G7 for Creatives and Print Buyers

Technical Guide

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G7 for Creatives and Print Buyers: What it has to offer

G7 is about getting predictable results when printing. In a perfect world the printed job should print the way you intended it to, no matter where you print it. You should be able to look at it on your monitor and see the job, and the proof should match what you see on your computer, and the printed product should match the proof --- no matter what printer you take the job to, and no matter what printing process is used to create the job.

It should look the way you designed it!

It probably sounds too good to be true, but a common visual appearance is exactly what G7 is all about. And though it may sound too good to be true, that is how G7 is being used today by creatives, print buyers, and others across America and the world.

Here are some real life examples of how G7 is being used:

- In Boston a designer at a large agency is creating work on a monitor calibrated to GRACoL and making prints on a laser calibrated to GRACoL. The file is worked on by several color separators that create inkjet and traditional proofs calibrated to GRACoL. The print buyer sends the jobs to multiple printing plants that then print the job on sheetfed presses calibrated to GRACoL. Throughout the process all parties use the shared visual appearance of GRACoL and the proofs and final printed pieces match the intent and vision of the original creatives.

- In Texas an agency uses the G7 calibration method to match the shared visual appearance of creative materials across many different media as materials are

printed using sheetfed offset, web, flexo, and gravure. Across all these media the materials share the same visual appearance that was envisioned by the creative.

- In Indiana a designer with an Epson printer calibrated to SWOP 2006 creates a job and sends it to a printer calibrated to SWOP 2006, achieving their intent and a perfect color match.

In short, G7 has a much to offer to creatives, print buyers, and printers. The promise of G7 is about predictable printing.

A Target for All Devices

One of the key concepts behind G7 is the idea of having a target. In the recent past printers would calibrate proofing systems to match their printing presses. By their very nature most presses are non-linear and constantly changing so these print and proofing conditions were at best temporary conditions and hard to match --- as well as specific to only that one press or printing plant.

The idea behind G7 is to aim all the devices involved in the process at a target condition. This means that the monitors, laser printers, inkjets, proofers, and printing machines are all aimed at one common condition. When any one device falls out of calibration it can quickly be moved back into calibration. This is especially important because instead of making all these devices chase a press, the presses are also aimed at these same target values. This assures that jobs can be sent to multiple presses and printing plants to achieve the same result no matter where the job is printed.

The G7 target sets are based on several things, which result in a common visual appearance to all devices that use the G7 calibration method. One of the primary metrics that G7 is based on is gray balance. A hallmark of G7 calibration is a perfect neutral --- the 50c/40m/40y patch will always equal a specific LAB value that indicates a good neutral. In addition to this focus on the neutral value the G7 method also focuses on weight as well as CMYK solids. For creatives and buyers the technical how to is less important as it it easy to calibrate monitors and proofers to these values. For those interested in technical details the G7 How To Guide can be downloaded for free from www.gracol.org.
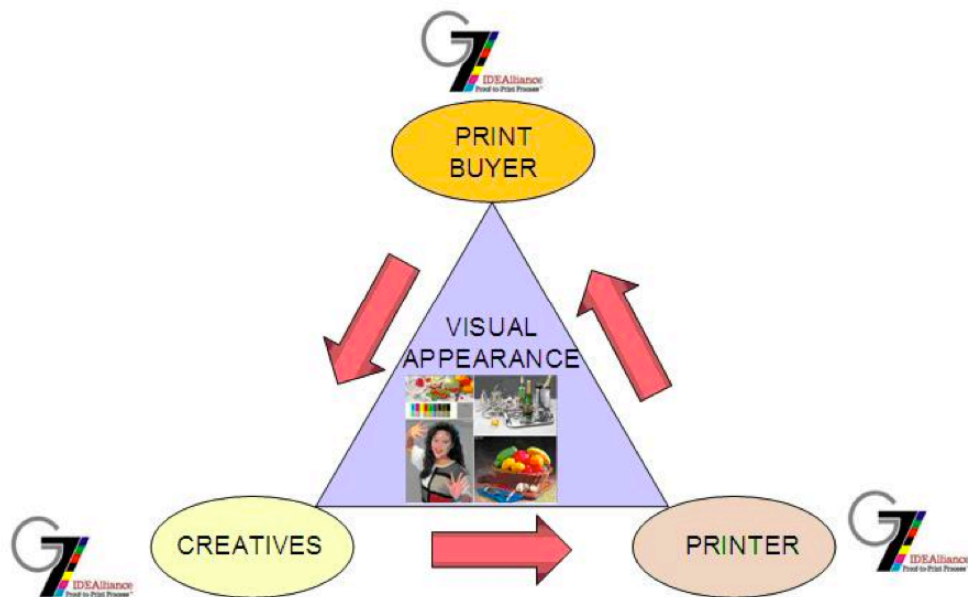
The Target Sets - G7 Specifications for Print Conditions

G7 is based on gray balance and a shared visual appearance. This means that no matter what the printing process by using the G7 method you should be able to obtain a common visual appearance across nearly any printing method or

technology. Whether the printing is being done using conventional offset printing, flexo, gravure, or another print method, by using the G7 calibration method you should be able to obtain nearly the same visual appearance across these different print methods.

The G7 method was originally used to develop the GRACoL 7 dataset. A dataset is a collection of aim points that specify the printing condition. The GRACoL dataset contains detailed information on the GRACoL 7 sheetfed print condition. The information in this dataset can be used to create icc color profiles for use in applications such as Adobe CS3 software like Photoshop and Acrobat. In addition the dataset also can be used to calibrate proofers, and to tell if printing machines are within a recommended tolerance of the dataset. The most common datasets used in the United States are GRACoL and SWOP. GRACoL 7 is the print specification (and dataset) for commercial printing on a No. 1 sheet. SWOP 2006 is the print condition for heatset web printing on a No. 3 and No. 5 sheet. By using these datasets as aimpoints, and using G7 as the method to achieve the aim points, printers and service providers can repeatedly match these printing conditions.

