StarFire™ SG-1024

Ultra Star Series
Printer User Manual

We'd like to express our sincere congratulations to you for your buying a high-performance large format inkjet printer——Ultra StarFire1024 Series, and appreciation for your support to WIT-COLOR products. Please read this manual carefully, which can help you to solve the problems encountered in use. According to the catalogue, you can look up related sections, thus helps you to find what you need more quickly.

Attention

WIT-COLOR is the trademark of Shanghai Wit-Color Digital Science &Technology Co., Ltd. Wit-Color has the copyright of Ultra 1000, Ultra 2000, Ultra 3000, Ultra 4000, Ultra 9000, Ultra 9100, Ultra 9200 solvent printer and eco-solvent printer,including every spare parts, boards and software. Any copy by company or individual is not allowed. Without authorization, this manual can be reprinted or propagated.

Ultra Star series printer has passed 3Q Conformity of Quality Management System Certification and ISO9001 Quality Certification. Ultra Star series printer is up to the standard of printing equipment. Please use the printer in the following working environment.

1. Please keep the printer away from electromagnetism environment: television, high speed electric machine, high voltage cable, mobile phone, radio etc. These equipments will produce magnetic interference.

2. Please keep the room temperature between 10 and 40 Celsius degree while printer is working. Too high or too low temperature will reduce the printer's using life and affect the quality of the image.

3. The room should be in smooth ground with ground wire connection.

4. Please avoid direct sunlight and keep printer in ventilation and favorable humidity.

5. Please keep the room clean, and avoid operating the machine under dusts.

Displacement is inevitable during transportation. In this case, the engineer will modulate it. This can not be considered as damage, so we will not compensate or return to factory service.

Within the warranty time, WIT-COLOR provides maintenance and technical support except the damage caused by human, bilging and thunderstrike. Please read the manual carefully. Any question, please contact WIT-COLOR after-sales service department for help.

Please don't dismantle the printer privately. When the printer is in high-speed operation, please pay attention to the safety symbols to avoid unnecessary injury. WIT-COLOR also provide out-of-warranty printer maintenance according to the agreement.

Specification is subject to change without prior information.

The involved description, color and model of printer only takes the reference. The exact configurations of equipment are subject to the real product.

Caution   Please follow the above instructions in order to avoid unnecessary problems.

Technical Features：

Spectra(Fuji)industrial printhead-StarFire 1024

Ultra Star Series printer adopts the most advanced Fujifilm Dimatix industrial printhead SG1024, which has the closed design consisting of the strong anticorrosive cover to protect internal circuit and alloy piezoelectric crystal with high voltage pulse drive to prevent nozzle blocking........

Gray Scale Variable Ink Drop Technology

SG1024 printhead adopt Gray Scale controlling system which can make the printhead spout 3 kinds of drop volume to make pictures more precise and vivid.

Fault-Tolerant Feather Technology

With Fault-Tolerant Feather Technology, it can realize the gradient printing instead of linear printing.Due to the constitution of gradient ink dot of each pass, fault-tolerant feather technology can effectively remove the stripe, thus perfecting the picture.

High-speed Motion System

The AC servo motor of the printer has a feature of accurate position and high stability. In mechanical part, the printer adopts imported linear rail, timing belt with aluminum gear.For positioning system, the printer is equipped with with180 DPI encoder stripe.

Rapid Heating and Drying System

The printer has two sets of heating system and one set of drying system. Pre-heating contributes to absorption of ink by opening the coating of material. Post-heating contributes to rapid coagulation of ink. In the collaboration of heating system and drying system, each picture could be dried before collected.

Automatic media feeding and take-up system

The automatic media feeding system is designed with photoelectric control. The system could bear large media like fabric and keep media moving in parallel. With passive media feeding system, the printer achieves low energy consumption when bearing the light media.

# Software Instructions

There are three sets of software included:

1.Printer control software

2.Printhead voltage control and temperature control software

3.Rip software

PC system requirements:

Support Windows7(Professional version), and start administrator account.

Asus or other high stable main boards are without COM Port

Inter I5 or more than I5 processors is optional

4GB memory
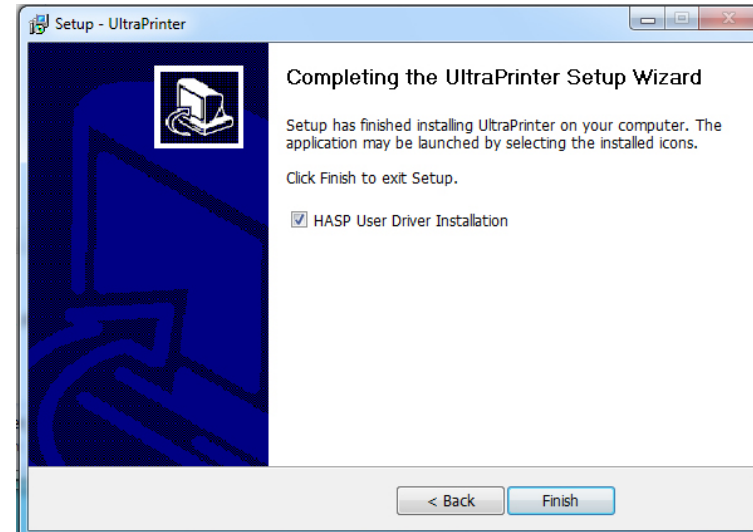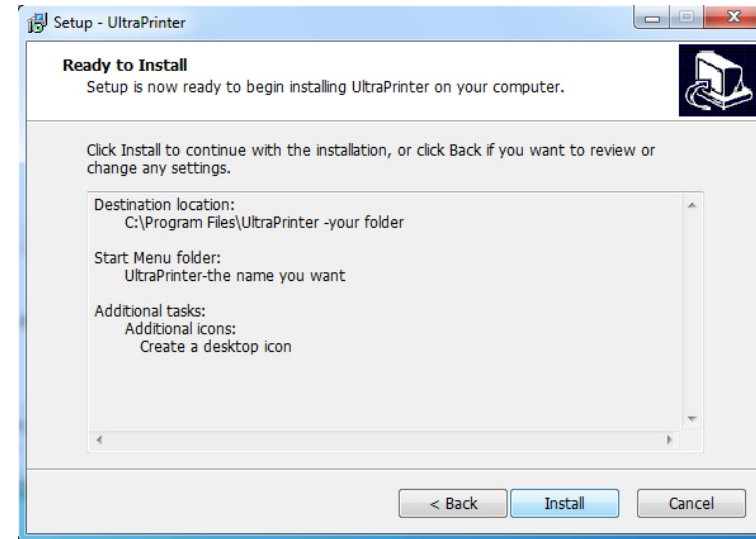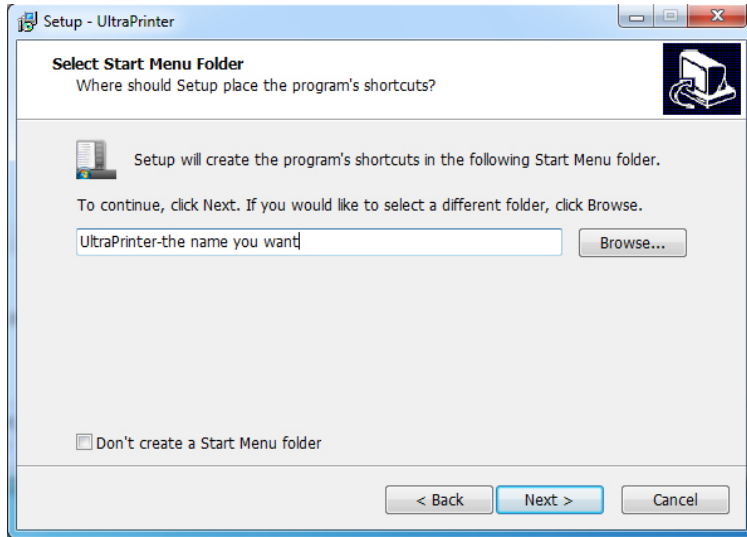
Software Installation

1.Software Control Installation
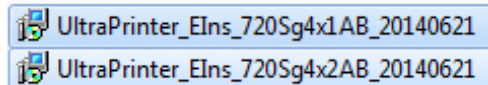
Cins means Chinese, Sg represents StarFire 1024, 4 indicates 4 colors, 1AB stands for 2 pcs printheads, 2AB signifies 4 pcs printheads.

Confirm it is with administrator account before installation and no interference from antivirus software.

2.Select the corresponding software for installation. Password:dyj198, the installation process is as follows :
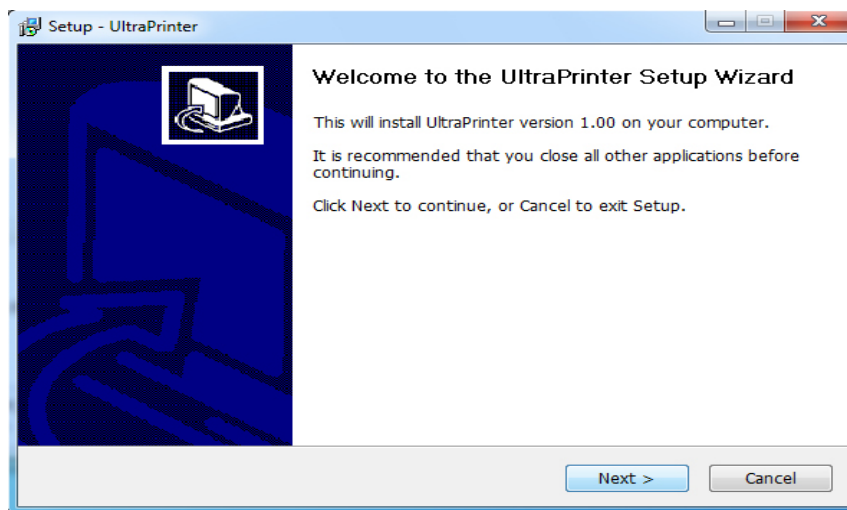
Confirm installation folder makes it convenient to backup
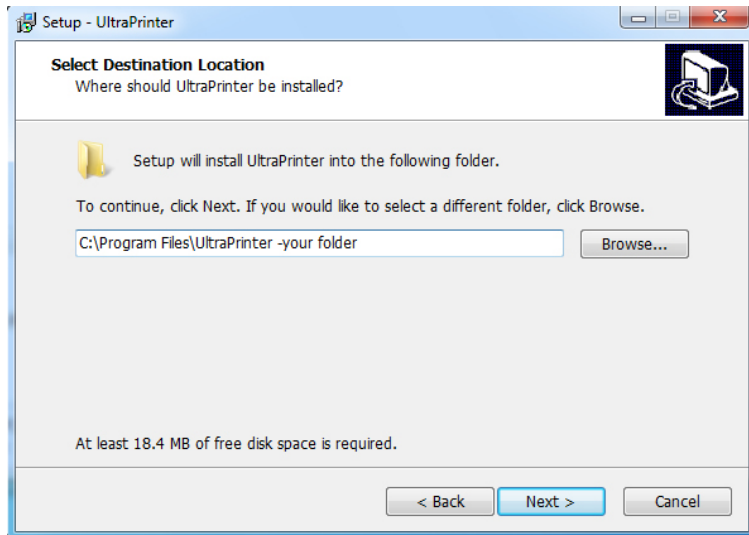
"HASP U User Driver Installation" was reminded in process.
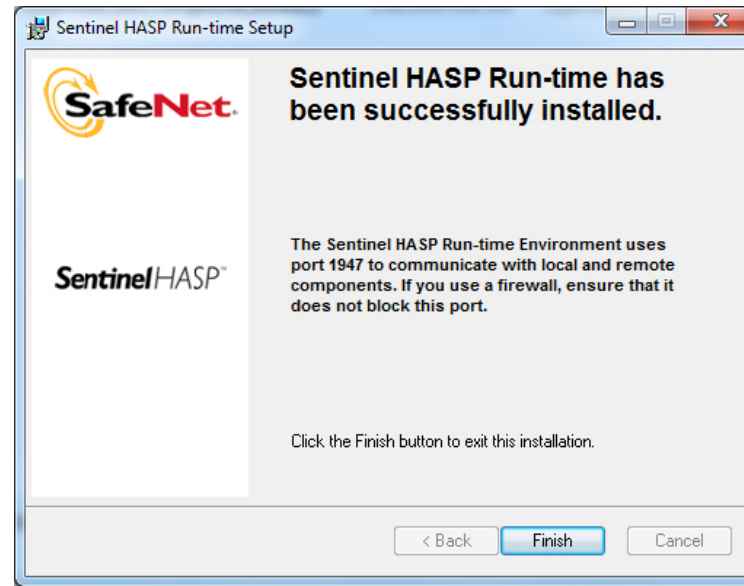
3. Select "I accept" and click "Next"

4. Software after installation:
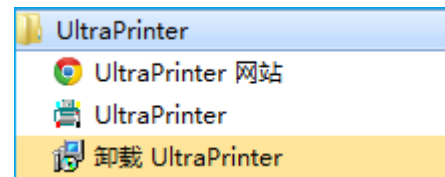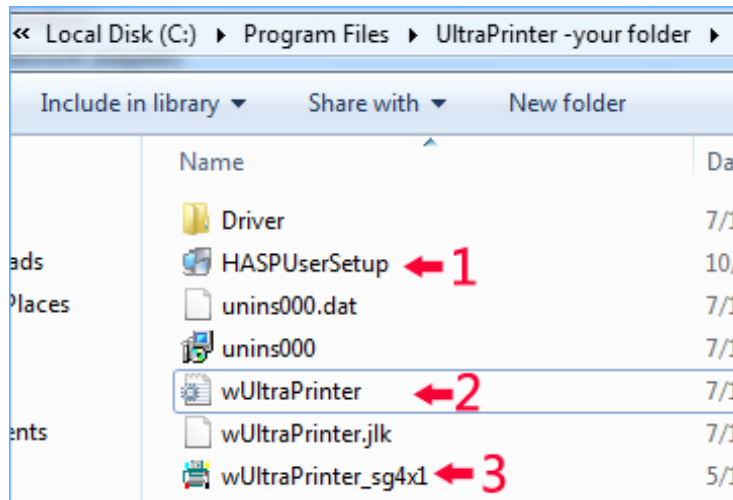
1: HASP User Setup: If encryption is not recognized, you can fix the encryption device drivers manually.

2: Configuration File: Record printer's mechanical settings and calibration value and must backed up them after calibration. And you also can import the profiles directly.
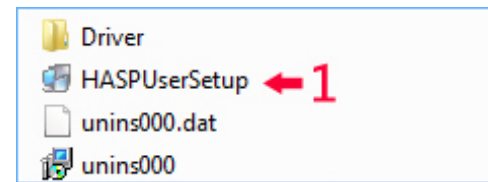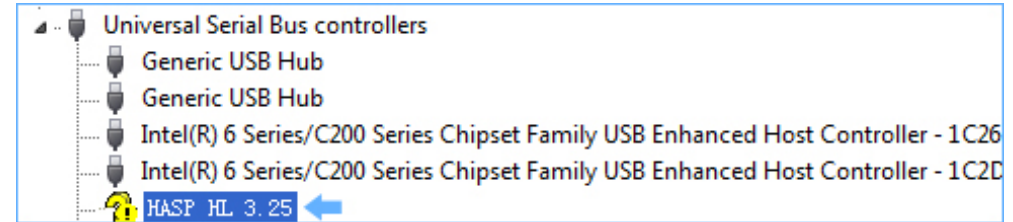
3: Control Software.

