

# **Ink Tools for Adobe Photoshop** **21.07**

## User Guide

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## 2. Installation and Setup

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### 2.1. Installing the Ink Tools

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- Open the `Photoshop.mpkg` package on the installation disk and follow the instructions on screen.



This will install the **Ink Tools** in your Adobe Photoshop® Plug-Ins folder and the **License Manager** in your Applications folder.

### 2.2. Esko Setup

---

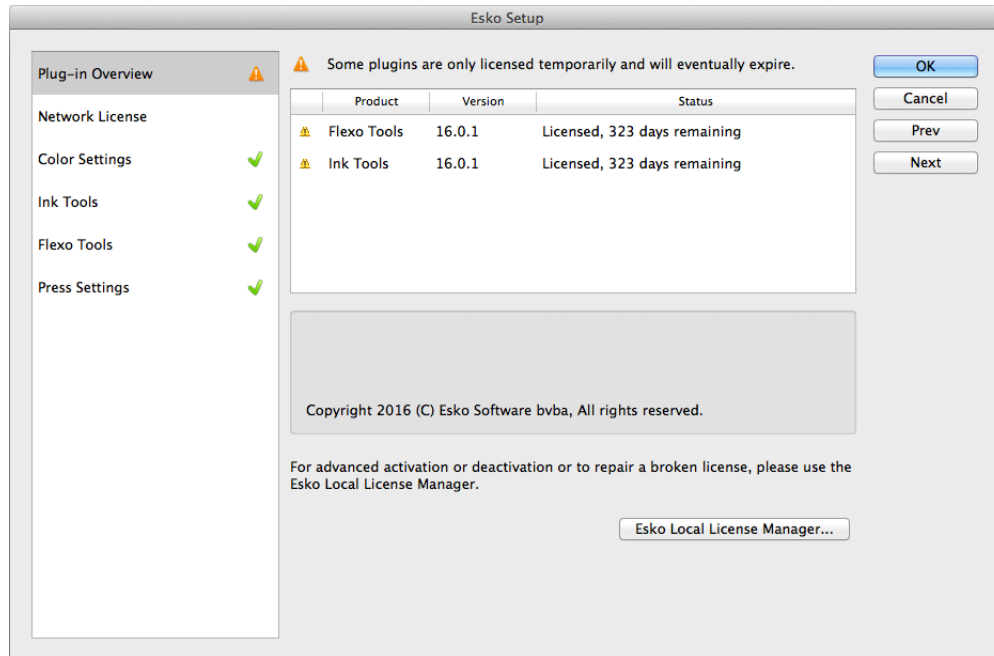
You can open the Esko Setup dialog by choosing **File > Automate > Esko Setup**

The Esko Setup contains multiple tabs:

- [Plug-in Overview](#) on page 29
- [Network License](#) on page 30
- [Color Settings](#) on page 31
- [Ink Tools](#) on page 31

You can change the tab by clicking it on the left, or by using the **Prev** and **Next** buttons.

## 2.2.1. Plug-in Overview

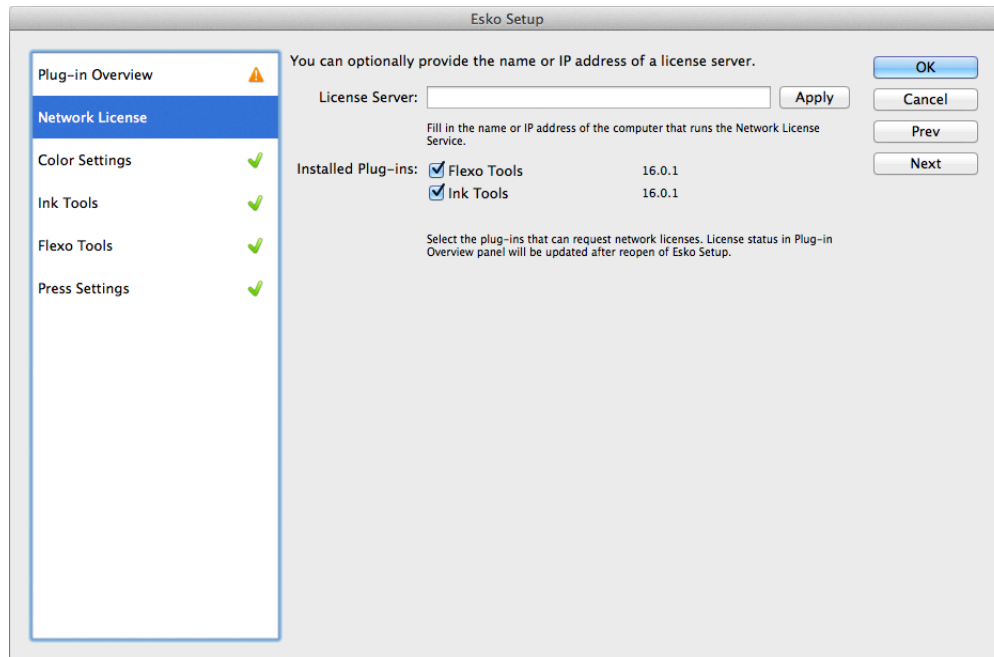


The Plug-in Overview gives an overview of the currently installed Esko Plug-ins, their version and their license status.

You can use the **Activate** button to activate a single product key online.

For more activation, deactivation and repair options, you can click the **Esko Local License Manager...** button to open the Esko Local License Manager. For more information, we refer to the Local License Manager documentation.

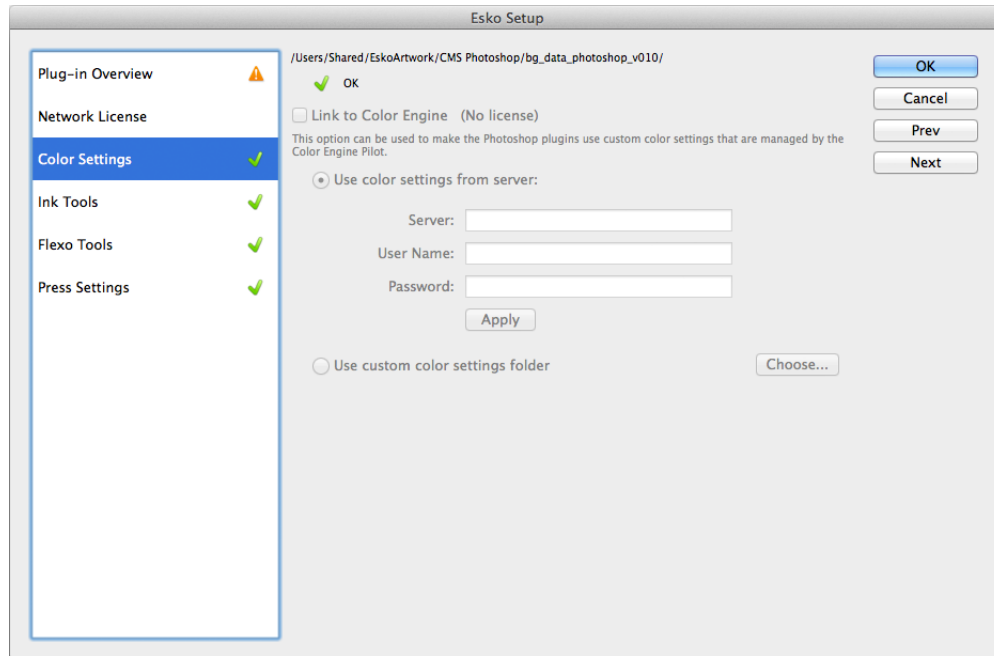
## 2.2.2. Network License



In the Network License tab, you can define the name or the IP address of the computer that runs the Network License Service, and the plug-ins that should use a Network License.

For more information, we refer to the Network License Manager documentation.