Commercial offset and heatset web are a few of many ways of printing. What is desirable for most creatives and print buyers is the ability to get a common visual appearance no matter what the print method. While GRACoL and SWOP are the most common print conditions in the United States, by using the G7 calibration method printers and service providers can achieve a common visual appearance even when using other print methods. In this case they would

use a G7 proofing condition such as GRACoL 7 or SWOP 2006 and then use the

G7 method when printing to achieve a color match on press. This method has

been used extensively and has proven to be an easy way to achieve a common

visual appearance even across different print methods and media. Below is a

chart that shows print methods and which datasets are appropriate.

| Type of Printing	Paper Type	Dataset	Proof Condition	Notes
Sheetfed	#1	GRACoL	GRACoL 7	2006
Heatset Web	#3	SWOP 2006 #3	SWOP 2006 #3	2006
Heatset Web	#5	SWOP 2006 #5	SWOP 2006 #3	2006
Flexo	NA	NA	SWOP 2006 #3	Use G7 method
Gravure	NA	NA	SWOP 2006 #3	Use G7 Method
Plastic	NA	GRACoL	GRACoL 7	In development
Digital	#1	GRACoL	GRACoL 7	Can be adapted to SWOP
Other	NA	NA	SWOP 2006 #3	Use G7 Method

International Printing – How G7 Relates to International Print Standards such as ISO and FOGRA

While G7 specifications such as GRACoL 7 and SWOP 2006 are popular print conditions in many parts of the world, they are not the only print conditions. In some parts of the world FOGRA 39/ISO 12647 is the dominant print condition. Currently the differences between GRACoL 7 and ISO 12647 are so slight that most users cannot tell the difference. For someone buying international printing this brings up the dilemma of which specification to use, or whether to attempt to use both specifications.

With this in mind, the GRACoL dataset was specifically based on FOGRA 39. While GRACoL and FOGRA 39 use different methods to achieve their desired results, the final results are nearly identical. While based on the G7 method, the majority of GRACoL 7 sheets also match the tolerances specified in ISO 12647, and if the print buyer specifies that both tolerances need to be achieved the G7 calibration can be performed in a manner that meets both specifications. (It is less likely that an ISO 12647 calibration will naturally fit into the GRACoL specification, but it is possible if gray balance is measured and adjusted to the G7 specifications).

To summarize, GRACoL was designed with international standards in mind. GRACoL 7 is based on the same data as ISO 12647. If print buyers are using GRACoL 7 as their specification these same proofs should be close to the print conditions specified by ISO 12647 for use in markets that do not print to GRACoL specifications.
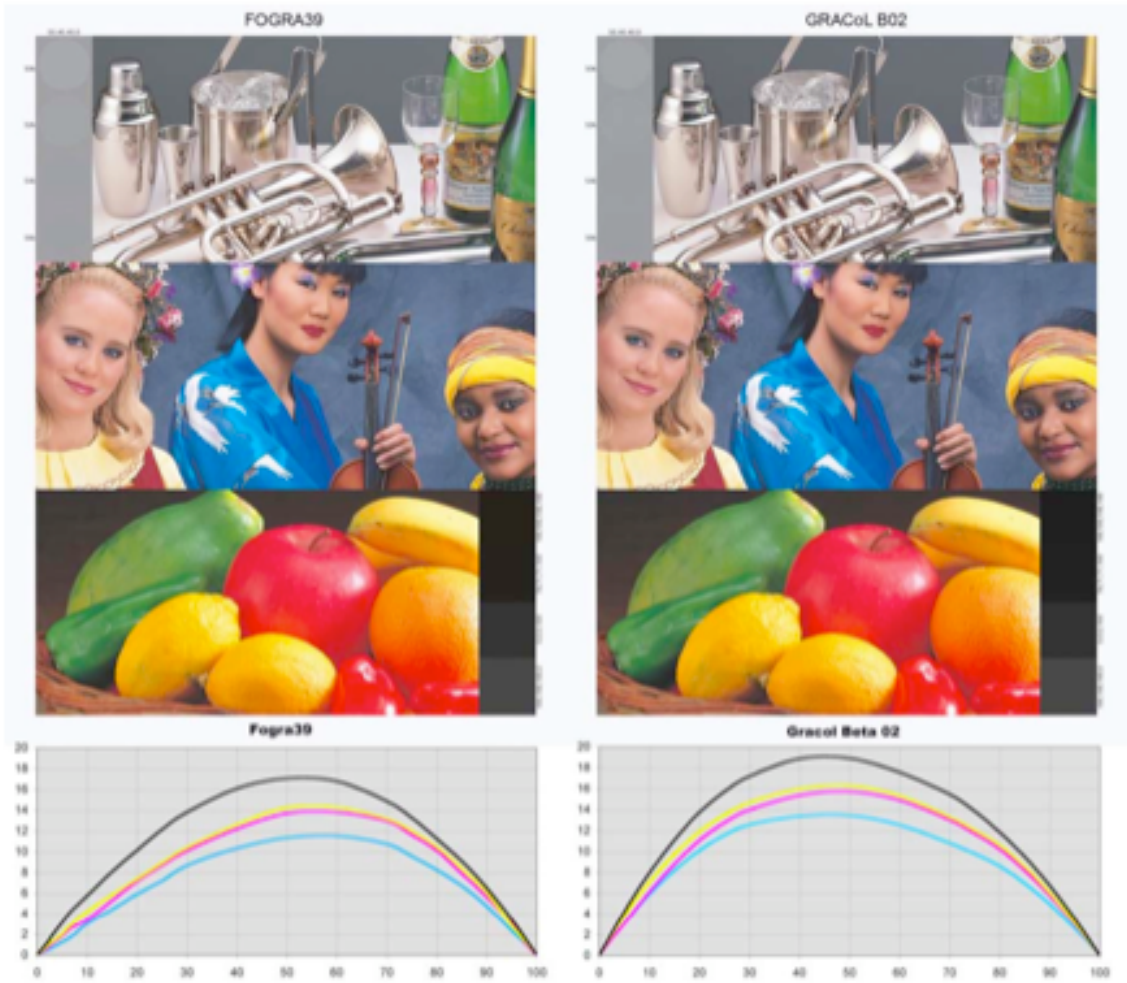
How To For Creatives

