GMG ColorProof Remote Calibration: GMG Remote CaliWizard

Imprint

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Last update of this documentation: 2021-02-24

This documentation refers to the GMG software version No. 5.13.

1. About Remote CaliWizard

GMG Remote CaliWizard is an easy to use **calibration client** for GMG ColorProof allowing you to calibrate your printers from a remote location.

Rather than unplugging, plugging or moving the measuring device every time you want to calibrate your printers, have one measuring device connected to a computer within your **local network** and calibrate multiple printers by logging into a host GMG ColorProof application. After measuring a test chart, the measurement results are automatically transferred to the host system which performs the necessary adjustments.

GMG Remote CaliWizard is fully compatible with all printers and measuring devices supported by GMG ColorProof.

2. Calibrating Your Printer from a Remote Location

Like GMG CaliWizard integrated in GMG ColorProof, the remote client conveniently guides you through every calibration step.

Setting up the GMG ColorProof host system for remote calibration

1. Double-click the GMG ColorProof program icon on the Windows desktop or click GMG ColorProof on the Windows **Start** menu
2. Click the **System** button on the navigation panel on the left of the main window.
3. Click the **General** tab.
4. Under **Remote CaliWizard Settings**, select the option **Start Host Service Automatically** to allow for remote access.
   The GMG ColorProof system is now ready to be used for remote calibration.

How to calibrate your printer at a remote site

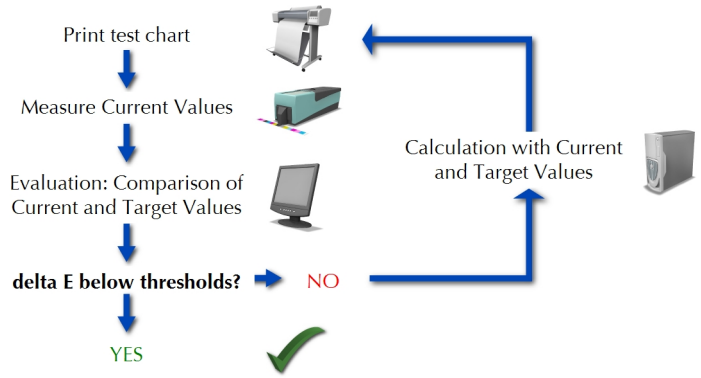
1. Click GMG Remote CaliWizard on the Windows **Start** menu of the client computer.
   The Remote Calibration login dialog is displayed.
2. Under **Host Name**, enter the **IP address** the GMG ColorProof host system.
3. Click the **Connect** button to establish the connection to the host system.
   The client connects to the given host address and shows the start dialog of GMG Remote CaliWizard.
4. Select the printer you want to calibrate from the **Available Printers** list.
5. Select the calibration set you want to use from the **Available Printer Calibrations** list.
6. Click the **CaliWizard** button  on the right side of the calibration set.

   The GMG CaliWizard is started.
7. Follow the instructions of the wizard.

For further information on the individual steps performed in an iteration cycle, please see the following chapters.

3. Iteration Cycle: Printing, Measuring, Evaluating

The aim of the iteration cycle is to match the **Target** values as closely as possible, within the tolerances defined in the calibration set. Following each iteration cycle, the program computes new CMYK output values based on the deviation between the target values and the measured current values. The new output values are used in the next **Printing** step. Thus, the **Current** values will become closer to the tolerances with **each** iteration, that is, **Printing**, **Measuring**, and **Evaluating**.



In the **Printing** step of the iteration cycle, you will print a color patch for each fulcrum in the corresponding data table. In the **Measuring** step, you will measure the color values of each patch as **Current** values. In the **Evaluating** step, you will **compare** the **Current** values with the **Target** values.

4. Step 1: Printing Test Charts

Test charts with color patches for spectrophotometric measurements are used for the following steps. Test charts have a different layout and size depending on the printer calibration they are used for and depending on the measuring device.

When calibrating a printer, a printer calibration test chart is printed with a separate color patch for each fulcrum in the printer calibration file. During the **first** printer calibration, the output color values corresponding to the input color values are taken from the printer calibration file linked as **Initial Calibration** within the calibration set. For all following calibrations, the output values are taken from the last saved printer calibration file.

The test chart job will be added to the job list with highest job priority. It is handled like any other job. The job name shows the number of the iteration cycle.

