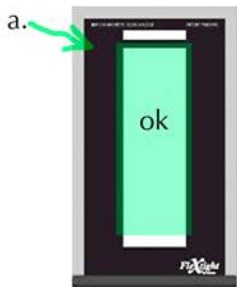


Hasselblad X1 Film Scanner Tutorial

General Set-Up (This order is important!)

1. Turn On Flextight X1 Scanner
2. Turn On Computer (If already on, restart)
3. Ask technician to sign you in
4. Start FlexColor Software
5. Select the appropriate film holder that matches your film size. We offer these sizes:
 - 35mm single** (35mmx24mm / 24mmx35mm)
 - 35mm strip** (35mm x 6)
 - 6x6 medium-format strip** (60mm x120mm)*this can also be used with 6x4.5, 6x7, 6x8, 6x9, 6x12
 - 6x6 / 6x4.5 singles** (60x60 / 60x4.5) * good for singles of 6x6 and 6x4.5 only.
 - 6x7 strip (60mmx180mm)** * good for all medium-format strips
 - 4x5 inch**
 - 5x7 inch**

Loading Film Holders



1. With white gloves on, unsleeve your negative.

2. Gently curl up the top magnetic strip, making sure not to crease or bend too much near the top of the holder. (a.)

3. Place your film strip **emulsion side down**, centered between the metal bottom frame and the top magnetic frame. You will get the best scan if all four sides can be firmly held down between the frames. You may leave the bottom edge exposed in the frame if necessary, however ALL corners must be held between the magnetic frames.



4. Once the film strip is centered in the holder, remove dust with air bulb and anti-static rag or brush.

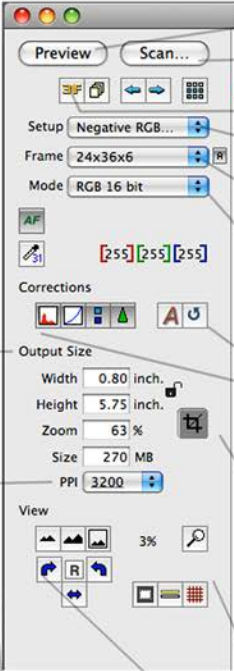
5. Gently place film holder flat on the loading dock along one of the guides and slide film holder into position so that the magnetic armature grabs and secures the film holder in place. If this is done correctly the "U" shaped groove will line up with the bolt on the armature and the bar-code on the film holder will be visible just beneath the armature.



FlexColor:

IMPORTANT!!!!!!!!!! Before you do ANYTHING, make sure you select the proper FRAME that matches your film holder type and REALLY MAKE SURE the "A" (Auto Frame Detection) is Highlighted (ON). *see below* You MUST! do this BEFORE you press Preview.

Control Panel:



Click **Preview** to load a low-res preview image in editing window
Click "**Scan**" to make a .tif scan of the selected marquee from the editing window. This is NOT making a 3F scan.
3F Button prompts the 3F Dialog Window. This makes a 3F file and is the suggested method of scanning.
Setup selects presets for different film types. We have made a few custom presets that we recommend using. They are marked "Use this one". These setups save all settings from all windows including "texture" and "gradations".
Frame tells the scanner the type of film holder that is loaded on the dock. It is very very important that this frame matches the film holder you are using. Also the **A** next to the frame drop-down menu should be highlighted dark grey for "**auto-frame recognition**". This should always be "**ON**".
Mode allows the selection of RGB 16 or 8 bit as well as Greyscale 16 or 8 bit.
Corrections : A series of buttons that allow you to toggle on and off each corrections window options such as texture or gradation. This includes an overall auto-correction button and an revert to default button.
Output Size : Determines your output. For largest possible scan, set Zoom to 100% and PPI **MAX:**
35mm - 6300 ppi
120mm - 3200 ppi
4x5 - 2040 ppi.
Crop
Create your scan marquee with this tool.
View : Tools for rotating and magnifying image in preview editing window.



