



Qx Series Advanced Toolset Option

High Dynamic Range (HDR) visualization & analysis [PHQXO-HDR, PHQXLO-HDR, PHQXPO-HDR]

Overview

The Qx's comprehensive HDR toolset includes a signal generator, CIE chart, Luma false color highlighting or "heat map", waveform monitor and vectorscope. All the main live production SDR and HDR formats are supported: Standard Dynamic Range (SDR) BT.601, BT.709, BT.2020 as well as HDR BT.2100 HLG, PQ and Sony S-Log3 and SR Live.

The Waveform provides a Cd/m² (nits) graticule along with BT.2048 diffuse white markers. The flexible user controlled HDR heatmap offers 7 simultaneous programmable color overlay bands with presets for HDR and SDR ranges, plus a user custom preset.

The CIE 1931 xy display provides overlays for BT.601, BT.709, BT.2020 and ST.2086 gamut (P3) to enhance the visualization and analysis of your HDR/WCG content.

HDR Generator

An extensive set of test patterns include BT.2111 HDR color bars for HLG, PQ and SR Live as well as a full set of SDR 601 and 709 patterns mapped via 'display light' to each of the four HDR formats for line checks, comparative monitor set-up and the evaluation of HDR to SDR converters.

Analyzer - CIE Chart

- The CIE 1931 x y chart provides a display of signal chromaticity - complete with Rec. 601 525/625, Rec. 709, Rec. 2020, ST 2086 gamut overlays and the Illuminant D65 white point reference.
- Single line mode linked to picture cursor
- Pan and zoom
- ITU-R BT.601, BT. 709, BT. 2020 and ST 2086 gamut overlays
- Tooltip co-ordinate display
- Support for BT. 1886, BT. 2100 HLG and PQ, Sony S-Log3, SR Live

Key Features

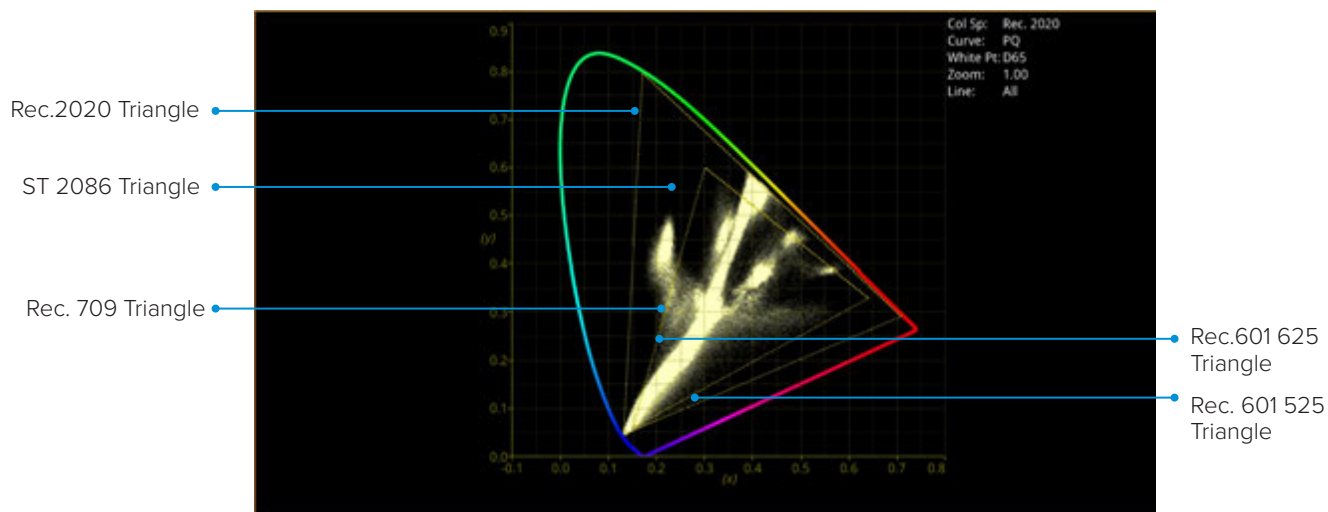
- Luma false color highlighting Heat-map
- Signal generator for HDR test patterns
- CIE chart analyzer
- Waveform monitor
- Vectorscope
- SDR support: BT.601, BT.709, BT. 2020
- HDR support: BT.2100 HLG, PQ, Sony S-Log3, Sony SR Live

HDR Test Patterns

In addition to the standard SDR test patterns which are converted to HDR, the Advanced HDR toolset provides an additional two native HDR test patterns; 2020 HLG, 2020 PQ, 2020 S-Log3, 2020 S-Log3 SR Live. The native HDR test patterns are as follows:

