PHOENIX

AEQ

Audiocodec for IP connections

...and POTS, ISDN, DIGITAL HYBRIDS, X21/V35, GSM, 3G,...

Audio codecs with Ethernet connectivity, for broadcasting over IP networks.

With capability to hold up to two additional interface modules to ensure both present and future connectivity.

Unique design features: dual channel for backup and coordination/talkback purposes, advanced user interface and remote control of all functions.

The PHOENIX is available as two versions:

- **PHOENIX MOBILE:** powerful Li-Ion battery and ABS design with protective cover means it is completely portable and can be used slung over the shoulder or placed on a tabletop. It features a fully configurable digital mixer with analogue mic and line inputs.

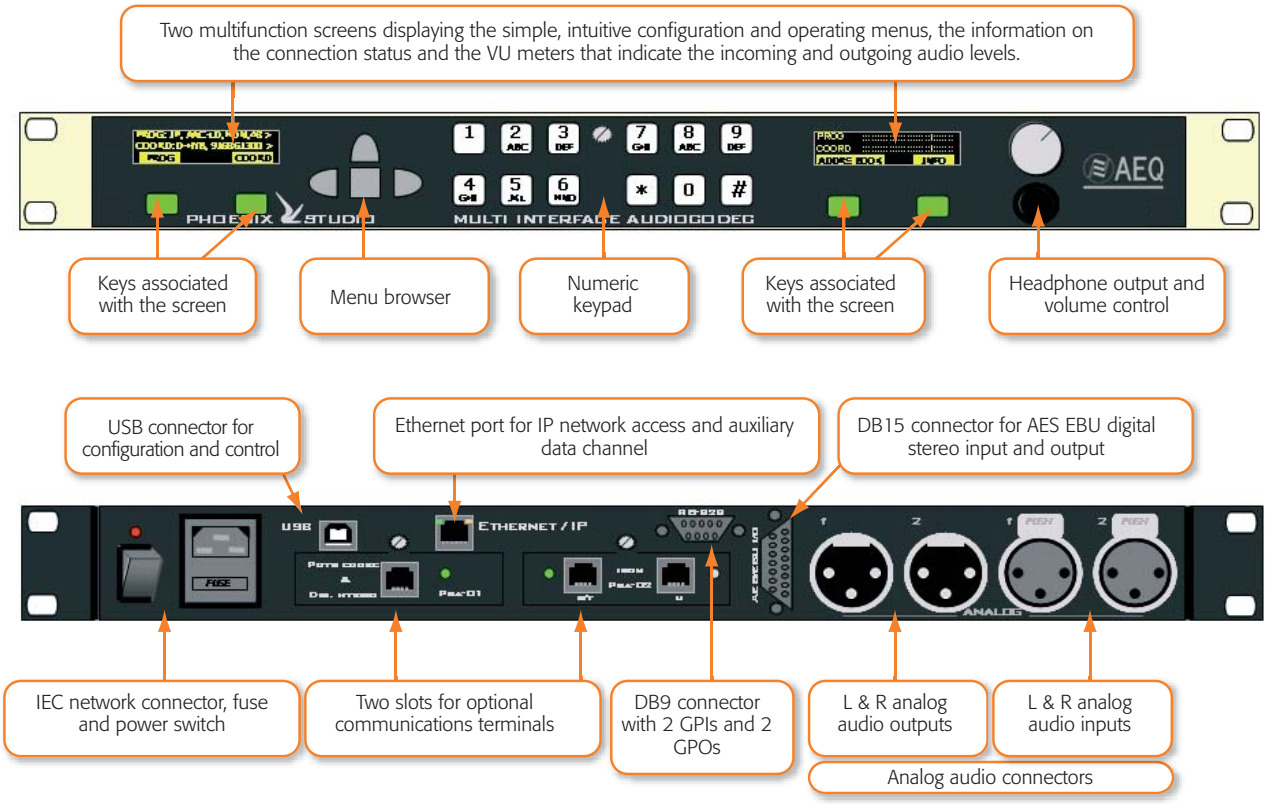
- **PHOENIX STUDIO:** 1U rackmounted version with analogue and digital inputs and outputs with slots for any communication interface module.

