

# Implementing a G7 Curve in Fiery proServer and Fiery XF 7.0 & 7.1 using CHROMiX / HutchColor Curve4



## HOW-TO GUIDE

*For simplicity within this document, “Fiery XF” will be used to represent both the EFI™ Fiery® proServer and Fiery XF. All information presented applies to both Fiery proServer and Fiery XF unless otherwise specified. This document was prepared using Fiery XF version 7.1 and CHROMiX / HutchColor Curve version 4.3. For the greatest benefit of this process, you should have a full understanding of the G7 process, as well as a working knowledge of Fiery XF 7 and CHROMiX / HutchColor Curve4.*

Introducing a G7 type curve into Fiery XF or Fiery proServer 7.0 or 7.1 using the Curve4 program from CHROMiX / HutchColor is a fairly straightforward procedure, but it differs from the procedure used with earlier versions of these programs. This document illustrates the process, but it is recommended that you refer to additional documentation available from the IDEAlliance (<https://connect.idealliance.org/g7/home>) for information on the G7 process itself.

The primary reason for using a G7 curve with your Fiery proServer or Fiery XF system is when you wish to print your jobs ensuring that neutral tones remain neutral, utilizing the entire gamut of your printer, a process often referred to as Expanded Gamut printing, Full-Gamut printing, or G7 Extreme. This will produce printed jobs with enhanced saturation, but will not conform to traditional industry specifications such as GRACoL or Fogra 51.

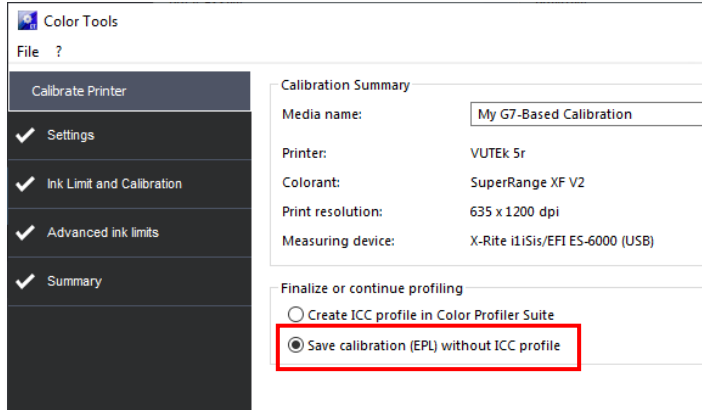
If you need to product printed jobs that you can successfully verify against one of the industry standards, you will only need to produce a traditional calibration set (.epL calibration file and .icc media profile) and use the Optimize Profile feature in Color Tools to provide the lowest Delta-E values possible with your particular printer/ink/media combination.

However, if you wish to utilize your entire printer gamut to print jobs with enhanced saturation and neutral grays, the procedure detailed in this document will show you how to accomplish this.



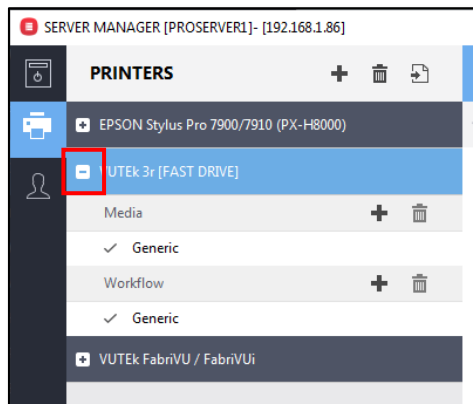
## Step 1

Begin by building a normal .epl file for your media/ink/output device. Do not build a Media ICC Profile at this time.



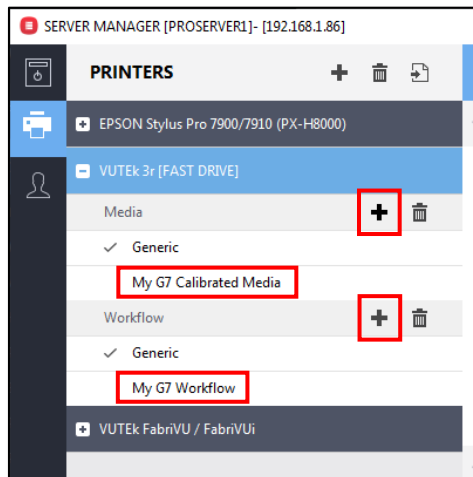
## Step 2

In Fiery Command WorkStation, launch Server Manager and maximize your selected printer to display the Media and Workflow entries.



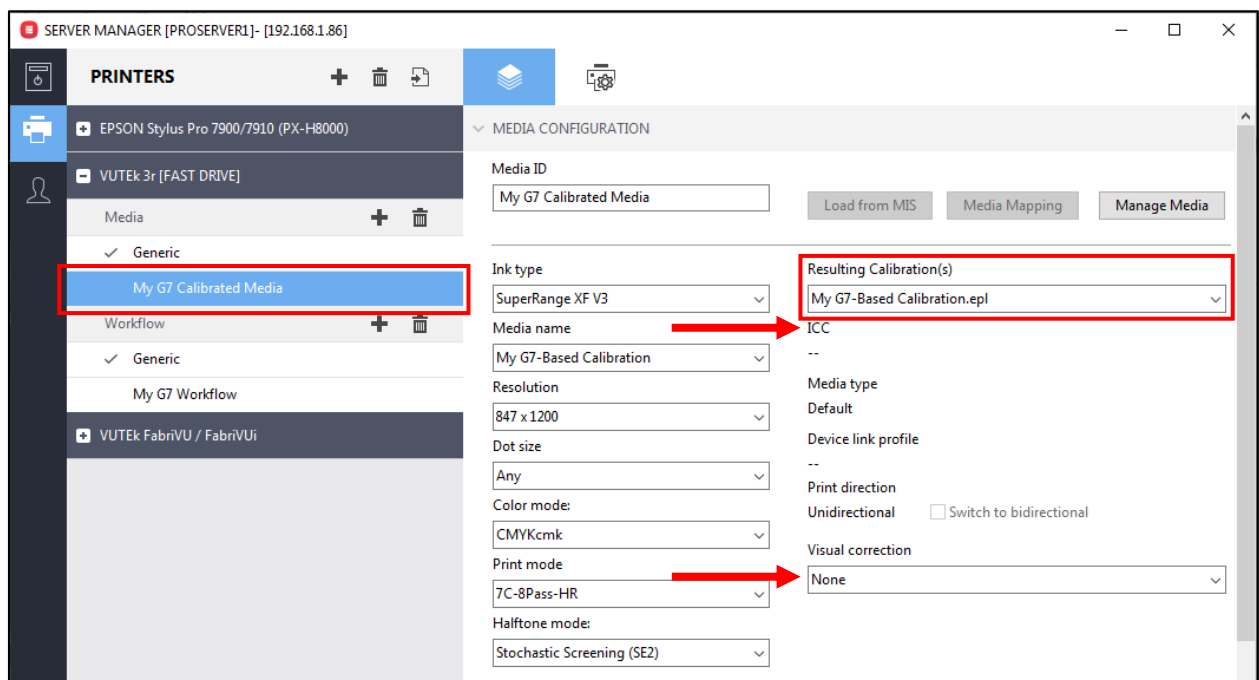
### Step 3

Add a new Media entry and Workflow entry to use for your G7-based work.



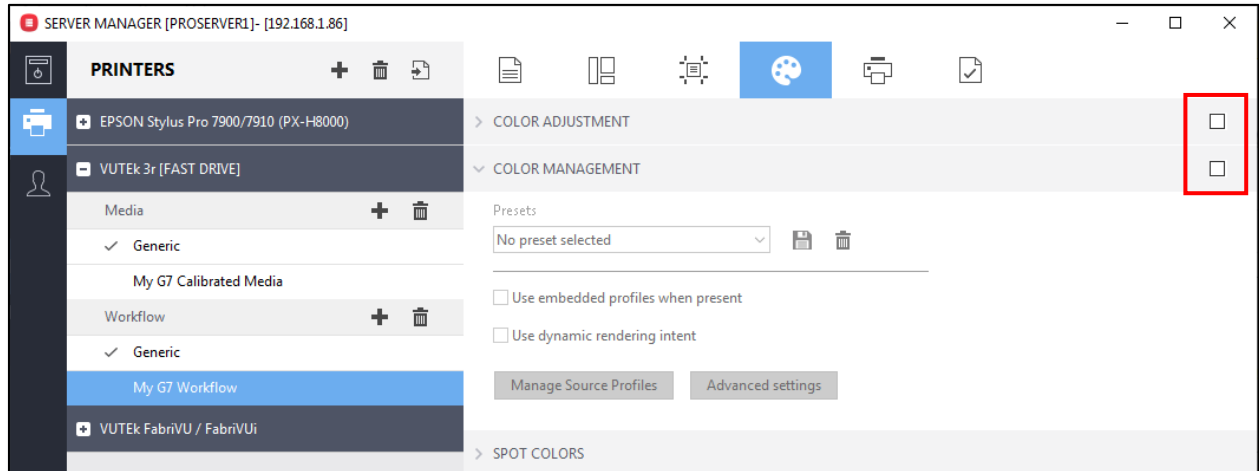
### Step 4

Select your new G7 Media entry and, on the Media Configuration pane, select the calibration file that you created in step 1 above. You will see that no ICC media profile is currently selected. Also, ensure that no Visual correction file is selected. Save your changes.



