"Obscure but helpful Tips I use everyday"

Rick Burress of Ben Franklin Press/Big Ben Jumbographics and Artistec, Inc.

Sometimes it's that one extra piece of important knowledge that makes the difference to you, your job, your career. This article encapsulates a few of the tips I discuss with my customers daily which seem to have big impact, and have passed the tests of time–even as programs and other technologies change.

These tips are a subset of the ever-growing "Tips Cards," collectable series from Ben Franklin Press and Big Ben Jumbographics.

Random tips cards are free to our customer's with each job they print. Keep them in our Ben Franklin Press Tips Binder. The cards are a great way to stay up-to-date on the technologies which impact our industry. We listen to your issues. If you have an idea for a "tip card," please drop me a line via email:
rickburress@benfranklinpress.net

If you or your creative group would like training, consulting or seminars on the various programs & issues you collide with daily, also write or call:
602-332-1300. We'll arrange a free starter session.

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Printing that's more fun than an elbow smash to the midsection.

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Fraction to Decimal Conversion Tables

Important Note: any span of numbers that is underlined signifies that those numbers are repeated.
For example, 0.09 signifies 0.090909....

FRACTION	DECIMAL				
1/1 = 1					
1/2 = 0.5					
1/3 = 0.3	2/3 = 0.6				
1/4 = 0.25	3/4 = 0.75				
1/5 = 0.2	2/5 = 0.4	3/5 = 0.6	4/5 = 0.8		
1/6 = 0.16	5/6 = 0.83				
1/7 = 0.142857	2/7 = 0.285714	3/7 = 0.428571	4/7 = 0.571428	5/7 = 0.714285	6/7 = 0.857142
1/8 = 0.125	3/8 = 0.375	5/8 = 0.625	7/8 = 0.875		
1/9 = 0.1	2/9 = 0.2	4/9 = 0.4	5/9 = 0.5	7/9 = 0.7	8/9 = 0.8
1/10 = 0.1	3/10 = 0.3	7/10 = 0.7	9/10 = 0.9		
1/11 = 0.09	2/11 = 0.18	3/11 = 0.27	4/11 = 0.36	5/11 = 0.45	6/11 = 0.54
	7/11 = 0.63	8/11 = 0.72	9/11 = 0.81	10/11 = 0.90	
1/12 = 0.083	5/12 = 0.416	7/12 = 0.583	11/12 = 0.916		
1/16 = 0.0625	3/16 = 0.1875	5/16 = 0.3125	7/16 = 0.4375	11/16 = 0.6875	13/16 = 0.8125
	15/16 = 0.9375				
1/32 = 0.03125	3/32 = 0.09375	5/32 = 0.15625	7/32 = 0.21875	9/32 = 0.28125	11/32 = 0.34375
	13/32 = 0.40625	15/32 = 0.46875	17/32 = 0.53125	19/32 = 0.59375	21/32 = 0.65625
	23/32 = 0.71875	25/32 = 0.78125	27/32 = 0.84375	29/32 = 0.90625	31/32 = 0.96875

"Forget that you ever saw me."

Now, look back at that chart of fraction-to-decimal conversions—and ignore it. You'll never need it.

We artists dislike math so much, that it brings us comfort to "see it" in some form, in a clunky table-graphic stuck to the wall by our computer. And while we usually see (and have) conversion charts such as this one, they are of little use compared to the built-in tools on your desk (a calculator!) or your computer.

The "Slash" character in any fraction is actually a substitute for the "Divided-by" sign.

So, in any calculator, simply type what you see to get it's decimal equivalent!

For example, 2/5 is 2 divided by 5. Your calculator reveals "0.4." Try it!

However, the REAL surprise is that every major graphics or page layout program you use does the calculation instantly within every field (the fancy name for "dialog boxes into which you type".)

Open InDesign, QuarkXpress, or Adobe Illustrator, (and many others,) and draw any size text box. In the WIDTH or HEIGHT fields, overwrite the current text with "2/5." It works! The fields even perform basic math functions. So, to the sum just returned (.4) type this behind the sum (without the quotes:) "+4 in."

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Working with us is easier than getting hit over the head with a folding chair.

– BEN FRANKLIN PRESS

Composite Characters

Sometimes you need a letter (a character) which is actually a composite of two.

Like “é.”

You’d need a keyboard of far greater than the 50 or so keys to generate all these characters.

What’s the trick?

Type it twice! The first time, type the “e” with the option key (Alt key) held down. It looks like nothing happened! Then type the “e” again (this time without the option key.) Voilà! “é!”

For a capital, type the option key-e, then Shift E: É.

Other fancy characters can be found “under” the u, i, o, n, and the ` key (look at the top left of your keyboard,) in addition to the e.The characters can be mixed, for example: option-u, then o= ö.

You might discover: î, ü, ä, ö, etc. Experiment!

