

flexAlserver

As part of Jünger Audio's flexAI processing platform, flexAlserver provides server-class processing power for high program-count applications.



Jünger Audio™ flexAlserver

Jünger Audio's most powerful audio processing solution

The Jünger logo, consisting of the word "Jünger" in a white, sans-serif font. The background of the bottom section of the slide features a dark purple field with a pattern of glowing, wavy lines that resemble soundwaves or a stylized 'J' shape.

jünger



A Processing Powerhouse

Overview

The flexAlserver provides maximum processing power and flexibility where high program counts and comprehensive processing are required. The flexAlserver can be used with traditional multichannel audio interfaces or with AoIP streams such as Telos Alliance Livewire+ or AES67 in support of SMPTE ST 2110-30, -31, and -41 (Metadata over Ethernet). A new processing architecture, flexAI, makes deploying legendary Jünger Audio processing on the flexAlserver simple and straightforward. Easily tailored to match your exact needs, flexAlserver is a true processing powerhouse. Jünger Audio's new interface format, tieLight®, enables virtually latency-free transport of large quantities of audio channels to an additional processing unit such as the AIXpressor.

Features

- Powerful x86-based processing cores
- Optional Audio processing includes:
 - Program processing up to 71.4 channels, including Jünger Audio Level Magic Loudness Processor
 - Voice processing
 - Voiceover mixing (stereo and 5.1) with mix-minus and output processing
 - Automixing (stereo and 5.1) with optional A.I. support
 - Upmixing up to 71.4 channels
 - Matrix Mixer with up to 16 input and output channels
 - Long, multi-channel, audio delay
 - FM Radio Conditioning
 - GfK Watermarking
 - Dolby E encoding/decoding
 - Dolby ED2 encoding/decoding
 - S-ADM authoring for Dolby Atmos
 - S-ADM renderer for Dolby Atmos
 - MPEG-H 3D Audio renderer
 - MPEG-H 3D Audio authoring
 - MPEG-H 3D Audio encoding
 - Immersive Monitor Controller

Jünger Audio's most powerful audio processing solution.



- Onboard interfaces include:
 - Audio-over-IP
 - AES67 / SMPTE ST 2110-30 and -31
 - Metadata over Ethernet: SMPTE ST 2110-41
 - Telos Alliance Livewire+
 - Dual MADl or 1024-channel tieLight via optional I/O card*
 - * SFP modules sold separately
- Dual, redundant, universal Power Supplies
- Browser-based remote control
- Browser-based audio confidence monitoring
- SNMP
- Ember+ and NMOS IS-04 & IS-05

In-Depth

Processing Powerhouse

Powered by an x86 based commercial server, flexAlserver is Jünger Audio's most powerful audio processing solution. Featuring the flexAI software platform, its flexibility and advanced audio processing architecture offers almost unlimited possibilities. License-based expansion makes future upgrades simple as technology evolves.

Interface Flexibility

The flexAlserver comes in a compact 19" housing, packed with a high-performance processing system and built-in Audio-over-IP (AoIP) interfaces supporting Telos Alliance Livewire+, AES67, and SMPTE ST 2110-30 and -31 with ST 2022-7 stream redundancy. Metadata over Ethernet according to SMPTE ST 2110-41.

