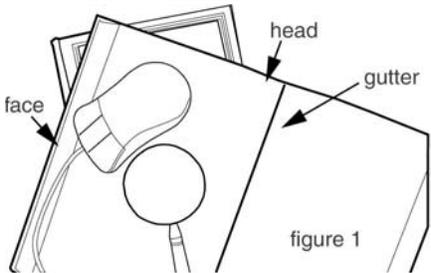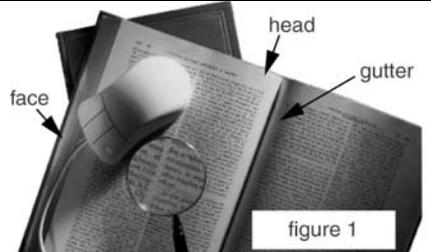# Saving Images from Photoshop 5

This procedure has been prepared by The Sheridan Group as a technical resource to help guide users in the creation of digital art. This procedure is part of a larger knowledge base provided by The Sheridan Group, and is located at http://dx.sheridan.com

Table of Contents

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| Digital Art: General Guidelines	
Color	Black and white raster images should be submitted as bitmap (1-bit) mode for monochrome, and grayscale mode for tones or combination tones.
	Color images should be submitted as CMYK color mode. Files should not be supplied as RGB color mode or as other than bitmap, grayscale or CMYK color.
	Files should be free of color functions, including PostScript color management, transfer curves, halftone screen assignments, and black generation functions. Files should not include references to ICC profiles.
	Total Area Coverage (TAC) for black or dark elements or for black areas within color images should not exceed 300%.
	For color images, black text and lines should be specified to overprint.
Image Resolution	Raster (scanned) image files should adhere to resolution guidelines specified for the publication in which they will appear. Typical recommended image resolution specifications are as follows: • 900ppi-1200ppi for monochrome (1-bit) images • 300ppi for tones (either grayscale or color) • 500ppi-900ppi for combination tones (either grayscale or color)
Image size / crop	Digital art files should be cropped to remove non-printing borders.
	Art should be created or scaled to the size intended for print.
	Image orientation should be the same as intended for print.
File Format	Digital art files should be saved as TIFF or EPS format.
	Submission as native file formats, or submission as any format other than TIFF or EPS is not recommended.
	Images should be flattened prior to submission; that is, files should not contain layers and/or transparent objects.
Text / Lines	For vector EPS files, fonts should be embedded or converted to outlines.
	Lines or rules should not be defined as hairline width. Recommended minimum line width is 1/4 point (i.e., 0.0035 inches).
	For digital art files not supplied same as print size, the effect of scaling reduction should be considered for small text and for thin rules or lines.
Proofs	A clean proof same size as the digital art should accompany file submission—for color images, the supplied proof should be color.
	To ensure color match, the accompanying proof should be generated using a SWOP-certified (Specifications Web Offset Publications) proofing system and should be produced in accordance with the SWOP ADS (Application Data Sheet).
	In case that the digital art file cannot be used as provided, or the file cannot be converted/modified, the supplied proof will serve as original art for scanning.
Submission	Raster images may be compressed using LZW method for TIFF format.
	Digital art files may be compressed as archive format using WinZIP or PKZip for PC or Aladdin StuffIt for Mac.
	File submission can be accomplished using standard removable storage media (e.g., high-density floppy disk, Iomega ZIP, or CD-R), or as e-mail attachment or FTP by arrangement.

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Digital Art: Image Information	
Raster File Types	Raster images can be classified as either monochrome, tone, or combination tone. Monochrome (1-bit) images, typically scanned from line art and/or text originals, are comprised of a single bit of data. Since each bit (binary digit) can be represented only as either a zero or a one, pixels within a monochrome image can have only two states: black or white. Monochrome images generally require higher resolution (more pixels per inch) than tone images in order to prevent aliasing (stairstepped appearance) of diagonal lines. Tones, typically captured from continuous-tone photographs, are comprised of 8-bit data (represented as 256 different levels for grayscale images). Color tones contain eight bits of data per channel (i.e., per color); thus, a CMYK tone contains 32 bits of information (and 256 levels each for cyan, magenta, yellow, and black). Combination tones contain both tone and text/line art elements. Consequently, like tones, combination tones are comprised of 8-bits of data per color channel. Thus, combination tones are saved as either grayscale or CMYK color mode. Because combination tones contain text/line art elements, however, the level of resolution employed must be compromised to address aliasing versus physical file size.