For the creatives, G7 offers the dream of having the final product turn out exactly as you envisioned it during the process. To do this we need to make sure that all of your tools are tuned to G7. Part of this is a reverse of the way creatives have always been forced to look at print production – which was from the reverse perspective --- ie the proof always matched a press, and the designer was forced to fit their job onto the print space of the specific press or printing plant. Using G7 both you, color separators, and the printer will be aiming at the same target. Because of this the printer will be able to match what you have designed, rather than you having to chase a specific press or proofing system.

To do this there are some simple things you need to do. (Detailed information follows the summary):

- Adjust your working space in your applications to a G7 specification such as GRACoL 7 or SWOP 2006.

- Calibrate your monitor if desired so that you will have an accurate visual representation of your working space on screen.

- Calibrate your printers such as inkjet proofers and laser printers to a G7 specification such as GRACoL 7 or SWOP 2006 so that you will accurate printed representations. A list of printers and rips that support G7 right out of the box can be found at www.gracol.org.

- Inform color separators and other vendors that you would like your proofs calibrated to a G7 specification such as GRACoL 7 or SWOP 2006, or choose new vendors who are already calibrated to a G7 specification such

as GRACoL 7 or SWOP 2006 (vendors can be located at

www.gracol.org).

- Inform printers that you would like your work to be calibrated a G7 specification such as GRACoL 7 or SWOP 2006, or choose new vendors who are already calibrated to a G7 specification such as GRACoL 7 or SWOP 2006 (vendors can be located at www.gracol.org).

- For additional comfort you may want to verify that your equipment and or vendors equipment are calibrated to a G7 specification such as GRACoL 7 or SWOP 2006. This can be accomplished by including the free IDEAlliance ISO 12647-7 2007 Color Control Strip.

- Although you can easily do everything above on your own, you may also decide to contact a G7 Certified Expert consultant for additional help. A list of consultants can be found at www.gracol.org.

IMPORTANT: BELOW IS A LIST OF RECOMMENDED STEPS FOR OPTIMAL RESULTS. NOT EVERYONE DOES ALL OF THE STEPS. SOME JUST ADJUST THEIR MONITORS, SOME JUST THEIR PROOFS. DOING ALL PROVIDES THE BEST RESULTS BUT MANY USERS ONLY DO SOME OF THESE STEPS.

Step 1: Adjust Your Working Space to a G7 specification such as GRACoL 7 or SWOP 2006

The first step is to adjust your working space to a G7 specification such as GRACoL 7 or SWOP 2006. Adjusting your working space is one of the most important first steps in color management and It also happens to be one of the

few 'free' things in color management. What exactly is a working space? Working spaces are also known as 'editing spaces'. A working space is simply the default or preferred setting for your application and is normally chosen in the application's color management preferences. The working space represents a device and sets the guidelines for what will happen to the files you work on. For example if you choose US Web as your working space, then the files and separations will be optimized for web printing – which means higher dot gain and less total ink coverage. Choosing a G7 specification such as GRACoL 7 or SWOP 2006 as your working space will provide you with exactly the reproduction settings that printers qualified as G7 Masters will be printing to. This means if you choose the same working space as the printing plant you are going to you will be synchronized with that plant and their printing process – giving you a much better chance of achieving a match as well as making best use of the full gamut of that printing process. Changing your working space is quite simple as you will see, and involves changing the profiles you have set up in Adobe CS applications.

There are some very important ways in which the working space affects your work:

The first is that whenever you view something on your monitor in the working space effects how you see your work. For example if I have a calibrated monitor and set my working space to a G7 specification such as GRACoL 7 or SWOP 2006 then the images I see on the screen with match the G7 specification such as GRACoL 7 or SWOP 2006 specification as closely as possible. If I have

it set to another working space then what I will be looking at on the screen won't actually have any relation to the printing conditions I am trying to achieve.

The second way the working space affects your work is that when you convert from RGB to CMYK the profiles in the working space are used to make the conversion, so depending on the type of profile you have the conversion will differ. For example if you know that you will be printing at a plant calibrated to GRACoL then you would want the file to be converted to the GRACoL working space so that separations, dot gain, and total ink coverage would be in sync with that plant. If going to a plant printing to SWOP 2006 you would want to use it's corresponding file for the same reason. You want to make sure that the work you are producing is in tune with the printing process you are going to.

The third way that working spaces affect us is that color policies are always at work in Adobe applications. For example in depending on how your policies are set in Adobe Photoshop, every image you open may be converted to your working space. This can have a negative effect if the image was deliberately prepared for one working space but you are using another. For example if a job is prepared for GRACoL using the proper working space and I open it in another working space the color will be converted and values will change.

Keep in mind that the working space controls how we see the file on the screen. For example a publication working space will show the dot gain, and effects of that printing process. If I switch my working space to in an Adobe CS application then I will instantly see the effects of that change. Having the right

working space helps us better see what our work will do when it is rendered on another device.

