

Digital /Analog Component Waveform Monitors



99 Washington Street
Melrose, MA 02176
Fax 781-665-0780
TestEquipmentDepot.com



LV 5100D/LV 5100DE (LV 5100DE shown)

- Active Serial Output of Selected A or B Serial Input
- 4:2:2 Serial Digital Component
- 525/60 and 625/50

Able to work in component digital as well as component analog facilities (and mixed operations) Models LV 5100D and LV 5100DE provide comprehensive waveform, vector, timing and picture monitoring capabilities. Menu-driven control functions extend familiar waveform observations into highly specialized areas and include local calibration control, the ability to show or blank SAV/EAV signals in both the waveform and picture, the ability to monitor digital signals in GBR or YCbCr form, line select (with an adjustable window), memory storage of test setups with the ability to provide on-screen labels, flexible cursor measurements, automatic 525/60 and 625/50 operation and much more.

Model 5100DE adds an equivalent-time sampling technique to display the SDI waveform for analysis of amplitude, phase, frequency and jitter effects on the 270 Mb/sec data stream. Available timebases include 1 and 3 ns/div with 500 ps/div in MAG. Jitter filters of 10, 100 and 1000 Hz are provided and precision cursors facilitate

- Component Digital and Component/Composite Analog
- Eye Pattern (SDI Waveform), Model LV 5100DE Only
- EDH Facilities
- Digital Signal-Status Readout
- Hex Readout of All Data Samples
- Serial Data Signal Strength Reading in Terms of Equivalent Length of Coax Cable
- User-Selected Alarms
- YCbCr or GBR Waveforms
- 3-Wire Analog Picture Out (YCbCr or GBR)
- Picture Display of Y or G
- Overlay, Parade and Timing Waveforms
- Component Vector Display
- X-Y Stereo Display
- Full Line Select with Strobe on Picture Display
- Preset/Recall of 10 Front Panel Setups

measurements of amplitude, jitter, rise time and other factors.

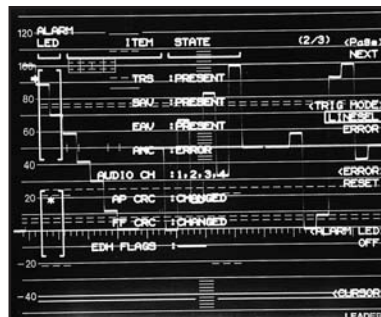
DATA READOUT

Monitoring operations open into the digital domain with a touch of the front-panel DIGITAL key. This calls up a three-page status display, the first of which shows signal format and content in the vital areas of ANC data, embedded audio, the presence of EDH codes and the time at which an error was found. A very useful feature of this first status board is a reading of a serial data stream amplitude in terms of equivalent coax cable length from a standard source. This provides an easy-to-interpret indicator of the proximity of the digital "cliff."

A second status board reads the status or error in TRS, SAV, EAV, ANC, APCRC, FFCRC and shows the presence of embedded audio and EDH flags. The third status board presents hex data for all 1716 data points on a line selected manually or triggered automatically by a TRS error.



Signal Status

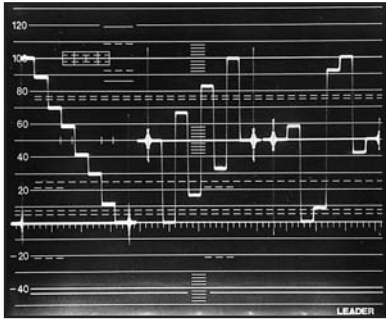


Error Status/Alarms

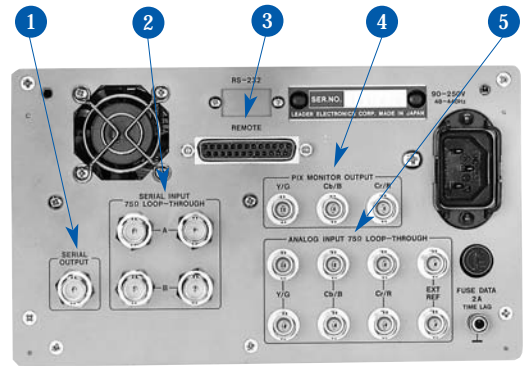


Hex Data Readout

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Parade with EAV/SAV Pass



Rear Panel

Rear panel facilities include an active serial output (selected A or B) and a 3-wire pix monitor output in GBR or YCbCr form (menu selected). Remote control and stereo-audio monitoring are also accessed at rear panel connectors. The audio XY display includes an electronic graticule with programmable reference levels.

