



Color Calibration Utility

CC-100

User's Guide

Please read this guide before operating this product.
After you finish reading this guide, store it in a safe place for future reference.

ENG

CC-100

Color Calibration Utility



How This Manual Is Organized

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Chapter 2 Installing the Color Calibration Utility CC-100

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Preface

Thank you for purchasing this Canon product. Please read this manual thoroughly before operating the product in order to familiarize yourself with its capabilities, and to make the most of its many functions. After reading this manual, store it in a safe place for future reference.

How to Use This Manual

Symbols Used in This Manual

The following symbols are used in this manual to explain procedures, restrictions, handling precautions, and instructions that should be observed for safety.



IMPORTANT

Indicates operational requirements and restrictions. Be sure to read these items carefully in order to operate the product correctly, and to avoid damage to the product.



NOTE

Indicates a clarification of an operation, or contains additional explanations for a procedure. Reading these notes is highly recommended.

Buttons Used in This Manual

The following button names are a few examples of how buttons to be clicked are expressed in this manual:

Buttons on Computer Operation Screens: [Button Name]


Examples:

[Yes]

[Next]

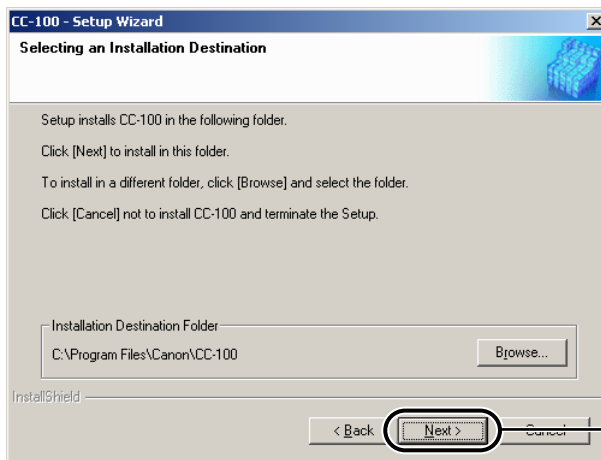
Displays Used in This Manual

Screen shots of computer operation screens used in this manual may differ from the ones you actually see, depending on the operating system and the model or options that come with your machine. (All screen shots in this manual were taken from Windows 2000.)

The buttons that you should click are marked with a , as shown below.

When multiple buttons can be clicked, they are highlighted and mentioned in the order in which they should be clicked.

5 Click [Next].



Click this button
for operation.

Abbreviations Used in This Manual

In this manual, product names and model names are abbreviated as follows:

Microsoft® Windows® 98 operating system:	Windows 98
Microsoft® Windows® Millennium Edition operating system:	Windows Me
Microsoft® Windows® 2000 operating system:	Windows 2000
Microsoft® Windows® XP operating system:	Windows XP
Microsoft® Windows Vista™ operating system:	Windows Vista
Microsoft® Windows® operating system:	Windows

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Before You Start

1

CHAPTER

This chapter outlines the features of the Color Calibration Utility CC-100 and describes the color calibration function.

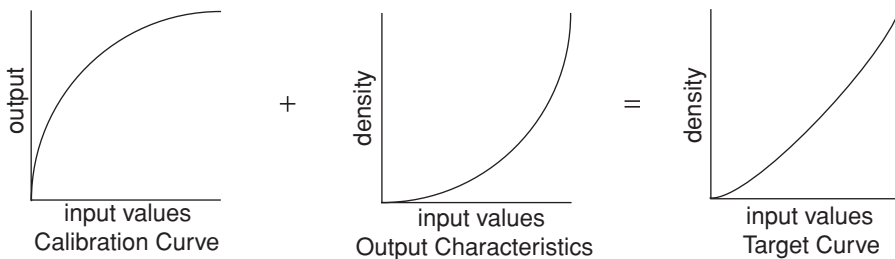
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What Is Color Calibration?

