Compact, Slim & Lightweight Multi-SDI Test Monitor

RoHS

CiNELiTE II

The design is subject to change.

HD-SDI

SD-SDI

6.5 Inches

1.4 kg

128 mm

215 mm

63 mm

LV 5330 MULTI SDI MONITOR

GENERAL

The LV 5330 is a compact and lightweight multi-SDI test monitor specifically designed for oncamera and portable applications. Picture, waveform, vector, audio and status screens can be displayed individually or in multi-screen representations. The instrument is also equipped with on-picture measurement functions, Cinelite and Cinezone, and helps facilitate measurements that are easily understood by both technical and operations personnel. High-accuracy measurement and monitoring facilities also include settable error level monitoring and alarms as well as extensive data analysis. A screen capture function facilitates communication between production and post production personnel and aids in project documentation.

FEATURES

■ **Two Serial Digital Inputs**
Two SDI input connectors (channels A and B) support HD-SDI and SD-SDI signals. The selected SDI input is passed through an SDI output connector to facilitate switched monitor output operation.

■ **Display**
A built-in 6.5-inch XGA TFT LCD (1,024x768) provides brilliant and clear representations of waveforms, vectors, pictures, audio level meters, status, etc. The multi-screen feature allows these displays to be shown simultaneously in tiled windows.

■ **Picture display**
Brightness, contrast, and saturation is adjustable and aspect ratio, safe action and safe title markers can be displayed. The edge enhancement feature provides visual assistance with focus.

■ **Cinelite II (Cinelite and Cinezone)**
The Cinelite on-picture measurement feature displays the luminance of any three user definable points and provides luminance measurements in %, RGB levels (or %) as well as in f-stops. The Cinezone feature uses false-colors to represent luminance values on the display enabling quick confirmation of the luminance distribution levels on the display.

■ **Waveform Monitoring**
Parade, overlay, YC_BC_R, RGB, and pseudo-composite displays are available.

■ **Vectorscope**
Vectorscope display is available and accommodates both 75 % and 100 % saturation levels; pseudo-composite vectorscope display is also available.

■ **5 Bar Display**
The 5 Bar display enables simultaneous monitoring of component and composite gamut.

■ **Line Selector**
Selects any line of the video signal to be displayed and provides waveform, vector and 5-bar representations of the selected line. A line marker on the picture facilitates visual selection of the appropriate line.

■ **Audio Level Meter**
Up to 8 channels of embedded audio signals can be displayed using audio bar level meters.
*The SD-SDI audio quantization precision is up to 20 bits.

■ **Viewfinder**
The camera's composite video output (in NTSC or PAL) can be shown on the picture display. The edge enhancement feature assists you in focusing the camera.

■ **Screen Capture**
The displayed screen can be captured and saved to internal memory or USB memory.

■ **Extensive Analysis Features**
• Various types of error detection
• SDI signal event log
• Digital data dump

■ **Flexible Control**
• Instrument can be remote controlled from a PC over an Ethernet network.
• Internal memory holds up to 30 presets allowing quick access to your favorite instrument setups. Personalize your LV 5330 by loading your own custom presets via USB thumb-drive.

■ **External Synchronization**
Accepts tri-level sync or NTSC/PAL black burst signals.

■ **Stereo Headphone Output**
Extracts embedded audio signals and sends 2 user selectable audio channels to the headphone jack.

■ **Panel LED Illumination**
You can illuminate all of the panel keys; a useful feature when working in a dark environment.

■ **Power Supply**
XLR DC input connector is provided; accepts 12Vdc- 18Vdc. A V-mount battery adapter is also available as a factory option.

■ **Tripod Mounting**
A screw(1/4 in.) hole for attaching a camera tripod is provided on the bottom panel of the LV 5330

■ **Battery Mount (Factory Option)**
A battery adapter can be installed on the rear panel as a factory option.
· **BATTERY MOUNT IDX (V-Mount)**
· **BATTERY MOUNT ANTON (AntonBauer)**

LV 5330SER01 HISTOGRAM & USER GAMMA DISPLAY (Option)

This software option enables you to show video signals on the LV 5330 histogram display. It also enables you to convert the user-defined gamma to ITU-R BT709 gamma and show the converted signal on the LV 5330 picture display.