   In programs such as the Adobe Creative Suite applications (Adobe Photoshop, Adobe Illustrator, Adobe Indesign, and Adobe Acrobat) the color management preference controls the working space. In CS2 and 3 we can synchronize these working spaces between Adobe applications using the Bridge so that all Adobe CS2 and CS3 applications will use the same working space. Working spaces are defined by a collection of settings used by Adobe applications. These settings are called a color settings file (.csf) file. To set our working space to GRACoL we simply choose the GRACoL profile as the CMYK profile in the Adobe CS color management preferences. IdeaAlliance has created a set of CSF files and profiles contained in the appendix of this document that contains detailed instructions and link to downloadable CSF files for Adobe CS applications.

- The CSF files can be downloaded from www.gracol.org
- ICC profiles (independent of the CSF files if desired) can be downloaded from http://www.gracol.org

How to Configure Adobe CS Color Settings for a G7 specification such as GRACoL 7 or SWOP 2006–

   The following are recommendations on how to manually configure Adobe CS Color settings for a G7 specification such as GRACoL 7 or SWOP 2006. It is important to know that these are only recommendations, and that there are many other valid ways to work with these settings, and that these are not the only

combination of settings possible when working with GRACol. Much of these settings are personal preference.

1. Download the GRACoL 7 and SWOP profiles from IdeaAlliance (www.gracol.org)

2. Copy the profiles onto your system. On the Mac this means you will need to uncompress the profiles and copy them to a path such as *\Library\ColorSync\Profiles*. For Windows this means decompress them and simply right click on the profiles and select install. (Note: ignore the ds_store files present in the download package. These were left in the compressed archive by accident and have not yet been removed by IdeaAlliance).

3. Launch Adobe Photoshop, and select the *Color Settings* menu item.

4. In the color settings menu, select more options, and adjust the settings to the following:
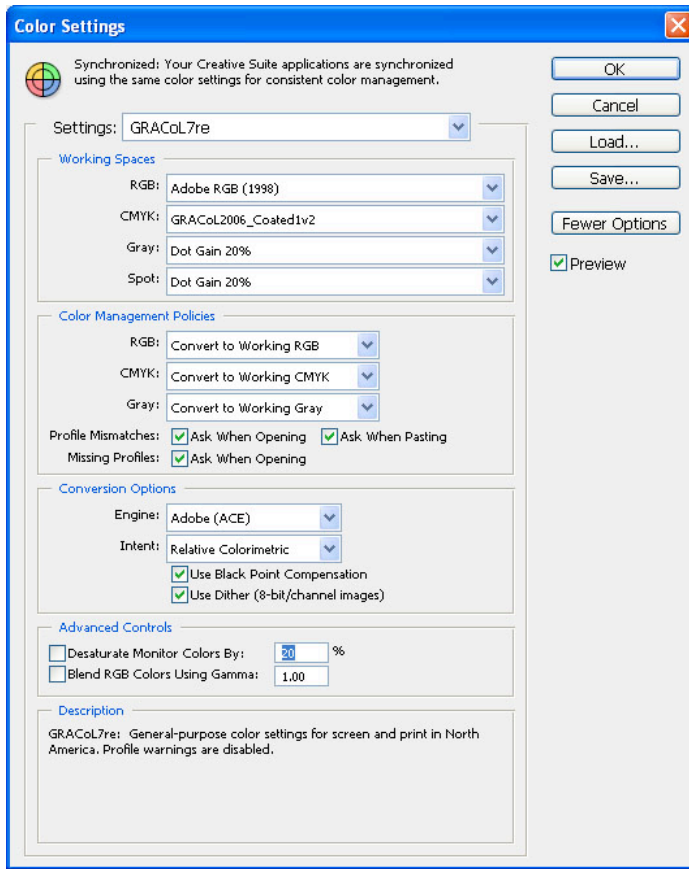
- Ignore the setting file name while making these changes

- Change *RGB working space* to *Adobe1998.* This is the profile that will be used when converting documents to the RGB colorspace, or when converting from other RGB colorspaces to the working space.

- Change the *CMYK working space* to GRACoL 7. This is the profile that will be used when converting documents to the CMYK colorpsace, or when converting from other CMYK colorspaces to the working space.

- Change *Gray* to Dot Gain 20%

- Change *Spot* to Dot Gain 20%. This specifies the dot gain to use when displaying duotones and spot color channels.

- Under *policies*, change *RGB to convert to working RGB*. This will convert the file to the current RGB working space.

- Change *CMYK to convert to working CMYK*. This will convert the file to the current CMYK working space.

- Change *Gray to convert to working Gray*. This will convert the file to the current Gray working space.

- Under *profile mismatches*, select *ask when opening* and *ask when pasting*. When you open or paste a file, if the profile does not match your working space then you will prompted and asked if you want to convert the file to your current working space.

- Under *missing profiles*, *select ask when opening*. When you open a file if there is no profile assigned to that file you will be prompted and asked if you want to convert the file to your current working space.

- Under *conversion options*, select *Adobe (ACE),* and select *relative colormetric* as the rendering intent. This will select the Adobe color management engine for the conversions, and will use the relative colormetric rendering intent, which will most accurately map colors between color spaces.

- Select *black point compensation*. Black point compensation dynamically adjusts for the differences in black points between the source and destination color space. Without black point compensation shadows can sometimes become plugged upon conversion.

- Select *use dither*. Dither reduces artifacts and banding when converting between color spaces.

- Under *Advanced controls*, leave *desaturate monitor colors* unchecked. This option is used when appropriate to obtain a better visual match.

- Leave *Blend RGB Colors using Gamma* unchecked. This adjusts the gamma used to blend colors.

5. Once you have finished selecting your settings, select *Save* and save the file with a name such as GRACoL. This will create a Color Settings File (CSF). This CSF file can be used by Adobe applications to synchronize the color settings.

