

New RGB Workflow for MCP (beginning January 1, 2006)

Beginning January 1, 2006, all color art submitted to MCP must be in RGB format.

Journals today are published in two primary forms: the traditional printed journal and the online journal. As the readership of the journal shifts to the online media, the processes underlying the production of the journal must also be adjusted to meet the requirements of that media.

Those of you who have submitted digital images for publication in journals may be accustomed to the requirement for CMYK (Cyan, Magenta, Yellow, black) color gamut. CMYK is the combination of colors (in fact, inks run on press) that is used to reproduce the full range of color in a printed journal. It is the color mode on which printing technology and equipment are based. In contrast, the online journal and most of the digital devices used to capture images are based on the RGB (Red, Green, Blue) color gamut. RGB is an additive color mode (i.e., full use of each of the constituent colors results in the color white), whereas CMYK is a subtractive color mode (i.e., full use of each of the constituent colors results in the color black). The inherent differences in these two color modes cause differences in the intensity and hue of colors, especially fluorescent colors.

Historically, MCP has solicited color in CMYK mode, to ensure that color is optimized for the printed journal. For those of you who built and submitted color images in RGB form, your images were converted to CMYK in the production process. The result was often a loss of intensity and overall quality that affected both the printed and online version (as the online version was produced as an outcome of the print production process).

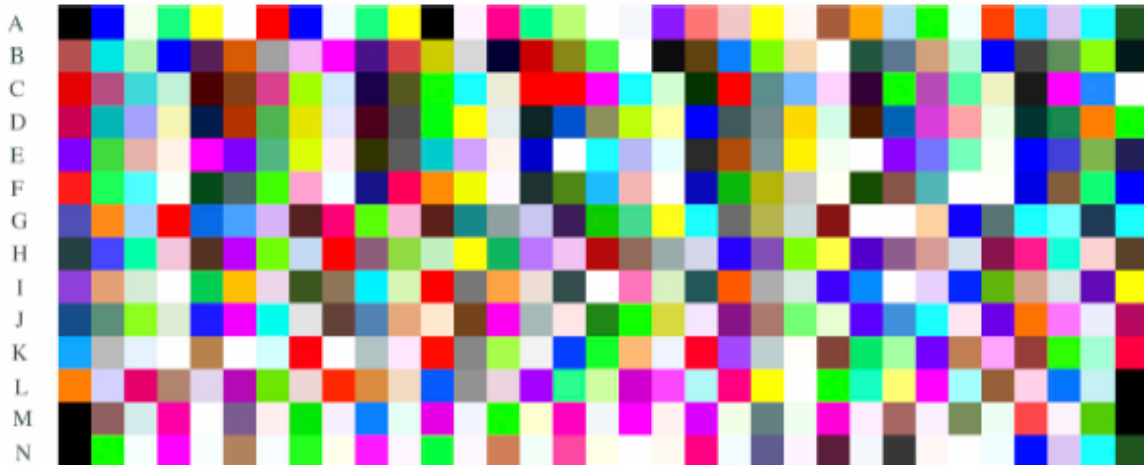
As the usage of the journal today is concentrated in the online form, the journal is now changing its approach to color reproduction. **From January 1, 2006, authors are requested to submit color images in RGB color mode.** These images will be preserved as RGB up until the time of printing (for print they will be converted to CMYK through an automated color conversion process), and will be posted online in their original RGB form.

What does this mean for authors?