## 2.2.3. Color Settings

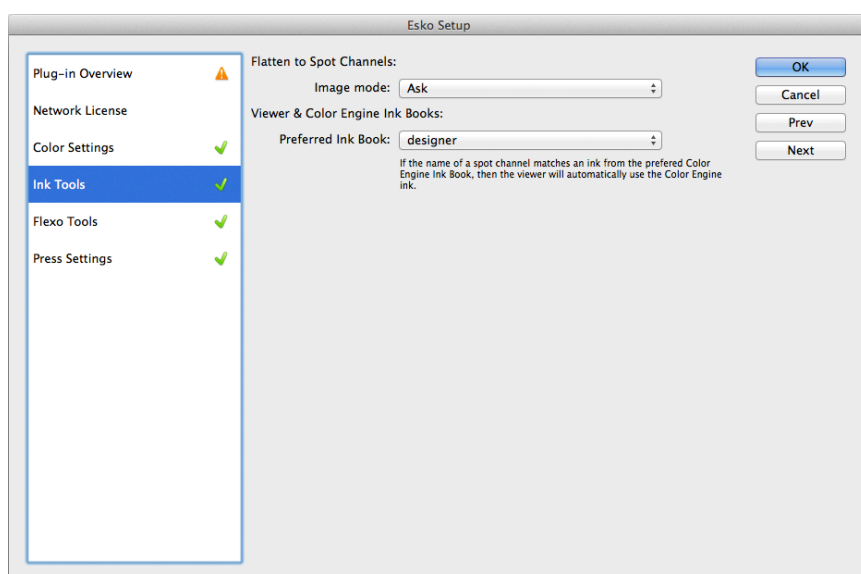


The Color Settings tab shows the current color setting folder path. Enable **Link to Color Engine** to use custom color settings that are managed by Color Engine Pilot.

You can either use the color settings from the server, or use a custom color settings folder, managed by Color Engine Pilot.

In the first case, you need to provide the server name and credentials, in the second you need to define the color settings folder location.

## 2.2.4. Ink Tools



1. Choose the **Image mode** to use with the **Flatten to Spot Channels** tool. See [Choosing an Image Mode](#) on page 32.
2. Choose the **Preferred Ink Book**. If the name of a spot channel matches an ink from the preferred Color Engine Ink Book, then the viewer will automatically use the Color Engine ink.

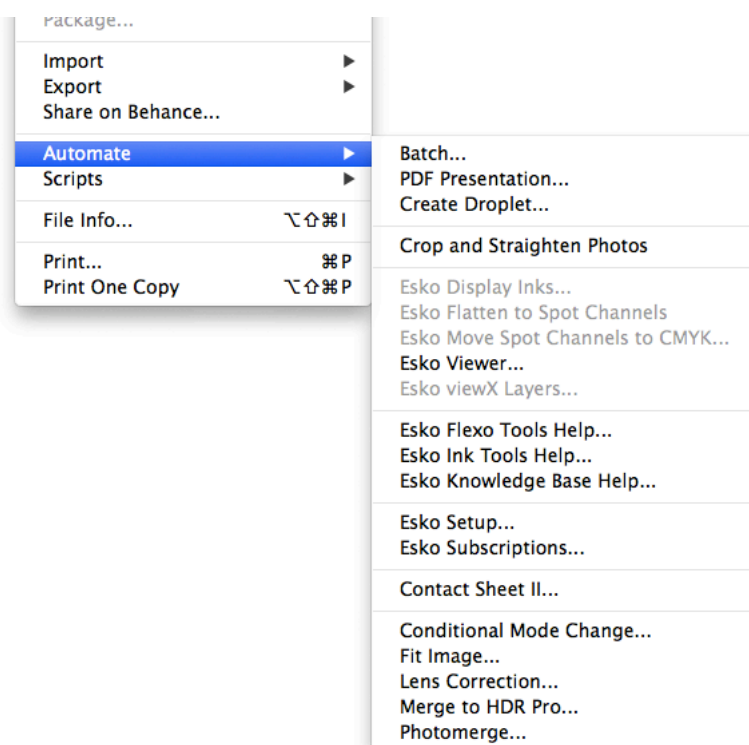
## Choosing an Image Mode

- Choose the **Image mode** to use in the **Flatten to Spot Channels** tool:
  - **Always to Multichannel:** **Flatten to Spot Channels** will always create a multichannel file.
  - **Always to CMYK Color:** **Flatten to Spot Channels** will always create a (flattened) CMYK file with extra spot channels.
  - **Ask:** Every time you use **Flatten to Spot Channels**, you will be asked to choose the Image mode to use.



## 3. Where to find the Ink Tools

1. Open a **CMYK** image in Photoshop.
2. Go to **File > Automate**, and you will see the Ink Tools:



Use **Display Inks...** to set “display inks” used to render the display color-accurate for your images.

Use **Flatten to Spot Channels** to move CMYK channels with display inks into regular Photoshop spot channels (to save the document as a regular file).

Use **Move Spot Channels to CMYK...** to move Spot channels into CMYK channels with display inks (to benefit from the display inks).

Use the **Viewer** to get a very accurate separation viewer. See [Viewer](#) on page 53

See [Display Inks](#) on page 38, [Flatten to Spot Channels](#) on page 42 and [Move Spot Channels to CMYK](#) on page 43 for more information.

### Note:

You can find another Ink Tool in the **Filter > DeskPack** menu.

Use the **InkSwitch...** filter to automatically re-separate CMYK images into any set of two, three or four special inks.

For more information, see [The InkSwitch Filter](#) on page 47.

## 4. About the Ink Tools

---

The Ink Tools are a set of plug-ins on Adobe Photoshop for working with images with special inks. With the Ink Tools, creating and retouching images with special ink separations has become a lot easier on your favorite image editor.

With **Display Inks** you can show your special ink separations in full color overprint. The colors will match a lot closer to the printed result as when using the standard Photoshop spot channels. And unlike spot channels, with Display Inks you don't have to give up any Photoshop feature like layering.

The **Inkswitch filter** can automatically calculate special ink separations to match the appearance of a CMYK target. Patented Esko-Graphics technology is used to create totally new separations for any combination of two, three or four spot-colors. The result is displayed with Display Inks so you can further enhance the image with a very accurate display of the overprint colors.

**Viewer** is a very accurate separation viewer with a lot of extra production tools. It eliminates the need for separated proofs and will help you to avoid bad plate-making.

## 5. About Photoshop

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Before we introduce the Ink Tools, it is important to have a good understanding of Photoshop itself. First we will explain some Photoshop terminology that is relevant to the Ink Tools: [Image Modes](#) on page 35, [Layers](#) on page 35, [Channels](#) on page 36.

The last chapter focuses on Photoshop's color management (**Color Profiles, Working CMYK Profile, Document CMYK Profile**).

### 5.1. Image Modes

---

Photoshop makes a distinction between a number of different image modes (CMYK Color, Multichannel, RGB Color...). A Photoshop document is always in one of these modes. This mode not only dictates the behavior of the colors, but also the behavior and limitations of the **channels** and the **layers**. Some filters, adjustments and file formats are disabled in some image modes. The most common image modes for pre-press are CMYK Color and Multichannel:

**CMYK Color mode** In this image mode the colors are made up in CMYK. The document has four fixed channels (Cyan, Magenta, Yellow and Black). These channels cannot be moved or deleted without leaving the CMYK Color mode. The CMYK Color mode supports the use of transparency and multiple layers. Any number of Spot Channels or Alpha Channels can be added (see also [Layers](#) on page 35, [Channels](#) on page 36).

**Multichannel mode** In this image mode there are no fixed channels, the document can have any number of spot channels and alpha channels (see also [Layers](#) on page 35, [Channels](#) on page 36). The Multichannel mode does not support the use of transparency or multiple layers.

### 5.2. Layers

---

A document in CMYK Color mode can have multiple layers. Each layer contains both color and transparency pixel-information and an optional layer mask. With multiple layers, designs can be made with moveable objects that automatically knock-out other objects that are in the background.

