Fotospeed
Custom ICC Profile
TEST CHART PRINTING INSTRUCTIONS

Epson R2880/3800
Using
Photoshop CS3 & CS4 - Windows

INTRODUCTION

One of the prime concerns of many photographers when producing inkjet prints in the ability to reproduce on paper what is seen on screen. The main reason for this is the simple, but little known fact, that all printers interpret colour differently. Each one has a built-in generic profile that it uses to describe the colour it should produce. This is built in by the manufacturer and, in reality, is a 'guess' at what the printer should do. The guess is often wrong.

A profile is essentially a description (a label or tag) of the characteristics of a device. For instance, each time you take a picture with a digital camera it will embed a profile within each image file. This (input) profile will be either sRGB or Adobe RGB 1998. (Which one you use will be determined by your own particular working practice. If you are uncertain on this aspect of colour management it would probably be beneficial to read Fotospeed's associated document "An Introduction to Colour Management". A copy of this can be provided on request.) The embedded profile is a description of the colour within the image file, which is a known international standard.

In order to ensure that the original 'colour description' is carried through to the printer an output profile needs to be built for each paper matched to a specific inkjet printer and inkset. An output profile will deliver known, consistent colour to your inkjet printer. This is done by converting the colour values in the input profile accurately to the output profile ensuring that the original colour description is maintained; much like a translation between 2 languages.

It is important to appreciate that the creation and implementation of a paper/printer profile will have no bearing on the images you see on screen. To ensure you see accurate colour on screen it should be calibrated. Information on screen calibration is provided in the 'An Introduction to Colour Management' document.

Building an output profile is a simple process. However, like most things in life, particularly computer related, the process must be set up correctly. The first step is to print a test chart (on each paper that you want profiled) that will be used to create the profile. The test chart is the first building block to creating accurate printer output. It is essential that it is printed using the correct procedure. This is not difficult to do but, if you are unfamiliar with the procedure, it can easily be done incorrectly. If the test chart is printed incorrectly it will provide an incorrect reference which, in turn, will produce an incorrect output profile. Following the instructions will ensure that the test chart printing process is carried out correctly and you will be guaranteed consistent, accurate colour each and every time you create a print. This will increase your enjoyment as well as saving time and money in reduced waste of paper, ink and time.

In order for an output profile to work correctly it is essential that the colour management (Color Control) within the printer is switched off. If left on it will conflict with your custom profile resulting in inaccurate colour reproduction. There are many different printers on the market today and many of them use different methods of switching off the colour management within them. Not having experience of them all, the specific methods they all use are not known and therefore specific instructions cannot be provided for them. However, we do have experience of some and can therefore give specific instruction on how to set those printers up. Fortunately, these are the most commonly used at this time.

It is your responsibility to ensure that the colour management is disabled.

In order for an output profile to work it must be able to convert from an input profile, as mentioned earlier. In order for an input profile to be available you must use a graphics program that is capable of colour management. The best and most used by digital photographers are Adobe Photoshop or Adobe Elements. Therefore the procedure that will be described for producing the output profile will be using these applications. Both Windows and Mac operating systems will be covered

As mentioned, it is essential that the test charts are printed correctly so please ensure that you follow the instructions precisely. If you provide an accurate test chart then you will be given an accurate profile.

Remember that garbage in = garbage out.

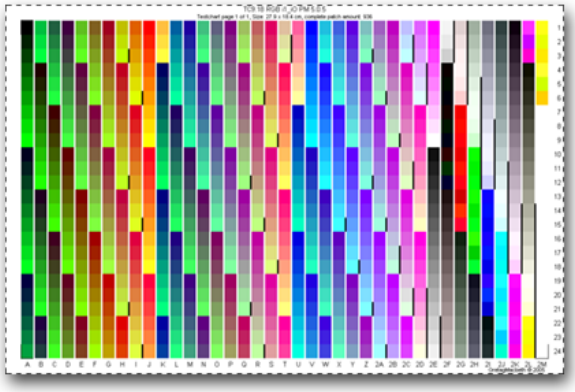
If you are new to profiling and colour management it is recommended that you read the accompanying document 'Colour Management in Photoshop & Elements' It gives a basic introduction to profiling with a recommendation on setting up your colour policies to enable accurate colour management.

