

Scanning 120 Film with the CanoScan 9000F MarkII

Dec 19, 2019

For advice on the best viewing
settings visit <https://mbp.ac/pdf>

Four years ago I walked you through scanning 120 format film on my Epson Scanner, which was around six years or so old at the time, making ten now. When I came to scan the film that I had processed recently, I found that my scanner had broken, so I replaced it with a Canon CanoScan 9000F Mark II. This scanner is also a few years old in design, but it's the latest model that I could find that offers high-resolution scanning and the film guide for 120 film.

Note though that B&H Photo and Amazon.com don't seem to stock this scanner anymore, and Canon's website here in Japan also marks it as running low on stock. This is a sure sign that Canon is probably preparing to release something new, which I would like to have waited for, but I didn't have that luxury with my old scanner having broken.

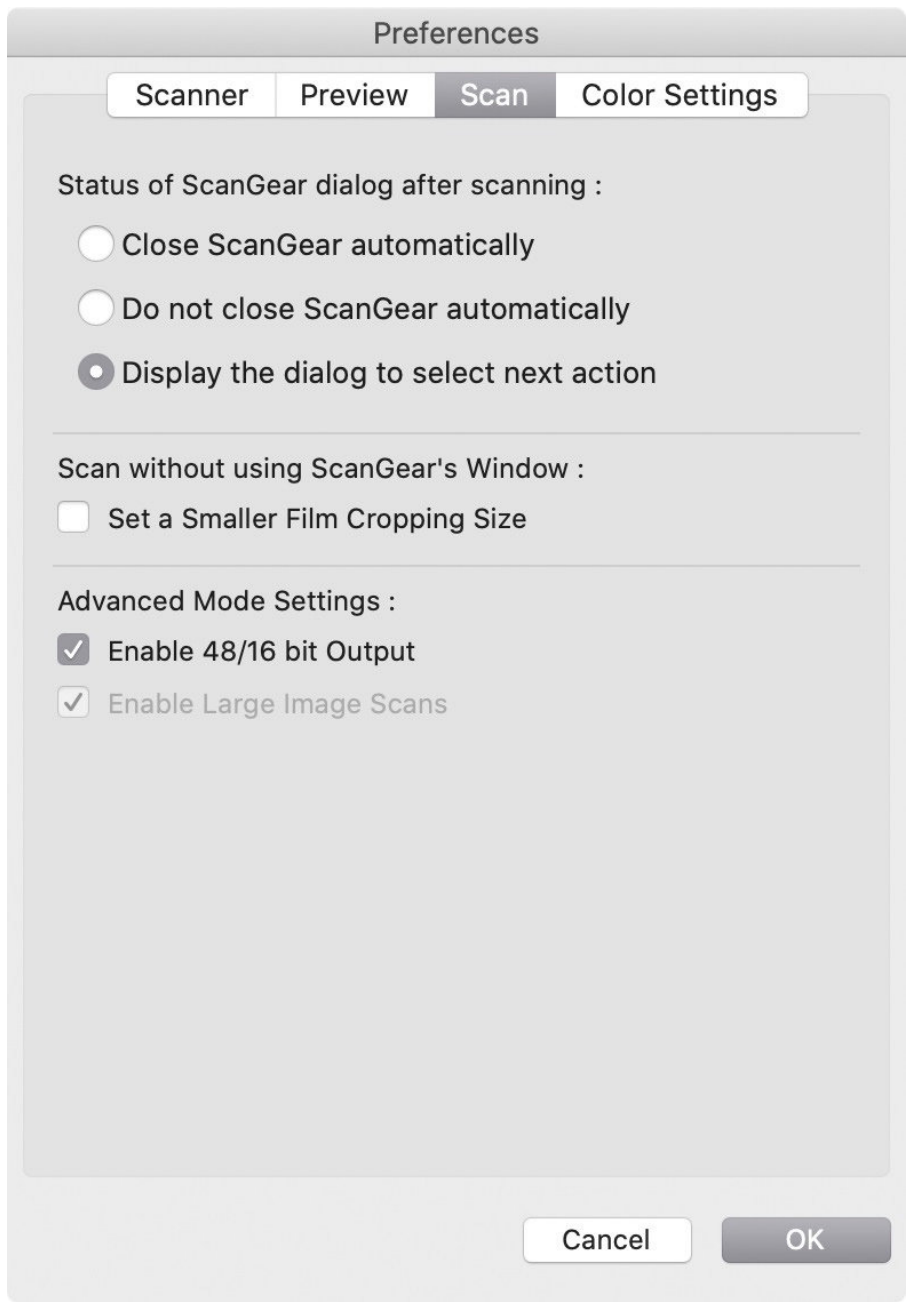
Regular flat-bed scanners designed just for documents shine light onto the document while scanning, but to be able to scan slides or negatives, the scanner has to have a light built into the lid to shine through the film, so this is something to be careful of when buying a scanner for this purpose. Also, not that all of the dedicated film scanners that I could find online were relatively low resolution. We're talking about creating images that are around 10 to 15 megapixels, even when scanning medium format film, and that is just too low to be of any use in my opinion. Of course, if you never want to make any large prints, and your final use is the computer screen, then that resolution would be fine.

