UJV100Plus White and Clear Print Guide

This manual describes the effects that can be utilized, as well as the configuration and printing procedures when using white and clear ink in the UJV100Plus model.
Please read this manual carefully and use it correctly.

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Notations used in this document

- Items and buttons displayed in menus and on screens are marked with square brackets ([ ]) as in [File].

Symbols

Important!	• This symbol indicates important information for using this product.
	• This symbol indicates useful information.

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Applicable environment

Printer	FW Ver.1.1 or later
MImakiDriver	When using RasterLink7:Ver.5.8.0 or later When using RasterLink8:Ver.5.13.0 or later
RIP	RasterLink7 Ver.3.1.0 or later RasterLink8 Ver.1.0.0 or later

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UJV100Plus white and clear ink printing procedure

When using a UJV100Plus model equipped with white and clear ink, the printing procedure depends on whether the print head filled with those inks is head 1 or head 2, as shown below.

Special color overprinting

Two-layer special color overprinting can be performed using colored, white, and clear ink. However, the order of the layers is limited to the following combinations.

Color combination	Head 1				Head 2				Special color layering order
4C+W	M	C	Y	K	W	W	W	W	Color -> White
W+4C	W	W	W	W	M	C	Y	K	White -> Color
4C+CL+W	M	C	Y	K	CL	CL	W	W	Color -> White/Clear

4C: CMYK, C: Cyan, M: Magenta, Y: Yellow, K: Black, W: White, CL: Clear

Pull-back printing

The UJV100Plus can perform pull-back printing. This allows multi-layer printing, which is not possible with special color overprinting.

● Printing example

Color combination	Ink used			Printing order		
	1st layer	2nd layer	3rd layer	1st print	Pull-back	2nd print
4C+W	4C	W		4C -> W		
	W	4C		W	->	4C
	4C	W	4C	4C -> W	->	4C
W+4C	4C	W		4C	->	W
	W	4C		W -> 4C		
	4C	W	4C	4C	->	W -> CL
4C+CL+W	4C	CL		4C -> CL		
	W	4C	CL	W	->	4C -> CL

● Auto deskew

The media may become skewed during the pull-back process. RasterLink can compensate for this skewing by scanning the register marks printed on the first layer. This function can be selected on the [General Print] screen or the [Composition] screen.

● Notes on pull-back printing

1. Prevent image misalignment

In pull-back printing, the image may be misaligned between the first and second prints. Please note the following points For details, refer to the operation manual of this machine.

1.1 Sheet feed

If the media tension varies between the first and second prints, it may cause the image to shift.
Before printing, select [Setup] - [Feed Correction (Retract)] to adjust the media tension during pull-back.

1.2 Logical seek settings

Printing should be performed with logical seek set to [Host] or [OFF].

1.3 Origin position adjustment

If there is a misalignment at the print start position, change the origin. For more details on how to change this setting, refer to the operation manual of this machine.

2. Image size and placement restrictions

Due to the structure of the pinch roller and the machine, there is a limit on the size of images that can be printed with pull-back printing.

2.1 Feed direction

The maximum data length that can be printed is 1000mm.

Important!

- If the print data is too long, the print surface may come into contact with the floor, which may cause quality degradation such as dirt or rubbing.

3. If the auto deskew function fails to detect the register marks

When using transparent media, register mark detection may fail if there is dirt or contamination on the platen (register mark detection sensor position).

Countermeasure

- Clean the platen.
- In RasterLink, navigate to [General Print] - [Auto deskew] and then turn on [Fill around the registration marks].

Clear ink's effects

The effects below can be obtained by using clear ink.

Gloss feel effect - "Glossy

Matte feel effect - "Matte Print"

• These effects can be obtained via the "UV MODE" settings in RasterLink..

Important!

Recommended settings for printing a clear ink

- To obtain a better effect of clear ink, print clear ink with the following conditions.
- If you specify a resolution other than those listed in the tables, an error will come up once the RIP and printing start, and the process will be interrupted.

When using media that is PET, PVC, or synthetic paper

• Glossy print

Recommended printing conditions					Recommended density		
Resolution	**Pass**	**Print direction**	**High speed print**	**Special color over print**	**PET**	**PVC**	**Synthetic paper**
1200 × 1200 VD	16/32/44	Bi-direction	Yes	No (Clear (glossy) only)	160% (80%+80%)		Not recommended
				Yes (Color -> Clear (glossy))	160% (80%+80%)		

• Matte print

Recommended printing conditions				Recommended density		
Resolution	**Pass**	**Print direction**	**High speed print**	**PET**	**PVC**	**Synthetic paper**
360 × 1200 VD	8/12/16/2010	Bi-direction	No	120% (60%+60%)		
720 × 900 VD	12/16/24	Bi-direction	Yes			
1200 × 1200 VD	16/24/32	Bi-direction	Yes			

When using media that is FF or a tarpaulin

• Glossy print

Printing is not possible.

