

Leader



LV5900

WAVEFORM MONITOR



LCD Size: 9-inch TFT Color LCD
Dimensions (WHmm)
223x172x360
(4U-size Type)

General

The LV5900 waveform monitor supports SMPTE ST 2082-12, which is used to receive 7680(8192)x4320 / 59.94P YCBCR10bit 8K video via 12G-SDI QUAD LINK. As it supports not only 8K but also a 4k input and four simultaneous HD inputs, you can use it as a high-end 8K system and switch between other systems as needed.

The waveform, vector, picture, and eye pattern display allows for the measurement and quality control of various video signals. The status display allows you to view various error statuses and check on system stability by viewing event logs and long-term charts.

Features

Superb Operability

The apparatus is designed to give top priority to operability; and further a 9-inch full HD LCD panel featuring excellent view angle and color reproducibility is employed. This model can also be used as a high-grade HD picture monitor. In addition, a touch-panel external monitor connected through USB interface enables intuitive operations and settings through touch operation.

2K/4K/8K Video Formats

Video formats support includes SDI signals in various formats ranging from, 8K video format with quad link of 12G-SDI, 4K video format with the single link of 12G-SDI, dual link of 6G-SDI, quad link of 3G-SDI and quad link of HD-SDI, in addition to the single link of HD-SDI and 3G-SDI.

Transmission Quality Analysis Function

The LV5900 has feature of enhanced ancillary data analysis functions which includes sync measurement (8K is supported for Future), SDI signal frequency deviation measurement, and equivalent cable length measurement.

Video Analysis Function

For various video signals; quality of experience (QoE) measurement of video signals, such as detection of freeze errors, black errors, gamut errors (8K is supported for Future), in addition to varieties of displays, including the video signal waveform display, vector display, picture display, 5- BAR display and CIE Chromaticity Diagram, are standard features. Errors detected can be recorded as event logs.

Audio Analysis Function (Supported for 8K Future)

For audio signals, the level meter display, Lissajous waveform display, surround display (not supported for 8K), and loudness display are possible for SDI signals with embedded audio and MADi audio signals (supported for Future) externally entered. The signals can also be muted, and clip error detection is possible. Errors detected can be recorded as event logs.

Eye-Pattern Display

The eye-pattern display and jitter display are possible for SDI signals covering from HD-SDI to 12G-SDI. For the measured values, automatic measurement is possible in addition to measurement with a cursor. Furthermore, the histogram can be superimposed on the eye-pattern display for display.

Subtitle/Closed Caption Decode Display Function (Not supported for 8K)

The decode display is possible of Japanese subtitles superimposed onto SDI signals, CEA-608 or CEA-708 closed captions, teletexts, and OP47 subtitles.

Input of External Synchronizing Signal with the Waveform Display Function

Phase differences and synchronization status of all SDI video signals can be checked graphically against external reference synchronizing signal (black burst, tri-level sync signal).

Customizable Layout

Various video signal waveforms, vector display, and pictures of input video signals can be laid out in any of the required positions in the preferred sizes. Multiple input signals up to four inputs can be displayed simultaneously, and one single input signal can be displayed in multiple windows.

SDI Signal Generating Function (Supported for Future)

SDI signals covering HD-SDI to 12G-SDI are supported, and 4K video format of Quad Link 3G-SDI and 8K video format of Quad Link 12G-SDI are also supported. Patterns can be output in the form of HD multi-format color bar, 4K multi-format color bar, HDR color bar, etc.

HDR

Level monitoring of HDR signals supporting S-Log3, C-Log and Log-C in addition to HLG and PQ that are specified in ITU-R BT.2100, and the level management at assumed luminance (nits, cd/ m2) on the display wherein OOTF is taken into consideration are possible.

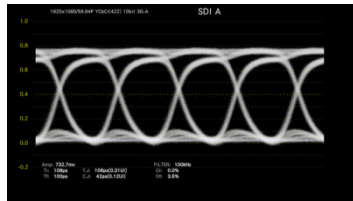
Focus Assist Function

Development of a new focus detection algorithm in which the non-linear super resolution technology is applied to sensitively enable focusing of low-contrast images that had been hardly detected.

Introduction of Functions

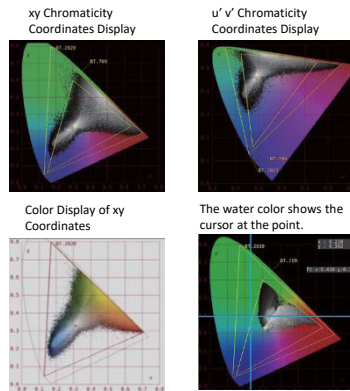
Eye-Pattern Function

Measurement results of eye-pattern waveforms, jitter waveforms, and various parameters as factors of physical layer measurement of SDI signals from HD-SDI to 12G-SDI can be displayed. Eye-pattern displays can be dealt with by switching input terminals 1 to 4.



