



Calibrator Help for Lab-calibrated presses and printers

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Calibrator

Fiery-driven presses and printers come in different flavors: laser or inkjet; monochrome or CMYK or extended gamut, with or without specialty inks. Calibrator is designed to address the different calibration needs of each technology.

Command WorkStation and Fiery Color Profiler Suite will automatically launch the Calibrator version best suited to your system. Calibrator will self-configure to adapt to the connected Fiery server. Not every press requires every feature.

With Calibrator, you can create a new calibration setting on a Fiery server or update an existing one.

Like Calibrator in Command WorkStation, Calibrator can create a new calibration setting and recalibrate an existing one, but with support for a variety of measurement instruments not available in Command WorkStation.

The two main functions of Calibrator are:

- **Recalibrate** - updates a calibration with fresh measurements. The output of many presses will vary over time. For the Fiery server to compensate for such fluctuations, its correction tables need to be updated with fresh measurements.
- **Create calibration** - creates a new calibration, and if Fiery Color Profiler Suite is installed and licensed, a new profile. This task is needed when none of the existing calibration delivers acceptable output for a specific printing condition (combination of ink set, halftone, substrate, etc.). Examples are poor gradations or bad ink adherence. A new calibration will most frequently require a new profile, for color management to deliver accurate color.

Two administrative functions are accessible from two icons at the bottom left of the window. These settings are specific to and saved in each individual Fiery server. Because they affect every user, these functions are available only when logged as a Fiery administrator from Command WorkStation:

- **Calibrator Settings** - is used to set preferences for individual presses. This is where you can set pre- and post-calibration settings available with some press models. All models also offer to warn or even prevent jobs from printing when their applicable calibrations have not been recalibrated within a time frame the administrator specified.
- **Calibration Manager** - is used to view calibrations available in a Fiery server, see when they were last updated, their measurements and properties. User-added calibrations can be deleted, and their names modified.

Select a task

Start the Calibrator to create a new calibration setting or update an existing one for a Fiery server.

- 1 Start Calibrator.
- 2 If Calibrator is started from Fiery Color Profiler Suite, click **Select Fiery server** in the **Select a task** window, and select the Fiery server from the list. If the Fiery server is not in the list, click the plus sign to add it using the IP address, DNS name, or by searching.

3 Select one of the following tasks:

- **Recalibrate:** Update a calibration using the selected calibration setting.
- **Create calibration:** Create a new calibration and profile to define a new color printing condition on the Fiery server.

4 Click Next.

Note: The number of steps required to complete the selected task depends on the connected printer. Some settings or options may not be available for your printer model.

Set Calibrator preferences

You can set general preferences for the selected Fiery server in Calibrator when opened from Command WorkStation.

1 In the Calibrator window, click the gear icon located in the lower-left corner to open the Calibrator Settings window.

2 If Printer Features are shown, make your selections.

The options shown under Printer Features are dependent on the connected Fiery server.

3 For Calibration Status, specify the following:

- Specify number of days or hours when a new calibration is needed. The calibration status is displayed in Job Center.

The number you specify depends on the kind of jobs you are printing and the stability of the printer and its environment. If the Fiery server is used for color-critical applications, select once a day or more frequently. If the Fiery server is used to print basic documents like emails, you may choose to calibrate less often.

- Select Suspend printing when calibration expires to prevent printing jobs until a new calibration is completed.

4 Click Factory Defaults to reset the preference settings to their original defaults.

5 Click Save to save the preference settings.

Create calibration for the server

To create a calibration, enter a name and other details, as required.

The required information is dependent on the Fiery server and printer that you are calibrating. For instance, you may not see the color mode field or the G7 gray balance check box.

1 Enter a calibration name of your choice.

Note: The calibration name should be unique for each server. The name you type must not already be used by a calibration setting or profile on the server.

2 Choose the color mode that is required for your production output:

- CMYK
- CMYK + N

Note: Where N is an additional color mode licensed for the printer.

3 Optional: Select G7 gray balance calibration target check box.

G7 calibration adjusts the color output of a printer to the G7 specification, using measurement data from a specific G7 target (patch page).

