

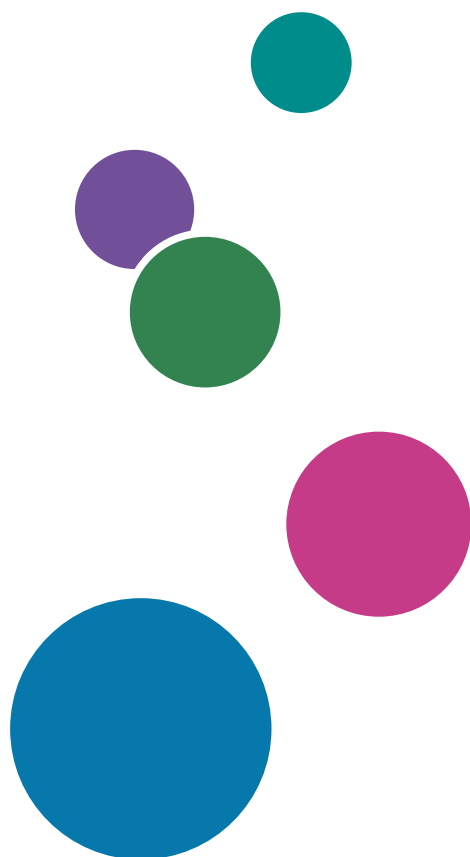


Quick Guide

Version 1.6.0.0

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For information not in this manual, refer to the Help System in your product.



Preface

Publications

Additional information about the RICOH Auto Color Adjuster is available in other publications.

Instruction Manuals

These instruction manuals are included:

- *RICOH Auto Color Adjuster: Safety Information*
This guide provides precautions for the safe and proper use of the scanner, including relevant regulations and environmental considerations. Read this manual before operating the scanner.
- *RICOH Auto Color Adjuster: Installation Guide*
This guide explains how to install the required applications, upgrade the RICOH Auto Color Adjuster, and back up or restore application data. Read this manual before using the scanner with its dedicated application.
- *RICOH Auto Color Adjuster: User Guide*
This guide describes the functions of the application and how to operate each function. It also provides solutions for resolving the causes of error messages.
- *RICOH Auto Color Adjuster: Quick Guide*
This guide explains the basic operations of the application and its most frequently used functions. It also provides troubleshooting steps for resolving paper jams.
- The RICOH Auto Color Adjuster release notes
These release notes provide information about the RICOH Auto Color Adjuster release, including new functions and updates, known limitations, issues and workarounds, security fixes, and code change requests.

The guides are available in English, Japanese, Dutch, French, German, Italian, Korean, and Spanish. The release notes are available only in English.

You can download the *Installation Guide*, the *User Guide*, the *Quick Guide* and the *Release Notes* from the [RICOH Software Information Center \(https://help.ricohsoftware.com/swinfocenter/\)](https://help.ricohsoftware.com/swinfocenter/) or from the help menu inside the product. The *Safety Information* is printed and shipped with the product.

RICOH Auto Color Adjuster Information Center

The Information Center contains topics that help administrators, supervisors, and operators learn about, install, and use RICOH Auto Color Adjuster. The Information Center provides quick navigation and search features.

RICOH Auto Color Adjuster Help

The help system contains topics that help administrators, supervisors, and operators learn about and use RICOH Auto Color Adjuster. The RICOH Auto Color Adjuster help is available from both the application user interface and the web user interface.

Symbols

The following symbols are used in this publication to help you identify content quickly.



This symbol indicates points to pay attention to when using the product. It also indicates likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.



This symbol indicates supplementary explanations of the product functions, and instructions on resolving user errors.

[Bold]

Bold type inside square brackets indicates the names of keys, menus, menu items, field labels, settings, and buttons.

[]

Square brackets indicate the names of keys, menus, menu items, field labels, settings, and buttons.

Italic

Italic type indicates variables that you must replace with your own information.

Monospace

Monospace type indicates computer input and output and file names.

Abbreviations

The following abbreviations are used in this publication.

CGATS

Committee for Graphic Arts Technologies Standards

CMYK

Cyan, Magenta, Yellow, Key (Black)

CSV

Comma-Separated Values

DFE

Digital Front End

g

Gram

HTTPS

Hyper Text Transfer Protocol Secure

ID

Identifier

ICC

International Color Consortium

IP

Internet Protocol

kg

Kilogram

m

Meter

mm

Millimeter

PDF

Portable Document Format

PDF/X

Portable Document Format / Level X

TXT

Text

USB

Universal Serial Bus

Important

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this product, losses of documents or data, or the use or non-use of this product and operation manuals provided with it.

Make sure that you always copy or have backups of important documents or data. Documents or data might be erased due to your operational errors or malfunctions of the product. Also, you are responsible for taking protective measures against computer viruses, worms, and other harmful software.

In no event will the manufacturer be responsible for any documents created by you using this product or any results from the data executed by you.

Cautions Regarding This Guide

- The contents of this guide are subject to change without notice.
- Some illustrations or explanations in this guide could differ from your product due to improvements or changes in the product.
- Depending on which country you are in, certain units may be optional. For details, please contact your local dealer.
- No part of this document may be duplicated, replicated, reproduced in any form, modified, or quoted without prior consent of the supplier.

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1. Overview

- Functions
- Configuration of Required Devices

This section provides an overview of the RICOH Auto Color Adjuster functions and the configuration of the required devices.

Functions

The RICOH Auto Color Adjuster provides an efficient solution for achieving printer color calibration, verification of the calibration results against different color standards, color matching, and colorimetry. The RICOH Auto Color Adjuster solution includes the dedicated software application and a spectrophotometer, which is a scanner able to measure color with precision.

The RICOH Auto Color Adjuster has the following functions:

[Quick Color Adjustment]

Scans a color chart printed using the printer that you want to calibrate and generates an ICC profile that helps you calibrate the output colors of that printer. Use this function regularly to prevent changes in printer condition or the printing environment from affecting the accuracy of the colors on the printed output.

Use Management Console to monitor the color adjustment result according to various color verification standards. You can view and export the records of the verification results over time for individual printers or papers.

[Color Sample Matching]

Generates an ICC profile based on the printed reference sample scanned using the **[Color Sample Matching]** function. Use the generated ICC profile to reproduce the colors of the hard copy sample on the printed page as closely as possible.

[Colorimetry]

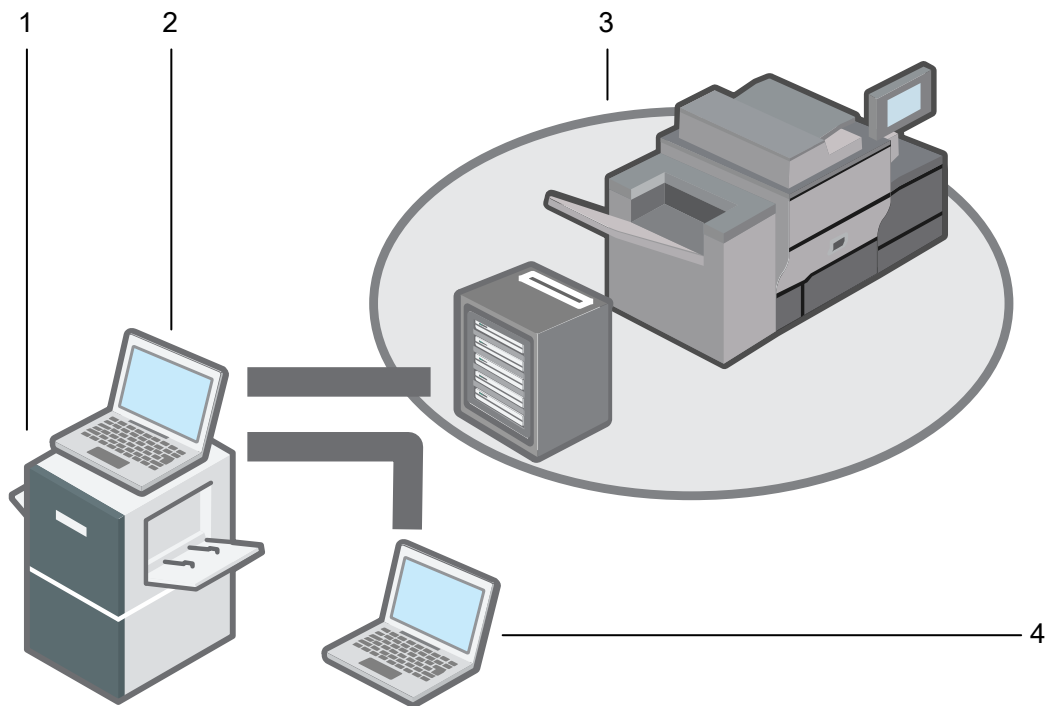
Allows you to use a predefined color chart or create a custom one to measure the colors on a printed test chart. You can use the custom color charts as custom color spaces for verifying the calibration results. You can also save the measurement results and manage them with an external color management application.

