



### Features

- Monitors SMPTE-259M, SMPTE-292M, SMPTE-296M
- Auto Detection of Input 20 HD-SDI and SD-SDI
- Selectable Colorimetry when needed
- Auto Detection of Ext. Ref. BB/Tri-Level Sync
- Switched SDI Output follows Selected Input
- Total Digital Signal Processing
- Multi-Display Modes with Thumbnail
- Freeze Mode to Compare Input Signals
- Data Dump for Detailed Pixel Analysis
- Adjustable Alarm Thresholds
- Parade/Overlay/Timing  
(YCbCr/YRGB/YGBR/RGB/GBR)
- Full Digital Line Select
- Electronic Graticules Selectable
- Precision Digital Cursors
- Timing for Component Interchannel Errors
- Display Modes for Active and H Blanking
- Vector Magnification (x2, x5 and P-Mag)
- Selectable I&Q Axes and 100%/75% Targets
- Integrated XGA TFT Color LCD Display
- Picture Monitor Output YPbPr or GBR
- XGA Output for Computer Display
- Front Panel Tilt Adjust
- Disembedded Digital Audio Outputs
- Surround Modes (3-1, 3-2, 3-2-2)
- Multi-Lissajous for System Phase Checks
- 8-Channel Bargraph (Peak 60 or 90 dB)
- Selectable Audio Groups 1&2 or 3&4
- Selectable Channel Assignments
- Auto ID 16-Channels of Embedded Audio
- Cable Length (Patented)
- 100 User Presets
- Flash Card for Capture, Logging, Presets & Mirroring
- HD/SD Eye Pattern Auto Measurements (Option 70)
- DC Operation (Option 71)
- Additional HD/SD-SDI Module (Option 72)



### LV 5700 Multi SDI Monitor

The LV 5700 is a Multi SDI Monitor for HD/SD-SDI signals with an XGA TFT color LCD in an adjustable tilt front panel. The monitor tests 20 HD-SDI and SD-SDI formats with total digital processing compliant to SMPTE 259M, SMPTE 292M and SMPTE 296M. Input format, colorimetry and trilevel or black burst external reference inputs are automatically detected.

Extensive monitoring functions include waveform (YCbCr, YRGB, YGBR, RGB or GBR), vector (75% or 100% graticules), picture and surround sound monitoring modes. The first SDI module accepts two SDI inputs switchable from the front panel providing buffered SDI output(s) of the selected feed. Parade, overlay and timing modes facilitate characterization of component waveform levels and timing. Freeze mode allows comparisons of different SDI input signals. Multi-display operating modes include a thumbnail picture display.

Digital audio from HD/SD groups (1 & 2) or (3 & 4) are disembedded and output as four pairs of AES/EBU. Digital audio is also displayed as 3:1, 3:2, or 3:2:2 surround images, multi-lissajous and 8-Ch bargraphs. The peak bargraphs have selectable dynamic ranges as well as average ballistics. Remapping of the channel order allows users to create custom displays.

High resolution decoded pix-monitor outputs may be set to feed monitor requirements as either YPbPr or GBR. Digital line-select, precision digital cursors, menu control of storage of 100 front-panel setups, flash card, USB and Ethernet round out the operating features. The HD/SD status screens list detection of input format, TRS, CRC checks for chroma and luma, video, audio ID, ancillary parity and check sum errors... User adjustable alarm error thresholds are provided for digital component level ranges. Options include: HD/SD eye pattern analysis with automatic Jitter measurements (Op. 70), DC operation (Op. 71), and an additional HD/SD SDI input module (Op. 72).

