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Free Automated Test Patterns for Home Theater Enthusiasts

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By Caitlin Fjelsted and Tom Schulte for SpectraCal, Inc.

When SpectraCal released its free test pattern application for Android in January of 2015, few anticipated how significantly this new test pattern technology could revolutionize display calibration for home theater enthusiasts. For years, the high cost of automated test pattern generation was a major obstacle for consumers wanting a fast, simple method of calibrating their HDTVs and Home Theater projectors. However, the free MobileForge automated test pattern app now available for iOS, Android, and Fire TV devices changes everything.

Historically, the most cost-effective method for calibrating a consumer display was to adjust the picture controls (i.e. brightness, contrast, color, tint) while manually selecting test patterns from a reference pattern disc.

As display manufacturers began providing more advanced capabilities for user adjustments, such as gamma, RGB white balance and CMS color gamut controls, calibration steadily became more complex. This is where CalMAN comes in - the DIY calibration software allows users to make automated measurements

of their displays' color performance and easily adjust these advanced user controls.

This advanced calibration does, however, require more measurements and therefore more pattern changes than simpler methods, and thus automated pattern generation has become a necessity for advanced display calibrations.

Unfortunately, many users have been economically constrained to manually selecting patterns from a pattern disc, as automated pattern generation has required expensive generator hardware, which even with steady price reductions still ranges from \$500 to \$2,000.

Calibrating a display with a pattern disc is furthermore clunky and frustrating. It usually involves two remotes: one to adjust controls on the display and one to select the correct menu and pattern from the pattern disc.

White balance calibration, for instance, requires the user to switch between test patterns multiple times, entailing dozens of remote clicks for pattern

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selection alone and making calibration more tedious and time-consuming than calibration with an automated generator. These limitations also prevent home theater enthusiasts from exploring corrective LUTs (look-up-tables), which require thousands of patterns for each calibration.

SpectraCal has long felt that a free, automated test pattern solution should be available to consumers, as this would greatly simplify display calibration and allow more consumers to access CalMAN software solutions.

To accomplish this, some have proposed outputting test patterns from a laptop over HDMI. This method is problematic, however, because laptop manufacturers do not provide absolute gamma control of the HDMI signal to test pattern applications. In other words, the accuracy of laptop HDMI signals is impossible to predict.

SpectraCal’s new MobileForge pattern generator application finally provides home theater enthusiasts a free and automated test pattern generator. MobileForge was originally designed to produce automated test patterns for mobile devices so mobile display manufacturers could easily measure screen performance. However, after

months of development testing,

SpectraCal engineers have determined that MobileForge can also generate accurate test patterns from the HDMI output of iOS, Android, and Fire TV devices. In other words, home theater enthusiasts can now generate automated test patterns directly from their phone, tablet, or Fire TV device.

This new technology dramatically changes the way consumers will approach display calibration. Thanks to MobileForge, the process for calibrating home theater displays is now faster, easier, affordable and more convenient than ever before. ■

About SpectraCal

SpectraCal provides professional calibration software and hardware to ensure consistent color performance across all flat panels and projectors in the consumer home theater industry.

To learn more about SpectraCal’s calibration products visit-

www.SpectraCal.com