# RICOH

## RICOH Auto Color Adjuster

# Quick Guide

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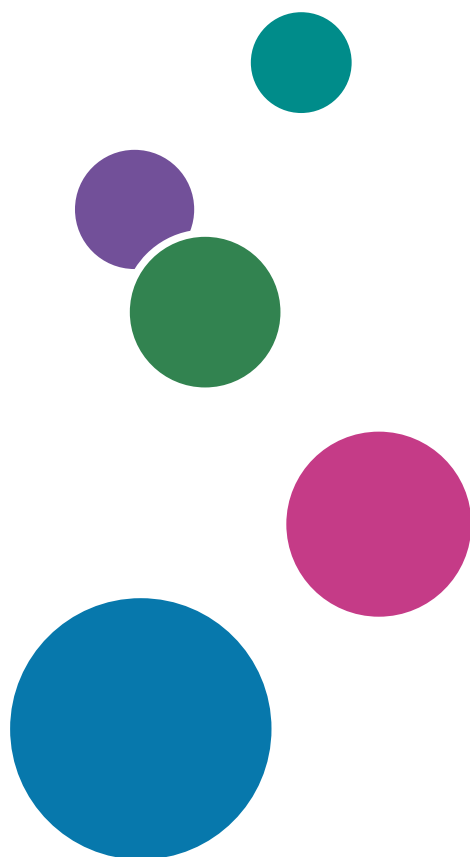
# Preface

## Publications for This Machine

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 describes precautions for safe and proper use of the machine, as well as various regulations and environmental measures. Read this manual before using the machine.

- *RICOH Auto Color Adjuster: Installation Guide*

  This guide describes the installation procedure of various applications, and the settings that need to be configured before you can use this machine. Read this manual before you start using the machine.

- *RICOH Auto Color Adjuster: User Guide*

  This guide describes the functions of the machine and how to operate each function. It also describes the solutions for resolving the causes of displayed error messages.

- *RICOH Auto Color Adjuster: Quick Guide*

  This guide describes the basic operations of the machine and the functions that are frequently used. It also describes the solutions for resolving the causes of displayed error messages.

- 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, problems, and workarounds, and code change requests.

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

You can download the publications from the RICOH Software Information Center (https://help. ricohsoftware.com/swinfocenter/) or from the help menu inside 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 Used in the Manual

This manual uses the following symbols:

| | |
|---|---|
|  **Important** | This symbol indicates points that you must pay attention to when using the machine. It also indicates explanations of likely causes of paper misdeeds, damage to originals, or items that might lead to loss of data. |
|  **Note** | This symbol indicates supplementary explanations of the machine 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. |
|  Region **A** | Differences in the functions of Region A and Region B models are indicated by Region A and Region B symbols. Region A refers mainly to Europe. Read the information indicated by the symbol that corresponds to the region of the model you are using. |
|  Region **B** | Differences in the functions of Region A and Region B models are indicated by Region A and Region B symbols. Region B refers mainly to North America. Read the information indicated by the symbol that corresponds to the region of the model you are using. |

## Abbreviations Used in This Manual

**A**

Ampere

**APPE**

Adobe PDF Print Engine

**AVE**

Average

**CCW**

Counterclockwise

**CGATS**

Committee for Graphic Arts Technologies Standards

**CMY**

Cyan, Magenta, Yellow

**CMYK**

Cyan, Magenta, Yellow, Key (Black)

**CPSI**

Configurable PostScript Interpreter

**CPU**

Central Processor Unit

**CSV**

Comma-Separated Values

**CW**

Clockwise

**DFE**

Digital Front End

**g**

Gram

**GB**

Gigabyte

**GPL**

General Public License

**HTTPS**

Hyper Text Transfer Protocol Secure

**Hz**

Hertz

**ID**

Identifier

**ICC**

International Color Consortium

**IP**

Internet Protocol

**K**

Black

**kg**

Kilogram

**m**

Meter

**mm**

Millimeter

**MAX**

Maximum

**NG**

Not Good

**PDF**

Portable Document Format

**PDF/X**

Portable Document Format / Level X

**RAM**

Random Access Memory

**RIP**

Raster Image Processor

**TIFF**

Tagged Image File Format

**TXT**

Text

**USB**

Universal Serial Bus

**V**

Volt

**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 machine. 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.

## Trademarks

Adobe and Acrobat are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Apache and Tomcat are either registered trademarks or trademarks of the Apache Software Foundation in the United States and/or other countries.

Command WorkStation, Fiery, the Fiery logo, EFI are trademarks of Electronics for Imaging, Inc. in the U.S. and/or certain other countries.

FOGRA is a registered trademark of FOGRA Forschungsgesellschaft Druck e.V.

Google Chrome is a trademark of Google LLC.

GRACoL® is a registered copyright of Idealliance.

Intel Core is a trademark of Intel Corp. in the United States and/or other countries.

Microsoft, Windows, Visual C++, BitLocker are either registered trademarks or trademarks of Microsoft Corp. in the United States and/or other countries.

The product names of Windows 10 are as follows:

- Microsoft® Windows® 10 Home
- Microsoft® Windows® 10 Pro
- Microsoft® Windows® 10 Enterprise
- Microsoft® Windows® 10 Education
- Microsoft® Windows® 10 Mobile
- Microsoft® Windows® 10 Mobile Enterprise

The product names of Windows 11 are as follows:

- Microsoft® Windows® 11 Home
- Microsoft® Windows® 11 Pro
- Microsoft® Windows® 11 Pro Education
- Microsoft® Windows® 11 Pro for Workstations

- Microsoft® Windows® 11 Enterprise
- Microsoft® Windows® 11 Education

Japan Color is a registered trademark of the Japanese Society of Printing Science and Technology and the Japan Printing Machinery Association.

Other product names used herein are for identification purposes only and might be trademarks of their respective companies. We disclaim any and all rights to those marks.

Microsoft product screenshots reprinted with permission from Microsoft Corporation.

# TABLE OF CONTENTS

# 1. Before Using the Machine

## What Can Be Done on the Machine

This product provides an efficient solution for achieving color adjustment, color matching, colorimetry, and management of printers.

The RICOH Auto Color Adjuster comprises the following four functions:

**[Quick Color Adjustment]**

Scans a color chart and generates a profile automatically. Use this function at a regular interval to avoid the changes in the machine condition or printing environment to affect the colors on the output sheets.

**[Color Sample Matching]**

Generates a profile based on the printed color sample that you scanned using the Color Sample Matching function. Use the generated profile to reproduce the color tone of the color sample on the printed page as closely as possible.

**[Management Console]**

Performs quick certification on the color adjustment result of the printer, according to various certification standards. You can manage the records of changes in the certification result over time, for individual printers.

**[Colorimetry]**

The machine measures the colors on a printed test chart at a regular interval. You can save the measurement results in a file and manage them using a color management or other similar application.

⬇ Note

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

# 2. Overview of the Machine

- Device Configuration
- Applications Required for Using the Machine

This chapter describes the configuration of devices that are required to use the machine, and the names of machine parts. It also describes the applications for controlling the machine.

## Device Configuration

You can operate the machine, register a profile to the DFE, and perform other operations using a computer that is connected to the machine via USB. Use a computer that is connected to the machine in a network environment shown below.
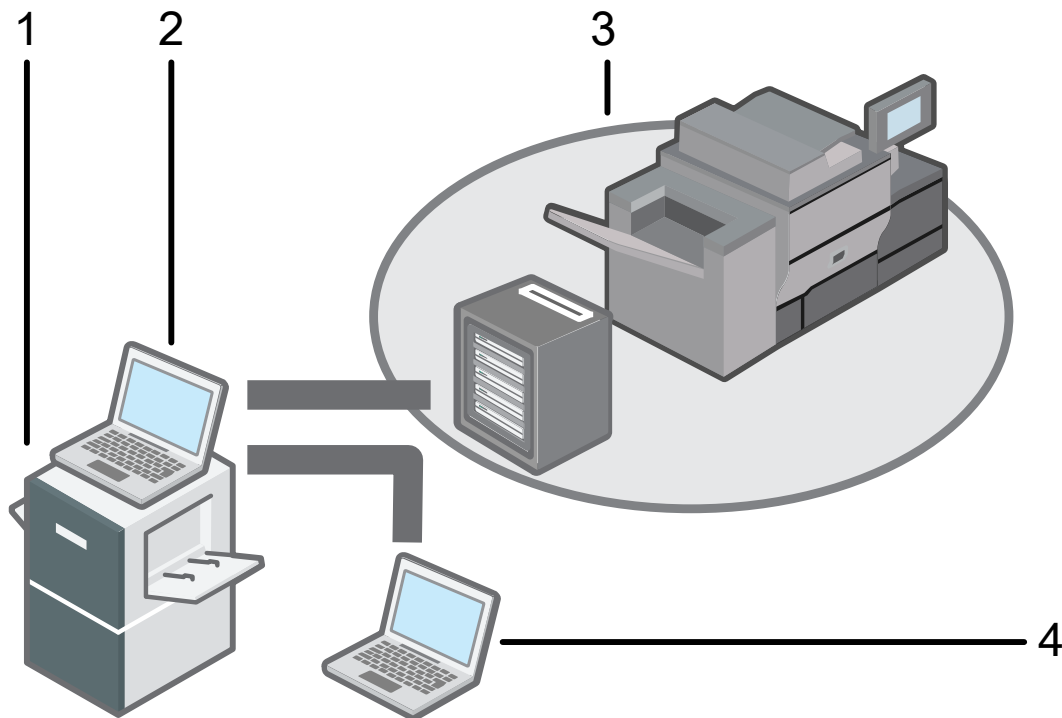


M582IM0151

1     Machine

2     A computer that is connected to the machine via two USB cables provided with the machine. You can use all functions including **[Quick Color Adjustment]**, **[Color Sample Matching]**, **[Colorimetry]**, and **[Management Console]**.

3     A printer and its DFE: Fiery color controller, TotalFlow Print Server, or another printer controlling device.

4     A network computer

      To manage the colors of the printer, use **[Management Console]**.

## Names of Machine Parts

### Front and Left View
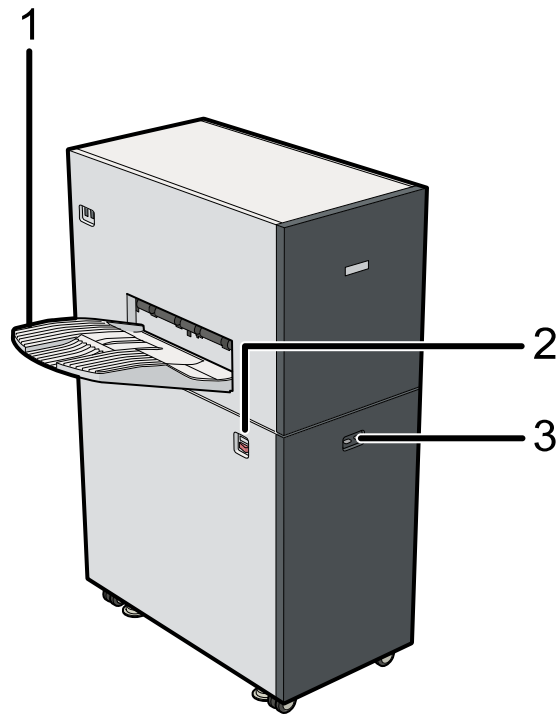


M582IM0061

| | | | |
|---|---|---|---|
| 1 | Output tray | 3 | Indicator |
| 2 | Power switch | | |

## Front and Right View
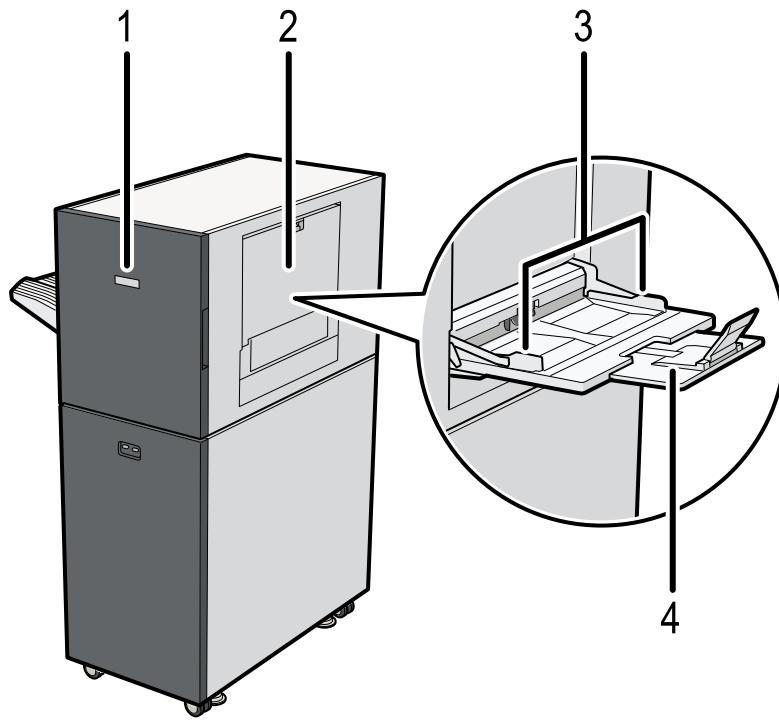


M582IM0062

| | | | |
|---|---|---|---|
| 1 | Front door | 3 | Paper guides |
| 2 | Source tray | 4 | Extension tray |

## Back and Left View
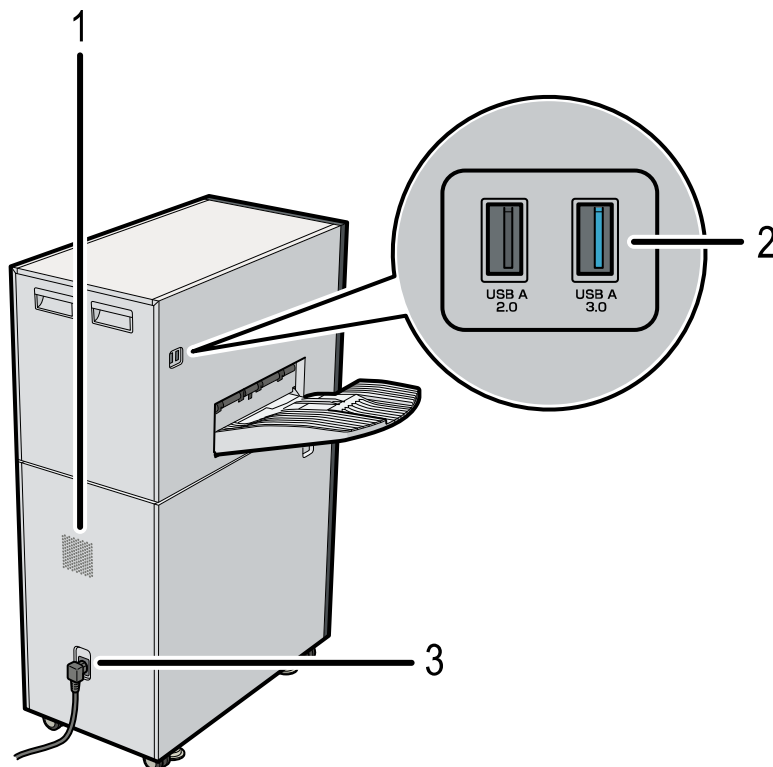


M582IM0063

| 1 | Ventilation holes | 3 | Power cable inlet |
|---|---|---|---|
| 2 | USB interface | | |

**Note**

- If the ejected sheets are curled or not stacked neatly, attach the auxiliary tray provided with the machine to the output tray. For details, see *RICOH Auto Color Adjuster: User Guide*.

- Ventilation holes prevent the internal components of the machine from overheating. Do not block the ventilation holes.

- Do not use a USB cable other than the cable provided with the machine. Proper operation of the machine is guaranteed only when it is connected to a computer via the provided USB cable.

- ⊕Region**A**: mainly Europe

  Plug the power cable into a wall outlet that supplies electricity of 220–240 V, 1 A or more, and 50–60 Hz.

- ⊕Region**B**: mainly North America

  Plug the power cable into a wall outlet that supplies electricity of 120–127 V, 1.2 A or more, and 60 Hz.

- Make sure that the power cable is securely plugged directly into the wall outlet.

- Do not apply an excessive force on the upper part of the machine. The machine might topple over and cause injury.

- Do not apply an excessive force on the output tray, front door, source tray, paper guides, or extension tray. Doing so might damage the machine.

## Applications Required for Using the Machine

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

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

| Application | Description |
|---|---|
| RICOH Auto Color Adjuster | Dedicated application including the **[Quick Color Adjustment]**, **[Color Sample Matching]**, and **[Colorimetry]** functions. |
| Fiery Command WorkStation | Application required to use the **[Quick Color Adjustment]** function of the RICOH Auto Color Adjuster. The Fiery Command WorkStation is used for the automatic registration of profiles when using a Fiery DFE. |
| ColorGATE Productionserver | Application required to use the **[Quick Color Adjustment]** function of the RICOH Auto Color Adjuster. The ColorGATE Productionserver is used for the automatic generation of profiles, and the user does not need to operate it. |
| GPL Ghostscript<br><br>Version: 9.27 | Application required to convert the original data (PDF) to image data in TIFF format, using the **[Color Sample Matching]** function of the RICOH Auto Color Adjuster. The user does not need to operate the GPL Ghostscript. |

## Computer System Requirements

| Item | | Requirements |
|---|---|---|
| Operating system | | Windows 10 Pro 64 bit, Version 2004 or higher<br>Windows 11 Pro |
| Web browser | | Google Chrome, v93 or higher |
| Hardware | CPU | Intel Core i7-8650U or higher |
| | RAM | 16 GB or more |
| | Disk space | 256 GB or more |
| | Resolution | 1,920 × 1,080 pixels or more |
| | USB port | One USB 3.0 port, one USB 2.0/2.1 port |

2

# 3. Basic Operations of the Machine

- Turning the Machine On and Off
- Using the RICOH Auto Color Adjuster Application
- Screen Configuration of the Application
- Placing a Chart on the Paper Tray

This chapter describes basic information about operating the machine and the RICOH Auto Color Adjuster application.

## Turning the Machine On and Off

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

⭐ Important

- Do not turn on the power of the machine immediately after turning it off. Before turning the machine back on, wait for the indicator to remain unlit for 10 seconds or more.