Note: To use G7 gray balance calibration, Fiery Color Profiler Suite must be installed and licensed. The option is otherwise grayed out.

4 Optional: In the Comments field, enter details about your calibration, such as media name, media type, special settings or instructions.

Note: When you create a calibration setting, we recommend that you document in the notes field the media type, printer used, and any special instructions should you need to recalibrate.

5 Optional: Select the down arrow by the Next button and choose Load measurements from file to allow you to bypass the print and measure workflows. This option is reserved for expert users who already have measurements for their printer. It is recommended that you always print and measure your actual printer.

6 Click Next.

Obtain measurement for ink limit per channel

The measurements taken for calibration provide suggested ink limits for each channel. Measure the patch pages for the ink limit per channel.

1 Choose one of the following:

- Print measurement chart

Select Include visual chart to print the measurement patches for visual inspection.

If you choose this option, follow the online instructions to print patch pages and measure them.

- Import measurements from file

Note: Loading measurements from file is most useful for tests and demonstrations. It is otherwise generally not recommended. Best results are obtained when measurement pages for all calibration creation steps are printed and measured in a single session.

Keep in mind the following:

- The printer's response may have changed since the measurement file was saved.
- Measurement files do not contain information on how the measurement pages were printed. Default job properties are assumed.

When you select this option, you are automatically taken to the location where the measurements files are stored.

If you choose this option, the measurements will be displayed in the next window.

2 Click Next.

If you selected Print measurement chart in the first step, the Patch Layout window in FieryMeasure is displayed. In the Patch Layout window, select the instrument and the chart size. Click Print to continue.

Set ink limit per channel

After you have successfully measured the patch page provided for the ink limit per channel, the results are displayed and you can make some adjustments.

For each channel, the ink limit is displayed.

Click the arrow beside the name of each channel to display a slider. To change the ink limit, move the slider.

Click Next to measure for linearization.

Obtain measurement for linearization

You can print a patch page to measure, or import measurements from a recent calibration. These measurements must accurately represent the current performance of your printer.

1 Choose one of the following:

- Print measurement chart

Select Include visual chart to print the measurement patches for visual inspection.

If you choose this option, follow the online instructions to print patch pages and measure them.

- Import measurements from file

Note: Loading measurements from file is most useful for tests and demonstrations. It is otherwise generally not recommended. Best results are obtained when measurement pages for all calibration creation steps are printed and measured in a single session.

Keep in mind the following:

- The printer's response may have changed since the measurement file was saved.
- Measurement files do not contain information on how the measurement pages were printed. Default job properties are assumed.

When you select this option, you are automatically taken to the location where the measurements files are stored.

If you choose this option, the measurements will be displayed in the next window.

2 Click Next.

If you selected Print measurement chart in the first step, the Patch Layout window in FieryMeasure is displayed. In the Patch Layout window, select the instrument and the chart size. Click Print to continue.

Note: When you are recalibrating, be sure to select a source tray containing the same media type, or a media type very similar to the media type that was used to create the calibration. Do not change settings from the Color tab and the Image tab because these settings were automatically set by the calibration software.

Obtain measurement for total ink limit

The measurement for total ink limit helps to ensure that the printer does not use more ink than the media can handle or too much ink for your intended jobs.

1 Choose one of the following to specify the total ink limit:

- Print measurement chart

The Initial ink limit displayed is the default value suggested for your printer. You can enter a new value to overwrite the suggested value, and then print the chart. The chart you are about to print will not contain patches specifying more ink than this value.

Select Include visual chart to print the measurement patches for visual inspection.

If you choose this option, follow the online instructions to print patch pages, measure them, and to have the system propose a value optimized for your actual media type. You can change settings for the selected patch measurement instrument and specify a custom page size for the chart before printing the patch pages.

- Enter numerical value

The value displayed is the default value suggested for your printer without additional measurements required. This value is not optimized for your specific media. If set too high, your media may have trouble handling that much ink. If set too low, you are limiting the gamut of your printer for your specific media.

