the version of the file, please confirm the version of the file then try again
20701	Unknown Printer Type	Please re-add the printer
-1	Reset parallel port status error	Parallel port communication error, restart the printer and computer and try again
-2	Cancel the current status error	Parallel port communication error, restart the printer and computer and try again
-3	ECP initialization error	Parallel port communication error, restart the printer and computer and try again
-4	Buffer setting error	Parallel port communication error, restart the printer and computer and try again
-200	Set the time parameter error	Parallel port communication error, restart the printer and computer and try again

Chapter VIII Operation Procedure

1. Preparation for Equipment Commission:

1) Open the package and check the fittings are consistent with the accessory list.
2) Remove the transport fixture ,push the gantry back and forth, check Y-axis movement is normal, and then push the car right and left , check the X- axis movement is normal.
3) Install the vacuum sucking pump: connected the inlet hose of the vacuum sucking pump with the steel soft wire , and then the other end connect to the suction valve at the port.
4) Preparation work : a: to prepare the ink sac ,cut the soft ink tube 16 piece about 10cm in length, and put copper screws and washers , insert the hose into the ink sac and tighten the copper screw , connect the three-way with 2 ink sacs; b: install the control software and Rip software . Fill the ink : put the ink tube into the ink bottle , ink bottle tube head to the bottom of the lowest , the ink in the ink bottle tube can not bend.
5) Ink supply board powered : after fill the ink, the supply board will energize , followed connect the float signal lines of the secondary ink tank to the ink supply board one by one, when a secondary ink tank is full and then to fill the next color.
6) Install printhead: insert the printhead line into the printhead correspondently, contacts can not have tilt, skewed, and connect the upper line to the UP side on the spray car plate inserted and the lower line to the DOWN side.

Prohibit: Never use another liquid, especially water-based and solvent cleaning fluid to clean the nozzles, otherwise will damage the nozzles.

2. Debugging Process:

1) Hardware debugging:
a, Connect the power: after connect the power, connect the USB data cable into your computer, install the device driver.
b, Open the software, and make the X-axis motor calibration, open the software and rise the gantry to the highest goal, in the "Settings" "Basic parameters" to make the X-axis motor calibration, "move", "Reset" three times, in "gear ratio, "the first three digits unchanged.

c, Adjust the ink stack height: after Close the software, under the software installation directory folder, modify the move out pulse number consistent with the return pulse of the wiper, and the return pulse number is bigger than the move out one, until the wiper can clean off all ink residue; adjustable the pulses number of ink nozzles in the cleaning process. When cleaning the nozzles, they should be close together to prevent ink leakage.
d, With a clean syringe inserted in the ink tube, suck out the ink, and then connect the three-direct with two ink sac, pumping on the ink sac ink, the ink sac vertically inserted in the nozzle, no leakage; or insert the ink tube into the sac, and then insert the ink sac into the nozzles, with the pumping ink button to pump out the ink.

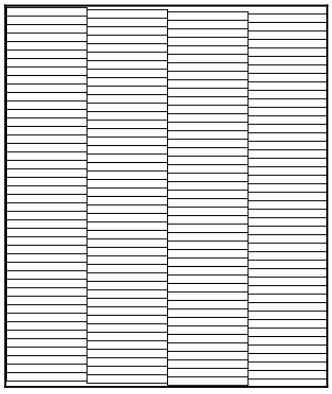
2) Printhead Calibration:
After the nozzle height adjusted, print head status to ensure normal ink drop, and print vertical alignment, firstly adjust the physical location of the left head, and then the physical location of the right head. Print the head status to see if there is overlap or gaps, adjusting

the physical position of the right head to make sure the status bar of the two nozzles evenly distributed, while adjust the vertical position of the right head; print head status, changes the distance between the two heads in the software setting

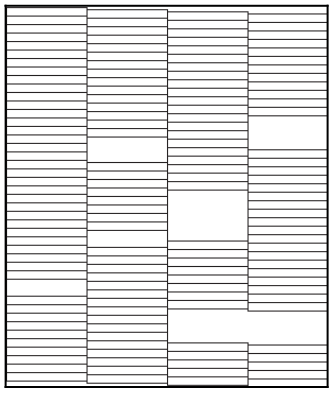
3) Printhead Status:
After fill the ink, in the software "print" menu, find the "test" and left-click to print head status. The printer will print out a calibration chart below:

Printhead status diagram

Check whether the current nozzles clogging, if there is lost needle, cleaning the print head and print it again to confirm all nozzles out in the status diagram.