- Do not turn off the power of the machine immediately after turning it on. Before turning off the machine, wait for the indicator to remain lit for 10 seconds or more.
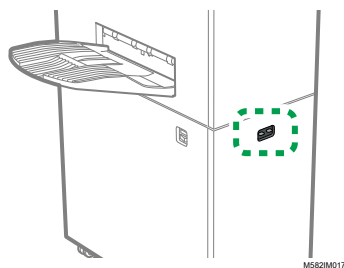
## Turning On the Machine

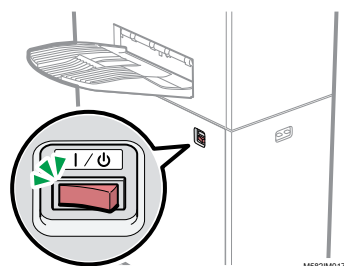To turn on the machine, use the power switch on the left side of the machine.

⭐ Important

- Do not turn on the power of the machine immediately after turning it off. Before turning the machine back on, wait for the indicator to remain unlit for 10 seconds or more.

To turn on the machine:

1. Check that the power indicator of the machine is not lit.



2. Make sure that the power cable is plugged securely into the wall outlet.

3. Turn on the power switch on the left side of the machine.

The indicator lights up in blue.

4. Turn on the power of the computer that is connected to the machine.
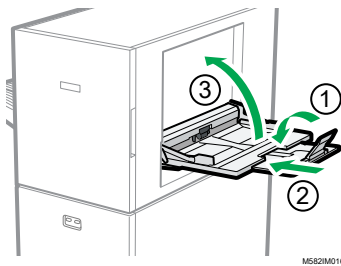
## Turning Off the Machine

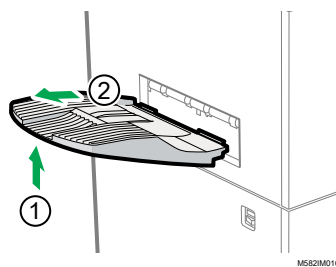To turn off the machine, use the power switch on the left side of the machine.

⭐**Important**

- Do not turn off the power of the machine immediately after turning it on. Before turning off the machine, wait for the indicator to remain lit for 10 seconds or more.

To turn off the machine:

1. Turn off the power of the computer that is connected to the machine.

2. Close the source tray as required.

    1. Fold the extension tray **(1)**, and set it back to its original position **(2)**.



    2. Close the source tray by lifting it until it is locked in place **(3)**.

3. Remove the output tray from its fixed base as required.

    1. Push the output tray upward **(1)**.



    2. Pull out the output tray **(2)**.

4. Turn off the power switch on the left side of the machine.
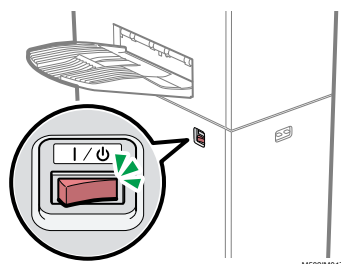
The indicator turns off.

# Using the RICOH Auto Color Adjuster Application

To operate the machine, use the RICOH Auto Color Adjuster that is installed on the computer. This section describes the functions and settings of the RICOH Auto Color Adjuster, and the procedure for starting each function and accessing the settings menus.

| How to Access Functions and Settings | Function/ Settings | Overview |
|---|---|---|
| Select the function or the settings button in the menu screen of the RICOH Auto Color Adjuster | [Quick Color Adjustment] | Scans a color chart and generates a profile automatically. Register the created profile as the output (printer) profile on the DFE, and use the profile when printing a document. Use this function at a regular interval to avoid the changes in the machine condition or printing environment to affect the colors on the output sheets.<br><br>For more information, see Quick Color Adjustment, p. 27. |
| | [Color Sample Matching] | Generates a profile based on the printed color sample that you scanned using the Color Sample Matching function. Register the created profile as the CMYK input (source) profile on the DFE, and use the profile when printing a document. You can use the generated profile to reproduce the colors of the color sample on the printed page as closely as possible.<br><br>For more information, see Color Sample Matching, p. 43. |
| | [Colorimetry] | The machine measures the colors on a printed test chart at a regular interval. You can save the measurement results in a file and manage them using a color management or other similar application.<br><br>For more information, see Colorimetry, p. 71. |
| | [Machine Settings] | Specify various settings of the machine.<br><br>For more information, see *RICOH Auto Color Adjuster: Installation Guide*. |
| Select the function or the settings button in a web browser | [Management Console] | Performs quick certification on the color adjustment result of the printer according to various certification standards. You can manage the records of changes in the certification result over time for each printer.<br><br>For more information, see Management Console, p. 63. |
| | [Initial Settings] | Specify the printer, paper type, and other settings to use for **[Quick Color Adjustment]**.<br><br>For more information, see *RICOH Auto Color Adjuster: Installation Guide*. |

3

**⤵ Note**

- You can also use **[Initial Settings]** and **[Management Console]** from a computer on the network.
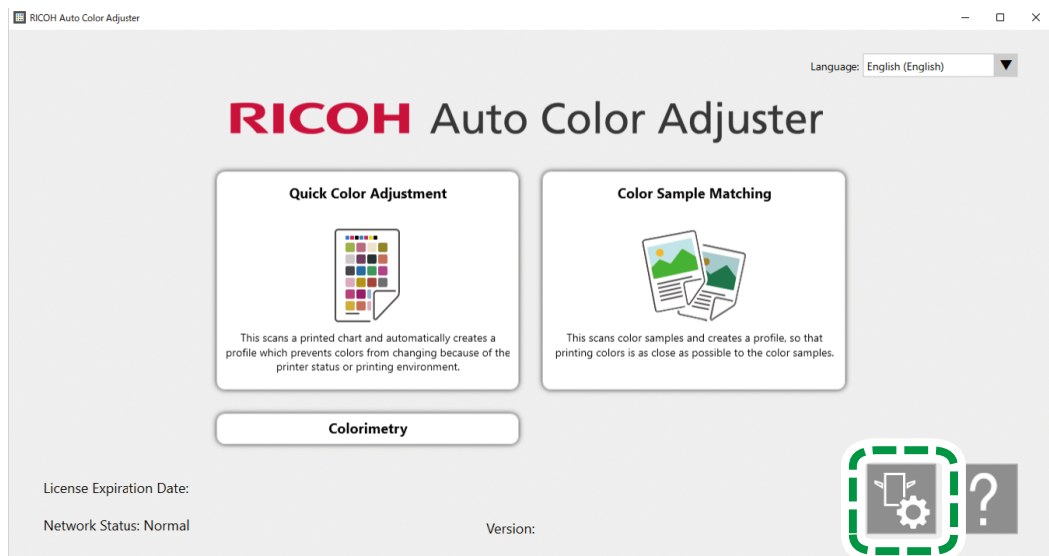
## Displaying the Menu Screen

To display the menu screen:

1. Start the computer that is connected to the machine via USB cables.
   The menu screen is displayed.

2. If the RICOH Auto Color Adjuster menu screen is not displayed, double-click the **[RICOH]** icon (
   
   ).
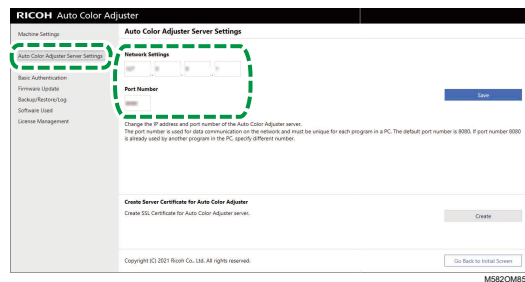   The RICOH Auto Color Adjuster menu screen is displayed.
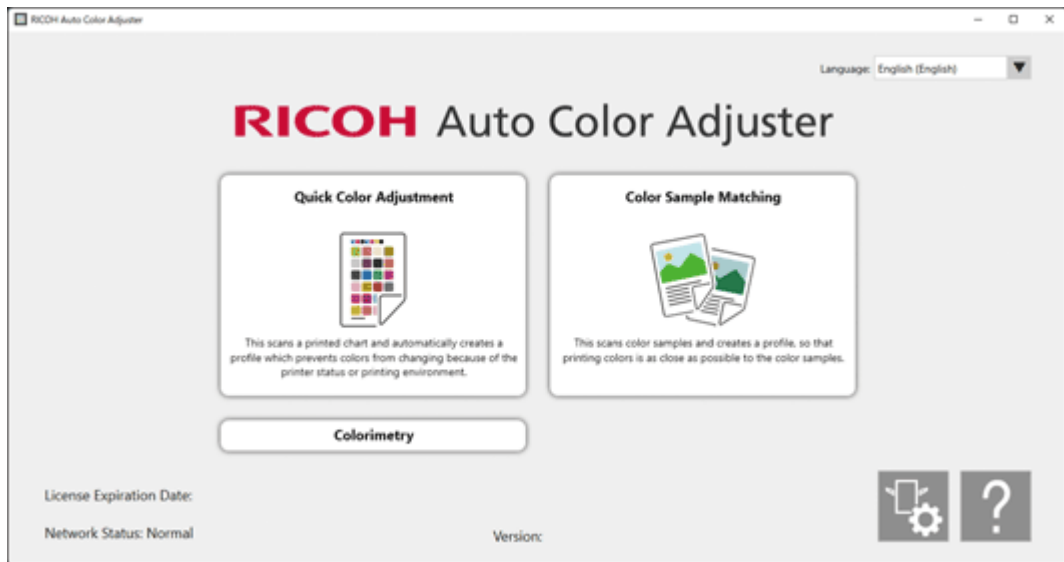


m5820m0850

3. Click the **[Machine Settings]** button on the menu screen.

M582OM5958

4. To check the IP address and port number, click **[Auto Color Adjuster Server Settings]**.



M582OM8570

## Displaying the Screen in a Web Browser

To display the screen in a web browser:

1. Start the computer that is connected to the machine via USB cables.

2. Check the IP address and port number of the server.

   ◆Note

   - When you are operating more than one machine and using a client computer, consult the administrator for the IP address and port number of the server.

3. Start a web browser.

4. In the address bar, enter the IP address and port number.
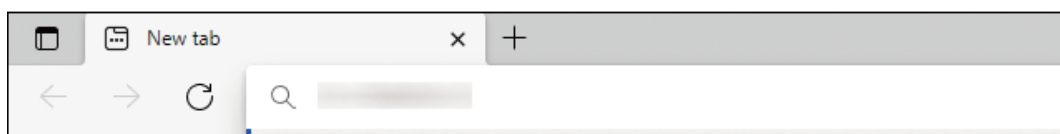


m582wm9560

**⬇Note**

- Use the following format of the IP address and port number: https://*(IP Address)*:*(port number)*. Do not omit the colon (:) and periods (.). You can omit the entry after ":" when the port number is "80".

5. Enter the user name and password.

**⬇Note**

- The default user name and password are as follows:
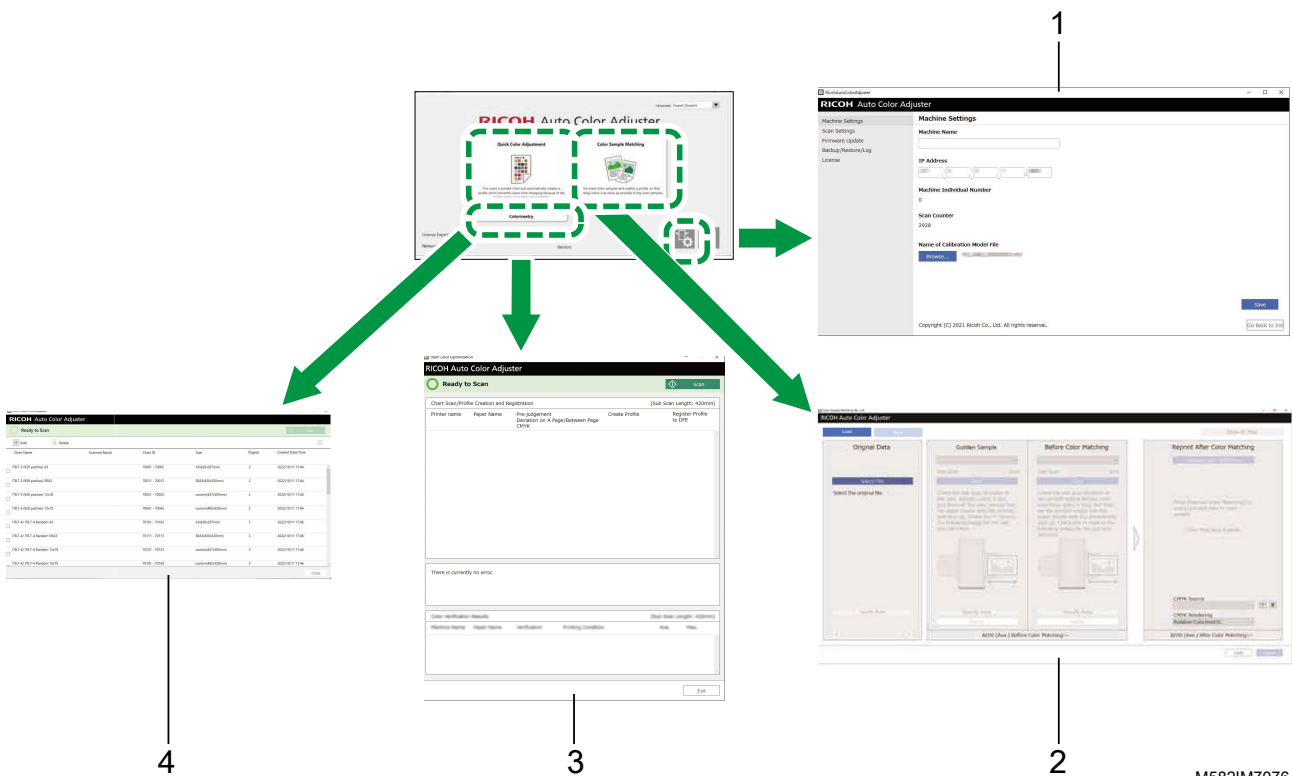
  – User name: aca-user

  – Password: user

The **Management Console** screen is displayed.

# Screen Configuration of the Application

Use the following functions on the screen that is displayed.

**Menu**

Display **[Quick Color Adjustment] (3)**, **[Color Sample Matching] (2)**, **[Colorimetry] (4)**, or **[Machine Settings] (1)**.



M582IM7076

**⬇Note**

- To display the online manual, click the **[Help]** button ( ? ) displayed on the menu screen.

**Web Browser**

To switch between **[Management Console]** and **[Initial Settings]**, click one of the following buttons in the upper right corner of the screen:



m582om5670

**⬇ Note**

- Depending on the screen resolution or display size of the browser, the upper-right area of the screen might not be displayed. If this occurs, scroll the screen to display the area.
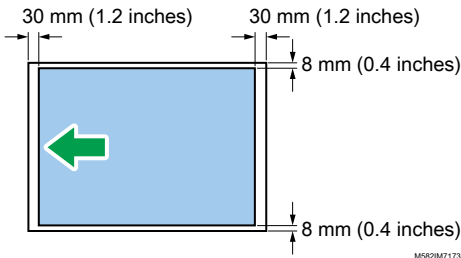
# Placing a Chart on the Paper Tray

## Available Paper Size and Thickness

The machine can scan paper with the following specifications.

**Paper Specifications**

| Item | Specification |
|---|---|
| Type | Wood free paper, coated paper, matte paper, art paper<br><br>**⬇ Note**<br>• Use the recommended paper when using **[Quick Color Adjustment]**.<br>• For details, see *RICOH Auto Color Adjuster: User Guide*. |
| Paper size: width | 210–330.2 mm (8.3–13 inches)<br><br>297–330.2 mm (11.7–13.0 inches) when using **[Quick Color Adjustment]** |
| Paper Size: length | 210–487.7 mm (8.3–19.2 inches)<br><br>420–487.7 mm (16.5–19.3 inches) when using **[Quick Color Adjustment]** |
| Paper weight | 73.3–279.0 g/m² (63–240 kg: 5 x 7.4 inches) |

| Item | Specification |
|---|---|
| Number of sheets | 70 sheets when using gloss coated paper of 104 g/m² |
| Scan area | The machine scans the following blue area:  |

**Note**

- To specify the paper length in Sub Scan Direction in advance, click **[Scan Settings]** in the **[Machine Settings]** section.
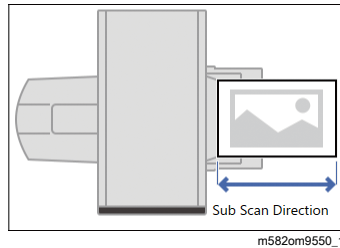


- When using **[Color Sample Matching]**, you can specify the paper length to match the color sample or original to scan on the **[Color Sample Matching]** screen.

- When using **[Colorimetry]**, use paper of size from A4 (210 x 297 mm, 8.27 x 11.69 inches) or Letter (215.9 x 279.4 mm, 8.5 x 11 inches) up to A3 (330.2 x 482.6 mm, 13 x 19 inches).

## Original or Chart That Cannot Be Used

Do not place an original or color chart in the condition as shown below on the machine:

- Bound by a staple or paper clip
- Has a hole, rip, or notch
- Bent or wrinkled
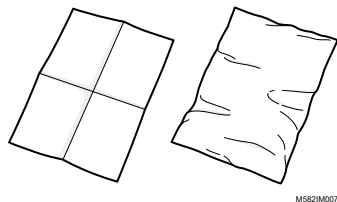


- Pasted together with another piece of paper
- Has a piece of adhesive tape or glue on it
- Has a protruding part such as an index tab or tag

⭐ Important

- Placing an original or chart in one of the conditions previously mentioned might generate a paper jam, or the machine might malfunction.

## Color Charts and Originals That Are Heavily Curled

Correct the curl before placing a heavily curled original or color chart on the machine.

You can scan an original or color chart that has a curl that satisfies the following condition:
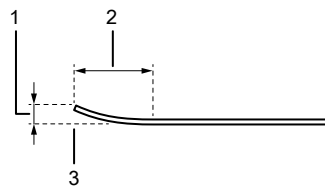


M582IM0174

| 1 | 7.5 mm (0.3 inches) or less |
| 2 | 30 mm (3.9 inches) or more |
| 3 | On the leading or trailing end of an original/chart |

## Placing an Original or Color Chart on the Paper Tray

⭐ Important

- Do not add an original in the tray while some sheets are still remaining on the tray. Doing so might cause double feeding to occur.

- Faint streaks or linear imprints might appear on the surface of the paper when you use an original or color chart that is printed on coated paper or media that is easily scratched.

