



Printing in Black & White

Application: Adobe Illustrator CS

Printer: HP Designjet 30/90/130 series

Software: EFI Designer Edition for HP

Operating System: Mac OS X

The simplest approach to creating a black and white image is taking a color image and converting it to grayscale in an imaging program such as Photoshop or Illustrator. In addition, although converting an image from color to grayscale is easy, the opposite operation is complex, in this case it is better to have it in color in the first place.

There are different ways to print a black and white image, normally once the colors are converted to grayscale, the black in the highlights and midtones is substituted for color inks. This occurs because a six-color printer with light colorants (a CMYKcm configuration) is unbalanced in the sense that the darkest ink, K (black), does not have a light counterpart like the C (cyan) and M (magenta) inks. As a result, K ink must not be used in highlighted image areas in order to prevent a grainy appearance. But, while you gain in print quality you lose in the neutrality of black. This guide is focused to achieve a neutral black in the print, avoiding the black substitution.

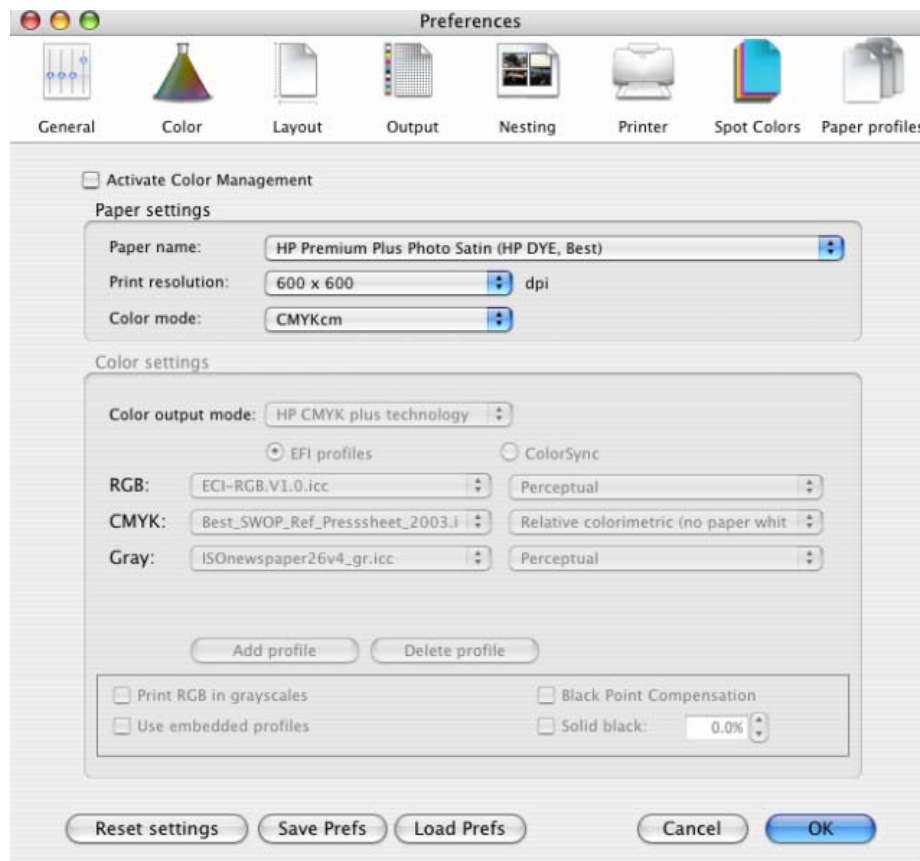
1. First recommendations:

- See the [Media type functionality & features](#) and choose the most appropriate media.
- It is essential to have the media type correctly calibrated with this printer and print mode, consult the [Calibrate my printer](#) section.