- Import measurements from file

Note: Loading measurements from file is most useful for tests and demonstrations. It is otherwise generally not recommended. Best results are obtained when measurement pages for all calibration creation steps are printed and measured in a single session.

Keep in mind the following:

- The printer's response may have changed since the measurement file was saved.
- Measurement files do not contain information on how the measurement pages were printed. Default job properties are assumed.

If you select this option, the value is loaded from previously saved measurement data.

If you choose this option, proceed to obtaining measurement for the color benchmark.

2 Click Next.

If you selected Print measurement chart in the first step, the Patch Layout window in FieryMeasure is displayed. In the Patch Layout window, select the instrument and the chart size. Click Print to continue.

Set total ink limit

After you have successfully measured the patch page provided for the total ink limit, the results are displayed and you can make some adjustments.

1 Choose one of the following:

- Use measured result

The value displayed is the value suggested for your printer. This value is calculated from your latest measurements.

- Enter numerical value

The value displayed is the value suggested for your printer without additional measurements required. You can enter a numerical value of your choosing should you decide not to use the suggested value.

- Select value from printed visual chart

This option only displays if you selected Include visual chart when printing the measurement chart. The value displayed is the value suggested for your printer based on a specific column number in the chart. You can select a column number of your choosing should you decide not to use the suggested value. The printed visual chart may reveal issues that measurements alone cannot detect. For instance, ink might seep through the media if too much is allowed. In this case, you will want to use a lower value than the suggested one.

2 Click Next.

Obtain measurement for G7 gray balance

You can print a patch page to measure, or import measurements from a recent calibration. These measurements must accurately represent the current performance of your printer.

1 Choose one of the following:

- Print measurement chart

If you choose this option, follow the online instructions to print patch pages and measure them.

- Import measurements from file

Note: Loading measurements from file is most useful for tests and demonstrations. It is otherwise generally not recommended. Best results are obtained when measurement pages for all calibration creation steps are printed and measured in a single session.

Keep in mind the following:

- The printer's response may have changed since the measurement file was saved.
- Measurement files do not contain information on how the measurement pages were printed. Default job properties are assumed.

When you select this option, you are automatically taken to the location where the measurements files are stored.

If you choose this option, the measurements will be displayed in the next window.

2 Click Next.

If you selected Print measurement chart in the first step, the Patch Layout window in FieryMeasure is displayed. In the Patch Layout window, select the instrument, one of the G7 targets, and the chart size. Click Print to continue.

G7 gray balance measurement summary

View the summary of the G7 gray balance measurement.

1 Review the G7 gray balance measurement summary.

The NPDC (Neutral Print Density Curve) is displayed separately for CMY (composite) and K (black). Gray balance is plotted as a^*b^* . In the table, the weighted average must be less than 1.5 to show as green. The weighted maximum must be less than 3 to show as green.

- 2 Click Correction Options to display the correction curve, and expose advanced options applied to the formation of the correction curves. You can choose to keep the defaults or change them.
- 3 Click Back to discard your initial measurements.
- 4 Click Iterate to repeat the process.

Correction Options

Review the output correction curve.

1 You can set various correction options.

- Fade gray balance: reduces the gray balance correction applied by the G7 NPDC correction curves above the fade adjustment value.
- Fade tone adjustment: reduces the tone adjustments applied by the G7 NPDC correction curves above the fade adjustment value.
- Fade adjustment value: reduces adjustment of tone and/or gray balance above specified percent dot value.
- Add smoothing: smooths calibration curves for noisy or irregular calibration data.

2 Select OK to accept changes or Default to return to the default values.

G7 gray balance measurement results

View the results of the G7 gray balance measurement.

1 Review the G7 gray balance measurement results.

The NPDC (Neutral Print Density Curve) is displayed separately for CMY (composite) and K (black). Gray balance is plotted as a^*b^* . In the table, the weighted average must be less than 1.5 to show as green. The weighted maximum must be less than 3 to show as green.

- 2 Click Correction Options to display the correction curve, and expose advanced options applied to the formation of the correction curves. You can choose to keep the defaults or change them.