- When loading multiple sheets of paper together, fan the sheets thoroughly, and bend the stack slowly several times before aligning the edges. If misfeed occurs, place one sheet at a time.
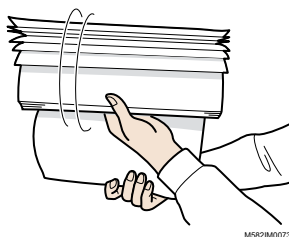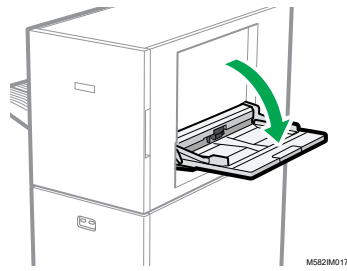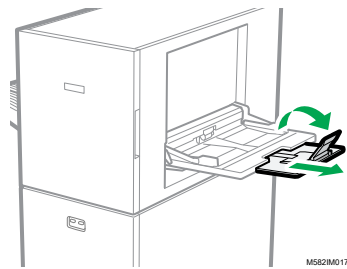


M582IM0073
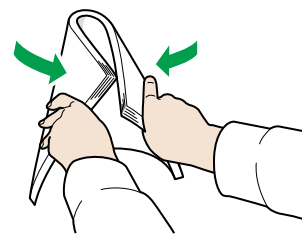


M582IM0074

To place an original or color chart on the paper tray:

1. Open the paper tray.

M582IM0175

2. Pull out the extension tray when you are placing an original that extends beyond the edge of the tray (longer than A4 size paper in portrait orientation).



M582IM0176

3. Gently insert the paper with the side to be scanned facing up.



M582IM0177
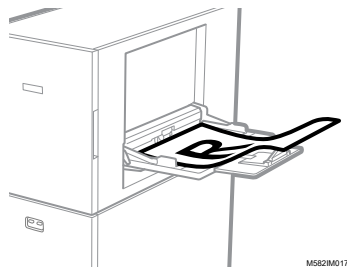
**Note**

- Place an original so that it is not stacked above ▼▬▼, the upper limit indicator. If you place an original beyond the upper limit indicator, it might be scanned at an angle or cause a paper jam.

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



M582IM0178

# 4. Quick Color Adjustment

- Operation Workflow of Quick Color Adjustment
- Performing Quick Color Adjustment

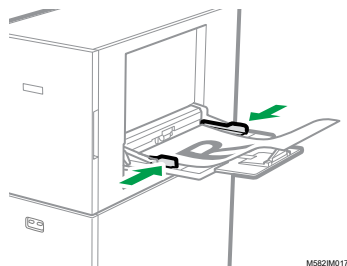Scans a color chart, and generates a profile automatically. Register and use the created profile as the output profile (printer profile) on the DFE, and use the profile when printing a document.

Use the function regularly to prevent the colors on the output sheets from being affected by changes in the condition of the machine or printing environment.

Also, you can determine if the printed colors are within the tolerance of the standard that you selected in **[Initial Settings]** after performing color adjustment or at regular intervals.

## Operation Workflow of Quick Color Adjustment



M582IM0001
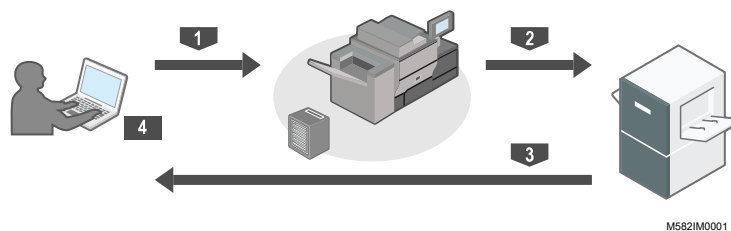
To perform color adjustment:

1. Print the color chart for creating a profile on the printer to adjust colors.
2. Place the color chart for creating a profile on the machine.
3. Scan the chart using **[Quick Color Adjustment]**.
4. A profile is created and registered to the DFE.
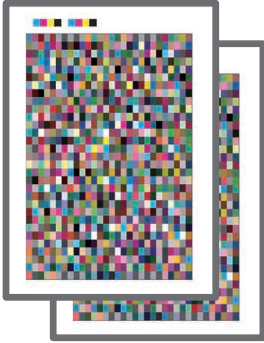
To perform color verification:

1. Print the color chart for color verification on the printer to adjust colors.
2. Place the color chart for color verification on the machine.
3. Scan the chart using **[Quick Color Adjustment]**.
4. Check the result.

## About Color Charts

**[Quick Color Adjustment]** uses color charts to evaluate the colors that are reproducible on a printer.

Every time you perform **[Quick Color Adjustment]**, a PDF for creating a color chart is printed. A PDF is assigned for each combination of a printer and paper type when the administrator configures the initial settings. Check **[Details]** in **[Initial Settings]** for the file name of the assigned PDF. The machine identifies the specified combination of a printer and paper type using the color code that is printed at the top of the chart, and measures the color boxes on the chart to evaluate the status of the printer.

There are two types of charts:

**Color chart for creating a profile**

Use this color chart when registering a profile. Print the chart using the setting that does not convert the profile.

**Color chart for verification**

Use this chart to determine if the color adjustment result conforms to the standard. Specify to use the profile of each certification standard as the CMYK source (input) profile and the profile that is created in **[Quick Color Adjustment]** as the output printer profile, and print the chart.

m582im0051

🡇 Note

- Print the PDF to change the print settings according to your purpose.

## Precautions When Registering a Profile

Register the profile created in the color adjustment process to a DFE to use it.

The procedure for registering a profile varies depending on the setting in **[DFE Type]** in Initial Settings. For details, see *RICOH Auto Color Adjuster: Installation Guide*.

⭐ Important

- Before performing color adjustment, check whether the profile needs to be registered to the DFE manually.

- When the DFE name is specified in **[DFE Type]**: The profile is registered to the DFE automatically. No user operation is required. Also, the profile is assigned to **[Calibration Set Name]** that is registered in the Add Paper screen of Initial Settings when using Fiery.

- When **[Other]** is specified in **[DFE Type]**: Register the profile that is stored on the computer to the DFE manually. For details about the operation, see the manual of the DFE.

The profile is saved to the folder that is specified in **[Save Profile]** that appears when you click **[Miscellaneous]** in Initial Settings. For details, see *RICOH Auto Color Adjuster: Installation Guide*.

⭐ Important

- Do not update the Fiery Command WorkStation or ColorGATE Productionserver that is installed on the computer that is connected to the machine. Automatic registration of a profile might not work properly if the operating environment changes as a result of the update.

## When Performing Color Adjustment and Color Verification

Before performing a high-volume printing run, or after performing maintenance or image quality adjustment on the printer, perform Color Adjustment or Color Verification as follows.

- When Color Adjustment is not performed: Perform Color Adjustment.

- When Color Adjustment is performed already (when a profile is created and registered): Perform Color Verification. However, perform Color Adjustment, and then perform Color Verification again, when the result of Color Verification is determined to be **[NG]**.

# Performing Quick Color Adjustment

Use **[Quick Color Adjustment]** to perform color adjustment on a printer and evaluate the result.

## Precautions Before Operation

- It is recommended to perform image density adjustment in advance.

- On the printer whose color you want to adjust: The density of the printed image is normal and there are no errors. Check that the paper registered in Initial Settings is loaded.

- The machine: The red indicator is not lit.

- The computer connected to the machine: The menu screen of RICOH Auto Color Adjuster is displayed. Also, the ColorGATE Productionserver must be started and running.

  For details, see Using the RICOH Auto Color Adjuster Application, p. 19.

- To use the **[Quick Color Adjustment]** function with a Fiery controller, set the Fiery Command WorkStation language to English or Japanese.

## Preparing the PDF File

You can confirm the name of the PDF file for the color chart that is assigned to each combination of a printer and paper on which to perform color adjustment in **[Details]** of Initial Settings.
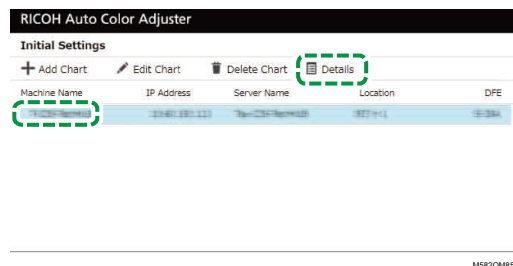


The PDF file is stored in the `C:\RicohAutoColorAdjuster\ReferenceChart\profile_A3` folder. When 101 or more color charts are registered, decompress `chartPDF_Profile.zip` in the `qca` folder in the provided USB flash memory. For details, see *RICOH Auto Color Adjuster: Installation Guide*.

**↩Note**

- When printing a color chart, use paper that matches the following settings, and specify the paper correctly in the print settings.

  – Paper of the size specified in **[Quick Color Adjustment]** on the **[Scan Settings]** screen.

  – The same paper as the paper that is specified in **[Paper Type]** on the Initial Settings screen.

  For details about the settings, see *RICOH Auto Color Adjuster: Installation Guide*.

- When **[ISO12647-8 Coated V3 F51]** is specified as the verification standard to verify colors in **[Verification Wedge]**, it is recommended to print the color chart on **[UPM Digi Finesse gloss (250 gsm)]** to determine pass or fail in Color Verification.

- Print about 10 copies of the chart, and use the copy that is printed last.

# 4

## Performing Color Adjustment

Adjust the colors printed on the printer by scanning a color chart on the machine and registering the created profile to a DFE.

To perform color adjustment:

1. On the operation screen of the Fiery Command WorkStation or the TotalFlow Print Server, print the PDF file of the color chart for creating a profile.

   **⭐Important**

   - Do not specify duplex print.

   - Print 10 copies of the chart to obtain a stable color output. Use the copy of the profiling chart that is printed last.

   1. Select the printer on which to perform color adjustment.

   2. Print the document data using the required print settings. For information about print settings, see Using Fiery to Print the Color Chart PDF File for Color Adjustment, p. 32 or Using the TotalFlow Print Server to Print the Color Chart PDF File for Color Adjustment, p. 34.

   3. When using Fiery, register the print job in the job archive to omit importing the chart.

   4. When using the TotalFlow Print Server, keep the job as a saved job to omit importing the chart.

2. Take the last copy of the profiling chart that you printed.

3. Place the color chart for creating a profile on the machine, with the print side facing up.
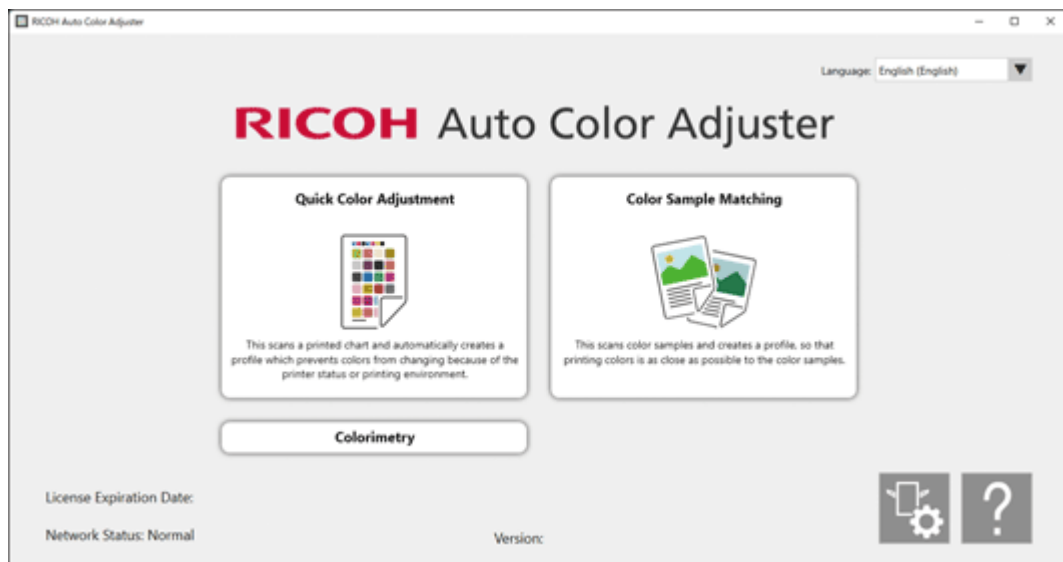


M582IM0185
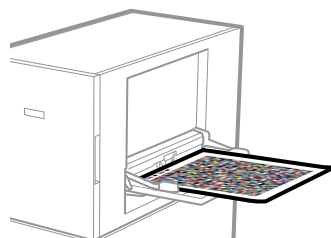
For more information, see Placing an Original or Color Chart on the Paper Tray, p. 25.

4. On the computer taskbar, click the **[RICOH]** icon (![RICOH icon]).
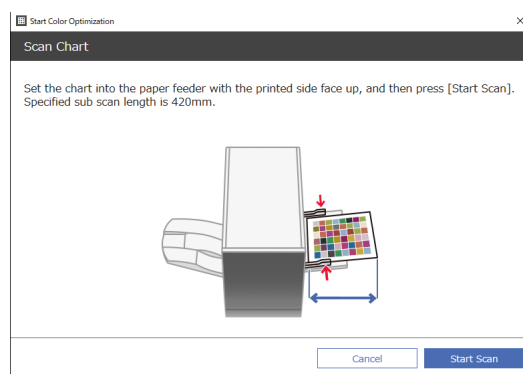
⬇ **Note**

- Do not close the Productionserver screen.

5. Click **[Quick Color Adjustment]**.



m5820m0850

6. In the Quick Color Adjuster dialog, click **[Scan]**.

7. In the Scan Chart dialog, click **[Start Scan]**.



m582om0660

The machine starts scanning the chart for creating a profile and generates a profile automatically.

⭐ **Important**

- Do not operate the computer while the message "Command WorkStation (TM) or TotalFlow is running." "Do not touch the mouse or keyboard." is displayed on the screen.

8. Check that the Pre-judgement, Create Profile, and Register Profile to DFE checkboxes are selected.

M582OM5668
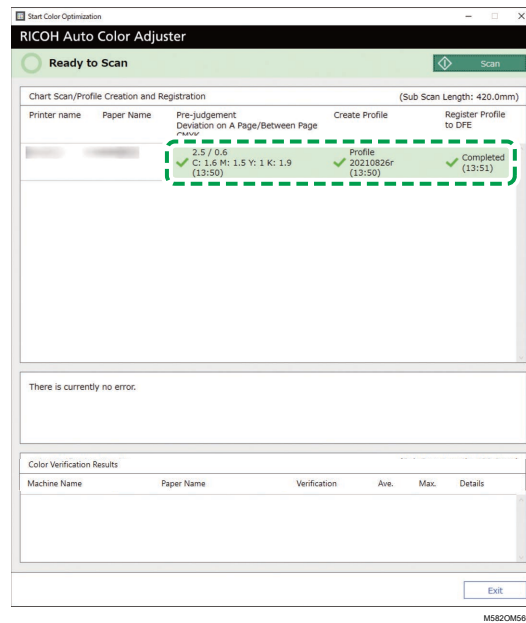
9. If a message indicating that evaluation failed in step 8 is displayed, repeat the procedure starting with step 1.

   **Note**

   - Be sure to print the correct chart, and load the chart correctly on the machine.

10. If a message regarding the error criteria is displayed in step 8, adjust the printer as instructed. For details, see *RICOH Auto Color Adjuster: User Guide*.

11. Click **[Exit]**.

12. When you are using a DFE that does not support automatic registration of profiles, register the stored profile manually to the DFE.

## Using Fiery to Print the Color Chart PDF File for Color Adjustment

To obtain a stable color output, print 10 copies of the chart. Use the copy of the profiling chart that is printed the last.
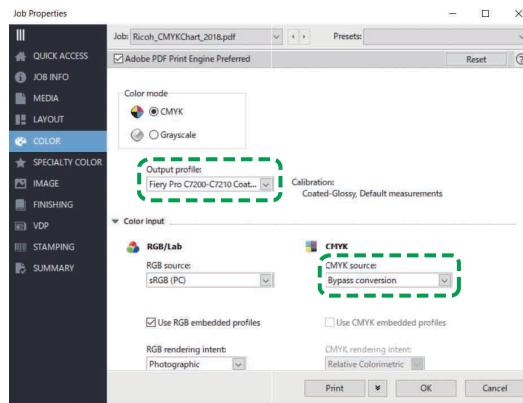
To use Fiery to print the color chart PDF file for color adjustment:

1. Set the paper specified in **[Paper Name]** on the Add/Edit Chart screen of Initial Settings onto the paper tray.

2. In the **[MEDIA]** section, select **[Paper Catalog]** or specify the **[Paper Type]**, **[Paper Weight]**, and **[Paper Size]** manually.

3. In the **[LAYOUT]** section, set **[Duplex]** to **[Off]**.

M582OM5701
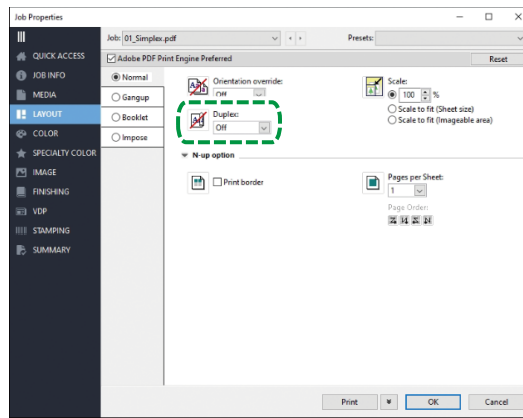
4. In the **[COLOR]** section, specify the **[Output profile]** assigned to **[Verification Wedge]** that is registered in the Add/Edit Chart screen of Initial Settings. However, specify **[Verify GRACoL2013, Wedge]** when **[Simple Gray Scale, Wedge 2013]** is specified in **[Verification Wedge]**.



M582OM5702

5. Set **CMYK source** to **[Bypass conversion]**.

6. Set **[Black text and graphics]** to **[Normal]**.
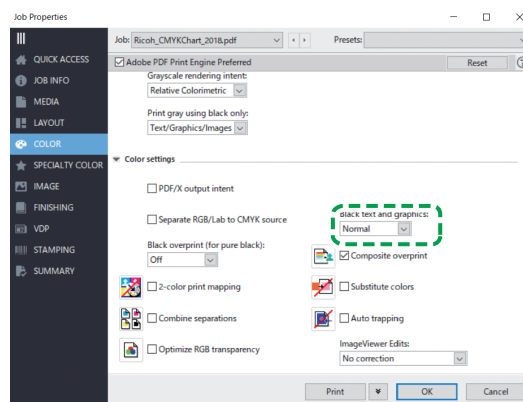


M582OM5564

## Using the TotalFlow Print Server to Print the Color Chart PDF File for Color Adjustment

To obtain a stable color output, print 10 copies of the chart. Use the copy of the profiling chart that is printed the last.

