

# Printing with WH/MS, Matching Specific Colors (ONYX RIP)

CMP0087-01 EN

#### **Before Using**

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# **Screen Appearance**

L	The screens in this manual may slightly differ from the actual screens. Also be aware that the screens may differ
	due to a difference in the OS or the usage environment.

L	The software RIP screens that appear in this manual	l use the following screens,	unless otherwise specified.
	When using RIP Queue (Ver. 12) on Windows 7		

## **OS Notation**

#### **Notation for Windows**

In this manual, "Windows" is used as a generic name for all OS (operating systems) for Microsoft® Windows®.

#### **Mac OS Notation**

In this manual, "Mac OS X" is used as a generic name for all OS (operating systems) for Mac OS X.

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#### Introduction

# Introduction

When using White ink (hereafter WH) or Metallic Silver ink (hereafter MS) for RIP printing, some additional work, apart from that needed to print with only other color inks, is needed. This manual explains the procedures and workflow for WH/MS printing.

In addition, it also presents the method for matching specific colors, such as corporate colors or spot colors (PANTONE or DIC Color).

See the Manual for RIP Printing (PDF), which also has the basic information on RIP printing.

# What to Prepare

#### **Software RIP (hereafter RIP)**

Use a RIP that supports WH/MS. Check the web site of the manufacturer regarding the information on supported RIP.

#### **Epson Control Dashboard(Dashboard)**

Use the latest version of Dashboard. (Update as soon as possible if you are notified of new information.)

Use when importing setting information for the printer or RIP, or download an EMX file for printing with WH/MS. For more information, see the *Manual for RIP Printing* (PDF).

#### Print data (PDF)



#### Important:

When printing with WH/MS, it is necessary to do the following process with image processing software before reading the data to be printed with the RIP.

For example, when printing with WH, the RIP does not automatically process WH as the print area by just putting all the print objects on a specified layer named "White" for WH in the print data.

#### ☐ Specify the areas printed in WH/MS as spot colors.

This section explains examples when printing with WH. The white (RGB = all 255 or CMYK is all 0%) in the print data is processed by the RIP as an area in which ink does not need to be applied, the same as when printing with other color inks only. Because of this, the RIP cannot automatically process the parts that look white on screen = WH in print areas even when using a printer that supports WH.

We recommend first splitting the areas to be printed using color ink and the areas to be printed using WH/MS into layers.

#### ☐ Specify the order in which inks are layered (print order). (Adobe Illustrator only)

We recommend splitting the layers for color ink and for WH/MS so you can more easily specify the order in which inks are layered during printing.

Details about processing procedures 
T "Processing Print Data" on page 7

#### Introduction

#### Image processing software

Use this for processing data to print. In this manual, we explain the procedures for Adobe Illustrator and Adobe Photoshop. In either case, we recommend version CS1 or later.

#### Introduction

### **Workflow**

Follow the steps below to perform printing work.

For the first time only, see "1. Prepare Printing" in the Manual for RIP Printing (PDF).

#### 1. Perform Change Color Mode on the printer.

Proceed to step 2 if you have installed the ink cartridge to be used for printing.

If you have not installed it, be sure to perform Change Color Mode. See the User's Guide (PDF) for more information.



#### 2. Load media in the printer and select the media setting number.

Load the media correctly and select the media setting number which has been registered to the printer.

See the User's Guide (PDF) for more information about loading media and selecting media setting number.



#### 3. Check the data to be printed, and process it for WH/MS printing.

Open the print data in the image processing software. Make such settings as how to layer the ink and the specified spot colors for the areas to print with WH/MS.

Proceed to step 4 if you are using a RIP that can print unprocessed data the same as processed data by using the print settings.

"Processing Print Data" on page 7



#### 4. Read the print data to the RIP, and then print it. (The procedure varies depending on the RIP that is used.)

Open the print data in the RIP and select the print mode according to the colors of ink being used and make the print settings.

We recommend that you always check the data in a preview before you start printing.

"Print Settings in the RIP" on page 15

In this section we present the procedure to process the print data, including the parts that are printed with WH/MS, using Adobe image processing software. Use Adobe Illustrator (hereafter Illustrator) to process vector data, in which the object and text are the main thing, as in diagram A. Use Adobe Photoshop (hereafter Photoshop) to process raster data, in which photos and graphics are the main thing, as in diagram B. See the following for the processing procedure.

"Illustrator Settings" on page 7

Thotoshop Settings" on page 10

#### Diagram A



#### Diagram B



#### Note:

- □ When the print data includes no parts that are printed with WH/MS, write the data with the image processing software before processing.
- ☐ You can also do WH/MS printing just by doing simple settings while checking the unprocessed data. See the following for details.

