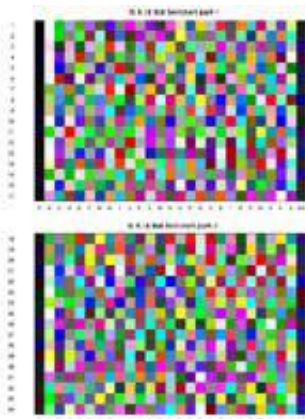


## ICC Printer Profiles

### Preparation

These notes will help you to set up your image editing/printing application, and your printer, to print the test charts needed to create your profile.



As well as this document you should have the two TIFF images shown on the left. These are the test charts that you will print and send to us.

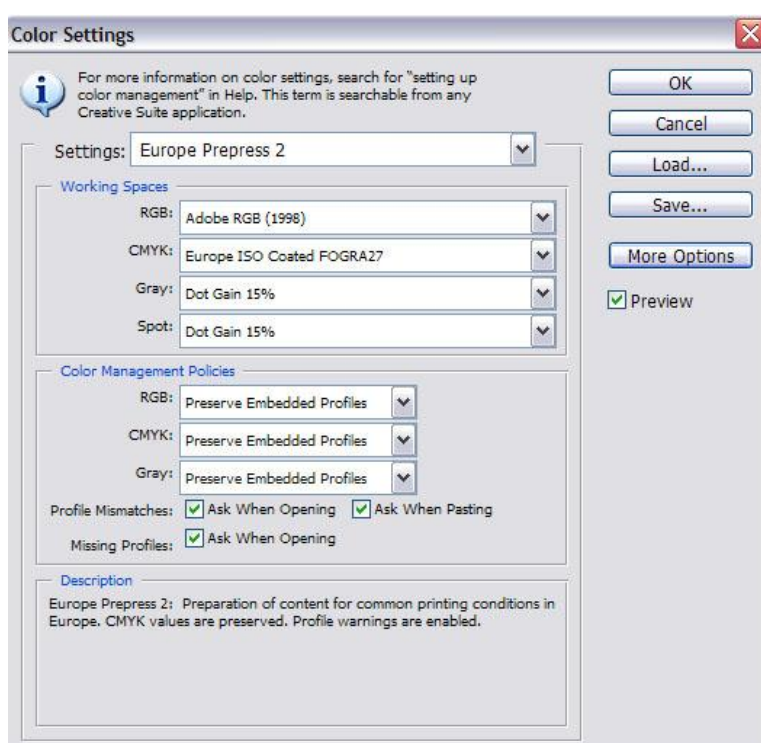
Before you print the charts, make sure that your printer is set up correctly. Use the maintenance utility for the printer to ensure that all the nozzles are working correctly and that they are properly aligned.

Remember that the purpose of a printer profile is to optimise the print quality for one printer, using one combination of print settings, one type of ink and one type of paper. If you change any of these then the profile will give you less than optimum results. If you use different papers you should use a unique profile for each.

It is essential that you print the test charts with all colour management turned off, both in your image editing software and in your printer. Follow this procedure carefully, consulting the relevant user manuals and Help files if you are not using the same software and hardware that are described here. In the following instructions, text shown in ***bold italic*** represents the wording you should see on your computer.

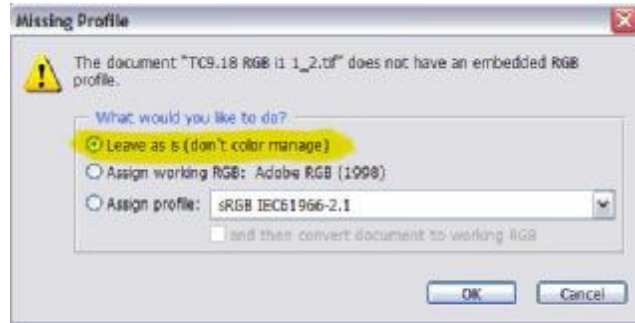
### Setting up and printing the charts in Photoshop

These notes are based on Photoshop CS2, with differences for CS3/4 and Photoshop Elements (PSE) noted in the text. Before you begin, it is advisable to set up the colour settings in Photoshop. In CS2/3/4 these will be found in ***Edit>Color Settings***. It is generally recommended that photographers