When I first installed the software that comes with my new Canon scanner, there were a number of limitations forced on me by the software, which would have resulted in lower quality scans, so we'll cover this first, in case you have bought the same or a similar

scanner. Note too that I have not been able to access these settings via the TWAIN scanner drivers that are installed, so I am not able to get higher resolution scans from within Affinity Photo or Photoshop, I have to use the Canon IJ Scanner Utility. There are other dedicated scanning applications available, but at this point, I have not tried any, so we'll stick with the method I'm currently using.

Settings for Higher Resolution Scans

To enable higher resolution scans, when you first start the scanner software by opening the Canon IJ Scan Utility application and then clicking the ScanGear icon, switch to the Advanced Mode, then open the Preferences panel. Under the Scan menu Advanced Mode



Settings section, enable both the Enable Large Image Scans checkbox and the Enable 48/16 bit Output checkboxes. Without these options, the scanner will only provide relatively low-resolution scans of medium format film.

You can also turn on Enable Large Image Scans by clicking the Settings button on the Scanner Utility and it's a good idea to select TIFF for the Data Format under ScanGear, as you ideally want to be saving your images in a lossless format. JPEG is compressed generally, and will gradually degrade as you resave your images, so in my opinion, JPEG should really only be used as an output format. The only other options are PDF and PNG, neither of which are suitable formats for photographs.

What Resolution to Use?

In my earlier tutorial on this, I mentioned that I was scanning at 4200 dpi (dots per inch). I also mentioned that this was possibly overkill, but I did some more experimentation with my new scanner and found out a few other interesting points that I also want to relay. Firstly, I found that I was still seeing a usable quality increase in my scans when using 4800 dpi. This gives me scanned images that are slightly over 10,000 pixels square, which means the images are 100 megapixels. That's almost ten times the resolution of the dedicated film scanners I saw, many of which are a similar price to the CanoScan that I decided on. I also tried the higher setting of 9600 dpi, but this just increased the file size. No more usable resolution was recorded.

