Z/IPStream® X/20

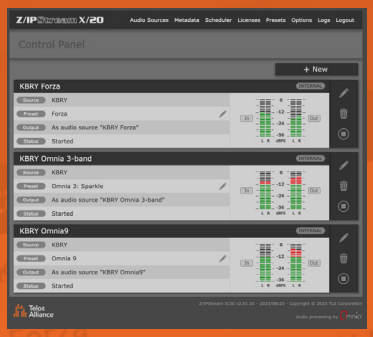
Software encoding and processing platform for Windows PCs and servers.



Telos Alliance® Z/IPStream® X/20

Stream Encoder/Processor





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

Overview

Processing and Encoding of Multiple Programs

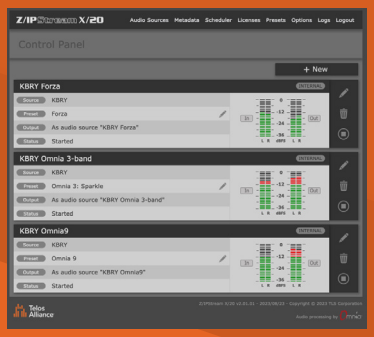
Z/IPStream X/20 represents the next-generation Telos Alliance® software streaming and processing platform. As the successor to the highly regarded Z/IPStream X/2, X/20 is designed for broadcasters who understand that streaming audio quality and reliability are just as important as terrestrial transmission. Z/IPStream X/20 gives you the power to fine-tune your streams for clear, clean, audio output — no matter the bitrate, codec, or delivery platform. It also paves the way for the introduction of more features and processing options now and in the future.

Z/IPStream X/20 stands above the rest with Adaptive Streaming technology. With Adaptive Streaming, the connection between the streaming server and the listener is automatically managed, dynamically adjusting bitrate and audio quality to maintain a solid connection with the best possible audio — regardless of Wi-Fi limitations or Internet behavior. Z/IPStream X/20 generates multiple streams to a server, simultaneously using different codecs and bitrates to support these adaptive streaming applications.

Features

- Genuine, high-quality audio codecs from Fraunhofer IIS (the inventors of MP3), including MP3, AAC-LC, HE-AAC v1, HE-AAC v2, and xHE-AAC
- Simultaneous MP3/AAC/aacPlus encoding, compatible with Shoutcast, Icecast, Wowza, and RTMP servers
- xHE-AAC works well at low bitrates and therefore has more encoding power. While codecs like AAC and MP3 sound much better for music than they do for speech, xHE-AAC sounds great for both speech and music, even at the lowest bitrates
- Supports Microsoft's Smooth Streaming and Apple HLS adaptive streaming
- 3-band Omnia processing comes standard
- For more demanding requirements, Omnia Forza HDS and Omnia.9 processing are optionally available
- Optional Dèjá Vu upmixing from Omnia founder Frank Foti provides 5.1-channel surround sound via MPEG-Surround encoding
- Facilitates delivery of metadata to your streaming provider, enabling them to handle ad replacement programming blackouts, and metadata insertion.

Optional Nielsen and Fifty5Blue watermarking.



- Flexible audio routing accepts input from any Windows sound source, including physical sound cards, or virtual (AoIP) sound cards such as the Axia Livewire driver.
- Unprecedented level of control: Use the built-in HTML5 web interface, or integrate with 3rd party applications using the REST API
- Cloud-Ready: Z/IPStream X/20 may be hosted and run using your cloud-based Windows server
- Built-in SNMP and email notification of system events
- Supports Fifty5Blue and Nielsen Watermarking

In Depth

Adaptive Streaming

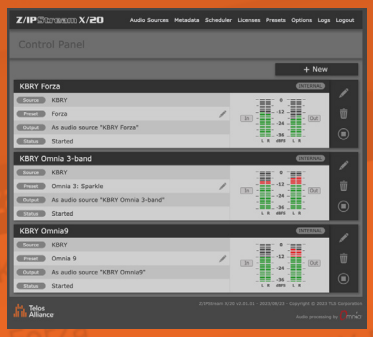
Adaptive Streaming is a stream-delivery method that allows media players to switch bitrates when network conditions change. Z/IPStream X/20 supports Microsoft's Smooth Streaming and Apple HLS adaptive streaming technologies, encoding the same stream at multiple bitrates and keeping audio packets sample-aligned. Adaptive Streaming ensures that your listeners are automatically receiving optimal quality and consistency based on the bandwidth of their connection.

Audio Replacement/Blanking

For targeted advertising replacement, or when certain programming must be blacked out or contractually restricted from streaming online, Z/IPStream X/20 enables you to replace material with content from a separate audio source, or audio from files. You have full control over the switch points and the duration, and the switch points are sample-accurate when using timestamped RTP audio for input.

Stream Synchronization

Stream synchronization is essential when implementing resilient streaming. Using Stream Synchronization, separate encoder instances (running on different PCs and even at different locations) are able to synchronize so that bitstreams generated by all instances are identical. This redundancy enables resilient streaming deployment. If one encoder goes down (or is taken down for maintenance), the other encoder(s) continue to generate the appropriate stream, with no interruptions to service. Timestamped RTP input and Smooth Streaming for output are required to use Stream Synchronization.



Livewire I/O plus direct input from RTP streams.

Direct Livewire and RTP Audio Input

Z/IPStream X/20 works seamlessly with native Livewire audio sources, and can also accept RTP unicast sources.

SNMP Support

Z/IPStream X/20 can be monitored via SNMP, a feature particularly important for large-scale deployments. SNMP monitoring gives you peace of mind that your stream is fully functional, and if anything does go wrong, SNMP alarms will alert and immediately inform you of any problems.

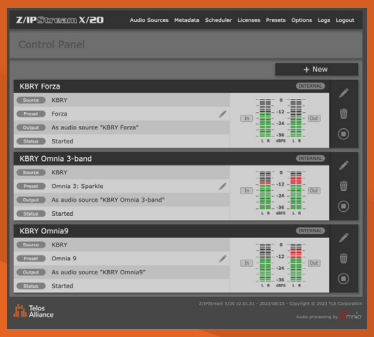
REST API

In addition to an HTML5 web interface, Z/IPStream X/20 provides control over its functions through a REST API. REST is a web standard that can support integration with 3rd party applications such as on air playout systems, and can be used with the majority of scripting or programming languages from JavaScript to Python, Ruby, and others.

Cloud-Ready

Z/IPStream X/20 is a software-only application that's cloud-ready. It is designed to run in the background as a Windows service, and its HTML5 web interface provides OS agnostic remote configuration from PCs, Macs, tablets, or even smartphones. Whether on premises or off-site, Z/IPStream X/20 gives you the flexibility to set up your stream however it best suits your needs.

Runs on-premises or in the cloud.



Minimum System Requirements

- Any supported Windows desktop or server OS (supports both 32-bit or 64-bit operating systems)
- 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
- 200 MB free disk space required for installation
- Additional disk space is used for logging
- Internet access
- Administrative privileges required during installation
- HTML5 web browser required for configuration and management
- Supports multiple simultaneous Wave audio interfaces

(Actual bandwidth, CPU and memory loads are determined by the number of streams, encoders and processing types employed. For large scale installations, please consult with Telos or your dealer.)

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