Inspection on encryption and pixel board
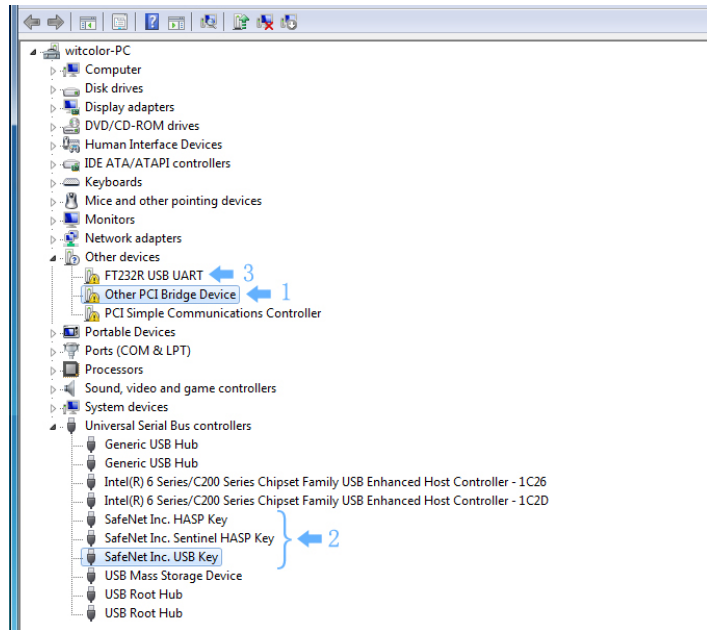
1:Pixel board   2:Write voltage cable   3:Encryption

If encryption drive was failed to install, there will be a HASPHL3.25 with yellow question mark, you should operate HASP User Setup reinstallation.
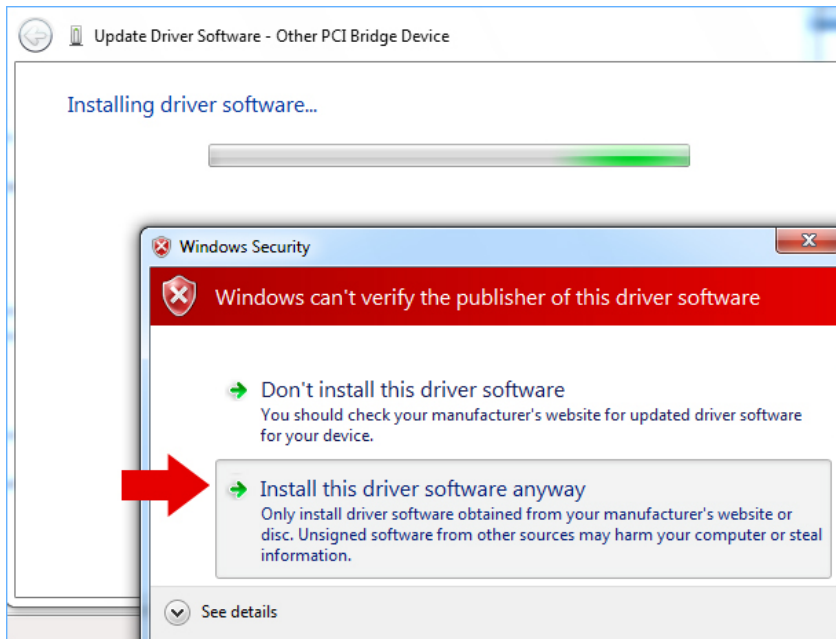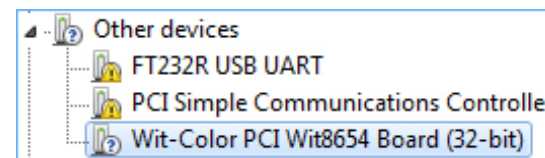
Installation of pixel board drive :

2
3
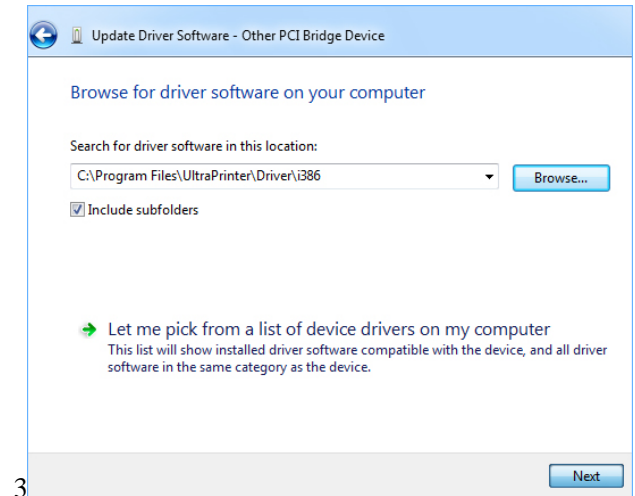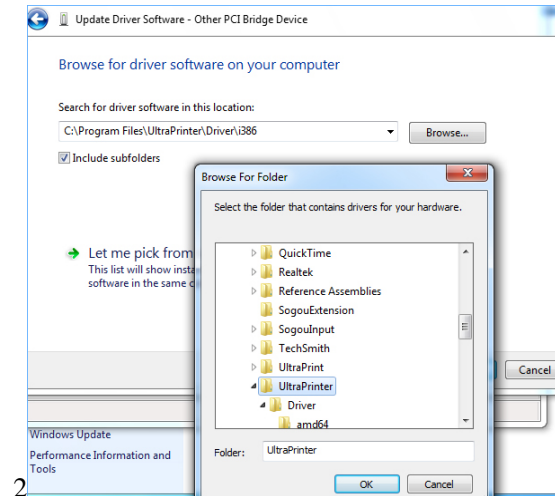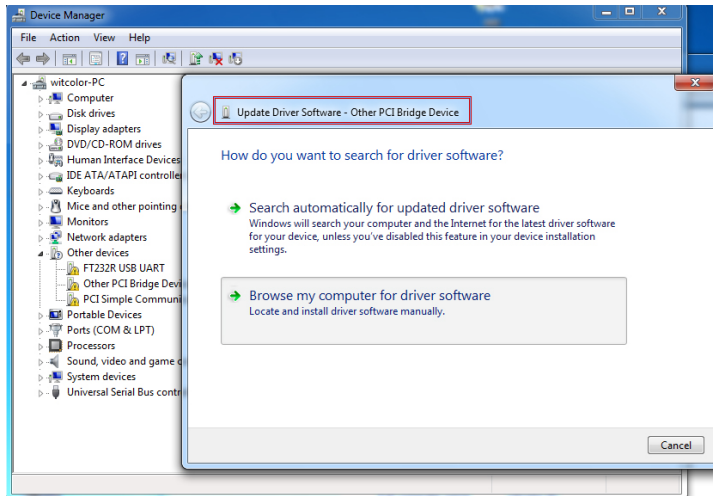
1: Right click "Other PCI Bridge Device", select "Update device". Choose: Browse my computer for driver software in the pop-up window.

2: Find out the folder to install the software, assign to Driver/i386

3: Confirm driver/i386 and click "Next".

Choose "Install this driver software anyway"　　　　　　　　　　Pixel board drive installation is finished.

Printer can begin to operate after pixel board and drive installation.

Self-inspection: Software recognize encryption first. "ultraprinter.exe"will be shown as the process in the task column if password is correct otherwise it will not.

Self-inspection process:

Motion signal from pixel board→pass terminal board→enter into X axis drive→drive motor operates→carriage moves to the left side ↓
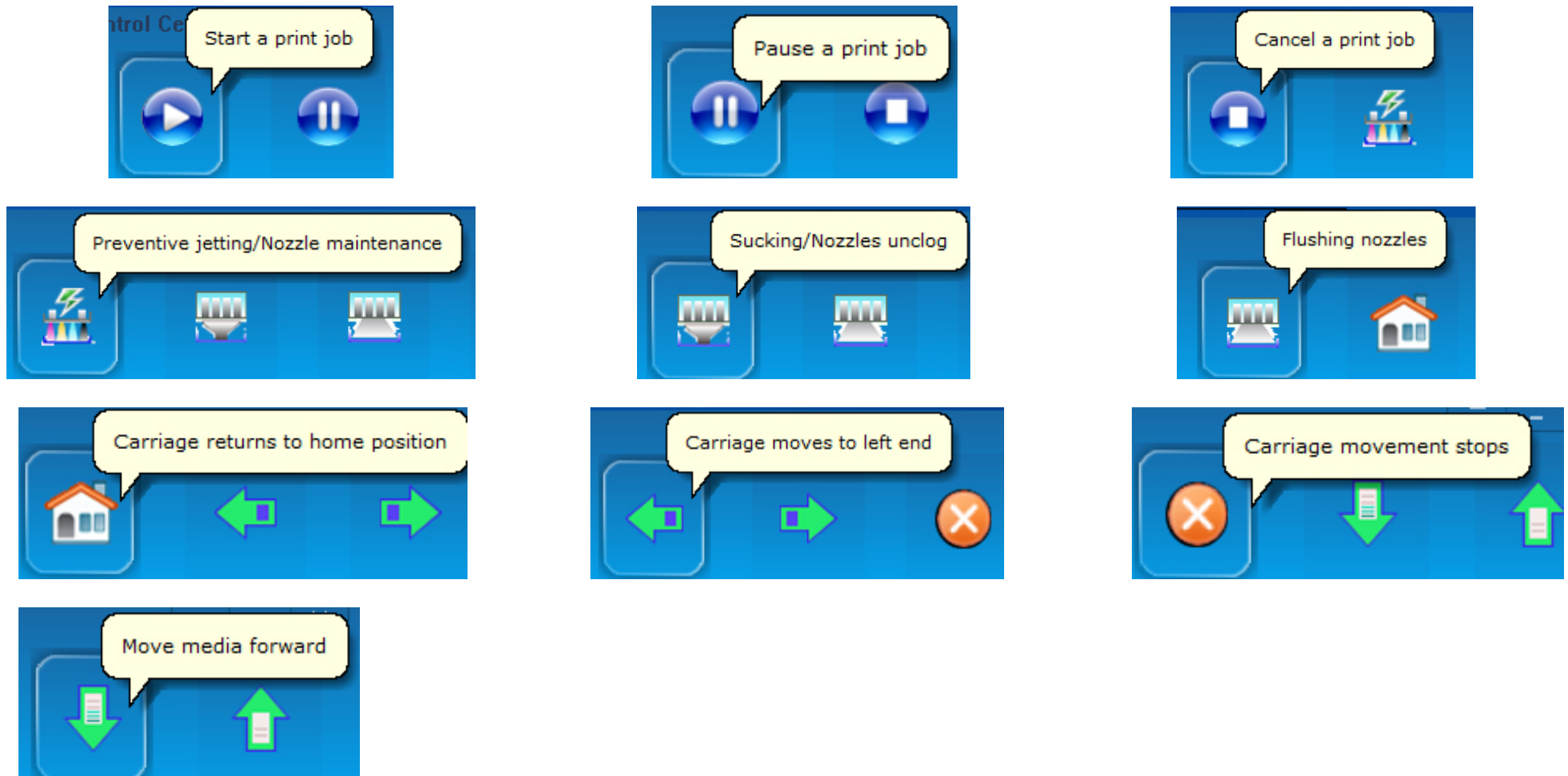
Click limit switch and pixel board receives signal

Stepping motor moves forward←Carriage back to capping station← signal of backward movement from pixel board ← motion signal stops←┘

Software control interface pops up after self-inspection was completed or corresponding information will be reminded if self-inspection was failed.

Control Software Introduction

Start a print job	Pause a print job	Cancel a print job
Preventive jetting/Nozzle maintenance	Sucking/Nozzles unclog	Flushing nozzles
Carriage returns to home position	Carriage moves to left end	Carriage movement stops
Move media forward		
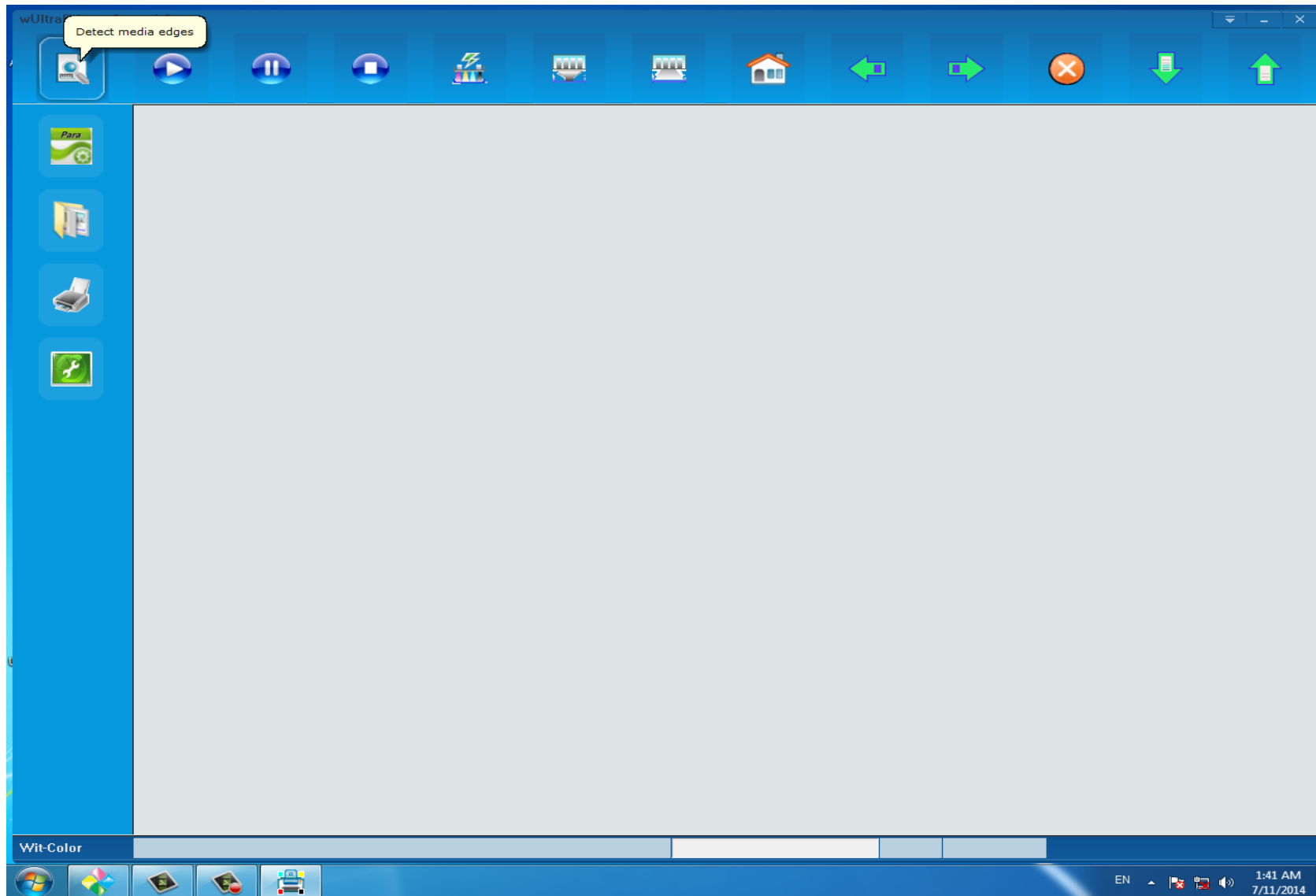
<Preventive jetting>, <sucking>, <flushing> is not available now!

Parameter Settings:

General Settings resolution selection: 360*400dpi, the following calibration will be saved as the resolution pattern. If you want to calibrate other resolution pattern, you must select first.

