



# Using ColorWays

## Introduction

Colorways is a new tool for ONYX 11 and Thrive 11 Textile editions. Colorways is part of the Patterns tools in Job Editor. This tool makes it easy to replace the colors in a pattern. The set of replaced colors (colorways) can be applied to other jobs or automated using a Quick Set.

Colorways supports specific file formats, indexed color TIFF, separation TIFF and multichannel PSD. This document will explain the basics of each file type and using them in Colorways.

## Colorways and Digital Printing

### Important Terms and Definitions

**Colorway:** An Industry term that refers to a set of colors used in a pattern.

**Lab (L\*a\*b\*):** A device independent color space that includes all human perceivable colors.

An example of a colorway is camouflage. The pattern is identical, but the colorways differ based on the type of environment.

In ONYX Colorways, a single image file is used and the print operator applies a colorway based on the desired output.

## Designing Files for Colorways

There are many design applications that can create files that are supported in Colorways. This document will use Adobe Photoshop to describe how to create each file type.

## Description of Indexed Color

Indexed Color is a color mode used in textile work. Indexed Color produces images with a limited number of colors. It was designed to conserve file size while preserving the visual quality of the original image. File size reduction is accomplished by limiting the number of colors and storing them in a color lookup table (CLUT).

Indexed Color has a range from 2 to 256 colors. The number of colors will vary based on the file and the desired output.

## Indexed Color

There are several important points to consider before using the Indexed Color mode. When an image is in the mode, Indexed Color, designing options are limited. It is recommended to design the file first before changing the image's mode to *Indexed Color*.

When the *Mode* is set to *Indexed Color*, a window opens requiring user input to configure how the colors are reduced.



Figure 1: Indexed Color options in Adobe Photoshop

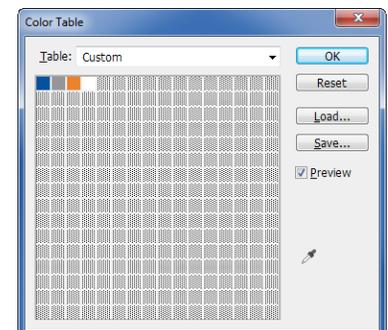


Figure 2: Color Lookup Table (CLUT)

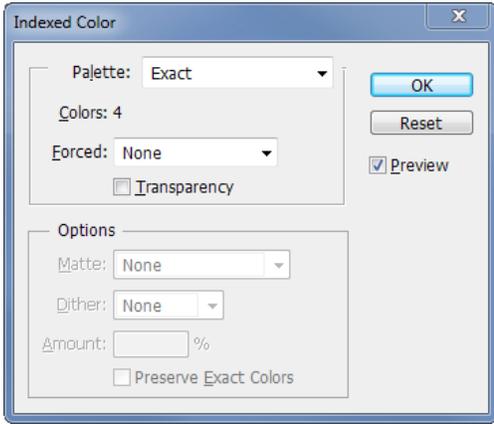


Figure 3: Indexed Color menu in Adobe Photoshop

Open or create an image. After the design is complete, select the *Image* menu and go to *Mode* then click on *Indexed Color*. The image must be in RGB, Bitmap or Grayscale before Indexed Color can be selected. The menu in Figure 3 shows the options to convert the image to Indexed Color. After choosing the desired settings, click *OK*.

The colors in the CLUT can be modified by going to the *Image* menu, *Mode* and click on *Color Table*. Each color can be modified.

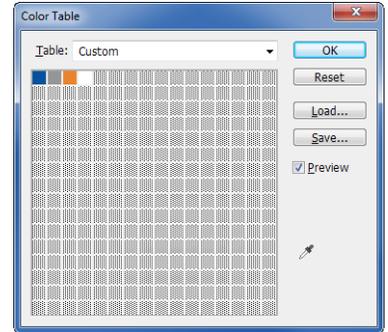


Figure 4: Color lookup table (CLUT) interface in Adobe Photoshop

When the design is complete, the

image is saved out as a TIFF file.

## Separation TIFFs

The next Colorways supported file type is separation TIFFs. A separation TIFF generates multiple single channel TIFF files. This can be done using CMYK, RGB, or custom made channels. Each separated TIFF file represents one channel.

Configure the channels and define where each channel will be printed on the image. After the image is designed, go to the *Channels* tab, select the menu icon and click *Split Channels*. Photoshop will now take each channel and open each in its own tab. Save each TIFF into the same custom folder.

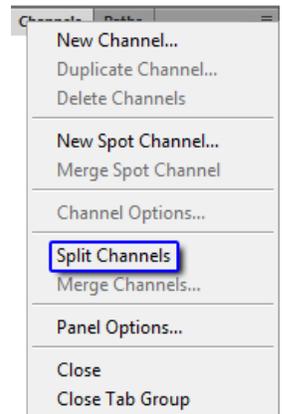


Figure 5: Choose Split Channels from the Channels menu

## Multichannel PSDs

Just like Indexed Color, design your file first before converting to Multichannel.

