

DP-DS620/DP-DS620 (A)

DP-DS820/DP-DS820 (A)

Continuous Panorama

Color Adjustment Procedure Manual

Rev. 1.1.0

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1. Overview

Continuous Panoramic Prints print multiple segments of an image with overlapping areas to create one panoramic print.

In order to print the overlapping area with no (or minimal) difference, that part of the image data is processed.

The image processing for Continuous Panorama Printing uses several parameters, which are saved in the following files.

File Type	Contents	Qty.
LUT Data File	Defines the color density for the overlapped area.	1
Color Conversion Data administrative file	Manages the color conversion data for each of the corresponding overlap areas.	1
Color Conversion Data File	ICC profile that corresponds to the specified density combinations for the overlapped areas. The color conversion data includes the ICC profile used in standard printing.	1 ~
Environmental Correction Table file	Manages the correction values corresponding to the printing environment (temperature / humidity).	1

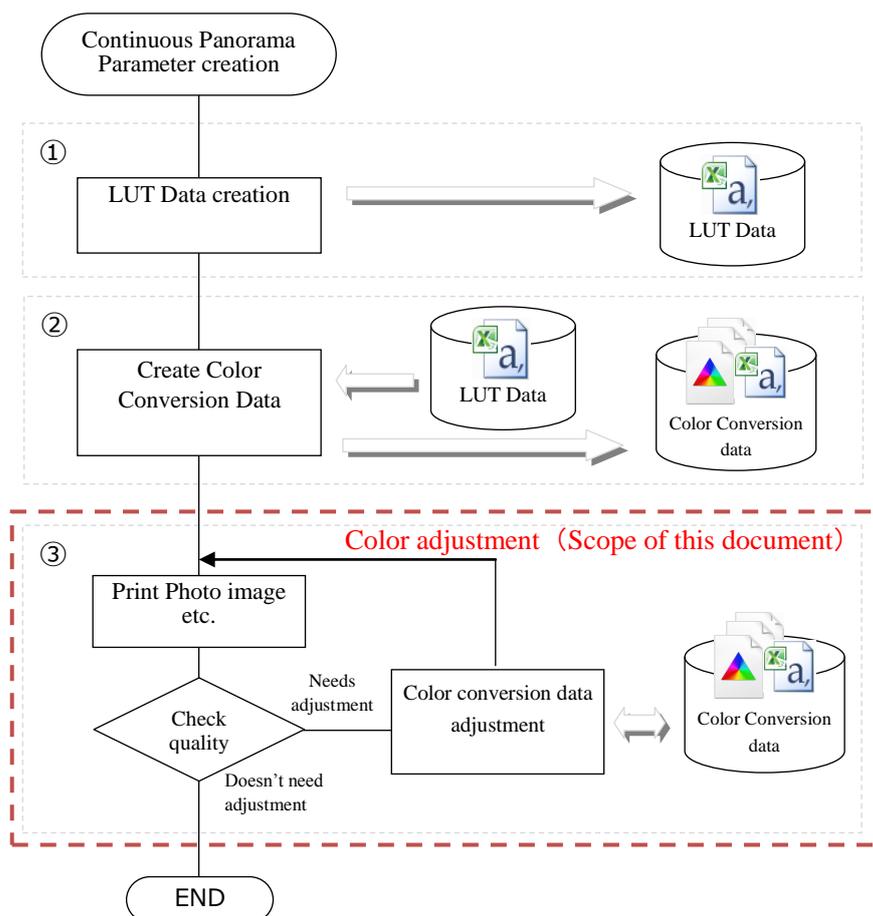
2. Color adjustment procedure

LUT data and color conversion data are used as parameters to process the image for Continuous Panoramic prints. It may be necessary to adjust or create these data sets again if the colors of the printouts change or if the characteristics of the paper or the ink ribbon change.

Basically, first the LUT data file is created, and then the color conversion data sets (ICC profiles) are created based on the LUT. Finally, the data sets are adjusted.