Check "Using Rip's DPI", the control software will recognize the file resolution and print automatically. Don't need to change printer resolution. The following settings will be effective only by clicking "save"button.
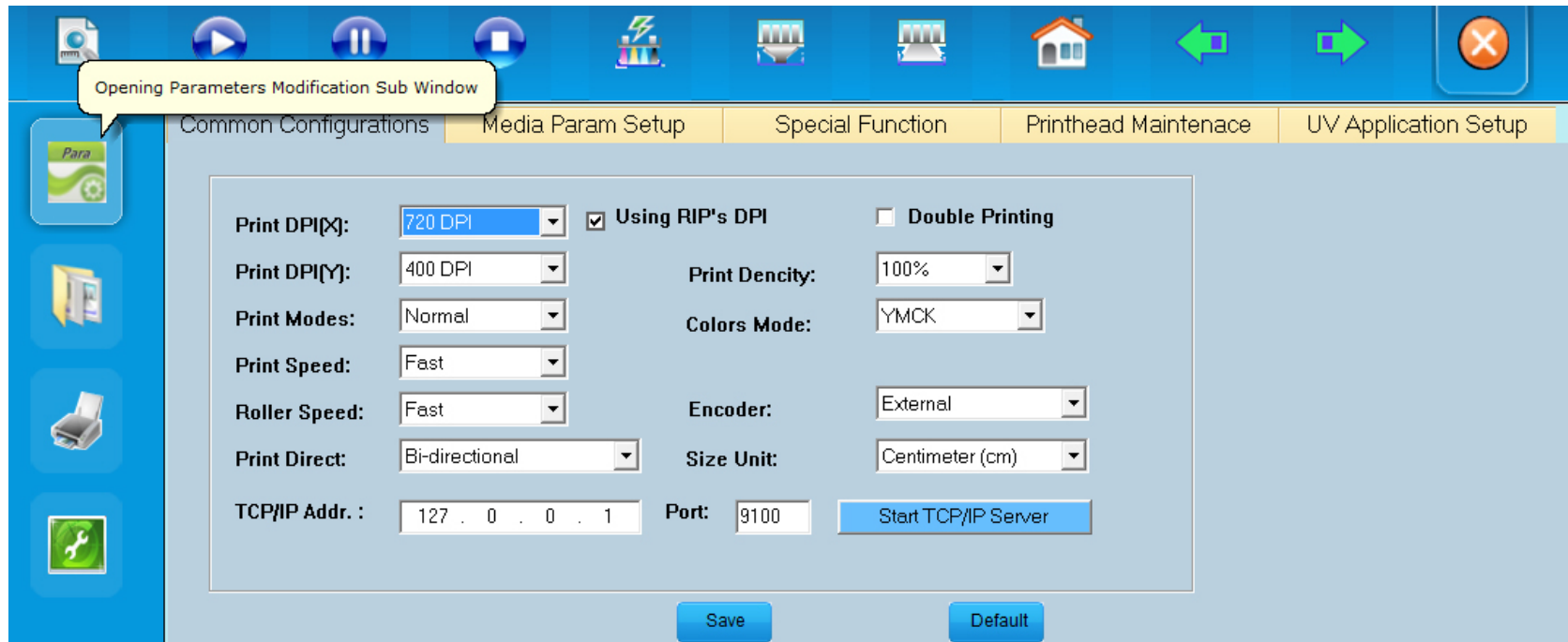
Print DPI(X) indicates the resolution and speed of carriage's movement direction when printhead works. Higher the value is, lower the speed is, then higher the resolution is. The default value is360dpi. The fine mode is 720dpi.

Print DPI(Y) indicates printing times of Y axis stepping: 200dpi=1pass, 400dpi=2pass, 600=3pass, 800dpi=4pass. The default value is 400dpi.

Double Printing: Double PASS frequency and double ink volume is needed, **which is applicable for back-lit printing.**

Print Density: Adjust it to be 200% 100% and 50% of the ink volume, which is applicable for various printing materials. **The default value is 100%.**

Colors Mode: Normal mode YMCK

Encoder Option: External encoder indicates printing depends on the positioning of encoder stripe and encoder sensor with precise image. **Default:external encoder.** Internal encoder indicates printing by software's self controlling.

TCP/IP Add: Control system and RIP software transmit data mutually according to the IP address provided by PC internal system to realize the printing effect of RIP software's controlling on printer. Control software operation must be required if pause or stop to print, the parameter is shown in the figure.

Print Modes: Normal, Enhance, and Ultra resolution modes, which is equivalent to mode 0,mode 1 and mode 2 of the old software.

Normal Pattern: Print according to normal pass. **Normal pattern is recommended.**

Improved Pattern:print with double pass frequency, Eg: rip resolution:360*400, 4 pass printing is available

Ultra Resolution: Print with quadruple pass frequency , Eg:360*400, 8 pass printing is available.

Print Speed: The speed of carriage's movement. Medium speed is suggested.

In this software, carriage's speed can be set with password, so there is a "self-selection" choice for user to set the speed.

Roller Speed: Adjust material stepping speed(not width). Medium speed is suggested.

In this software, roller speed can be set with password, so there is a "self-selection" choice for user to set the speed.

Unidirectional and Bidirectional printing: Unidirectional printing is applicable to high resolution image. (Bidirectional printing can also be used before calibration)

![Wit-Color Digital logo]

Parameter Settings-Media Parameter Setup

Manually Set Substrate's position:set material's position and keep the image inside the scope of printing material.

Three situations can result in the problem of image out of the scope of printing material.

A. "Left side"parameter is less or more than the actual material size of the left side.

B. "Right side"parameter is less than the actual material size of the right side.

C. "Left side"and "Right side" parameter is the same as the actual material location, but printing image is lager than the actual material width.

Take the following picture as an example: The starting switch located "0". Blue arrow is the left side of "65". Red arrow is the right side of "285"

Automatic calculation of media width "220cm

Size: Set printable media width(need to deduct the size pressed by pressure pin)

Usually leave 5cm empty space of both sides.

Edge Detector Site: Click " Automatical Edge Detector", the carriage will pass the panel slowly. The automatical media sensor will detect the material's location. When carriage back to the capping station, the value measured will be filled in the "Edge Detector Site" automatically. Do not use the carriage if media sensor is not installed.

◆
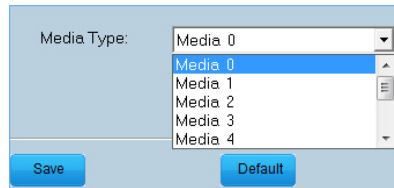
Material Type: There are various material types inside the machine. Different materials have correspondingly different stepping values. The correct stepping value of each type material can be adjusted in "system maintenance". The above settings only can be effective by pressing "save".

Parameter Configuration-Special Functional Options
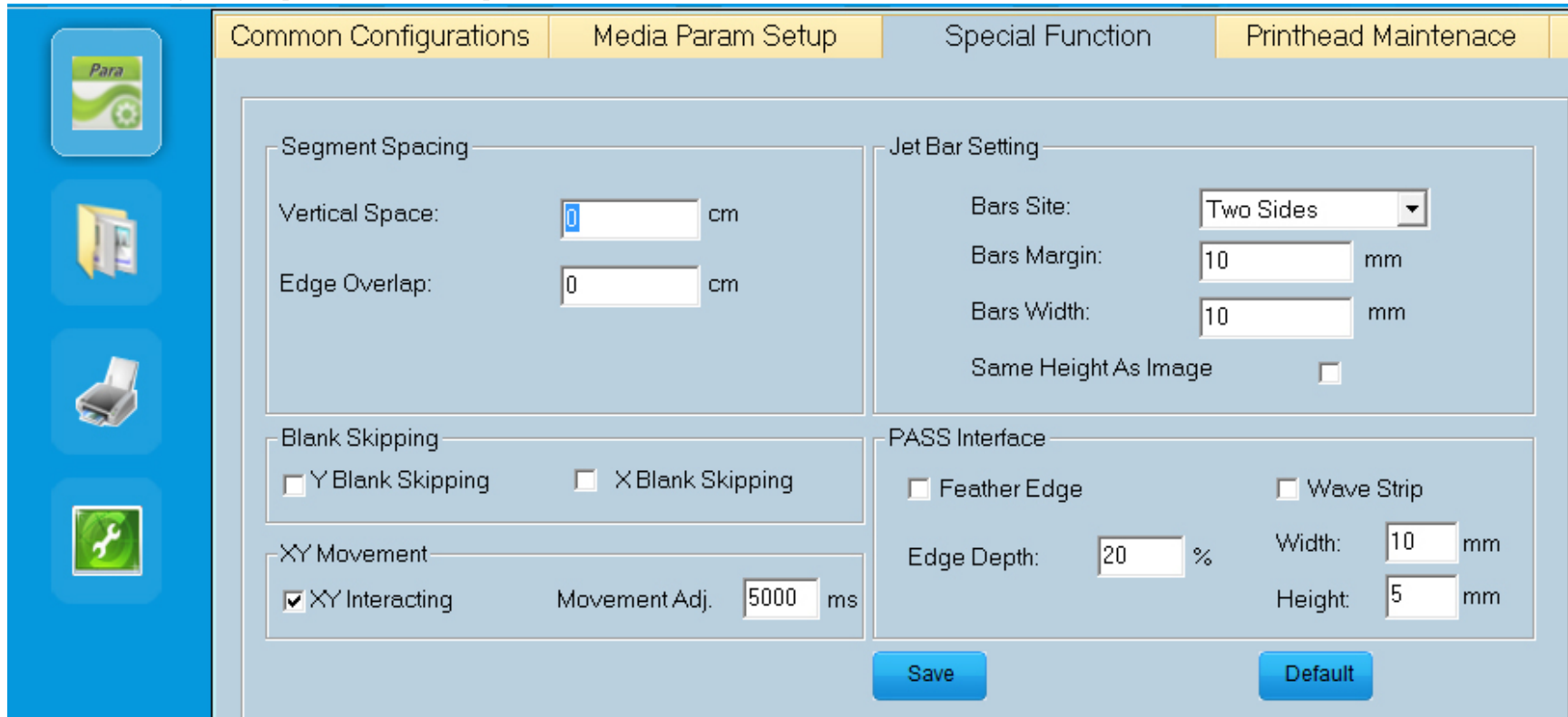
Segment Spacing: Divide pictures into several pieces, then print one after another, which is applicable for the file whose image size is wider than media. If the actual size of the file is wider than the set size, system will carry on segment spacing printing automatically.

Jet Bar Setting: print four pieces of color bars around the image when print, which can help to check calibration effects clearly and also avoid other nozzles being blocked while print single color images.

Bar Site："Two Sides"：both sides have color bars, you also can choose "Left Side", "Right Side"or **"Not Print"**.

Blank Skipping Setting: When print image, if there is blank space before or behind the image or on both sides of the image, the carriage will skip and only print the image, which can improve the productivity.

Check"Y Blank Skipping" and stepping motor will fast forward to the blank image, while carriage is waiting aside.

Check"X Blank Skipping", carriage will only print and move on the colorful images.

Close Jet Bar before start skipping function and select"Not Print" color bar.

XY Interacting Setting: Equals the pattern of Y axis'feeding after carriage's pausing, XY Interacting Setup is for Y axis' feeding before finishing printing one pass.(buffer time)

PASS Interface: Select "Feather Edge"(Fault tolerant feather)and "Wavy Strip", which can eliminate pass banding. Use Feather Edge function need Bi-direction adjustment. "Edge-feather" function is available only after stepping calibration .

Color Bar Sample:
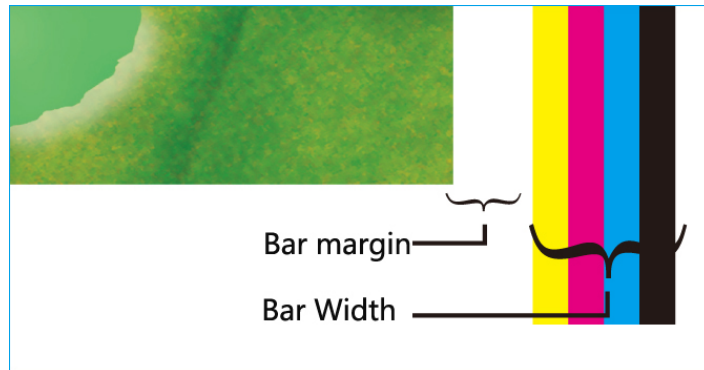
Segment Spacing Pattern:
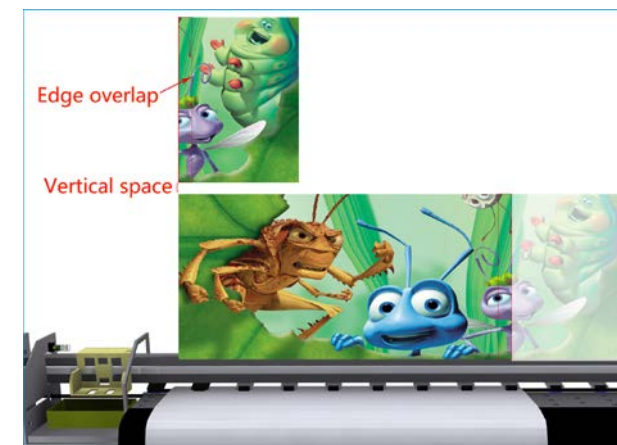
Feather Edge PASS Sample:

No feather   Feather edge

Parameter Setup-Printhead Protection Setting

Printhead Maintenance In Printing: Carriage will move back to capping station for automatical cleaning, after cleaning the carriage continue to print.

Cleaning Settings:"High-speed flash" refers to printhead flashes at a high speed in the capping station. The printhead flashes variedness. Flashing frequency and time can be set.

"Ink Squeezing"action.

"Ink Sucking" is applicable for the devices which has installed automatical ink sucking system. "Suction Position", "Moving Distance" and "Moving Round Times" will be adjusted according to the suction system.

"Auto cleaning" is not applicable because the printhead ink circulation design can prevent blocking effectively.

Printhead Protection In Standby Mode: The flash function can prevent nozzles being blocked. When open the control software, the flashing function will be opened automatically.

Firing Frequency: The times of nozzle ignition per second. It is suggested to set 300~1000hz.

Inkjet Time: It is suggested to set 1000-2000 millisecond. (1 sec.=1000msec.)

Interval Time: It is suggested to flash every 20s.-50s. (20000~50000 ms.)

