Linear Acoustic® LA-5300

The Complete Audio Processor for ATSC 3.0

OVERVIEW

The Linear Acoustic LA-5300 provides everything broadcasters need to be ready for ATSC 3.0 audio in a single, compact, integrated package, including loudness control, upmixing, encoding, transcoding, audience measurement watermarking, switching and monitoring for up to 4 simultaneous real-time program streams.

FEATURES

- Dolby® Real-Time Loudness Leveler when encoding AC-4
- Linear Acoustic UPMAX® ISC stereo to 5.1-channel upmixing
- Dolby AC-4 stereo and 5.1-channel encoding
- AC-4 decoding for watermarking and bitstream analysis and monitoring
- Transcoding from Dolby Digital and Dolby Digital Plus to AC-4
- Dual 3Gb/s HD/SD-SDI, 4 pairs of AES-3 I/O, and AES67 I/O to support SMPTE ST 2110-30 and -31 workflows
- Optional Quad-link 3Gb/s SDI I/O for supporting 4K workflows or MADI I/O (mutually exclusive)
- Dual 1000BaseT Ethernet connections (AES67 and control)
- SNMP alarm and status reporting
- Web-based user interface provides comprehensive setup, configuration, routing, control, and metering

IN DEPTH

A Complete ATSC 3.0 Audio Solution

The roll-out of ATSC 3.0 brings with it a unique set of requirements, challenges, and opportunities for television broadcasters. The Linear Acoustic LA-5300 provides a single solution for loudness control, upmixing, decoding AC-4 for audience measurement watermark insertion, bitstream analysis, and monitoring, transcoding Dolby Digital or Dolby Digital Plus to AC-4, and Dolby AC-4 encoding. The ability to handle up to four programs means a single LA-5300 can provide unique encoded streams for 5.1-channel main program audio, SAP, and video descriptive services – all in a single 1RU solution.

I/O for Any Facility

The LA-5300 comes standard with 4 pairs of AES-3 I/O, dual 3G SDI I/O, and AES67 I/O to support SMPTE ST 2110-30 and -31 workflows. Options include Quad-link 3G SDI for facilities utilizing 4K workflows or MADI I/O. Two Gigabit Ethernet ports are provided, one for AES67, and one for remote control via the web-based GUI.

Ready for Today, Ready for Tomorrow

The LA-5300 meets the immediate requirements for ATSC 3.0 audio right out of the box, with channel-based AC-4 encoding, loudness control, and upmixing for multiple programs. As ATSC 3.0 adoption grows, support for its additional features and benefits such as immersive and object-based audio, interactive consumer control, personalized audio, and multiple presentations within a single stream will be incorporated into the LA-5300 via software updates.

SPECIFICATIONS

Processing

- Processing for up to four independent program streams
- Dolby Real-Time Loudness Leveler (RTLL) when encoding AC-4
- Linear Acoustic UPMAX ISC stereo to 5.1-channel upmixing
- Optional Nielsen and Verance audience measurement watermarking

Decoding

- Decodes Dolby AC-4 at the input for watermarking and monitoring, with pass through ability

Transcoding

- Transcodes Dolby Digital and Dolby Digital Plus to Dolby AC-4

Encoding

- Encodes to Dolby AC-4

Watermarking

- Optional Nielsen and Verance audience measurement watermarking

Bitstream Analysis and Monitoring

- AC-4 decoding for simultaneous bitstream analysis of all streams plus confidence monitoring output for one stream at a time

HD/SD-SDI I/O

- Two independent auto-sensing 3Gb/s HD/SD-SDI inputs (SMPTE ST 425-1, 292M, and 259M), up to 1080i/60/59.94/50Hz, each with de-embedding/re-embedding for up to 8 audio pairs
- Optional quad-link 3Gb/s SDI for 4k workflows (mutually exclusive option with MADI option)

AES-3 I/O

- 4 inputs/outputs via 75 Ohm BNC unbalanced female connectors, internally terminated; signal levels per SMPTE 276M/AES-3ID-2001, plus dedicated encoder output connection

AES67 I/O

- 32 channels of bi-directional AES67 I/O in support of SMPTE ST 2110-30 and -31 workflows

MADI I/O

- Optional 64 channels of MADI I/O; I/O connection, coax, or optical via SFP socket per AES-10id-2005 (r2017) (mutually exclusive with quad-link SDI option)

Reference

- 48kHz reference via SDI, PTP, AES-3, or internal clock (standalone use only)

Sample Rate/Resolution/Frequency Response

- 48kHz, 24-bit, 20Hz – 20kHz

Ethernet

- Two Gigabit RJ-45 connections – one for AES67, one for networked remote control

Parallel GPI/O Control Port

- 15-pin female D connector, 0-5V TTL levels, 5 GPI/O inputs, 5 GPI/O outputs for preset recalls

Power

- Dual internal redundant auto-ranging power supplies
- 95-240 VAC, 50/60 Hz, 100W maximum total

Dimensions and Weight

- 19" W x 15.5" D x 1.75" H (approximately 48.2 x 39.4 x4.5 cm)
- Net weight: Approximately 9.0 lbs (4.08 kg)
- Shipping weight: Approximately 12.0 lbs (5.44 kg)

Regulatory

- North America – FCC and CE tested and compliant with UL-approved power supplies
- Europe – Complies with European Union Directive 2002/95/EC on the restriction of use of certain hazardous substances in electrical and electronic equipment (RoHS), as amended by Commission Decisions 2005/618/EC, 2005/717/EC, 2005/747/EC (RoHS directive), and WEEE

Warranty

- Standard Telos Alliance 2-year limited parts and labor

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