

How-to:

Use the IQ-501 Intelligent Quality Optimizer with the Fiery server Konica Minolta® IC-315, IC-313 and IC-417 for the AccurioPress®

C6100/6085 and C2070/C2070P







Objectives of this guide

The IQ-501 is an optional module installed after the print engine which allows for in-line real-time scanning of both colour patches and registration marks to ensure both colour consistency and perfect registration during a production run. In addition the IQ-501 is equipped with an in-line spectrophotometer which can be used in conjunction with the in-line scanners for Fiery server calibration, colour profiling and other colour management tools. This guide will show you how to engage and effectively use the IQ-501 from the IC-315, IC-313, and IC-417 Fiery servers and the Fiery application on the AccurioPress C6100/6085, 2070/2070P.

IQ-501 Fiery Supported Features

- **Auto Image Adjustment:** This is an engine feature that constantly monitors both position and colour quality of a job. It prints both registration marks and colour bars on the inboard and outboard edges of the media to be scanned and analyzed by the IQ-501. The engine takes corrective action to ensure that both the position and colour quality is maintained throughout the job. Auto Image Adjustment is triggered from the Job Properties of the job on the Fiery server.
- Fiery Calibration from the Press Control Panel: When performing Fiery server calibration from the press control panel the IQ-501 can be engaged to simplify the calibration process. The calibration target is automatically read by the IQ-501 and the calibration is updated on the Fiery server.
- Fiery Calibration from Fiery Color Profiler Suite (FCPS): A Fiery Color Profiler Suite software DVD is included with each Fiery server in the top tray of the server shipping box. The Calibrator module does not require a FCPS license, just the FCPS software. The IQ-501 can be selected from the Calibrator module simplifying the calibration process.
- **Printer Profiling using the Printer module of FCPS**¹: When creating an output profile from the Printer module of FCPS you can choose the IQ-501 to read both the calibration targets and printer profiler targets, simplifying and automating profile creation.
- **G7 Calibration using the Printer module of FCPS**¹: The G7 gray balance calibration target selection when creating a new calibration setting will print and scan the target if the IQ-501 is selected, making G7 optimization a simple and touchless process.
- Printer Match (common calibration) using the Printer Match module of FCPS¹: The FCPS Printer
 Match module allows you to use a common calibration method to build profiles that match multiple
 printers of the same model. Both the calibration targets and printer profiler pages are automatically read
 when choosing the IQ-501. This greatly facilitates and simplifies the process. You should have the IQ501 option on all presses being matched to take full advantage of this feature.
- Fiery Color Verifier with three reference preset choices¹: If you set the FCPS verifier instrument preference to the IQ-501: Fiery Color Verifier will allow you to choose from three reference presets that are supported by the IQ-501: Fogra 2.2 media wedge, Fogra 3.0 media wedge and ISO12647-7 Control Wedge 2013.

Note: Fiery Color Profiler Suite can be installed on any PC or Mac client that has network access to the Fiery server, however it is recommended to install on the Fiery server itself if there is a FACI (direct connected monitor, keyboard and mouse). A license is not required for using the calibration module. Please contact your sales person or dealer/reseller should you require a FCPS license.

¹ Purchase of the Fiery Color Profiler Suite software license option is required to activate this module.



Fiery measurement features that do not use the IQ-501

Although the IQ-501 is not supported with the following features, if a supported spectrophotometer is purchased, in addition to the IQ-501, the features below that require measurement are fully supported. If the full capability of the Fiery server is desired, the EFI ES-2000 is recommended in order to capture spot colours using the Spot-On feature of Command WorkStation.

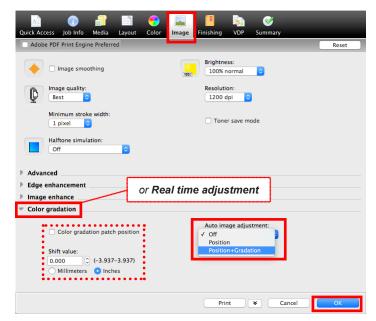
IQ-501 Unsupported FCPS and Command WorkStation features:

- Express Profile FCPS module.
- Auto Verify FCPS module.
- Verify FCPS module (when selecting custom or unsupported reference strips directly from the Verifier application).
- Device Link FCPS module (no measurements are needed).
- Printer Match FCPS module when selecting the New Device Link method (no measurements are needed).
- Color Verifier Assistant (from Command WorkStation Job Center).
- Calibrate module from Command WorkStation.

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Auto Image Adjustment





RGB/Process K strips

CMYK strips

The engine keeps track of which set of strips were last printed and ensures that they alternate. Position markers shown in red circles.

- 1. Open **Job Properties** of the job in which you wish to engage Auto Image Adjustment.
- 2. Select the **Image** tab.

 Note that on some software versions the Auto
 Image Adjustment may be in the Job Info tab or
 directly under the Image tab
- 3. Pull down the Color Gradation section or Realtime Adjustment section.
- 4. Select either Position or Position+Gradation.
- OPTIONAL: check the Color gradation patch position check box and choose a +/- Shift value to fine tune the placement of the colour bars on the edge of the sheet.
- 6. Click OK.
- 7. Print the job.
- 8. Follow directions as needed on the Press Control Panel.

For the **Position+**<u>Gradation</u> selection the engine places alternating CMYK and RGB/Process K strips on the sheets' inboard and outboard edges. Approximately 9mm per edge is used. Position places cross hair marks within the 9mm edge at each corner. Please ensure that user content is not placed in these border areas as the engine will override and knock out content.

Note: ImageViewer or Preview will not show these marks as they are added at the engine.

Note2: If the position marks or colour bar strips do not appear please contact Konica Minolta service in order to resolve.



Fiery Calibration from the Press Control Panel



If the main screen is not showing on the press control panel, press the Utility Counter on the keypad then press Exit.

1. Select **Controller** from the Press Control Panel.



2. Press the blue icon button in the bottom left corner of the screen.

Note that this button may be labeled other than "Info" depending on the last use.