- ITU-R BT.2111-0 HDR Color Bars
- ITU-R BT.814-4 PLUGE – 4 variants

In addition, all other test patterns are converted to HDR in HDR mode

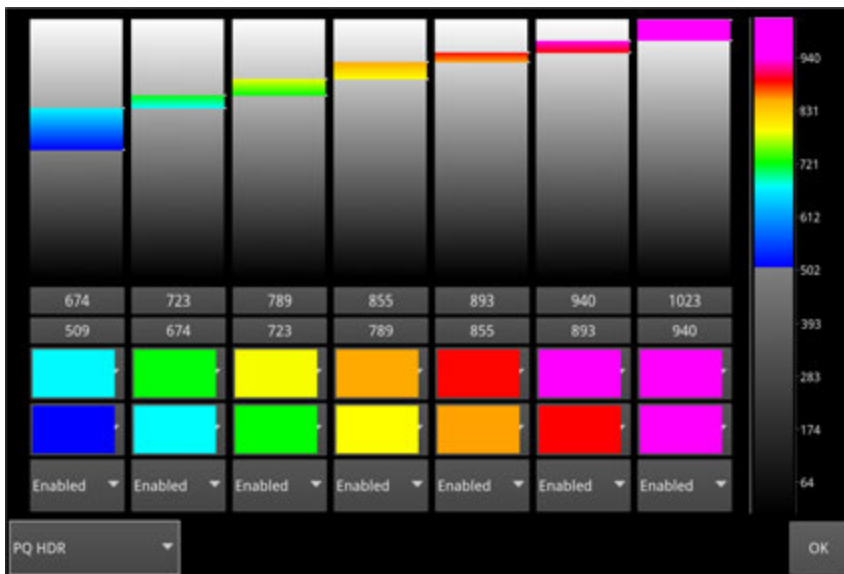


HDR Heat-Map (False Color Overlay)

A false color overlay can be applied to the image displayed to highlight luminance ranges in the image that are of particular interest, whether High Dynamic Range (HDR) or otherwise. The picture can also be displayed in monochrome using grayscale shades. If enabled at the same time as False Color Highlighting, all image elements outside of the enabled false color overlay luminance range(s) are displayed in monochrome; leaving the false color highlight elements to stand out more.

Different types of false color overlay may be applied to visualize different image details clearly, and the custom mode is provided to enable you to create a modified or bespoke overlay. The range(s) and colors of a selected false color overlay can be modified by adjusting the seven overlay bands. Up to seven distinct ranges can be simultaneously enabled in a single overlay. If adjusted, the new or modified overlay is designated as the Custom overlay type.

- Programable 'Heat Map' to highlight luminance zones providing quick identification of shadows, skin, mid-tones or specular highlights
- 7 simultaneous programmable color overlay bands
- Presets for HDR and SDR ranges plus user custom



Configuring the False Color Overlay

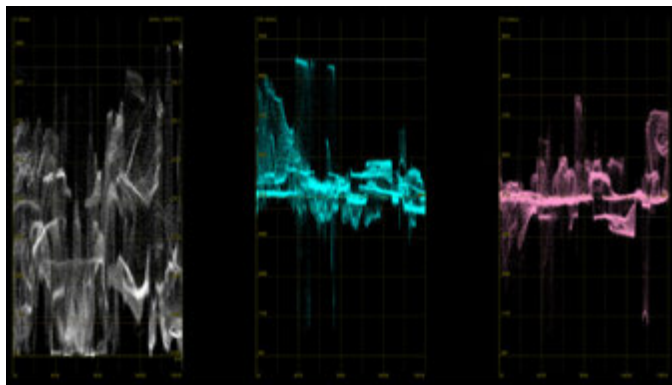


Heat-Map



False Color Overlay Applied

HDR Waveform



PHABRIX is pleased to announce the development of class-leading Waveform Monitoring for the Qx Series. Utilizing a technique patented by PHABRIX to efficiently deliver a high-resolution image processing pipeline with support for deep color sources up to 12-bits, this instrumentation delivers all the fine detail required for Camera Shading, Image Grading or critical QC of both SDR and HDR content. A choice of Overlay, Stacked and Parade display modes are provided each with the option of multi-colored, high-lighted, green or monochrome traces.

- Waveform HDR graticules with Nits (Cd/m^2)
- BT. 2408 diffuse white markers
- Support for BT. 1886, BT. 2100 HLG and PQ, Sony S-Log3, SR Live

Available for:

- Qx Rasterizer
- QxL Rasterizer
- QxP Waveform Monitor

Order codes:

[Qx] PHQXO-HDR - HDR/WCG, CIE1931, HDR Heat map
(PQ, HLG, S-Log3, SR Live)

[QxL] PHQXLO-HDR - HDR/WCG, CIE1931, HDR Heat map
(PQ, HLG, S-Log3, SR Live)

[QxP] PHQXPO-HDR - HDR/WCG, CIE1931, HDR Heat map
(PQ, HLG, S-Log3, SR Live)