↓ Note

- A separate contract is required to use each function except **[Colorimetry]**.

Configuration of Required Devices

Use a computer connected to the scanner via USB to operate the scanner, access the web application, and import an ICC profile to the DFE. Optionally, you can also use a network computer connected to the scanner to access the web application.



- 1 Scanner
- 2 A computer connected to the scanner via 2 USB cables provided with the scanner. Use the computer to access the **[Quick Color Adjustment]**, **[Color Sample Matching]**, and **[Colorimetry]** functions from the desktop application, and the Management Console and Configuration pages from the web application.
- 3 A printer with its DFE, such as a Fiery color controller, TotalFlow Print Server, or another printer controlling device.
- 4 Optional: a network computer for remotely accessing the Management Console and the Configuration pages from the web application.

2. Getting Started

- Required Applications
- Turning the Scanner On and Off
- Displaying the RICOH Auto Color Adjuster
- Preparing to Scan

This chapter provides basic information about using the scanner and the RICOH Auto Color Adjuster application.

Required Applications

To use the scanner, install the following applications on the computer connected to the scanner via the provided USB cables.

RICOH Auto Color Adjuster

Dedicated application including the **[Quick Color Adjustment]**, **[Color Sample Matching]**, and **[Colorimetry]** functions.

Fiery Command WorkStation

Application used only with Fiery controllers for the automatic import of the ICC profiles created with the **[Quick Color Adjustment]** function to a Fiery DFE. To use this function with a Fiery controller, set the Fiery Command WorkStation language to English or Japanese.

Note

- For details about how to install the applications, see the *RICOH Auto Color Adjuster: Installation Guide*.

Turning the Scanner On and Off

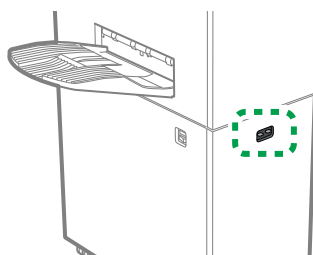
To turn the scanner on and off, use the power switch on the left side of the scanner.

Important

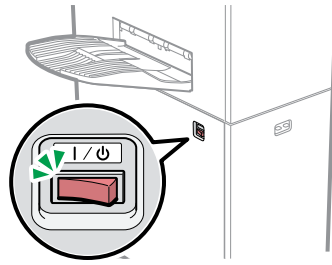
- Do not turn on the scanner immediately after turning it off. Wait until the indicator light remains off for at least 10 seconds before turning the scanner back on.

To turn the scanner on and off:

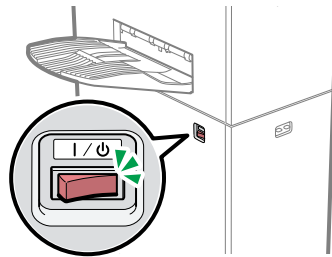
1. Make sure that the power cable is plugged securely into the wall outlet.
2. Verify the power indicator of the scanner.
 - If the indicator is blue, the scanner is turned on.
 - If the indicator is not illuminated, the scanner is turned off.
 - If the indicator is red, the scanner is in an error state.



- To turn on the scanner, turn on the power switch on the left side of the scanner.



- To turn off the scanner, turn off the power switch on the left side of the scanner.




Displaying the RICOH Auto Color Adjuster

To operate the scanner, use the RICOH Auto Color Adjuster application. The RICOH Auto Color Adjuster has two components: the desktop application and the web application.


Displaying the Desktop Application

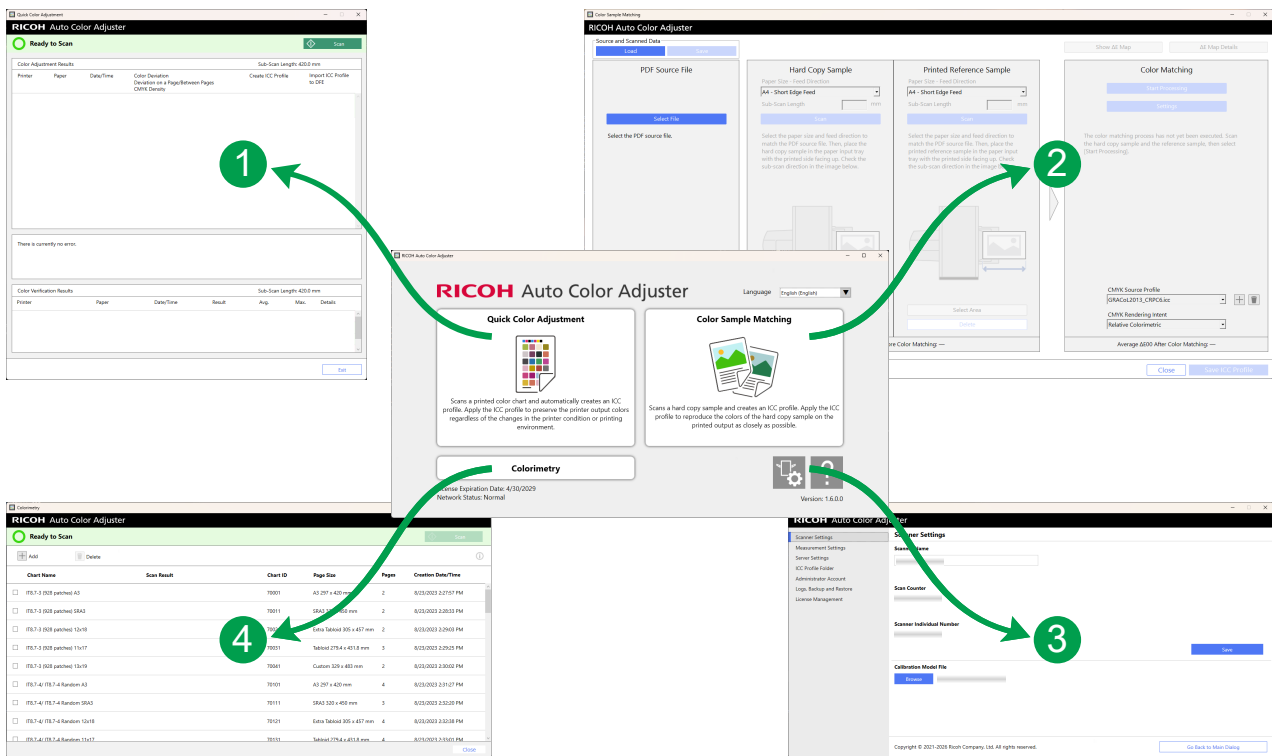
Use the desktop application to operate the **[Quick Color Adjustment]**, **[Color Sample Matching]**, and **[Colorimetry]** functions.

To display the desktop application:

- Start the computer that is connected to the scanner via USB cables.
- To start the desktop application, double-click the **[RICOH]**  icon. The RICOH Auto Color Adjuster application is displayed.

Desktop Application Overview

In the RICOH Auto Color Adjuster dialog, you can start the **[Quick Color Adjustment](1)**, **[Color Sample Matching](2)**, or **[Colorimetry](4)** functions, and access the **[Settings]** page **(3)**. You can also display the online help by clicking the **[Help]**  button.