<Work Flow>

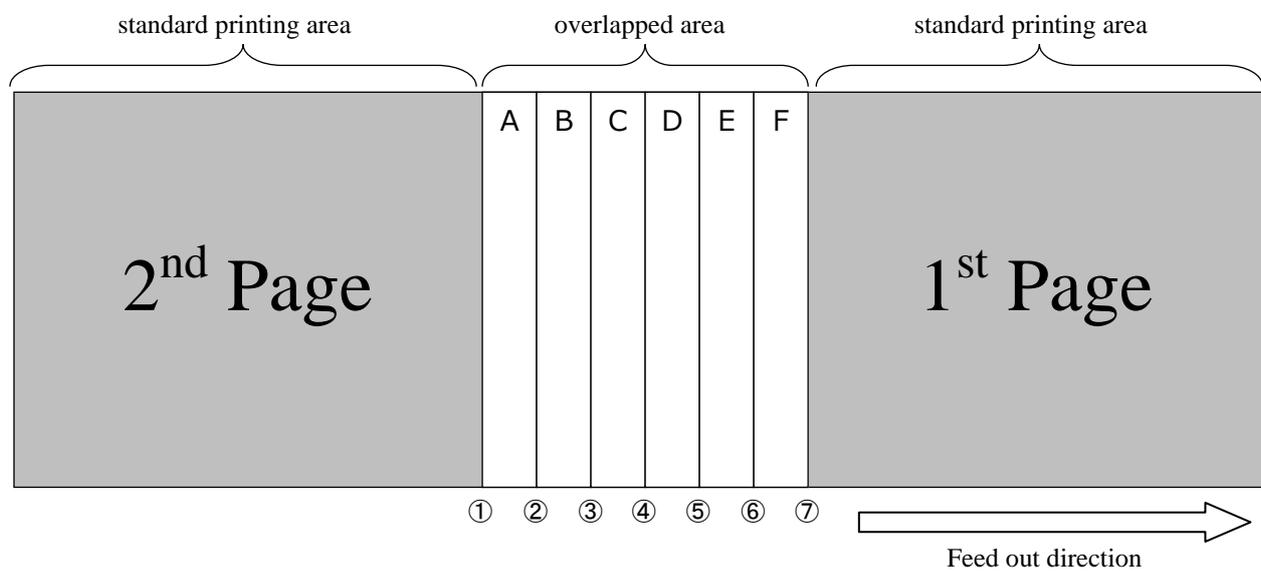
- ① Create a LUT data file
Create the LUT data in order to determine the density of the overlapped area.
- ② Create Color Conversion data file
Using the LUT data file made in ① create the color conversion data file.
- ③ Readjust Color Conversion data
Adjust the Color Conversion Data.
(Gray balance adjustment, etc)



2.1. Adjusting the Color Conversion Data

The Color Conversion Data is used to make the color and brightness of the overlapped area the same as that of the standard printing area (or to make the difference as slight as possible).

The standard printing areas and overlapped areas each use different Color Conversion Data to adjust the colors. Further, the overlapped area is divided into multiple sections, and each section uses different Color Conversion Data to adjust the colors.



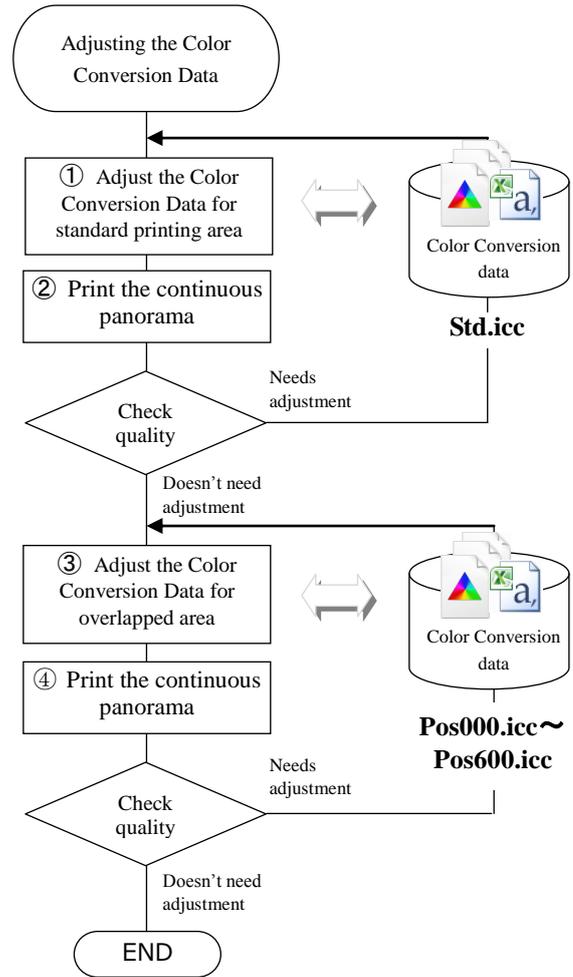
It shows the color conversion data for each area that is used to overlapped area below.