Print the test chart on each paper that you want profiled, complete the Booking Form and post both chart(s) and Booking Form to the address shown at the bottom of the Booking Form.

PLEASE READ THE INSTRUCTIONS CAREFULLY

Preparation

Carry out a nozzle-check to ensure that all nozzles are firing correctly and there are no gaps in the printed pattern. Clean, if necessary.



Open Photoshop.

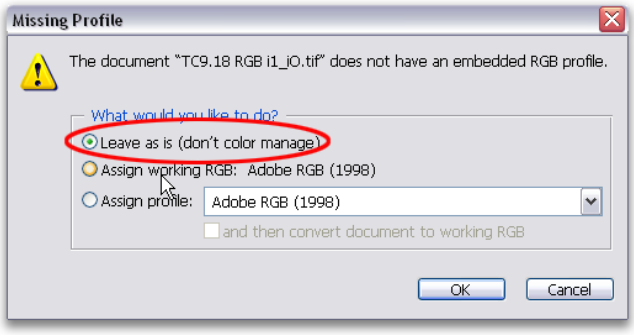
Open the test chart TC9.18 RGBi1_IO.

Note: The chart cannot be printed using Adobe Lightroom. See below.

If your Photoshop 'Color Policies' are set up corretly a 'Missing Profile' dialog box will appear on screen.

Select 'Leave as is (Don't color manage)'.

If this dialog box does not appear, close the file down without saving any changes and set your color policies. If you do not know how to do that read the accompanying 'Colour Management in Photoshop & Elements' document. Once your color policies are set up you can re-open the Test Chart.



The image will appear on screen in landsape format, as shown above. You now have 2 options: either rotate the image 90° into portrait format or leave it as it is and ensure your printer is set to print landscape format. If you leave the chart in landscape format then forget to change your printer setting (which will be portrait format by default) you will only print half of the the chart. The full chart is required in order to be able to measure all the colour patches.

DO NOT CHANGE THE PHYSICAL SIZE OF THE IMAGE

It should be 27.24cm x 18cm and will fit on an A4 sheet of paper.

Adobe Lightroom

The Test Chart cannot be printed using Adobe Lightroom. It is not possible to open a file within Lightroom without a profile being automatically embedded. It is essential that a profile is not embedded into the test chart, therefore Lightroom cannot be used. It can, however, be used to print your images once a profile has been created and installed onto your computer. Instructions are detailed on Page 5.

Select File > Print.

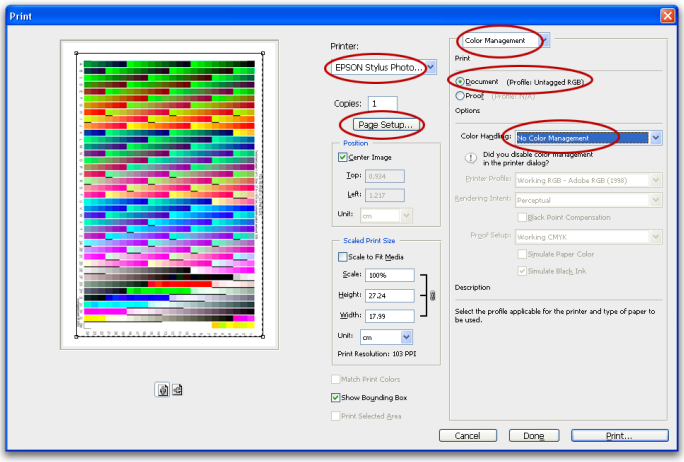
Ensure that Color Management is selected.

The 'Document' should be labelled as Untagged RGB.

In the 'Color Handling' drop-down box select No Color Management.

Ensure the correct printer is selected, if you use more than one.

