



## Printing in Black & White

Application: Adobe Illustrator CS

Printer: HP Designjet 30/130 series printers

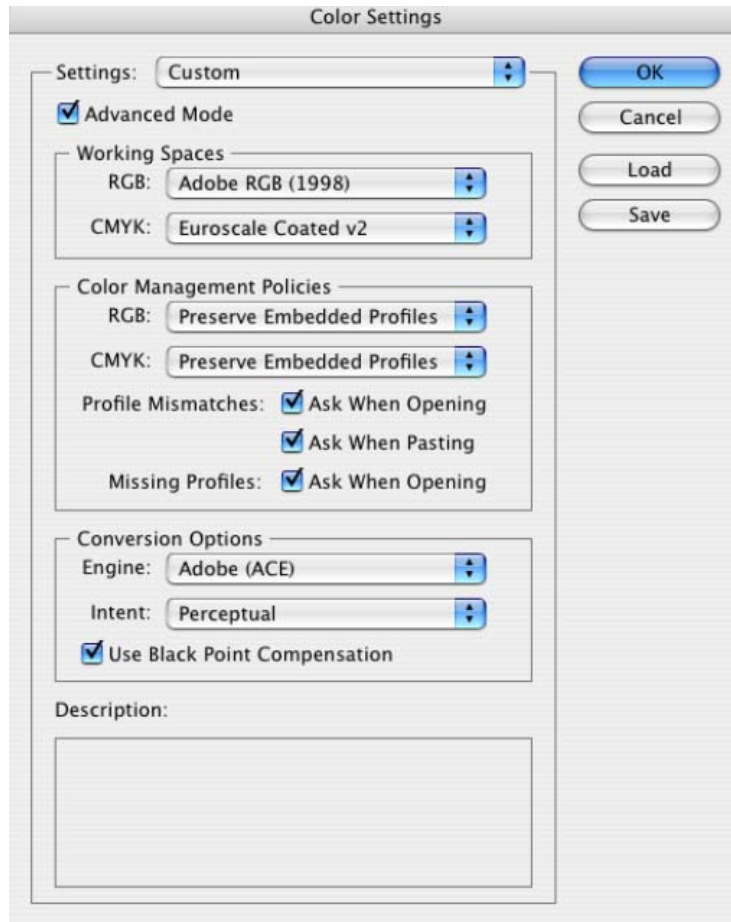
Software: HP Software RIP

Operating System: Mac OS X

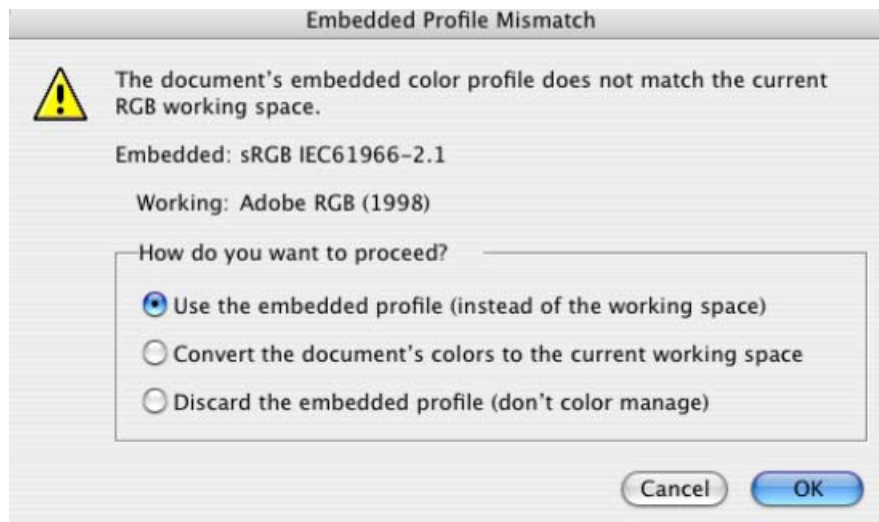
The simplest approach to creating a black and white image is taking a color image and converting it to grayscale in an imaging program such as Photoshop or Illustrator. In addition, although converting an image from color to grayscale is easy, the opposite operation is complex, in this case it is better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

