

# Designing for White on the Pro9542

**OKI**



## A Practical Guide to Designing and Printing Documents Using Spot Colour White on the OKI Pro9542



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# **Part 1: Understanding White**

# Introduction

The OKI Pro9542's ability to print white toner on a broad range of coloured media has opened the door for creative professionals like yourself to explore the possibilities it offers. Coloured invitations, posters, signage, envelopes – your designs will never look the same once you've experienced the power of white.

Whether printing standalone white elements or using white behind colour as a means to preserve its hue on dark media, the 5-Station Digital Production Printer is capable of creating extremely precise, controlled output.

This guide will take you through the process of designing and preparing documents that take full advantage of the Pro9542's ability to create unique and impressive and finished pieces.



## Why White?

The importance of white in colour printing is often overlooked. The foundation of colour printing is based on applying Cyan, Magenta, Yellow and Black (CMYK) onto white paper. The paper's white surface reflects a wide range of colour back to your eyes.



However, as you can see in the sample above, applying colour toner directly onto coloured media creates extremely dark, dull results because only a narrow range of coloured light is reflected back to your eyes.

When white is laid down underneath colour, it provides a protective, reflective surface similar to white paper. This results are brilliant colour when printing on coloured media.



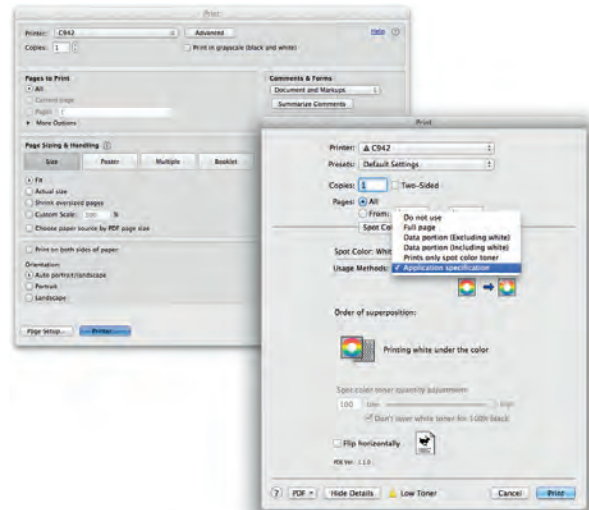
And beyond laying down 100% white to preserve hues on coloured media or to create standalone white elements, the OKI Pro9542 is able to control the amount of white toner laid down on different areas of the printed page, enabling for advanced techniques which will be explored later in this document.

# Printings Methods

There are two ways to send print files to your Pro9542. While this document focused on the Driver method, the Fiery Pro9 Server contains similar settings for controlling white, though the setting names and locations may differ slightly.

## PostScript Driver

You can print through your computer's Driver, controlling settings from the dialogue box that appears when you select Print from your application's main menu.



## Fiery Pro9 Server

If you're using a Fiery Pro9 Server, you'll have additional capabilities like increased colour control, the ability to gang-up jobs, advanced finishing options, and many other high volume production techniques. Please consult the server documentation for specific instructions on how to fully operate that device.



# Driver Settings

To get the best results from your printing efforts, it's important to understand a few of the Pro9542's settings. While the Pro9542 User Guide covers the product's full settings more comprehensively, the overview below focuses on the critical areas you'll be working when using spot colour white on coloured media.

## Paper Feed

All Pages From: **Multi-Purpose Tray** is strongly recommended when printing on heavy media. The Multi-Purpose Tray is located on the right side of the printer and using it instead of the internal trays will greatly reduce the chance of jams or misfeeds when printing on thicker or textured paper stock.





## Spot Colour Usage Methods

The most common Spot Colour settings you'll be using are **Prints Only Spot Colour Toner**, **Data Portion - Including White** and **Application Specification**. The setting chosen is based on how the file is prepared and the next section of this document will cover these options in greater detail.

## Print Options

### Quality1

**Trapping** - Trapping is used to prevent white edges from showing under coloured elements, and it has two components: The Spread of CMYK elements over White can be set to **Off**, **Narrow**, or **Wide**. **Choke White** Chokes or contracts the White elements, and it can be set to **On** or **Off**. A more detailed overview is included in the Trapping section of this document.

## Feed

**Media Type** - **Card Stock** is the most common setting when printing on heavier media, **Rough** is helpful when printing on textured media, and setting Media Type to **Envelope** is when printing Envelopes will avoid wrinkling.

**Media Weight** - this will vary, but **Ultra Heavy 2** is a good general setting to use for heavier media.

## Paper

**Output Bin: Stacker (Face-up)** reduces page curl by sending media straight through the unit. The Stacker is on the left side of the printer – make sure it's opened when using this setting. (see the image on the previous page)

# Printer Menu Settings

The Pro9542's operator panel menus contain settings that allow full control of the printer. As with Driver and Server settings in the previous section, the Printer Menu settings are fully covered in your Pro9542 User Guide. The selected menu settings below are highlighted as being the most useful in improving results when printing documents using spot colour white on dark media.

## Print Adjust

**Paper Colour Setting** Goes from -3 to +3 – adjust up or down if Spot Colour toner isn't fully settling into the media

**SMR Setting** Goes from -6 to +3 – adjust individual colours up or down when print quality is uneven

## Calibration

**Colour Density** - Goes from -6 to +3 - adjust individual colours (typically White) up when toner isn't fully settling into media (this setting is especially helpful with textured media)

**Adjust Registration** - Execute this to force the Pro9542 to automatically correct its registration. Doing this at the start of each day before printing will ensure improved print quality.

# Choosing Your Spot Colour Setting

The way in which you set up your file and the Spot Colour Usage Methods setting (from here on referred to as the Spot Colour setting) are interdependent. Because of this, it's ideal to first identify the type of document you'll be printing by how white will be used before selecting the Spot Colour setting you'll need to use to print that document.

Though each of the lessons found later in this document includes the Spot Colour Setting to be used for that particular exercise, it's helpful to understand how each setting differs before using them.

## Driver Setting:

Prints Only Spot Colour Toner

## Document Style:

Only white toner is printed (no black/colour) – white percentages or gradients are allowed.

## Creation Tool(s):

Any application.

## How This Setting Prints:

Black or colour elements in the original document are printed using white toner. The darker the element in the original document, the more opaque the white will print. This setting causes the Pro9542 to behave like a mono printer except white toner is used instead of black.



## Driver Setting:

Data Portion - Excluding White

## Document Style:

Combination of black/colour – white toner is applied underneath colour elements.

## Creation Tool(s):

Any application.

## How This Setting Prints:

Prints 100% white behind all elements (except true black elements), allowing printed colours to remain vibrant on dark or coloured media.

Actual white elements in the original document do not receive white toner (for example, a .jpg logo with a white background will only print the colour portion of the logo).

Does not print isolated white elements – white is only used behind colour.

Note: Because this setting is primarily used to avoid printing white backgrounds in logos and other images, it isn't commonly used by creative professionals, so it won't be covered in the lessons.



## Driver Setting:

Data Portion - Including White

## Document Style:

Combination of black/colour and white (but no subtle white).

