AEQ

SOLARIS

Audio gateway: Multiple Audiocodec for IP networks
Full duplex, with DANTE / AES67 connectivity

COMPACT, SCALABLE

& VIRTUALIZABLE

Scalable Multiple Stereo Audiocodec with IP connectivity. Between 8 and 64 independent stereo / dual / mono connections to different destinations. SOLARIS entry level is 8 channels but can be increased through licensing as required and up to 64 channels.

AoIP connectivity for local audio. The device is provided with local audio connectivity through IP in AES67 / DANTE formats. If conversion to analogue or digital audio is required, this can be accomplished through external IP devices with connection to these formats, such as AEQ Netbox AoIP interfaces, consoles or matrices.

5 network ports: they allow for traffic control, encoded audio (WAN) and local audio I/O separation through AES67/DANTE IP and DANTE network redundancy.

Encoding algorithms for any need and use. Apart from the recommended OPUS algorithm, and the uncompressed PCM format, it incorporates the G711 and G722 algorithms to communicate with VoIP devices. For special uses, AAC and apt-X encoding algorithms are optionally available for SOLARIS.

Control via Web-browser and other applications. SOLARIS is controlled through a web interface. Also, in order to achieve unified control with other AEQ audiocodecs, it can be controlled from the Phoenix Control software. An API is also available to integrate it with orchestrators and third-party applications.

Can be installed on generic servers and is virtualizable. SOLARIS is provided as a piece of hardware equipment in

1RU rack format, optimized for its function. To fulfil the requirements of some corporations, it can also be installed as an application on a commercial server. It can even be virtualizable and be part of a "docker" created in a high-performance shared server.

Exclusive connection tools. Using AEQ audiocodecs, you get advantage of the Smart RTP communications protocol that simplifies your connections, even though DDNS, (Dynamic domain name service) that allows connections without the need to know destination IP addresses - even if dynamic.

Compatible with most audiocodecs from other manufacturers. Supports SIP and the most commonly used encoding algorithms, including those in the N/ACIP EBU Tech3326 recommendation.

Free SIP server available offered by AEQ. An optional SIP Relay server is also offered to facilitate the transporting of audio through an audio relay service.

Advantages over IP. Adaptive buffer to absorb the network jitter. DHCP, automatic configuration of connection parameters. Audio contributions to different destinations using multiple-unicast.

SOLARIS can be monitored remotely. It includes SNMP server allowing for monitoring status and alarms remotely, through any standard SNMP client.

Reliability. Dual, redundant AC power supply.

FRONT PANEL

Being controlled through web-browser or the AEQ Control Phoenix software, SOLARIS only incorporates power status indicators for its two power supplies.

BACK PANEL

The back of the device has five network ports (LAN1…LAN5) and two AC power supplies. The local audio inputs and outputs connects with other audio devices through the AoIP Multichannel Network connectivity using AES67 / Dante™ Protocol.

5 network ports (LAN1…LAN5)

2 AC power supplies

02

WEB SOLARIS APPLICATION

This is SOLARIS´ specific configuration and control tool. (Fig.1).

General status: View of the global status of each of the audiocodecs (8 to 64 depending on the version). At the left, there is a button (green to establish, and red to finalize the communication). Next, indicators are provided informing about the communication itself: call type (RTP, Direct SIP, Proxy SIP), call status, used algorithm used, SIP user (if applicable), remote destination and, finally, activity indicators and VUmeters. (Fig.2).