- 1 Active serial output of A or B input.
- 2 Two passive loop-through serial inputs.
- 3 REMOTE/AUDIO inputs.
- 4 PIX MONitor outputs YPbPr or GBR.
- 5 Analog (3) and REference loop-through inputs.

KEY SPECIFICATIONS (LV 5100D/LV 5100DE)

CRT

Type

150 mm rectangular, P31 phosphor
Accelerating Potential
16.5 kV

Scales

Internal, illuminated graticule
(waveforms)
Electronically-generated (vector and audio)

SIGNAL HANDLING

Digital

Applicable standards: ITU-R601-3/ITU#656-1, SMPTE 125M 1992, SMPTE 259M

Analog

3-wire analog component
GBR or YPbPr

SERIAL DIGITAL INPUTS

Number of Inputs

2 sets, passive loop-through
Return Loss

15 dB min, 1 to 270 MHz

ANALOG INPUTS

Number of Inputs

1 set of 3 inputs, passive loop-through
Analog REF Input

1 set, passive loop-through

OUTPUT

Serial Digital Active Output

Retransmission of selected serial input
Analog Picture Monitor Output
Format: GBR or YCbCr

Frequency Response
25 Hz to 6 MHz

VERTICAL SECTION

Deflection Accuracy

$\pm 1\%$ referenced to 1 V p-p full scale
 $\pm 2\% \times 5$
 $\pm 0.5\%$ cursor measurements

Filter Characteristics

Flat
Within 2% 25 Hz to 6 MHz

Lowpass

35 dB min. at 3.58 MHz

Dif'd Step

400 kHz bandpass

EYE PATTERN DISPLAY (LV 5100DE ONLY)

Frequency Range

50 kHz to 450 MHz within $\pm 1/3$ dB

Amplitude Accuracy

800 mV $\pm 5\%$

Jitter Filters (High Pass -3 dB Points)

10 Hz, 100 Hz, 1 kHz

HORIZONTAL SECTION

Operating Modes

Overlay, Parade, Timing, Eye,
Waveform, Vector, Picture, Audio

EDH FUNCTION

Applicable Standard

SMPTE RP-165

Equivalent Line-Length Function

Reads out serial signal strength in terms of equivalent length of 5C-2V or Belden 8281 coaxial cable

DATA READOUT

Address 0000 - 1715 in hex line select or error trigger

CAL

Amplitude

1V $\pm 0.5\%$

LINE SELECTOR

	525 Lines	625 Lines
FLD 1&2	Lines 1 to 262	Lines 1 to 312
FRAME	Lines 1 to 525	Lines 1 to 625

PRESET FUNCTION

Ten sets of front panel settings can be stored and recalled with exception of INTEN, READOUT INTEN, ROTATION, FOCUS, ILLUM and POWER (on-off).

CURSOR MEASUREMENTS

Available Cursors

2 horiz, Δ and REF
2 vert, Δ and REF

Accuracy

0.5%

POWER REQUIREMENTS

90 to 250 Vac, 48 to 440 Hz, 70W

PHYSICAL

Size (W x H x D)

8³/₈ x 5¹/₄ x 16⁵/₈ in.
215 x 132 x 423 mm

Weight

11 lbs., 5 kg (not including cabinet)

SUPPLIED ACCESSORIES

5 Spare Illumination Lamps
2 8-32 Rackmount Screws
Spare Fuse

AVAILABLE OPTIONS

Carrying Case with Handle & Feet (LR-2427I-U)
Rackmount Adapter (LR-2400VI)
White Phosphor (-295)