

EPSON Stylus® Pro 7600/9600

How to use Custom RGB ICC Profiles with the
Standard Epson Photographic Printer Driver

A Photographic Workflow with Adobe Photoshop 7

Forward

This document is to help assist novice level photographers who are trying to produce the best quality color and black and white photographic prints on the EPSON Stylus Pro 7600 or 9600 printers using UltraChrome Inks. However, the workflow described in this document can be applied to *any* printer.

Although, you can simply use the built-in color management system within the standard Epson printer driver, using the power of the ICC profile format, this document will teach you a different way of printing your RGB photography.

If your a photographer of any type, you need to try this ICC workflow out. I'm sure you'll agree, it represents a big step forward in producing sellable quality prints. Enjoy...

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How to use an ICC profile with the Epson driver

STEP 1: Installing Your RGB ICC Profile & Configuring Adobe Photoshop 7

To use any RGB ICC profile with the EPSON Stylus Pro 7600 or 9600 driver, you must first place them in the standard place for profiles. Regardless if your using a Macintosh or Windows computer, you will get great results. Here is where you must copy the .icc files:

Operating System	ICC File Location
Mac OS 9.2.2	System Folder / ColorSync Profiles
Mac OS X	System / Library / ColorSync / Profiles
Windows 98 & Me	Windows / System / Color
Windows NT, 2000, & XP	Winnt / System32 / Spool / Drivers / Color



Next, open Adobe Photoshop 7 and choose “Color Settings...” under the “Edit” menu. (This may be different under Mac OS X). Set-up the dialog box to look like this and hit “OK”.

This is a very controversial dialog box. Depending upon who you talk to, they might give you different recommendations.

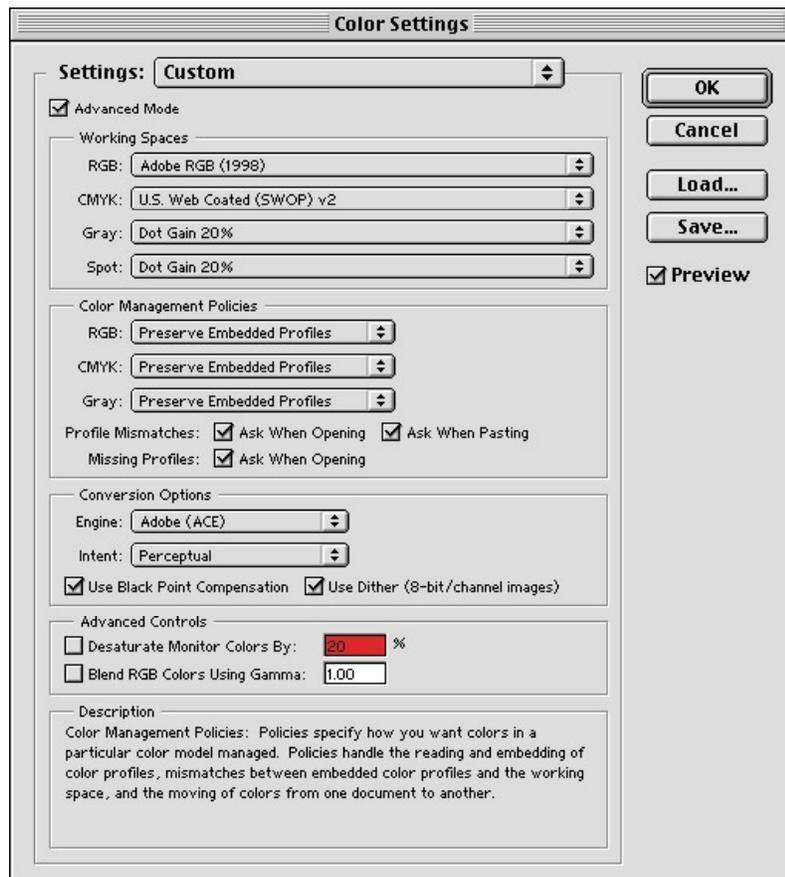
I like Adobe RGB (1998) for better color saturation. However, ColorMatch RGB also works well here, especially for flesh tones.

For grayscale images, I chose a Dot Gain of 20% instead of Gray Gamma 1.8 because I feel it looks more ‘neutral’ versus the warmer look of Gray Gamma 1.8.

Always use the Adobe (ACE) Conversion Engine. Its the best. And only available from within Adobe software.

I like using the Perceptual Rendering Intent for everything. I sometimes use Relative Colorimetric for Black & White photos. Try your prints both ways to find the best setting for your work.

Always turn ‘on’ Black Point Compensation. This is because the Perceptual Rendering Intent does not care, but the Relative Colorimetric does. So its easier to always turn this ‘on’ and forget about it.



STEP 2 : Opening Your Image File



What color space should I calibrate my monitor to?