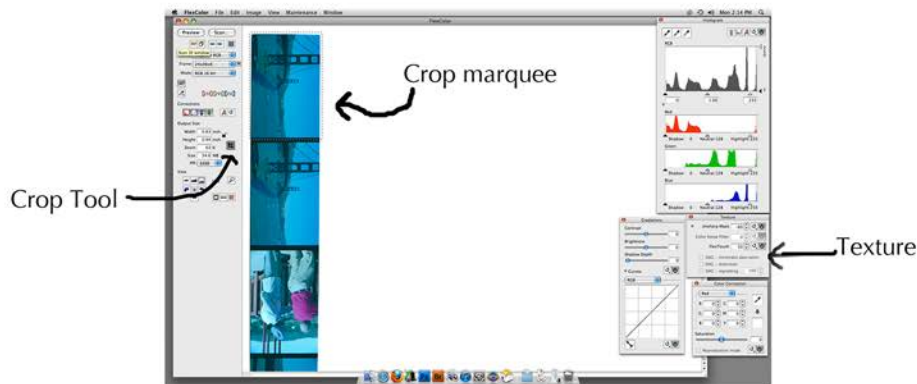
This is the **Toggle Switch** icon for turning on/off adjustments. These can be found in every adjustment window. In this position the toggle is set to on. The **Default** button to the left of the **On/Off Toggle Switch** will revert the entire window to default settings when clicked. If you click and hold the **Default Button**, you can load or create a custom setting.

1. After you have clicked preview, select the frame you want in the preview window with the crop tool.
2. When making a 3F scan, the only settings that matter before scanning are the **Setup** and **Frame**. Once you have the appropriate setup chosen to match your film type, the appropriate frame type, and the "A" auto-frame recognition turned ON.

Making a 3F Scan

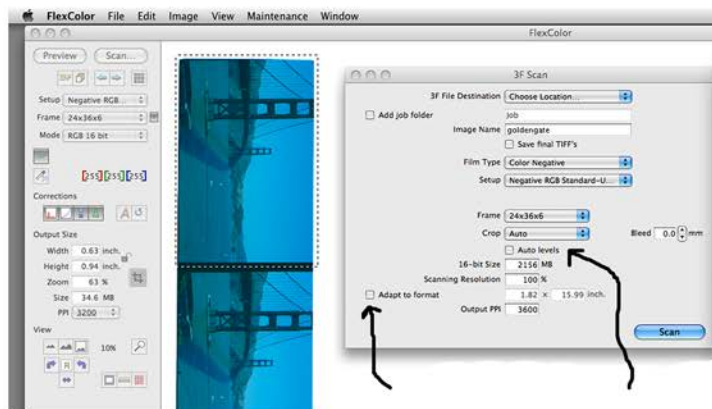
A 3F scan is like shooting in RAW format. It allows the scanner to scan for the maximum density of the film. This lets you open the 3F file (.fff) later and make infinite adjustments to the file as you need without having to rescan. Since FlexColor is a free software that you can download to your computer at home, scanning 3Fs will also allow you more time to scan at school and work on the files later. Another benefit to scanning 3Fs is that you can export already sized files much quicker through FlexColor than Photoshop. And since you don't have to compress the files in Photoshop from a giant files, your images will be less compressed and actually sharper.

1. In order to make a 3F Scan, you must first select the frame you want in the preview window with the crop marquee tool. If you are scanning a 4x5 you don't have to use the crop tool.



2. Once the frame has been selected, check to make sure that the proper **Setup** is selected. Though we have made custom presets marked "USE THIS ONE", you should always double check the **Texture** box. The **Texture** box shows the amount of dust removal or "FlexTouch" and the amount of sharpening to be applied to your scan. The values should be as follows: **Unsharp Mask -60 / FlexTouch 50**.

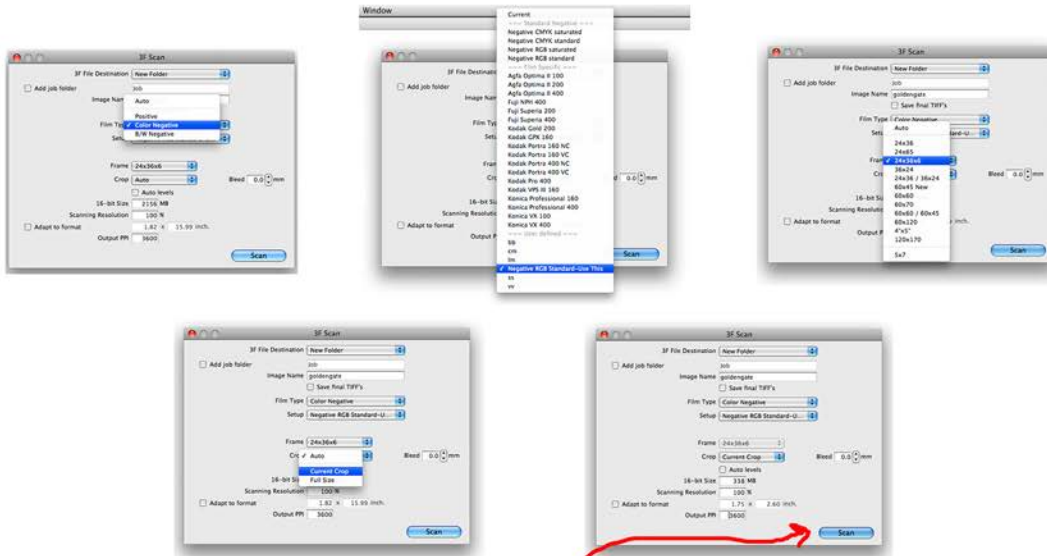
3. Click the 3F Button that is located below the preview button. This will prompt the 3F options window.