- 3 Click **Iterate** to print the patches with the *G7* calibration curves to see if the results are passing.
- 4 Click **Back** to discard your iteration measurements.
- 5 If the results are acceptable, click **Accept** to continue the calibration process.

Obtain measurement for color benchmark

These final measurements establish the target gamut for the printer.

- 1 Choose one of the following:

- Print measurement chart

Select **Include visual chart** to print the measurement patches for visual inspection.

If you choose this option, follow the online instructions to print patch pages and measure them.

- Import measurements from file

Note: Loading measurements from file is most useful for tests and demonstrations. It is otherwise generally not recommended. Best results are obtained when measurement pages for all calibration creation steps are printed and measured in a single session.

Keep in mind the following:

- The printer's response may have changed since the measurement file was saved.
- Measurement files do not contain information on how the measurement pages were printed. Default job properties are assumed.

If you choose this option, the measurements will be displayed in the next window.

- 2 Click **Next**.

Set color benchmark

A new calibration produces a reference color state, a "benchmark", that each recalibration will attempt to reach.

The benchmark is the color response expected from your printer when properly calibrated to the printing conditions you have just defined (media, resolution, halftone, etc.). An output profile describing the color space produced by this calibrated state will be needed by the server to correctly color manage your printer. If you are not satisfied with the calibration, review the previous steps.

When recalibrating, you want the recalibration results to confirm if your printer is still performing to the original benchmark for the specified calibration set.

Set an output profile

You can proceed to Printer Profiler to create the output profile, or save the results for later.

- Choose to create a profile.
 - a) Choose Create output profile.
 - b) Click Next.

Fiery Printer Profiler will create an output profile for use with the calibration you have just completed.

Or choose to save the calibration results for later.

- a) Choose Save calibration now and create output profile later.
- b) Click Done.

Calibration is saved with a temporary output profile visible in Command WorkStation Profile Manager. For color management to be accurate, a custom profile must be created for use with the calibration.

Recalibrate

After you have calibration data for the Fiery server, you can recalibrate it at any time. The existing calibration will be updated to match the color benchmark produced for the Fiery server when this calibration was created.

- 1 Start Calibrator.
- 2 If Calibrator is started from Fiery Color Profiler Suite, click Select Fiery server in the Select a task window, and select the Fiery server from the list. If the Fiery server is not in the list, click the plus sign to add it using the IP address, DNS name, or by searching.
- 3 Select one of the following tasks:
 - Recalibrate: Update the calibration using the selected calibration setting.
 - Create calibration: Create a new calibration and profile to establish color behavior or a new printing condition on the Fiery server.
- 4 Click Next.

Update calibration for the server

To recalibrate, start with the previously saved calibration data.

- 1 Choose an existing calibration set from the list.

Based on the calibration you selected, the color mode is displayed. If color mode is not displayed, it is not supported on the printer you calibrated.

The comments shown are those that were added at the time the calibration was created.

- 2 Click Next.

Obtain measurement for linearization

You can print a patch page to measure, or import measurements from a recent calibration. These measurements must accurately represent the current performance of your printer.

1 Choose one of the following:

- Print measurement chart

Select Include visual chart to print the measurement patches for visual inspection.

If you choose this option, follow the online instructions to print patch pages and measure them.

- Import measurements from file

Note: Loading measurements from file is most useful for tests and demonstrations. It is otherwise generally not recommended. Best results are obtained when measurement pages for all calibration creation steps are printed and measured in a single session.

Keep in mind the following:

- The printer's response may have changed since the measurement file was saved.
- Measurement files do not contain information on how the measurement pages were printed. Default job properties are assumed.

When you select this option, you are automatically taken to the location where the measurements files are stored.

If you choose this option, the measurements will be displayed in the next window.

2 Click Next.

If you selected Print measurement chart in the first step, the Patch Layout window in FieryMeasure is displayed. In the Patch Layout window, select the instrument, one of the G7 targets, and the chart size. Click Print to continue.