→ ok, normal print



→ If it lost needles, cleaning nozzles, so as not to affect the print quality

4) Nozzle physical location calibration:
In the print control software "Print" menu, find the "test" , left click "vertical alignment." The printer will print out a calibration chart below:

When the upper and lower part is displaced, you have to adjust the physical position of the printheads to achieve the vertical until the printed test pattern is as follows:

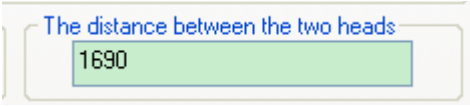
5) Adjust the distance between printheads front to end
When using double color software, in order to print better effect, we also need to adjust the 2 printheads to the best position. If there are the following conditions in the print head status diagram, you have to adjust it, as shown below:
A blank in the middle part:

An overlap in the middle part:

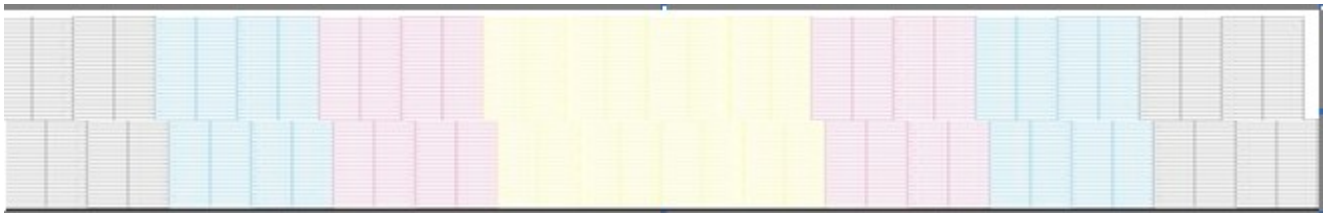
Until below:

6) Distance between two heads:

In the print control software to find "the distance between two heads."



If there are the following conditions need to modify this value:



Chapter IX Maintenance

1. Maintenance

In order to ensure the normal operation of the printer, routine maintenance is very important. The detailed description of printhead maintenance methods are as follows:

1). Working environment requirements:

a. Keep away from heat.

b. Avoid glare

c. The temperature of 26 degrees and humidity around 40%.

d. Prevent dust or with other equipment will create dust together.

e. Under longtime working condition and standby states maintenance are as follows:

① Every four hours under the working condition, you should clean the printhead and base with professional cleaning fluid, to prevent the ink stink on the surface of the printhead or base.

② When response sprinklers and nozzles clean the base with special cleaning fluid to prevent ink in the nozzle surface again and the base surface curing accumulation and adhesion.

③ Under the standby case, you should clean surface of the printhead and the base.

④ Long standby status more than 10 days, we suggested to do the cleaning for the ink lines and printhead thoroughly.

⑤ Detect the printhead status every day when printing, timely solve it when problems come out.