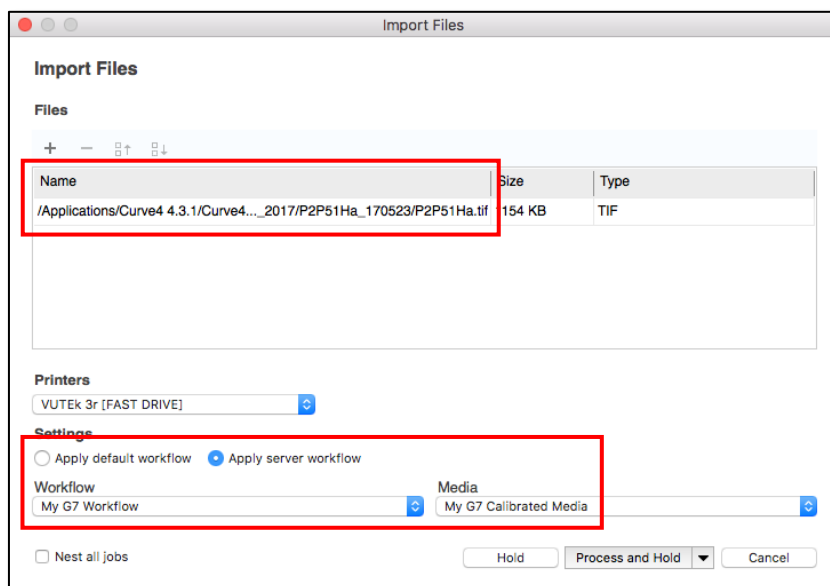
## Step 5

Select your new G7 Workflow entry and, on the Color Panel, ensure that the Color Management and Color Adjustment checkboxes are disabled. Save your changes.



## Step 6

Import the G7 P2P target for your measurement device into your newly created G7 Workflow using your newly created G7 Media.

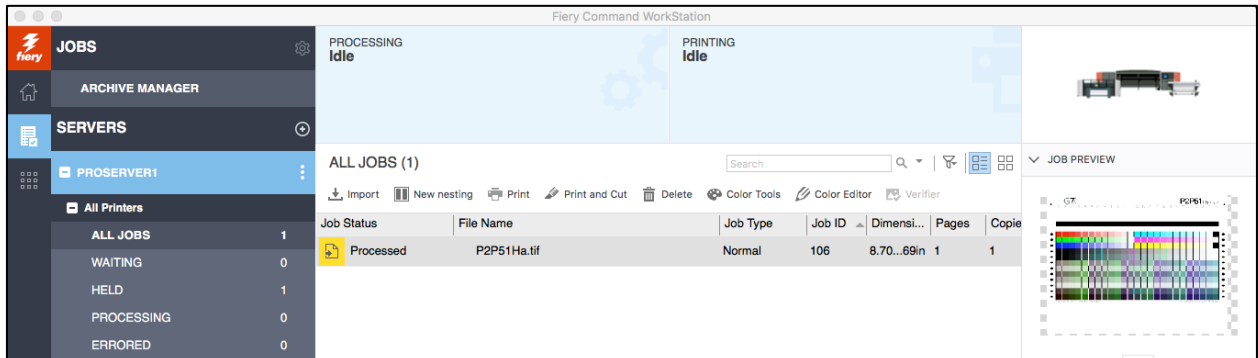


## Step 7

It is recommended that you open this file in Job Editor and ensure that:

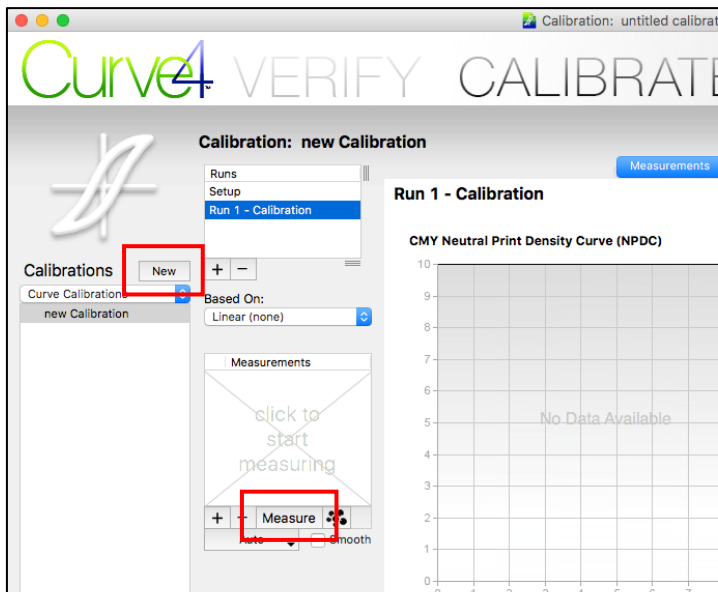
1. Color Management is disabled
2. The correct .epl calibration file is selected
3. No .vcc Visual correction file is currently selected

Save any changes to the file and print it.



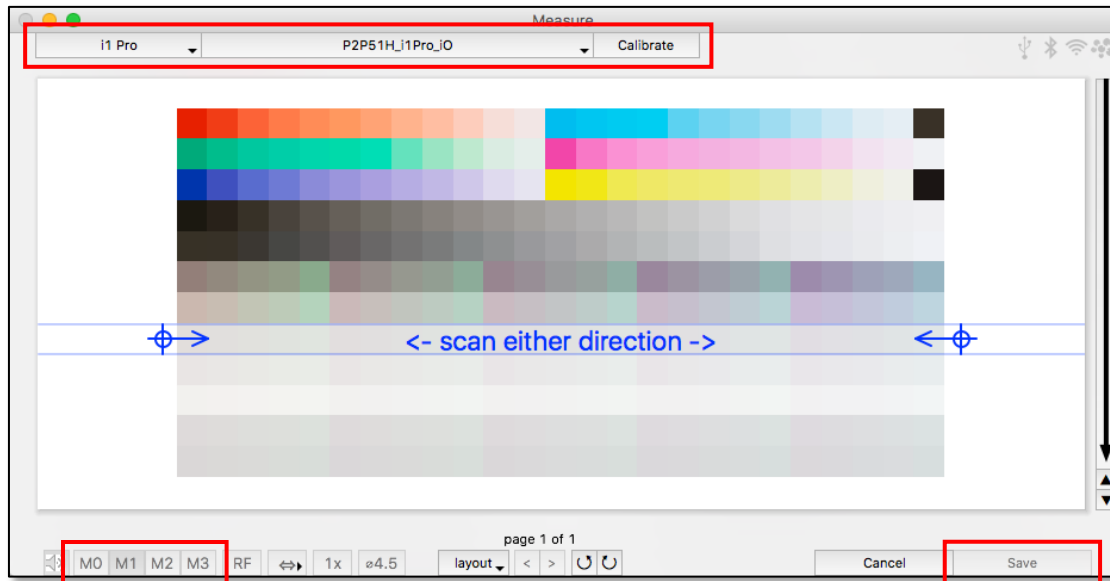
## Step 8

Launch Curve4, click the New button to begin a new calibration session, and then the Measure button to begin the process of measuring your printed P2P target.



