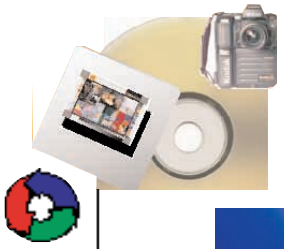
Kodak Colorflow



Kodak Polychrome
GRAPHICS

Color*flow* Quick Reference Notes

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Calibrating a New Monitor

For complete installation and calibration instructions, refer to the KODAK COLORFLOW ICC Monitor Profile Builder User's Guide.

Installing KODAK COLORFLOW ICC Monitor Profile Builder

1. Disable any existing monitor calibration utilities, such as Adobe Gamma or Gamma control panel by Knoll.
2. Insert the MPB installation disk into your macintosh and double-click the installer icon. Follow the installer instructions until complete. Shutdown the macintosh.
3. Attach the DTP92 serial cable to the modem or printer port of the macintosh. Connect the supplied AC Adapter to the cable connector and an AC wall outlet.
4. Turn on the macintosh.

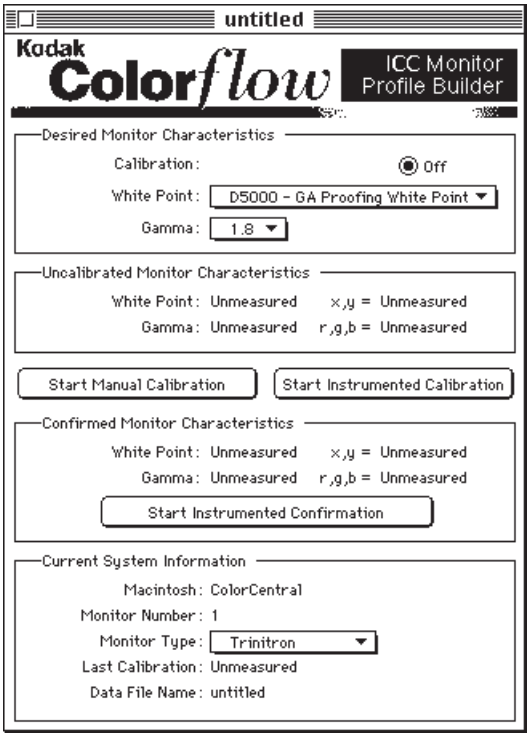
Adjusting Monitor Brightness and Contrast Controls

Adjust the brightness and contrast controls on your monitor, experimenting with different settings. Look for a contrast that is about "midway' of the range. Look for a brightness that is just slightly lower that the maximum brightness, and comfortable to view. Set a brightness/contrast combination that makes the two black "frames" around the edges of the viewing area the same "blackness", and make sure the black does not look faded. Record the brightness and contrast settings and record them.

Note: Once adjusted, never change the brightness and contrast controls of the monitor. Any change will invalidate the current monitor calibration and ICC profile.

Calibrating Your Monitor

1. Launch MPB. The main window appears.



2. Choose File —> Peferences. From the Instrument pull-down menu, select X-Rite DTP 92. Select the port (modem or printer) to which the DTP 92 is attached. From the Calibrate Every pull-down menu, select Week (recommended). Click OK.

3. From the main window, click Start Instrumented Calibration.

4. Place the suction cup of the DTP 92 at the indicated location on the monitor. Click Measure.

   The software completes the calibration, sets the correction tables on the monitor, and reads the corrected white point and gamma for the red, green and blue channels.

5. The Confirmed Monitor Characteristics should fall within these limits:

   White Point between 4900 – 5100
   Gamma between 1.78 – 1.82

6. If the White Point and Gamma are WITHIN the limits, save the calibration file; choose File —> Save command.

   If either the White Point or Gamma EXCEEDS the limits by a small amount (around 25 units), and repeat from step 1 of Calibrating Your Monitor.

   If either the White Point or Gamma EXCEEDS the limits by a large amount (over 50 units), re-adjust monitor brightness/contrast controls, and repeat from step 1 of Calibrating Your Monitor.

7. Save an ICC profile that reflects you calibrated monitor; choose File —> Save ICC Profile. Enter a profile description* and your monitor's manufacturer and model number, then click Save Profile. Enter a file name* and save it in the ColorSync Profiles folder in your System folder.

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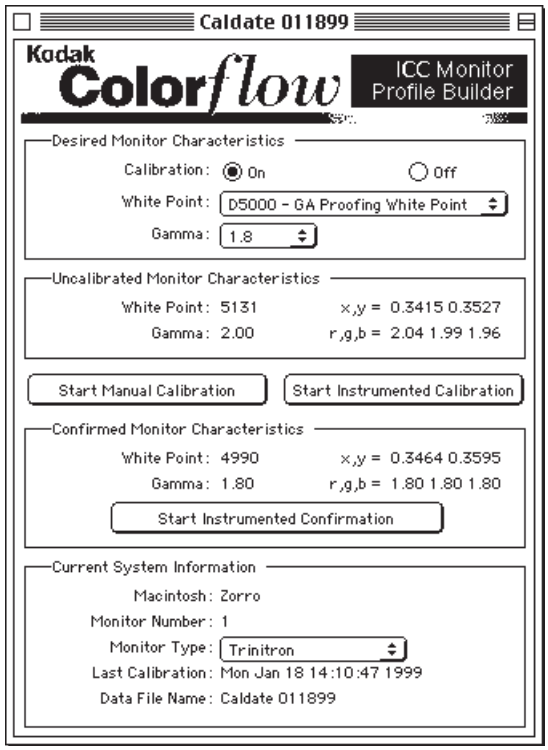
*Note: Make the profile name and the profile description the same.

Confirming Your Monitor Calibration

Your monitor calibration should be confirmed on a regular basis, either weekly or bi-weekly, by performing the Instrumented Confirmation function in the Monitor Profile Builder application. Recalibrate the monitor when the Monitor Characteristics (White Point and Gamma) exceed the recommended limit.

Note: If you have brightness and contrast controls on the monitor, always leave them the same. Any change will invalidate the current monitor calibration and ICC profile.

1. Make sure your DTP 92 is connected to your Macintosh.
2. Launch **Monitor Profile Builder** (MPB). The main window opens with your previous calibration data. Make sure the Desired Monitor Characteristics are set as below:



3. Click Start Instrumented Confirmation.
   (If the DTP 92 is not found, go to File —> Preferences and select the correct options.)

4. Place the suction cup of the DTP 92 at the indicated location on the monitor. Click Measure.

5. When the software completes the confirmation, remove the DTP 92 from the monitor. In the main window, make sure the Confirmed Monitor Characteristics do not exceed these limits:

   White Point between 4900 – 5100
   Gamma between 1.78 – 1.82

6. If the White Point and Gamma are WITHIN the limits, go to step 7. If either the White Point or Gamma EXCEEDS the limits, go to step 8.

7. Save the calibration file with the File —> Save command. It is not necessary to save an ICC profile. You're done!

8. Click Start Instrumented Calibration.

9. Place the suction cup of the DTP 92 at the indicated location on the monitor. Click Measure.

   The software completes the calibration, sets the correction tables on the monitor, and reads the corrected white point and gamma for the red, green and blue channels.

10. The Confirmed Monitor Characteristics should fall within these limits:

    White Point between 4900 – 5100
    Gamma between 1.78 – 1.82

11. If the White Point and Gamma are WITHIN the limits, save the calibration file with the File —> Save command. It is not necessary to save an ICC profile. You're done!

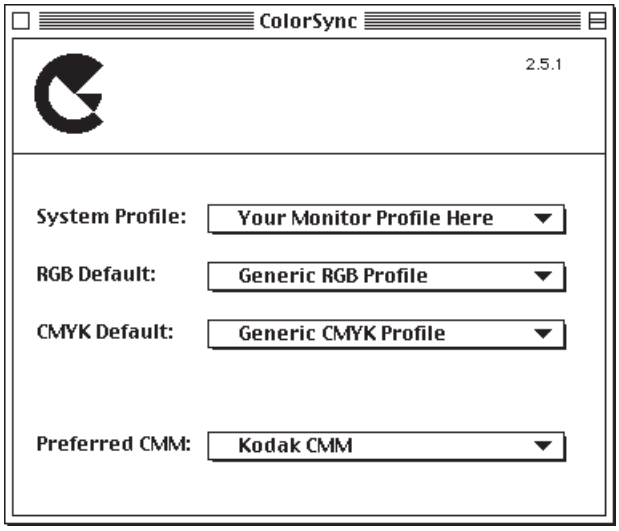
    If either the White Point or Gamma EXCEEDS the limits by a small amount (around 25 units), repeat from step 8.

    If either the White Point or Gamma EXCEEDS the limits by a large amount (over 50 units), proceed to step 12.

12. If you have brightness and contrast controls on your monitor, experiment with different settings. Look for a contrast that is about "midway' of the range. Look for a brightness that is just slightly lower that the maximum brightness, and comfortable to view. Repeat from step 8.

Setting the ColorSync System Profile

1. Choose **—> Chooser—> ColorSync.**
   Make the selections shown below:



Note: PhotoShop looks at the System Profile, and uses it as the default monitor profile.

2. Close the window. The System Profile is set.

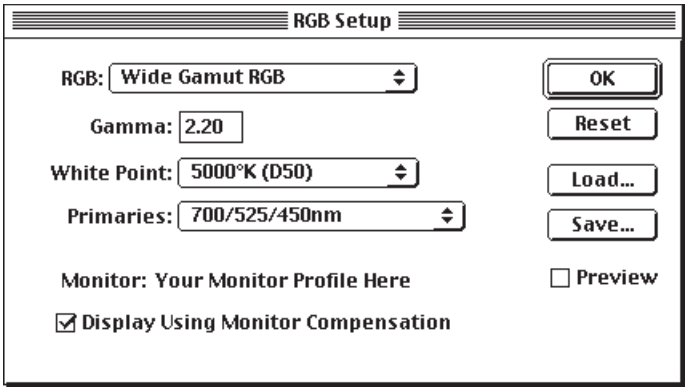
Using Photoshop 5 Color Management Options

The new features of Photoshop 5.0 that affect your workflow are:

- ICC Profile embedding (defined in Profile Setup)
  When opening an image, Photoshop 5 checks for an embedded profile. When saving an image, Photoshop 5 can embed desired profiles in the image file.
- RGB working spaces (defined in RGB Setup) – an RGB color space which allows users to view the same imge accurately on different monitors
- Additional options in CMYK Setup

RGB Setup

1. Choose File—> Color Settings—> RGB Setup.
   Make the selections shown below:

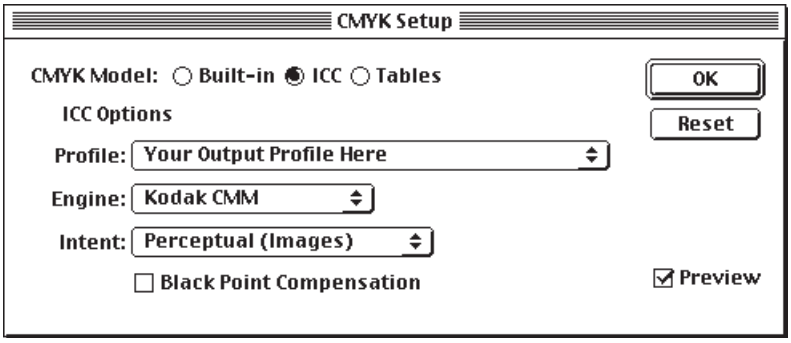


Display Using Monitor Compensation MUST be checked to display images using the monitor profile defined in the ColorSync Control Panel.