2. Open the EFI Designer Edition RIP.

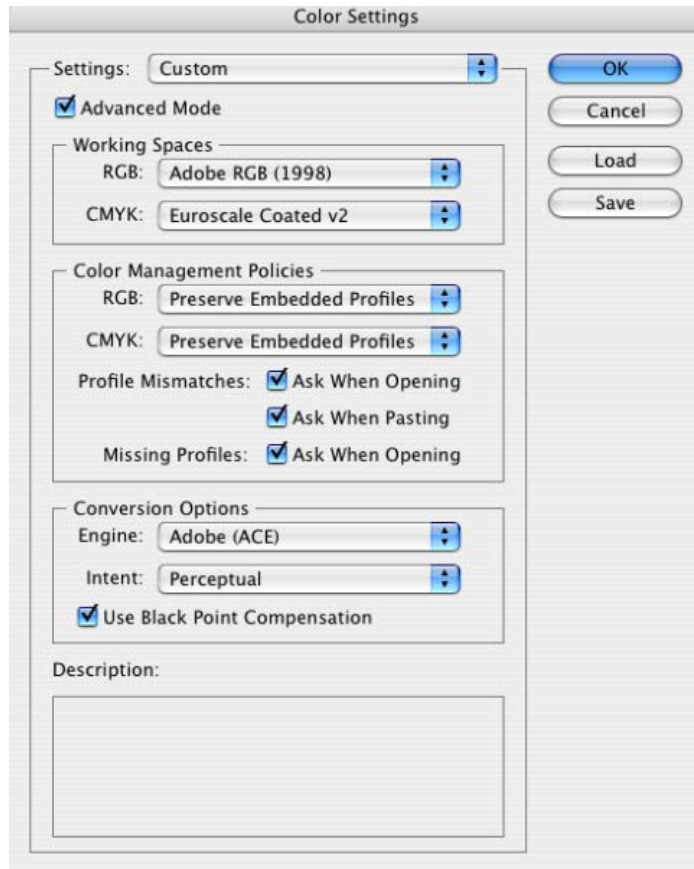
3. EFI Designer Edition RIP settings, **Preferences**:

- **Color:**
 - Uncheck the **Active Color Management** checkbox.
 - **Paper name:** Select the paper type that is loaded on the printer (always calibrated) and “Best” print quality.
 - **Print resolution:** 600 x 600.

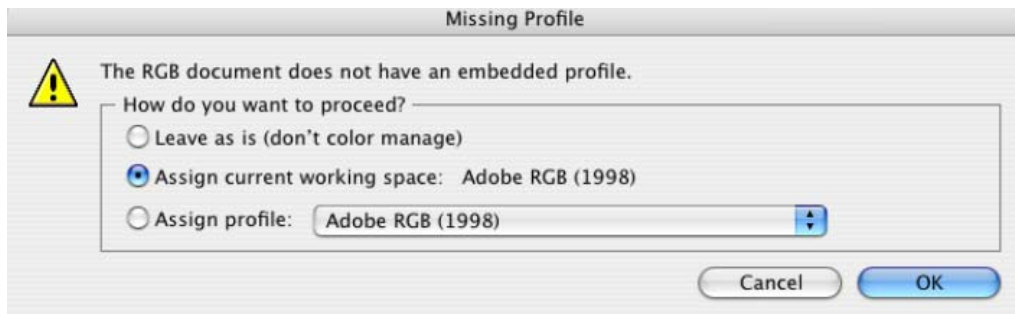
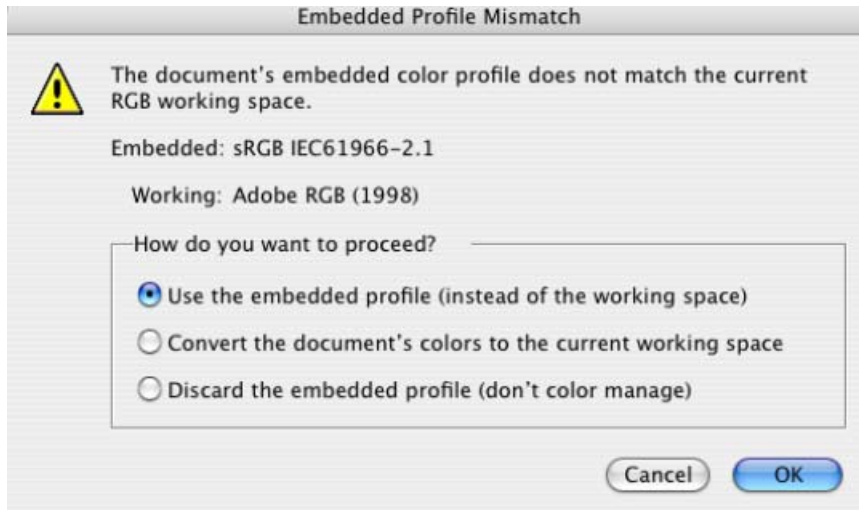