A printer's output characteristics vary from those set at its design due to local conditions, including temperature, humidity, and other miscellaneous factors. The Color Calibration Utility CC-100 restores the printer's output characteristics to its original design specifications by adjusting the characteristics of each color (CMYK). These characteristics, which are defined as the relationship between input values and output densities, are reset according to a Target Curve. Color calibration is achieved by calculating the calibration data and applying the calibration data to the printer. Calibration data is composed of the calibration curves for each color (CMYK).

The Color Calibration Utility CC-100 first prints the color chart from the printer. Then the current output density of each color in each grade is measured as the scanner scans the printed chart. In this way, the calibration curves for each color are calculated from the measured characteristics of the current printer and the target curves for the printer. Upon being sent to the printer, a print job's printing image data is transformed using the calibration curves for each color (CMYK). The resulting output density in an ideal setting is thus a combination of the calibration curve and the current unadjusted characteristics curve. By matching these calculated output densities to the target curves, the original printer characteristics are restored.

Calibration Process Model



 **NOTE**

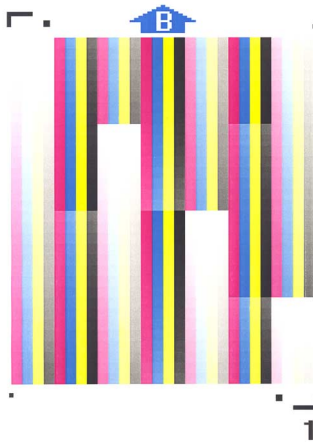
- It is recommended that you perform color calibration on the printer every day before the first printing.
- Technical terms used in this guide and their explanations are listed below:
 - Calibration Data: This data is composed of the calibration curves for each color (CMYK).
 - Calibration Curve: This curve has a function which is used to transform the gradation of each color (CMYK).
 - Printer's Characteristics of Density: This is a function which shows the relationship between input value and output density of the printer for each color (CMYK). Upon application of the calibration data to the printer, the printer's characteristics of density become a combination of the calibration curve and the current, unadjusted characteristics curve.
 - Target Curve: This curve has the original characteristics of density for your printer for each color (CMYK).

Color Chart

1

Before You Start

Color charts are output from the printer you want to calibrate, and used to measure the densities of each color (CMYK). The printer's output characteristics of each color (CMYK) can be calculated by measuring the densities of colors actually printed by the printer against the color values sent to the printer.



Example of a Color Chart

Installing the Color Calibration Utility CC-100

2

CHAPTER

This chapter describes how to install and uninstall the Color Calibration Utility CC-100.

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System Requirements

The Color Calibration Utility CC-100 has been designed to work with the following system environments:

■ Computer

- OS
 - Microsoft Windows 98/Me
 - Microsoft Windows 2000 Server/Professional
 - Microsoft Windows XP Professional/Home Edition
 - Microsoft Windows Vista
- CPU
 - Intel Pentium CPU 100 MHz or higher
- Memory
 - 32 MB or higher
- Hard Disk Drive
 - At least 10 MB free space (while operating)

■ Printer

- Compatible Printers
 - iR C5185 without the Image Reader-E1/F1 (optional)
 - iR C5180 without the Image Reader-E1/F1 (optional)
 - iR C4580 without the Image Reader-E1/F1 (optional)
 - iR C4080 without the Image Reader-E1/F1 (optional)
 - iR C3220 without the Image Reader-C1 (optional)
 - iR C3200 without the Image Reader-C1 (optional)
 - iR C2620 without the Image Reader-C1 (optional)
- Interface
 - Ethernet

■ Scanner

- Compatible Scanners
 - CanoScan LiDE60
 - CanoScan LiDE70
- Scanner Drivers
 - TWAIN-compatible drivers, and WIA drivers with a TWAIN compatible mode

 **NOTE**

- The Color Calibration Utility CC-100 supports the Color iR series without the Image Reader-C1/E1/F1 (optional) only. If you are using the Color iR series with the Image Reader-C1/E1/F1 (optional), please use the printer's color calibration (Automatic Gradation Adjustment) function.
- The Color iR series requires an Ethernet interface and cannot accept a USB connection for the Color Calibration Utility CC-100.
- You should use only the scanner listed above. If you use other scanners, you may not be able to perform color calibration correctly.