The "Printing Unprocessed Data" on page 24

# **Illustrator Settings**

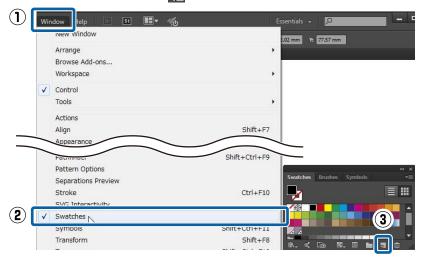
This section uses an example of data that includes WH to explain the data processing procedure of Adobe Illustrator CC(2015) in Windows 7.



Start Illustrator and open the print data.

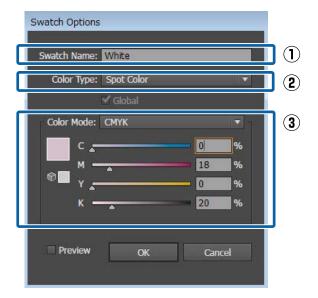
Click **Window** - **Swatches**, and then click (New Swatch).

3



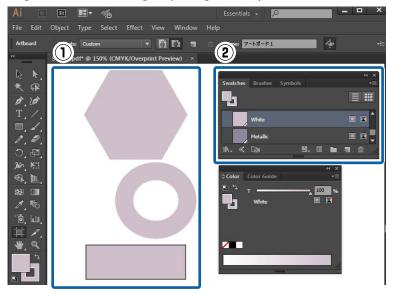
Refer to the following table and specify the color to be used for areas printed with WH, and then click OK.

(1)	Swatch Name	Input the name of the spot color in single-byte characters. We recommend using names that allow you to identify the color of the ink, such as "White" for printing with WH and "Metallic" for printing with MS.  When using ONYX RIPCenter, name "Spot1" for both WH printing and MS printing.  Use the names that are assigned here when making print settings in the RIP. Keep a record of the names, so you do not mistake the upper and lower cases.
(2)	Color Type	Select <b>Spot Color</b> .
(3)	Color Mode	Select <b>CMYK</b> and specify the color to print. We recommend specifying a bright color that is not used in the image for checking because it is difficult to identify the background color if you use white (all CMYK at 0%). (In the example diagram, the color is set as a very light ash gray.)



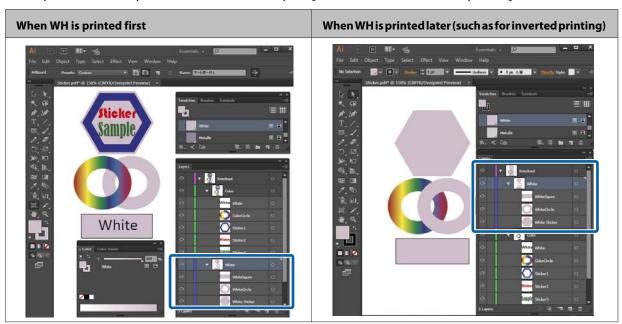
In the following, the parts of the image that are specified with the color from the swatch are printed in WH.

Select the objects to print with WH, and specify the spot color you saved to the swatch in step 3 to color them.



Click **Window** - **Layer**, and then specify the order of the layers of ink (print order). When all of the objects are on the same layer, the lower objects are printed first.

When you divide the layers on which there are objects printed in WH, the lower layer are printed first.

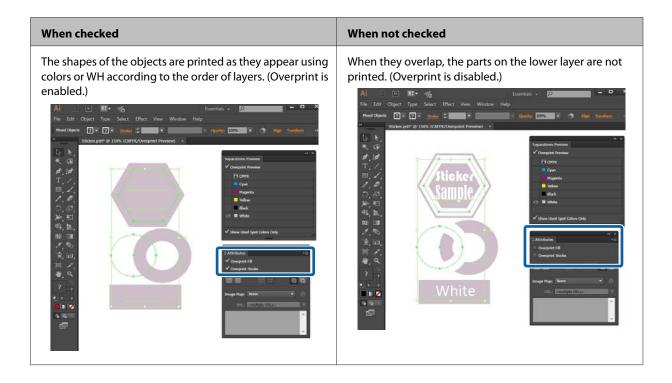


#### Note:

Depending on the RIP you are using, the print order set in the RIP may have priority over the print order that is decided here. See the manual supplied with the RIP for more details.

Click **Window** - **Attributes**, and then make the settings according to the print results of the parts where objects overlap.

Refer to the following table and make the settings while the object that will be on top when they overlap is selected.