NOTE: If you have the RGB box checked in the Embed Profiles section of the Profile Setup window, the profile you set in the RGB Setup window will be embedded into the image file at the time the image is saved.

CMYK Setup

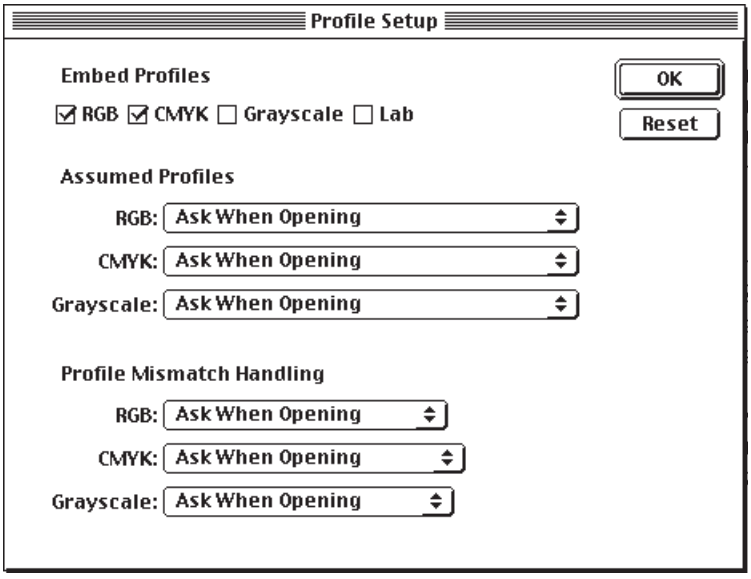
1. Choose **File—> Color Settings—> CMYK Setup**.
   Make the selections shown below:



NOTE: If you have the CMYK box checked in the Embed Profiles section of the Profile Setup window, the profile you set in the CMYK Setup window will be embedded into the image file at the time the image is saved.

Profile Setup

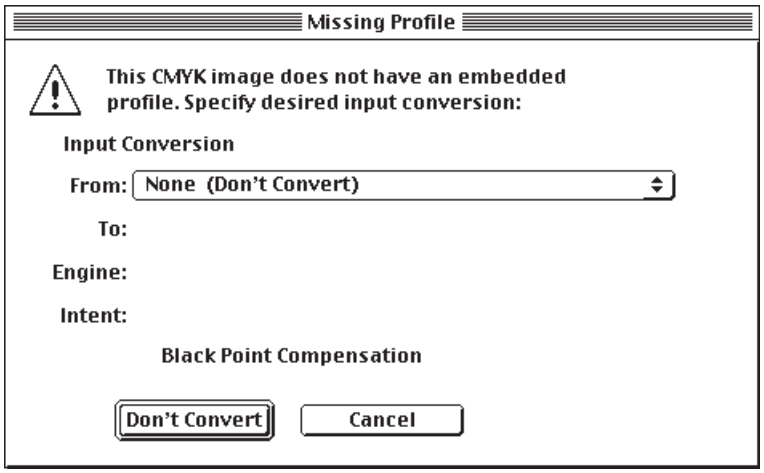
1. Choose File—> Color Settings—> Profile Setup.
   Once you understand how the options work, you can choose those that fit your personal preference. The initial settings we recommended are shown below:



There are three main sections in the Profile Setup window.

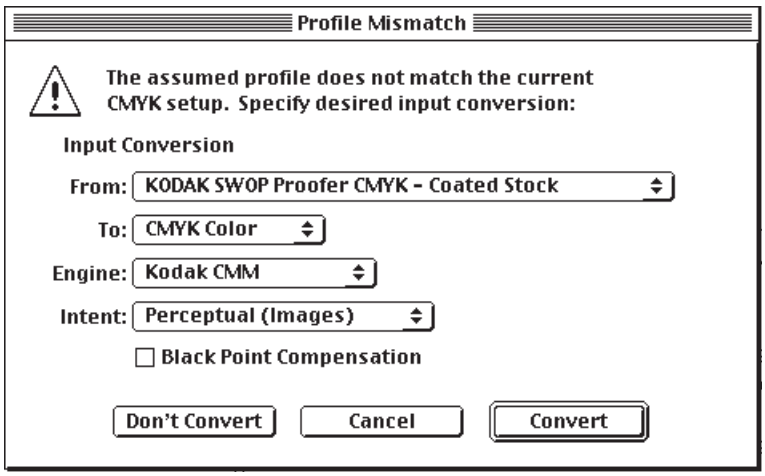
- **Embed Profiles —** Defines what type(s) of profile(s) (RGB, CMYK, LAB, or Grayscale profiles) to embed in an image file (TIFF, EPS, PDF, JPEG, PICT, and PSD) when saved. If RGB is checked, the profile selected in the **RGB Setup** window will be embedded. If CMYK is checked, the profile selected in the **CMYK Setup** window will be embedded.
- **Assumed Profiles** — Defines how to handle raw or pre-v5.0 Photoshop images (images that do not have embedded profiles) when they are opened. When no profile is embedded in a file, the settings in this window determine how Photoshop will behave upon opening the file. Choices can be made individually for RGB, CMYK, and Grayscale images, and are as follows:

  (1) **Ask When Opening** – displays a window that states that the image you are opening does not have an embedded profile. It allows you to specify your desired input conversion, or open and don't convert.



  (2) **None** – does not assume any profile, and simply opens the image file.

(3) Select a **specific profile** – Photoshop automatically assumes that the selected profile is the source profile for that image file. When the file with no embedded profile is opened, the following menu appears:



The name of the assumed profile appears in the FROM field. The choices in the TO pop-up window are RGB Color, CMYK Color, Lab Color, or Grayscale (the profiles set in the cooresponding Color Setup windows).

You may consider using this setup when you need to convert legacy CMYK images (such as Photoshop 4 images with a known source) from one profile color space to another.

- **Profile Mismatch Handling** — Defines how to handle images that contain an embedded profile **that does not match** the current color setup. When there is a profile mismatch, the settings in this window determine how Photoshop will behave upon opening the file. Choices can be made individually for RGB, CMYK, and Grayscale, and are as follows:

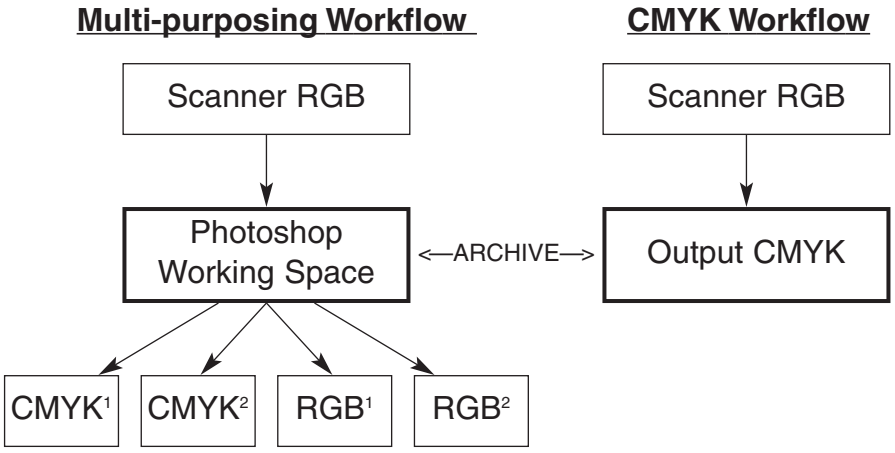
  (1) **Ask When Opening** – displays a window (similar to the one above) that states which profile is embedded, and allows you to open the file without converting (Don't Convert), OR convert the image FROM the embedded profile color space TO your desired profile color space.

  (2) **Ignore** – ignores the mismatch, does not convert, and simply opens the image file.

  (3) **Convert to RGB Color / CMYK Color / LAB Color / Grayscale** (pop-up menu) – converts automatically from the embedded profile color space to the default profile (set in Color Settings).

Converting Scanner RGB to CMYK

Consider two workflows for converting color in Photoshop:



Use the **Multi-purposing Workflow** when you edit and archive in RGB (for multipurposing). Convert the image from the Scanner RGB to a Photoshop Working Space, and use it for edit and archiving. There is never any need to convert back into Scanner RGB. You may want to embed the RGB working space profile, to identify its "source".

Use the **CMYK Workflow** when you edit and archive in CMYK. If you do not need the RGB image, convert directly from Scanner RGB to Output CMYK. Converting from CMYK to RGB is not recommended.

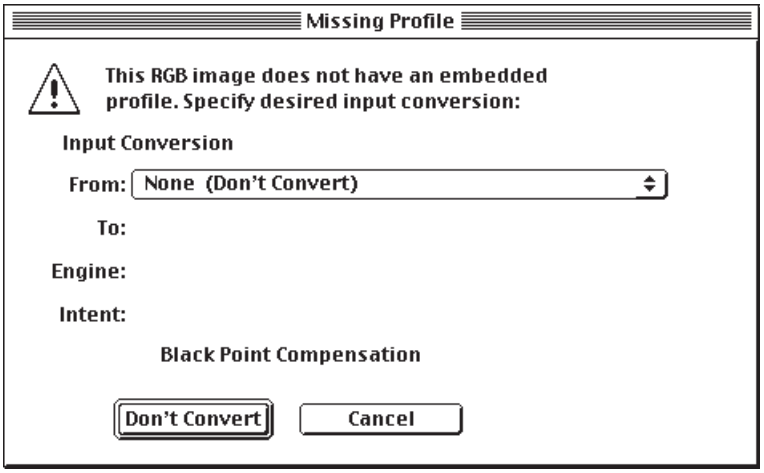
The workflow you choose will determine how you implement the conversion process. The method of converting is the same for both.