Fig.1

Fig.2

Channel Setup: from every line in the General Status, the configuration screen for each channel can be accessed and destination and communication parameters can be configured. (Fig.3).
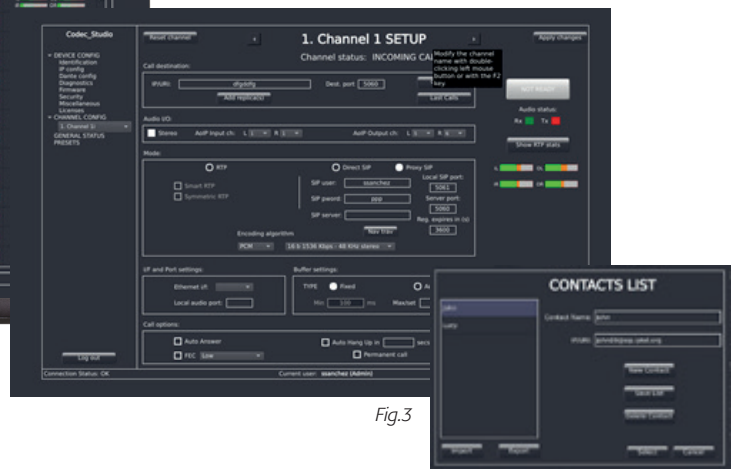

Fig.3

Fig.4

It also incorporates:

"Phone-book" or Contact list: Allows to quickly identify destinations that can be previously registered through either manual entry or imported from a file. (Fig.4).

Presets: Allows operator to save configuration details for of each channel, quickly apply changes to any equipment configuration parameter or a group of these at any moment. (Fig.5).

Other tools: configuration of installation values such as IP ports settings, local AoIP AES67 / Dante channels, maintenance, diagnostic, user management, etc.

Fig.5

Fig.6

CONTROL PHOENIX APPLICATION

For common control with other AEQ audiocodecs, SOLARIS can be registered in the Control Phoenix application. It will then appear as individual devices corresponding to the number of licensed channels, i.e. between 8 and 64. (Fig.6).
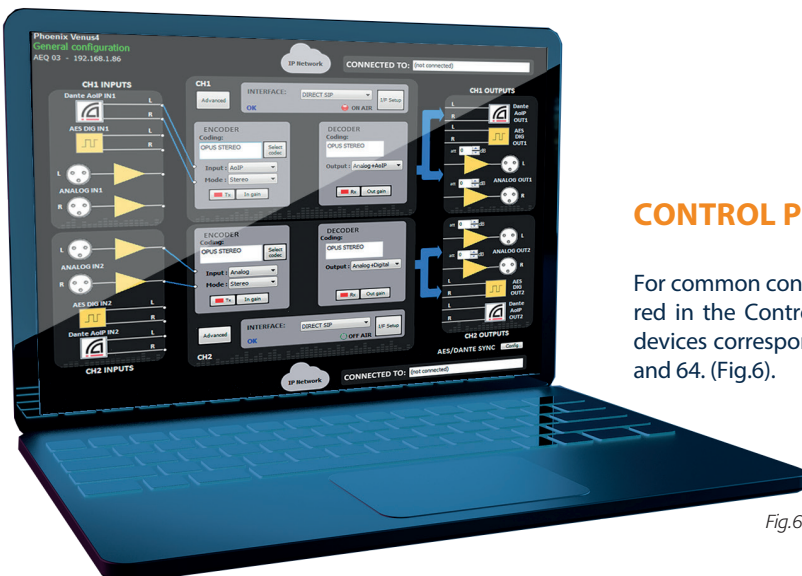
USES AND APPLICATIONS

MULTIPLE STL LINK	BROADCASTING NETWORKS	REMOTE CONTRIBUTIONS
(Studio to Transmitter Link). Through IP connections through private VLANs, IP Radio links, WiMAX, Wi-Fi, ADSL, Modem Cable, etc., up to 8 stereo or 16 mono programs can be sent. This number can be increased through licensing of up to 64 stereo or 128 mono programs, linking two devices, one in the production center and another at the Transmission site.	Through IP networks, when quality of service negotiated with an operator is available, different broadcast stations can be interconnected to distribute multiple programs. Simultaneously and in the opposite direction, contribution circuits can be established. The corresponding audiocodecs can have one or more stereo channels.	Through IP networks you can also communicate with an assortment of AEQ Phoenix audiocodecs: Talent, ALIO, Venus, Stratos, Studio, Mobile, Mercury (or third party manufacturers) as well as with softphones, incorporating broadcast audio from anywhere. Contribution IP networks can be of various types: private VLANs, IP Radio links, WiMAX, Wi-Fi, ADSL, MODEM cable, Starlink satellite IP links, Inmarsat and similar, etc.