4. Open Adobe Illustrator CS.

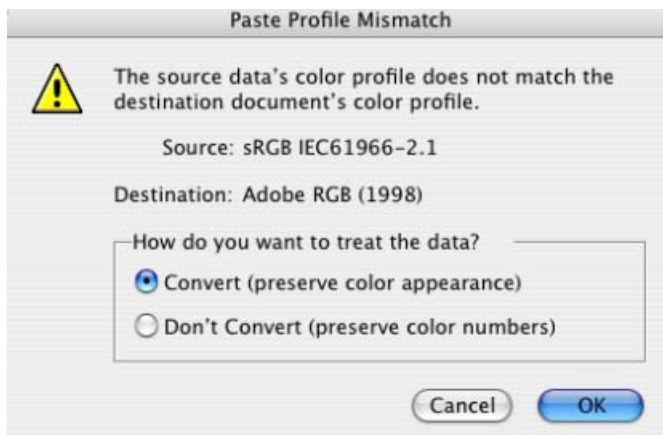
5. Configure the **Color Settings, Edit menu > Color Settings...**:
 - Make sure the **Advanced Mode** check box is ticked.
 - **Working Space > RGB**: Adobe RGB (1998).
 - **Working Space > CMYK**: Euroscale Coated v2 (for Europe), U.S. Web Coated (SWOP) v2 (for US) and Japan Standard v2 (for Japan).
 - **Color Management Policies**: Preserve the Embedded Profiles.
 - **Profile Mismatches**: check **Ask When Opening** and **Ask When Pasting**.
 - **Missing Profiles**: check **Ask When Opening**.
 - **Conversion Options > Intent**: Perceptual (for RGB images) or Relative Colorimetric (for CMYK images).



- Click **OK**
6. Open the image, **File menu > Open...**:
 - If the document has an embedded color profile that does not match the current working space, select **Use the embedded profile**. Otherwise, select **Assign working space**.

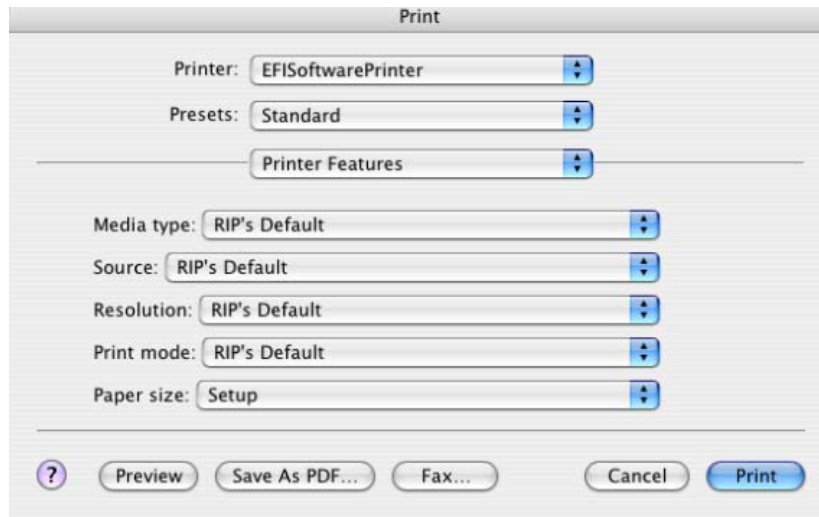


- Click **OK**
7. If you place an image, you can embed the image in the document. If it has an embedded profile, it will be converted from the embedded color profile to the document color profile preserving the color appearance. If it doesn't have an embedded color profile, Illustrator will assign the document color profile.
- **File menu > Place...:** browse the image and uncheck the **Link** checkbox. If you are asked **How do you want to treat the data?**, select **Convert**.



