

Z/IPStream® R/2 Stream Encoder/Processor

The Best-Sounding Streams...from the Smallest Box.



Route & Monitor with
Pathfinder 

OVERVIEW

Processing and Encoding of Multiple Programs

Z/IPStream® R/2 produces the best possible streams by providing a multitude of streaming options for the broadcaster and maximizing audio quality for the listener. This second-generation Z/IPStream processor and encoder is essentially the hardware appliance version of the successful X/2 and 9X/2 software, allowing flexible, multi-format stream-encoding for up to eight audio programs in a single 1RU chassis.

Ideal for high-density processing and encoding applications, R/2 offers the simplicity and reliability of a single 1RU dedicated hardware appliance. R/2 is available with 3-band Omnia processing or full Omnia.9 processing, both featuring high-quality Telos® encoding.

FEATURES

- Processing and stream encoding of up to eight audio programs in 1RU
- Available in models with 3-band or full Omnia.9 processing
- AES/EBU, AES67 and Livewire® audio I/O
- Encode a program at multiple bitrates for adaptive streaming applications. Apple HLS and Microsoft Smooth Streaming formats are supported
- AAC-LC, HE-AAC, HE-AAC v2, xHE-AAC and MP3 stream encoding from 16 kbps to 320 kbps depending on codec used
- xHE-AAC for low-bitrate streaming
- Dual power supplies and dual gigabit Ethernet ports for reliable, 24/7 operation
- Processing or encoding can be used independently if desired
- Process and encode the same audio program in multiple formats. Simultaneously send the encoded streams to multiple destinations
- Supported server platforms include ICEcast, SHOUTcast, SHOUTcast v2, Adobe Media Server, Wowza, as well as Triton Digital, LimeLight, Akamai, and other popular streaming services
- Includes support for RTP and RTP multicast streams
- Built-in HTTP server can directly serve HLS streams
- Optional StreamMonitor listens to local or remote streams for connection issues and audio presence
- HTML5 web-based remote control for administration
- SNMP support allows direct monitoring from your SNMP management system, or you can receive alerts via email
- Integrates into your workflow: REST-ful API allows full control from your application to start/stop streams, switch audio sources or insert audio content from files; or monitor multiple devices simultaneously
- Dedicated IP remote control software with test instrumentation (RTA, FFT, oscilloscopes, loudness metering) for audio-processing adjustments when using Omnia.9 processing
- New flexible Metadata allows R/2 to accept metadata from multiple play-out systems and lets broadcasters tweak the fields they want to present to listeners

IN DEPTH

Z/IPStream R/2 is the latest generation of streaming audio processing and encoding hardware in the Z/IPStream family, handling processing and encoding of multiple audio programs in a compact 1 RU chassis. Processing and encoding of up to eight audio programs is supported, with Livewire and AES/EBU I/O audio input.

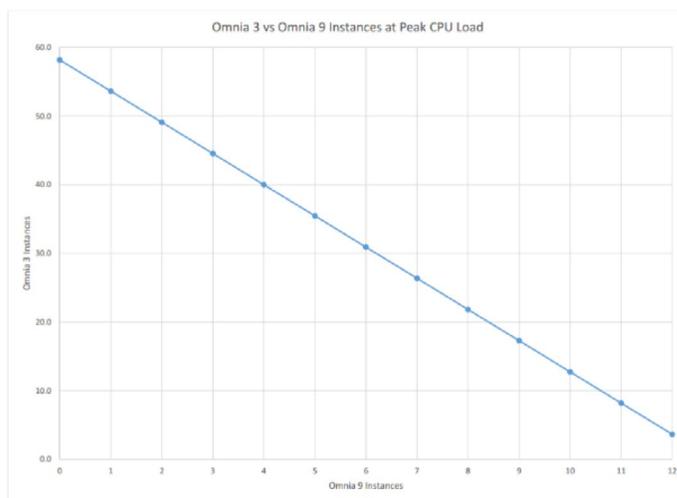
The base unit includes processing and encoding of two audio programs using the standard 3-band Omnia audio processing. Encoding formats including MP3, AAC-LC, HE-AAC, HE-AAC v2, and xHE-AAC. Multiple codecs and bitrates are supported simultaneously on each audio program. A special multirate AAC encoder is included for adaptive bitrate streaming applications. Supported streaming platforms include ICEcast, SHOUTcast, SHOUTcast v2, Adobe Flash Media Server, Adobe RTMP, Triton Digital, LimeLight, Akamai, and Wowza. Additional audio program inputs and Omnia.9 processing are available as options.

The Z/IPStream R/2 with Omnia.9 processing models include exclusive 'Undo' de-clipping, 6-band parametric EQ, downward expansion (source noise reduction), multiband stereo enhancer, up to three-stage AGC with adjustable sidechain filter, 2-7 bands of processing, and final two-band look-ahead limiter. Full IP remote control of processing parameters is available via NFRemote, along with the complete Omnia.9 suite of test instrumentation (loudness metering, FFT, RTA, oscilloscope, and remote client audio streaming).

SPECIFICATIONS

Processing

- Includes standard 3-band Omnia processing. Optionally use full Omnia.9 processing with up to 7 bands of processing. The number of audio processing instances that may be used simultaneously depends on overall system configuration and resource usage. As expected, Omnia.9 is more resource-intensive than the 3-band Omnia processor. The chart below illustrates the number of instances that can be run under typical usage scenarios. It is provided as a guide, the actual number may be different for your specific application.



Stream Encoding

- Includes AAC-LC, HE-AAC, HE-AAC v2, xHE-AAC, and MP3 encoding at bitrates from 16 kbps up to 320 kbps (depending on codec). A program may be encoded using multiple codec formats and bitrates simultaneously. A special multirate encoder supports encoding for adaptive streaming applications. The multirate encoder properly generates the required Stream Access Points for adaptive streaming.

Ethernet Remote Control

- Gigabit Ethernet supports HTML web interface for administration, REST API for remote control, and SNMP monitoring. Also used with dedicated remote control application for Omnia.9 processing. Various metadata update methods via Ethernet supported as well.

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Audio I/O

- Livewire and AES/EBU audio I/O
- Supports AES/EBU input at up to 24 bits, 192 kHz
- Supports direct input from RTP streams

Power Requirements

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

Dimensions and Weight

- One rack unit— 1.75"H x 19"W x 15.5"D (44 x 483 x 394 mm)
- Net weight: 9 lbs (4 kg); shipping: 12 lbs (5.4 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. Power supply is UL approved.

Europe: Complies with the 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

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