

# artisJet

# Printing production Manual

With 5000U

ArtisRIP V 9.0 + Workstation software setting

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## ABOUT

This manual is for all the users working with artisJet latest products including artis 3000U pro,5000U and proV6.

The manual covers the printing journey of different printing effects ranging from basic color printing to special printing like rotary printing and varnish printing.

### Software applied in the manual:

1. artisJet RIP V9.0 software
2. artisJet workstation fro 5000U V3.2

## 1. [Preparation]

1.1 Turn on the printer: artis 5000U Printer “Ready” .



1.2 Plug in the RIP dongle to USB 3.0: It should be the blue dongle.

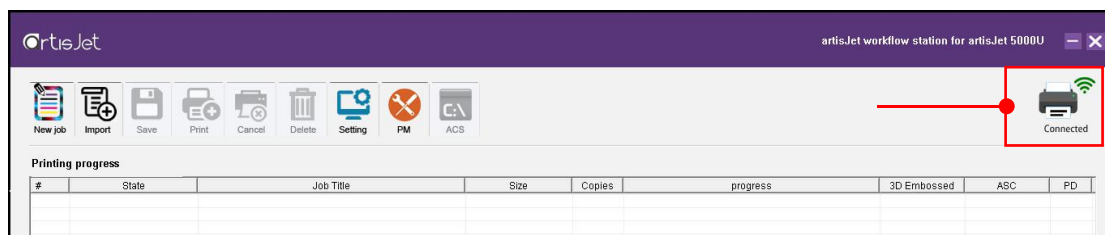


1.3 Turn on: artisRIP V 9.0 and artisJet workstation for 5000U V3.2.

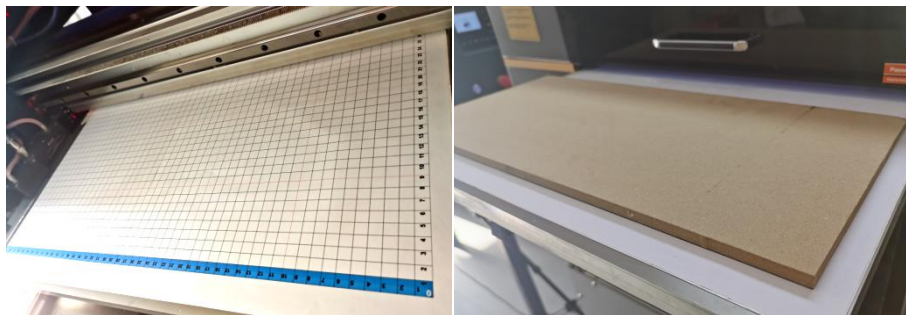



1.4 Connect the USB cable:

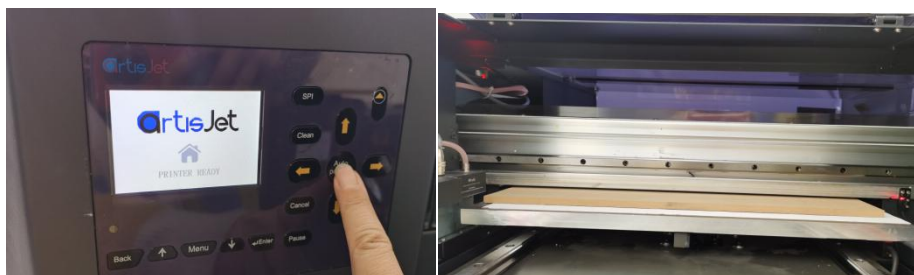
- Connect the artisJet 5000U to the Windows computer;
- artisJet workstation for 5000U V3.2 and make sure the status is **CONNECTED**.



1.5 Position the printing materials to the X= 0, Y=0 point on the working table.

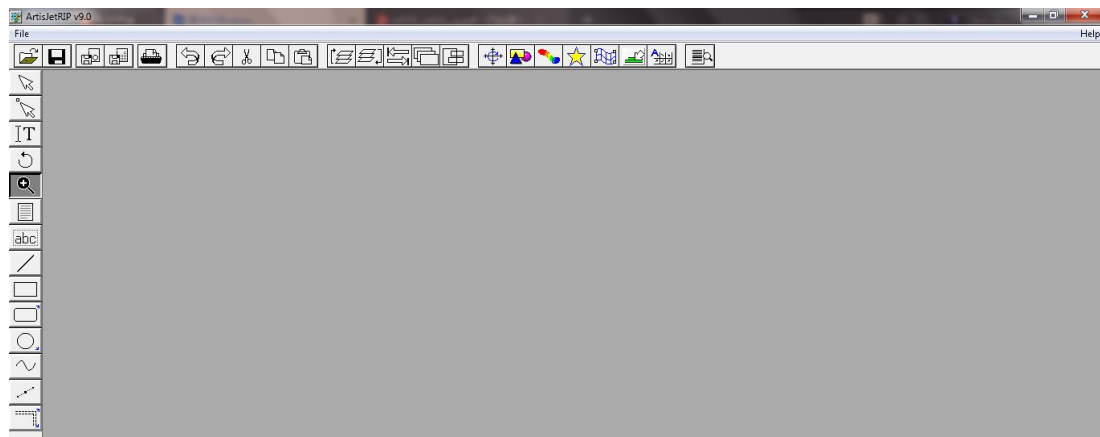



1.6 Click the  and wait till the table is back to the end.



## 2. [ artisRIP V 9.0 Basic settings ]

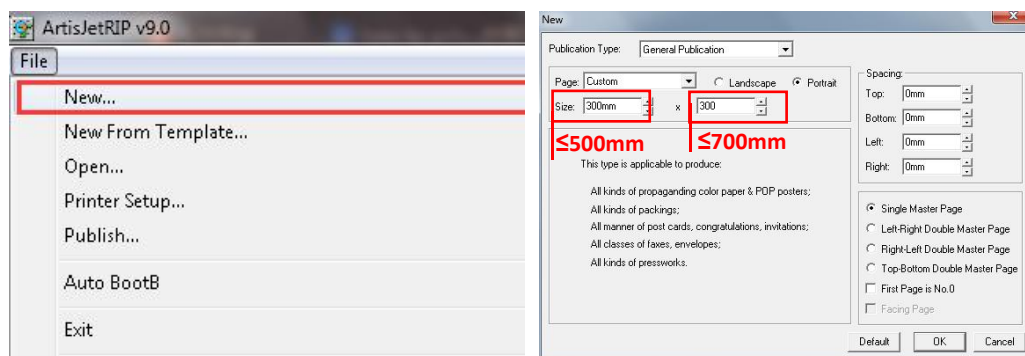
### 2.1 Turn on the artisRIP V 9.0



- If the message above turns up, please reconnect the dongle by plugging out and plugging in.
- Exit by clicking  and turn it on again;

### 2.2 Working size settings

- The max print size for artisJet 5000U is 500\* 700mm ;
- Click “FILE” to create the working size by setting **L ≤500mm, H ≤700mm**;
- Error will happen if the page size set is over the printer size.



**Notice:**

- ✓ The size setup above determines the travel size of the carriage in X.
- ✓ The size setup above should be bigger than the artwork size to be imported.

### 2.3 Artwork importation.

Click "Import Picture"  to import the artwork.

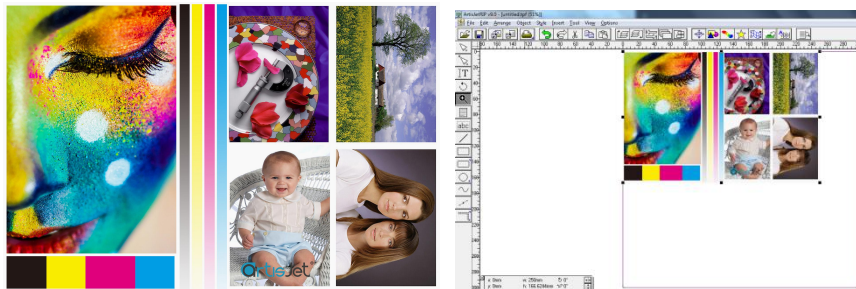
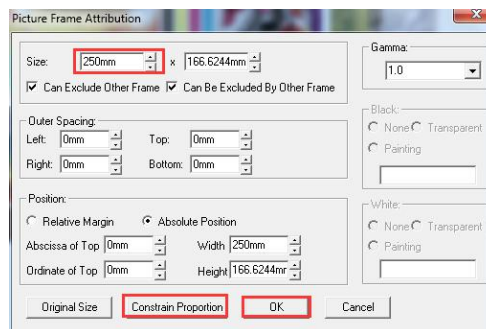
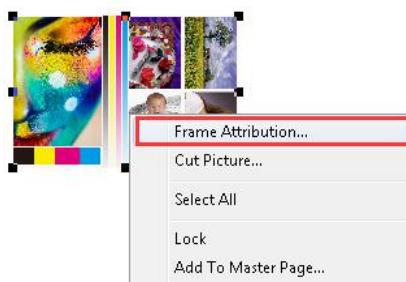



图 A

### 2.4 Artwork size setting

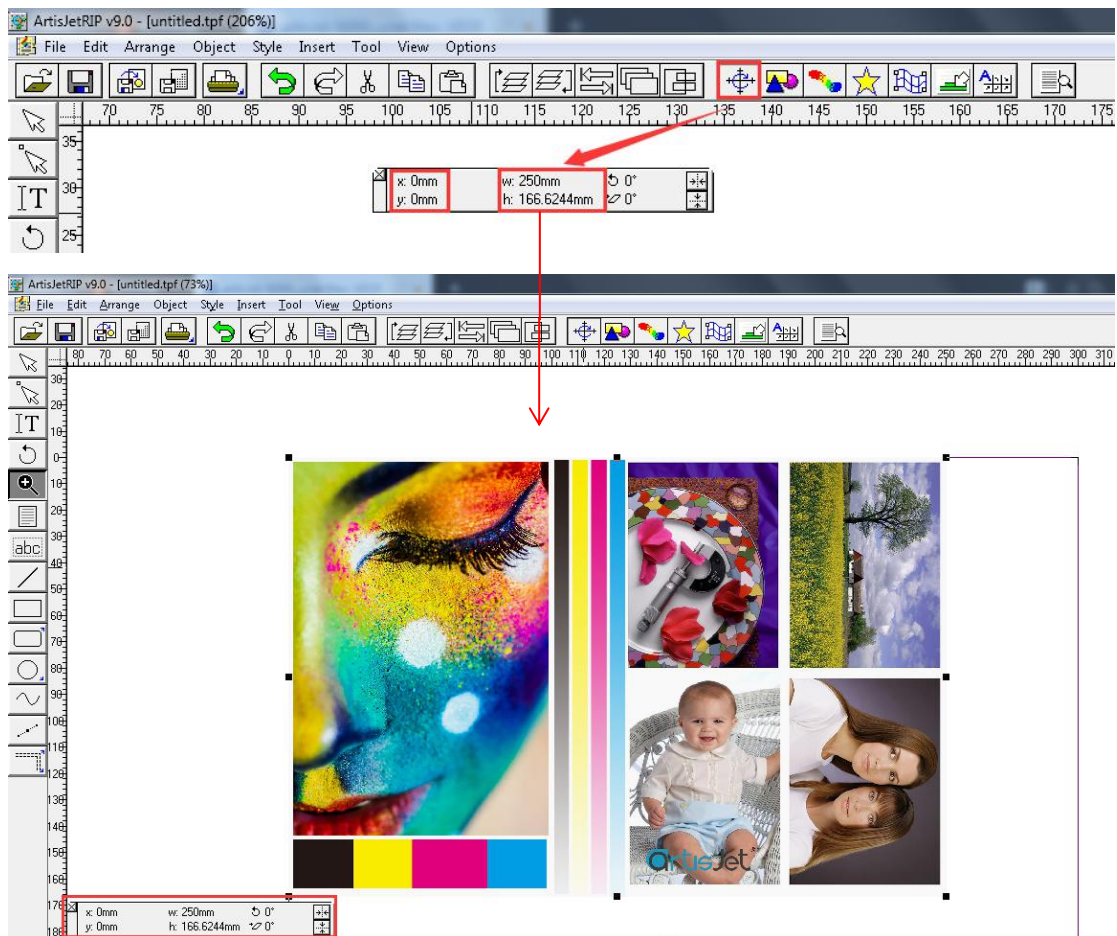
- Set the artwork size to the material size.example: W=250mm ,H=166mm;
- Set the size as 250mm.
- Click Constrain Proportion;
- Click OK .



### 2.5 Artwork positioning.

- Click  ( Show Metric Panel );
- Options:
  - 1) x : stands for starting point of X.
  - 2) y : stands for starting point of Y.
  - 3) w : stands for artwork W size.
  - 4) h : stands for artwork H size.