For the “marks” alone, with no letter below, type the option- (and the mark character) then type a space: ¨, ˆ, ´, etc.

These characters are officially know as the gave mark, umlaut, acute accent, circumflex, and tilde. But then, you already knew that.

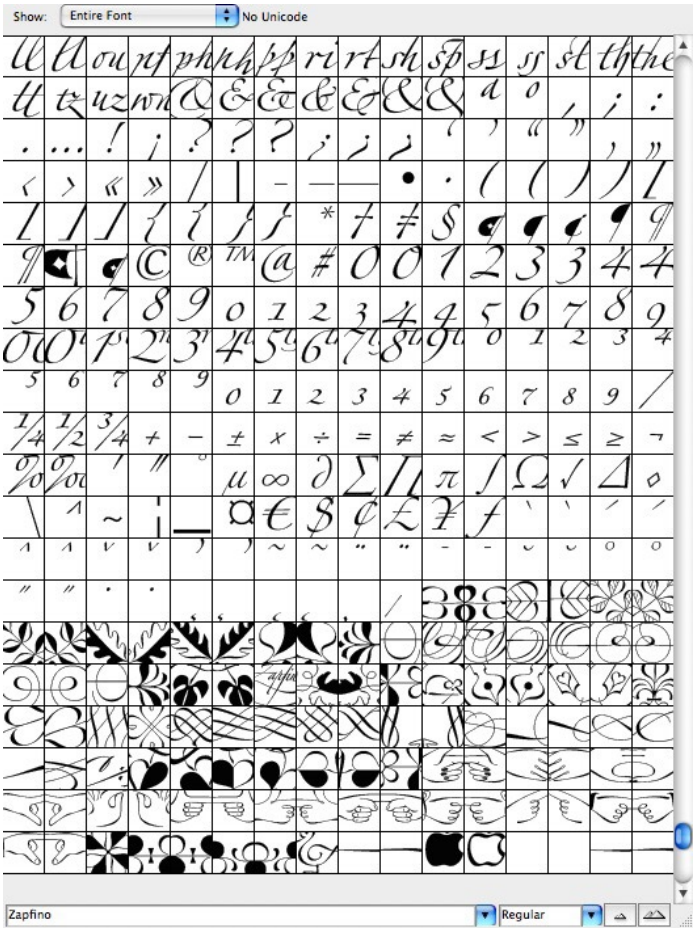
;-)

Why Bother?

Better yet, why not just use the Glyphs palette available in Adobe InDesign and in Adobe Illustrator?!
(You can also insert a custom character (glyph) with a right-click (on a two-button mouse) or via Control-click on a Macintosh computer in Adobe InDesign.)

Look for the Glyphs palette in the TYPE menu.

Put your cursor in an active text box, and double-click the glyph to insert the special character.



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You'll enjoy working with our team of colorful characters.

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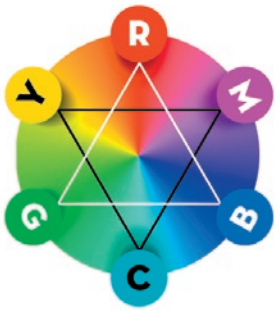
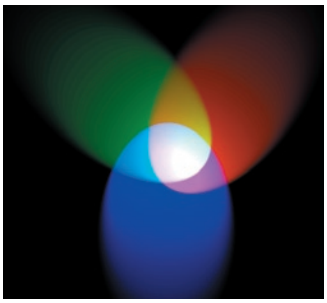
Understand the Color Wheel to "Correct" Color

The Color Wheel you learned about in art class is probably not very helpful. First, you were taught that the "Primary" colors are Yellow, Blue, and Red. Wrong. That's not so in the world of printing—a world in which you find yourself immersed, probably daily. I'm not making this up: it's Science. Pure white light separates into the visible spectrum in three primary colors, and they are Red, Green and Blue. Oh! "RGB." When light shines to the human eye, directly from the source, RGB is the description of the interaction—the relationship—of one color to another.





First oddity of light: Suppose you and two friends went camping. Each of you carried a flashlight with various colored lenses, you could tell who was who in the dark. Your flashlight was Red-lensed, Gus had Green, and Barb's was Blue. Suppose in the dark of night, with the three of you separated by 30 yards or so, you shined your light onto one side of the white tent at the center of camp. You'd certainly see a red spot of light on it's face. Now, suppose Gus also shined his light at the same location. What color would you see? Would it be darker or lighter? In fact, against our inclinations, the color would be lighter. The combination of red light and green light would be yellow light. Then suppose Barb added her light to the spot. Darker or lighter (than yellow)? Yes, lighter. The combination of the three spots of red, green, and blue light would be white, of course! Incredible, really, but the more LIGHT added, the LIGHTER the color becomes, until finally white light is reached. This is why RGB is also known as the "additive color system."