Moving Tune For Left Pause, Moving Tune For Right Pause: The dislocation problem caused by continually printing after pause. This function can calibrate the dislocation caused by pause. Please refer to the following "System Maintenance"- "X Movemeny Setup"
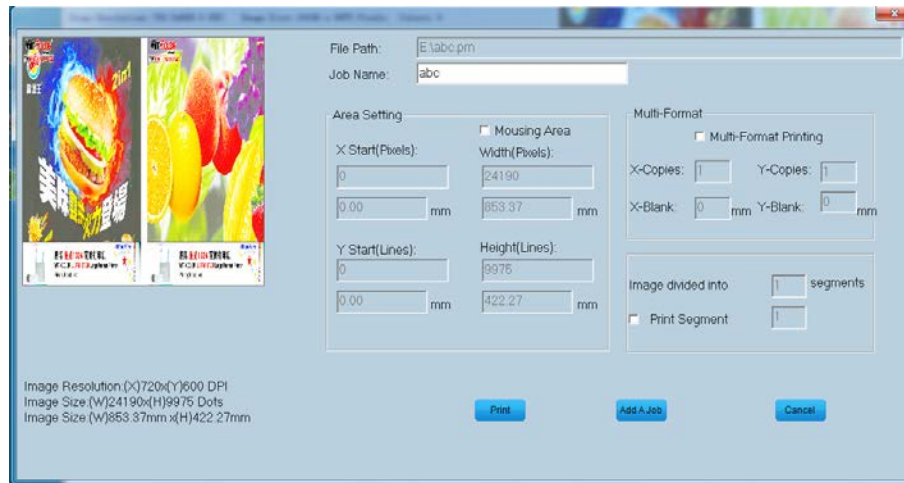
Parameter Settings-Only for UV Application Setup

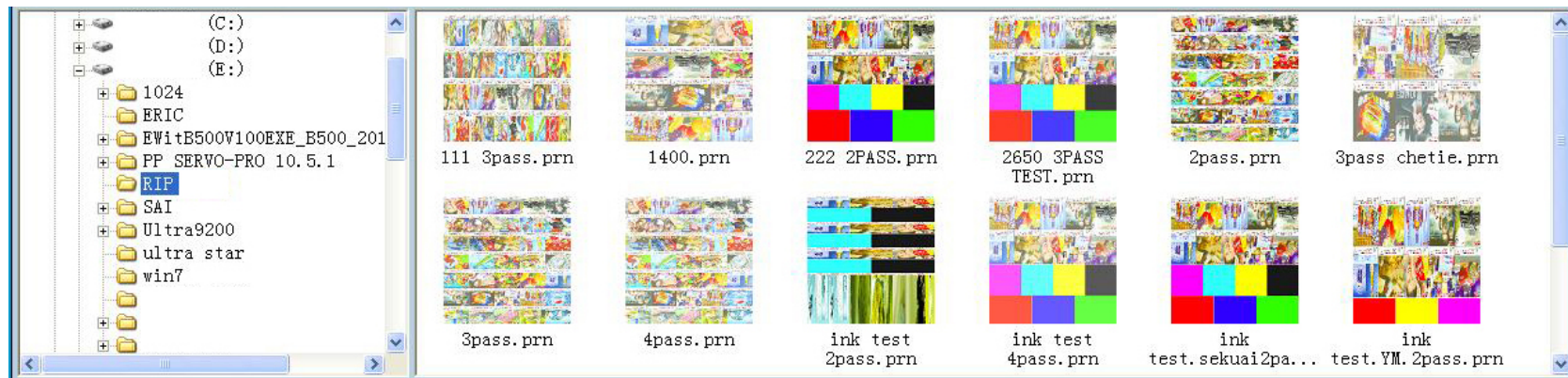**Not in use temporarily.**

Task Selection
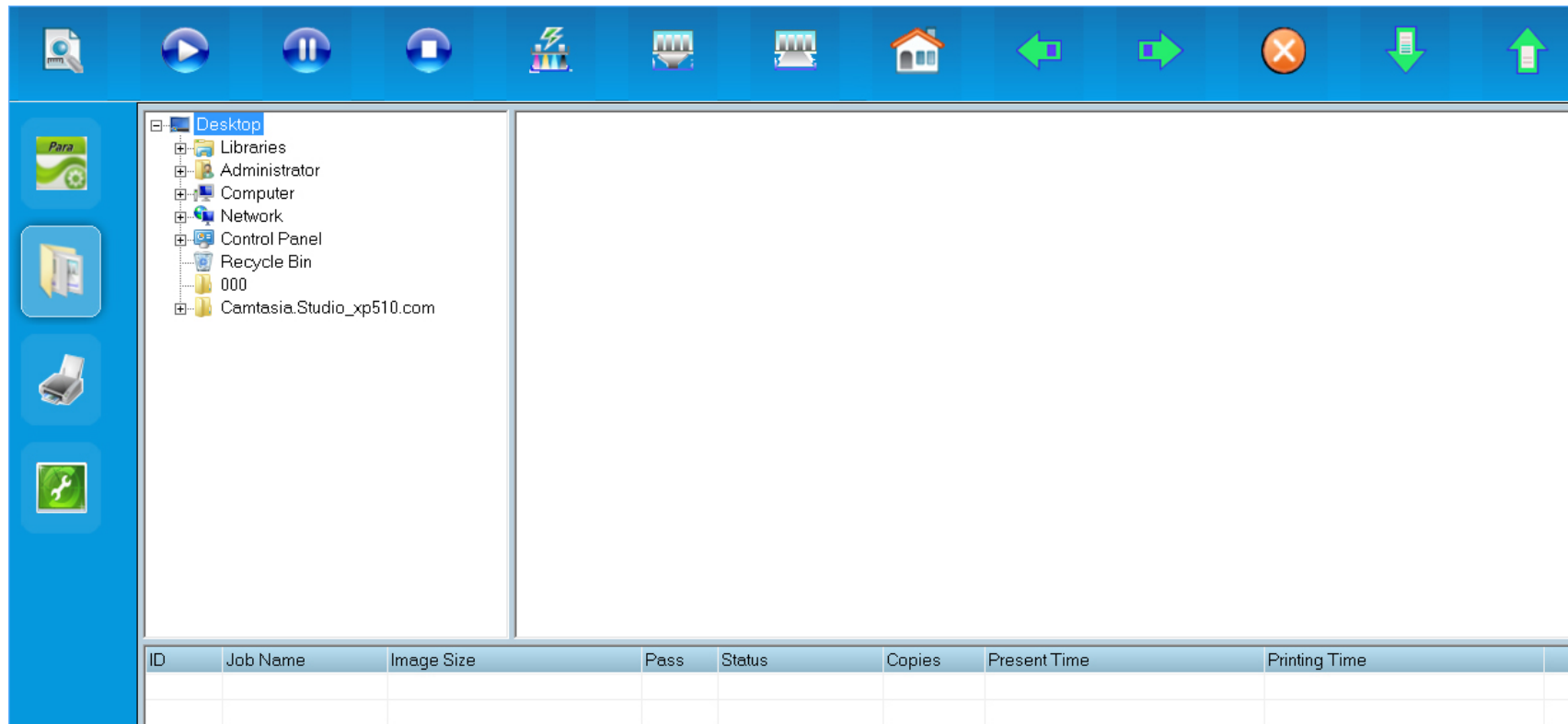
Adding ripped files to the task column makes it convenient to check, manage, and reprint.

Double-clicking the file of the task leads to the Printing interface pops up : Please refer to the following "Printing Control"information

Establish one folder and save the ripped files in it. The files can be directly previewed through "Tasks Windows", as shown bellow.

Task window is only for pre-reading PRN files, but not for JPG or TIF files, if it has picture files, software will close automatically.

Printing control

Open File: It only can open PRN files then Printing interface pops up.

Check Nozzles: Print nozzle color swatch.
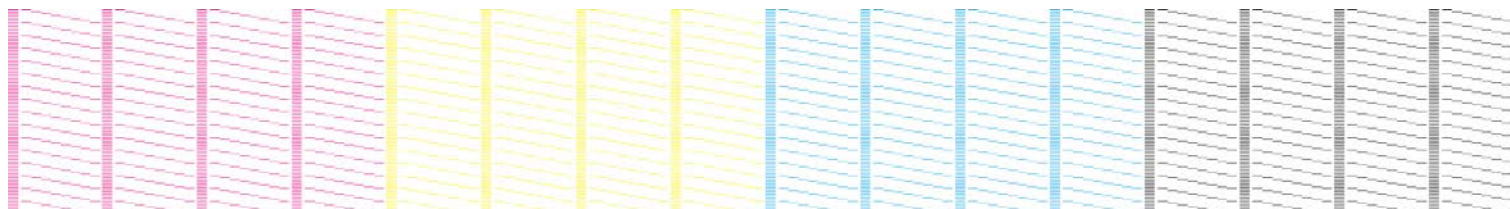
Printing Interface: Select "Print or "Add A Job"(Task column), shown in picture 1.

Area Printing: Tick, if area printing is needed, just click and drag printing area with mouse within the preview window. Shown in picture 2

Multiple-Format Printing: If the material is wide enough to hold several pieces of pictures, select X-Copies and X-Blank interval.

Y-Copies is limited to the the material length only.

Image Segment Spacing printing: If the image width is wider than the setted width, image segment spacing printing is proceed automatically with the

selection of different areas and choose which piece to print .

Detailed description is in the "Special Function Options" and " Image Segment Spacing printing"
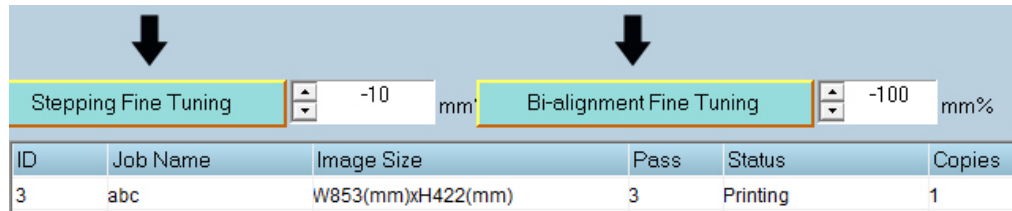
Picture 1: Printing Interface
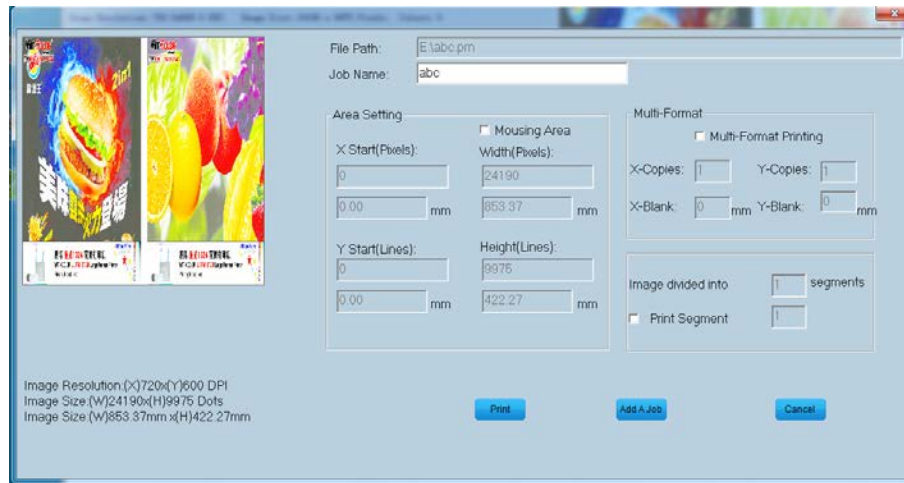
Picture 2: Area Printing Option

Printing Fine Tuning

ID	Job Name	Image Size	Pass	Status	Copies
3	abc	W853(mm)xH422(mm)	3	Printing	1

Stepping Fine Tuning: Temporary Stepping fine tuning is workable in printing. 100mm% equals to the actual 1mm approximately(In " System Maintenance"- "Y Movemeny Setup"- "Get Stepping Fine Tuning", you can save the after-fine-tuning value in the resolution pattern.).
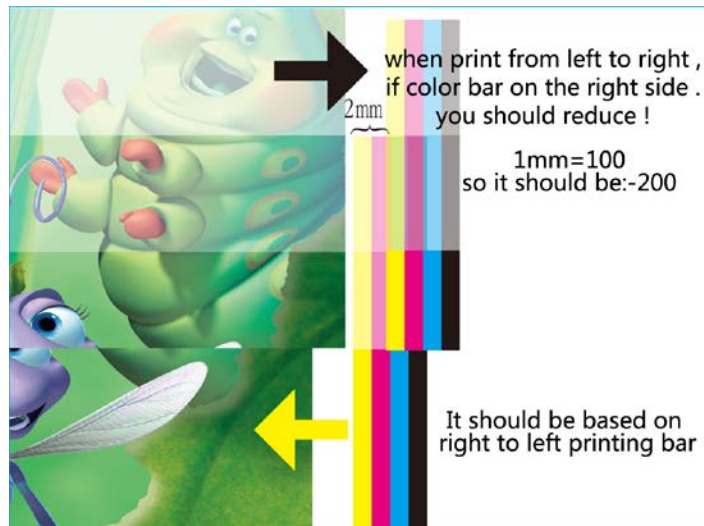
Adjustment method: If the PASSES is overlapped for 2mm, fill in "100" and click "Stepping Fine Tuning" .

If PASSES is blank-revealed for 3mm, fill in "-150" and click "Stepping Fine Tuning" to make it effective.

Bi- alignment Fine Tuning: Temporarily adjust Bi- alignment Fine Tuning when print. 100mm% equals to the actual 1mm approximately. (In " System Maintenance"-"X Movemeny Setup"- "Get Bi- alignment Fine Tuning", you can save the fine tuning value in the corresponding resolution pattern.)

Adjustment Method: Consider the color bar printing from right to left as the standard, adjust the color bar's position from left to right to make it overlapped with the Standard color bar. Click "Bi- alignment Fine Tuning"value to take effect.

Decrease value when color strip is on the right side   Add value when color stripe is on the left side
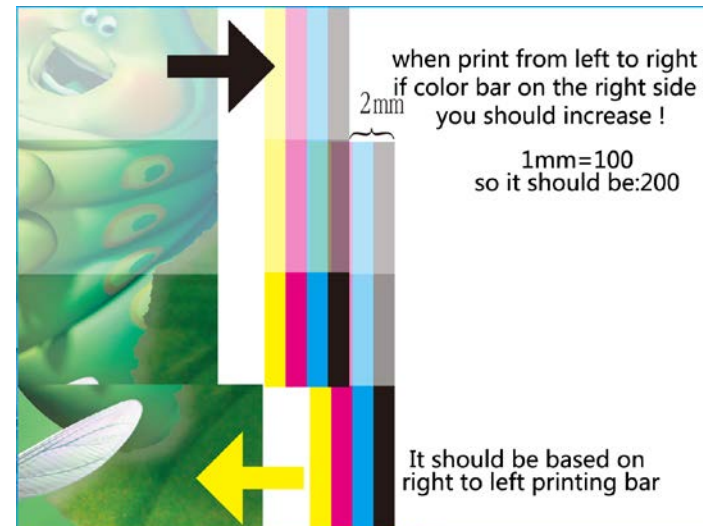
System Maintenance(Technicist only)

X Movemeny Setup

Carriage Movement Setup(X)

Carriage Home Position: Carriage stops at the capping unit, considering origin switch as "0", the default setup value is 35mm.

Carriage Max Moving Distance: Printer body length setup, the default value is 4000mm. If the length set is longer than the printer body, the right limit sensor will be crashed by carriage.

Manual Movement Distance: Click and press "left shift" or "right shift" button, the default value of carriage's movement is 2000mm.

Password Maintenance

If the value is important value, Password setting is required. (different encryption series number corresponds to different password) Double-clicking right mouse button on the gray position leads to password column pops up.

A   B
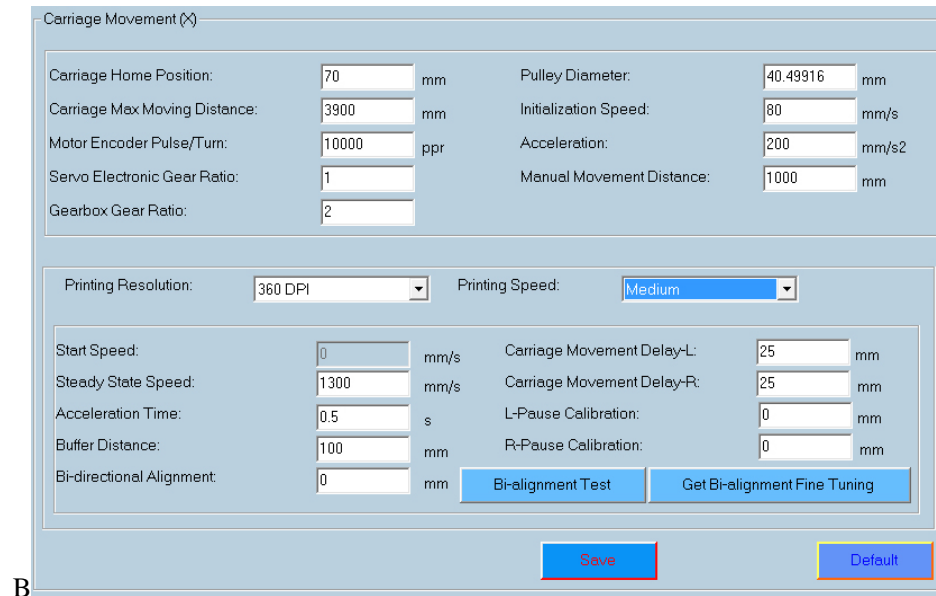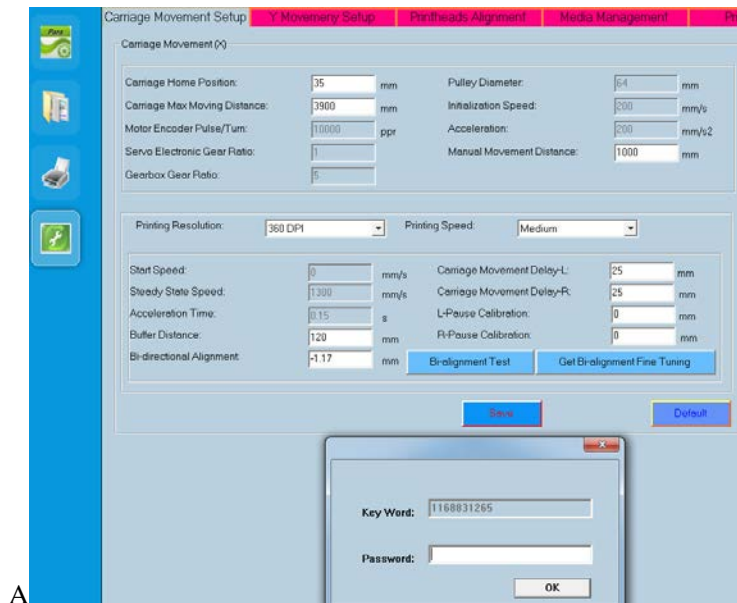
Unfamiliar with maintenance settings, please consult Wit-Color after service department for configuration files and import files directly for using .