Encoding formats:

The PHOENIX has been designed to ensure interoperability with both present and future AEQ and third-party equipment.
Therefore it is equipped with a great variety of encoding formats and can easily be upgraded to other formats as the market matures.
The PHOENIX can automatically adapt the encoding mode to the available bandwidth thus ensuring reliable broadcasts.

AEQ PHOENIX STUDIO

Multi-function rackmounted stationary codec designed to receive communications from the PHOENIX MOBILE codec or other compatible IP codecs. Its optional communications modules enable compatibility with different types of codecs. It has controls that are very easy to use and alternate software for occasions when many units need to be used or configured.



Application scenarios and modes

A connection can be made to a PHOENIX MOBILE or any other compatible third-party equipment over IP circuits or through other IP capable data circuits such as WiFi, 3G, and some satellite phones.

A connection can be made, from a correspondent of a stationary IP codec, to another PHOENIX STUDIO, to an AEQ COURSE IP, or to any other compatible third-party equipment over IP circuits or through other IP capable data circuits, to establish IP links with other production centers or broadcasting centers.

By incorporating an optional PGA-01 communications terminal module (CODEC POTS & DIGITAL HYBRID), a connection can be made, in POTS codec mode, to a PHOENIX MOBILE, and in telephone hybrid mode, to any telephone or telephone hybrid. In the latter case, the frequency extension option can be used with the following AEQ equipment: PHOENIX, COURSE HYBRID, SWING, MPAC- 02, TLE-O2D, TL-02 and TH-02.

By incorporating and utilising a PGA-03 (ISDN) or PGA-04 (X.21 / V.35) communications terminal module, it is possible to connect to practically all the ISDN or X21 / V35 codecs, respectively, on the market.

AEQ PHOENIX MOBILE

Light and compact multi-function portable codec.

It links to other compatible IP codecs as a standard feature. It also links, utlising the optional communication modules, over POTS lines, GSM, ISDN, X.21/V.35, satellite, 3G or any type of line or communication protocol that may be commonplace in the future.

Features user-friendly configuration presets that makes the PHOENIX ready to work on power-up.

Once a connection is made, the unit only allows access to the audio mixing controls, which prevents accidental user interruption.

Application scenarios and modes

You can connect to a PHOENIX STUDIO, AEQ COURSE IP, or to any other compatible IP equipment or through other data circuits that can be converted to IP, such as WiFi, 3G telephony and some satellite phones.

By incorporating a PGA-01 communications terminal (CODEC POTS & DIGITAL HYBRID), a connection can be made, in POTS codec mode, to a PHOENIX STUDIO, and in telephone hybrid mode, to any telephone or telephone hybrid. In the latter case, the frequency extension option can be used with AEQ PHOENIX, COURSE HYBRID, SWING, MPAC 02, TLE O2D, TL02 and TH02 equipment.

By incorporating a PGA-02 (GSM) communications terminal module, it is possible to connect to any telephone through GSM, or to a PHOENIX STUDIO equipped with a PGA-01 or PGA-03 communications terminal module.

By incorporating a PGA-03 (ISDN) or PGA-04 (X.21 / V.35) communications terminal, it is possible to connect to practically all the ISDN or X21 / V35 audio codecs on the market.

Semi–transparent protective cover

Large graphic colour multifunction screen displaying the simple, intuitive configuration and operating menus, the information on the connection status and the VU meters that indicate the incoming and outgoing audio levels.

Numeric keypad

Function and routing keys

Communications status LEDs

Browser for using the menus and answering and calls immediately on and off-hook

Input channel mixing controls, headphone volume control and channel activation keys

Front panel with audio connectors: 3 female XLR connectors for mic and mic / line audio inputs. Also a 5-pin XLR female connector for the auxiliary input and output and two ¼" jacks for the headphone outputs.