To use the TotalFlow Print Server to print the color chart PDF file for color adjustment:

1. Set the paper specified in **[Paper Name]** on the Add/Edit Chart screen of Initial Settings onto the paper tray.

2. In the **[Paper]** section, click **[Paper catalog]** to select a paper from the paper catalog. To specify the paper **[Type]**, **[Size]**, and **[Weight]** manually, click **[Manual paper]**.

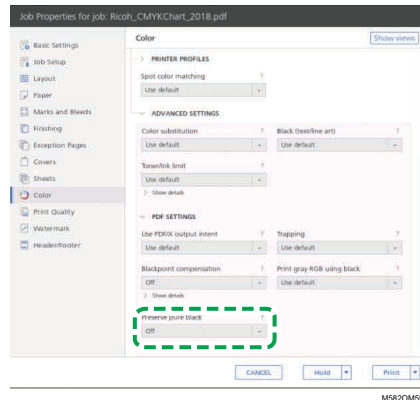3. In the **[Color]** section, set the **[CMYK input profile]** to **[Pass through]**.
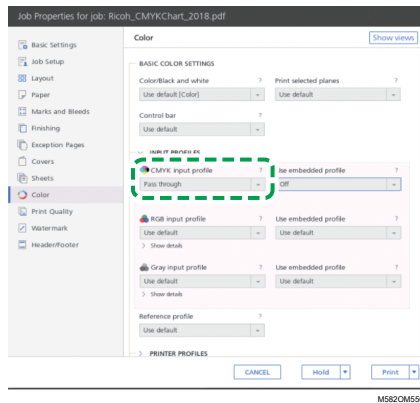


4. Set the **[Reference profile]** to **[None]**.
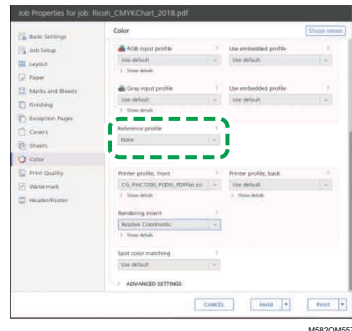


5. Set **[Black (text/line art)]** to **[Normal]**.
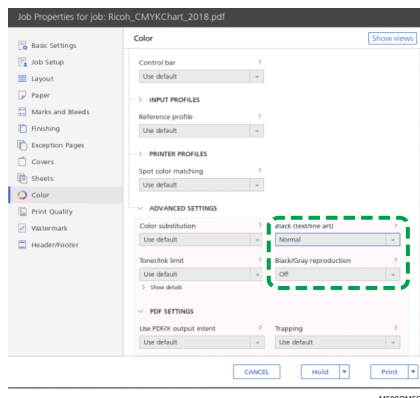
6. Set **[Black/Gray reproduction]** to **[Off]** when the **[PDF job processor (RIP)]** is SCREEN APPE, Kodak APPE, or CPSI.

7. Set **[Preserve Pure Black]** to **[Off]** when the **[PDF job processor (RIP)]** is Heidelberg APPE.



M582OM5577

8. In the **[Print Quality]** section, set the **[CMYK overprint sequence]** to **[After color conversion]** when the **[PDF job processor (RIP)]** is SCREEN APPE or Kodak APPE.



M582OM5578
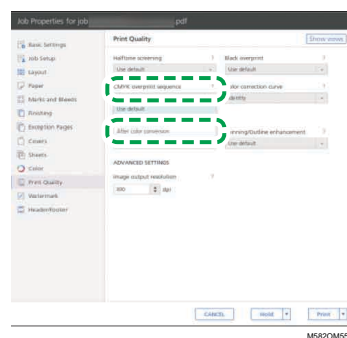
## Performing Color Verification

You can evaluate the result of the color adjustment, and check the status of the specified printer.

To perform color verification:

1. On the operation screen of the Fiery Command WorkStation or the TotalFlow Print Server, print the PDF file of the color chart for verification.

   ⭐ **Important**

   - Do not specify duplex print.
   - Print 10 copies of the chart to obtain a stable color output. Use the copy of the profiling chart that is printed last.

   1. Select the printer on which to perform color verification.

   2. Print the document data using the required print settings. For information about print settings, see Using Fiery to Print the Color Chart PDF File for Color Verification, p. 38 or Using the TotalFlow Print Server to Print the Color Chart PDF File for Color Verification, p. 39.

   3. When using Fiery, register the print job in the job archive to omit importing the chart.

4. When using the TotalFlow Print Server, keep the job as a saved job to omit importing the chart.

5. Specify not to retain the RIP-processed data after the process is complete.

2. Take the last copy of the profiling chart that you printed.

3. Place the color chart for verification on the machine, with the print side facing up.
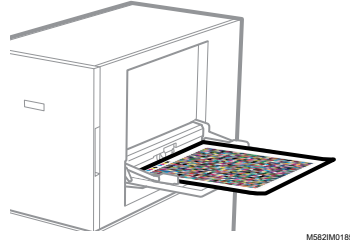


M582IM0185

For more information, see .

4. On the computer taskbar, click the **[RICOH]** icon (⊞ICOH).
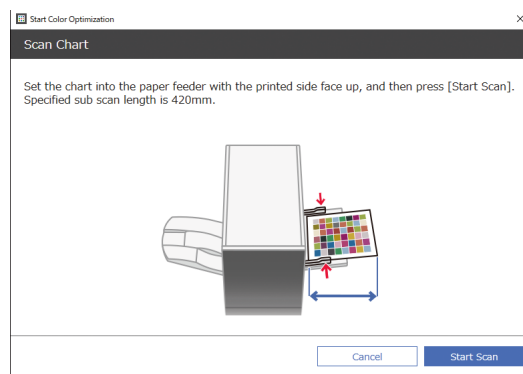
⬇Note

- Do not close the Productionserver screen.

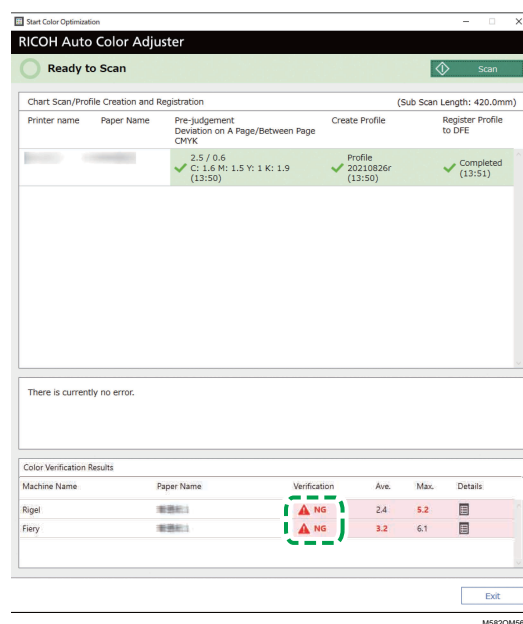5. Click **[Quick Color Adjustment]**.
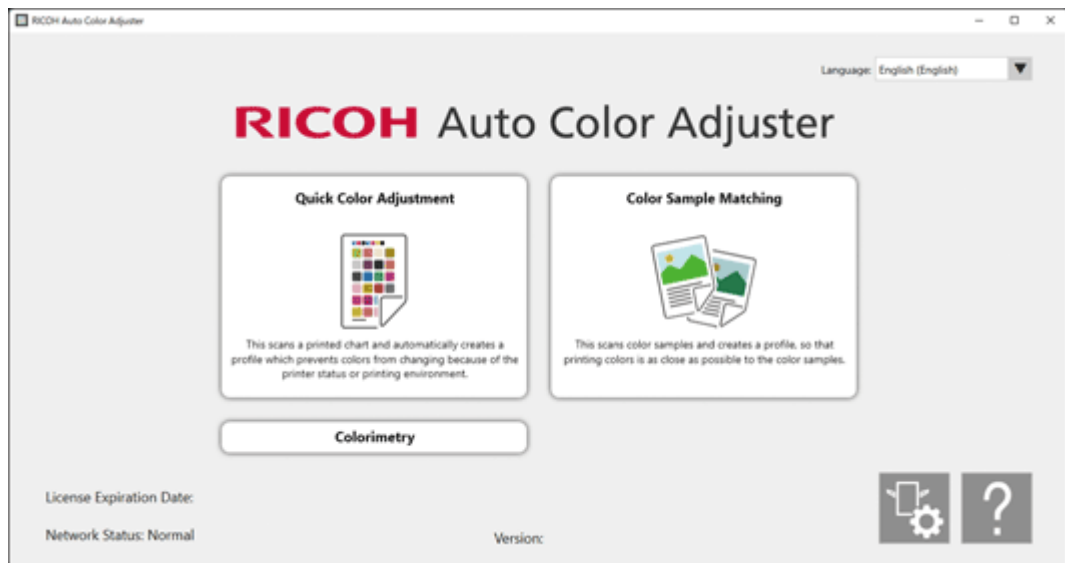


m5820m0850

6. In the Quick Color Adjuster dialog, click **[Scan]**.

7. In the Scan Chart dialog, click **[Start Scan]**.

m582om0660

The color chart for color verification is scanned, and the scan result is evaluated.

8. Check the Color Verification Results.



M582OM5669

9. If **[NG]** is displayed, click the **[Details]** button to see the Post-judgement details.

**Note**

- For details about each item on the screen, see *RICOH Auto Color Adjuster: User Guide*.

10. If **[NG]** is displayed, check that the print settings are specified correctly and the paper conforms to the specified standard, and then perform **[Quick Color Adjustment]** again.

11. Click **[Exit]**.
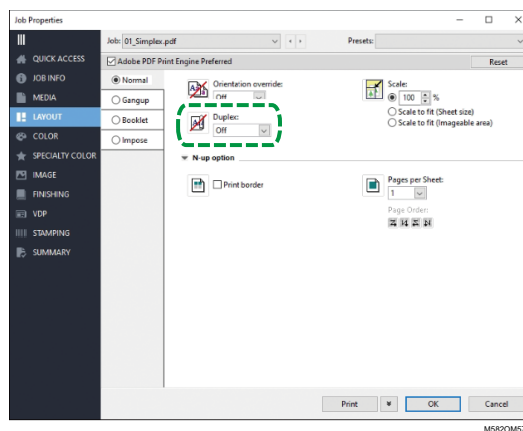The color verification of the color adjustment result is complete.

**Note**

- The color deviation and judgment result (**[OK]**/**[NG]**) displayed in Post-judgment might differ from those when a different colorimeter is used.

- You can check the change in color over time in **[Management Console]**. For details, see Management Console, p. 63.

- If a message is displayed, see *RICOH Auto Color Adjuster: User Guide*.

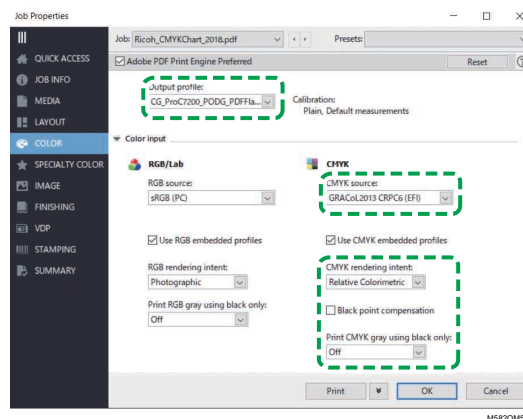## Using Fiery to Print the Color Chart PDF File for Color Verification

To obtain a stable color output, print 10 copies of the chart. Use the copy of the profiling chart that is printed last.

To use Fiery to print the color chart PDF file for color verification:

1. Set the paper specified in **[Paper Name]** on the Add/Edit Chart screen of Initial Settings onto the paper tray.

2. In the **[MEDIA]** section, select **[Paper Catalog]** or specify **[Paper Type]**, **[Paper Weight]**, and **[Paper Size]** manually.

3. In the **[LAYOUT]** section, set **[Duplex]** to **[Off]**.



M582OM5701

4. In the **[COLOR]** section, select the **[Output profile]** that is generated by the color adjustment process.



M582OM5563

5. Set **CMYK source** to the profile that is specified in **[Verification Wedge]** on the Add/Edit Chart screen of Initial Settings.

6. Set the **[CMYK rendering intent]** to **[Relative Colorimetric]**.

7. Clear the **[Black compensation point]** checkbox.

8. Set **[Print CMYK gray using black only]** to **[Off]**.

9. Set **[Black text and graphics]** to **[Normal]**.

M582OM5564

10. For the **[Halftone mode]**, specify the same setting as the one that was used when the output profile specified in Initial Settings was created.
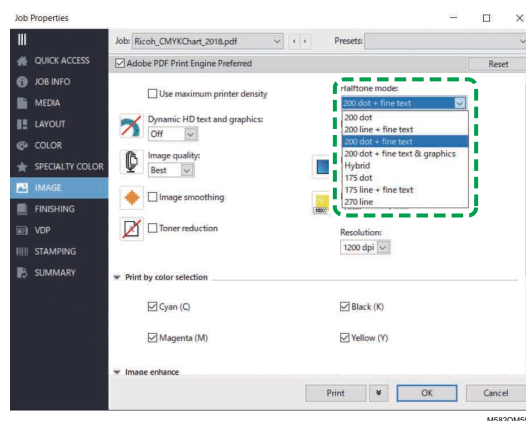


M582OM5565

## Using the TotalFlow Print Server to Print the Color Chart PDF File for Color Verification

To obtain a stable color output, print 10 copies of the chart. Use the copy of the profiling chart that is printed last.

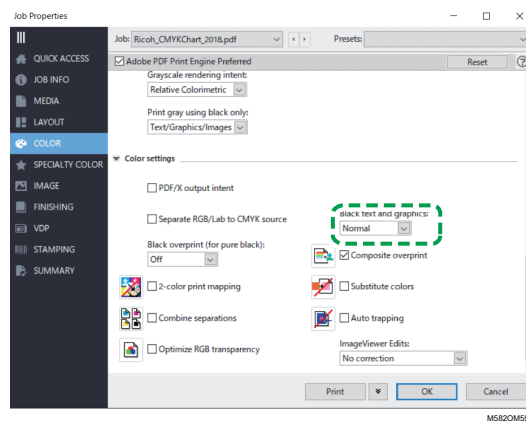To use the TotalFlow Print Server to print the color chart PDF file for color verification:

1. Set the paper specified in **[Paper Name]** on the Add/Edit Chart screen of Initial Settings onto the paper tray.

2. In the **[Paper]** section, click **[Paper catalog]** to select a paper from the paper catalog. To specify the paper **[Type]**, **[Size]**, and **[Weight]** manually, click **[Manual paper]**.

3. In the **[Color]** section, set the **[CMYK input profile]** to the profile that is specified in **[Verification Wedge]** on the Add/Edit Chart screen of Initial Settings.

4. Set the **[Reference profile]** to **[None]**.

M582OM5579
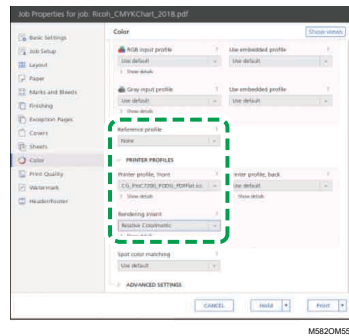
5.  Set the **[Printer profile, front]** to the output profile that is created in color adjustment.

6.  Set **[Rendering intent]** to **[Relative Colorimetric]**.

7.  Set the **[Blackpoint compensation]** to **[Off]** when the **[PDF job processor (RIP)]** is Heidelberg APPE.



M582OM5567
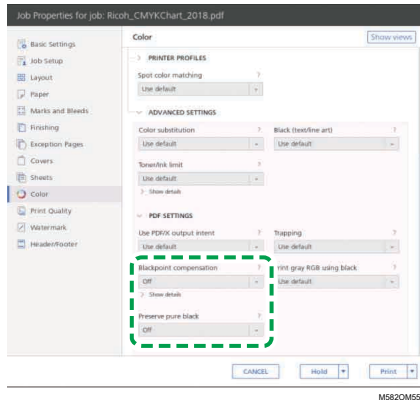
8.  Set **[Preserve Pure Black]** to **[Off]** when the **[PDF job processor (RIP)]** is Heidelberg APPE.

9.  Set **[Black (text/line art)]** to **[Normal]**.



M582OM5568
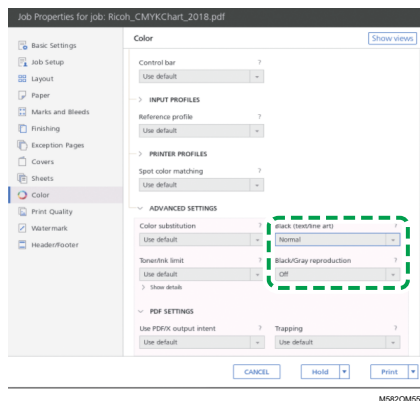
10. Set **[Black/Gray reproduction]** to **[Off]** when the **[PDF job processor (RIP)]** is SCREEN APPE, Kodak APPE, or CPSI.

11. In the **[Print Quality]** section, set the **[Halftone screening]** to the same settings as specified when creating the output profile that is specified in Initial Settings.
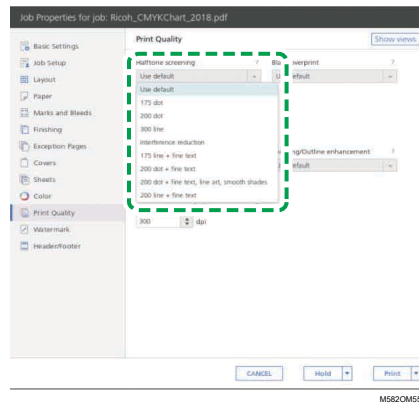
M582OM5569

12. Set the **[CMYK overprint sequence]** to **[After color conversion]** when the **[PDF job processor (RIP)]** is SCREEN APPE.



M582OM5578

4
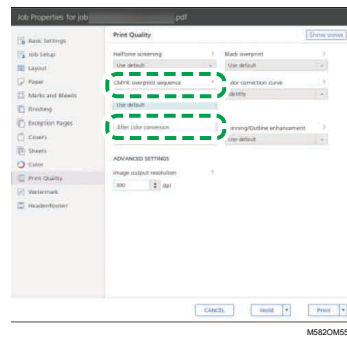
# 5. Color Sample Matching
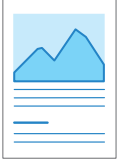
- Operation Workflow of Color Sample Matching
- Performing Color Sample Matching
- Applying Color Sample Matching

Color sample matching creates a profile based on the printed color sample that you scanned. Register and use the created profile as the CMYK input (source) profile on the DFE, and use the profile when printing a document.