Pre-linearization: When the calibration is based on an **MXC** printer calibration, the input–output behavior of additional non-CMYK inks in the printer is analyzed and standardized first. To achieve this, a Pre-Lin test chart is printed and measured in an iteration cycle, just like a printer calibration test chart. The Pre-linearization data is saved in the MXC calibration file. If the pre-linearization cycle fails, the printer calibration will be canceled. (In this case, you might need to replace the inks.)

5. Step 2: Measuring Test Charts

The color values of the printed patches are measured (as **Current** values) with a spectrophotometer. Each **color patch** on a test chart represents a **fulcrum** (data point) in the corresponding data table within the printer calibration. By measuring patches, the data table is filled with data points.

(In case an MX3 printer calibration with no **K** values is used—**No Key Mode (CMY Only)** in GMG ProfileEditor)—black patches on the test chart are **not** measured. Values that have not been measured are marked with the following character: "–".)

Note Before you start measuring a test chart page, check that it is not visibly damaged, for example, by scratches. In case that a page cannot be used for measuring, go back to the **Printing** page and print the page again.

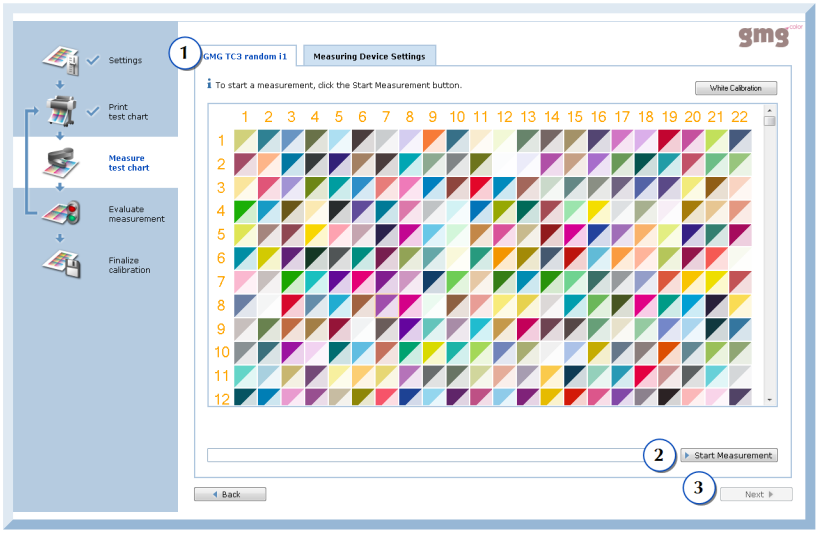


Fig. 1 Measuring page before starting the measurement.

Each test chart page is shown on a **separate** tabbed page (1) in the **Measuring** window.
Click **Start Measurement** (2) to start measuring the test chart page shown on the **front** tabbed page.
The measuring **progress** of the page is shown in the visualization of the test chart on the tabbed page. You can point to a **color patch** with the mouse to show a popup with more information. You can also measure single patches in this view.
After you have successfully measured **all** test chart pages, click **Next** to proceed to the next step (3).

How to measure test charts with multiple pages

Each test chart page is shown on a **separate** tabbed page in the **Measuring** window.

1. To measure a page, insert it into the measuring device, select the corresponding tabbed page, and click **Start Measurement**.
2. Repeat this procedure for all pages.

If there are too many test charts to fit in the window, you can click the small arrow on the top right side of the tabbed pages to bring hidden test charts or the **Measuring Device Settings** page to the front.

How to measure a single patch

This can be helpful, for example, if the measuring device cannot automatically scan the test chart.

1. In the test chart image, select a patch with the mouse and right-click it to show the context menu.
2. On the context menu, click the command **Measure Single Patch**.

Measuring Device Settings

You can click the **Measuring Device Settings** tabbed page to see the currently used measuring device parameters.

Depending on the used measuring device, some measuring parameters can be changed from within the software, for example, switching from **Scan** mode to **Single Patch** readings. Read-only parameters are grayed out and provided only for your information.

When using an X-Rite Eye-One, the software automatically switches to **Single Patch** mode if a row cannot be measured after three attempts.

Note Please check the hardware parameters such as **Standard Observer Angle**, **Illumination Type**, and **Filter** to ensure the software settings are correct and match the hardware configuration of the connected measuring device. Otherwise, this will result in wrong measurement values.

6. Step 3: Evaluating Measurement Results

In the **Printing** step, you have printed a color patch for each fulcrum in the printer calibration or color profile. In the **Measuring** step, you have measured the color values of each patch as **Current** values. In the **Evaluating** step, you will now **compare** the **Current** values with the **Target** values.

