



## Printing a black & white photo for an exhibition

Application: Adobe Photoshop CS2

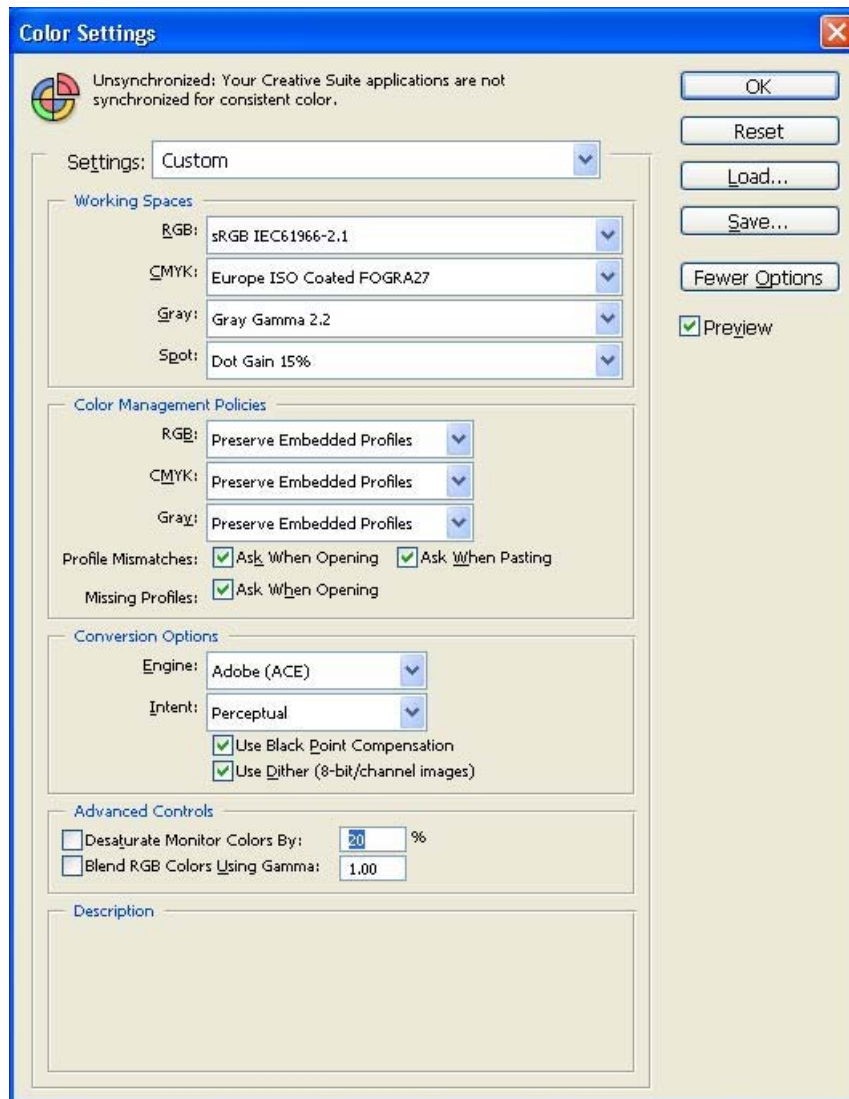
Printer: HP Designjet Z2100 series

Software: HP raster driver

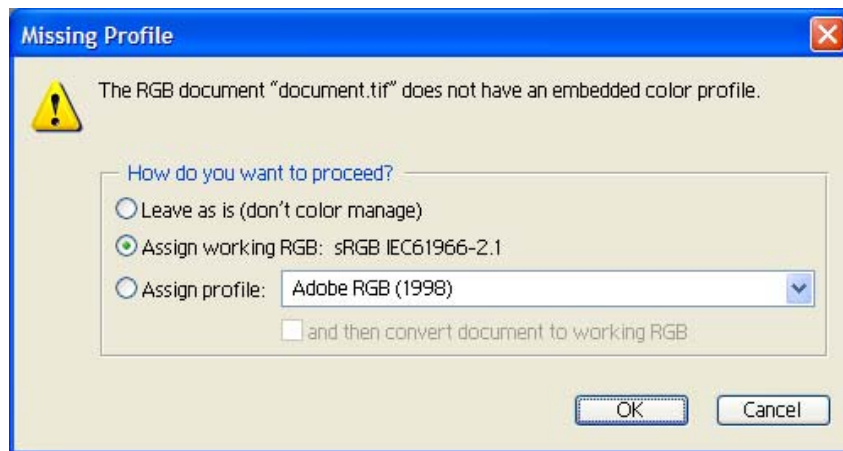
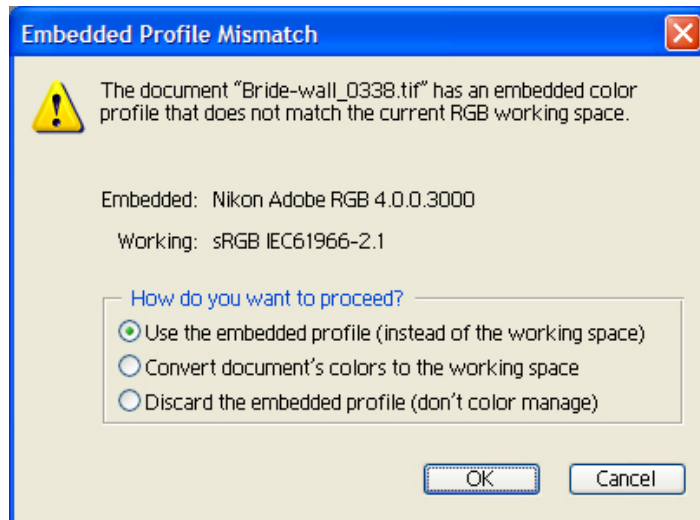
Operating System: Windows

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

1. First recommendations:
  - See the [Media type functionality & features](#) and choose the most appropriate media.
  - It is essential you have the media type correctly calibrated with the printer and print mode, consult the [Calibrate my printer](#) document.
  - In order to get a correct display, it's also essential you have the monitor calibrated, consult the [Profile my monitor](#) document.
2. Open Adobe Photoshop CS2.
3. Configure the **Color Settings, Edit menu > Color Settings...**:
  - Make sure the **More Options** are displayed.
  - **Working Space > RGB**: Select profile of the scanner or camera you have used to get the photo (source profile), if you don't have it, select Adobe RGB (1998).
  - **Working Space > Gray**: Gray Gamma 2.2.
  - **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.