Motor Encoder Pulse Tum: 10000PPR is defaulted.

Server Electronic Variable Ratio & Gearbox Ratio: Set them according to the proportion of X-axis main driver gear. Model SB13-1 is 1:2, model SB13-2(open design structure) is 1:5.

The initialization speed: Open carriage self-checking software or click "Carriage Home Position". If the speed is too fast, it will crash out the limit switch . **It is suggested to be 50-200mm/s**

Printing Speed Setup and Bi-direction Alignment Calibration:

Normal user choose the resolution pattern: 360*400, 360*600, 360*800 to print. So the resolution is: 360dpi, printing speed: medium speed. You can also choose self-selection speed, which is suggested to be 1300m/s.

Using the printing mode of 720*400 or 720*600 or other speed, need to choose the resolution as 720 dpi, then set the following parameters.

Steady State Speed: The default media speed value is 1300mm/s and it can be customizable. It is not suggested to be high speed.

Accelerate and Decelerate:0.15s is defaulted. It is suggested to be: 0.5s~0.65s

Motion Buffer Distance: 120mm, suggested Buffer Distance: 100mm-150mm

Please consult Wit-Color after service department for password to change the time model if it has the problem of pause, dislocation or printer shake.

Carriage Movement Delay left and right:25mm is defaulted.

Left and Right Pause Calibration: After the pause, printing continuously may lead to uneven bi-direction. Input -20mm~50mm and space will be reserved to align automatically according to the encoder sensor.

Bi-alignment calibration:

      Click "Bi-Direction Test"

      Print four groups of vertical bar: Choose the most aligned one, Eg"-1", then fill in the input column.
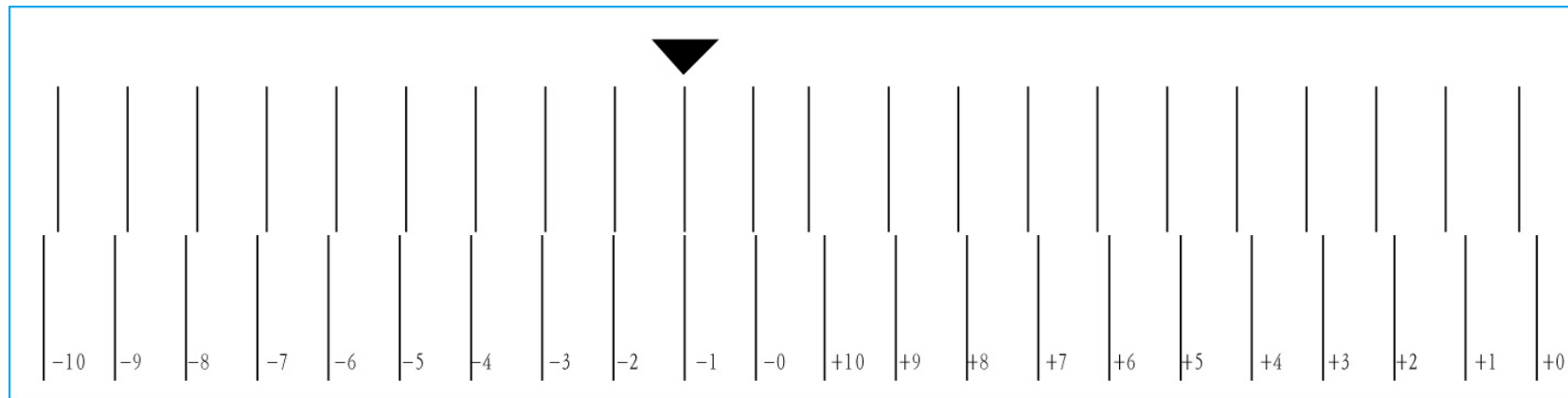
Get Bi-alignment printing Fine Tuning:

      Refers to the above "Printing Control"-"Bi-alignment Fine Tuning". Click "Get Bi-direction Fine Tuning" button to add the value into "Bi-alignment Calibration" input column if the Bi-alignment Calibration is not accurate enough in printing.

Main setting: Y axis stepping setted with 6 items: Feeding wheel diameter, manual movement distance, feeding speed, material type, stepping calibration

       1. Feeding wheel diameter: Set according to the actual diameter of the stepping wheel.(password is required)

       2. Manual movement distance : how long can the material be stepped and collected continually while pressing the "forward" or "backward" button.

       3. Feeding speed: High, medium, and slow speed for option. Medium speed is defaulted.

       4. Material type**:** with nine types of material equipped, name them by yourself ("Substrate management" is for reference as follows), different thickness and weight affects pass stepping. System will save "1 PASS stepping calibration value" and "stepping micro value"of different types of materials. Select "parameter configuration"-"material type".

5. 1 PASS stepping calibration testing: Taking "ordinary light cloth " as an example. Using ordinary light cloth, the "stepping correction value" only corresponds to ordinary light cloth.

Calibration Methods: Click "1 PASS stepping correction testing"

If reference line is in front of base line, they two will overlap, measure it with ruler and add the value. If blank-reveal, minus the values and then fill the corresponding value in "stepping calibration value".

After calibration：

6. Stepping Fine Tuning value: If it keeps overlapping or blank-revealing in printing, it can be calibrated temperately by "Print Setup"- "Stepping Fine Tuning". When the printing is finished, click "Obtain Printing Stepping Micro Calibration", then the system will save it and will add the stepping value automatically when you print next time.

The correct method of obtaining mico calibration: 1.When finish printing, confirm the image's resolution, like 360*400dpi, it is the regular pattern.

2. Enter "System Maintenance"- "Y Movemeny Setup" and choose "400dpi" as "regular pattern".

3. Click "Obtain Printing Stepping Mico Calibration "and system will input the record automatically then press save button.

System maintenance-printhead position calibration

YMCK

Step4

M+Y   M+C   M+K   Y+C   Y+K   C+K   M+Y+C+K
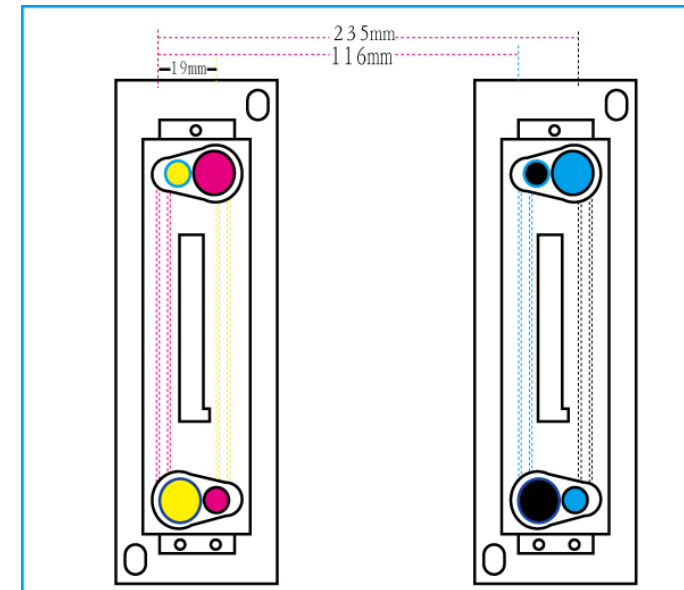
K1 Step5

C1

Y1

M1
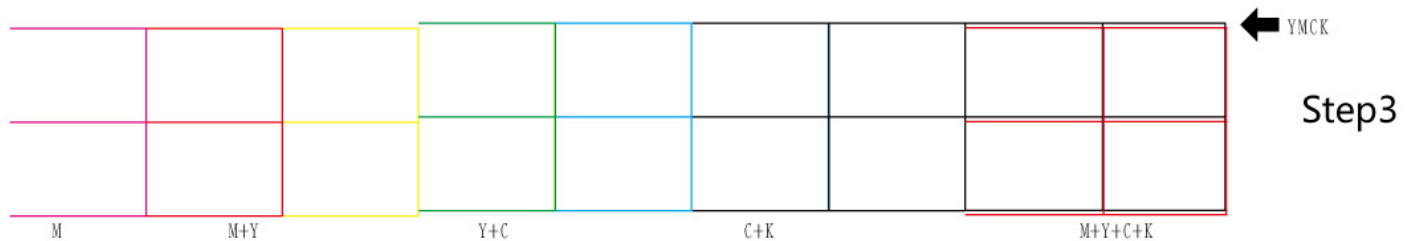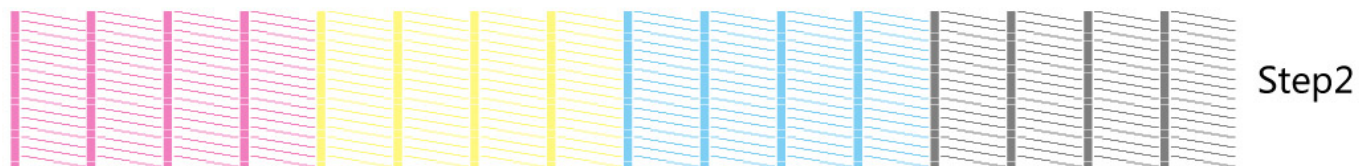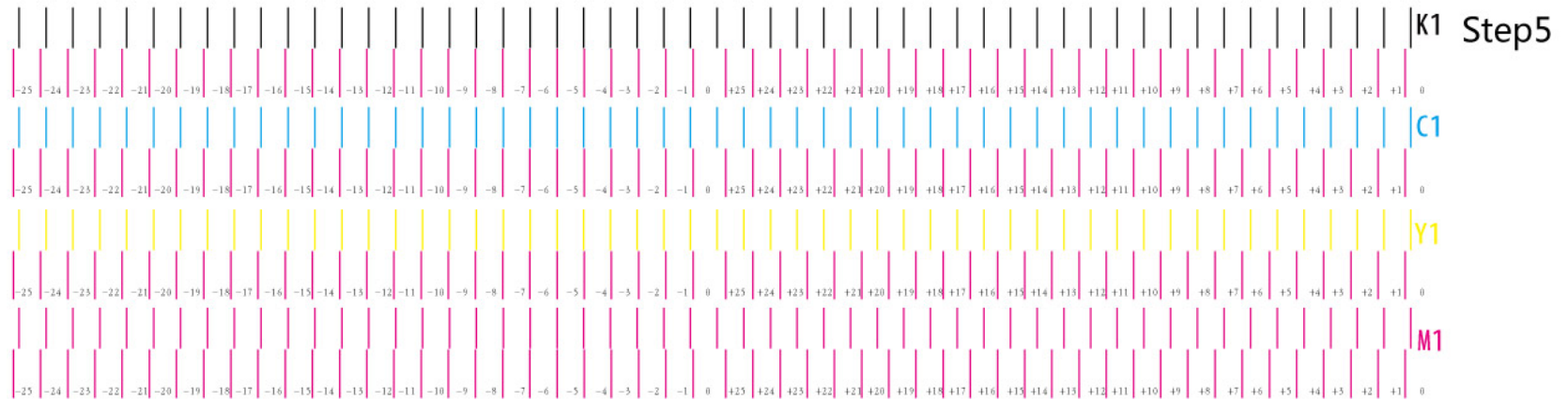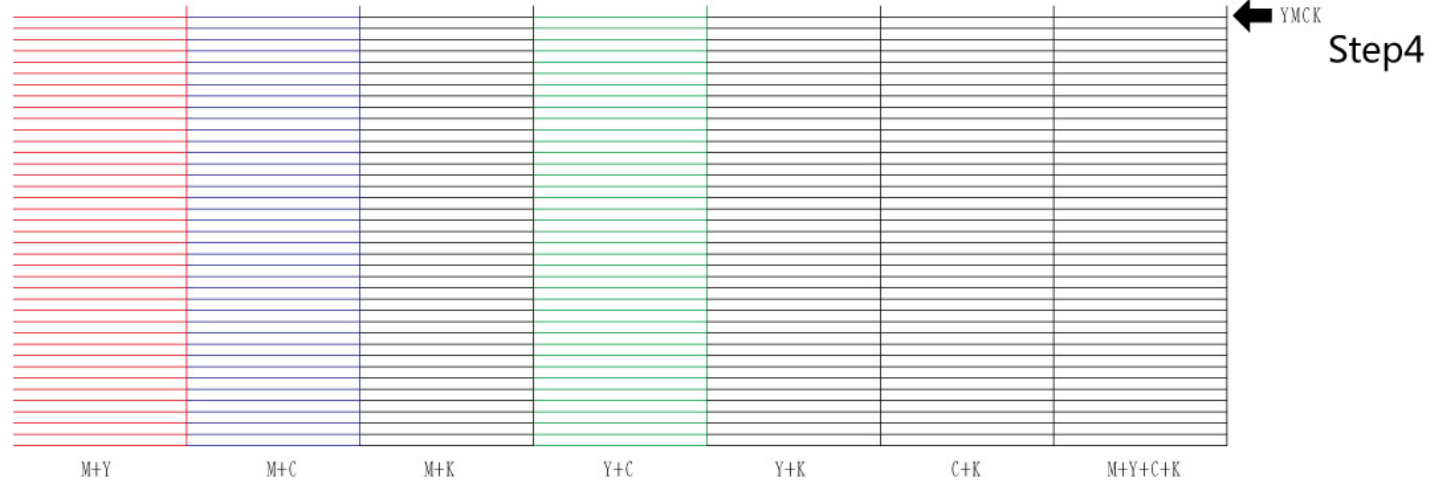
① Y axis printhead space adjustment, using physical alignment, this item don't need to be set.
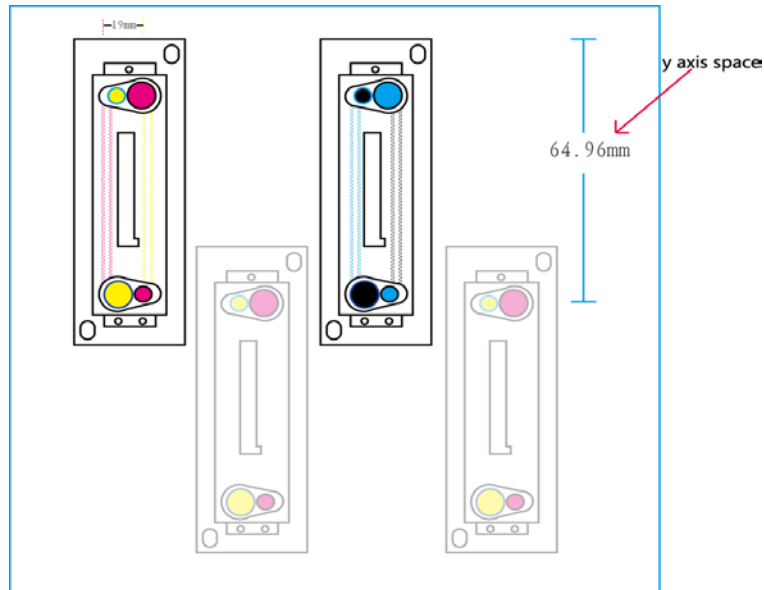
② X axis printhead space adjustment need to input the correct value according to the spaces between the two printheads.

