

UCJV300/UCJV330/UJ330H/UJV200

Clear Ink Print Guide

This manual describes the effects that can be expressed when clear ink is used in UCJV300/UCJV330/UJ330H/UJV200 how to set and print them.

Please read this manual carefully and use it correctly.

Note

- It is strictly prohibited to write or copy a part or whole of this document without our approval.
- This document has been carefully prepared for your easy understanding, however, please do not hesitate to contact a distributor in your district or our office if you have any inquiry.
- Description contained in this document are subject to change without notice for improvement.
- Copying the Mimaki Engineering Co. Ltd. software described in this guide to other disks (except for backup purposes) or loading it to memory except for the purpose of running it, is strictly prohibited.
- Due to improvement or change of software, the description of this document could be partially different in specification, for which your understanding is requested.
- With the exception of what is provided for in the warranty provisions of MIMAKI ENGINEERING CO., LTD., we do not assume any liability against the damages (including but not limited to the loss of profit, indirect damage, special damage or other monetary damages) arisen out of the use or failure to use of this product. The same shall also apply to the case even if MIMAKI ENGINEERING CO., LTD. had been notified of the possibility of arising damages in advance. As an example, we shall not be liable for any loss of the media made using this product or indirect damages caused by the product made using this media.
- You can also download the latest operation manual from our website.

Notations used in this document

- Items and buttons displayed in menus and on screens are marked with square brackets ([]) as in [File].
- RasterLink6Plus and RasterLink7 are referred to as RasterLink in together.

Screen image used in this document

- The explanation is based on the screen image of RasterLink6Plus as an example.

Symbols



- This symbol indicates important information for using this product.



- This symbol indicates useful information.

RasterLink is the trademarks or registered trademarks of MIMAKI ENGINEERING CO., LTD. in Japan and in other countries.

Adobe, the Adobe logo, Acrobat, Illustrator, Photoshop, and PostScript are the trademarks or registered trademarks of Adobe Inc. in the United States and other countries.

CorelDRAW is a trademark or registered trademark of Corel Corporation in Canada, the United States and other countries, and its affiliates.

Microsoft and Windows are trademarks or registered trademarks of Microsoft Corporation of the United States and other countries.

Apple and Macintosh are trademarks or registered trademarks of Apple Inc. of the United States and other countries.

Other company and product names mentioned herein are the trademarks or registered trademarks of the respective companies in Japan and in other countries.

Applicable environment

Use a printer equipped with color inks and clear ink.

● UCJV300

1. LUS-170 / LUS-175

Printer	FW Ver.2.5 or later
Ink	LUS-170 / LUS-175
Mimaki Driver	When using RasterLink6Plus: The version that is compatible with the printer you use. When using RasterLink7:Ver.5.4.2 or later
RIP	RasterLink6Plus Ver.1.1 or later RasterLink7 Ver.1.3.2 or later

2. ELS-170 / ELS-175

Printer	FW Ver.4.0 or later
Ink	ELS-170 / ELS-175
Mimaki Driver	When using RasterLink6Plus: The version that is compatible with the printer you use. When using RasterLink7:Ver.5.10.1 or later
RIP	RasterLink6Plus Ver.2.22 or later RasterLink7 Ver.3.3.4 or later

● UCJV330

1. LUS-170 / LUS-175

Printer	FW Ver.1.1 or later
Ink	LUS-170 / LUS-175
Mimaki Driver	Ver.5.8.0 or later
RIP	RasterLink7 Ver.3.1.0 or later

2. ELS-170 / ELS-175

Printer	FW Ver.4.0 or later
Ink	ELS-170 / ELS-175
Mimaki Driver	Ver.5.12.3 or later
RIP	RasterLink7 Ver.4.1.3 or later

● UJ330H

Printer	FW Ver.1.0 or later
Ink	ELS-170 / ELS-175
Mimaki Driver	Ver.5.12.0 or later
RIP	RasterLink7 Ver.4.1.1 or later

● UJV200

Printer	FW Ver.1.0 or later
Ink	LUS-210, ELS-170 / ELS-175
Mimaki Driver	Ver.5.12 .0 or later
RIP	RasterLink7 Ver.4.1.1 or later

Table of Contents

Note	1
Applicable environment	2
Setting the printer	4
Standard setting	4
When the image quality is not good	5
Effect of clear ink and selection of printing method	6
Clear ink's effects	6
Selection of clear ink printing method	7
Printing methods	8
Data creation and printing procedures	8
1. Determine and set the clear ink printing method	9
A. Printing the clear ink over the whole of the color image	10
B. Printing the clear ink onto the valid pixels of the color image	11
C. Printing the clear ink on top of a color image except on the background (Raster-Link7 only).	12
D. Printing a special clear ink image	13
2. Select the clear ink's effect: set the UV mode	16
a. Setting Glossy Print	17
b. Setting Matte Print	18
3. Set printing conditions	19
4. Print job	20
At times like this	21
When printing with clear ink and white ink together	21
Mechanism of printing using clear ink and white ink	21
Setting Matte Print	22
Setting Glossy Print	23

Setting the printer

Standard setting

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

1. Turn on the printer's power.

- UCJV300: Wait until the Local mode.
- UCJV330, UJ330H, UJV200: Wait until the Media Select mode.