#### Note:

- ☐ The diagrams in the table are when **Overprint Preview** is selected in **Separations Preview**, and the CMYK plates are not displayed, so it is easy to understand the results of printing with WH. **Separations Preview** is displayed by clicking **Separations Preview** in the **Window**.
- □ With Overprint, you can get the same effect as with **Transparency**. (To overprint, select **Multiply**. And, to not overprint, select **Normal**.) For more information, see the online help for Illustrator.
- When you have set all the objects the same way, save the data in PDF format.

  In Compatibility, we recommend Acrobat 4 (PDF 1.3) or Acrobat 5 (PDF 1.4).

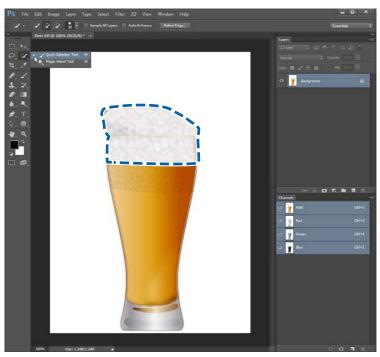
# **Photoshop Settings**

This section uses an example of data that includes WH to explain the data processing procedure of Adobe Photoshop CC(2015) in Windows 7.

- Start Photoshop and open the print data.
- 2 Click Window Layer.
- Right click on a layer that includes parts that are printed in WH, and then click **Duplicate Layer**. The image is copied and there are now two image layers.
- On the **Layer**, select the original image layer, and then delete the part that is printed in WH.

  There are two ways to select only the part that is printed in WH. For more information, see the online help for Photoshop.

- ☐ Use the 【 (Quick Selection tool) or 【 (Magic Wand tool) for selecting things.
- After using the **Select** tool to select an area that includes WH, use **Select Color Range** to specify the color for WH.



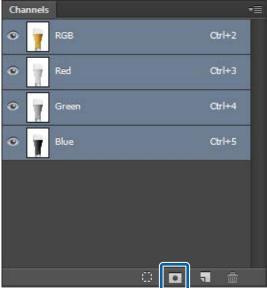
On the **Layer**, select the copied layer and click **Select** - **Inverse**, and then delete all the parts except those printed in WH.

The parts that are not printed in WH disappear so that parts where there is nothing are selected.

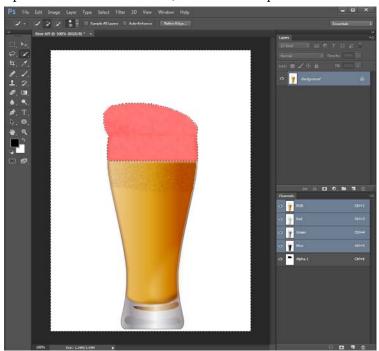


6 Click Window - Channel.

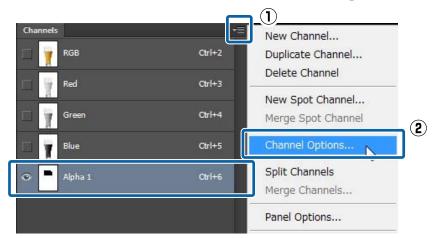
7 Click (Save selection as channel).



The parts that are printed in WH are masked. (The red colored parts are the masked areas.)

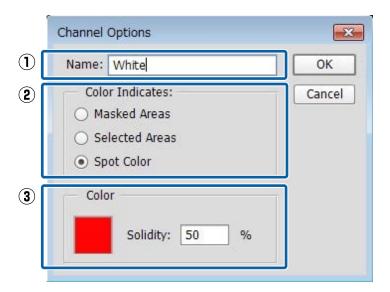


While **Alpha channel** is selected click the menu and then click **Channel Options**.



Refer to the following table and set (1) to (3), and then click **OK**.

(1)	Name	Input the name of the channel in single-byte characters. We recommend using names that allow you to identify the color of the ink, such as "White" for printing with WH and "Metallic" for printing with MS.
		When using ONYX RIPCenter, name "Spot1" for both WH printing and MS printing.
		Use the names that are assigned here when making print settings. Keep a record of the names, so you do not mistake the upper and lower cases.
(2)	Color Indicates	Select <b>Spot Color</b> .
(3)	Color	Specify the color in which to display parts that are printed in WH. (In the example diagram, the red colored parts are printed in WH.)



#### When printing the image on this layer using only WH/MS:

Hide the copied layer so you do not use color ink unnecessarily when printing. (Make the setting while the copied layer is selected using **Window** - **Layer**.) Only the alpha channel remains and printing can be done using only WH/MS.

#### When color ink overlaps with WH/MS:

Proceed to step 10.

Epson Printing with WH/MS, Matching Specific Colors (ONYX RIP)

#### **Processing Print Data**



Save the data in PDF format.