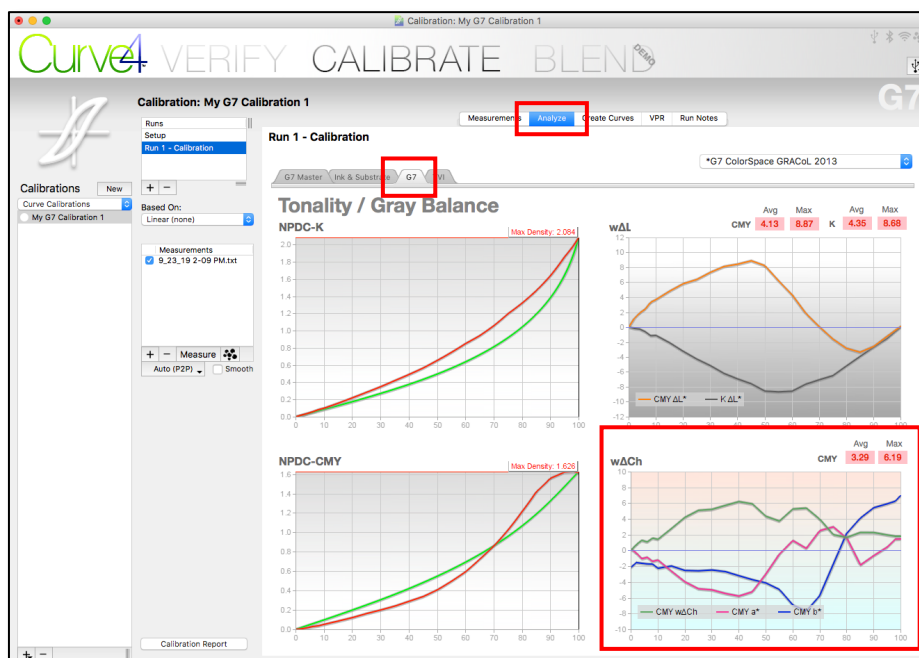
## Step 9

Select your measurement device, the version of the P2P target that you printed, and the measurement illuminant method, and then calibrate your measurement device, measure the P2P target, and save the measurement data.



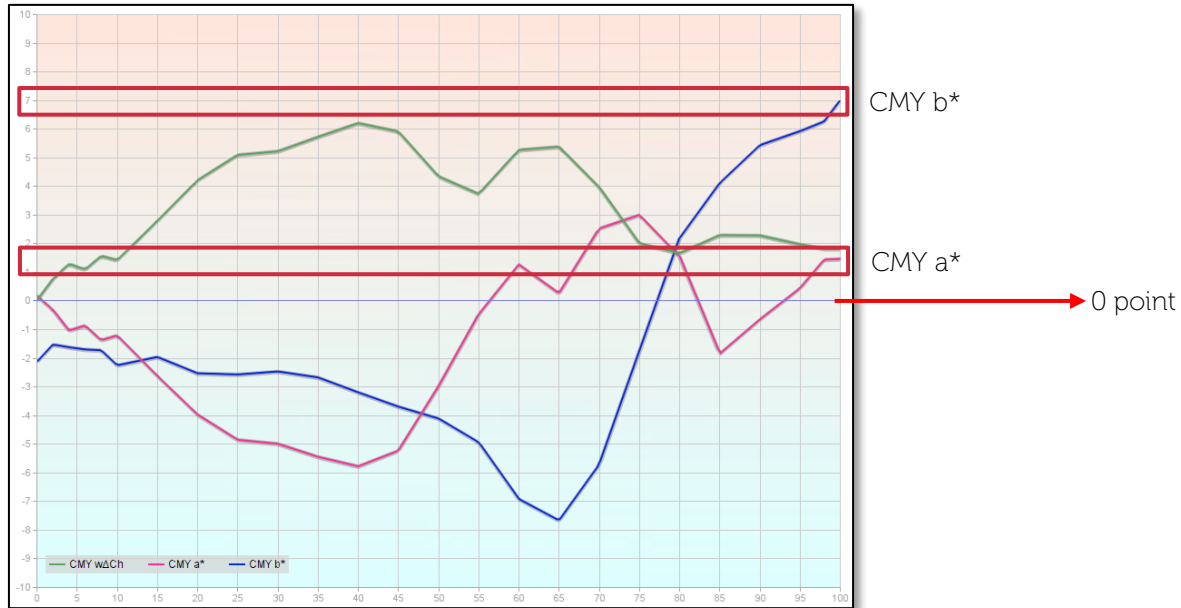
## Step 10

Returning to the main Calibrate window, on the G7 tab on the Analyze pane, examine the Weighted Delta-Ch plot in the lower right-hand corner of the display.



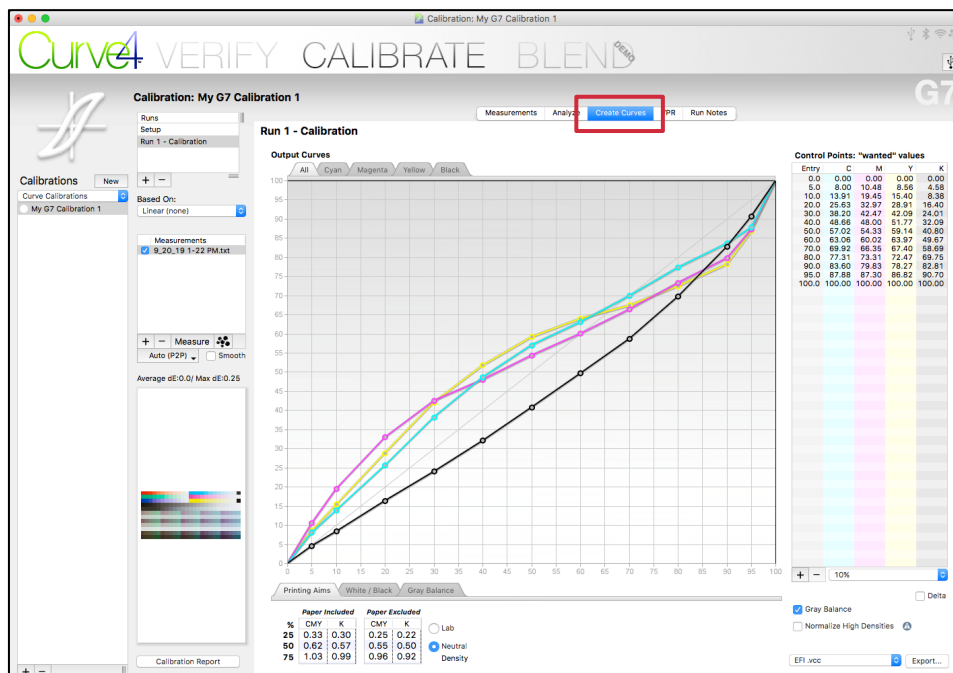
### Step 11

Examine the 100% point of the a\* and b\* curves and determine if the 100% CMY a\* and CMY b\* values are close to the "0" point. In this example, the a\* (red curve) value is approximately +1.4 while the b\* (blue curve) value is approximately +7.



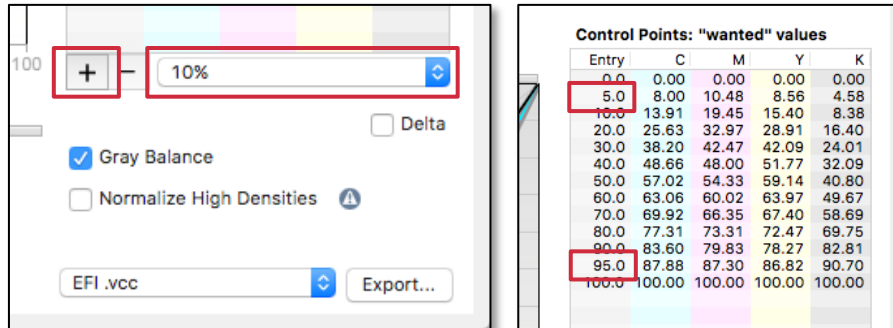
### Step 12

Now switch to the "Create Curves" tab.



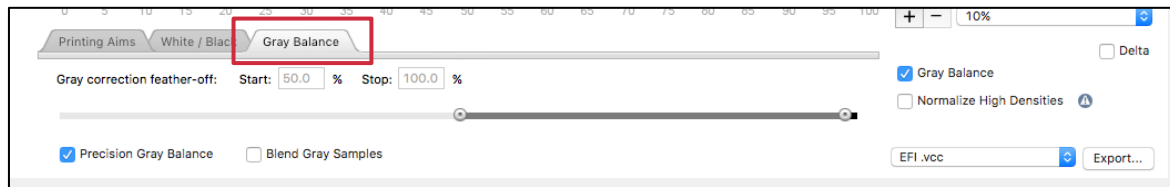
### Step 13

At the bottom of the "Control Points" area, click on the drop-down list and select the 10% option. Then click on the "+" sign and add in a 5% and a 95% Control Point.