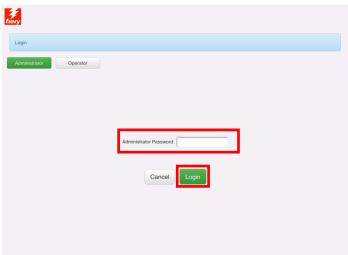


3. Press Tools.



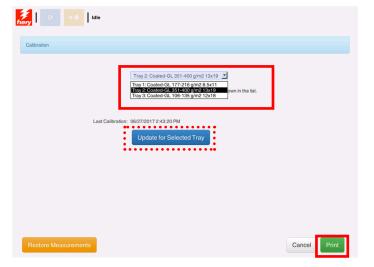


4. Press Calibrate.



5. You <u>may</u> be prompted to log onto the Fiery server.

The default Administrator Password is "Fiery.1"

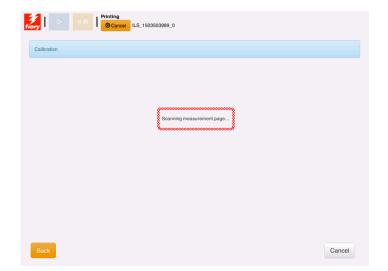


6. Select the tray with the desired media from the pull-down menu.

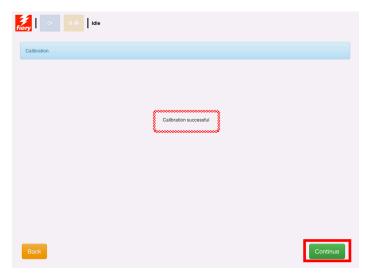
Press **Update for Selected Tray** if the desired media is not showing.

7. Press Print.



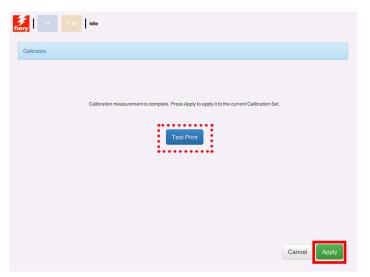


The calibration page prints and is scanned by the IQ-501.



When completed the **Calibration successful** message is displayed.

8. Press Continue.

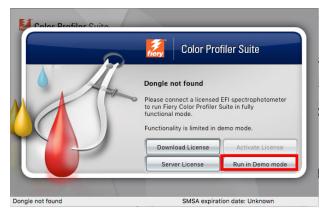


9. Press **Apply** to complete the calibration process

OPTIONAL: Press Test Print if desired



Fiery Calibration from Fiery Color Profiler Suite (FCPS)



Color Profiler Suite

Express Profile

Printer [DEMO]

Monitor

Device Link [DEMO]

Printer Match [DEMO]

Printer Match [DEMO]

SMSA expiration date: Unknown

1. Start Fiery Color Profiler Suite.

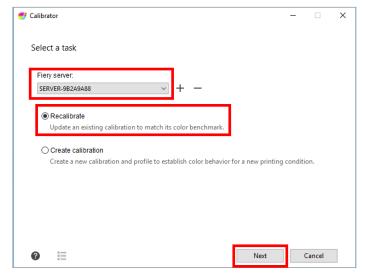
If you have not purchased and installed a license for FCPS you will need to run FCPS in Demo mode for Fiery Calibration as follows.

2. Select Run in Demo mode.

This step will not be necessary if the license is installed and activated correctly.

3. Click on the Calibrator icon.

Note that Calibrator and Inspect are the only two modules that allow full capabilities without a license. Inspect is not discussed in this document.



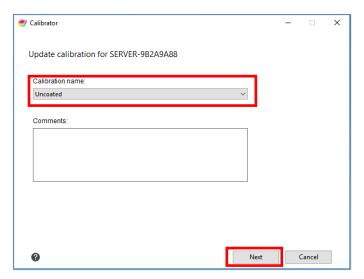
4. Select the **Fiery** server that you wish to calibrate.

Click the "+" symbol to discover the Fiery server if it is not listed.

5. Select Recalibrate and click Next.

In this exercise we are recalibrating an existing calibration set.



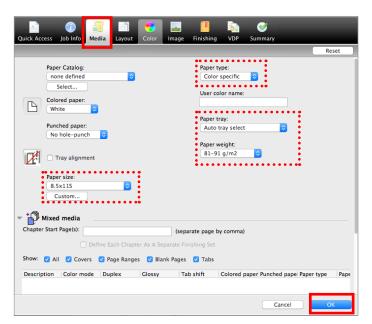


- 6. Select the **Calibration name** that you wish to recalibrate.
- 7. Click Next.

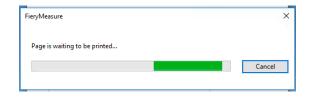


- 8. Select **IQ-501** from the Instrument pull-down.
- 9. Select an appropriate size from the Chart size pull-down. Ensure that it matches the media selection (next step).
- 9A. Optionally select warmup pages.
- 10. Click Print.





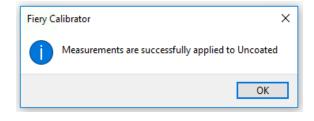
- The Fiery Measure job properties window opens.
- 12. Select the **Media** tab.
- 13. Select the media attributes that are defined by the calibration name, ensuring that the media size matches the chart size (previous step).
- 14. Click **OK** to print and measure the chart.

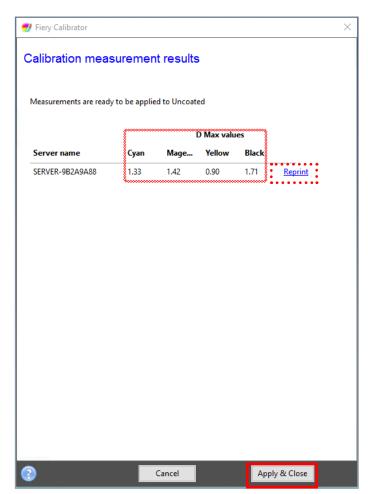


15. The **Calibration measurement results** are shown.

Ensure that the D Max values displayed are within the expected tolerance for the engine and media selected. **Reprint** or take appropriate service steps if not.

