Color Managed Workflow FAQ

Proper color management is critical to achieving the professional results you expect from your images. Here is a list of frequently asked questions about color management. Our answers are based on the way we do color management here at Snelson PhotoColor Lab, not necessarily what other labs and print houses require. If printing elsewhere please check with the respective vendor.

Q. How do I get the color on my monitor to look like the prints I get back from the lab?
A. If you are not getting prints that look like what you see on your monitor it is because of the condition of your monitor. For optimal performance you need a high quality, fairly new monitor and a monitor-profiling device.

Q. OK, so what is a high quality monitor and how much do they cost?
A. There is no one best monitor. We have two Eizo ColorEdge LCDs, two iMacs, and a high-end Dell LCD. We highly recommend the Eizo ColorEdge. Plan on spending $1000 or more for a professional quality monitor for a proper, color-managed workflow. You can use cheaper monitors but you'll need to get used to the difference between what you see on your monitor and what you get in your prints.

Q. How does the age and condition of my monitor affect the image on screen?
A. If your monitor is more than 5 or 6 years old it may be time for a new monitor. As monitors age they begin to loose their ability to be calibrated. The calibration routine creates a new profile based on the projected colors and after time the monitor loses its ability to project the colors at a high enough intensity.

Q. Does it matter what type of monitor I am using?
A. Yes, this is the first step to having a color-managed workflow. A good LCD monitor is critical to good calibration. The monitor needs a high dynamic range, contrast ratio and color adjust-ability necessary to get a good calibration. A good monitor for editing will have manual control over these variables as well as individual RGB control.

Q. What is the monitor-profiling device you're talking about and do I need one?
A. A color calibration device, or colorimeter is used to read the color and brightness of your monitor. It will then create a profile for your specific monitor to ensure that you are getting an accurately displayed image. This calibration process needs to be done every couple of months on a good monitor that will hold its color and brightness and every couple of weeks on old or cheaper monitors. For affordability we recommend the DataVision Spyder5Express available for around $130. They are easy to find online. Two other recommended brands are X-Rite i1Display and Color Munki. Anyone of these devices can be purchased at electronic stores or from any vendor that sells photo equipment or supplies.

**Q. What calibration settings does Snelson PhotoColor Lab recommends?**
A. Set the White Point: **6500∘ K** This setting is important in making sure the color isn't too warm or too cool. If you set this number too high your prints will come back looking warmer than what you are seeing on screen and if it's too low your prints will come back looking cooler than what you see on screen. Keep in mind that the color of the print will also vary depending upon the color of the light you are viewing it under. If you know the exact color temperature of the viewing environment, then start with your white point set to that value.
Set the Black Point - CD/m2 at 100 This setting determines the brightness of your monitor. If this variable is set too high your monitor will display the image too brightly and the print will come back dark. If this variable is set to low the image you see on your monitor will be too dark and your prints will come back too light. We highly recommend ordering some test prints to check your settings after the initial calibration. A black point of 100 may be a good place to start, but this setting will vary from screen to screen. You may need to adjust this value depending on your monitor's inherent brightness.
Set the Gamma at 2.2 This setting determines the base point for proper conversion of color and brightness between your computer and monitor.