- If the power is already on, UJV300 set to the Local mode and UCJV330 set to the Media Select mode.

2. Select the panel to press [MAPS] setting display, as follows:

- For UCJV300

- (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.

- For UCJV330, UJ330H, UJV200

- (1) With [MENU] on the display, press the corresponding [FUNC] key.
- (2) Use the **▲▼** key to select [Media Setting], then press the **ENTER** key.
- (3) Use the **▲▼** key to select the media to be used, then press the **ENTER** key.
- (4) Use the **▲▼** key to select [MAPS], then press the **ENTER** key.

3. Select "AUTO", as follows:

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

4. 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.

- UCJV300: Wait until the Local mode.
- UCJV330, UJ330H, UJV200: Wait until the Media Select mode.



- If the power is already on, UJV300 set to the Local mode and UCJV330 set to the Media Select mode.

2. Select the panel to press [MAPS] setting display, as follows:

- For UCJV300
 - (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.
- For UCJV330, UJ330H, UJV200
 - (1) With [MENU] on the display, press the corresponding [FUNC] key.
 - (2) Use the **▲▼** key to select [Media Setting], then press the **ENTER** key.
 - (3) Use the **▲▼** key to select the media to be used, then press the **ENTER** key.
 - (4) Use the **▲▼** key to select [MAPS], then press the **ENTER** key.

3. Select "MANUAL", as follows:

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

4. After setting to "MANUAL", make the settings for the ink colors, as follows.

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

Effect of clear ink and selection of printing method

Clear ink's effects

The effects below can be obtained by using clear ink.



Glossy feel effect - "Glossy Print"



Matte feel effect - "Matte Print"

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

Recommended settings for printing a clear ink

To obtain a better effect of clear ink, print clear ink with the following conditions.

● UCJV300

•Glossy print

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
600 × 1200 VD	32/44	Bi-direction	Yes
1200 × 1200 VD	32/44	Bi-direction	Yes

•Matte print

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
600 × 600 VD	16/24	Bi-direction	Yes
600 × 1200 VD	32/44	Bi-direction	Yes
1200 × 1200 VD	32/44	Bi-direction	Yes

● UCJV330, UJ330H

•Glossy print

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
1200 × 1200 VD	16	Bi-direction	Yes
1200 × 1800 VD	24	Bi-direction	Yes

•Matte print

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
600 × 1200 VD	16/24/32	Bi-direction	Yes
1200 × 1200 VD	16/24/32	Bi-direction	Yes
1200 × 1800 VD	24/32	Bi-direction	Yes

● UJV200

•Glossy print

- For PVC, PET, and paper

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
1200 × 1200 VD	16	Bi-direction	Yes

•Matte print

- For PVC, PET

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
900 × 600 VD	8/12/16	Bi-direction	Yes
1200 × 600 VD	8/12/16	Bi-direction	Yes
1200 × 1200 VD	16/24/32	Bi-direction	Yes

- For Tarpaulin, Fabric

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
600 × 600 VD	8/12/16	Bi-direction	Yes
900 × 600 VD	8/12/16	Bi-direction	Yes
1200 × 600 VD	8/12/16	Bi-direction	Yes

- For Paper

Recommended printing conditions			
Resolution	Pass	Print direction	High speed print
600 × 600 VD	8/12/16	Bi-direction	Yes
900 × 600 VD	8/12/16	Bi-direction	Yes
1200 × 600 VD	8/12/16	Bi-direction	Yes
1200 × 1200 VD	16/24/32	Bi-direction	Yes

Selection of clear ink printing method

Select the method for printing clear ink.

In RasterLink, clear ink can be printed in the following way.