Installing the Color Calibration Utility CC-100

To install the Color Calibration Utility CC-100, follow the procedure below.

IMPORTANT

- For Windows 2000/XP, log on as Administrator when you start your computer.
- If the [User Account Control] dialog box appears in Windows Vista, perform the following operations.
 - For Administrator users, click [Allow] or [Continue].
 - For Standard users, enter the required Administrator password → click [OK].
- Before installation, close all applications.

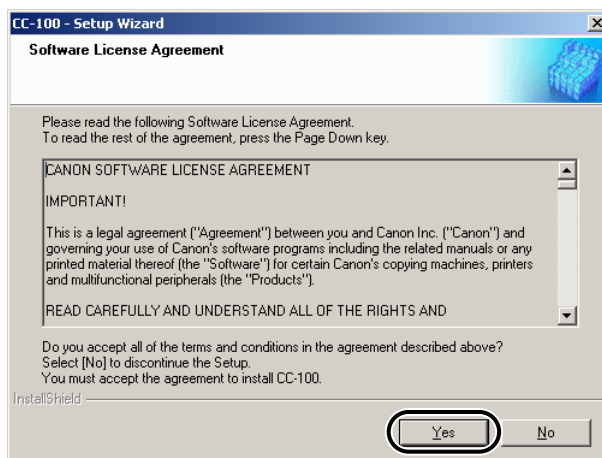
1 Double-click [Setup.exe].

The installation wizard starts and the Welcome screen is displayed.

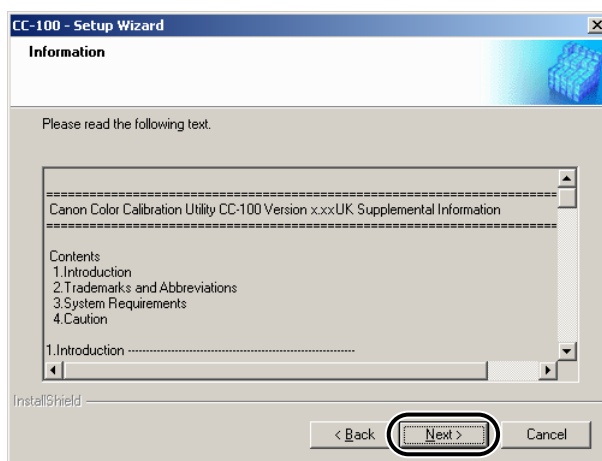
2 Click [Next].



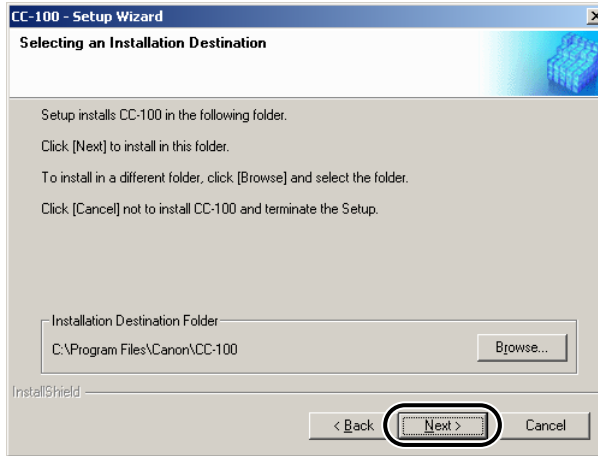
3 Read the agreement → click [Yes].



4 Read the Readme file → click [Next].



5 Click [Next].



Installation starts.



NOTE

To specify a different folder for installing, click [Browse] → specify the folder.

6 When the message <Setup Complete> is displayed, click [Exit].



Installation is complete.

Uninstalling the Color Calibration Utility CC-100

To uninstall the Color Calibration Utility CC-100, follow the procedure below.