• Matte print

Recommended printing conditions				Recommended density	
Resolution	**Pass**	**Print direction**	**High speed print**	**FF**	**Tarpaulin**
360 × 900 VD	6/8/10/12	Bi-direction	No	120% (60%+60%)	
360 × 1200 VD	8/12/16/2010	Bi-direction	No		
720 × 900 VD	12/16/24	Bi-direction	Yes		

Setting the printer

Standard setting

When printing using this guide, set the printer as follows.

1. Turn on the printer's power.

- Wait until <Local> is displayed on the panel.

Important!
- If the power is already on, have the panel display <Local>.

2. Select [UV MODE] on the panel, as follows:

(1) With <Local> displayed, press the FUNC1 key.
(2) Use the ▲ ▼ key to select [SETUP], then press the ENTER key.
(3) Use the ▲ ▼ key to select [SETUP 1] to [SETUP 4], then press the ENTER key.
(4) Use the ▲ ▼ key to select [UV MODE], then press the ENTER key.
(5) Use the ▲ ▼ key to select [ON], then press the ENTER key.

- The default value of [UV mode] is [ON].

3. Select [MAPS4] on the panel, as follows:

- Use the ▲ ▼ key to select [MAPS4], then press the ENTER key.

4. Select "AUTO" for [MAPS4], as follows:

(1) Press the ENTER key.
(2) Use the ▲ ▼ key to select "AUTO", then press the ENTER key.

5. Return to <Local>, by pressing the END/POWER key several times.

When the image quality is not good

If you use the clear ink according to the procedures in this Guide, the settings will be made so that good-quality images are obtained, with the specified quality feel. Sometimes however, the image quality may be poor due to the media material or other factor. In that case, change the setting of 1-4 of the following procedures, please do a test print.

1. Turn on the printer's power.

- Wait until <Local> is displayed on the panel.

Important!
- If the power is already on, have the panel display <Local>.

2. Select [MAPS4] on the panel, as follows:

(1) With <Local> displayed, press the FUNC1 key.
(2) Use the ▲ ▼ key to select [SETUP], then press the ENTER key.
(3) Use the ▲ ▼ key to select [SETUP 1] to [SETUP 4], then press the ENTER key.
(4) Use the ▲ ▼ key to select [MAPS4], then press the ENTER key.

3. Select "MANUAL" for ［MAPS4］, as follows:

(1) Press the ENTER key.
(2) Use the ▲ ▼ key to select "MANUAL".

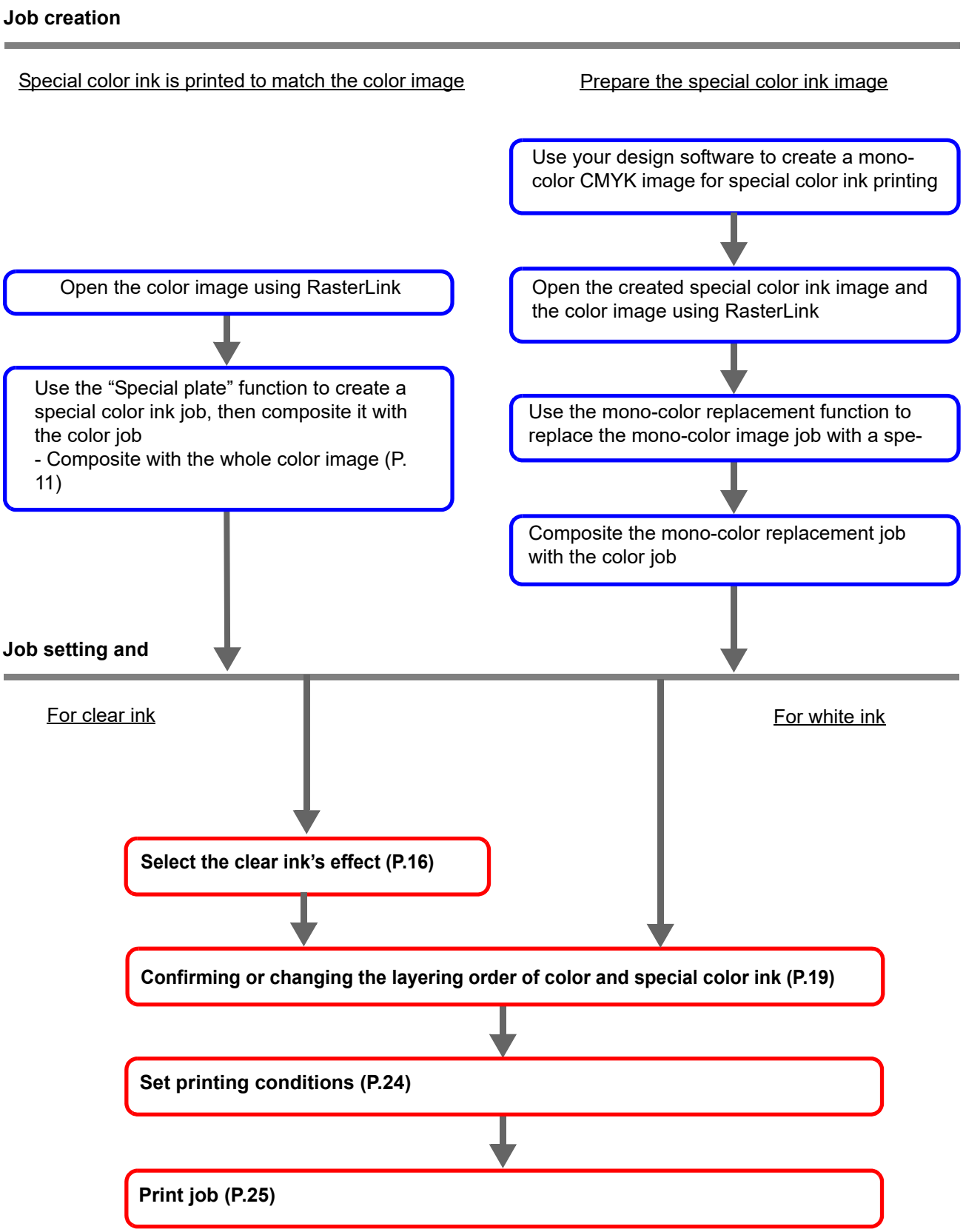
4. After setting it to "MANUAL", configure the settings.