Printed over the whole of a color image



Printed onto valid pixels of a color image



Printed on a background other than the background of the color image
(RasterLink7 only)



Printed as a special image for clear ink

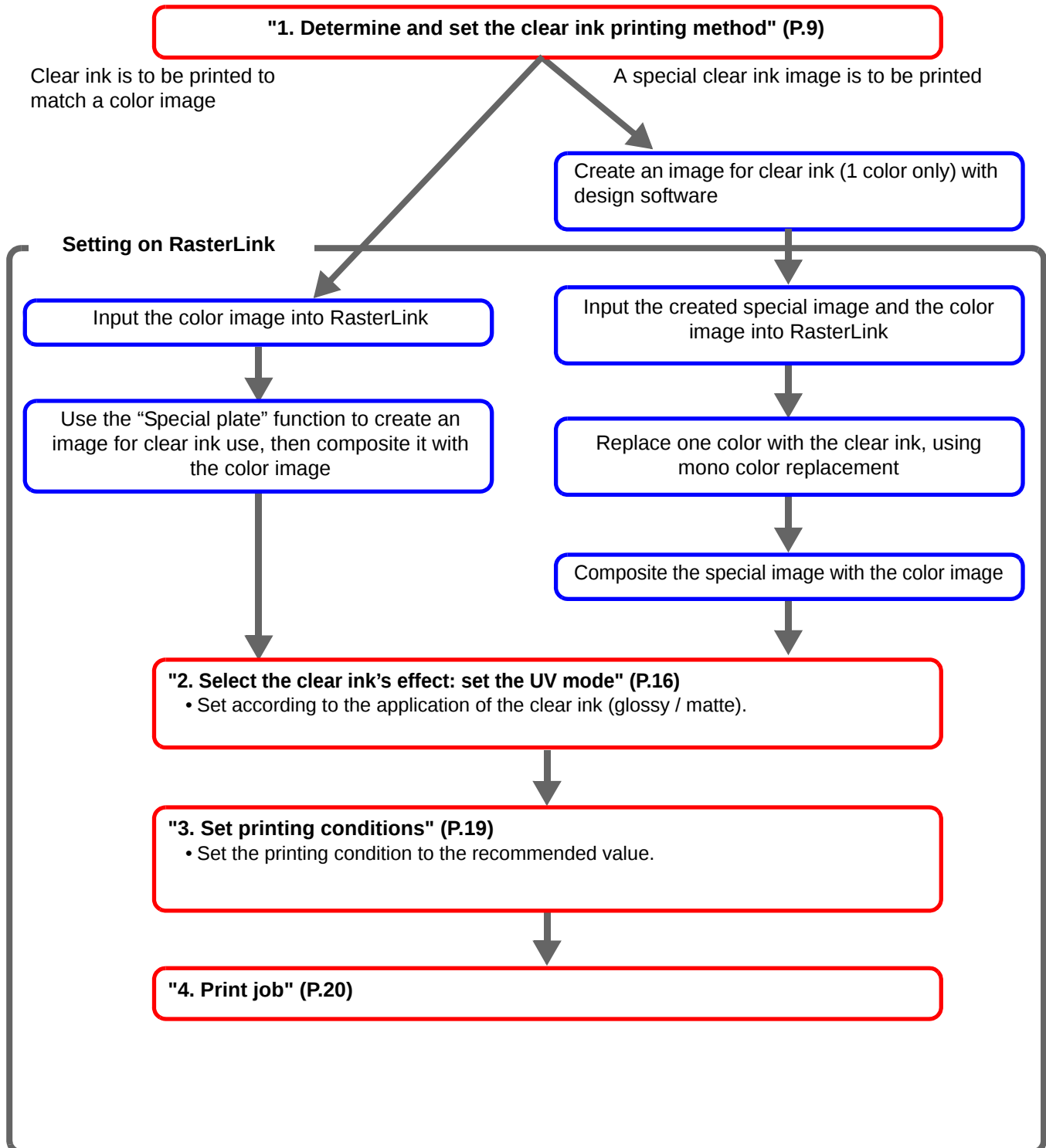
For printing the clear ink over the whole of a color image, and for printing it onto valid pixels of a color image, create a clear ink job using the "Special plate" function of RasterLink6Plus

For printing the clear ink as a special clear ink image, you must create the special clear ink image by means of design software such as Illustrator.

Printing methods

Data creation and printing procedures

Data for clear ink is created in the following procedure and printed with RasterLink.

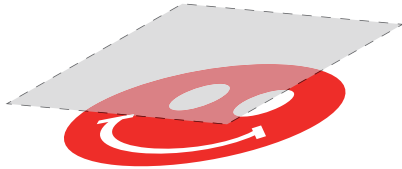


1. Determine and set the clear ink printing method

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

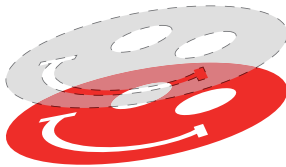


Print it over the whole of the color image



-> Go to [A. Printing the clear ink over the whole of the color image](#)

Print it onto the valid pixels of the color image



-> Go to [B. Printing the clear ink onto the valid pixels of the color image](#)

Print on a background other than the background of the color image (RasterLink7 only)