6. To synchronize your CS sessions (If you have multiple CS apps that were purchased as a bundle) launch *Adobe Bridge*, and select *Edit>Creative Suite Color Settings*.

7. Select Show Expanded List of Color Settings Files, and select the CSF file you have created. Click on the apply button to synchronize the settings across the CS apps**.**

Using the Adobe CS Working Space

Once you have synchronized the Adobe CS Settings you should experience the following behavior:

1. New files will use the GRACoL working space and will be optimized for G7 printing conditions

2. If you open an older or existing file that does not match the GRACoL working space you will be prompted to convert the file to the current working space. In general you will want to convert the file to your working space, but there will be some situations in which you want to view the file in the original working space prior to converting, particularly if the conversion does not look acceptable. Viewing the file in the original working space will give you a idea of what the creator was thinking prior to converting it to your working space.

3. When you save files do not be afraid to embed or assign the GRACoL profile. This will provide other users with information about your intent in relation to the files that you are sending them. An assigned or embedded

profile tells users that your file was designed with a specific colorpace in mind.

Step 2: Calibrate your Monitor

While monitor proofs aren't perfect, they can be a helpful tool in predicting print, as well as a way to reduce the number of soft proofs. Monitor proofing is dependent on having a good monitor. It is safe to say that any monitor over 2 years old is a bad candidate, and that you should use a monitor known for color accuracy in the graphic arts. (Any old monitor will not do). In addition to having solftware you will need to have software and hardware that enables you to calibrate your monitor. (Some common packages used for this are X-Rite's i1 Display i1 Match, or Colorvision Spyder.) . Using the software and hardware calibrate your monitor to xK. Once done, and the working space is applied then images in the Adobe CS applications should match. One way to test this is take a GRACoL certified proof and compare it to the same image on the screen. (If you don't have a good match then you may want to consult a professional for help in monitor calibration. With the right equipment it works well and is relatively simple.

In addition to calibrating monitors with the Do It Yourself approach, some creatives also use dedicated soft proofing applications. These are dedicated programs that will calibrate your monitor for you, and manage the proof. Results are generally closer, and these packages are more expensive and generally easier to use, tracking edits and managing the color management for you so you don't have to do it yourself.

Step 3: Calibrate your printers such as inkjet proofers and laser printers to

a G7 specification such as GRACoL 7 or SWOP 2006

In order to have a better prediction of how the job will print, it is beneficial to adjust laser and inkjet printers to match GRACoL.

Inkjet printers can be relatively inexpensive and easy to adjust to the a G7 specification such as GRACoL 7 or SWOP 2006 specification. There are a number of inket printers and software RIPs that already are certified as matching the a G7 specification such as GRACoL 7 or SWOP 2006 specification. There is a good chance you may already own a printer and/or rip that supports a G7 specification such as GRACoL 7 or SWOP 2006. In this case all you do is load the specified paper and calibration files and you can be assured you are making a proof to the a G7 specification such as GRACoL 7 or SWOP 2006 specification. A complete list of supported inkjet rips and printers is available at www.gracol.org. Each of these rip and printer combinations listed on the GRACoL website contains a ADS sheet. The ADS sheet describes the paper and files needed to make that combination of RIP and printer GRACoL or SWOP compliant, and includes links to any files you will need to download. So in this case making a common inkjet printer GRACoL or SWOP compliant is probably much easier than you may think.

If your inkjet proofing device is not listed among the certified systems you can still make a GRACoL proof. To do this you will need to calibrate your proofer to within 1.5 deltaE of the GRACoL specification as described in the G7_How-to Guide_v6 which can be downloaded from www.gracol.org. If you are not familiar

with color management you may need to enlist the help of a G7 consultant to do this. (There is a list of G7 consultants at www.gracol.org).

It is possible to calibrate your laser printer to a G7 specification such as GRACoL 7 or SWOP 2006 7 as well although laser printers require more frequent calibration and sometimes require advanced color management techniques to produce proofs that match a G7 specification such as GRACoL 7 or SWOP 2006. In order to this the laser printer typically includes a RIP that allows recalibration so that the proofer can be maintained once profiles have been created and implemented.

Step 4: Inform color separators and other vendors that you would like your proofs calibrated to a G7 specification such as GRACoL 7 or SWOP 2006

In order for the process to work correctly everyone must be using the same working space. This means in addition to having the creative's you work with change their systems to the a G7 specification such as GRACoL 7 or SWOP 2006 working space., the color separators that you work with will also have to change the files they prepare to make sure they are in the same color space. (Most color separators already have a GRACoL 7 and SWOP 2006 proofing setup.) Once you request that your job is proofed and edited using the GRACoL 7 working space then your internal prints should begin to show a common visual appearance to the outside proofs.

There is a sample letter in the appendix that can be modified for use in notifying vendors that you are switching to the GRACoL 7 color space. You will probably be surprised at how many prepress vendors already support the a G7

specification such as GRACoL 7 or SWOP 2006 colorspace as nearly every proofing system in common use can be calibrated to a G7 specification such as GRACoL 7 or SWOP 2006 , and many are certified as being proofing systems by IdeaAlliance.

Step 5: Inform printers that you would like your proofs calibrated to a G7 specification such as GRACoL 7 or SWOP 2006

As mentioned above, in order for the process to work correctly everyone must be using the same working space. This means that in addition to the color separator, the printers must also be using the G7 color space. In addition to simply having their proofers and applications set to a G7 specification such as GRACoL 7 or SWOP 2006, they also will need to make sure their presses are calibrated to a G7 specification such as GRACoL 7 or SWOP 2006 using the G7 method. If the printer has questions on how to do this, detailed information including a How To Guide, and a list of consultants who can help is available at www.gracol.org. There is also a list of G7 Master Printers available at www.gracol.org. While the many printers may have calibrated their plant using the G7 method, G7 Masters have taken the extra step of having a G7 Expert come on site and verify the status of the sheet, confirm the knowledge of G7, as well as mail in a dataset and confirmation press sheet.