Note that a layer doesn't necessarily have to knock out the underlying layers. If desired a layer can also be blended in a dozen other ways with its background.

There are also **Adjustment Layers**. Instead of pixel information these layers hold a color adjustment which is automatically applied on the underlying layers whenever the adjustment layer is visible.

**Spot channels** are not part of the layers nor the transparency. As a result, the **Multichannel mode** does not support multiple layers or transparency.

## 5.3. Channels

---

**CMYK Channels** A Photoshop document in CMYK Color mode has four fixed channels (Cyan, Magenta, Yellow and Black).

**Spot Channels** A Photoshop document can have any number of spot channels. A spot channel is a single separation with an ink-color attached to it. Spot channels are displayed on the screen as if they are printed on top of the CMYK-separations (if any). Unlike layers, spot channels don't hold any transparency information.

Note that Spot Channels do have a solidity percentage. However, this value is only used for display. The solidity of a spot channel does not affect the way the image will be flattened and RIPped.

A knock-out effect between a spot channel and another spot channel or between a spot channel and a CMYK layer has to be edited manually by the retoucher.

**Alpha Channels** A document can also have any number of alpha channels. Alpha channels behave very similar to spot channels but typically they store temporary information like pixel selections. Alpha channels are not intended as separations to be printed.

## 5.4. Photoshop Color Management

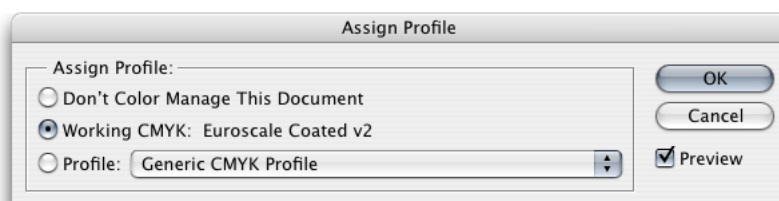
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Color management is all about color consistency over different devices: When retouching a CMYK-image, the colors that are displayed on the screen should match the colors on the press. When making an inkjet proof, the colors printed by the proofer should match the colors on the press. When printing an RGB digital photograph on an inkjet printer, the colors on the inkjet printer should match the RGB colors on the screen.

**Device Profiles** To match colors on two devices, the color management software requires a device profile for both devices. A device profile for a device contains information about the color behavior of that device. A device profile of a CMYK press or proofer typically contains colorimetric measurements of thousands of different combinations of CMYK-percentages.

**Photoshop's Color Management on CMYK Colors** When Photoshop displays a CMYK image or any other CMYK color on the screen it will use a CMYK profile and match that to the RGB Display Profile (as configured in the Mac OS X System Preferences). If available, Photoshop will use the Document Profile. That is a CMYK profile that is embedded (tagged) in the CMYK document. If the document doesn't have an embedded profile Photoshop will use the Working CMYK profile to display CMYK colors. The Working CMYK Profile is a default profile that can be set in Photoshop's **Color Settings**.

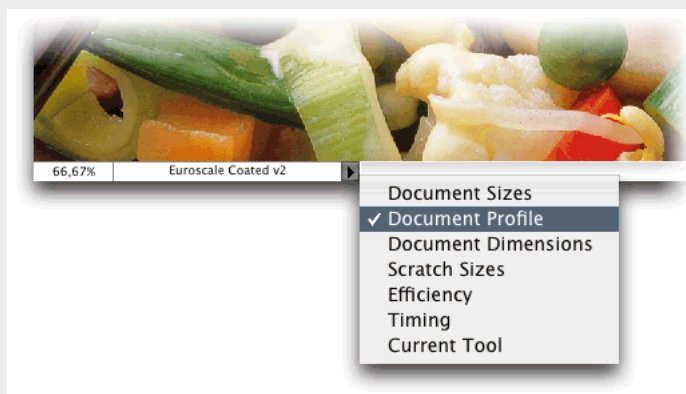
To see if a document has a document profile, choose **Image > Mode > Assign Profile...** from the menu.



- Don't color manage this document: The document has no embedded document profile
- Working CMYK: The working CMYK profile has been explicitly embedded in the document. In this case the document profile and the working profile are the same.
- Profile: Another profile is embedded in the document.

**Tip:**

The embedded color profile can also be shown at the bottom of the document window.



**Photoshop's Color Management on Spot Channels** Spot channels are displayed in a different way. Each Spot-channel has an ink color and a solidity percentage. This color is used to display the solid (100%). To display the other percentages, the spot dot gain curve (which is set in Photoshop's Color Settings) is used. The solidity percentage of the spot channel is used to simulate the ink's overprint behavior on top of the CMYK colors or other spot channels. Since Photoshop is not using a color profile or any other type of overprint information, the display of overprinting spot colors is not as accurate as the display of composite CMYK colors can be.

## 6. Display Inks

### 6.1. What are Display Inks?

Spot channels are Photoshop's standard way of handling special ink separations. But they have a few drawbacks:

- Inaccurate rendering of overprints (see [Photoshop Color Management](#) on page 36).
- No support for transparency and layering.
- Creating spot color separations manually is time consuming.

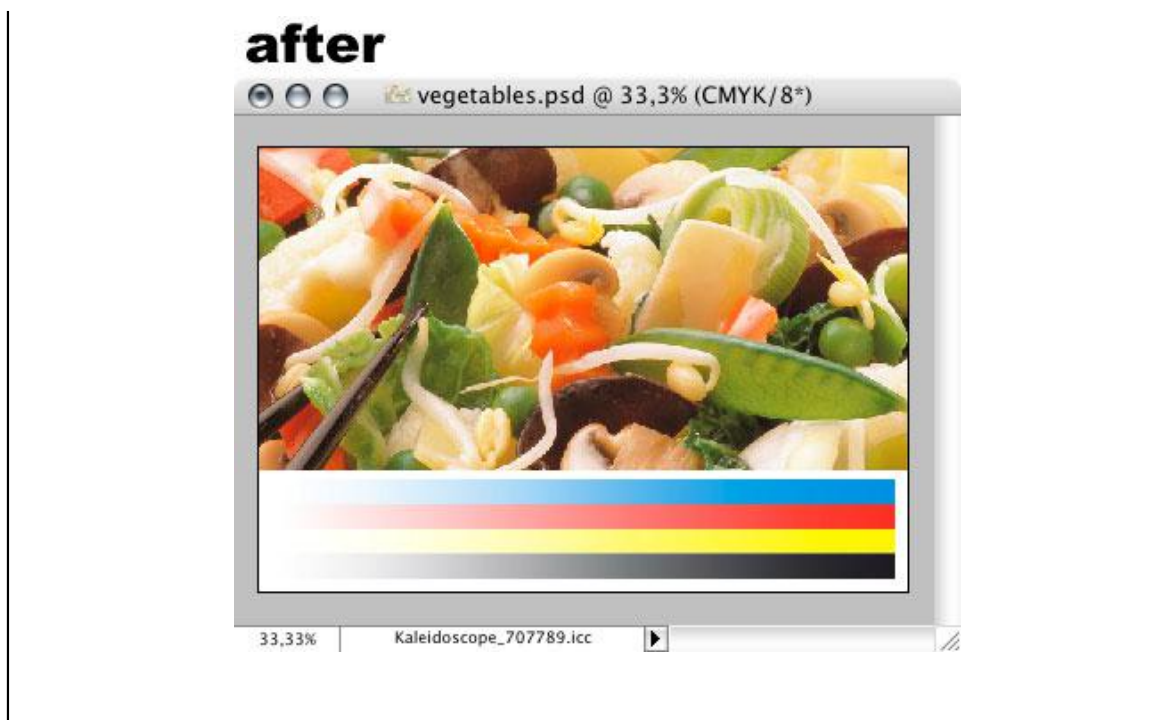
The Ink Tools offer an alternative for Spot Channels: Display Inks.