③ Calibration for Y Offset, not in use.

④Calibration for X Offset: [Calibrate For X Offset]. Make YMCK four colors be in a horizontal line by checking the numbers of the testing pictures.

When you click [Calibrate For X Offset], the carriage will print 4 groups of Vertical bars: M1 Y1 C1 K1,which is on the basis of red color and select the most aligned vertical bar and fill the value in the corresponding frame.

Calibrate for X Offset

Method (as follows):① Select X axis printing resolution: Eg 360dpi

② Select printing speed: Eg medium speed

③ Select carriage movement direction: R-L printing(choose L-R printing after R-L printing, which is calibrated according to the procedures

of ③④⑤⑥⑦).

④ Click"printhead X axis bias calibration picture"

⑤ Print calibration line

⑥ Check the most aligned line among the four groups of lines M1 Y1 C1 K1

⑦ Add the corresponding value into the groups:M1 Y1 C1 K1 and save it.

Select"L-R printing"pattern from the third step": adjust it according to the procedures of ④⑤⑥⑦

System Maintenance-Substrate Management

1.This is only for customer to custom material name, debugging stepping value refers to "Y Movemeny Setup".

2. Nine kinds of materials is within budget and which are setted by selecting the material name in previous step "Y Movemeny Setup"-"Media Management" to calibrate as well as fine tun.

3. Choosing the material type with the procedures "parameter setting"-substrate parameter setting" can realize the precise stepping effect

Media Name:

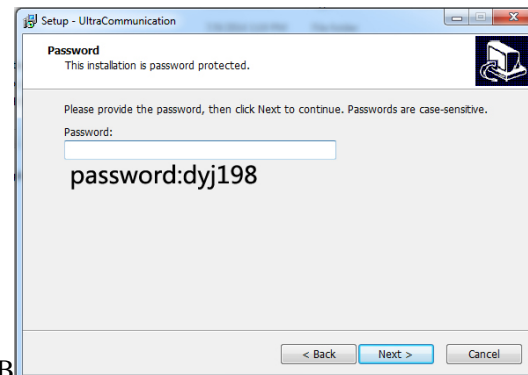System Maintenance-Print Statistic
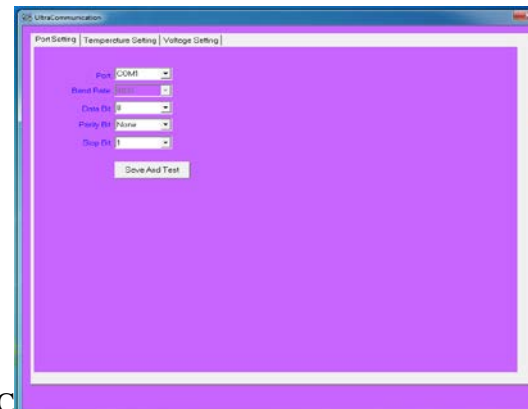
Printhead Voltage Control Software Instruction

UltraComm_E

Installation method:(password:dyj198)

A

B

C

D

E

password:dyj198

Search for driver software in this location:

C:\Program Files\UltraCommunication\Driver\FT232RL\Windows V   Browse...

☑ Include subfolders

Browse For Folder

Select the folder that contains drivers for your hardware.

- ▷ MSBuild
- ▷ NVIDIA Corporation
- ▷ QuickTime
- ▷ Realtek
- ▷ Reference Assemblies
- T_ComController
- TechSmith
- ▲ UltraCommunication
  - ▲ Driver
    - ▲ FT232RL
      - linux
      - ▷ Mac
      - windows 98 ME
      - ▷ Windows CE NET ARM XScale processor
      - ▷ Windows CE NET x86 processor
      - ▲ Windows Vista Vista x64 xp xp64 2000 Server2003 Server2(Date created: 7/14/2014 9:14 AM
        - amd64
        - i386
    - PL2303HX

Folder: Windows Vista Vista x64 xp xp64 2000 Server2003 Server2003x64

OK   Cancel

Update Driver Software - USB Serial Port

How do you want to search for driver software?

→ **Search automatically for updated driver software**
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

→ **Browse my computer for driver software**
Locate and install driver software manually.

Cancel

Update Driver Software - USB Serial Port (COM3)

Windows has successfully updated your driver software

Windows has finished installing the driver software for this device:

USB Serial Port

Close

F

▲ Other devices
  - PCI Simple Communications Controller
  - Wit-Color PCI Wit8654 Board (32-bit)
- ▷ Portable Devices
- ▲ Ports (COM & LPT)
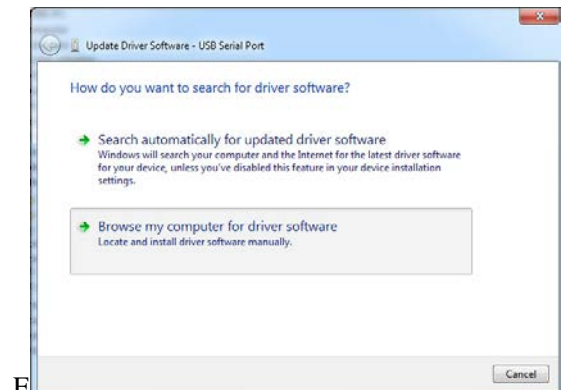 - Communications Port (COM1)
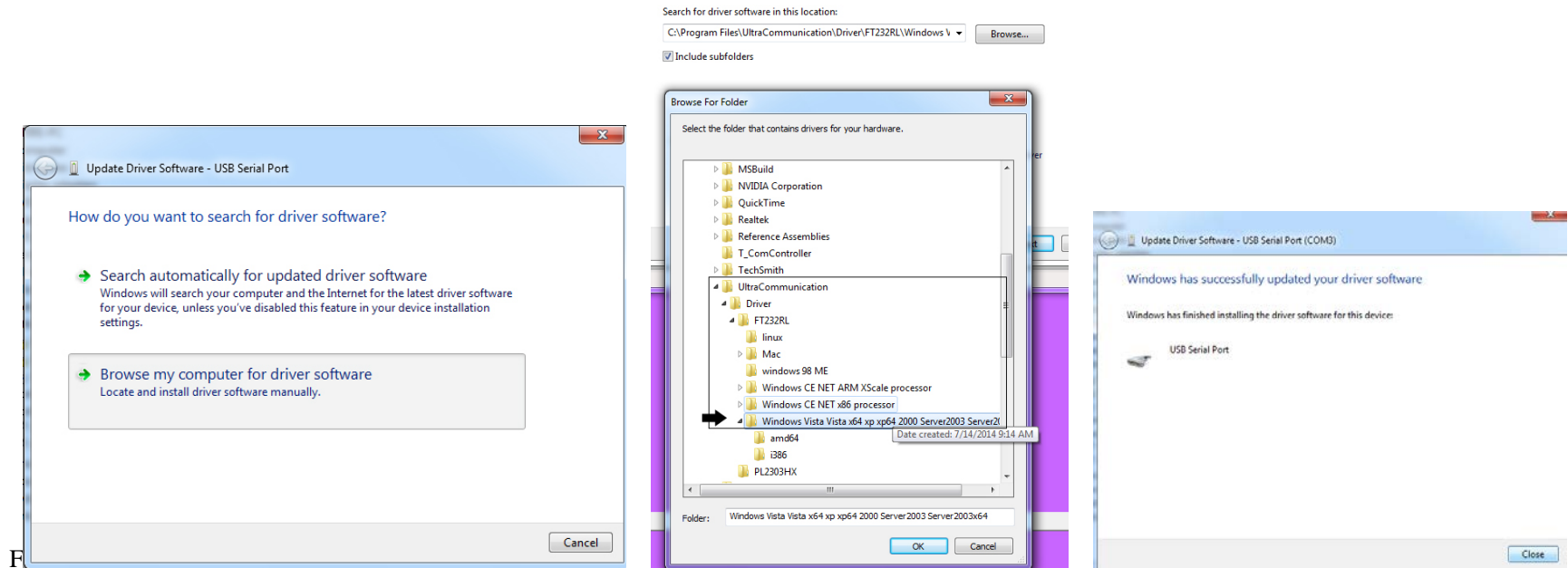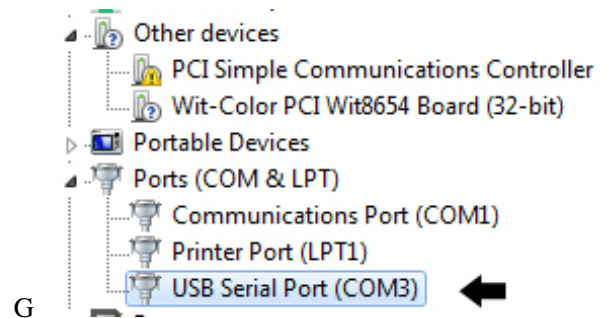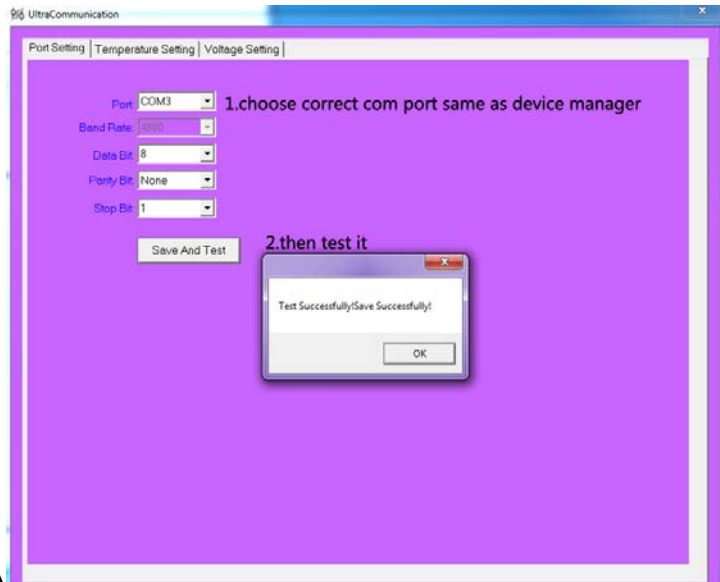 - Printer Port (LPT1)
  - USB Serial Port (COM3)   ⬅

G

I
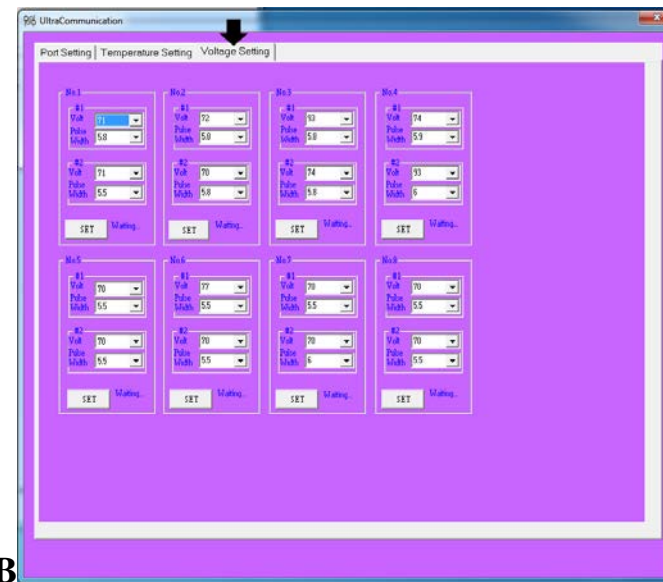
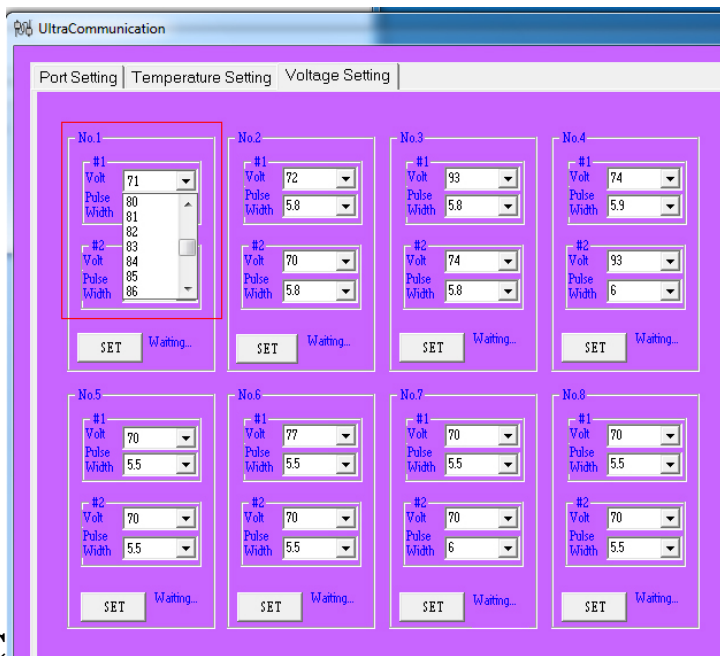If USB Serial Port is not shown correctly, repeat the above installation process.