 **NOTE**

The button names and procedure may differ depending on the operating system you are using.

1 Close all applications.

2 On the [Start] menu, point to [Settings] → click [Control Panel].

 **NOTE**

- If you are using Windows XP, on the [Start] menu, click [Control Panel].
- If you are using Windows Vista, on the [] (Start) menu, click [Control Panel].

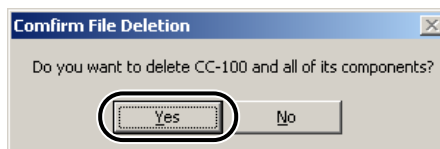
3 Double-click [Add/Remove Programs].

The [Add/Remove Programs] dialog box is displayed.

4 Select [CC-100] → click [Change/Remove].

A message appears for confirmation.

5 Click [Yes].



Uninstallation starts.

- 6** When the message <Uninstallation is completed.> is displayed, click [Exit].



Calibrating Color with the Color Calibration Utility CC-100

3

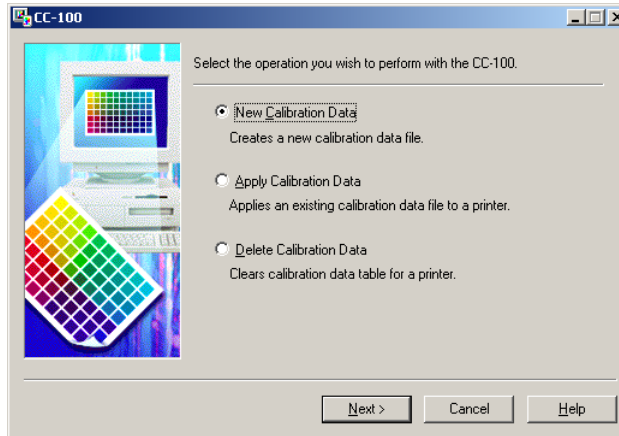
CHAPTER

This chapter describes how to perform color calibration operations, including creating, applying, and deleting calibration data.

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Color Calibration Operations

The Color Calibration Utility CC-100 enables you to perform the following three operations. In general, you should select [New Calibration Data] to perform calibration. It is recommended that you perform color calibration on the printer every day before the first printing.



- New Calibration Data:** Performs color calibration by sending data to the printer, which the printer outputs as a color chart. The user then scans the color chart output from the printer using the scanner, and the Color Calibration Utility CC-100 calculates the correction values for the output characteristics. The target printer and scanner must therefore be set up for use before performing this operation.
- Apply Calibration Data:** If the output characteristics data has been saved after performing the New Calibration Data operation, this operation sends the saved output characteristics data to the printer. Perform this operation if you want to restore the previous calibration setting. A scanner is not necessary to apply the saved output characteristics data to the printer.
- Delete Calibration Data:** Deletes calibration data sent to the printer by the New Calibration Data or Apply Calibration Data operations. Perform this operation if you want to delete corrections made during calibration. Whenever you import new calibration data, the old calibration data is automatically deleted. Therefore this operation is not normally required.

IMPORTANT

If you are performing large print runs, printed colors may gradually change. If changes in printed colors are found, recalibration is required. Colors should maintain their accuracy for up to 500 sheets (LTR or A4) before requiring recalibration with the Color Calibration Utility CC-100.

Creating Calibration Data

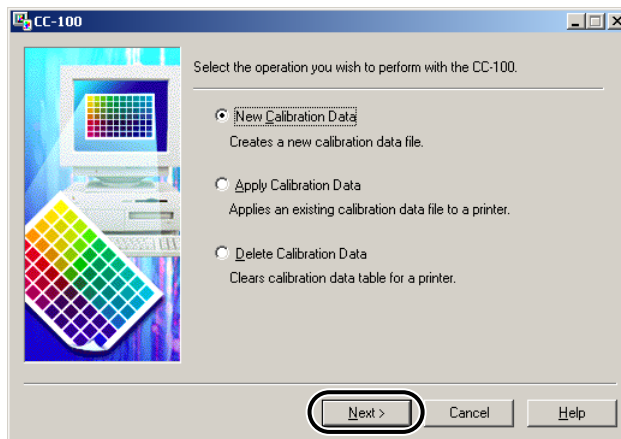
You can create new calibration data by following the procedure below.

