

How-To:

Create and Manage
Calibration using
an EFI ES-2000
Spectrophotometer



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Feature Overview

Achieving predictable color every time is a major challenge for any business and calibration is the most important aspect in color printing. All toner based print engines use mechanisms sensible to environmental factors like humidity and temperature. Calibration is essential to maintain a consistent color reproduction despite those environmental changes. The Fiery controllers offer two calibration methods, using an external measuring device like the ES-2000 (or OEM specific GretagMacbeth Eye-One) spectrophotometer or using the integrated copier scanner or ColorCal method. This how-to guide will describe the ES2000 method of calibration.

Customer Benefits

- Calibration is activated per job, if necessary, when the Calibrate Preferences is configured to suspend printing after calibration expires. This assures each chosen job will have up-to-date calibration applied via the EFI ES-2000 spectrophotometer.

Objectives of the Exercise

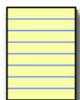
- Configure Calibrate Preferences.
- Calibrate the Fiery Server to achieve consistent and reproducible colors using the EFI ES-2000.
- Perform Job-based Calibration with Calibrate Preferences to suspend printing after calibration expires enabled.
- Print a selected job in the Command WorkStation Held Queue. Processed job will be Suspended, right-click to select Properties. Calibrate using the EFI ES-2000.

Additional Resources

If you would like to learn more about Fiery product features, EFI has created interactive online courses designed to enhance Fiery product knowledge and help increase performance. For a complete list of the online courses we offer, go to the [Fiery eLearning](#) web page.

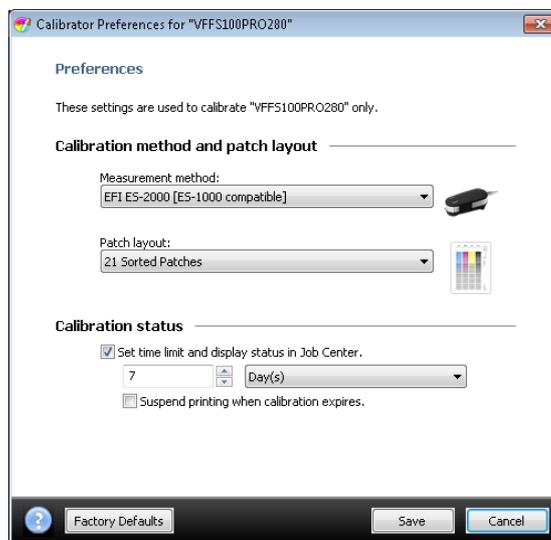
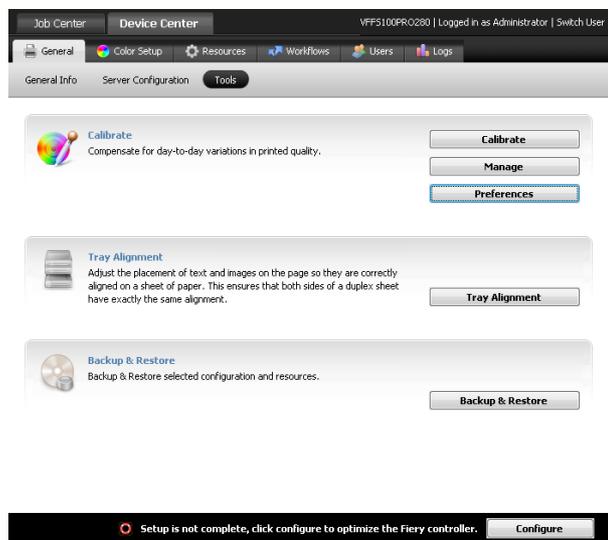
Before you begin

- Have Fiery Command WorkStation 5.5 or above opened and connected to at least one Fiery server, running Fiery FS150/FS150 Pro or above.
- Login as the Administrator on Command WorkStation.
- Have the EFI ES-2000 Spectrophotometer connected to the system running Command WorkStation.



Note:

Calibration Preferences require an Administrator login on Command WorkStation. Calibration can be performed by an Operator or Administrator login on Command WorkStation.



