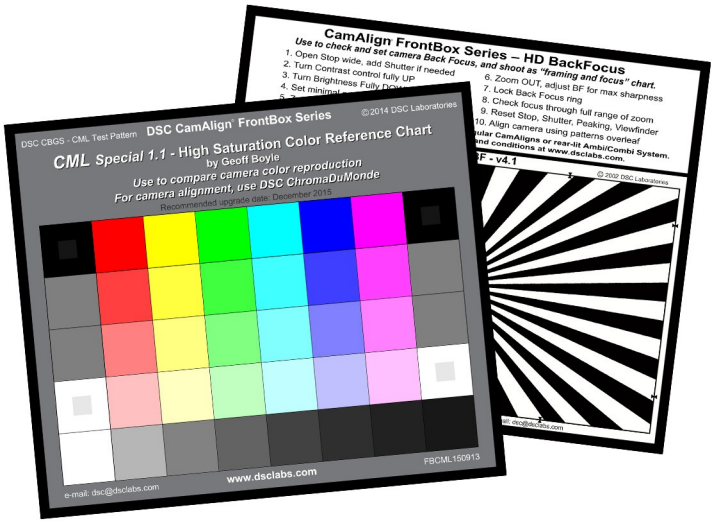
Data sheet for CML FrontBox chart

The CML chart was inspired by Geoff Boyle, eminent cinematographer and founder of the renowned CML Mailing list, who saw the need for a simple chart to reveal the problems encountered by single sensor cameras when facing pure colors. This is not in any way an alignment chart (for critical alignment, please use one of DSC's ChromaDuMonde charts) – simply a means of analysing the responses of different cameras under varying lighting and other conditions. Some cameras struggle with Blue, others with Red and still others with the secondary colors. Current lighting equipment, some discontinuous, some with spikes and uneven output, creates even more problems.

The CML Special chart has components as follows:



The top row consists of black and highly saturated primary and secondary colors. The black patches on the outer columns are followed by two 18% grey patches, followed by a white patch. The black patches have inserts at 1/3 stop lighter, and the white patches have inserts at 1/3 stop darker. These inserts are designed to show clearly the limits of over and under exposure. With changes in exposure, it is easy to determine the point at which white ceases to hold useful information as the difference between the inner and outer square disappears.

With black it's not as simple, because with a number of cameras there is still a discernible difference between the inner and outer squares, way beyond the point where noise makes the pictures unusable. However, the chart has already proved very useful in determining the exact point at which one of the manufacturers has inserted what is effectively a noise gate, cutting in and clamping the picture to black rather than have it fade out and have an increase in noise.

From the highly saturated primaries in the top row, each row below represents 75%, 50% and 25% of saturation of the top row. These colors are not referenced to any color space or limits of gamut, and allow issues with specific colors to become apparent very easily. On some cameras at certain exposures, there is no difference between the 100% and the 75% chips all across the range, another feature about which it is hugely important for the cameraman to be aware. Also on a waveform monitor, it's very clear to see that some cameras clip the saturated red chip at a stop lower that the point at which it loses the difference between the white squares – this could be critical when shooting products having a distinctive color (Ferrari Red!)

The lower grey scale is simply each step from the lightest (left) divided by 1.4.

For checking back focus, a copy of DSC's Bow Tie BackFocus chart is included on the reverse.

For additional information on other DSC image control systems, please contact:
DSC Laboratories - 3565 Nashua Drive, Mississauga, Ontario, Canada L4V 1R1
Tel: (905) 673-3211 - e-mail: **dsc@dsclabs.com** - www.dsclabs.com