With the Ink Tools, a CMYK Color document can be tagged with four Display Inks. These display inks replace the **Document Profile** and they will dictate the color display on screen: The CMYK channels will be displayed as if they are printed with these special inks. The separations (the percentages) are not changed.

In this example we set the display ink of the magenta channel to PANTONE Warm Red. The separations don't change, they're just displayed in other colors.

**before**





Display Inks allow you to retouch special ink images but keep the separations in the CMYK channels. Only the visualization is changed.

### 6.1.1. Display Inks and CMYK Color mode

When using Display Inks, the image mode is CMYK Color and not Multichannel. The special ink separations are stored in the CMYK channels and not in Spot Channels.

**Four available channels** There are only four channels available for display inks, so only four display inks can be set on an image. If you require more than four or less than four separations, see [Need more than four inks?](#) on page 40 and [Need Less than four inks? Invisible channels](#) on page 40 for more information.

**Channel Names** After display inks have been set, the channels are still called "Cyan", "Magenta", "Yellow" and "Black". This might be a bit confusing at first (for hints see: [How to see what display inks are currently set](#) on page 41). But on the other hand the CMYK channels have a lot of advantages over Spot Channels:

**Layering** The CMYK channels can be combined with transparency and can be put into multiple layers. So Display Inks allow you to create foregrounds and backgrounds in composite spot colors. The layers will create the background knock-outs automatically.

**Create Mix colors** The color palette can be used to mix special inks and apply it on all four channels at the same time.

**Adjustment Layers** can be used to make color adjustments to spot color objects without losing the original separations.

**Layer effects** can be used for automatic drop shadows and glows. The object that throws the shadow can be made up of spot colors. The drop shadow itself can be one or more spot colors.

Use the **layer blending modes** for creative effects, or for easier manual trapping.

### 6.1.2. Need more than four inks?

Display inks are always set on the CMYK channels. Only four display inks can be set on an image because there are only four channels available to hold the different separations.

If your image requires more than four inks then you won't be able to use all of them as display inks. A subset of four inks can be assigned to the different CMYK channels using display inks. The remaining separations can be put in standard Photoshop spot channels. To benefit the most from the advantages of display inks, choose four separations that require most color accuracy and layering. Use display inks for these separations, use spot channels for the other separations.

When creating an image with all four process inks and one or more special inks, you might also want to consider eliminating one or more of the process inks using the **InkSwitch Filter**. Then use **Move Spot Channels to CMYK** to put the special color separation in the vacant CMYK channel.

**InkSwitch** is not able to generate separations for more than four inks.

**Note:** The **Viewer** can accurately display more than 4 inks. See [Viewer](#) on page 53 for more information on Viewer.

### 6.1.3. Need Less than four inks? Invisible channels

Display inks are always set on the CMYK channels, so there are always four channels available to hold the different separations.

If your image requires less than four inks, you can use display inks to deactivate one or more of the CMYK channels. The deactivated channel(s) will become invisible, as if it was printed with an invisible ink. Although invisible, the pixel data is still there. Later on, when your special ink image is exported to a file (see [Flatten to Spot Channels](#) on page 42), the invisible channel(s) will automatically be discarded.

See [The Display Inks Dialog](#) on page 40 on how to create invisible channels.

## 6.2. Setting and removing Display Inks

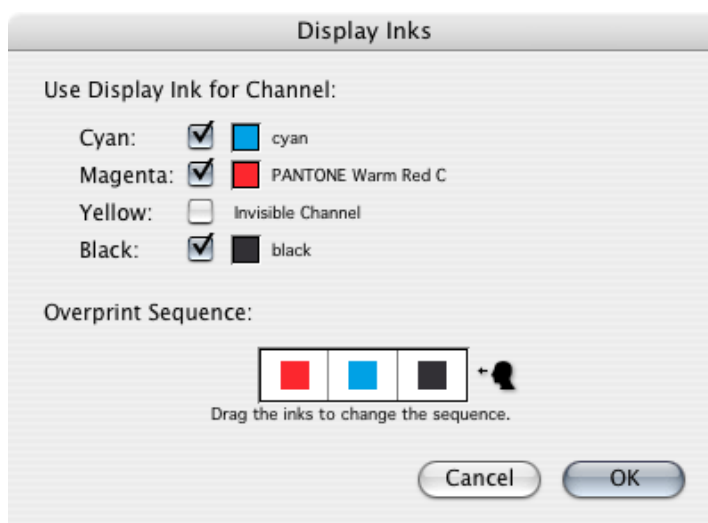
---

### 6.2.1. The Display Inks Dialog

This chapter describes how to set the display inks on a CMYK document. If you already have spot channels, and you would like to use display inks instead of the spot channels, go to [Move Spot Channels to CMYK](#) on page 43.

To set the display inks on a CMYK document, choose **File > Automation > Display Inks...** in the menu. The Display Inks dialog appears:





**Use Display Ink for Channel:** For each CMYK channel, you can specify the display ink to be used. Click on the ink patch to change the inks. It will pop up an ink selector where you can choose from the list of available [Color Engine Inks](#) on page 44.

Uncheck the checkboxes to turn one or more CMYK channels invisible (see [Need Less than four inks? Invisible channels](#) on page 40). You cannot uncheck all four channels.

**Overprint Sequence:** Click and drag the ink patches to change their sequence (see [Overprint Sequence](#) on page 46).

When you press the OK button, the Ink Tools will calculate a new color profile and assign it to the document.

## 6.2.2. How to see what display inks are currently set

There are several ways to see if and what Display Inks are set on the current CMYK document:

### 1. Display Inks Dialog

Choose **File > Automate > Esko Display Inks** from the menu and see if any display inks are currently set.

### 2. Channels Palette

The channel names remain Cyan, Magenta, Yellow and Black, even after the display inks have been set. However, the channel thumbnails might already give a hint of the display inks that are currently used. This will only work if **Show Channels in Color** has been enabled in the Photoshop Preferences.

### 3. Document Profile

If the document has display inks, then the name of the document profile will be "Color\_Engine\_" followed by a number (see also [Photoshop Color Management](#)).

### 4. Window Title

The title of the document window can tell you if a CMYK document is tagged with a color profile or not:

- "(CMYK/8)" The document is tagged with the working CMYK profile .No display inks are set.

- "(CMYK/8#)" The document is not tagged. No display inks are set.
- "(CMYK/8\*)" The document is tagged with another CMYK profile. The document might have display inks.

#### Viewer

You can open the Viewer and look at the separation list in the Viewer window. See [Viewer](#) on page 53

### 6.2.3. Removing the display inks

To remove the display inks from the CMYK channels, go to **Image > Mode > Assign Profile** and choose **Don't Color Manage this Document**. The display of the image is then restored to the Working CMYK profile without changing the separations.

## 6.3. Importing and Exporting Files

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### 6.3.1. Display Inks outside of Photoshop

**Loading and Saving Display Inks** CMYK color documents with display inks can be saved (for example as a layered Photoshop Document file). This file can be opened again in Photoshop for further retouching. But other applications (like Adobe Illustrator) will not support the Display ink information and treat the separations as process inks. This image will be displayed incorrectly and the output will also be incorrect. **Display Inks only work inside Photoshop.**

To enable you to work with CMYK channels and display inks inside Photoshop and with spot channels outside of Photoshop, the ink tools have two plug-ins to convert separations from one type into the other:

**Flatten to Spot Channels** This tool will move the CMYK channels with display inks into regular Photoshop spot channels. After applying this plug-ins you can save the image as a normal TIFF or DCS2 file.

**Move Spot Channels to CMYK** This tool enables you to move regular Spot Channels to a CMYK-channel with the corresponding Display ink. Apply this tool on a document with spot channels to benefit from the **advantages of Display Inks**. Use this plug-in right after opening a TIFF or DCS2 file with spot colors.

