



## Printing in Black & White

Application: Adobe Photoshop CS

Printer: HP Designjet 30/130 series

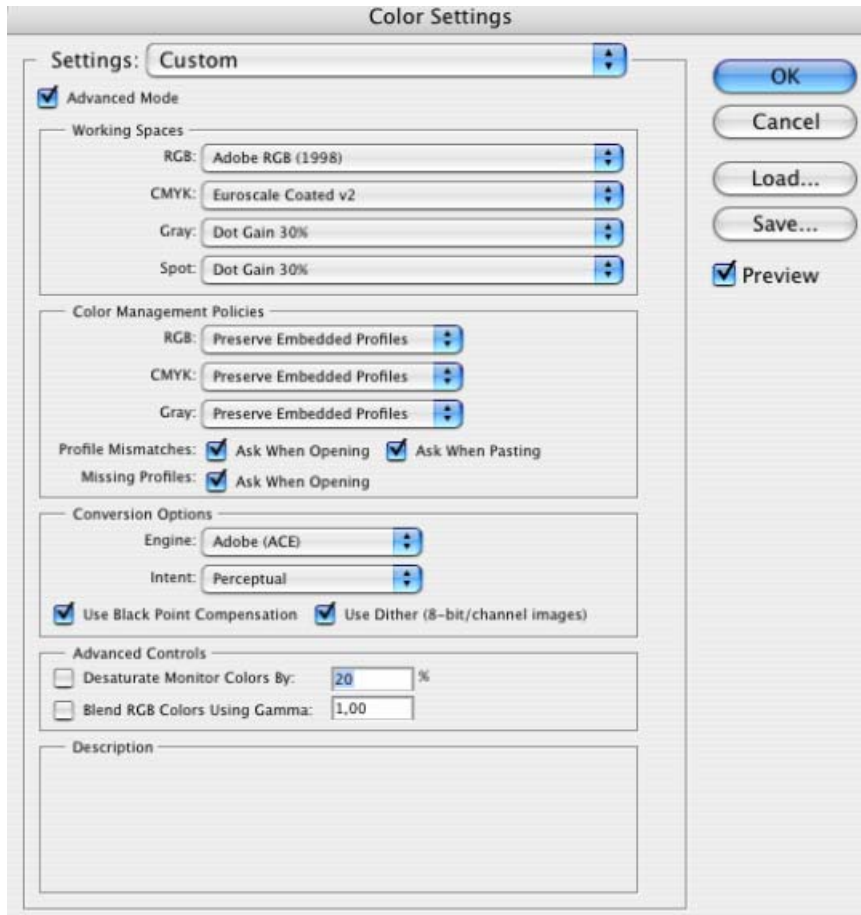
Software: HP Software RIP

Operating System: Mac OS X

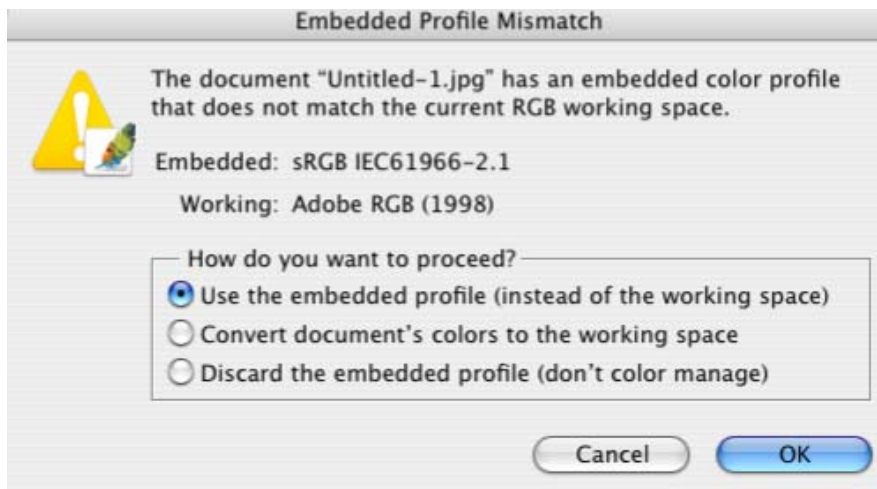
The simplest approach to creating a black and white image is taking a color image and converting it to grayscale in a photo imaging program such as Photoshop. In addition, although converting an image from color to grayscale is easy, the opposite operation is complex, in this case it is better to have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