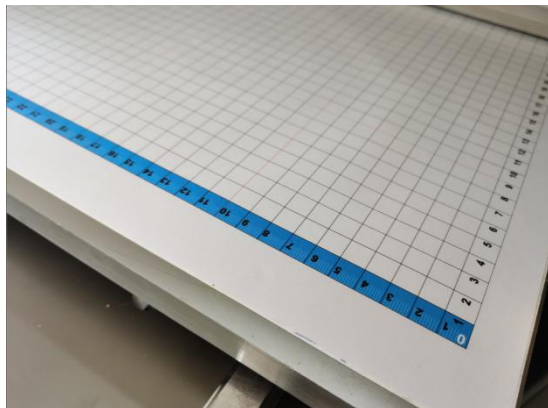
- Double Click X and input 0. ENTER to exit.
- Double Click Y and input 0. ENTER to exit.
- The artwork print position is ( x=0 , y=0 )



Notice:

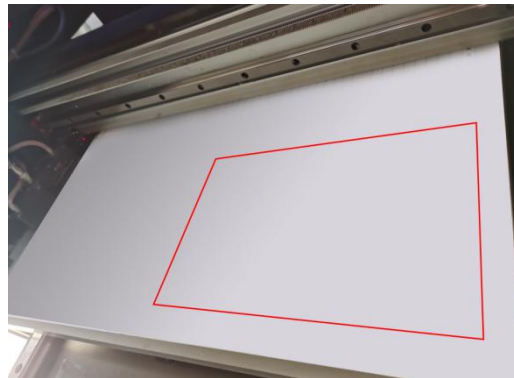
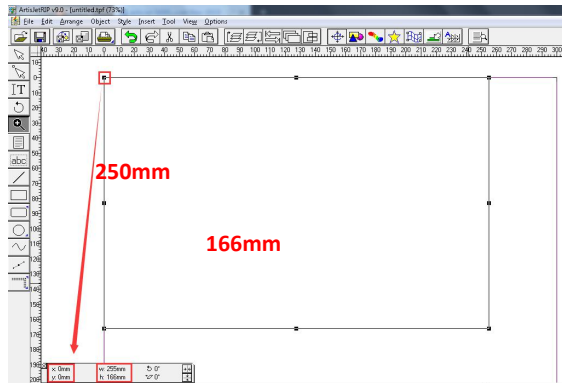
- ✓ The settings for artwork positioning in the artwork should be in coherent with the materials positioning in the table, otherwise the WRONG position will happen when printing.

Example: The position setting of artwork in RIP x=0; y=0 and the material position should be also x=0; y=0.

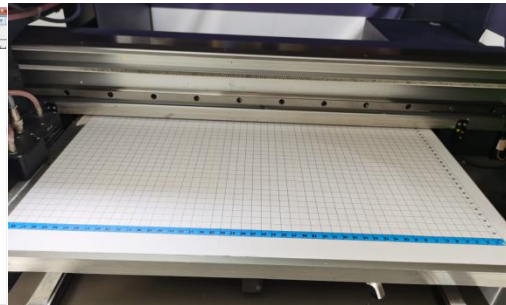
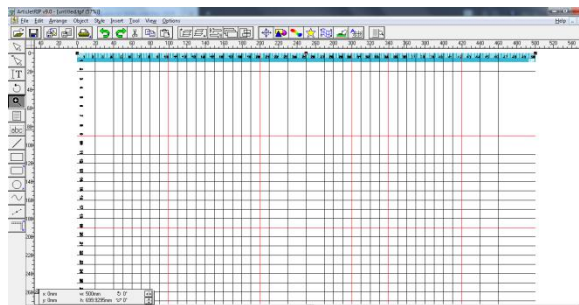


## 2.6 How to confirm the positioning of the material?

- Option 1: Print a frame onto the tale.



- Option 2: Print out the Starting line/frame onto the table.



## 3. [ Color print settings ]

### 3.1 Definition

Print ONLY CMYK colors onto the light material.

When printing onto the dark materials, the white needs to be printed as background.



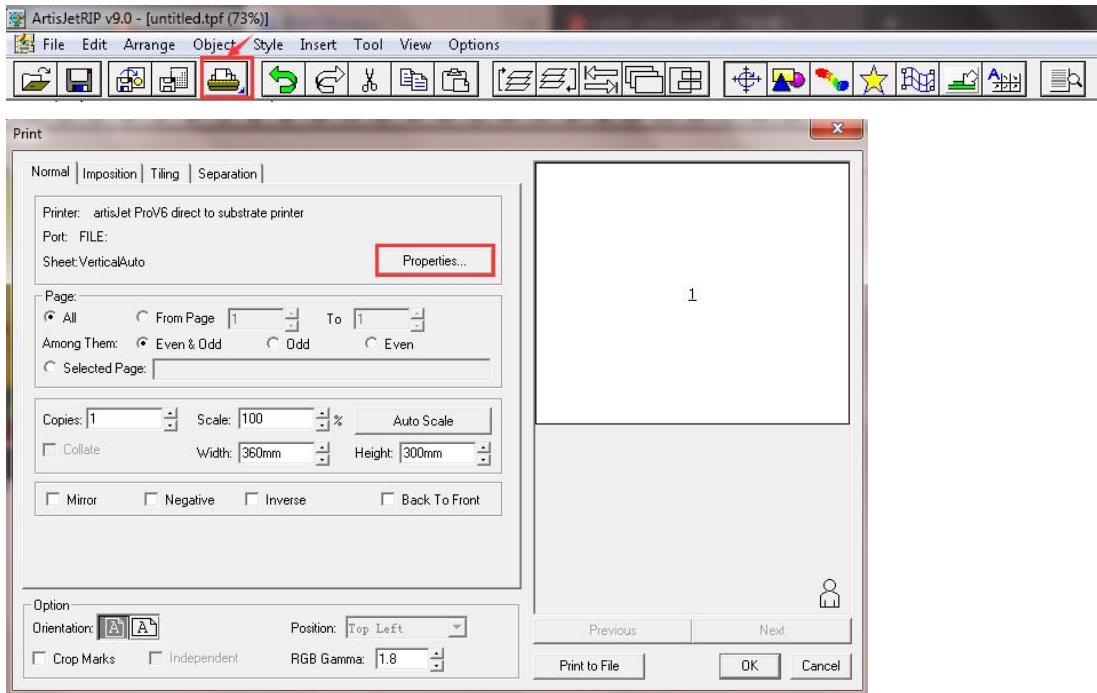
- The print results might be different for different colors of materials.



- Options for resolution: 4PASS CMYK / 8 PASS CMYK / 16 PASS CMYK;
- Speed varies on different resolutions.

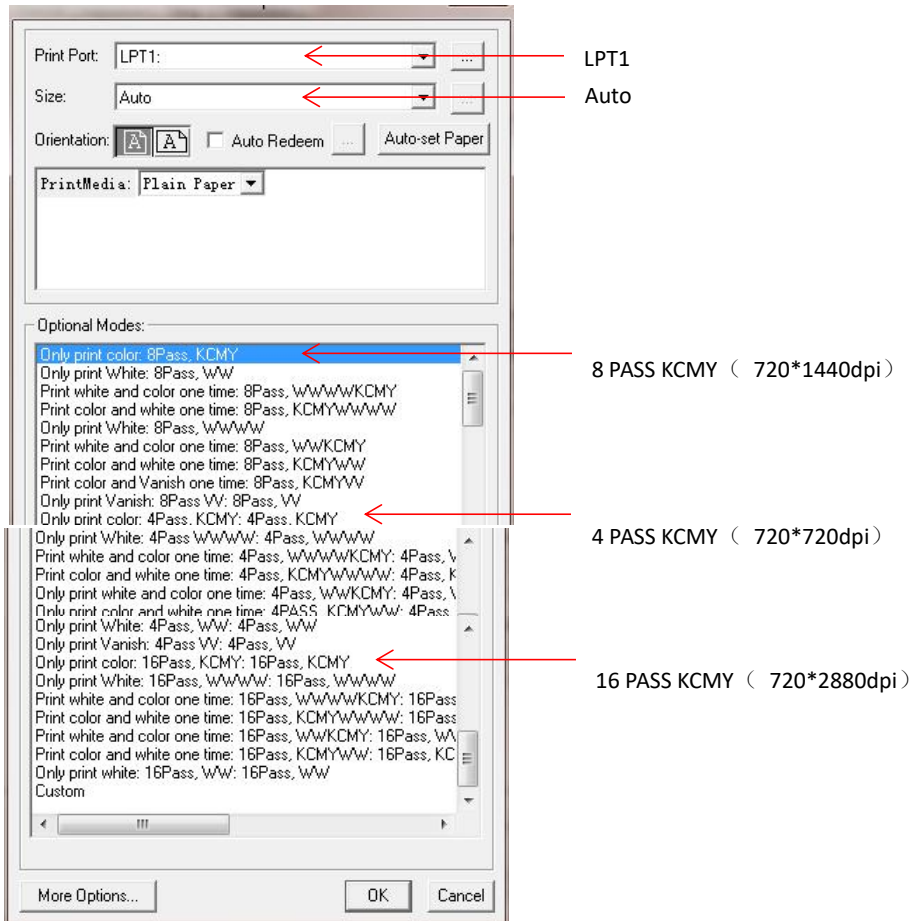
### 3.2 artisRIP V 9.0 Color print settings

- Click  (Print);



- Click “Properties” to set;

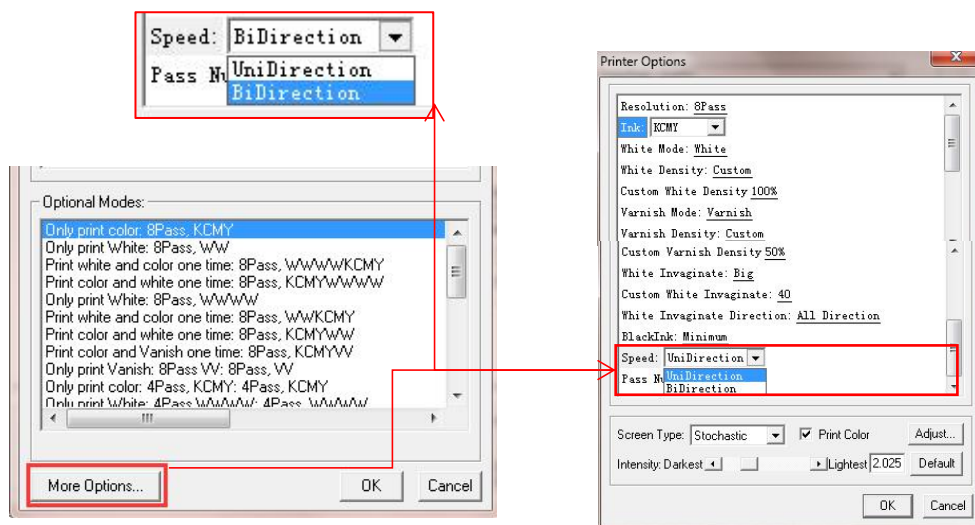
- 1) **Printer Port:** Select LPT1. Change is NOT allowed.
- 2) **Size:** Set as Auto ;
- 3) **Optional modes:** For different printing options in resolution.
  - ① **4PASS KCMY:** 720\*720dpi、Fastest printing speed, suitable for matt surfaces where no high resolution is needed.
  - ② **8PASS KCMY:** 720\*1440dpi、Medium printing speed with higher resolution, suitable for all occasions and most of the materials.
  - ③ **16PASS KCMY:** 720\*2880dpi、Slower printing speed with highest resolution, suitable for special printing with higher requirements.



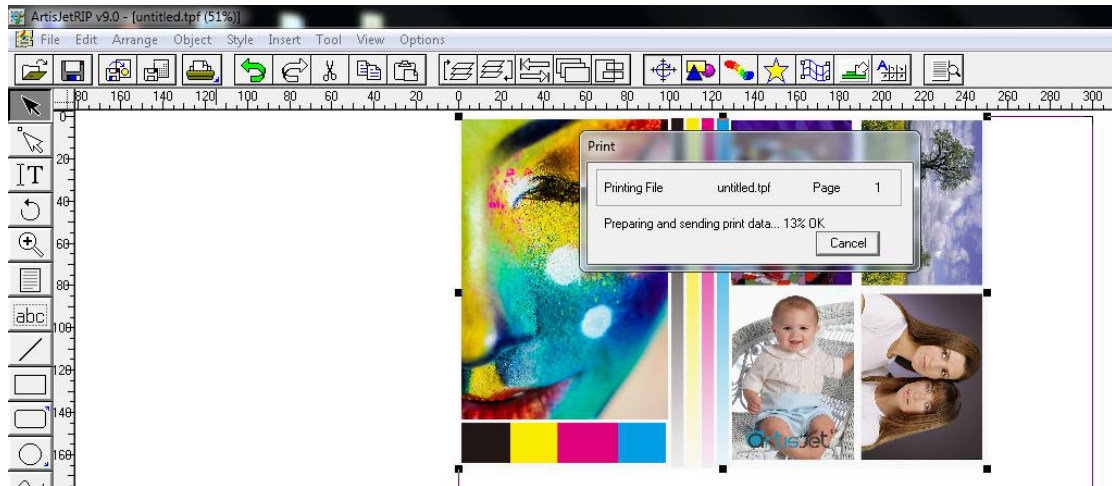
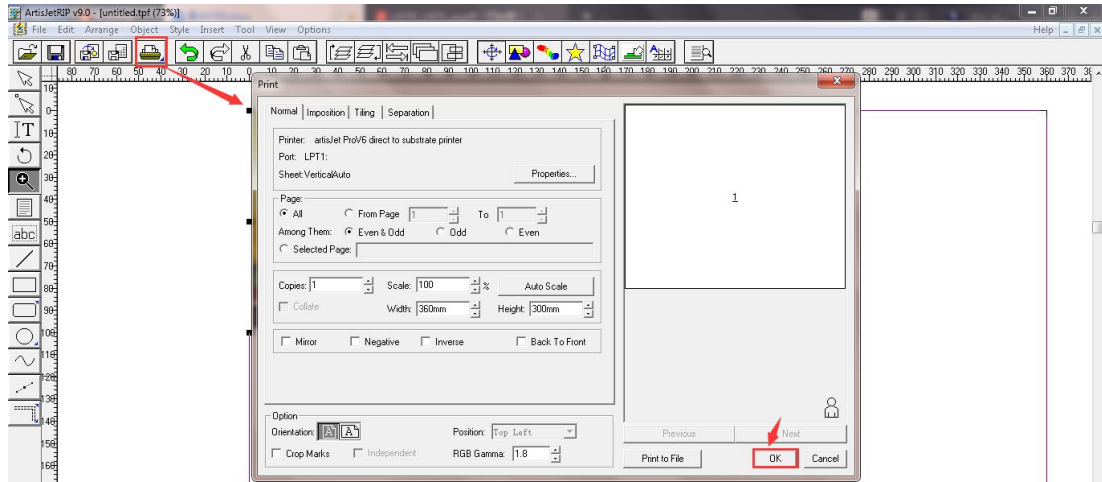
Select " 8PASS KCMY" for "More Options" and set the Speed.