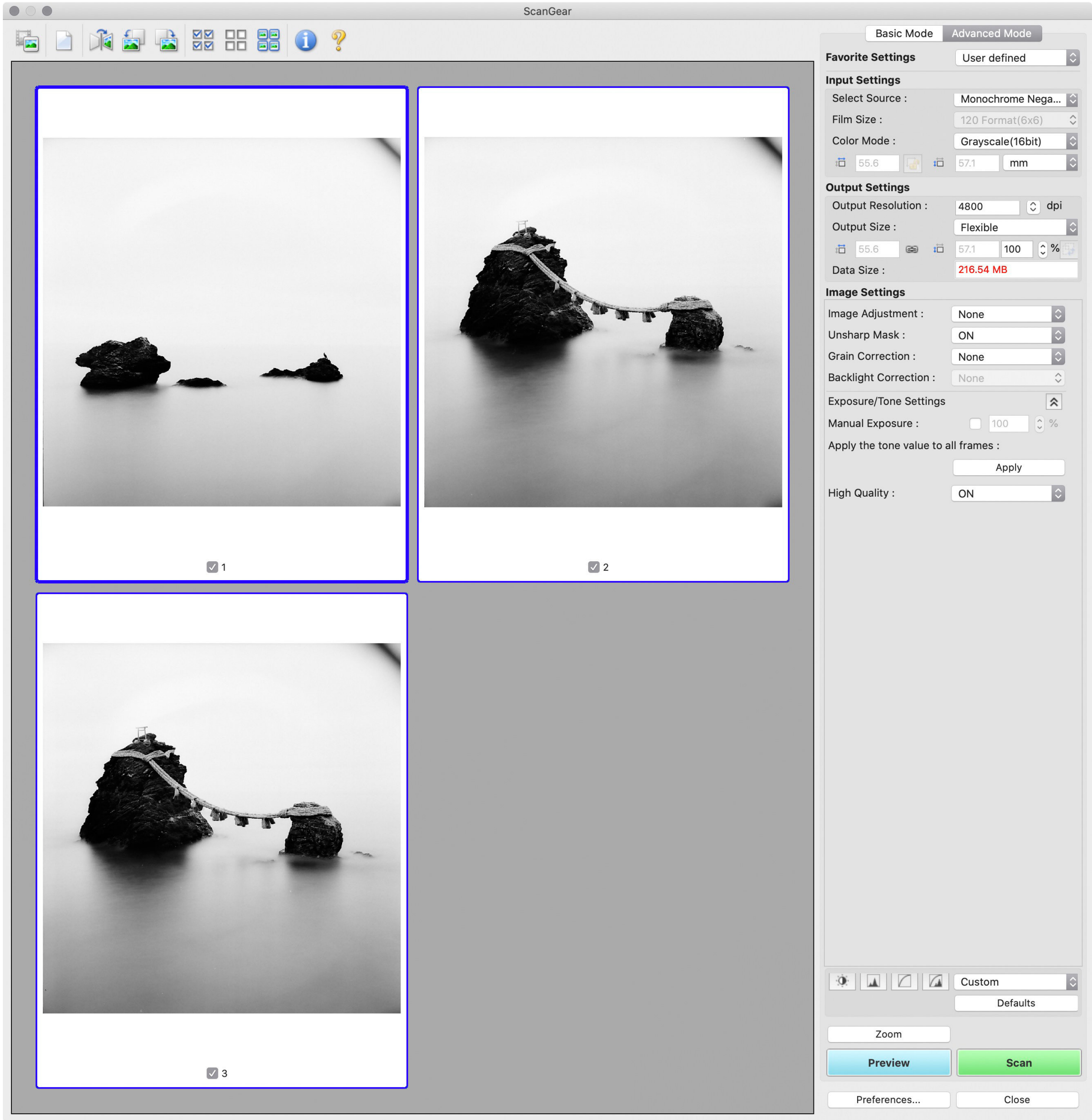
This got me thinking about my original tests though, so I double-checked some other recent photos shot with my first TLR camera, the Yashica-D, but scanned with the new scanner, and I found that photos were limited by the optics of the Yashica, rather than the

film or scanner. I just completed some tests using ILFORD DELTA 100 film and processed it with Perceptol, which is a very fine grain developer, and the images were all pretty soft compared to the images I'm getting from my new Rolleiflex.

Of course, the takeaway for you here is that this really is something that you need to test and decide on for yourself. With my Yashica-D, we were probably looking at me realistically only being able to scan up to around 3600 to 3800 dpi and still getting usable resolution, but with the Rolleiflex 3.5 with the Planer lens that is up to 4800 dpi. I'm not sure how this compares to other vintage medium format cameras, so the best thing to do is to keep increasing the resolution until you stop seeing any more usable detail.

Also, note that I am scanning with the Color Mode set to Grayscale (16bit). I've experimented with the color scanning modes, and there are lots of methods discussed online, such as scanning in color but only using certain color channels, and throwing the rest out, then ultimately going to a black and white image, but I really don't see the benefits in doing that, so in my usual way, I have decided that these are hoops that we don't need to jump through. 16bit Grayscale images are very high quality, and ultimately I want a neutral gray toned image, so this works for me.

Here's a screenshot of my final settings in the ScanGear window (following page) and you'll notice that the Data Size number is in red, which is Canon shouting at me for scanning my image at such high quality. As I've already told the software that I want a high-quality scan, I find it a bit pointless to display this number in red, but that's how it is. Also note that I am leaving Unsharp Mask turned on, but Image Adjustment and Grain Correction are off.



