



PATENTED: Equivalent cable length measurement

The cabinet is sold separately.

## Observation of Serial Digital and Analog Signals EDH Measurement Function for Monitoring of Digital Transmission Errors

The LV 5100D is a Component Digital/Analog Waveform Monitor for the 525/60 and 625/50 systems. It accommodates both digital and analog, and features two component serial digital inputs and a single 3-channel component analog loop through input. This allows use of existing video sources and so it is ideal for mixed digital/analog systems. At the digital inputs, an EDH measurement function enables transmission error monitoring and analysis. By using the equivalent cable length measurement function, it can check signal strength in a form that is intuitively understandable. A digital data dump function enables detailed analysis of all samples within the raster. The LV 5100D also boasts a full range of analog component waveform monitor functions, including a picture monitor output for TV picture display of a video signal, a line selector function with a high-intensity CRT, and settings from a menu screen.

### FEATURES

- Two Sets Of Serial Digital Inputs And Output**  
 Two sets of serial digital passive loop through inputs conforming to SMPTE 259M and ITU-R656-1 standards are provided, in addition an active SDI output provides re-transmission of either of these inputs.
- Component Analog Inputs (YPbPr or GBR)**  
 By providing component analog inputs, it is possible to use the LV 5100D in mixed digital/analog applications.
- Analog Picture Monitor Output**  
 The serial digital video signal is output to the analog picture monitor out as either GBR or YPbPr formats.
- Picture Display Function**  
 A picture display function is provided, enabling display of the Y or G video signal as a TV image on the CRT. When using the line selector, a selected line of the image is displayed with intensity modulation, a convenient feature in checking the positional relationship between a video signal and the picture.

- Vector Display Function**  
 Vectorscope display is available for both digital and component analog signals.
- Equivalent Cable Length Measurement Function**  
 The strength of a signal connected to the serial digital input can be measured and displayed as an equivalent length of 5C-2V coaxial cable.
- EDH Measurement Function**  
 It is possible to monitor serial transmission errors by means of EDH codes.
- Data Dump Function**  
 Displays any arbitrary line of the raster as digital data in hexadecimal notation.
- Cursor Measurements**  
 Level and time measurements are possible by using cursor lines.
- Stereo Sound X-Y Display**  
 An analog stereo audio signal can be displayed in X-Y mode.
- Preset Memories**  
 Front panel switch settings, including vertical and horizontal position settings can be stored in memory, enabling often-used measurement conditions to be stored for quick recall from either the front panel or remotely.

#### ● LV 5100DE (Eye pattern-display version)



**LV 5100D SPECIFICATIONS**

<b>CRT</b> <b>Type</b> <b>Accelerating Potential</b> <b>Scales</b>	150 mm, rectangular, P4 phosphor 16.5 kV Internal graticules (waveforms), illuminated scales Displayed graticules (vector and audio)
<b>Measurement Signals</b> <b>Digital Signals</b> <b>Applicable Standards</b>  <b>Analog Signals</b>	ITU-R601-3/ITU-R656-1, SMPTE 125M-1992/SMPTE 259M 4:2:2 serial digital component video signals 3-line analog component video signals Y, C <sub>B</sub> , C <sub>R</sub> or GBR
<b>Input</b> <b>Serial Digital Inputs</b> <b>Number of Inputs</b> <b>Input Connector Type</b> <b>Return Loss</b>  <b>Analog Inputs</b> <b>Number of Inputs</b> <b>Input Connector Type</b> <b>Analog REF Input</b> <b>Input</b> <b>Input Connector Type</b>	Two sets of a single input, passive loop-through BNC ≥25 dB, 1 to 270 MHz (Powered on) ≥15 dB, 1 to 270 MHz (Powered off)  One set of 3 inputs, passive loop-through BNC  One input, passive loop through BNC
<b>Outputs</b> <b>Serial Digital Active Outputs</b> <b>Output Signal</b>  <b>Output Impedance</b> <b>Return Loss</b> <b>Analog Picture Monitor Output</b> <b>Formats</b> <b>Frequency Response</b> <b>Output Impedance</b> <b>Output Connector Type</b>	Retransmission of either of the serial inputs as selected 75 Ω 15 dB min 1 to 270 MHz  Y, C <sub>B</sub> , C <sub>R</sub> or GBR 25 Hz to 6 MHz 75 Ω BNC (One set of three connectors)
<b>Vertical Axis</b> <b>Deflection System</b> <b>Deflection Sensitivity</b>  <b>Variable Range</b>  <b>Filter Characteristics</b> <b>FLAT</b>  <b>LOWPASS Rolloff</b> <b>DIF'D STEP</b>  <b>Gain</b>	±1%: referenced to a 1 V input full scale ±2%: ×5 ±0.5%: Cursor measurements 0.7 to 2 Vp-p: ×1 full scale 0.14 to 0.4 Vp-p: ×5  Within ±2%: 25 Hz to 6 MHz +2 to -5%: 6 MHz to 8 MHz (50 kHz reference) 35 dB min. at 3.58 MHz 400 kHz bandpass filter (for measurement of the linearity of the luminance component) x5 ±10%, referenced to FLAT response
<b>Horizontal Axis</b> <b>Operating Mode</b> <b>Overlay</b> <b>Parade</b> <b>Timing</b>	Displays waveforms in overlay mode Displays waveforms in parade mode To measure time difference between channels using the bowtie* signal *Used with permission of Tektronix, Inc.
<b>Sweep Mode</b> <b>Sweep Time</b> <b>Line Display</b> <b>Line Magnification</b> <b>Field Display</b> <b>Field Magnification</b> <b>Time Accuracy</b> <b>Sweep Length</b> <b>Linearity</b>	Automatic sweep  1H, 2H, 3H 1H MAG, 2H MAG, 3H MAG 1V, 2V, 3V 1V MAG, 2V MAG, 3V MAG Within ±3% 12.5 div ±0.7 div Within ±3%
<b>Display Position Adjustment Range</b>	Any part of the synced sweep can be displayed on the screen in any sweep mode.
<b>Vector Mode</b>	Vector display of C <sub>B</sub> and C <sub>R</sub> signals
<b>Picture Mode</b>	Picture display of Y or G signal
<b>Audio Mode</b>	Display stereo signal in lissajous pattern

