MULTI SDI MONITOR

LV 5330

LEADER

215 mm

128 mm

63 mm

HD-SDI

SD-SDI

6.5 Inches

1.3 kg

New

RoHS

CiNELiTE II

The design is subject to change.

Compact, Slim & Lightweight Multi-SDI Test Monitor

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, Y C_B C_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 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)*1**
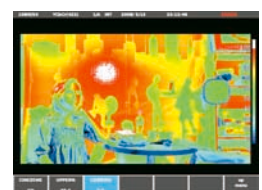 • **BATTERY MOUNT ANTON (AntonBauer)**
  *1 To be supported in the future

Video Formats and Corresponding Standards

	Format	Corresponding Standard
1	1080i/60	
2	1080i/59.94	
3	1080i/50	
4	1080p/30	SMPTE 274M, 292M
5	1080p/29.97	
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 accuracy 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 % outputs (75 Ω)

Headphone Output
- **Output Signal**: Extracts and outputs the embedded audio signal.
- **Sampling Frequency**: 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
- Measures relative brightness in f-stops
- **Measurement points**: 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**: 1x1, 3x3, 9x9

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 x 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
- **EAV-SAV period**: Uses bowtie signals (authorized by Tektronix, Inc.) 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**: x1, x5, or variable selectable
- **Variable Gain**: x0.2 to x2.0 at the x1 setting, x1.0 to x10.0 at the x5 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**: x1 or x10 selectable
- **Field Magnification**: x1, x20, or x40 selectable

Cursor Measurement
- **Horizontal Cursors**: 2 (REF and DELTA)
- **Vertical Cursors**: 2 (REF and DELTA)
- **Amplitude Measurement**: Measures in % or V
- **Time Measurement**: Measures in usec or 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**: x1, x5, IQ-MAG, or variable selectable
- **Variable Gain**: x0.2 to x2.0 at the x1 setting, x1.0 to x10.0 at the x5 setting
- **Amplitude Accuracy**: ≤ ±0.5 %
- **IQ Axis**: Show or hide selectable
- **Pseudo-Composite Display**: Digitally 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

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 Range**: ≤ 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) x128 (H) x 63 (D) mm (excluding projections), 1.3 kg
8 1/2 (W) x 5 3/64 (H) x 2 31/64(D) in. 2.9 lbs

Accessory

Instruction manual 1

Option Sold Separately

AC adapter LP 1960

■Cinelite II

Cinelite

Cinezone