Multichannel PSD files are similar to separation TIFFs. They are dependent on the number of channels and not colors.

The option for *Multichannel* is not found under the *Channels* tab because it is a *Mode*. Go to the *Image* menu, select *Mode* and then click on *Multichannel*.

Unlike separation TIFFs the image is not broken up into multiple files. The image remains mostly unchanged. There might be some color shift caused by the changing the color mode.

The output for a Multichannel PSD is a single PSD file containing all the defined channels.

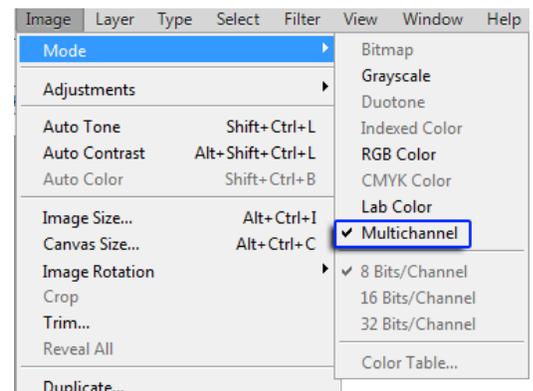


Figure 6: Mode selection Multichannel

## Another Consideration When Designing

If the image opening in Photoshop is a vector file type, a prompt will appear to determine how the image

will be handled. One of the options in this window is *Antialiasing*. This option attempts to smooth out angles by reducing the noticeable pixilation between colors. This effect is achieved by adding more colors at the edges between objects. The figure on the right shows a vector file with antialiasing off and on. Notice the extra colors at the angled lines with antialiasing on. Because of antialiasing there are more colors that must be considered when converted to Indexed Color mode. Antialiasing should not be used.

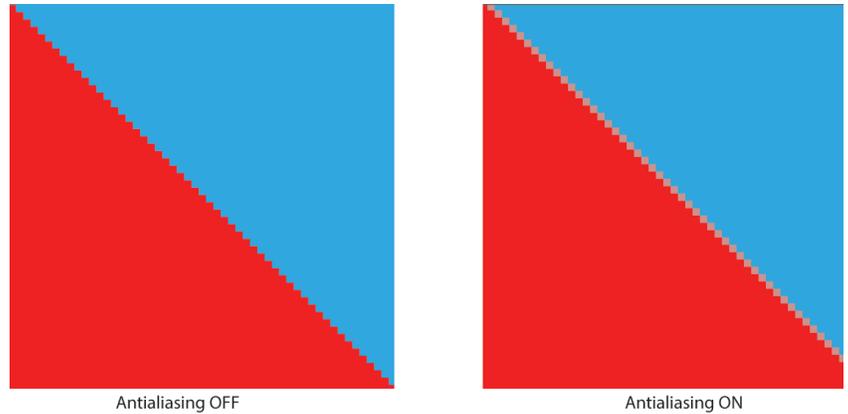


Figure 7: Antialiasing OFF compared to Antialiasing ON

## Introductions to Colorways Interface

Colorways is in Job Editor under the Patterns tab. Access Colorways by clicking *Enable Colorways*, and then click on *Colorways Setup*.

Colorways is divided into four sections: File and Color Settings, Layer Management, Image and Layer Preview, and Colorways Library.

File and Color Settings shows the applied ocw file. If no ocw file is already applied it defaults to unnamed. A name and file can be saved when the user clicks *Apply to Job*, or changes to another ocw file in the Colorways Library.