- 1** On the [Start] menu, point to [Programs] (Windows 98/Me/2000) or [All Programs] (Windows XP/Vista) → [Canon CC-100] → click [CC-100].

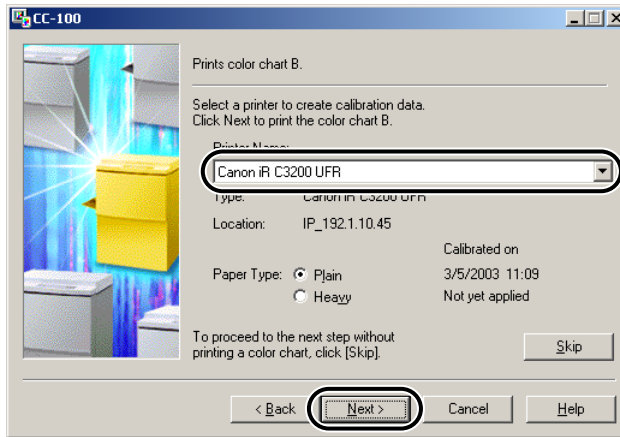
IMPORTANT

If an error message is displayed, color calibration cannot be performed. Check that the printer and scanner are turned ON and confirm that all the required drivers are installed, then perform step 1 again.

- 2** Select [New Calibration Data] → click [Next].



3 Select the printer that you want to apply calibration to → select the paper type → click [Next].



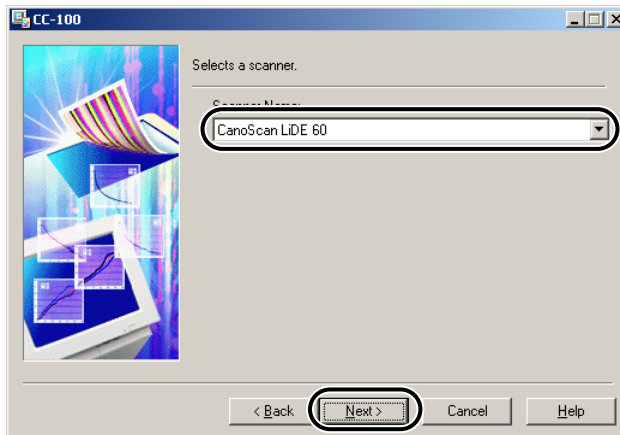
Three color charts are printed out.



NOTE

Printer names of printer drivers previously installed appear automatically in the Printer Name drop-down list box. If the printer name does not appear, check the connection to the printer, and also check that the printer driver is installed.

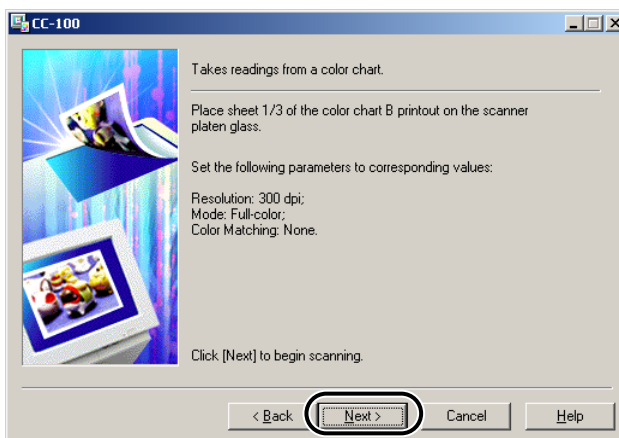
4 Select the scanner name → click [Next].



NOTE

Scanner names of scanner drivers previously installed appear automatically in the Scanner Name drop-down list box. If the scanner name does not appear, check the connection to the scanner, and also check that the scanner driver is installed.

