Printing in Black&White

Application: Adobe Photoshop CS
Printer: HP Designjet 30/90/130 series
*Software*: HP Driver
OS: Windows

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. If your image is already converted, you only have to bypass the section 5.

Gray reproduction is dependant on various factors and/or environmental conditions, these conditions can cause the gray to appear as if it has different colored tones. For this reason we have created multiple profiles that match many different environmental conditions, so that you can choose the exact gray reproduction you prefer. Therefore, if you follow this guide instructions and you have problems with the gray neutrality, please consult the next document which explains this new solution: Black & White Profile Selection (Photoshop and 30/90/130 driver).

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 document.

2. Open Adobe Photoshop 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 (Europe), U.S. Web Coated (SWOP) v2 (US) and Japan Standard v2 (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.
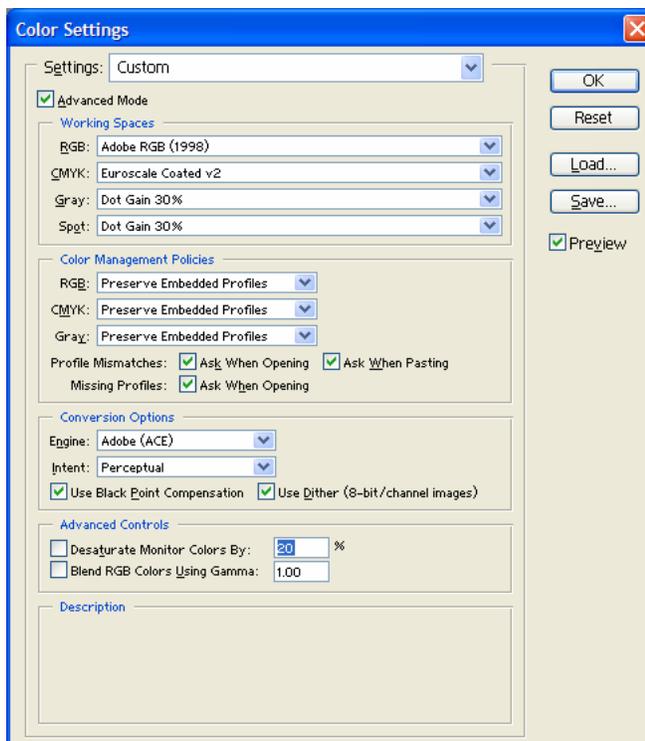
- Click **OK.**

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**.
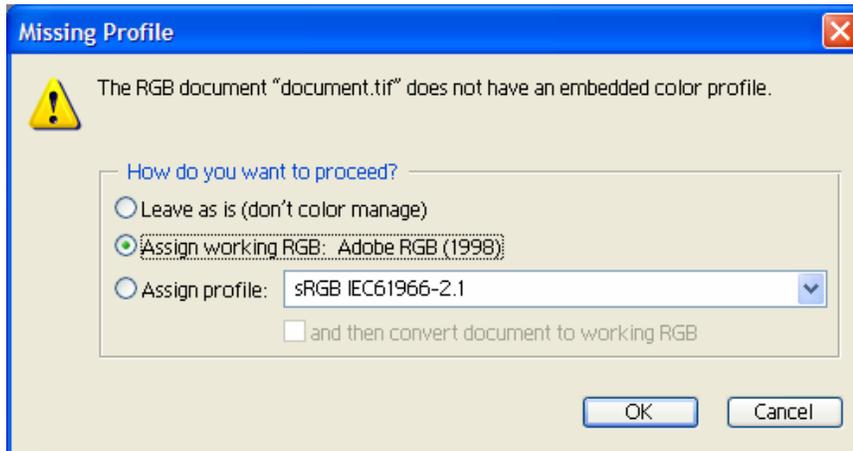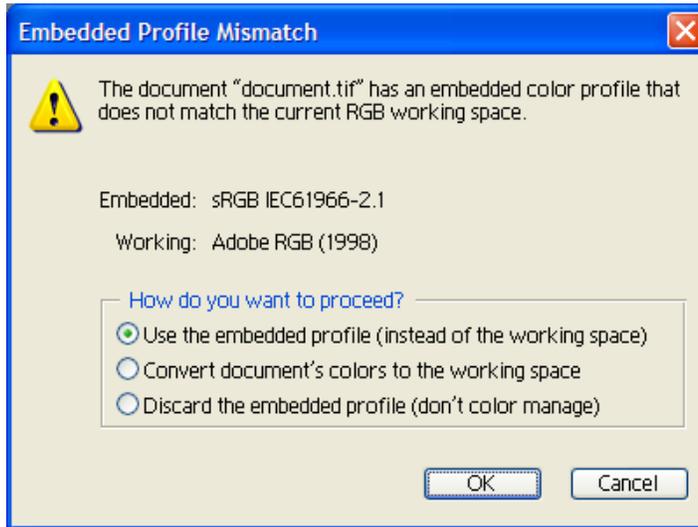