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

## Operation Workflow of Color Sample Matching

### Items to Prepare

| PDF with the Original Data | Printed Color Sample | Printed Sheets of the PDF with the Original Data |
|:---:|:---:|:---:|
| PDF<br>m582im0091 | m582im0092 | m582im0093 |

**To perform color sample matching if you have the saved original data and the saved golden sample data:**

### 1. Load the Original Data and the Golden Sample

Select **[Load]**, then select the folder containing the saved original data and the saved golden sample data, and display the original PDF and the scanned golden sample in the application.

### 2. Scan the Original Data

Scan the printed original data on the machine, and display it in the application.

### 3. Perform Color Matching

Perform color matching while specifying the same settings that are specified when printing the original data.

M582OM7078_1
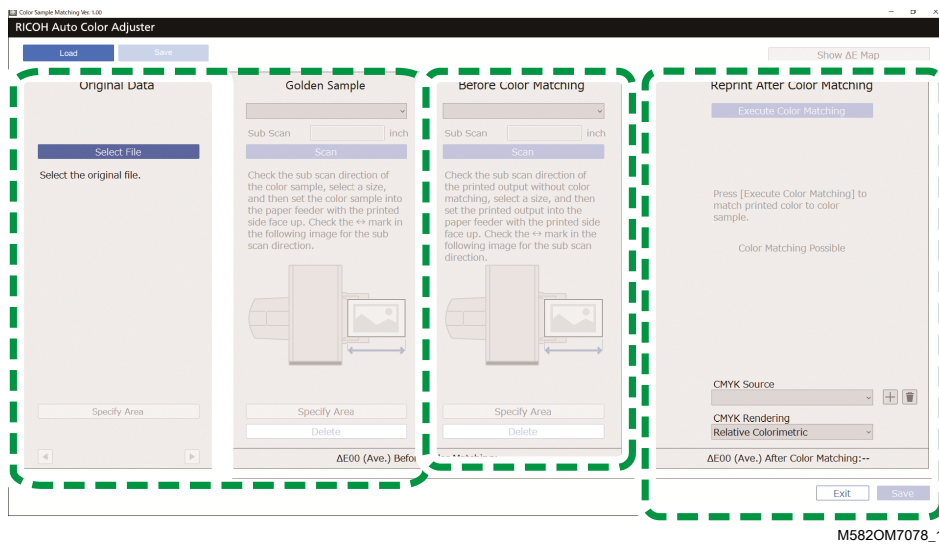
**To perform color sample matching if you do not have the saved original data and the saved golden sample data:**

**1. Display the Original Data**

Select and display a PDF.

**2. Scan the Color Sample**

Scan the color sample on the machine, and display it in the application.

**3. Scan the Original Data**

Scan the printed original data on the machine, and display it in the application.

**4. Perform Color Matching**

Perform color matching while specifying the same settings that are specified when printing the original data.



M582OM7078

### Specifying the Area and Orientation

In the Original Data section, click **[Specify Area]** and specify the area and orientation of the image to match colors.



m582im0094

When you are matching colors on the pages in imposed document data that are printed separately for each page, specify the same area and orientation on all pages to improve the quality of color reproducibility. Also, specify the area to align the position when Alignment Error is displayed.

### Using a Document Comprising Multiple Pages

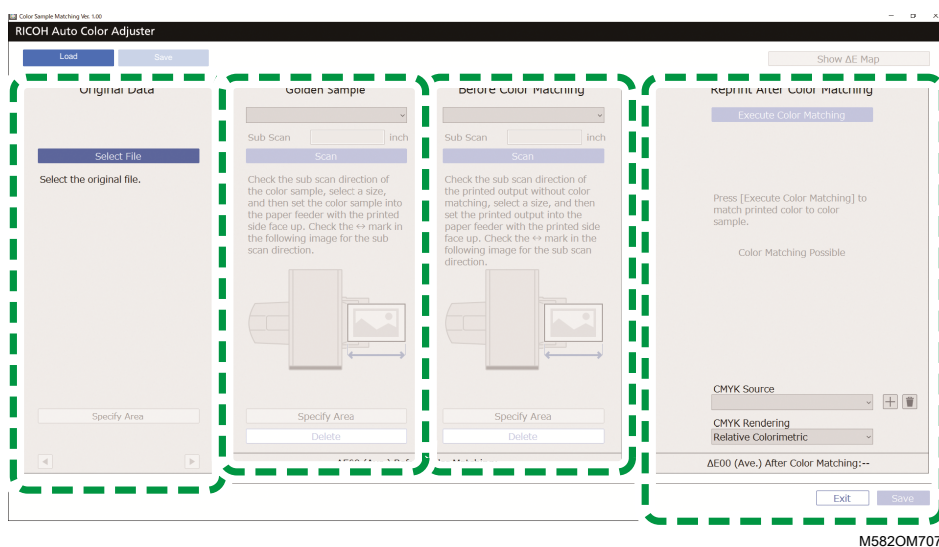Use a document comprising up to 15 pages to improve the quality of color reproducibility. Use ▶, the **[Next]** button, and ◀, the **[Previous]** button, in the bottom corners of Original Data **(1)** to navigate through the pages, and repeat the Before Color Matching **(3)** procedure for each page of the Golden Sample **(2)**.

### Using a Profile

When making a final print for delivery of an original data, specify the profile that you created in **[Color Sample Matching]** in the print setting while printing the data. The print setting varies depending on the DFE that you use.

- When using Fiery or the TotalFlow Print Server, see Using the Profile to Print a Document with Fiery, p. 56 or Using the Profile to Print a Document with TotalFlow Print Server, p. 57.

- When using another DFE, see the manual of the device.

## Original Data Supported in Color Sample Matching

### Usable Original Data

**[Color Sample Matching]** supports original data that matches the following conditions:

- Data in a format that is supported on the printer used to print the original data

- CMYK

  ⬇ Note

    – To see the Post-judgement details, click the **[Details]** button.

- PDF files of any of the following versions:

    – PDF1.3 (Acrobat 4.x) to PDF1.6 (Acrobat 7.x)

    – PDF1.7, Adobe Extension Level 3 (Acrobat 9.x)

    – PDF1.7, Adobe Extension Level 8 (Acrobat X)

    – PDF/X-1a

– PDF/X-3

– PDF/X-4

• A PDF file with embedded fonts

### Images Not Suitable for Color Sample Matching

Color Sample Matching cannot be performed on images of the following types even when the above-mentioned conditions are fulfilled:

• An image that is entirely filled in a solid color and comprises no gradation or edge.
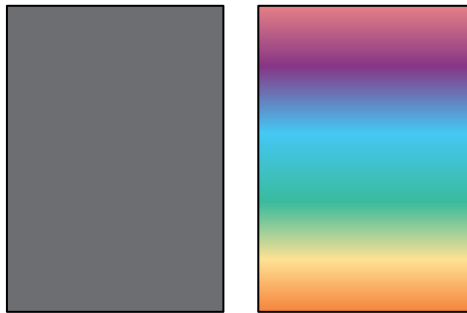


M582IM0193

• An image comprising a design of line symmetry or rotation symmetry.
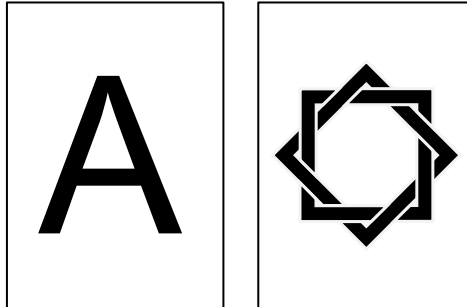


M582IM0194

• When the same image is imposed repeatedly

• Page comprises a lot of characters and line drawings

• Page comprises an extreme color scheme, such as mainly containing colors of a specific color family

• Page is covered entirely by a fine pattern

• When the screen size is small

## Performing Color Sample Matching

This function prints a document on paper while matching the colors in the document to the colors of printed color samples. This section describes the basic operation when color matching a single-page document.

## Precautions Before Operation

- It is recommended to perform image density adjustment in advance.

- The printer: Paper of the size specified in the document data is loaded, and there are no errors.

- The machine: The red indicator is not lit.

- The computer connected to the machine: The menu screen of RICOH Auto Color Adjuster is displayed, and no other applications are running.
  For details, see Using the RICOH Auto Color Adjuster Application, p. 19.

- Original data: Data that can be used in **[Color Sample Matching]**.
  For details, see Original Data Supported in Color Sample Matching, p. 45.

- Printed color sample: The color sample must be printed in the same size as the size that is specified in the document data.

## Preparing the Data for Color Sample Matching

Select the original data, scan the color sample and the printed document on the machine, and display them on the **[Color Sample Matching]** screen.

**⬇Note**

- Print more than one copy of the document data (PDF), and use the copy that is printed last.

To prepare the data required in sample matching:

1. Print the document data (PDF).

    1. Select the printer on which to perform color matching.

    2. Print the document data using the required print settings. For information about print settings, see Using Fiery to Print the PDF File for Color Matching, p. 50 or Using the TotalFlow Print Server to Print the PDF File for Color Matching, p. 51.

        **⭐Important**

        - Do not reduce or enlarge the document when printing.

2. On the computer, select **[Color Sample Matching]**.

m5820m0850

The **[Color Sample Matching]** screen is displayed.

**↓Note**

- Operate the items displayed on the screen from left to right.

3. If you have the saved original data and the saved golden sample, load them.

   1. To load the saved original data and the saved golden sample, select **[Load]**.

   2. In the Select Folder dialog, select the folder containing the saved original data and golden sample data.

   3. Click **[Select Folder]**.
      The original file and the golden sample are displayed in the Color Sample Matching dialog.

4. If you do not have a saved golden sample, scan it.

   1. In the Original Data section, click **[Select File]**.

   2. In the Select Original Data dialog, select the file containing the original data.

      **↓Note**

      - The CMYK Source Profile Setting Error is displayed when a profile is not specified in **[CMYK Source]** under Reprint After Color Matching.

      The image from the selected file is displayed in the Original Data section.

   3. Place the color sample with the side to scan facing up on the source tray of the machine. For details, see Placing an Original or Color Chart on the Paper Tray, p. 25.
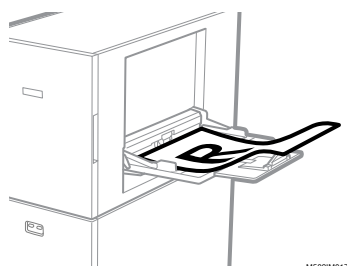


M582IM0177

4. In the Golden Sample section, select the paper size of your printed color sample.

5. If you select **[Custom Size]**, enter the paper length along the sub scan direction in **[Sub Scan]**.
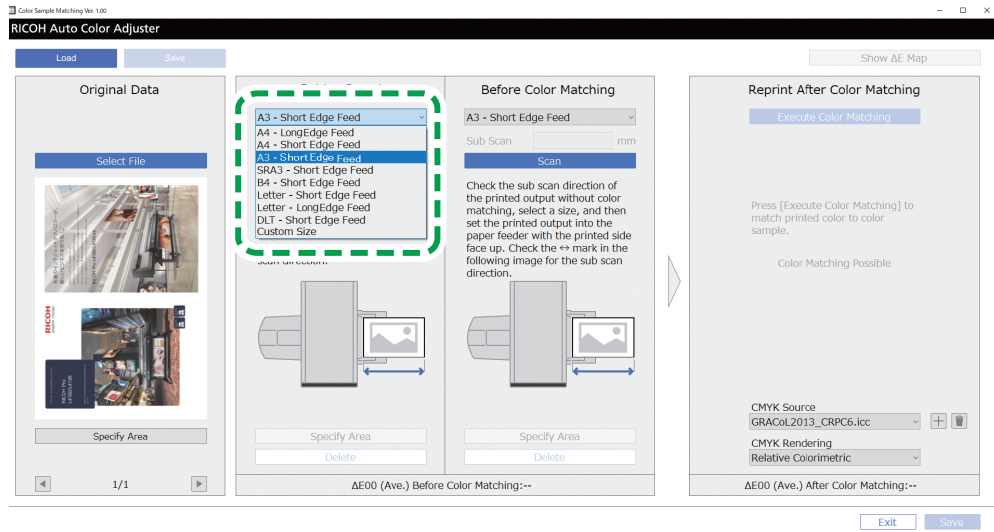


M582OM5772

⭐ **Important**

- A paper jam might occur if you select a paper size that differs from the paper size of the golden sample you want to scan.

6. In the Golden Sample section, select **[Scan]**.
   When the scaninng is complete, the scanned image appears in the Golden Sample section.

5. Place the printed document with the side to scan facing up on the machine.

⬇ **Note**

- If you printed more than one copy of the document data (PDF), use the copy that is printed last.

6. In the Before Color Matching section, specify the paper size of the printed original. If you specified **[Custom Size]**, enter the paper length along the sub scan direction in **[Sub Scan]**.

M582OM5774

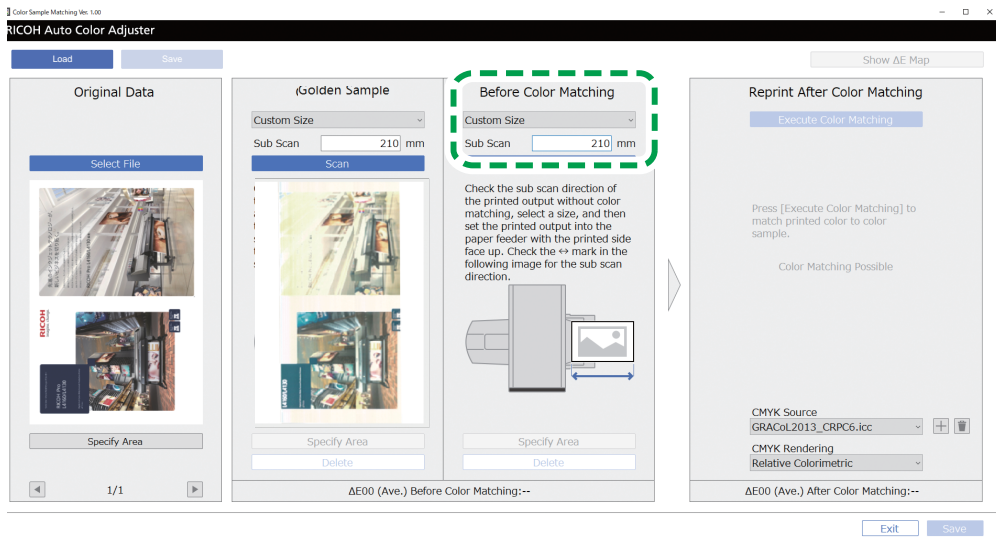⭐**Important**

• A paper jam might occur if you select a paper size that differs from the paper size of the original you want to scan.

7. Select **[Scan]** in the Before Color Matching section.
When the scan is complete, the scanned image appears in the Before Color Matching section.

8. Proceed to the process of creating a profile. For details, see Matching Colors and Creating a Profile, p. 52.

## Using Fiery to Print the PDF File for Color Matching

To use Fiery to print the PDF file for color matching:

1. In the **[COLOR]** section, set the **[Output profile]** to a profile that matches the paper that you use or specify the profile that you updated using **[Quick Color Adjustment]**.



M582OM5581
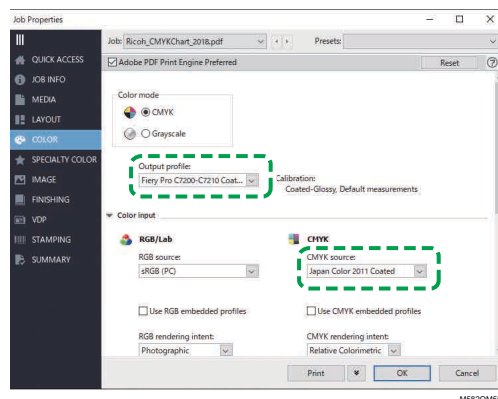
2. For the **CMYK source**, select other setting than **[ColorWiseOFF]** or **[Bypass conversion]**.

3. Clear the **[Use CMYK embedded profiles]** checkbox.

M582OM5582

4. Clear the **[Spot color matching]** checkbox.

5. Clear the **[PDF/X output intent]** checkbox.
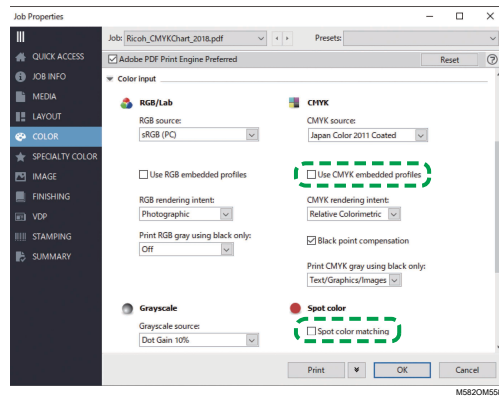


M582OM5573

## Using the TotalFlow Print Server to Print the PDF File for Color Matching

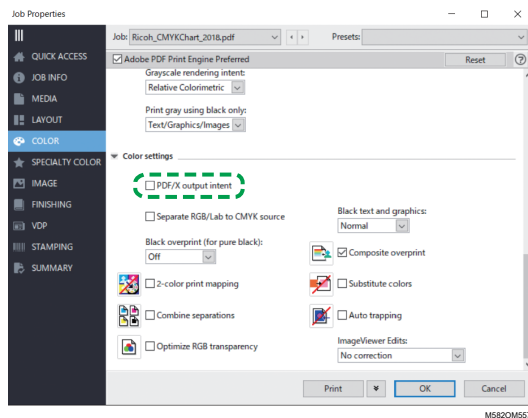To use the TotalFlow Print Server to print the PDF file for color matching:

1. In the **[Color]** section, set the **[Printer profile, front]** to a profile that matches the paper that you use or specify the profile that you updated using **[Quick Color Adjustment]**.



M582OM5566
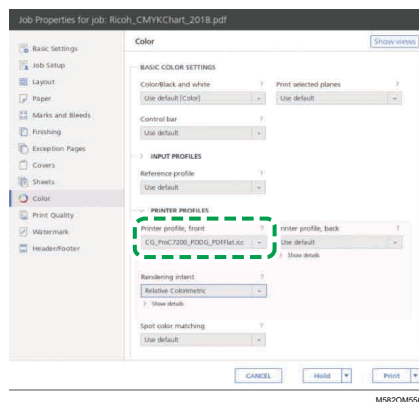
2. For the **[CMYK input profile]**, select other setting than **[Pass through]**.

