Scanning with Epson Scan

Before starting to scan, Epson Scan needs a change made to the default configuration. Under the “Color” tab, match the settings below. The “Target” colorspace may also be set to “Adobe 1998” if you normally work in that colorspace. This configuration change should only be required once.

When loading film, there are two possible configurations for most Epson scanners - with a film holder or with a film area guide. The film holder uses the black plastic accessories to hold film securely at a specific height off the scanner glass. The film area guide places the film directly on the glass and does not hold it flat or in place. If working with the area guide, you may need to improvise some method to hold film flat if it has too much curl.

After loading film and selecting the correct document type and film type, click “preview” to perform an overview scan of everything on the scanner bed. If thumbnail mode is on, turn it off. This may be a checkbox in the controls window or a tab in the preview window depending on software and scanner versions. Thumbnailing tries to locate individual negatives but often does not work properly. If it is cropping correctly, it’s fine to leave thumbnails on.

Draw a frame slightly inside of the negative to be scanned, being careful to only include image area. If anything, crop the edges more than desired in the final scan, as you can adjust the crop after color correction is done. Having anything that’s not part of the image in the frame may make color correction more difficult. Zooming in can be useful.
To begin color correction, click on the histogram button in the controls window.

First, with the composite/RGB channel selected, set the output black value to 0 and output white value to 245 for most images. If the image should have a significantly limited range of values, you may have to adjust these numbers. For example, an image with no values brighter than middle grey may use 0 and 130, and an image with no deep shadows may use 130 and 250.

Next, move the black point slider in the input area until it is just touching the left edge of the data in the histogram, and the white point slider to the right edge of the histogram. Ever so slightly outside of the edge is preferable to inside, as moving the input sliders into the data will clip some values in the image.

Repeat the process of moving the black point and white point input sliders for the Red, Green, and Blue channels. Output values should not require changes in each channel. Notice that each channel has a different histogram for the image—this is typical for color film.

After adjusting the black and white input values, the midtone value can be adjusted for each channel, including the composite channel, as needed. Changing the midtone does not affect the overall range of values being captured, but does affect the distribution within that range. This should be done by eye rather than by any criteria in the histogram data.
Once the histograms are adjusted and image color appears correct, the cropping can be finalized without the color changing. After adjusting the frame (if required), the resolution, bit depth, and scan size are adjusted as needed in the controls window.

Epson refers to “48 bit” and “24 bit” color, which are actually 16 bit and 8 bit color to everything else. 16 bit (Epson’s 48 bit) provides more steps in the range of available colors at the cost of a larger (doubled) file size.

The preferred way to set scan dimensions is to select the desired final resolution, and change the “Target Size” to be the desired print size, or slightly larger to allow for cropping after scanning. For most Epson printers, 360 dpi is ideal, and 300 also works very well.

The last thing to check is that all checkboxes for optional features are unchecked/off. You may have to scroll down.

Finally, click “scan” and follow the prompts for file name, location, and file type. TIFF is best for images that will receive further editing.

Scans made this way will capture all of the information in the original image. They tend to appear slightly flat compared to the original, and typically require some contrast to be added in Photoshop via a curves adjustment layer. They may also need some minor color correction.
Printing

Before printing, images should be edited and resized to the desired print size. Ideally, the print will have a resolution of 360 dpi at print size, but any value above 300 dpi generally will print well. If you are sharpening prints, resize and resample them to 360 dpi prior to sharpening. A print smaller than the paper will be centered automatically.

Once the image is sized/cropped/etc exactly as it should print, the process starts with File > Print in Photoshop. That will open the dialog box shown below.

First, be sure the correct printer is shown at the top right. Then, click “Print Settings” just below the printer name.

In the printer settings dialog box, first set the paper size to the size being used. This example uses US Letter.

Then click on the middle dropdown (Layout) and change it to “Print Settings” or “Printer Settings” depending on the printer/driver you are using. Set media type as appropriate for the paper in use. You may need to consult information sheets from your paper or the manufacturer’s website to determine the correct media type.

For color prints, set “Color” to “Color” or “Acucphoto HD” depending on the driver/printer version. Then set “Color Settings” to “Off (No Color Adjustment)”. High speed can remain on for most papers. Finest detail should be off. 16 bit should be on for 16 bit files, doesn’t matter for 8 bit files.
Click “Save” to close the printer settings dialog and return to the main print dialog.

The next step is to set the paper orientation as needed for the image (portrait or landscape). Paper always loads into the printer as portrait, and this button rotates the image as appropriate.

The last item to check is the color handling/printer profile combination. Set Color Handling to “Photoshop Mangages Colors” and then set the Printer Profile to the correct profile for the paper in use. For Epson papers, the profile names follow a structure of PrinterName PaperName (for example, Pro38 PLPP is the profile for an Epson Stylus Pro 3800 using Premium Luster Photo Paper). Epson likes to use the initials of paper names, and shortened versions of printer names. Consult the paper manufacturer documentation for third party papers to determine the correct profile.

![Printer settings dialog](image)

Finally, check the number of copies, and that the image appears correctly placed on the paper in the preview area. Preview image quality and color are frequently off somewhat, so as long as it’s placed/scaled appropriately and all settings are correct it will print correctly.

Once satisfied that settings are correct, click print.

The most common printing issues are:

1) Print is darker than the screen.

Prints are usually slightly darker as they reflect rather than emit light. Try setting the screen around 50% brightness for most modern Macs. Midtones and shadows may need to be lightened a bit too much on screen to print correctly. Use an adjustment layer for this so it can be reversed later if needed.

2) Print experiences a color shift from the screen.

Check that the profile matches the paper/printer combo. Also check that the color settings dropdown in the print settings dialog is set to Off/No Color Adjustment.

Finally, you may want to experiment with the Rendering Intent setting. Typical settings for it are “relative colormetric” or “perceptual”. Soft proofing can help with determining which setting works best for a given print. Some colors just do not print well despite appearing correct on screen. Highly saturated computer generated colors are the worst for this.

3) Print has regular, repeating banding running across the print (at 90° to the direction the paper moves).

This is almost always a dirty print head with clogged nozzles. Run a nozzle check and clean the printer if needed.