How to Convert Images

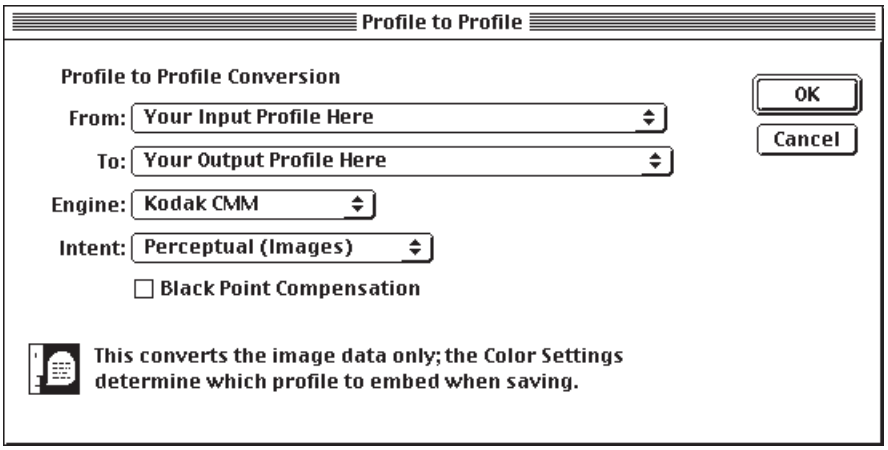
One method (the recommended method) to convert between image color modes is with the Profile To Profile command. It is assumed that you know:

- the current color mode of the image ("source" profile); and
- the desired new color mode of the image ("destination" profile).

1. Open the image file in Photoshop. If a message comes up before the image appears on your monitor, click Don't Convert. Example:



2. Choose **Image—> Mode—> Profile to Profile…**
   Make the selections shown below:



4. Click OK. Photoshop converts the image data.
   Look at the message at the bottom of the Profile to Profile window. It says:

This converts the Image data only; the Color Settings determine which profile to embed when saving.

If you have the Profile Setup window set to embed profiles, the profiles set in the Color Settings windows will be embedded, not the profiles used in Profile to Profile. Refer to the Profile Setup, RGB Setup, and CMYK Setup sections at the beginning of this document for information about Color Settings.

Frequently Asked Questions

Question: When is it important to embed profiles?

Answer: Embedding profiles is important in workflows that require multipurposing of images. In workflows that require only CMYK files, no profiles need to be embedded.

Question: Which type(s) of profiles should be embedded?

Answer: Embed only those profiles you think you will need in the future. If you are archiving RGB images in a Photoshop working space, embed the RGB profile for that working space. If you are archiving CMYK images, and think you may need to go back to RGB at some point (although this is NOT recommended), embed the CMYK and the RGB profile.

Question: I have opened an image from a customer, and when opening that image, as message appears which says there is an embedded profile. What do I do?

Answer: Always click Don't Convert. BUT, You should be aware of several things:

(1) Any message that appears is a direct result of how you have set up your Profile Setup window (Ask When Opening upon Profile Mismatch or Assumed Profile). If you had set them to None or Ignore, then no message will ever appear, even when opening the same image.

(2) Read the message carefully. If it says there is an embedded profile, note the name of an embedded profile in the From field.

(3) Consider whether your customer has purposely, or incidentally, embedded the profile. If you edit the file, save it, and return the file to the customer, you may change, or remove, the embedded profile, depending on how your Color Settings are set.

If the profile was embedded purposely, and it needs to be retained in the file, make sure you have that specific profile in your System / ColorSync Profiles folder. Also, set the profile the appropriate Color Settings window, and in the Profile Setup window, check the profile type to embed.

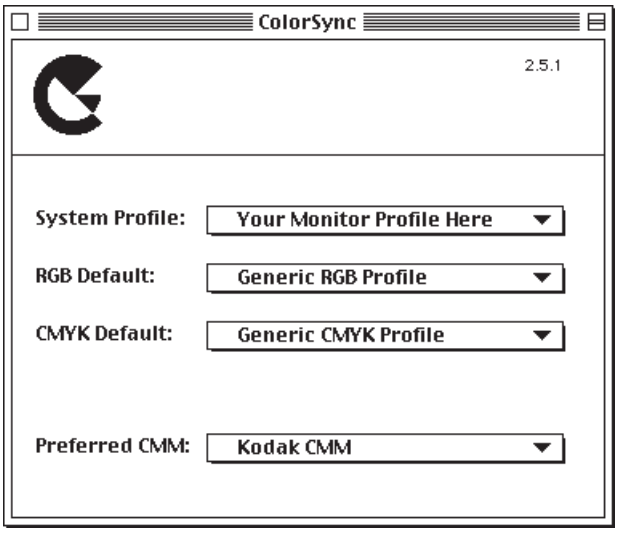
How to Use Photoshop 5 for Softproofing

Photoshop 5.0 uses a monitor profile (on a calibrated monitor) and an output profile that describes your standard output target (proofing system) to display color images more accurately on your monitor. The setup options that need to be defined are:

- Set the monitor profile as the system profile in the ColorSync System Profile window,
- Enable Display Monitor Compensation in the RGB Setup window,
- Set the output profile in the CMYK Setup window, and

Setting the ColorSync System Profile

1. Choose **—> Chooser—> ColorSync.**
   Make the selections shown below:

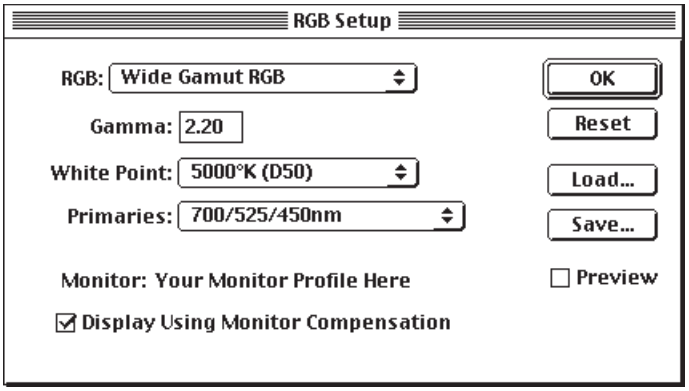


Note: PhotoShop looks at the System Profile, and uses it as the default monitor profile.

2. Close the window. The System Profile is set.

RGB Setup

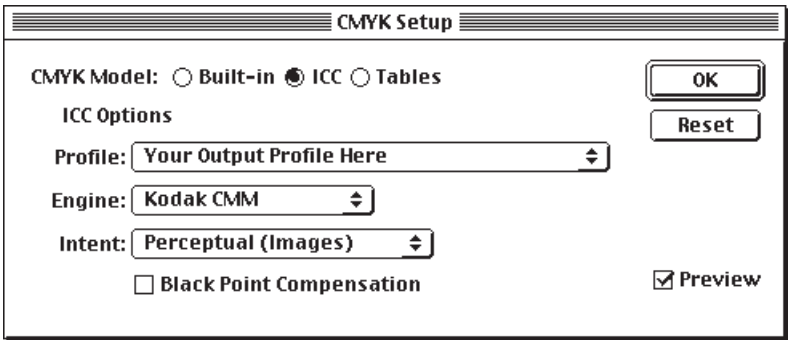
1. In Photoshop, Choose File—> Color Settings—> RGB Setup. Make the selections shown below:



Display Using Monitor Compensation MUST be checked to display images using the monitor profile defined in the ColorSync Control Panel.

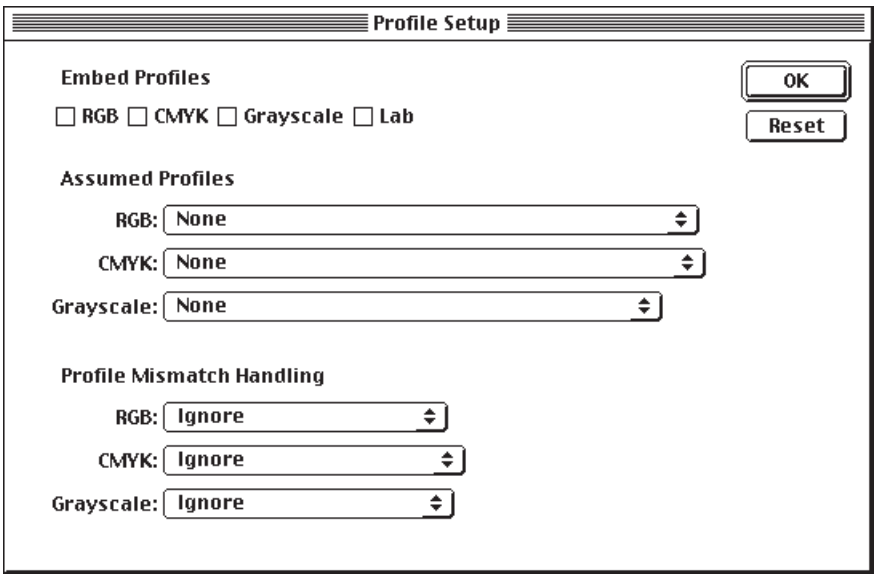
CMYK Setup

1. Choose **File—> Color Settings—> CMYK Setup**. Make the selections shown below:



Profile Setup

1. Choose File—> Color Settings—> Profile Setup.
   Once you understand how the options work, you can choose those that fit your personal preference. The initial settings we recommended for softproofing CMYK images are shown below:



Evaluating and Editing Color Profiles

The following procedure will provide a simple and structured approach to editing your output profile using familiar Photoshop Image Editing Tools.

Evaluation Structure:

It is best to evaluate and edit your profile in the following order:

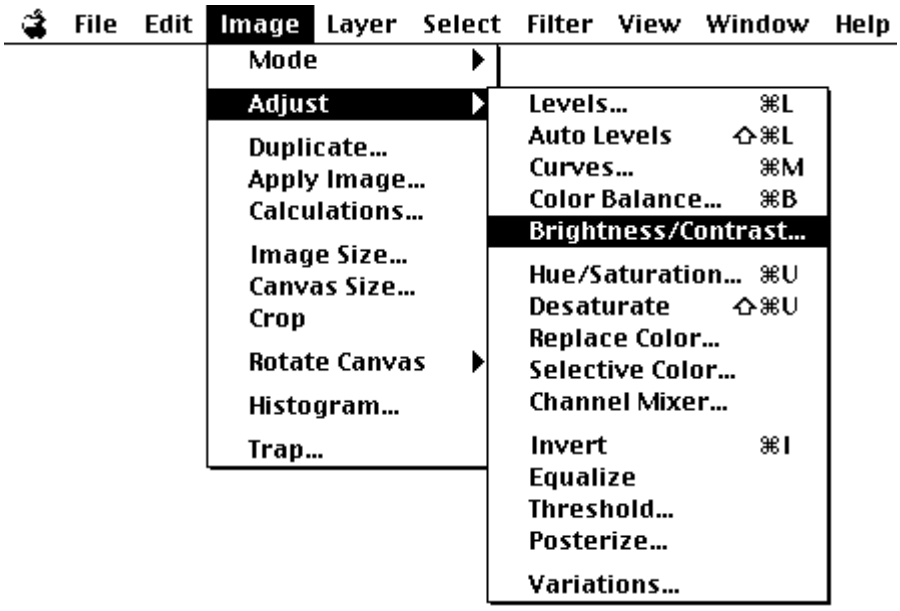
1. Evaluate Images for proper **Tone Reproduction** characteristics:
    - Image is too Light
    - Image is too Dark
    - Image is too “Flat”
    - Image is too “Contrasty”
2. Evaluate Images for proper **Gray Balance** characteristics:

    Does Evaluation Target Image Gray Scale and Neutral patches have a color cast compared to reference original?
3. Evaluate **Selective Colors**:

    Do certain colors, such as reds, greens, blues, etc., reproduce inaccurately compared to the original?