## Creation Tool(s):

Adobe Illustrator, Photoshop, InDesign, CorelDraw, or any other application that can specify a true white.

## How This Setting Prints:

Prints 100% white behind all elements (except true black elements), allowing printed colours to remain vibrant on dark or coloured media.

Also prints elements that are defined as the colour white in the original document.

However, percentages of white below 100% are not possible.



## Driver Setting:

### Application Specification

## Document Style:

Any combination of black/colour and white in any percentages (white is defined as “SpotColor\_White”).

## Creation Tool(s):

Adobe Illustrator, Photoshop, InDesign, CorelDraw, or any other application that can utilize named spot colours or spot channels (for example, Pantone colours).

## How This Setting Prints:

White only goes where it has been defined in the original document, using the spot colour name for OKI’s white toner (SpotColor\_White).

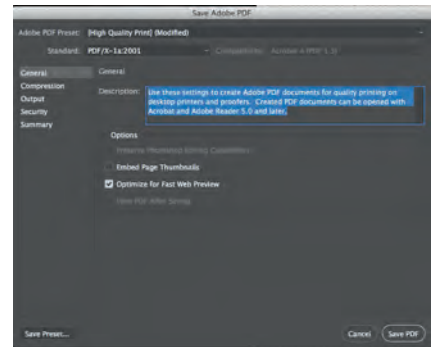
Subtle white effects (glows, gradients, percentages) are able to be achieved with no restrictions.

This setting allows colour elements to have any amount of white behind them or none at all, which isn’t possible with any other Spot Colour driver setting.



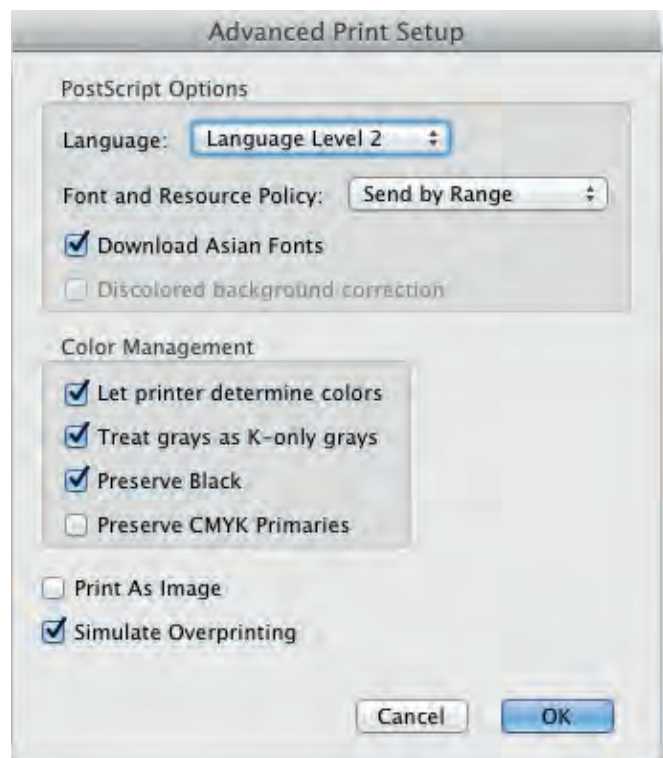
# Exporting to PDF

Exporting documents from Adobe Illustrator, Photoshop, and InDesign to PDF and printing from Acrobat or Adobe Reader will streamline the printing process and reduce errors. And because Photoshop isn't able to directly print files containing spot channels, exporting to PDF is necessary when designing your document in that application.



Additionally, files using the Spot Colour setting of Application Specification require PDF type **X-1a** (either **X-1a:2001** or **X-1a:2003**) for the named Spot Colour to be transferred correctly from the source file to the PDF.

One helpful feature in Acrobat is the **Output Preview** mode under **Print Production**. This allows you **Simulate Overprinting** which is useful in making sure that Spot Colours are set up to overprint correctly. Acrobat Reader has a Simulate Overprint setting under **Advanced Print Setup**.

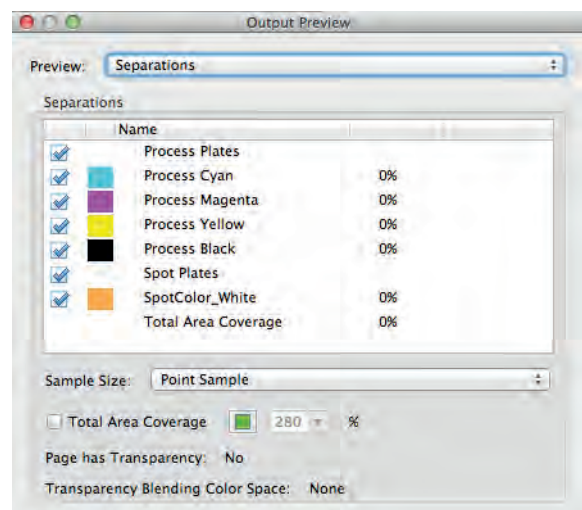




Orange represents Spot Colour White in this file. Simulate Overprinting is turned off in the image at left and turned on in the image at right. The darker overlap of green and orange show where white will be printed under the green.

Another benefit of Acrobat's Output Preview is the ability to view the spot colour that you've defined in your file, which must be named **SpotColor\_White**. Check under **Separations** to make sure this name is listed correctly.

You can also mouse over areas within your file to see where the Spot Colour has been placed as well as the percentage used in each area.





# Trapping

Trapping is a feature that helps to hide unintended white edges that sometimes appear around colour objects being printed on a page. Trapping helps to resolve imperfect registration.

The concept of trapping dates back to old ink presses that needed methods to hide imperfect registration of two different coloured objects printed next to each other. For example, a text headline printed inside a colour box.

There are two approaches to trapping: Spread and Choke. Spread slightly expands CMYK elements over white, while Choke shrinks or contracts the white areas underneath in an attempt to hide their edges.

Because the Pro9542 is able to apply white toner behind coloured elements to improve their visibility on dark paper, Trapping helps to ensure that the white toner doesn't peek out from under the edges of those coloured elements.



The OKI trapping feature offers different combinations of Choke and Spread:

**Off** - Print without any trapping features

**Narrow** - Slightly spread colour objects








**Narrow/Choke White** - Slightly spread colour objects AND contract areas of white toner

**Wide** - Expand colour objects more

**Wide/Choke White** - Expand colour objects AND contract areas of white toner

**Choke White** - Contract areas of white toner

You can use this chart for reference:

	<b>SPREAD</b>	<b>CHOKE</b>
<b>OFF</b>		
<b>NARROW</b>		
<b>NARROW/CHOKE WHITE</b>		
<b>WIDE</b>		
<b>WIDE/CHOKE WHITE</b>		
<b>CHOKE WHITE</b>		

## **Part 2: Spot Colour Lessons**

# Lesson 1:

## Prepare a Document That Uses Only White Toner



**Application:** Adobe Illustrator, Photoshop or InDesign Microsoft Word,

**Spot Colour Setting:** Prints Only Spot Colour Toner

If you're planning to create a document that uses only white toner on the page, you'll be using the Driver Spot Colour setting of **Prints Only Spot Colour Toner**.