In Compatibility, we recommend Acrobat 4 (PDF 1.3) or Acrobat 5 (PDF 1.4).

# **Print Settings in the RIP**

When printing with WH/MS, it is necessary to check the print data in the RIP as you make the settings. We do not recommend printing without checking the print data as in hot folder printing.

See the following for details.

# **Settings in ONYX RIP**



See the Manual for RIP Printing (PDF) before you start the following tasks and import "Install and Connect" and "Importing Print Information".

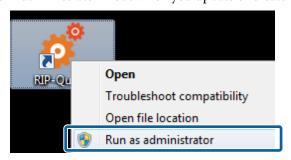
With ONYX RIP, use the quick set (often used print settings are saved as a preset), and then print while checking the image in Job Editor.

### **How to Create Quick Sets**

This section explains how to make the settings for RIP Queue (Ver. 12).

Right click the RIP Queue icon and select **Run as administrator**.

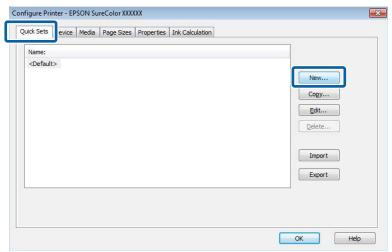
Always start the software in administrator mode when you update or create new quick sets.



Click **Configure Printer** in the toolbar.

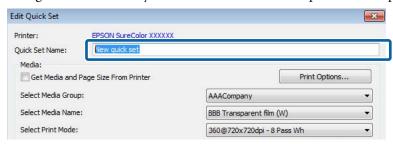


In the Quick Sets tab, click New.

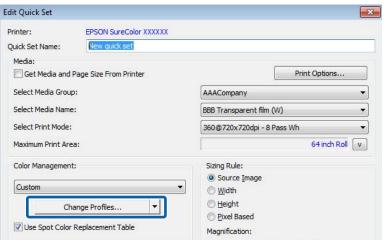


Input the Quick Set Name.

We recommend using a name that is easy to understand for the other person that is printing something.

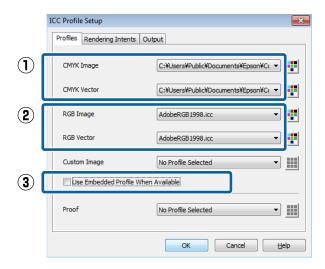


Click Change Profiles in Color Management.



Refer to the following table and set (1) to (3) in the **Profiles** tab.

	For printing with a wide color gamut	For general printing
(1)	EpsonWideCMYK Ver2.icc	Select general profile for printing.
(2)	AdobeRGB1998.icc	sRGB.icc, etc.
(3)	Not checked	Checked



Refer to the following also when matching spot colors.

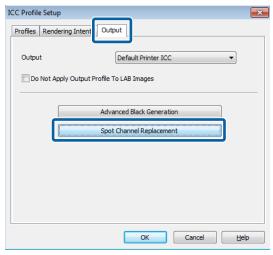
△ "Matching Specific Colors" on page 30

The following steps differ according to what product you are using.

When using ONYX RipCenter, proceed to step 9.

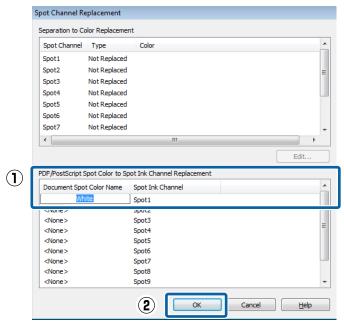
For others, proceed to step 7.

In the **Output** tab, click **Spot Channel Replacement**.

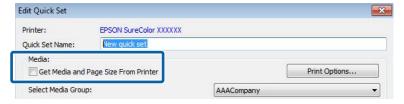


Input the spot color name for WH/MS in the **Document Spot Color Name**, and then click **OK**.

Click the left side of **Spot 1** to input. Input the correct name (White or Metallic etc.) saved for the spot color swatch (Illustrator) or spot color channel (Photoshop). Be careful that you do not mistake the upper and lower cases or misspell the name.



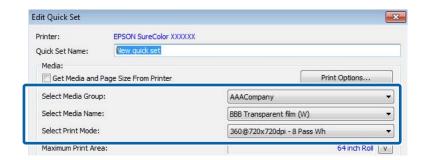
Return to the **Edit Quick Set** screen, and clear the **Get Media and Page Size From Printer** check box.



Refer to the following table and make the settings to match the media setting that has been selected on the printer's control panel.