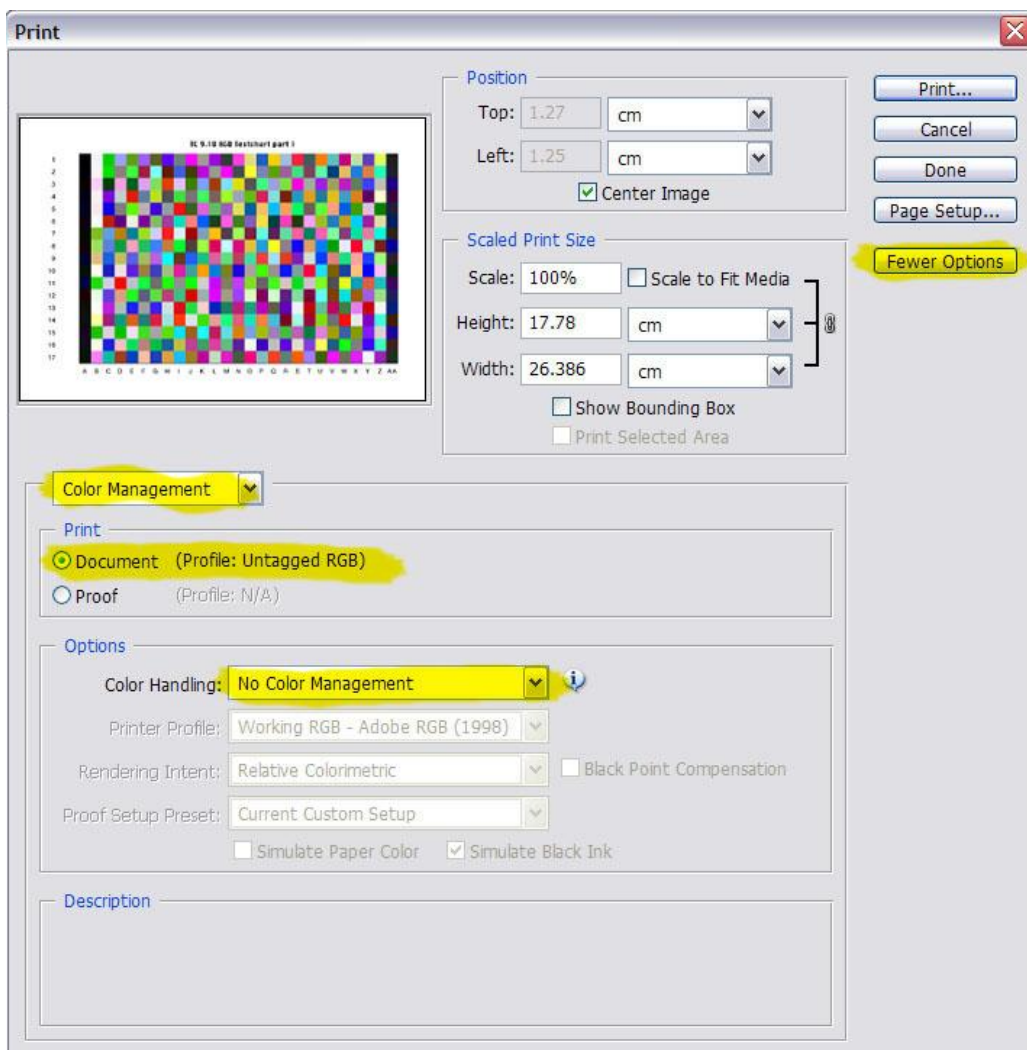


use the settings shown below. In PSE prior to version 6, under **Edit>Color Settings** select **Full color management - optimized for Print**. In PSE6/7/8, select **Allow Me to Choose**.

Launch Photoshop and open one of the TIFF files. If your colour settings are as described above, you will get a **Missing Profile** message as below. Select **Leave as is (don't color manage)**. Once you have opened the file it is important that you do not modify it in any way before you print it. Don't adjust the colour and don't scale it. Each chart should be printed at 100% on an A4 sheet.



From the **File** menu, select **Print with preview (Print)** and in the **Print** dialog box, click on the **More Options** button. Select **Colour Management** from the drop-down menu as below. In CS3/4, the **Print** box will show all relevant options, but in different positions.



In the **Print** box, the **Document** button should be selected, and in the **Options** box, select **No Color Management** from the **Color Handling** menu.

In PSE prior to version 6, select **Print With Preview** from the **Edit** menu, and tick **Show More Options**. The **Document Source Profile** should show **Untagged RGB**. In the **Print Space** box select **Same as Source** to print without colour management. In PSE6/7, select **Print** from the **File** menu, and select **No Color Management** in the **Color Handling** pull-down. Check that the **Source Space** shows **Untagged RGB** - this is purely for information and cannot be changed .

