



Audio, video and communications for broadcasters



# PHOENIX ALIO

IP audiocodec for high quality remotes



## General description

With ALIO, AEQ reinvents the concept of portable IP audio-codec. It has been specifically designed for remote reporting applications, but it has also been optimized to make it easy to use in the most varied scenarios, even musical events.

Its compact design, resistant to pressure, shocks and even splashes of liquids, is conceived for outdoor use, where optimal handling is not always guaranteed.

It can connect to other codecs from most manufacturers thanks to the SIP communications protocol, according to N/ACIP Tech 3326 EBU standard. But when connecting to another AEQ codec, users can take advantage of an exclusive set of tools that makes the establishment of communication and the control of the unit a simple task:



• A selection of OPUS encoding algorithms that ensure high quality audio with a minimum delay. The AEQ Phoenix ALIO is delivered with AEQ's commitment to facilitate the upgrade to OPUS for all the other Phoenix family of audiocoders such as Phoenix Studio, Venus, Mercury and Stratos. This enables these to become the Phoenix ALIO "base station".



• The SmartRTP proprietary call-initiation protocol that simplifies connection to compatible codecs



• ControlPhoenix, remote control Software, that allows for the remote operation and adjustment of the unit from your station. ControlPhoenix allows you to control everything related to the call initiation process and also the adjustment of all audio parameters and the local audio routing of the ALIO.

• Possibility to CUE all the input signals.

• "HELP" function, that allows the journalist to use the system to request for assistance from the station when facing an unexpected situation.

It also features exceptional performance:

• Bi-directional mono or stereo operation.

• Second mono or stereo communication channel, (optional license required), that can be used, for instance, for technical coordination.

• Individual Low and High-frequency audio adjustments for each input, allowing for example for the adjustment of external audio sources and to set the audio parameters according to each commentator's voice.

• Besides the N/ACIP standard required algorithms and the high-performance OPUS encoding algorithms, it also includes the low-delay proprietary AEQ LD-Extend. This makes the ALIO capable of connecting to any AEQ AudioCodec that doesn't have the OPUS implemented with a High Quality and Low Latency encoding algorithm.



## Control surface

The control surface was designed bearing in mind that, most of the times, it is not possible to send a technician to make an outdoor report. It can be completely controlled from the base station and it can also be locally controlled by simple to understand options, that are even more simplified when operating in conjunction with other AEQ Phoenix family audio codecs. Of course, advanced parameters configuration can always be set up by using the advanced MENU key.

OLED display and menu navigation encoder (NAVI)

Dedicated Vu-meters

Alphanumeric keys and call buttons

4 microphone inputs, or 3 microphone and 1 stereo line inputs, with individual ON keys



Listen level control for headphones 1/2 and line output with TX / RXbalance adjustment.

6 Function keys:

- IP: RTP / Smart RTP modes
- SIP: N/ACIP compatible mode
- AUTO: automatic call answering, etc.
- CODEC: codec selection
- HELP: Remote support
- MENU: Advanced options



All connectors have been located at the right side and at the rear of the unit so that all the wires can be kept away from the work area and won't disturb the operation of the control surface.

**Rear panel:**

Includes 4 XLR connectors for the microphones with Phantom power (switchable by menu), the IP port and power supply connector.



**Right side panel:**

Includes 2 1/4" TRS jack connectors for two different head-phone circuits, and 2 pairs of XLR connectors, for stereo line input and output.



**Second codec option**

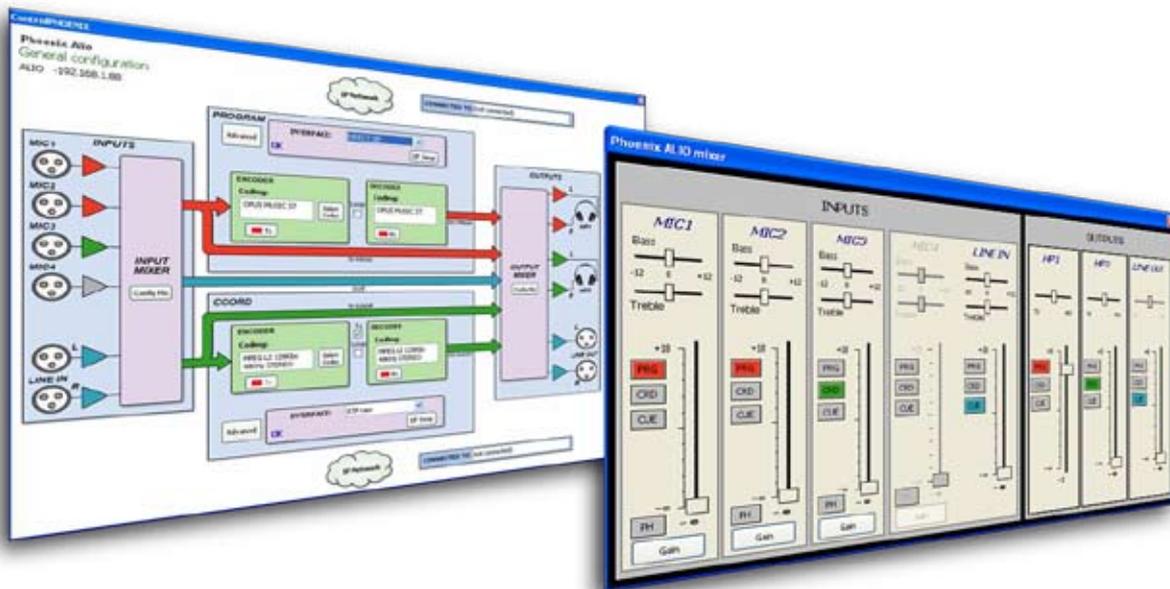
ALIO basic operation allows the user to send a full-duplex mono or stereo program signal. But for more complex scenarios, an optional, second bi-directional channel can be provided. This channel can also be configured as mono or stereo, and can be used, for example, for technical coordination or a second program channel. This feature is activated through a separate license, either at the time of acquisition of the unit, or whenever required at a later stage.