16. Click **Apply & Close** to complete the calibration.







Printer Profiling using the Printer module of FCPS including G7 calibration



Fiery Printer Profile

Create Printer Profile

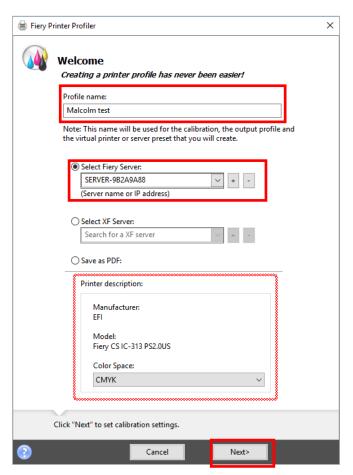
I want to create a Fiery calibration set and output profile in a few easy steps.

Print Patches
I want to start from the beginning.

Measure Profiling Patches
I have printed patches ready to measure.

You must have purchased and installed a license for FCPS to use this feature.

- 1. Start Fiery Color Profiler Suite (FCPS).
- 3. Click on the Printer icon.
- 4. Click on Print Patches.

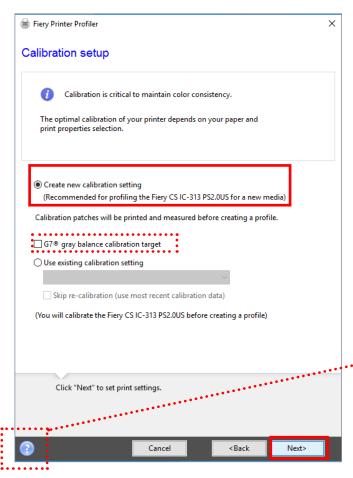


- 5. Enter an appropriate name for your profile.
- 6. Select the Fiery server.

The Fiery model appears and CMYK is preselected.

7. Click Next.





- 8. Select Create new calibration setting.
- 9. Optionally you may check **G7 gray balance** calibration target.

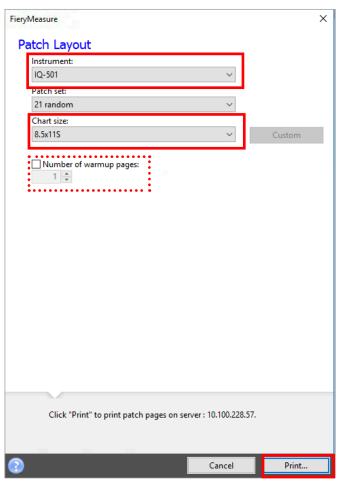
If you choose the G7 gray balance calibration target the system will prompt you through additional steps to print and have the IQ-501 scan G7 P2P targets. This is an iterative process that allows you to build a neutral print density curve on top of basic calibration.

These additional steps are not documented here, however the FCPS software will prompt you after the basic calibration to process the G7 P2P targets. The G7 P2P targets can be iterated until you are satisfied with the results. Once accepted the profiling process continues as documented.

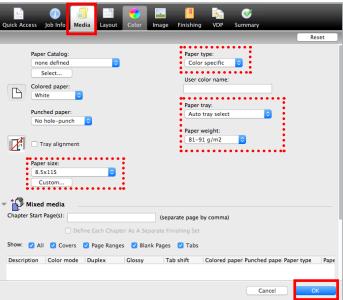
Refer to the contextual help icon for assistance with the G7 workflow, or visit:

http://fiery.efi.com/help/G7CalibrationWorkflow

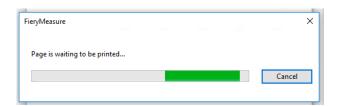




- 10. Select **IQ-501** from the Instrument pull-down.
- 11. Select an appropriate size from the **Chart size** pull-down. Ensure that it matches the media selection (next step).
- 11A.Optionally select warmup pages.
- 12. Click Print.

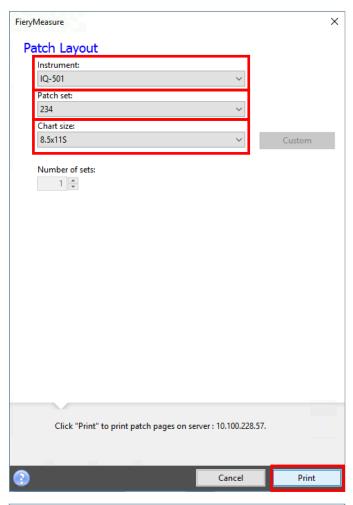


- The Fiery Measure job properties window opens.
- 14. Select the Media tab.
- 15. Select the media attributes for the media you wish to profile, ensuring that the media size matches the chart size (previous step).
- 16. Click **OK** to print and measure the calibration chart.



Note: If you chose the G7 gray balance calibration target option in step 9, additional steps and targets are generated here. Once complete the process continues as documented.





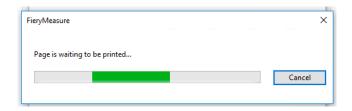


We continue with printing and measuring the profile patch pages.

- 17. Select **IQ-501** from the Instrument pull-down.
- 18. Select an appropriate number of patches from the **Patch set** pull-down.

Since this will be read automatically select an appropriate number of patches for the desired precision. More patches generally provide better precision. Note that more sheets will be also be used.

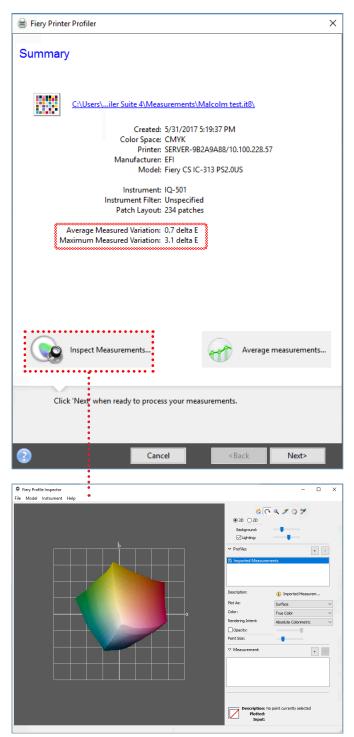
- 19. Select an appropriate size from the **Chart size** pull-down.
- 20. Click **Print** to print and measure the profiler patch pages.



The results of the Fiery measure module are automatically displayed.