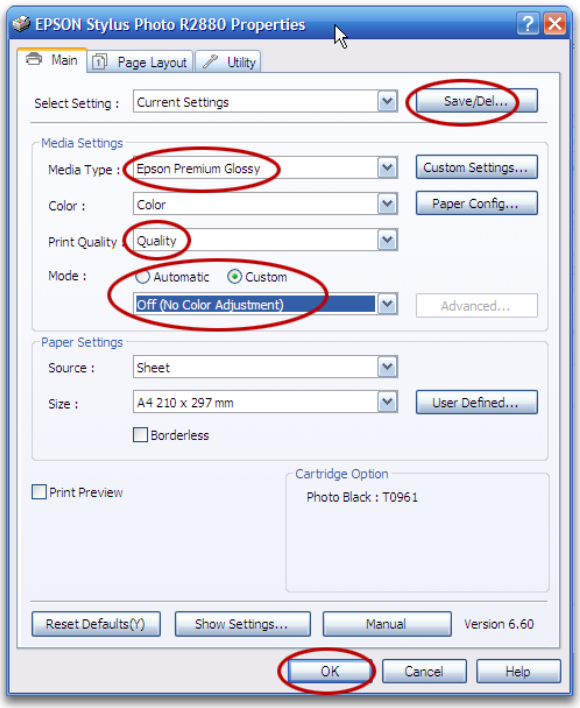
Select Page Setup.



Once you have clicked the 'Page Setup' button in the File > Print page in Photoshop you will be taken to the Properties dialog box.

Ensure that you set an appropriate 'Media Type'.

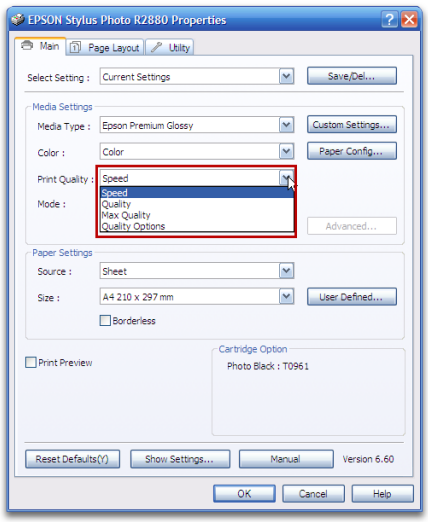
In the 'Print Quality' area select Quality from the drop-down menu.

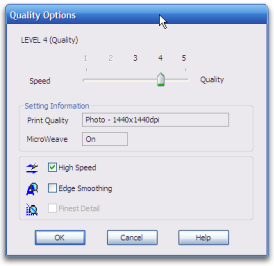


You can, if you wish, select 'Quality Options' rather than 'Quality' and set your own parameters. Move the slider within the limits offered to set your own options. However, it is recommended that you do not set anything lower than 1440dpi if you want good quality.

Once you have set your 'Quality' requirements you will be returned to the 'Main' tab of the Properties dialog box. Select Custom then Off (No Color Adjustment) in the 'Mode' area.

Click the 'Save/Del' button and save this setting.



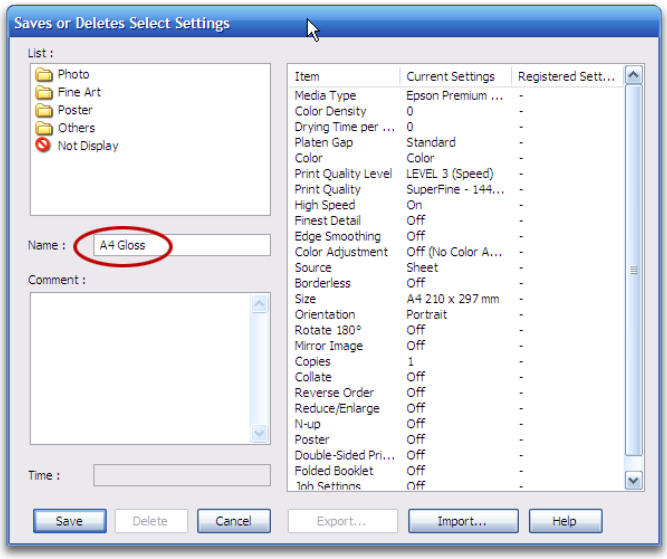


In the 'Name' area of the 'Saves or Deletes Select Settings' dialog box type a suitable description for this setting. All the parameters that are taken into consideration are shown on the right hand side of the dialog box. Note that it shows the print quality option as well as the paper size and orientation as well as the color adjustment.

When you print using different parameters, perhaps on a different size of paper or in landscape format then those parameters will need to be set and saved.

Click the Save button at the bottom left and you will be returned to the previous dialog box.