    - Click **OK**.

5. Convert the image to grayscale. We present you two ways to perform the conversion, choose the best one for you:

    a) Let Photoshop do the conversion, **Image menu > Mode > Grayscale**.

    b) You can choose the percentage contribution from each color channel when creating the gray image: **Image mode > Adjustments > Channel Mixer:**

        - Check **Monochrome.**

        - Drag any source channel's slider to the left to decrease the channel's contribution to the output channel or to the right to increase it, or enter a value between -200% and +200% in the text box. Using a negative value inverts the source channel before adding it to the output channel.

        - Drag the slider or enter a value for the **Constant** option. This option adds a black or white channel of varying opacity, negative values act as a black channel, positive values act as a white channel.

        - Click **OK**.
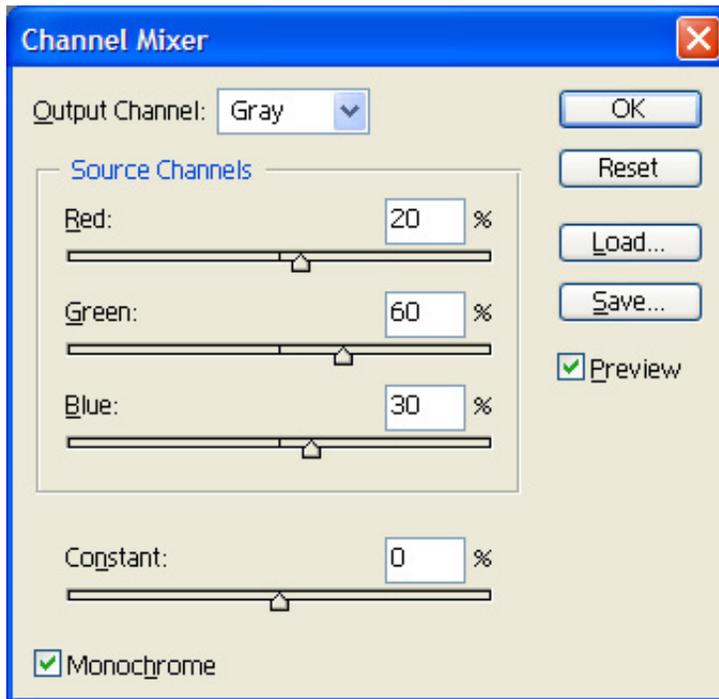
6. Adobe Photoshop **Print with Preview…** settings, **File menu > Print with Preview…**:

- **Page Setup:**
    - o **Printer…**: Select the printer (ex. HP Designjet 130).
    - o Click **OK**.
    - o **Paper Size**: Select the paper size of the media loaded on the printer.
    - o **Orientation:** Select the orientation of your image on the paper.
    - o Click **OK**.
- Set the **Position** and the **Scaled Print Size** you need.
- Check **Show More Options**.
- Select the **Color Management** tab:
    - o **Source Space:** Document.
    - o **Print Space Profile**: Select the profile of the printer and media type you will use to print.
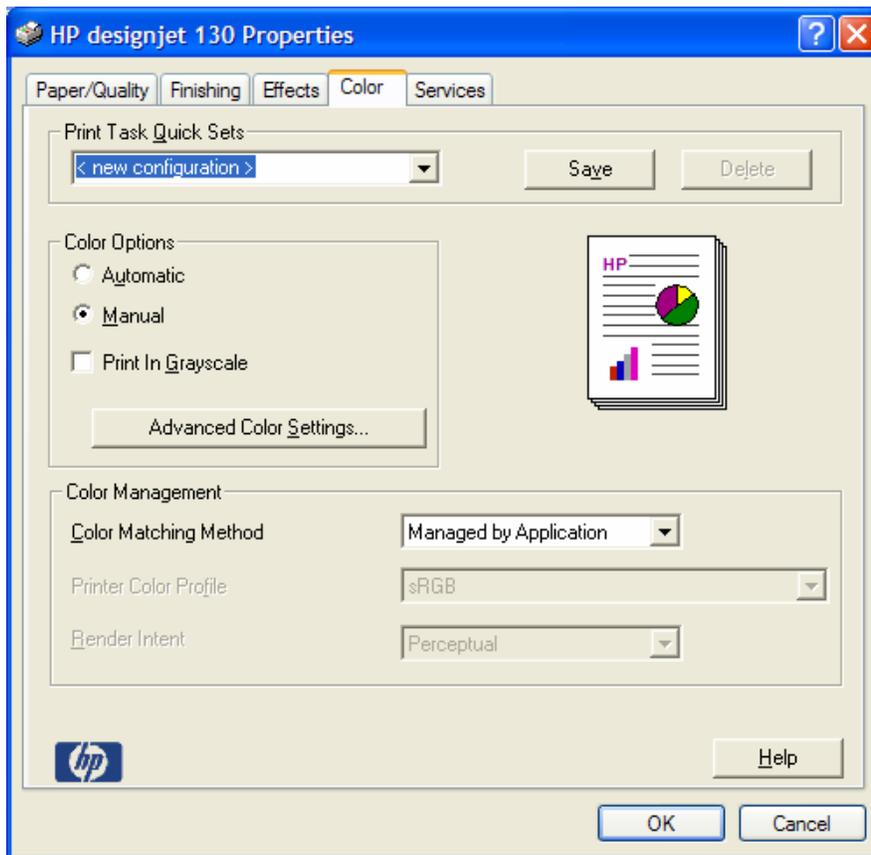   - o **Intent**: Perceptual.
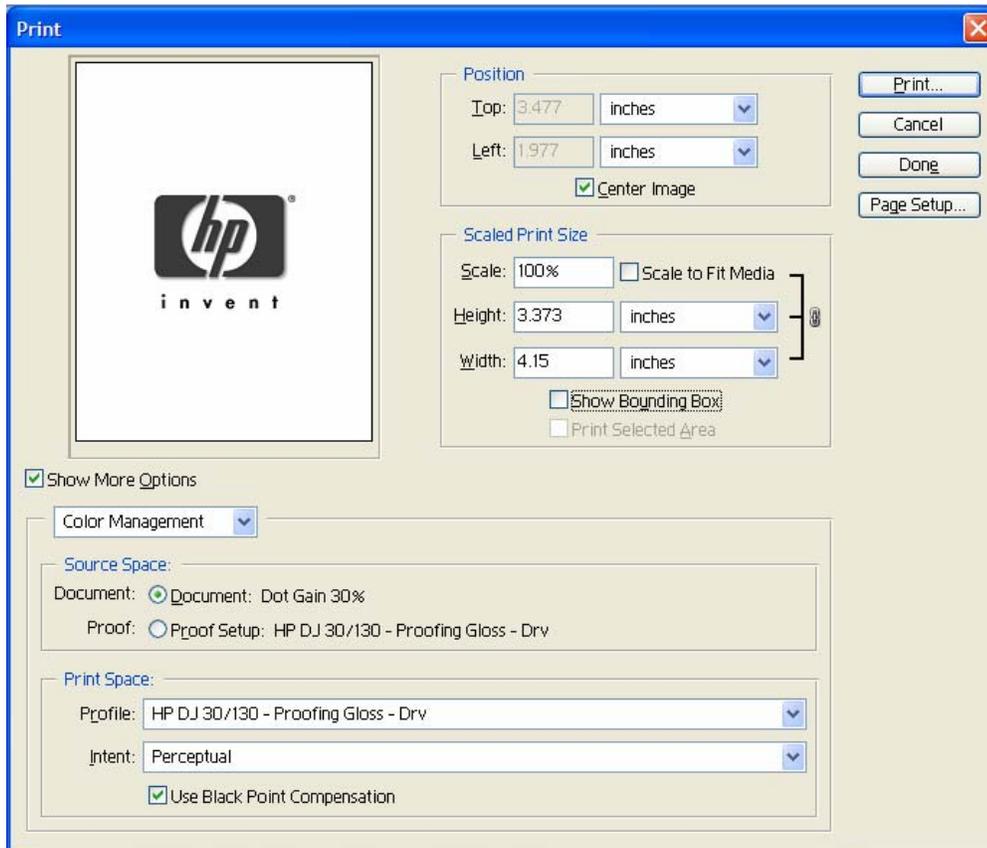
7. Driver Settings, **Print... > Properties:**