Tone Reproduction Edits

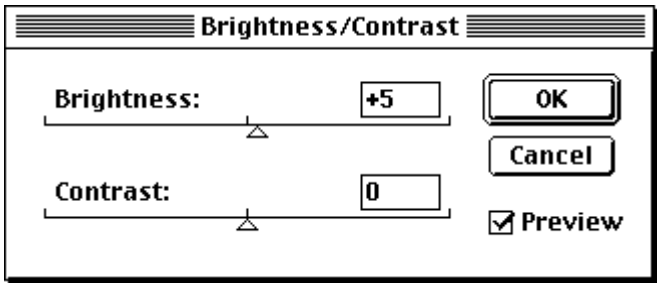
Use the following Image Adjust Brightness/Contrast Tools to adjust Tone Reproduction. The Image Adjust Curve Tool can also be used to edit Tone Reproduction corrections.



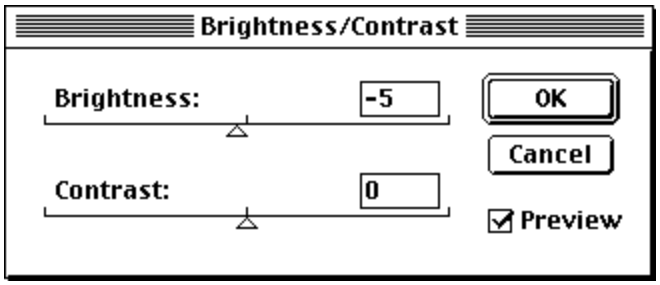
The following general graphic arts aim values for % Dot CMYK values can be used as a guide when making Tone Reproduction edits. Use the gray scale in the Colorflow Evaluation Target Image along with the Photoshop Info Tool as a guide:

C	78%	55%	4%
M	69	39	3
Y	67	39	3
K	78	1	0

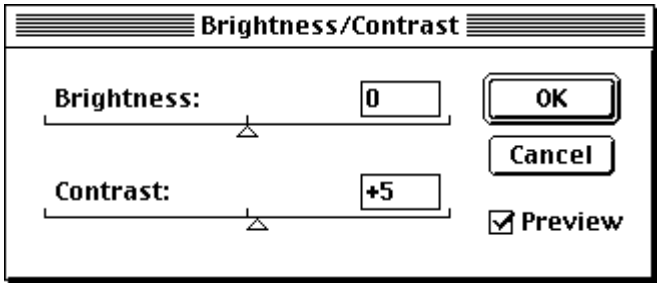
If Proof is overall too Light compared to Original, edits of less than 10 units are usually sufficient



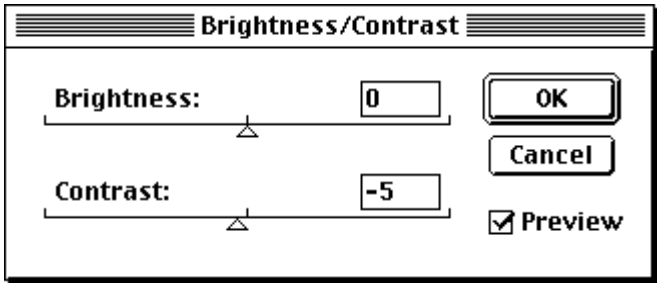
If Proof is overall too Dark compared to Original, edits of less than 10 units are usually sufficient



If Proof is overall too “Flat” compared to Original, edits of less than 10 units are usually sufficient

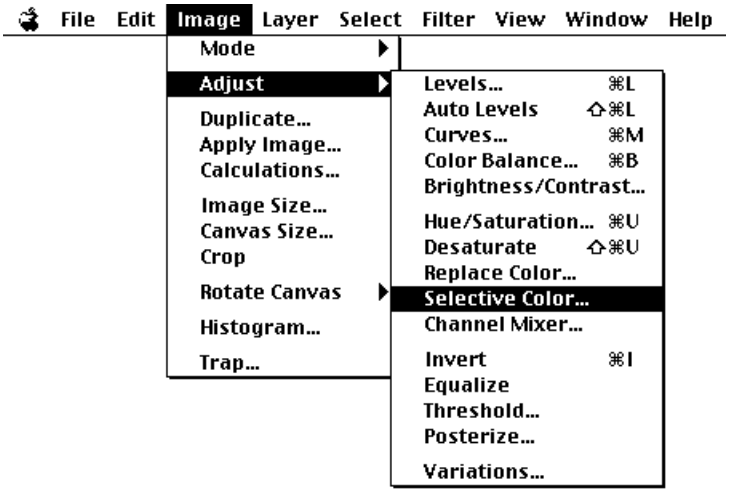


If Proof is overall too “Contrasty compared to Original, edits of less than 10 units are usually sufficient

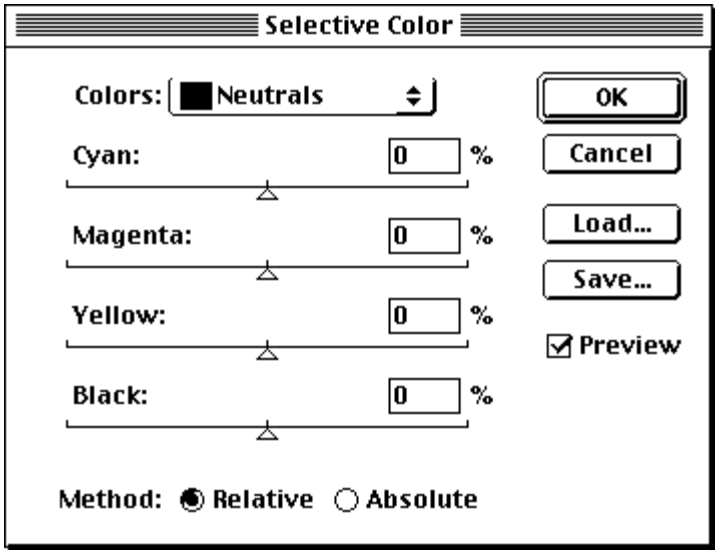


Gray Balance Edits

Use the following Photoshop Image Adjust Selective Color Tool to Adjust the Neutral Areas of your Images. You can use the CMYK % Dot Area relationships listed above as a guide to achieving proper gray balance for graphic arts applications. Use the Colorflow Evaluation Target Image Gray Scale and the Photoshop Info Tool to Adjust the Neutrals of your images:

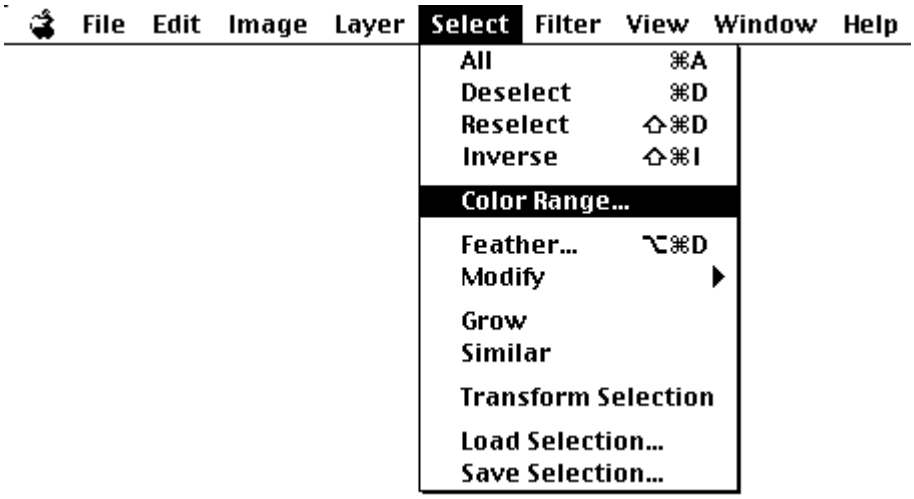


Select “Neutrals” as the color to adjust and move the appropriate color slider bars to adjust the neutral colors to achieve the suggested CMYK % Dot Value relationships above:

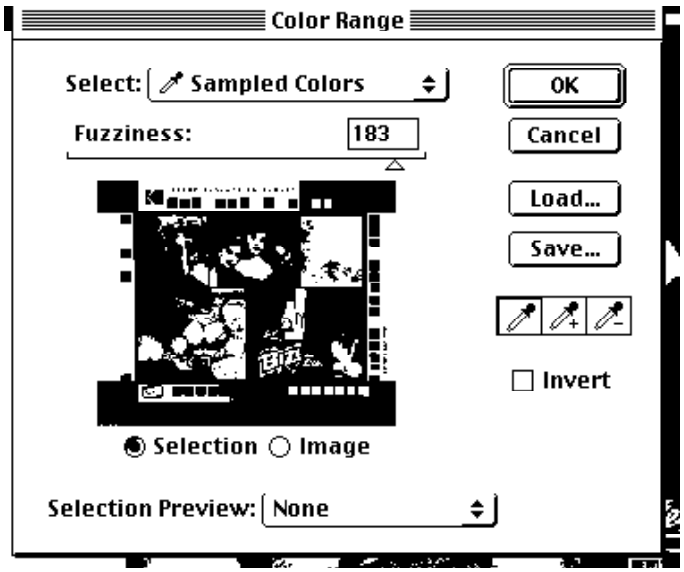


Selective Color Edits

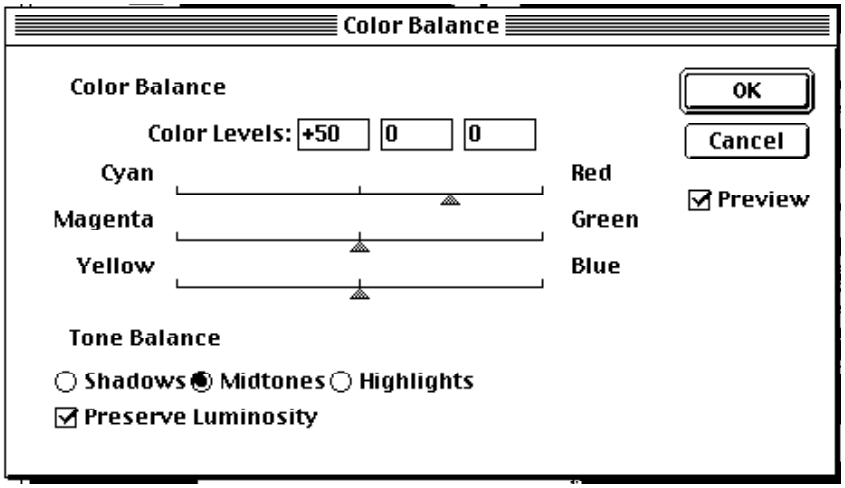
Once optimum Tone Reproduction and Gray Balance have been achieved, then Selective Editing of specific colors can occur. Using the Photoshop Color Range tool will allow you to isolate specific colors that you may wish to edit:



Isolate the specific color to edit using the eyedropper tool provided. The fuzziness slider bar allows you to select more or less of the color you have selected. Reds have been selected in the following example:



Adjust the selected color using the appropriate color adjustment slider bars:



Use the Photoshop Info Tool to evaluate your before and after % dot values

Evaluating the Input Profile

Profile Editor creates a temporary file (**kpicc.chi**) which contains statistical information about the input profile just made. Located in the folder where Profile Editor resides, it will be overwritten each time a new input profile is created.