Scanning 120 Film with CanonScan ScanGear

I am also leaving the Manual Exposure checkbox turned off most of the time, but if I inadvertently over-expose something, or the software just seemed to misunderstand the content of the image, I can override that with the Manual Exposure checkbox and adding a new percentage. Going higher than 100% seems to reduce the exposure and lower than 100% increases the exposure in the image. You can also adjust exposure using the Tone Curve options that you can see towards the bottom right corner of this screenshot.

You can actually see the images that you are about to scan pretty well, especially if you are working on a large display with this window maximized. I also like that I can scan up to three frames at a time now. The Epson scanner was only two frames at a time, so this is another benefit of replacing my scanner. I can now scan a 12 frame roll of film in four sections. One other thing to note is that the shiny side of the film should be facing down when scanning. That's the front of the film, so although you can flip the scanned images if necessary it's better to get the orientation right for your scan.

You'll also note that the corner of my circular ND filter was showing in the top right corner of these images. I have since found a place that does custom made filters that should fit the Rolleiflex, but for a recent trip to photograph the rocks that you see in this screenshot, I had simply taped an ND to my lens hood, and because you don't look through the shooting lens on a Twin Lens Reflex camera, I didn't notice until after I'd shot these three images. I corrected this and continued to reshoot the rocks using an ISO 25 film from Rollei, but unfortunately, it looks like I got a bad batch. All of the images I shot on the following roll had a really strong mottling, almost like a leopard fur pattern. I ran more tests when I got home and found it to be that particular film, which was disappointing. Anyway, a bit of deftly cloning was enough to get rid of the filter ring in the corner, so I still came away with the photos I was looking for.

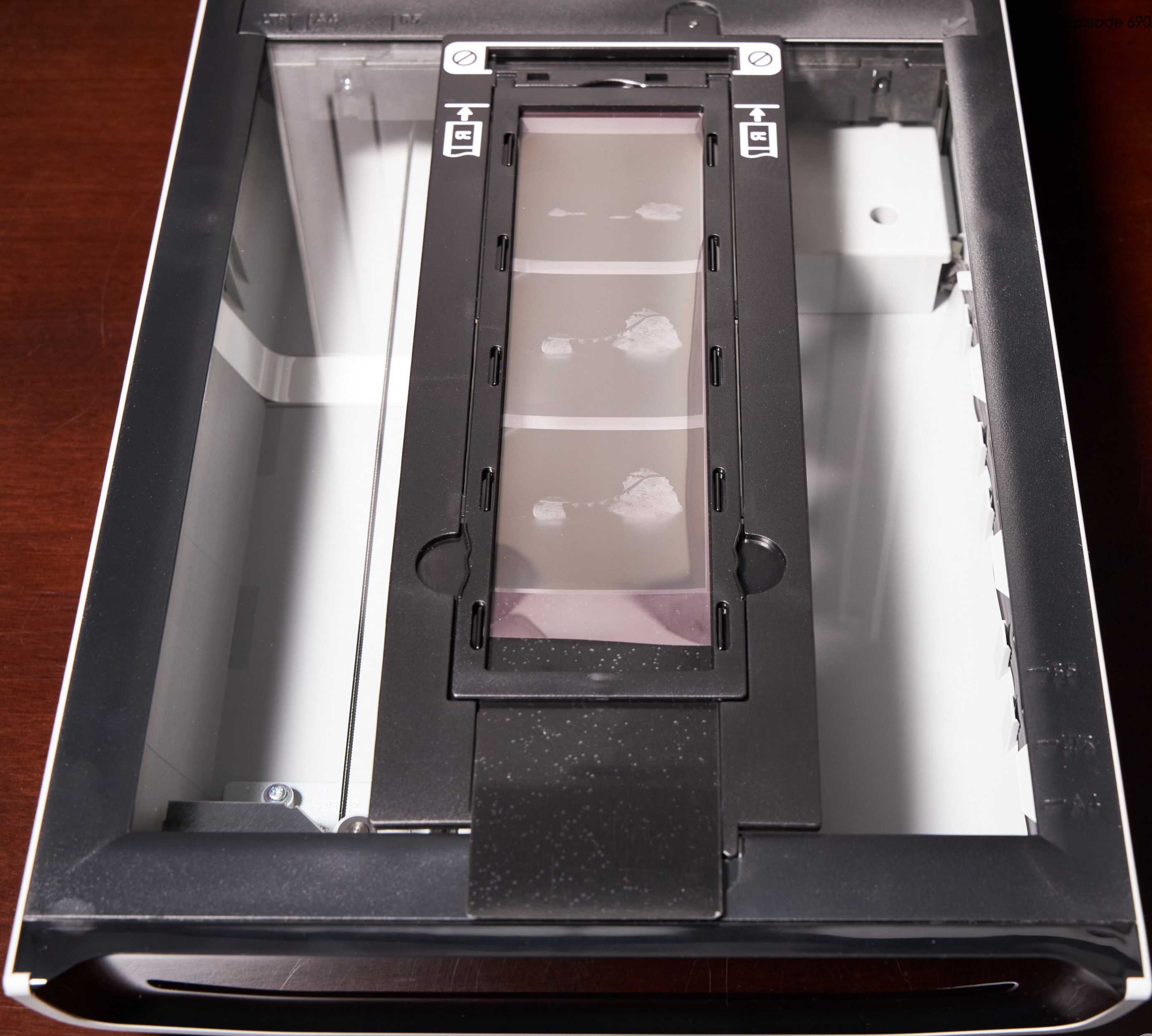
I am generally turning on the checkbox for all three images, and scanning them all at once. If there is a frame that you obviously don't need to scan, you can do this by leaving the checkbox turned off. The software will only scan the images with a checkbox enabled. At the resolution and settings I've chosen, it takes about two to