The actual speed will differ on different "Speed" setting at the same resolution.

- 1) UniDirection: Ink shoots out only one way during the carriage move.
- 2) BiDirection : Ink shoots out in two ways.( Take "UniDirection" as example )
- 3) The results from different speed will be different.

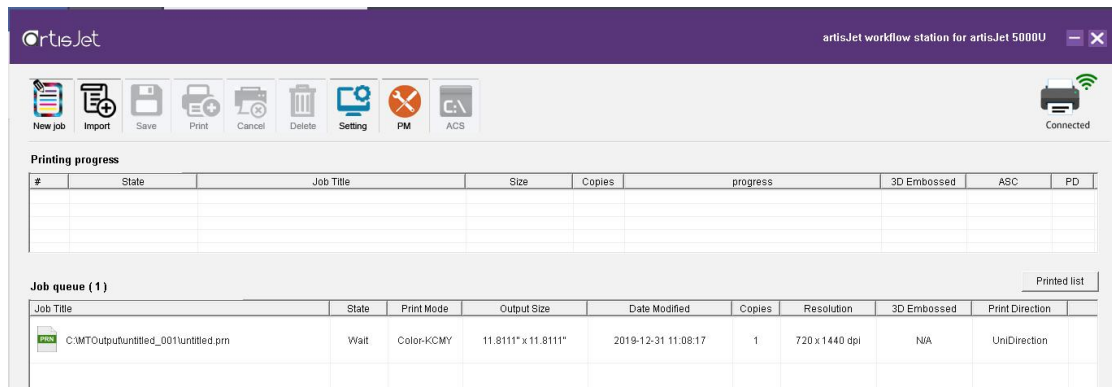



- Click Print and OK
- The PRN file will be output to artisJet workstation fro 5000U V3.2 directly;

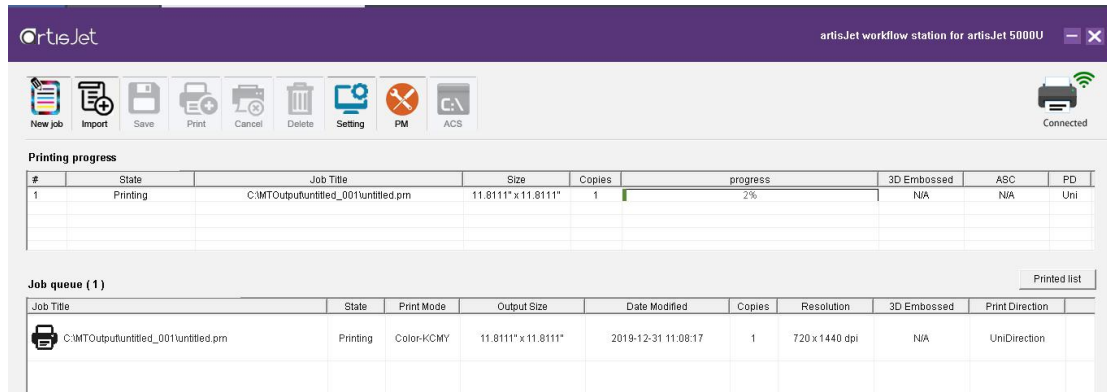


### 3.4 artisJet workstation fro 5000U V3.2 settings

- Check the printing task in **Job queue**

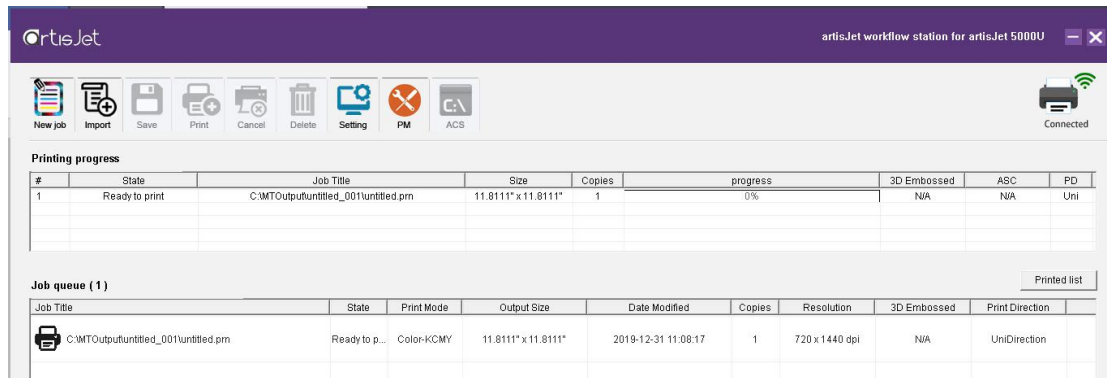


- Select the task and click  starts to print.



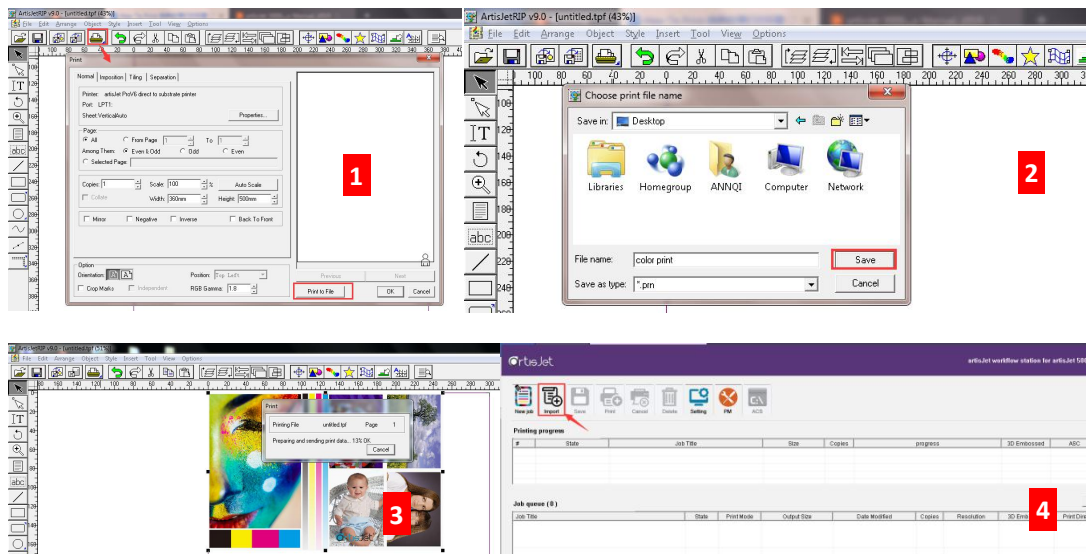
1) The prints start when “Printing” turns up in **Printing progress** ;

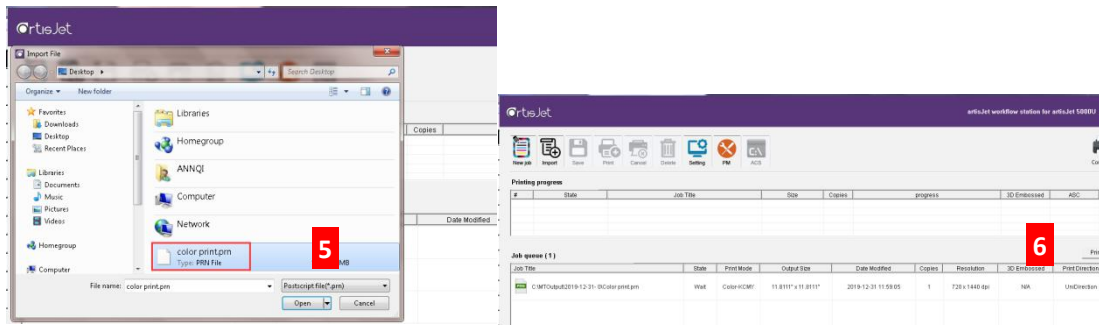
2) The table is not back to the end if “Table|Media out” turns up in **Printing progress**



Remark:

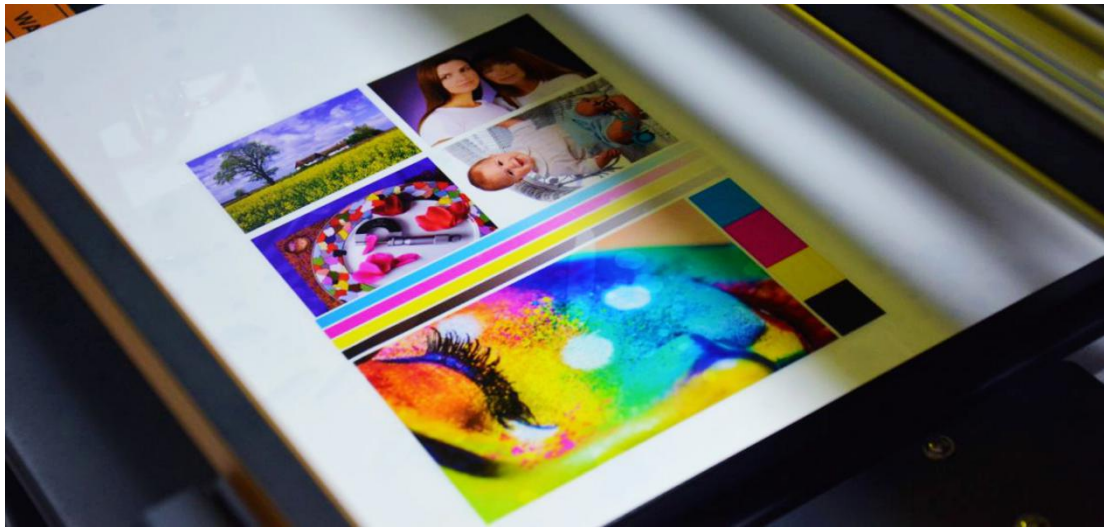
The printing task is recommended to save as PRN file if the artwork is going to be printed in QTY.





### 3.5 Print

- Material: A4 paper
- Resolution: 8 PASS KCMY ( UniDirection )

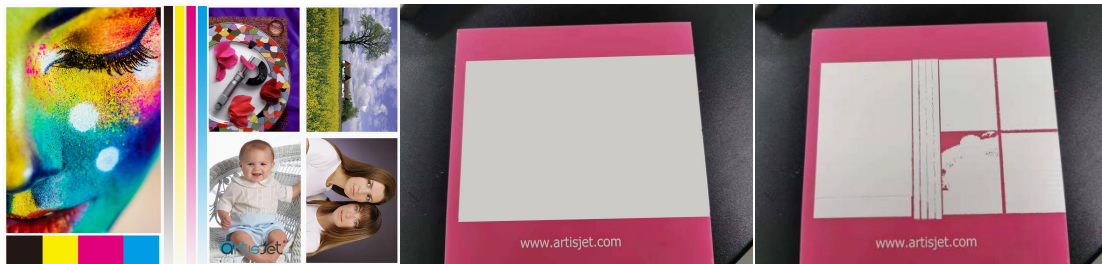


## 4. [ White Printing ]

### 4.1 Definition

Printing out white only without any other colors.