Example of file information**:**

—- Fit Quality Parameters —-

Number of data sets = 262

	X	Y	Z
RMS residuals:	3.63062338	4.40217886	1.66482122
Chi-square:	126.0144340	185.2649488	26.49677999
Q parameter:	1.00000000	0.99584967	1.00000000

For 90% confidence level, Q must exceed 0.10000000

—- Statistical Summary —-

	du	dv	d log L
Max (-) error:	-0.011452(N23)	-0.005010(J8)	-0.120190(F4)
Max (+) error:	0.010650(I20)	0.006647(L19)	0.060333(N20)
Mean error:	0.000569	0.000177	-0.003320
Std dev:	0.002270	0.001454	0.019748
RMS error:	0.002340	0.001465	0.020025

RMS residuals (Just noticeable differences)

0 - 1 = GREAT
1 - 2 = GOOD
2 - 3 = LESS GOOD
3 - 4 = WORSE
4 - 5 = BAD
> 5 = Absolutely re-scan

Q parameter - Should be close to **1.00**.

Max (-) error and Max (+) error - identifies the color patches (i.e. N23) which have the highest error, and the direction of the error (+ or -). Zero equals no error. If large max. error is in blues, re-scan with different scanner setting and make a new profile.

How to Get a Good Scan of the Q-60

Getting a good scan of the Q-60 is an important step in setting up your color-managed workflow. Capturing the “best” RGB data from your scanner makes it “easier” for an ICC profile to convert from RGB to CMYK.

What to look for

A **Highlight –** RGB values in the 248 - 252 range.

B **Shadow –** RBG values in the 10 - 11 range.

C **Saturated, Medium, and Pastel Colors –** visual difference between all color patches

D **Flesh tone –** An acceptable look, not too muddy

E **Smooth scales –** smooth transition from color to color, and visual difference between each density

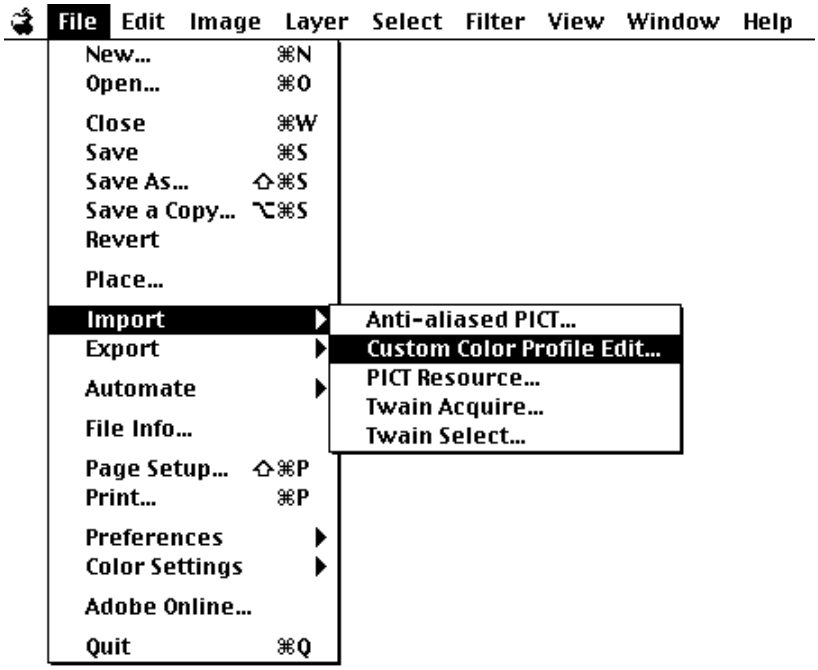
How to Use Custom Color Software ICC to Edit Your Output Profile

The following procedure will show you how to use Custom Color Software ICC to edit your output profile. This may be necessary, if after processing a few jobs using Colorflow Multipurpose PrePress,you feel it is necessary to “tweak” your color output.

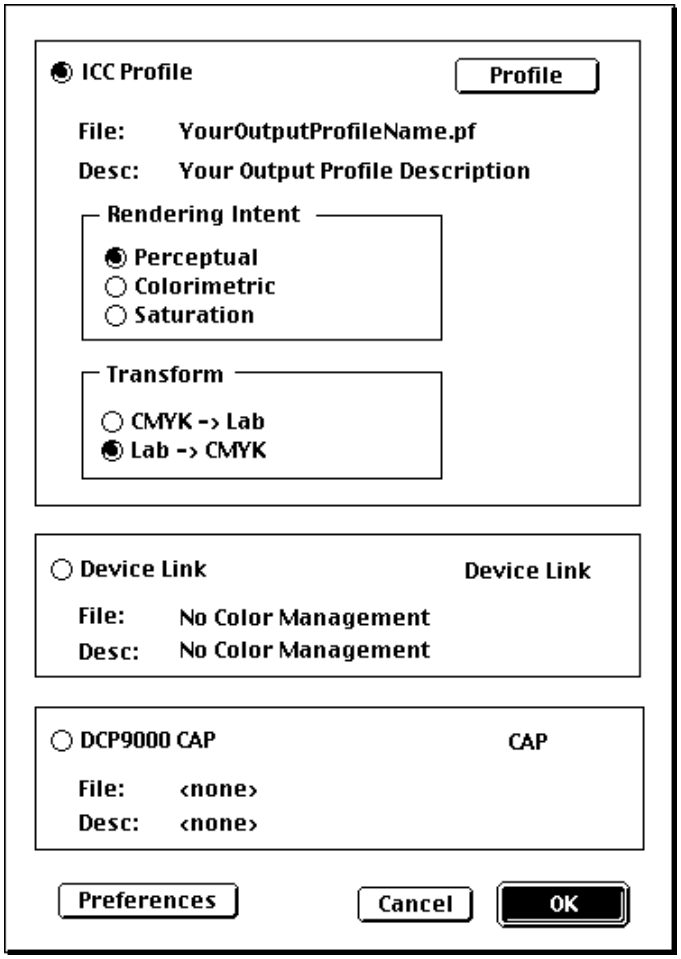
Custom Color Software is a Photoshop Plug-in tool. You will use familiar Photoshop Image Editing tools to edit your output profile.

Procedure

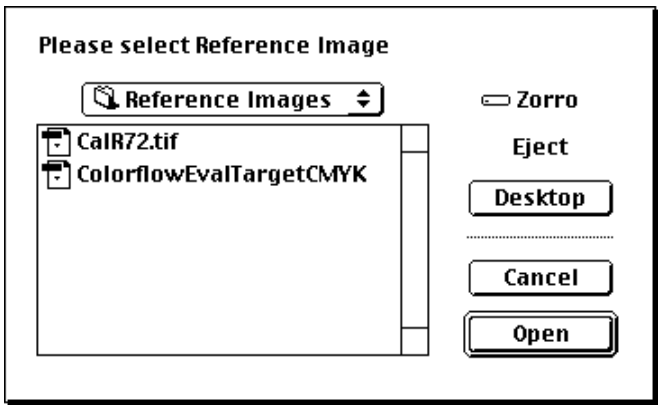
To launch Custom Color Software, go to the Photoshop File menu and Import “Custom Color Profile Edit”:



The following window will be displayed with the name and description of your output profile shown under ICC Profile. Verify that all settings are displayed as shown below:

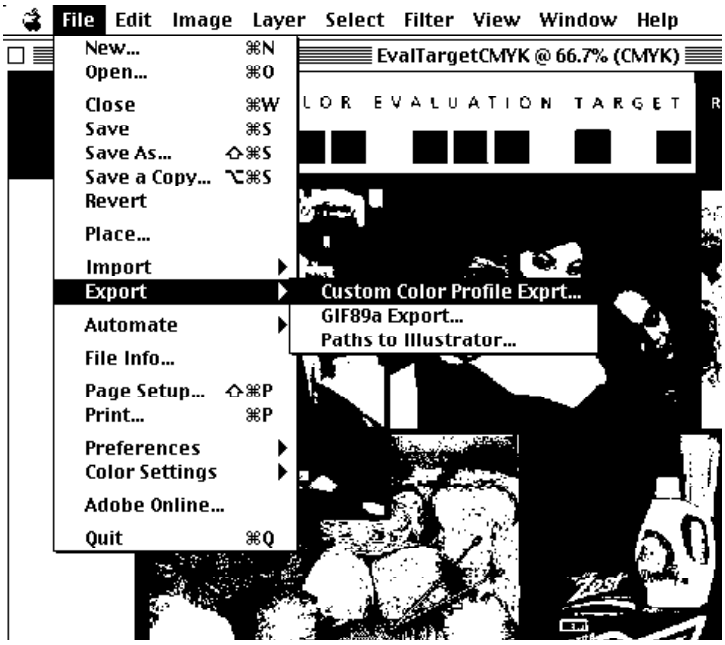


Click "OK" and select *ColorflowEvalTargetCMYK* file from the Custom Color ICC Reference Image Folder (found in the Custom Color ICC folder).

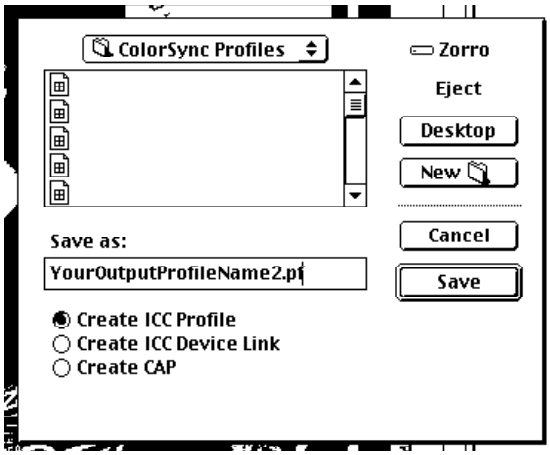


Note: The *ColorflowEvalTargetCMYK* file is your scan of the Colorflow Evaluation Target, converted using your Input and Output profiles.

