

SUGGESTIONS FOR VIEWING IMAGES ON OUR SITE

Introduction

If you're a Mac user (especially if you have System 10) and do nothing else with this document, read at least the brief note on calibrating your monitor (page 5 below). It will make all the difference in how your monitor renders color. If you're a Windows user, consider getting a Mac.

Using Acrobat

The JPEG thumbnails displayed on the gallery page are intended only to give you a *rough* idea of what the real images look like. Accurate color, detail, and in general all subtlety are lost in the thumbnails, so please don't judge the book by this particular cover. To see a better rendition of an image, click the thumbnail or the image title. Doing this will download to your machine and automatically open a higher resolution PDF version of the image. The PDFs are typically about 400 KB apiece, and, while still far from perfect, give you a much better sense of what the photographs look like.¹

The PDFs require the Adobe Acrobat Reader v. 4.0 or later, which is often installed as part of other software packages. If you don't have it, it's available for free at Adobe's web site: www.adobe.com.

By default, Acrobat resizes PDFs to fill the entire screen, and in so doing may enlarge the image beyond 100%. Since these are still relatively low-resolution files, they don't look good when pushed

¹ Please note that these images are all copyrighted and are made available to you strictly for use in conjunction with the firmageditions website. No other use is permitted.

beyond 100%. You can instruct Acrobat to display images at 100% by doing the following:

1. In the Acrobat Reader application, go to File: Preferences: General.
2. From the Default Zoom list choose Actual Size.

If your monitor is too small to display the entire image at 100%, you can reduce the magnification by using the Zoom tool (magnifying glass icon). In the toolbar on the left side of the screen, click the magnifying glass icon. Then using it (Mac) Option- or (Windows) Ctrl-click the image until you get the level of magnification you want. Clicking the image without the Option or Ctrl key down enlarges the image.

The look of the images, even the PDFs, is also greatly affected by the color settings of your monitor. Below, you'll find information on how to fine tune your monitor color for best results.

Getting Good Color, Or A Thousand and One Things You Never Wanted to Know about Color

Achieving accurate color onscreen and in print is always a challenge, and, as in many things, you typically get what you pay for. At one end of the quality spectrum, you have \$8,000 self-calibrating Barco monitors of the sort I use in my studio, on the other \$500 LCD screens that are sleek and appealing for office work but totally inadequate for any kind of quality color display. In print, options range from top-of-the-line Iris *giclée* printers to desktop Epson inkjets that sometimes cost less than dinner at your favorite restaurant. And, it's not just a question of quality equipment; even the best equipment will vary from machine to machine. Other factors also greatly affect color. Anyone who has ever printed something will have noticed that what

you see onscreen and what you see in a print can be two entirely different things. What *you* see onscreen will also likely differ from what your friend sees when you give him or her a copy of your file to look at. Likewise, a print that you've done on your Epson may look great, but when your friend prints it on his HP you want to gag. Welcome to the complex and highly variable world of color. To help you get the most out of your equipment and enjoy the images on our web site to the fullest, we've prepared the following list of suggestions.

1. Get the best monitor you can afford. Realistic color onscreen is possible only when you're using 24-bit color ("millions of colors"). These days, this is not uncommon to find as the default setting even in inexpensive systems. However, if your monitor and/or computer can't support more than 256 or thousands of colors, you won't see anything approaching real color. Images such as those on the firmageditions web site that are prepared with 24-bit color viewing in mind will lose a great deal of their pop and even more of their detail. Treat yourself to a new video card, monitor, or computer and enter the world of lifelike color. While your credit card is out, don't skimp on the monitor. The monitor is *the* limiting factor in getting accurate and satisfying color. It's like the speakers in your stereo system. If you care about color, this is the place to spend the big bucks. The best monitors are not only more accurate out of the box, they also provide tools to help you keep the color up to par as the monitor ages. This brings us to the topic of calibration.

2. Calibrate, calibrate, calibrate. There are two reasons to worry about calibration. First, each monitor has its own characteristic

color bias. You see this when you walk into a computer or TV store. Some screens have a warm (red) tint, others blue or green. Calibration is a way of leveling these differences. Second, as monitors age their color characteristics change. Calibration also helps to level out these differences.

Calibration comes in economy and business class. In economy class, you have software-only controls such as the Monitors or Display control panels that ship with Macintosh and Windows systems. These help improve what you see onscreen but don't fully address the two critical problems just discussed. These can only truly be handled by upgrading to business class calibration. This involves the use of a color measuring device (spectrophotometer) that attaches to the front of your screen and measures the color actually coming from the monitor. Accompanying software runs the monitor through a standardized set of color tests which the spectrophotometer measures. The software compares the measured values with the ones it should theoretically see and then builds a profile of the monitor. Software programs (systems and applications) that are profile-savvy can then use this information to adjust onscreen display accordingly. This is the purpose of system software such as Apple Computer's ColorSync. Image editing programs such as Adobe Photoshop can also take this information into account when rendering photographs.