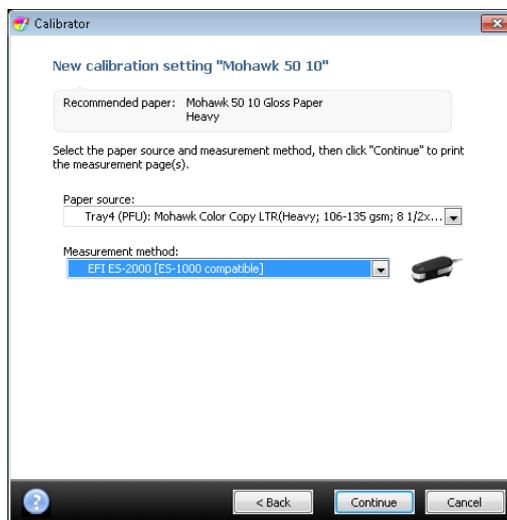
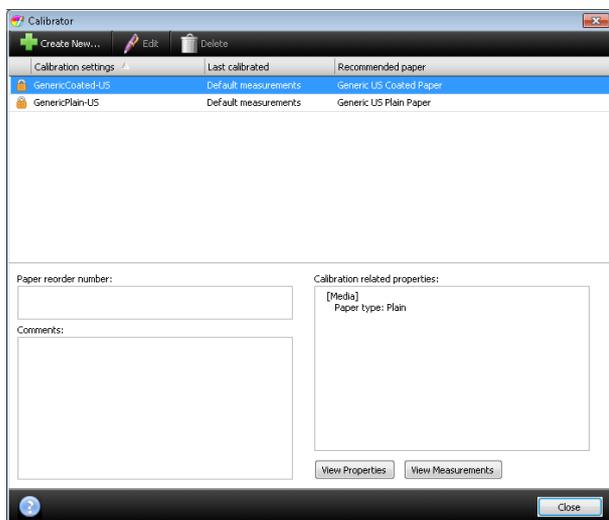
Fiery Server Setup of Calibrator Preferences

1. Select **Device Center** in Fiery Command WorkStation or choose **Tools** from the **Go** menu.
2. In the **Calibrate** section, select **Preferences**.
3. Set the Measurement method to **EFI ES-2000 [ES-1000 compatible]**, or the device that you will use to measure the calibration pages.
4. Choose the **Patch Layout**: For this example, select **21 Sorted Patches**.
5. Next set the **Calibration Status**.
 - a. Check to enable the option **Set time limit and display status in Job Center**. This enforces the length of time that can elapse between calibrations. It will also display the date and time for the last calibration for each of the media stocks used a job.
 - b. Set the number of days or hours that can elapse between calibrations.
 - c. Check to enable **Suspend printing when calibration expires** if your workflow will benefit from this setting. By default this setting is not enabled.



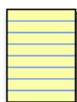
Note: The additional Preference options under the heading: **Profiling Method and Patch Layout** are settings for the Color Profiler Suite software and will only be available when Fiery Color Profiler Suite software is installed on the Command WorkStation client.

6. **Save** the Calibrator Preferences.



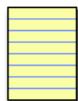
Create a Calibration Set

1. Select **Manage** in the Calibration section.
2. Select **Create New...** to create the new Calibration Set.
3. Begin by selecting an existing Calibration Set that is similar to the media you will be calibrating and **OK**.
4. When prompted, name the new Calibration set.
5. Complete the **Recommended Paper** text box with the media that will be used to calibrate. This can be left blank but it will make managing paper and media easier in the future.
6. To assign media properties such as paper size, Paper Weight and Coating required to print using the desired media, select **Properties** to open Job Properties.
 - a. Select the **Media** tab and assign the appropriate **Media Type**, **Media Weight**, **Coating**, and **Paper tray** or **Paper Catalog** for your workflow.
 - b. Select the **Image** tab and assign the **Line/Dot** type associated with this calibration set. Each Line/Dot type will need to have a unique calibration set and output profile. Note: these options will vary with device.

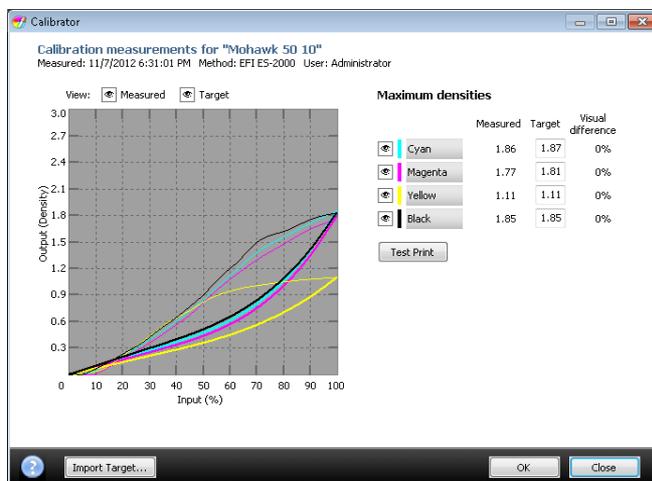
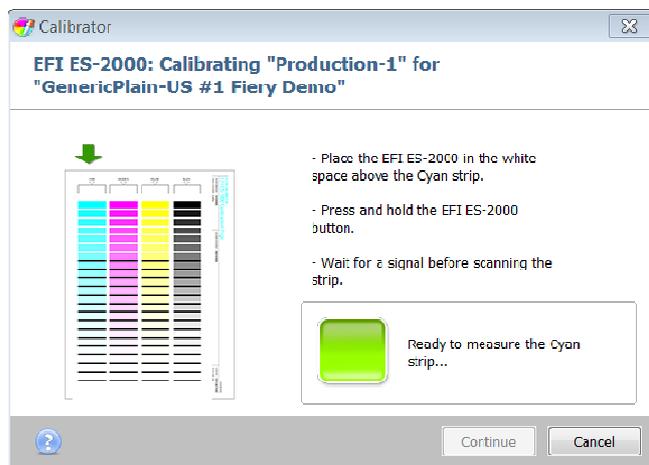