Interface Options

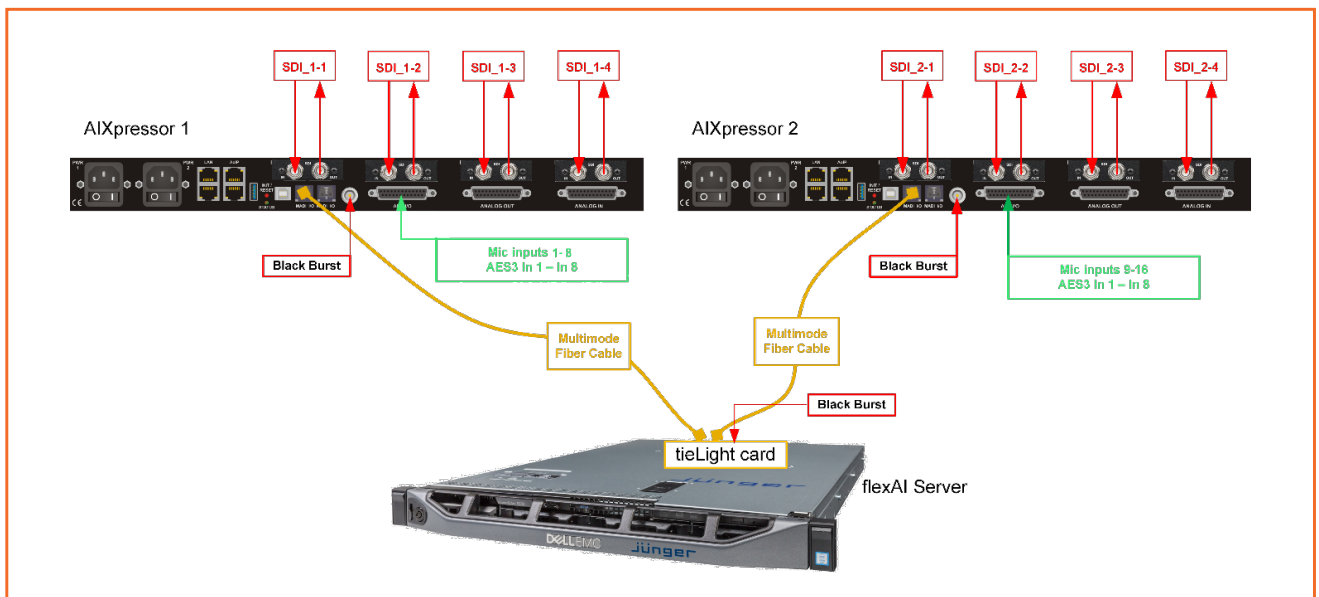
To guarantee maximum compatibility, flexAlserver can be equipped with an optional tieLight PCIe card which provides either MADl or Jünger Audio's new tieLight connections. For demanding media connections, network cards with two 10-Gigabit Ethernet ports instead of the standard array of four 1-Gigabit Ethernet ports can be installed.



Flexible I/O

tieLight – Any Channel, Anywhere

flexAlserver and AIXpressor can be linked to form a processing array, providing distributed processing and load balancing for high-program count applications. To exchange audio and data between devices, we developed tieLight, a multichannel, low-latency point-to-point connection for cascading several devices. One optical tieLight interface is capable of transporting up to 1024 audio channels in each direction. Since the flexAI system ensures that all necessary audio is distributed to where it is required, the system sees the entire array as a single device, making cascading units and processing simple and easy.



Smart Operation

Following Jünger Audio's tradition of comprehensive remote control and automation, all functionality is operated from a newly-designed web interface.

Easy Administration

flexAI runs on a highly customized Linux operating system, flexAI core, to guarantee broadcast-grade stability, easy administration, and the best system security possible. Administrators are empowered to maintain system functions, and critical security patches will be provided and integrated into standard administration procedures and schedules. Though flexAlserver is a powerful audio processing tool, it will also feel familiar from an IT standpoint, so supporting it on your network is simple for both the audio and IT departments.

Stable, Secure, and Eco-Friendly



Eco-Friendly

Considering its processing power and capabilities, flexAlserver's high-efficiency redundant power supplies use very little power and help reduce the carbon footprint of your facility.

Specifications

The base flexAlserver unit supports basic AoIP audio I/O functionality. Audio processing is optional via field-installable software license keys. flexAlserver is based on commercial off-the-shelf servers of different brands and configurations. The following specifications are typical but may vary.

