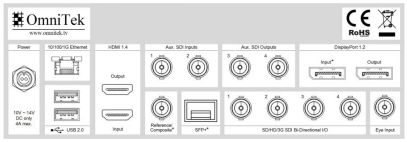
OMNITEK ULTRA 4K TOOL BOX

The OmniTek Ultra 4K Tool Box provides multiple conversion and analysis of Ultra HDTV and Digital Cinema signals in all current and anticipated 4K video formats up to 4096 x 2160/60, allowing manufacturers, designers, researchers, broadcast stations, networks, outside broadcast units and systems integrators to build, test and commission 4K products and systems with complete confidence.

Cena:
Kategorie: Video, Analizatory sygnału, Broadcast

GALLERY IMAGES



OPIS

Containing a complete solution, the 4K Tool Box offers of a variety of connection formats – multi-rate SDI, HDMI and DisplayPort - for both video source and display. Conversion between physical and image formats allows operation in multi-format video environments, while comprehensive SDI eye and jitter analysis features enable system designers to rapidly locate sources of signal error in all signal paths up to 12G-SDI single link 4K.

Features

Analyser

- Picture Viewer
- SDI Eye and Jitter measurement
- Video status, ANC monitor
- Safe Title & Action cage insertion
- Gamut monitoring

Generator

- 4K Stills and Moving Test Patterns
- Uncompressed video capture & play-out
- SDI Jitter Insertion

Format Converter

- Up, down & cross conversion – all supported formats
- Dynamic crop, position and zoom – user-controlled, HD from a 4K input
- 6-Axis Colour Correction – primary conversion and LUTs

Analyzer

The results of the various analyses carried out by the Ultra 4K Tool Box are shown on a configurable quad-split display which can be called up either as an HDMI output overlay or over IP e.g. on a wireless tablet for remote browser control. Particular screen configurations can be saved and restored as presets.

Picture Viewer

The Picture Viewer gives a high quality, resized, full frame-rate display of the selected video input..

SDI Eye & Jitter measurement

The Ultra 4K Tool Box provides a full range of tools for analysing the SDI physical layer. The Eye pattern display offers accurate, automatic measurement of the incoming signal amplitude, bitstream rise and fall times, the overshoot/undershoot level, and the calibrated input cable length. A sequence of filters allows the isolation of the main frequencies in jitter, which in turn helps to identify the source of the jitter.

Status monitoring

The Status display provides format and picture size information about the signal being analysed, together with physical error checks and a timecode display for all links (displayed individually). Among the parameters checked are Gamut range, signal amplitude and jitter amplitude. The Status display also reports issues such as black screens and stuck bits.

Data Viewer, Zoom View and Line Waveform

Three different views are offered of raw pixel data. Depending on the video format, this data may be drawn from a number of different data streams. The Data Viewer displays YUV/RGB values for pixels on a particular line of all the data streams that contribute to the current image (starting at the current cursor position); the Data Waveform allows you to monitor the YUV/RGB values at the current cursor position; while the Zoom View gives an exploded view of the image around the current cursor position.

Gamut Meters

This display comprises an intuitive 6-bar YCbCr & RGB gamut check, which gives a real-time indication of the percentage of pixels that are outside the permitted tolerances on any of the monitored colour spaces (as specified for example in EBU Recommendation 103).

Relative Timing measurement

Timing can be measured relative to individual SDI links or to an analog sync. This is particularly useful for checking quad 3G-SDI link synchronisation.

SNMP

SNMP commands are supported and SNMP traps generated, allowing automation of all aspects of the 4K Tool Box’s functionality, and enabling remote control scripting as part of a test infrastructure.

Generator

The Ultra 4K Tool Box is able to generate video in all video standards from SD up to 4K from still images, line patterns, zone plates, and combinations thereof. Short clips of uncompressed video can be captured and replayed. Image files can be loaded from disk and are scaled to fit the current output resolution (this is configurable and is used in combination with the pan & scan capabilities of the system). Line patterns are generated at full bit-precision in the colour space of the currently-selected format and can include a range of colour bars and other features such as frequency sweeps, multiburst, luma and chroma steps & ramps, , and pulse & bar. The zone plate generator allows the definition of spatial and temporal frequencies over the full range of X, Y and T values. The basic waveform is selectable as sine, square, or triangular, and may be applied to luma and chroma channels independently. The Ultra 4K Tool Box also generates test patterns in which moving elements are added to the output. Zoneplates can be overlaid on still images and line patterns, horizontal sections of images can be panned and clock hands can be added. These elements can be used to create user-defined high-resolution moving test patterns at standards up to 4K. The generator also offers SDI Jitter insertion at frequencies between 0 to 3MHz (resolution 0.735Hz) and amplitudes of 0 to 4UI pk-pk (resolution 0.0078UI). The generator output can be locked to a video input, an external references, or left to free run. Further features allow the modulation of video levels (bounce etc) to automatically exercise the full gamut range.

Format Converter

Up/Down/Cross Conversion between the full range of input and output standards is handled implicitly including multi-stream raster reconstruction for the various 4x3G 4K video standards.

Inputs are selected and routed either to the internal analyzer or the dedicated Eye scan module. The analyzer and generator are independently routed to the user’s choice of output: DisplayPort, HDMI or SDI. The video format, bit depth and colour space can be chosen here too.

To assist with the array of I/O options on the physical device, conversion is carried out on an

intuitive Connections screen that features a hardware map showing the connections that are currently selected.