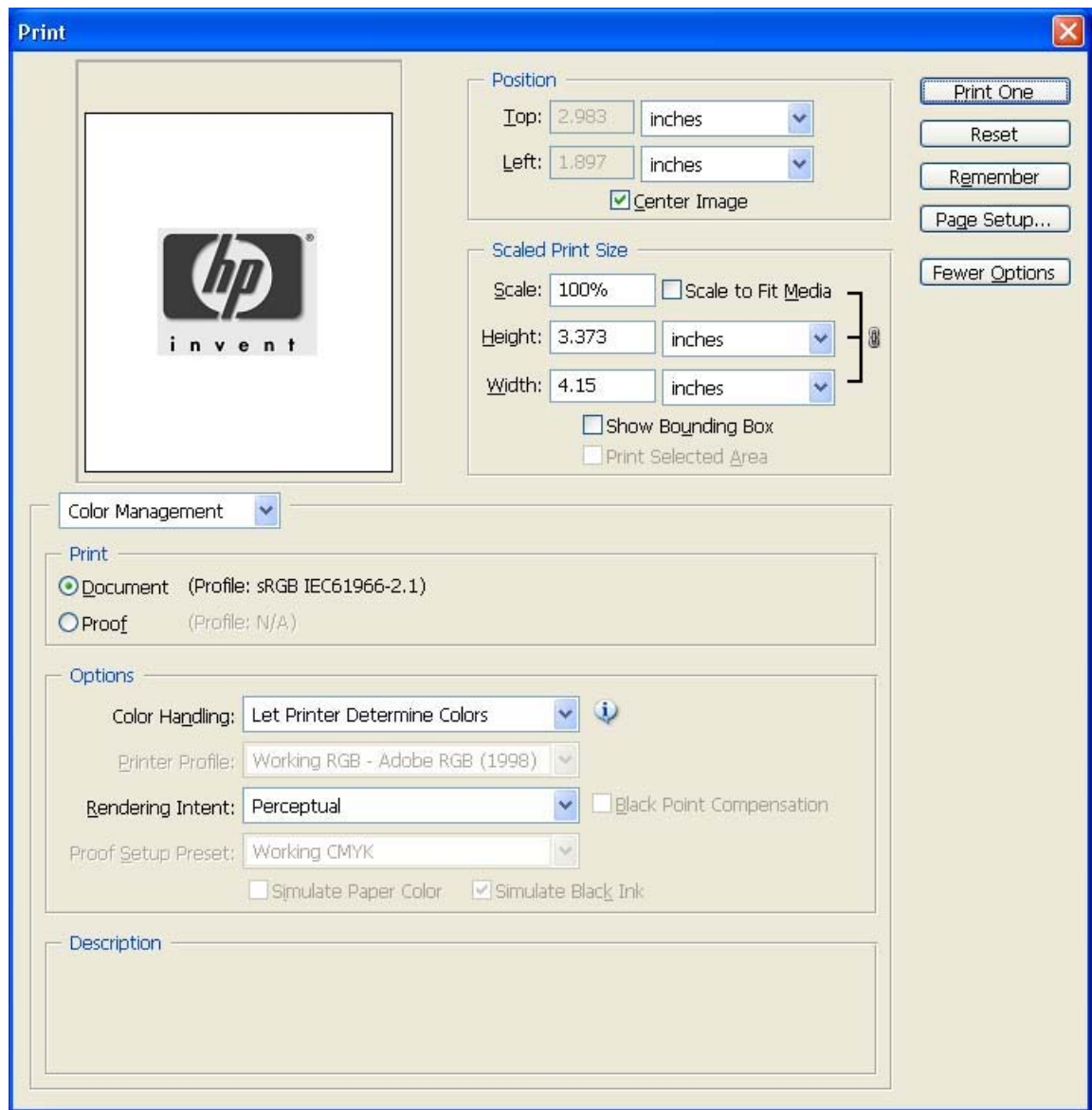
- Click **OK**.
4. Open the image, **File menu > Open...**:
- If the document has an embedded color profile that does not match the current working space, select **Use the embedded profile (instead of the working space)**. Otherwise, select **Assign working space**; in this case, if the displayed image does not look correct, try assigning it to other color spaces with **Edit > Assign Profile** (try **sRGB**, **Adobe RGB**, **ColorMatch RGB** and others) until you are satisfied.



- Click **OK**.
5. Convert the image to grayscale. There are two ways to perform this 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 (for example. 30% Red, 59% Green, 11% Blue).
    - 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.



