

Colour Management

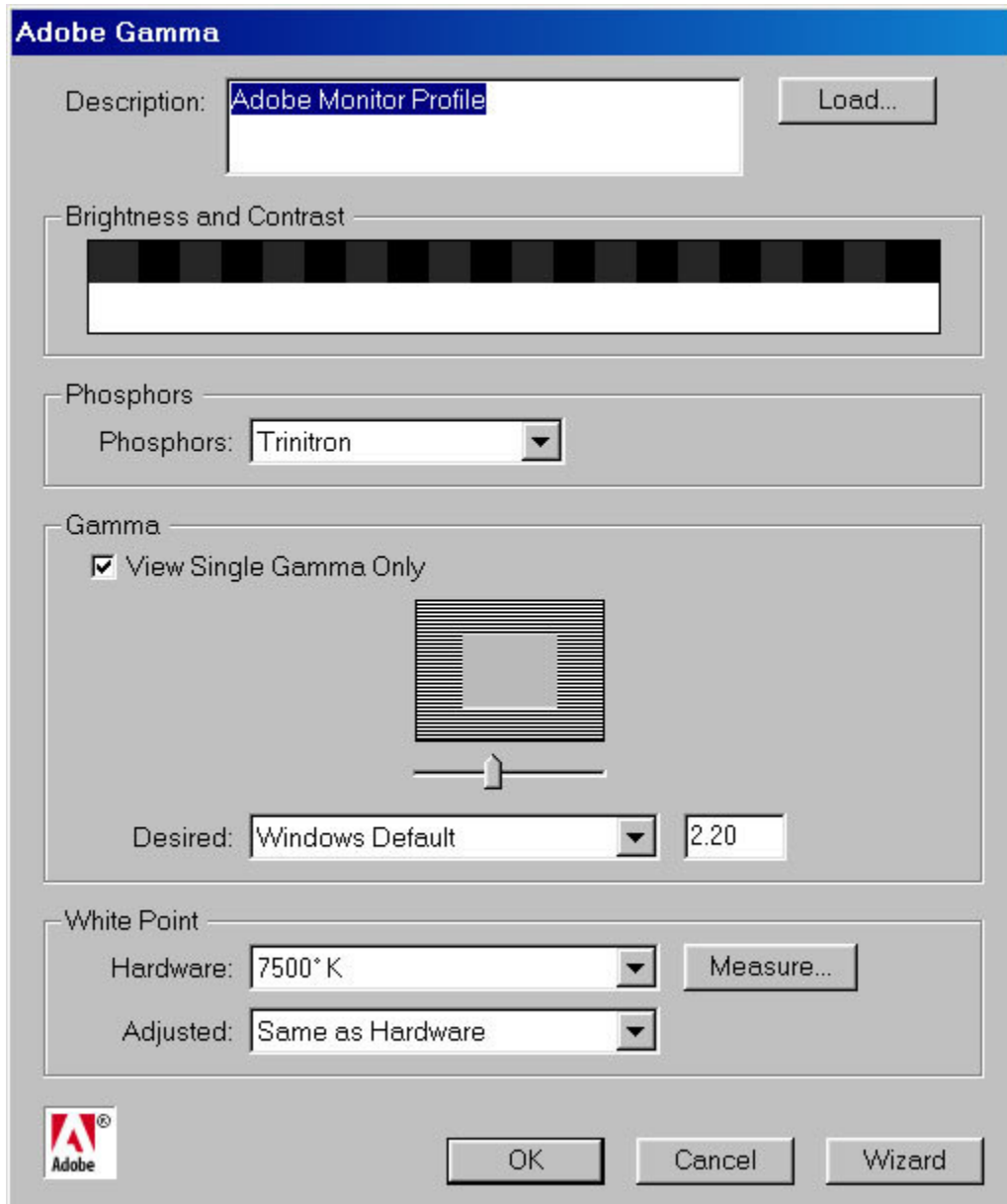
If you now have version 7.0 or later of Photoshop, click [here](#).

This is a simple guide to the process of configuring Photoshop 5.x and calibrating your monitor for accurate colour reproduction. These procedures are essential for reliable screen editing and consistent printer output. If you have been wrestling with some of these issues and still find much of the literature confusing, then these pages should be of benefit. I have tried to avoid unnecessary theory and explanation, preferring a simple step by step presentation of settings that have worked for me.

1 Calibrate Monitor

Give your monitor at least 30 minutes to warm up, and use the lighting conditions in which you usually work.