21. Click Next to continue.

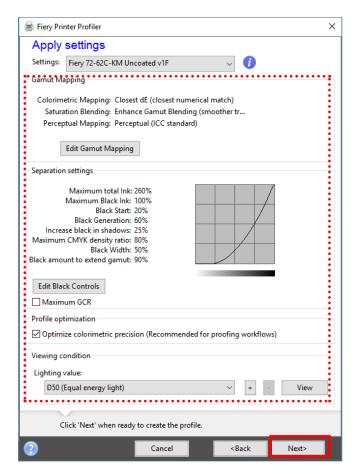


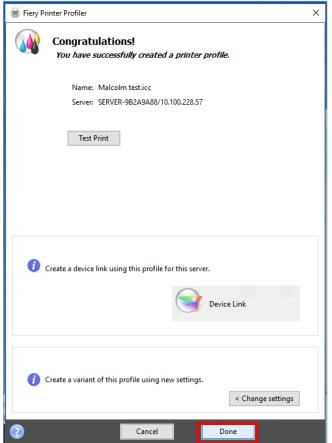


The measurements summary is displayed.

- 22. Review the **Maximum and Average measured** variation for anomalies. Take appropriate action as needed, based on your precision requirements. Engine service may be necessary if you determine that the DeltaE (dE) values are too high.
- 23. Optionally click on the **Inspect Measurements** button to review the gamut map.
- 24. Click Next to continue.







The Apply settings window is displayed.

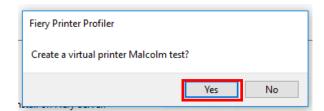
25. Make any changes as needed.

Defaults are usually a good choice unless advanced features are needed. **Maximum GCR** will deliver more neutral rendering if desired.

26. Click **Next** to process and optimize the profile.

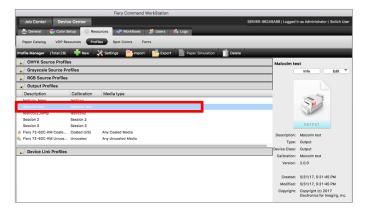


27. Click your selection to the **Create a virtual printer** selection. This is recommended.



28. Click Done.

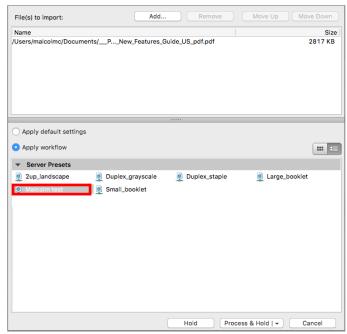




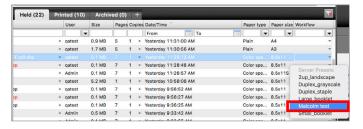
The new profile is automatically installed as an output profile on the Fiery server.



A Virtual Printer (or Workflow) is automatically setup under Device Center>Workflows>Virtual Printers. The new profile is automatically applied to all jobs using this workflow.



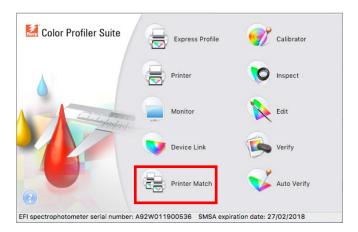
When Importing a job the new Virtual Printer is made available to apply upon import of any new job.



The Virtual Printer is also made available under the Workflow column in Command WorkStation.

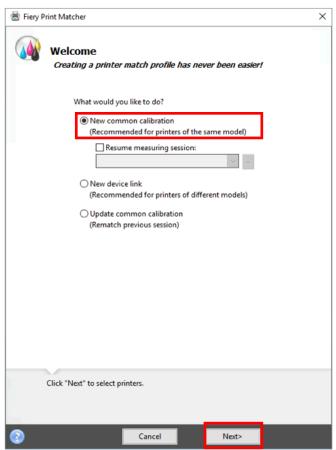


Printer Match (common calibration) using the Printer Match module of FCPS



You must have purchased and installed a license for FCPS to use this feature.

- 1. Start Fiery Color Profiler Suite (FCPS).
- 2. Click on the Printer Match icon.

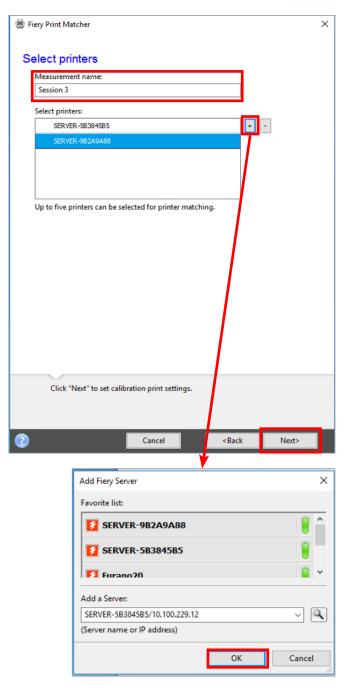


3. Select New common calibration (or Update common calibration).

The **New device link** selection does not trigger prints that require measurement therefore not demonstrated here, but fully supported.

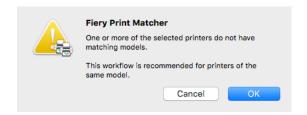
4. Click Next to continue.





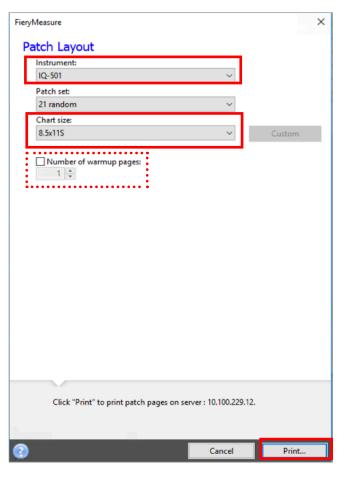
- 5. Enter a **Measurement name**. This name will be your suggested profile name.
- 6. Select up to five printers to be matched. Click the "+" to discover and add the Fiery servers.

If the press models are not exactly the same type you will receive a warning to use an alternative method, Device Link. Take appropriate action.