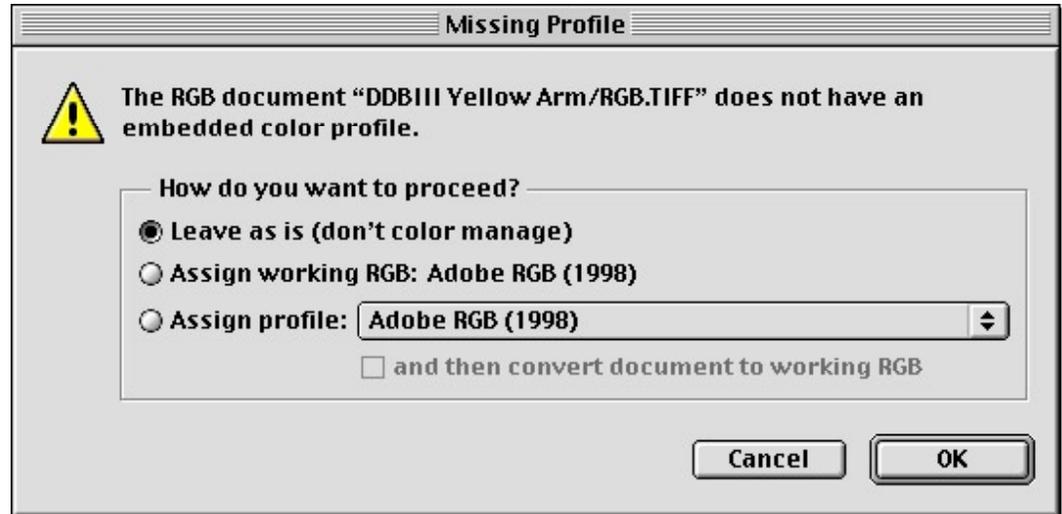
The answer to this question will vary, but I prefer to calibrate all my Macintosh and Windows monitors to 2.2 gamma and at 6500 degrees Kelvin.

For Macintosh users, a gamma of 1.8 at 5000 degrees Kelvin also works well, but the monitor's color takes some time getting used to.

Since most monitors are in a 2.2 gamma naturally, then calibrating to this setting is usually the best.

By making sure your operating system and application software understands how your monitor is displaying color, you will make better color decisions using your monitor before committing them to paper.

Next, open your image file and choose the proper conversion option. If your image file already contains a profile that matches the Color Settings you've selected in Step 1 or if your image file is in LAB space, then the image will come right up. If not, then Photoshop will display this dialog:



Adobe Photoshop 7 Opening Conversion Dialog

In order to open your image file properly, you should NOT convert your data file. Instead, select "Leave as is (don't color manage)". The less color conversions you perform on your data file before printing the better.

Whenever you ask Photoshop to convert color using this dialog box, you will be modifying your image file forever. Depending upon how you created your image file, you may be limiting the quality of the actual image!

However, if you know what you're doing, then select "Assign working RGB: Adobe RGB (1998)" or assign a different profile using the "Assign profile:" radio button.

Photoshop will then perform any color conversions and open your file into a window.

STEP 3: Setting Your Page Setup & Getting Ready to Print

Next, choose “Print with Preview...” from the file menu. Notice the document dimensions, then click the “Page Setup...” button and set the proper page size and options and click “OK”.

Back in the “Print with Preview” dialog, you can visually confirm that your image will fit on the printed page, then check the “Show More Options” check box, and choose “Color Management”.

Your dialog box should now look something like this:



After verifying what image size your file is, create a Custom Page Size within the Epson driver Page Set-up dialog box and define it about 1-inch bigger than your image file.

To center the print, make sure to define the top and bottom margins the same.

Photoshop 7’s Print with Preview dialog box, is a great way to visually see how your image will fall on the page size you’ve defined.

For images within the gamut of the printer, Relative Colorimetric with Black Point Compensation ‘on’ usually works well.

If you are not sure if your printer’s color gamut is larger than the color gamut of the image file you’re trying to print, then use the Perceptual rendering intent.

If you notice blocky or unsmooth color transitions when using the Relative Colorimetric rendering intent, then use Perceptual.



Print with Preview Dialog within Photoshop 7

Under “Source Space:” the Document radio button should be selected. You may see a different RGB profile tagged for your image file versus the example “Lab Color” above. It may say “Adobe RGB (1998)” or even “ColorMatch RGB”. If it says “Untagged RGB”, then Photoshop will apply the default RGB Working Space profile that you defined in Step 1, which was “Adobe RGB (1998)”.

Under “Print Space:” the “Profile:” selection should be set to an RGB ICC printer profile designed for your combination of printer model, paper, ink, and driver setup.

Under "Print Space:" the "Intent:" selection should be set to either Perceptual or Relative Colorimetric depending upon your image file.

As discussed, Black Point Compensation 'on' or 'off' makes no difference when printing using the Perceptual rendering intent, but it is needed for Relative Colorimetric. So turn it 'on' and forget about it.



The EPSON Stylus Pro 7600 and 9600 printers are identical in every way. The only difference is in the width and price.