- 5 Place the first color chart printed out in step 3 on the scanner → click [Next].**



- 6 Follow the instructions displayed on the scanner driver screen to scan.**

Display [Advanced Mode] to make the settings as below on the scanner driver screen and then click [Scan].

- Color Mode: Color
- Output Resolution: 300dpi
- Input Paper Size: A4 or Letter
- Unsharp Mask: OFF
- Preferences
 - Color Settings: None (Color Matching OFF)
 - Monitor Gamma: 2.20
 - Preview
 - Cropping: None



IMPORTANT

Before scanning the first color chart, perform calibration on the scanner.

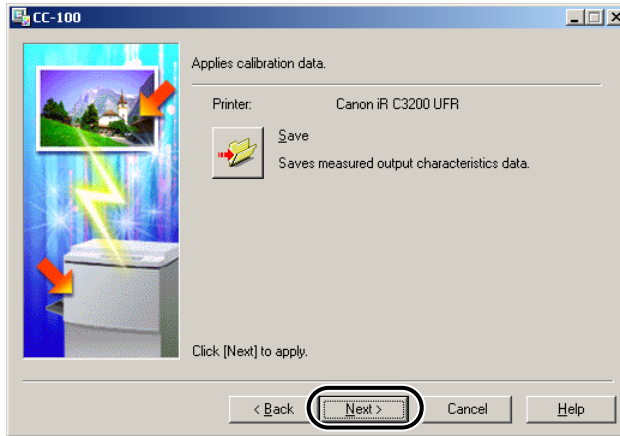


NOTE

For instructions on how to scan, refer to the instruction manual supplied with your scanner.

- 7 For scanning the second and third color charts, repeat step 5 and 6 with each chart.**

8 Click [Next].



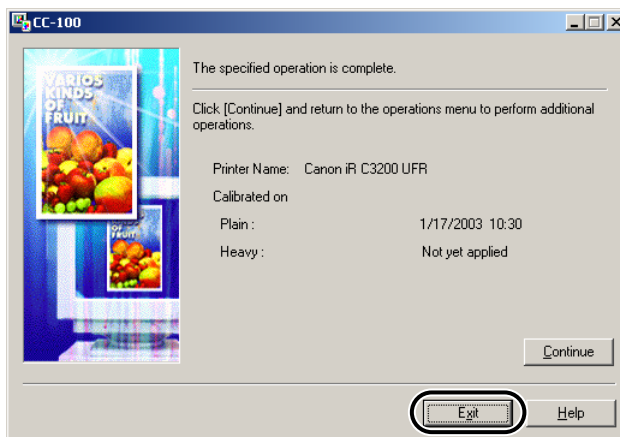
The calibration data is transferred and applied to the printer.



NOTE

You can save the output characteristics data file on the computer by clicking [Save]. The saved file can be reapplied to the printer by selecting [Apply Calibration Data]. For details, see "Applying Calibration Data," on p. 3-7.

9 When the process result screen is displayed, click [Exit].



The Color Calibration Utility CC-100 closes and the color calibration process is complete.



NOTE

To return to the initial screen, click [Continue].

Applying Calibration Data

If output characteristics data has been saved after performing the New Calibration Data operation, this mode enables you to apply the saved output characteristics data to the printer.

NOTE

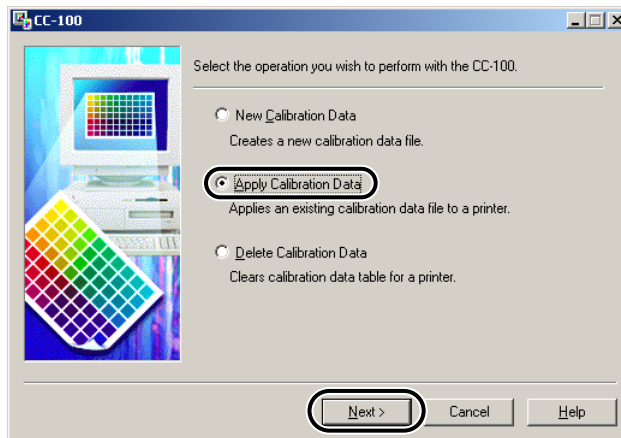
The color balance of the printer may be affected by environmental factors, such as temperature and humidity, at the time of turning ON the printer. Therefore, it is recommended that you perform color calibration with [New Calibration Data] every time the printer is turned ON.