- Case Study A-Full white as background

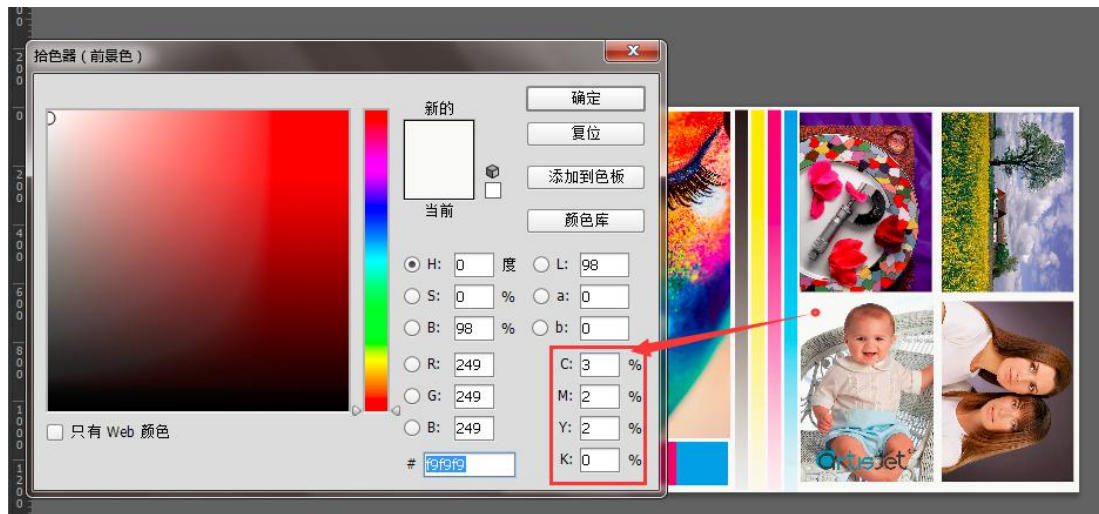


A

A-1

A-2

- ① A-1: Full 100% white as background.
- ② A-2: White setting in the original print is not correct.
- ③ Edit: Adjust the picture in Photoshop and set them as: (C=0,M=0,Y=0,K=0);



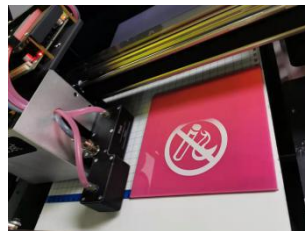
Case study B-Partial white print.



B



B-1 Artwork for white



B-2 print result.

Requirements to print figure B:

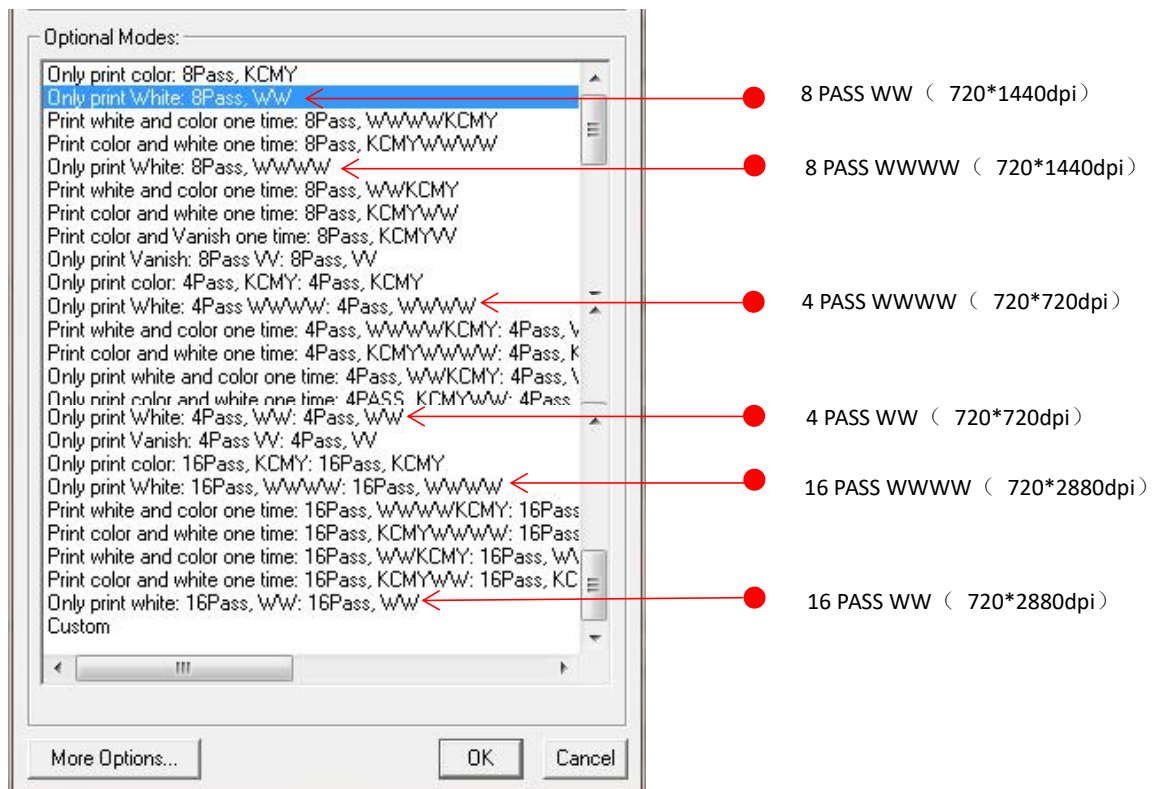
1. Create a new artwork in PS or AI software as B-1 for white print.
2. The sizes of B and B-1 should be the same.

4.2 artisRIP V 9.0 white print settings (Take artwork A as example)

- Import the picture A and clicking  (Print) --Properties to set.

4) Optional modes: For different printing options in resolution.

- ④ **4PASS KCMY:** 720\*720dpi、Fastest printing speed, suitable for matt surfaces where no high resolution is needed.
- ⑤ **8PASS KCMY:** 720\*1440dpi、Medium printing speed with higher resolution, suitable for all occasions and most of the materials.
- ⑥ **16PASS KCMY:** 720\*2880dpi、Slower printing speed with highest resolution, suitable for special printing with higher requirements.



**Remarks:**

✓ Select WW if your machine ink channel is as below:

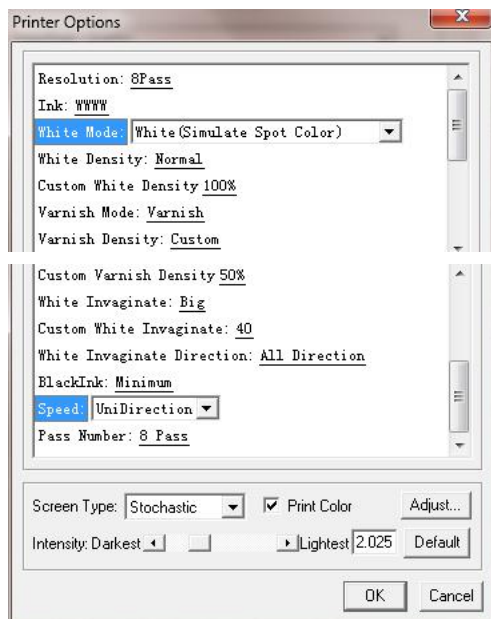


✓ Select WWWW if your machine ink channel is as below:

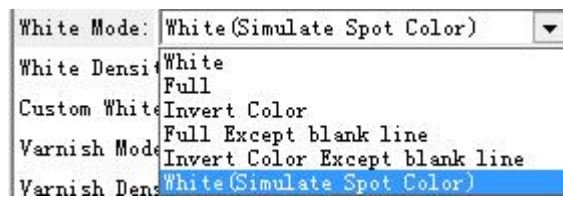


● **“More Options” settings**

Select “8PASS WWWW” to enter “More Options” to set as below:



1) **White Mode:** Two options are recommended only for WHITE print only:



① **White** : The white will be printed out in gradient levels to the color darkness in the artwork.



② **White ( Simulate Spot Color )** : 100% white print at the same white ink print.

③ **Take White ( Simulate Spot Color ) as example**

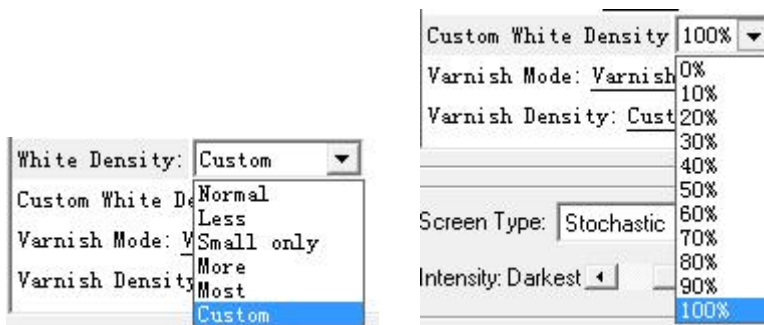




2) **White Density:**

“Less” or “small only” is recommended if the surface of the printable materials is glossy like glass, acrylic, metal, etc.

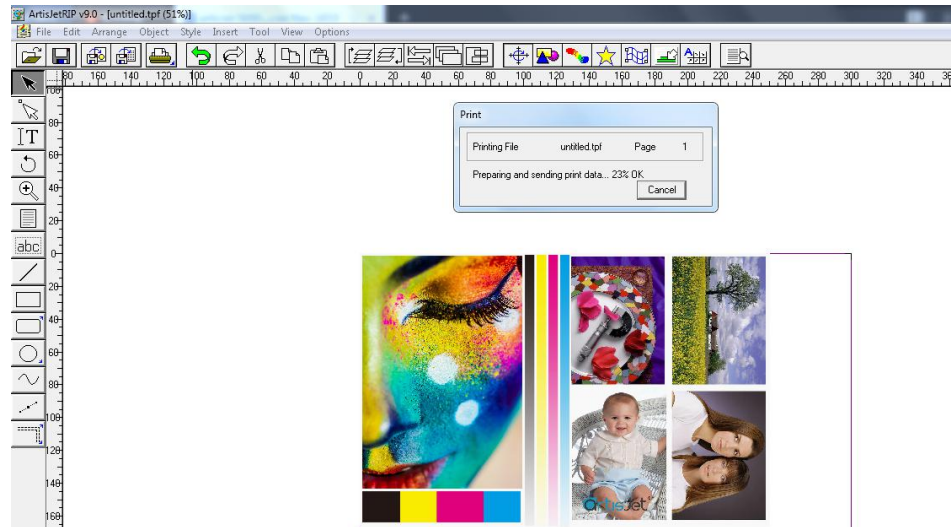
- ① Normal / Less / Small only / More / Most : “Normal” or “Less” are mostly applied.  
(Take Normal as example)
- ② Custom : Adjust the white ink limit by percentage as below:



3) Speed : **UniDirection**

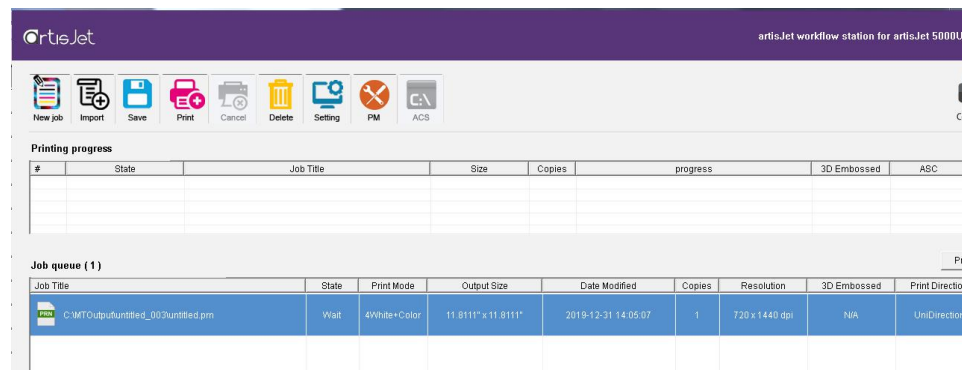


### 4.3 Print

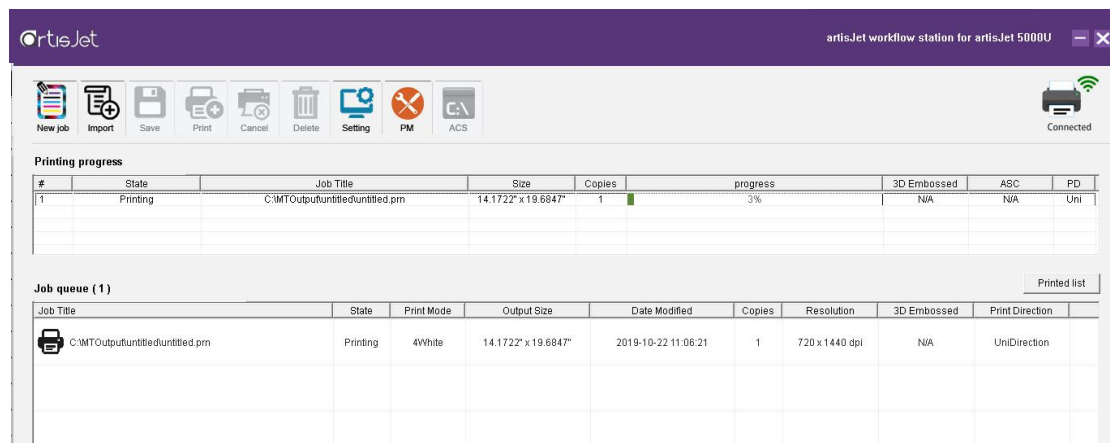


### 4.4 artisJet workstation for 5000U V3.2 settings

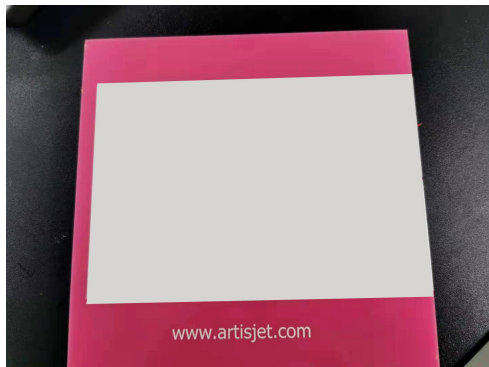
- Check the print task in **Job queue**.