Go to Control Panel and run the Adobe Gamma program. This dialogue box appears:



Set your monitor contrast to maximum and adjust the brightness control to make the alternating grey squares as dark as possible, while keeping the lower bar bright white. The squares should still be just visible.

Click the *Load...* button and open the correct profile for your monitor. If this profile is not there choose 'Adobe RGB (1998)' or 'Adobe Monitor Profile' if it already exists. The name of this profile then appears in the *Description* window. Now edit the description to read "Adobe Monitor Profile"; this will become the name of the the new profile you are about to produce.

In the *Phosphors* window, if you were able to use the correct monitor profile in the previous step, leave this window showing 'Custom'. Otherwise, choose 'P22-EBU' from the pull-down list. If you know you have a Trinitron monitor, however, then select 'Trinitron'.

The *Gamma* section has two views. If you see three boxes - Red, Green, Blue - Select *View Single Gamma Only* and adjust the slider to find the closest match between the inner and outer grey squares. It helps if you sit back and half close your eyes. You may also use the

colour sliders if you wish.

For *Desired* select 'Windows Default... 2.20'. Macintosh users might normally select 'Macintosh Default... 1.8'.

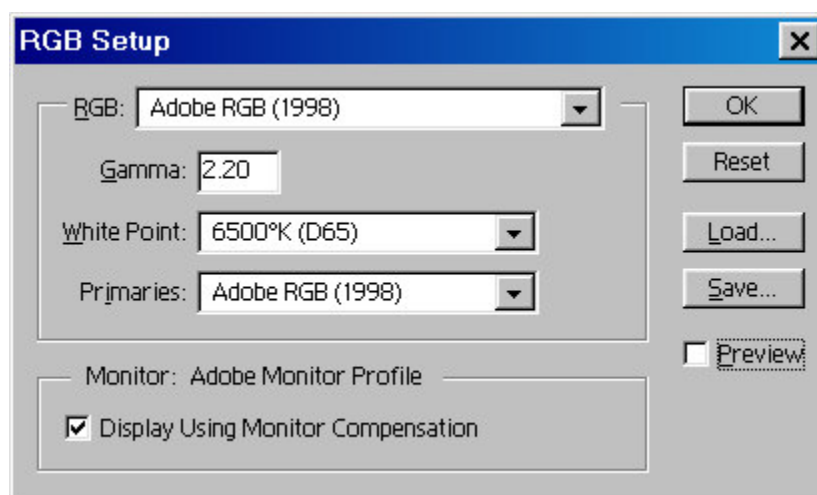
To set the *White Point* in °K, enter correct value for monitor, if known, or click *Measure...* and follow the on-screen instructions. The procedure is simple, but should be done in a darkened room. Preferably, you should select 6500° K (Daylight) from the pull down list and, if your monitor allows, set the monitor's colour temperature to 6500° K. This produces a slightly warm white point, similar to the white surface of printing paper.

The *Adjusted* window should read 'Same as Hardware'.

You are now ready to click OK and save your profile settings. Choose a filename such as 'Adobe Monitor Profile' to match the **Description** defined in step one.

2 RGB Setup

Run Photoshop and select: File > Color Settings > **RGB Setup**:

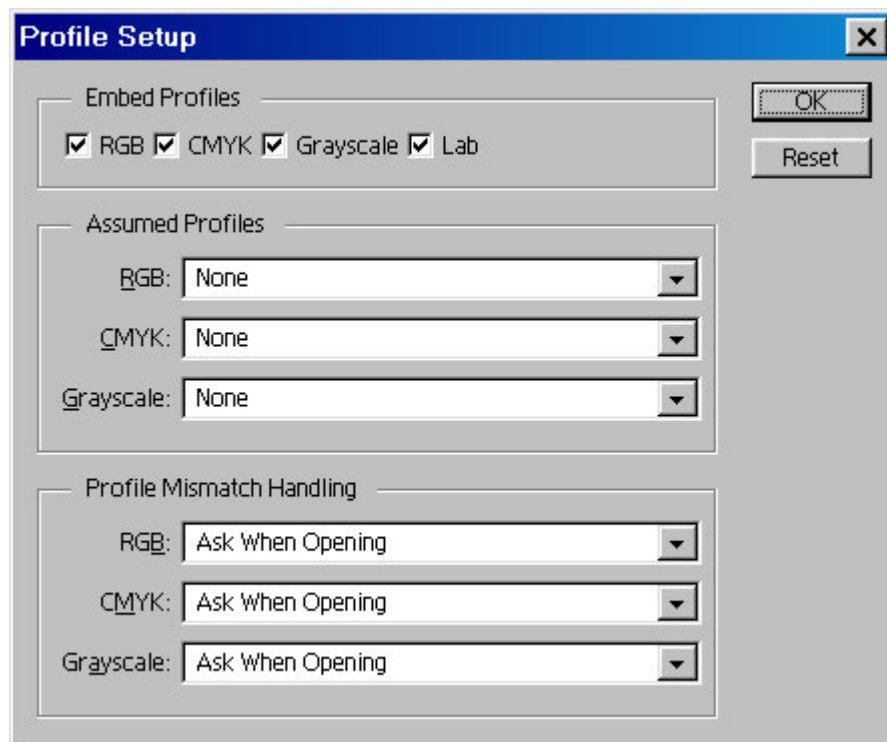


If the RGB window at the top of this dialogue shows sRGB or some other colour space, use the pull down list to select 'Adobe RGB'. Whilst sRGB has become widely accepted as the standard colour space, Adobe RGB apparently has a better colour gamut for our purposes - photographic quality inkjet printing. It is better to use sRGB when optimising images for the web.

Make sure that the Display Using Monitor Compensation tick box is checked. Press OK.

3 Profile Setup

Select: File > Color Settings > **Profile Setup:**



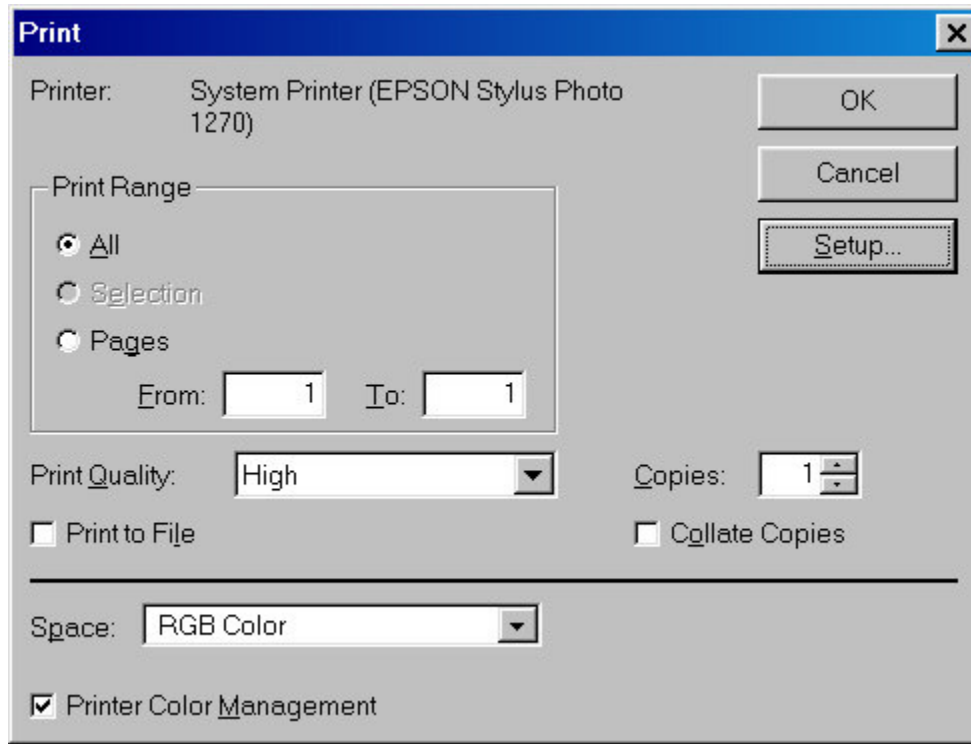
Use the pull down lists to enter the settings shown above. Notice that the *Profile Mismatch* section shows 'Ask When Opening'. As a result of these changes, older image files (if they have a different colour space) will invoke the Profile Mismatch dialogue box when opened for the first time. If this happens, click the *Convert* button and the image will be updated to your working colour space. Remember to save it, and you won't be bothered again.

Press OK. You should now be ready for accurate image editing.