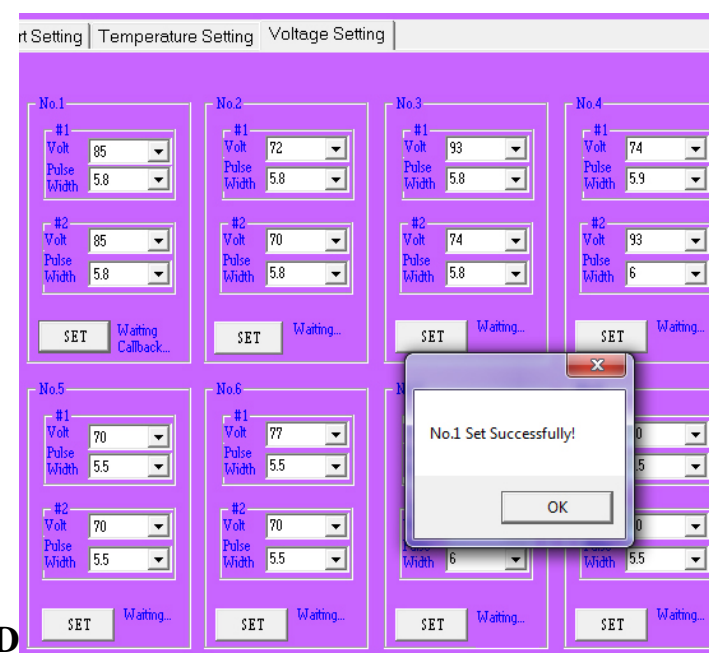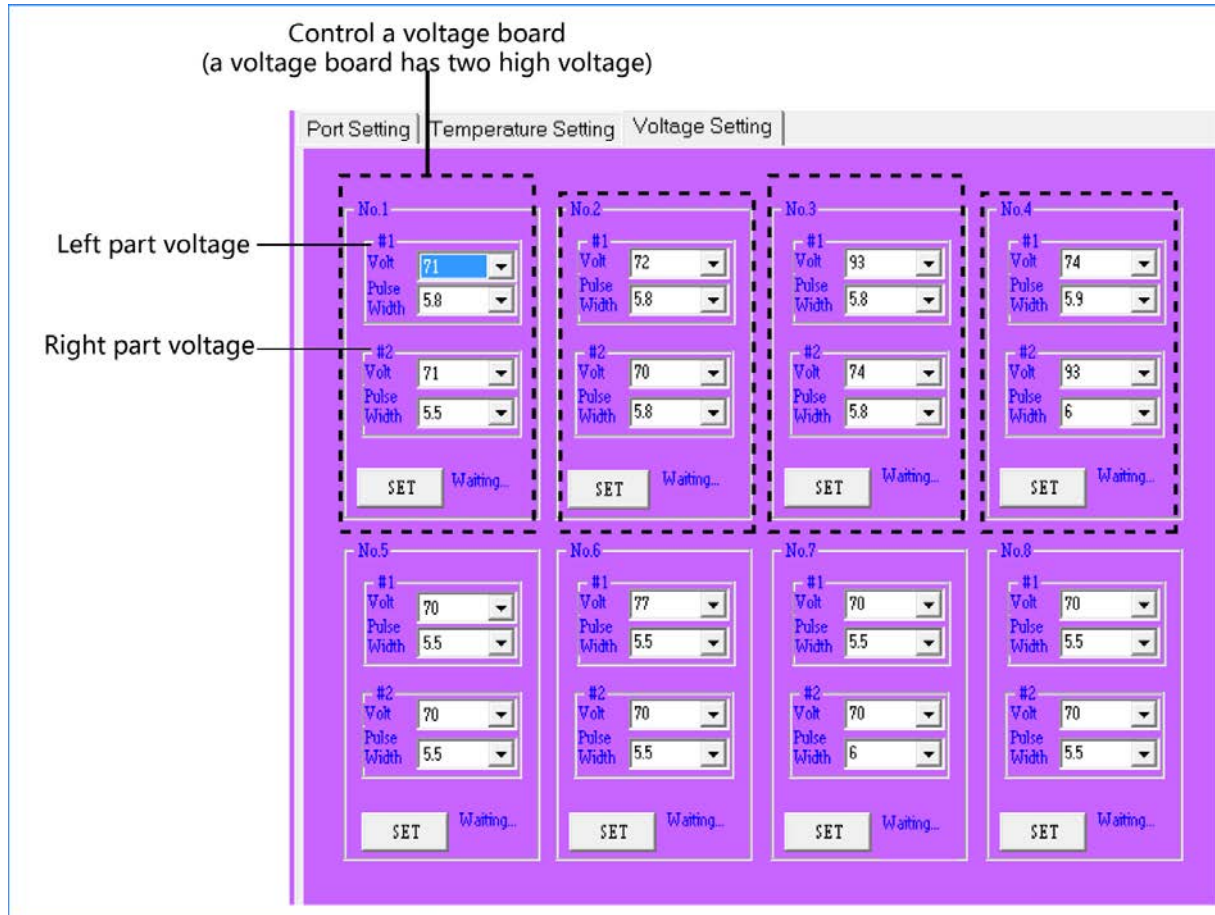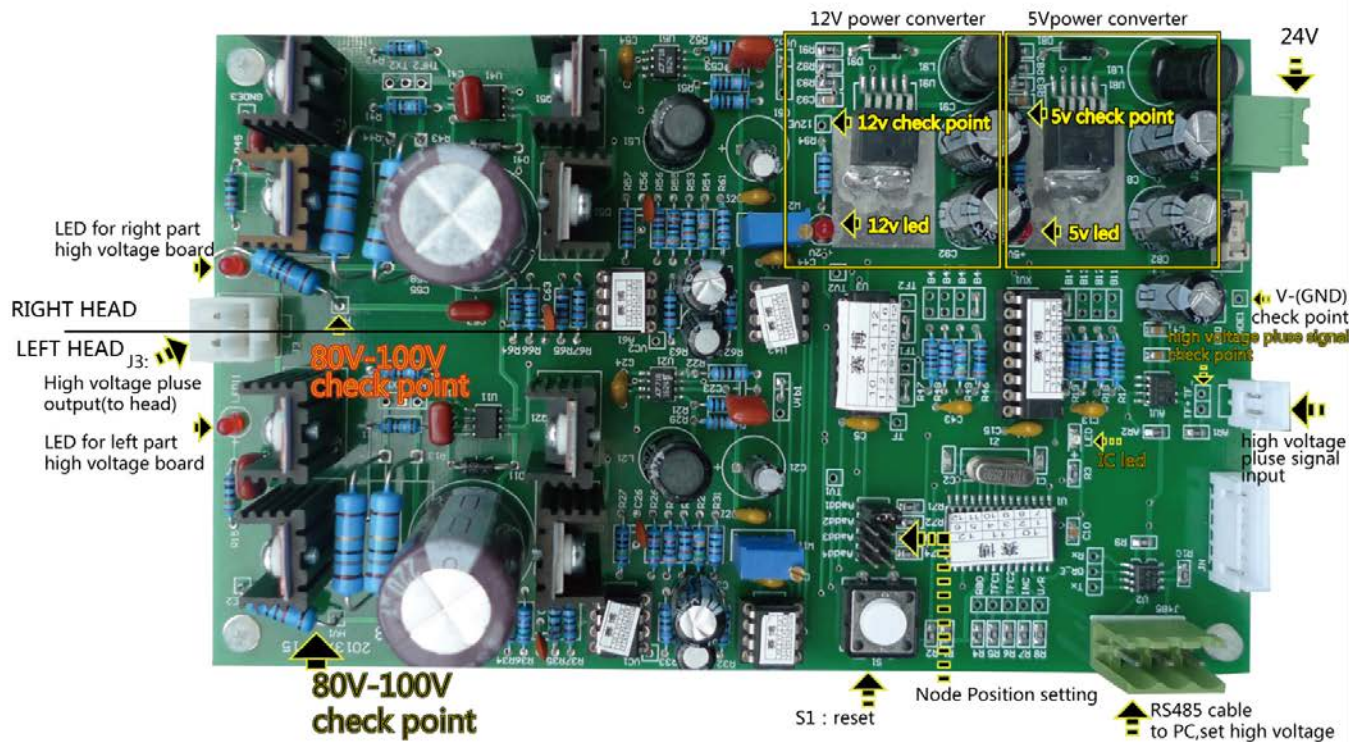# Printhead Voltage Control Software Interface

A

B

C

D

Judge which area controls which high voltage board, referring to the following picture Aadd1-4jumper

The printhead voltage is controlled between 80-90v. Waveform choose 5.5-6.5. 6 is suggested.

HIGH VOLTAGE BOARD

12V power converter

5Vpower converter

24V

12v check point

5v check point

12v led

5v led

LED for right part
high voltage board

RIGHT HEAD

LEFT HEAD   J3:

High voltage pluse
output(to head)

LED for left part
high voltage board

80V-100V
check point

V-(GND)
check point

high voltage pluse signal
check point

high voltage
pluse signal
input

IC led

80V-100V
check point

S1 : reset

Node Position setting

RS485 cable
to PC,set high voltage

High voltage pluse check point:
1.Set multimeter to DC200V .
2.Red pin and black pin join to VΩ,COM
3.then check the 100v high voltage like picture

HV1

GND

Normal working indicator:
high voltage led,12v led,5v led always
lighting on.
IC LED be flushing.

High voltage pluse singal input : Piexl board
send a 5v signal to start this board to working
PCI CARD→TERMINAL BOARD→HIGH VOLTAGE
BOARD

High voltage pluse signal check point.
TF+ TF-.normal:-3.6V,
abnormality:3.6v
please check SCSI cable or PCI CARD

RS485 Connecter

RED BLUE YELLOW

J485

red cable : TX-(D/B) blue cable : TX+(D/A)
yellow cable : GND

RS485 is a cable which can be articulated 32
nodes on the bus.a high voltage board is a node.

Node Position Setting :

Aadd4
Aadd3
Aadd2
Aadd1
TV1

A high voltage board is a node,many board has many
nodes,it is need set a position for control software to
connect to right node.
In this board,there is Aadd1~Aadd4 jumper.
If insert Aadd1,in software,Site NO.1 will join to this.
If insert Aadd2,in software,Site NO.2 will join to this.
If insert Aadd1 and Aadd2,Site NO.3 will join to this.
If insert Aadd3,in software,Site NO.4 will join to this.

S1 : Reset.

First head (left head):HV1、GND
Second head(right head):HV2、GND

Printer Testing Instruction

I. Make sure the resolution and speed of the first printing, for example:①X:360pdi ②Y:600dpi=3pass ③Regular pattern, other settings will be completed according to the following figure.

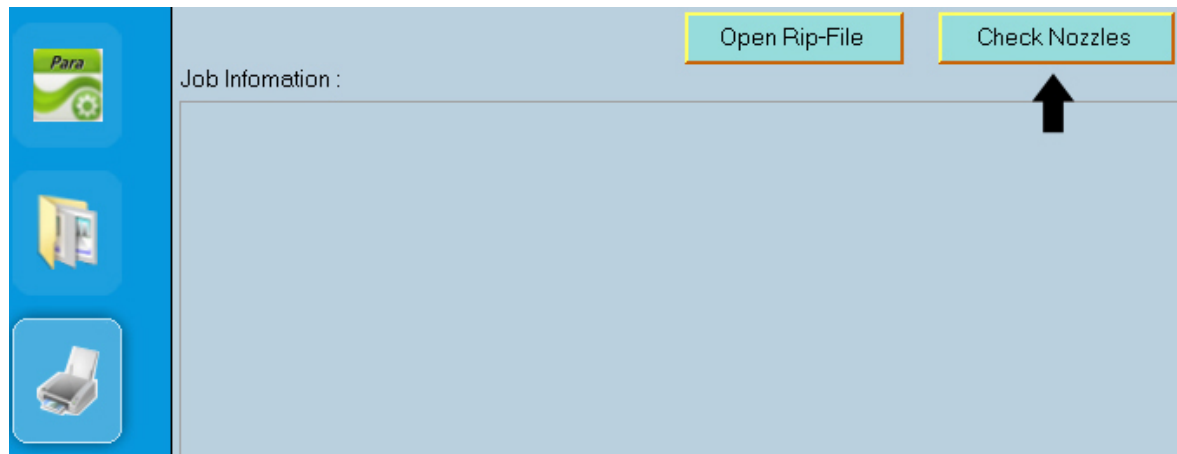
II. Media installation and cloth size settings
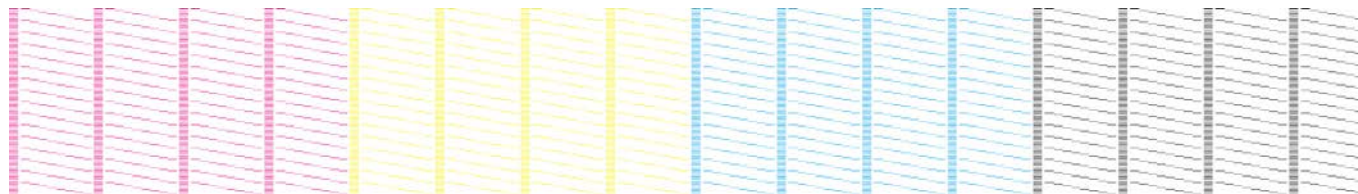
A. Install media and measure distance

B. Open "Media Param Setup"- "Set Substrate's Position Manually" then input the value and save it. (as shown bellow)
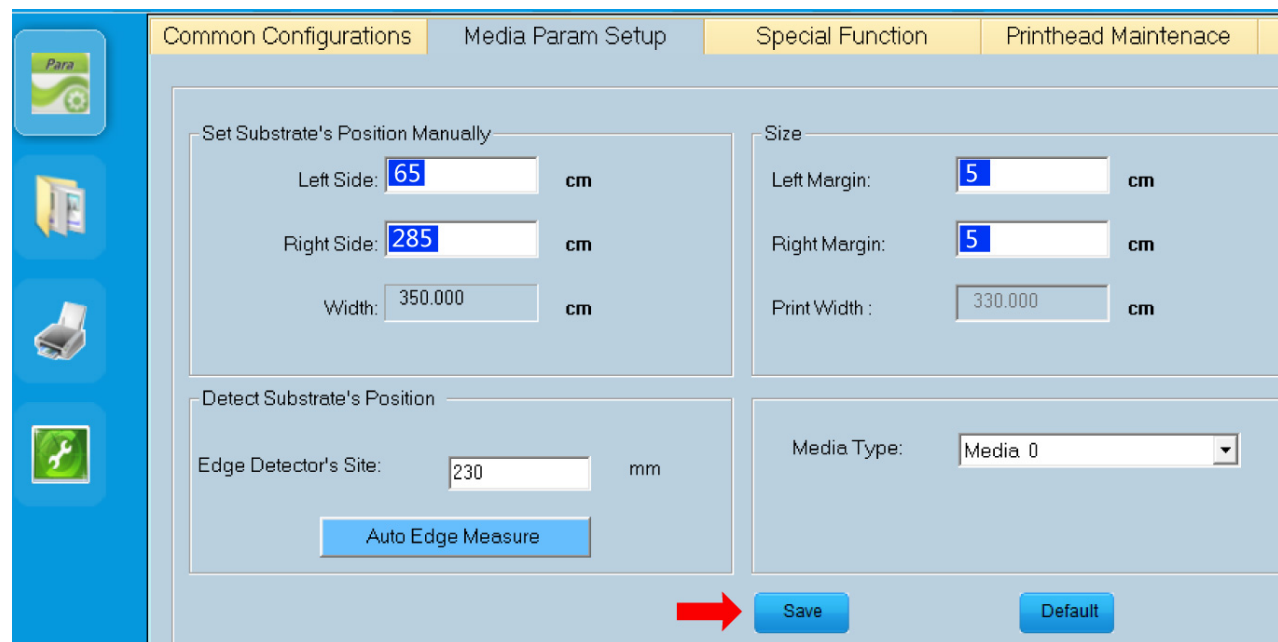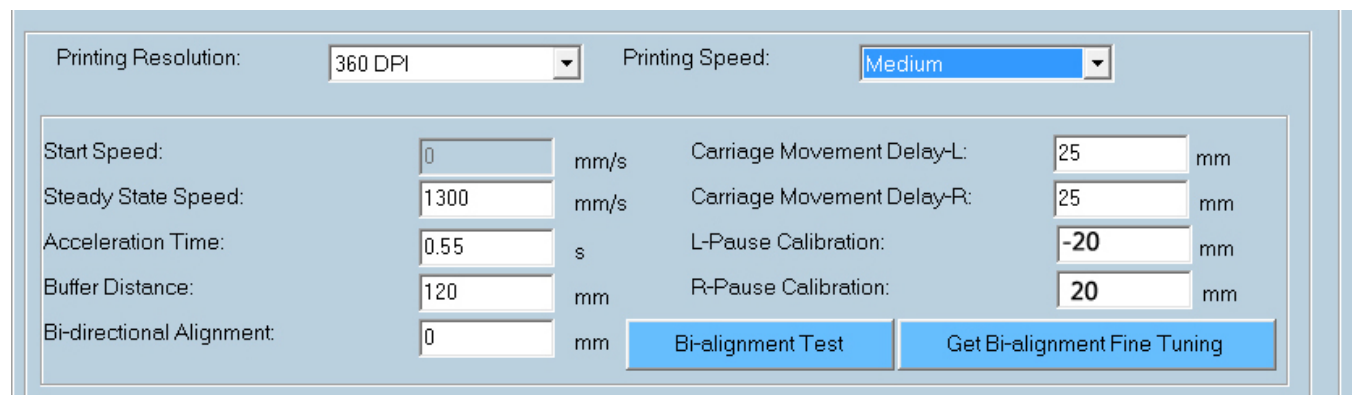
III. Inspection on nozzles

Test Bar as follows(if the inkjet from the printhead is not completed, according to the different cases, repress ink or check the ink way or negative pressure value and so on.)