(1) Press the ENTER key.
(2) Make the settings for [Smoothing Level] as follows.
Use the ▲ ▼ key to change level. (0 to 100%)
Changing this value will change the image quality.
Then press ENTER .
(3) Return to <Local>, by pressing the END/POWER key several times.

Printing methods

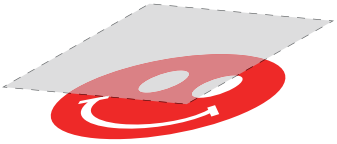
Data creation and printing procedures

Data for special color ink is created according to the following procedure and printed by RasterLink.

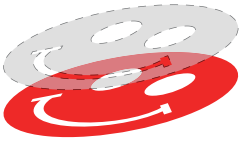


Creating a white/clear ink job

RasterLink can be used to print white and clear ink using the following methods.



Print over the whole color image.



Print over all the valid pixels of the color image.

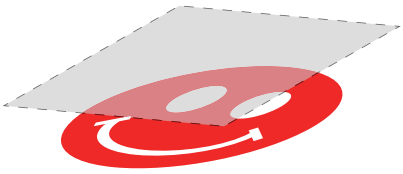
Print an image only using special color ink.

- When using the “Print over the whole color image” and the “Print over all the valid pixels of the color image” methods, use the RasterLink [Special plate] function to create a job for special color ink.
- When using “Print an image only using special color ink”, it is necessary to use graphic design software such as Illustrator to create an image to be printed only using special color ink.

Job creation procedures for each printing method

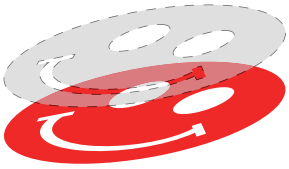
Suppose you have the following color image. You can print the white/clear ink in any of the three ways shown below.

Print over the whole color image.



-> Go to A. Print special color ink over the whole color image

Print over all the valid pixels of the color image.



-> Go to B. Print special color ink over all the valid pixels of the color image

Print an image only using special color ink.

-> Go to C. Print an image only using special color ink

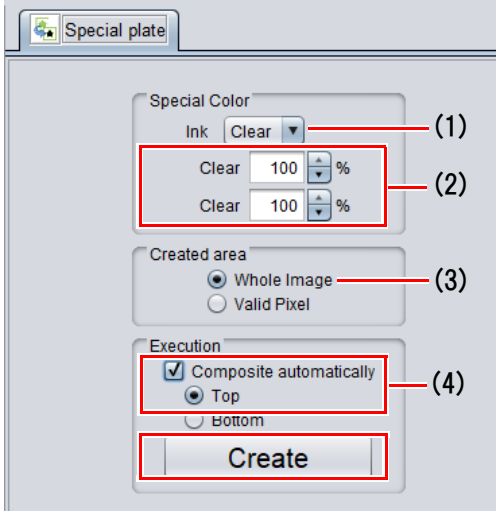
A. Print special color ink over the whole color image

To print special color ink over the whole color image, create a special plate based on the color image shown on P. 10.