Prints Only Spot Colour Toner is the simplest method of printing with white. Darker areas of your file, whether in grayscale or full colour, will be printed with more white toner, while lighter elements will be printed with less. Meanwhile, white or transparent elements, including image backgrounds, will be ignored completely.

If you're working with mostly type and vector elements, open Illustrator or InDesign and create your layout using black to represent white. Because setting up files for Prints Only Spot Colour Toner doesn't require custom white swatches or channels to be defined (as you'll see in later lessons where white and colour are used together), you can even use programs like Microsoft Word to create these all-white documents.



*The image at left is the original file, while the image at right shows how the file will print using the Prints Only Spot Colour Toner setting on black media.*

For printing black and white photos on dark media, simply open the image file in Photoshop and select **Image > Adjustments > Invert**. Then, save to PDF and print using the Prints Only Spot Colour Toner setting.



*Another example of printing only spot colour white toner – the image at left is the original image after being inverted and the right is the printed output on black media.*

## Lesson 2:

### Prepare a Document That Uses White Under Colour Using Illustrator



**Application:** Adobe Illustrator

**Spot Colour Setting:** Data Portion - Including White

One of the easiest ways to apply white behind colour as well as to standalone white elements is by setting up your file for the Spot Colour setting of **Data Portion - Including White**. This setting doesn't work with files created in Photoshop, so we'll focus on Illustrator.

Using the Data Portion - Including White setting automatically lays 100% white toner behind every element in your file (this is the data) - including the white swatch.

Note that the sample design shown doesn't include any subtle white elements – white toner is always applied at 100%, both under colour and for standalone white elements. Data Portion - Including White doesn't allow for a percentage of white to be applied, so if your design requires total control of white, you'll need to prepare your file for Application Specification which will be covered later in this document.

To begin, create a new document sized to your media. Create a layer and fill it with a rectangle approximating the colour of your intended media colour. Name the layer “Media” and under the **Layer Options**, turn **Print off** and **Lock the layer**. This avoids accidentally printing the simulated media background layer – it won't even be exported to PDF.

Next, create a new layer named “Other Elements” and begin creating your design using both coloured swatches as well as white. The Media layer allows you to see those white elements as they'll appear on the printed page.

Once your design is finished, export your file to **PDF X-1a** and print from **Acrobat or Adobe Reader** using the **Data Portion - Including White Spot Colour** setting. Your printed results should look like your design, with white toner automatically laid down for standalone white elements as well as behind all colour elements.





*Setting up the simulated media background – turn off Print and Lock the layer.*

This is all that's required for simpler designs that combine both white and colour elements. If you need to achieve a greater level of control for determining where white is and isn't placed on the printed page, you'll need to move past Data Portion - Including White and onto the **Application Specification** Spot Colour setting.

## Lesson 3:

### Prepare a Document That Uses Varied White Under Colour Using Illustrator



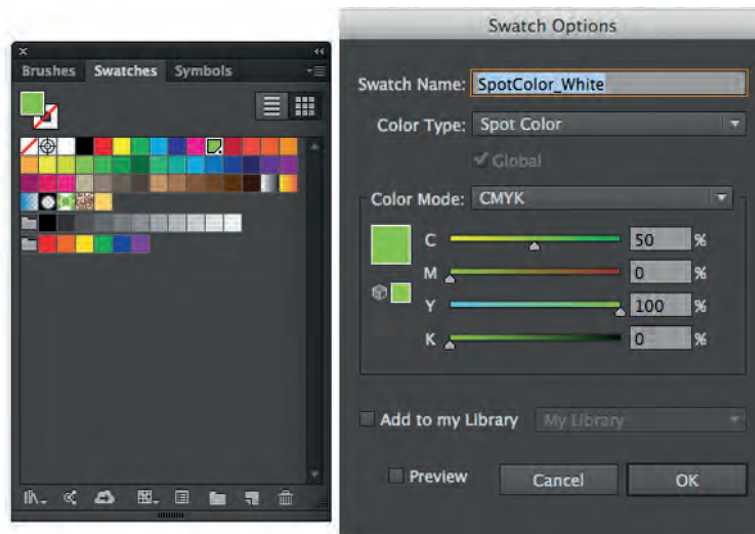
**Application:** Adobe Illustrator

**Spot Colour Setting:** Application Specification

So far you've learned that the easiest way to print with only white toner is to use the Prints Only Spot Colour Toner Spot Colour setting. And the simplest way to combine both white and colour is to use Data Portion - Including White.

But when your design calls for a subtle use of white – gradations, tints, etc. – or requires elements to print onto the media with a percentage of white with less than 100% behind them (often no white at all), you'll need to use the **Application Specification** Spot Colour setting to give you full control of where white does and does not go in your document.

The Application Specification setting works differently from Data Portion - Including White in that you won't be using the white swatch. Instead, you'll need to create a custom Spot Colour swatch that will represent white. Regardless of where white or coloured elements are placed within your file, white toner will only print where this custom white spot colour swatch is used.



*Create a Spot Colour swatch, naming it as shown.*

To create the swatch, open your Swatches palette and select a colour of your choice that you don't plan to use in your document. Double-click and rename the swatch **SpotColor\_White**. Then change the **Colour Type** to **Spot Colour**.

Create the same Media layer as you did in the previous lesson, filling the rectangle with the approximate colour of your intended media before opening the Layer Options panel and turning Print off and Lock on for the layer.

Then create a new layer, name it "Coloured Elements", and begin laying out your design elements. Wherever you intend for a standalone white element (white without colour on top) to go, use the SpotColor\_White swatch you've created.



*Use the SpotColor\_White swatch for standalone white elements.*

For this exercise, be sure to include coloured elements that print directly on the media (the red petals borders on the side of this example), coloured elements that will have white printed behind them (the flowers and yellow text), and standalone white elements (the white text).

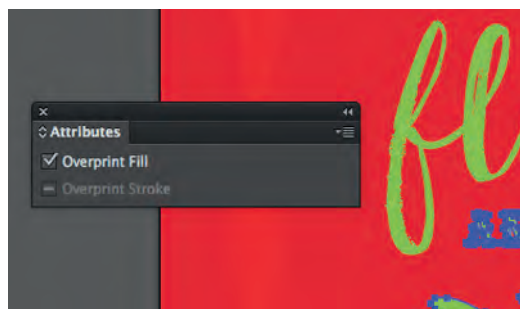
Once you've finished creating your design, you'll need to create a layer that contains spot colour white elements to print under your coloured elements. There are many ways to do this, but the simplest is to **Duplicate** your Coloured Elements layer and rename it "White Overprint".



*Duplicate the Coloured Elements layer and rename it White Elements  
Then, delete all elements except those whose colours you want to  
preserve with white. Convert all remaining elements' fills and strokes to  
the SpotColor\_White swatch.*

Temporarily **Turn Off the Visibility** of your Coloured Elements layer to avoid confusion. Then, working in the White Overprint layer, delete everything except for the elements whose colour you want to preserve on dark media with white underprinting. Once only those elements remain, change all fills and strokes to your SpotColor\_White swatch.