- Click **OK**.
8. Make sure you have configured the **Document Setup** appropriately for your document, **File menu > Document Setup...**
9. Printer settings, **File menu > Print...:**
- **Printer:** Select the printer (ex. EFI Designer Edition).

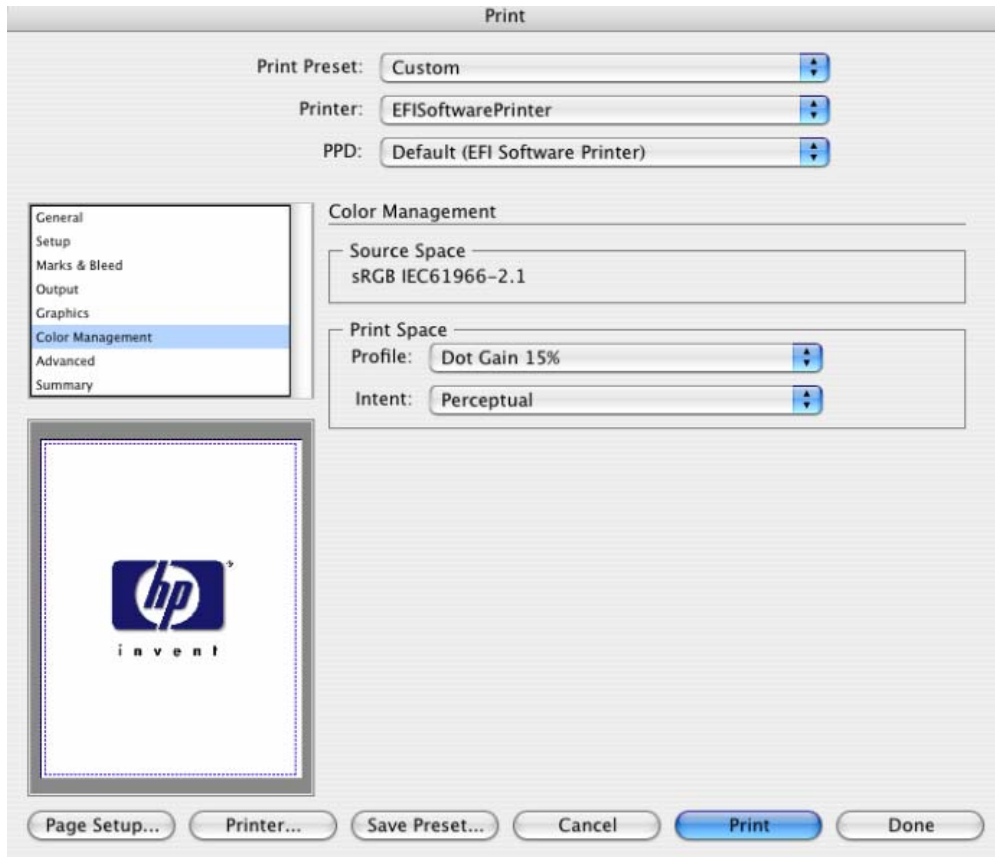
- **Page Setup...:**
 - **Format for:** Select the printer.
 - **Paper Size:** Select the paper size of the media loaded on the printer.
 - **Orientation:** Select the orientation of your image on the paper.
 - Click **OK**.
- **Printer... button:**
 - **Printer Features** (Mac OS X v10.3):
 - **Paper Size:** Setup.
 - Select **RIP's Default** on the others settings.



- Click **Print**.

10. Adobe Illustrator **Print...** settings:

- **General** (left hand menu):
 - **Media > Size:** Defined by Driver.
 - **Options:** Select the scaling option you need.
- **Output** (left hand menu):
 - **Mode:** Composite.
- **Color Management** (left hand menu):
 - **Print Space > Profile:** Dot Gain 15%.
 - **Print Space > Intent:** Perceptual.



- Click **Print**.

For more information on HP Designjet products

www.hp.com/go/designjet

© 2005 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Adobe Photoshop and PostScript are trademarks of Adobe Systems Incorporated. PANTONE is Pantone, Inc.'s check-standard trademark for color.

Rev. 1.0, 09/2005