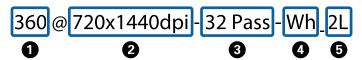
Select Media Group	Select the name of a media company.*	
Select Media Name	Select from the following according to the combination of ink and media you are using.	
	☐ When printing with only color ink: media name only	
	☐ When printing MS: something that has an (Ms) after the media name	
	☐ When printing WH: something that has a (W) after the media name	
Select Print Mode	Select a print mode (resolution and number of passes).	
	See the supplementary table about how to read Print mode.	

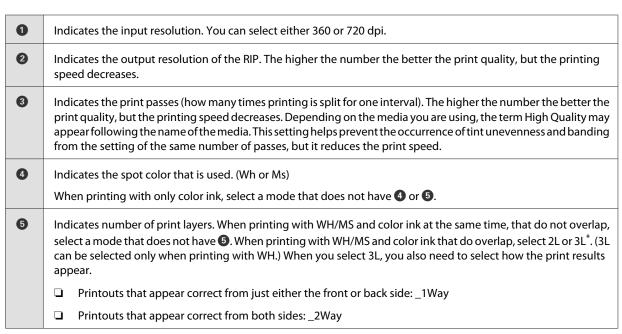
<sup>\*</sup> If you cannot find the name of the company for the media you are using, search for the EMX files provided by Epson. If no EMX files have been provided, select a media that has similar characteristics.



#### How to Read Print Mode

The following settings output the print data (input resolution of 360 dpi) to 720 x 1440 dpi and then print 32 passes in WH and color. Descriptions of the settings from 10 to 50 are shown in the following table.





<sup>\*</sup> Depending on your country or region, you may not be able to select 3L. For more details, contact your dealer or Epson Support.

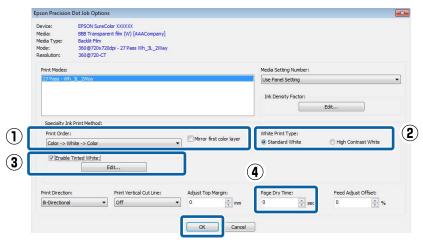
# 11 C

#### Click **Print Options**.



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If necessary, set (1) to (4) and then click **OK**.



#### (1) Print Order

Set the order in which colors and WH/MS are printed. The settings that can be used vary depending on the print mode that is selected. If you select a setting value that cannot be used, the RIP changes the print mode automatically.

#### When printing 1 layer or 2 layers (2L)

Spot->Color(Underprint)	Prints WH/MS under the colors.
Color->Spot(Overprint)	Prints WH/MS over the colors.*
Color and Spot	Prints both WH/MS and colors at the same time.*  Use this only when you want to print very fast.

<sup>\*</sup> When you want to read the character correctly when looking at the printout from the back side, invert the image.

#### When printing 3 layers (3L) (only when printing WH)

Color->White->Color	Colors are printed two times with WH in between.  Select <b>Mirror first color layer</b> when you want to be able to correctly read the text from either the front or back sides.
White->White->Color	Prints two coats of WH under the colors.
Color->White->White	Prints two coats of WH over the colors.*

<sup>\*</sup> When you want to read the character correctly when looking at the printout from the back side, invert the image.

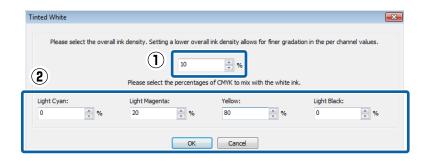
#### (2) White Print Type (when printing inWH only)

Select one of the following according to the conditions of the part you are printing in WH.

- ☐ Standard White: normally select this one.
- ☐ High Contrast White: when the data includes parts that are printed all over (solid printing) in WH.

#### (3) Enable Tinted White (only when printing 2 layers (2L))

Select this when you do not want to print with WH ink only, but when you want to mix it with other colors (LC/LM/Y/LK) to adjust the colors, and then click **Edit**. Adjust the colors in the following screen.



- (1) Set the mixing color ink ratio to WH 100%.
- (2) Set the ratios for each color so that the total value for all the colors is 100%, and then click **OK**.

#### (4) Page Dry Time

Set the drying time in which additional drying is done by the drying fan and heater after a job has finished printing.

#### Note:

- When printing in layers of color inks and WH/MS, if the printed surface is rolled up before it has sufficiently dried, the printed surfaces may stick together. The appropriate drying times vary depending on the media you are using. However, we recommend setting a little longer time than when printing with color ink only.
- Set the **Drying Time Per Pass** on the control panel menu of the printer for banner print jobs (length rolled before additional drying after a print job). See the User's Guide (PDF) for more information.



Return to the Edit Quick Set screen, and then click OK.

Use Job Editor, for the following, to check the print data as you print. The procedure varies depending on whether or not the data is processed.