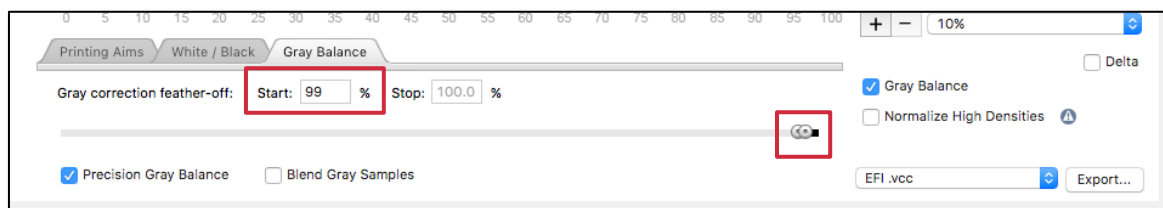
### Step 14

Now look at the lower portion of the "Create Curves" panel and select the "Gray Balance Control" tab.



You will adjust the Gray correction feather-off "Start" point based upon your analysis of the 100% a\* and b\* values in step 11 above.

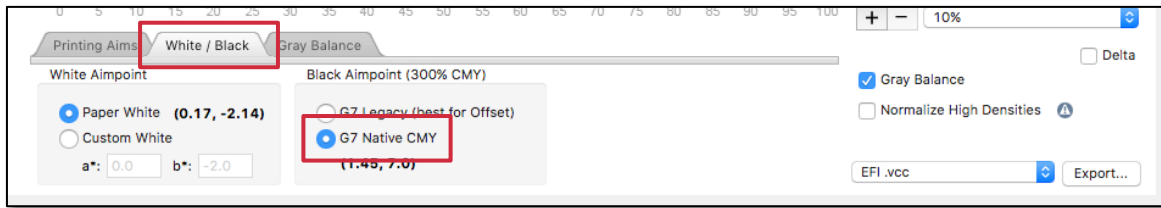
If the a\* and b\* values at the 100% mark were both **close to zero** you can move the slider to max (99%) or enter this value into the "start" window.



If either of the a\* or b\* values at the 100% mark were **far from neutral**, a safer setting might be 75 or even 50.



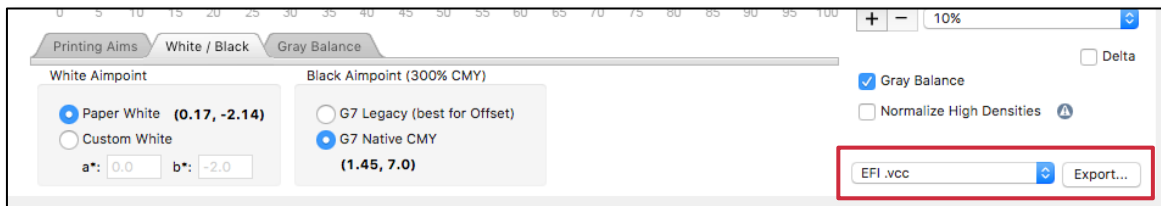
In extremely non-neutral cases, it's often wise to switch the "Black Aimpoint" on the "White/Black tab to "Native CMY", at which point you can set the gray balance slider to 99%.



Please refer to the [Curve4 User Guide](#) for additional details regarding the proper determination of Gray Balance settings.

### Step 15

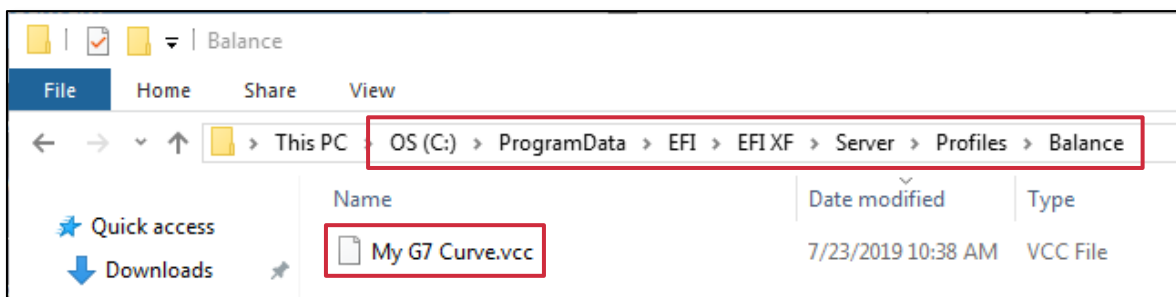
Next, select the "EFI.vcc" option from the file format drop-down menu and then click the "Export" button.



### Step 16

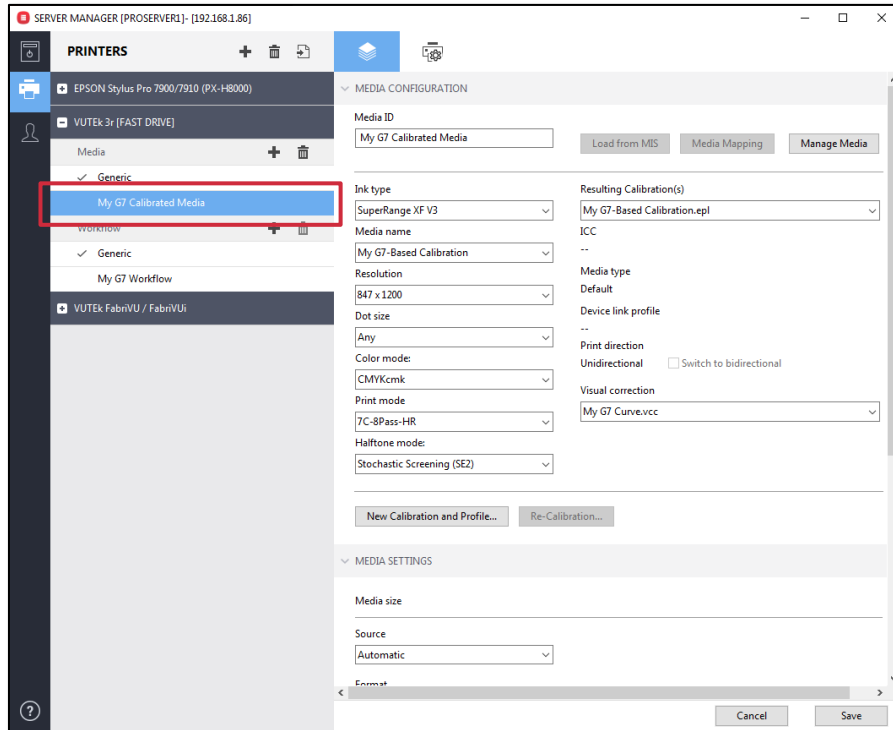
Save your visual correction curve (.vcc) into the default Balance folder location located at:

Hard Drive/Program Data/EFI/EFI XF/Server/Profiles/Balance



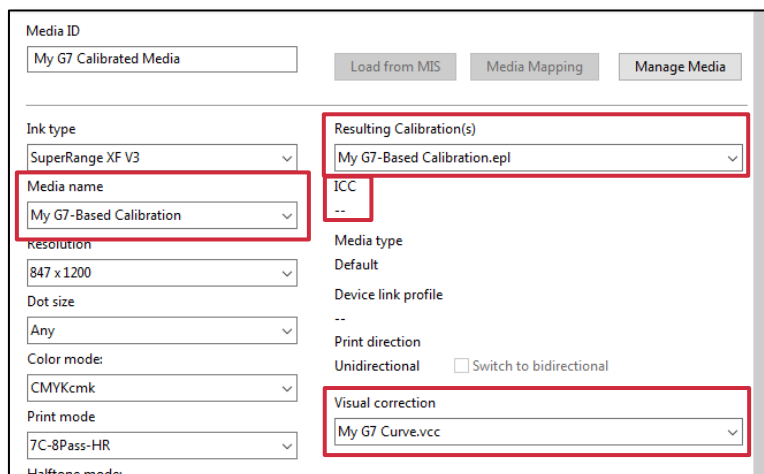
## Step 17

In Fiery Command WorkStation, launch Server Manager and select the G7 Media entry that you created in Step 3 above.



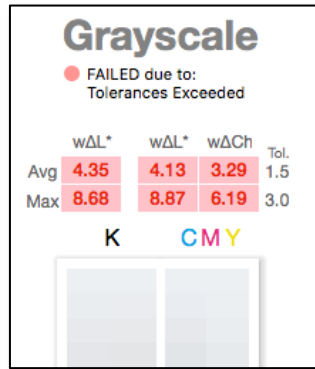
## Step 18

Ensure that your G7 based calibration file is selected, and then select the G7 curve that you saved in Step 16 from the "Visual correction" drop-down menu and save the changes. Note that there is no ICC media profile available for use.