2

Displaying the Web Application

Use the web application to view color adjustment results based on various color verification standards. From the web application, you can also create and edit users, color charts, and other objects required for color charts.

To display the web application:


1. Start the computer that is connected to the scanner via USB cables.
2. Check the IP address and port number of the server.
3. Open a web browser.
4. In the address bar, enter the IP address and port number as follows: `https://(IP Address):(port number)`. If the port number is 80, you can omit the colon and the port number.
5. Enter the **[Username]** and **[Password]**.

Note

- The default user name and password are as follows:
 - Username: admin
 - Password: admin

When you log in, you can execute actions as defined by the role. For more information, see *RICOH Auto Color Adjuster: User Guide*.

The web application is displayed, showing the navigation bar and the content of the Management Console page.

6. To display the Configuration page, select **[Configuration]**.
7. To sign out of the web application, select the **[Account]**  button on the navigation bar. Then, select **[Sign Out]**.

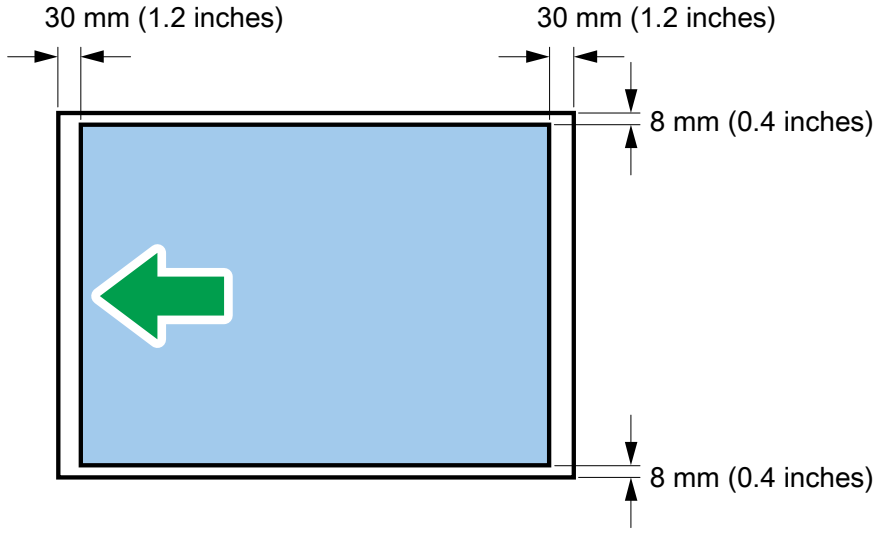
Preparing to Scan

One of the first steps when using any of the RICOH Auto Color Adjuster functions is to scan a printed color chart or a hard copy sample.

2

Paper Specifications

The scanner supports scanning paper that meets the following specifications.

Item	Description
Paper type	Plain paper, coated paper, matte paper, art paper
Paper width	[Color Sample Matching] : 210–330.2 mm (8.3–13 inches) [Quick Color Adjustment] : 297–330.2 mm (11.7–13 inches) [Colorimetry] : 210–330.2 mm (8.3–13 inches)
Paper length	[Color Sample Matching] : 210–487.7 mm (8.3–19.2 inches) [Quick Color Adjustment] : 420–487.7 mm (16.5–19.2 inches) [Colorimetry] : 279.4–482.6 mm (11–19 inches)
Paper weight	73.3–279.0 g/m ² (63–240 kg: 5 x 7.4 inches)
Number of sheets	70 sheets when using gloss coated paper of 104 g/m ²
Scan area	<p>The scanner reads the following blue area.</p> 

Placing a Sample or Color Chart on the Input Tray

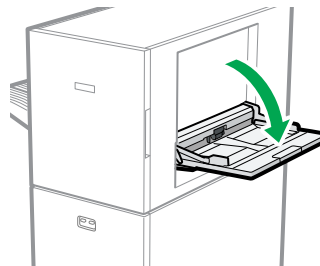
This procedure describes how to place the samples or color charts on the paper input tray.

★ Important

- Do not place bent, wrinkled, heavily curled, or spliced paper on the paper input tray. For more information, see *RICOH Auto Color Adjuster: User Guide*.
- Avoid placing a sample or color chart on the input tray if other sheets remain, as this might result in double feeding.
- Faint streaks or linear imprints might appear on the paper if the sample or color chart is printed on coated paper or media that is easily scratched.

To place a sample or color chart on the input tray:

1. Open the paper input tray.

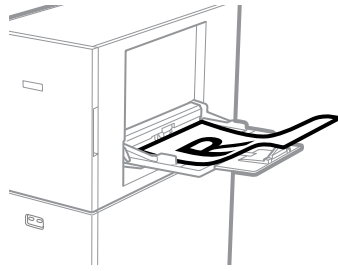


2. If the sample or color chart is longer than the input tray, pull out the tray extension.




↓ Note

- Samples or color charts exceeding A4 length in portrait orientation extend beyond the input tray.
3. Gently load the sample or color chart on the paper input tray, ensuring the side you want to scan is facing up.

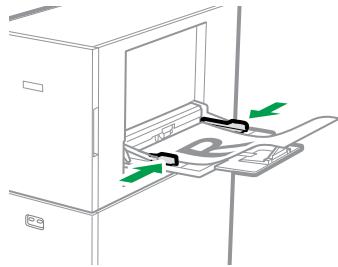


2

↓ Note

- Place samples or color charts on the input tray without exceeding the upper limit indicator . Exceeding this limit might result in skewed scanning or paper jams.

4. Adjust the paper guides to fit the paper size.



3. Quick Color Adjustment

- Using the Quick Color Adjustment Function
- Using the Management Console Page

Use the color adjustment and color verification functions before large print runs, after maintenance, when temperature or humidity changes, or after adjusting printer image quality. First, use the color adjustment function to generate the ICC profile, then load the ICC profile to the DFE, and use the color verification function.

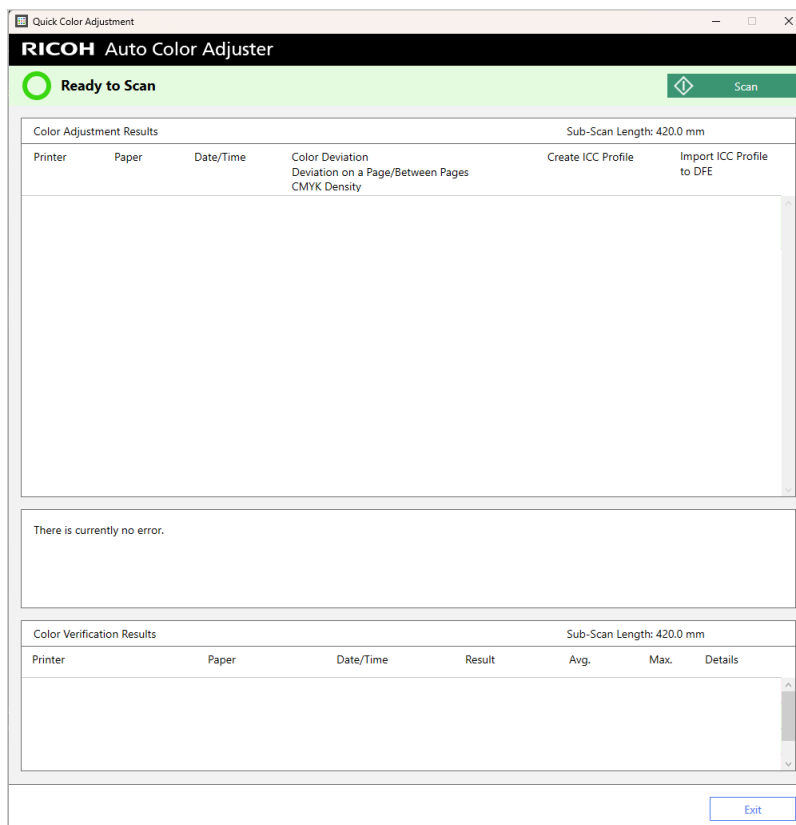
Use the Management Console page to monitor the color verification results over time for individual printers or papers.

