Linear Acoustic® UPMAX® ISC
Immersive Soundfield Controller

OVERVIEW

UPMAX ISC builds upon the Hollywood-approved and industry-trusted line of upmixing products from Linear Acoustic, and carries it forward to meet the additional demands introduced by the immersive audio capabilities of Next Generation Audio systems.

Employing a completely new upmixing algorithm, UPMAX ISC can upmix 2-channel, 3-channel, 5.1-channel, and 7.1-channel audio to immersive audio formats including 5.1.4 and 7.1.4. Upmixing to legacy formats including 5.1-channel and 7.1-channel audio is also supported, while content presented in native immersive formats is automatically recognized and passed through without processing. Compensating video delay is included to ensure perfect A/V sync regardless of input format or operating mode.

For live events and broadcasts, UPMAX ISC can be inserted on a mix bus or placed at the output of the mixing console in the OB truck at the venue for upmixing sources including music, effects, and legacy content not natively presented in an immersive format.
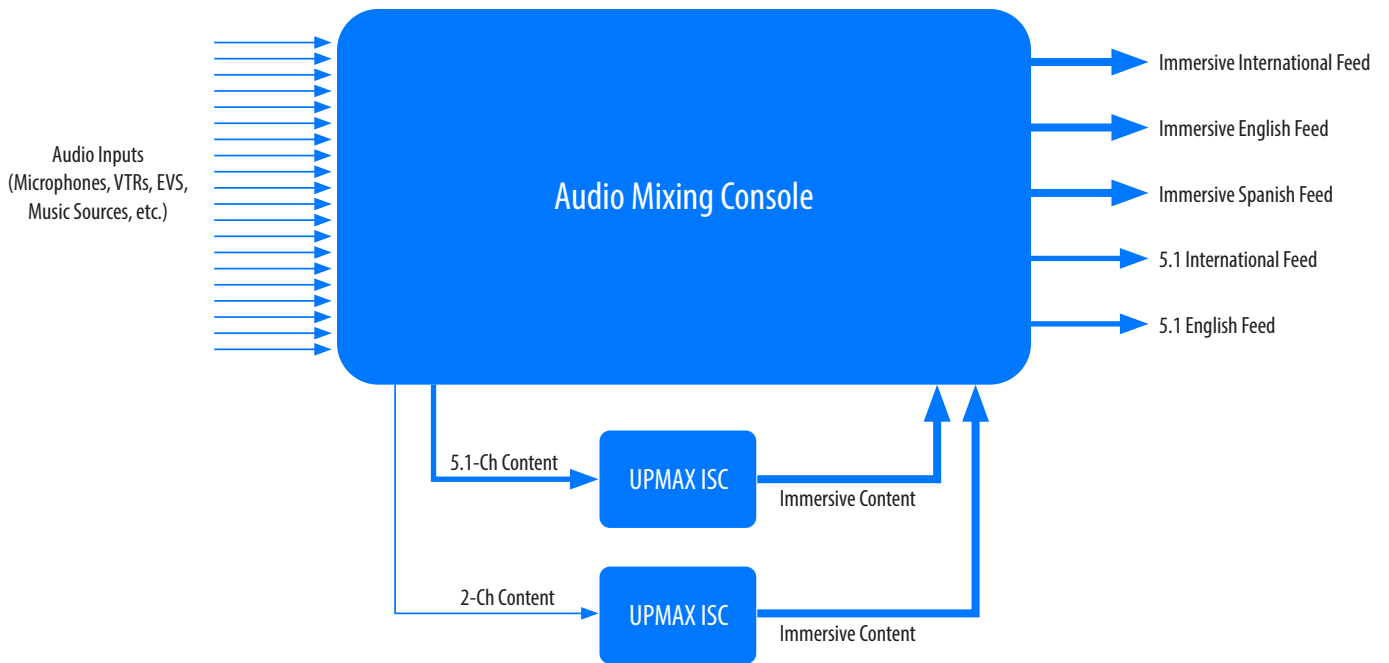
UPMAX ISC is equally at home in the airchain at the Network Operations Center to ensure all programming - including commercial and interstitial content - is delivered to the viewer as a consistent immersive experience.