-> Go to [C. Printing the clear ink on top of a color image except on the background \(Raster-Link7 only\).](#)

Print a special image for clear ink use



-> Go to [D. Printing a special clear ink image](#)

A. Printing the clear ink over the whole of the color image

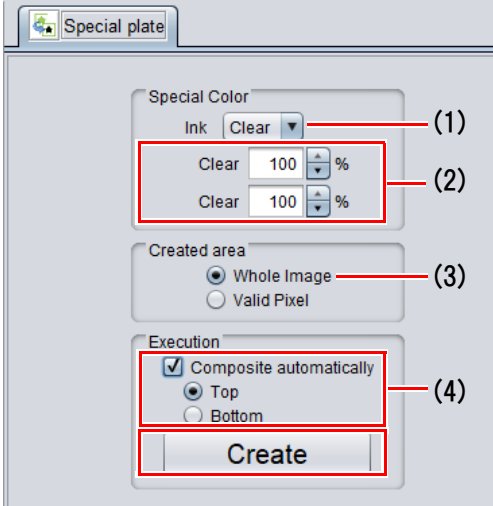
To print the clear ink over the entire color image, create a plate based on the color image on P. 9.

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

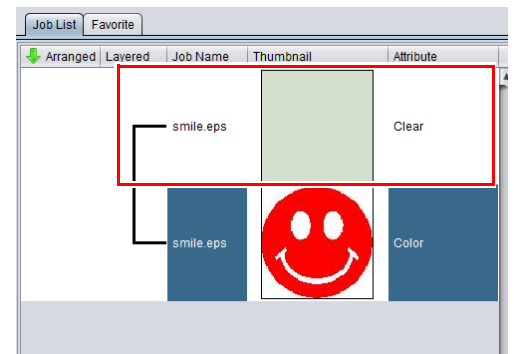
2. Click the [Special plate]  icon from the function icon.

3. Set as follows and click [Create].

- (1) [Ink]: Select [Clear]
- (2) [Clear]: Set to 100% (2 places)
- (3) [Created area]: Select [Whole image].
- (4) [Composite automatically]: Check the box, and select [Top].



- The clear ink job will be created, in a composited state.



B. Printing the clear ink onto the valid pixels of the color image

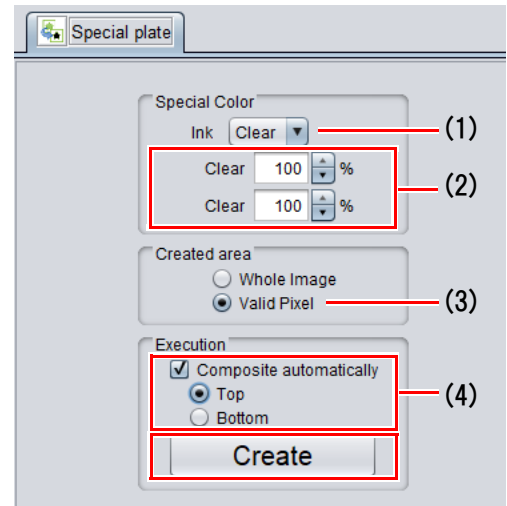
To print the clear ink on the effective pixel of the color, create the plate based on the color image of P. 9.

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

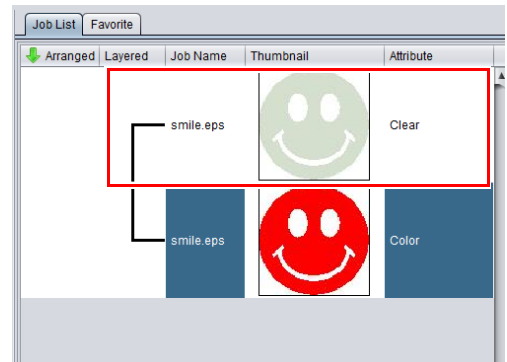
2. Click the [Special plate]  icon from the function icon.

3. Set as follows and click [Create].

- (1) [Ink]: Select [Clear]
- (2) [Clear]: Set to 100% (2 places)
- (3) [Created area]: Select [Valid Pixel].
- (4) [Composite automatically]: Check the box, and select [Top].



- The clear ink job will be created, in a composited state.



C. Printing the clear ink on top of a color image except on the background (Raster-Link7 only).

To print the clear ink on top of a color image except on the background, create a special plate on the basis of the image.

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

- Click the "Special plate"  function icon.

Important!

- Effective when the image data format is EPS, PS, or PDF and a color (including white) is specified in the data section.