Area	Corresponding Color Conversion Data	Remarks
A	①Pos000.icc, ②Pos100.icc	Area "A" synthesizes the color conversion result of using the ① and ②.
B	②Pos100.icc, ③Pos200.icc	Area "B" synthesizes the color conversion result of using the ② and ③. .
C	③Pos200.icc, ④Pos300.icc	Area "C" synthesizes the color conversion result of using the ③ and ④.
D	④Pos300.icc, ⑤Pos400.icc	Area "D" synthesizes the color conversion result of using the ④ and ⑤.
E	⑤Pos400.icc, ⑥Pos500.icc	Area "E" synthesizes the color conversion result of using the ⑤ and ⑥.
F	⑥Pos500.icc, ⑦Pos600.icc	Area "F" synthesizes the color conversion result of using the ⑥ and ⑦

<Color adjustment procedure example>

- ① For the Color Conversion Data << Std.icc >> for standard printing, use Gray balance adjustment and Selective color adjustment to achieve the desired coloration. (*1)
- ② Using the adjusted Color Conversion Data, print the continuous panorama, and check the quality of the standard printing area.
- ③ For the Color Conversion Data << Pos000.icc ~ Pos600.icc >> for the overlapped area, perform any fine-tuning necessary to reflect the adjustment results from ①.
- ④ Using the adjusted Color Conversion Data, print the continuous panorama, and check the quality of the overlapped areas.

Repeat the steps ③ and ④ to increase the precision of the color adjustment.



(*1) To adjust the color conversion data, please use marketed ICC profile editing software.

Ex) X-rite / ProfileEditor

Gray balance adjustment

Selective color adjustment

■ Before Color adjustment (Gray balance / overall strong redness)



■ After Color adjustment (Gray balance / to natural colors)



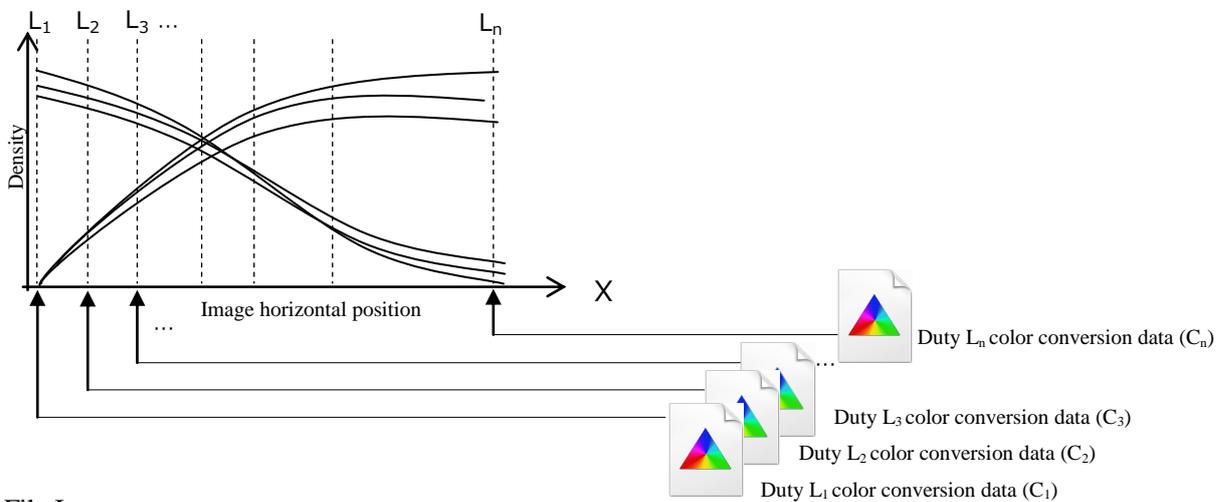
2.2. File Format of Color Conversion Data and Management Data

The continuous panoramic prints use the Windows ICM function for Color conversion, its data is saved as ICC profile format.