Using the Quick Color Adjustment Function

Use the **[Quick Color Adjustment]** function to adjust the printer color output and evaluate the result.

To adjust colors, create a color chart in the web application and print the color profiling chart. Then, scan it using the **[Quick Color Adjustment]** function. Once the scanning process is complete, an ICC profile is created and uploaded to the DFE. If the RICOH Auto Color Adjuster does not support automatically importing the ICC profile to a specific DFE, manually import the generated ICC profile.

To verify colors, print the color verification chart on the target printer. Then, scan it using the **[Quick Color Adjustment]** function. Once the scanning process is complete, the results are displayed in the Quick Color Adjustment dialog.



Creating a Color Chart

For using the **[Quick Color Adjustment]** function, create a color chart in the web application.

To create a color chart:

1. On the Locations page, add a location.
2. On the Printers page, add a printer and link it with that location.
3. On the Paper Catalog page, add a paper.
4. On the Color Charts page, create a chart and associate it with an existing printer and paper.
5. On the Default Settings page, customize the default Color Adjustment Limits and Color Verification Limits for the **[Quick Color Adjustment]** function. The function evaluates the colors to determine whether their average and maximum deviations are within the specified limits and comply with the tolerance range of the selected **[Color Verification]** standard.

Printing Color Charts

You can send the color charts to print either from the web application, if the hot folder is enabled, or download them and send them to the printer using your printer application.

★ Important

- If you migrated from version 1.5.2.0 or earlier, make sure you print new color charts generated with the current version of the application.
- Print all color charts on one side of the paper only.



The paper in the tray must match the type of the paper displayed for that chart on the Color Charts page. To display the Color Charts dialog, go to the Configuration page.

Printing Color Charts from the Web Application

To print color charts from the web application, make sure the hot folder option is enabled on your DFE.

To print color charts from the web application:

1. On the printer DFE or using a print management application, create a hot folder for sending the color profiling chart to print and a hot folder for sending the color verification chart to print. For details, see the user documentation of your DFE or print management application.
2. Configure the hot folders with the print settings required for the color profiling and color verification chart. For details, see [Printing Color Profiling Charts, p. 17](#) and [Printing Color Verification Charts, p. 17](#). For more details about the print settings, see *RICOH Auto Color Adjuster: User Guide*. For details about creating a hot folder, see the user documentation of your DFE.
3. In the web application, go to the Edit Color Chart page of your color chart and select the hot folder paths used for sending the profiling chart and the verification chart to print.
4. Go to the Color Charts page.

5. Select the checkboxes next to one or more color charts you want to print.
6. To print the color profiling chart of the selected chart rows, select the **[Print Color Profiling Chart]**  button.
7. To print the color verification chart of the selected chart rows, select the **[Print Color Verification Chart]**  button.
8. Alternatively, you can print the color charts by selecting the **[Print]** button available within the expanded row.

Once the color charts are sent to print, they can be viewed in the printer queue.

Printing Color Profiling Charts

3

This section describes the generic settings required for printing color profiling charts. Apply the generic print settings throughout the entire workflow from file submission to final delivery to the printer.

To print color profiling charts:

1. Print all profiling chart pages on one side of the paper only.
2. When sending the color profiling chart to print, make sure the selected color management settings do not affect the CMYK colors of the chart.
3. Select the paper type, paper size, and paper weight to match the color profiling chart.

Printing Color Verification Charts

This section describes the generic settings required for printing color verification charts.

To print color verification charts:


1. When sending the color profiling chart to print, apply the ICC profile created with the RICOH Auto Color Adjuster application.
2. Select the paper type, paper size, and paper weight to match the color verification chart.
3. If you have the CMYK color verification standard option, select the verification standard associated with the **[Color Verification]** value displayed on the Color Charts page.
4. If you have the CMYK rendering intent option, set it to **[Relative Colorimetric]**.

Adjusting Colors

Adjust the printed colors by scanning a color chart and importing the created output ICC profile to a DFE. For details about importing the ICC profile, see *RICOH Auto Color Adjuster: User Guide*.

To adjust colors:


1. On the Color Charts page, find the color chart PDF you want to print.
2. Print the color profiling chart using the target printer and the required print settings. You can send the color chart to print either from the web application, if the hot folder option is enabled, or directly from the printer. For details, see [Printing Color Charts, p. 16](#).



3. To obtain a stable color output, print more than one copy of the color chart, and use the copy that is printed last.
4. Place the color chart for creating an ICC profile on the paper input tray, with the printed side facing up.
5. To start the desktop application, double-click the **[RICOH]**  icon.
6. In the RICOH Auto Color Adjuster dialog, select **[Quick Color Adjustment]**.
7. In the Quick Color Adjustment dialog, select **[Scan]**.
The Scan Chart dialog is displayed.
8. In the Scan Chart dialog, select **[Start Scan]**.
The scanner starts scanning the chart for creating an ICC profile and generates an ICC profile automatically.
9. In the Quick Color Adjustment dialog, check the Color Adjustment Results. The background color of a successfully completed process is green.
 1. Check that the color deviation values are displayed and are within the set limit values.
 2. Check that the application created the ICC profile successfully.
 3. If you are using a supported DFE type, check that the application imported the ICC profile to the DFE automatically.
10. If a warning is shown for the displayed color deviation values, the ICC profile is still created and imported to the DFE. However, to fix the problem that generates the warning, follow the instructions displayed in the message box of the Quick Color Adjustment dialog.
11. If an error occurs during the color adjustment process, follow the instructions displayed in the message box of the Quick Color Adjustment dialog. For more troubleshooting information, see *RICOH Auto Color Adjuster: User Guide*.
12. To close the Quick Color Adjustment dialog, select **[Exit]**.
13. If the DFE does not support automatic ICC profile import from the RICOH Auto Color Adjuster, manually import the generated ICC profile. For details, see *RICOH Auto Color Adjuster: User Guide*.

Verifying Colors

Use this section to verify the result of the color adjustment on the printer.

To verify colors:

1. On the Color Charts page, find the color chart PDF you want to print.
2. Print the color verification chart using the target printer and the required print settings. You can send the color chart to print either from the web application, if the hot folder option is enabled, or directly from the printer. For details, see [Printing Color Charts, p. 16](#).
3. To obtain a stable color output, print more than one copy of the color chart, and use the copy that is printed last.
4. Place the color verification chart on the paper input tray, with the printed side facing up.
5. To start the desktop application, double-click the **[RICOH]**  icon.

6. In the RICOH Auto Color Adjuster dialog, select **[Quick Color Adjustment]**.
7. In the Quick Color Adjustment dialog, select **[Scan]**.
The Scan Chart dialog is displayed.
8. In the Scan Chart dialog, select **[Start Scan]**.
The scanner starts scanning the color verification chart and displays the scan result.
9. In the Quick Color Adjustment dialog, check the Color Verification Results.
10. If  is displayed in the Result column, repeat the verification process.
 1. Select the **[Details]**  button to see the color verification details.
 2. Make sure that the print settings are correct and the paper matches the selected standard.
 3. Execute **[Quick Color Adjustment]** again.
 4. If color verification fails again, repeat the entire color adjustment and verification procedure.
11. When the process is complete, select **[Exit]**.


Note

- The Passed/Failed color verification results might differ from the results obtained with a different colorimeter.

Using the Management Console Page

Use the Management Console page to monitor variations in printer color output over time.

To use the Management Console page:

1. Execute at least two color verifications based on the same **[Color Verification]** standard, using the **[Quick Color Adjustment]** function.
The color verification results are displayed in the graph on the Management Console page.
2. On the Management Console page, use the options in the left pane and the options under the graphs to customize the data to display in the graphs.
3. To export and view graph data in CSV format based on the options you select in the left pane, select the **[Export]**  button.

4. Color Sample Matching

- Workflow Overview
- Using the [Color Sample Matching] Function

[Color Sample Matching] helps replicating the colors of a hard copy sample by measuring them and generating an ICC profile specific to that document and target printer. Manually import the created ICC profile as the source CMYK input profile on the DFE, then use the profile when printing a document.