M582OM5584
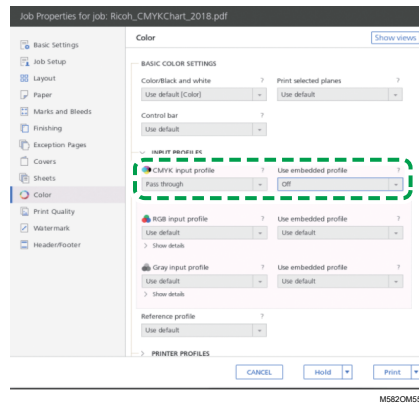
3. Set the **[Use embedded profile]** next to **[CMYK input profile]** to **[Off]**.

4. Set **[Spot color matching]** to **[Off]**.



M582OM5575
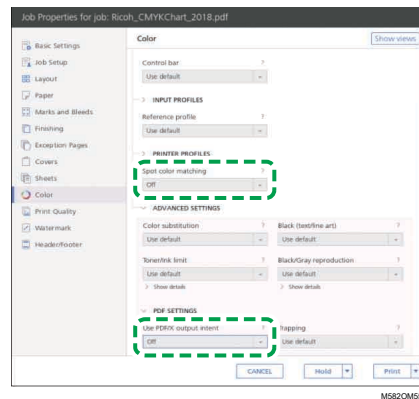
5. Set the **[Use PDF/X output intent]** to **[Off]**.

## Matching Colors and Creating a Profile

Perform color matching on the displayed image, and then create a profile.

To match colors and create a profile:

1. Check the profile that is specified in the print setting when printing the document data.

   **Note**

   • The name of the item to check varies depending on the DFE that you use.

     – For Fiery, the name of the setting is **[CMYK source]**.

     – For the TotalFlow Print Server, the name of the setting is **[CMYK input profile]**.

2. Specify the profile that you checked in step of **[CMYK source]** in Reprint After Color Matching.

M582OM9580
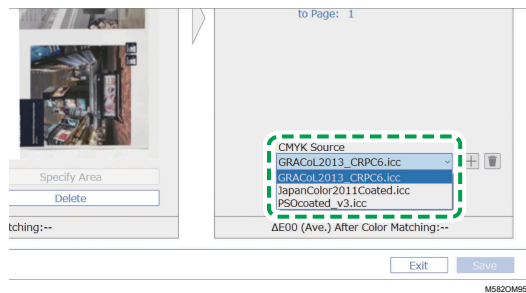
**⬇ Note**

- To add a profile, select the **[Add]** button (⊞), and then specify the profile to add.

3. Check the rendering intent that was specified in the print setting when printing the document data.

   **⬇ Note**

   - The name of the item to check varies depending on the DFE that you use.
     – For Fiery, the name of the setting is **[CMYK rendering intent]**.
     – For the TotalFlow Print Server, the name of the setting is **[Rendering intent]**.

4. Specify **[CMYK Rendering]** in Reprint After Color Matching.



M582OM9584
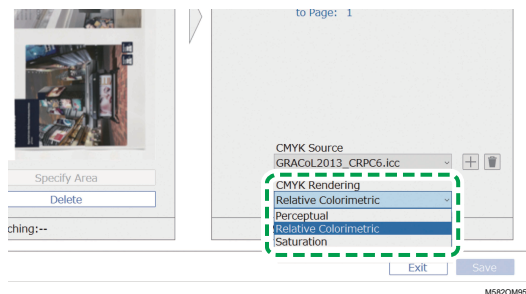
   **⬇ Note**

   - Specify **[Perceptual]** when **[Photographic]** is specified in Fiery, or specify **[Saturation]** when **[Presentation]** is specified.

5. Select **[Execute Color Matching]**.



M582OM9582
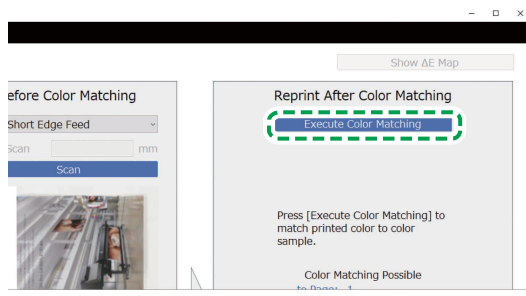
   The color matching process starts, and a profile is created. Wait for the process to finish. When the color matching process is complete, the processed image is displayed in Reprint After Color Matching.

6. Check the average color deviation (simulated) after color matching is applied.
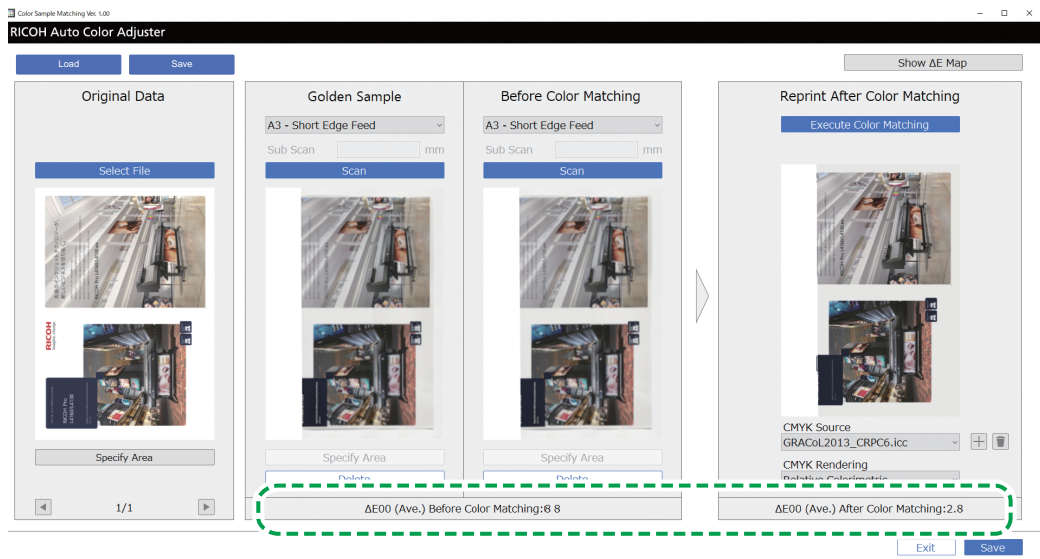
M582OM5775

**➡Note**

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

7. Check the color deviation on the color deviation map.

    1. Select **[Show ΔE Map]**.
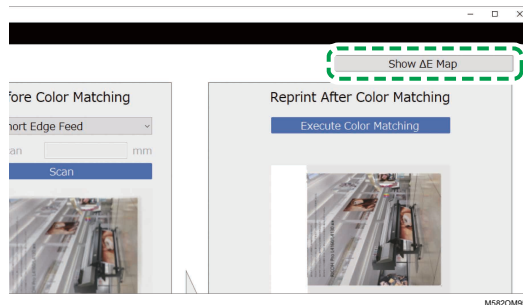


M582OM9583

The color deviation map is displayed, and the button label changes to **[Hide ΔE Map]**.

    2. Check the deviation of colors.

M582OM5776

**Note**

- The color deviation is calculated by subtracting the value of paper color and truncating the decimals.
- The brighter area in the map indicates the color of a larger deviation.

3. Select **[Hide ΔE Map]**.

8. **Optional:** Save the files containing the original data and the scanned golden sample data.

   1. To save the files containing the original data and the scanned golden sample, select **[Save]** on the upper-left side of the Color Sample Matching dialog.

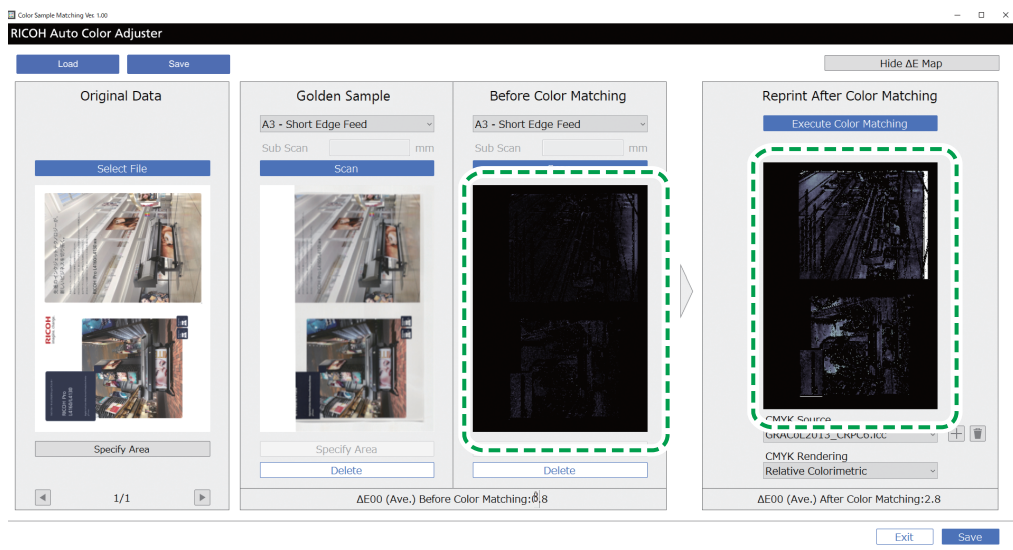   2. If the folder where you want to save the original data and the golden sample data is not yet created, select **[New Folder]** in the Select Folder dialog. Then enter the name of the new folder.

   3. Select the folder where you want to save the original data and the golden sample data and click **[Select Folder]**.
   The application saves the original data and the golden sample data to the selected folder.

9. To save the profile, select **[Save]** on the lower-right side of the Color Sample Matching dialog.

   **Note**

   - The format of the file name assigned to a profile is *Match_yyyymmddhhmm.icc*. Change it as required.

10. Select **[Exit]**.
    The color matching process is complete, and the profile is saved. If you saved the golden sample data, load it next time you need to match colors and create a profile based on the same golden sample.

## Improving the Quality of Color Reproducibility

Perform the color matching process twice to improve the quality of color reproducibility when a large deviation in color is detected even after the color matching process is performed.

⭐ **Important**

- The precision of color matching might not improve even after performing this procedure.

- If a message is displayed, see *RICOH Auto Color Adjuster: User Guide*.

To improve the quality of color reproducibility:

1. To save the profile, select **[Save]** on the lower-right side of the Color Sample Matching dialog.

2. Print a document using the profile that you saved. For details, see Using the Profile to Print a Document with Fiery, p. 56 and Using the Profile to Print a Document with TotalFlow Print Server, p. 57.

3. In the Before Color Matching section, click **[Delete]**.

4. Place the printed document with the printed side facing up on the machine.

5. Specify the size of the printed original in Before Color Matching.

   **↓Note**

   - If you specified **[Custom Size]**, enter the paper length along the sub scan direction in **[Sub Scan]**.

6. Click **[Scan]** in Before Color Matching.
   Scanning starts. Wait for scanning to finish. When the scan is complete, the scanned image appears in Before Color Matching.

7. Specify the profile that was used in step 2, p. 52 in **[CMYK Source]** of Reprint After Color Matching. For details, see Matching Colors and Creating a Profile, p. 52.

   **↓Note**

   - To add a profile, click the **[Add]** button (⊞), and then specify the profile to add.

8. Click **[Execute Color Matching]**, and check the color deviation again.

## Using the Profile to Print a Document with Fiery

Use the profile created by the color matching process to print documents in the colors that match the colors in the color sample.

**↓Note**

- The operation procedure varies depending on the DFE that you are using. When using a DFE other than Fiery or the TotalFlow Print Server, see the manual of your DFE.

1. Start the Fiery Command WorkStation.

2. Log in to the application as the system administrator.

3. Click **Server** → **Device Center**.

4. Click **RESOURCES** → **Profiles**.

5. Click **[Import]**, and then specify **[CMYK Source and Simulation]**.

6. Specify the profile that has been created.
   The profile is imported to Fiery.

7. Specify the imported profile in **[CMYK source:]** of the print setting.

8. For other items, specify the same settings that you specified when printing the document data before performing color matching.

9. Print the document.

## Using the Profile to Print a Document with TotalFlow Print Server

Use the profile created by the color matching process to print documents in the colors that match the colors in the color sample.

**Note**

- The operation procedure varies depending on the DFE that you are using. When using a DFE other 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. Click **Settings** → **Profiles**.

3. Click **Color Management** → **Profiles**.

4. Click the **[Edit]** button (✎), in **[CMYK input profile]**.

5. Click **Import** → **CMYK Source and Simulation**.

6. Specify the created profile, and then click **[Import]**.

7. Specify the **[CMYK input profile]**, and then click **[OK]**.

8. Specify the profile that has been created.
   The profile is imported to the TotalFlow Print Server.

9. Specify the imported profile in **[CMYK input profile]** of the print setting.

10. In other fields, specify the same settings that you specified when printing the document data before performing color matching.

11. Print the document.

# Applying Color Sample Matching

You can improve the quality of color reproducibility when using a multi-page document or specifying a specific area on a page.

## Using a Multipage Document

To improve the quality of color reproducibility, use a document comprising up to 15 pages.

To use a multipage document:

1. Print the document data (PDF).

   1. Select the printer on which to perform color matching.

2. Print the document data. For information about print settings, see Using Fiery to Print the PDF File for Color Matching, p. 50 or Using the TotalFlow Print Server to Print the PDF File for Color Matching, p. 51.

⭐ **Important**

- Do not reduce or enlarge the document when printing.

2. On the computer, click **[Color Sample Matching]**.
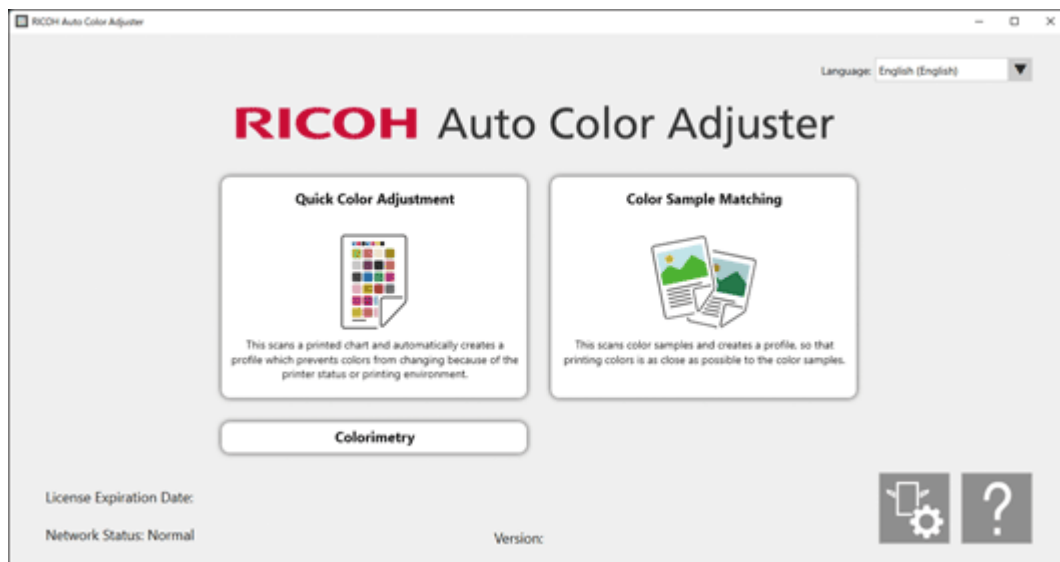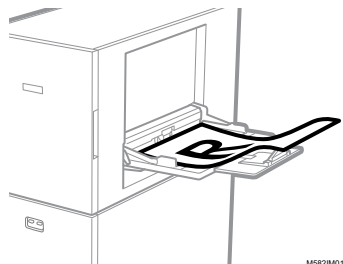


m5820m0850

The **[Color Sample Matching]** screen is displayed.

⬇ **Note**

- Operate the items displayed on the screen from left to right.

3. In the Original Data section, click **[Select File]**.

4. In the Select Original Data dialog, select the file containing the original data.
The selected file is displayed in the Original Data section.

5. Click the **[Previous Page]** button (◀), and the **[Next Page]** button (▶) to move to the page where to match colors.

6. Place the color sample with the side to scan facing up on the source tray of the machine. For details, see Placing an Original or Color Chart on the Paper Tray, p. 25.



M582IM0177

7. In the Golden Sample section, select the paper size of your printed color sample.

8. If you select **[Custom Size]**, enter the paper length along the sub scan direction in **[Sub Scan]**.

Applying Color Sample Matching
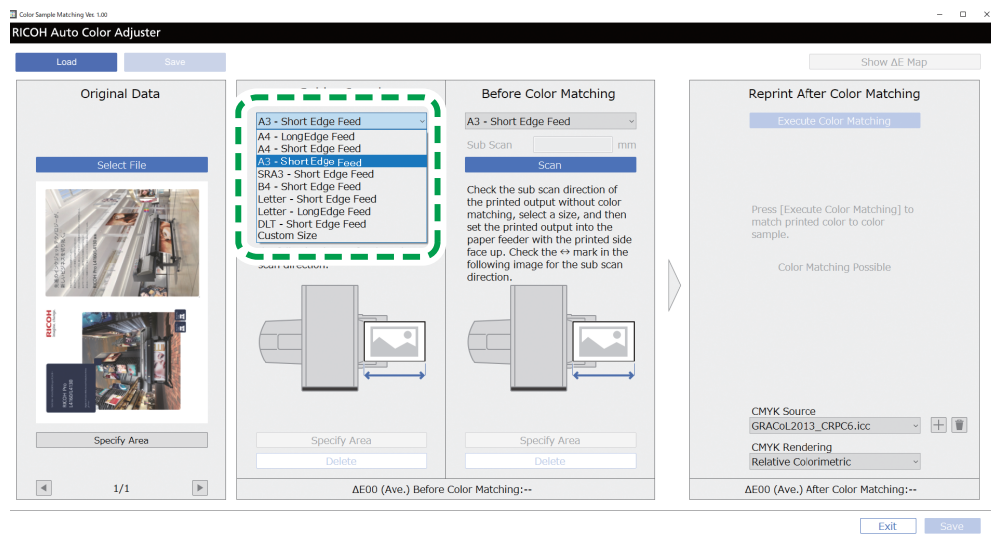


M582OM5772

⭐ **Important**

- A paper jam might occur if you select a paper size that differs from the paper size of the golden sample you want to scan.