- Click  to print



#### 4.5 Print



### 5. [Print White and color at the same time]

#### 5.1 Definition

You can print white ink and color ink at the same time on dark materials, making printing more convenient and fast.



A-original picture



A-1 print effect  
(print white before color)

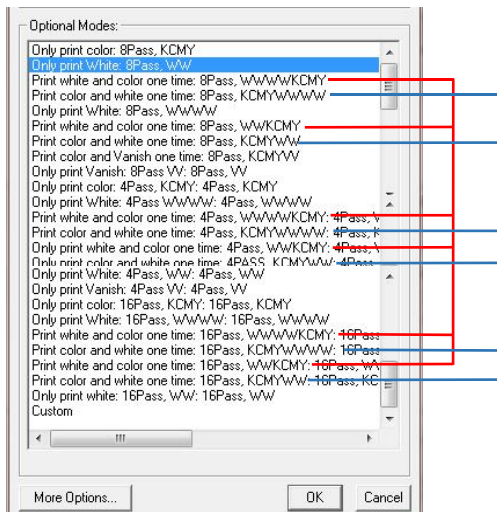


A-2 print effect  
(print color before white)

#### 5.2 artisRIP V 9.0 setting for CMYKW printing

Take picture A-1 for example:

- Import picture A , click  (Print) → Properties to open the print setting box;



The following options represent printing white and color at the same time.

- Print white before color options:

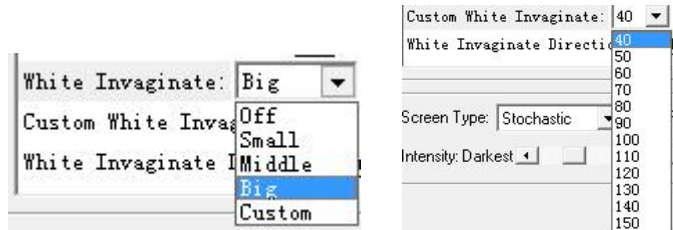
- ✓ 8 PASS WWWWKCMY
- ✓ 8 PASS WWKCMY
- ✓ 4 PASS WWWWKCMY
- ✓ 4 PASS WWKCMY
- ✓ 16 PASS WWWWKCMY
- ✓ 16 PASS WWKCMY

- Print color before white options:

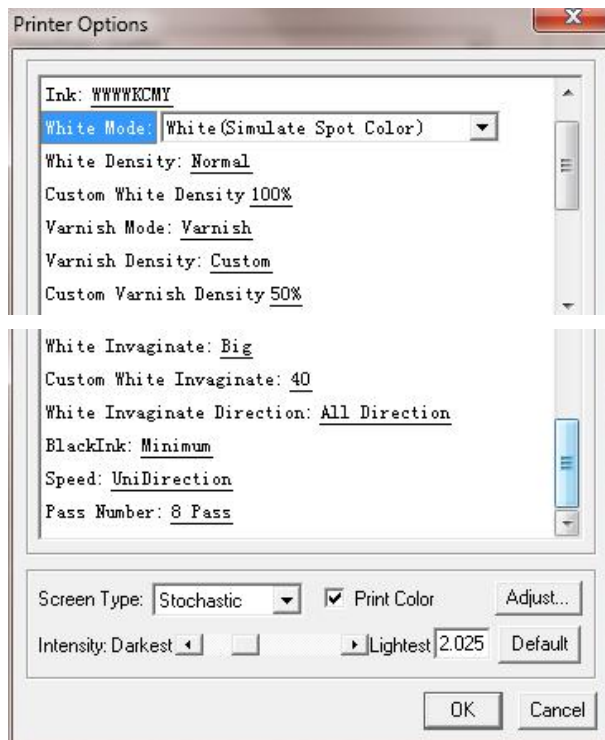
- ✓ 8 PASS KCMYWWWW
- ✓ 8 PASS KCMYWW
- ✓ 4 PASS KCMYWWWW
- ✓ 4 PASS KCMYWW
- ✓ 16 PASS KCMYWWWW
- ✓ 16 PASS KCMYWW

Select **8PASS WWWKCMY** and click **More Options**.The following settings need to be changed:

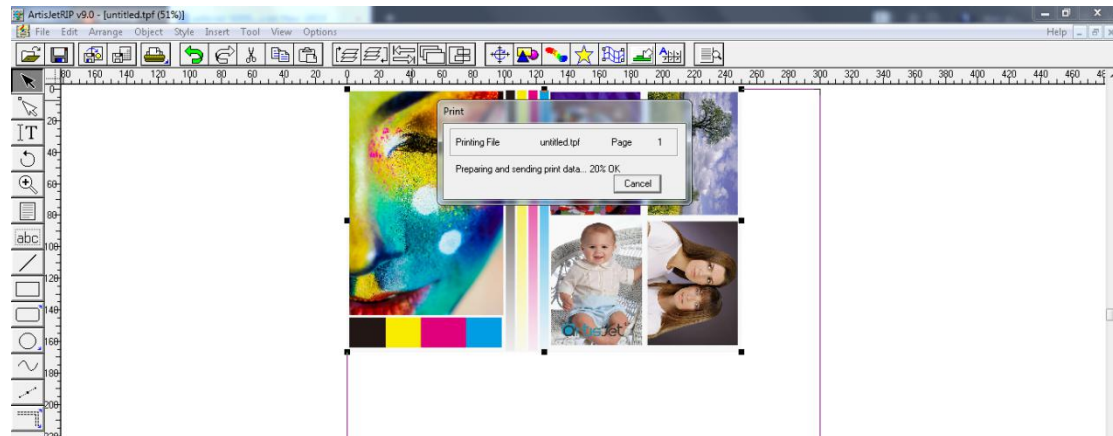
1. **White Mode:** set white ink print mode- White ( Simulate Spot Color );
2. **White Density:** set the value of ink output- Normal;
3. **White Invaginate:** white ink edge recess when print white and color at the same time.It can avoid white edge leaking out.
  - ① **Off:** turn off the function.
  - ② **Small/ Middle / Big :** Big is usually optional
  - ③ **Custom:** Customize the white ink edge size by percentage and use it with Custom White Invaginate.



- 1) **Speed : printing speed setting; (take UniDirection setting printing as an example)**

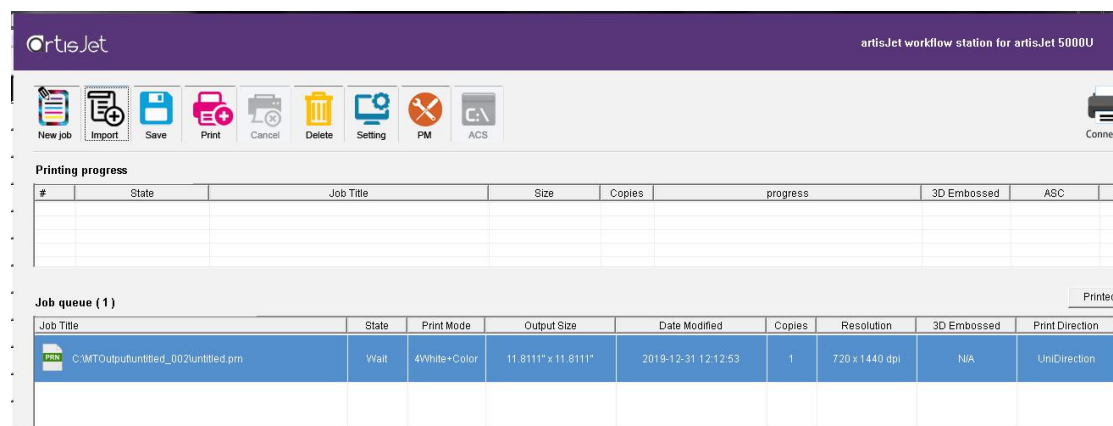



### 5.3 Output of printing task



### 5.4 artisJet workstation fro 5000U V3.2 settings

- Check the print task in **Job queue**



- Select the task and click  to start printing;

**Printing progress**

#	State	Job Title	Size	Copies	progress	3D Embossed	ASC	PD
1	Printing	C:\MTOutput\untitled_001\untitled.prm	14.1722" x 19.6847"	1	3%	N/A	N/A	Uni

**Job queue (1)**

Job Title	State	Print Mode	Output Size	Date Modified	Copies	Resolution	3D Embossed	Print Direction
C:\MTOutput\untitled_001\untitled.prm	Printing	4White+Color	14.1722" x 19.6847"	2019-10-22 11:59:38	1	720 x 1440 dpi	N/A	UniDirection

### 5.5 Print



## 6. [ Embossed print with white ]

### 6.1 Definition

When the part of printing elements need the embossed effect, we can bring about the effect by embossed print. Print picture can be edited by drawing software. The following figure for reference;



B Original picture



B-1 embossed printing picture



B-2 effect of embossed print with white

- **Edit embossed effect picture:**

- 1) If you want to print embossed effect, you need to use Photoshop, Illustrator or other drawing software to make the embossed elements separately as shown in figure B - 1.
- 2) The black area in B-1 picture is the embossed area;
- 3) Keep the size of the pictures are the same, otherwise white ink and color ink printing will be misplaced;

## 6.2 artisRIP V 9.0 settings for embossed printing

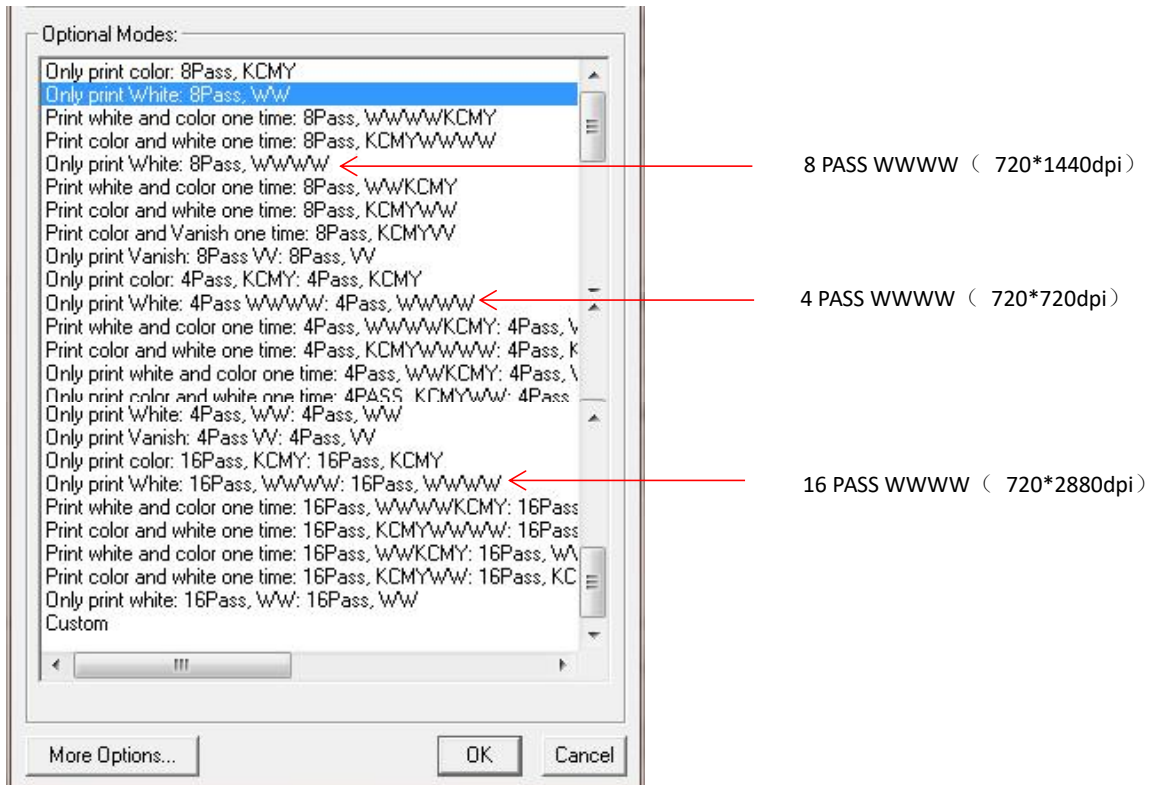
Taking the printing effect of B - 2 picture as an example:

- **Import picture B-1 and click  (Print) → Properties to open the print setting box;**



- **Print mode selection:**

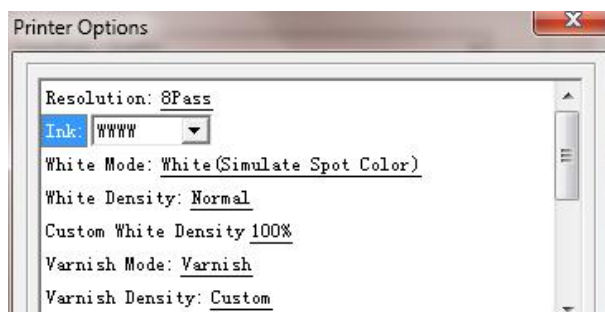
- ① When printing embossed effect, WWWW four white ink channel modes are generally selected to pick up speed.
- ② When the machine ink path is KCMY + WW + VV (there are two Varnish channels), the WWWW four white ink channel modes are also selected. Which means print white ink and varnish together;



