Max-Imize Your Color - June 08 - Difference between “Device Gamut” and “ICC Profile Output Gamut”

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Solution Details

Do you want to become a color profiling guru? Learn color profiling tips from the ONYX color scientist, Max. In this issue learn the difference between "Device Gamut" and "ICC Profile Output Gamut."

The gamut of a device is the range of colors that can be achieved using all possible combinations of device values (ink percentages for each output channel). The gamut of an ICC output profile is the range of colors that can be achieved using the profile. Different profiles can have different output gamuts depending upon how they are built.
A profile’s output gamut size and shape can be affected by:

- Number of grid points
- Color Separation
- Black Generation
- Accuracy of Interpolation
- Total Ink Usage

The accompanying image shows the difference between a device gamut and an ICC output profile gamut. The difference is mostly a result of the choice of chromatic start black and accuracy of interpolation.

Note: Some profile gamut viewers ONLY display device gamut rather than the profile’s output gamut.

Tip: Rendered gradients of out of gamut colors are affected by the shape of the profile’s output gamut. If you have problems you may consider lowering the chromatic start black. However, in some cases this may also introduce black dots that could make the image appear more grainy.