

# ColorConvert section of the Final Output process template

This process template section defines how Prinergy handles color converting during final output.

This section is useful if:

- The device that is actually used for final output is different than the final output device that was identified during the refine or proof process
- **ColorConvert** was not enabled during the refine or proof process. For example, in a late-binding workflow, operators do not alter the original color information in the files until the output stage.

## JTP

Select the job ticket processor (JTP) to use for color conversion.  
You set up JTPs using Prinergy Administrator.

## Match Colors

### Match Colors in Page Content

Enables Color Matcher to convert colors in page content using ICC profiles.

Select this check box to enable this feature; clear the check box to disable this feature.  
When you enable this feature, you can set the **Assumed Source or DeviceLink Profile** option.

### Assumed Source or DeviceLink Profile

Select **Exactly as Applied During Refining** to use the same profile that was used during the refine process. If the file was not color converted during refining, or the profile is missing, an error is displayed.

Select **As Defined Below, if Not Set in Refining** to use the same profile that was used during the refine process, if the file was color converted during refining. If the file was not color converted during refining, the profile defined in the **Input Device Conditions** box will be used.

Select **Exactly as Defined Below** to use the profile selected in the **Input Device Conditions** box.

### Input Device Conditions

Available when **Assumed Source or DeviceLink Profile** is set to **As Defined Below, if not set in Refining** or **Exactly as Defined Below**.

From the list, select **Browse** to locate the appropriate profile file for final output.

### Detect pages Refined with ColorFlow

This option allows you to set a warning alert or fail output if a Job/Page has a Color Setup assigned but **ColorFlow Color Relationship Management** is not selected in the output process template. You can select to ignore, warn or fail. Whichever setting is selected here will also be automatically selected under **Detect pages Refined with ColorFlow** in the **Calibration & Screening>Calibration** section of the output process template.

### Rendering Intent

Select **Relative Colorimetric** if the proofing paper is similar to the paper that will be used during final output.

Select **Absolute Colorimetric** to simulate the color of the paper that will be used during final output.

Select **PDF** to use the rendering intent specified in the PDF file when output by the creative software during final output.

Select **Perceptual** to use rendering that uses gamut compression and produces less saturated colors during final output.

Select **Saturation** to make sure colors are represented in a way that preserves or emphasizes saturation during final output.

## Retain CMYK Black

Preserves black in images and graphics that are defined in CMYK or RGB color space. For ICC-based color matching engines, CMYK images and graphics get transformed from CMYK to L\*a\*b\* and back to CMYK color in order to perform color matching. In going from CMYK (four components) to L\*a\*b\* (three components) and back again, the black (K) channel separation information (UCR /GCR) has in the past been destroyed. Selecting this check box instructs the Color Matcher to preserve the black generation information from the source color space. As a result, the amount of black relative to CMY in the images and graphics stays about the same. The purpose of this feature is to help preserve the visual weight of images and graphics.

**Note:** When you enable this feature, Color Matcher requires some additional processing time because of the extra calculations involved.

## Overprint Handling (CPU Intensive)

(See [About overprint handling](#))

Select to prevent overprinting objects from generating unintended knockouts.

If you are converting spot colors to process for a proof, or if you are color-matching one CMYK space to another CMYK space for a proof, you probably need to apply overprint handling, even if you applied it during refine.

To use overprint handling, you must perform these actions:

a. In the **ColorConvert** section, select:

- The **Color Matcher JTP**
- The **Match Colors in Page Content** check box
- The **Overprint Handling** check box

b. Choose between raster and vector overprint handling in the **Methods** list.

**Note:** The raster option is available only when **Shades=256** is selected in the **Render** section of the process template.

## Method

Choose to use vector or raster overprint handling for this output process.

Select **Raster** when outputting to low-resolution contone proofers (for example, Veris digital proofer or Matchprint Inkjet proofer).

**Note:** To use raster overprint handling, you must select **Shades=256** in the **Render** section of the process template.

Additional factors to consider:

- Raster overprint handling can be applied only to continuous tone data
- Raster overprint handling occurs after the RIP
- Raster processing time increases exponentially as the resolution increases
- Raster overprint handling eliminates all overprints

Select **Vector** when outputting to halftone (screen) proofers (for example, the Spectrum device), or to high-resolution contone proofers.

Additional factors to consider:

- Vector overprint handling occurs before the RIP
- Depending on the complexity of the file, vector overprint handling could take longer than raster overprint handling.
- Vector overprint handling does not eliminate all overprints. In objects where overprinting does not have an effect on the output, the objects retain an overprint status. For example, if you set black to overprint, but one black object is not placed on top of another object, this black object is, after overprint handling, still an overprinting object.