SPECIFICATIONS LV 5330

Video Formats and Corresponding Standards

	Format	Corresponding Standard
1	1080i/60	
2	1080i/59.94	
3	1080i/50	
4	1080p/30	
5	1080p/29.97	SMPTE 274M, 292M
6	1080p/25	
7	1080p/24	
8	1080p/23.98	
9	1080PsF/30	
10	1080PsF/29.97	
11	1080PsF/25	SMPTE RP211, 292M
12	1080PsF/24	
13	1080PsF/23.98	
14	720p/60	
15	720p/59.94	
16	720p/50	
17	720p/30	
18	720p/29.97	SMPTE 296M, 292M
19	720p/25	
20	720p/24	
21	720p/23.98	
22	525i/59.94	SMPTE 259M
23	625i/50	

Other Standards
Ancillary Data Standard: SMPTE 291M
Embedded Audio Standard: SMPTE 299M (HD-SDI), SMPTE 272M (SD-SDI)
Format Setting
Format Setting: Auto or manual setting from the supported formats
Sampling Frequency: 74.25 MHz (HDTV), 74.25/1.001 MHz (HDTV), 13.5 MHz (SDTV)
External Synchronization: Auto setting from supported formats

Input/Output Connectors
SDI Input
Input Connector: Two BNC connectors (switching between A and B)
External Reference Input
Input Signal: Tri-level sync or NTSC/PAL black burst
Input Connector: One pair of BNC connectors (15 kΩ passive loop-through)
*Phase difference accurary between external reference and internal signal is ±1 clock cycle.
SDI Output
Output Connector: One BNC connector (reclocks and transmits the selected SDI input signal)
Output Voltage: 800 mVp-p±10 % (75 Ω)
Headphone Output
Output Signal: Extracts and outputs the embedded audio signal.
Sampling Frequency: Only supports 48 kHz (must be synchronized to the video signal)
Output Connector: One stereo miniature jack, 32 Ω (16 to 600 Ω)
USB Memory
Function: Stores screen captures, error logs, preset data, and data dumps, Also used for Firmware update.
Remote Control
Function: Recalls presets, transmits errors, controls the tally indicator
Connector: D-sub 15-pin female
Ethernet
Function: Enables remote control from an external computer and data transmission
Type: 10BASE-T/100BASE-TX auto switching, one RJ-45 jack
Viewfinder Input
Function: Monitors composite video signals, picture only.
Input Signal: NTSC/PAL VBS signal
Input Connector: One BNC connector

Picture Display
HDTV Display: Displays by sampling pixels
SDTV Display: Displays by interpolating pixels
Display: Color or black and white selectable
Frame Rate: Displays by converting the frame rate using the internal sync signal
Marker Display: Center marker, aspect marker, safe title marker, safe action marker
Adjustment: Brightness, contrast, chroma, aperture

Cinelite Display
f-STOP: Measure relative brightness in f-stops
Measurement areas: Three points specified using the cursor
Reference: Uses an object with an 18 % reflectance as reference
%DISPLAY: Displays luminance percentage (LEVEL%), RGB percentage (RGB%), and RGB numeric values
Measurement points: Three points specified using the cursor
Measurement areas: 1×1, 3×3, 9×9
GAMMA
0.45: Reference gamma
USER 1-3: User-defined gamma
USER A-E: Gamma downloaded from USB memory
On Picture Level Indicator: Switches the screen to black and white and displays the set luminance level in green

Cinezone Display
Screen: Maps colors based on luminance levels. Linear or step selectable.
UPPER: Can be set from -6.3 % to 109.4 %. Displays white when the level is above the set level.
LOWER: Can be set from -7.3 % to 108.4 %. Displays Black when the level is below the set level.