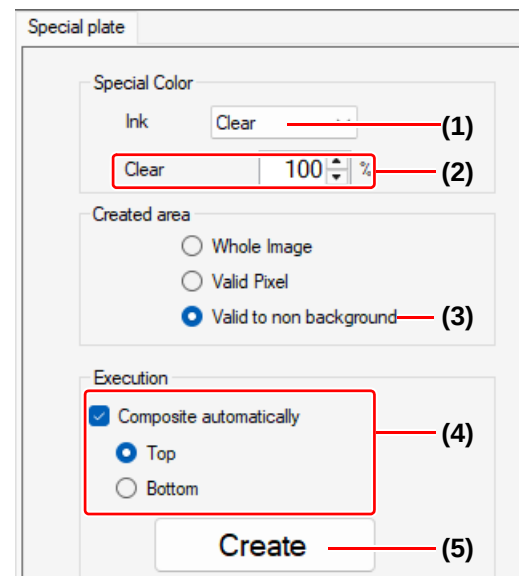
2. Make the settings as follows.

- [Ink]: Select "Clear"
- [Clear](ink volume):
 - Set the recommended ink density in P.6 "Recommended settings for printing a clear ink" (if not specified, set 100%).
 - When setting [To print a Clear ink at the recommended density.] to ON at [Quality], set 100%.

Important!

- When multiple [CLEAR] buttons are displayed, Set the above values for each of them.

- [Created area]: Select "Valid to non background".
- [Composite automatically]: Check the box, and select "Top".
- Click the [Create] button.



The 'Special plate' dialog box shows the following settings:

- Special Color:**
 - Ink:** Set to 'Clear' (1).
 - Clear:** Set to '100%' (2).
- Created area:**
 - Valid to non background** is selected (3).
- Execution:**
 - Composite automatically** is checked (4).
 - Top** is selected for the composite direction.
- Create** button is highlighted (5).

3. The clear ink job will be created, in a composited state.

Job List				
Arranged	Layered	Thumbnail	Job Name	Attribute
			smile.eps	ClearPlate Type(Matte)
			smile.eps	Color

D. Printing a special clear ink image

To print an image designed for clear ink, create a special image, separate from the color image, and carry out mono color replacement with RasterLink. After that, composite the clear ink image with the color image.

● Creating the clear ink image

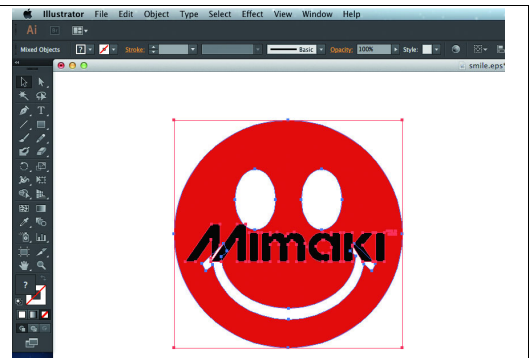
1. Using design software such as Illustrator or Photoshop, create a clear ink image with the following conditions:

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



Make the clear ink image's size match the color image's.

You can do this by creating a non-fill/non-line path around the periphery of both images, as shown on the right.



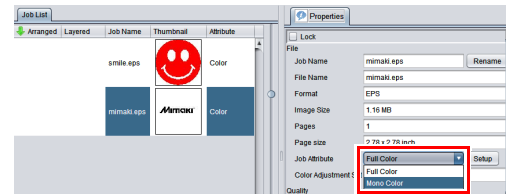
2. Save the created image as an EPS or TIFF image.

- You are recommended to save the color image and clear ink image separately from each other after you have done the layout for them with the design software.

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

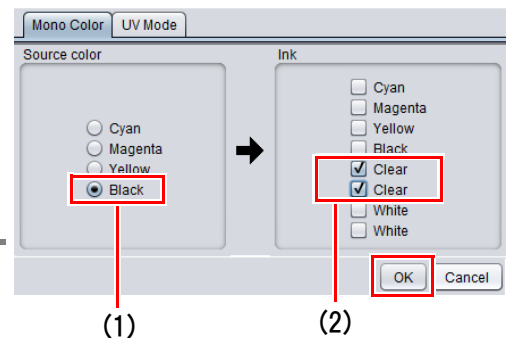
● Setting mono color replacement

1. In the [job list], select the clear ink job.
2. Click the [Properties]  icon from the function icon.
3. Select [Mono Color] in the [Job Attribute] pull-down menu.



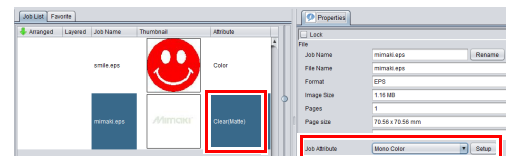
4. Select the [Mono Color] tab and make the following settings.