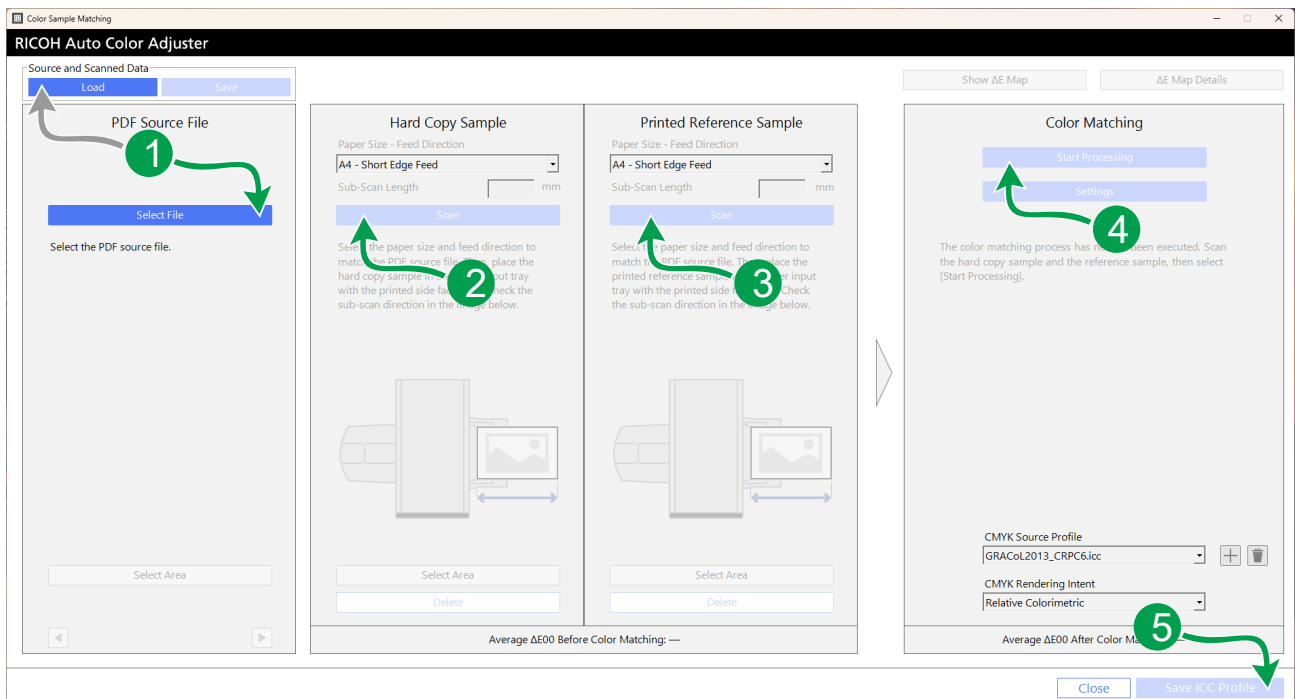
Use the created ICC profile to reproduce the color tone of the hard copy sample on the printed page as closely as possible.

Workflow Overview

Scan the hard copy sample, then print and scan the PDF source file. Afterwards, compare and match their colors using the [Color Sample Matching] function. Use the ICC profile generated by the color matching process to print the document so that its colors closely match those of the hard copy sample.

Items to Prepare

- PDF source file
- Hard copy sample
- Printed reference sample



To use the [Color Sample Matching] function, load the PDF source file (1), scan the hard copy sample (2) and the printed reference sample (3). Then, start processing the data for generating the ICC profile (4). Once the application finishes processing data, save the ICC profile (5).

Note

- If you already have the saved PDF source file data and the saved hard copy sample data, you can load it.

Selecting an Image Area

In the PDF Source File section, select the **[Select Area]** button. Then, select the image area you want to use for matching colors. You can also rotate the image clockwise or counterclockwise.

When you are matching colors on the pages of an imposed document where each page is printed separately, select the same area and orientation on all pages to improve the quality of the reproduced colors. If an Alignment Error is displayed, make sure you select the same image area and orientation in the PDF Source File, Hard Copy Sample, and Printed Reference Sample sections.

Using a Document with Multiple Pages

For optimal color sample matching results, use up to 15 pages from the PDF source file. Use the **[Next]** ► and **[Previous]** ◀ button in the PDF Source File section to browse through the pages of the PDF. Then, in the Printed Reference Sample section, scan each printed page you want to use for matching colors.

4

Using the Generated ICC Profile

In the print settings of the target printer, select the ICC profile generated using the **[Color Sample Matching]** function. The print settings vary depending on your DFE. For details on the required print settings, see *RICOH Auto Color Adjuster: User Guide*. For details on importing an ICC profile to the DFE, see the user documentation of your DFE.

After selecting the generated ICC profile in the print settings of your print job, print the PDF source file.

Using the [Color Sample Matching] Function

This function prints a document while matching the colors in the hard copy sample to the colors in the printed reference sample. This section describes the procedure for color matching using a single-page document.

Prerequisites

- It is recommended to execute image density adjustment in advance.
- The size of the paper put in the printer tray matches the paper size of the PDF, and there are no errors.
- The scanner indicator does not show a red light.
- The desktop RICOH Auto Color Adjuster application is started and no errors occurred.
- Select the PDF source file containing the CMYK image of the hard copy sample that you want to use for **[Color Sample Matching]**.
- Print the reference sample using paper with the same paper size of the PDF.

Preparing Data for Color Matching

To prepare data for color matching, select the PDF source file, and scan the hard copy sample and the printed reference sample.

Note

- Print more than one copy of the PDF, and use the copy that is printed last.
- Selecting a paper size in the Hard Copy Sample and Printed Reference Sample sections that differs from your actual sample might result in a paper jam.

To prepare data for color matching:

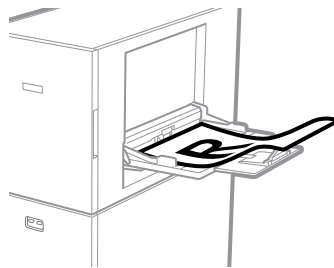
1. Print the PDF file using the required print settings on the target printer. For details, see [Printing the Reference Sample Using Fiery, p. 24](#), [Printing the Reference Sample Using TotalFlow Print Server with a Cut Sheet Printer, p. 24](#), or [Printing the Reference Sample Using the RICOH Pro VC80000, p. 25](#).

Important

- Do not reduce or enlarge the document when printing.
2. In the RICOH Auto Color Adjuster dialog, select **[Color Sample Matching]**. The Color Sample Matching dialog is displayed.

Note

- Operate the items displayed on the screen from left to right.
3. In the Color Matching section, select a profile in the **[CMYK Source Profile]** field.
 4. If you do not have a saved hard copy sample, scan it.
 1. In the PDF Source File section, select the **[Select File]** button.
 2. In the Select PDF Source File dialog, select the PDF source file containing the image of the hard copy sample.
The image from the selected PDF file is displayed in the PDF Source File section.
 3. Place the hard copy sample on the paper input tray, with the side you want to scan facing up.



4. In the Hard Copy Sample section, select the paper size and feed direction of your sample.
 5. If you select **[Custom Size]**, enter the paper length in the sub-scan direction in the **[Sub-Scan Length]** field.
 6. In the Hard Copy Sample section, select **[Scan]**.
Once the scanning process is complete, the scanned image is displayed in the Hard Copy Sample section.
5. If you have the saved hard copy sample data, load it.
 1. Select **[Load]**.
 2. In the Select Folder dialog, select the folder containing the saved hard copy sample data.

3. Click **[Select Folder]**.
The PDF source file and the hard copy sample are displayed in the Color Sample Matching dialog.
6. Place the printed reference sample on the paper input tray, with the printed side facing up.
7. In the Printed Reference Sample section, select the paper size and feed direction of your reference sample.
8. If you select **[Custom Size]**, enter the paper length in the sub-scan direction in the **[Sub-Scan Length]** field.
9. In the Printed Reference Sample section, select **[Scan]**.
Once the scanning process is complete, the scanned image is displayed in the Printed Reference Sample section.
10. Proceed to the process of creating an ICC profile. For details, see [Creating an ICC Profile, p. 26](#).