Note: Some print engines will require the media to be selected using the Paper Catalog.

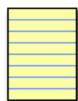
7. **OK** to close the **Job Properties** window and select **Continue**.
8. Select the **Paper Source** that will be used to print the Calibration page.
9. Set the Measurement method to **EFI ES-2000** or the measurement device you have connected and select **Continue**.
10. The Calibration page will print using the **Calibration Preferences** and **Job Properties**. Retrieve the printed page.



Note: The page printed was defined in the calibration Preferences.
The number of calibration pages printed is defined in Calibration Preferences.

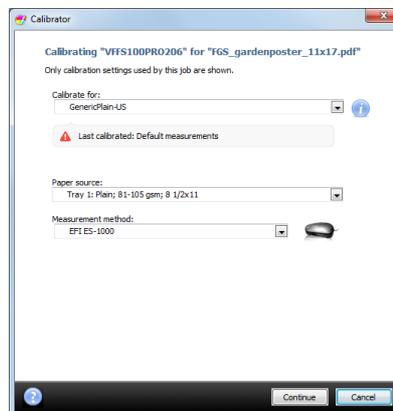


11. Follow the on-screen instructions to calibrate the ES-2000 and measure the patch page.
 - a. Place the ES-2000 into its cradle, and calibrate it by pressing the button on its side or clicking **Continue**.
 - b. Place the calibration page into the backer tray. You will measure all four color strips on the calibration page.
 - c. When prompted to read the Cyan strip, place the EFI-ES2000 in the white space above the Cyan Strip next to the arrow. Continue to follow the on-screen wizard as it guides you through the process to measure each color strip.
12. When you have successfully measured the four color strips, select **Continue** to view the calibration results.
13. To view a graph comparing the D-Max measurement values to the target curves, select **View Measurements**. **Close** the Measurements window when done.



Note: Review each color in the chart and compare the Measured vs. Target D-Max for each color.
If the **Visual difference** is more than 5% the printer may require servicing.

14. After you have compared the D-Max values, select the output profile that will be associated with the new Calibration Set.
15. When the output profile is selected, the associated calibration will be applied.
16. **OK** when done and **Close** Calibrator.
17. To learn more about creating custom output profiles, review the How-To Guide: **Achieve Accurate and Consistent Color with Printer Profiles**.



Job Based Calibration

1. The **Job Status** area of Command WorkStation will indicate if the calibration time limit has expired for the media assigned to the job. If you attempt to print a job with an expired calibration the job will be suspended in the Print queue, highlighted in red.
2. To calibrate the media used within a job, select a job in the Held queue, right-click and select **Calibrate Job...**
3. In the **Calibrator** window, select the media to calibrate from the **Calibrate for:** menu.
4. Select the paper tray loaded with the required media, select the measurement device and **Continue**.
5. After the calibration page prints, select **OK**.
6. Follow the on-screen instructions to calibrate the ES-2000 and measure the patch page.
 - a. Place the ES-2000 into its cradle, and calibrate it by pressing the button on its side or selecting **Continue**.
 - b. Place the calibration page into the backer tray. You will measure all four color strips on the calibration page.
7. When you have successfully measured the four color strips, select **Continue** to view the calibration results.
8. You can choose Test Print to print a comparison page.
9. To complete the calibration select **Apply & Close**. To immediately print the job after the calibration is applied, check **Print {jobname}** before selecting **Apply & Close**.
10. To view a graph comparing the D-Max measurement values to the target curves, select **View Measurements**.



Note: Review each color in the chart and compare the Measured vs. Target D-Max for each color.

If the **Visual difference** is more than 5% the printer may require servicing.

11. After you have compared the D-Max values, select **Apply & Close**.

The new calibration will be used with the all jobs using the same media until the calibration expires again.



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