IV. Bi-alignment Test

If don't adjust, lead in Get Bi-alignment Fine Tuning after the adjustment of testing bars.

V. Stepping Calibration

0. Check roller dimeter

1. Select medium speed, if need to use other speed, calibrate it according to procedure①②③④⑤, after finish the 5th step.

2. Media types: Select media 1, then rename it after completion.

3. Clicking"1 pass step calibration" leads to overlapping 13mm as the following picture.
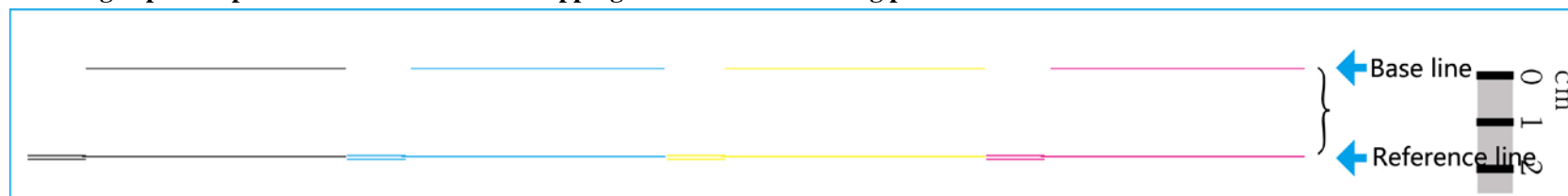
4. Fill in 13mm.

5. Save.

1 PASS Step Calibration Standard Picture.

VI. Printhead Y axis Manual Calibration

1. Click **"Calibrate For Vertical"**, whose principle is similar to "Printhead Offset in Y" chart.
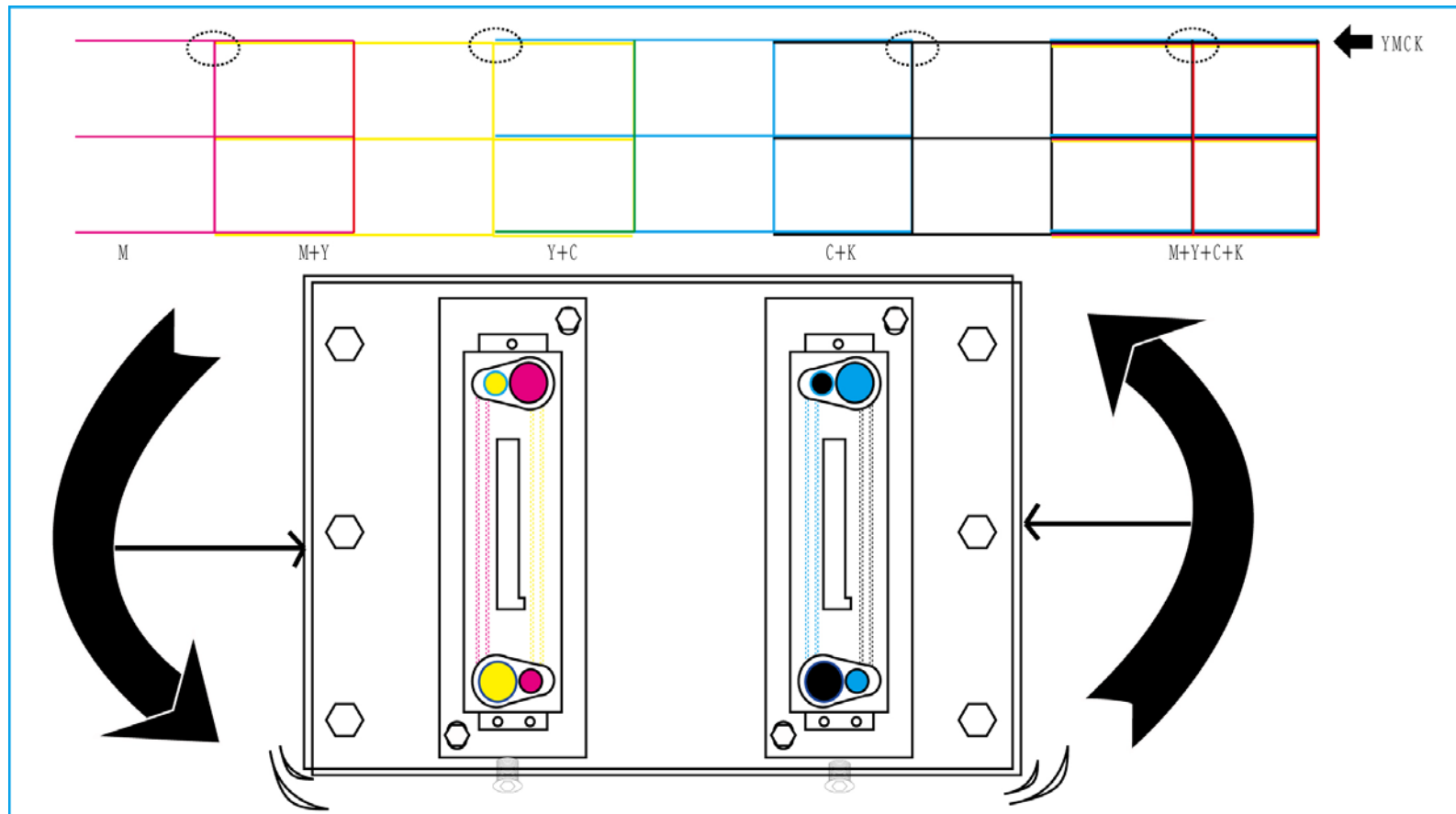
**2. Check two groups of lines and make them aligned with top wire, which is shown as follows:**
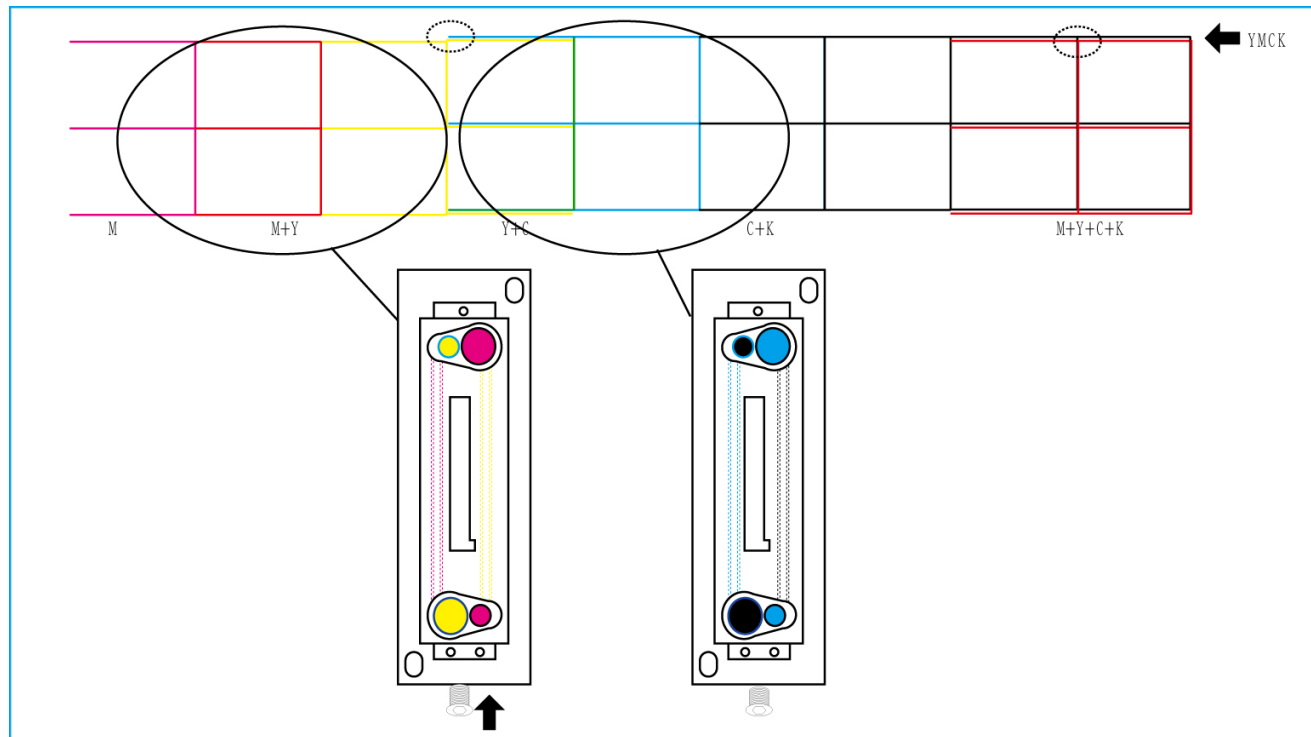
Adjust printing plate if M Y C K is not in the same aligned line. If Y is below M, turn it counterclockwise, shown as follows.

YMCK

M   M+Y   Y+C   C+K   M+Y+C+K

VII. Calibration of Printhead X axis Offset

1. Select 360dpi.

2. Printing speed: Medium speed.

3. Carriage's movement direction: L-R is selected.

4. Printing testing line, check the most aligned lines of each group, shown as follows.
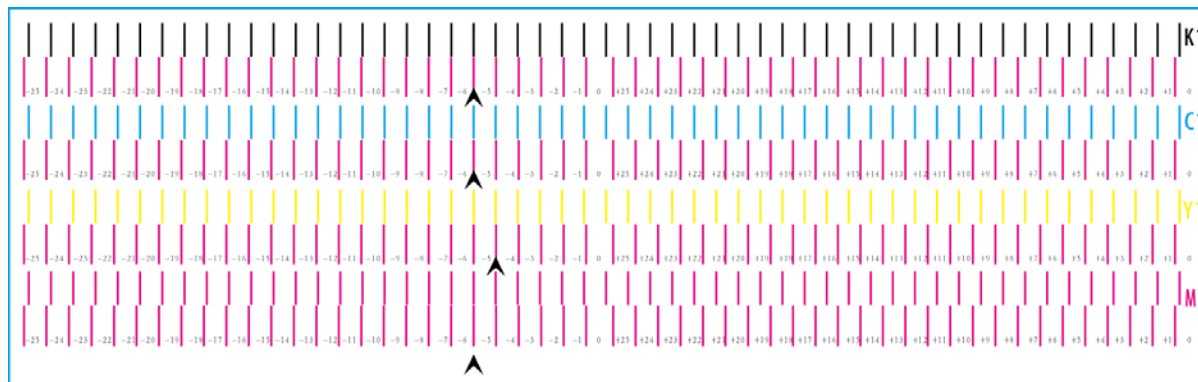
5. Accumulate the value of the most aligned line of M1 Y1 C1 K1 into the frame. (Accumulation: Add the value of the most aligned line to the original value)

6. Reselect L-R printing.

7. Printing testing line, check the most aligned lines of each group, shown as follows.

8. Accumulate the value of the most aligned line of M1 Y1 C1 K1 to the frame.(Accumulate: add the value of the most aligned line to the original value)

VIII. Printing Fine Tuning

1. RIP one picture of resolution 360*600dpi

2. Open PRT file

3. Add to the column then print.

4. Observe the printing image, prepare to print temporary fine tuning.

Stepping Fine Tuning
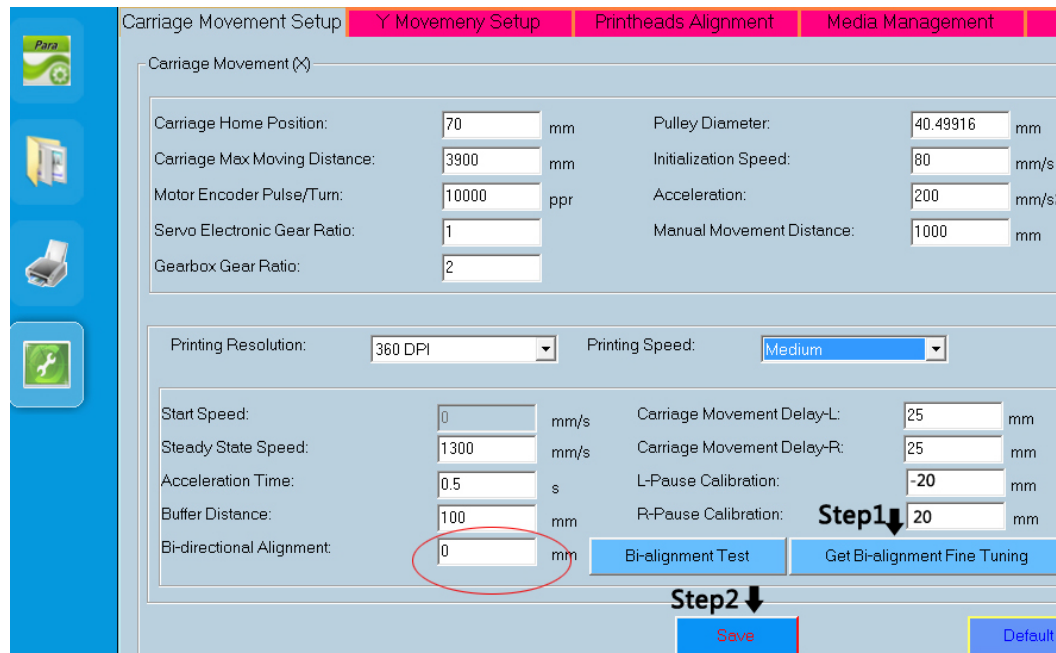

Bi-alignment Fine Tuning

Minus "-200" if color bar is on the right of the standard   Add "-200" if color bar is on the left of the standard
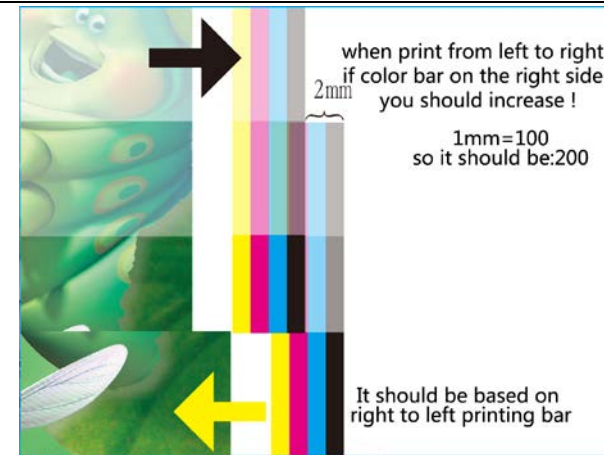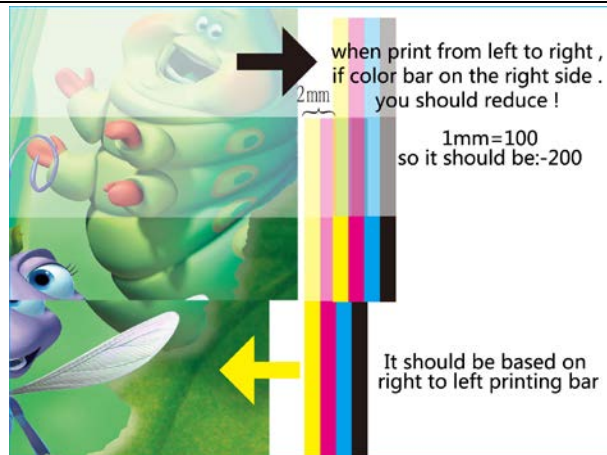
IX. Save Print Fine Tuning Value (Get Bi-alignment Fine Tuning)

1. Enter "system maintenance"-"X Movemeny Setup" and click "Get Bi-alignment Fine Tuning", then save it.

2. Enter "Y Movemeny Setup " and click "Get Bi-alignment Fine Tuning" once, then save it.

With this, 2 pass mode with 360*400dpi resolution is finished. If you need to adjust other resolution, you should begin with first step of selecting resolution pattern.