Q. What color settings should I use in my editing software?
A. Make sure you are editing in the sRGB color space. You can check this in Photoshop by going to Edit -> Color Settings. Your color setting should look like this in Photoshop and similar settings should be used in other editing software:
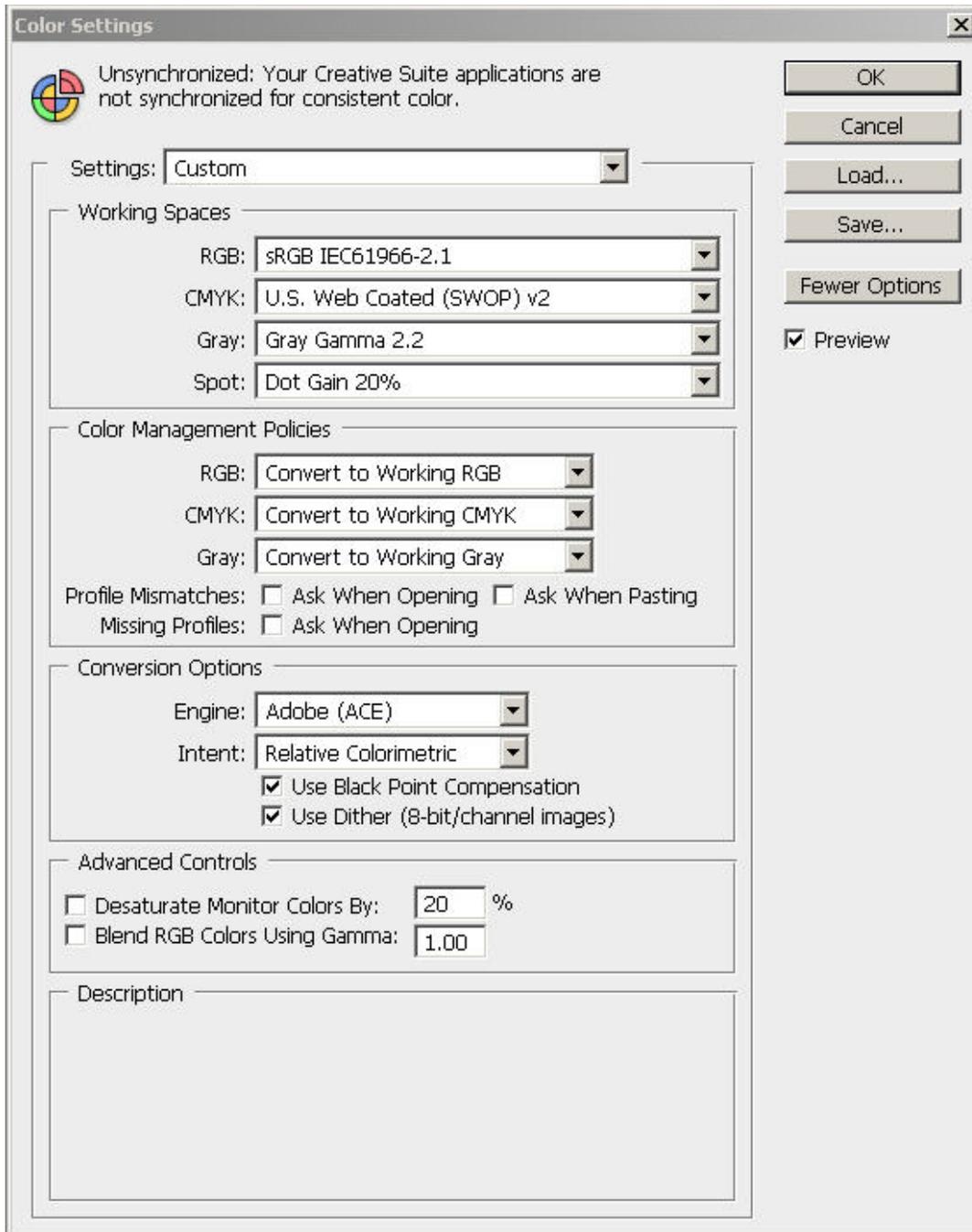
Don't worry about CMYK, Gray and Spot. For our purposes they are irrelevant. Be sure your images in Photoshop are in the RGB color mode. This also applies to black and white images. We cannot print an accurate black and white print form a Grayscale image. If you convert to Grayscale be sure to convert back to RGB. Your digital camera should also be set to the sRGB color mode. Buy the way you'll be better off doing a grayscale conversion in Image>Adjustments>Black & White than just doing a grayscale conversion and your image will remain in RGB mode.