Note: When you are recalibrating, be sure to select a source tray containing the same media type, or a media type very similar to the media type that was used to create the calibration. Do not change settings from the Color tab and the Image tab because these settings were automatically set by the calibration software.

Obtain measurement for verifying calibration

You can print a patch page to measure, or import measurements from a recent calibration. These measurements must accurately represent the current performance of your printer.

1 Choose one of the following:

- Print measurement chart

Select Include visual chart to print the measurement patches for visual inspection.

If you choose this option, follow the online instructions to print patch pages and measure them.

- Import measurements from file

When you select this option, you are automatically taken to the location where the measurements files are stored.

If you choose this option, the measurements will be displayed in the next window.

2 Click Next.

If you selected Print measurement chart in the first step, the Patch Layout window in FieryMeasure is displayed. In the Patch Layout window, select the instrument and the chart size. Click Print to continue.

Verify calibration

A new calibration produces a reference color state, a "benchmark", that each recalibration will attempt to reach.

The benchmark is the color response expected from your printer when properly calibrated to the printing conditions you have just defined (media, resolution, halftone, etc.). An output profile describing the color space produced by this calibrated state will be needed by the server to correctly color manage your printer. If you are not satisfied with the calibration, review the previous steps.

When recalibrating, you want the recalibration results to confirm if your printer is still performing to the original benchmark for the specified calibration set.

1 View the results.

You can compare the color benchmark and calibrated results. You can also view individual channels by clicking the eye icon beside each channel icon.

2 Click Apply & close to apply the calibration set to printer and close Calibrator.

Calibration is ready to be applied

When you have a set of measurements, the calibration is ready to be applied. You can choose to verify the calibration or apply the calibration setting to the printer.


- Click Verify and follow the online instructions.

When you verify the calibration of the printer, you will compare how close the calibrated state is to the color benchmark of the current calibration setting.

Calibration Manager

Calibration Manager allows you to view and delete calibration settings. Comments can also be added to or deleted from individual calibrations.

Typically, calibration settings and output profiles are appropriate for specific paper and printing conditions. A calibration setting can be associated with more than one output profile.

Open Calibration Manager from Calibrator by clicking  in the lower-left corner of the window. The window displays all the calibrations for the selected server. The following categories are shown:

- Calibration settings: Completed calibrations for the server listed by name.
- Last calibrated: The time of the last calibration.
- Color mode: The color mode used for the calibration setting.

You can perform a number of actions for the calibration you select in the list. Not all actions are available for all calibrations. If an action is not available, it is grayed out. The actions are:

- Edit opens a window where you can edit the basic information of a custom calibration setting.
- View measurements opens a window providing more details about the highlighted calibration.

The information displayed in the window is determined by the measurement space.

- Delete removes the selected calibration set.

Profiles relying on this calibration will also be deleted, after confirmation from the operator. Factory calibration sets, such as Plain, cannot be deleted.

Edit calibration setting

You can edit the basic information of a custom calibration setting. You cannot edit a factory-supplied calibration setting.

You must have Administrator privileges to edit a custom calibration setting.

Job properties (print settings) cannot be edited since any measurement data saved with the calibration setting would become invalid. To edit the job properties of a calibration setting, create a new calibration setting based on the existing one.

1 In Calibration Manager, select the calibration setting in the list and click Edit.

2 Specify the following settings:

- Name - Type a name that describes the paper name, weight, and type plus any other specific printing conditions (for example, halftone or gloss settings). The name can have a maximum of 70 characters.
- Comment - (Optional) Type additional descriptive information. This information appears in the list of calibration settings available on the Fiery server.

View measurements

View details of calibration in a L*a*b* measurement space.

You can reset the measurement data for a particular calibration setting to the default data (either the factory default data or, for a custom calibration setting, the initial measurement data). This option is not available if the current measurement data is already the default data.

- 1** In Calibration Manager, select a calibration and click View measurements.
Details of the calibration are displayed.
- 2** To reset the calibration data, click Reset to Default Measurements.
When you perform this action, the last set of calibrator measurements is deleted.