The color conversion management data is managed as a text file in the CSV format. In 1 line, record the color conversion data for the desired horizontal position.

The column A of the CSV file contains the data tag, the column B the horizontal positions (X_p) in the LUT data corresponding to the ICC profile, and the column C the file name of the ICC profile.

<Data Image>



<CSV File Image>

	A	B	C	
2	# Tag	Position(0..)	ICC_ProfileName(FullPath)	
3	PATH	¥..¥ParameterFiles¥ICCProfiles		
4	STDPROFILE	0	0010_std.icc	← L ₁
5	ICCPROFILE	0	0010_s0.icc	← L ₂
6	ICCPROFILE	100	0010_s100.icc	:
7	ICCPROFILE	200	0010_s200.icc	:
8	ICCPROFILE	300	0010_s300.icc	:
9	ICCPROFILE	400	0010_s400.icc	:
10	ICCPROFILE	500	0010_s500.icc	← L _n
11	ICCPROFILE	600	0010_s600.icc	

Specifies the ICC Profile name.

Specifies the position X_p in the LUT data corresponding to the ICC profile.

Data tag

- ※ Rows beginning with the “#” character are ignored as comments.
- ※ The CSV delimiter character uses <TAB>. (In the Japanese version, a comma ‘,’ can also be used.)

Data Tag	Contents						
PATH	<p>Designates the shared path for the color conversion data file.</p> <p>Refer to the color conversion data with the path + "\" + color conversion data file name.</p>						
STDPROFILE	<p>Defines the color conversion data file for standard (1-time) printing.</p> <table border="1"> <thead> <tr> <th>Element pos.</th> <th>Contents</th> </tr> </thead> <tbody> <tr> <td>Column B</td> <td>Not used (fixed at 0)</td> </tr> <tr> <td>Column C</td> <td>Color conversion data file name (ICC profile) for standard printing</td> </tr> </tbody> </table>	Element pos.	Contents	Column B	Not used (fixed at 0)	Column C	Color conversion data file name (ICC profile) for standard printing
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Column B	Not used (fixed at 0)						
Column C	Color conversion data file name (ICC profile) for standard printing						
ICCPROFILE	<p>Data record</p> <p>This defines the color conversion data file corresponding to the recorded overlap horizontal position.</p> <table border="1"> <thead> <tr> <th>Element pos.</th> <th>Contents</th> </tr> </thead> <tbody> <tr> <td>Column B</td> <td> <p>Horizontal position for the corresponding overlap[dot]</p> <ul style="list-style-type: none"> ※ This sets the horizontal position in dot increments from 0. ※ Be sure to set the first record as 0. After that, specify the desired horizontal position values. ※ Enter the horizontal positions in rising order from the beginning of the file. </td> </tr> <tr> <td>Column C</td> <td> <p>Color conversion data file name (ICC profile) for overlap printing</p> <ul style="list-style-type: none"> ※ The same color conversion data file for other horizontal positions can also be specified. </td> </tr> </tbody> </table>	Element pos.	Contents	Column B	<p>Horizontal position for the corresponding overlap[dot]</p> <ul style="list-style-type: none"> ※ This sets the horizontal position in dot increments from 0. ※ Be sure to set the first record as 0. After that, specify the desired horizontal position values. ※ Enter the horizontal positions in rising order from the beginning of the file. 	Column C	<p>Color conversion data file name (ICC profile) for overlap printing</p> <ul style="list-style-type: none"> ※ The same color conversion data file for other horizontal positions can also be specified.
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