Product:

Dell PowerEdge R450 Rack Server

Chassis:

2.5" Chassis with up to 8 Hard Drives (SAS/SATA) 2 CPU

Processors:

Intel® Xeon® Silver 4310 2.1G, 12C/24T, 10.4GT/s, 18M Cache, Turbo, HT (120W) DDR4-2666

Memory:

16GB RDIMM, 3200MT/s, Dual Rank

Hard Drives:

SATA SSD; 480GB SSD SATA Read Intensive 6Gbps 512 2.5in Hot-plug AG Drive, 1 DWPD

Audio over IP (AoIP)

- Protocols include Livewire+, AES67, SMPTE ST 2110-30 and 31
- ST 2110-30 Levels A, B, and C are supported
- ST 2110-41 Metadata over Ethernet
- ST 2022-7 link redundancy



Expandable I/O

Optional I/O Interfaces

SFP Slot

The tieLight portal PCIe interface card provides two SFP slots and one BNC synchronization input. Each SFP module can be individually switched to either MADI or tieLight format. The 2x SFP slots are capable of supporting either a 64-channel MADI interface or a 1024-channel tieLight interface each when populated with the optional SFP modules. Single or multi-mode fiber interfaces or micro-BNC are available (micro-BNC for MADI only; tieLight not supported)

MADI I/O

- Up to two 64-channels of MADI I/O
- Standard mode for 128 audio channels total, or redundant mode for 64 channels with automatic failure switch-over

tieLight

- Up to two proprietary 1024-channel tieLight interfaces
- Standard mode for 2048 audio channels total or redundant mode for 1024 channels with automatic failure switch-over

Sample Rate/Resolution/Frequency Response

- 48kHz, 24-bit, 5Hz – 24kHz

Reference/Sync

- 48kHz reference via PTP or Livewire clock
- Sync from option card (when installed); Blackburst/Tri Level Sync, MADI, tieLight

Control

- Remote control via standard web browser, including web-based audio confidence monitoring at various points in the processing chains
- Ember+
- NMOS IS-04 & IS-05
- SNMP (monitoring)

Renowned Jünger Processing



Audio Processing

Audio processing is available as optional software modules. Processing options include:

- Program processing up to 7.1.4 channels, including Jünger Audio Level Magic Loudness Processor
- Voice processing
- Voiceover mixing (stereo and 5.1) with mix-minus and output processing
- Automixing (stereo and 5.1) with optional JAIC A.I. support
- Upmixing up to 7.1.4 channels
- Matrix Mixer with up to 16 input and output channels
- Long, multi-channel, audio delay
- FM Radio Conditioning
- GfK Watermarking
- Dolby E encoding/decoding
- Dolby ED2 encoding/decoding
- S-ADM authoring for Dolby Atmos
- S-ADM renderer for Dolby Atmos
- MPEG-H 3D Audio renderer
- MPEG-H 3D Audio authoring
- MPEG-H 3D Audio encoding
- Immersive Monitor Controller

Ethernet

- Four Gigabit RJ-45 connections
- For demanding media connections, network cards with two 10 Gigabit Ethernet ports instead of the standard four 1 Gigabit Ethernet ports can be installed.

Power

- Dual, internal, hot-pluggable, redundant auto-ranging power supplies
- 100-240 VAC, 50/60 Hz, 800W maximum total



Space-Efficient 1RU Design

Dimensions and Weight

- 19" W x 27.5" D x 1.75" H (approximately 48.2 x 69.8 x 4.5 cm)
- Net weight: Approximately 36.5 lbs (16.6 kg)
- Approximate shipping weight 45 lbs (20.5 kg)
- Dimensions and weight may change without notice

Regulatory

- North America – CE tested and compliant with UL-approved power supplies
- Europe – Complies with European Union Directive 2011/65/EU on the restriction of use of certain hazardous substances in electrical and electronic equipment (RoHS 2 and WEEE)

Warranty

- Manufacturer's standard warranty is two years on parts and labor
[TelosCare PLUS™](#) is included for additional layers of support and protection

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Livewire+ is a trademark of the Telos Alliance. Dolby and the double-D symbol are trademarks of Dolby Laboratories.