Relationship 1, part 1: Look at the color wheel. Notice that YELLOW is between RED and GREEN. Around the wheel, any color is formed by the combination of the two colors on either side of it. Red and Blue light yield MAGENTA; Blue and Green light yield Cyan; and so on. The colors connected by the WHITE triangle combine (as light) to form WHITE LIGHT. They are the additive colors.

This sounds odd to us in the Print Kingdom, because we're used to adding colors to get BLACK, not white!

Look at the color wheel. The colors connected by the BLACK triangle combine to form (theoretical) Black in the world of printing. In contrast the RGB hues, they are referred to as the SUBTRACTIVE colors. Here's why: When pure white light shines onto a surface, and then is reflected off that surface to our eyes, some of the color (from the white light) is subtracted by the pigment of the surface. What's "left over" is what we "see." So, when color comes directly to our eyes from the source, the more color added, to closer to pure white is what we'll see. When color strikes a pigmented surface, some of the color is absorbed or subtracted by the pigment, so by the time we see the light (the color) there is less light. The result is always darker. The more pigment added, the more subtraction occurs, the closer to black (no light reflected) we see.

Relationship 1, part 2: As with ADDITIVE colors on the color wheel, any color is formed by the combination of the two colors on either side of it. Yellow and Magenta pigment (ink) yield RED; Magenta and Cyan ink yield BLUE; Cyan and Yellow ink make GREEN.

Relationship 2, Color Balance: You've heard the term, "Color Balance." They do. Colors balance each other. Imagine the color wheel lying flat, balanced at it's center on the head of a pin. Add weight to the RED Dot, and at least two things occur: Red gets "heavier," and CYAN gets lighter. Red and Cyan "Balance" each other. You can't have them both together in the same space, in the same measure without them killing each other (they in fact, would form "Neutral" grey.) If you look at the color wheel, you can see the same relationship exists between Green and Magenta, and with Yellow and Blue. The best way to think about these antithetical colors is that one is the anti-color of the other: Yellow is anti-blue, magenta is anti-green, cyan is anti-red, and vice versa. "Why isn't the grass in my image green enough?" Because there is magenta in it. Dial down the amount of Magenta and watch your greens come alive. "This red jersey is 100% Yellow mixed with 100% Magenta—pure red—and yet there's something not quite right. I can't make it any more red, can I?" Sure you can. Get rid of the Cyan. Red will pop. Do your blue skies seem dirty? Subtract yellow. Get it? This simple trick will save your grass.

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We don't employ anyone named Randy "Macho Man" Savage.

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Regular Mac OSX Maintenance

Like a fine automobile, your Macintosh running OS X needs to be "cleaned" and checked regularly. There are 3 major items to run. I usually run them weekly, or so:

1. "fsck" at StartUp
2. Disk Utility "Repair Permissions."
3. The built-in Maintenance Scripts.

"fsck" at StartUp: No, I'm not being naughty, this is the actual line to run the "File System Consistency Check," which is built-into Mac OSX (a Unix Operating System.) It does what it says, and repairs any problems it discovers **Heres how:**

❶ Start up your computer from a powered-off situation, or restart the already powered-on computer.

❷ Quickly hold the "Apple-key" with the "S" key (like the command to SAVE a file,) until your see a funky black screen with horrid reverse text. (Trust me, you'll know.) This is know as "Single User Mode." You'll see this at the bottom of a lot of geeky text: "local host:/ root# /"

❸ Type the following (it's case-sensitive, and there's only one space, after the k, NOT after the dash): fsck -fy

❹ Press the Return key. This executes the File System Check and allows any repairs needed. Notice the display indicating what is being checked (HFS Plus volume, Extents Overflow file, Catalog file, multi-linked files, Catalog hierarchy, volume bit map, volume information, blah, blah, blah.)

❺ If errors are found, you'll see the message FILE SYSTEM WAS MODIFIED.

❻ Run the File System Check command again until all errors are repaired and you see the message "The volume Macintosh HD appears to be OK"

❼ At the prompt (again) "local host:/ root# /" type the following (case sensitive): reboot

❽ Press the Return key. Your system will restart as usual. Let it (no keys held down this time.)

It is good practice to run File System Check once per month to help keep your Mac error-free!

Disk Utility "Repair Permissions."
Open the Utilities folder, which is in the Applications Folder (a shortcut in OS X.3 and higher is apple-shift-U.)

Locate "Disk Utility." (You may want to drag this application into your window's side bar as a Favorite for easy access next time.)

Open Disk Utility.

Click your hard drive's name (it is probably indented under or within the technical hard drive name. Click the indented one.)

Under the "First Aid" section, you'll see a button which says "Repair Permissions."

Click Repair Permissions.

When the progress bar completes, you'll see "Permissions repair complete." Simply quit.