	File type	File Format	Mode	Suggested Resolution
	Monochrome	TIFF	Bitmap	900-1200 dpi
	Tone	TIFF	Grayscale or CMYK	300 dpi
	Combination Tone (aka. Combo)	Tiff	Grayscale or CMYK	500 – 900 dpi

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Saving Images from Photoshop

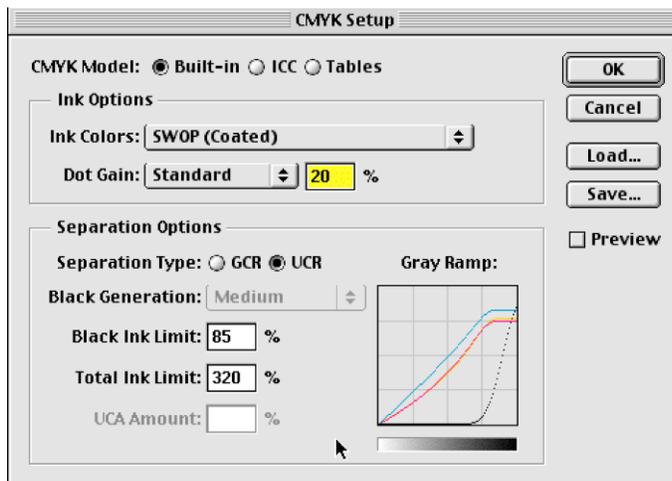Application: Adobe Photoshop 4.0 or higher is recommended. Version 5.5 was used for this document.
1. Launch the Adobe Photoshop application.
2. Select File > Open from the menu bar and establish path to the desired file(s).
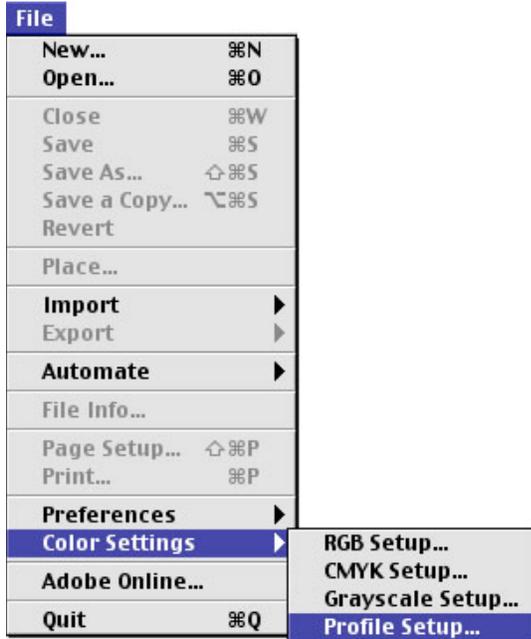
Step 1: Select CMYK Setup
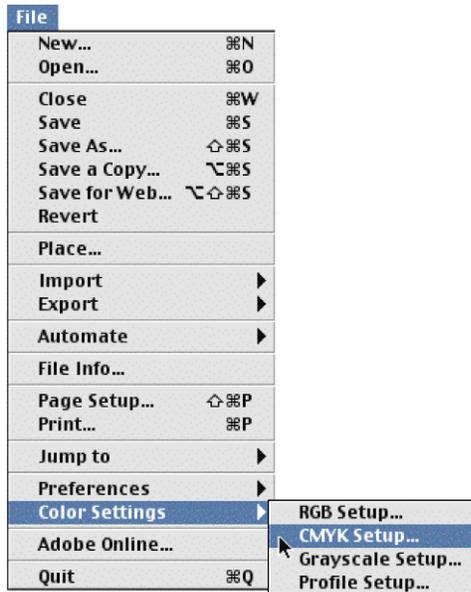
1. From the Photoshop File menu:
   Select: Color Settings > CMYK Setup . . .

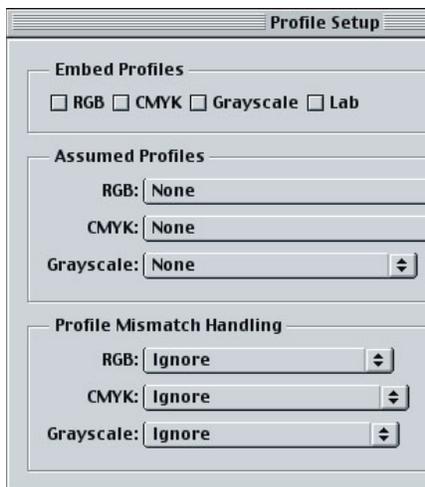## Step 2: Edit/Confirm CMYK Settings

1. Choose Built-in for CMYK Model

2. Choose SWOP(Coated) for Ink Colors

3. Choose Standard 20% for Dot Gain

4. Choose UCR for Separation Type

5. Set Black Ink Limit to 85%

6. Set Total Ink Limit to 320%.

7. Click OK

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Step 3: Select Profile Setup

File	
New...	⌘N
Open...	⌘O
Close	⌘W
Save	⌘S
Save As...	⇧⌘S
Save a Copy...	⌥⌘S
Revert	
Place...	
Import	▶
Export	▶
Automate	▶
File Info...	
Page Setup...	⇧⌘P
Print...	⌘P
Preferences	▶
Color Settings	▶
Adobe Online...	
Quit	⌘Q

Color Settings submenu:
RGB Setup...
CMYK Setup...
Grayscale Setup...
Profile Setup...