1. In the [Job List], select the job that will be the basis for the plate.

2. Click the [Special plate] icon from the function icon.

3. Configure the settings as shown below and then click [Create].



●For clear ink

(1) [Ink]: Select [Clear]

(2) [Clear]: Enter the recommended ink density described in "Recommended settings for printing a clear ink" (P.5). (2 places)

(3) [Created area]: Select [Whole image].

(4) [Composite automatically]: Check the box, and select [Top].PlateCreationt.

●For white ink

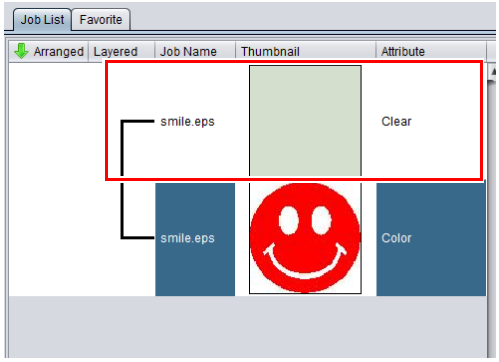
(1) [Ink]: Select [White].

(2) [White]: 100%

(3) [Special Color Print Area]: Select [Valid Pixel].

(4) [Composite automatically]: Select the checkbox and select either [Top] or [Bottom].

- A special color ink job will be created in a composited state.



- The [Special Color Print Area] settings of the [Special plate] function include [Whole Image], [Valid Pixel], and [Valid to non background]. For more information, refer to the RasterLink Reference Guide.

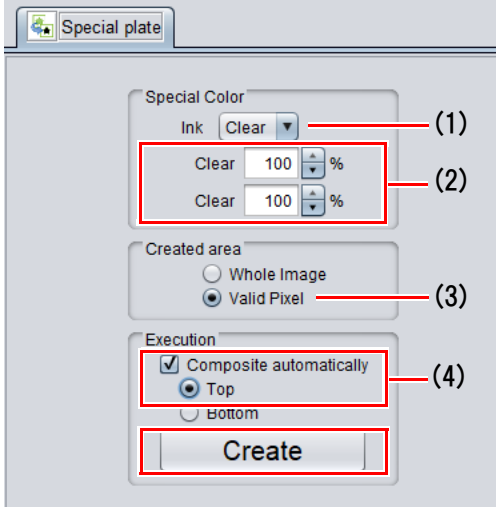
B. Print special color ink over all the valid pixels of the color image

To print special color ink over valid color pixels, create a special plate based on the color image shown on P. 10.

1. In the [Job List], select the job that will be the basis for the plate.

2. Click the [Special plate] icon from the function icon.

3. Configure the settings as shown below and then click [Create].



●For clear ink

(1) [Ink]: Select [Clear]

(2) [Clear]: Enter the recommended ink density described in "Recommended settings for printing a clear ink" (P.5). (2 places)

(3) [Created area]: Select [Valid Pixel].

(4) [Composite automatically]: Check the box, and select [Top].

●For white ink

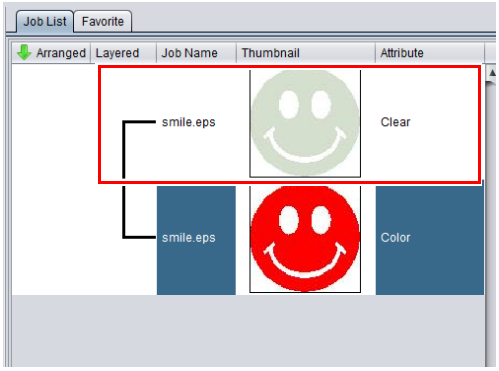
(1) [Ink]: Select [White].

(2) [White]: 100%

(3) [Special Color Print Area]: Select [Valid Pixel].

(4) [Composite automatically]: Select the checkbox and select either [Top] or [Bottom].

- A special color ink job will be created in a composited state.



- The [Special Color Print Area] settings of the [Special plate] function include [Whole Image], [Valid Pixel], and [Valid to non background]. For more information, refer to the RasterLink Reference Guide.

C. Print an image only using special color ink

When printing images designed for special color ink, a dedicated image is created separately from the color image, and then RasterLink performs a mono-color replacement. Then, the color image is composited with the special color ink image.

● Creating a special color ink image

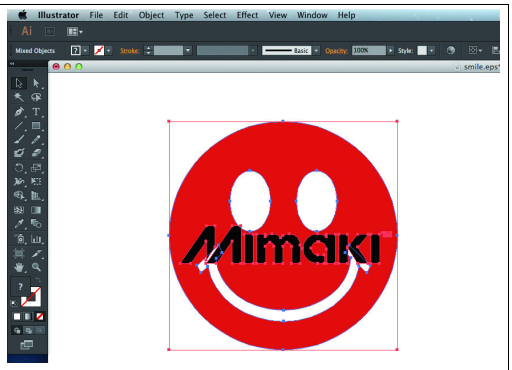
1. Using design software such as Illustrator or Photoshop, create a clear ink image with the following conditions:

- Color Mode: CMYK
  Colors used: One color only - cyan, magenta, yellow, or black.
  For the other colors, set 0%.
  In this procedure, black 100% is used as an example.

