



UPMAX:neo™ 5.1 Channel Surroundfield Synthesizer

With Optional Analog Outputs, Remote Volume and HD/SD-SDI I/O

Model LA-5190

Creating consistent, high quality continuous 5.1 channel audio is challenging. The Linear Acoustic UPMAX:neo 5.1 Channel Surroundfield Synthesizer has been designed to ease the production of 5.1 channel audio programs by creating an infinitely adjustable multichannel signal that is completely downmix compatible.

The Linear Acoustic UPMAX:neo also provides the most effective and compatible solution for integrating legacy two-channel material into today's 5.1-channel programs. Listeners are aware of programming changes, especially when the image shifts due to cases where stereo programs can only be reproduced from the Left and Right channels of a 5.1 channel program. This is commonly found in situations where metadata is not available to switch the Dolby® Digital (AC-3) encoder.

The Linear Acoustic UPMAX:neo uses proprietary processing to create downmix compatible Left, Right, Center, Surround, and LFE channels from the two-channel main input. This "surround-field" can then be infinitely adjusted via the Center channel Width control and the Surround channel Depth control. This allows programming ranging from simple stereo to LtRt to be appropriately reproduced from a 5.1 channel playback system.

The unit accepts three AES pairs of audio and will upmix the first pair, and allow all three pairs to pass via a crossfade when upmixing is disabled allowing the unit to remain in a 5.1 channel path. Upmixing and bypass can be controlled by GPI contact closure and applied metadata.

In addition to the industry standard UPMAX algorithm, the UPMAX:neo also includes a Linear Acoustic-tuned version of the DTS® neo:6 algorithm. This provides the user with additional

tools that might be better suited to certain content. The neo:6 algorithm produces a very discrete and very stable version of two channel inputs. The bass enhancement signal for the LFE channel is derived from the Left, Center, and Right channels. This allows quick creation of a subwoofer channel without removing anything from the main channels that would compromise a downmixed version of the program.

The UPMAX:neo also includes a selectable utility LoRo or LtRt encoder which accepts 5.1 channels and produces a two channel downmix. This encoder can be independent or it can be fed by the same channels applied to the upmixer.

The unit can be controlled via contact closures applied to the GPIO port or via applied audio metadata. The metadata generation option adds Dolby-standard metadata creation to the unit allowing 5.1 audio and accompanying metadata to be easily created.

The Analog Output option provides eight channels of balanced audio capable of output up to +24dBu. This option includes volume and mute functions that can be adjusted from the front panel or via the remote control port which adds a return-to-reference function and outputs to drive LEDs.

A bright LED display, rotary encoder, and four control keys provide for straightforward menu navigation and function adjustment on the unit. The unit features an auto-ranging medical-grade power supply and hard relay bypass of audio and metadata signals for trouble-free operation in transmission critical environments.

HD/SD-SDI audio and VANC metadata de-embedding and re-embedding is optionally available. This option allows audio and/or metadata to be de-embedded, processed and then re-embedded and can be used for channel shuffling.

UPMAX:neo Specifications:

AES Inputs and Outputs

Four 75-Ohm BNC female inputs with 75-Ohm internal termination; Four 75-Ohm BNC female outputs; signal levels per SMPTE 276M/AES-31D-2001

Processing Algorithms

Proprietary Linear Acoustic UPMAX plus a Linear Acoustic-tuned version of DTS neo:6; LoRo and LtRt encoder (downmixer) is Dolby Pro Logic and PLII and DTS neo:6 compatible.

Processing Delay

UPMAX Algorithm: 6 msec fixed, all modes
 neo:6 Algorithm (any settings): 26 msec fixed, all modes
 LoRo Output: 5 msec
 LtRt Output: 11 msec

Serial/Metadata Input (Metadata Output is OPTIONAL)

9-pin female D connector, 115 kbps, pinout per SMPTE 207M (RS-485); protocol is Dolby compliant

HD-SDI (SMPTE 292-M) - OPTION

De-embedding, processing, and re-embedding of audio from applied HD-SDI signal. 75-Ohm BNC female connectors, per SMPTE 292M, compatible with 1080i and 720p formats.

GPIO Control Port

9-pin female D connector, 0-5V TTL levels, used to control upmix on/off

Ethernet

100-BASE-T for unit updates, future remote

Power Requirements

100-264 VAC, auto-sensing, 35 W 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 (3.63 kg), approximate.

Environmental

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

Regulatory

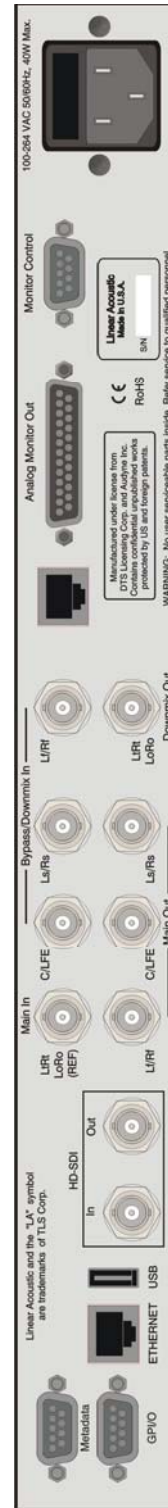
North America: Designed to comply with the limits for a class A digital device pursuant to Part 15 of the FCC rules (CFR). Designed for U.S. and Canadian listing with UL.
 Europe: Designed to comply with the requirements of Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC. Designed to be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

Warranty

Standard Linear Acoustic two-year limited parts and labor warranty.

OPTIONS:

- Option - 01 - DAC Eight channel 24-bit digital to analog conversion, 0dBFS = +4dBu, plus remote volume, mute, and return-to-reference control I/O
- Option - 03 - HD/SD-SDI audio and metadata de-embedding and re-embedding
- Option - 04 - Remote volume control pod



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