9. In the Golden Sample section, select **[Scan]**.
   When the scanning is complete, the scanned image appears in the Golden Sample section.

10. Place the printed document with the side to scan facing up on the machine.

11. In the Before Color Matching section, specify the paper size of the printed original. If you specified **[Custom Size]**, enter the paper length along the sub scan direction in **[Sub Scan]**.
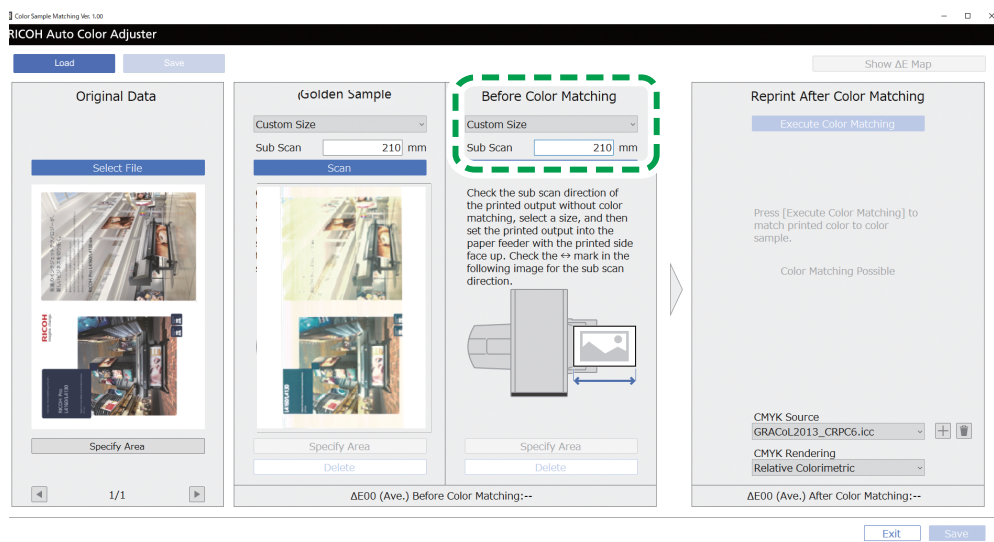


M582OM5774

⭐ **Important**

- A paper jam might occur if you select a paper size that differs from the paper size of the original you want to scan.

12. In the Before Color Matching section, click **[Scan]**.
    When the scanning is complete, the scanned image is displayed in Before Color Matching.

13. To scan all pages, repeat steps from 3 through 13.

14. In the Original Data section, click the **[Previous Page]** button (◀), and the **[Next Page]** button (▶) to check that all pages are scanned.

15. Proceed to the process of creating a profile. For details, see Matching Colors and Creating a Profile, p. 52.

## Specifying the Area and Orientation

When you are matching colors on the pages in imposed document data that are printed separately for each page, specify the same area and orientation on all pages to improve the quality of color reproducibility. Also, specify the area to align the position when Alignment Error is displayed.

To specify the area and orientation:

1. Print the document data (PDF).

    1. Select the printer on which to perform color matching.

    2. Print the document data using the required print settings. For information about the print settings, see Using Fiery to Print the PDF File for Color Matching, p. 50 or Using the TotalFlow Print Server to Print the PDF File for Color Matching, p. 51.

    ⭐**Important**

    • Do not reduce or enlarge the document when printing.

2. On the computer, click **[Color Sample Matching]**.
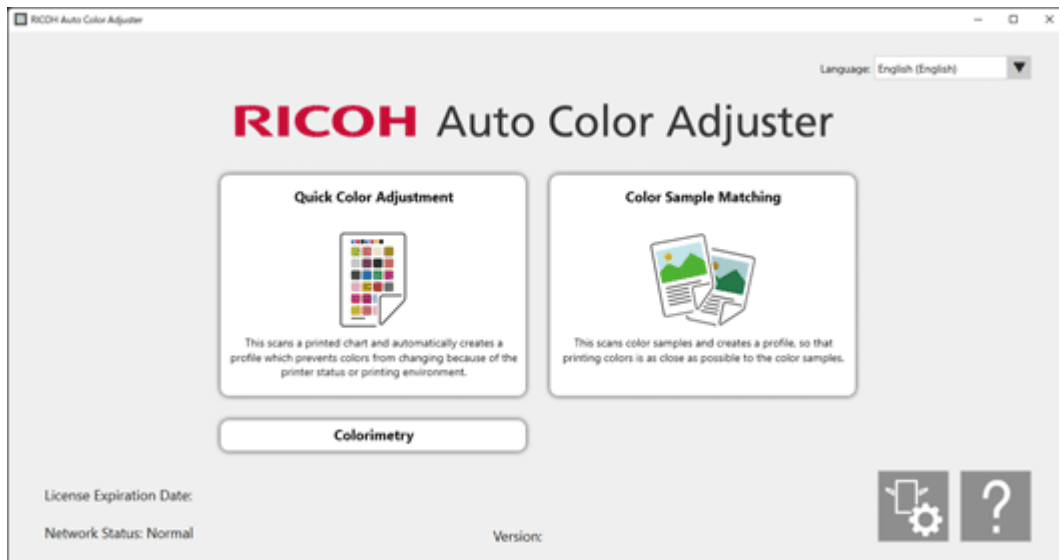


m5820m0850

    The **[Color Sample Matching]** screen is displayed.

    ⬇**Note**

    • Operate the items displayed on the screen from left to right.

3. If you have the saved original data and the saved golden sample, load them.

1. To load the saved original data and the saved golden sample for the specified area, select **[Load]**.

2. In the Select Folder dialog, select the folder containing the saved original data and golden sample data.

3. Click **[Select Folder]**.
   The specified area from the original file and the specified area from the golden sample are displayed in the Color Sample Matching dialog.

4. If you do not have a saved golden sample for the specified area, scan it.

   1. In the Original Data section, click **[Select File]**.

   2. In the Select Original Data dialog, select the file containing the original data.
      The image from the selected file is displayed in the Original Data section.

   3. In the Original Data section, click **[Specify Area]**.

   4. To change the orientation of the image, click **[90° CCW]** or **[90° CW]**.

   5. To specify the area, click a corner of the area to specify, and drag it diagonally.


M582IM0202

   A blue rectangle indicates the specified area.

   6. Click **[OK]**.
      The image of the area and orientation that is specified in Original Data is displayed.

   7. Place the color sample with the side to scan facing up on the source tray of the machine. For details, see Placing an Original or Color Chart on the Paper Tray, p. 25.


M582IM0177
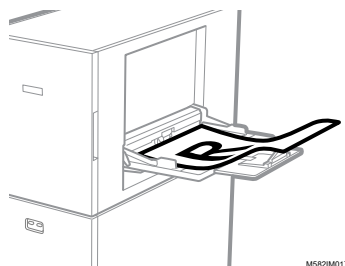
   8. In the Golden Sample section, select the paper size of your printed color sample. If you select **[Custom Size]**, enter the paper length along the sub scan direction in **[Sub Scan]**.
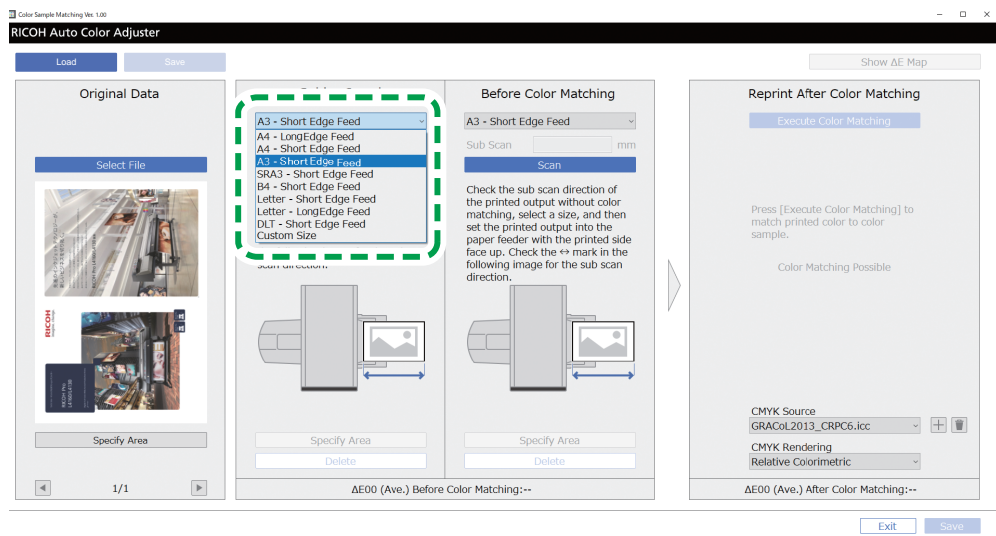
M582OM5772

⭐ **Important**

- A paper jam might occur if you select a paper size that differs from the paper size of the golden sample you want to scan.

9. In the Golden Sample section, select **[Scan]**.
When the scanning is complete, the image matching the area selected in Original Data is displayed in Golden Sample.

10. To change the selected area of the image, click **[Specify Area]** in the Golden Sample section, and then select the area again. Use the same procedure as described in step 4, substeps from 4.4 through 4.6.

5. Place the printed document with the side to scan facing up on the machine.

6. In the Before Color Matching section, select the size of the printed original. If you select **[Custom Size]**, enter the paper length along the sub scan direction in **[Sub Scan]**.

⭐ **Important**

- A paper jam might occur if you select a paper size that differs from the paper size of the original you want to scan.

7. In the Before Color Matching section, click **[Scan]**.
When the scanning is complete, the image matching the area selected in Original Data is displayed in Before Color Matching.

8. To change the selected area of the image, click **[Specify Area]** in Before Color Matching, and then select the area again. Use the same procedure as described in step 4, substeps from 4.4 through 4.6.

9. Proceed to the process of creating a profile. For details, see Matching Colors and Creating a Profile, p. 52.
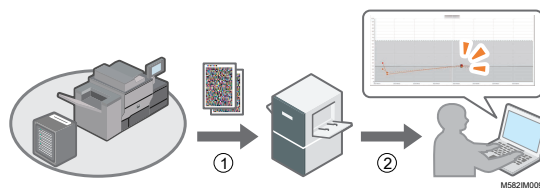
# 6. Management Console

- Operation Workflow of Management Console
- Checking the Color Adjustment Result in Management Console

Management Console performs quick certification of profiles according to various certification standards. You can manage the records of changes in the certification result over time for individual printers.

## Operation Workflow of Management Console

**Management Console** uses the adjustment values and the color verification results of **[Quick Color Adjustment]** performed at regular intervals. To check the current status, perform a color verification of **[Quick Color Adjustment]**, and then check the result in **Management Console**.

For details, see .



**1. Quick Color Adjustment**

Adjust colors in **[Quick Color Adjustment]**, and evaluate the result.
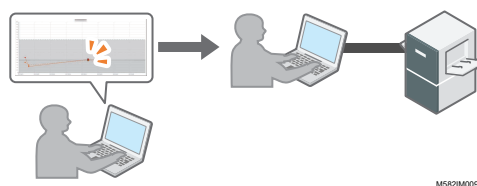
**2. Checking the Change over Time**

Check the change in color over time in **Management Console**. Perform color adjustment when it exceeds the specified threshold.

### Threshold Values in the Graph

Colors are evaluated whether their average and maximum deviations are within the tolerance according to the target condition (standard) that is specified in the Add/Edit Chart screen of Initial Settings, for example, **[Japan Color Digital 2011 Coated, Wedge]**, and the settings specified in the Set Threshold screen.

## Using Management Console from Another Computer

You can use **Management Console** from a computer that is connected to the machine directly via USB cables, or from another computer that is connected to the machine over a network.

## Saving a Report File

You can save the information of the change over time that is displayed in **Management Console** as a report file in CSV format.



M582IM7097
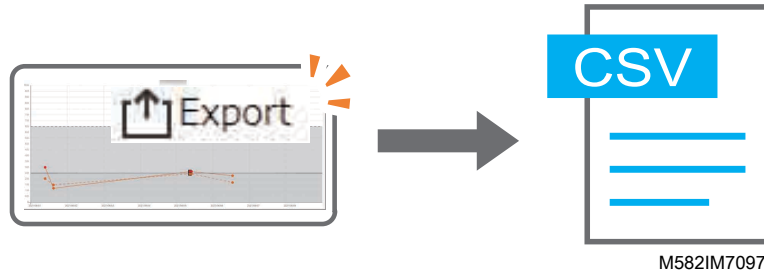
# Checking the Color Adjustment Result in Management Console

You can check the color status of printers using the **[Management Console]** screen.

⭐ **Important**

- To check the current status, perform a color verification of **[Quick Color Adjustment]**, and then check the result in **[Management Console]**. For details, see Performing Color Verification, p. 35.
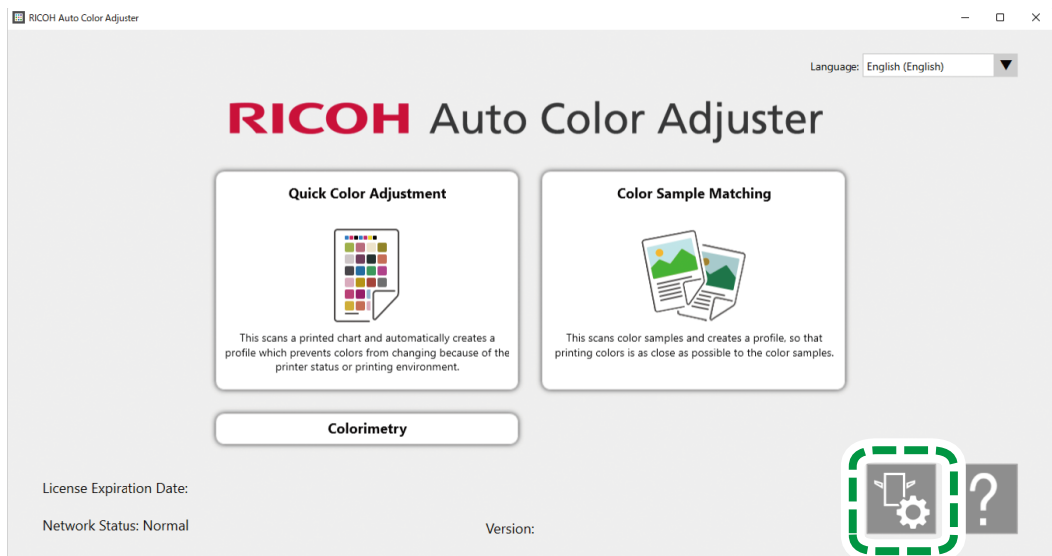
## Displaying the Management Console Screen

In the address bar of a web browser, enter the IP address and port number of the computer (server) that is connected to the machine via USB cables to display the **Management Console** screen.

To display the **Management Console** screen:

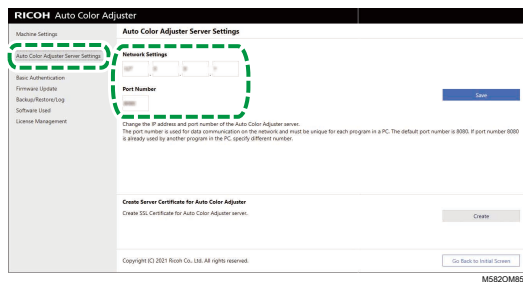1. Check the IP address and port number of the server.

   ⬇ **Note**

   - When you are operating more than one machine, and using a client computer, consult the administrator for the IP address and port number of the server.

1. If the menu screen is not already displayed, click the **[RICOH]** icon (   ) on the desktop to start it.

2. Click the **[Machine Settings]** button (   ) on the menu screen.

M582OM5958

3. Click **[Auto Color Adjuster Server Settings]**, and check the IP address and port number.



M582OM8570

**⬇Note**

- You can use **[Management Console]** from a computer on the network. In the address bar of the web browser, enter the IP address and port number of the computer that is connected to the machine via a USB cable.

2. Start your web browser, and enter the IP address and port number in the address bar.
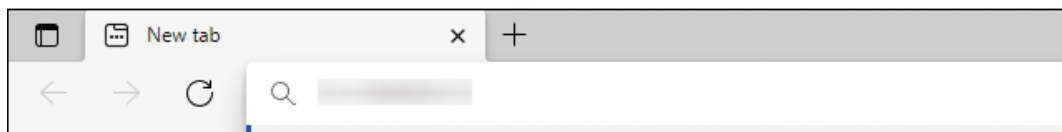


m582wm9560

**⬇Note**

- Enter the IP address and port number in the format https://*(IP Address)*:*(port number)*. Do not omit the colon (:) and periods (.). You can omit entry after the colon when the port number is 80.

3. Enter the user name and password.

**↓Note**

- The default user name and password are as follows:

    – User name: aca-user

    – Password: user

The **Management Console** screen is displayed.

## Checking the Change in Color over Time

In the **Management Console** screen, a line graph is displayed. Specify the date and settings to display the graph, and check the color status of printers on the printer.

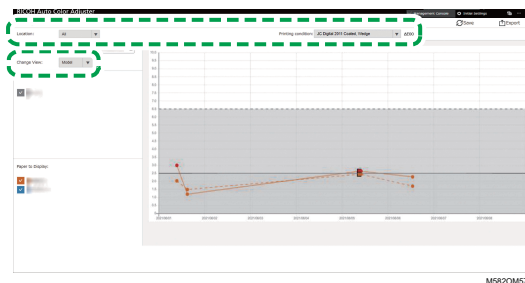Default settings of the line graph:

- **[Location:] [All]**
- **[Printing condition:]** The chart specified in Initial Settings
- **[Date Range:]** 7 days ago to today
- **[Change View:] [Model]**

To check the change in color over time:

1. Specify the period to check the changes in **[Date Range:]**, and then click **[Save]**.



M582OM5699
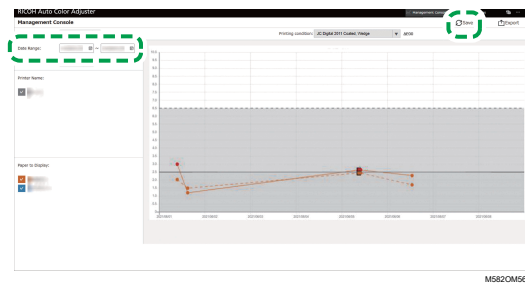
2. Change the settings in **[Location:]**, **[Printing condition:]**, and **[Change View:]**.