Next, and most importantly, under **Attributes**, set **Overprint Fill** and **Overprint Stroke** (when a stroke is used) to **On** for all of the elements on your White Overprint layer. This will prevent these white elements from knocking out the coloured elements below, instead allowing both white and colour to print.



*Turn on Overprint Fill and Overprint Stroke for all fills and strokes in the White Overprint layer.*

Turn your Coloured Elements layer back **On**, export your file to **PDF X-1a** and print from **Acrobat or Adobe Reader** using the **Application Specification** setting under Spot Colour Usage Methods. Your results should match your original design, with white toner replacing SpotColor\_White swatch.

As you begin to further explore creating Illustrator files to be printed using the Application Specification Spot Colour setting, you may want to turn on **View > Overprint Preview** within Illustrator to get a better idea of how your final design will print. This can also help troubleshoot errors before exporting and printing.

And when using Overprint Preview, it may also help to change the CMYK values of your SpotColor\_White swatch to 0, 0, 0, 0 so that it appears white. Just be careful as this can lead to confusion – it’s easy to select the real white swatch instead of the custom SpotColor\_White when both look the same on the screen.



*Turn on Overprint Preview and change your SpotColor\_White swatch to CMYK values 0, 0, 0, 0 to see an accurate view of the file’s setup within the application before exporting and printing.*

## Lesson 4:

### Prepare a Document That Uses White Under Colour Using Photoshop



**Application:** Photoshop

**Spot Colour Setting:** Application Specification



While a vector-oriented program like Illustrator works with Spot Colour swatches, a raster-based program like Photoshop instead uses a **Spot Alpha Channel** to define the white toner channel when exporting to PDF. This step is best saved until the end of the process.

To develop a layout in Photoshop that uses elements that can't be created in a vector environment, open a new document and fill the background with the same colour as your media (unfortunately, unlike Illustrator and InDesign, the printing/exporting of this simulated media layer can't be disabled, so you'll need to remember to turn off its visibility before exporting).

Begin creating your design using white, black, and coloured elements. For more complex files, organizing your Colour and White layers into separate groups will be helpful.



*Create layers of colour and white elements, grouping each separately for easier creation of the Spot Alpha Channel.*

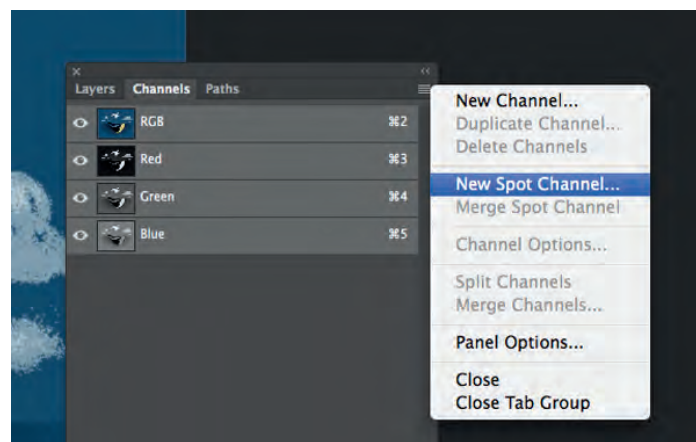
Once your design is complete, set the **Blend Mode** of all the colour layers to **Multiply** (this will help you see which areas need white underneath). You'll then need to create additional white layers for any coloured elements you want to protect from the media colour. In this design, the clouds, spout, bubble highlights, and sky are all standalone white layers – but an additional white layer has been added for the non-black parts of the whale.

You may want to mask or delete portions of your white layers where the colour overlaps when you want those elements to print directly onto the media. In general, darker colours print better with less or no white behind them.

One special note – changing the opacity of a white layer won't affect the final output once a Spot Alpha Channel is created. Though it will look correct on screen, in the end the printer will still apply 100% white coverage. To correct this, use the Eraser tool to manually reduce the opacity of white layers.

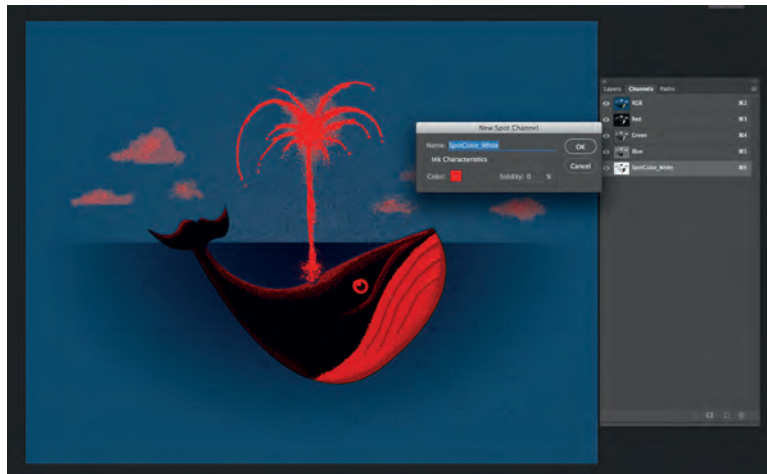
Once your layers are set, make sure you have nothing selected. Then, one by one, Load each white layer's selection by Control- or Command-Clicking on the thumbnail of each layer.

Next, go into the Channels palette and create a New Spot Channel, naming it SpotColor\_White.



*Create the New Spot Channel.*

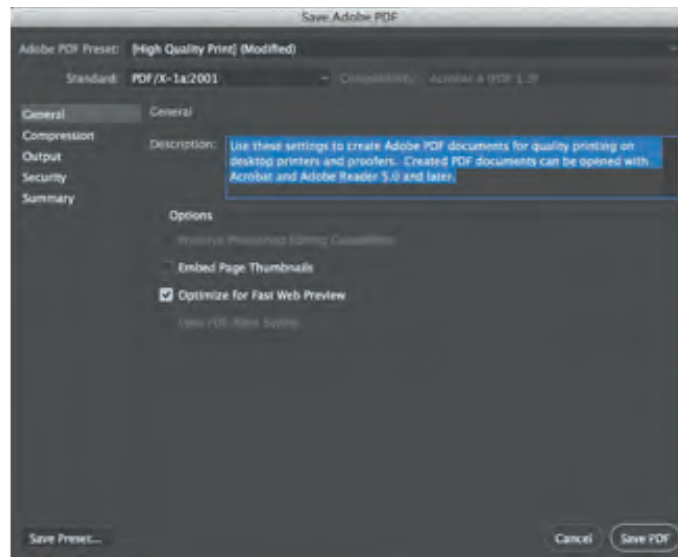
Photoshop will show you a red overlay representing the Spot Alpha Channel. This shows where the Spot Colour toner will be placed on the page.



*Name the New Spot Channel. Once created, the red overlay represents where the Spot Colour toner will be placed on the page.*

Go back into your **Layers** palette and **turn off the visibility for the Background Layer**. Then **Save As a Photoshop PDF** (again, as type **X-1a** once the selection box appears). Then print your file from Adobe Acrobat or Reader.