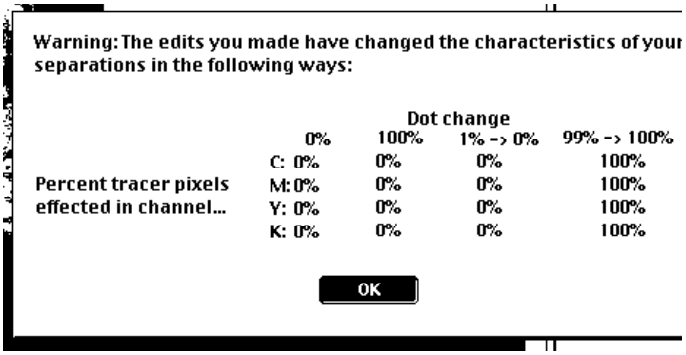
Edit your output profile using the ColorflowEvalTargetCMYK file as a reference. (Refer to “Evaluating and Editing Color Profiles” doc) When satisfied with your Photoshop edits, use the Export command from the Photoshop File menu to save your updated output profile:



A save dialog box will be shown next as below. It is important that you save your edited profile in the Colorsync Profile folder, using the same name as your original profile with the number “2” added to the profile name to distinguish it from your original output profile:

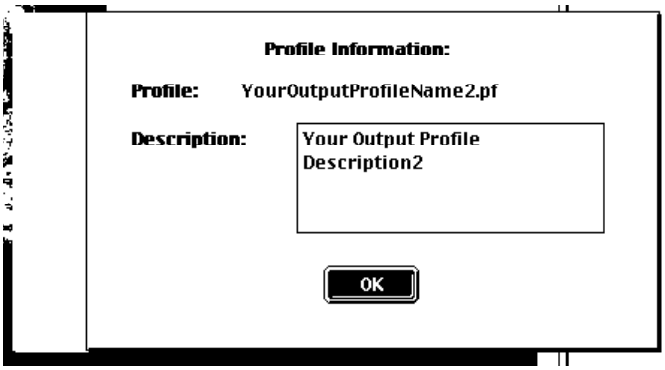


Click “OK” to the information dialog box displayed below:



Enter a new description for your edited profile. Use the same name as your profile name with the addition of “2”.

Note: Remember that the description name is what is displayed in your Colorsync profile list NOT the file name!



Save your original output profile until you have verified the output from your new profile.

Troubleshooting Color Problems

Here are some helpful troubleshooting hints if, over time, your color reproduction changes, producing unacceptable results:

Most color management problems can be traced back to calibration and quality control problems with devices, rather than profile problems. Therefore, if you are experiencing color problems that were not evident in the initial set-up, first check the calibration of all your devices--output proofer, input device and monitor calibrations. Make sure the calibration results match the values you obtained on these devices at the time the profile was created.

Note: It is important to maintain good records of your calibration values for these devices from the time of profile creation

If you are reasonably satisfied that your calibrations are in order, then you may want to edit your profiles to obtain satisfactory results again. The following are some guidelines to help you determine which profiles to edit:

Monitor Profile

Before proceeding, check to make sure that the viewing environment you are working in is the same environment at the time of profile creation. Any change to lighting conditions can significantly effect your monitor display.

Make sure that your monitor adjustment controls have not been altered from the time of the original profile creation. Also, check to be sure that your monitor profile is the system profile under the Apple, Control Panel, ColorSync. (Refer to your monitor set-up sheet)

Open your monitor profile in Colorflow Profile Tools. Visually compare the Colorflow digital evaluation target image displayed on your monitor (from Menu, View, Evaluation Targets) to the original evaluation target reflection print in a D5000 viewing booth residing next to your monitor.

Note: Make sure that your monitor has been recalibrated beforehand

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If there are visual differences at this point then contact the Colorflow help line to determine the best means to adjust your monitor profile.

Input Profile

Before proceeding, check your scanner preferences set-up values or your camera set-up to verify that nothing has changed from the time of original profile creation.

Note: Refer to your scanner/camera set-up sheets

Always use the Colorflow evaluation target originals (or Colorchecker) when troubleshooting your input device. You may also want to compare RGB values of the Q-60 scan that created your original scanner input profile (or Colorchecker image in the case of camera input) to a current Q-60 scan to verify that your scanner is indeed scanning differently from the time of profile creation. If there are differences in the two scans, then check your scanner preferences before changing your input profile.

At this point, contact your Colorflow help line to determine the best course of action.

Output Profile

Before proceeding, verify that all your proofing (or other output device) settings are the same as the time of output profile creation. Exposures, donor materials, paper stocks, dot gain and density settings, and processing conditions should all be set to the same conditions as the time of original profile creation.

Print the following image on your output device and compare it to the original image at the time of output profile creation:

Convert the RGB Colorflow digital evaluation target image file (found in the Kodak Colorflow Evaluation target folder) to CMYK using your current output profile as the destination and the Kodak Open RGB profile as the source (not your current input profile). Output this image file to your device and verify whether it agrees with the original Colorflow Evaluation Target image (either chrome or reflection print).

If it does not agree, you can use your Kodak Custom Color ICC software to edit your output profile using standard Photoshop image editing tools.

Frequently Asked Questions

Here's a list of frequently asked questions; ones commonly encountered by our customer support group. These were dumped from our support database and have not been edited.

What are the ColorFlow system requirements?

Macintosh computers
- Power Macintosh only
- 32MB of RAM required
- 64MB recommended
- 10MB of free hard disk space
- 16-bit color display required; 24-bit color recommended
- System 7.5.3 or later (O.S.)

Windows systems
- 80486 minimum, Pentium
- 16MB of RAM required; 32MB recommended
- 10MB of free hard disk space
- 16-bit color display required; 24-bit color recommended
- Windows 95 and Windows NT V4.0
- Note: Colortron II works only in Windows 95 (at this time)

Should I start with an instrumented profile for a device?

Yes. With the improved profile creation capabilities of CPE 2.0, you should create your profiles from scratch. Then, if necessary, follow by visual tuning for fine adjustments.

Should I start a new profile for my device?

If a profile already exists for your device, check its rendering capability. If it does not meet your requirements for producing good color, but is close, go straight to visual tuning to make fine adjustments. If a profile does not exist, then select NEW to start from scratch.

Is ColorFlow compatible with Precision (PICC)?

ColorFlow is not compatible with PICC. If you were happy with PICC, you will definitely appreciate the power and capabilities of ColorFlow Profile Editor 2.0.

What is the compatibility with other ICC Profiles and Compliant Applications?

The Kodak Polychrome Graphics ColorFlow Profile Editor Software will work with any ICC profile that conforms to the ICC Profile Format Specification developed by the International Color Consortium.

For information about the ICC specification or additional information on the ICC, visit the ICC Web site: http://www.color.org

ICC compliant profiles developed with the ColorFlow Profile Editor can be used with ICC compliant applications.

Here is the current list of such applications:

Adobe PageMaker

Adobe Photoshop

Adobe Illustrator

CorelDRAW

QuarkXPress

Macromedia Freehand

Fotoware AS Fotostation

Fotoware ASFototSync

Meta Creations Painter

Micrografx PicturePublisher

Other applications will soon be ICC compliant. Check with your software vendor.

Monitor to proof agreement (WYSIWYG) in Photoshop

You can only achieve WYSIWYG in Profile Editor, not in Photoshop.

CPE 1.0: If the monitor is calibrated in ColorFlow, you'll get monitor-to-proof agreement when you do profile editing inside ColorFlow. You can turn on simulation to get WYSIWYG effect. Once you exit ColorFlow, the monitor may not show the proper color.

Note: ColorFlow is not for image editing but for profile editing

To get WYSIWYG in Photoshop or other applications, you need to have a monitor that can be calibrated and its associated video board, calibrator and software, for example, the Radius Pressview.

Is ColorFlow compatible with ColorBlind?

CPE 1.0: ColorFlow is not compatible with ColorBlind (at this time).

Both ColorFlow and ColorBlind are ICC compliant but they are not compatible (yet). Profiles made by Colorflow cannot be used in Colorblind and vice versa.

More info from development:

Completely compatible with ColorBlind is a loaded question. The last time we checked, there were still some outstanding issues between what ColorBlind thought was an ICC profile and what we thought was an ICC profile. Some of the consultants [we] met don't completely trust ColorBlind software.

Output profiles seem to be ok, monitor profiles may not be ok.

Does ColorFlow support Pantone Colors?

Currently there is not a good solution for Pantone Colors. However, we are investigating using Pantone Color Drive software.

What's the story about ColorFlow and black-plate-generation control?

There is lots of control when generating custom profiles.

What do I do when I can't find the evaluation folder even though I know it's there?

Highlight the folder and click Select (do not open).

I'm getting a "Microsoft MFC40LIB not found" error. What do I do?

Make sure enough RAM is available for the operating system (OS) and Profile Editor.

On launching ColorFlow Profile Editor, a number of system files (.dll files) are loaded into RAM with the OS. The RAM usage by the OS could increase by 10 MB. If sufficient RAM is not available, some files may not get loaded and the error would appear.

Most of these files are related to Microsoft, so the word Microsoft is likely to appear on the error message.

We suggest quitting other applications to conserve memory. You can also try reducing RAM allocation to other applications.

Another work-around is to turn on Virtual Memory so some of these files would go to disk. You can use this as a temporary fix. The permanent fix is to add more RAM to the system.

Also check that the files mentioned in the error message are in the System Folder ’ Extensions folder. If they are not in the system, reload ColorFlow software.

There is another possible RAM related error message you could encounter: “Can’t launch Profile Editor... missing Microsoft_OLE2”

There is no such file. This message means that one of the Microsoft OLE file such as Microsoft OLE Library is missing from the loaded system software. And the reason that it is missing is lack of RAM for the OS software to expand.

Turning on Virtual Memory will fix the problem.

Further discussion:

After loading ColorFlow, these Microsoft files are loaded (these files exist in System Folder ’ Extensions):

- Microsoft C Runtime LibraryMicrosoft Controls Library
- Microsoft MFC 4.0 Library
- Microsoft MFC 4.0 OLE Library
- Microsoft OLE Automation
- Microsoft OLE Dialog Library
- Microsoft OLE Library
- Microsoft OLE Portability Lib
- Microsoft Portability Library

It may also have Microsoft OLE Extensions (from other applications).

A quick thing to do is to do a global search on the system on OLE. You should have the above files in the list that is generated. If that’s the case, turn on Virtual Memory and restart. It should work.

I can’t find the MS OLE folder. What do I do?

Reload the Macintosh OS 8 System Software.

I can’t export a profile to a CRD on a Windows system

This is a known CPE 1.0 bug - engineering is looking into it. The export module isn’t working on the Windows version, but it works fine on the Macintosh.