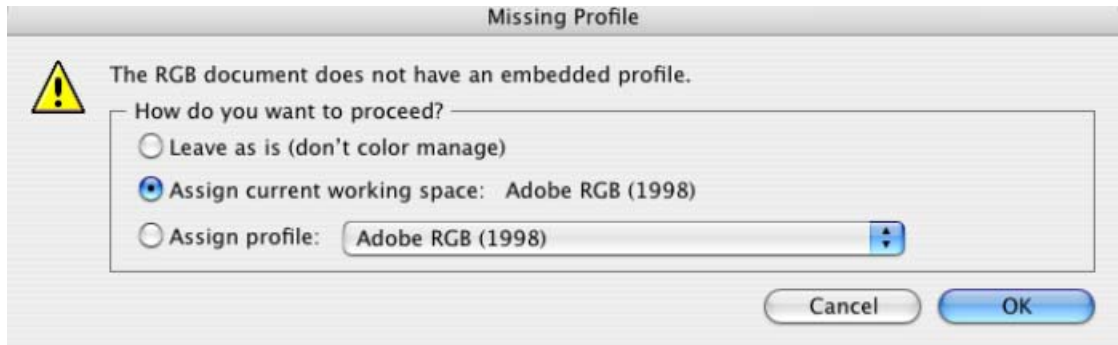
There are different ways to print a black and white image, normally once the colors are converted to grayscale, the black in the highlights and midtones is substituted for color inks. This occurs because a six-color printer with light colorants (a CMYKcm configuration) is unbalanced in the sense that 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 Adobe Illustrator CS.
3. 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).

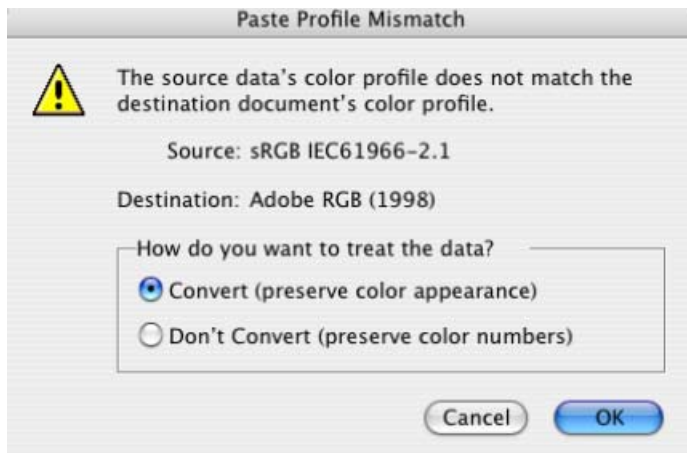


- Click **OK**
4. Open the image, **File menu > Open...**:
- If the document has an embedded color profile that does not match the current working space, select **Use the embedded profile**. Otherwise, select **Assign working space**.





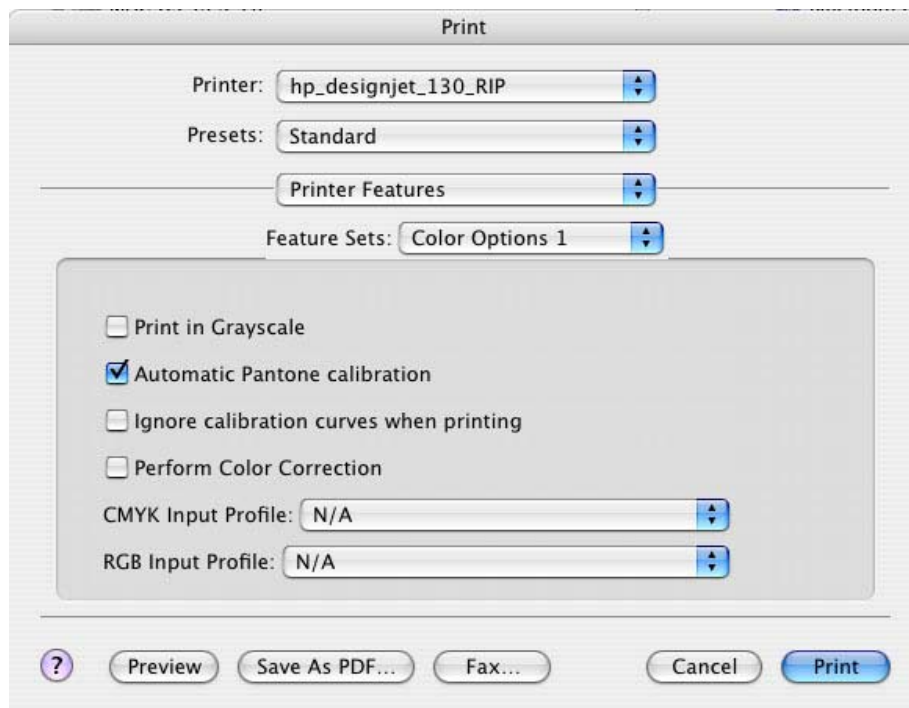
- Click **OK**
5. If you place an image, you can embed the image in the document. If it has an embedded profile, it will be converted from the embedded color profile to the document color profile preserving the color appearance. If it doesn't have an embedded color profile, Illustrator will assign the 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**.
6. Make sure you have configured the **Document Setup** appropriately for your document, **File menu > Document Setup...**
7. RIP settings, **File menu > Print...:**
- **Printer:** Select the printer (ex. hp\_designjet\_130\_RIP).
  - **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 > Media Options** (Mac OS X v10.3):
      - Select the **Media Type** that is loaded on the printer (always calibrated).
      - **Print Mode:** Best (always calibrated).



