



*StreamStacker-HD*TM High Density Audio Distribution System Model LA-5173 e² Encoder and Model LA-5174 e² Decoder

Carrying multiple programs with surround sound, audio metadata, and associated auxiliary data finally has a simple answer- the Linear Acoustic *StreamStacker-HD*TM system. Using advanced multiplexing and coding technologies, up to sixteen channels of PCM and emission rate audio can be combined with audio metadata and carried together in a single easy to manage AES pair or over standard TCP/IP connections.

Unlike other systems, the *StreamStacker-HD* bitstream called e² (e-squared) can be switched on AES frame boundaries allowing video frame or field edits, is exceptionally resilient to errors, and keeps audio and video tightly synchronized via built-in compensating video delays included as part of the HD-SDI option.

Up to 16 channels of PCM audio (48-96kHz, 16-24 bits) can be input to the encoder as eight AES pairs, optionally through HD-SDI to create a 20-bit, 48kHz e² output bitstream. Soft bypass inputs are provided on the decoder to allow formats such as Dolby E to be externally decoded and passed through to ensure that legacy and new e² content can coexist.

Metadata functionality includes internal generation and re-generation of both legacy and Advanced Audio Metadata. Audio metadata can be provided via the legacy 9-pin RS-485 format or from within the VANC space of the HD-SDI input.

The flexible e² format also optionally supports the inclusion of asynchronous data such as emission rate audio or other codecs, contact us for details.

User defined data, such as PSIP or Closed Captioning data can be optionally input via the 100 BASE-T Ethernet connection along with or instead of audio data. Control is provided by parallel GPI/O and Ethernet connectivity.

The Model LA-5174 Decoder follows the e² input stream and de-multiplexes signals to their appropriate outputs. PCM channels are clocked to an applied local AES or HD-SDI reference and output as AES-3 signals and optionally re-inserted into an applied HD-SDI signal.

Metadata output is available on a standard 9-pin connector for interfacing to products supporting audio metadata via serial input, and can also be embedded into the VANC space of an HD-SDI signal applied to the unit. Internal metadata generation is provided for cases where incoming metadata might be absent or incorrect. Metadata frame synchronization is included in both the LA-5173 encoder and LA-5174 decoder to guarantee reliable metadata regardless of channel error conditions.

A software decoder is available for licensing into third party equipment and applications running in real time or non-realtime. Contact the factory for details and an SDK for development.

A bright LED display, rotary encoder, and four control keys provide for straightforward menu navigation and function adjustment on both the LA-5173 e² Encoder and the LA-5174 e² Decoder. Dual, redundant, auto-ranging power supplies allow for trouble-free operation world-wide.

StreamStacker-HD™ System Specifications:

Program Configurations

5.1+2+5.1+2; 5.1+2+2; 5.1+2; 5.1

Audio Coding

DTS Coherent Acoustics (CA) standard; others optional

Sample Rate/Resolution

PCM: 48kHz/96kHz at up to 24-bit resolution accepted by encoder, 48kHz/96kHz output from decoder as determined by reference input.

Output Data Rates

1.536 Mbps (48kHz/16-bit AES pair) or
1.92 Mbps (i.e. 48kHz/20-bit AES pair)

Digital Audio Inputs and Outputs

Main In: BNC Female, 75Ω, unbalanced, inputs internally terminated. Signal levels per SMPTE 276/AES-3ID-2001

HD/SD-SDI Input/Output (OPTION)

BNC Female, 75Ω, per SMPTE 292M/259M

Metadata Input/Output

9-pin female D connector, 115 kbps, pinout per SMPTE 207M (RS-485);
Interfaces with Dolby Audio Metadata protocol.

Parallel Control Port

9-pin female D connector, 0-5V TTL levels

Ethernet

100-BASE-T for aux data and control; protocol details available on request

Front Panel Controls and Indicators

Rotary encoder and control keys plus bright dot matrix LED display

Power Requirements

90-264 VAC, auto-sensing, 35W maximum

Dimensions and Weight

One rack unit- 1.75"H x 19"W x 24"D (44 x 483 x 610 mm)

Net weight: 6 lbs (2.72 kg), approximate.

Shipping weight: 8 lbs (3.62 kg), approximate.

Environmental

Convection cooled. Operating: 0 to 50 degrees C, non-operating -20 to 70 degrees C.

Regulatory

North America: Designed to comply with the limits for a class A digital device pursuant to Part 15 of the FCC rules (CFR). Designed for U.S. and Canadian listing with UL.
Europe: Designed to comply with the requirements of Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC. Designed to be a RoHS and WEEE compliant product.

Warranty

Two-years limited parts and labor