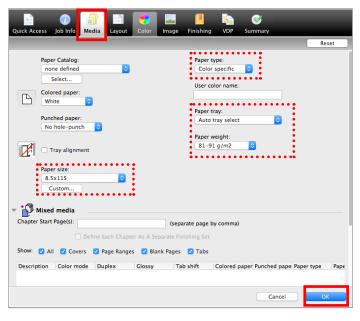


7. Click **Next** when all Fiery servers have been added.

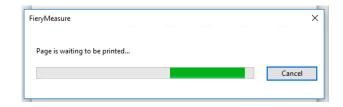




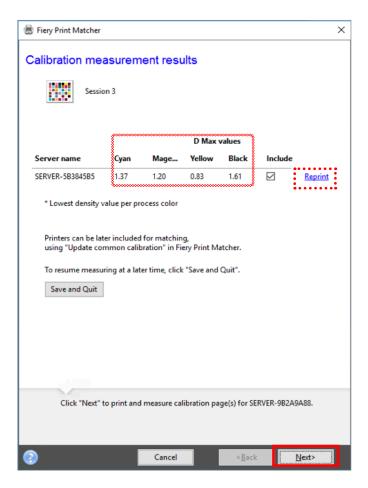
- 8. Select **IQ-501** from the Instrument pull-down.
- Select an appropriate size from the Chart size pull-down. Ensure that it matches the media selection (next step).
- 9A. Optionally select warmup pages.
- 10. Click Print.



- 11. The **Fiery Measure** job properties window for the first server opens.
- 12. Select the Media tab.
- 13. Select the media attributes for the media you wish to use.
- 14. Click **OK** to print and measure the calibration chart for the first server.



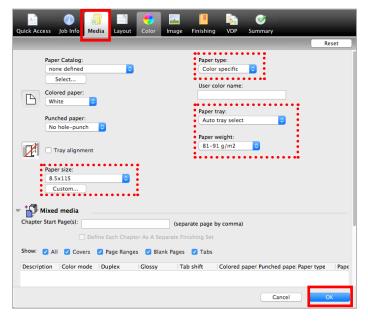




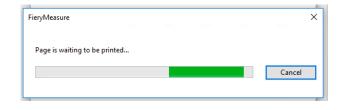
The Calibration measurement results are shown.

Ensure that the D Max values displayed are within the expected tolerance for the engine and media selected. **Reprint** or take appropriate service steps if not.

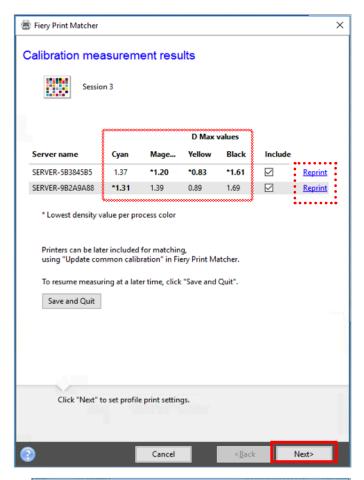
16. Click **Next** to continue the calibration of the second (and subsequent) server(s).



- 17. The **Fiery Measure** job properties window opens for the second server.
- 18. Select the Media tab.
- 19. Select the media attributes for the media you wish to use.
- 20. Click **OK** to print and measure the calibration chart for the second server.





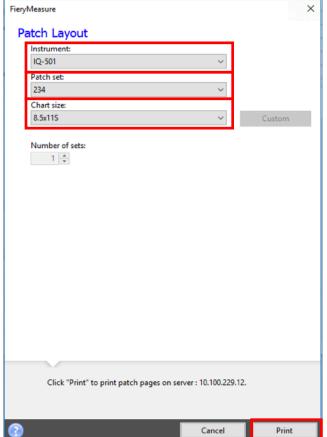


This window will display after all servers in the list have been calibrated.

21. The Calibration measurement results for both servers are shown.

Ensure that the D Max values displayed are within the expected tolerance for the engines and media selected. Reprint or take appropriate service steps if not.

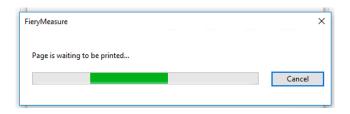
22. Click **Next** to continue with the printer profiling process.



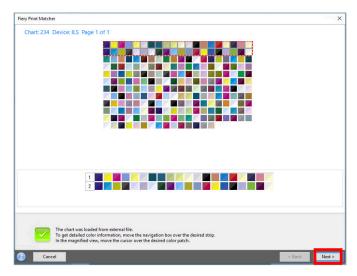
- 23. Select **IQ-501** from the Instrument pull-down.
- 24. Select an appropriate number of patches from the Patch set pull-down.

Since these patches will be read automatically select an appropriate number of patches for the desired precision or standard. More patches generally provides better precision. Note: more sheets will be also be used.

- 25. Select an appropriate size from the **Chart size** pull-down.
- 26. Click **Print** to print and measure the profiler patch pages for the first server.

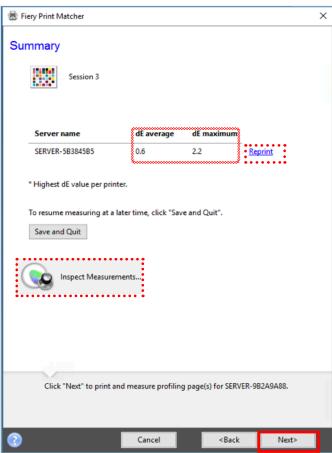






The results of the Fiery measure module for the first server are automatically displayed.

27. Click Next to continue.

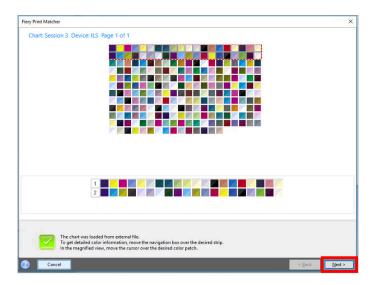


The measurements summary for the first server is displayed.

- 28. Review the **dE average and dE maximum** for anomalies. Take appropriate action as needed.
- 29. Optionally click on the **Inspect Measurements** button to review the gamut map.
- 30. Click **Next** to continue printing and measuring the patch pages for the second server.

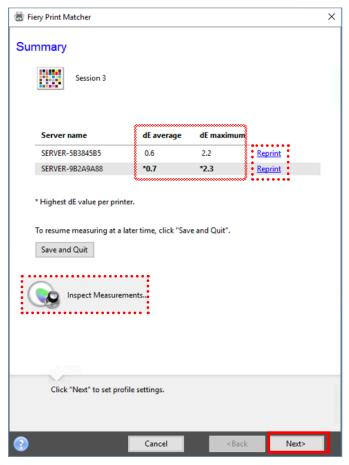






The results of the Fiery measure module for the second server are automatically displayed.