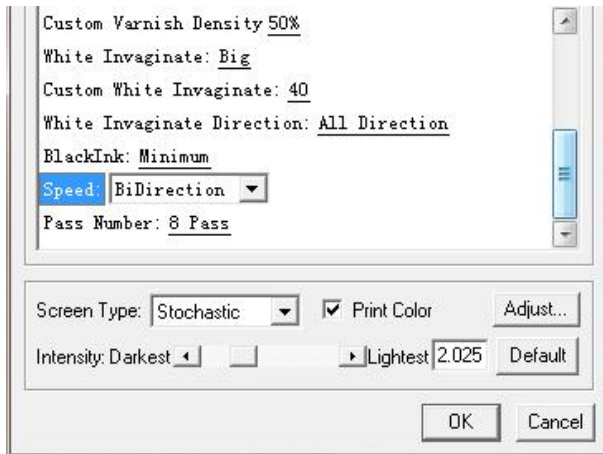
● **More Options setting**

Select **8PASS WWWWKCMY** and click **More Options**.The following settings need to be changed:

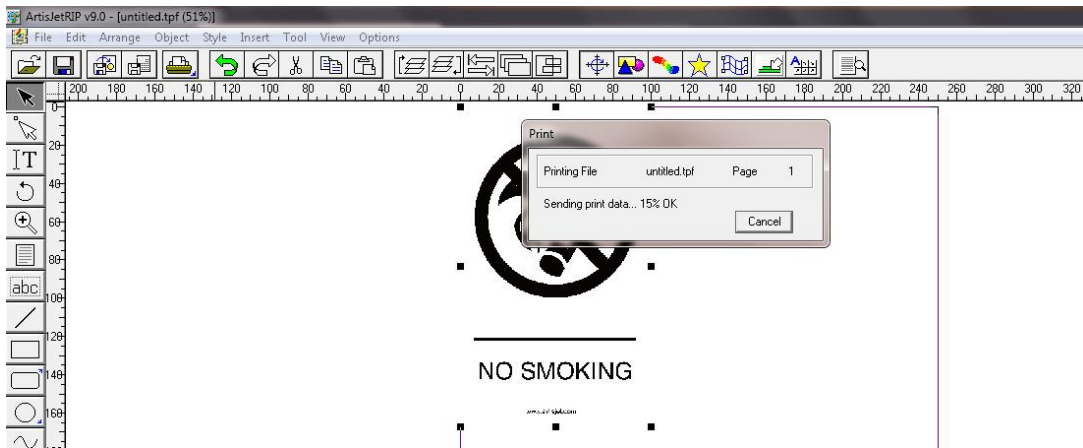
- 1) **White Mode:** set white ink print mode- White / White ( Simulate Spot Color );
- 2) **White Density:** set the value of ink output based on print height-Less / Normal / More / Custom;





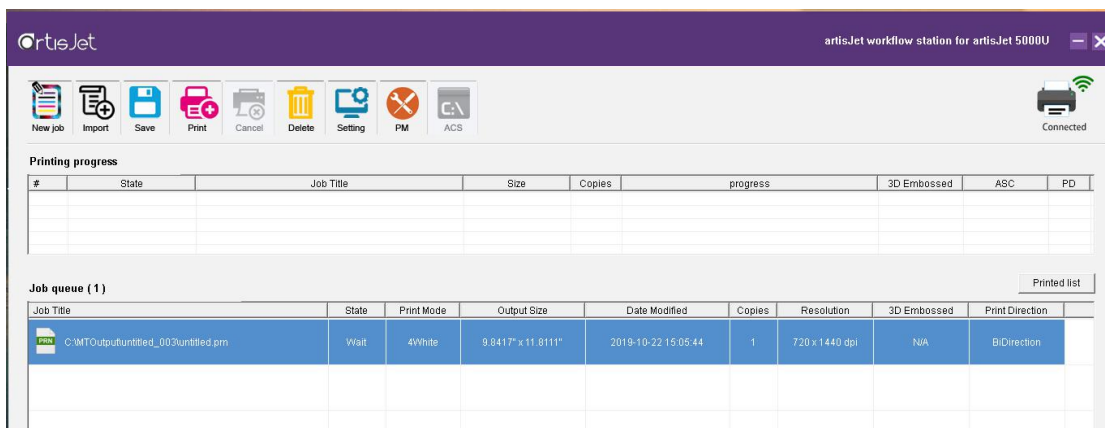


### 6.3 Output of printing task

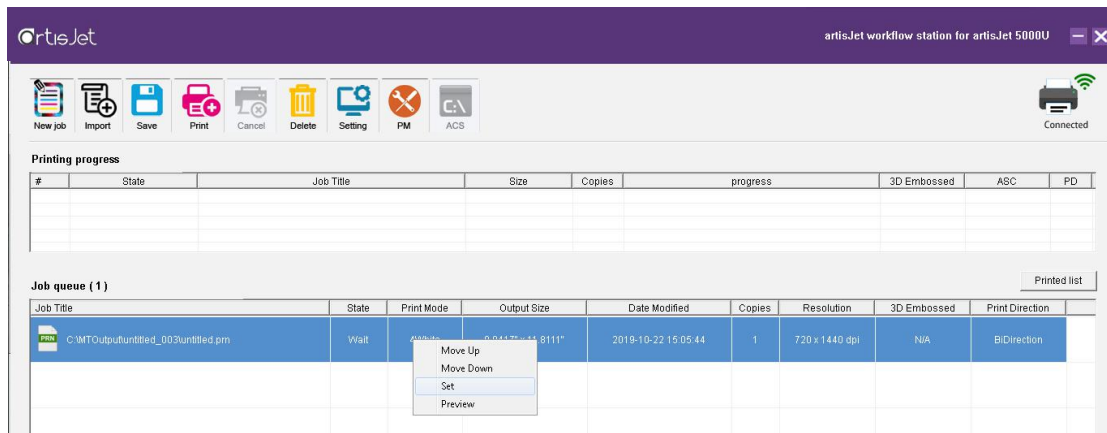


### 6.4 artisJet workstation fro 5000U V3.2 settings

- Check the print task in **Job queue**:

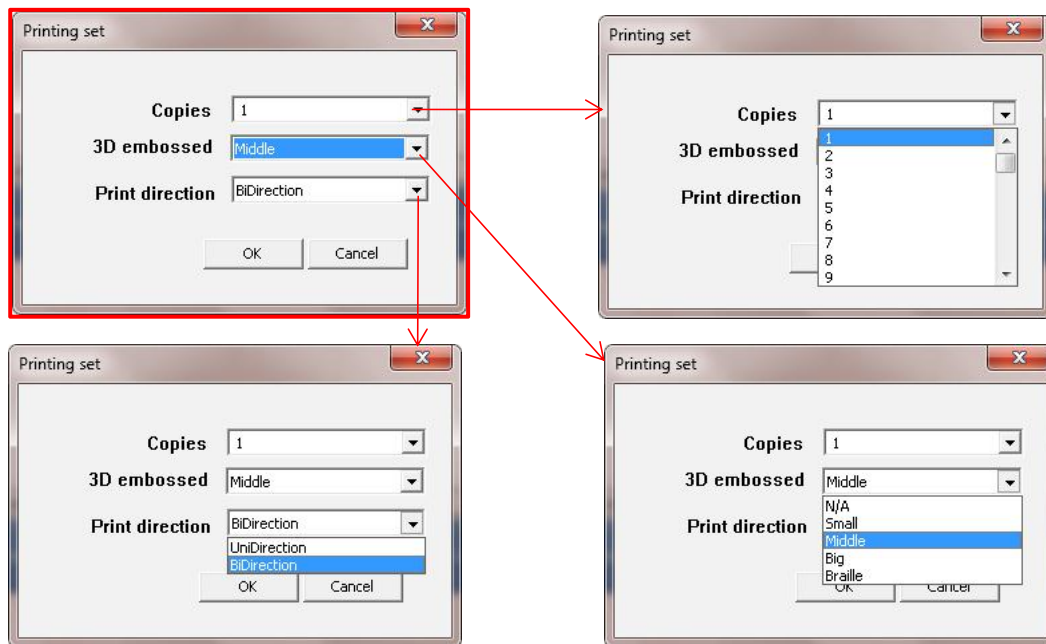


- Select the task and right click to choose set;



- Set method;


- 1) Copies: Usually choose 1
- 2) 3D embossed :three modes of Small / Middle / Big can be selected. They are different in embosses thickness;
- 3) Print direction :
  - ① When choose 8PASSWWW: printing in **BiDirection mode** can faster embossed printing;
  - ② When choose 4PASSWWW: **UniDirection / BiDirection**;



The screenshot shows the ArtisJet workflow station interface. At the top, there is a toolbar with icons for New job, Import, Save, Print, Cancel, Delete, Setting, PM, and ACS. Below the toolbar is a 'Printing progress' table and a 'Job queue (1)' table. The 'Job queue (1)' table has the following data:

Job Title	State	Print Mode	Output Size	Date Modified	Copies	Resolution	3D Embossed	Print Direction
C:\MTOutput\untitled_003\untitled.prn	Wait	4White	9.8417" x 11.8111"	2019-10-22 15:05:44	1	720 x 1440 dpi	Middle	BiDirection

Red boxes highlight the '4White' print mode, '1' copies, '720 x 1440 dpi' resolution, 'Middle' 3D embossed setting, and 'BiDirection' print direction. A red line connects these boxes to the text 'Verify that all settings are correct' below the table.

- Select the task and click  to print:

The screenshot shows the ArtisJet workflow station interface after the job has started. The 'Printing progress' table now shows the job in progress:

#	State	Job Title	Size	Copies	progress	3D Embossed	ASC	PD
1	Printing	C:\MTOutput\untitled_003\untitled.prn	9.8417" x 11.8111"	1	4%	Middle	N/A	Bi

The 'Job queue (1)' table now shows the job as 'Printing' with the print mode set to '4White':

Job Title	State	Print Mode	Output Size	Date Modified	Copies	Resolution	3D Embossed	Print Direction
C:\MTOutput\untitled_003\untitled.prn	Printing	4White	9.8417" x 11.8111"	2019-10-22 15:05:44	1	720 x 1440 dpi	Middle	BiDirection

## 6.5 Print



## 7. [ Braille print ]

### 7.1 Definition

There are standards for braille printing. The Braille dot printing standard is shown in the figure below. Two main parameters are:



- **Dot Base Diameter** : 0.059 (1.5mm) to 0.063 (1.6mm);
- **Dot Height** : 0.025 (0.6mm) to 0.037 (0.9mm);

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
Dot Base Diameter	0.059 (1.5m) to 0.063 (1.6mm)
Distance Between Two Dots In The Same Cell <sup>1</sup>	0.090 (2.3mm) to 0.100 (2.5mm) <i>0.100 for California</i>
Distance Between Corresponding Dots In Adjacent Cells <sup>1</sup>	0.241 (6.1mm) to 0.300 (7.6 mm) <i>0.300 for California</i>
Dot Height	0.025 (0.6 mm) to 0.037 (0.9 mm)
Distance Between Corresponding Dots From One Cell Directly Below <sup>1</sup>	0.395 (10mm to 0.400 (10.2 mm)

<sup>1</sup>Measured Center To Center

Reference: 2010 ADA Standards for Accessible Design (ADAAG) 703.3.1

- **Braille dot printing requirements:**

- 1) The Braille dots are printed out by multipul layers of white ink;
- 2) The bottom of the Braille spot is a standard circle; 
- 3) The top of the Braille spot is arc; 