One additional note – when you export from Photoshop to PDF, it’s easy to accidentally lose your original PSD file. After you’ve saved to PDF, go back and do another **Save As**, turning off “As a Copy” and replace your original PSD file. Getting into this habit will prevent Photoshop from replacing your layered file with a merged image.



*Save as PDF X-1a.*

# Lesson 5:

## Prepare a Document With a Subtle Background Texture Using Illustrator and Photoshop

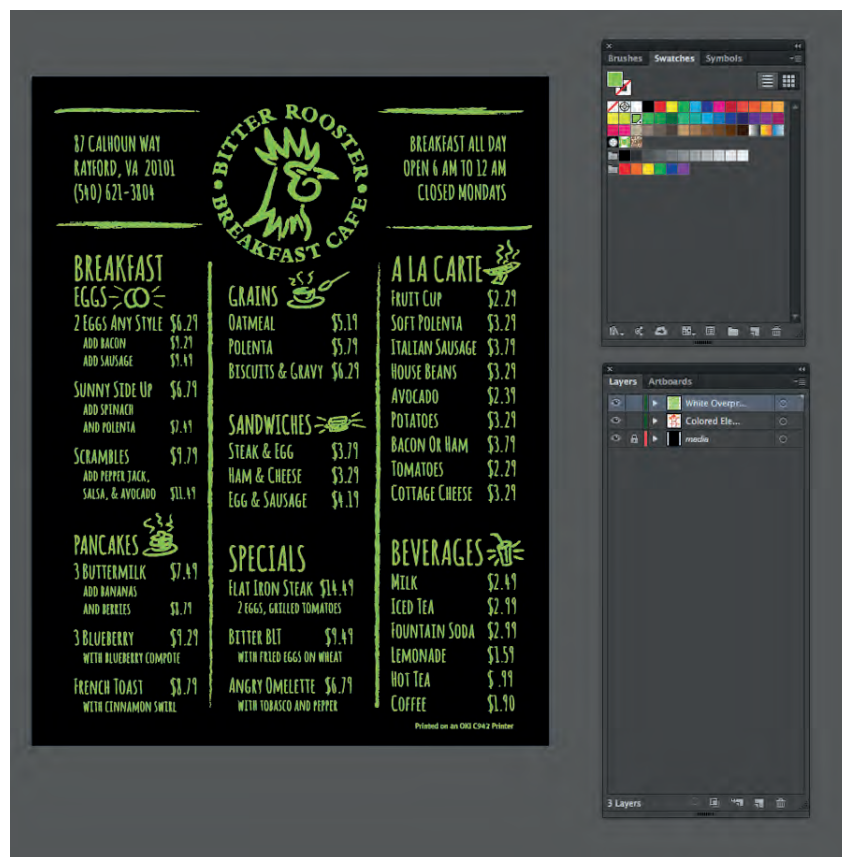


**Applications:** Adobe Illustrator and Photoshop

**Spot Colour Setting:** Application Specification

This lesson will combine all techniques you've learned so far by incorporating both raster and vector elements into one file. This is necessary when you want your printed piece to include vector elements (like small shapes and type) as well as subtle raster images like semi-transparent textures and photos.

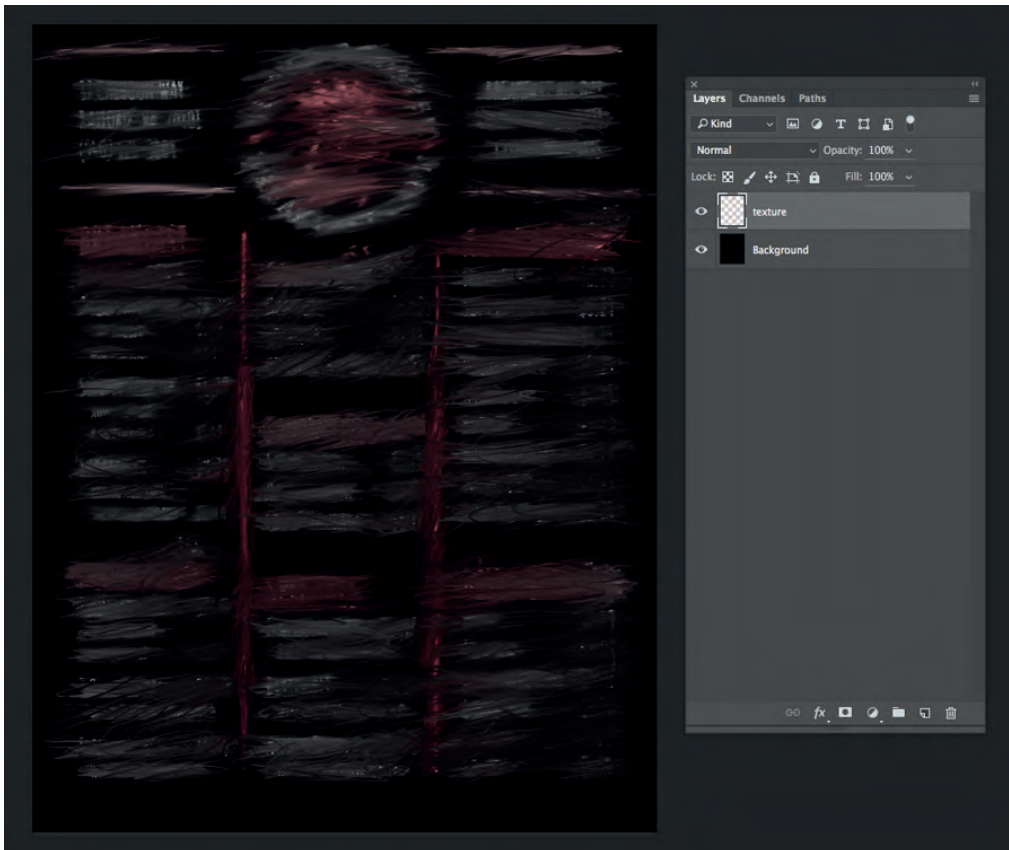
It makes sense to work within a vector environment, so begin by opening Illustrator and creating a layout of type and vector elements based on the instructions in [Lesson 3](#). Create your SpotColor\_White swatch and use it to represent white, then create the White Overprint layer and set all fills and strokes to Overprint for the appropriate elements.



*Create a layout using coloured elements as well as SpotColor\_White elements.*

Next, **open Photoshop** and create a new document the same size as your Illustrator layout. **Turn Off** the background layer and on a new layer, create a texture.