### 6.3.2. Flatten to Spot Channels

Flatten to Spot Channels is a tool to move CMYK channels with display inks into regular Photoshop spot channels so you can save the document as a regular file (See also [Display Inks outside of Photoshop](#)).

This tool only works on a CMYK image with display inks.

Choose **File > Automate > Esko Flatten to Spot Channels**. A dialog will pop up:



You can choose the resulting image mode:

**Multichannel:** All CMYK channels are replaced by Spot Channels with a color that corresponds to the display ink of the CMYK channel. The CMYK channels that were set invisible are discarded. The result is a flat Multichannel document. This option is best suited when you want to write a DCS2 file.

**CMYK Color + Spot Channels:** The CMYK channels are kept, but their content is moved to new Spot Channels with a color that corresponds to the display ink of the CMYK channel. The CMYK channels that had a process ink as display ink are not changed. The CMYK channels that were set invisible are cleared. This option is best suited when you want to write a TIFF file.

**Tip:**

To skip this question in the future, see [Ink Tools](#) on page 31.

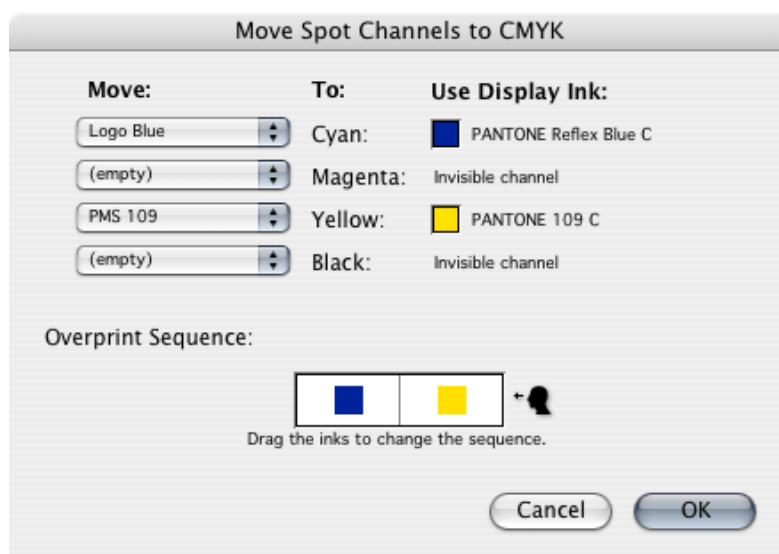
**Note:**

The image will be flattened. So if it contains multiple layers or transparency, we advise you to save a local copy of the Photoshop document before using this tool. If the image would need to be retouched again, you can open the layered version. Note that you cannot use this layered file in other applications.

### 6.3.3. Move Spot Channels to CMYK

Move spot channels to CMYK is a tool that can move Spot channels into CMYK channels with display inks. This tool allows you to open a file with regular spot channels, move the spot channels to CMYK channels and benefit from the display inks.

Choose **File > Automate > Esko Move Spot Channels to CMYK...** and a dialog pops up:



**Move to:** The dialog shows a table where you can specify the spot channels that have to be moved to the CMYK channels. In the column on the left (Move:) you can choose which spot channel you would like to move. The second column shows the CMYK-channel that the spot channel will be moved into.

**Use Display Ink:** The last column of the table shows the display ink that will be used to display the moved separation. Based on the spot channel name, the tool will try to find a suitable Color Engine Ink automatically. If this fails or if you want to override it, you can click on the ink-patch and select a Color Engine Ink yourself.

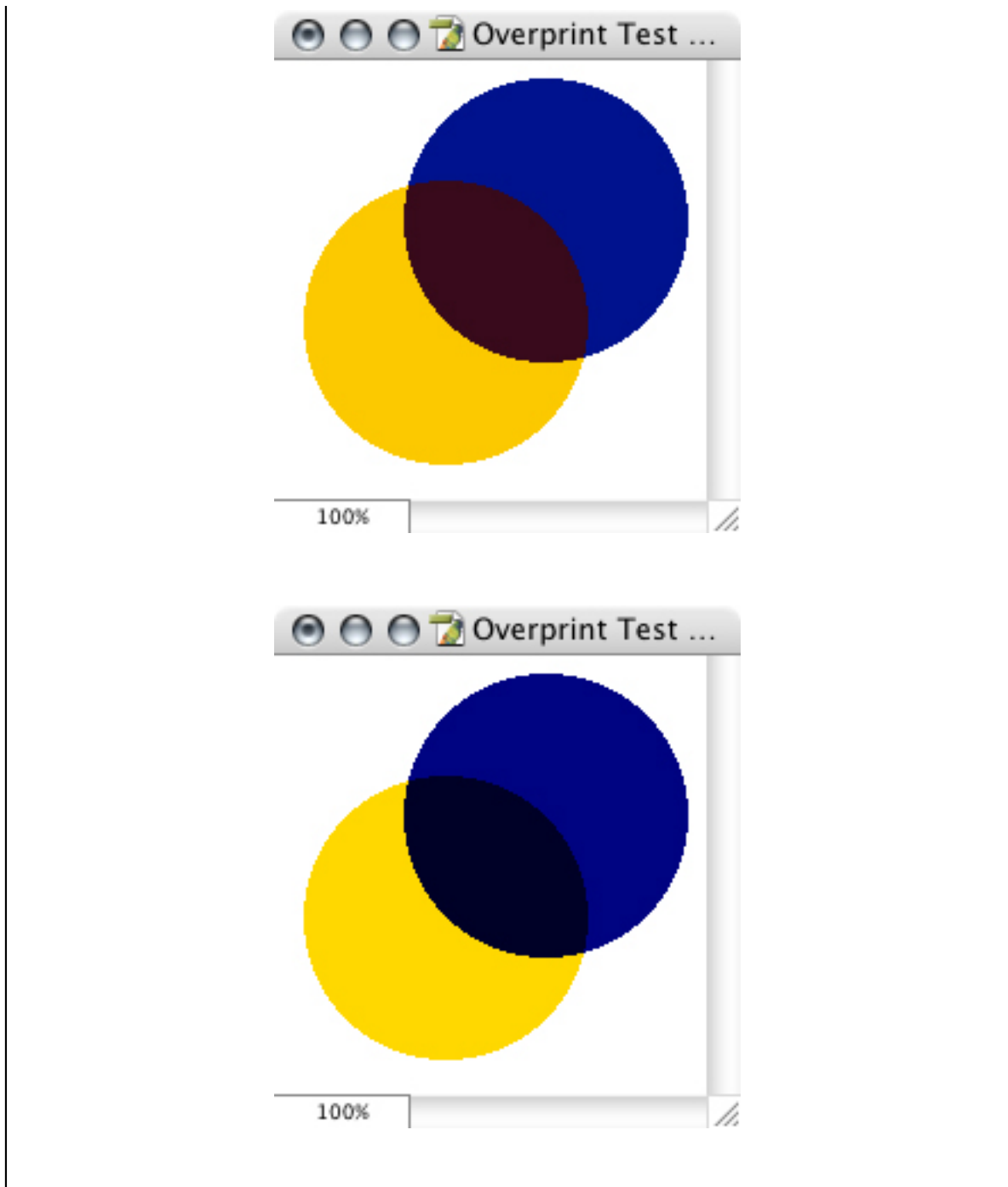
**Overprint Sequence:** Click and drag the ink patches to change their sequence (read more about [overprint sequence](#)).

## 6.4. Color Engine and Color Accuracy

### 6.4.1. Color Engine Inks

The color rendering of a document with Display Inks is far more accurate than the color rendering of spot channels.

PANTONE 109 C on top of PANTONE Reflex Blue. The top image uses spot channels, the bottom image uses display inks. Notice how the spot channels show an uncharacteristic red colorcast in the overprinting area.



To display the overprinting spot channels, the Ink Tools use the Esko-Graphics Kaleidoscope color engine, containing patented technology to predict the appearance of any overprint combination of special inks.