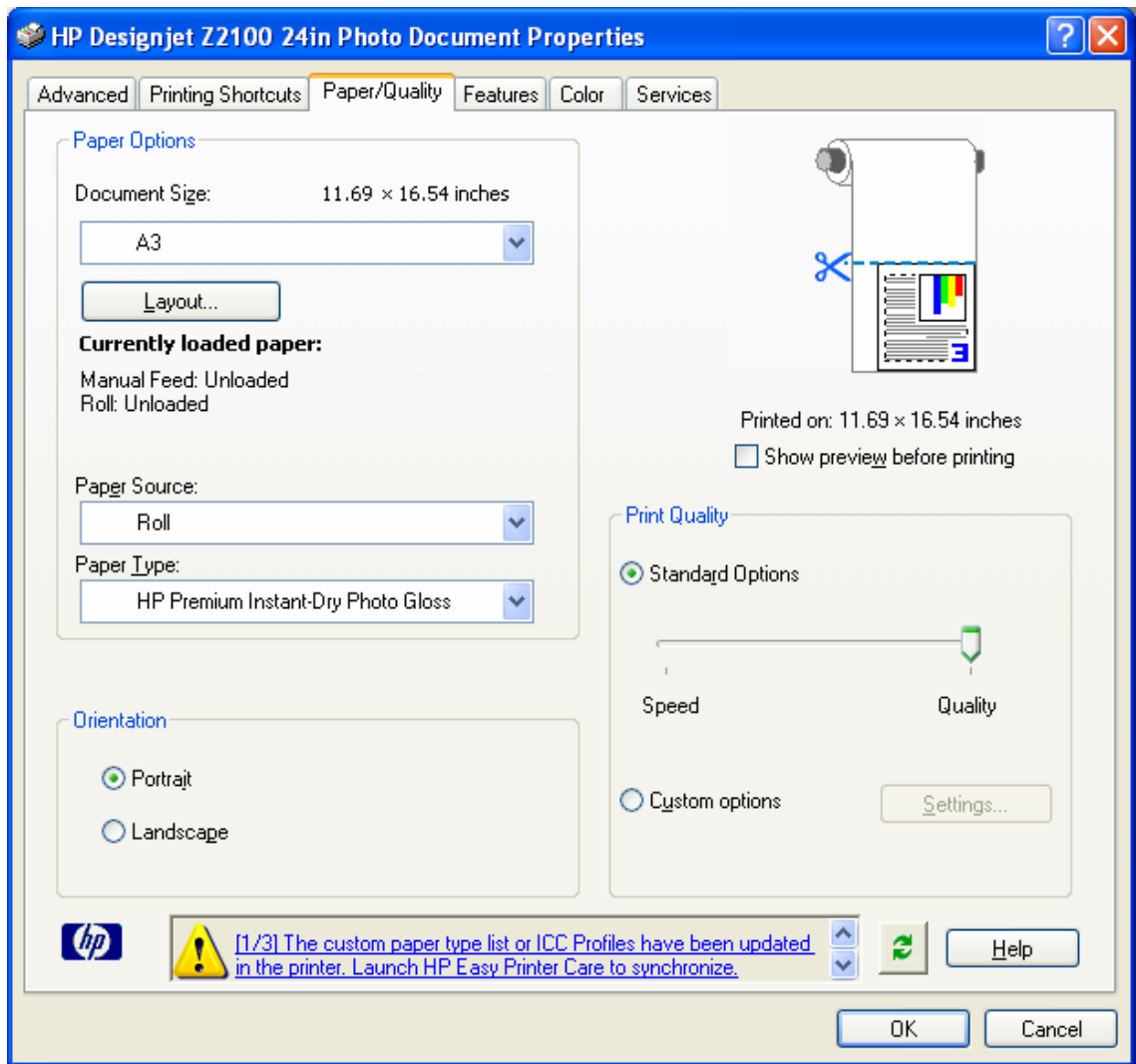
- Click **OK**.
6. Adobe Photoshop **Print with Preview...** settings. **File menu > Print with Preview...**:
- **Page Setup...**:
    - **Printer...**: Select the printer (ex. HP Designjet Z2100 24in Photo) and click **OK**.
    - **Paper Size**: Select the paper size of the media loaded on the printer.
    - **Orientation**: Select the orientation of your image on the paper.
    - Click **OK**.
  - Set the **Position** and the **Scaled Print Size** you need.
  - Make sure the **More Options** are displayed.
  - Select the **Color Management** tab:
    - **Print**: Document.
    - **Options > Color Handling**: Let Printer Determine Colors.
    - **Options > Rendering Intent**: Perceptual.