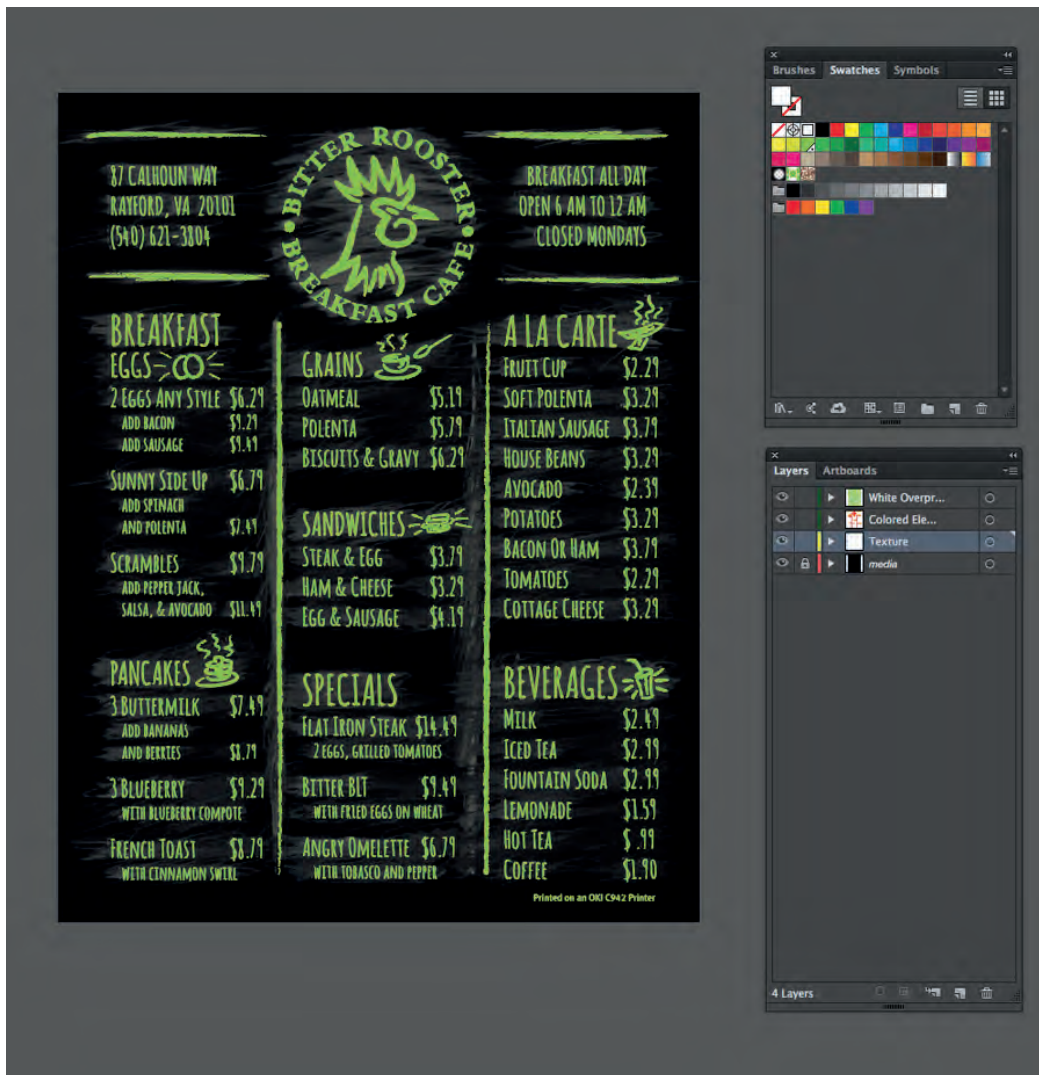
When your texture is finished, use the techniques in **Lesson 4** to create the SpotColor\_White Spot Alpha Channel. To use only white in your texture, **Turn Off** the original texture layer after creating the Spot Alpha Channel. Or, leave the texture layer on if you'd like colour elements over white. You can even create new coloured layers to be printed directly onto the media for a more complex effect.



*Create your texture, then create the SpotColor\_White Spot Alpha Channel.*

Now **Turn Off the Background Layer** and **Save as a PSD** (Photoshop) file.

Go back to your original Illustrator document and **Create a New Layer** named “Texture”. Under **File > Place**, browse to the Photoshop file containing your texture. Once this new file is in your Illustrator file, the Spot Alpha Channel within it will take on the same colour that you’ve defined as your Spot Colour Swatch.



*Place the texture PSD file into your original layout file.*

As you’ve done previously, export your file to **PDF X-1a** and print from **Acrobat or Adobe Reader** using the **Application Specification** setting under Spot Colour Usage Methods. Your final output should be a seamless blend of the raster texture and vector elements.



# Lesson 6:

## Prepare a Photo That Uses Varied White Using Photoshop



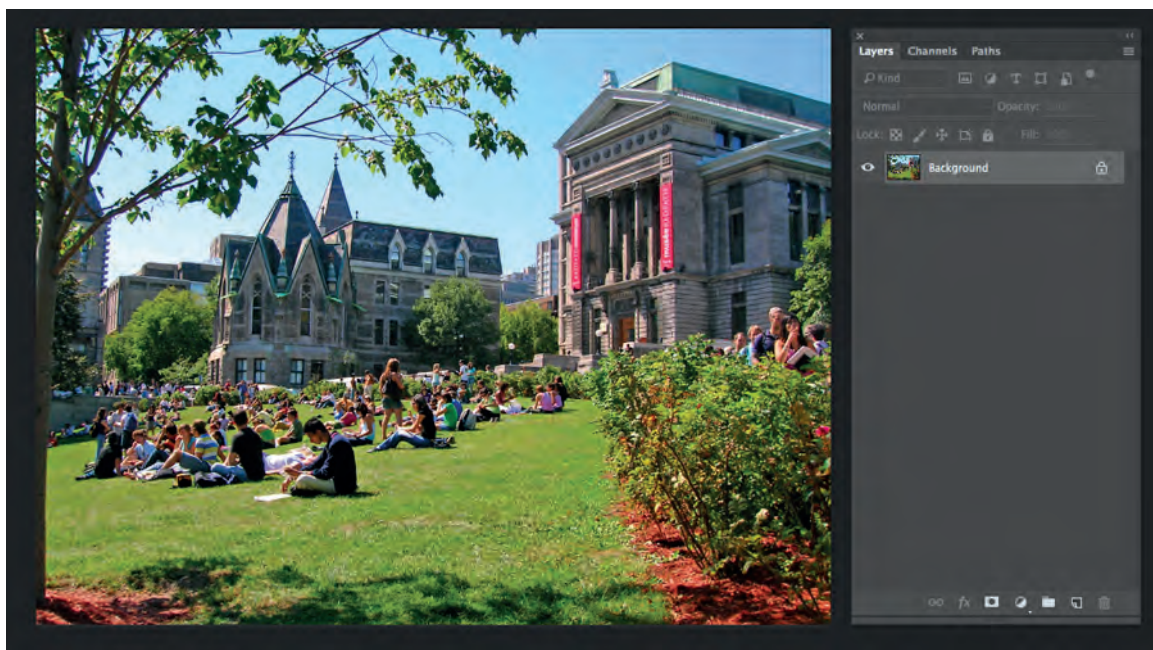
**Application:** Adobe Photoshop

**Spot Colour Setting:** Application Specification

While photographs with mostly bright or light tones work well when printed on dark media with a full block of 100% coverage behind them, images that contain a broader tonal range will benefit from applying a varied amount of white behind them.

The amount of white used based on the tonal range of the image. This advanced technique will give you best results when printing photos on dark media.