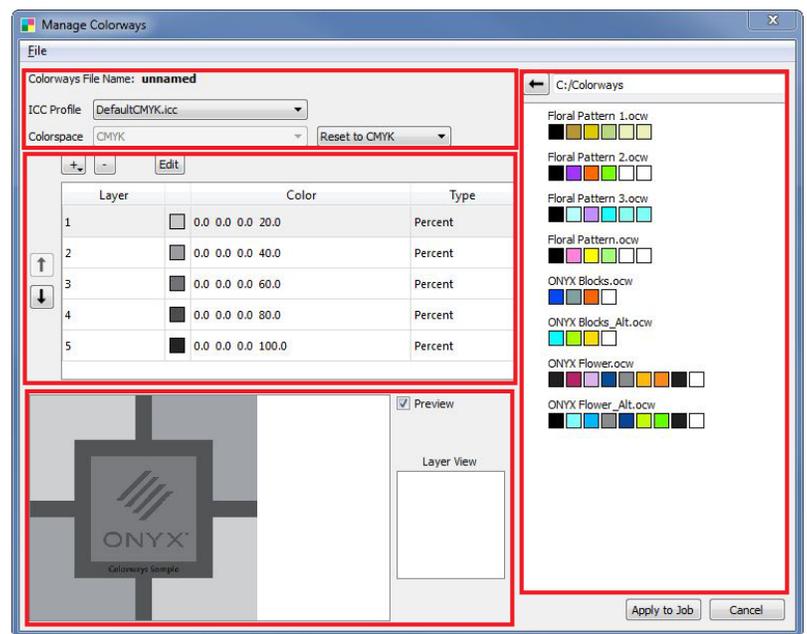


Figure 8: Colorways interface

Below the Colorways File Name, is ICC profile and Colorspace fields. An ICC is needed if layers are changed using spot colors or Lab.

Layer Management lists all the indexed, separation, or channels as individual layers. The number of layers depends on the number of colors defined in the image file's color lookup table, number of separations or number of channels. By default Colorways shows each layer in ascending levels of grayscale. The color for each layer can be modified by double-clicking the layer or using the *Edit* button.



Figure 9: Image and Layer Preview

Above the list of layers are buttons for adding layers and background layers, removing layers, and editing selected layers.

At the bottom of the Colorways interface is the Image and Layer Preview. The image preview shows the entire image with the active ocw colors applied. This is updates as the colors for each layer change.

The Layer View shows what parts of the file are impacted by the actively highlighted layer. Click on a layer above and the Layer View shows the pieces of the image that belong to that layer.

At the right is the Colorways Library. The Colorways Library populates a list of ocw files found in the directory listed at the top. This directory can be configured to any location on the computer. After it has been set, every time Colorways is open, the directory will be shown at the top.

The Colorways Library makes it easy to toggle between different colorways. An image that needs different color schemes can be easily changed from one to another.

If any ocw files saved in the same directory as the ONYX software, they will be deleted when the ONYX software is uninstalled. Create a backup copy to another location, or use an external folder as the Colorways Library directory.

An ocw file does not need to be saved to apply Colorways on an image in Job Editor. Ocw files provide an easy method to apply the same colorway to another image. They are required to automate Colorways with a Quick Set.

## Colorways Colorspace and ICC

In Colorways there is the *ICC Profile* and *Colorspace* listed. The *Colorspace* determines the output values used when editing a color definition on a layer.

When editing a layer the *Layer Space* can be changed to *Spot* or *Lab*. The ICC selected in *ICC Profiles* is used for color conversions to output. If the *ICC Profile* is set to *None*, and the *Layer Space* is set to *Spot* or *Lab*, that layer will be ignored. All parts of the image for that layer will not be rendered. In the main Colorways window the layer indicates a problem by displaying red text under the *Type* column.

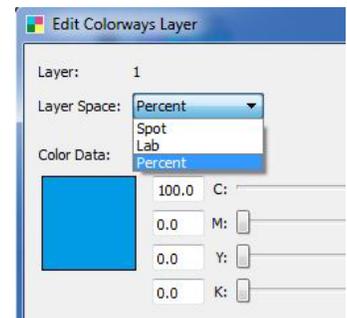


Figure 10: Layer Space options

If the *Layer Space* is defined by anything other than *Spot* or *Lab*, the *ICC Profile* can be set to *None*.

## Using Colorways

Open a file into Job Editor. Go to the *Patterns* tab, select *Enable Colorways* and then click *Colorways Setup*.

Select the first layer and click *Edit*. Colors can be configured using *Spot*, *Lab*, and *Percent*. In some cases the device color space has additional channels beyond CMYK, like CMYKOG, or CMYKRGB. It is possible to set Colorways to edit the layers using the device's color space. In the main screen of Colorways there is a drop down menu that lists *Reset to CMYK*, *Reset to RGB* and *Reset to Device Color*. Change this option to *Reset to Device Color*. The Layer Management section updates the values for each layer using the device color space. Select a layer and click *Edit*. The values under *Percent* show the output color channels.

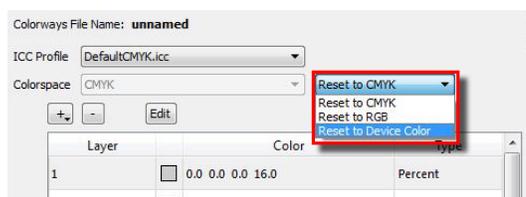


Figure 11: Changing the color space to the device color space

When *Colorspace* is set to *Reset to RGB*, the options for *Layer Space* changes. The available options are *Spot*, *Lab*, *Value* and *Hex*.