Profiles created using the SP7600 should work fine for the SP9600 and vice versa as long as you are printing with the same ink and media type.

Are your ICC profiles showing up in the profile pull down menu?

Make sure you double check the profile name when searching for your ICC profile. Sometimes the filename of the profile differs from the actual internal ICC profile name that's used within the software application. In any case, just make sure you didn't overlook the profile. That Adobe Photoshop profile pull down menu can get crowded.

If you're sure you do not see the ICC profile you're expecting, then repeat step one and restart your computer. Also, try restarting Adobe Photoshop 7.

Where can I get good quality RGB ICC profiles for my printer?

For any EPSON Stylus Pro branded printer, you should check our web site at:
<http://prographics.epson.com>

OR

Use the ICC profiles that came with your Epson printer driver.

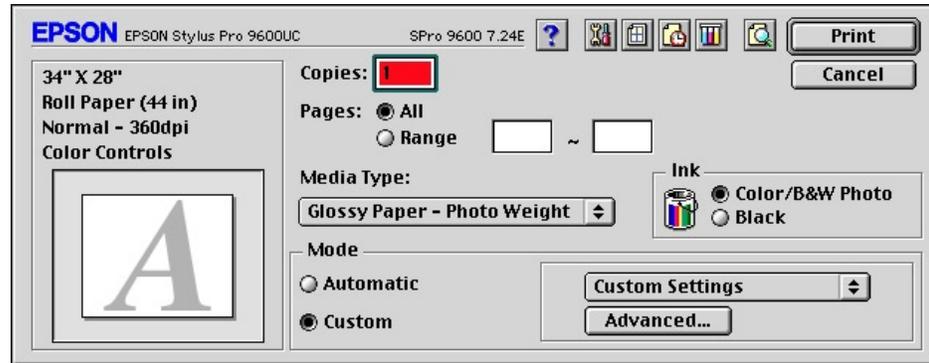
OR

Create your own RGB ICC profiles using standard ICC profile software and hardware.

Now on to our final step of printing your image file!

STEP 4 : Setting Up Your Printer Driver Settings and Printing Your Image!

Take note of the Print Space Profile selection within the “Print with Preview” dialog box then click the “Print” button. The following dialog box will appear:



Epson Print Dialog

When the Epson print dialog appears, click on the “Custom” radio button then the “Advanced...” button and carefully create and save a new driver setup for that particular RGB ICC profile.



Here is an example Advanced Settings Dialog screen setup for an ICC profile that was created for “Premium Glossy Photo Paper”, Printing in “Color/B&W”, at 2880 dpi, with High Speed ‘off’ and the “No Color Adjustment” radio selected.

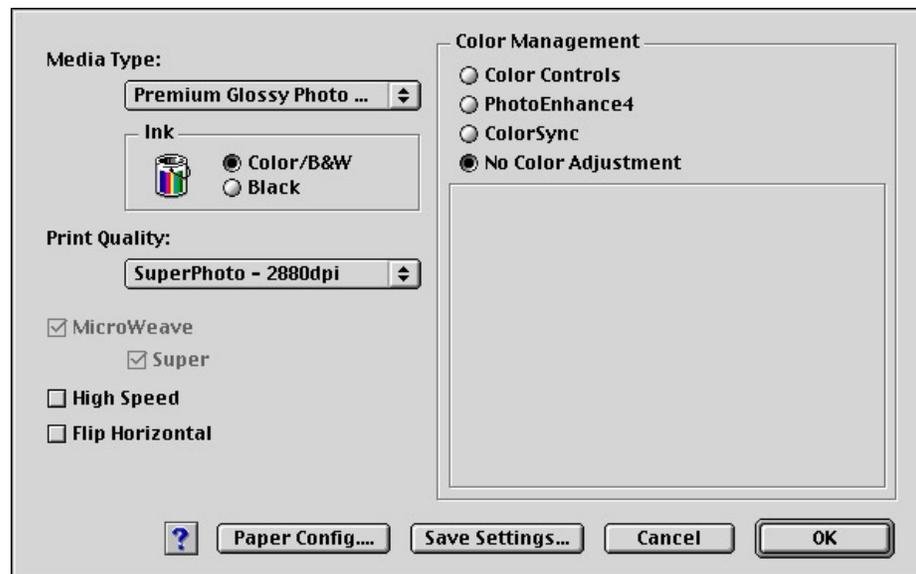
You must make sure the printer driver settings match exactly the way the RGB ICC Profile is expecting them to be set.

All ICC profiles were created with certain printer driver settings.

You must find out how your particular ICC profile was created and set your printer driver settings to match them exactly.

Also, make sure you are using the correct printer model, ink type, and media for that particular ICC profile!

On SP7600 and SP9600 UltraChrome models, make sure you know which Black Ink Mode you’re in - Photo Black or Matte Black?



Epson Printer Driver Advanced Settings Dialog

After you have chosen the correct printer driver setup for this profile, then click the “O.K.” and “Print” buttons to actually start printing. That’s it!

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