4 Printing the Reference Sample Using Fiery

This section describes the settings used for printing the reference sample using a Fiery DFE.

To print the reference sample using Fiery:

1. Start Fiery Command WorkStation.
2. Select the print job, then select **[Properties]**.
The Job Properties dialog is displayed.
3. In the left pane of the Job Properties dialog, select **[COLOR]**.
4. Set the **[Output profile]** to a profile that matches the paper you use, or select the profile that you updated using **[Quick Color Adjustment]**.
5. In the **CMYK source** field, select a profile.

★ Important

- Avoid selecting the **[ColorWiseOFF]** and **[Bypass conversion]** options.
6. Clear the **[Use CMYK embedded profiles]** checkbox.
 7. Clear the **[Spot color matching]** checkbox.
 8. Clear the **[PDF/X output intent]** checkbox.

Printing the Reference Sample Using TotalFlow Print Server with a Cut Sheet Printer

This section describes the settings required for printing the reference sample using a TotalFlow Print Server DFE with a cut sheet printer.

To print the reference sample using TotalFlow Print Server with a cut sheet printer:

1. In the TotalFlow Print Server DFE, open the Job Properties dialog.
2. In the left pane of the Job Properties dialog, select **[Color]**.
3. Expand the **[INPUT PROFILES]** section and select a value in the **[CMYK input profile]** field.

★ Important


- Avoid selecting the [Pass through] option.
4. Set the [Use embedded profile] field displayed next to [CMYK input profile] to [Off].
 5. Expand the [PRINTER PROFILES] section and set the [Printer profile, front] to a profile that matches the paper you use, or select the profile that you updated using [Quick Color Adjustment].
 6. Set [Spot color matching] to [Off].
 7. Expand the [ADVANCED SETTINGS] section and set the [Use PDF/X output intent] to [Off].

Printing the Reference Sample Using the RICOH Pro VC80000

This section describes the settings required for printing the reference sample with the RICOH Pro VC80000. Apply these print settings to both Printer 1 and Printer 2.

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To print the reference sample using the RICOH Pro VC80000:

1. In the TotalFlow Print Server DFE, go to the Configuration page.
2. In the left pane, select [Settings].
3. Select the [Resolution / Speed], set the Dryer Temperatures, and the [Type of Flushing].
4. In the left pane of the Configuration page, select [Substrate].
5. In the [Substrate] field, select a substrate from the list and load it.
6. If you want to add a substrate, specify the name and values for it. Then, load the new substrate.
7. In the left pane of the Configuration page, select **Color Management** → **Settings**.
8. Set the [Color/Black and white] field to [Color].
9. In the left pane, select [Print Quality].
10. Select the [Ink limit] and [Tone curve].
11. Go to the Jobs page.
12. Select your print job and select the [Edit]  button. The Job Properties dialog is displayed.
13. In the [Basic Settings] section, select the [Printing side].
14. In the left pane of the Job Properties dialog, select [Form].
15. In the [Form] field, select one of the forms from the list.

↓ Note

- If you select [Custom], specify the [Width] and [Length] of the form.
16. In the left pane of the Job Properties dialog, select [Color].
 17. Expand the [INPUT PROFILES] section and select a value in the [CMYK input profile] field.

★ Important

- Avoid selecting the [Pass through] option.

18. Set the **[Use embedded profile]** field displayed next to **[CMYK input profile]** to **[Off]**.
19. Expand the **[PRINTER PROFILES]** section and set the **[Printer profile, front]** and **[Printer profile, back]** to a profile that matches the paper you use, or select the profile that you updated using **[Quick Color Adjustment]**.
20. Set **[Spot color matching]** to **[Off]**.
21. Expand the **[ADVANCED SETTINGS]** section and set the **[Use PDF/X output intent]** to **[Off]**.

Creating an ICC Profile


To create an ICC profile, match the hard copy sample colors to the colors of the reference sample image displayed in the Printed Reference Sample section. Then, save the generated ICC profile.

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To create an ICC profile:

1. **Optional:** In the Color Matching section, adjust the **[Settings]** for color matching. For details, see *RICOH Auto Color Adjuster: User Guide*.
2. Identify the ICC profile name that was used for printing the PDF.

↓ Note

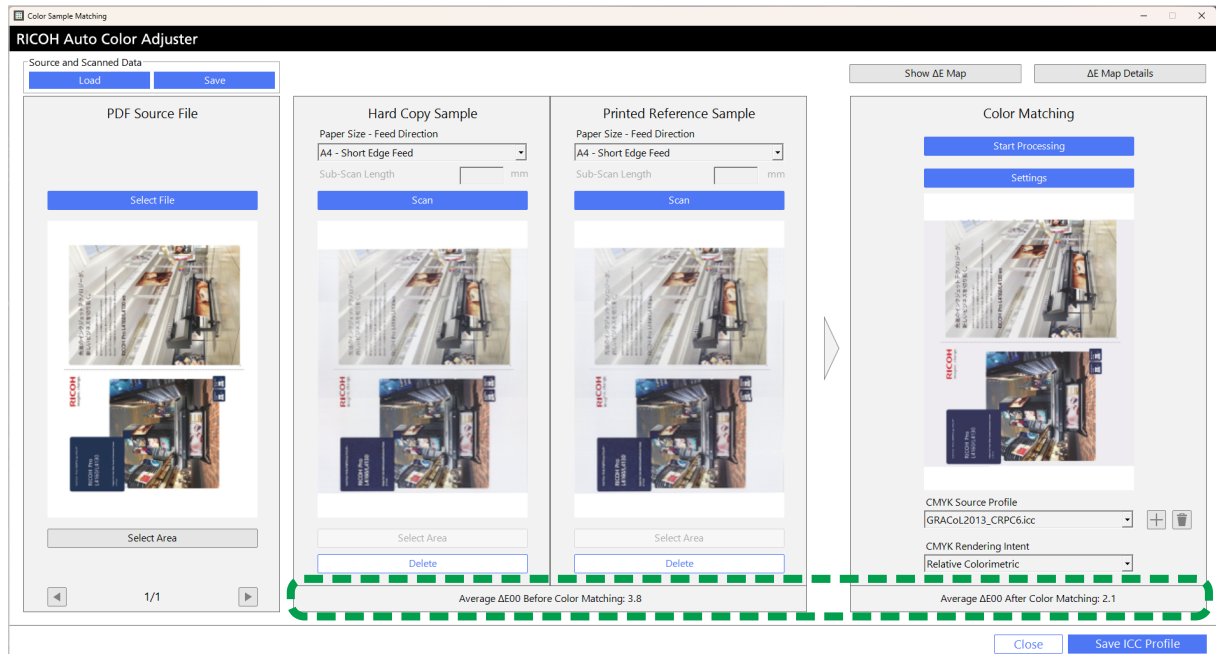
- The field name indicating the ICC profile is specific to the DFE type. For Fiery, the field name is **[CMYK source]**. For TotalFlow Print Server, the field name is **[CMYK input profile]**.
 - For instructions on identifying the ICC profile of a print job, refer to the user documentation of your DFE.
3. If the ICC profile used for printing the PDF is not in the **[CMYK Source Profile]** list from the Color Matching section, export it from your DFE. For instructions on exporting the ICC profile, refer to the user documentation of your DFE.
 4. In the Color Matching section, select the **[CMYK Source Profile]** identified using the instructions from step 2, p. 26. If your CMYK source profile is not in the list, add the file you exported using instructions from step 3.
 1. To add an ICC profile, select the **[Add]**  button.
 2. Select the ICC profile you want to add, then select **[Open]**.
 5. Identify the rendering intent that was used for printing the PDF. For instructions on identifying the rendering intent of a print job, refer to the user documentation of your DFE.
 6. In the Color Matching section, select the **[CMYK Rendering Intent]** identified using step 5.