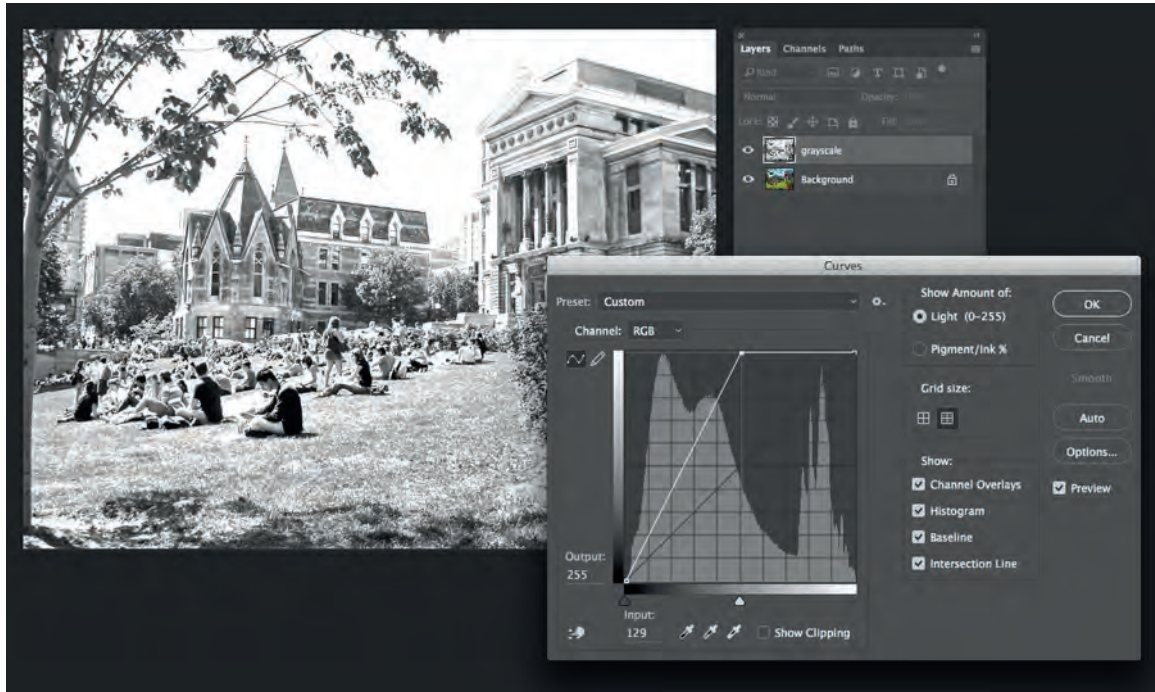
First, **Open** your image in Photoshop. Since we'll need to work with the full information from all layers, **Flatten** your image if necessary or create a composite layer to work with.



*Open the image in Photoshop and flatten if necessary.*

Next, **Duplicate the Background Layer** and rename it Grayscale. Then, from the main File menu, select Image > **Adjustments > Desaturate** to remove all colour from the layer.

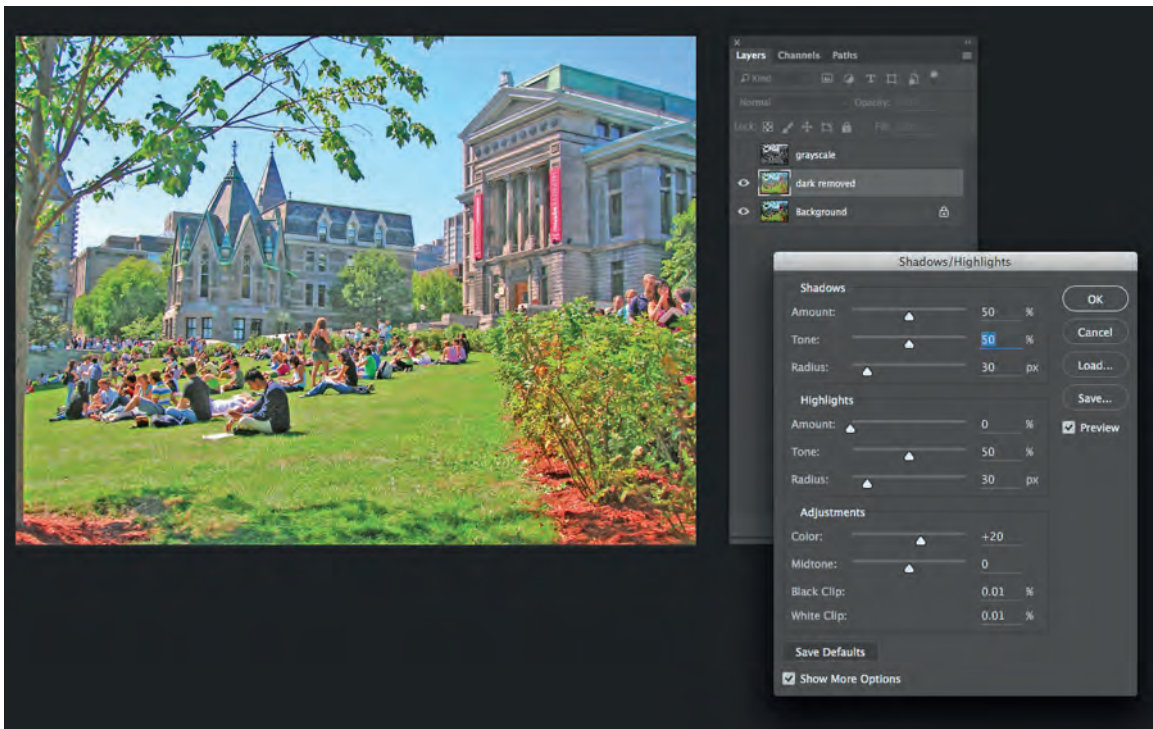
Now, under **Image > Adjustments > Curves**, move the handle in the top right to the halfway point at the top. This will allow the top half of the dynamic range – the lighter portions of the photo – to retain 100% white toner beneath them when printed.



*Desaturate the Grayscale layer, then modify the Curves as shown.*

Use **Select > All**, then **Copy** the Grayscale layer. In your **Channels palette**, create a new Spot Alpha Channel named **SpotColor\_White** (as described in Lesson 4) and **Paste** in the copied Grayscale information. Then select **Image > Adjustments > Invert**.

What you've accomplished in the steps above is defined a channel that will lay 100% white under the top half of your photo's dynamic range, and a proportional amount of white under the darker half of the image.



*Use Image > Adjustments > Shadows/Highlights to remove dark areas from the Dark Removed layer.*

Next, **Turn Off** the SpotColor\_White Channel and go back to your Layers palette. **Turn Off** the Grayscale layer, and make another **Copy** of your Background layer, this time naming it “Dark Removed”.

Under **Image > Adjustments > Shadows/Highlights**, use the **Amount Slider** under Shadows to select the range of dark to be removed. 50% is a good starting point, though this may take some readjustment after you’ve printed the image.

Finally, **Save As** a **Photoshop PDF** (again, as type **X-1a** once the selection box appears). Then print your file from Adobe Acrobat or Reader.

This process has taken the darkness out of the image and will instead create that darkness by printing less or no white toner behind those areas in the final printed piece. Using this methods, your photos will look as clean as possible when printed from the Pro9542.