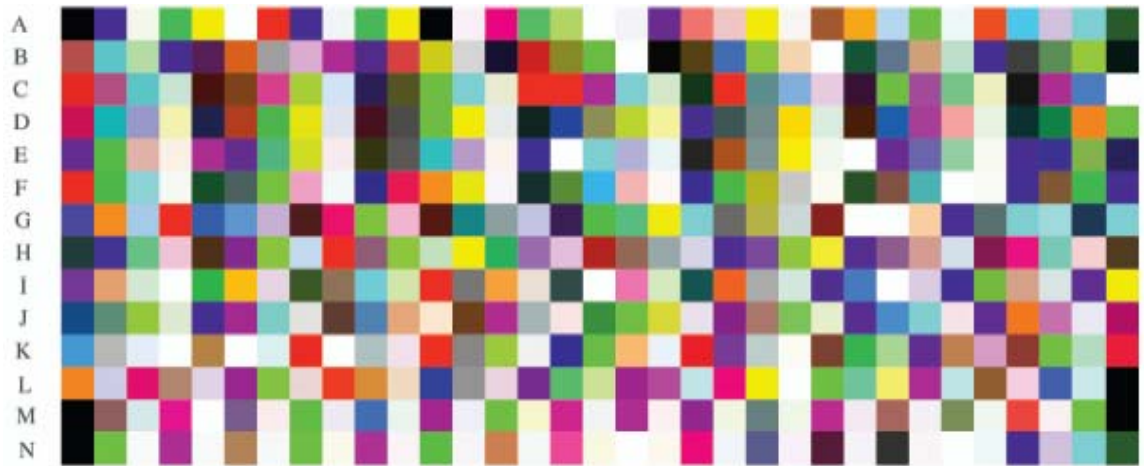
- Images submitted in RGB form will retain the vivid reds, greens, and blues of your original digital files for online publication
- Your proofs will reflect online quality, rather than print quality. There will be some color shift evident in the final printed image.
- Any color adjustments you request at proof stage will require that your images be converted to CMYK by our production staff. This may affect the quality of color online, as from this point forward your proofs will reflect print display rather than online display.

Below are examples of specific colors in RGB mode and their closest equivalents in CMYK:

RGB:

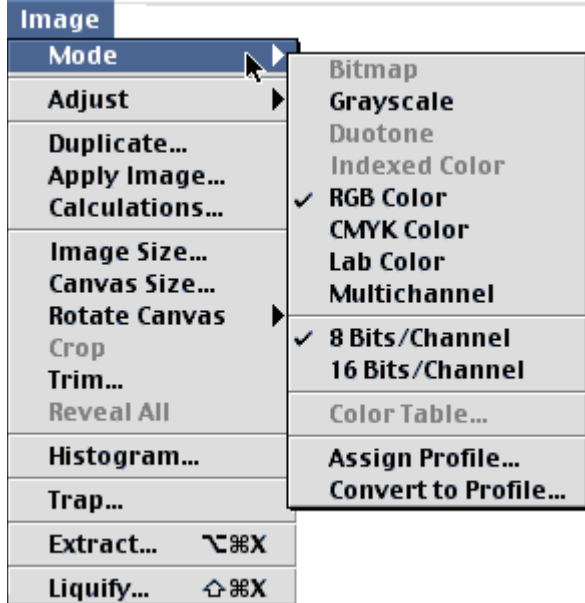


CMYK:

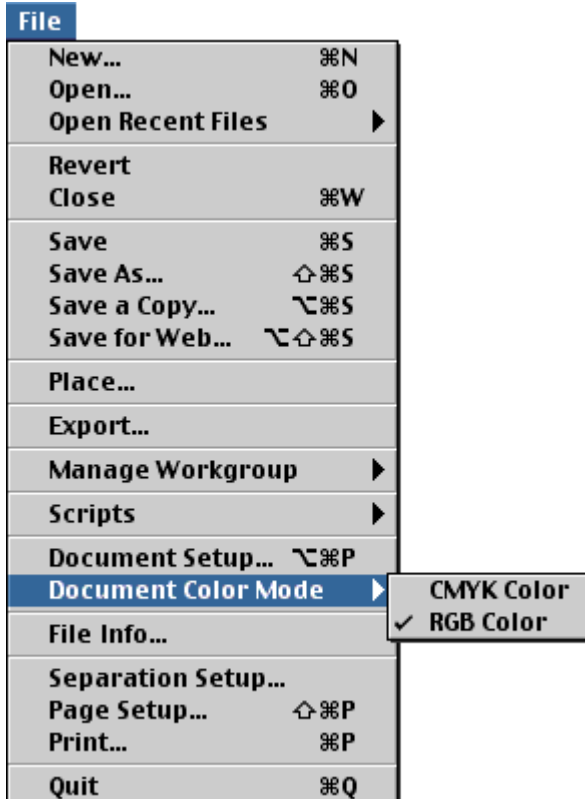


Images can be created in RGB color mode in almost all major image editing applications. Screen shots showing how to select this color mode in the two most common applications, Photoshop and Illustrator, are shown below.