three minutes per frame to scan the images, so six to nine minutes to scan all three. I sometimes also find that the auto-detection of the images doesn't work every time, and I have to jiggle the film around a little to get the software to recognize them. One thing I have noticed though is that it helps to slide in the strip of plastic that comes with the scanner to effectively show the scanner where the start of the first frame is, as you can see in this photo.

Once you have the film set like this, you close the lid and start up the ScanGear software. If you already have the software open from a previous scan, just hit the Preview button again to take a look at your next three images. If you shoot 35mm film, by the way, you can also use this scanner. A film guide for mounted 35mm slides and 35mm film strips is included.

Change Color Space

One other thing that I have found is that the color space Dot Gain 20% does not seem to be supported by Capture One Pro, my photo editing software of choice. I have to open the files up in Photoshop and convert the color profile to ProPhoto RGB before I can edit the images in Capture One Pro. Of course, Adobe RGB or sRGB would also work, but I prefer to work in ProPhoto RGB. And, I have not yet found a way to automatically open the images in Photoshop or Affinity Photo after scanning with the ScanGear software. You can specify an app in other modules, but not when using the ScanGear drivers. These options are grayed out, so that adds a few extra clicks to the workflow, but it's not a big deal.



Example Images

Here are two of these images that I scanned so that you can take a look at the end result. The film, by the way, is the recently rereleased FujiFilm Neopan Acros Mark II. I'm finding it really nice to work with, and the tones are great, but I have noticed a larger number of flaws in the emulsion that I would rather not see in a film. There are patches of white flakes, which I guess would be black flakes on the negative, on most frames that require a bit of cloning to remove. I haven't really noticed these on the Rollei RPX 100 or the ILFORD DELTA 100 films that I've also been using.





Here also is a 100% crop of the first of the two images above, to show you the image quality at this resolution. As you can see, there is plenty of detail, but it's bordering on getting a little soft. I'm at the top limit of useful resolution for sure.



Here too is a 100% crop from the same scene shot with my EOS R. The image is obviously sharper at 100%, partly because I'm pushing the resolution on my scans, but also because the Rollei is more organic with it being film.

Cats, Frogs & Jizou

Before we move on, here is one other example image shot with the FujiFilm Neopan Acros MarkII 100 ISO film, really to illustrate that this film really does have beautiful tones, and in true Neopan form, the blacks are beautifully rich, as you can see in the glossy black cat ornament here.

