

ORIGINAL

**Consistent Colour**



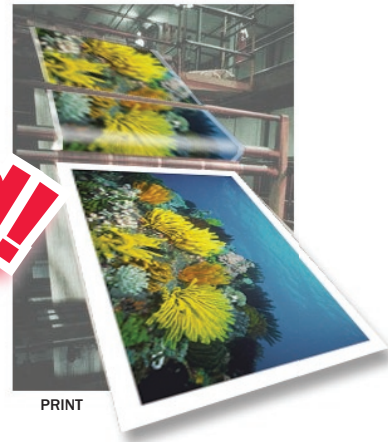
SCREEN

**from Beginning**



PROOF

**to End!**



PRINT

# An Introduction to Colour Management

If you are new to colour management you may find that many of the concepts and practices are overly complicated and full of twists and turns. Not only that, but there are a number of ways to explain how the process works and even more ways to put those theories into real work usage. When it comes down to it, real world usage is what it is all about, sure we can learn how Lab is a perceptual colour space that reflects how the eyes see colour. But does that help us understand how to make our screen match our printer!

## The basics:

So lets break down this convoluted process into its most basic parts and work our way up from there. The goal of colour management is to make colours look the same on a variety of devices – that’s it. It is all about making colour conversions, based on very specific information, supplied in the form of an ICC profile.

How do we translate from one language to another? We use a dictionary to define what the words mean and we use those meanings to translate from one language to another. We use the dictionary to decode the foreign language into words we understand. Every language has a very specific dictionary that accurately describes the meaning of each word.

## Lost in Translation:

Colour Management uses similar principles. We translate from one colour space to another hoping to maintain the integrity of the original. In colour management the ICC profile is the dictionary. This colour dictionary describes how a particular device speaks or paints colour. For example, an RGB monitor has a specific colour language and in order for you to see an accurate rendition on screen Photoshop needs to speed-read the monitors ICC profile to understand exactly how it interprets colour. Armed with this ICC profile Photoshop can effortlessly and accurately display your image.

The most important part in this process is how accurately the profile describes the device. If a language dictionary were only 80 percent accurate we would never consider using it. But all too often in graphics, monitor or printer profiles are not an accurate description of the device and the result is a poor translation from one colour space to another.

## Generic or Custom Profiles:

There are two types of profiles: generic or custom. Generic is often a lame attempt by the manufacture to say, “Or new device now comes with ICC profiles”. The reason generic profiles do not work is because no two monitors or two printers are exactly the same. So while the manufacture may have created an accurate profile for their device, in their lab, it more than likely will not work the same for your device. The good news is that the quality of the supplied profiles are getting much better and devices are getting much more consistent in manufacturing. I am told that the Epson 4000 has a deviation of less than 2 Delta E’s from printer to printer. That is much lower than any other Epson in the past.



In the case of a monitor profile, getting an accurate profile requires using a colourimeter. It is not possible to use your eyes to create an accurate monitor profile. You may get it looking good one day and not so good the next, a device like a colourimeter doesn't get tired eyes.



### Putting rubber to pavement:

There are many ways to use a printer profile. We can apply it in Photoshop when we print by selecting it in the Printer Space pull-down of the Print with Preview dialog box. We can invest in RIP software and let the RIP do the conversions or a final option would be to use Photoshop's convert to profile option and send the image to the printer with no colour management turned on. The last option doesn't work well because we want to keep our images in standard working spaces such as Adobe 1998 RGB or U.S. Sheetfed Coated v2.icc.

Colour management cannot make your images look better. It can only offer you more consistency and predictability. If colour management is not working for you it may be that the profiles you are using are not accurate descriptions of your devices.

I hope this has helped you to understand colour management better. We cannot turn a blind-eye to colour management, it is here to stay and will only become more significant as companies work to offer faster-turn-around times with more automation.