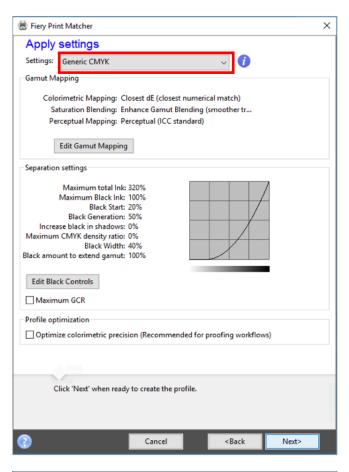
31. Click Next to continue.



The measurements summary for both servers is displayed.

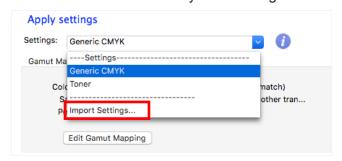
- 32. Review the **dE average and dE maximum** for anomalies. Take appropriate action as needed.
- 33. Optionally click on the **Inspect Measurements** button to review the gamut map(s).
- 34. Click Next to continue.

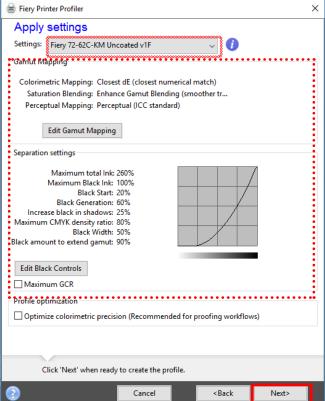




The Apply settings window is displayed.

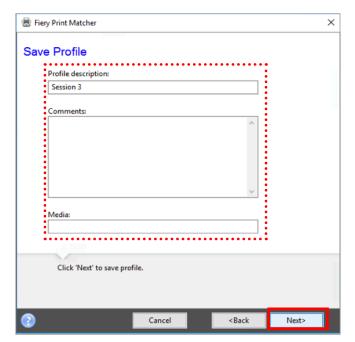
- 35. Click on the **Settings** pull-down and select **Import Settings...**
- 36. Navigate to one of the Fiery servers that you are matching and choose a base profile that closely resembles the media that you are using.





- 37. Once a base profile has been selected make any changes as needed for Gamut mapping and Separation settings (defaults are usually a good choice unless advanced features are needed).
- 38. Click Next to continue.

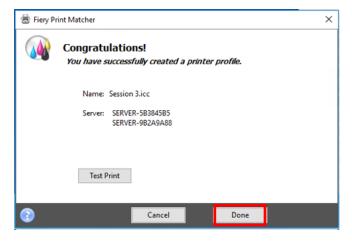




- 39. Fill out Comments and Media as required.

 Rename the final profile description if desired.
- 40. Click **Next** to process and install the Print Matcher profiles and calibration sets on each server.

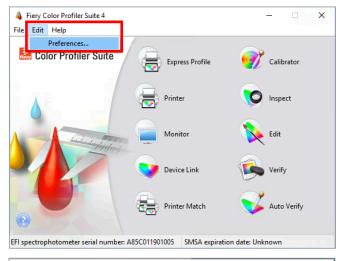




41. Click Done



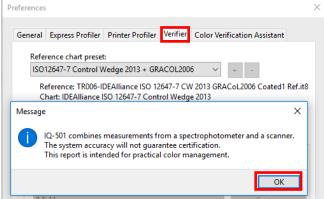
Fiery Color Verifier with three reference preset choices



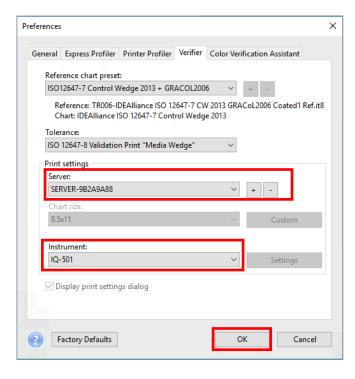
You must have purchased and installed a license for FCPS to use this feature.

The first time you use Fiery Color Verifier with the IQ-501 you will need to set the preferences as follows.

- 1. Start Fiery Color Profiler Suite (FCPS).
- 2. From the menu select Edit>Preferences...

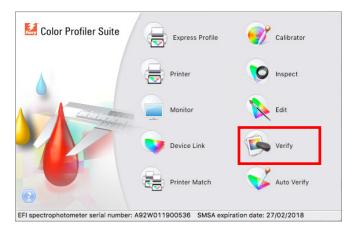


- Select the **Verifier** tab from the Preferences window.
- 4. Read and acknowledge the pop-up message.



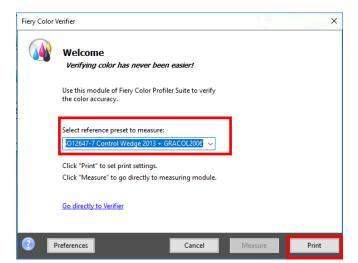
- 5. Select the **Fiery** server. Click on the "+" to discover the Fiery server if not listed.
- 6. Select the **IQ-501** in the Instrument pull down.
- 7. Click OK.



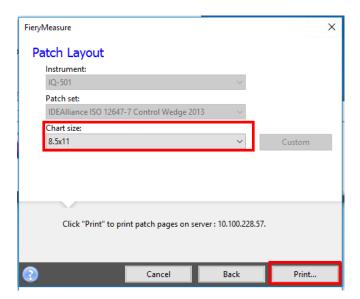


Once the Presets have been adjusted.

8. Click on the **Verify** icon.

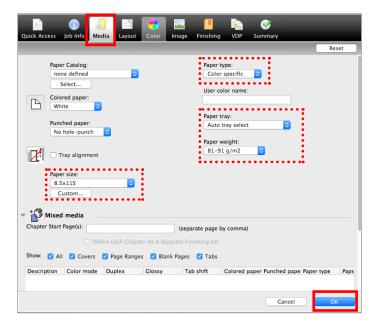


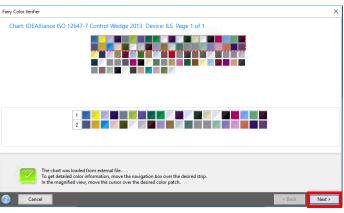
- 9. Select one of the three reference presets available when the IQ-501 has been preselected.
 - Fogra 2.2 media wedge.
 - Fogra 3.0 media wedge.
 - ISO12647-7 Control Wedge 2013.
- 10. Click Print to continue.