For more detailed information on "Repair Permissions," go to: http://docs.info.apple.com/article.html?artnum=106712

The built-in Maintenance Scripts.
Mac OS X is a UNIX-based operating system. UNIX systems run scheduled maintenance routines—known as maintenance scripts—to clean up a variety of System logs and temporary files. By default, these are executed between 3:15 am and 5:30 am, depending on the script. (That's good.)

If your Mac is shut down or in sleep mode during these hours, the maintenance scripts will not run. This results in log files that will grow over time, consuming free space on your Mac OS X startup disk. (That's bad.)

So, you actually have to kick start these built-in maintenance scripts yourself—and you've probably never done it. Wow.

There are several ways, some easy, some hard. I pick easy. I use MacJanitor. Go here to download a free copy:
http://tc.versiontracker.com/product/redir/lid/570080/MacJanitor_1.3.dmg

There are many utilities which will run the Maintenance Scripts (that's the key phrase when searching.) "Onyx" is another good one, however it is a lot more complex.

For more detailed information on the built-in maintenance scripts, go here:
http://www.thexlab.com/faqs/maintscripts.html

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Muscular, honest printing for all occasions.

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Transforming Patterns in Adobe Illustrator

This is incredible. Really.

In Adobe Illustrator, draw a shape and fill it with a pattern. (Patterns are accessed from the SWATCHES palette.)

Select a TRANSFORMATION tool (the scale tool, shear tool, rotate toll, move tool, etc.)

Click and drag the pattern-filled art with the transformation tool, as usual, but with this twist: Hold the tilde key (~) while "transforming." (It's at the upper left of your keyboard.)

The PATTERN will transform, but not the art/shape! (Be sure to release the mouse button before the tilde key. You can use the shift key as well, to maintain the original proportions.)

Use this technique to nudge a pattern to just the perfect placement within a shape, or to skew a pattern within a shape, or scale the pattern without scaling the shape.

The tilde key is Adobe Illustrator's "just the pattern" key. "I just want to transform the pattern—NOT the shape."

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Style Tip: Leather fringe vests are always in style when worn properly.

– BEN FRANKLIN PRESS

Illegal Characters

With files getting shared by more and more computer users, on a variety of platforms, (operating systems,) and passed over the Internet, it's imperative to advise you and your colleagues NOT to use the following characters in the NAMING of FILES or FOLDERS.

Using these characters to name your files will result in anything from minor annoyance (files can't be copied to or from certain folders or directories,) to major headaches (files disappearing or being deleted altogether by the server software, UNIX, or the Internet itself).

Mac users were once semi-protected from such restrictions, but in a world dominated by the Internet (not to mention Windows), those carefree days are rapidly drawing to an inglorious end.

SO...NAMER BEWARE!

In short, stay away from these:
The illegal characters are...

; + = [ ] # ', \ " * \\ < > / ? : • | & $$

(Copy and cut this line of characters, and paste it on your computer monitor for quick reference.)

The minus, or regular dash (-) is OK.
"Em dashes" and "en dashes" are not (—, –.)
Numbers and Roman characters are OK.
Bullets in filenames and folders are not.
These are not standard ASCII characters.

The best way to FIX folders full of misnamed files is to use the AppleScripts which come with your Mac. Unfortunately, you don't know you have them!

Follow me:
Go the Applications folder and launch the AppleScript folder, then the AppleScript Utility.

Check the option, "Show Script Menu in Menu Bar."

It looks like nothing happened. Look in your menu bar, up nest to the clock.

You should see a black s-shaped scroll. This holds all the magic.

Many automation scripts were just added, and you can study them later. For now we are only interested in the ones found in the Script menu (just added) and it's FINDER SCRIPTS folder.

In it, there are a couple of scripts which will work. I typically go for the one called, "Replace text in item names."

Be sure you're in the Finder (the "Desktop" program,) and open a folder. Then run the script (select in from the hierarchal Script menu.)

A dialog launches, asking "Folders, Files, or both." (Which do you wish to fix?)

Then, "Find what?" Type the illegal character you want to remove from all the visible file names.

"Replace with..." what? I use a space, or a plain dash. You may do whatever you choose, so long as it is a "legal" character.

Click OK.

They change before your eyes.

Currently, I know of no easy way to change all the illegal characters across your whole system (which would be a bad idea, anyway, because certain system files USE these characters—THAT'S why they're illegal for YOU to use in your filenames.) So, you have to run the fix Script on a folder-by-folder basis. I run it whenever I see the need.

By the way, you'll find some great scripts for added prefixes (like job numbers!) and suffixes (like .jpg) to your filenames.

Now get to work!

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We've never thrown a customer into the turnbuckles.

– BEN FRANKLIN PRESS

Accurate Color Management Utopia

Who do I think I'm kidding?

Alright, so there's no such thing as color management "Utopia," but we can certainly get closer!