How To For the Buyer

For the print buyer G7 offers print predictability as well as the freedom to move jobs among multiple printers as well as media and still achieve similar results.

To do this there are some simple things you need to do. (Detailed information follows the summary):

- Make sure creatives have their working space set to a G7 specification such as GRACoL 7 or SWOP 2006 (see above section for creatives)

- Inform color separators and other vendors that you would like your proofs calibrated to a G7 specification such as GRACoL 7 or SWOP 2006, or choose new vendors who are already calibrated to a G7 specification such as GRACoL 7 or SWOP 20067 (vendors can be located at www.gracol.org).

- Inform printers that you would like your work to be calibrated to a G7 specification such as GRACoL 7 or SWOP 2006, or choose new vendors who are already calibrated to a G7 specification such as GRACoL 7 or SWOP 2006 (vendors can be located at www.gracol.org).

- For additional comfort you may want to verify that your equipment and or vendors equipment are calibrated to a G7 specification such as GRACoL 7 or SWOP 2006. This can be accomplished by including the free IDEAlliance ISO 12647-7 2007 Color Control Strip. You may also want to request that printers and vendors periodically measure press sheets and proofs for you.

- Although you can easily do everything above on your own, you may also decide to contact a GRACoL Certified Expert consultant for additional help. A list of consultants can be found at www.gracol.org.

Step 1: Adjust Creatives Working Space to a G7 specification such as GRACoL 7 or SWOP 2006

The first thing to do is to make sure that creatives involved in print projects have adjusted their working space to a G7 specification such as GRACoL 7 or SWOP 2006. (Detailed instructions on how to do this can be found in the previous section for creatives). Having your creative's working space set to a G7 specification such as GRACoL 7 or SWOP 2006 is important because it will allow you to move these jobs to any vendor that supports a G7 specification such as GRACoL 7 or SWOP 2006 without sacrificing quality or color.

Step 2: Inform color separators and other vendors that you would like your proofs calibrated to a G7 specification such as GRACoL 7 or SWOP 2006

In order for the process to work correctly everyone must be using the same working space. This means in addition to having the creative's you work with change their systems to the a G7 specification such as GRACoL 7 or SWOP 2006 working space., the color separators that you work with will also have to change the files they prepare to make sure they are in the same color space. (Most color separators already have a a G7 specification such as GRACoL 7 or SWOP proofing setup.) Once you request that your job is proofed and edited using the a G7 specification such as GRACoL 7 or SWOP 2006 working space

then your internal prints should begin to show a common visual appearance to the outside proofs.

There is a sample letter in the appendix that can be modified for use in notifying vendors that you are switching to the a G7 specification such as GRACoL 7 or SWOP 2006 color space. You will probably be surprised at how many prepress vendors already support the a G7 specification such as GRACoL 7 or SWOP 2006 colorspace as nearly every proofing system in common use can be calibrated to GRACoL 7, and many are certified as being a G7 specification such as GRACoL 7 or SWOP 2006 proofing systems by IdeaAlliance.

Step 3: Inform printers that you would like your proofs calibrated to a G7 specification such as GRACoL 7 or SWOP 2006

As mentioned above, in order for the process to work correctly everyone must be using the same working space. This means that in addition to the creative's, and the color separator, the printers must also be using the G7 color space. In addition to simply having their proofers and applications set to a G7 specification such as GRACoL 7 or SWOP 2006, they also will need to make sure their presses are calibrated to a G7 specification such as GRACoL 7 or SWOP 2006 using the G7 method. If the printer has questions on how to do this, detailed information including a How To Guide, and a list of consultants who can help is available at www.gracol.org. There is also a list of G7 Master Printers available at www.gracol.org. While the many printers may have calibrated their plant using the G7 method, G7 Masters have taken the extra step of having a G7

Expert come on site and verify the status of the sheet, confirm the knowledge of G7, as well as mail in a dataset and confirmation press sheet.

Step 4: Verify

In addition to requesting that vendors use the G7 working space it is also important to be able to verify that vendors and others that you work with are actually working in the G7 colorspace.

Using several different methods can do this. There are a number of tools available for verifying G7 compliance. Many of these revolve around using the IDEAlliance ISO 12647-7 2007 Color Control Strip. This control strip is available from www.gracol.org as a free download.
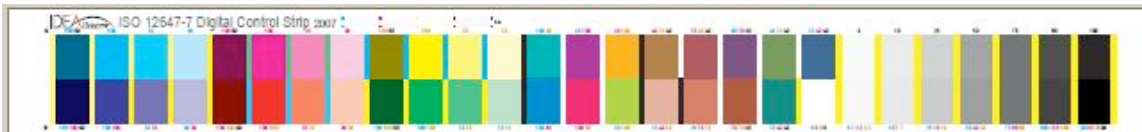
By placing this control strip on each and every proof you can verify that proofs are in fact G7 proofs. Many vendors actually read each proof before sending it and place a label indicating that the proof is compliant. You can also read each proof, or can spot check selected proofs to make sure that your vendors are actually supplying you with valid G7 proofs. The free download also explains how to verify the values for each patch. Many of the proof verification applications have the verification values already built in and can also print a verification label. A list of these applications is provided in the appendix.

It is also possible to place a colorbar on a printed sheet that will also allow you to verify compliance with G7. It is important to keep in mind that press tolerances are much larger than proof tolerances. There is a free G7 Colorbar

available for download at www.gracol.org, although many printers are already using colorbars that will allow you to confirm that the press is within your tolerances. The important thing is to learn how to verify that proofs and printed materials are indeed G7 compliant.