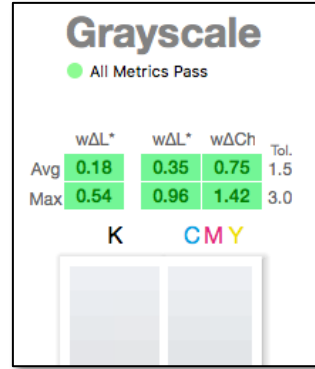


You now have a completed G7 gray balanced Workflow.

Note the gray balance examples shown here, created on a system before and after the application of the G7 .vcc curve:

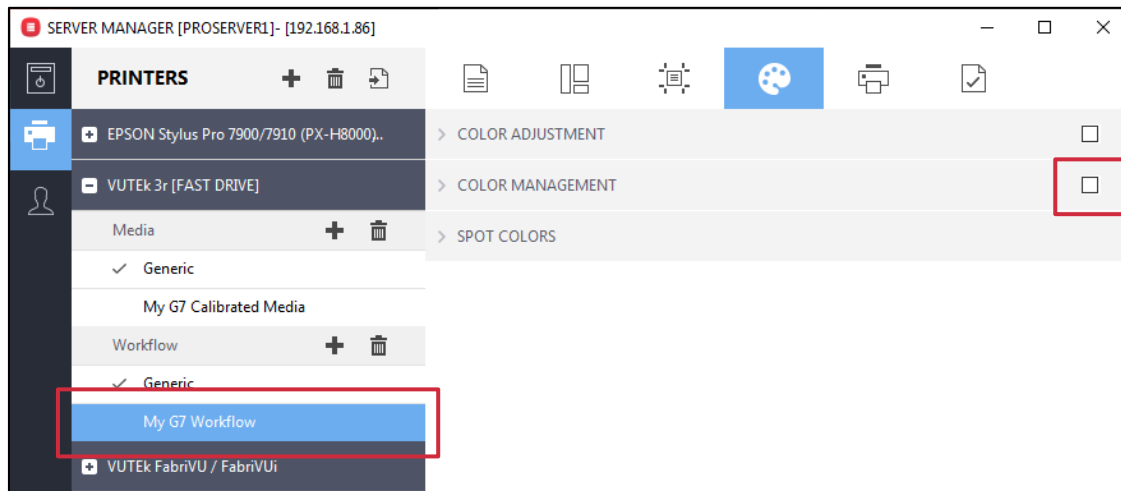


No G7 .vcc curve applied



G7 .vcc curve applied

If you are only processing jobs containing CMYK data, simply select your G7 workflow and disable Color Management.



Your jobs will print on your gray-balanced system using your G7 .vcc curve while utilizing the entire printer gamut.

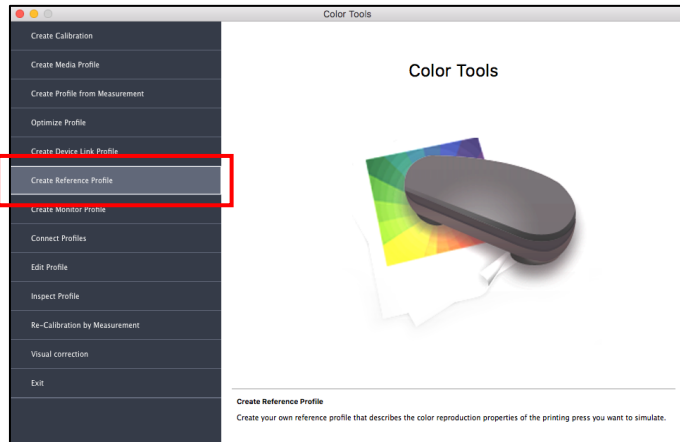
As the color output from your printer drifts, you can recalibrate, build a new calibration file, or simply update or build a new G7 .vcc curve which often takes less time than building or updating your calibration file.

Also, remember that colorspace verification will not be an option here, as you are producing expanded gamut printing and will not be printing to an industry specification such as GRACoL 2013 or Fogra 51. Although this setup will work fine for processing CMYK files, if you wish to print containing RGB or L\*a\*b\* data you will need to create an ICC media profile, a process covered in the following steps.

## Step 19

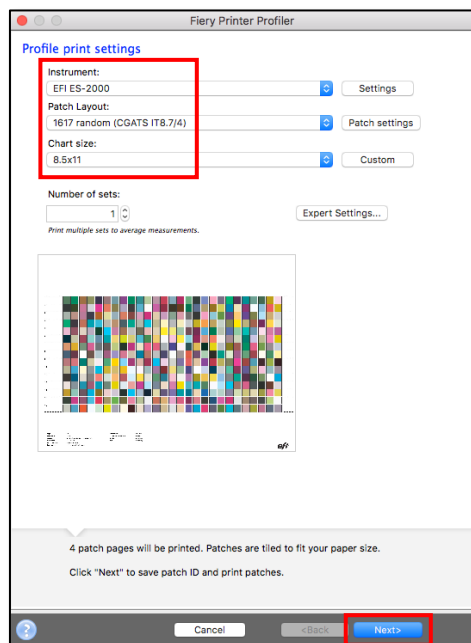
Return to the Color Tools program and select the “Create Reference Profile” option.

*NOTE: The following is a change from the procedure used prior to the release of Fiery proServer and Fiery XF 7.x.*



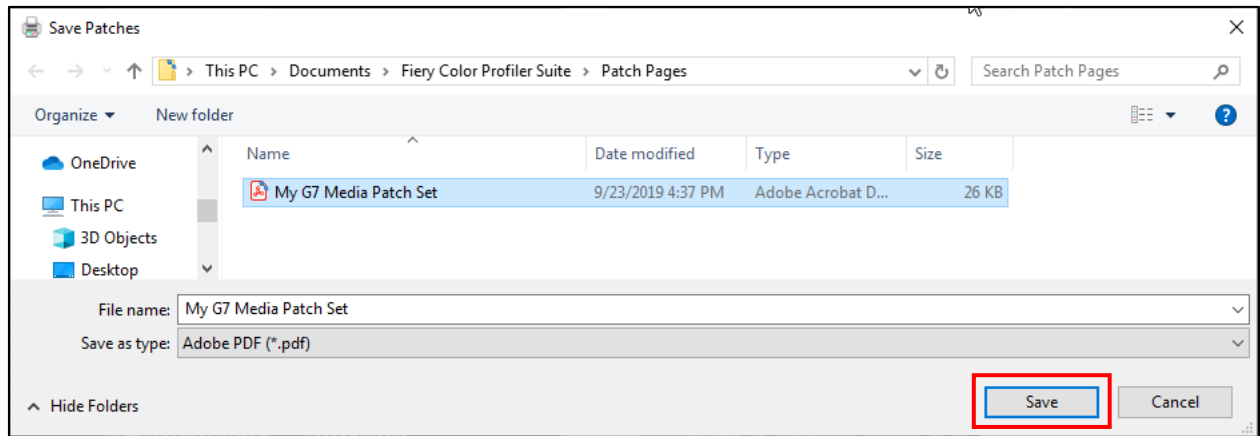
## Step 20

Select your Instrument, Patch Layout, and Chart size. For the Patch Layout, the IT8.7/4 is the most common selection. The available chart sizes may not display the media sized available on your printer but you only need to select a size appropriate for use with your selected instrument. Make a note of these settings. You will need them in Step 28 below.



## Step 21

Click Next and then Save your patch file.



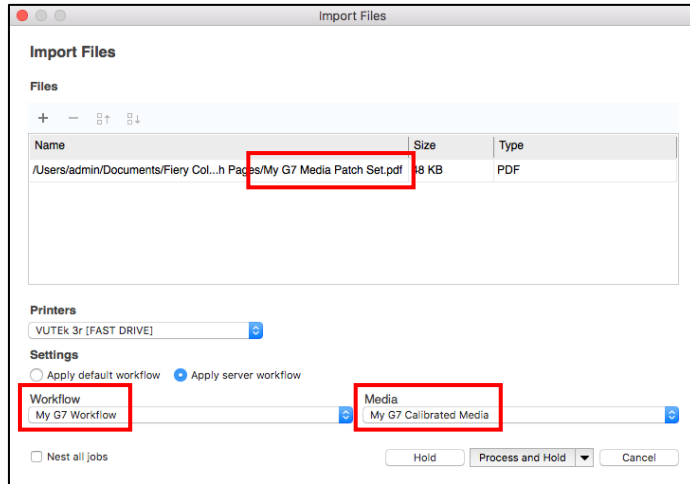
## Step 22

On the next panel, instead of measuring your file, click Cancel.