If the 2nd codec option is activated, routing of the audio inputs and outputs is accomplished in the following way:

- Each microphone or stereo line Input, can be individually assigned to the TX circuit of the first, the second codec, or to a CUE bus.
- The return of both codecs, or the contents of the CUE bus, can be routed to HP1, HP2 or Line OUT (or even to several outputs at the same time).

**Remote control software**

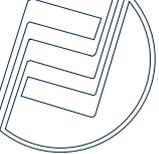
Remote control for Phoenix ALIO is integrated in the Phoenix Control application software, common to all AEQ Phoenix audio codec family members. It simplifies audio routing, selection of the communication mode for each channel and encoding algorithm, showing real-time incoming and outgoing audio levels for each channel through virtual VU-meters. Further, ALIO remote control also features an audio mixing window that allows for remote control of the volume, High and Low frequencies for each audio source, as well as the routing of the audio sources sent to each output.



**Encoding algorithms**

Advanced users will benefit from the wide variety of encoding algorithms that the Phoenix ALIO provides: G711, G722, MPEG 1 Layer II, AEQ LD Extend and OPUS. But in order to facilitate operations we recommend you to:

- Use any of the unit's per-configured encoding profiles containing different OPUS algorithms. These profiles are suitable for a wide range of different program types and network qualities when establishing communications using the Smart RTP protocol with any other AEQ Phoenix Family AudioCodec with OPUS Algorithms installed.
- Use any of the AEQ LD-Extend encoding algorithms whenever connecting through SIP or RTP to any other AEQ Phoenix Codec.
- Whenever connecting to third party AudioCodecs using SIP or Simple RTP modes, use any of the compulsory encoding algorithms that are in compliance with the EBU N/ACIP recommendation; G722 and some of the MPEG 1 Layer II encoding modes.



## Technical specifications

4 female XLR-3 microphone inputs. Low noise preamplifier and switchable Phantom power supply. 2 K $\Omega$  input impedance.  
 2 female XLR-3 line inputs, with 9 K $\Omega$  impedance, 0dBu, nominal level, max. 20 dBu.  
 2 male XLR-3 outputs. Output impedance: < 100  $\Omega$ , nominal level, 0dBu, max. 20 dBu.  
 2 - 1/4" TRS stereo headphone outputs, with volume control and TX/RX balance adjustment from front panel.

### Communications interface \*

IP Ethernet port interface, RJ45 connector.  
 Two independent links can be established (when 2nd channel option is purchased) over the same interface.  
 Cabled networks: LAN, DSL internet, VLAN, etc.  
 Satellite: an external satellite interface can be connected to the IP interface.  
 3G and 4G telephony: a 3G or 4G modem can be connected to the IP interface.  
 Wireless data links: a "wireless bridge", WiMax or WiFi antenna can be connected to the IP interface.

### Other features

Front user panel with keyboard and encoders.  
 OLED graphic display.  
 2 stereo LED VU-meters.  
 Operating temperature range: -10 to +45 ° C (14 to 114 ° F).  
 Dimensions: 242 x 210 x 60 mm (9.5 x 8.3 x 2.4 inches).  
 Power supply: 12V DC (9 to 18 V DC).  
 Power consumption: 15W max.  
 External adapter: universal 80-250V input.  
 UPS option available providing over two hours of autonomy.

### Encoding algorithms

**OPUS** with Fs= 48KHz, mono, stereo, with 3 mono and 4 stereo presets. Bit rates between 12 and 256Kbps. Audio bandwidth between 6 and 20 kHz.  
**G711A-law, u-law** (64 kbps, low delay, 3.5 KHz audio bandwidth).  
**G722** (64 Kbps, low delay, 7 KHz audio bandwidth).  
**AEQ-LD** with Fs=16, 32 or 48KHz, mono or stereo. Available bit rates between 64 and 384Kbps, audio bandwidth between 7 and 19KHz.  
**MPEG 1 y 2 - LII**, with Fs between 16 and 48 KHz, mono, stereo, dual channel and Joint stereo. Binary bit rate between 64 and 384 Kbps. Audio bandwidth between 10.5 and 16.5 kHz.  
**PCM** (linear) very low delay, transparent quality. Fs=48KHz or 32 KHz with 12, 16, 20 or 24 bits/samples, mono or stereo. Bit rates between 576 and 2304 Kbps, audio bandwidth between 16 and 20 KHz.

To simplify the operation, the AEQ Phoenix ALIO provides an automatic call establishment mode called **Smart RTP**.  
 AEQ also offers all users of the Phoenix ALIO the service and free registration on the **AEQ SIP server**.  
 All specifications are subject to change without prior notice.

### Order Information

7320.000.526 AEQ Phoenix ALIO, comes with external power supply, 80-250 V 50/60 Hz, transport bag and documentation.  
 732.000.527 Activation of the second Bi-directional communication channel for for example coordination or backup.

Accessories (please consult the availability for your territory or country)

379.008.044 Antenna Wireless Bridge Ubiquity AIRMAX Nanobridge M 5G25  
 379.009.951 Portable Router TL-MR3020 3G/4G Wireless N  
 379.009.952 Modem 3G/4G ZTE MF823  
 379.009. 953 UPS "Power Bank" 37 VA h 5V y 12 V.



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