Business class profiling equipment for monitors (such as Monaco Systems' Optix, www.monacosys.com, Pantone's Spyder products, www.pantone.com, or GretagMacbeth's Eye-One, www.gretagmacbeth.com) is available for as little as \$300 dollars. Less satisfactory and only slightly less expensive are software-only systems such as ColorBlind's Prove it! (www.color.com). Profilers for print media, such as the X-Rite

(www.xrite.com) or the GretagMacbeth SpectroScan are essential for those needing to profile different printer, ink, and paper combinations. Many of these vendors, incidentally, also provide software for calibrating other parts of your color systems such as digital cameras and scanners.

Users of Apple's System 10.3 "Panther" can take advantage of one of the best software-only profilers around. I've tried it on several PowerBooks with *excellent* results. (Note: The most useful features of the Panther Display profiler are not available in earlier versions of the Mac OS. This is just one of many reasons to get 10.3!) This profiler is part of the Display control panel in System Preferences. To use it:

1. Select Display in the System Preferences window.
2. Click the Color Tab.
3. Click the Calibrate... button.
4. Select Expert mode. This is important. The non-expert mode is much less precise, and your results will be correspondingly rough.
5. Follow the instructions. When adjusting the luminance, you can use the arrow keys for fine adjustments.

If all you've got is the Monitor or Display control panel, you might find the following tips helpful.

- a. If you're using an LCD display (or laptop with LCD), you'll probably want to set your brightness to maximum. Also, be aware that with LCDs the angle at which you view the screen can make a big difference in the saturation and colors you perceive. The most natural color, especially with laptops, is typically had when you're

looking down at the screen at an angle (e.g., when it is actually functioning as a *laptop*) as opposed to level to it.

- b. If the control panel allows you to set the “white point,” don’t. By all means go ahead and play with the white point setting. On LCDs in particular, however, the display’s default setting often turns out to give the clearest rendering with the least amount of color cast. On professional-class monitors, the white point setting is in fact very useful. Most graphics professionals use a white point of 5,000° K, which simulates natural daylight. Ordinary computer users, however, often find this setting too subdued, especially on LCD screens.
- c. The most problematic part of calibrating the monitor is deciding what your “gamma” should be. Gamma determines the richness of midtone values in your images. Other things being equal, the higher the gamma, the darker and richer the colors. Of course, images edited on and intended to be displayed on a machine with lower gamma will likely be altered accordingly and vice versa. The problem arises when images are produced on one type of machine but displayed on another. Macs, for example (on which much of the content of the web is produced, incidentally) are typically set at a gamma of 1.8, while PCs usually operate at about 2.2. As a result, Mac-produced images may look too dark or oversaturated on a PC, while PC-produced images may look washed out on a Mac. firmageditions images, while produced on Macs are done at a 2.2 gamma, and so will generally look alright on PCs, but perhaps a little light on Macs. Gamma values do vary widely, however, depending on who set up your

machine, what sort of applications you tend to run (gamers, for example, often adjust their gamma to get better-looking images), etc. The bottom line is to try and adjust your gamma (either globally or color by color) so as to get colors that are pleasingly but not oversaturated, and tones (light-dark values) that are neither too light nor too dark. Look at the highlights (brightest parts) of the image to make sure they're not "blown out" and don't let the shadows "block up." If you're using an LCD screen, these adjustments are particularly challenging because LCDs tend to do a poor job anyway rendering detail in highlight and shadow areas, with the result that images tend to look very contrasty. That's why no one serious about color ever uses LCDs for color editing or display. LCDs have definitely improved over the last few years. I own a five-year-old Macintosh G3 Powerbook and a new Titanium G4 Powerbook. The former, while a great machine, does a pretty poor job with my images. The latter is passable, though barely. Neither comes within a light year of my Barco, however. Nor would either be a match for most decent CRT monitors.

- d. If you're a Mac user and your browser of choice is Internet Explorer, you *may* find it helpful to turn on ColorSync support. You'll find this in Edit: Preferences: Web Content. I say *may* because this depends on how you've adjusted gamma, brightness, white point, etc. Try turning it on and off and compare the results. You may even want to turn it on and then adjust your Monitors color settings. See if you like the result better than just using the Monitors color controls alone. I use Internet

Explorer on my desktop computer (the one with the Barco monitor attached) and have the ColorSync support turned on. The result looks great. However, on my Powerbook G3, I found that I could better color by just tweaking the gamma and other color settings and leaving ColorSync support off. Windows users, unfortunately, don't have access to ColorSync in any event.

In assessing these images, don't forget that "the quality of mercy is not strain'd." The world of onscreen color is one thing, the world of printed color something else. It's often hard to get images to look good in both. Because the images are all edited first and foremost with printing in mind, I work in CMYK mode, the color space of printers. Onscreen color, on the other hand, is RGB, a totally different universe. Converting good-looking CMYK prints into equally good looking RGB images for the Web is not always possible. Further complicating things is the fact that the files that create my prints are over 350 MB in size. Shrinking these down to something presentable that people can easily download through the Web is a huge challenge. When all is said and done, the best ways to really see what these images look like are to come out to the studio (did we mention the close partnership we have with Southwest Airlines) or, preferably, to take our word that they're great and go straight to the online store and order one.

Happy browsing!

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Getting Good Color 8

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