    - **Paper/Quality** tab:

        - o **Type is**: Select the media type that is loaded on the printer (same settings selected in Photoshop Print Space Profile, always calibrated).

        - o **Print Quality:** Best.
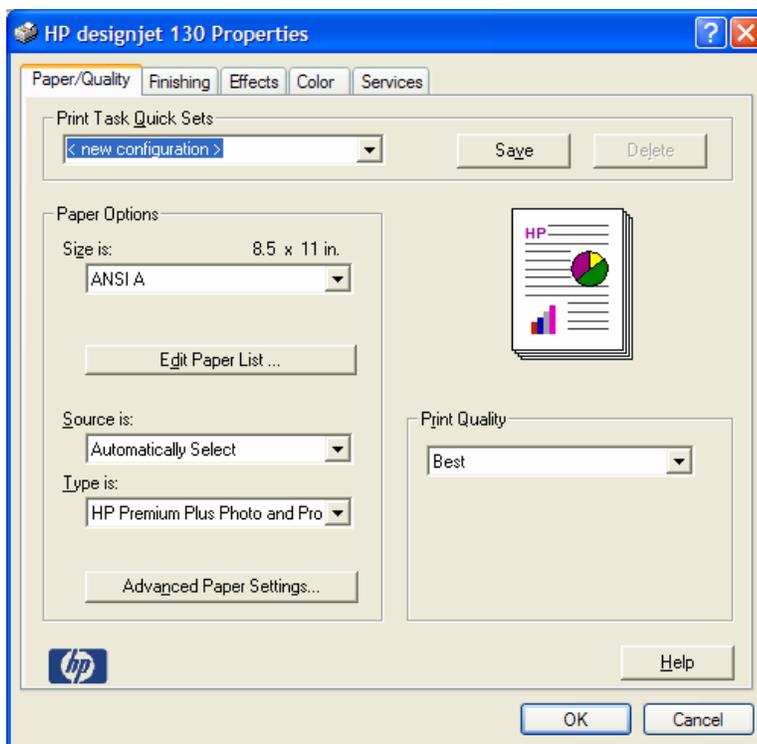
- **Color** tab:
  - o **Color Options:** Manual.
  - o **Color Matching Method:** Managed by Application.

- Click **OK**, until print.

As we have said, if you have followed the instructions and you have problems with the gray neutrality, please consult next document:
[Black & White Profile Selection (Photoshop and 30/90/130 driver)](#).

For more information on HP Designjet products

www.hp.com/go/designjet