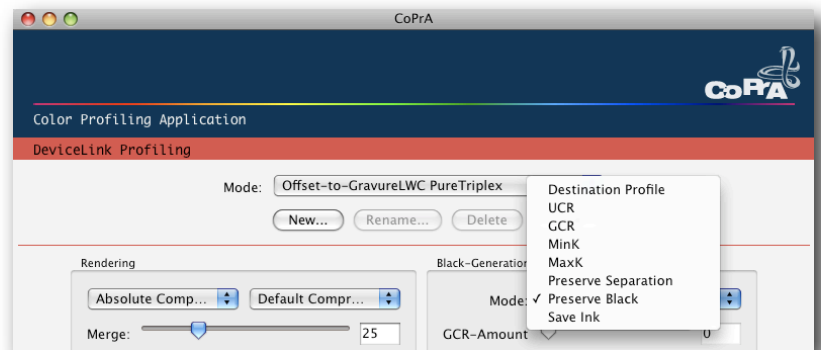


ColorLogic CoPrA Version 1.3

New Features

1. For CMYK-2-CMYK DeviceLink profiles the *Black-Generation* option *Preserve Black* has been added. This option keeps the original black channel and adapts it according to the ton value increase of the destination color space. The CMY colors will then be optimized on top of the linearized black channel.



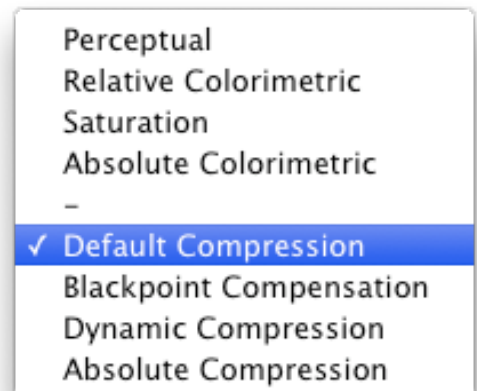
Note:

The *Black-Generation* option *Preserve Separation* maintains the relationship between the black build from the K channel and the achromatic color separation build from the CMY channels. In most cases *Preserve Separation* is the preferred setting. For cases in which the K channel of the destination color space has a completely different hue to that of the source color space (e.g. if Offset data should be converted to Gravure) the option *Preserve Black* is preferable.

2. The unique ColorLogic *Rendering* Intents, e.g. *Default Compression*, *Blackpoint Compensation*, *Dynamic Compression* and *Absolute Compression* have been completely optimized and enhanced so that the results are even smoother and more harmonic.

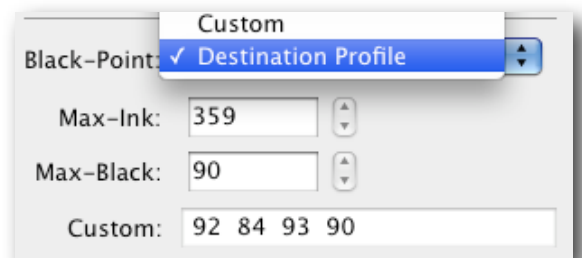
Notes:

- *Default Compression* should be your preferred method, if the gray balance should not compensate the paper color. With this *Rendering* method a good balance between contrast adaptations, high saturation and a gray balance based on relative colorimetric is achieved. For small color spaces like uncoated and newsprint stocks lightness will be increased for a better differentiation of details from light to shadow.
- *Absolute Compression* is your first choice, if the color impression of the source color space (e.g. the gray balance and possibly in gamut colors like wood or skin tones, too) should be kept as close as possible in the destination color space. The gray balance calculation will take the paper color into account, which will result in a close absolute colorimetric match. Please take into consideration that this *Rendering* method works best for color spaces with similar sizes, e.g. from ISOcoatedV2 to Web Coated or to Gravure LWC stocks.
- *Blackpoint Compensation* achieves very similar results like using relative colorimetric in Adobe Photoshop plus the black point compensation option. However the ColorLogic *Blackpoint Compensation* maintains much better details and color impression of high saturated colors in comparison to the Photoshop option.
- *Dynamic Compression* makes sure that all colors of the source color space are compressed into the destination color space. This may lead to saturation losses of in-gamut colors, if the dynamic difference between the two color spaces involved is very high (e.g. Adobe RGB vs. newsprint). For small color spaces like uncoated and

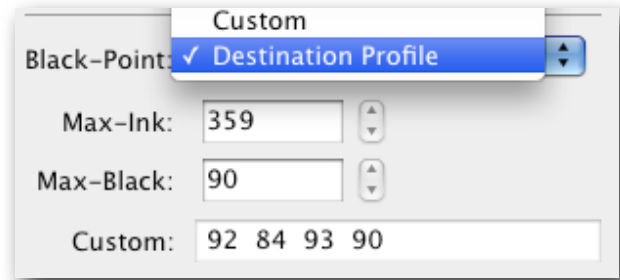


newsprint stocks lightness will be increased for a better differentiation of details from light to shadow.