Display Form
Display Size: 6.5-inch color XGA. Effective area 1024 × 768 dots
1 Screen Display: Picture display, Cinelite display, Cinezone display, waveform display, vectorscope display, status display, viewfinder display

2 Screen Display: Picture and waveform displays, waveform and vectorscope displays, waveform and picture displays, waveform and audio level displays, audio numeric and bar displays
4 Screen Display: Audio level display or status display selectable in addition to waveform display, vectorscope display, and picture display

Waveform Display
Waveform Operation
Display Modes: Overlay and parade
Timing Display: Displays by calculating $Y-C_B$ and $Y-C_R$ Uses bowtie signals
EAV-SAV period: Show or hide selectable
G, B, R Conversion: Converts Y, C_B, C_R signals into G, B, R and displays the result
Pseudo-Composite Display: Digitally converts component signals into composite signals and displays the result
Channel Assignments: The G, B, R order or R, G, B order selectable for G, B, R conversion display
Vertical Axis
Gain: ×1, ×5, or variable selectable
Variable Gain: ×0.2 to ×2.0 at the ×1 setting, ×1.0 to ×10.0 at the ×5 setting
Amplitude Accuracy: ≤ ±0.5 %
Frequency Characteristics HDTV
Y Signal: ≤ ±0.5 % 1 to 30 MHz
C_B, C_R signals: ≤ ±0.5 % 0.5 to 15 MHz
Frequency Characteristics SDTV
Y Signal: ≤ ±0.5 % 1 to 5.75 MHz
C_B, C_R signals: ≤ ±0.5 % 0.5 to 2.75 MHz
Horizontal Axis
Line Magnification: ×1 or ×10 selectable
Field Magnification: ×1, ×20, or ×40 selectable
Cursor Measurement
Horizontal Cursors: 2 (REF and DELTA)
Vertical Cursors: 2 (REF and DELTA)
Amplitude Measurement: %, V, 3FF. 1023
Time Measurement: usec / msec
Frequency Display: Displays the frequency by assuming the interval between the cursors to be one period
Marker Display:
75 % Marker: Indicates the value corresponding to the peak chrominance signal of the 75 % color bar.

Vectorscope Display
Scale: 75 % or 100 % selectable
Gain: ×1, ×5, IQ-MAG, or variable selectable
Variable Gain: ×0.2 to ×2.0 at the ×1 setting, ×1.0 to ×10.0 at the ×5 setting
Amplitude Accuracy: ≤ ±0.5 %
IQ Axis: Show or hide selectable
Pseudo-Composite Display: Artificially converts component signals into composite signals and displays the result

5 Bar Display
Bar Display: Displays the peak levels of Y, R, G, B, and composite

Embedded Audio Display
Display Channels: 8-channel simultaneous display
Meter: 60 dB peak level or 90 dB peak level
Group Selection: Select any two groups from groups 1, 2, 3, and 4
Channel Mapping: Mapping to L, R, SL(S), SR, C, LFE, RL, RR

Viewfinder
Display Size: Full-screen display
Adjustment: Brightness, contrast, chroma, aperture

Status
Data Dump Display: Dumps data by serial data sequence or by channel
Event log: Stores up to 1,000 events
Data output: To USB memory or over an Ethernet network

Screen Capture
Captures the displayed screen
Waveform Comparison: Superimposes the input signal over an image from memory.

Presets
30

Other Display Features
LCD: 6.5-inch color LCD
Backlight brightness: High or low selectable
Screen Display: Format, color system, date, time
Panel LED Illumination: Illuminates all keys

Environmental Conditions
Operating Temperature: 0 to 40 °C
Operating Humidity: ≤ 85 %RH (no condensation)
Operating Environment: Indoors, or outdoors with no rain
Overvoltage Category: I
Pollution Degree: 2

Power Requirements
12 VDC (10 to 18 V), 18 Wmax.

Dimensions and Weight
215 (W) × 128 (H) × 63 (D) mm (excluding projections), 1.4 kg
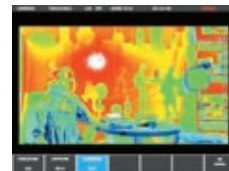
Accessories
Instruction manual 1
Camera adapter... 1

Option Sold Separately
AC adapter LP 1960, LR 2752, LC 2127

■ Cinelite II

Cinelite

Cinezone