In PSE8, select **Print** from the **File** menu, which opens the print dialog box. First select your printer, then under **Select Print Size** select **Actual Size (27.45cm x 18.84cm)**. Then click **More Options** and **Color Management**. Under **Color Handling** select **No Color Management**. Check that the **Image Space** shows **Untagged RGB** - this is purely for information and cannot be changed. Finally click **Printer Preferences** to set up your printer as below.

#### **Important note for Snow Leopard/CS4 users.**

There is a problem in printing “Untagged” images from CS4 under Snow Leopard. If you have no suitable application/environment, you can find a workaround for Snow Leopard at

<http://www.luminous-landscape.com/tutorials/solving.shtml>

### **Setting up and printing the charts in Paint Shop Pro Photo X2**

The colour management in PSP has changed (for the better) over successive versions, but is still probably less obvious than in Photoshop. For the current version, PSP Photo X2, select **File>Color Management>Color Management** and uncheck the **Enable Color Management** box. You will use this setting for printing the test charts, but for printing with your custom profile you will need to check this box.

Then select **File>Print** and make sure that **Scale** is set to **100.000** and that **Center On Page** is selected so that the charts are printed actual size with equal borders. Finally, select your printer, click **Properties** and set up your printer as below.

### **Setting up and printing the charts in Canon Digital Photo Professional**

Canon’s DPP, being part of the Canon camera package, is very widely available and can easily be used to print the test charts. Open DPP, navigate to the folder containing the charts and select one of the TIFF images. Select **File>Print with detailed setting** to open the print dialog box. On the **Image** tab, manually set the **Width** to **274.5mm** which will automatically set the **Height** . Click the appropriate **Image layout** to centre the image on the page.

On the **Printer** tab, click **CMS settings** and under **Printing profile** select **None**. Finally, select your printer, click **Properties** and set up the printer as below.

### **Setting up the printer**

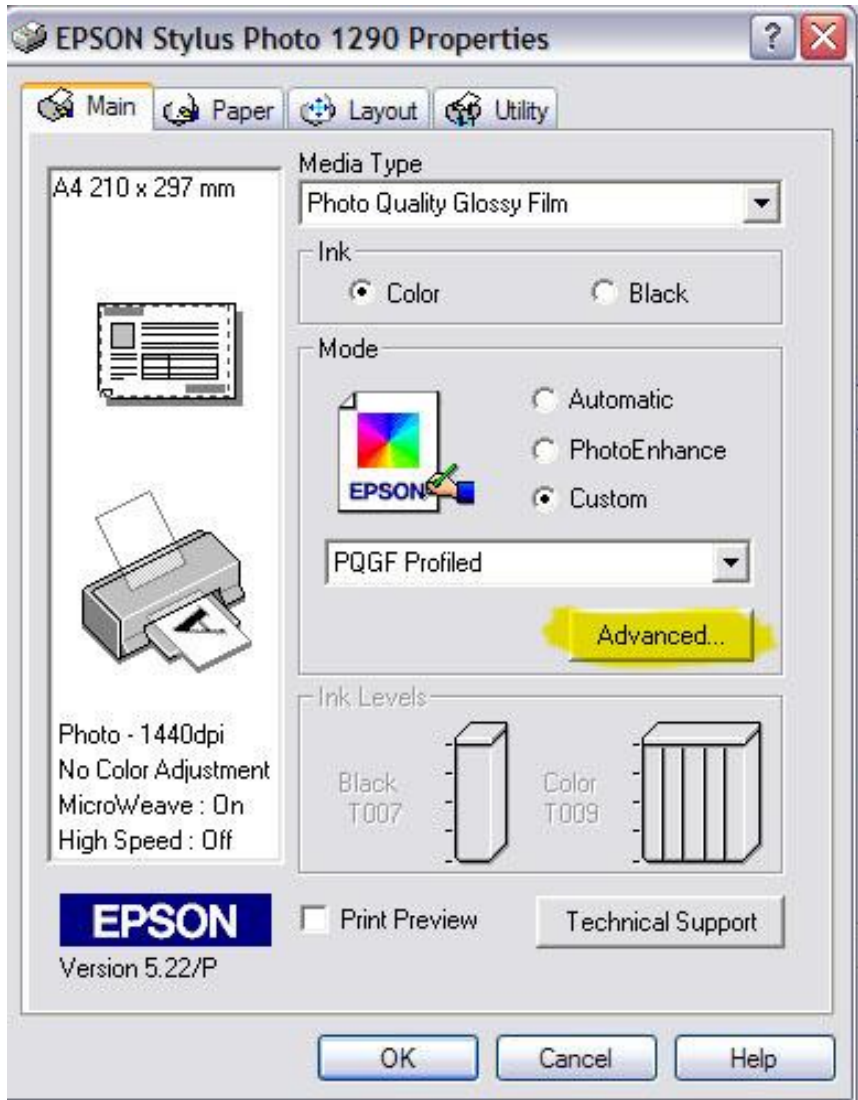
The first step in setting up the printer is to choose the appropriate paper type and printer resolution in the printer driver. These will depend on the type of paper that you are using - remember that the profile is only valid for this paper, printed with the settings that you choose now.