# Lesson 7:

## Working With White in Adobe InDesign

Adobe InDesign has many of the same capabilities as Illustrator when used to design documents that incorporate white printing elements. Using InDesign, it's possible to create designs that print in only white (using Black to represent white and printing with the driver set to **Prints Only Spot Colour Toner**) or incorporating 100% white behind colour elements as well as solid standalone white elements (using the **Data Portion – Including White** setting).

It's also possible to create more custom pieces that incorporate OKI's custom SpotColor\_White swatch and using the **Application Specification** setting. However, working with InDesign for these types of pieces becomes a challenge when elements must be set with the overprint property. InDesign allows for native elements (text, lines, and shapes created natively in InDesign) to have their fills and strokes set to Overprint, but raster and vector elements created in Photoshop and Illustrator are automatically placed into frames, and neither these frames nor their contents are able to be set to overprint from within InDesign. The Overprint Fill and Overprint Stroke boxes will be greyed out for all placed graphic elements (the exception for this is frames filled with a solid colour).

Because of this limitation, it is not recommended to use InDesign for complex files that require elements to be set to overprint (for example, the piece demonstrated in **Lesson 3**).

If you do choose to work with InDesign in setting up these kinds of files, you'll need to create and/or modify any overprinted SpotColor\_White elements within their native applications. This means that each vector element placed within an InDesign layout that requires overprinting will need to be opened and modified in Illustrator (using the SpotColor\_



*Both Overprint Fill and Overprint Stroke are unavailable in InDesign for placed objects, which limits the ability to create complex files using white elements in the application.*

White swatch), and each raster element that requires overprinting will need to be opened and modified in Photoshop (using the SpotColor\_White Spot Alpha Channel).

Working this way can be time-consuming and tedious, which is why InDesign is only recommended as a design tool for the simpler types of documents incorporating white. For all other files, working in Illustrator is recommended.

# Additional Tips

Once you've mastered the basics of preparing and printing files on the Pro9542, you're more likely to encounter unexpected results. The information below will help prepare you for issues you may encounter as you create your spot colour files.

## Driver

The **Application Specification** option for Spot Colour Usage Methods is only available through the PostScript driver. If you're not seeing Application Specification as an option, you likely have the PCL driver installed. Downloading and installing the PostScript driver will fix this.

## Selection (Illustrator)

Using the **Selects Similar Objects** tool in Illustrator is a big time saver when changing white elements to the Spot Colour swatch and separating them onto their own layer. If you're having a hard time selecting one element of a grouped object, create a rectangle off the boundaries of your artboard, then use the eyedropper tool to match its colour to the object you want to select. With this object selected, use the Selects Similar Objects tool and make your modifications to the selected elements.



## White Opacity

- Try combining the media colour with toner colour to create new colours by blending directly onto the media – for example, printing 100% Cyan (with no white behind it) onto red media creates a dark purple colour.
- Darker colours (colours that contain a percentage of Black) will print better if the black is removed and the percentage of behind them is lessened – for example, printing 0% C 100% M 100% Y 25% K on black media with 100% white behind the element will look muddier than printing 0% C 100% M 100% Y 0% K (black removed) over 75% white – this is an advanced technique that requires more effort, but can greatly improve results when printing white under colour on dark media.

## Trapping

- When printing designs that contain many small letters or thin elements to be printed in Spot Colour White, it may be easier to use a manual trapping method for coloured elements printed over White rather than using the Driver's methods. Try adding a .25 pt stroke of the same colour as the fill around your element and print with Trapping set to Off. This will preserve the fine lines that a Trapping Setting including Choke White will lessen or eliminate.

## Textures and Patterns

- Adding a light pattern or texture that prints directly onto the media can be a convincing effect – try a light texture the same colour as the media at a lighter opacity, and fade toward the edge of the printable page (approximately .2” from the page borders).

- For advanced raster effects (especially subtle textures) in Illustrator, create a texture with a transparent background in Photoshop, create the Spot Alpha Channel naming it appropriately, then import the PSD file into its own layer in Illustrator. The Spot Colour will carry through.
- Printing a flat image directly onto the media in a percentage of white or the media colour will create a clear watermark effect.

## Spot Colour Swatch

- Though the earlier instructions suggest creating the Spot Colour swatch in Illustrator after you've started working on your design, you can also do so immediately after you've created your document. This will save you from having to find and replace elements later.
- When using Illustrator or InDesign, it is possible to create a Spot Colour swatch that's actually white instead of using a colour like Magenta – this will be less distracting when viewing the file as a PDF, but it also makes it harder to tell if a PDF was set up correctly for Spot Colour printing.
- Overprinting the Spot Colour swatch onto another Spot Colour (like a Pantone colour) in Illustrator or InDesign will not work. To fix this, select all Spot Colour elements besides white and under **Edit > Edit Colours** and select **Convert to CMYK**.
- Though the Pro9542 typically places White under CMYK, the instructions in Lesson 3 for the Application Specification Spot Colour setting describe placing the White overprint layer on top of the colour layer – while this method may seem counterintuitive, it eliminates problems that come from compound elements (for example, a logo that contains blue text over a yellow oval) overprinting elements onto themselves – however, for simpler designs, placing the Spot Colour white layer under the colour elements and having colour elements Overprint will also work.

- When printing files that use the Application Specification Spot Colour setting directly from Illustrator, an additional setting must be set to ensure that elements using the custom SpotColor\_White swatch which require overprinting are rendered correctly. Under the **Advanced** tab, set the **Overprints** dropdown to **Simulate**. (the White Overprint checkbox has no effect on the custom SpotColor\_White swatch)

## PNG Files with Transparent Backgrounds

- Transparent backgrounds contained in PNG files are still seen as Data when using the Data Portion - Including White Spot Colour setting. Because of this, the entire image will print with white behind it. To correct this issue, **Control-** or **Command-Click** on the thumbnail(s) of each layer, then create a Spot Alpha Channel (following the instructions in Lesson 5) and print using Application Specification Spot Colour setting.

## Spot Alpha Channel (Photoshop)

- When working in Photoshop, you can create your Spot Alpha Channel and immediately turn it off, then review and rework the colour elements in your file (as long as the White information doesn't change) without the visual distraction of the channel. When you save to PDF, the Spot Alpha Channel will still be exported even with its visibility is turned off.
- The Spot Colour Usage Methods setting of Spot Colour - Do Not Use will not work correctly on a file that was created from Photoshop and includes a Spot Alpha Channel. The printer will still print that white channel.
- When saving a Photoshop file to a PDF, be sure that the Spot Colours box is checked in the first dialogue box. This is usually on by default, but accidentally turning it off will cause your file to print incorrectly.

## Media

- Let the media breathe. Too much coverage – especially around the edges of the printable area – can take away the benefit of printing on coloured media. The best results come from keeping elements toward the center of the page and allowing the media to show through as much as your design will allow.

Finally, be aware that printing white and colour on dark media is both a creative and technical process. It's rare that a piece comes out looking as the user expects the first time it's printed. Experiment with driver settings, printer settings, various types of media, and file setup (especially opacity) to continue to understand the process and improve your results.