The aim of the iteration cycle is to match the **Target** values as closely as possible, within the tolerances defined in the calibration set. Following each iteration cycle, the program computes new CMYK output values based on the deviation between the target values and the measured current values. When creating a printer calibration file, the **full gamut** file linked within the printer calibration will be used as a reference to calculate the new output values. The new output values are used in the next **Printing** step. Thus, the **Current** values will become closer to the tolerances with **each** iteration, that is, **Printing**, **Measuring**, and **Evaluating**.

You can repeat the iteration cycle until the values are either within the tolerances or until you decide to end the cycle by accepting the best iteration.

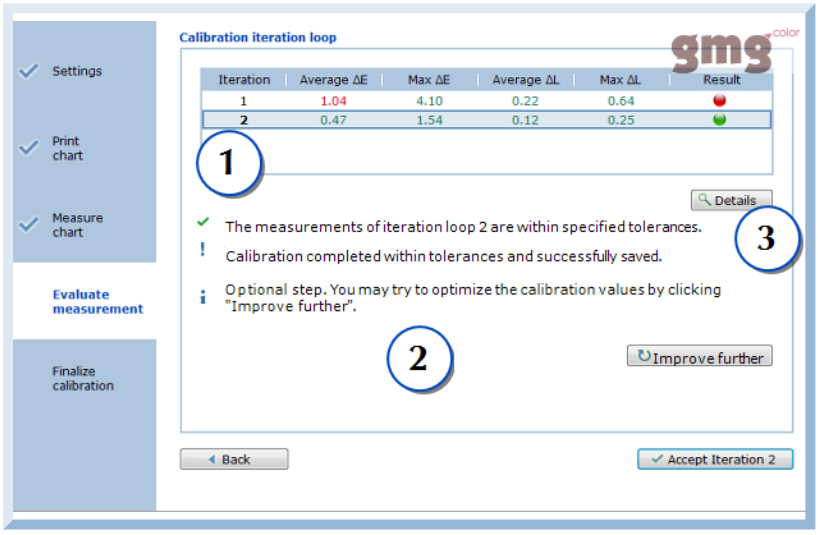


Fig. 2 Evaluating page after successful iteration cycle.

Accepting a successful iteration

The **Evaluating** page provides you with an overview on the results of the ongoing iteration cycle. The results of each **Iteration** (**printing** and **measuring** the test charts) are listed in a table (1).

If the current values of the first cycle (**Iteration 1**) are already within the tolerances (indicated by a green status lamp in the **Results** column), you can click the **Accept Iteration 1** button to accept the results. In the screenshot, the results of **Iteration 1** have not been within the tolerances (failed iteration).

Repeating a failed iteration

A failed iteration will be indicated by a red status lamp in the **Results** column. If an iteration fails, steps 1 and 2 will be repeated to further improve the calibration: The test chart will again be **printed** with the new output values and **measured**.

Generally, it makes sense to repeat the iteration cycle from the **last** iteration. However, you can also select a different one from the list and continue the iteration cycle from this iteration, thus ignoring the following iterations.

To continue the cycle, click the button **Improve further** (2). The label **Iteration 2** next to the button shows that **Iteration 2** will be repeated when the button is clicked.

You can show a table with all measured and target values for all patches by selecting an **Iteration** from the list and clicking the **Details** button (3). This can give you a hint on where to look for the problem if the printer cannot be calibrated.

Tip For example, if there are prominent color deviations in a specific color channel, you might need to replace the ink or clean the print heads. If the paper tint values (0, 0, 0, 0) are out of tolerances, you might have loaded the wrong media type into the printer.

Ending the iteration cycle by accepting a failed iteration

The iteration cycle can be repeated until the measured values are within the **tolerances** of the target values. However, if you are satisfied with the results of an iteration, you can also decide do end the iteration cycle and to proceed, thus **ignoring** the tolerances. To do so, **select the iteration** you are satisfied with from the list and click the **Accept Iteration** button to proceed.

7. Finalizing

The **Finalizing** page shows you a short summary of the **Results**. Please check the results carefully before clicking **Finalizing**.

When clicking **Finalizing**, you will accept the **Results** of the iteration cycle and save the new output CMYK values and the **Current** values from the last iteration within the printer calibration file.

Note This action cannot be undone. After leaving the **Finalize calibration** page by clicking the **Finalizing** button, you will not be able to go back to a previous step.