- Please take into consideration that the choice of the *Rendering* method has a big influence on the quality of the created profile and should be selected with care. It is likely that a mixture of two different compression methods with the *Merge* feature yields the best results. Some of the new predefined Presets for CMYK-2-CMYK DeviceLinks take advantage of this feature.
3. The predefined Presets (under *Mode*), which allow a quick selection of profiling options, have been re-worked and optimized taking the new features of version 1.3 into account. Additional Presets have been added; for example, a DeviceLink preset for Offset to Gravure conversions maintaining the color impression of the Offset data, when printing on Gravure presses.
Note: For a quick selection of profiling options during creation of your own profiles, we recommend the following approach. First select a preset describing best your job definition, second change the settings, if necessary, according to your goals.
 4. If you are using one of the four standard rendering intents or the *Blackpoint Compensation Rendering* when creating DeviceLink profiles with a RGB destination color space the tables stored in the RGB profile will be used accordingly. Thus, when using *Blackpoint Compensation* with RGB destination profiles the similar result compared to the same option in Adobe Photoshop will be obtained (apart from using exceptions).
 5. To recreate a DeviceLink or printer profile with small modifications based on an existing profile is much easier now. In the past the source and destination profiles and all settings had to be memorized and selected manually. Now you just need to drag&drop the profile on the *Source-Profile* and *Destination-Profile* chooser and to extract all the settings of the profile just drag&drop it on the *Mode* chooser and then your are ready to modify settings.
 6. The separations using a *Black-Start* >0 is now much smoother and more harmonic for CMYK printer profiles and DeviceLink profiles with a CMYK destination color space.
 7. For CMYK printer profiles the *Black-Start* range slider has been added, if the *Black-Generation* mode *MaxK* is selected.
 8. If the *Black-Generation* mode *Destination Profile* is selected, when creating DeviceLink profiles with CMYK destination color spaces, the out-of-gamut mapping of the destination profile is used.
Note: Use one of the four standard rendering intents together with the *Destination Profile* mode, if you desire to achieve a DeviceLink, which yields the same results as if the printer profiles are used independently. When using the ColorLogic *Blackpoint Compensation* rendering intent together with the *Destination Profile* mode, the identical result compared to the same option in Adobe Photoshop will be obtained (apart from using exceptions).
 9. The *Black-Point* calculation has been optimized for a deeper and more neutral black.

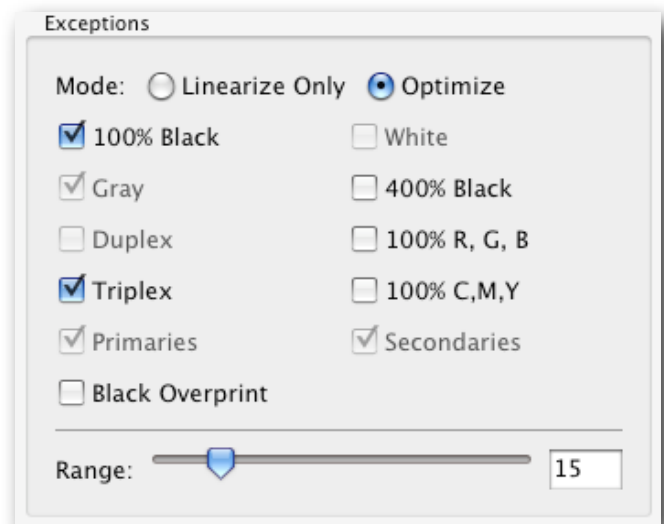


10. A new option *Destination Profile* has been added to the *Black-Point* chooser for DeviceLink profiles with CMYK destination color spaces. *Destination Profile* automatically calculates the *Max-Ink* (e.g. TAC), *Max-Black* value and the black point composition based on the destination profile.



Note: A typical use case is to adopt the TAC and *Max-Black* value from the destination profile first by selecting *Destination Profile*. As a second step

- select one of the three options *Auto*, *Balance-CMY* or *Custom* to let CoPrA recalculate the black point composition. This will mostly delivers better results quality wise, than using the destination profile's values dues to the new black point calculation method in CoPrA.
11. The out-of-gamut mapping has been optimized for high saturated reds. Sometimes reds have been to orange in older versions of CoPrA.
12. The gray balance for the colorimetric intent below the black point is much smoother now.
13. The checkbox for the *100% Black Exception* can be used independent from other exceptions.
14. The file conversion feature for TIFF and JPEG files found in the menu under *Tools/ColorMatch* now uses the highest calculation quality for best results.



Note: For updating customers we recommend to check the settings when recreating profiles with the same settings as before. As many settings have been optimized, different results will be achieved. However we belief that in most, if not all cases profiles created with CoPrA 1.3 are superior in quality compared to older profiles.

Fixed Bugs

- The *Exception* options for DeviceLink profiles both for CMYK and RGB source color spaces have been greatly re-worked. Some smaller and bigger bugs have been fixed for DeviceLink profiling and editing. Now, only the options, which make sense for a particular conversion are available in the user interface.
- The out-of-gamut mapping of gray printer profiles has been fixed.
- The error that the user defined *Max-Ink* and *Max-Black* values are not always respected has been fixed.
- The error that the user defined *Custom Black-Point* entries have not been used is fixed.
- The *Black-Control-Range* setting had a too heavy influence and is now corrected.
- The *Black-Generation* mode *MaxK* is now only available for CMYK-2-CMYK DeviceLink profiles in case a SaveInk-License is available.
- CoPrA now adds the extension *.ICC if the user did not manually type it in.
- The error that the SaveInk value shown disabled in the user interface is used in the mode *Preserve Separation* has been fixed.

Known Limitations

The new features and Presets are not yet described in the online documentation. You will find the documentation in the menu *Help/Help...*

Legend

Words printed in *italic* are terms used in the graphical user interface of CoPrA.