## Specifications

### Video Formats

|                               |  |
|-------------------------------|--|
| HD-SDI                        |  |
| Video Systems                 |  |
| 1                             | 1920 x 1035 /60i   |
| 2                             | 1920 x 1035/59.94i   |
| 3                             | 1920 x 1080/60i  |
| 4                             | 1920 x 1080/59.94i   |
| 5                             | 1920 x 1080/50i  |
| 6                             | 1920 x 1080/30p  |
| 7                             | 1920 x 1080/29.97p   |
| 8                             | 1920 x 1080/25p  |
| 9                             | 1920 x 1080/24p  |
| 10                            | 1920 x 1080/23.98p   |
| 11                            | 1920 x 1080/24sF   |
| 12                            | 1920 x 1080/23.98sF  |
| 13                            | 1280 x 720/60p   |
| 14                            | 1280 x 720/59.94p  |
| 15                            | 1280 x 720/50p   |
| 16                            | 1280 x 720/30p   |
| 17                            | 1280 x 720/29.97p  |
| 18                            | 1280 x 720/25p   |
| 19                            | 1280 x 720/24p   |
| 20                            | 1280 x 720/23.98p  |
| Standards Supported           |  |
| HD-SDI                        | SMPTE 292M   |
| Ancillary Data                | SMPTE 291M   |
| Embedded Audio                | SMPTE 299M   |
| SD-SDI                        |  |
| Video Systems                 |  |
| 1                             | 525 /59.94i  |
| 2                             | 625/50i  |
| Standards Supported           |  |
| SD-SDI                        | SMPTE 259M   |
| Ancillary Data                | SMPTE 291M   |
| Embedded Audio                | SMPTE 272M   |
| Format Setting                |  |
| Video System                  | Select manual or automatic setting   |
| Sampling Frequency            | HD: Auto switching between 74.25 MHz and 74.25/1.001 MHz<br>SD: 13.5 MHz                                   |
| <b>Input/Output Connector</b> |  |
| HD-SDI Input                  |  |
| Input Connector               | BNC connector 2 systems A and B, 75 Ω  |
| External Reference Input      |  |
| Input Signal                  | Tri-level sync or NTSC/PAL black burst   |
| Input Connector               | BNC passive loop-through 1 system 2 connectors   |
| XGA Output                    |  |
| Output Signal                 | XGA signal   |
| Output Connector              | D-sub 15 pin female  |
| HD-SDI Output                 |  |
| Output Connector              | BNC 1 connector<br>Outputs the selected signal, 75 Ω   |
| Analog Output                 |  |
| Output Signal                 | YPbPr or GBR   |
| Output Connector              | BNC 1 system 3 connectors  |
| AES/EBU Output                |  |
| Output Signal                 | CH1/2, CH3/4, CH5/6, CH7/8<br>Disembedded audio and output<br>Select 2 groups (8 ch) from 4 groups (16 ch) |
| Output Connector              | BNC, 4 connectors, 75 Ω  |
| Remote Connector              |  |
| Function                      | Recalling of presets   |
| Control Signal                | TTL level (LOW active)   |
| Control Connector             | D-sub 25 pin female 1 connector  |
| Ethernet Connector            |  |
| Function                      | 100Base-T remote control from an external computer and monitoring of errors, etc.                          |

### Display Format

|                               |  |
|-------------------------------|--|
| Display Format                | XGA effective area 1024 x 768 dots   |
| Dot Clock                     | 65 MHz or 64.935 MHz*  |
| Horizontal Frequency          | 48.363 kHz or 48.315 kHz*  |
| Vertical Frequency            | 60 Hz or 59.94 Hz  |
|                               | * Automatically switches according to the input signal                                   |
| Multi Display                 | Waveform, vector, picture, audio and status displays on screen in different combinations |
| Waveform                      | Displays full screen video signal wave forms   |
| Vector                        | Displays full screen vector waveforms  |
| Picture                       | Displays full screen color pictures  |
| Audio                         | Displays full screen embedded audio input  |
| <b>Waveform Display</b>       |  |
| Waveform Operation            |  |
| EAV-SAV                       | Select show or hide  |
| GBR Conversion                | Select YPbPr or GBR conversion display   |
| Channel Assignment            | Select GBR or RGB display order during GBR conversion                                    |
| <b>Vertical Axis</b>          |  |
| Filter                        | Flat, Low-pass   |
| Sweep Magnification           | Select x1 or x5  |
| <b>Horizontal Axis</b>        |  |
| Operation Mode                |  |
| Overlay                       | Displays multiple waveforms overlaid   |
| Parade                        | Displays waveforms side by side  |
| Timing                        | Measures time and amplitude differences between channels                                 |
|                               | Uses bowtie signal (Authorized by Tektronix, Inc.)                                       |
| Display Format                |  |
| Line Display                  | 1H, 2H   |
| Line Magnification            | 1H MAG, 2H MAG   |
| Field Display                 | 1V, 2V   |
| H Blanking Display            | Displays the H blanking period   |
| V Blanking Display            | Displays the V blanking period   |
| Scale Display                 |  |
| Voltage Scales                | 0 V to 0.8 V or -0.4 V to 0.8 V  |
| %Scales                       | 0% to 110% or -50% to 120%   |
| <b>Vector Display</b>         |  |
| Sweep Magnification           | Select from x2,x5 and P-MAG.   |
| Scale                         | Switches between 75% and 100% colorbar targets   |
|                               | Show/hide is toggled on/off  |
| I, Q Axes                     |  |
| <b>Picture Display</b>        |  |
| HD Display                    | Reduced display  |
| SD Display                    | Magnified display  |
| <b>Embedded Audio Display</b> |  |
| Lissajous Display             |  |
| Display Channel               | Select from 2 ch or 8 ch displays  |
| Display Method                | Select X-Y or L-R  |
| Sound Image Display           |  |
| Display Formats               | Select 3-1, 3-2 and 3-2-2 ch formats   |
| Audio Level Meter Display     |  |
| Display Channel               | Simultaneous 8 ch display  |
| Display Method                | Peak or average meter ballistics   |
| Dynamic Range                 | 60 or 90 dB peak, + 3 to -20 dB average  |
| Channel                       |  |
| Ch Mapping                    | Can be arbitrarily mapped from 1 ch to 8 ch  |
| User Bit Display              |  |
| Data Dump Display             | Displays 192 bits sequentially   |
| Analysis Display              | Analyzes and displays the user bit status  |
| <b>Data Dump Display</b>      |  |
| Display Format                | Displayed separately as serial or component data   |