Below are the best two tips I could possibly give you to have the greatest impact with the least effort—more bang for your color buck!

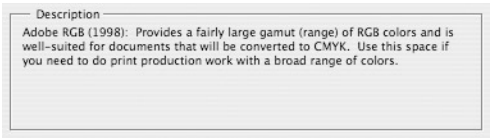
First: Open Adobe Photoshop.

In it, open the Color Settings from the Edit Menu. (You may want to commit the shortcut to memory.)

Click MORE OPTIONS button at the far right.

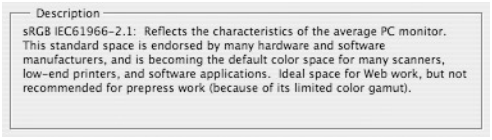
First, let me pick on Adobe. Chances are, you haven't changed the color settings since you installed PhotoShop. Adobe set the color settings to the absolute worst environment for high-end color print work, which, I assume, is exactly what you do most.

Take a peek at your color settings, and look at the section at the top, "Working Spaces," to the "RGB:" popup. Chances are yours says, "sRGB IEC61966-2.1." Do us both a favor, and just hover your cursor over the phrase, "sRGB IEC61966-2.1," and read the description at the bottom of the dialog box:



sRGB IEC61966-2.1: Reflects the characteristics of the average PC monitor. [Are you on a PC? Is your monitor the "average PC monitor?] This standard space is endorsed by many hardware and software manufacturers, and is becoming the default color space for many scanners, low-end printers [Low-end printers?], and software applications. Ideal space for Web work, but not recommended for prepress work (because of it's limited color gamut.)" [Uh, that doesn't sound like a rave review for print professionals.]

Instead, read the description for Adobe RGB 1998:



"Adobe RGB (1998): Provides a fairly large gamut (range) of RGB colors and is well-suited for documents that will be converted to CMYK. Use this space if you need to do print production work with a broad range of colors."

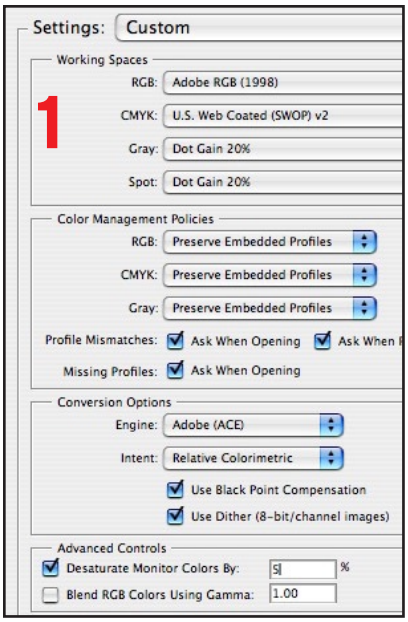
Now THAT sounds right!

In fact, of the 16-or-so choices for the RGB color space, only 2 are suitable for print work. (The other is the less-preferred "ColorMatch" setting.) Don't take my word for it. Read the descriptions of each. Decide for yourself.

I've actually had arguments with color separators over this very issue. I simply stop and point. You'd think –if they could read—they could make the right decision. You may have to teach them—your color separator, your print vendor, your artists, your photographer, etc. Be an expert. The secret? Read.

Alright, so we're one step closer to Color Utopia. Let's take another step.

Look next to the CMYK setting: Basically, if you're printing to a web press, or a sheetfed press, select an appropriate setting. **Continued on back >>**



Are you printing to coated or uncoated paper? This, too, affects your choice. Don't leave it on the purely random choice made by Adobe. It's not what you do. Here at Ben Franklin Press, we ONLY print on high color quality, exquisitely controllable sheetfed presses. Usually, on coated paper. So, here are the settings we've chosen: **(Figure 1)**

And, if you make your choices, then click the SAVE button, you can give your setting a descriptive name (I've called mine BFPCoated25. See figure.) Save the .csf file generated RIGHT WHERE IT SUGGESTS. **(Figure 2)**