↓ Note

- If you used **[Photographic]** when printing with Fiery, select **[Perceptual]** in the Color Sample Matching dialog.
 - If you used **[Presentation]** when printing with Fiery, select **[Saturation]** in the Color Sample Matching dialog.
7. In the Color Matching section, select **[Start Processing]**.

The color matching process starts, and an ICC profile is created. Wait for the process to finish. When the color matching process is complete, the processed image is displayed in the Color Matching section.

8. Check the calculated average color deviation after color matching is applied.



Note

- The calculated average color deviation is derived from averaging the color deviation values of all pixels in the image.

9. View the color deviation on the color deviation map.
10. Analyze the color deviation details.
11. **Optional:** Save the files containing the measurement data of the PDF source file and scanned hard copy sample.
 1. To save the files containing the measurement data of the PDF source file and scanned hard copy sample, select **[Save]** in the Color Sample Matching dialog.
 2. If the folder where you want to save the data is not yet created, select **[New Folder]** in the Select Folder dialog. Then enter the name of the new folder.
 3. Select the folder where you want to save the data and click **[Select Folder]**. The application saves the data to the selected folder.
12. To save the ICC profile, select **[Save ICC Profile]** in the Color Sample Matching dialog. The format of the file name assigned to a profile is *Match_<year><month><day><hour><minute>.icc*. Change it as required.
13. To improve the quality of color reproducibility, repeat the entire **[Color Sample Matching]** process starting with printing another set of reference samples with the required print settings.
14. To close the Color Sample Matching dialog, select **[Exit]**.

Using the ICC Profile for Printing with Fiery

Use the ICC profile created by the color matching process to reproduce the hard copy sample colors.



↓ Note

- The procedure varies depending on the DFE that you are using. When using other DFE than Fiery or TotalFlow Print Server, see the manual of your DFE.
 1. Start the Fiery Command WorkStation and log in as the system administrator.
 2. Select **Server** → **Device Center**.
 3. Select **RESOURCES** → **Profiles**.
 4. Select **[Import]**, then select the **[CMYK Source and Simulation]**.
 5. Select the profile that has been created.
The profile is imported to Fiery.
 6. In the print settings, select the imported profile in the **[CMYK source:]** field.
 7. For other settings, select the same options that you selected for printing the reference sample. For details, see [Printing the Reference Sample Using Fiery, p. 24](#).
 8. Print the PDF source file.
The printed file reproduces the colors of the hard copy sample as much as possible.

Using the ICC Profile for Printing with TotalFlow Print Server

Use the ICC profile created by the color matching process to reproduce the hard copy sample colors. This procedure applies when using a TotalFlow Print Server DFE with a cut sheet printer or the RICOH Pro VC80000.

↓ Note

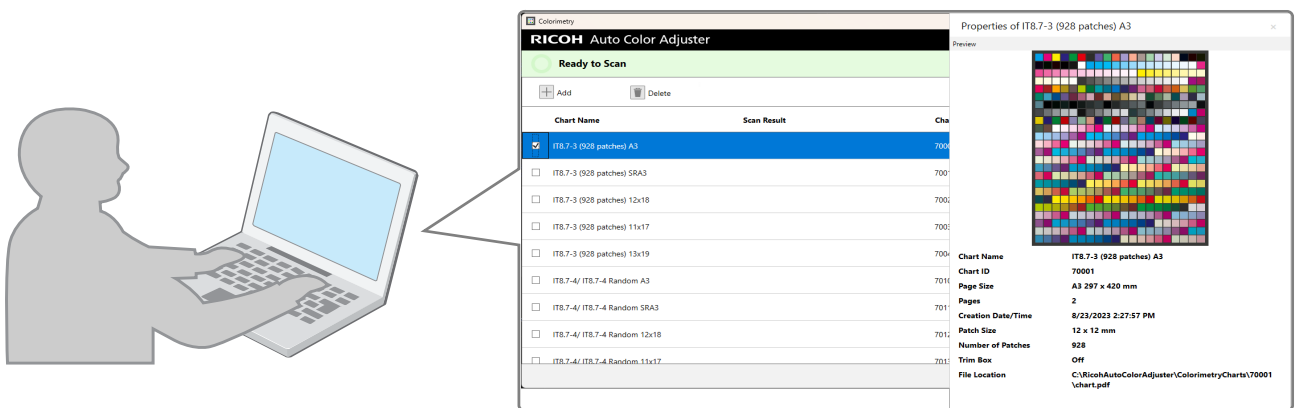
- The procedure varies depending on the DFE that you are using. When using other DFE than Fiery or TotalFlow Print Server, see the manual of your DFE.
 1. Start the TotalFlow Print Server using an account that has administrator rights.
 2. Go to the Configuration page.
 3. Select **Color Management** → **Profiles**.
 4. Select the **[Edit]**  button next to **[CMYK input profile]**.
 5. Select **[Import profile]**.
 6. In the Install profile dialog, select **[CMYK input profile]**. Then, select **[OK]**.
 7. Select the created ICC profile, then select **[Load]**.
The profile is imported to the TotalFlow Print Server.
 8. Go to the Jobs page.
 9. Select your print job and select the **[Edit]**  button.
The Job Properties dialog is displayed.
 10. In the left pane of the Job Properties dialog, select **Color**.

11. Expand the **[INPUT PROFILES]** section and in the **[CMYK input profile]** field, select the imported ICC profile.
12. For other print settings, select the same options that you selected for printing the reference sample. For details, see [Printing the Reference Sample Using TotalFlow Print Server with a Cut Sheet Printer, p. 24](#) and [Printing the Reference Sample Using the RICOH Pro VC80000, p. 25](#).
13. Print the PDF source file.
The printed file reproduces the colors of the hard copy sample as much as possible.

5. Colorimetry

- Workflow Overview
- Adding a Custom Colorimetry Chart
- Viewing the Chart Characteristics
- Using the [Colorimetry] Function

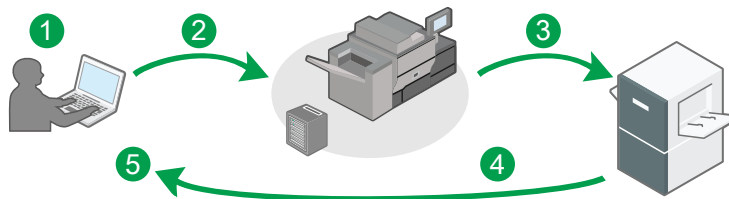
The [Colorimetry] function allows you to create a color chart with customized colors, patch size, and page size. You can then print the color chart on the target printer and measure the output colors. Alternatively, you can use a predefined color chart based on a standard set of colors and page size. The measurement results can be saved in IT8 format and used with external color management applications.



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Workflow Overview

Create a color chart with custom colors or use a predefined color chart. Print the colorimetry chart on the target printer, then scan the printed chart to measure its colors. Save the measurement results in IT8 or CGATS format. Load the saved file into a color management or similar application to manage the color output of the target printer.



1. Create a color chart with custom colors or choose a predefined one.
2. Print the colorimetry chart using the printer whose color output you want to measure.
3. Place the printed chart for colorimetry on the paper input tray.
4. Scan the printed color chart using the [Colorimetry] function.
5. The color measurement results are saved to your local drive.

Adding a Custom Colorimetry Chart

To add a custom color chart for colorimetry, create a chart information file and add it to the list of colorimetry charts.

To add a custom colorimetry chart:

1. Create a chart information file in plain text format (TXT) with UTF-8 character encoding, using a text editor application. For details about the information to be included in the chart information file, see [Chart Information File, p. 32](#).
2. In the desktop application menu, select **[Colorimetry]**.
The Colorimetry dialog is displayed.
3. In the Colorimetry dialog, select **[Add]**.
The Add Colorimetry Chart dialog is displayed.
4. Select **[Browse]**.
5. Select a chart information file, then select **[Open]**.
6. In the **[Trim Box]** field, select whether to include a trim box on the color chart. Select **[Off]** (default) to exclude the trim box. Select **[On]** to include the trim box.