Important!

- The color density set in the design software is used as the output density for the special color ink.
- For images using clear ink, use the recommended ink density as specified in "Recommended settings for printing a clear ink" (P.5).

- Ensure that the color image and the special color ink image have matching sizes.
- You can do this by creating a non-fill/non-line path around the periphery of both images, as shown on the right.



2. Save the created image as an EPS or TIFF image.

- We recommend that you save the color and the special color ink images separately after you have completed the layout using the design software.

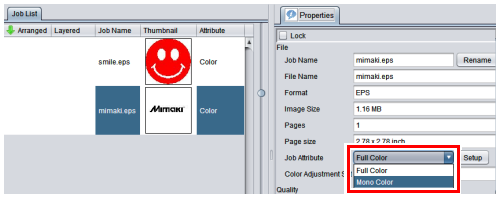
3. Read the image saved in step 2 with RasterLink.

● Setting mono color replacement

1. **In the [Job List], select the special color ink job.**

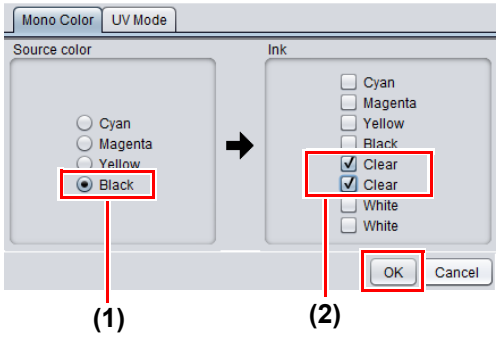
2. **Click the [Properties] icon from the function icon.**

3. **Select [Mono Color] in the [Job Attribute] pull-down menu.**



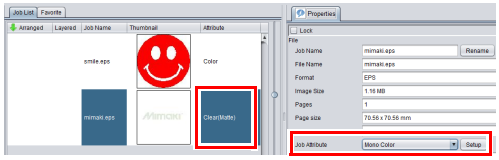
4. **Select the [Mono Color] tab and make the following settings.**

(1) .[Source color]: [Black]
(2) [Ink after replacement]: Select the special color ink.



5. **Click the [OK].**

- The job attribute becomes [Mono Color] and the [Attribute] of [Job List] becomes the one specified as the ink after replacement.

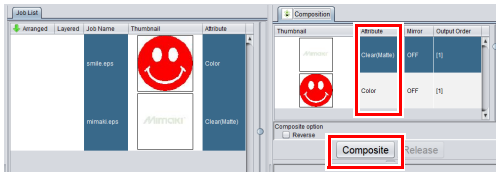


● Compositing the color job with the special color ink job

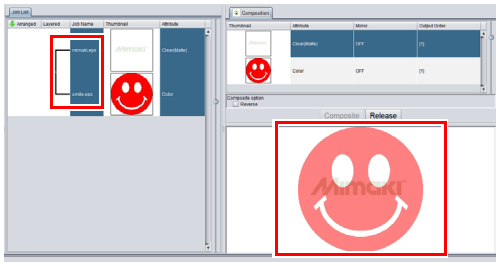
1. **In the [job list], select the color job and the clear ink job.**

2. **Click the [Composition] icon from the function icon.**

3. **Confirm the order of jobs on the [Composition] tab, and then click [Composition].**



- The job is composited.
- For more details regarding the [Composition] settings, refer to "Confirming or changing the layering order of color and special color ink" (P.19).



Job setting and printing

Select the clear ink's effect

When using clear ink, you can select the desired effect by changing the [UV Mode] setting.

Gloss feel effect - "Glossy Print"

->Go to a. Setting Glossy Print

Matte feel effect - "Matte Print"

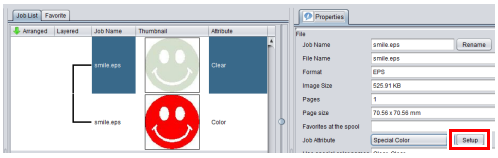
-> Go to b. Setting Matte Print

a. Setting Glossy Print

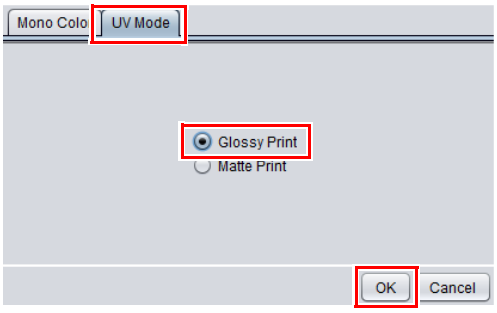
1. **In the [Job List], select the clear ink job.**