Install ColorFlow and a Type 10 Error - locks the Macintosh

This is a known Beta bug - Engineering is researching this Macintosh hang. Others have reported that after installing the ColorFlow software it would not run and hung the Macintosh with error type 10 and or 11.

Solution: Not known. Suggestions on moving to another type of Macintosh

Faxed Kodak Field Support a list of all ColorFLow extensions that should be loaded and active to run ColorFlow. Suggested disabling all other extensions except for these. Move to a Macintosh computer that Kodak engineering has tested and off of the clone Macintosh platform.

Macintosh Virus MBDF Type 3 or 4 error and crash

Use virus detection application to remove the MBDF virus.

Problem: ColorFLow Profile Editor will not run without a Type 3 or 4 error and then a Macintosh system crash. Various combinations of error codes have been seen.

Solution: This has happened at two Beta ColorFlow sites.

Use a virus detection application to remove the MBDF virus and any other viruses that can infect a Macintosh computer. Macintosh System 8.0 ReadMe warns of this virus. This is the exact explanation:

MBDF virus and Macintosh OS 8

If you notice that the title bars of windows have become white, your computer may be infected with the MBDF virus. With previous versions of the Macintosh OS, you may not have noticed that your computer was infected with this virus.

Use a virus detection application to identify and remove MBDF and other viruses from your computer.

The ICC Convert filter doesn't change RGB to CMYK.

The Kodak ICC Convert Plug-in, when set with a source profile (Scanner RGB) and a destination profile as CMYK (Printer Color space), does not physically convert an RGB image on the screen to a CMYK image.

The ICC Convert plug-in does not interface directly with the Photoshop Mode change functionality, so the image will appear to change color in Photoshop, but will not change modes to a different file format (RGB to CMYK or RGB to LAB)

Kodak has supplied predetermined actions that can be installed with our software and accessed while in Photoshop with an image open.

If you have this software, make sure the RGB image is open and select the action. Double-click to see the options. Select the action that converts from RGB to CMYK. The action will take care of creating the fourth channel to make the mode change happen.

Documentation on this process is included in the PDF Using ICC Convert with Actions.

What Input profile is used when printing an Evaluation Target?

Open-RGB is the default profile. When printing the Evaluation Target outside ColorFlow, we recommend using Open-RGB as the source profile. It is located with the Evaluation Targets.

I'm have a problem creating a profile in Lab color space.

To accomplish this, you need to use Photoshop to convert the profile to LAB.

I'm getting an error, "ICC Profiles Not Properly Chosen," when using a Cheetah RIP

This is a known problem with the RIP software. You need to upgrade Cheetah Rip software to V3.21

Will the Soft Preview Filter work with CMYK files?

Yes.

What software does Kodak have to make ICC Profiles?

Kodak Polychrome Graphics ColorFLow ICC Profile Tools.

Does Kodak make a selection of ICC Profiles that I can get off the Kodak Home page or buy?

No. Kodak makes a family of software products that fall under the brand name “ColorFlow.” Some of the ColorFLow software products come with a selection of default ICC profiles. The default ICC profiles are either Input Profiles or Output Profiles. The majority of these would be for use with Kodak capture devices or Kodak output devices.

Would Kodak have a Monitor profile for my AST monitor.

No. But you can create one using Kodak Polychrome Graphics COLORFLOW ICC Profile Tools.

What are the general specifications for this software?

Improved Profile Creation

This enables an operator to create profiles from scratch. This is done by measuring the patches of either an RGB or CMYK target file.

Expanded Preferences

Improved flexibility of Tonal and Output Curves tools to better match operator work preferences

Editing the input transforms of monitor and output profiles

Tune the input side of a monitor profile to handle image files created from unknown RGB input sources, such as unknown scanners or RGB illustration images, that all show similar characteristics to be corrected.

Tune the input side of the output profile if:

- You want a desktop proofer to match the output of a traditional proofing system (called cross-rendering).
- You want to improve your CMYK simulation.
- You want to make a generic input profile to handle image files created from unknown RGB or CMYK input sources (such as unknown scanners or illustration images).

Saturation Tool problem – image turns negative

Escalate to Engineering as a bug.

What are the Spectrophotometers for ColorFlow?

Colortron II or Digital SwatchBook

OPB – X-Rite DTP22 (Digital SwatchBook)

Monitor Profile – X-Rite DTP92 (colorimeter)

Auto-scan densitometer (status T) – X-Rite DTP32 (used for LFI calibration)

Where do the profiles go on a Cheetah Rip (WinNT platform)

Put them in the WindowsNT/System32/Color directory

I can't see the evaluation targets; browser is grayed out.

Trash the Profile Editor folder and re-install.

If someone did something to the preferences in ColorFlow, it would get confused and could not find the targets. Reloading software would correct the problem.

If it is only the Evaluation Targets that are grayed out, you can re-establish the correct path through Preferences under the EDIT menu.

1. Under Edit ' Preferences, click Browse and navigate to the Evaluation Targets folder
2. Click Select.
3. Restart Profile Editor.

Color management for Windows 95

Pre Sales call for ColorFLow - Marketing

Can I get a color description file for 4x5 IT8 target

At this time, you can not get a color description file for the 4X5 IT8 target.

Can't launch ColorFlow. Error message: Can't find "MS portabilitylib"

Uninstall software and re-install (see the following process):

1 Restart Macintosh

2 Increase RAM to application

3 Able to find MS Portability Library in System Folder > Extensions

4 Able to find MS OLE Portability Lib in System Folder > Extensions

5 Then deinstall ColorFlow software and Re-install it.

Note: Make sure all extensions are off except CD ROM extension while installing software.

I'm using the Input Profile Builder, and I need to replace the IT8 E3 Target.

IPB or Input Profile Builder is not currently a COLORFLOW Brand name product. This can become confusing because customers can buy this product on the open market through a catalog like: Publishers Toolbox for under 300.00. If there is a support issue with this software, the customer needs to call a Rochester based support #: 1-800-32kodak.

In this case, the customer was requesting a replacement target.

Our Manufacturing group has IPB replacement targets. There are two different part #s: One for Windows, one for Macintosh.

PRODUCT #	PRODUCT NAME	LIST PRICE
2-5475	E3 Transmissive, Windows	69.00
863-5963	E3 Transmissive, Macintosh	69.00

To resolve this issue:

Transfer the customer to the other support group or handle the PO and shipping directly from Lowell TAC as a service since the part is in our location.

To purchase target, FAX order to Claudia Burke at 978-323-7720 with CAT # and Credit Card info. For a single target, we will not take a P.O. #.

Where do the input profiles go?

They go into the system/preferences/ColorSync folder.

I have a question about Quark V4.0 and ColorFlow outputting to a Durst.

Quark 4.0 can't output RGB (Quark problem). Quark 4.0 converts all output to 4 channel (CMYK). And the Durst is a 3 channel device (RGB). Profiles applied in the Durst are RGB (3 channels). Because of this incompatibility, the colors are all washed out.

I'm looking for X-Rite adapter cable for PC

Order from X-Rite: X-Rite P/N SE-108-DB9SA

Note: For a Colortron, it also needs an adapter cable to connect to a Windows system. You can order the cable from Colortron directly. Colortron has been purchased by X-Rite.

I'm trying to edit an output profile, and the images are printing out too dark.

Edit the profile using the evaluation images supplied, not an image you scanned in.

Question about opening a new profile with Edit List?

When opening a tuned profile, the system will ask if you want to load the previous Edit List. If you want to continue tuning the profile, or if you want to turn on/off individual items on the list, answer Yes. Then the original profile with the Edit List will be loaded. If you just want to use the tuned profile, you can answer No, then the tuned profile will be loaded as an entity. You can still tune it but previous edits are merged into this profile as a whole.

I have CPE 1.0, and I want to change the white point to accommodate paper difference. How do I do this?

If you have PF-Snoop, you can use it to edit your profiles to handle white point issues. Otherwise, upgrade to CFPE V2.0

CPE 1.0 uses relative white point. The first patch measurement is always 100. In V2.0, you may select absolute or relative.

If you have CPE 1.0 and if you know what the absolute number for the point is, you can use PF-Snoop to edit it.

I'm having problems getting the desired red

Use Selective Color if you only want to affect red. In the Selective Color tool, open the range then move the red point.

You can only reach a new point within a circle confined by the range borders. To reach further, open the range up in all directions.

I can't launch Profile Editor – missing files

Completely remove CPE and reload software.

To do this, remove the following:

- Profile Editor folder
- Profile Editor INI file in System / Preferences folder

Restart Macintosh with extensions off and reload software.

What source profile do I use when the input device is unknown?

Use Kodak open interface profile (openrgb.pf)

Pushing red to desired saturation affects other colors

Need to compromise on achievable colors. This is not a perfect solution

I want to adjust Dmax on different colors

Use Selective Color or individual curves.

Install CF ICC Prod Tools / no Photoshop filters

You are missing an install file - kcdialogs.dll

Colorflow ICC Production Tools has failed to install properly on four different Windows systems

(Two were brand new and two were older.) The Install itself completes without any error messages. All of the files listed in the ReadMe file are installed in the proper places and the file properties in Windows 95 do not indicate any problems.

The KCMS filter option does not show up under the Photoshop Filters menu.

HISTORY: All Windows system here at Kodak in Lowell MA, and at various Beta sites, had no problems after the install using the software. It was my early assumption that another Kodak ColorFlow module that was also loaded onto all of Kodak's Windows system was making the software function properly but was not present in the stand-alone install of ICC Production Tools.

SOLUTION: kcdialogs.dll is the missing file that is loaded with ColorFlow Profile Editor which up to this point had been on every Windows system that Kodak had tested. This is because ICC Production Tools is a subset of that more expensive software package.

Temporary Solution: Ship the customer the kcdialogs.dll file on a diskette. This file must be placed into the Windows directory on the C drive. Launch Photoshop and the missing KCMS filters items come alive.

Long Term Solution: Stop any further shipments and remanufacturer the CD ROMs. I do not know if the remanufactured CD's will go into the same box at the same revision. TBD

Why is the 1st patch measures as 100,0,0 ?

All values are relative to the actual white point (paper white) which is stored and hidden. If you open the Patch File, the white point is at the end of the file. This is how the software can get back to Absolute Colorimetric mode (which sees white as paper white). So the 100,0,0 is normal and is 100% of the paper white measured and stored.

Can we edit the white point in ColorFlow for paper white?

NO. The rationale is:

- A profile is made for a specific output condition (output device, media, inks, etc.)
- If you are using a different paper (that's why you need to change the paper white), then you should re-output the color patches to the correct paper and remeasure. Different paper absorbs ink differently. It's better to remeasure and build a new profile.
- If it is the same paper but different batch, then the slight difference does not matter (per Peter Tracy).

NOTE: "remeasure" means go through the process of building a new profile.

Why can't I load a Camera RGB input profile to be my working RGB colorspace in Photoshop 5?