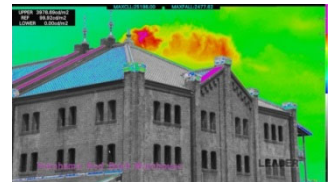
CIE Chart Display Function

This is the chromaticity diagram display function that supports ITU-R BT.709 and ITU-RBT.2020 colorimetry. The display mode conforms to CIE 1931 (xy diagram) and CIE1976 (u'v' diagram). Because the CIE chart display function is able to display two color areas, it can be used to reduce the color within the BT.709 color area or confirm the contents exceeding the BT.709 color area by using equipment that conforms to BT.2020. For the color display, chromaticity points are displayed by using colors that are contained in video signals (or are available on the picture). Chromaticity points can be measured at each point with the cursor.



HDR Measurement Function

Level monitoring of HDR signals that support S-Log3, in addition to HLG and PQ as specified in ITU-R BT.2100, and level management at the assumed luminance (cd/m²) on the display where OOTF is taken into consideration are possible. The video signal waveform display supports the HDR scale that is added to the IRE scale and, for the Scene zone display, the luminance distribution in HDR by displaying SDR in monochrome and HDR in colors corresponding to the brightness can be confirmed easily.



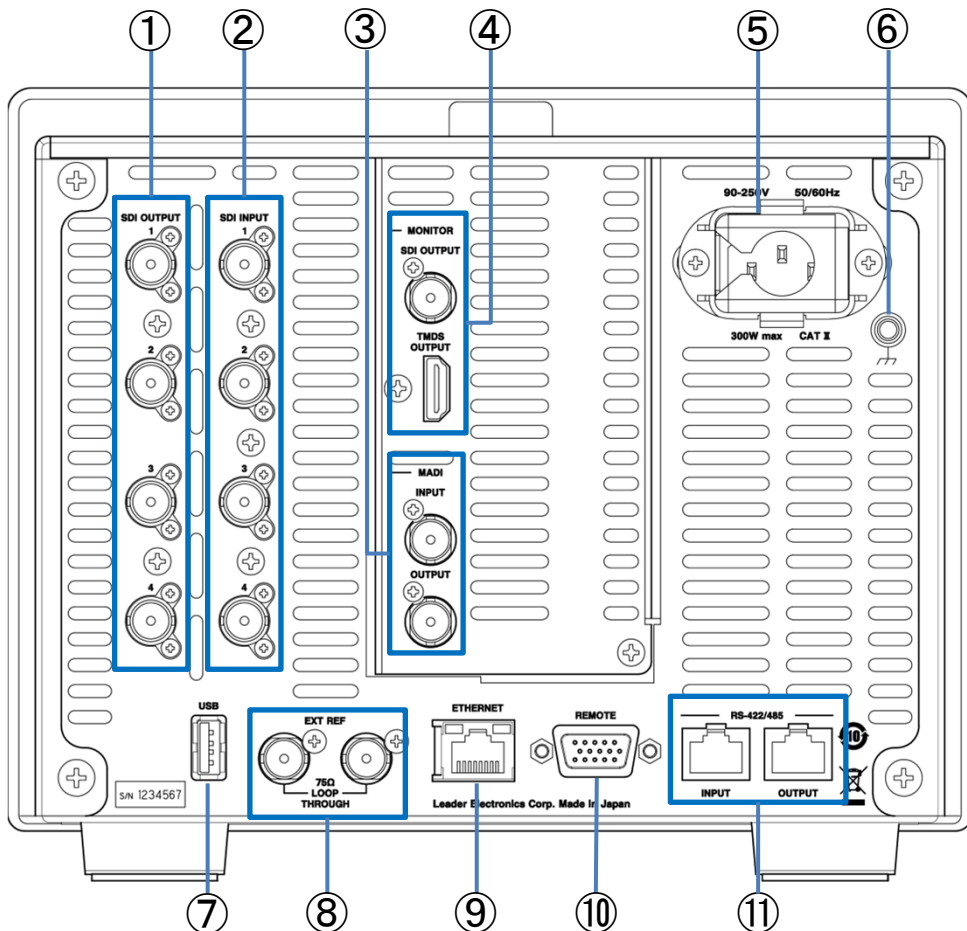
SDI Signal Generation Function

The SDI signal generation function supports HD-SDI to 12G-SDI signals. For patterns, the HD multi-format color bars, 4K multi-format color bars (simple pattern), and flat field patterns that designate the voluntary levels can be selected, and overlaying of the moving box and embedded audio signals is also supported. For 4K patterns of 3G-SDI quad link, outputting is possible by deviating the phase of each link, and it is possible to confirm the pull-in margin of reception apparatuses.

100% color bar, 75% color bar, HD multi-format color bar, 4K multi-format color bar, color luster, gamma, cross hatch, 10-step, limit lamp, check field, lip sync pattern, HDR color bar

*There are patterns that cannot be set depending on output formats.

Rear View



- 1 SDI OUTPUT
- 2 SDI INPUT
- 3 MADI
- 4 MONITOR
- 5 Power INPUT
- 6 GND
- 7 USB
- 8 EXT REF
- 9 ETHERNET
- 10 REMOTE
- 11 RS-422/485

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Specified product specifications are subject to change without notice. March 5, 2020