1. From the Photoshop File menu:
   Select: Color Settings > Profile Setup . . .

Step 4: Edit & Confirm Profile Settings

Profile Setup

Embed Profiles
☐ RGB ☐ CMYK ☐ Grayscale ☐ Lab

Assumed Profiles
RGB: None
CMYK: None
Grayscale: None

Profile Mismatch Handling
RGB: Ignore
CMYK: Ignore
Grayscale: Ignore

1. Deselect all check boxes to Embed Profiles

2. Select "none" for all Assumed Profiles

3. Select "ignore" for all Profile Mismatch Handling

4. Click OK

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Step 5: Enable the gamut Warning Option

View	Window	Help
New View		
Preview		▶
Gamut Warning ⇧⌘Y		

1. In the Photoshop View Menu:
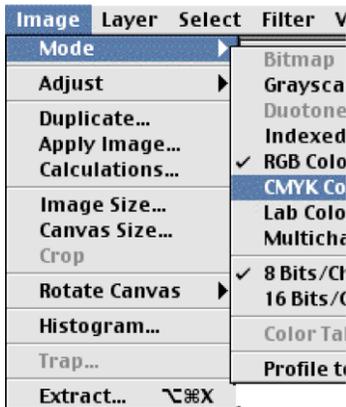   Select: Gamut Warning

The Gamut Warning option allows you to see which colors will be difficult to reproduce when the image is converted to CMYK.

Potential problem colors will be identified in two places:
    1. In the color Picker when you create a new color
    2. Colors in the actual image will be indicated with a specific color (you can edit this color in the Transparency & Gamut preferences panel).

If your image has any color that will be reproduce poorly, be sure to edit the image by adjusting the color curves or changing the saturation, contrast, or brightness, before converting to CMYK.

Step 6: Convert the image to CMYK

Image	Layer	Select	Filter	V
Mode			▶	Bitmap
Adjust			▶	Graysca
Duplicate...				Duotone
Apply Image...				Indexed
Calculations...			✓	RGB Colo
				CMYK Co
Image Size...				Lab Colo
Canvas Size...				Multicha
Crop				
Rotate Canvas			▶	✓ 8 Bits/Ch
				16 Bits/C
Histogram...				Color Ta
Trap...				
Extract... ⌥⌘X				Profile t

5. In the Photoshop Image Menu:
   Select: Mode > CMYK

If any of the colors in the image were outside the gamut of CMYK colors you will see a shift in saturation of those colors. Make sure that these areas of color still clearly show your scientific data. You may have to edit the image by adjusting the curves or changing the saturation, contrast, or brightness.

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Step 7: Save the File as a TIFF
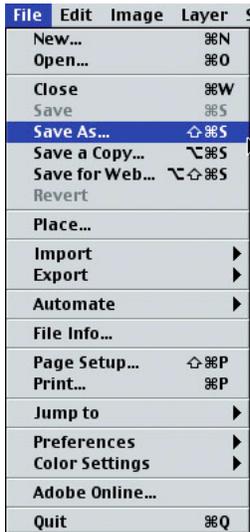
1. From the Photoshop File menu:
   Select: Save As . . .

Step 8: The "Save As" Dialog Window
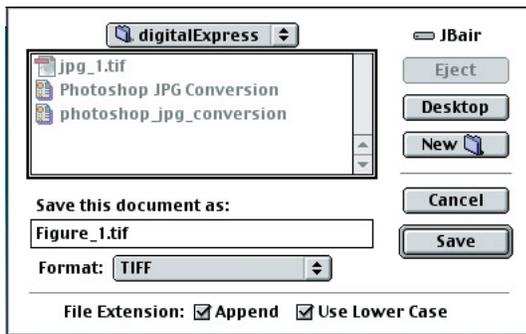
1. Set the file path

2. From the Format menu: select: TIFF

3. Click the Save button

Step 9: Set TIFF Options

1. Select Macintosh Byte Order

2. Select LZW Compression

3. Click the OK button

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