2. **Click the [Properties] icon from the function icon.**

3. **Click the [Setup] in the [Job Attribute].**

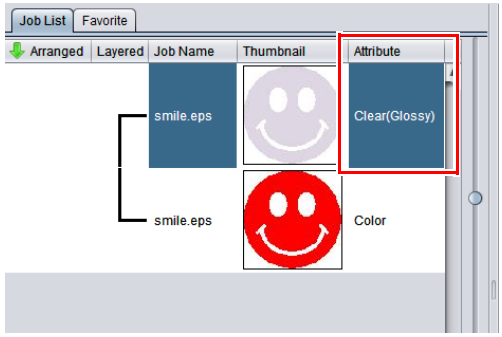


4. **Select the [UV Mode] tab and click [Glossy Print].**



5. **Click the [OK].**

- [Attribute] becomes [Clear(Glossy)].

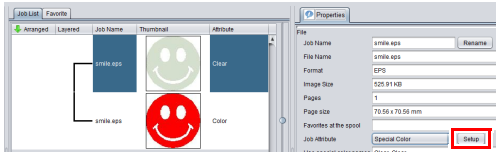


b. Setting Matte Print

1. **In the [Job List], select the clear ink job.**

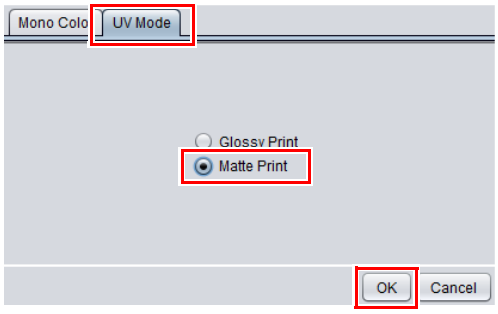
2. **Click the [Properties] icon from the function icon.**

3. **Click the [Setup] in the [Job Attribute].**



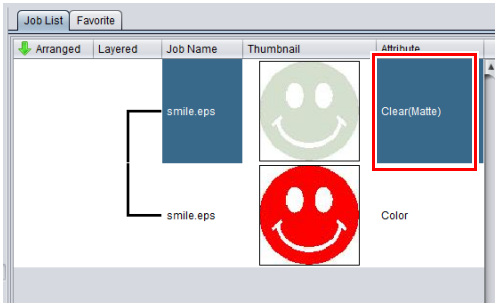
4. **Select the [UV Mode] tab and click [Matte Print].**

- The illuminance can be changed.



5. **Click the [OK].**

- [Attribute] becomes [Clear(Matte)].



Confirming or changing the layering order of color and special color ink

As shown in "UJV100Plus white and clear ink printing procedure" (P.3), the printing order and method differ between color and special color ink depending on the print head filled with special color ink is head 1 or head 2. This section describes how to set the printing order for color and special color ink for each color combination.

4C+W/4C+CL+W (Head 2 is filled with special color ink)

Color -> White/Clear

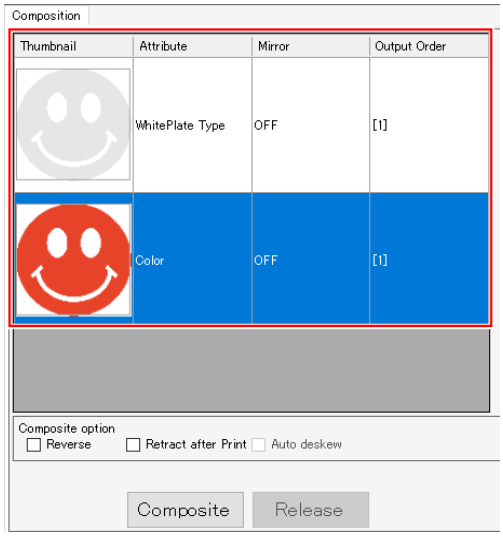
Special color overprinting can be performed in a single operation.

● **[Composition] screen**

1. **Select the color job and special color job from the [Job List].**

2. **Click [Composition] from the function icon.**

3. **In the [Composition] list, arrange the jobs in the order of [Color] and [Special Color] from the bottom.**



4. **Confirm that the output order of the [Composition] list is set to [1] for both color and special color jobs.**

- If this is not the case, select the color job and turn off the [Retract after Print] setting.