## Step 23

Return to Fiery Command Workstation and import the patch set pages you created in step 21. Select your G7 Workflow and G7 Media when importing your file.

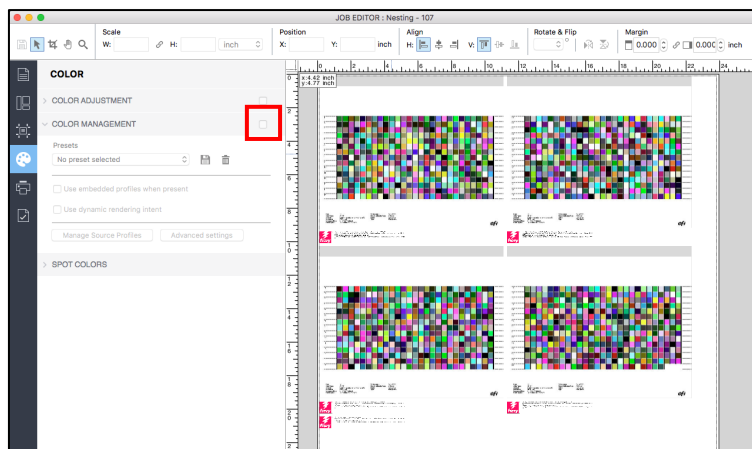


## Step 24

It is recommended that you open this file in Job Editor and ensure that:

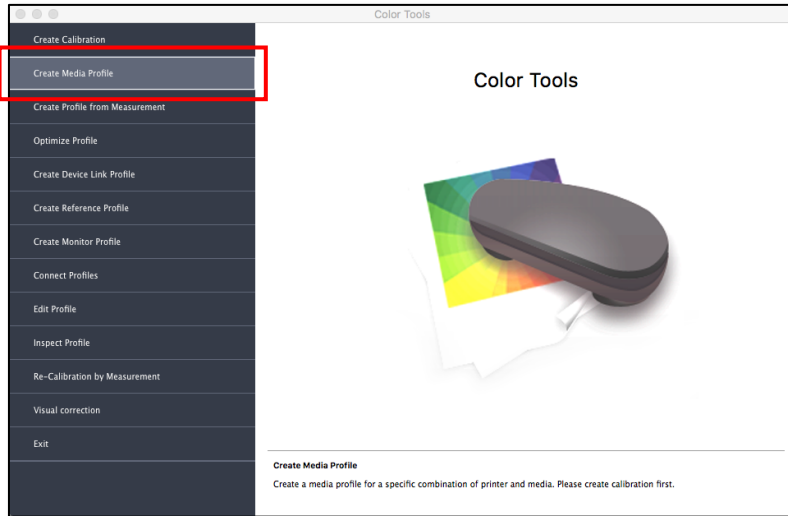
- Color Management is disabled
- Your G7 calibration file is selected
- No ICC media profile is being used
- Your G7 Visual Correction file is selected

If desired, you can nest the multiple chart pages together, but ensure that the above settings are still in place. Print your file.



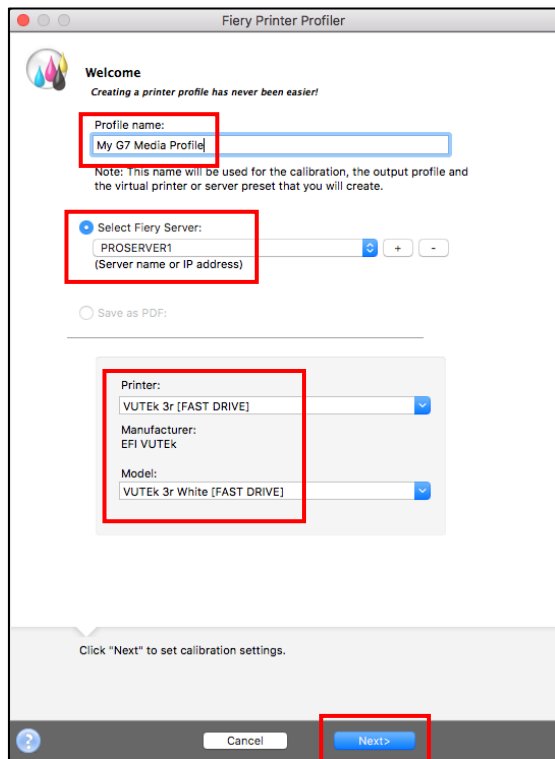
## Step 25

Launch Color Tools and select the Create Media Profile option.



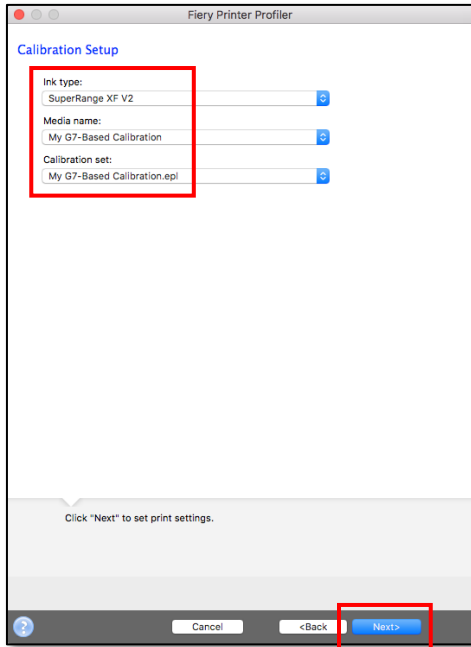
## Step 26

Enter a name for your media profile, select your server and printer, and click Next.



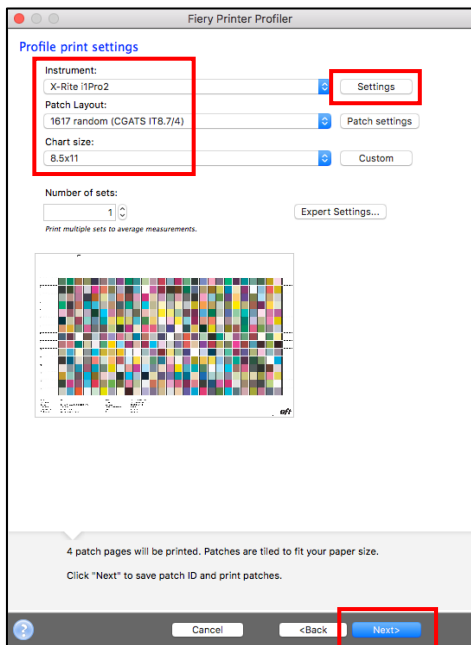
## Step 27

Select your Ink type, Media name, and G7 calibration file and click Next.



## Step 28

Select the same Instrument, Patch Layout, and Chart size that you selected in Step 20 above. Also, if appropriate, click on the Settings button and configure the options for your specific instrument. When you finished configuring these settings, click Next.

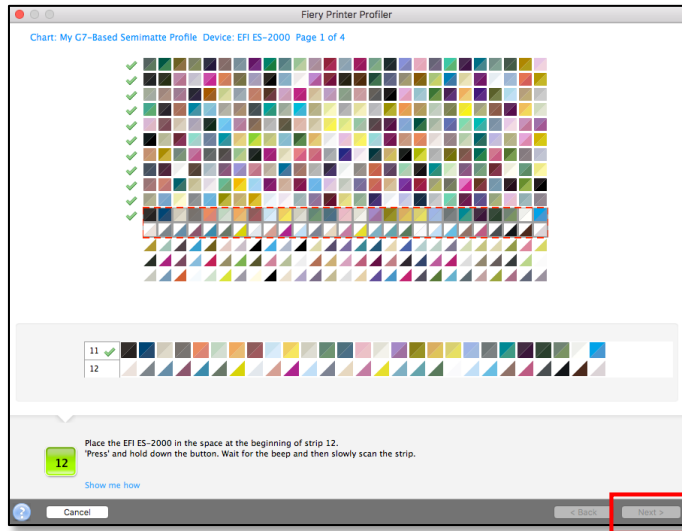




## Step 29

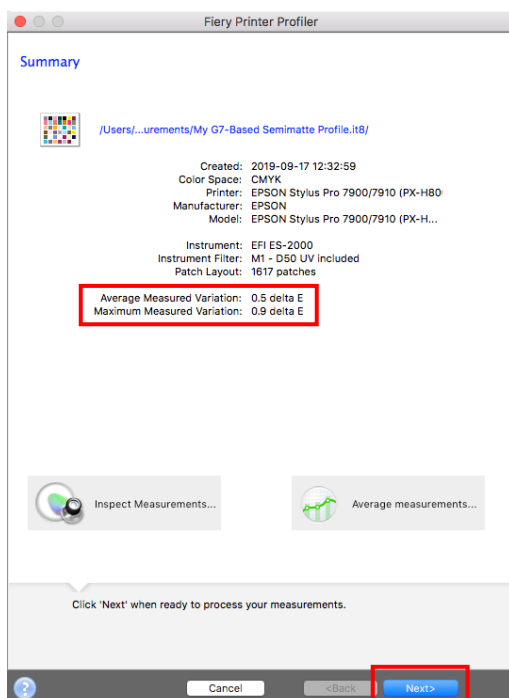
You will now be prompted to measure the chart(s) that you just printed. INSTEAD, measure the chart(s) that you printed in Step 24 above. This is the file that you printed using your G7-based calibration file, no ICC media profile, and your G7 .epl Visual Correction file.