**Color Engine Ink Profiles** To do this accurately, the Color Engine engine requires an ink profile for every special ink that is involved. Such a **Color Engine ink profile** contains data of spectral measurements of an ink in several overprint situations.

The Ink Tools for Adobe Photoshop are shipped with two Color Engine Ink Books:

1. Process. Containing Color Engine Ink Profiles for Cyan, Magenta, Yellow and Black.

2. PANTONE Solid Coated. Containing Color Engine Ink Profiles for the of all inks from the PANTONE Solid Coated guide (edition 2000).

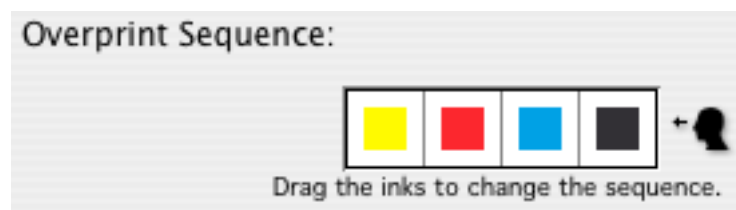
**Custom Ink Profiles** If you want to use other inks (custom inks), you have to create extra ink profiles. You can do this with the Esko-Graphics application **Color Engine** which runs on Windows. Color Engine keeps all its ink profiles and other data in a special folder called BG\_DATA\_CMS\_V010 on the Windows computer. To use the extra ink profiles that you created in Color Engine:

1. On the windows computer, make sure the BG\_DATA\_CMS\_V010 folder is shared.
2. On your mac, connect to the Windows computer using Windows file sharing (SMB) and activate the BG\_DATA\_CMS\_V010 folder.
3. Go to the [Ink Tools](#) on page 31 and specify the connected folder as **Custom Color Engine Data Folder**.

## 6.4.2. Overprint Sequence

The appearance of a composite color on a press depends on the order in which the separations are printed on top of each other. 50% warm red, printed on top of 100% black looks different than 100% black printed on top of 50% warm red.

For the most accurate color rendering of the Display Inks, the Color Engine (see also [Color Engine Inks](#)) needs to know in which order the inks will overprint. That's why you can specify the overprint sequence when setting the display inks:



With surface printing put the ink that is printed first to the left and put the ink that is printed last to the right. With reverse printing (printing at the backside of a transparent stock) put the ink that is printed first to the right and put the ink that is printed last to the left.

When setting Display Inks, the overprint sequence will affect the displayed color wherever two or more inks overprint.

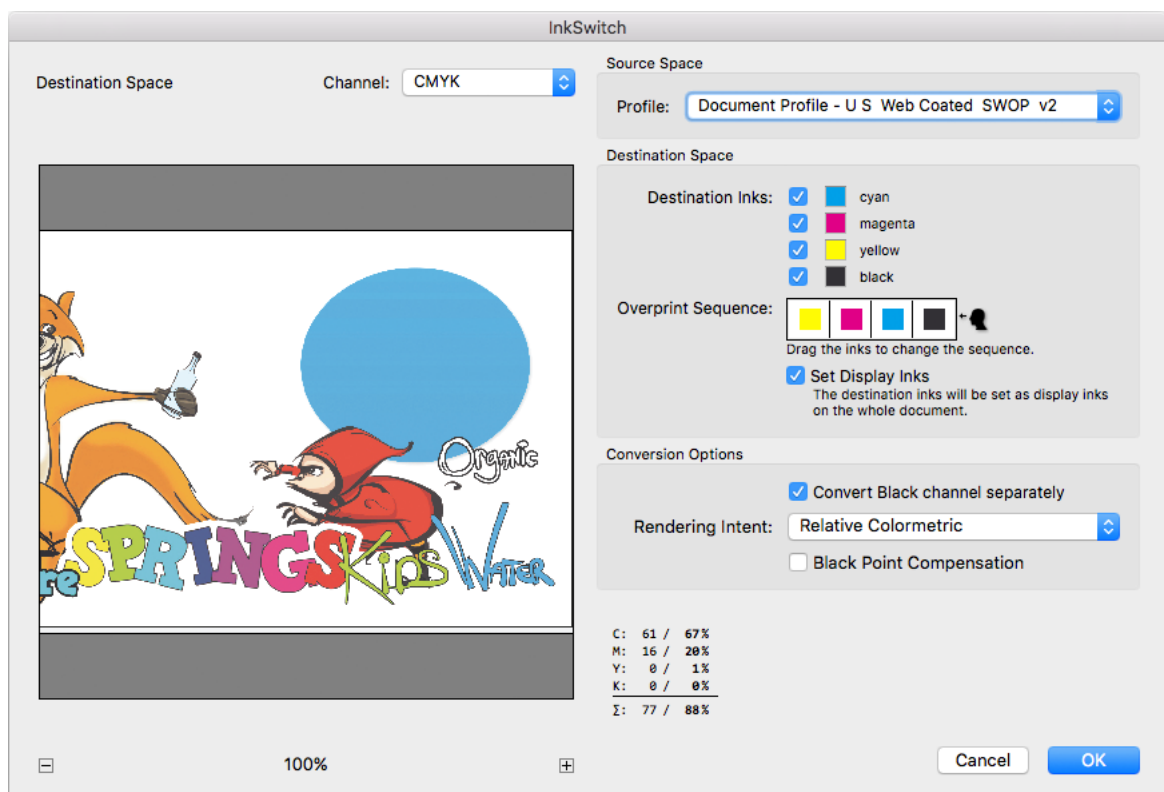
You can also set an overprint sequence in the InkSwitch filter. In this case the overprint sequence will affect the separations that are generated by the InkSwitch filter. When changing the overprint sequence, InkSwitch will generate slightly different separations to compensate for the slightly different appearance of the inks when they overprint.

## 7. The InkSwitch Filter

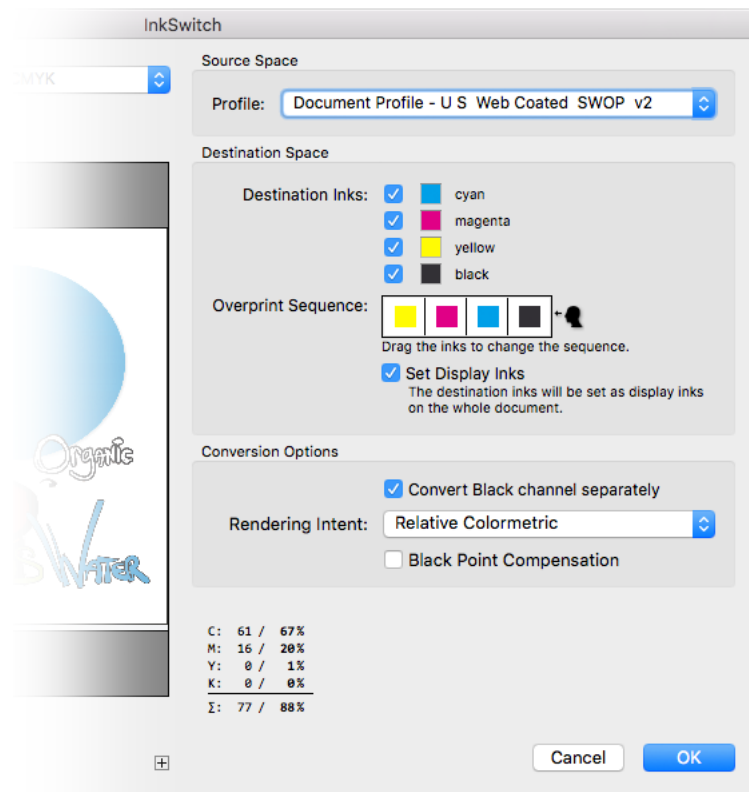
InkSwitch is a filter that automatically re-separates a CMYK image into any set of two, three or four special inks. The separations are automatically adjusted to keep the appearance of the original CMYK image as much as possible.