4 Print Settings

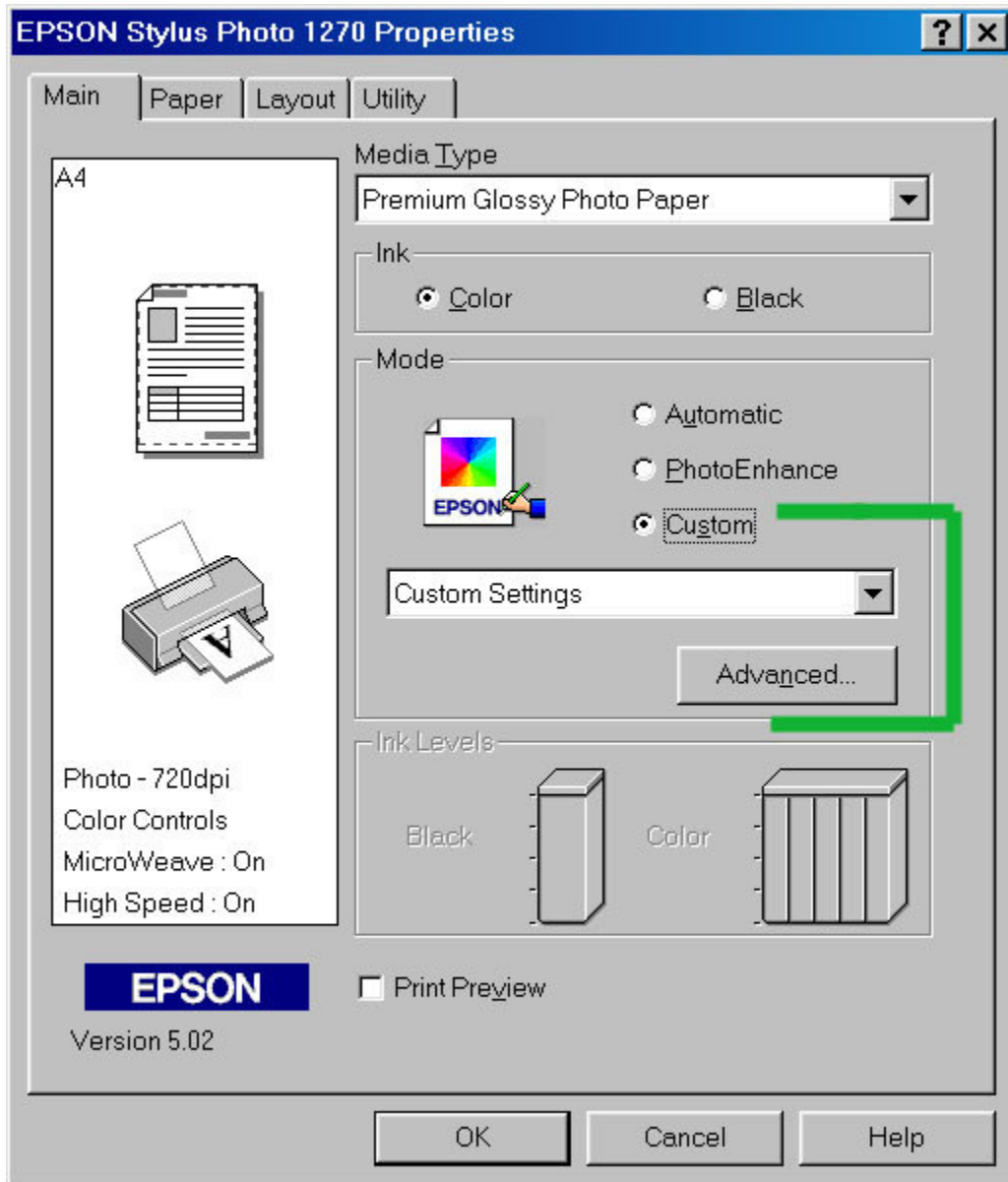
The range of available printers is so wide, I am limiting the discussion to the type of ink jet printer I have most experience of, namely the Epson Stylus Photo. The driver software for Epson printers is usually quite comprehensive, allowing for the fine tuning of colour and selection of paper type, as well as the use of custom made profiles - if you have them. Because we are focusing on the key elements of colour management, however, I shall only deal with the most relevant and useful options available. The assumption is that we are using Epson inks and papers.