- **Printer Features > Color Options** (Mac OS X v10.3):
  - Uncheck **Print in Grayscale**.
  - Uncheck **Perform Color Correction**.

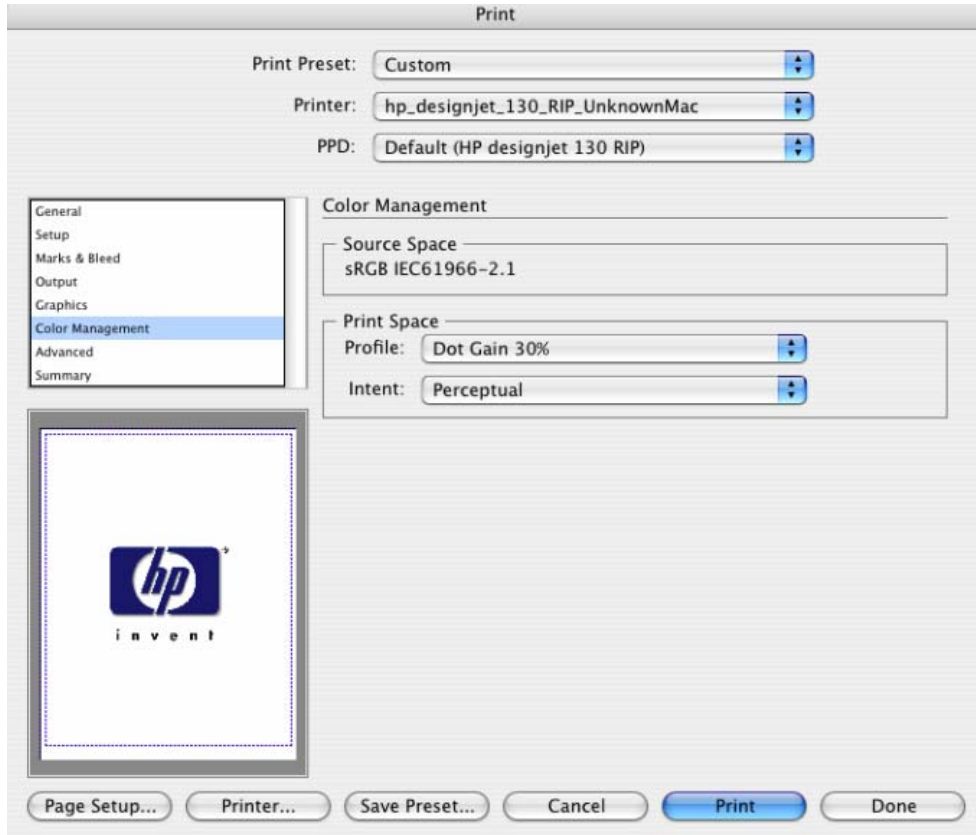


- Click **Print**.

8. 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 30%.
  - **Print Space > Intent:** Perceptual.



- Click **Print**.

For more information on HP Designjet products

[www.hp.com/go/designjet](http://www.hp.com/go/designjet)

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