TECHNICAL CHARACTERISTICS

LOCAL INPUTS AND OUTPUTS

IP audio input/output: one stereo DANTE / AES 67 input and stereo associated to every activated channel (standard conguration: 8 channels with 8 stereo input outputs). Expansions are available through licensing of 8 channels at a time, up to a maximum of 64 bidirectional channels with Dante redundancy on two of the SOLARIS' five RJ45 1Gbps Ethernet ports.

Analog and digital audio inputs / outputs: If conversion to analogue or digital audio is required, this has to be accomplished through external IP devices with connection to these formats, such as AEQ Netbox AoIP interfaces, consoles or matrices.

AEQ NETBOX 32AD: Interface with 8 analog and digital stereo AES/EBU inputs and outputs, provides complete analog or digital connectivity for to a standard SOLARIS.

AUDIO SPECIFICATIONS

• Local audio through IP AES67 or Dante formats. Fs=48kHz.
• Maximum THD (encoding and decoding linear audio loop): <0.003%.
• Max Latency configurable for Dante: 2, 3, 4, 5 and 10ms.
• Frequency response (+/- 0.2dB): up to 20 Hz- 20 KHz, depending on the encoding algorithm.

COMMUNICATION INTERFACES

• 5 Ethernet 1000 base T ports (LAN1 .. LAN5) for combined or separated control, redundant WAN and Dante (primary and secondary), etc.
• Possibility of routing several WANs. (Avoid joining primary and secondary DANTE networks together).
• RJ45 connector.

OTHER FEATURES

• Multiple-unicast on RTP mode: allows for the delivery of the same stream to multiple different destinations (according to the encoding algorithm).
• SIP. Possibility of working with or without SIP server.
• Diagnostic by means of SNMP and Syslog.

ENCODING ALGORITHMS*

• OPUS with Fs= 48kHz, mono, stereo, 5 mono and 3 stereo modes have been selected, with bitrates between 12 and 192 Kbps, very low delay and audio bandwidths between 6 and 20 KHz:
• OPUS Voice (reduced Bw) 12kbps: 6kHz.
• OPUS Voice 20kbps: 8kHz
• OPUS Voice 192kbps: 8kHz
• OPUS Music mono (reduced bitrate) 32 kbps: 20kHz
• OPUS Music mono 64kbps: 20kHz
• OPUS Music Stereo (reduced bitrate) 64kbps: 20kHz.
• OPUS Music Stereo 128kbps: 20kHz.
• OPUS Music Stereo HQ 192 kbps: 20kHz
(The receiver synchronizes and decodes the received stream even when encoded with other OPUS modes, provided that they were sampled at 48 kHz).
• G711 Law A, Law u (64 kbps, low delay, 3.5 kHz bandwidth).
• G722 (64 Kbps, low delay, bandwidth 7 kHz).
• PCM (linear) very low delay and transparent quality. Fs=48kHz or 32 kHz at 16bits/sample, mono or stereo (between 512 and 1536 Kbps), bandwidth between 16 and 20kHz.

OPTIONAL ALGORITHMS
• apt-X.
• AAC.

ORDERING INFORMATION

BASIC SOLARIS HW : Audiocodec device with 8 stereo audiocodecs.
BASIC SOLARIS SW: Audiocodec Application with 8 stereo audiocodecs. Ordering the Services Package is required.
SOLARIS 8 CHANNEL EXTENSION: 8 stereo audiocodecs extension license. Maximum of 7 per device or docker.
SOLARIS 8 AAC: 8 channel license (st) with AAC algorithms. Maximum of 8 per device or docker.
SOLARIS 8 APTx: 8 channel license (st) with apt-X algorithms. Maximum of 8 per device or docker.
NETBOX 32AD: : AoIP Interface with 8 AES/EBU analog and digital stereo inputs and outputs.

SERVICES PACKAGE:
Hardware and system homologation and Installation of SOLARIS SW on a dedicated or virtualized server in the docker.

*For other options, please contact us.
Specifications subject to change without previous notice.