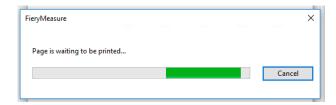
- 11. Select an appropriate Chart size for the media you wish to use.
- 12. Click Print to continue.





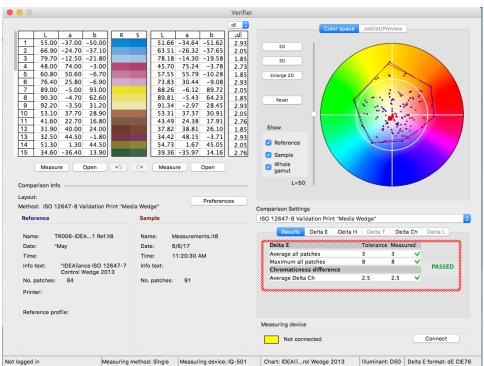


- The Fiery Measure job properties window opens.
- 14. Select the Media tab.
- 15. Select the media attributes for the media you wish to use.
- 16. Click **OK** to print and measure the selected control strip.



The results of the Fiery measure module are automatically displayed with the selected control strip.

- 17. Click **Next** to continue and verify the measurements with the selected reference.
- The results are displayed based on predefined tolerances.

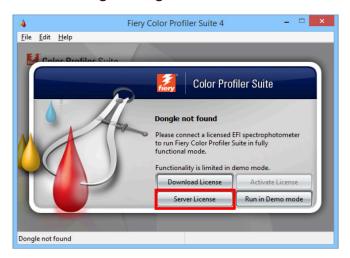




Activating Fiery Color Profiler Suite with the IQ-501

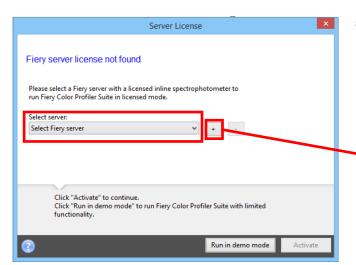
Please contact your sales person or dealer to purchase a Fiery Color Profiler Suite license activation code (LAC).

Part 1: Retrieving the engine serial number:



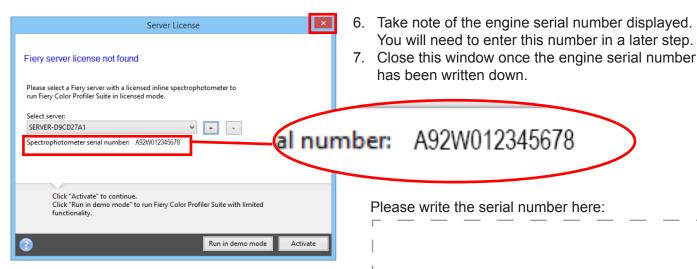
Fiery Color Profiler Suite (FCPS) uses an instrument serial number as the "dongle" to activate the software. To easily retrieve the engine serial number follow these steps.

- Make sure that FCPS version 4.9.1 or later is installed on your Fiery server, or if you wish to install on a networked PC or Mac you may do so as well. The procedure is the same.
- 2. Make sure that there is no licensed instrument attached, for example an ES-2000 or other instrument that already has a license.
- 3. Start Fiery Color Profiler Suite (FCPS) and wait for the **Dongle not found** window.
- Click on Server License.



Select the Fiery server from the Select server list, or if not there click on the "+" symbol to discover.



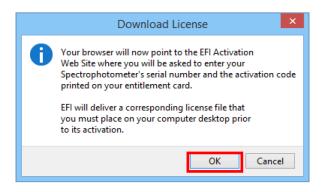




Part 2: Activating the License Activation Code (LAC) with the engine serial number:



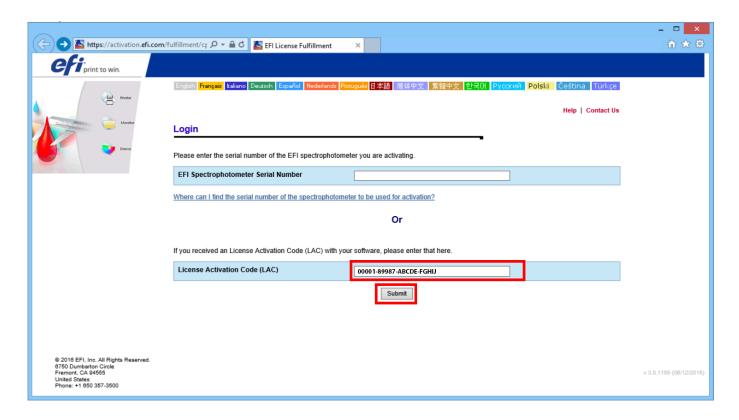
8. Click on Download License, read and acknowledge the pop-up message.



You are directed to the EFI fulfillment site for FCPS:

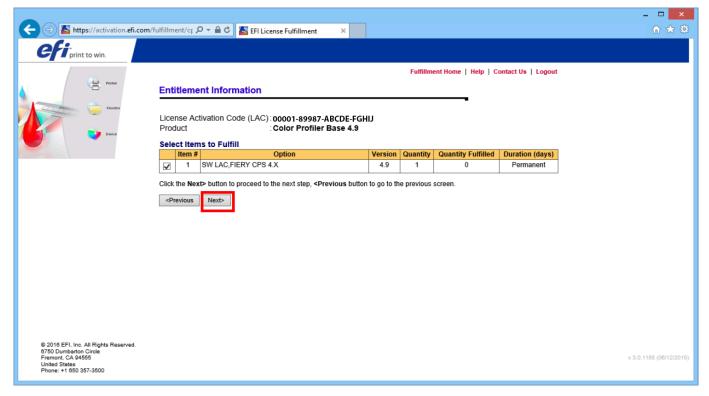
https://activation.efi.com/fulfillment/cps/

- 10. Enter the license activation code (LAC) that you purchased.
- 11.Click Submit.