The trim box helps you define the size of the finished sheet. If the trim box is enabled, the finished size matches the trim box. Use this option to print the color chart on a paper size larger than the chart size, using imposition.
7. Select **[OK]**.
8. You receive a message asking you to confirm whether you want to start creating a chart. Select **[OK]**.
9. You receive a confirmation message. Select **[OK]**.
A PDF file for printing and other related files are created. The chart for colorimetry is added to the list.

Chart Information File

The structure of the chart information file is similar to the structure of a standard IT8 file. The chart information file is a text file using UTF-8 character encoding. Enter the following items and values in the chart information file.

↓ Note

- You can create a custom chart based on the sample chart information files available under C:\RicohAutoColorAdjuster\ColorimetryCharts\SampleChartInfoFiles

Field in IT8 File	Value
CHART_NAME	<p>Enter the chart name using quotation marks. Example: "Measure Sample 1".</p> <p>If you do not enter a CHART_NAME value or the CHART_NAME row is missing from the chart information file, the default Colorimetry Chart name is used as chart title.</p> <ul style="list-style-type: none"> • Avoid using the following characters: /:*?<>\\ " • Number of characters: up to 250 characters.
PAGE_WIDTH PAGE_LENGTH	<p>Enter the paper width and length in the sub-scan direction:</p> <ul style="list-style-type: none"> • Unit: 100 (1 mm, 0.04 inches) • Width: from 21000 through 33000 • Length: from 21000 through 48700

Field in IT8 File	Value
	<p>Examples: For an A3 paper of 297 x 420 mm, set the PAGE_WIDTH to 29700, and the PAGE_LENGTH to 42000. For an SRA3 paper of 12.6 x 17.7 inches, set the PAGE_WIDTH to 32000, and the PAGE_LENGTH to 45000.</p>
PATCH_WIDTH PATCH_HEIGHT	<p>Enter the width and height of a color patch:</p> <ul style="list-style-type: none"> • Unit: 100 (1 mm, 0.04 inches) • Minimum: 700 • Maximum: 1500 <p>Example: For a patch of 7 x 7 mm, set both the PATCH_WIDTH and the PATCH_HEIGHT to 700.</p>
NUMBER_OF_PATCHES	<p>Enter the total number of color patches on the color chart.</p> <p>Example: 200</p>
COLOR FORMAT	CMYK BEGIN_DATA_FORMAT SAMPLE_ID CMYK_C CMYK_M CMYK_Y CMYK_K END_DATA_FORMAT
BEGIN_DATA END_DATA	<p>Enter the colors used in the colorimetry chart. Each row contains the values defining a color patch, separated using the tab character.</p> <ul style="list-style-type: none"> • First column: identifier of the color patch, unique in the chart information file. Avoid using blanks in the identifier. • Second column: integer value from 0 through 100 corresponding to Cyan. • Third column: integer value from 0 through 100 corresponding to Magenta. • Forth column: integer value from 0 through 100 corresponding to Yellow. • Fifth column: integer value from 0 through 100 corresponding to Black. <p>Between the BEGIN_DATA and END_DATA lines, enter as many color definitions as specified by the NUMBER_OF_PATCHES value.</p> <p>Example:</p> <pre> BEGIN_DATA 1 70 40 10 0 ...values for 2-199 are not included in this example 200 10 100 30 0 END_DATA </pre>

Example of Chart Information File

```

CHART_NAME "Measure Sample 1"
PAGE_WIDTH 29700
PAGE_LENGTH 42000
PATCH_WIDTH 700
PATCH_HEIGHT 700
NUMBER_OF_PATCHES 200
COLOR_FORMAT CMYK
BEGIN_DATA_FORMAT
SAMPLE_ID CMYK_C CMYK_M CMYK_Y CMYK_K
END_DATA_FORMAT
BEGIN_DATA
1 70 40 10 0
2 100 20 10 10
3 80 80 100 10
...
200 10 100 30 0
END_DATA

```

5


Viewing the Chart Characteristics

In the Colorimetry dialog, use color charts with various paper sizes and various color patches to measure the colors generated by the printer.

↓ Note

- The list of charts for colorimetry contains IT8.7-3, IT8.7-4/ IT8.7-4 Random, IT8.7-5/ TC1617, ECI2002/ ECI 2002 Random, Idealliance Control Strip 2009, Idealliance Control Wedge 2014, and other standardized color charts. Use one of the predefined color charts to measure the target color against the standard you aim to comply with.

To view the chart characteristics:

- In the Colorimetry dialog, select the checkbox next to the colorimetry chart you want to view.
- Select the **[Information]**  button.
The preview and characteristics of the selected color chart are displayed.

Using the [Colorimetry] Function

Use the [Colorimetry] function to measure the colors on a printed test chart with the help of a predefined or custom color chart.

To use the [Colorimetry] function:

1. In the RICOH Auto Color Adjuster dialog, select **[Colorimetry]**.
2. If you want to use a custom colorimetry chart, create a color chart and add it to the Colorimetry dialog. For details, see [Adding a Custom Colorimetry Chart, p. 31](#).
3. In the Colorimetry dialog, check the **[Chart ID]** column to view the ID of the colorimetry chart.
4. Based on the chart ID, find the PDF stored in the C:\RicohAutoColorAdjuster\ColorimetryCharts folder.
5. Print the PDF on your target printer.

★ Important

- If you migrated from version 1.5.2.0 or earlier, make sure you print new color charts generated with the current version of the application.
6. Place the chart for colorimetry on the paper input tray of the scanner, with the printed side facing up. For details, see [Placing a Sample or Color Chart on the Input Tray, p. 13](#).
 7. In the Colorimetry dialog, select the checkbox next to the colorimetry chart you want to scan. Select **[Scan]**.
 8. In the Colorimetry Measurements dialog, select the measurement settings.
 1. **Optional:** In the **[File Name]** field, enter the file name of the measurement results. If you leave this field empty, the file name is automatically assigned.

↓ Note

- If you select more than one chart for colorimetry with the same sub-scan length, the **[File Name]** field is disabled and the file name is assigned automatically.
 - The automatically assigned file names use this template: *chart name + <year><month><day><hour><minute><second>*, where *<year><month><day><hour><minute><second>* is the time stamp when the scanning is executed.
2. Select **[Browse]**, then select the destination folder where you want to save the files.
 3. Select whether you want to save the custom verification file. If you select the **[Save Custom Verification File]** checkbox, the saved file is displayed on the Add Color Chart and Edit Color Chart pages of the web application, in the **[Color Space]** list.

↓ Note

- The checkbox is active only if you select one of the following predefined charts: Fogra Media Wedge V3.0, Idealliance Control Wedge 2013, or Japan Color Control Strip.
4. Select the **[Lighting Condition]** out of the following options: **[M0](A)**, **[M1](D50)**, and **[M2](A+UV cut)**.

5. In the **[Color Model for Measurement]** field, select the color model to use for measurement out of the following: **[Lab]**, **[LCh]**, **[XYZ]**, **[Spectroscopy]**, **[Density (Status T)]**, and **[Density (Status E)]**.
6. In the **[File Format]** field, select whether the format of the saved file is **[IT8]** (*.it8) or **[CGATS]** (*.txt).
9. Select **[OK]**.
The Scan Chart dialog is displayed.
10. In the Scan Chart dialog, select **[Start Scan]**.
The scanner starts scanning the chart for colorimetry and creates a file with the color measurements results in the selected folder.

6. Troubleshooting

• Paper Jams

Use this section to identify and fix paper jams.

Paper Jams

Open the front door of the scanner and remove the paper inside if the following message is displayed: "Open the door and remove the document inside."

The instructions for removing jammed paper are printed inside the front door of the scanner. For more information, see *RICOH Auto Color Adjuster: User Guide*.

★ Important

- Keep the scanner powered on while removing jammed paper.
- Gently pull the jammed paper out evenly and slowly to avoid tearing.
- When removing jammed paper, avoid tearing it, as small pieces left inside the scanner can cause another paper jam or lead to malfunction.
- If the paper tears, reassemble the pieces to ensure none are missing. Missing pieces might remain inside the scanner and cause issues. If you cannot find all pieces, contact your service representative.
- If the message persists after removing the jammed paper, check for any remaining paper inside the scanner.