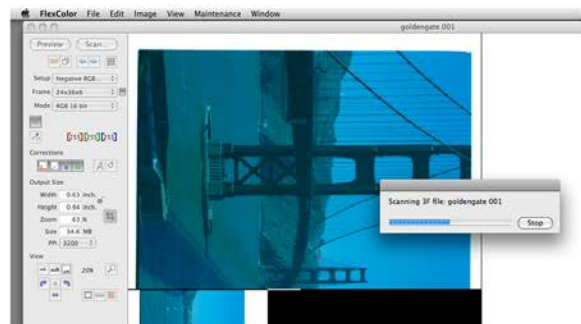
- a. **3F File Destination:** Where you will scan to.
- b. **Image name:** After you set this, FlexColor will automatically number your files. (i.e. goldengate001, goldengate002)
- c. **Film Type:** Select your film type.
- d. **Setup:** Make sure this matches the setup you selected in the Preview Window options.
- e. **Frame:** Make sure this matches exactly the film holder and frame selected in the Preview window.
- f. **Crop:** Current Crop = What you selected with the crop marquee.
Full Frame = Scans entire frame of film holder.
Auto* = Will automatically detect/scan individual frames as separate files.
- g. **Size:** Make sure Scanning Resolution is 100% and Output PPI is MAX: 35mm - 6300 ppi
120mm - 3200 ppi
4x5 - 2040 ppi

* Auto Crop is helpful if you are scanning multiple frames on the same strip

4. Here are what all your selections should look like if you are scanning a 35mm color negative:

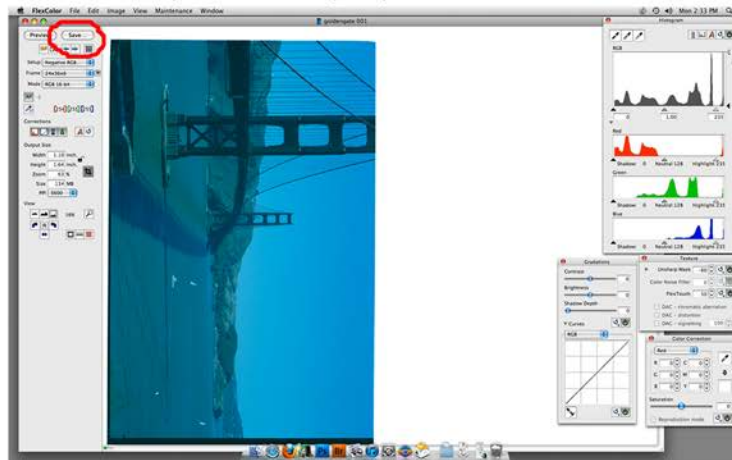


5. After you have set all your settings click the **Scan** button in the 3F prompt window. The scanner will then focus and scan your image as a **.fff** file. **DO NOT** touch the scanner while it is scanning. The scanning process should take no longer than 6 minutes.



6. After the 3F scan is complete, it will appear in what is not the editing window. Notice the **SCAN** button in the top left now is labeled **SAVE**. FlexColor is now in the editing mode. All adjustments you make to the 3F file will show in this window and from here you can export the image as a **.tif** or **.jpeg**. At this point you may either:


- Reload the film holder, click **Preview**, and scan another image **repeating steps 1-6**.
- Color correct, size, and export the scan you just made.



Color Management and File Sizing with FlexColor




This window is the Thumbnails window and allows you to navigate through your .fff files.

You can access the Thumbnails box by clicking the  icon in the upper left beneath the Scan/Save button.