How To For the Printer

For the printer a comprehensive How to Guide can be downloaded from www.gracol.org. This guide contains comprehensive instructions on how to calibrate printing presses and proofers to the GRACoL 7 standard. Although you can easily do everything above on your own, you may also decide to contact a GRACoL Certified Expert consultant for additional help. A list of consultants can be found at www.gracol.org

G7 is Your Friend

Remember, G7 is for you. It is all about being able to move your work around and maintain the visual appearance you want. Instead of chasing a press with proofs and special formulas GRACoL will make sure the press and proofs are aimed at you and what you are doing.

Where to get Help

There are a number of resources available to help GRACoL users:

- The GRACoL website at http://www.gracol.org has a number of resources, information and how-to guides available for download and viewing.

- An on-line forum will be rolled out during 2008. This forum will allow users to ask questions and discuss issues with the G7 community.

- G7 Experts who are professional consultants can also answer many questions. G7 Experts near you can be located at http://www.gracol.org.

Appendix A:

These files can be downloaded from http://www.gracol.org

SWOP® & GRACoL® Color Settings Files for Adobe® Creative Suite®

Document version 001

Introduction

This document describes how to install and use the three Adobe .csf (Color Settings Files) provided free by IDEAlliance for use in Photoshop® or any Adobe Creative Suite application.

The three .csf files are called

- GRACoL_Coated1.csf

- SWOP_Coated3.csf

- SWOP_Coated5.csf

As the names imply, each .csf file optimizes an Adobe application's color settings for either GRACoL grade 1 commercial stock, SWOP grade 3 publication stock or the duller SWOP grade 5 publication stock.

Note: similar SWOP and GRACoL .csf files will be installed automatically in a future version of Adobe Creative Suite. Meanwhile this installation process is recommended and endorsed by both IDEAlliance and Adobe for anyone using the G7 method.

Why Use These .csf Files?

By installing and using these .csf files your Adobe application(s) will create CMYK files that will print optimally on any device that has been calibrated to G7, and/or adjusted to simulate the latest SWOP and/or GRACoL 2007 specifications. After installing and selecting the appropriate .csf your CMYK files and screen display will comply automatically with these important specifications.

If everyone who works with magazine publications or commercial offset printing installs and uses the appropriate .csf file(s), the creation, exchange and printing of CMYK files will be much easier and more consistent industry-wide.

Note: These .csf files will be most useful if all your CMYK output devices (proofers and presses) are calibrated to G7 and/or adjusted to simulate SWOP 11 or GRACoL 7. Presses or proofing systems not yet G7-calibrated may not take full advantage of the new .csf.

Compatibility

These .csf files can be used with any version of Adobe Creative Suite under both Apple OS X or Microsoft Windows.

File Installation

Installation consists of simply dragging or copying the respective .csf files into the appropriate location. The correct location depends on the platform (Macintosh or Windows) and on your current application settings.

To find the correct location;

1. Launch Photoshop.

2. Open the Color Settings window (Edit – Color Settings).
3. Click the Load… button.
4. Note the folder and path to which you are taken.
5. Close the Color Settings window without changing anything.

Choosing a .csf File in Photoshop

1. First install the SWOP and GRACoL .csf files in the appropriate location.
2. Launch Photoshop.
3. Open the Color Settings window (Edit – Color Settings).
4. Note the name of the Color Settings File currently loaded, in case you want to revert to the previous settings later.
5. Note the RGB Working Space if it is not Adobe RGB (1998).
6. Click the Load… button.
7. Select the appropriate SWOP or GRACoL .csf file.
8. Close the Color Settings window.

Synchronizing Creative Suite Color Settings

If you use more than one Adobe Creative suite application, use Adobe Bridge to synchronize color settings across the whole suite, as fllows.

1. First install the SWOP and GRACoL .csf files in the appropriate location.
2. Launch Adobe Bridge.
3. Open the Creative Suite Color Settings window (Edit – Color Settings).
4. Note the name of the Color Settings File currently selected, in case you want to revert to the previous settings later.
5. Select the appropriate .csf file. If you do not see the SWOP or GRACoL .csf files, click the "Show Expanded List of Color Settings Files" button.
6. Click Apply.

Which Files Should You Install?

If you only work on commercial files, just install the GRACoL_Coated1.csf.
If you only work on publication files, just install the two SWOP .csf files.
If you work on both commercial and publication files, install all three .csf files and select the appropriate file before each job.

Changes You May Notice

Adobe RGB (1998) Working Space

All these .csf files use the *Adobe RGB 1998* Working Space. If you previously used another RGB Working Space, e.g. *sRGB IEC61966-2.1* or *DonRGB4*, you may notice a change in the way RGB images are displayed or exported.
To restore the old RGB Working Space

1. Launch Photoshop.
2. Open the Color Settings window (Edit – Color Settings).
3. Select the old RGB Working Space, e.g. sRGB IEC61966-2.1.
4. Save the Color Settings File with a new name, for example "SWOP_Coated3_sRGB".
5. Close the Color Settings window.

New CMYK Working Space

After selecting the appropriate .csf, your default CMYK Working Space (visible in the Color Settings window) will be changed to one of the following, depending on the selected .csf file;

- GRACoL2006_Coated1v2
- SWOP2006_Coated3v2
- SWOP2006_Coated5v2

New Gray Working Space

Your default Gray Working Space will be changed to one of the following;

- Black Ink – GRACoL2006_Coated1v2
- Black Ink – SWOP2006_Coated3v2
- Black Ink – SWOP2006_Coated5v2

NOTE: Using the same CMYK profile for the Gray and CMYK Working Spaces ensures that monochrome (grayscale) images print with similar contrast and lightness to 4-color images, provided that the output device (proofer or press) is calibrated and controlled according to the CMYK working space.