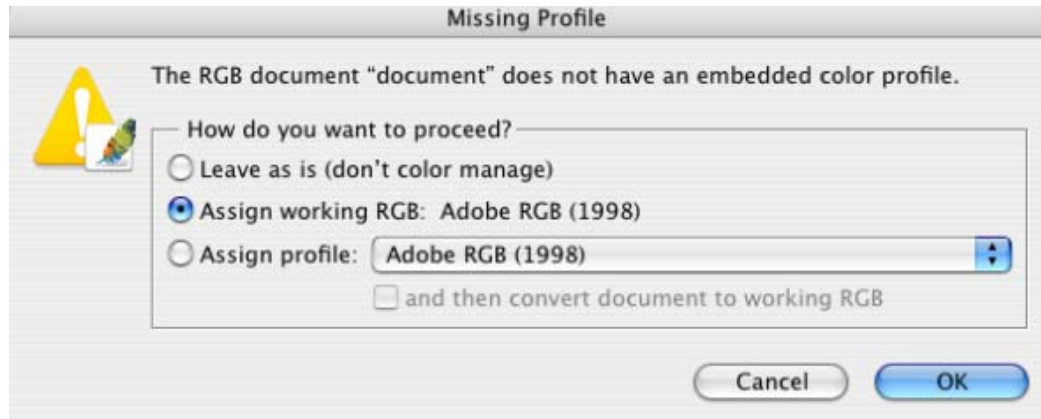
There are different ways to print a black and white image, normally once the colors are converted to grayscale, the black in the highlights and midtones is substituted for color inks. This occurs because a six-color printer with light colorants (a CMYKcm configuration) is unbalanced in the sense that 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](#) documents.
2. Open Adobe Photoshop CS.
3. Configure the **Color Settings, Photoshop 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).
  - **Working Space > Gray**: Dot Gain 30%.
  - **Color Management Policies**: Preserve Embedded Profiles.
  - **Profile Mismatches**: check **Ask When Opening** and **Ask When Pasting**.
  - **Missing Profiles**: check **Ask When Opening**.
  - **Conversion Options > Intent**: Perceptual.



- 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**.