Choosing 'Print' in Photoshop will invoke the following dialogue box:



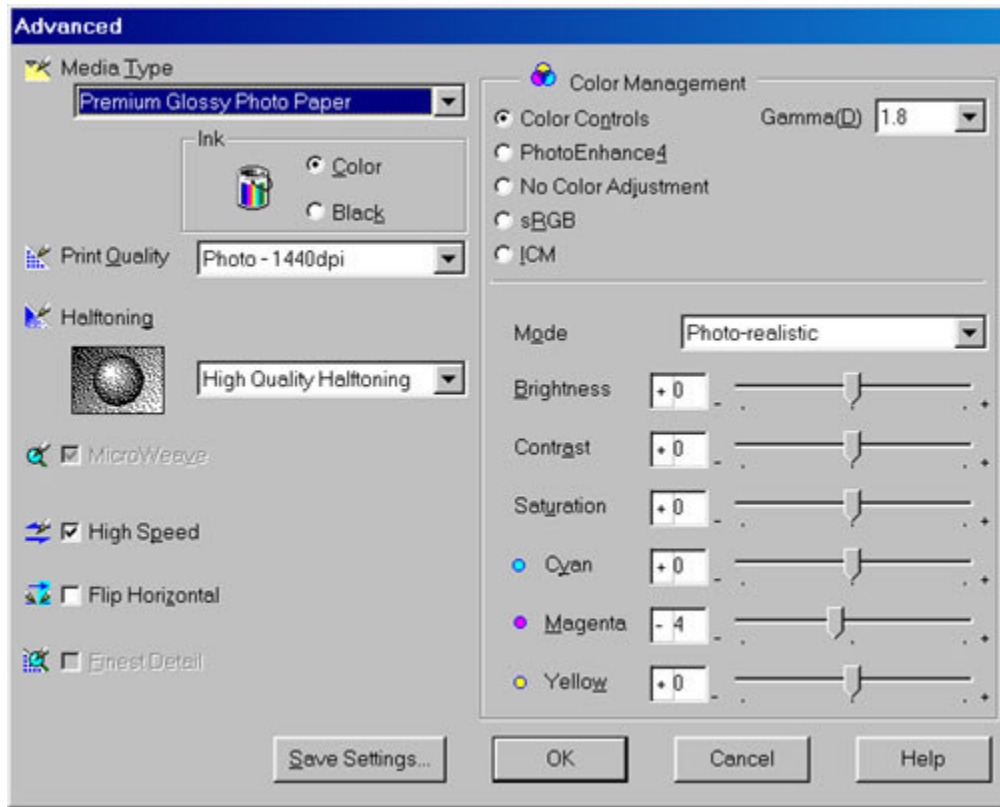
At the bottom of this dialogue, notice the *Printer Color Management* check box (PCM) and the *Space* (colour space) window above it. The settings shown here - RGB Color, PCM 'on' - make a good starting point. It is possible to choose a different colour space, but you are only likely to do that if a custom profile for a particular set of inks and paper is available. In that event you would set PCM 'off' and choose *No Color Adjustment* in the *Advanced* dialogue - mentioned below. Epson has now produced such an ICC profile for their [ColorLife](#) paper.

Before clicking OK on the above dialogue, you should select 'Setup' to reveal the 'Page Setup' box, then choose 'Properties'. An alternative route is File > Page Setup > Properties:



Make sure the *Main* tab is selected. The screenshots shown here are for the Epson Photo 1270; don't worry if yours differs in some respects, you should still have access to the important settings. One of the most useful features of this dialogue box is the *Custom* option. From here you can choose paper settings that you have predefined in the *Advanced...* dialogue box. The latter gives access to a whole range of colour management settings that may be saved for use with a particular paper type.

Clicking the *Advanced...* button takes you to this dialogue box - or hopefully, something similar:



If you haven't got a 1270/870 printer you may not have the gamma option shown in the top right corner. It allows you to lighten or darken midtones, changing the tonal 'key' as it were.

In the *Color Management* section of this dialogue there are five radio buttons. When the top one *Color Controls* is checked, it gains access to the Automatic and Photo-realistic modes, along with a set of slider adjustments. Photo-realistic is shown here. The Cyan, Magenta, and Yellow, sliders are of particular value in correcting colour casts. It is also worth trying ICM, although it does not give you access to the slider adjustments. The *No Color Adjustment* option is usually only used with custom profiles, if available.

It is only by experimenting with these options that you can decide which combination works best for you. Once you have decided on all the settings for a particular paper - including those on the left side of the dialogue box, don't forget to use the *Save Settings...* button and give the file a name. You will then be able to retrieve it next time from the *Custom* pull down list on the Properties dialogue.

To summarise: A good starting point for printing is to choose RGB colour space with PCM 'on', followed by a combination of *Advanced...* settings, including the use of *Color Controls*, or the ICM option. If you have also calibrated your system properly, this should at least get you into the right 'ball park'. It may help if you print this page for reference.

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