4) When printing Braille points, the picture is set as figure-C

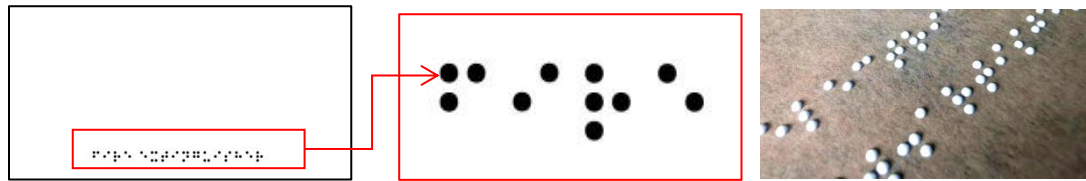


Figure-C

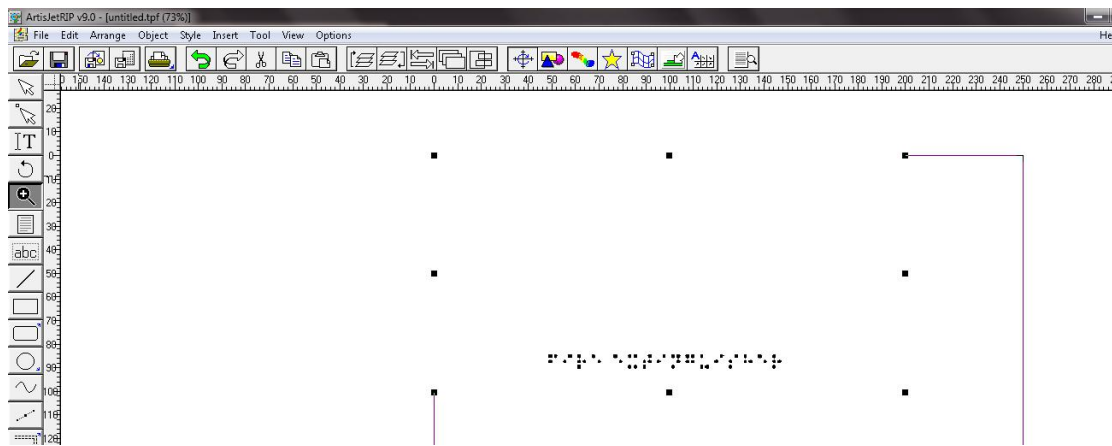
C-1 Braille spot

C-2 Braille printing effect

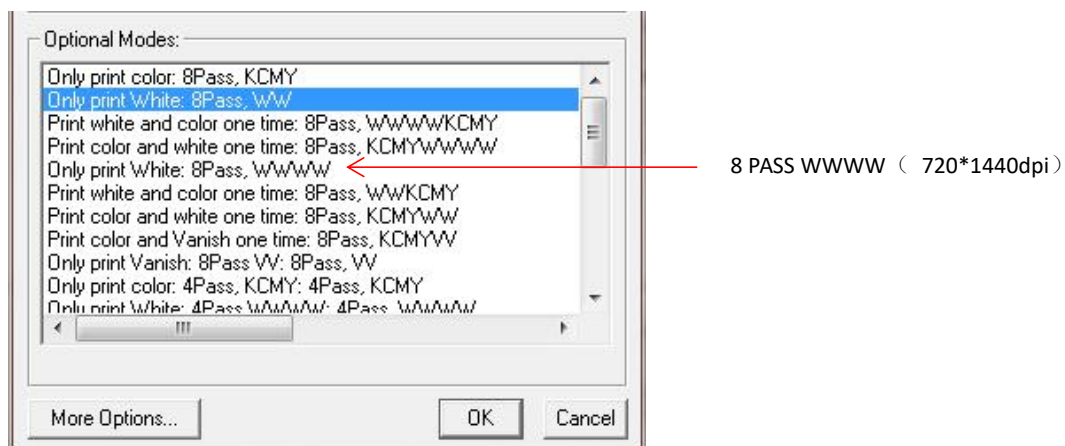
### 7.2 artisRIP V 9.0 settings for Braille printing

Take figure C-2 for example:

- Import pictureB-1 and click  (Print) → Properties to open the print setting box;



- **Print mode selection:** Select 8PASS WWWW;

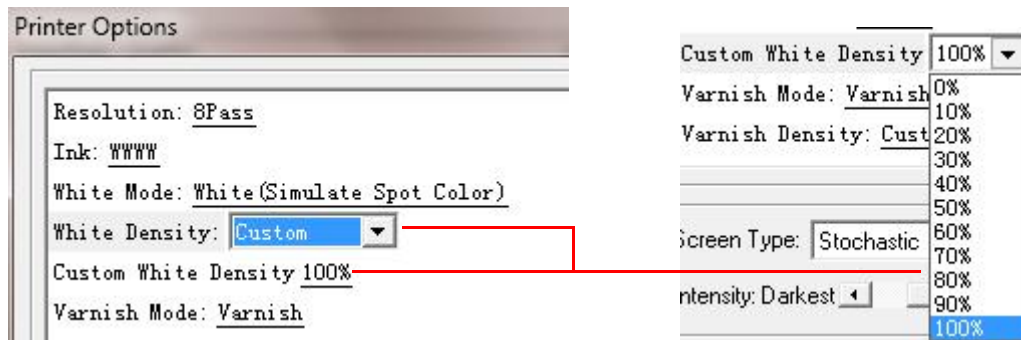


- **More Options setting**

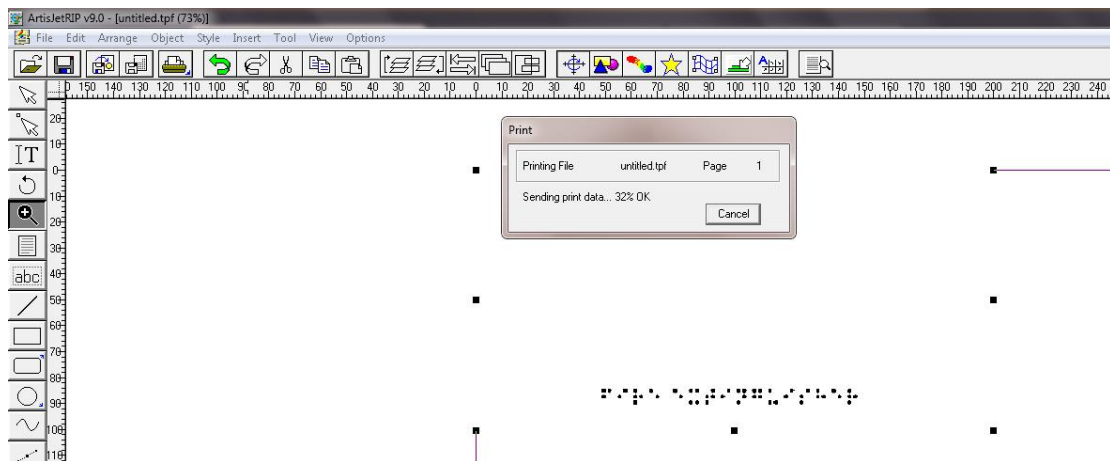
Select **8PASS WWWW** and click **More Options**.The following settings need to be changed:

- 1) **White Mode:** choose white ink print mode- White / White ( Simulate Spot Color );

- 2) White Density: Custom :
- 3) Custom White Density: 100%

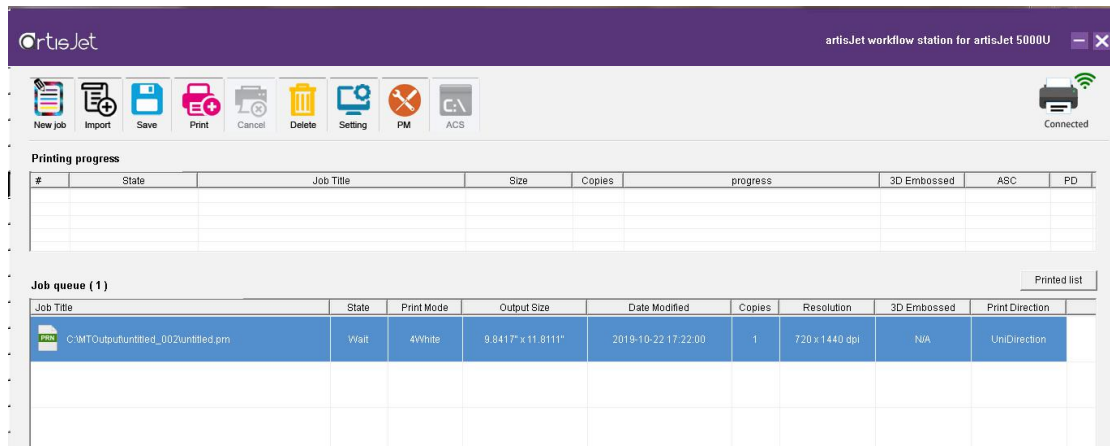


### 7.3 Output of printing task

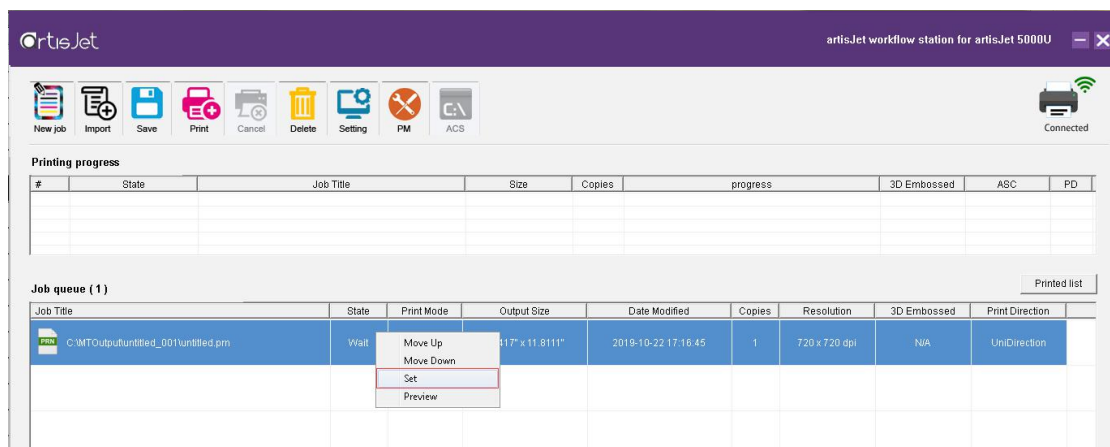


### 7.4 artisJet workstation fro 5000U V3.2 settings

- Check the print task in Job queue :

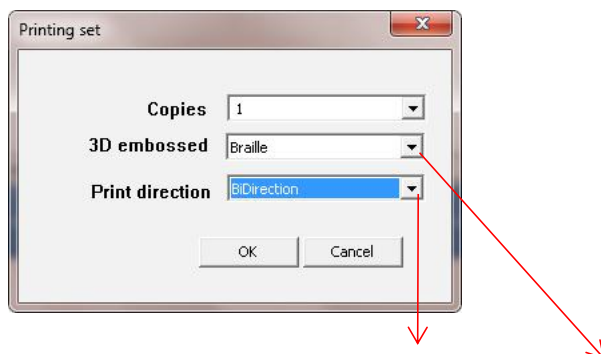


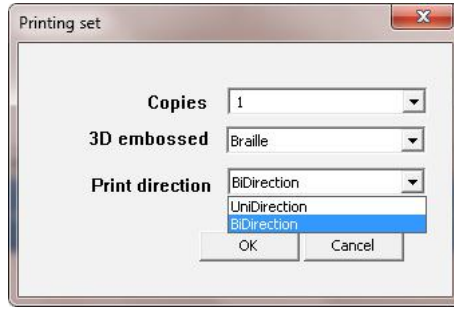
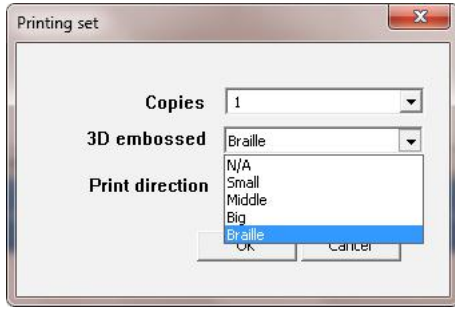
- Select the task and right click to set;



- Set method;

- 1) Copies: choose 1 (must-option)
- 2) 3D embossed : Braille (must-option)
- 3) Print direction : **BiDirection** (must-option)





artisJet workflow station for artisJet 5000U

New job Import Save Print Cancel Delete Setting PM ACS Connected

Printing progress


#	State	Job Title	Size	Copies	progress	3D Embossed	ASC	PD

Job queue (1)

Job Title	State	Print Mode	Output Size	Date Modified	Copies	Resolution	3D Embossed	Print Direction
C:\MTO\Output\untitled_002\untitled.prm	Wait	4White	9.8417" x 11.8111"	2019-10-22 17:22:00	1	720 x 1440 dpi	Braille	BiDirection

Printed list

Verify that all settings are correct

- Select the task and click  ;

artisJet workflow station for artisJet 5000U

New job Import Save Print Cancel Delete Setting PM ACS Connected

Printing progress

#	State	Job Title	Size	Copies	progress	3D Embossed	ASC	PD
1	Printing	C:\MTO\Output\untitled_002\untitled.prm	9.8417" x 11.8111"	1	27%	Braille	N/A	Bi

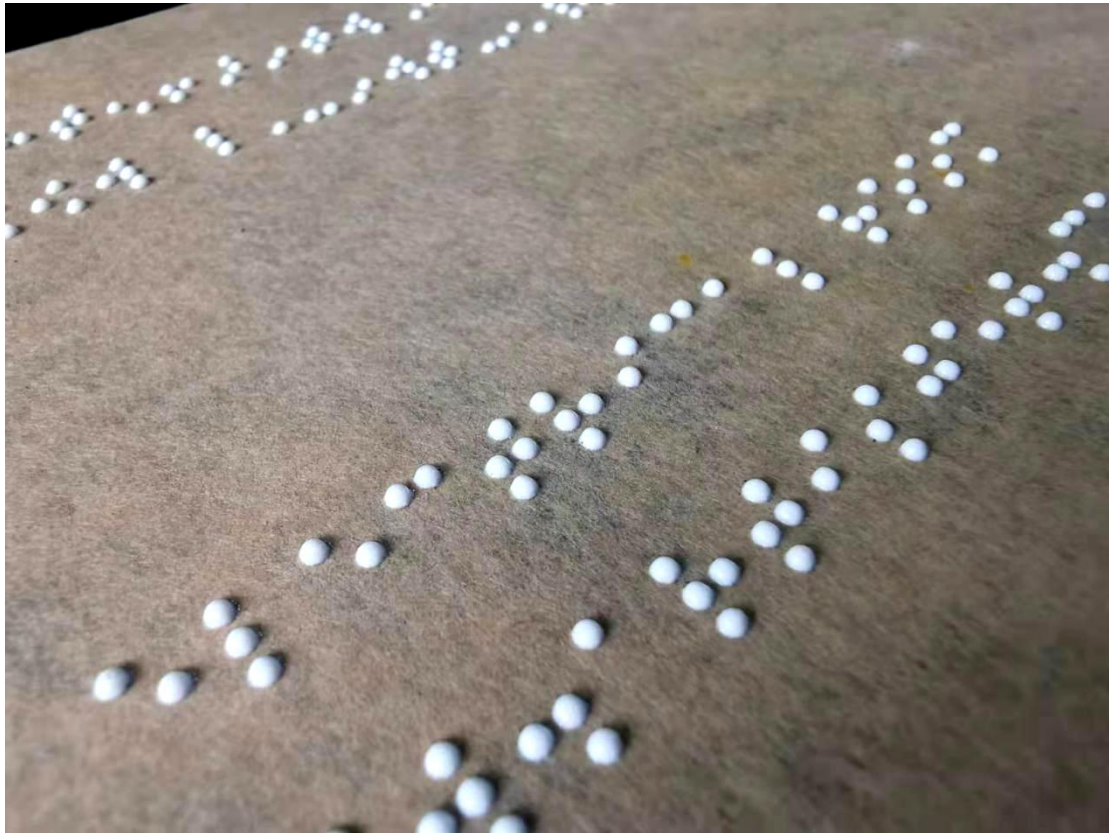
Job queue (1)

Job Title	State	Print Mode	Output Size	Date Modified	Copies	Resolution	3D Embossed	Print Direction
C:\MTO\Output\untitled_002\untitled.prm	Printing	4White	9.8417" x 11.8111"	2019-10-22 17:22:00	1	720 x 1440 dpi	Braille	BiDirection

Printed list



## 7.5 Print



## 8. 【Glossy varnish print】

### 8.1 Definition

Glossy oil is a kind of transparent ink, which can be printed after white ink or colored ink to increase the quality of the product and produce the transparent effect of bright light.

