

Printing in Black & White

<u>Application:</u> Adobe Illustrator CS <u>Printer:</u> HP Designjet 30/90/130 series <u>Software</u>: EFI Designer Edition for HP <u>Operating System:</u> 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 <u>Media type functionality & features</u> and choose the most appropriate media.
 - It is essential to have the media type correctly calibrated with this printer and print mode, consult the <u>Calibrate my printer</u> section.
- 2. Open the EFI Designer Edition RIP.
- 3. EFI Designer Edition RIP settings, **Preferences**:
 - Color:
 - o Uncheck the Active Color Management checkbox.
 - Paper name: Select the paper type that is loaded on the printer (always calibrated) and "Best" print quality.

0	Print	resolution	: 600	x 600.
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General	Color	Layout	Output	Nesting	Printer	Spot Colors	Paper profi
	vate Color Manag	ement					
(····	settings er name:	HP Premium P	lus Photo Satin	(HP DYE, Be	st)		
Print	t resolution:	600 x 600		t dpi			
Colo	or mode:	CMYKcm		•			
Color	settings						
Colo	or output mode:	HP CMYK plus	technology	ি			
		• EFI profiles		O ColorSy	nc		
RGE	ECI-RGB	.VI.0.icc	\$	Perceptu		Ĩ	•
CMYK: Best_S		OP_Ref_Presssh	eet_2003.i 🛟	Relative	colorimetric (n	o paper whit	•
Gra	y: ISOnews	paper26v4_gr.i	cc (‡)	Perceptu	al		•
-		profile (Delete profi			241 L	
	Print RGB in gray Use embedded p				ck Point Compe id black:	0.0%	

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).

	Color Settings	
Settings:	Custom	О СК
Advance	ed Mode	Cancel
- Working	Spaces	
RGB:	Adobe RGB (1998)	Load
CMYK:	Euroscale Coated v2	Save
– Color Ma	inagement Policies	-
RGB:	Preserve Embedded Profiles	
CMYK:	Preserve Embedded Profiles	
	Aismatches: 🗹 Ask When Opening 🗹 Ask When Pasting ng Profiles: 🗹 Ask When Opening	
- Conversi	on Options	_
Engine:	Adobe (ACE)	
Intent:	Perceptual	
🗹 Use B	lack Point Compensation	
Description	1:	

- 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**.

	Embedded Profile Mismatch		
<u>^</u>	The document's embedded color profile does not match the current RGB working space.		
	Embedded: sRGB IEC61966-2.1		
	Working: Adobe RGB (1998)		
	How do you want to proceed?		
	• Use the embedded profile (instead of the working space)		
	O Convert the document's colors to the current working space		
	O Discard the embedded profile (don't color manage)		
	Cancel OK Missing Profile		
	The RGB document does not have an embedded profile.		
<u>/</u>	How do you want to proceed?		
	O Leave as is (don't color manage)		
	• Assign current working space: Adobe RGB (1998)		
	Assign profile: Adobe RGB (1998)		
	Cancel		

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.

Paste Profile Mismatch
The source data's color profile does not match the destination document's color profile.
Source: sRGB IEC61966-2.1
Destination: Adobe RGB (1998)
How do you want to treat the data?
• Convert (preserve color appearance)
O Don't Convert (preserve color numbers)

- Click OK.
- 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.
 - o Click **OK**.
- **Printer...** button:
 - **Printer Features** (Mac OS X v10.3):
 - Paper Size: Setup.
 - Select **RIP's Default** on the others settings.

Printer:	EFISoftwarePrinter	:
Presets:	Standard	•
ł	Printer Features	•
Media type: RIP's Default		:
Source: RIP's De	fault	•
Resolution: RIP's Default		:
Print mode: RIP's Default		;
Paper size: Setu	p	•

• 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):
 - o **Mode:** Composite.
- Color Management (left hand menu):
 - **Print Space > Profile**: Dot Gain 15%.
 - **Print Space > Intent**: Perceptual.

	Print
Print Preset:	Custom
Printer:	EFISoftwarePrinter
PPD:	Default (EFI Software Printer)
Setup Marks & Bleed Output Graphics Color Management Advanced Summary	r Management urce Space GB IEC61966-2.1 nt Space ofile: Dot Gain 15% tent: Perceptual
Page Setup) Printer	Save Preset) Cancel Print Done Done
Page Setup) Printer	iave Preset) Cancel Print Done Done

• Click **Print.**

For more information on HP Designjet products

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