

Why Don't my Prints Look the Same as my Screen?

Most modern display screens and printers should make a reasonable job of colour accuracy 'straight out of the box'. If you are getting serious errors then it is probable that either your display or printer (or both!) is not set up correctly. The sections on 'Basic Setup' below should help you.

Even if your setup is correct it is likely that you will see some. This may not be a problem with brightly coloured images but look closely at skin tones and neutral greys. If you are not happy with these you will need to consider profiling your equipment as described in the 'Advanced' sections.

The notes below are based on the use of an Epson printer, an ATI graphics card and Photoshop. Other equipment may be slightly different but the principles are the same.

1. DISPLAYS

1.1. Basic Set Up

1.1.1. Manufacturers usually arrange their displays with a default setting that looks good in the shop – bright and contrasty. While this may be fine for office work it is no good for photography where we want to see subtle shades and detail in both the shadows and the highlights.

Look for a button on your display labelled 'mode' or 'colour space' (it may be part of a general menu). Try to set it to 'sRGB' if that is an option, otherwise something like 'standard' or 'normal'. The screen will look duller than before but don't worry, you will soon get used to it.

1.1.2. If you have a CRT display try using 'Adobe Gamma', which you will find in the Control Panel. This will lead you through setting the brightness and contrast correctly. Do not use it for an LCD display, though.

1.1.3. Download the file 'target.jpg'. Try adjusting your brightness and contrast settings until you can see a smooth transition from black to white in the vertical band on the right.

1.2. Advanced Set Up

1.2.1. All displays differ slightly and the only way to ensure complete accuracy is to have it calibrated. Calibration produces a 'profile' (a data file) that tells the display driver software exactly how to reproduce each shade.

1.2.2. You can experiment with profiles yourself, though there is little chance that you will get it right. You may find an 'ATI' logo in the system tray, which will give you access to controls that change the appearance of the display. Adjust the settings until a standard image (e.g. target.jpg or a known image of your own) looks right. You will probably find it impossible to get all colours looking right at the same time.

1.2.3. The only way to calibrate your display correctly is to use a proper hardware calibration tool that measures a whole series of colour patches and calculates the correction needed for each. Such tools can be purchased but cost £200+ and results are, in my experience, 'variable'.

The best way is to get the screen calibrated professionally. While CRTs may need regular calibration, as their colours tend to drift over time, LCDs are quite stable and only need it doing once. A local service is provided by Derek Wells at SD Services in

High Wycombe – see www.sigma-d.nildram.co.uk. The current cost is £25 plus travelling expenses.

2. PRINTERS

2.1. Basic Set Up

2.1.1. Different paper and ink combinations produce different results so always start by using the printer manufacturer's paper and ink. This may be the expensive option but is the only way you can be sure of a standardised result. Only when you are satisfied with this should you start experimenting with other papers and inks.

2.1.2. Good results will only be obtained with good paper- normally designated 'photo paper'. For best results go for a 'premium' paper, which is usually whiter, brighter, glossier and heavier.

2.1.3. In Photoshop you now need to choose 'printer color management'. The way to do this varies between versions:

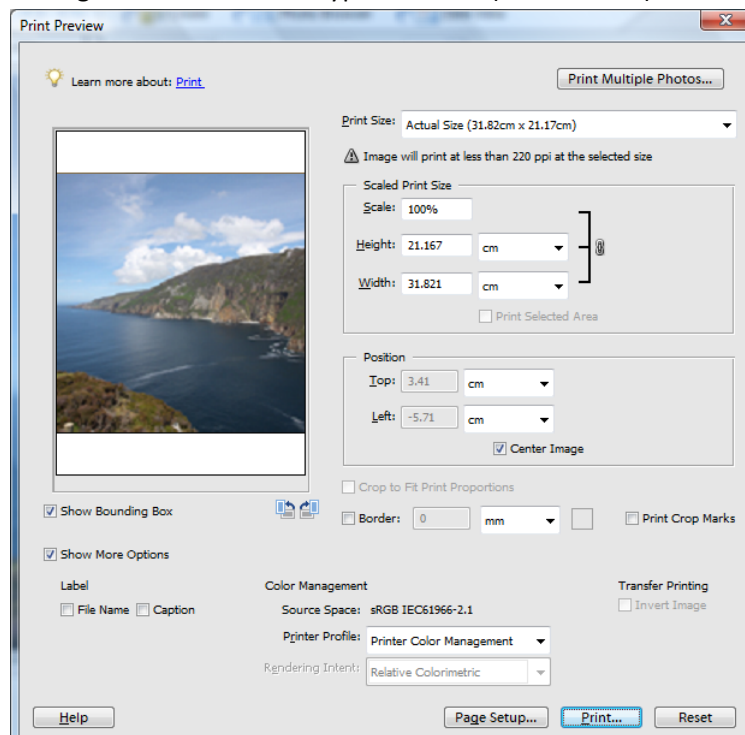
Select File > Print (or Print with Preview if available)

Select 'Show more options' (PS v7, CS or PSE v3,4 or 5 only)

If there is a box for 'Source', select 'Document'

In 'Color Management/Printer Profile', select 'Printer Color Management' or 'Let Printer Determine Colors'.