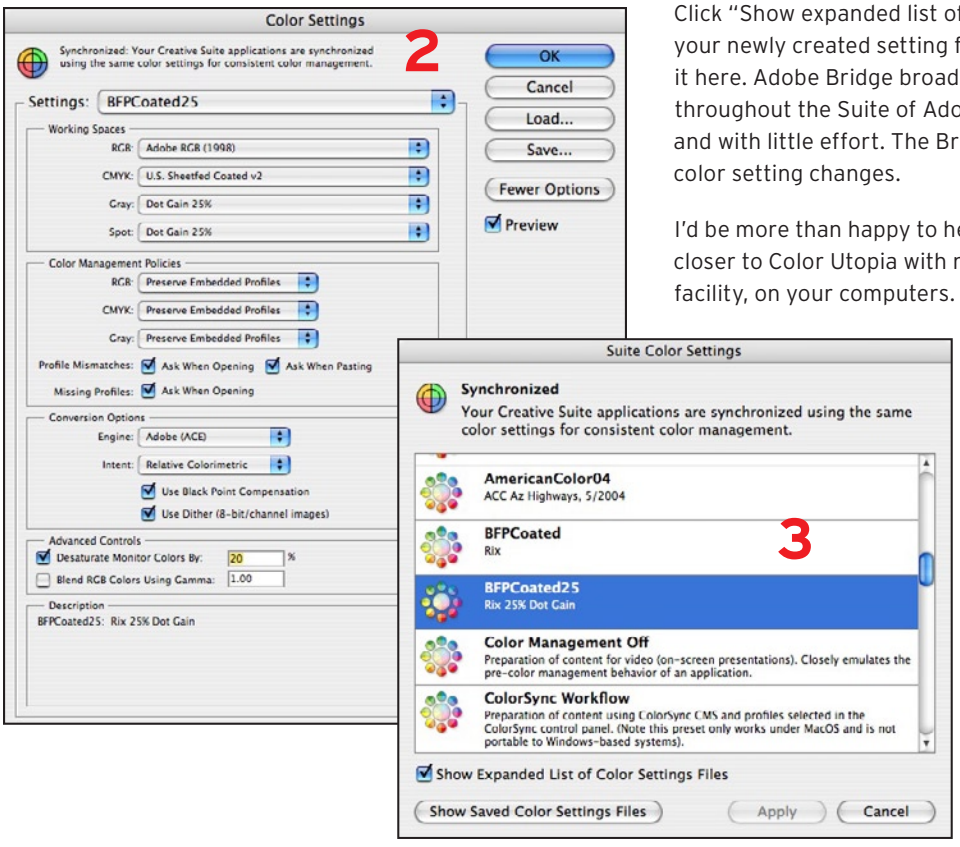
(I highly advise doing this before the next step.)

In real life you may swap between a coated paper sheetfed print job, and a black-and-white Newsprint job on horrible uncoated paper from a web press. It's not such a pain to alternate your choices in PhotoShop, but multiply that change by the number of programs in which you need accurate color, (in my case, about 5,) and it gets pretty complicated. Or does it?

If you have Adobe CS2 or higher, you can set ALL the Adobe programs to accurate color (they even match each other!) in the most misunderstood Adobe Program, Adobe Bridge. Find the application and launch it. Ignore everything you see and just head straight to the EDIT menu: CREATIVE SUITE COLOR SETTINGS (or, on a Mac, Command-Shift-K—just like PhotoShop.) **(Figure 3)**

Click "Show expanded list of color settings files." Locate your newly created setting from PhotoShop and select it here. Adobe Bridge broadcasts that color setting throughout the Suite of Adobe products for consistency, and with little effort. The Bridge is where I make ALL my color setting changes.

I'd be more than happy to help take you several more steps closer to Color Utopia with no-charge consultation at your facility, on your computers.



Set all your Adobe applications' color settings from the Adobe Bridge

Ben Franklin Press trains and consults all of our customers free of charge. When your color is good, so is ours. We're happy to help you. To schedule a free session, just call me, Rick Burress, at: (480) 968-7959.

Color Harmony

There are many theories for harmony. Most models make sense to one who is "visually oriented," rather than "verbally oriented." I think visually, and so "seeing" the pattern of color harmonies visually makes more sense to me than some lengthy scientific explanation. The simplest, of course is just to look at colors and see what "looks good" together.

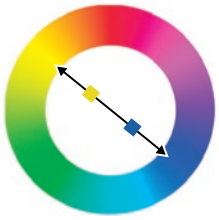
OK, I've got that. But here is another, simple way to determine colors which "harmonize."

The basic idea is that geometric shapes—straight lines, squares, rectangles, polygons—overlaying the color wheel reveal harmonic color schemes. It's what all the "scientific chatter" actually describes. Well why didn't they say so!

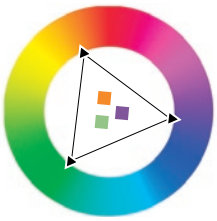
As a general rule, one of the colors is dominant, while the others are "reduced" in some way via tonality, saturation, or contrast. **Check it out:**

A color scheme based on analogous (adjacent) colors (yields a low contrast scheme.)
Analogous colors are any three colors which are side by side on a 12 part color wheel, such as yellow-green, yellow, and yellow-orange. Usually one of the three colors predominates.

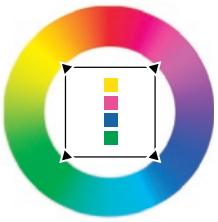
A color scheme based on complementary colors (yields a high contrast scheme.)
Complementary colors are any two colors which are directly opposite each other, such as red and green and red-purple and yellow-green. Opposing colors create maximum contrast and maximum stability.

