AERO.2400

Trusted Linear Acoustic® television processing, upmixing, and available Dolby® Digital Plus / Dolby Digital coding with the convenience of front-panel controls and a full-color display.

Linear Acoustic® AERO.2400

DTV Audio Processor

Front Panel Controls and Full-Color Display

Overview

High quality, compliant audio with a front panel GUI.

Like AERO.200, AERO.2400 hosts one or two AEROMAX® processing instances in your choice of AMX5.1 (5.1+2+2), AMX2.0 (2+2+2), or AMX 5x2 (2+2+2+2+2) configurations (a minimum of one is required) plus upmixing/downmixing via our UPMAX®-II algorithm - but adds the flexibility and convenience of a full color display, menu navigation controls, and a headphone output to the front panel.

Optional Dolby® Digital Plus transcoding provides for decoding of Dolby Digital/Dolby Digital Plus content to PCM audio for loudness processing and encoding to Dolby Digital/Dolby Digital Plus for transmission.

I/O includes de-embedding and re-embedding of up to 16 pairs of 3G/HD/SD-SDI audio and eight pairs of AES3 audio.

Support for SAP/DVS, EAS, local emergency audio, local voiceover, and optionally, Audio Description (warble tone) functionality is included. CrowdControl™ is standard for increased dialogue intelligibility.

ITU-R BS.1770 and selectable EBU R-128 or ATSC A/85 metering and logging (including True Peak) is provided for all program outputs. NfRemote software is included for remote configuration, control and metering over an Ethernet connection while a built-in HTTP server enables control of I/O, presets, and individual processing parameters using simple IP commands. Compensating video delay and dual redundant internal power supplies are standard.

Available Dolby Digital Plus / Dolby Digital coding and Nielsen® and Verance® Aspect® Watermark Encoding

Features

- Linear Acoustic AEROMAX loudness and dynamics control
- UPMAX- II automatic upmixing and downmixing
- One or two processing instances in AMX5.1 (5.1+2+2), AMX2.0 (2+2+2), or AMX 5x2 (2+2+2+2+2) configuration
- CrowdControl for increased dialog intelligibility
- Support for SAP/DVS
- Optional Dolby® Digital Plus transcoding provides for decoding of Dolby Digital/Dolby Digital Plus content to PCM audio for loudness processing and encoding to Dolby Digital/Dolby Digital Plus for transmission
- Available Nielsen watermark encoding
- Available Verance® Aspect® watermark encoding
- 16 audio pairs via dual 3G/HD/SD-SDI I/O with included compensating video delay
- 8 audio pairs of AES3 I/O with reference input
- Dual auto-ranging power supplies
- Relay bypass of all I/O
- Extensive TCP/IP remote control and HTTP control
- Front panel color display, menu navigation controls, and headphone output
- Logging of loudness and True Peak data

Windows®-Compatible TCP/IP Remote Control Application

In Depth

AERO.2400 offers our industry standard, no-compromise AEROMAX television loudness control and UPMAX-II upmixing/downmixing algorithm in a 2RU package.

The extra 1RU of height compared to AERO.200 makes room for an additional four audio pairs of AES3 I/O. It also allows us to include a full color front panel display, menu navigation controls, and a headphone output to adjust or monitor processing locally, though our NfRemote TCP/IP remote control software can also be used to provide control over all system settings and processing parameters remotely.

AERO.2400 can host two processing instances, both with ITU- and EBU-compliant loudness metering and logging.

It also offers reporting of physical I/O details, power supply status, and environmental health. The remote application can deliver remote audio, up to 5.1 channels, so the user can audition signal quality anywhere link bandwidth permits. An HTTP server is also included for simple get/set control of all parameters and retrieval of status and logging information.

Constantly active logging captures 24-hour, 48-hour, and 7.5 day rolling weekly reports as well as specific time slots controlled by start/stop. Loudness measurements with multiple integration times as well as True Peak measurements are captured and available for download.

Failover bypass relays on all I/O maintain signal continuity and dual auto-ranging power supplies enable redundancy and worldwide compatibility.