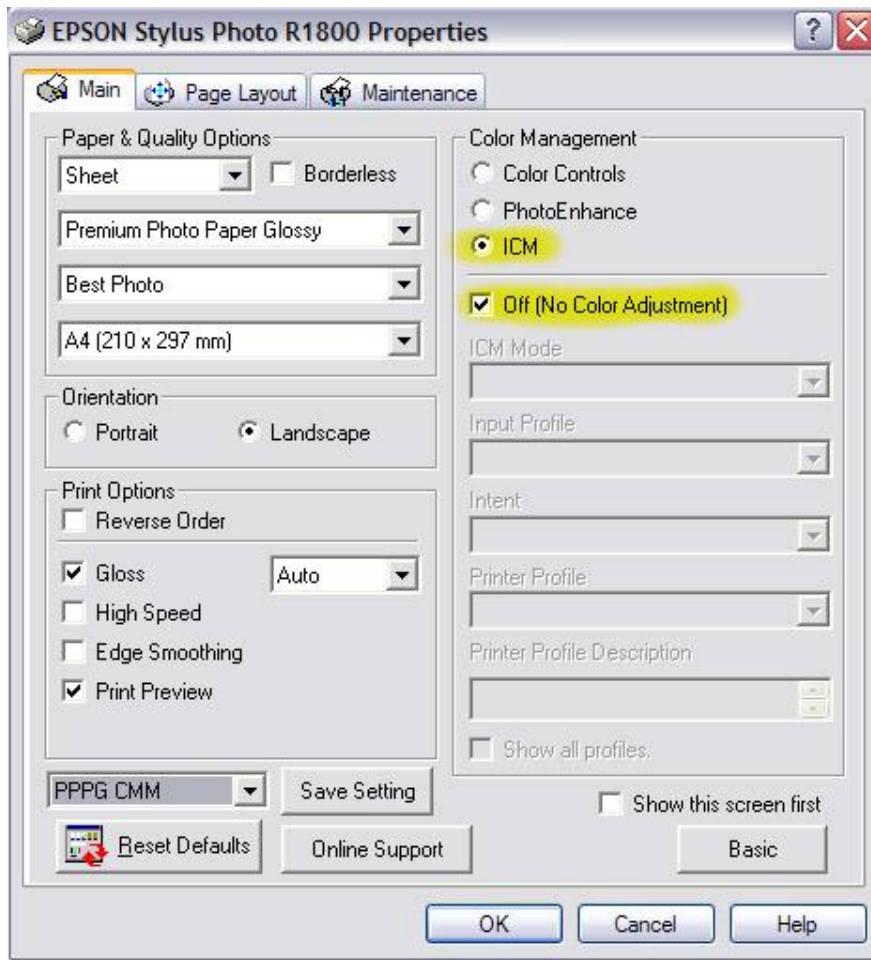
It is essential that you turn off all colour management in the printer settings. In the **Epson** control panel below, this will be found by clicking the **Advanced** button which will give you another set of options.

In this second window you can select the correct paper and resolution. Under **Color Management** select **No Color Adjustment**.