When the print data has already been processed: A "Printing Processed Data" on page 21

When the print data is not processed: Trinting Unprocessed Data" on page 24

## **Printing Processed Data**

Refer to the previous sections and create a quick set in advance.

"How to Create Quick Sets" on page 15



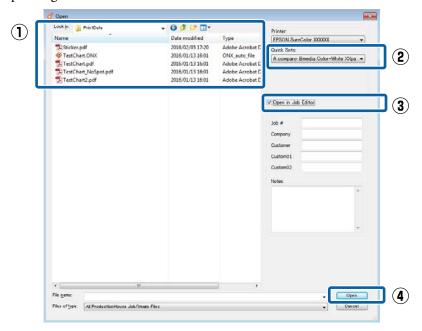
Double click the RIP Queue icon.



Click **Open** in the toolbar.



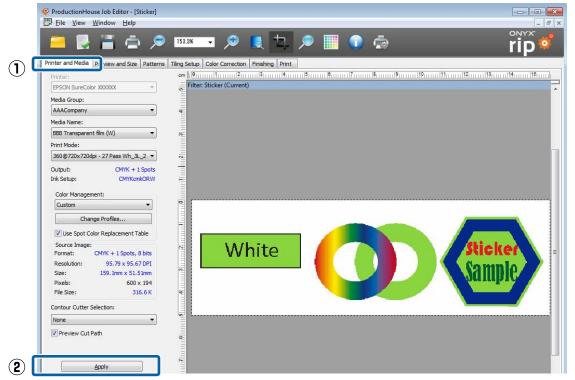
Select the print data and the quick set, select **Open in Job Editor**, and then click **Open**. Select a quick set that has been made for printing with WH/MS.



Job Editor starts automatically.

Click the **Printer and Media** tab, and then check the print data.

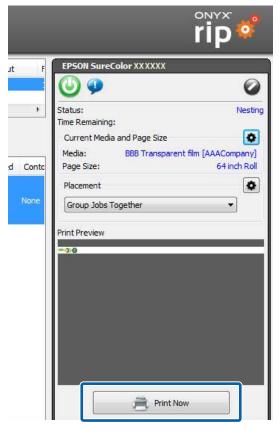
The WH/WH print areas that were specified in the image processing software appear with their colors. (The RIP automatically applies the colors to check the display.) If the print data has no problem, click **Apply**.



5 Click the printer icon.



Click **Print Now** on the right side of the RIP Queue screen.



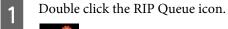
# **Printing Unprocessed Data**

#### Note:

ONYX RIPCenter does not support this function.

In this section we explain the procedure for printing by assigning the WH/MS print area to parts of the images and objects. Refer to the previous sections and create a quick set in advance.

"How to Create Quick Sets" on page 15

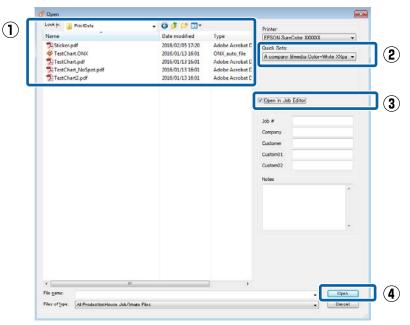




Click **Open** in the toolbar.



Select the print data and the quick set, select **Open in Job Editor**, and then click **Open**. Select a quick set that has been made for printing with WH/MS.



Job Editor starts automatically.

Click **Spot Layer Tool** from **Tools** in the **Color Correction** tab.

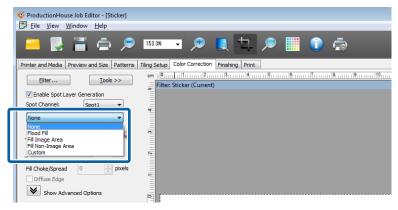


Select Enable Spot Layer Generation.



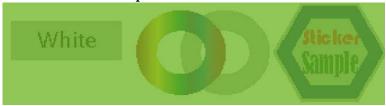
6

Select the print area for WH/MS.



According to the selected information, print area for WH/MS will be colored for display checking in the preview screen.

Flood Fill: Prints the entire area of the print data with WH/MS.



Fill Image Area: Prints WH/MS in the areas that include images or objects.

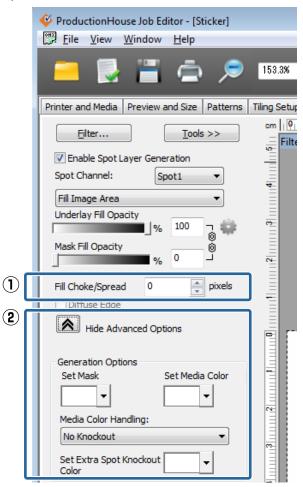


Fill Non- Image Area: Prints WH/MS in the areas with no images or objects.