Designed and assembled in the USA, AERO.2400 is a solid investment in performance and flexibility today and in the future.

AES3 and Dual 3G/HD/SD-SDI I/O

Specifications

Processing

- Can host one or two instances of AEROMAX processing in your choice of AMX5.1 (5.1+2+2), AMX2.0 (2+2+2), or AMX 5x2 (2+2+2+2+2) configurations
- Dual UPMAX-II two-channel to 5.1 channel upmixers per instance plus main channel downmixing and automatic bypass of discrete content

Audio Encoding/Decoding

- Optional Dolby® Digital Plus transcoding in stereo and 5.1-channel configurations provides for decoding of Dolby Digital/Dolby Digital Plus content to PCM audio for loudness processing and encoding to Dolby Digital/Dolby Digital Plus for transmission
- Nielsen watermark encoding, including N2, N6, and CBET
- Optional Verance® Aspect® Aspect watermark encoding

Audio Processing Core

- Audio processing core supports workflows containing up to 34 input channels and 34 output channels, including passthrough audio which requires compensating delay.

Sample Rate/Resolution/Frequency Response

- 48kHz, 24-bit, 20Hz to 20kHz below threshold

Reference

- 48kHz via AES DARS (or any AES signal applied to the Ref In connector), AES In 1, SDI, or from the internal 48kHz clock (standalone use only).

AES3 I/O

- Eight main inputs plus reference via 75-Ohm BNC female connectors. Eight main outputs plus encoder output. Eight additional channels of auxiliary digital I/O on DB-25 female connector. All digital inputs are 75 Ohm internally terminated, unbalanced. Signal levels per SMPTE 276M/AES-3ID-2001.

Full-Featured Loudness Logging

HD/SD-SDI I/O

- Dual, auto-sensing, 3G/HD/SD-SDI (SMPTE ST 424/292M/259M) inputs up to 1080p/60/59.94/50Hz supported. De-embed up to 16 audio pairs from applied SDI signals, process and/or encode, re-embed up to 16 audio pairs. Supports SMPTE 2020A and B VANC metadata.

Headphone Output

- 1/4" (6.35mm) front panel connector with volume control.

GPI/O

- Parallel GPI/O Parallel Control Port
- 15-pin female D connector, 0-5V TTL levels for 5 inputs and 5 outputs; controls simple preset recalls, voiceover/EAS insertion, or customized scripts

Ethernet

- Gigabit Ethernet via RJ45 supports included TCP/IP remote control application; HTTP server included for get/set control of all parameters

Remote Control

- Windows®-compatible TCP/IP remote control application for full setup and control is included. ITU-R BS.1770 metering for all programs, encoder statistics, and return audio for remote monitoring (network speed permitting). HTTP server allows get/set control from PC and downloading of loudness logs.

Front Panel Controls

- Rotary encoder and control keys plus color display and headphone output.

Loudness Logging

- Constantly active logging captures 24-hour, 48-hour, and 7.5 day rolling weekly reports as well as specific time slots controlled by start/stop. Loudness measurements with multiple integration times as well as True Peak measurements are captured and available for download.

Dual Redundant Power Supplies

Power Requirements

- Dual redundant power supplies, each rated at 100-264 VAC, auto-sensing, 50/60 Hz,
- 100W each maximum

Dimensions and Weight

- 2RU: 3.50”H x 19”W x 16”D (9 x 48.25 x 40.7 cm)
- Net weight: 13 lbs. (5.9 kg), approximate.

Shipping Dimensions and Weight

- 9”H x 22”W x 20”D x 9”H (23 x 56 x 51 cm)
- Net weight: 17 lbs. (7.7 kg), approximate.

Environmental

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

Regulatory

North America: FCC and CE tested and compliant with UL-approved power supplies.

Europe: Complies with European Union Directive 2011/65/EU + (EU) 2015/863 of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). Compliant with the CE EN 62368-1:2020, EN 55032:2015 and EN 55035:2017 requirements.

Warranty

For the latest Telos Alliance warranty, visit: telosalliance.com/warranty