

Using a v4 sRGB profile in different Workflows

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Introduction of the sRGB “preference” profile

- The sRGB preference profile is a replacement for commonly used sRGB v2 profiles
- The word “preference” is intended to clarify that the perceptual rendering intent performs color re-rendering to the ICC v4 PRM gamut and does not precisely maintain the sRGB color appearance
- The profile can be down loaded from the ICC web page (www.color.org)
- It is intended to be used in combination with other ICC v4 profiles
- Main advantages are
 - More pleasing results for most images when combined with an ICC v4 output profile using the perceptual rendering intent
 - Higher color accuracy using the colorimetric rendering intents
 - More consistently correct results among different CMMs using the ICC-absolute colorimetric rendering intent
 - Greater overall functionality as follows...

Example Workflows

- We will discuss the workflows mentioned in the previous slide in detail and also provide examples !

How to deal with a mixture of v4 & v2 ICC profiles

- **Ideally, the perceptual intent of v4 ICC profiles would only be used in combination with other v4 profiles, and the use of the PRMG would be indicated in the *Perceptual Rendering Intent Gamut* tag (the rig0 tag is set to <PRMG>)**
- **If the v4 sRGB ICC preference profile is embedded & it is necessary to combine it with an ICC v2 destination profile**
 - ICC v4 sRGB – percep. -> ROMM - rc&BPC -> ICC v2 printer profile
 - ICC v4 sRGB – rc&BPC -> ICC v2 printer profile
 - ICC v2 sRGB – perceptual -> ICC v2 printer profile
- **Generally, the v4 sRGB ICC preference profile should not be used as the destination profile with a v2 source profile**
 - Exception if the source medium gamut is similar to the PRMG, in this case:
ICC v2 source profile – rc&BPC -> ROMM – per -> ICC v4 sRGB

Current status of the v4 sRGB preference profile

- **Developed & tested by ICC members**
- **In beta state as indicated in the description tag; feedback is very welcome**
 - Adobe noted some concerns with the out-of-PRMG gamut mapping
 - But this issue does not cause problems with most use cases
- **Once complete, the “beta” designation will be removed**
 - Time frame depends on the ability of ICC members to work on this project
 - Interest from users would be helpful

Related work

- **Fuji-Xerox work on creating a profile that puts sRGB corresponding colorimetry for the ISO 3664 P2 viewing conditions in the PCS**
 - Discussions ongoing in the ICC about whether such a transform should be placed in the colorimetric intent or the perceptual intent
 - the CIS tag could indicate such a transform in the colorimetric intent
 - some users may want an appearance matching (as opposed to colorimetric) transform, but this does not use the PRM (only the PRM viewing conditions)
- **Work on other v4 color encoding profiles**
 - Pro Photo (ROMM) RGB
 - Standard CMYK profiles
 - Camera raw RGB and scene-referred RGB profiles
 - Motion picture profiles
 - PRMG gamut warning profile

Summary