- (1) [Source color]: [Black]
- (2) [Ink]: [Clear] (2 places)



5. Click the [OK].

- Job attribute becomes [Mono Color] and [Attribute] of [Job List] becomes [Clear (Matte)].



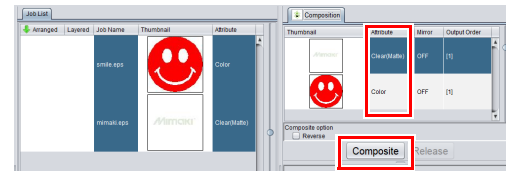
● Compositing the clear ink image with the color job

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

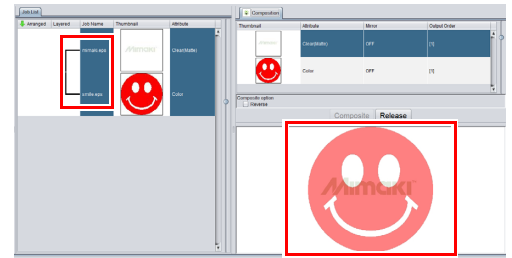
2. Click the [Composition]  icon from the function icon.

3. Confirm that the order of jobs on the [Composition] tab is "Clear → Color" from the top, and click [Composite].

- If it is not, replace the job on the [Composition] tab with drag & drop.



- The job is composited.



2. Select the clear ink's effect: set the UV mode

Depending on the setting of [UV mode], the effect of clear ink can be changed.

Gloss feel effect - "Glossy Print"



-> Go to [a. Setting Glossy Print](#)

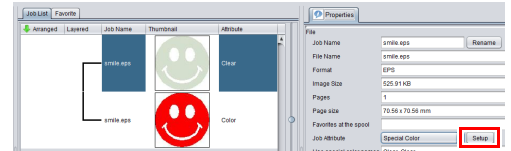
Matte feel effect - "Matte Print"



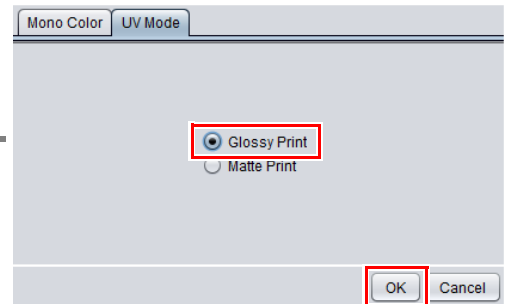
-> Go to [b. Setting Matte Print](#)

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].

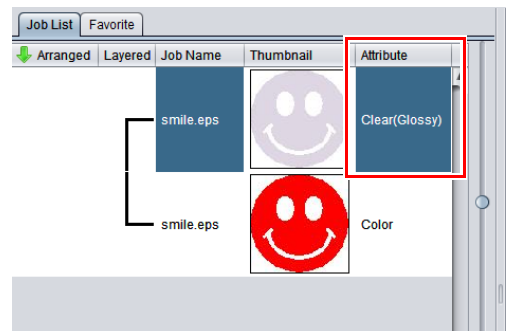


4. Select the [UV Mode] tab and click [Glossy Print].



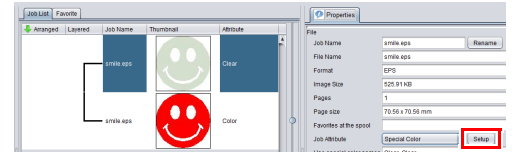
5. Click the [OK].

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

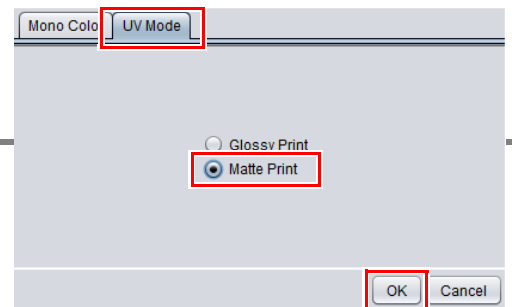


b. Setting Matte Print

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].

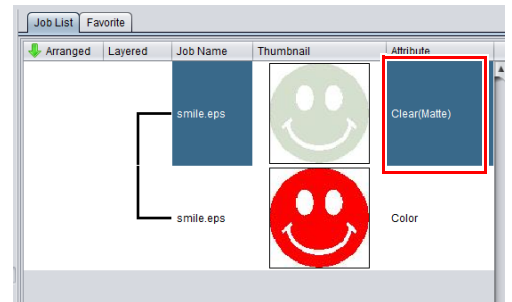


4. Select the [UV Mode] tab and click [Matte Print].



5. Click the [OK].

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



3. 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.6)

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

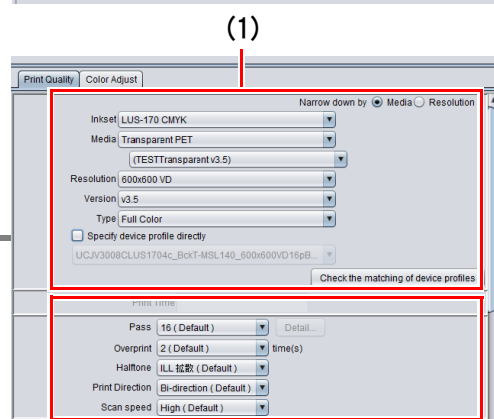
2. Click the [Quality]  icon from the function icon.