Measure your chart and click Next.



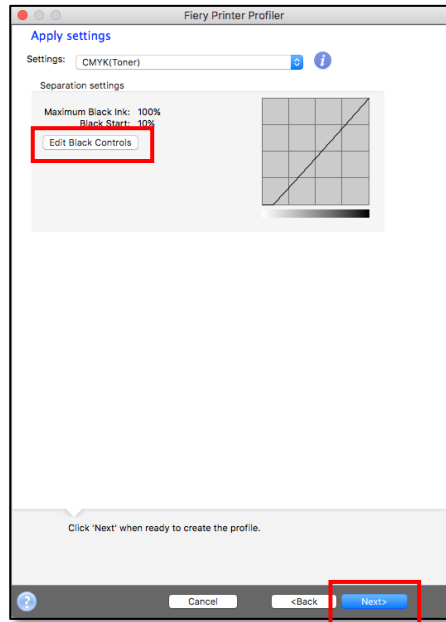
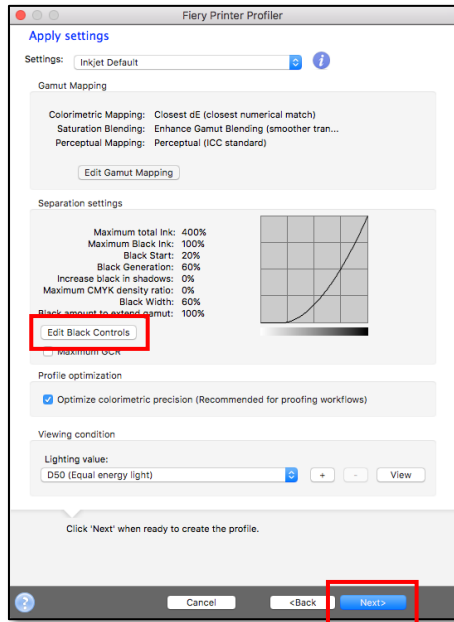
## Step 30

Examine the Summary panel and, if you do not see any issues with your measurements, click Next.



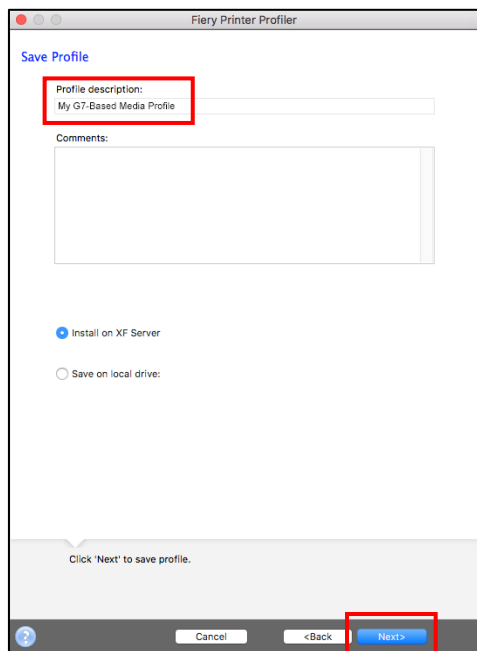
## Step 31

Depending upon which printer you are building an ICC media profile for, you will see one of these two Apply settings panels. Configure these settings as you normally would for your printer/media/ink, especially the black generation settings available when you click the Edit Black Controls button. When you finish, click Next.



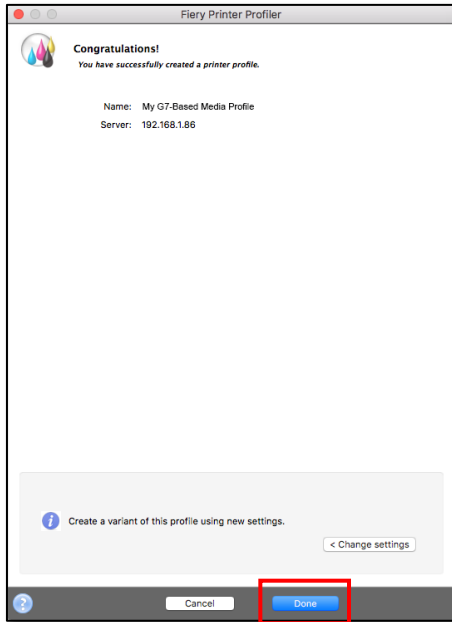
## Step 32

Confirm the name for your ICC media profile and click Next.



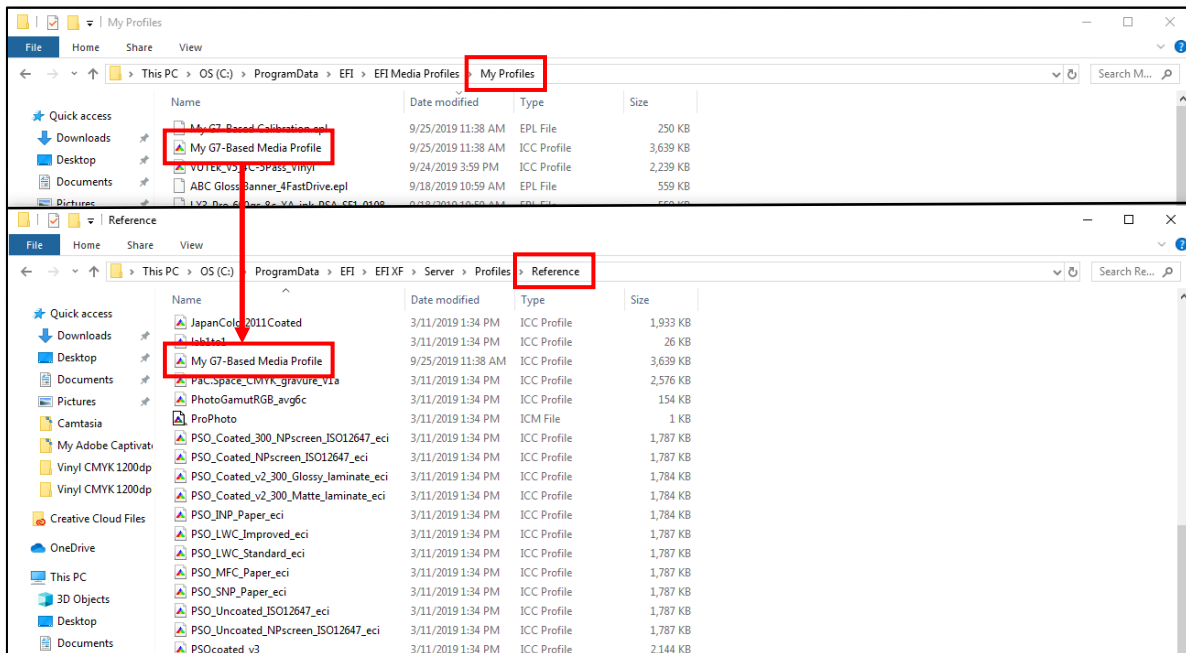
### Step 33

On the confirmation panel that appears, click Done to complete creation of your G7-based calibration set.