- 1** On the [Start] menu, point to [Programs] (Windows 98/Me/2000) or [All Programs] (Windows XP/Vista) → [Canon CC-100] → click [CC-100].

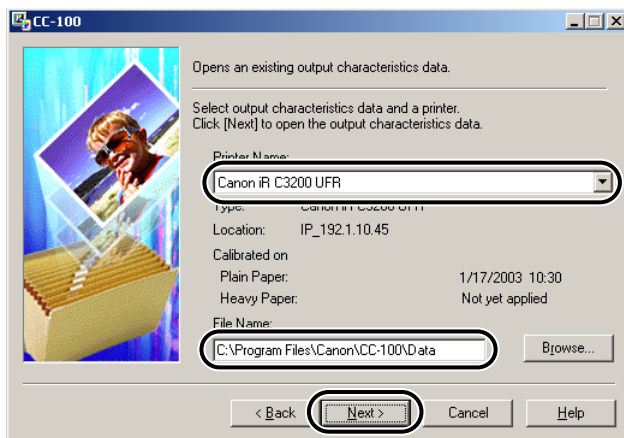
NOTE

Previously saved output characteristics data can be applied to the printer even if the scanner is not available. Therefore, if a message concerning scanner connection or a scanner driver error is displayed, you can continue this operation by clicking [OK].

- 2** Select [Apply Calibration Data] → click [Next].



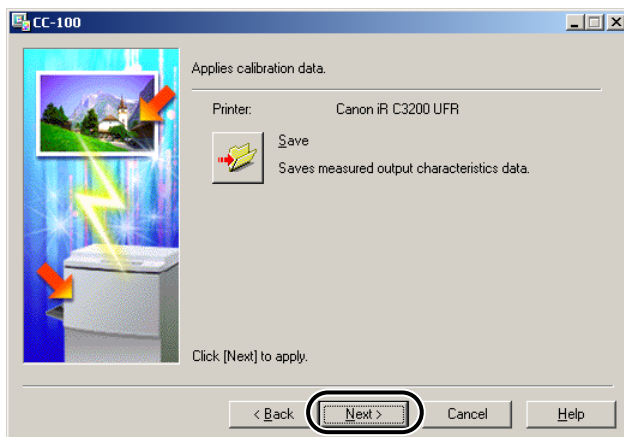
- 3** Select the printer that you want to apply calibration data to → select the output characteristics data file → click [Next].



NOTE

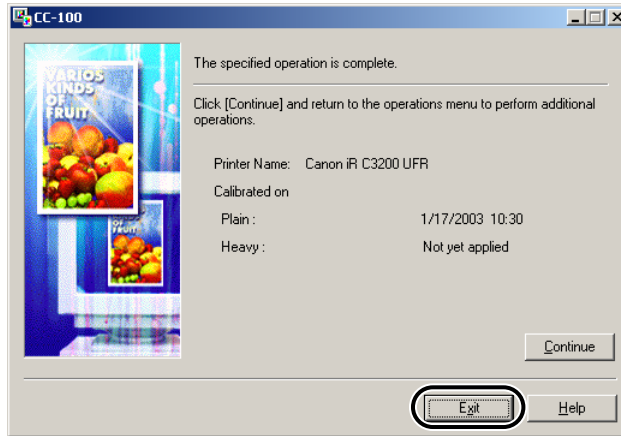
Printer names of printer drivers previously installed appear automatically in the Printer Name drop-down list box. If the printer name does not appear, check the connection to the printer, and also check that the printer driver is installed.

- 4** Click [Next].