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.



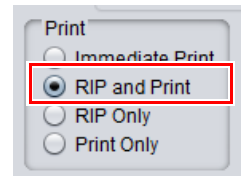
5. "Recommended settings for printing a clear ink" (P.6) and set the output setting field (2).

4. 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].

At times like this

When printing with clear ink and white ink together

Mechanism of printing using clear ink and white ink

As follows, three layers consisting of clear ink, color image, and white ink can be printed.



Print a color image on white ink. Furthermore, print clear ink on the color image.

The job setting method differs depending on the application of the top clear ink (glossy / matte). This guide explains the setting method for each application.

Setting Matte Print

Use the [Special plate] function to create [Clear (Matte)], [Color], and [White] jobs from color images.



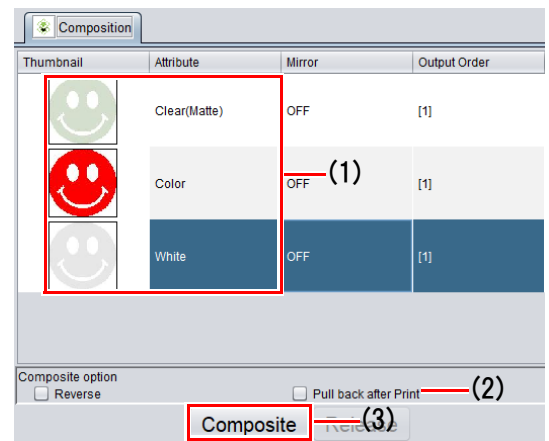
Print white ink, color image, and clear (matte) at once.

1. Select a job whose [Attribute] is [Clear (Matte)], [Color], or [White].

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

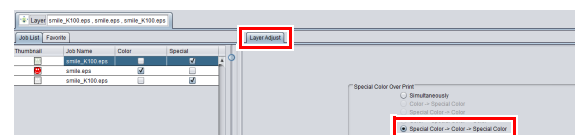
3. Set as follows and click [Composition].

- Arrange jobs in the order of [White], [Color], [Clear (Matte)] from the bottom



4. Click the [Layer]  icon from the function icon.

5. Select the [Layer Adjust] tab, click [Special Color -> Color -> Special Color] in [Color Over Print].



- In case of RasterLink7
Click [Setup], then select [Special Color -> Color -> Special Color].

Layer Adjust

Special Color Over Print

Simultaneously

Setup

Special Color Over Print

☐ Simultaneously

☒ Special Color -> Color -> Special Color

OK

Cancel

6. Click the [Quality]  icon from the function icon.

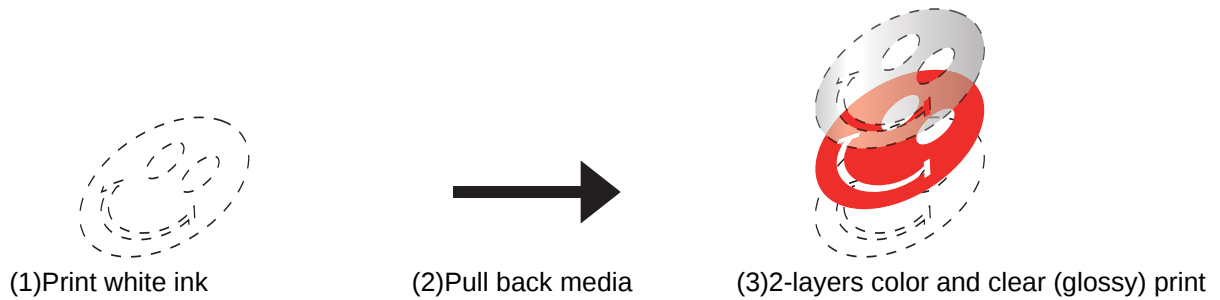
- Set the print condition.

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

- The printing will be executed.

Setting Glossy Print

Use the [Special plate] function to create [Clear (Glossy)] and [White] jobs from color images.



- This printing process performs pull-back printing. Refer to " Notes on pull-back printing" (P.23) before setting up the printer.