Photoshop:

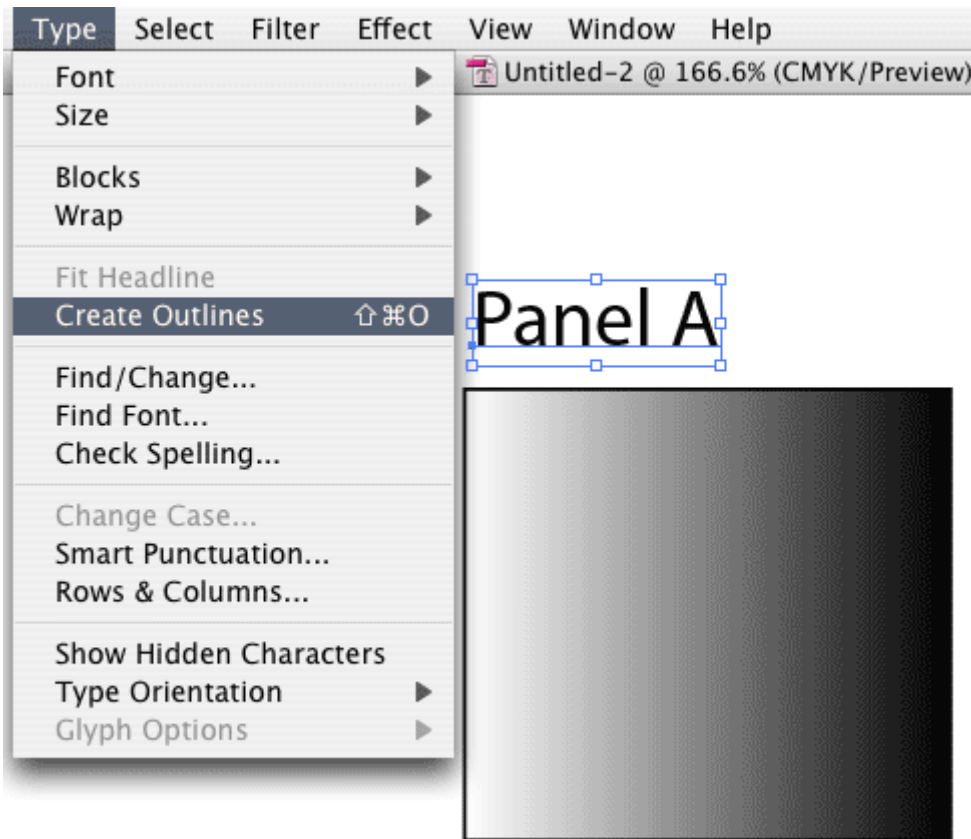


Illustrator:



The quality of images online and in print form is of tremendous importance to MCP and its readers. In addition to switching to RGB color mode, there are several other steps authors can take to ensure the quality of their digital images.

- First, images supplied in EPS format should have all fonts converted to outlines/paths. If fonts are not converted to paths or outlines, there is a possibility of character substitutions or that your graphic may have to be converted to a bitmap, which can affect online image quality. The following screenshot demonstrates how to convert fonts to outlines/paths in Adobe Illustrator:



- Second, images containing both grayscale and bitmap areas must be supplied at a minimum resolution of 600 dpi. If possible, it is best to prepare such images as vector files for the line art areas, with embedded TIFF images for the grayscale portions.

- Third, we **cannot** accept figure files in certain applications such as Microsoft Office (PowerPoint, Word, Excel, Access), Corel Perfect Office (WordPerfect, Quattro Pro, Presentations), or Lotus SmartSuite (Freelance Graphics, 1-2-3, Approach, and WordPro). They are not intended for high resolution imaging necessary for publication. For example, problems with PowerPoint that impact both the visual quality and accuracy of print reproduction include:
 - Poor Color Reproduction - PowerPoint files are intended for screen display (RGB color model) and must be color separated for creation of printing plates involving transformation to CMYK color (commercial printing). Colors that are represented in a PowerPoint presentation may not be possible to reproduce on printing.
 - Lack of Resolution Control - Because PowerPoint is intended for screen displays rather than print production, it does not offer full control over resolution. Lettering and other figure parts may appear jagged.
 - Poor Font Management - If a computer does not have a font in a PowerPoint presentation created on another computer, it will substitute the font (usually with nonsense) without warning.

To learn how to convert PowerPoint images to an acceptable format for publication, please see

<https://rapidsubmission.cadmus.com/jbc/JBC%20PowerPoint%20Update.pdf>