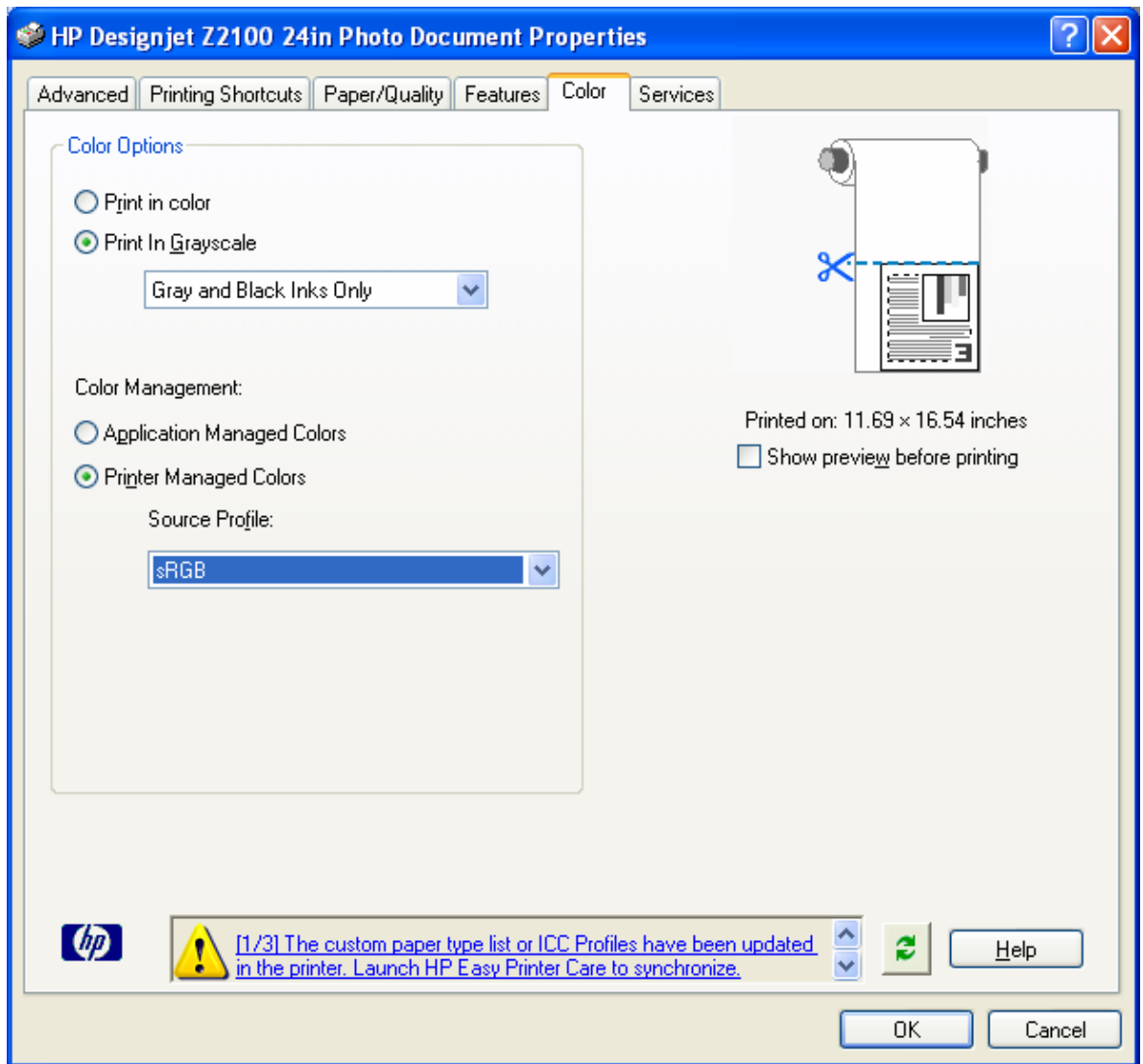
- Select **Print...**

7. Driver Settings; **Properties** button:

- **Paper/Quality** tab:
  - **Paper Type**: Select the media type that is loaded on the printer.
  - **Print Quality**: Select **Standard Options** and drag the slider to **Quality**.



- **Color tab > Color Options:**
  - Select **Print In Grayscale:** Gray and Black Inks Only.
  - **Color Management:**
    - Select **Printer Managed Colors:** sRGB.



- Click **OK** twice.

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