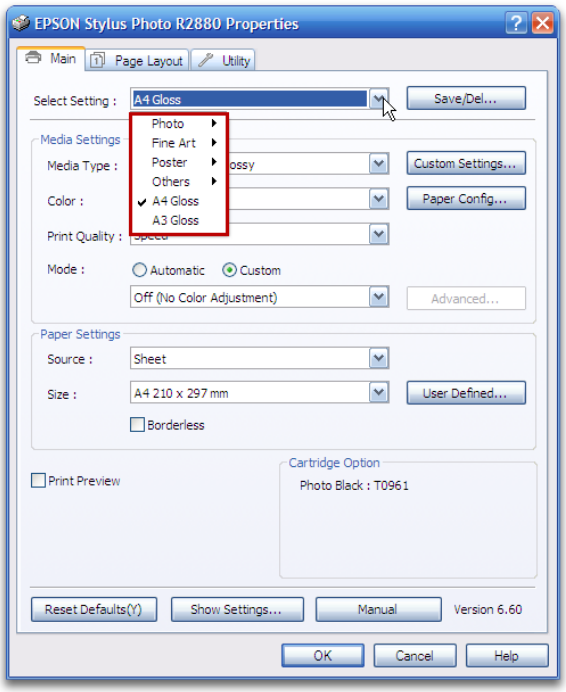
Click OK.



The next time you print there will be no need to go through the process you did previously.

Click the 'Select Setting' drop-down box and all the possible options will be shown, including any saved settings you made yourself. Shown here are settings for A4 Gloss and A3 Gloss. Select which one you require and all your previously set parameters will be in place.

Click OK and carry on printing.



Summary

Your test chart will probably look oversaturated and dark. This is normal. You have printed it without any colour controls being applied either in Photoshop or the printer.

To confirm that you have printed the chart correctly, ask yourself the following questions. If you do not answer yes to each one then you have done something incorrect.

- Did I open the chart as an Untagged RGB file?
- Did I leave it as an Untagged RGB file? (Leave as is - Don't color manage)
- Did I switch off the colour management controls in the printer driver? (No color controls)
- Do the colours on the output chart look the same as they do on screen, other than being darker and oversaturated? (If they do look different then it could be that one or more of your nozzles is not firing correctly.

Remember, an incorrect test chart will result in an incorrect profile.

Once your test chart is printed on each paper that your want profiled, complete the Booking Form and both both chart(s) and Booking Form, in a stiffened envelope, to:

Fotospeed
Unit 6b
Park Lane Industrial Estate
Corsham
Wiltshire
SN13 9LG

It is recommended that you put a piece of copy paper between any charts printed on gloss and lustre papers to reduce the possibility of them sticking together in transit. Resin coated papers should be left for a couple of hours to air dry fully before sending them. The card stiffened envelope will ensure that the chart(s) arrive in good condition. The postman has been known to fold unstiffened envelopes which renders the charts unusable.

Please use the Booking For all your profiling requirements, whether your have submitted them in the past or not. They provide the information needed to label the profile without having to resort to searching through files and they are used for filing purposes anyway. Additionally, using a Booking Form each time ensures that we have current contact information.

Your profile will be named using the following convention:

1FS_PaperName_PrinterName&Inktype_YourSurname&Initial.

When the profile is returned to you installation instructions will be provided. However, for information purposes your profiles are installed and stored in:

Windows: C:Windows/System32/Spool/Drivers/Color

Profiles are listed numeric-alphabetically. Using 1FS (Fotospeed) at the beginning of each profile ensure that all your profiles (if you have more than one) will be listed in one group together.

You will receive your profile(s) with installation instructions and an Evaluation Print which can be used to check profile accuracy. Install and use the profile(s) in accordance with the instructions provided.

If you have any problems or queries please either:

email tech@fotospeed.com

or

phone 01249 714555 and select the Technical option when prompted.