Q. Once my monitor is calibrated, my color settings in my image editing software are set and my camera is set to sRGB color mode, what software should I use to edit my images?
A. This depends on how extensive your editing and retouch needs are and what your budget will allow. We highly recommend Adobe products. In our opinion, Adobe makes the best editing software on the market. Aftermarket plug-in software is more widely available for Adobe products as well.

Adobe Photoshop is the d-facto standard of the image editing industry. The current version is PhotoshopCC, an online subscription is available for $10/month, and it will give you all the tools necessary for full image editing, color correction, retouching, and enhancement. The subscription also includes Adobe Camera Raw and Lightroom.

Q. Do I need an ICC profile to get an accurate screen to print match?
A. ICC profiles are generally used for soft proofing in your image editing software and they make no difference in printing when attached to the file so don't do it. We have found through sad experience and unnecessary expense that soft proofing promises more than it delivers. We recommend calibrating your professional quality monitor as explained above and setting your color space as outlined. Once it is all correctly set, your print colors and density should closely match your monitor. If the color is off we recommend using the color adjustments in the monitor's menu to slightly tweak the red, green and blue colors to more closely match the printed output. You will need to check again next time you calibrate your monitor and you might need to re-tweak the colors.

Q. Why do my prints appear to be a different color when viewed at Snelsons as compared to when they are viewed in my studio?
A. The color of your prints as well as the color of anything else depends on the light source under which they are viewed. Remember, you are viewing prints (and everything else) using reflected light; the color temperature of the light source will change the apparent color of the print. The standard color temperature of a correct viewing light source is 5500° K. All of the color-viewing lights at Snelson PhotoColor Lab are balanced to this color temperature. Your light source might be a different color temperature. For example a standard incandescent light bulb is about 3400° K, which will make your prints appear warmer. Some fluorescent lights will make your prints appear warmer while others will make them appear cooler.

Q. Well that's just great! How am I supposed to know what color temperature of light my customers will be using to view their portraits?
A. You don't, neither do we. That's why we default to the 5500° K standard. This same question has been asked since color photography started. Don't worry about it. It's a non-issue.

Q. What if I'm not tech savvy enough to do all this or don't have the resources to buy all the necessary equipment or the patience to do it?
A. You don't have to be tech savvy, it's actually all quite easy. Besides, we're here to help you through the process. If you want we'll even come and show you how to do it and for the first time we'll do it for you (at a price). However, if you still don't want to tackle it or you don't have the resources to afford a color-managed workflow you have two options: 1. put up with poor quality color or 2. have us do color corrections for you.

Q. It seems that no matter how good my monitor is and no matter how often I calibrate my monitor, my prints and monitor just don't match. What's up?
A. This could be one of two things or both. You haven't calibrated properly and/or no matter how well calibrated your monitor is it will never match *exactly* to your prints. The monitor projects light and the prints are viewed under reflected light, usually from the wrong color temperature light source. All you can hope for is very close; and very close is possible and usable.

Here are a few other things you should be aware of:
1. Understand that our printers are the foundation of the entire color-managed workflow. We can't change the printers to match every photographer's workflow, you have to change your monitor to match our printers. Our printers are re-calibrated every morning and each time a new paper emulsion is loaded so they are always calibrated meaning the foundation is secure.
2. Learn how to set a custom white balance in your camera for the lighting conditions in which you are shooting. If you don't know how to set a custom white balance, check your manual or ask us, it is easy and critical for high quality color reproduction in your prints.
3. Use your image-editing monitor in subdued light.
4. You should demand high quality color both of yourself and of your lab but if you order your images printed non-color balanced (self-corrected) you are totally responsible for the color, good or bad. We don't reprint self-corrected prints unless you want to pay for them again at the Lab corrected price. If you have us

correct your color, we are totally responsible for the color and you can request a reprint at no charge if you're not satisfied.