### Preserve Traps

Select this check box to preserve existing Kodak traps when vector overprint handling is used.

**Note:** When existing traps are preserved, you cannot remove them in later processing. You must remove the traps in the original file. Traps are color-managed as regular objects.

### Extended Blend Mode Handling (use with caution)

This option is only available when the **Overprint Handling (CPU Intensive)** check box is selected. If you select this option, additional Transparency Blend Modes (ColorDodge, ColorBurn, Difference, Exclusion, Lighten, Darken and Screen) will be processed through the Overprint handler (if necessary). This option is to be used with caution (check output carefully) since colormatching transparency can cause unexpected results (for more information, see the *Color Convert* section of the *Release Notes*).

**Note:** In Prinergy 6.0, 6.1 and 7.0, this functionality was enabled whenever **Overprint Handling (CPU Intensive)** was selected. In Prinergy 7.5, you can decide whether to enable it or not.

### Process CEPS Data

Select this check box to enable spot color mapping and color matching of CEPS data.

For more information, see the [CEPS Conversion section of the refine process template](#) and [Normalize section of the refine process template](#) topics.

### Process Marks

Select this check box when you want to apply color management to your marks file. Depending on the type of mark, it may be necessary to enable **Overprint Handling** to appropriately convert the mark and apply the necessary color transformation.

**Note:** When **Process Marks** is selected, both sheet marks and page marks are color managed.

### Color match 1-bit images

Select this check box to color match 1-bit images. One-bit images are images that represent two tones, typically black and white. The pixel is either a 0 or a 1 value. Examples are copydot images.

**Note:** This feature will convert 1-bit images to 8-bit images. This causes pages to become larger and to render more slowly. Clear this check box if you do not require color matching of 1-bit images, or if the feature causes unacceptable performance degradation. (For example, copydot files take a very long time to refine and render.)

This feature is available when **Match Colors in Page Content** is selected.

### Preserve Colors

## Preserve White and Black Colors for Graphics

When this option is selected, the Color Matcher JTP bypasses pure white and pure black. For example, if an input file has a build of 0,0,0,100, Color Matcher does not touch the input build of pure black, for graphics only. Similarly, for pure white, if an input file has a CMYK build of 0,0,0,0, Color Matcher does not touch the input build of pure white. The following builds are also preserved:

- 255,255,255 RGB
- 0,0,0 RGB
- 255 Gray
- 0 Gray

## Preserve Any CMYK Pure Black for Graphics

When this option is selected, Color Matcher bypasses all CMYK (0, 0, 0, 0...100) colors. The options are available regardless of whether ColorFlow is used. The options are also unrelated to the use of a DeviceLink profile.

## Device Condition

Enables the ICC profile for a proofing device. The ICC profile characterizes the way the proofing device prints.

Enable this feature by selecting a profile in the **Device Condition** box. A profile should always be present because the Color Matcher needs it for mapping spots and other tasks.

## Source of Color Recipes

### Extract Recipe from the File

Select to use the color recipes embedded in the file.

### Lookup Recipe in Color Database

Select to use the color libraries selected in this process template.

## Color Libraries

### Always Use Color Combiner to Convert Spots

Available when a proof output format is selected in the **Output To** list (not available for final output). If the input files contain overprinted spot colors, the Color Combiner, which is a plug-in to the renderer, combines the layers and outputs the overprinted colors correctly.

When cleared, the renderer handles the conversion of spot colors to process colors if the following conditions exist:

- Input files are composite
- All spot colors are set to Opaque in the color database (if the spot color is not in the color database, Opaque is assumed)

If the above conditions are not met, the Color Combiner will be used even if the **Always Use Color Combiner to Convert Spots** is cleared.

The recommended setting is to select this check box.

This check box appears in both the **Render** section and the **ColorConvert** section. Changing it in one place changes it in the other.

From the **Selectable** list, select the color libraries you want Prinergy to search for color recipes, and click **Add**.

Arrange the color libraries in the **Selected** list in the order that you want Prinergy to search. Use the **Move Up** and **Move Down** buttons.

**Note:** Make sure that you select color libraries with color spaces that are compatible with the **Proof Process Profile**.

**Note:** Color libraries with a name that begins with *System* appear at the top of the a selected color libraries list, in any new refine or output process template.

### **Use Recipe from File if not found in Color Database**

Select this check box to use color recipes embedded in the file if Prinergy does not find the colors in the selected color libraries.