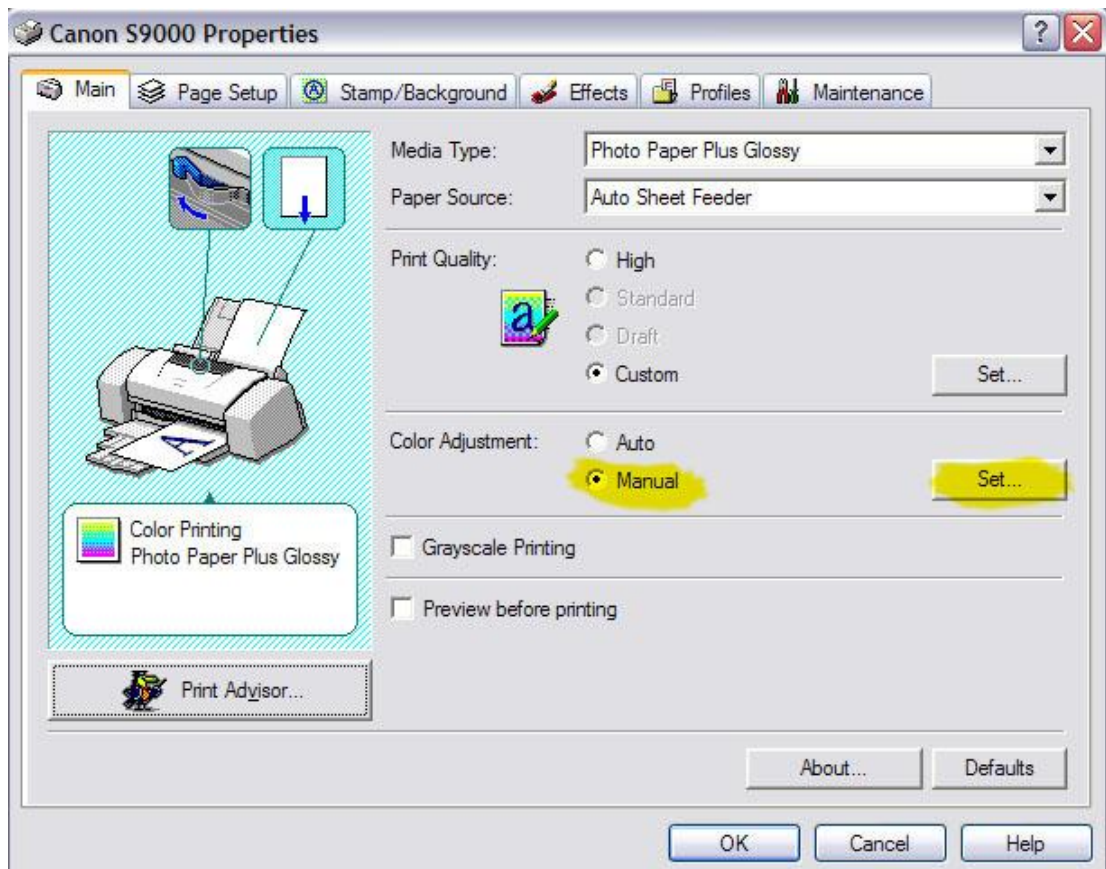
It is best to save the settings with a descriptive name so that you can recall them easily when you come to print in future. These are the settings that you will use every time you print using your custom profile with this paper.

The later Epson printer drivers are, surprisingly, somewhat less intuitive. For example, in the R1800 driver it is necessary to select **ICM** in the **Advanced** settings before the **Off [No Color Adjustment]** option becomes available. (See below)

