

DSC Precision Colorbars

Unless otherwise noted, all DSC precision color test targets are designed to the latest ITU-R BT.709 (SMPTE 274M) colorimetry standard. The Red CamBook features six additional (uncalibrated) highly saturated colors. The two vectorscope simulations below indicate where signals generated by DSC's six standard primary colors should be positioned for the HD (BT.709) and SD (SMPTE-C) colorimetry systems.

Whether using DSC charts to align a camera before a shoot or to adjust and match images in post, the principles are similar. Color reproduction is theoretically accurate when:

The grayscale steps appear equally spaced on a waveform monitor or other visual display instrument, with each step having the same RGB levels and, with vectorscope gain set at x2, the DSC primary colors fall in the boxes. DSC test patterns are calibrated for systems operating at D65.

Alignment procedure for cameras having adjustable matrices

1. Align camera transfer characteristics to desired gamma, using the grayscale
2. DSC's six primary colors have been carefully selected to represent real life, mid-saturated colors
3. In HD/SD systems, setting Vectorscope Gain to x2 should place all DSC color signals in their respective boxes. In most cameras this is difficult to achieve. For more information see Pro's Corner and TechTips in DSC's website. http://dsclabs.com/pro's_corner.htm
4. In analog NTSC systems, adjust vectorscope gain to position the burst on the base line directly below the lower left corner of the outer yellow box.

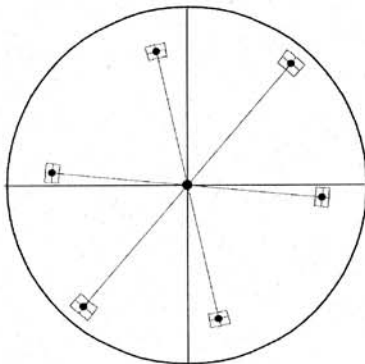
Note - Vectorscopes do not provide Luma information – if you have RGB output, adjust RGB waveform levels to combinations of 78.75 and 41.25 IRE units (551.25 and 288.75mV) i.e. Red chip levels at R 78.75, G 41.25 and B 41.25.

Note - positioning the six primary colors precisely in their boxes, should produce accurate reproduction. While this is the setup of choice for many, some prefer to "enhance" the image to their own taste. In this case, include a DSC chart in a typical scene. After adjusting to produce the "look" you like, pan to the chart and note vectorscope and waveform levels for future use.

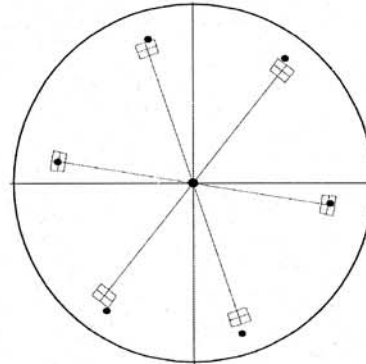
DSC 12 - 28 multi-color ChromaDuMondes

These sophisticated patterns are designed to create a hexagon pattern on a vectorscope. The additional colored chips, equally spaced between the primaries, are invaluable for critical color setup and camera matching.

HD ITU-R BT.709



SD SMPTE C



Using your DSC Colorbar/Grayscale as a Film and Video Production Standard

Simply shoot a few frames of a DSC Colorbar/Grayscale pattern during production. Then in post, align system transfer characteristics using the grayscale and color signals. Many variations in lighting, camera characteristics and film processing can be nulled out with precision and speed. Using DSC colorbars and grayscales in production can significantly reduce the time taken in scene-to-scene color correction. And the clean electronic footprints from DSC patterns provide a reliable base reference for image manipulation and special effects.

For additional information on other DSC image control systems, please contact:

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DSC test materials are covered by one or more patents, others pending.

Liability of DSC Laboratories is limited to replacement of test materials.

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