M582OM5703

1. In the **[Location:]** field, specify the location in which the printer to check is located.

2. In the **[Printing condition:]** field, specify the target condition (standard) against which to compare the colors.

3. In the **[Change View:]** field, specify whether to display a graph for each printer model, or for each paper.
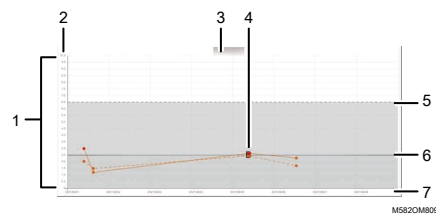
3.  To narrow down the printer or paper to display on the graph, clear the checkboxes of the items to hide.



M582OM5706
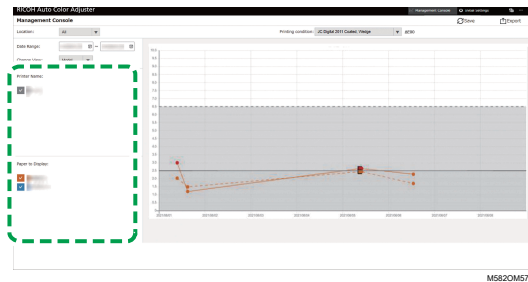
4.  Check the graph. For details about reading the graph, see How to Read the Graph, p. 67.

5.  To save a report file in CSV format, click **[Export]**. For details about the items saved in the report, see Report Containing Graph Data, p. 68.

6.  Close the web browser.

## How to Read the Graph

The line graph is displayed in the **Management Console** screen.



M582OM8090

**1. Line graph**

A graph line is displayed for each printer or paper. The color of the line corresponds to the color of the **[Printer Name:]** or **[Paper to Display:]** checkbox.

A solid line indicates an average color deviation, and a dotted line indicates the maximum color deviation.

**2. Color deviation (ΔE2000)**

The vertical axis shows the value of color deviation.

**3. Printer Name**

**4. Plot point ●**

Place the mouse cursor on a plot to display the date and time the data was obtained and the color deviation.

A plot displayed in red represents a value that is outside the threshold, and ■ indicates a value that is obtained when you perform Post-judgement for the first time after registering the ICC profile in color adjustment.

**5. Threshold value (maximum)**

The horizontal dotted line represents the maximum threshold value that is specified in Initial Settings.

**6. Threshold value (average)**

The horizontal solid line represents the average threshold value that is specified in Initial Settings.

**7. Date**

The horizontal axis represents the date.

# Report Containing Graph Data

You can export a report based on the line graph displayed on the **Management Console** screen. The report file is exported as a CSV file.

## Items Included in the Report File

| Item in report file | Description |
|---|---|
| IP Address | IP Address |
| Server Name | DFE name |
| Machine Name | Printer name |
| Location | Category |
| Paper Type | Paper type |
| Paper Name | Paper name |
| ICC Profile Name | ICC profile name |
| Printing Condition | Chart name |
| Max Threshold [1, 2]<br><br>Ave Threshold [1, 2]<br><br>95 Percentile [without boundary patches] Threshold [2, 5]<br><br>Ave [without boundary patches] Threshold [2, 5]<br><br>K gray average w$\Delta$L Threshold [4]<br><br>K gray maximum w$\Delta$L Threshold [4]<br><br>CMY gray average w$\Delta$L Threshold [4]<br><br>CMY gray maximum w$\Delta$L Threshold [4]<br><br>CMY gray average w$\Delta$Ch Threshold [4]<br><br>CMY gray maximum w$\Delta$Ch Threshold [4]<br><br>CMY gray DeltaCh AVE Threshold [5]<br><br>CMY gray DeltaCh MAX Threshold [5]<br><br>Paper White DELTA Threshold [5] | Standards for Various Charts |

| Item in report file | Description |
|---|---|
| Date Time | Date and time (year, month, day, hour, minute, and second) of the measurement |
| DELTA | Value of individual color deviation |
| DELTA AVE [1, 3] | Average delta E |
| DELTA AVE [without boundary patches] [2, 5] | Average delta E excluding boundary patches |
| 95 Percentile [without boundary patches] [2, 5] | Delta E of 95th percentile patches excluding boundary patches |
| CMY gray average wΔL [4] | Average weighted delta L of CMY gray |
| CMY gray maximum wΔL [4] | Maximum weighted delta L of CMY gray |
| K gray average wΔL [4] | Average weighted delta L of K gray |
| K gray maximum wΔL [4] | Maximum weighted delta L of K gray |
| CMY gray average wΔCh [4] | Average weighted delta Ch of CMY gray |
| CMY gray maximum wΔCh [4] | Maximum weighted delta Ch of CMY gray |
| CMY gray DeltaCh AVE [5] | Average delta Ch of composite gray |
| CMY gray DeltaCh MAX [5] | Maximum delta Ch of composite gray |
| Paper White DELTA [5] | Delta E of paper whiteness |

[1] When using the **[Japan Color Digital 2011 Coated, Wedge]** chart

[2] When using the **[ISO12647-8 Coated V3 F51]** chart

[3] When using the **[Verify GRACoL2013, Wedge]** chart

[4] When using the **[Simple Gray Scale, Wedge 2013]** chart

[5] When using the **[ISO12647-8:2021 Coated V3 F51]** chart

6

6

# 7. Colorimetry

- **Operation Workflow of Colorimetry**
- **Confirming the Chart for Colorimetry**
- **Performing Colorimetry**

Print the chart for colorimetry on the printer to be adjusted for colors, and scan the chart on the machine to measure its colors.

You can select a chart from the list of charts for colorimetry that are commonly used, but you can also specify the paper size and color boxes to create a new chart for colorimetry. Save the measurement result in IT8 or CGATS TXT format. Load this file in a color management app or other application, and use it to manage the color quality of a printer.

## Operation Workflow of Colorimetry



M582IM0001
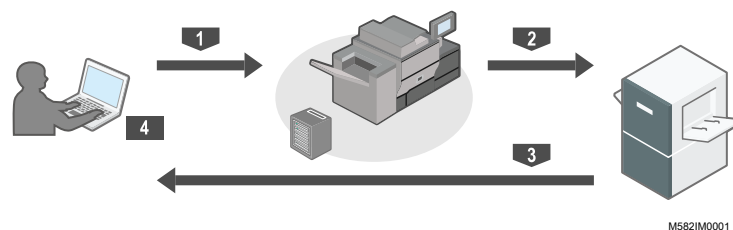
1    Print the chart for colorimetry on the printer to be measured for its colors.

2    Place the chart for colorimetry that you printed on the machine.

3    Scan the chart from **[Colorimetry]**.

4    The color measurements result is saved on your computer.

## Confirming the Chart for Colorimetry

In the **[Colorimetry]** section, use the charts with various paper sizes and various color boxes to measure the colors generated by the printer.



M582IM7350

**⬇ Note**

- On the list of charts for colorimetry, 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 charts for colorimetry are registered. Use one of the charts on the list when measuring the target color in the standard that you want to comply with.

- When using a color chart with a customized color scheme, create the color chart information file, a text file that specifies the paper size and color boxes on the chart, and register it on the list. For details, see *RICOH Auto Color Adjuster: User Guide*.
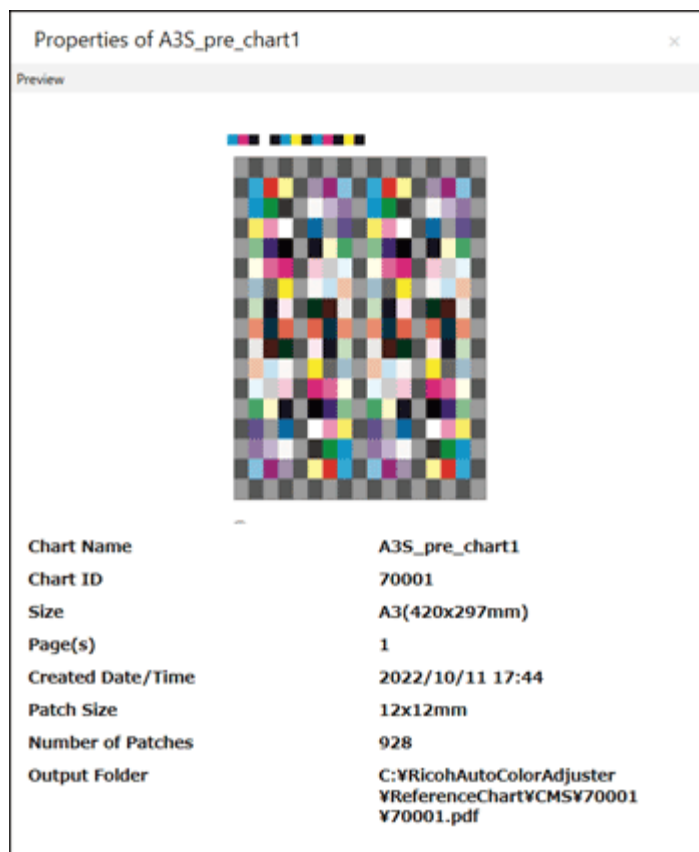
To confirm the chart for colorimetry:

1.    Click **[Colorimetry]** on your computer.

M582OM5952
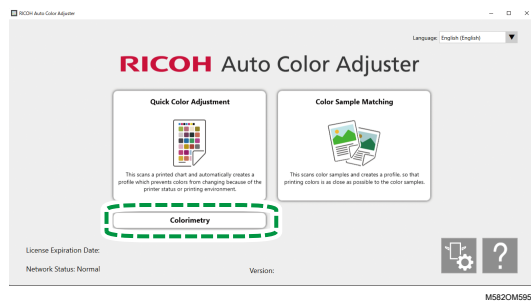
2. Select the checkbox of the chart for colorimetry, and then click the **[Information]** button ( ⓘ ).



M582OM5955
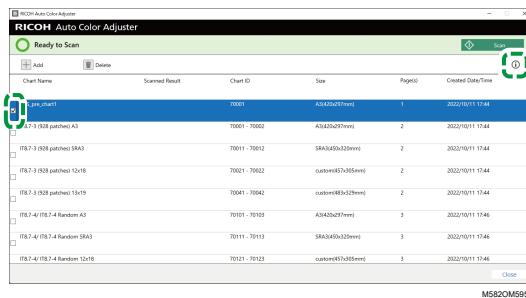
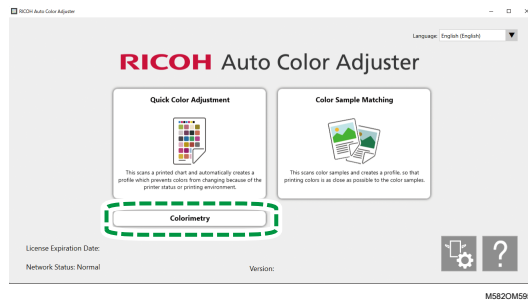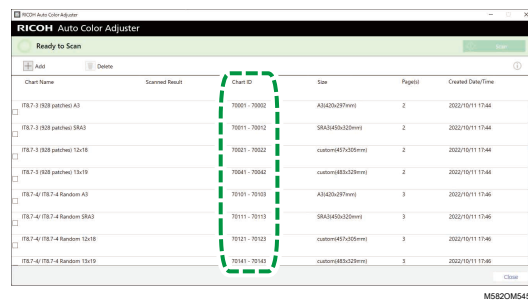3. Confirm the chart for colorimetry.
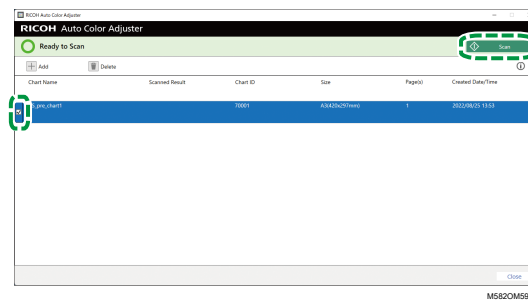


m5820m0853

# Performing Colorimetry

To perform colorimetry:

1. Click **[Colorimetry]** on your computer.



M582OM5952

2. Check the **[Chart ID]** of the chart to be used for colorimetry.



M582OM5459

3. On the printer to be measured for the colors, print the PDF that is stored in the folder for each Chart ID under `C:\RicohAutoColorAdjuster\ReferenceChart\CMS`.

4. Place the chart for colorimetry with the side to scan facing up on the machine. For details, see Placing an Original or Color Chart on the Paper Tray, p. 25.

5. Select the checkbox of the chart for colorimetry, and then click **[Scan]**.



M582OM5956

6. In the Measurement and Saving Settings dialog, specify the measurement conditions, save location of the measurement result, and other settings, and then click **[OK]**.

7
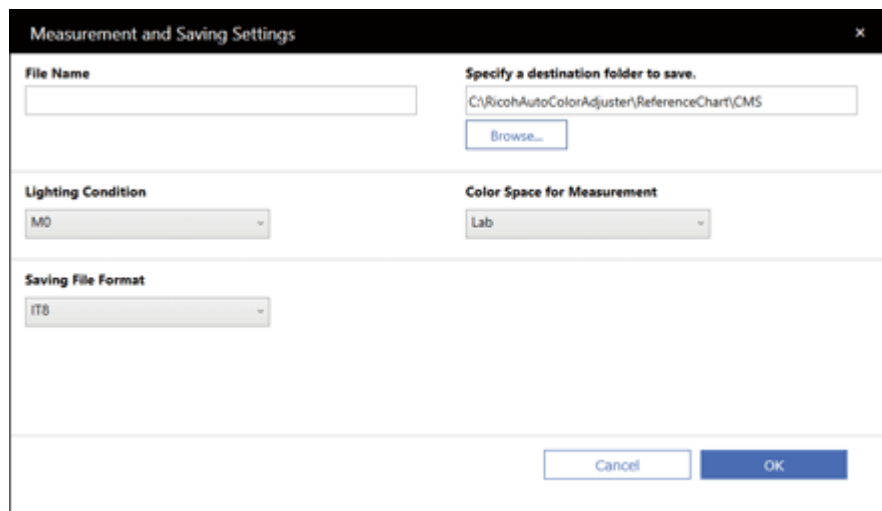
m5820m0852

1. In the **[File Name]** field, enter the name under which to save the measurement result.

   **↓Note**

   - You cannot specify the name when more than one chart for colorimetry is specified.

   - Names of *(chart name)+(mmdd)* are assigned to the files automatically.

2. Click **[Browse...]**, and specify the destination folder to save the files.

3. Select the **[Lighting Condition]** from **[M0]**(A), **[M1]**(D50), and **[M2]**(A+UV cut).

4. In the **[Color Space for Measurement]** field, select the color space for measurement from **[Lab]**, **[LCh]**, **[XYZ]**, **[Spectroscopy]**, **[Density (Status T)]**, and **[Density (Status E)]**.

5. In the **[Saving File Format]** field, select the file format in which to save the measurement result from **[IT8]** (*.it8) and **[CGATS.txt]** (*.txt).

7. Click **[Start Scan]**.



m582om0660
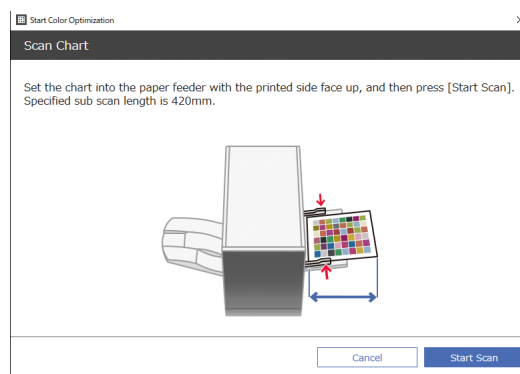
The machine starts scanning the chart for colorimetry, and creates a file in the specified folder.

**↓Note**

- If a message is displayed, see *RICOH Auto Color Adjuster: User Guide*.

# 8. When a Paper Jam Occurs

• **Removing Jammed Paper**

Open the front door of the machine, and remove the paper when "Open the cover and remove original document/chart inside." is displayed on the computer.

⭐ Important

- Do not turn off the machine when removing paper.

- To remove paper, hold the left and right ends of hands, and pull on the paper evenly.

- Be careful not to rip the paper and leave small pieces of it inside the machine when removing jammed paper. If small pieces are left inside the machine, a paper jam or malfunction might occur.

- If the paper is torn, put pieces together like a jigsaw puzzle, and make sure that you have all pieces. If one or more pieces is missing, it might be left inside the machine. Consult your service representative.

- If the message persists even after removing the jammed paper, check that there is no other paper jammed inside the machine.

## Removing Jammed Paper

Open the front door of the machine, and then follow the instruction described below to remove the jammed paper. The instructions are also printed inside the front door of the machine.
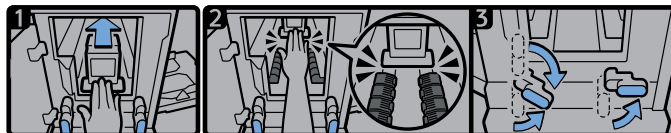
📎 Note

- If paper jams occur frequently, check the paper condition and how it is placed on the machine. Also, check that the paper size is correct. For more information, see *RICOH Auto Color Adjuster: User Guide*.

To remove jammed paper:

1. Open the front door of the machine.



M582IM0220
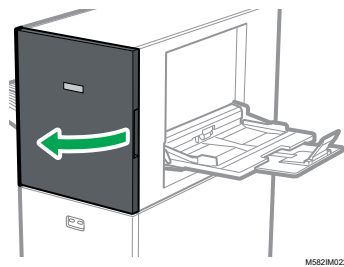
2. Push the scan unit to move it toward the back of the machine **(1)**.



M582IM7221

3. Move the scan unit toward the back so that it is behind the black paper transport member **(2)**.

4. Turn the right lever to the right from its lower position **(3)**.

5. Turn the left lever to the right from its upper or lower position **(3)**.

6. Check that both levers are set in the positions as shown in the diagram **(3)**.

7. Remove the paper from either the paper source side or the paper output side **(4)**.



M582IM7221_1
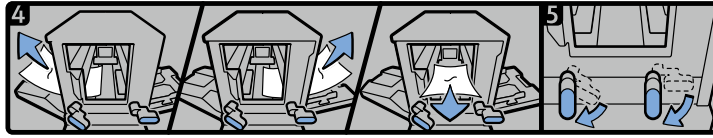
**Note**

- If you cannot pull out the paper in either direction, pull it out from inside the machine toward the front.

8. Turn the right lever downward **(5)**.

9. Turn the left lever downward **(5)**.

10. Close the front door.

RICOH Auto Color Adjuster    Quick Guide