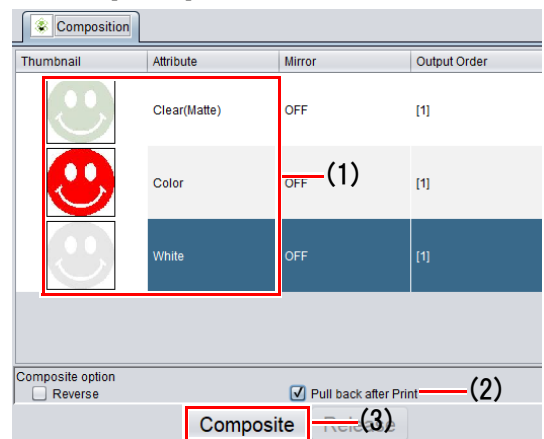
1. Select a job whose [Attribute] is [Clear (Glossy)], [Color], or [White].

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

3. Set as follows and click [Composition].

- Set [Clear (Glossy)] to be printed in a different order from [White] as follows.

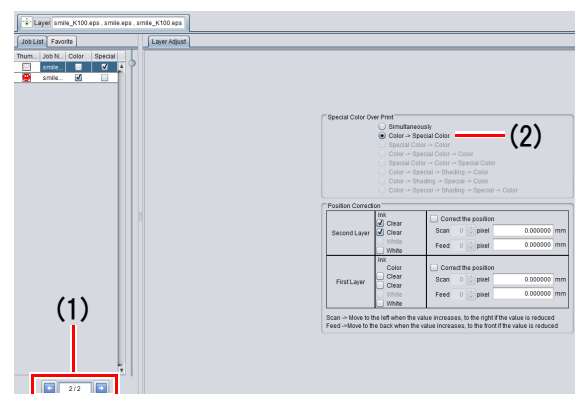
- (1) Arrange jobs in the order of [White], [Color], [Clear (Glossy)] from the bottom
- (2) Select the white job and check [Pull back after Print]



4. Click the [Layer]  icon from the function icon.

5. Set as follows.

- (1) [Job List]: Select [2/2]
- (2) [Special Color Over Print] in [Layer Adjust]: Select [Color -> Special Color]



6. Click the [Quality] icon from the function icon.

- Set the print condition.

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

- The printing will be executed.

Important!

- If [Special Color Over Print] in [Layer] is set to [Simultaneously] when printing a composite job that includes [Clear (Glossy)], a message will be displayed during printing. Check if [Composite] and [Layer] have been properly set up based on P. 21.

● Notes on pull-back printing

1. Prevent image misalignment

In pullback 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 About the position and number of pinch rollers (except UJ330H)

- Adjust the position according to the width of the media to be set while looking at the pinch roller guide mark on the machine.
- Use as many pinch rollers as the grid roller to be used.

1.2 Setting the pinch roller pressure (except UJ330H)

•UCJV300

For the first print, set all pinch roller pressures to [H]. For the second print after pulling back, set the pinch roller pressure at both ends to [H] and the intermediate pinch roller pressure to [OFF] (this is the default setting).

•UCJV330, UJV200

For the first print, set all pinch roller pressures to [M]. For the second print after pulling back, set the pinch roller pressure at both ends to [H] and the intermediate pinch roller pressure to [OFF] (this is the default setting).

1.3 Sheet feed (UJ330H, except rigid media)

If the tension of the media for the first and second prints is different, the image may be misaligned.

•UCJV300

By manually loosening the set media before printing, you can reduce image misalignment.

•UCJV330, UJV200, UJ330H (roll media)

Before printing, select [Media Setting]-[Feed Comp.(pull-back)] to adjust the media tension during pullback.

1.4 Logical seek settings (UJ330H, roll media only)

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

1.5 Origin position adjustment (UJ330H, roll media only)

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 (UJ330H, except rigid media)

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**.

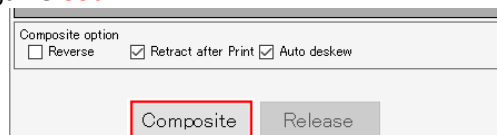


- If the print data is too long, the print surface may come into contact with the floor, which may cause quality degradation such as dirt or rubbing.

● Auto deskew (UJ330H, roll media only)

The media may become skewed during the pull-back process. RasterLink7 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.

The maximum printable data length is **850mm**.



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

When using transparent media, register mark detection may fail.

Countermeasure

- In RasterLink7, navigate to [General Print] - [Auto deskew] and then turn on [Fill around the registration marks].
In [Color Settings], under [Fill Color], select White.
- On the printer's panel, select [MARK DETECT] from the local mode screen to detect register marks manually. (For details, refer to "Pullback Printing" - "If mark detection fails" in the printer's operation manual.)