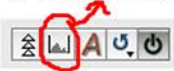
Double-clicking on the thumbnail of the file will open that file in the preview/editing window. There is a green/yellow/red rating system and other workflow buttons similar to Adobe Bridge. The eye in the top right corner of the thumbnail lets you know which file is in the editing window.

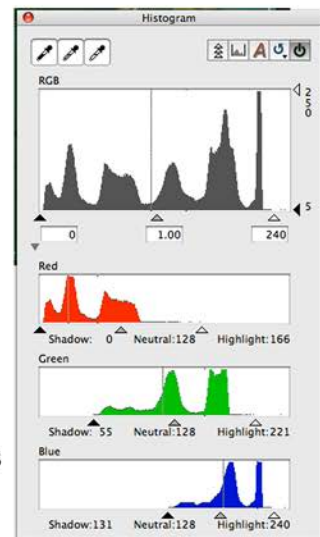
There are several tools you can use to color-correct your scan. The two basic toolboxes to use are the Histogram and Gradations windows. This is all you should need when creating a proper file for Photoshopping. Remember, you want a low contrast, yet color-balanced image to save as a .tif. The more detailed and critical work can be done later in Photoshop where you have better control. The goal is to not lose any "information" when saving the file to a .tif format.

1. Rotate the file to the correct orientation. Then use the crop tool to create a marquee within the frame of the image.  This will let you avoid any blacks or whites outside of the image that will interfere with a true histogram reading of the photo.



2. Next look at your Histogram window. You can access the Histogram box by clicking the  icon in the corrections section of the left toolbox.

Notice the triangle sliders under each graph. This lets you know you are in the INPUT histogram. These graphs tell you what information is actually on your negative. To toggle to the OUTPUT graphs click the histogram button in the upper right.  When in OUTPUT mode, the sliders will be circles



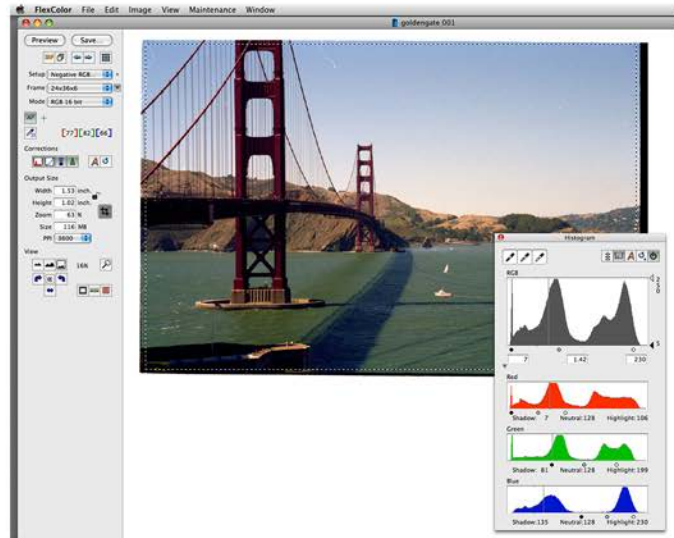
3. To set your thresholds and make sure your not "clipping" any color information from your image, slide the shadow and highlight sliders under each color channel graph up to each edge of the graph so that you are bracketting the graph like shown in the sample to the right. The idea is so that you are not getting any "empty" information within your threshold. At this step you can leave the neutral sliders alone. You should notice your image's contrast change and color become more "neutral".

Each color channel together makes up the RGB graph on the top. As long as there is white space on either side of that graph in the window, you are not going to lose any information when you export your file to a .tif.

6. Once switched to the **OUTPUT** mode in the **Histogram** window, you will see the graphs of the RGB color channels shift. The goal in this stage of the color-correction is to make the 3 graphs' "rhythms" similar.

This is also the time to fine tune the thresholds, letting the graph spread out to the edges of the windows without running off the edge.

To make graph adjustments in the **OUTPUT** mode, you must click and slide the circle sliders in the **OPPOSITE** direction you want the graph to go. The graph will only move after you release the slider. You will then see the changes take effect. Have patience with this process.



As you adjust the graphs, keep an eye on the image, making sure your adjustments are going in the right direction. This process is a combination of using the graph as a guide and trusting your eye as you look at your image. The sample to the right is somewhat how a histogram should look. The peaks and valleys of the graphs are in similar spots and there is still white space on either side of the graphs.

