LASSEN 1616HDEE 16x16

HD-SDI AND SDI VIDEO WITH 2 CHANNELS OF AES AUDIO.

DESCRIPTION

The Lassen 16 series are high performance routing switchers for SDI (SMPTE 259) and HD-SDI (SMPTE 292) video signals. These units come in a compact 2U (3.5”) frame and can be ordered with or without analog or digital audio. They can route any or all inputs to any or all outputs. HD-SDI models can input SDI and HD-SDI simultaneously, but there is no conversion between formats.

LASSEN XL ANALOG (COMPOSITE) VIDEO FEATURES -

- **High Bandwidth** - 300MHz (- 3dB) fully loaded.
- **Very Low Crosstalk** - 80dB @ 1MHz, - 47dB @100MHz.
- **Qwik Adjust Knob™ Rotary Control interface**This user intuitive knob along with the 80 character LCD display provides quick and convenient setup, adjustment and signal switching.
- **Video Mute Capability** -
- **Genlock Input** - Looping internal sync input for vertical interval switching.
- **Output Disconnect Feature** -

LASSEN SDI VIDEO FEATURES -

- **Maximum Data Rates** - 360Mbits/sec.
- **Standards** - SMPTE 310, SMPTE 259, DVB-ASI.
- **Jitter** - < 0.2UI.

LASSEN HD VIDEO FEATURES -

- **Backwards compatible with SDI Signals** -
- **Maximum Data Rates** - 1.485Gbits/sec.
- **Standards** - SMPTE 310, SMPTE 259, SMPTE 292, DVB-ASI.
- **Jitter** - < 0.2UI.

ANALOG AUDIO FEATURES. -

- **Audio Type** - Balanced or un-balanced on terminal blocks.
- **Input (Level) Adjustment Capability (-10dB to +15dB)** - Each input via RS-232, front panel, and G.R.I.P software.
- **Output (Volume) Adjustment Capability (Mute, -59.5dB to +15dB)** - Each input via RS-232, front panel, and G.R.I.P software.
- **No Zipper Effect** - Lassen routing switchers employ zero crossover chip technology which eliminates the annoying “zipper sound effect” associated with digital volume controls.
- **Audio Mute Capability.** -
- **Crosstalk** - 80dB @ 1kHz & 70dB @ 20kHz.
- **S/N (20 - 20kHz)** - 90dB.

DIGITAL AUDIO FEATURES -

- **Standards** - Balanced AES/EBU.
- **Jitter** - +/- 20ns.

OTHER FEATURES -

- **Firmware Updates** - Downloadable.
- **Control** - Local front panel control with 80 character LCD readout.
  RS-232/422 plus RS-485 for optional control panels.
  IP (Ethernet) control.
  G.R.I.P: Windows® - based routing switcher setup/diagnostic software.
- **Redundant Power Supplies** - Optional on 32x16 & 32x32 models.
- **Approvals** - UL & CE.
- **Control Panels (Optional)** - Programmable, Single Bus and XY.

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SPECIFICATIONS

ANALOG VIDEO	
INPUT IMPEDANCE	75Ω nominal
INPUT CONNECTOR TYPE	BNC
VIDEO INPUT LEVEL	300mV to 2.5V P-P
VIDEO BANDWIDTH	300MHz (- 3dB)
CROSSTALK	80dB @ 1MHz - 47dB @ 100MHz
1 INPUT TO MANY OUTPUTS	All electrical specifications remain the same
VIDEO GAIN	Unity (adjustable per channel +/- 1.5dB)
ANALOG AUDIO	
MAX. INPUT AMPLITUDE	+ 24dBu
INPUT IMPEDANCE	> 20kΩ
OUTPUT IMPEDANCE	< 50Ω
VOLTAGE GAIN (ADJUSTMENT RANGE IF ANY)	Unity +/- 0.75dB max (+ - 0.25 typical) Input adjust range: -8dB to + 20dB Output adjustment range: + 15dB to fully off (Mute)
FREQUENCY RESPONSE	20Hz to 20kHz +/- 0.5dB(typical - 3dB @ 120kHz) (unity gain)
S/N RATIO (20 TO 20KHZ)	96dB (20-20kHz unweighted - unity gain)
CROSSTALK (ALL INPUTS HOSTILE)	< - 80dB @ 1kHz (unity gain) < - 60dB @ 10kHz (unity gain)
IM & THD (20 TO 20KHZ)	THD: < 0.025% (20Hz - 20kHz @ + 4dBu) (unity gain) IM: < 0.025 SMPTE-DIN @ + 4dBu (unity gain) < 0.01% CCIF @ + 16dBu (unity gain)
MAX OUTPUT AMPLITUDE	+ 24dBu balanced + 18dBu unbalanced
AUDIO CONNECTORS	5 pin per stereo input or output Every IO can be connected to be either balanced or unbalanced
SDI VIDEO	
DATA RATES	up to 360 Mbps/sec
DATA TYPES	SMTE 310, SMPTE 259, DVB-ASI
INPUT CABLE EQUALIZATION RANGE	0 - 200 meters
INPUT RETURN LOSS	> 15dB
OUTPUT LEVEL	750 - 850mVp-p
OUTPUT JITTER	< 0.2 UI
OUTPUT RETURN LOSS	> 15dB
SIGNAL CONNECTORS	BNC
DIGITAL AUDIO	
DATA RATES	AES3: Balanced; AES3ID: Unbalanced
CONNECTOR	AES3: XLR/phoenix ; AES3ID: BNC
INPUT/OUTPUT IMPEDANCE	AES3: 110Ω; AES3ID: 75Ω
OUTPUT LEVEL	AES3: 2-7Vp-p; AES3ID: 10Vp-p
CABLE	AES3: STP; AES3ID: Coax
MAX. DISTANCE	AES3: 100m; AES3ID: 1000m
MIN. INPUT	AES3: 2Vp-p; AES3ID: 32Vp-p
EQUALIZATION	AES3: Optional; AES3ID: Optional
JITTER	AES3: +/- 20ns; AES3ID: +/- 20ns
BANDWIDTH	AES3: 1MHz - 6MHz; AES3ID: 1MHz - 6MHz
HD-SDI VIDEO	
DATA RATES	up to 1.485 Gbits/sec
DATA TYPES	SMTE 310, SMPTE 259, SMPTE 292, DVB-ASI
INPUT CABLE EQUALIZATION RANGE	0 - 100 meters for SMPTE 292 0 - 200 meters for all other stds.
INPUT RETURN LOSS	> 15dB up to 1.5GHz
OUTPUT LEVEL	750 - 850mVp-p
OUTPUT JITTER	< 0.2 UI
OUTPUT RETURN LOSS	> 15dBup to 1.5GHz
SIGNAL CONNECTORS	BNC