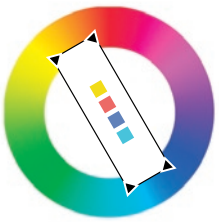


Complex separated 3-color harmony
Important—once you chose color harmony, don't forget to harmonize the colored volumes and surfaces. Always choose a dominant color, make the others subhues or tints, or desaturated values of the other harmonic hues.



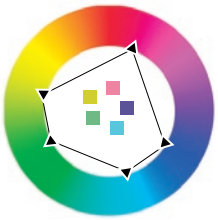
Complex separated 4-color harmony
...Try overlaying a square or a rectangle.

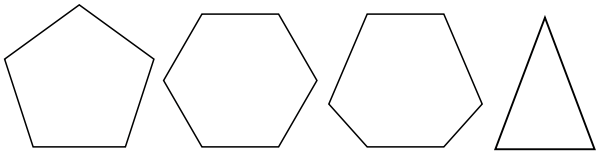




Complex separated 5-color harmony
...Try overlaying a square or a regular or irregular pentagon.

Complex separated 6-color harmony
...Try overlaying a square or a regular or irregular hexagon. You get the idea. A pattern develops!

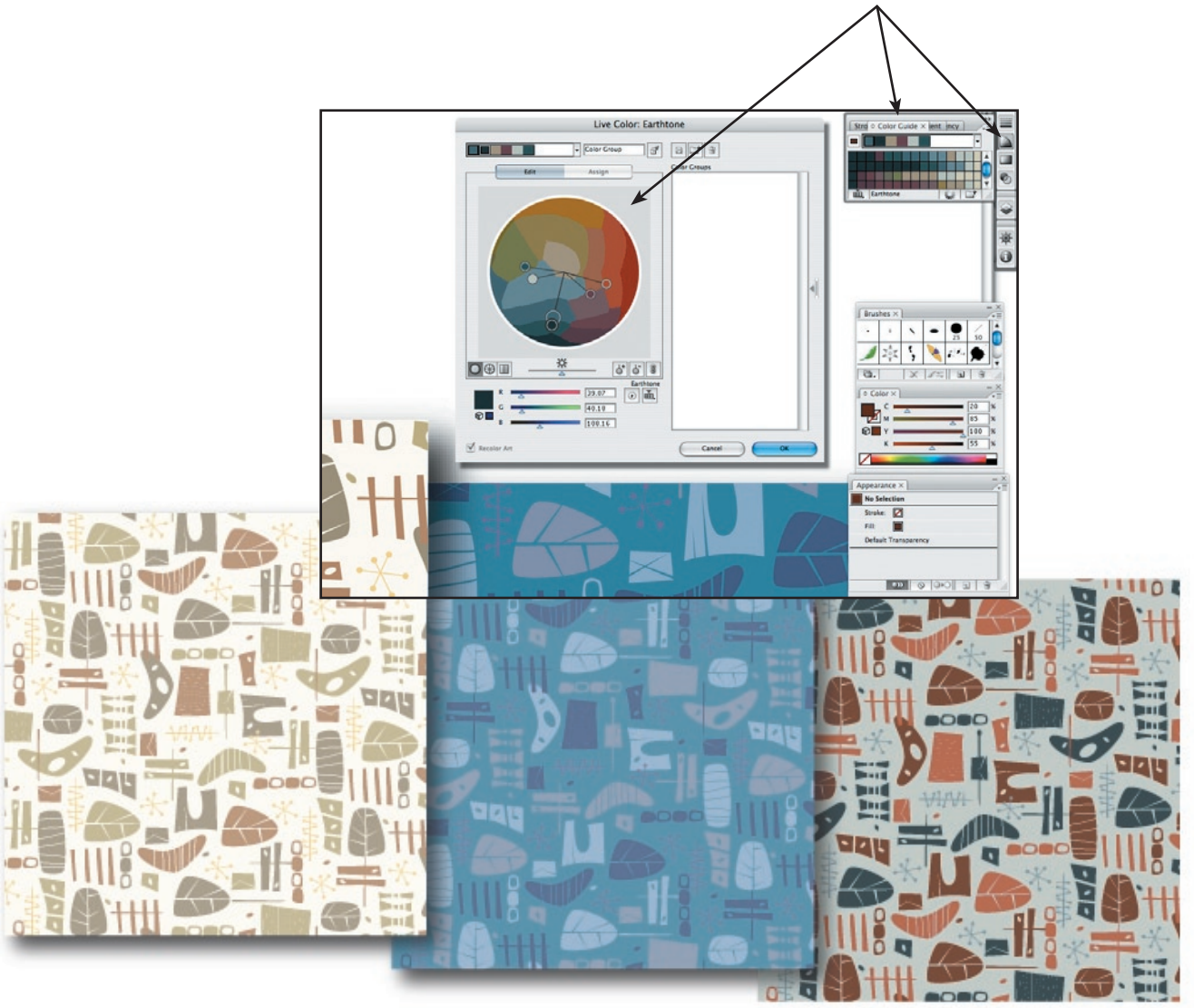




A color scheme based on nature
Nature provides a perfect departure point for color harmony. In the illustration above, red yellow and green create a harmonious design, regardless of whether this combination fits into a technical formula for color harmony.