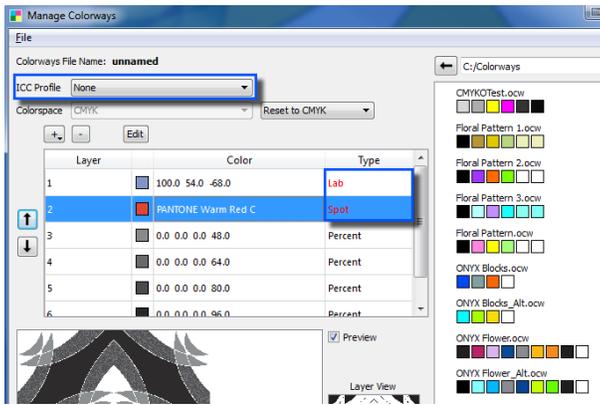


Figure 12: Invalid Layer Space when ICC Profile set to None

The layers can also be edited using known spot colors or Lab values. In Lab values the user can enter specific Lab values or use a spectrophotometer and measure a desired color.

After the layers have been set to the desired colors, click *Apply to Job*. A window appears asking to save the current Colorways settings. Settings do not need to be saved to apply to a job. Selecting Yes provides the ability to use the same colorway on another file or in a Quick Set. If the file is saved into the Colorways Library directory, it will instantly appear.

At any time in Colorways an ocw file can be saved by selecting the *File* menu and choosing *Save* or *Save As*.

## Opening Separated TIFFs

Unlike Indexed Color TIFFs, or Multichannel PSD files, separated TIFF files are opened differently. This is done in Job Editor. Select the File menu and choose the option, Open TIFF Separations. Choose the folder where the separated TIFF files are located. Job Editor will open all the separated TIFF files as one job combined. In the Open window there is an option, Use Colorways. An ocw file can be selected to be applied.

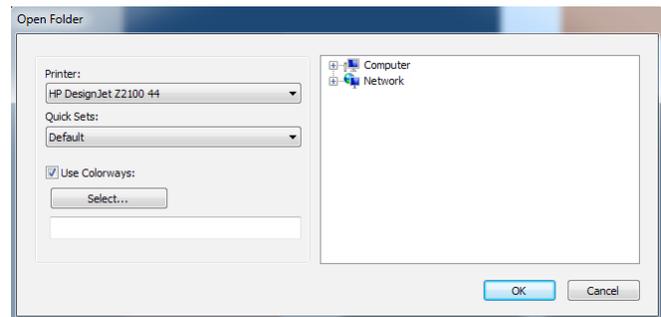


Figure 13: Loading a Separation TIFF folder

Colorways can be turned off by deselecting the check box Enable Colorways. This will work for all Colorways supported filetypes except separation TIFF. In this situation Colorways cannot be turned off.

After disabling Colorways, if it is re-enabled the last colorway used is applied to the job.

## Configure a Quick Set for Colorways

Colorways can be automated using Quick Sets. Create or edit a Quick Set. Click on the *Advanced* button in the lower left. Select the *Colorways* tab. Click on *Enable Colorways* and then click on *Select*. Choose the desired ocw file and click *OK*.

All jobs opened using the new Quick Set will have the selected ocw file applied.

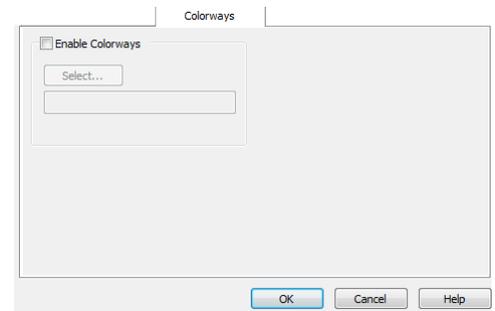


Figure 14: Enable Colorways in the Quick Set

## Additional Information About Colorways

If device color space used to create an ocw file does not match the output device's color space, a warning message will appear. This can happen if the ocw file was originally built with the CMYKO device color space

and it is being applied to a printer that only uses CMYK. The ocw file can still be applied, but the colors will be different because the extra channels cannot be used.

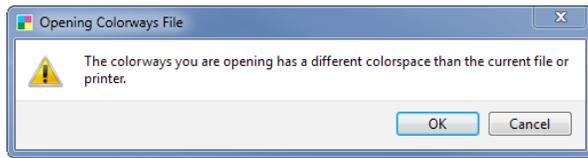


Figure 15: Colorspace mismatch warning message

Another situation may come when the number of layers does not match the number of colors defined in an ocw file. If the number of layers exceeds the number of defined colors, the extra layers will be defined as pure white. If the number of layers is less, the extra colors defined in the ocw file will not be used. In both scenarios the job will still be usable.

## Conclusion

For additional documentation and videos on Colorways please visit [www.onyxgfx.com](http://www.onyxgfx.com).