Using The Profile

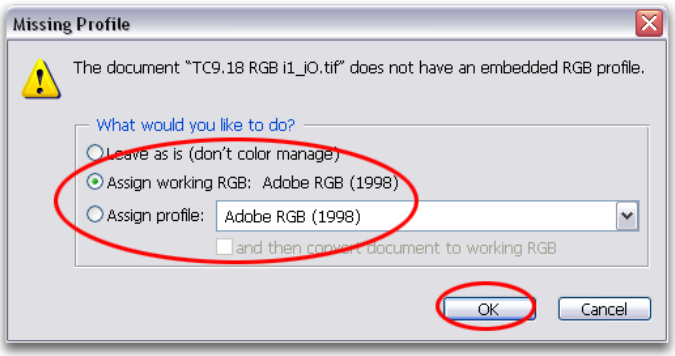
For the colour management process to work it needs to have a 'source' profile and a 'destination profile'. This is so the colour management module can convert from one colour space to the other. The source profile is in your image file and the destination profile has been built for you by Fotospeed. You should have installed that onto your computer before opening Photoshop.

The procedure to be followed when printing your pictures utilising a profile is very similar to the procedure you used when printing the test chart, with only a couple of significant differences.

First, you must ensure that your image file has an embedded profile. Where it was essential that the test chart did not have an embedded profile it is now essential that your image file does.

Open an image file.The 'Calibration Print' which was sent with your profile would be a good option.

If you are importing a file that does not have an embedded profile, your previously set up Color Policies will ensure that it will be trapped, giving your the opportunity to embed one. The Missing Profile dialog box will open and you can then apply your preferred setting. Once embedded, a profile will always be part of the file, unless removed intentionally.



Once you click OK the file will open.

As previously select File > Print.

Ensure the correct printer is selected, if you use more than one.

The second significant procedural difference is applied on this dialog box in that you will apply a paper/printer profile.

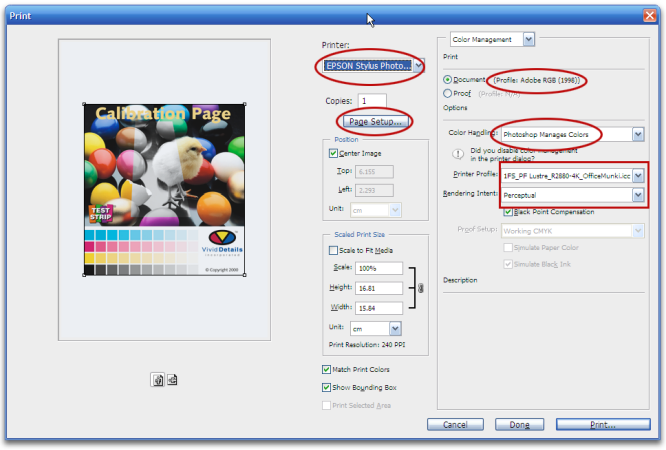
The 'Document' will show the embedded profile.

In the 'Color Handling' to Photoshop Manages Colors.

Click the arrow at the right of the 'Printer Profile' and select the profile from the list that will show.

Select Perceptual as the Rendering Intent if it is not already set as the default.

Click Page Setup.



You have now set a 'source' profile and a 'destination profile. Your colour management is now in place. The procedure from this point onwards is exactly the same as it was when you printed the test chart; ensuring that you switch off the colour controls in the printer. If you saved any settings previously you can now just select the appropriate setting by clicking the 'Select Setting' drop-down box at the top of the 'Main' tab of the Properties dialog box.. Clicking 'Custom' in the Properties dialog box will display all saved options. If you did not save any settings just refer to the setting up instructions on the pages 3 and 4.

Printing from Adobe Lightroom

To print from Adobe Lightroom go to the Print module. The options to seolect are down the right hand side of the screen, Towards the bottom of that is is the 'Color Management' tab. If you have not printed from Lightroom previously with colour management applied the default option will show as 'Managed by Printer'. Clicking the arrow on the right will show a second option - 'Other'. If Lightroom is able to locate your profiles folder then they will be listed above 'Other'. If nothing else is listed you will need to 'activate' them to make them available to Lightroom. Click 'Other' and the contents of your Profiles folder will be displayed. On the left hand side of this list will be a column of boxes. Tick the profiles you want Lightroom to have access to (all your paper profiles) then click OK at the bottom of the 'Choose Profiles' box. The profiles will now be accessible from the Color management tab. This process only needs to be done once. However, each time you install a new profile on your system you will need to go through this procedure again to make the profile accessible to Lightroom.