<b>Digital Functions</b> <b>EDH Function</b> <b>Applicable Standards</b> <b>Error Indicator</b>  <b>TRS Monitoring</b>  <b>ANC Data Monitoring</b>  <b>Data Dump Function</b>  <b>Equivalent Cable Length</b> <b>Measurement Function</b>	SMPTE RP165 ALARM LED (when error occurs on the serial digital input signal.) Monitors SAV position with respect to EAV, and format. Monitors presence of audio data, and channel display format. Displays 10 bits digital data in hexadecimal notation after parallel conversion is made. Converts input signal level into equivalent length of 5C-2V cable.						
<b>CAL</b> <b>Amplitude</b>	1 V ±0.5% Vertical cursor display						
<b>Line Selector</b>  <b>FLD 1 &amp; 2</b> <b>FRAME</b>	<table border="1"> <tr> <td><b>525 lines</b></td> <td><b>625 lines</b></td> </tr> <tr> <td>Lines 1 to 262</td> <td>Lines 1 to 312</td> </tr> <tr> <td>Lines 1 to 525</td> <td>Lines 1 to 625</td> </tr> </table>	<b>525 lines</b>	<b>625 lines</b>	Lines 1 to 262	Lines 1 to 312	Lines 1 to 525	Lines 1 to 625
<b>525 lines</b>	<b>625 lines</b>						
Lines 1 to 262	Lines 1 to 312						
Lines 1 to 525	Lines 1 to 625						
<b>Preset Function</b> <b>Ten Sets of Panel Settings</b> <b>can be Preset and Recalled</b>	All front panel settings (with the exception of INTEN, READOUT INTEN, ROTATION, FOCUS, ILLUM, and POWER switch)						
<b>Cursor Measurements</b> <b>Available Cursors</b>  <b>Amplitude Measurement</b>  <b>Calibration Accuracy</b> <b>Time Interval Measurement</b>  <b>Measurement Range</b> <b>Resolution</b> <b>Frequency Measurement</b>	2 horizontal cursor lines (REF and Δ) 2 vertical cursor lines (REF and Δ) Measurement of the voltage between the REF and Δ cursors (V or %) Vertical: 0.5% Measurement of the time interval between the REF and Δ cursors ±6 divisions min. from the center of the screen 1/80 div Frequency displayed based on the period measured between the REF and Δ cursors						
<b>Environmental Conditions</b> <b>Operating Temperature</b> <b>Operating Humidity</b> <b>Spec-Guaranteed Temperature</b> <b>Spec-Guaranteed Humidity</b>	0 to 40°C ≤ 85% RH (without condensation) 10 to 35°C ≤ 80% RH (without condensation)						
<b>Power Requirements</b>	90 to 250 VAC, 48 to 440 Hz, ≤90 VA						
<b>Dimensions and Weight</b>	215 (W) x 132 (H) x 429 (D) mm, 5.0 kg 8 1/2(W) x 5 1/4(H) x 16 3/4(D) in., 11 lbs.						
<b>Supplied Accessories</b>	Illumination lamp ..... 5 Rack mounting inch-size screws ..... 2 D-sub 25-pin connector ..... 1 D-sub 25-pin connector cover ..... 1 Screw lock ..... 2 E-ring ..... 1 Cover/Inlet stopper ..... 1 Power cord ..... 1 Instruction manual ..... 1						
<b>Optional Accessory</b>	Cabinet: LR-2427I-U, LR-2404, LR-2400V I-02, LR-2400V-M						

● LV 5100D REAR PANEL