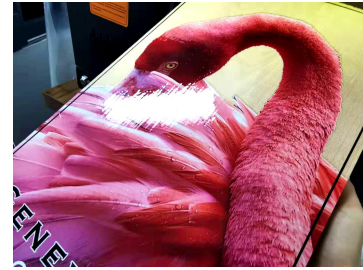
1. Varnish must be printed after white ink or color ink, but can't print directly on the material;
2. Varnish printing task can be output independently, but can't print with white ink or color ink at the same time;
3. The duration of UV light in the process of varnish printing affects the lighting effect;
4. When you want to print varnish, the picture needs to be set as the following figure:



Figure-D



D-1 Varnish printing picture

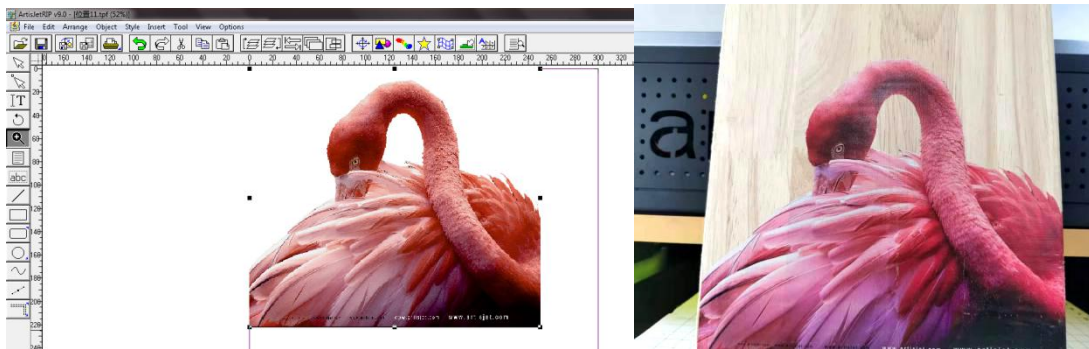


D-2 Varnish effect


## 8.2 artisRIP V 9.0 settings for glossy varnish print

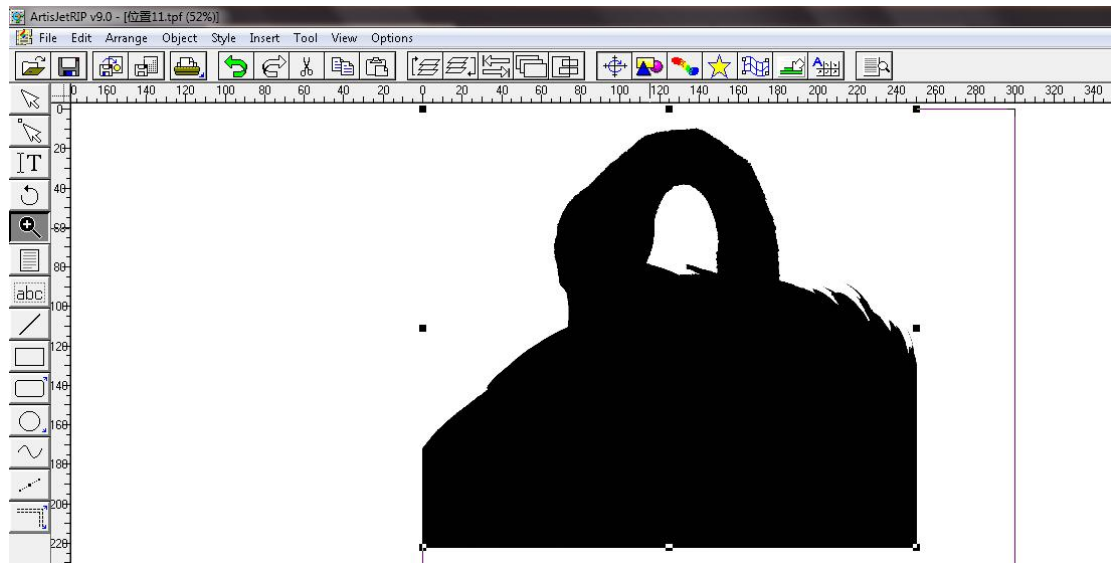
Take figure D-2 for example:

**A. Color ink printing:** print picture D to the material, the effect is as follows;

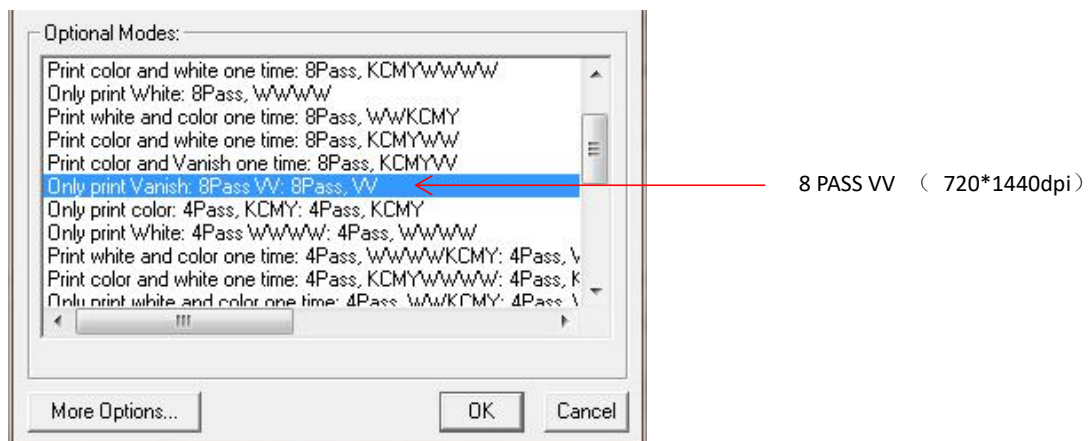


**B. Varnish print:**

- Import D-1 and click  (Print) → Properties to open the print setting box;  
Make sure that the color ink printing picture is consistent with the varnish printing picture size and position, otherwise the print is misplaced.



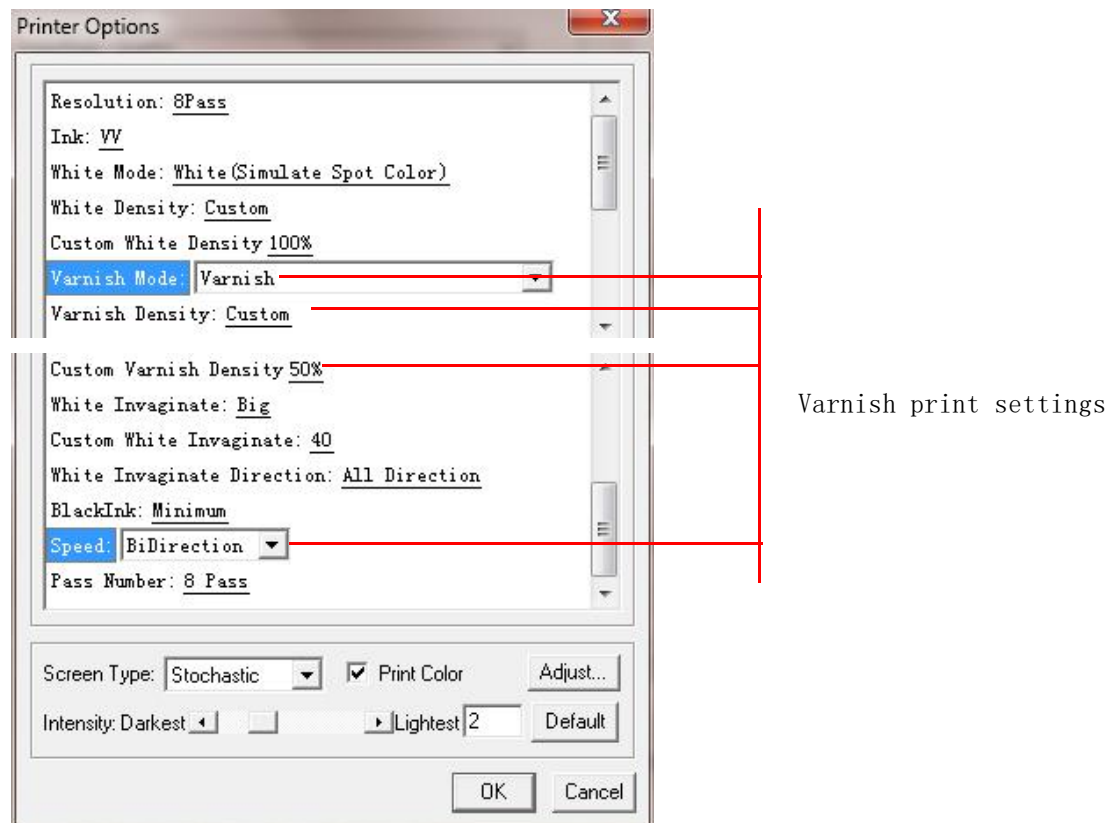
- **Print mode selection:** Select 8PASS WWWW (must-option):



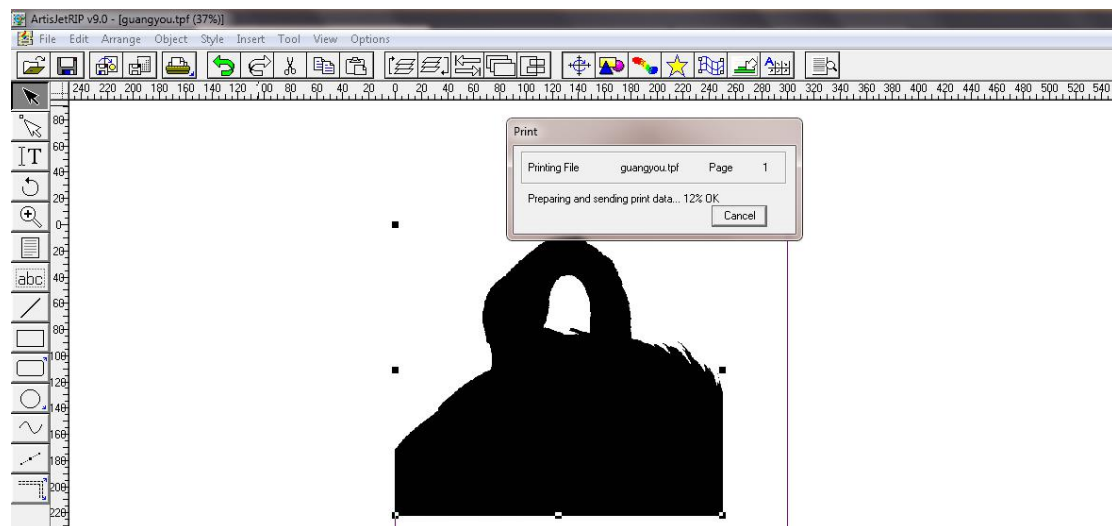
- **More Options Setting**

Select 8pass VV to enter More Options setting. The following settings need to be adjusted in this setting:

- 1) **Varnish Mode: Varnish (must-option)**
- 2) **Varnish Density: Custom (must-option)**
- 3) **Custom Varnish Density: 40%-60%**
- 4) **Speed : BiDirection**




### 8.3 Output of printing task



### 8.4 artisJet workstation fro 5000U V3.2 settings

- Check the print task in Job queue;

- Select the task and click  ;

### 8.5 Print