### 7.1. The InkSwitch Dialog

To open the InkSwitch filter dialog, choose **Filter > DeskPack > InkSwitch** from the menu.



#### 7.1.1. InkSwitch Settings



The InkSwitch settings are on the right side of the **InkSwitch dialog**. You can reset them to the default settings by holding **Option** and clicking on the Cancel button.

**Source Space, Profile:** Here you can choose the color space that the original separations were intended for. The original image separations and this profile make up the appearance of the original image. This is the target that has to be matched by InkSwitch.

There are three options:

1. Document Profile: Use the color profile that is tagged in the document as source color space. This option is the default but it is only available if the document has an embedded profile and no display inks.
2. Working CMYK Profile: Use the working CMYK profile, as configured in the Photoshop Color Settings.
3. Color Engine CMYK: Instead of using a profile, use the four Color Engine process inks to make up the appearance of the original image. By choosing this option you can avoid that InkSwitch compensates the separations for unintended differences in the source and destination inks.

If there are already display inks set, option 2 is automatically selected, allowing you to InkSwitch from CMYK to special inks even after those special inks have already been set as display inks.

### Destination Space

**Inks:** Choose the inks that you want to generate separations for. Click on the ink-patches to select another [Color Engine Ink](#).

If you want to generate an image of less than 4 inks, you can deactivate some of the output channels in the InkSwitch dialog. The deactivated channel will become empty and invisible and InkSwitch will match the original image with the remaining inks as good as possible.



**Overprint Sequence:** Here you have to specify in which order the inks will be printed. The overprint sequence will affect the visualization of the result, but it will also affect the separations that are calculated.

**Convert Black Channel Separately:** When this option is toggled on, InkSwitch will convert the black channel independent from the other three channels. Use this option to avoid detail from the black channel to be transferred to the other channels or vice-versa. This option can generate a colorcast in the shadows if the 4th destination ink is not a neutral black or dark gray.

**Rendering Intent and Black Point Compensation:** You can set the Rendering Intent and Black Point Compensation to be used for the conversion of images. By default, Rendering Intent is set to "Relative Colormetric" with Black Point Compensation disabled, which is best for most flexography jobs.

**Set Display Inks** When this is toggled on, the destination inks, used by InkSwitch to create the new separations, will also be used to display the result. The destination inks will be set as Display Inks. For more information see [InkSwitch: Set Display Inks](#).

## 7.1.2. Preview Area

The left side of the InkSwitch dialog shows a preview.



In the preview area you can see a preview of InkSwitch. If you click and hold the mouse-button in the Preview Area, the original image is displayed. By clicking and releasing the mouse, you can compare the original image and the filter-result. The original image is displayed using the Source profile (see [InkSwitch Settings](#) on page 47) and the destination image is displayed using the Destination Inks. If both images are almost identical, InkSwitch did a fine job!

**Channel:** Use the channel-selector to view a single channel or all channels.

**Tip:**

To show a single channel in color or in grayscale see Photoshop's Preferences "Show Channel in Color".

**Zooming and Panning:** With the zoom buttons you can zoom in and out on the image. When zoomed in on a part of the image, click and drag in the preview area to pan to another part of the image.

**Color Values (densitometer):** At the bottom of the InkSwitch Dialog, a little table shows the color percentages and the Total Area Coverage of the pixel that the mouse is currently pointing at. The column to the left shows the original values, the column to the right shows the converted values.

### 7.1.3. Set Display Inks

When the InkSwitch filter is applied on an image (to adjust the image's separations for a different set of inks) the destination inks can also be set as Display Inks on the image. That way the new separations are displayed in the inks that they were meant for.

**Note:**

When InkSwitch is applied with less than four destination inks, the CMYK-channels that were deactivated in the InkSwitch dialog (see [InkSwitch Settings](#)) will be set invisible.

When InkSwitch is applied on a part of the image (only one layer, or on a selection of pixels), the separations will only be recalculated in the selected part. But the Display Inks cannot be set on just a part of the image. Display Inks affect the display of all the CMYK-information in your image. In this case you might want to uncheck "Set Display Inks" for the time being, to keep the original document profile as the Source Space when performing InkSwitch on other parts of the image. The inkswitched parts will be displayed in the wrong colors until the display inks are set.

## 7.2. How to InkSwitch a Layered image

### InkSwitching a layered image

Since Photoshop does not allow selecting multiple layers at once, it is not possible to InkSwitch a layered image in one go without flattening the layers. Luckily Photoshop has a quick and easy way to repeat the last filter.

To InkSwitch a layered image completely to a new set of inks:

1. Select the first layer.
2. Go to the InkSwitch dialog and set the desired destination inks. Make sure that "Set Display Inks" is disabled. Click OK.
3. Select the next layer.
4. Press **Command** or select **Filter > InkSwitch** in the menu.
5. Repeat 3. and 4. until all the layers are InkSwitched except the last one.
6. Select the last layer to be inkswitched.
7. Press **Option + Command + F** or select **Filter > Desktop > InkSwitch**.
8. In the InkSwitch dialog, enable "Set Display Inks" and click OK.

**Note:**

After a layer has been InkSwitched, its separations are recalculated but still displayed in plain CMYK. This may look strange since the new separations were not intended for standard process inks. However, after the last layer is InkSwitched, the Display Inks will be set on the whole document and the colors will be displayed correctly.

## 7.3. Some applications of InkSwitch

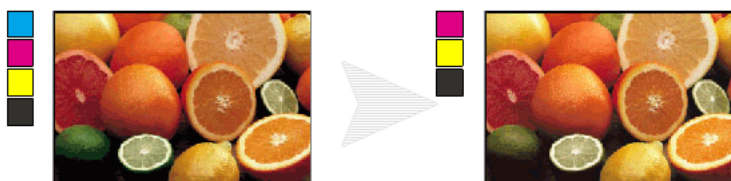
In this chapter we give some applications for InkSwitch in your pre-press situation.

### 7.3.1. Reducing the number of inks

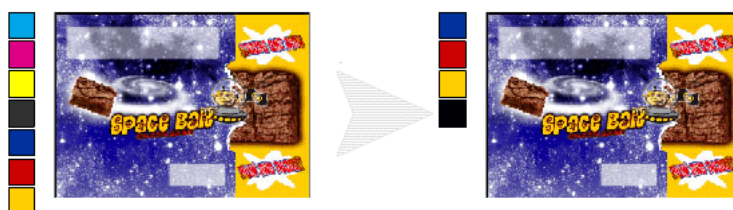
A lot of money can be saved by printing a job with fewer inks.

Use InkSwitch to eliminate one or more inks from an image:

- Eliminate a process color, InkSwitch will compensate for the lost separation in the other separations.



- Replace a process color by one of the Spot Colors that are used already in the linework.



### 7.3.2. Cleaning separations for conventional flexography

Conventional flexographic plates are typically not very good at printing stable highlights. Some highlights print dirty, others print too dark (especially later in the press-run when the plates start wearing). Unstable highlights can ruin composite colors and the overall appearance of an image. To prevent this, flexo retouchers often remove the third color component out of the different objects. They will remove all cyan out of "red" objects like tomatoes, oranges and sometimes fleshtones. And

they will remove all magenta out of the green objects like leaves and green apples. To keep the correct appearance of the object and the whole image, the cleaned separation has to be compensated for in the other separations. InkSwitch is very good at this.

How to remove cyan out of the green objects using InkSwitch:

1. Make a selection of the green objects.
2. Go to InkSwitch Dialog.
3. Reset the inks to plain CMYK by holding **Option** and clicking on the Cancel button.
4. Uncheck the Magenta ink.
5. Uncheck "Set Display Inks" to prevent the Magenta from becoming an invisible channel. (read also [Set Display Inks](#) on page 50).
6. Click OK.