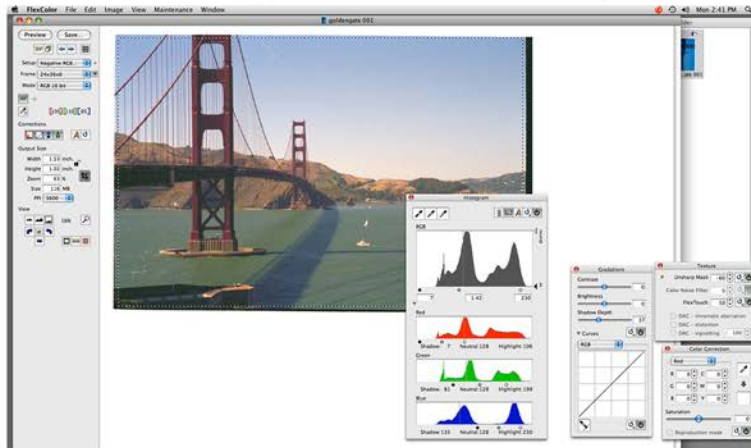
7. **Gradations:** There are other helpful tools besides the histogram that one can use to acquire the best possible export to Photoshop. For instance: If your shadows are still too dense you can use the **Shadow Depth** tool in **Gradations** to help gather more details from your shadows as in the example below.

Gradation Tools :

Contrast-Adjusts lights/darks on a linear scale.

Highlights-Helps recover blown-out highlights but can deminish the image's contrast and saturation.

Shadow Detail-Helps recover lost details in the shadows but can also deminish contrast and saturation.



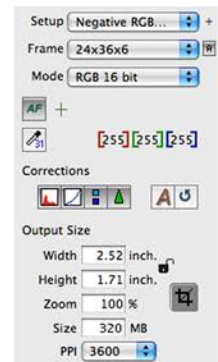
Curves-Similar to Photoshop's Curves without the fine control. You can adjust the Red, Green, and Blue channels independently if you are having trouble finding the right adjustment combinations in the Histogram window.

8. Saving the File: After your image has the desired adjustments, **widen the crop marquee** around your im so you get the full frame.

9. Set your image size at this point. When you have scanned a 3F, it scans at the largest possible size. In the Output Size section on the left, you can set your dimensions and your Pixels Per Inch.

-If you plan to print this large, set it for the highest allowable PPI and a Zoom of 100% or set the exact demensions you are going to print at and set the PPI to 300.*

*NOTE: (FlexColor will save your adjustment settings on the 3F file so if you want to export a different size at another time, all you have to do is open the 3F in FlexColor and resize it here.)

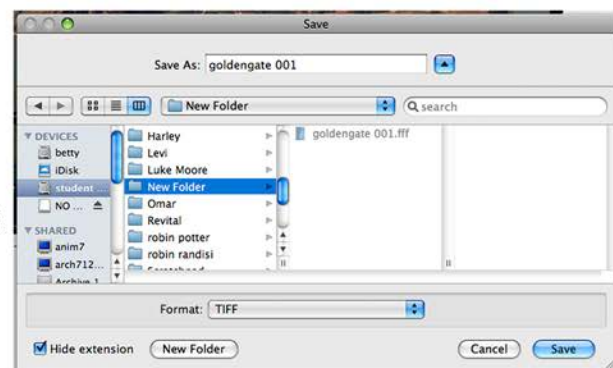


10. When you click the **Save** button you will be prompted with this window. →

The File **Format** Options you have are .tif and .jpeg.

.tif is recommended for printing and exporting large files to Photoshop.

.jpeg can be used for smaller proofs and web images. This can allow for a quick way to put photos on your website or for making proofs.

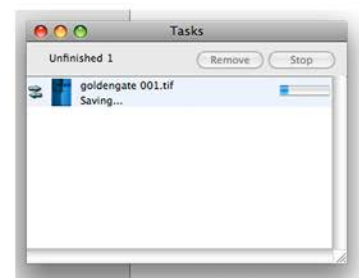


Select your file format, name your file, and click **Save**.

11. Notice the **Tasks** window prompted when you clicked **Save**.

This shows you a logged history of your files saved as well as current saving in progress.

Flexcolor allows you to continue working on another file while it is saving your previous work. You can cue up as many files as you want to save and it will automatically keep saving as you work.



If you highlight a file that is saving or waiting to be saved in this window, you can **Stop** or **Remove** it by clicking the respective command buttons in the upper right of the window.

12. When finished: Shut Down FlexColor, Turn Off Computer, and then turn off Scanner.

If the scanner door is down, Close the door before pressing the Red Button.