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Technical bulletin

New Prinergy Color Database

This technical bulletin provides information about the new Prinergy® Color Database for Prinergy 2.3 and later. It explains the differences between the old and the new color database, as well as information about limitations and migration.

The Prinergy color database allows you to do the following:

- Override the ink color recipes in composite PostScript/PDF with a standard recipe to be used for all pages. This recipe may be used to convert the spot color to process and may be used for simulating spots on a proof, as well as for display purposes in Adobe® Acrobat®. A spot color should only have one spot color, but input files sometimes have the same spot defined differently. Using the Color Database, you can replace all of the different definitions with just one definition.
- Provide recipes for separated PostScript, which do not contain spot color recipes (reliably).
- Store ink parameters necessary for trapping (neutral density, opacity, treat as black).
- Specify screen angles for spot colors.

Here are some common terms that you should be familiar with when working with a color database:

- Alternate color space—a color space that is alternate to the base color space in which a spot color is defined. In general, it is used to describe how a spot color looks. ACSs are defined by a list of colorants and an ICC profile. Commonly used colorants are CMYK and RGB. Device independent color spaces such as L*a*b* may also be used as ACSs.
- Color database—contains information about spot colors, such as process color recipes and ink parameters necessary for trapping. In Prinergy, you create and maintain entries in the color database through the Global Color Editor and the Per-Job Color Editor.
- Color model—a system used to describe a color based on a color's physical attributes or based on how the human eye perceives a color. For example, RGB is a color model that represents the additive nature of colored light. CMYK is a color model that represents the subtractive nature of printing inks (acting like light filters). Other models exist that try to represent how the human eye sees, such as the L*a*b* model. For example, DeviceCMYK uses the subtractive model, while DeviceRGB uses the additive model.
- Color space—an instance of a color model that is used to describe and communicate the appearance of a color. Since printing (ink on paper, toner on paper) uses a subtractive model, most common color spaces are subtractive. DeviceN color spaces (as used in multi-ink or Hexachrome® printing) use a subtractive model that has more than the traditional four process colors. Some examples are DeviceCMYK, DeviceRGB, DeviceN, DeviceGray and ICC-based CMYK.
- International Color Consortium (ICC) Profile—a color space description that acts as a standard for accurate reproduction of colors across different platforms, devices, and applications. It is a file format that represents how a given device reproduces colors as specified by the International Color

Consortium. These files can be classified as input, output, source, destination, or device. For more information, please visit www.color.org/.

- Library—a collection of spot colors and their definitions. There are two types of libraries: global and job. Global libraries can be seen by every job. A job library can only be seen by the job in which it was defined. For legacy reasons, there are now system libraries, for example, System CMYK. These libraries may exist as a result of migrating from a previous version of Prinergy to Prinergy 2.3. As before, there are also factory libraries and these are the familiar PANTONE® libraries contained in older versions of Prinergy.

Old Color Database (for Prinergy versions earlier than 2.3.1.0)

In order to define color spaces using the old color database, you need to type in a spot color name, select a color space for the recipe (listed as **Alternate Color Space** in the UI) and enter numbers for the recipe in the selected color space. The color spaces that are allowed in the old color database can have three or four components, although the internal database structure allows for up to 10 component recipes. The color database description can be defined on either a per-job basis (only visible to the job in which the spot color was defined) or on a global level (the spot color is accessible from every job and even outside of a job context). In situations where the same color name is defined in both the per-job and the global color databases, the per-job definition supersedes the one in the global color database.

The old color database allows for the following color spaces: RGB, CMYK, and L*a*b*. RGB and CMYK are both device color spaces, while L*a*b* is device independent. RGB and CMYK are directly usable on RGB and CMYK devices, while L*a*b* requires the use of an ICC profile for the output device to calculate a CMYK recipe from the L*a*b* color specification. If you have the old color editor, you can have recipes of different color spaces in the same library. For example, the global library could have spot colors defined in RGB, CMYK or L*a*b* color spaces (the names must be unique within the library). This also applies for the per-job libraries. Please note that the old color database only has one global library and one per-job library for each job.

While the old color database is sufficient for most users, it does not meet the needs of users who want to do hi-fi printing (more than four process colors) or users who have multiple proofing devices that require accurate spot simulation on each device.

New Color Database

The new color database improves spot color simulation, especially for multiple output devices, and enables spotless printing by allowing you to define more than four process colorants for a color space. Previously, the choices for spot recipes were limited because you could only select from the PANTONE®, global, or per-job databases. With the new database, you can create as many libraries as you want and each one can have both global or per-job attributes. To keep jobs organized, each library only contains spot recipes for a single color space—for example, all RGB or all CMYK. When you migrate from the old to the new color database, three new system libraries are created from the global database: System CMYK, System RBG, and System Lab.

Some of the other features of the new color database include the following:

- A user-definable library search order as specified in the refine and proofing process plans
- Improved library import and export capabilities
- Easier access and viewing of the PANTONE® libraries

The following table summarizes the features of the old and new color libraries:

Feature	**Old Color Library**	**New Color Library**
Ability to define multiple global libraries	No	Yes
Ability to define multiple per-job libraries per job	No	Yes
Import and export libraries	No	Yes
Simultaneous access to all of the PANTONE® libraries	No	Yes
Easy viewing of the PANTONE® swatches	No	Yes
User-definable search order	No	Yes
Seamless and easy DeviceN support	No	Yes
Easy editing of ICC profile colorant names	No	Yes
Ability to logically group spot colors by color space	No	Yes
Search for spot color names	No	Yes

Migration

When you upgrade from an earlier version of Prinergy 2.3, the behavior of the existing process plans remains the same so that you do not have to modify every process plan. This is achieved by migrating the existing colors in the old global database to the new user libraries: SystemCMYK, SystemRGB, and SystemLab. For new systems, these libraries are automatically created to save you setup time. By default, these libraries and any PANTONE® library that was loaded at the time of upgrading are displayed as "selected" in all of the process plans.

Limitations

The new color database has the following limitations:

- Users cannot copy between factory and user libraries.
- CGATS (Committee for Graphic Arts Technologies Standards) format is not supported for import/export at this time.

About Creo

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