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Set (1) and (2) as necessary.



#### (1) Fill Choke/Spread (when Fill Image Area or Fill Non-Image Area is selected)

You can set how far the ink extends outside the images and objects in the WH/MS print area.

By selecting a negative value, you can keep the ink inside the edges of the images and objects.

#### (2) Knockout settings (when Flood fill is selected)

You can make knockout settings (not print when the WH/MS and color inks overlap on printed parts) under **Media Color Handling** by clicking **Show Advanced Options**. See the following table for details.

No Knockout	Prints WH/MS even in parts that overlap with color inks.
Spot Knockout	Does not print WH/MS only in parts with specified colors. Be sure to specify a color in <b>Set Extra Spot Knockout Color</b> .
Full Knockout	Does not print WH/MS in parts that overlap with color inks.

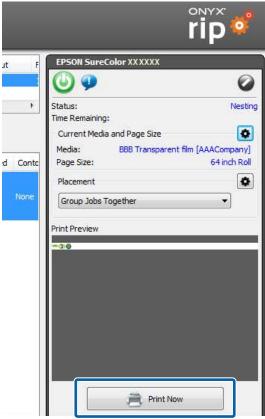
Click **Apply** in the **Printer and Media** tab.



9 Click the printer icon.



Click **Print Now** on the right side of the screen.



# **Matching Specific Colors**

#### Note:

ONYX RIPCenter does not support this function.

When matching specific colors, such as spot colors or corporate colors, determine the optimum value by comparing the target to the printed color sample (Color Books) created with a RIP. The target differs according to the color being matched.

Spot color*	Commercially available color books, such as PANTONE and DIC
Other than spot colors	Actual printed materials and sample goods

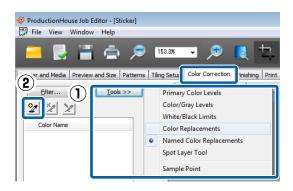
<sup>\*</sup> Indicates named colors specified in the swatch library of the image processing software.

See the following for how to do the settings.

# **Settings in ONYX RIP**

- Open the print data using Job Editor.
- Select **Tools** from the **Color Correction** tab and click **?**. Select the following according to the color being matched.

Spot color	Named Color Replacements
Other than spot colors	Color Replacements

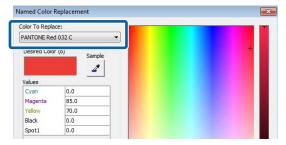


3

Select the target color according to the matching color.

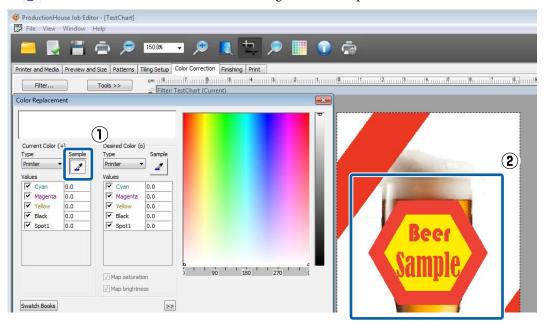
#### Spot color

Select the spot color name for matching colors in **Color To Replace**. If the data contains multiple spot colors, select the correct replacement colors.

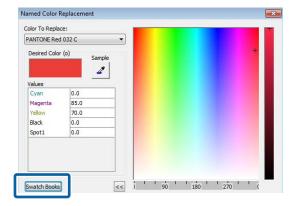


#### Other than spot colors

Click *in Current Color*, then click the matching color on the preview screen.



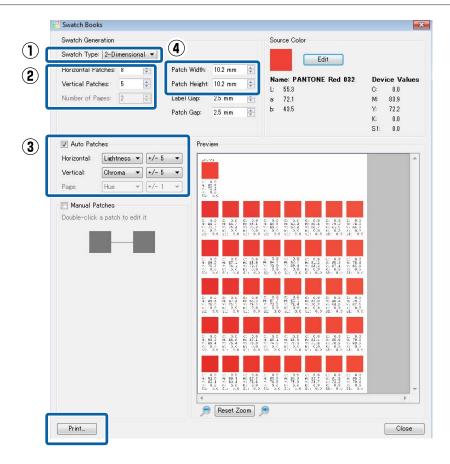
4 Click Swatch Books.



Make the settings for the color patches and click **Print**.

See the following table for a summary of the settings. (See the manual supplied with the RIP for more details about the items.)