Continued on back >>

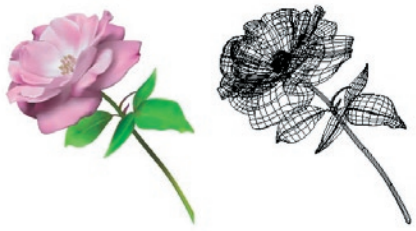
Adobe Illustrator version 13 (CS3) adds this functionality through a new "Color Guide" palette.



Think of it as the "color harmonies-picker" mixed with an overall Hue changer.

File Formats

FAQs for SOS ASAP (LOL)



Vector vs. Raster

Vector file formats leave the art, fonts, page geometry (a fancy name for boxes) in editable, scalable (without getting jaggy) form.

Some vector formats are: **.ai, .cdr, .svg, and .swf**
BEWARE: .eps, .pdf, .emf & .wmf are vector formats which can contain raster files.

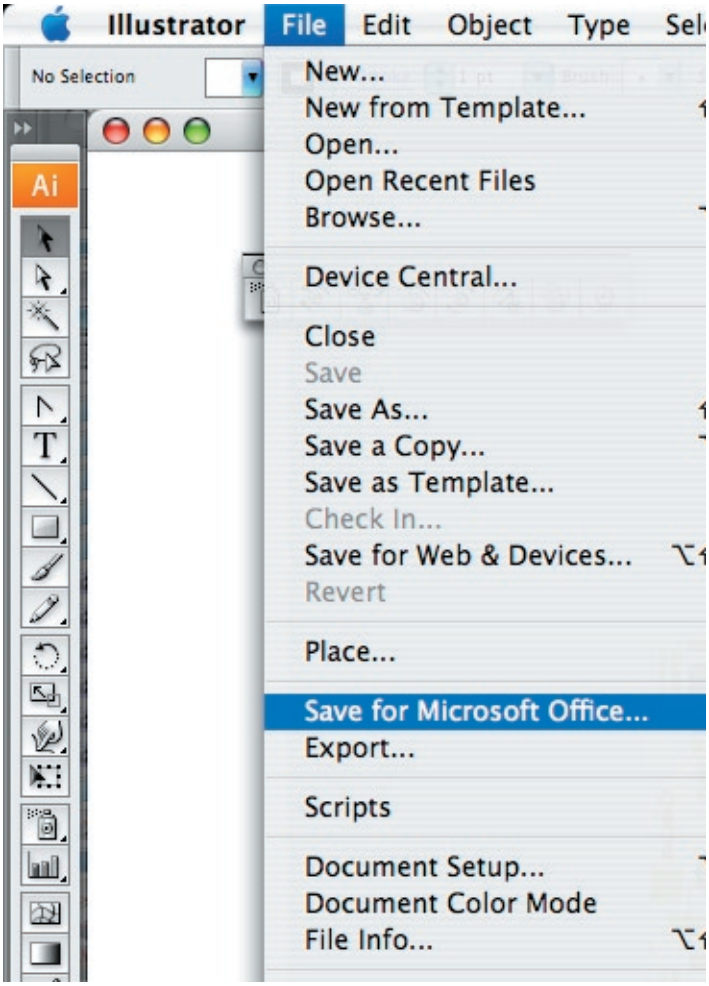
Raster formats have already converted all the art into pixels. Scaling a raster file could go from giving up a little quality to disasterous.
Some raster formats include: **.tif, .jpg, .gif, .png, .bmp**

The two most common helpful tips about file formats:

What format should you save your file in for use with MicroSoft Office Applications (Word, Excel, PowerPoint?)

No one seems to know the answer is .png!
Open your Adobe Illustrator Application and look under the file menu. There is a cryptic menu item called "Save for MicroSoft Office."
(I've never met anyone who's noticed!)

Guess what happens when you choose this menu item? .PNG!



Lossy and non-lossy

Some formats lose quality and detail every time they are saved or re-saved. There are called "Lossy" formats. The most common lossy format is jpeg (.jpg). Folks don't seem to know that EVERY TIME a jpeg is resaved you lose valuable data!

DO NOT RESAVE A JPEG!
Use the lossless formats, .png, or jpeg 2000, to avoid loss of data. Or, just resave in a master format like PhotoShop.

WWP

WILD WORLD OF PRINTING

We prefer terms like “swatchbook” over one’s like “deathmatch.”

– BEN FRANKLIN PRESS