

# DATA SHEET

## TESIRALUX™ IDH-1

### AVB VIDEO ENCODER



The TesiraLUX IDH-1 is an AVB/TSN enabled video encoder capable of transmitting video signals up to and including 4K60. The IDH-1 functions as a server-class device in a Tesira media system and is configured through the Tesira software. Acting as an AVB talker, the IDH-1 fully integrates digital audio and video on a single network, allowing for automatic lip sync management and end-to-end network transit latencies of 1.5 frames or less. Integrated design, configuration, and control is facilitated via a single software platform, reducing the design time needed to deploy media systems. Multiple software-based options are available for managing bandwidth, including setting maximum resolution, minimum frame rate, and/or a rate of compression. The AVB/TSN streams can be over 1Gb or 10Gb ports while control signals are managed via a separate 1Gb Ethernet port. The IDH-1 accepts 8 channels of PCM audio for embedding/de-embedding, and includes 2 mic/line level analog inputs. The TesiraLUX IDH-1 is well suited for legal proceedings, lecture halls, multi-use spaces, and other applications where low latency, synchronized media distribution is needed.

## FEATURES

- Includes one HDMI® port and one DisplayPort™ 1.2 port
- Accepts video signals up to and including 4K60 with 4:4:4 subsampling
- Supports a virtual matrix of up to 128 devices
- Flexible color space including Rec. 2020
- Automatic lip sync management
- Supports 8 channel PCM audio for embedding/de-embedding
- Automated EDID management between TesiraLUX and the input source
- Flexible bandwidth management options
- 2 mic/line level analog audio inputs
- 4 logic connections can be used as inputs or outputs
- Serial port for the output of command strings
- Half-rack chassis
- Optional mounting accessories available
- Covered by Biamp Systems' 5-year warranty

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## ARCHITECTS & ENGINEERS SPECIFICATION

The video encoder shall be designed exclusively for use with Tesira® systems. The video encoder shall utilize an AVB/TSN network for all media networking as well as software configuration and control. The video encoder shall provide one High-Definition Multimedia Interface (HDMI®) port and one DisplayPort™ 1.2 port. The video encoder shall accept video signals up to and including 4K60. End-to-end network transit latency shall be 1.5 frames (25ms at 60fps) or less. Compression shall be visually lossless using M-JPEG. The video encoder shall be equipped with one RJ-45 port to support AVB/TSN transmission at 1Gb, and one SFP+ port to transmit at 1Gb or 10Gb. The video encoder shall be equipped with a separate RJ-45 Ethernet port for control connection to third party control systems and configuration. The video encoder shall provide two balanced input connections for receiving microphone or line level analog audio signals on screw-down, removable connectors. Analog-to-Digital conversion shall be 24-bit with a sampling rate of 48kHz. The video encoder shall provide front panel OLED display of device power, status, alarm, and activity as well as system-wide alarm. The video encoder shall be built in a half-rack chassis and feature software-configurable signal processing, including but not limited to: signal routing and mixing, levels, mute, delay, and audio embedding/de-embedding, as well as control, monitoring, and diagnostic tools. The video encoder shall include 4 channels of General Purpose Input and Output connection (GPIO) for sending or receiving logic signals. The programming of the GPIO ports shall be software configurable. The video encoder shall include a RS-232 connection for control data transmission into or out of the server and such operation shall be software programmable. The video encoder shall be CE marked, UL listed, and shall be compliant with the RoHS directive. Warranty shall be 5 years. The video encoder shall be TesiraLUX IDH-1.

## TESIRALUX IDH-1 SPECIFICATIONS

<b>Control Connection:</b>	RJ-45 with Ethernet cable (Cat 5e and above)	<b>Analog Audio Inputs:</b>	
<b>Media Connections:</b>		<b>Frequency Response (20Hz-20kHz @ +4dBu):</b>	+0/-0.25dB
<b>1Gb:</b>	RJ-45 twisted-pair Ethernet (Cat 5e and above)	<b>THD+N (20Hz-20kHz):</b>	
<b>10Gb:</b>	10G fiber SFP+	<b>@ 0dB Gain, +4dBu In:</b>	< 0.006%
<b>Video Inputs:</b>		<b>@ 54dB Gain, -50dBu In:</b>	< 0.040%
<b>Supported Resolutions:</b>	Up to 4K60	<b>EIN (20Hz-20kHz, 66dB Gain, 150Ω):</b>	< -125dBu
<b>Physical Interfaces:</b>	HDMI, DisplayPort	<b>Dynamic Range (20Hz-20kHz, 0dB):</b>	> 108dB
<b>Colorspace:</b>	Up to Rec. 2020	<b>Input Impedance (balanced):</b>	8kΩ
<b>Color Formats:</b>	YUV, RGB	<b>Maximum Input:</b>	+24dBu
<b>Chroma Subsampling:</b>	4:4:4, 4:2:2, 4:2:0	<b>Input Gain Range (6dB Steps):</b>	0 - 66dB
<b>Color Depth:</b>	8-bit, 10-bit, 12-bit, 16-bit	<b>Crosstalk, channel to channel, 1kHz:</b>	
<b>Network Transit Latency:</b>	1.5 frames (25ms @ 60fps)	<b>0dB gain, +4dBu input:</b>	< -85 dB
<b>HDMI Audio Formats:</b>	8ch PCM	<b>54dB gain, -50dBu input:</b>	< -75 dB
<b>Logic I/O:</b>		<b>Sampling Rate:</b>	48 kHz
<b>Logic Input Trigger:</b>	Contact Closure or 5V TTL	<b>A/D Converters:</b>	24-bit
<b>LED Driver:</b>	5V/10mA per output	<b>Phantom Power:</b>	+48 VDC (7mA/input)
<b>Logic Output Type:</b>	Open Collector; Sink 40V/300mA per output	<b>Current Draw (100-240VAC 50/60Hz):</b>	0.5-0.21A
<b>RS-232:</b>	115200/8-N-1	<b>Environmental:</b>	
<b>Overall Dimensions:</b>		<b>Ambient Operating</b>	
<b>Height:</b>	1.75 inches (44 mm)	<b>Temperature Range:</b>	32 - 104° F (0 - 40° C)
<b>Width:</b>	8.5 inches (216 mm)	<b>Humidity:</b>	0-95% relative humidity (non-condensing)
<b>Depth:</b>	10.4 inches (264 mm)	<b>Altitude:</b>	0-6,600 ft (0-2000m) MSL
<b>Weight:</b>	4 lbs (1.8 kg)	<b>Compliance:</b>	
			FCC Part 15B (USA)
			UL and C-UL (USA and Canada)
			CE Marked (Europe)
			RoHS Directive (Europe)

## TESIRALUX IDH-1 BACK PANEL