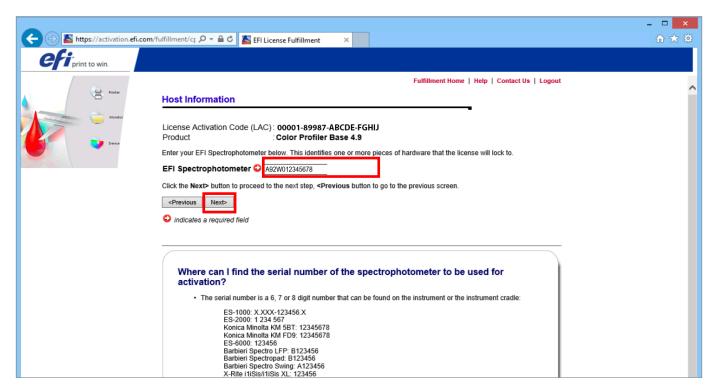




12. Click Next>.

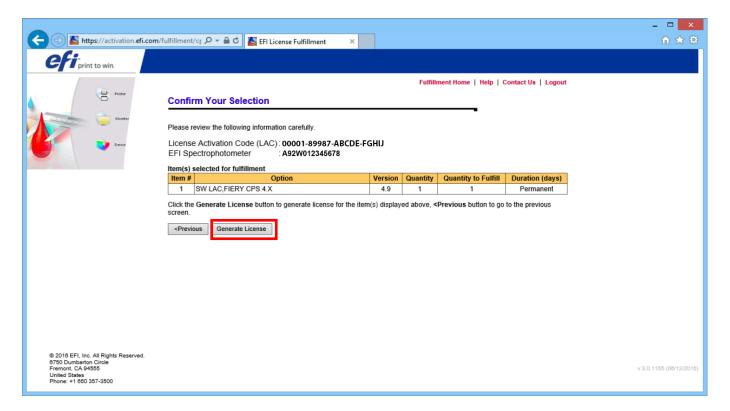


- 13. Enter the engine serial number that you wrote down earlier (Step 7, Page 30) in the **EFI Spectrophotometer** field.
- 14. Click Next.



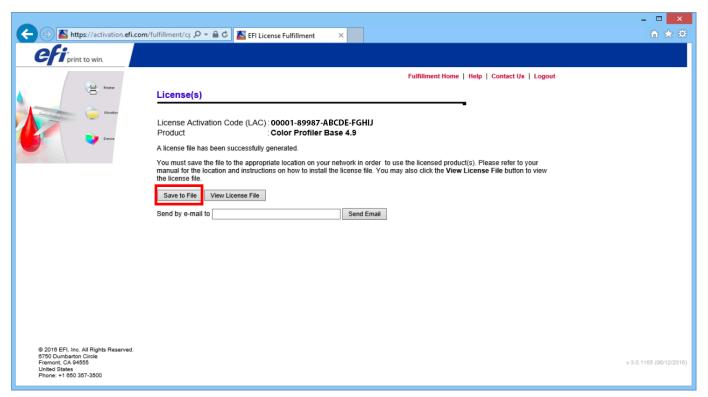


15. Click Generate License.



16. Click Save to file.

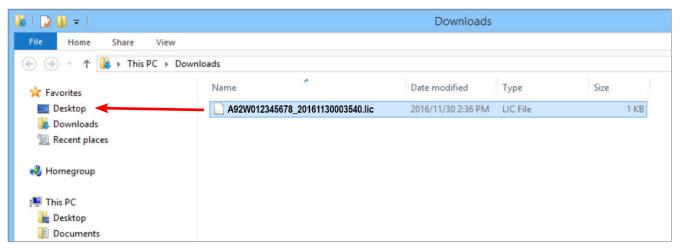
Please follow instructions to save the .lic file that appear (depending on your browser).





17. Navigate to the downloads folder of your computer (or your chosen location) and copy the .lic file to the desktop.

Make sure that the .lic file is on the desktop of the computer where you wish to activate FCPS with the IQ-501.





18. Close Color Profiler Suite and restart it.

The .lic file on your desktop will be used to activate your copy of FCPS with the IQ-501.

19. You are now ready to use the IQ-501 with Fiery Color Profiler Suite!

Note that FCPS is now licensed using the engine serial number.

EFI fuels success.

From Fiery to super wide inkjet, from the lowest cost per label to the most automated business processes, EFI has everything your company needs to succeed. Visit www.efi.com for more information.





The APPS logo, AutoCal, Auto-Count, Balance, Best, the Best logo, BESTColor, BioVu, BioWare, ColorPASS, Colorproof, ColorWise, Command WorkStation, CopyNet, Cretachrom, Cretaprint, the Cretaprint logo, Cretaprinter, Cretaroller, DockNet, Digital StoreFront, DocBuilder, DocBuilder Pro, DocStream, DSFdesign Studio, Dynamic Wedge, EDOX, EFI, the EFI logo, Electronics For Imaging, Entrac, EPCount, EP-Photo, EPRegister, EPStatus, Estimate, ExpressPay, Fabrivu, Fast-4, Fiery, the Fiery Driven, the Fiery Driven logo, Fiery JobPlow, Fiery JobMaster, Fiery Link, Fiery Prints, the Fiery Prints logo, Fiery Spark, FreeForm, Hagen, Inktensity, Inkware, Jetrion, the Jetrion logo, LapNet, Logic, MiniNet, Monarch, MicroPress, OneFlow, Pace, PhotoXposure, PrintCafe, PressVu, PrinterSite, PrintFlow, PrintMe, the PrintMe logo, PrintSmith, PrintSmith Site, Printstream, Print to Win, Prograph, PSI, PSI Flexo, Radius, Rastek, the Rastek logo, Remoteproof, RIPChips, RIP-While-Print, Screenproof, Splash, Spot-On, TrackNet, UltraPress, UltraTex, UltraVu, UV Series 50, VisualCal, VUTEk, the VUTEk logo, and WebTools are trademarks of Electronics For Imaging, Inc. and/or its wholly owned subsidiaries in the U.S. and/or certain other countries. All other terms and product names may be trademarks or registered trademarks of their respective owners, and are hereby acknowledged.