The figure below shows a typical screen (Elements v4)



2.1.4. Now select 'Print' and 'Properties' (or 'Preferences')

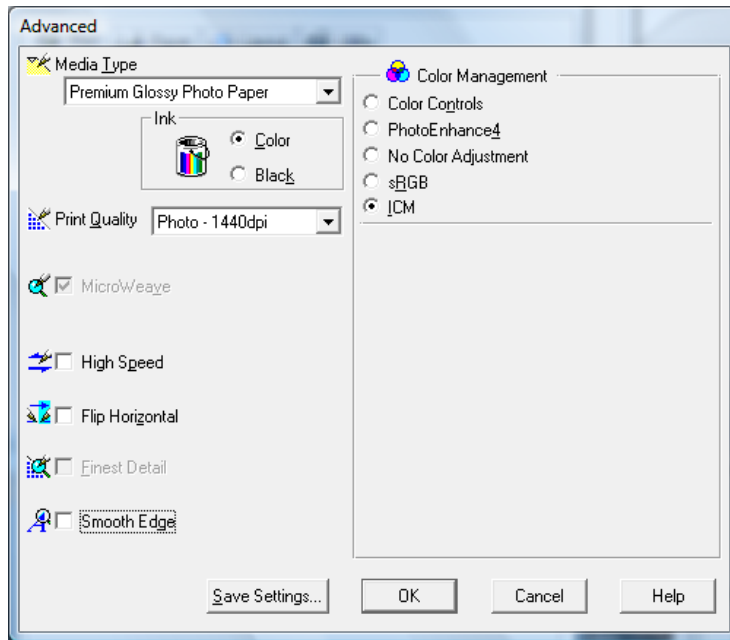
Select 'Custom' and 'Advanced'

Choose the correct paper type, set the print quality to 1440dpi (you won't notice any difference if you go higher) and untick 'High Speed'.

Under 'Color Management' select ICM.

You can now 'save settings' so that you can call up the same settings in future with a single click.

Click 'OK' three times to print.



2.2. Advanced Set Up

2.2.1. As with displays, all printers vary and an individual profile should produce better results. Note that a profile is only valid for a particular printer/paper/ink combination. If you use several different papers you will need several different profiles.

2.2.2. You can obtain a generic profile for your printer from the printer manufacturer's website. Look under 'Support', 'Downloads', 'ICC Profiles'. Epson produce a single profile that contains settings for all their paper varieties, so, in this case. You may only need the one profile even if you use two or more different (Epson) papers.

2.2.3. If you use paper from a different manufacturer then you may be able to download a profile from the paper manufacturer's site for your printer.

2.2.4. Best of all is to get a personalised profile for your printer/paper/ink. SD Services (see above) will provide this for you, at a price, but some paper manufacturers will provide them free for their paper. Permajet is one such – and I think their paper is better and cheaper than Epson.

2.2.5. When you have the profile, store it on your computer, right click on the file (something like papename.icc) and select 'install profile'.

This time we want Photoshop to manage the colours so, as above,

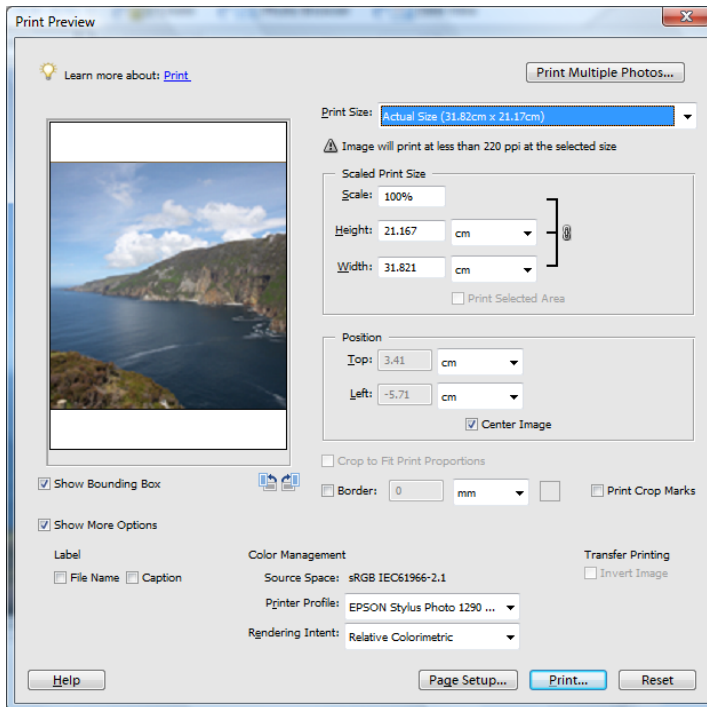
Select File > Print (or Print with Preview if available)

Select 'Show more options' (PS v7, CS or PSE v3,4 or 5 only)

If there is a box for 'Source', select 'Document'

In 'Color Management/Printer Profile', select the correct profile for the printer and paper that you are using.

The figure below shows a typical screen (Elements v4)



2.2.6. Now select 'Print' and 'Properties' (or 'Preferences')

Select 'Custom' and 'Advanced'

Choose the correct paper type, set the print quality to 1440dpi (you won't notice any difference if you go higher) and untick 'High Speed'.

Under 'Color Management' select 'No color adjustment'. With some printers you may need to click on 'ICM' first to obtain this option.

You can now 'save settings' so that you can call up the same settings in future with a single click.

Click 'OK' three times to print.