The calibration data is transferred and applied to the printer.

5 When the process result screen is displayed, click [Exit].



The Color Calibration Utility CC-100 closes and the color calibration process is complete.



NOTE

To return to the initial screen, click [Continue].

Deleting Calibration Data

You can delete the calibration data after it has been applied to the printer, thus removing the color calibration settings from the printer.

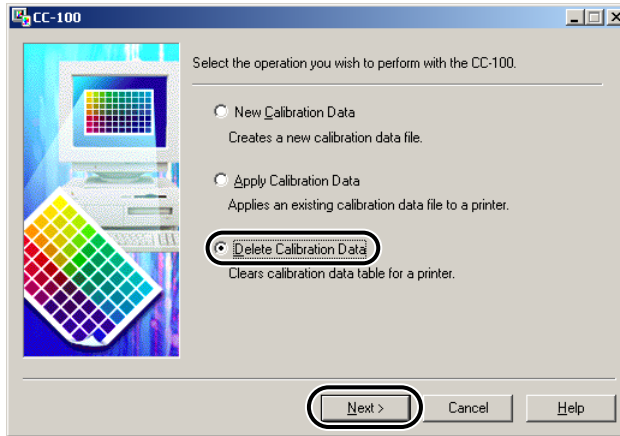
- 1 On the [Start] menu, point to [Programs] (Windows 98/Me/2000) or [All Programs] (Windows XP/Vista) → [Canon CC-100] → click [CC-100].



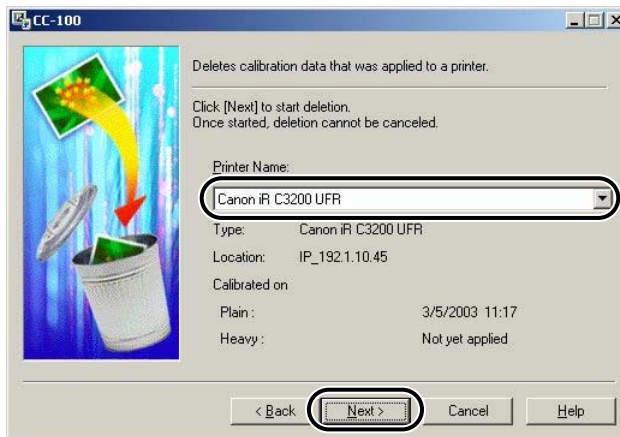
NOTE

You can delete calibration data after its application to the printer, even if the scanner is not available. Therefore, if a message concerning scanner connection or a scanner driver error is displayed, you can continue this operation by clicking [OK].

2 Select [Delete Calibration Data] → click [Next].



3 Select the printer that you want to remove the calibration data from → click [Next].



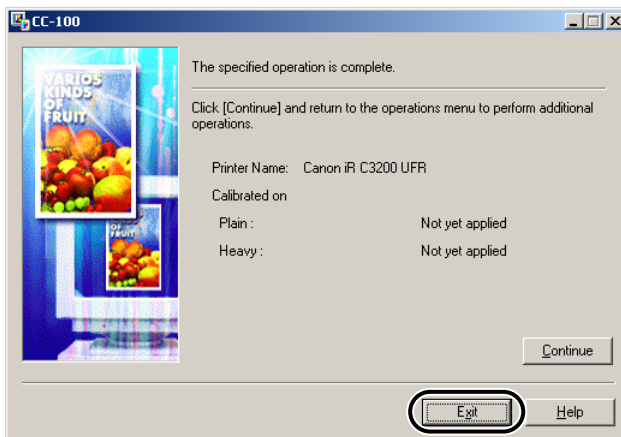
The color calibration data is deleted from the printer.



NOTE

Printer names of printer drivers previously installed appear automatically in the Printer Name drop-down list box. If the printer name does not appear, check the connection to the printer, and also check that the printer driver is installed.

4 When the process result screen is displayed, click [Exit].



The Color Calibration Utility CC-100 closes.



NOTE

To return to the initial screen, click [Continue].

Appendix

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