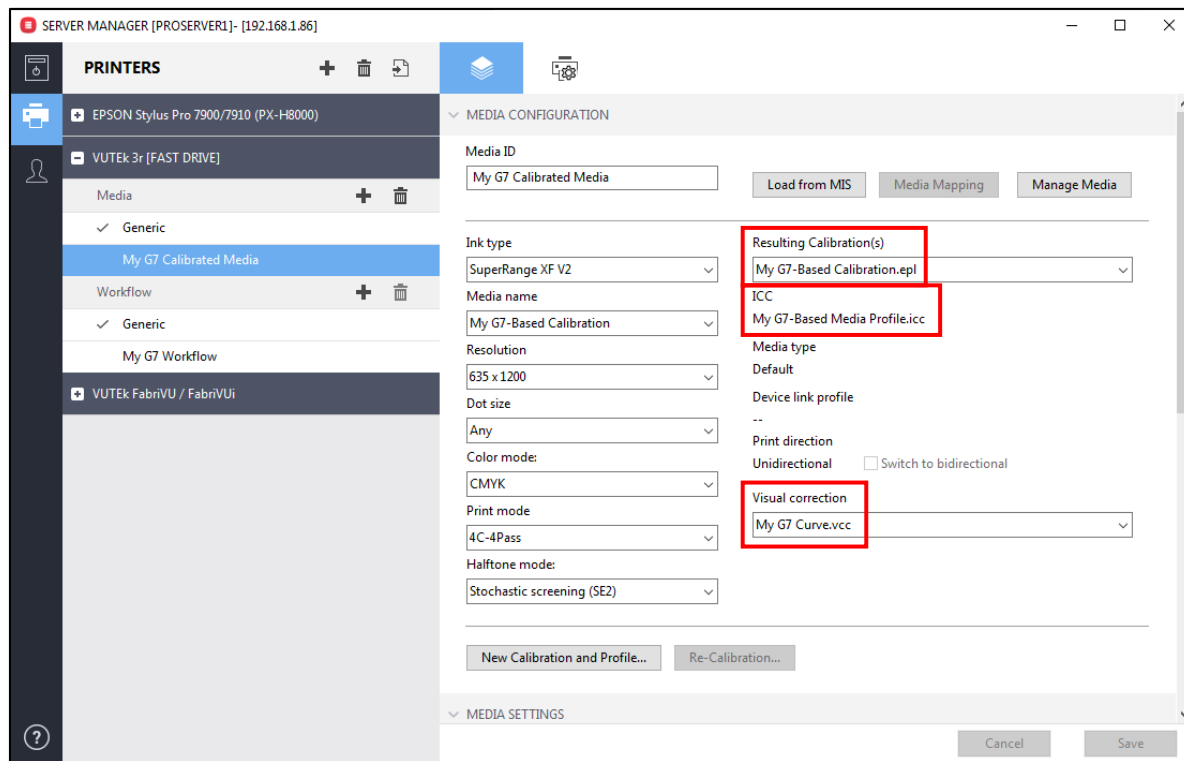
### Step 34

Navigate to your My Profiles folder, locate your new G7 media ICC profile, and then copy and paste it into the Reference profiles folder on your Fiery computer.



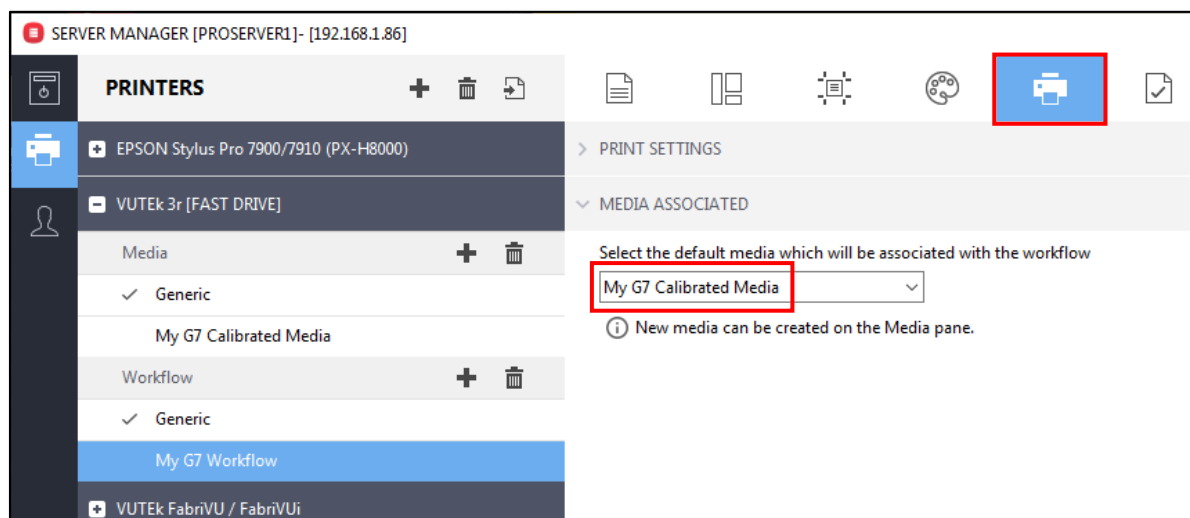
### Step 35

Launch Server manager, select your G7 media entry, and confirm that your G7 calibration file, your just-completed G7 ICC media profile, and your G7 Visual correction file are all selected.



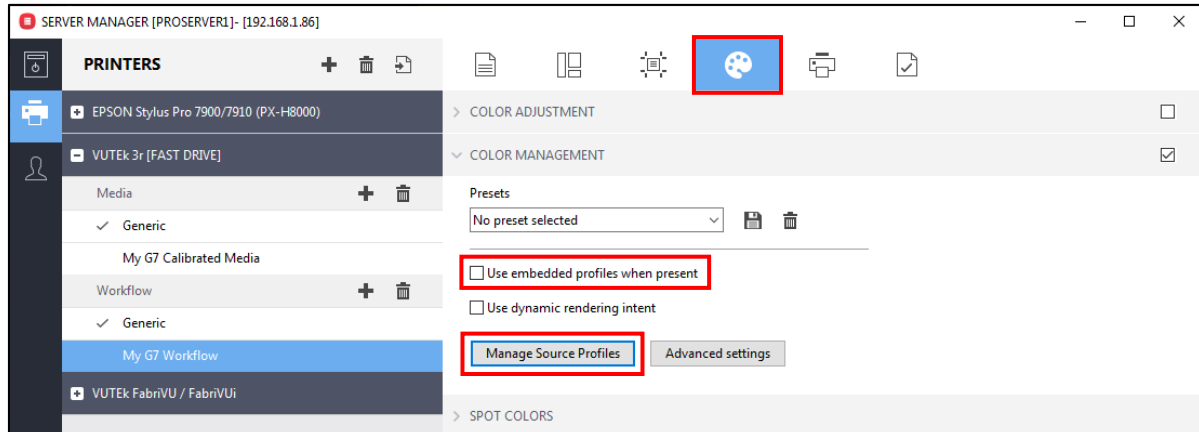
### Step 36

Next select your G7 workflow entry and, on the Printer Tab, select your G7 media entry as the default media entry for the workflow.



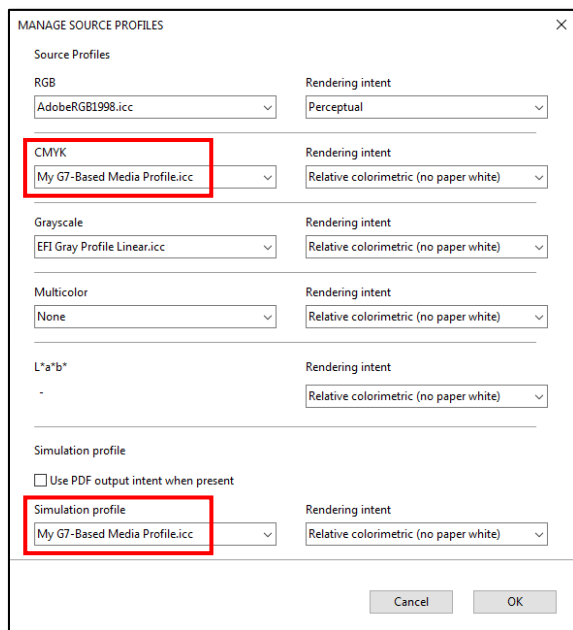
### Step 37

Switch to the Color Panel and, on the Color Management pane, enable Color Management, ensure that "Use embedded profiles when present" is disabled, and then click on the Manage Source Profiles button.



### Step 38

Set the CMYK and Simulation profile entries to use your ICC media profile along with the Relative colorimetric rendering intent, with or without BPC. Test to see which results you prefer. Set your preferred RGB, Grayscale, and Multicolor source profiles and rendering intents. Once your selections have been made, click OK and then save your workflow changes.



With this configuration, all CMYK files will have your media profile assigned to them, while RGB, grayscale, multicolor, and L\*a\*b\* files will be converted directly to your media profile without first being converted to a smaller gamut colorspace such as GRACoL or Fogra 51. All of your files will then be output on your printer using your calibration file and G7 curve, ensuring that neutrals remain neutral.