5. **Click the [Composition] button to composite the jobs.**

● [Layer] screen

1. **After compositing the jobs, bring up the [Layer] screen.**

2. **Confirm that [Color -> Special Color] is selected in the [Special Color Over Print] settings.**

White -> Color

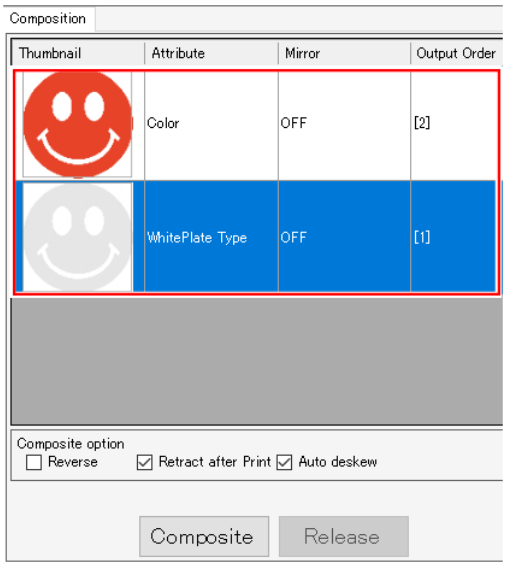
After printing the white image, retract the media and print using the color ink.

● [Composition] screen

1. **Select the color job and special color job from the [Job List].**

2. **Click [Composition] from the function icon.**

3. **In the [Composition] list, arrange the jobs in the order of [White Plate Type] and [Color] from the bottom.**

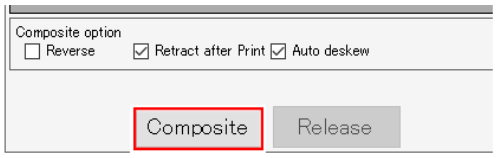


4. **Select the white plate type job from the [Composition] list.**

- [Retract after Print] will be enabled, so please select it.
- When [Auto deskew] is turned on, it will detect whether the media is skewed during retraction and automatically correct the printing angle for the next print.

5. **Click the [Composition] button to composite the jobs.**

- Confirm that the output order of the [Composition] list is set to [1] and [2] when read from the bottom.



White -> Color -> Clear

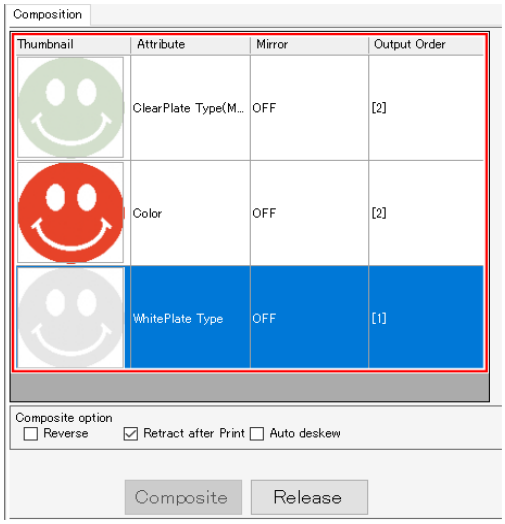
After printing the white image, retract the media and print the color and clear images using special color over-printing.

● [Composition] screen

1. **Select the color, white, and clear jobs from the [Job List].**

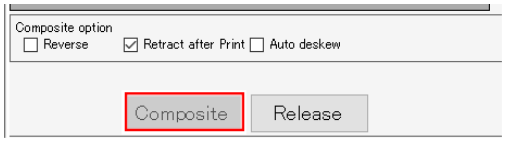
2. **Click [Composition] from the function icon.**

3. **In the [Composition] list, arrange the jobs in the order of [White Plate Type], [Color], and [Clear Plate Type (Matte)] from the bottom.**



4. **Click the [Composition] button to composite the jobs.**

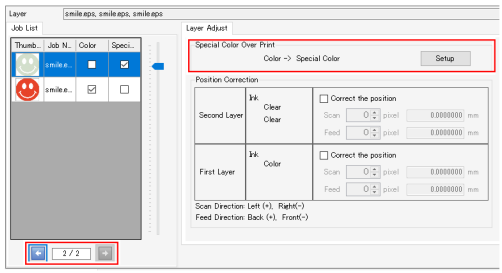
- Confirm that the output order of the [Composition] list is set to [1], [2], and [2] when read from the bottom.



● [Layer] screen

1. **After compositing the jobs, bring up the [Layer] screen.**

2. **Open the settings screen for the 2nd feed and confirm that [Special Color Over Print] is set to [Color -> Special Color].**



W+4C (Head 1 is filled with white ink)

Color -> White

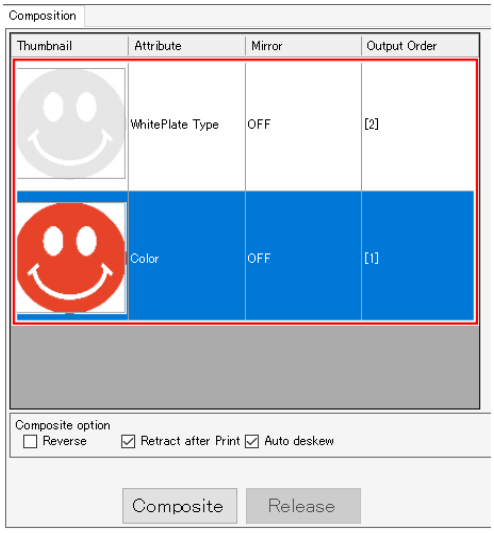
After printing the color image, retract the media and print using the white ink.