## Digital Signal Analysis

|                         |   |
|-------------------------|---|
| CRC Error               | Detects video signal errors   |
| BCH Error               | Detects embedded audio errors   |
| Checksum Error          | Detects ANC data errors   |
| Parity Error            | Detects ANC data errors   |
| TRS Error               | Detect TRS errors   |
| EDH Error               | Detects EDH errors  |
| Line Number             | Detects line number errors  |
| Gamut Error             | Detects level over range of GBR video signals   |
| Level Error             | Detects video level and reserved data errors  |
| Audio Sequency          | Detects continuity errors of embedded audio   |
| Input Format            | Detects input SDI video signal format   |
| Audio Identification    | Detects the presence or absence of embedded audio on each channel<br>Detects the sampling frequency for each group                    |
| Ext. Sync Lock          | Displays voice control packets<br>Detects synchronization relationship between the external synchronization signal and the SDI signal |
| Equivalent Cable Length | Measures the SDI signal level. Displays the cable length relative to 800 mV p-p signal source level                                   |
| Signal Detection        | Detects the presence or absence of SDI signals  |

## Line Selector

|                         |  |
|-------------------------|--|
| Operation Mode          | Interlocked between waveform, vector and picture display |
| Preset                  |  |
| Number of Presets/Items | 100 points/all settings                                  |
| Recall                  | Through the front panel and the remote connector.        |

## Cursor Measurement

|                       |  |
|-----------------------|--|
| Configuration         | Horizontal cursor: 2 lines (REF, Δ)<br>Vertical cursor: 2 lines (REF, Δ)   |
| Amplitude Measurement | Measured in % and V  |
| Time Measurement      | Displayed in ms and us   |
| Frequency Measurement | Displays frequency where the time between cursors is considered one cycle. |

## Operational Conditions

|                          |   |
|--------------------------|---|
| Operating Temperature    | 0 to +40° C   |
| Operating Humidity       | 10 to 80 % RH (without condensation)                  |
| Spec Guaranteed Temp.    | +10 to +30° C   |
| Spec Guaranteed Humidity | 10 to 80 % RH (without condensation)                  |
| Power Requirements       | 90 to 250 VAC (48 Hz to 440 Hz) or<br>12 VDC optional |
| Dimensions (W x H x D)   | 215 x 133 x 448 mm<br>8 ¾ x 5 ¼ x 17 5/8 in.          |

## Available Options

- HD/SD Eye Pattern Auto Measurements (Option 70)
- DC Operation (Option 71)
- Additional HD/SD-SDI Module (Option 72)

For more information, call Toll Free  
1 (800) 645-5104  
or visit our website at:  
<http://www.LeaderUSA.com>

**Leader Instruments Corporation**  
6484 Commerce Drive, Cypress, California 90630  
Tel: 1 (714) 527-9300 Fax: 1 (714) 527-7490