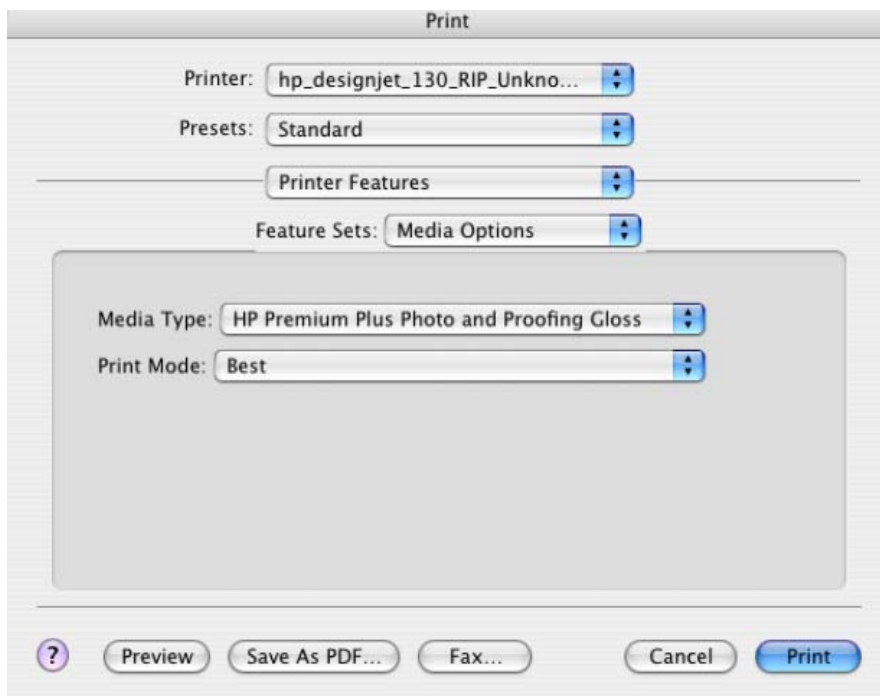


- Click **OK**.
- 5. Convert the image to grayscale, **Image menu > Mode > Grayscale**.
- 6. Adobe Photoshop **Print with Preview...** settings, **File menu > Print with Preview...**:
  - **Page Setup:**
    - **Format for...:** Select the printer (ex. hp\_designjet\_130\_RIP).
    - **Paper Size:** Select the paper size of the media loaded on the printer.
    - **Orientation:** Select the orientation of your image on the paper.
    - Click **OK**.
  - Set the **Position** and the **Scaled Print Size** you need.
  - Check **Show More Options**.
  - Select the **Color Management** tab:
    - **Source Space:** Document.
    - **Print Space Profile:** Same as source.

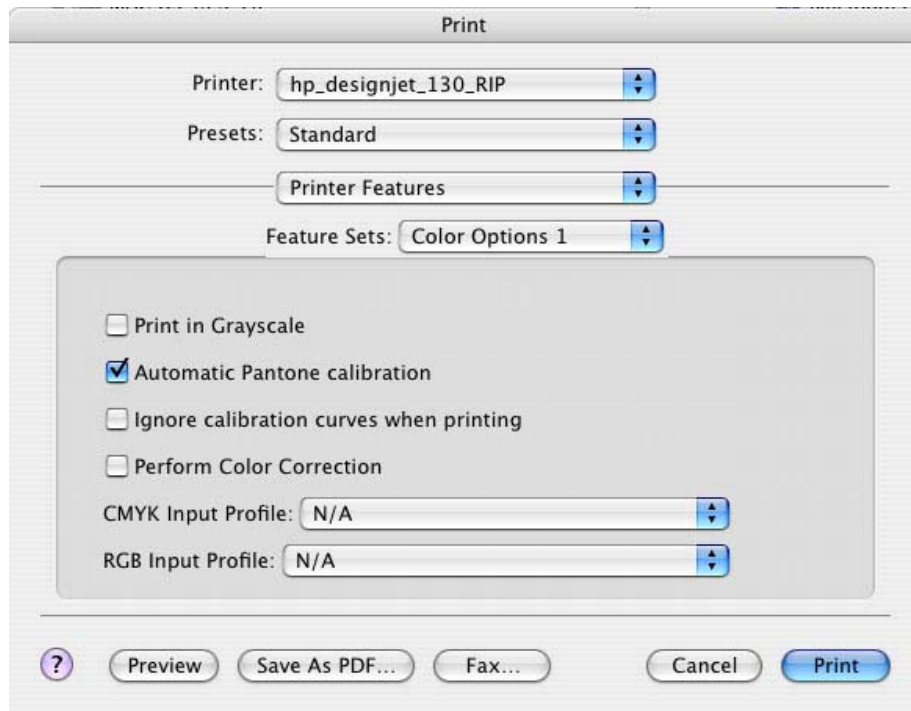


7. RIP settings, **Print...**:

- **Printer:** Select the printer (ex. hp\_designjet\_130\_RIP).
- **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**.

For more information on HP Designjet products

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

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