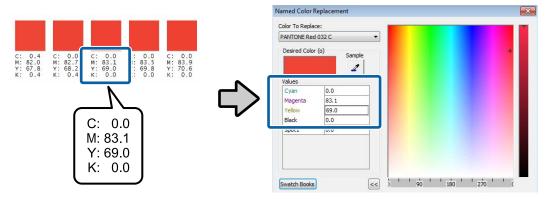
(1)	Select the number of components to set in (3). (Example: Selecting <b>3-Dimensional</b> will allow you to set three components.)
(2)	Set the number of pages to print and the number of each vertical and horizontal print patch.
(3)	Normally, use this while <b>Auto Patches</b> is selected.
	Select the components to change for each <b>Horizontal</b> , <b>Vertical</b> , and <b>Page</b> , then set the ranges from the drop-down menu on the right side.
	The brightness can be changed in <b>Lightness</b> , vividness (saturation) can be changed in <b>Chroma</b> and the tone can be changed in <b>Hue</b> .
(4)	Set the height and width of the patch. We recommend over 20 mm.



Compare the target (color books, samples) with the printed color patches and search for the patch with the closest color.

If you cannot find a suitable color, return to step 5, increase the number of patches and change the range, then recreate and print the color patches. Repeat steps 5 and 6 until you find a suitable color.

Enter the CMYK value of the color found in step 6 into the **Values** for the **Desired Color**.



### Important:

When color matching, all of the colors that are the same as the specified color in the print data will be replaced. Make sure to check on the preview screen for the Job Editor whether unintended parts have also been replaced.

Print the actual data and check the color matching results.

If you would like a more precise match, start again from step one and find another similar color.

#### **Troubleshooting**

# **Troubleshooting**

### WH/MS does not Print

Check the following.

#### Was the print data processed beforehand?

When printing with WH/MS, processing is necessary before reading the print data with the RIP. And, be sure to make the print settings for unprocessed data when printing the data, without processing.

Steps for data processing T "Processing Print Data" on page 7

Print settings for ONYX RIP "Printing Unprocessed Data" on page 24

#### Is your RIP setting for WH/MS printing?

The ink is not correctly assigned if the input name in the RIP is not the same as the spot color layer name or channel name, such as White and Metallic, that was given in the image processing software. Make sure that there are no misspellings, case errors, or 2-byte characters. Also, make sure to select a print mode for WH/MS.

"How to Create Quick Sets" on page 15

#### Is your printer's color mode correct?

The printer's color mode does not switch just by replacing the ink cartridge. Be sure to perform **Change Color Mode** on the menu of the control panel.

# **Color and WH/MS Overlapping Parts Do Not Print Correctly**

The items to check vary depending on whether or not the print data is processed.

#### **Processed Data**

Check the following points.

☐ Is the order of the overlapping layers correct?

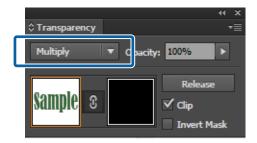
Open the print data in Illustrator or Photoshop and check the order of the layers.

#### **Troubleshooting**

#### ☐ Are the settings for overprint (Attributes/Transparency) correct? (Illustrator only)

Open the print data in Illustrator and check whether the settings have been done to either print or not print the parts on the lower layer when objects overlap.

Also, depending on the RIP used, if the setting for overprint is selected in **Attributes**, printing may not be done correctly. Clear everything in **Attributes** and select **Multiply** in **Transparency** for the **Blending Mode**.



#### ☐ Are the print settings for the RIP correct?

Depending on the RIP used, you can set to overprint (knockout) or reshuffle the print order of the layers in the print settings of the RIP. Check whether there is a problem with the print settings of the RIP.

Steps for data processing T "Processing Print Data" on page 7

Print settings for ONYX RIP Trinting Processed Data" on page 21

#### **Unprocessed Data**

Check the following points in the print settings of the RIP.

- Are the selected print order, number of layers for the print mode, and way to see the print results appropriate?
- ☐ Is the print order of the layers correct?
- ☐ Are the settings for overprint (knockout) correct?

T'Printing Unprocessed Data" on page 24

# **Gradation Skipping Occurs When Printing at High Densities**

Check the following.

#### Are you using an EMX file that suits the media you are using?

You cannot achieve optimal print results if you do not us an EMX file that suits the media you are using. The mode for high-density printing is in the EMX file for Back Lite Film. Select the mode for high-density printing in the RIP settings.

When using media for which Epson does not provide an EMX file, edit the media settings based on the EMX file for media with similar characteristics.

#### Troubleshooting

#### Is the density of ink (Ink Density) set over 100%?

You can print with concentrated colors by setting the ink density to over 100% in the RIP. However, gradation skipping and unevenness in color may occur. Also, if you raise the density too high, the ink will take a long time to dry.

When setting the ink density over 100%, lower the setting value.