Old CMYK Files Look Different on Screen

Because the CMYK Working Space is now different, CMYK images may appear slightly different on your display in Photoshop, InDesign, or any other Creative Suite Application. The extent of this difference may depend on View Settings. Note that this difference is a good thing, as your screen will now simulate more closely how a modern G7-calibrated press or proofing system should look (assuming you also have a good monitor profile).

Channels Look Different in New CMYK Images

RGB images converted to CMYK will probably have different CMYK values, and individual channels may appear quite different than if the same image was converted using your old CMYK Working Space. In spite of these differences your new CMYK images should print very well on any G7-calibrated proofer or press, and should match t colors of your original equally well, or better, than with your previous CMYK Working Space

GCR and Black Strength

GCR and black channel strength have been carefully adjusted (in the CMYK profiles used in these .csf files) to maximize color saturation and shape in darker colors (with high GCR) while minimizing black ink in lighter colors and flesh tones. Extensive testing shows that these profiles can be used for a wide variety of work without the need for custom GCR adjustments.

Making Custom Custom .csf Files

Experienced color management experts may prefer to create custom SWOP or GRACoL profiles from the official IDEAlliance characterization data sets (available free at www.idealliance.org), for example to modify GCR, black strength, TAC, etc. To make your own custom Color Settings File, just substitute your own SWOP or GRACoL profile in the CMYK and Gray Working Space fields and save your custom Color Settings File.

To avoid confusion, never save a custom .csf with the same name as the three "official" .csf files supplied by IDEAlliance. If you suspect an official IDEAlliance .csf has been over-written with a custom .csf using the same name, just download the official IDEAlliance .csf and re-install it.

Copyrights, Trademarks and Usage Limitations

Adobe, Photoshop, InDesign, Illustrator, Acrobat and Creative Suite are either registered trademarks or trademarks of Adobe Systems Incorporated. The free distribution of Adobe Color Settings Files is encouraged by Adobe without fee or license as a means of improving accurate color exchange between users. IDEAlliance, SWOP and GRACoL are registered trademarks of IDEAlliance (International Digital Enterprise Alliance).

The CMYK profiles included in these .csf files were kindly donated by X-Rite Inc. expressly for free distribution by IDEAlliance.

The official IDEAllliance SWOP and GRACoL .csf files may be freely downloaded, installed and used by any interested party, but may not be sold, rented, copyrighted or incorporated into any commercial product without the express permission of IDEAlliance.

Appendix B: Undefined vs GRACoL 7/SWOP Working Space

Current working space:	Result
Creative = undefined	- Images vary depending on printer and monitor viewed on - Images have no relationship to final printed piece - Images have no relationship to working space at retoucher and require extra retouching
Imaging Vendors = undefined	- Images are retouched to match customer lasers, requiring additional and often unnecessary - Retouchers need to 'guess' intent of creatives - Retouchers working space has no connection to either creatives or print requiring extra time on press and making some jobs impossible to get a good match to on press - Imaging vendor does not how job will look on a specific press
Printing Vendor = undefined	- Job and images have no relationship to press conditions at printing vendor - Proofs from retoucher do not match proofs from printing vendor - Because working space and plate curves do not match, some jobs are technically impossible to match - Because working space and plate curves do not match jobs take extra press tweaking and time to match.

Results of using GRACoL 7/SWOP working space:

New working space:	Result
Creative = GRACoL 7	- Images match on monitors at

	user site and on all printers - Images have similar appearance to final printed piece - Images match same working space as retoucher and require less initial retouching.
Imaging Vendors = GRACoL 7	- Customer lasers are similar to 1st proof, saving time on initial passes - Retouchers do no need to 'guess' intent of creatives - Retouchers working space is same as creatives saving time and money.
Printing Vendor = GRACoL 7	- Press curves and retoucher proofs match printing vendors proofs - Press is run to density and proof to press match is in the ballpark with minimum makeready and time - No replating or curve corrections on press are necessary

Appendix C: Sample Letter to Vendors

Agency Name
Street Address
City, State, Zipcode
Phone Number

12/7/06

Print Supplier
Company Name
Street Address
City, State, Zipcode

Dear Mr. Print Supplier,

Agency Name is in the process of implementing new print standards. The purpose of these standards will be to make sure that we can maintain consistent quality among vendors. We value your service as a provider for Agency Name and would like to invite you to join us as we implement these standards.

As of September, 2007 all Agency Name print providers will be required to be GRACoL 7 and SWOP 11 qualified. Both GRACoL 7 and SWOP 11 are new print conditions that will allow us to ensure that all of our vendors are providing us with a consistent and high quality print. In addition to this qualification, Agency Name will require that you provide us with a certified sheet and metrics. We have included an info sheet on the G7 calibration process and can provide you with resources who can assist and help you obtain this qualification if needed.

We look forward to working with you on this exciting venture.

Sincerely,

Agency Contact

Appendix D:

Proof Verification Applications that Support G7

EFI Colorproof XF Verifier	EFI	www.efi.com
CGS ColorTuner Certified Proof	CGS	www.cgsusa.com
GMG ProofControl	GMG	www,gmg.com
Colormetrix Proofpass	Colormetrix	www.colormetrix.com
CSE Colorburst	CSE	www.colorburstrip.com

Proofing Systems with Out of the Box G7 Support

A list of G7 proofing systems can be found at http://www.gracol.org

About IdeaAlliance

IDEAlliance is an established industry organization with a diverse and impressive membership that has been developing, educating and validating best practices in publishing and information technology for 40 years. Through special interest groups, conferences and its active membership, IDEAlliance offers its members an inside track into how the publishing and content-driven supply chain can and will be exploited to respond to both traditional and emerging pressures to reduce cost, increase the top line, and develop new lines of business.