



ColorSync Glossary

Many of the following terms and definitions are taken with permission from a new book on color management, *The GATF Practical Guide to Color Management*, by Richard M. Adams II and Joshua Weisberg. For more information on this book or color management training, contact the Graphic Arts Technical Foundation. On the Internet, go to www.gatf.org.

Calibration

The process of ensuring that all color production devices (scanners, monitors, printers) conform to an established state, specified by the manufacturer, user, or an industrywide specification or standard.

Characterization

The process of determining the output of a system in response to a known input. Characterization provides a way of deriving the color gamut and reproduction characteristics of a device.

CIE L*a*b*

A three-dimensional, mathematical color model based on human sensitivity to the visual spectrum of light; L* = lightness, a* = red-green axis of the space, b* = blue-yellow axis of the space.

CMM

Refers to color management module, a color transformation algorithm that accepts color data and translates it to another color space referencing color profiles.

Colorimeter

A three-color instrument for measuring light reflected from a surface or transmitted by an object, relating reflectance or transmittance to a mathematical model of human vision. A colorimeter is used for calibration/characterization of monitors and characterization of printers.

Color space

The three-dimensional range of color coordinates that mathematically defines the hues and shades a device can print or display.

Conversion

Translating a color image from the color space of one device to that of another. Also known as color transformation.

Delta E (ΔE)

Distance in CIE L*a*b* color space between two colors. Delta E is used to indicate total color difference and establish quantitative color tolerances.

Densitometer

A black-and-white or four-color instrument for reading the amount of light reflected by a surface or transmitted by an object. Reflection densitometers are used to read the density of process-color inks on press, as well as to calculate other values such as dot gain, ink trap, and hue error. Transmission densitometers are used to read density of black-and-white film.

Dot gain

Net percent increase in halftone dot size (or tone value) throughout the tone scale or at a specified percentage. A dot gain of 20%, then, signifies that a 50% tint reproduces at 70% apparent dot area.

ICC

International Color Consortium, an internationally accredited committee that sets standards for color profiles. See "Profile."

Linearization

A specific type of calibration in which an output device is adjusted to deliver a straight-line relationship between input and output. For example, an imagesetter is linearized to output halftone dot values within a certain tolerance of those input.

Profile or ICC Profile

Developed by the ICC and introduced in 1995, a profile is a standard file format that communicates measured color output of a system or device in response to a known input. Its data describes a device's characterization to applications and operating systems that support the format.

Spectrophotometer

An instrument for reading reflectance or transmittance of light at specified increments throughout the visible spectrum. Spectrophotometric data can be used to calculate densitometric and colorimetric variables.