I/O includes auto-sensing 3Gb/s HD/SD-SDI, AES-3, and AES67 to natively support SMPTE ST 2110-30 workflows.
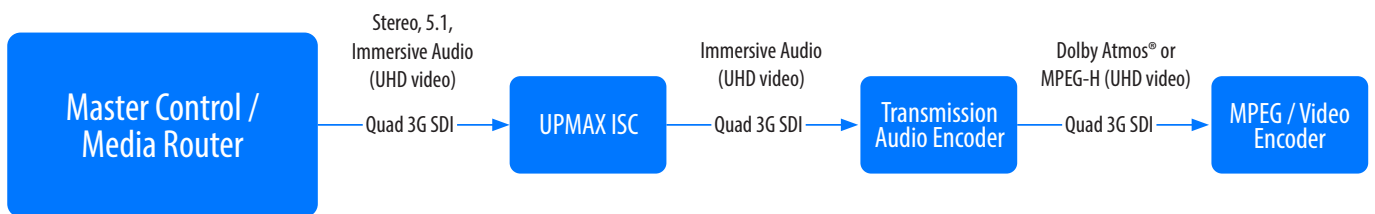
UPMAX ISC includes a 5-button front panel navigation cluster and color LCD display for basic setup and control, plus the convenience of a web-based GUI for full control and monitoring capabilities. Dual auto-ranging internal power supplies provide redundancy and worldwide compatibility.

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ISC Workflow 1

Audio Mixing Console

Audio Inputs
(Microphones, VTRs, EVS,
Music Sources, etc.)

Immersive International Feed

Immersive English Feed

Immersive Spanish Feed

5.1 International Feed

5.1 English Feed

5.1-Ch Content

UPMAX ISC

Immersive Content

2-Ch Content

UPMAX ISC

Immersive Content

ISC Workflow 2

**Master Control /
Media Router**

Stereo, 5.1,
Immersive Audio
(UHD video)

Quad 3G SDI

UPMAX ISC

Immersive Audio
(UHD video)

Quad 3G SDI

**Transmission
Audio Encoder**

Dolby Atmos® or
MPEG-H (UHD video)

Quad 3G SDI

**MPEG / Video
Encoder**

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SPECIFICATIONS

Processing

- Next-generation Linear Acoustic UPMAX algorithm; upmixing from 2-channel, 3-channel, 5.1-channel, and 7.1-channel to 5.1.4 and 7.1.4

Reference

- 48kHz reference via SDI, PTP/AES67, AES-3, internal clock, or MADI (with optional MADI I/O)

Sample Rate/Resolution/Frequency Response

- 48kHz, 24-bit, 20Hz – 20kHz (passthrough); PCM audio only

AES-3 I/O

- Five two-channel inputs/outputs via 75 Ohm BNC unbalanced female connectors, internally terminated; signal levels per SMPTE 276M/AES-3ID-2001

SDI I/O

- Two auto-sensing 3Gb/s HD/SD-SDI inputs (SMPTE ST425/292M/259M), up to 1080i/60/59.94/50Hz, with de-embedding for 8 audio pairs; re-embedding for 8 audio pairs via one SDI output
- Optional Quad-Link SDI for 4K workflows (mutually exclusive with MADI option)

AES67 I/O

- 16 channels of bi-directional AES67 I/O in support of SMPTE ST 2110-30

Parallel GPI/O Control Port

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

MADI I/O

- Optional MADI I/O supports up to 16 channels for processing
- Passthrough and shuffling for up to 64 channels
- I/O via coax or optical SFP socket (SFP sold separately)
- MADI option mutually exclusive with Quad-Link SDI option

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Ethernet Connection

- Two independent Gigabit Ethernet ports allows web-based remote access/control and AES67 I/O

Front Panel Display and Controls

- 5-button navigation cluster, color LCD display, LEDs for power supply, status, and sync

Power

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

Dimensions and Weight

- 1RU – 1.75"H x 19"W x 15.5"D (44 x 483 x 394 mm)
- Approximate net weight 9 lbs (4 kg)
- Approximate shipping weight 16 lbs (7.26 kg)

Environmental

- Fan-cooled; operating temperature 32 to 122 degrees F (0 – 50 degrees C); non-operating temperature -4 to 158 degrees F (-20 – 70 degrees C)

Regulatory

- North America – FCC and CE tested and compliant; power supplies are UL-approved

- Europe – Complies with European Union Directive 2002/95/ EC on the restriction of the 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 2-year limited parts and warranty

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