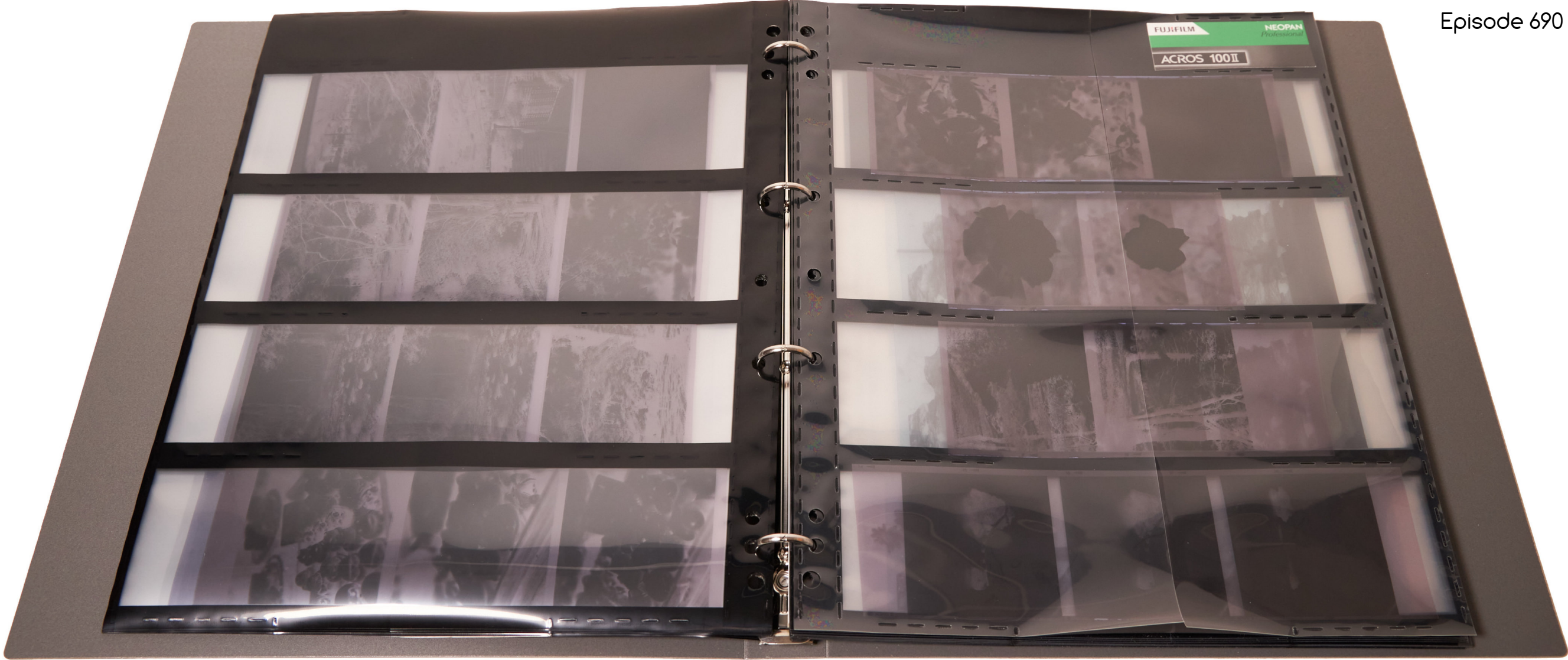
Storing Processed Film

I was also asked in the comments on one of my recent posts how I am storing my processed film, so let's take a look at that, but unfortunately, I have not been able to find a similar product on B&H Photo or Amazon. If anyone knows of something similar to this on sale online anywhere, maybe you could share a link in the comments for this article's [blog post](#).



I've been using a binder from Fujicolor, as you can see in this photo (right). I can buy 120 film polypropylene pages for this binder, so it's perfect for storing my processed films.

Also, as you can see below, even just placing the loose pages on white paper enables you to see the negatives pretty well, but you can also drop this onto a lightbox and view the images with a loupe if you prefer because the polypropylene is perfectly clear. There are also iPad apps that provide a bright white screen so that you can use them as a Lightbox as well.



OK, so we'll leave it there for today. I hope this has helped some if you were looking for information on scanning film, but with the products not being readily available everywhere, I'm sure I've left you with a job to find something available in your market. This will hopefully point you in the right direction though. I guess this is a sign of the overall interest levels in shooting film, but I am encouraged by the fact that FujiFilm just rereleased Neopan Acros. Hopefully, there are enough people still shooting, or starting to shoot film with its resurgence, that it compels more manufacturers to follow suit.



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