Z/IPStream® R/20

Encoding and processing for multiple audio programs in a compact 1RU hardware platform.



Telos Alliance® Z/IPStream® R/20

Stream Encoder and Processor





Omnia® 3-band, Omnia Forza HDS, and Omnia.9 processing.

Overview

Processing and Encoding of Multiple Programs

Z/IPStream® R/20 provides a multitude of streaming options for the broadcaster - including Adaptive Streaming technology - while maximizing audio quality for the listener. This latest-generation Z/IPStream processor and encoder is essentially the hardware appliance version of Z/IPStream X/20, allowing flexible, multi-format stream-encoding, audio processing and watermarking for up to eight audio programs, all in a single 1RU chassis.

Ideal for high-density processing and encoding applications, R/20 offers the simplicity and reliability of a single 1RU dedicated hardware appliance. R/20 is available with Omnia 3-band, Omnia Forza HDS, or Omnia.9 processing, all featuring the highest quality encoding from Fraunhofer IIS, the world leader in audio codecs.

Features

- Processing and stream encoding of up to eight audio programs in 1RU
- Available with Omnia 3-band, or optional Forza HDS or Omnia.9 processing
- Optional Dèjá Vu upmixing from Omnia founder Frank Foti provides 5.1-channel surround sound via MPEG-Surround encoding
- AES/EBU and Livewire® AoIP audio I/O
- Encode a program at multiple bitrates for adaptive streaming applications: Apple HLS and Microsoft Smooth Streaming formats are supported. Simultaneously send the encoded streams to multiple destinations
- 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
- Supports Microsoft's Smooth Streaming and Apple HLS adaptive streaming
- Processing, watermarking or encoding can be used independently if desired
- 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
- Stream Synchronization: separate encoder instances (running on different units and even at different locations) are able to synchronize so that bitstreams generated by all instances are identical. Enables redundant streaming deployment

Optional Nielsen and Fifty5Blue watermarking.



- HTML5 web-based remote control for administration
- SNMP support allows direct monitoring from your SNMP management system
- Integrates into your workflow: REST API allows customized control by 3rd party applications to start/stop streams, switch audio sources or insert audio content from files
- When using optional Omnia.9 processing, you get dedicated IP remote control software with test instrumentation, including RTA, FFT, oscilloscopes and loudness metering
- Flexible Metadata ingest allows R/20 to accept metadata from multiple play-out systems and lets broadcasters tweak the fields they want to present to listeners
- Facilitates delivery of metadata to your streaming provider: sophisticated software routines enable them to handle ad replacement, metadata insertion and stream switching for programming blackouts.
- Supports Nielsen and Fifty5Blue Watermarking
- Dual power supplies and dual gigabit Ethernet ports for reliable, 24/7 operation

In Depth

Z/IPStream R/20 is the latest generation of streaming audio processing and encoding hardware in the Z/IPStream family, handling the processing and encoding of multiple audio programs in a compact 1 RU chassis. Processing, watermarking and encoding of up to eight audio programs is supported, with Livewire+AES67 AoIP 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. Multiple codecs and bitrates and bitrates - including Microsoft's Smooth Streaming and Apple HLS adaptive streaming - are supported simultaneously on each audio program." Supported streaming platforms include ICEcast, SHOUTcast, SHOUTcast v2, Adobe Media Server, RTMP, Triton Digital, LimeLight, Akamai, Cirrus and Wowza. Up to six additional audio program inputs, Omnia Forza HDS and Omnia.9 processing, as well as watermarking for Fifty5Blue and Nielsen are available as options.

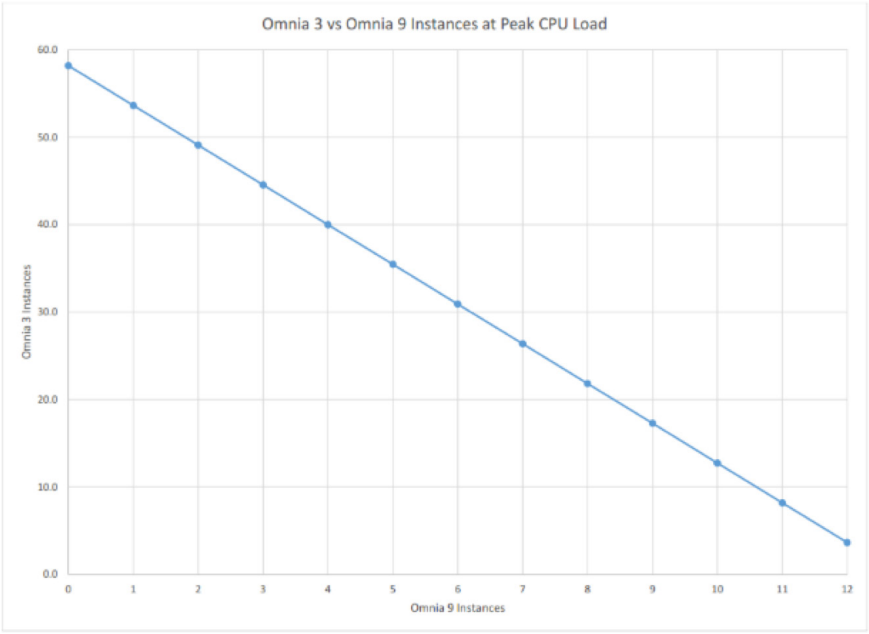


Simultaneously process and encode up to eight audio programs for multiple destinations in multiple formats.

Specifications

Processing

- Includes standard 3-band Omnia processing for each audio input. Omnia Forza HDS and Omnia.9 processing are optional. The number of simultaneous audio processing and encoding instances depends on overall system configuration and resource usage. As expected, Forza HDS and Omnia.9 are more resource-intensive than the 3-band Omnia processing. The chart below illustrates the number of instances that can be run under typical usage scenarios. It is provided as a general 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 encoder). A program may be encoded using multiple formats and bitrates simultaneously. A special multirate encoder supports encoding for Apple and Microsoft adaptive streaming applications. The multirate encoder properly generates the required Stream Access Points for adaptive streaming.

AES/EBU and Livewire I/O, plus direct input from RTP streams.



Ethernet Remote Control

- Gigabit Ethernet supports an HTML5 web interface for administration and control, REST API for remote control, and SNMP monitoring. Also used with the dedicated remote control application for Omnia.9 audio processing, and metadata import and export.

Audio I/O

- Livewire+AES67 AoIP 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

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