To be a working space in Photoshop RGB Setup, the profile has to be able to go from RGB ->XYZ ->RGB. Photoshop uses a table instead of a grid for color info.

All input profiles go from RGB ->Lab, which will not work as a working color space.

However, raw monitor profile is RGB ->XYZ and can be used (but is not recommended because it is a small color space). And if it has been touched by ColorFlow, then it will not work as RGB Setup either, because ColorFlow makes a grid to the profile that Photoshop does not like as a working space.

Typically the procedure to make a RGB profile into a RGB working space is:

- In Photoshop Color Setting, select RGB Setup
- Click LOAD and select a profile from the list in ColorSync Profile folder

NOTE: If the profile does not show up as a selection, then it cannot be made into the working space

- Click Open and it will show up in the RGB Setup

File Installation Road Map

The following is a list of files installed with Profile Editor V2.0. As with any software installation, it is strongly recommended that you fully backup your existing system prior to installation.The files below are listed in the Installed Log Data file created after installation. They respresent an Easy Install. Additional profiles may be installed from the Profile Suite CD.

Kodak ColorFlow

Profile Editor v2.0

CMYK_LargeTarget_928

CMYK_MediumTarget_445

CMYK_SmallTarget_226

ColorWizard

ds8650cc.pf

kpmgen32 Data

p22g18a7.pf

ProfileEditor

ProfileEditor Help

pslabpcs.pf

README

swul28a7.pf

RGB_LargeTarget_785

RGB_MediumTarget_403

RGB_SmallTarget_181

Evaluation Targets

35mm:35mm_PM_199706.tif

35mm:35mm_PS_199706.tif

35mm:35mm_VL_199706.tif

35mm:35mm_VM_199706.tif

35mm:35mm_VS_199706.tif

35mm:index.rsrc

4x5:4x5_PM_199706.tif

4x5:4x5_PS_199706.tif

4x5:4x5_VL_199706.tif

4x5:4x5_VM_199706.tif

4x5:4x5_VS_199706.tif

4x5:index.rsrc

5x7:5x7_PM_199710.tif

5x7:5x7_PS_199710.tif

5x7:5x7_VL_199710.tif

5x7:5x7_VM_199710.tif

5x7:5x7_VS_199710.tif

5x7:index.rsrc

openrgb.pf

TDF Files

GretagMacbethCCv1.tdf

ki1ek968.tdf

kipcdek8.tdf

kir19803.tdf

kpics.tnl

ycc2rgb4.pt

Measurement Devices

CtMeasDev

GretagMeasDev

ManualMeasDev

PasswordDSLib

ScannedImageDev

SwatchMeasDev

System Folder

Preferences:ColorSync™

KODAK_sRGB.pf

openrgb.pf

p22g18a7.pf

pcd4050e.pf

pcd4050k.pf

pcdcnycc.pf

pcdekycc.pf

pcdkoycc.pf

pslabpcs.pf

swul28a7.pf

Extensions

ekvttiff00

ekvtpdclib00

ekvtpcdlib00

ekvtif00

ekvtdflttools00

ekvtdata00

ektui00

ektoolmgr00

ekpicview00

ekpiciomgr00

ekpiccache00

ekneffedit00

ekkcttpic00

ekkcttiff00

ekkctpdc00

ekkctpcd00

ekkctjpeg00

ekkcterrdisp00

ekkct00

ekcpif00

Colortron Extension

Firewire Support

icccodes

IPWizard

KcDialogs

kdsbpt

kdsinput

kdsout

kdssys

Kodak ColorFlow Shared Libs:QHelpLib

KODAK PRECISION CP1

Microsoft C Runtime Library

Microsoft Controls Library

Microsoft MFC 4.0 OLE Library

Microsoft OLE Automation

Microsoft OLE Dialog Library

Microsoft OLE Library

Microsoft OLE Portability Library

Microsoft Portability Library

OTWizard

ProFireDriver

ProFireExpert

ProFireFamily

ProFireFWIM

ProFireFWIM_S

UCRGCRWrap

pfpick

Color Management Web Sites

Independent Sites:

http://www.digitaldog.net/files/

http://www.evening.demon.co.uk/photoshp.html

http://www.inforamp.net:80/~poynton/ColorFAQ.html

http://www.maccentral.com/

http://www.pixelboyz.com/

http://www.scanprep.com/sets/edu/untech/index.html

http://www.thelawlers.com/

http://www.uic.edu/~hilbert/Glossary.html

http://webopedia.internet.com/Hardware/Input_Devices/Scanners/Color/color_management_system_CMS.html

Organizations:

http://www.color.org/

http://www.gasc.org/

http://www.gatf.org/

http://www.pixelphoto.com/index.html

http://www.seyboldseminars.com/

Vendors:

http://www.apple.com/colorsync/benefits/

http://www.apple.com/colorsync/software/profiles/

http://www.adobe.com/supportservice/custsupport/TECHGUIDE/PSHOP/main.html

http://www1.adobe.com/supportservice/custsupport/TECHGUIDE/PSHOP/CMS3/cms_gen.html

http://www.kodak.com/global/en/professional/products/software/colorFlow/colorFlow.shtml

ftp://ftp.kodak.com//GASTDS/Q60DATA/

Kodak: http://www.kodak.com

Utilities

http://asu.info.apple.com/swupdates.nsf/artnum/n11359

http://www.shortcourses.com/chapter02.htm#INTRODUCTION

Monitor Setup Sheet

It is critical to establish and maintain the viewing conditions of your monitor. Please record your original settings so that they may be referenced in the future.

Scan Station Monitor

Model Name: _____

Manufacturer: _____

Computer Name: _____

Brightness Adjustment: _____

Contrast Adjustment: _____

Color Correction Monitor (#1)

Model Name: _____

Manufacturer: _____

Computer Name: _____

Brightness Adjustment: _____

Contrast Adjustment: _____

Color Correction Monitor (#2)

Model Name: _____

Manufacturer: _____

Computer Name: _____

Brightness Adjustment: _____

Contrast Adjustment: _____

Design Monitor

Model Name: _____

Manufacturer: _____

Computer Name: _____

Brightness Adjustment: _____

Contrast Adjustment: _____

Other Monitor

Model Name: _____

Manufacturer: _____

Computer Name: _____

Brightness Adjustment: _____

Contrast Adjustment: _____

Scanner Setup Sheet

The scanner is extremely critical in achieving consistent quality color results. This document lists the preferences and controls for the scanner at the time of the input profile making. Always refer to these setup pages when making scans. Keep in mind that some settings may not apply to your specific scanner.

Reflective Setup

Scanner Model: _____

Manufacturer: _____

Color Space (e.g. RGB): _____

Standard Resolution (e.g. 300 dpi): _____

Highlight Value/Density: _____

Shadow Value/Density: _____

Midtone Placement: _____

Unsharp Masking: _____

UCR/GCR: _____

Calibration Setup: _____

Other: _____

_____

_____

Transparency Setup

Scanner Model: _____

Manufacturer: _____

Color Space (e.g. RGB): _____

Standard Resolution (e.g. 300 dpi): _____

Highlight Value/Density: _____

Shadow Value/Density: _____

Midtone Placement: _____

Unsharp Masking: _____

UCR/GCR: _____

Calibration Setup: _____

Other: _____

_____

_____

Photoshop Setup Sheet

The following sheets contain a record of your workflow settings for both ColorSync and Photoshop. It is also recommended that you archive a copy of the file “Photoshop Preferences” in the Preferences folder, in the System folder for safe keeping.

Color Settings

ColorSync 2.5.1 Setup

System Profile: _____

RGB Default: _____

CMYK Default: _____

Preferred CMM: _____

RGB Setup

RGB: _____

Gamma: _____ White Point: _____

Primaries _____

Display Using Monitor Compensation: _____

Preview: _____

CMYK Setup

CMYK Model:

Built-in _____ ICC _____ Tables _____

ICC Options:

Profile: _____

Engine: _____

Intent: _____

Black Point Compensation: _____

Preview: _____

Profile Setup

Embed Profiles:

RGB: _____ Grayscale: _____

CMYK: _____ Lab: _____

Assumed Profiles:

RGB: _____

CMYK: _____

Grayscale: _____

Profile Mismatch:

RGB: _____

CMYK: _____

Grayscale: _____

Missing Profile

Input Conversion:

From: _____

To: _____

Engine: _____

Intent: _____

Black Point Compensation: _____

Convert: _____ Don't Convert: _____

Profile Mismatch

Input Conversion:

From: _____

To: _____

Engine: _____

Intent: _____

Black Point Compensation: _____

Convert: _____ Don't Convert: _____

Other Notes:

Proofing Setup Sheet

In order to achieve consistent color in your workflow, your proofing setup will have to be recorded so that it may be referenced in the future. These setup sheets will serve as a reference guide for setting up your proofer.

Analog Proofing

Device Name: _____

Manufacturer: _____

Receiver Stock: _____

Processor: _____

Laminator: _____

Cover Sheet: Gloss _____ Matte _____ Other _____

Laydown Order: C _____ M _____ Y _____ K _____

Doner Information: Publication _____ Commercial _____

Other (explain) _____

Exposure Control Guides Aims: _____

_____

Digital Halftone Proofing

Device Name: _____

Manufacturer: _____

Receiver Stock: _____

Laminator: _____

RIP: _____

X-curves: _____

Format Name/Page Setup: _____

Proof Finish: Normal _____ Glossy _____

Other (explain) _____

Laydown Order: C _____ M _____ Y _____ K _____

Doner Batch Numbers: Cyan _____ Magenta _____

Yellow _____ Black _____

Digital Continuous Tone Proofing

Device Name: _____

Manufacturer: _____

Receiver Stock: _____

Proofing Ribbon Batch Number: _____

ICC Profile/CAP: _____

Color Profile if used: _____

Input/Output Profile Creation Sheet

The following setups were used to make your input and output profiles. Keep this sheet on hand when making new profiles.

Output Settings

Standard or Custom: _____

Composite or Separations: _____

TAC/UCR: _____

Maximum Black: _____

Black Start: _____

GCR: _____

Black Curve Shape: Original _____ Light _____

Medium _____ Heavy _____ Custom _____

Input Settings

Contrast: Normal _____ Reduced _____

Profile Name Sheet

Below you will find a list of the profiles that were created during your ColorFlow installation. The profiles are listed here with their descriptions by device.

Monitor Profile

Device: _____

Monitor Profile Name: _____

Description: _____

_____

Scanner Profiles

Device: _____

Reflective Profile Name: _____

Description: _____

_____

Device: _____

Transmissive Profile Name: _____

Description: _____

_____

Output Profiles

Device: _____

Proofer Profile Name: _____

Description: _____

_____

Device: _____

Proofer Profile Name: _____

Description: _____

_____

Other Profiles

Device: _____

Profile Name: _____

Description: _____

_____

Device: _____

Profile Name: _____

Description: _____

_____