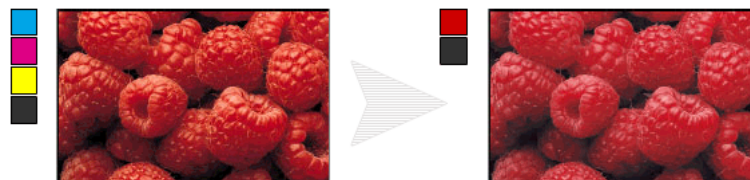
In the selected areas, the separations will be recalculated for Cyan, Yellow, Black. The magenta separation is cleared. InkSwitch will compensate in the other three channels and keep the original appearance.



With a similar routine the cyan can be removed from the red objects or black can be removed from other parts of the image.

### 7.3.3. Reducing overprints

Some substrates (like metal) are not very good at holding multiple inks on the same place. Therefore colors that are usually printed in composite CMYK are replaced by a single spot color. InkSwitch can be used to reparate the CMYK image to such a set of spot colors, thereby creating an image with less overprinting inks:



## 8. Viewer

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The **Viewer** is available if you have the Flexotools, Ink Tools or Equinox plug-in installed.

### 8.1. About Viewer

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#### Benefits of using Viewer

**Viewer** is a very accurate separation viewer with a lot of extra production tools. It eliminates the need for separated proofs and will help you to avoid bad plate-making.

In this preview, you have access to advanced tools such as the Densitometer.

To open the Viewer window, choose **File > Automate > Esko Viewer...**

### 8.2. The Viewer window

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To open the Viewer window, choose **File > Automate > Esko Viewer...**

When opening a document, or changing to a different job, Viewer will (re)calculate the Preview. Viewer will only work when the active document is a CMYK or Multichannel image, at 8 bits per channels. Otherwise the Viewer will show a warning "The current document is not in the CMYK or Multichannel mode".

When changes are made in the Photoshop document, you have to click the **Refresh** button for the changes to become visible in Viewer.

**Note:** Viewer will take the Photoshop Layer visibility into account, but will disregard Photoshop's Channel visibility settings.

By clicking the **Minimize** button, the Viewer window is minimized, showing only the **Maximize** button. You can maximize the Viewer window by clicking the **Maximize** button. If you choose **File > Automate > Esko Viewer...** the Viewer window will be maximized and refreshed.

#### Equinox profile

If you have either an Ink Tools or Equinox license, you will get an accurate preview of documents using an Equinox Profile. If you only have Flexotools license, the Equinox document with Equinox Profile will not work. A message at the bottom of the Viewer palette will inform you that color will not be accurate.

#### 8.2.1. Navigating in the Preview

The Viewer window shows the preview of your document in the left pane, and the list of used inks in the right pane of your Viewer palette.

At the bottom of the palette, you will find:



1. a Pan tool (see below), a Zoom tool (see below) and a Densitometer tool (see [Measure Ink Densities](#) on page 55)
2. a zoom-in and zoom-out button and a field showing the current zoom percentage.
3. the Refresh button.
4. the Minimize button.

### Zoom in - zoom out

To zoom in the preview pane of the Viewer palette, select the zoom tool and just click, and the view will zoom in using the clicked point as center point.

To zoom out, click while holding the ALT key pressed, and the view will zoom out using the clicked point as center point.

You can also drag a rectangle to zoom in, and the new viewport will be a closest match to the rectangle you dragged.

You can also use the default Photoshop shortcuts: cmd-0 to fit the image in the window, cmd-1 to set the zoom factor to 100%.

To pan the view, select the Pan tool or hold down the spacebar and drag a line in the preview pane. The view will move the direction and the length of the line you drag.

## 8.2.2. Separations

In the Ink list, you can:

- Click the eye icon in front of a separation/color name to show or hide it.
- Alt-click an eye button to quickly hide all other separations and go in single-separation mode. Alt-click the same eye button again to show all separations.
- You can also use the Photoshop shortcuts: Cmd-2 to show all separations, and Cmd-3 to show only the first separation, Cmd-4 for the second, etc.
- Double-click an ink to open the **Display Inks** window (for CMYK inks) or **Spot Color** dialog for spot colors. See [Display Inks](#) on page 38 or [Spot Colors](#) on page 54

If only one ink is selected, you can choose in the fly-out menu of the Separations section if you want to see the single separation

- in RGB, using the actual color
- in grayscale, as the image might appear on film / plate
- in grayscale but inverted

### Spot Colors

Spot colors are accurately shown in Viewer. By default, the color definition of the spot colors is defined by the LAB value of the solid ink, according to Photoshop. However, when possible, the Viewer will use the Color Engine ink information, offering the color accuracy of Color Engine.

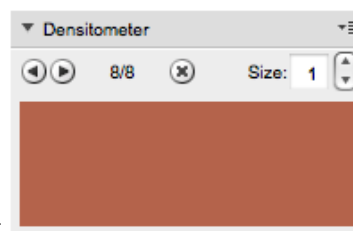
- Colors from the Photoshop Pantone Coated and Pantone Uncoated inks are automatically matched with their Color Engine Ink equivalent
- If a spot color name matches the name of an ink in the **Preferred Ink Book**, that corresponding ink is used. The **Preferred Ink Book** can be set in the Ink Tools tab in **File > Automate > Esko Setup**
- You can manually replace an ink by a Color Engine ink, by double-clicking the color patch in front of the channel name, and selecting an ink book and ink. If you click OK, the name and color of the Photoshop Channel will be changed.

By selecting **Add Spot Channel ...** from the fly-out menu of the separation section in the Viewer, you can immediately add a Color Engine spot color (instead of first adding a channel in Photoshop, and then replace the spot color by the correct Color Engine ink).

## 8.2.3. Measure Ink Densities

### Densitometer

In the middle of the right side of the Viewer window, you can see the Densitometer section. You can



show or hide the section by clicking the triangle in front of it.

- Select the **Densitometer** tool, and click on an area of your document to measure the separation densities in that area.

Every time you click, a new measuring point is set. The densities are shown to the right of each separation, and the color patch in the Densitometer section shows the measured color. The total density of all inks on the point that is being measured (the TAC value) is shown at the bottom of the separation list.

**Note:** If the TAC value exceeds the TAC limit specified in the currently selected press settings, a warning icon is shown next to the Total Area Coverage

- Use the left and right arrow buttons to browse through the different measuring points. The according densities and color patch will be shown

**Note:** If you are zoomed in and navigate to a measuring point not in the Viewer window, the Preview will pan to show the selected measuring point.

- Click the **Remove** button (X) or use backspace to delete the current measuring point.
- Change the **Size** of the current measuring point by clicking the up and down arrow. If the size is set to e.g. 3, the densitometer will take the average density of a 3 by 3 pixel area.

**Note:** When creating a new measuring point, the current Size will be used.

- Select **Show bubbles** to show the measured densities next to every measuring point.



When in **Flexo Print** or **Flexo Plate** preview, the bubble will show a black dot next to the density for channels with a percentage equal or higher than the first dot percentage.

When in **Breakout** preview, the bubble will show a red triangle icon next to the density for channels with a percentage below the first dot percentage.

When in **Total Area Coverage** preview, the bubble will show a black dot next to the density for channels with a percentage equal or higher than the first dot percentage, and it will show a yellow triangle icon next to the total area coverage if it exceeds the currently set TAC value.

The densities of separations that are not visible, are shown dimmed in the bubbles.

## 8.2.4. Quality Control

### Registration Error

The Registration Error Preview is a simulation of a design printed with misregistration. It can be very helpful to see if trapping is applied sufficiently and correctly.

Use the slider to set the **Registration Error**, or enter a value in the input field.

The separations are randomly shifted. In fact, all separations are moved exactly the distance of the Registration Error, but all under a random angle.

If you want to see another random registration error simulation, click the **Simulate Again** button.





In the example above, you can see a small area of a job in regular preview (left) and with registration errors (right). In this case, you can clearly see no trapping was applied, so white lines appear at the registration shifts.