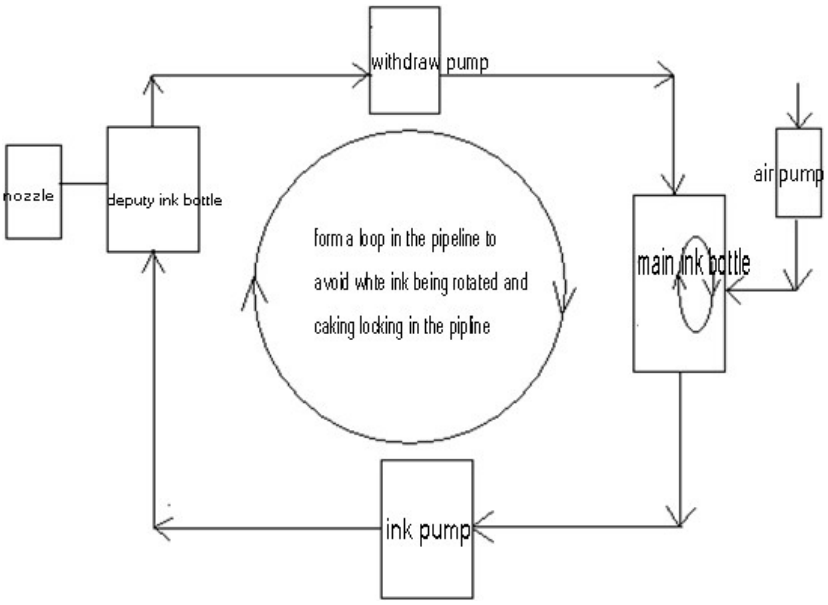
Chapter X Basic Troubleshooting

Troubleshooting Cases

1. Print garbled (motherboard or motherboard data line problem)
2. drive error (machine main power, screw bar, drive motor signal problem)
3. Raster feedback signal error (raster decoder, printhead data line, motherboard,)
4. Limit switch error (limit sensor failure or no sense)
5. Printheads overheat error (lower operating ambient temperature)
6. Drops of ink or ink off (ink sac leaks or secondary cartridges without ink)
7. Lifting motor sound abnormal or unable to lift (if the lifting screw is vertical , excessive resistance will lead to lifting overload or damaged)
8. Setup the highest point of Z axis (if the highest point of Z axis is not set up, the machine will not move)
9. UV lamp automatically turns off when printing (currently encountered mostly because of poor heat dissipation, caused by cooling network congestion)
10. Motherboard can not detect (communication problems)
11. Printhead data loss (printhead data line is not plugged in)
12. Printing not actual print range (imit switch adjustment inconsistent or before sensor position)
13. Driver can not updated (motherboard or computer problem)

Chapter XI White Ink Circulation System

After the ink is pumped into the secondary cartridge, the ink in the main ink bottle will be rotated and stirred by the motor to avoid ink caking blocking. The main ink bottle, ink pump, deputy ink bottle and the withdraw pump are connected to form a loop In the pipeline, and set up the cycle time in the software to avoid white ink caking blocking in the pipeline .



1. White ink maintenance

You must wash the white lines within three days after stop printing white ink, so as to avoid ink precipitate caking and blocking the pipeline.

2. White ink cleaning method

Inject the cleaning liquid instead of white ink in the main ink bottle, turn on the machine to inject the cleaning liquid into the secondary cartridges, after filled up, shutdown. When the cleaning liquid in the secondary cartridges use up, turn on the machine fill the cleaning liquid and then shut down again, and re-suck, until the ink pipeline is clean up.

Chapter XII Adhesive Liquid Processing

1. The Preparation and Precaution of adhesive liquid(coating)

1) Adhesive liquid is composed by A, B two kinds of raw material liquids. Before using, compound the A, B two kinds of raw material liquids according to the volume 1:1, then fully mixing (it is better to use 3 hours later after mixing).

2) The prepared adhesive liquid should be used up within 2 weeks , otherwise it will reduce adhesion effect.

2. The Usage and precaution of adhesive liquid

1) For the glass, ceramics and other hard substrate surface, prior to remove dust and grease on the surface
2) Take appropriate mixed adhesive liquid (6 - 8ml/m2), wipe a thin layer on the hard substrate evenly
3) You can begin UV printing after the adhesive liquid dried

Precautions

1. Hard surface after wiping still have a good adhesive effect within one week ,but to ensure that the surface is clean without pollution, including anti-static dust etc..
2. Wipe tools can be watering can or silicone soft material, or wipe with the gauze or non-woven cloth directly .
3. Suggest the adhesive liquid can be stored in glass or HDPE container, seal and store in a cool, ventilated place

The media will will produce great static under the UV light, and has a great influence on the inkjet of the nozzle . Better to equipe with negative ion electrostatic wind blowing on the surface of the board. Or wipe the surface with alcohol or glass water before printing.

Chapter XIII Computer Configuration Requirement

1. System requirements

1）Basic configuration requirements

CPU：Intel Core 2 Duo

Memory: DDR2 800 1GB*2 or more than 2GB*2

Hard disk: SATA Ⅱ 7200RPM (C disk with at least 60GB unused space)

Motherboard chipset: Intel Q45 is equipped with a standard USB2.0 interface

Network configuration operating system: Microsoft Windows XP, Microsoft Windows 7

2）The proposed configuration requirements

CPU：Intel Core 2 Duo E7500 2.93GHz

Memory: DDR3 1883 1GB*2 or more than 2GB*2

Hard disk: SATA Ⅱ 7200RPM (C disk with at least 80GB unused space)

Motherboard chipset: Intel Q45 is equipped with a standard USB2.0 interface

Network configuration operating system: Microsoft Windows XP, Microsoft Windows 7

Chassis type: vertical cabinet

Note: recommend user set two hard disks partition, the hard disk C: (60Gb) as main storage application software. Another hard disk F is stored data,the parameters,the image file etc.

Chapter XIV Wiring Diagram and Circuit Diagram

1. Ink carriage wiring diagram

2. Circuit diagram