● [Composition] screen

1. **Select the color job and special color job from the [Job List].**

2. **Click [Composition] from the function icon.**

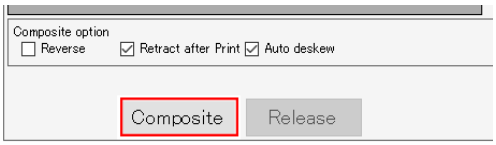
3. **In the [Composition] list, arrange the jobs in the order of [Color] and [White Plate Type] from the bottom.**



4. **Select the color job from the [Composition] list.**

- [Retract after Print] will be enabled, so please select it.
- When [Auto deskew] is turned on, it will detect whether the media is skewed during retraction and automatically correct the printing angle for the next print.

5. **Click the [Composition] button to composite the jobs.**



- Confirm that the output order of the [Composition] list is set to [1] and [2] when read from the bottom.

White -> Color

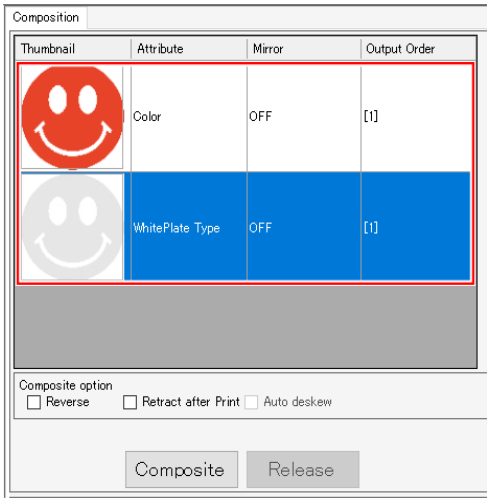
Special color overprinting can be performed in a single operation.

● [Composition] screen

1. **Select the color job and special color job from the [Job List].**

2. **Click [Composition] from the function icon.**

3. **In the [Composition] list, arrange the jobs in the order of [White Plate Type] and [Color] from the bottom.**



4. **Confirm that the output order of the [Composition] list is set to [1] for both color and white jobs.**

- If this is not the case, select the white job and turn off the [Retract after Print] setting.

5. **Click the [Composition] button to composite the jobs.**

Set printing conditions

To obtain better effects from the clear ink, set according to image quality and output speed.
See below for recommended settings.

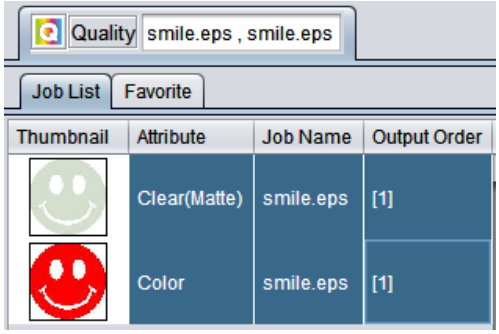
"Recommended settings for printing a clear ink" (P.5)

1. **In the [Job List], select the applicable job.**

2. **Click the [Quality] icon from the function icon.**

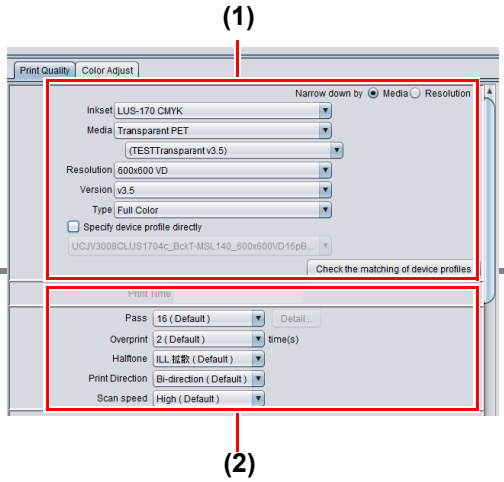
3. **Select both the color job and the clear ink job that are displayed in the [Job List].**

- Multiple jobs can be selected by holding down the CTRL key and clicking the job.
- If you select both, you can set the same conditions for these jobs.



4. **In the profile field (1), select a profile that matches the media to be printed on.**

5. **When using clear ink, refer to "Recommended settings for printing a clear ink" (P.5) and set the output setting field (2).**

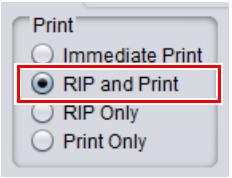


Print job

1. In the [Job List], select the applicable job.

2. Click the [Execution] icon from the function icon.

3. Select [RIP and Print].



4. Click the [Start].

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