

# About Color Combiner

Color Combiner is a Prinergy feature that lets you simulate the hue of spot colors in output—including traps, knockouts, and overprints, using only the standard four process colors: cyan, magenta, yellow, and black. Color Combiner works equally well on all types of jobs—composite, separated, vector, or copydot.

When used with the Kodak Trendsetter Spectrum digital halftone proofer, Color Combiner lets you simulate the hue and halftone dot structure of spot colors—for example to help you predict moiré in duotones. The Trendsetter Spectrum proofer provides a proof using the same number of donors as a regular four-color job.

Because Color Combiner works with copydot data as well as CT/vector data, you may proof spot color copydot work using standard process colors and be assured the proof accurately reflects the printed piece.

## How does Color Combiner work?

Color Combiner uses combinations of CMYK to simulate spot colors in a job. Each spot color (for example, Bright Red #10), must have a single combination of CMYK associated with it—for example, C = 2, M = 85, Y = 96, and K = 0. You can specify the color association using the Color Editor.

When you enable Color Combiner, it uses the CMYK combinations associated with spot color names. If Color Combiner cannot find a CMYK entry in the color database for a spot color, it outputs the spot color in an easily identifiable bright green color. The bright green color warns you that the CMYK combination for the spot color is not in the color database. A yellow warning triangle also appears beside the spot color in the Color Editor dialog box.

## Enabling Color Combiner

You can enable Color Combiner in any one of the following process templates:

- Loose page output
- Imposition output
- Final output

To enable Color Combiner in these process templates, in the **Render** section, select the **Do Separations** check box and select the **Always Use Color Combiner to Convert Spots** check box.

## Finding the right color combination

Each CMYK proofing device requires a slightly different combination of CMYK to simulate a particular spot color because the individual colorants used for CMYK differ for each proofer. To get a quicker match to spot colors within the gamut of the proofer, use an ICC profile for the proofer. To do this, measure the L\*a\*b\* absolute color value of the spot color that you want to match. Then, use stand-alone software such as Kodak Profile Wizard, X-Rite ColorShop or Praxisoft VectorPro to achieve the closest CMYK combination for the L\*a\*b\* color space.

## Limitations of Color Combiner

Color Combiner has the following limitations:

- It can exactly simulate only spot colors that are within the color gamut of the proofer. For example, it cannot arbitrarily produce a brighter red spot color.
- It can produce only a best approximation of colors that are outside the color gamut of the proofer.
- For best quality, use Color Combiner for AM spot color screens up to and including 175 lpi on the Trendsetter Spectrum proofer.
- If there are many overprints in the same area, the donor pigment may run out. For example, if a solid CMYK 10-60-80-10 spot color simulation overprints a solid CMYK 10-80-10-5 spot, there will be an area where magenta is maximized at 100, instead of 140. This is the tradeoff for using only one set of media.
- For best results, use Color Combiner only with Staccato-qualified halftone proofing media.

## When not to use Color Combiner

There are a few instances where you should not use Color Combiner. In that case, clear the **Always Use Color Combiner to Convert Spots** check box.

For example, do not use Color Combiner if all of the following conditions are true:

- You are outputting to a 1-bit screened format and sending it to a device that is incapable of imaging the Staccato dots that Color Combiner uses in this situation.
- Input files are composite.
- All spot colors are set to **Opaque** in the color database, or a spot color is not in the color database and the default value is **Opaque**.

In this case, the Adobe renderer can extract color recipes from the refined PDF file.

**Note:** If input files are separated, or if spot colors are not set to **Opaque**, Color Combiner is used even if the **Always Use Color Combiner to Convert Spots** check box is cleared.