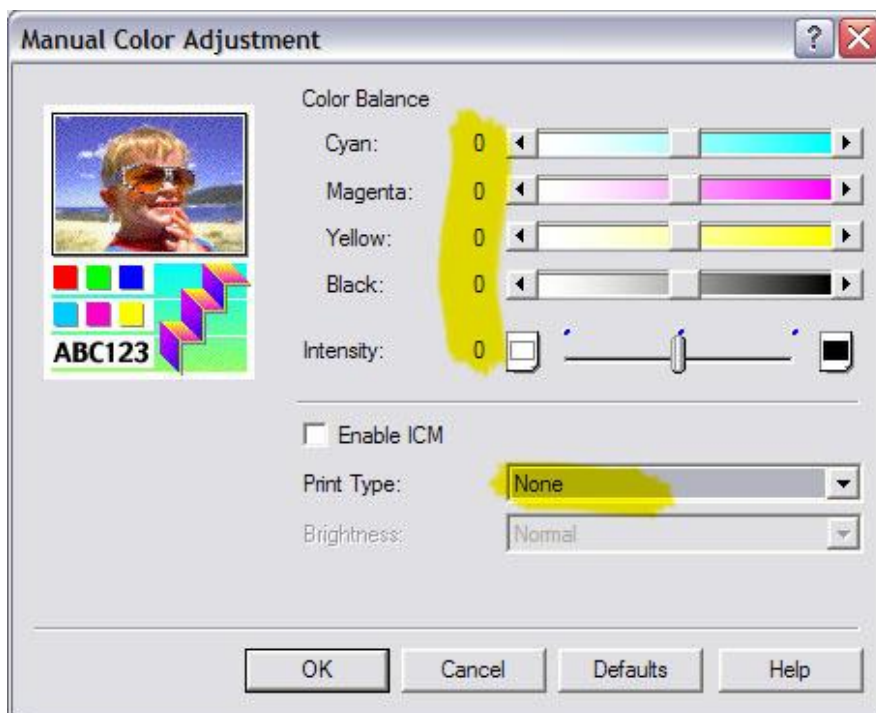




Other print drivers will be different but the objective is the same - to disable any colour management or adjustment in the printer driver. Sometimes the required settings are a bit less obvious. For example, in the **Canon** driver shown below, you will need to select **Manual** in the **Color Adjustment** box.



This will open up other options as shown. Here, all the sliders should be set to zero to avoid any manual adjustment. Not quite so obvious is the **Print Type** box. This must be set to **None** otherwise the print driver will apply its own intelligence to the colour adjustment, depending on the nature of the image. This would destroy the consistency that we are trying to ensure!



For **Hewlett Packard** printers, make sure that you choose **Application Managed Color** from the colour management dialog.

Having set up the printer you are ready to print the chart. Load the A4 paper and print as usual. *Remember, it is important to print the image at 100% and to ensure that the black border is included.*

Now open the second TIFF and repeat the process exactly as before. Your image editing software should have remembered all of your settings, but don't leave anything to chance. Check all the settings again before you print.

***It is essential that the charts are printed without colour management. If you have any doubts about disabling all colour management, then e-mail us with your printer type for detailed instructions.***

### After you have printed the charts

You will see, at the top of each chart, in the "title bar" a row of nine colour patches. These are not used for profiling but are provided so that you can verify that the two parts have been printed with the same colour settings. These patches should look *identical* on each of the charts. If the colours look different, it is almost certain that you have printed one of the charts incorrectly. These charts cannot be used for profiling.

When you are happy that the charts are correct, leave them to dry for at least 12 hours. In this time be very careful not to scratch the surface or damage it in any way. Even papers that claim to be "instant drying" can be vulnerable when first printed, and any blemishes in the printed charts can affect the accuracy of the profile.

It's worth taking a good look at the printed charts because they show what your printer/ink/paper combination is capable of. The 918 squares cover the complete range of colours, including fully saturated red, green and blue. It is important to realise that printer profiling cannot increase the range of colours that you can print. What it will do is to ensure that the colours that you can print are reproduced accurately, that transitions between colours are smooth, and that greys are genuinely grey.

If you are sending more than one set of charts be sure to identify them clearly. Any marking must be done near the edges of the prints, outside the black border. **Do not mark the prints, or apply adhesive labels, on the back within the printed area.**

When the prints are completely dry, put them into a board-backed A4 envelope. Print and complete the Order Form included in this document and enclose it with your printed charts. Post to the address given on the Order Form. If you feel the need to send your charts by Recorded Delivery or Special Delivery, please notify us in advance. If the "front office" is unmanned for a few minutes when the post arrives, there will be nobody to sign for the delivery, and *your order will be delayed by at least one working day.*

## **Payment methods and delivery**

You can if you wish, enclose a cheque or Postal Order with your prints. Alternatively you can pay using a credit or debit card through PayPal. If you choose this method, we will send you an e-mail invoice via PayPal when we receive your order. By clicking on a link in the invoice you can pay securely using any recognised credit or debit card.

We aim to complete the profiles within 24 hours of receiving cleared payment. Delivery is by e-mail so it is important that you give us your correct e-mail address. The e-mail delivery will include instructions for saving and using your profile. If e-mail is not convenient, profiles can be supplied on CD for a small extra charge.

## **Important note for Adobe Lightroom and Apple Aperture users**

The colour handling in Adobe Lightroom and Aperture is different from that in Photoshop. While both applications support colour management in printing, it is not possible (as far as we know) to print the test charts correctly from these applications. This is because each will assume an embedded profile when it loads the untagged TIFF files. This assumption will modify the colour values in the file, destroying the accuracy of the subsequent measurements.

As stated above, both Lightroom and Aperture can make use of custom profiles, but to get a satisfactory profile you will need to print the test charts from an application like Photoshop that will import the files without modification. If you are in any doubt, please contact us for advice.