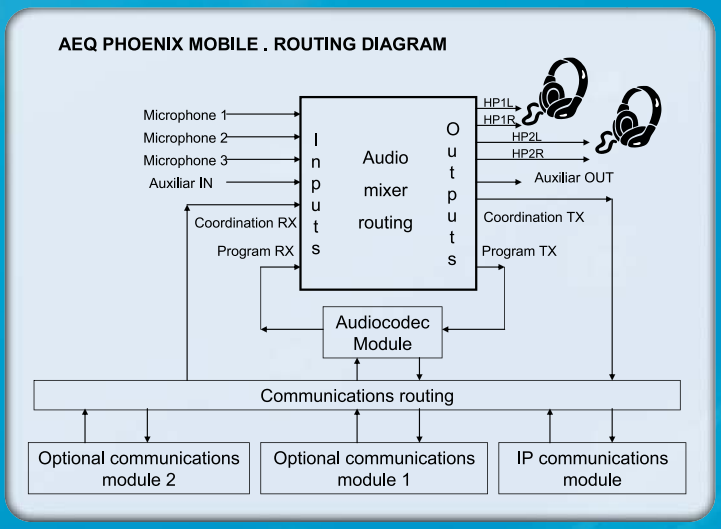
Back panel with a USB for configuration, an Ethernet port for IP network access and auxiliary data channel, and a DB9 with 2 GPIs and 2 GPOs. Power supply using mini XLR. Additionally, two slots are for optional communications modules

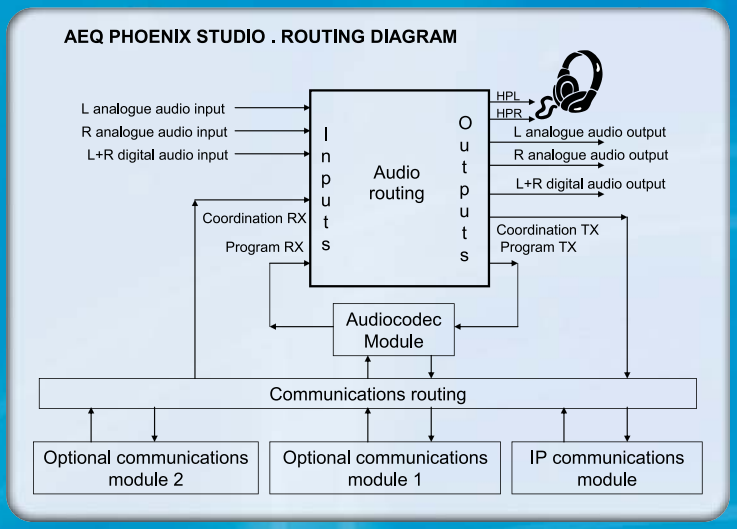
Phoenix audio diagrams

Shown below are the diagrams of the two devices. They are based on a digital audio matrix that routes the incoming audio to the remote equipment through the communication modules, through an audiocodec module for the program and directly for the coordination or backup circuit, which will not be encoded.

The Program RX and the Coordination RX can be routed to the outputs: Headphones 1 and 2, and Auxiliary Out.

Note that the system supports stereo audio in compatible transmission and encoding modes (in the PHOENIX MOBILE, through mic inputs and headphone outputs).





Specifications

PHOENIX STUDIO Rackmount Codec

Analog Audio Inputs	2 x Female XLR. 9 K Ω
Audio Outputs	2 x Male XLR. 50 Ω
AES/EBU Audio Input/Output	1 x DB15
Headphones	1 x 1/4" Jack ST with volume control at front panel.

PHOENIX MOBILE Codec

Mic Audio Inputs	2 x Female XLR. Low noise preamp. Phantom power. 2 K Ω.
Mic – Line Audio Input	Female XLR. Low noise preamp. Phantom power. 2 K Ω / 9 K Ω.
Aux Input/Output	Female XLR5. 6,6 K Ω / 50 Ω
Headphones	2 x 1/4" Jack ST with volume control at front panel.

Audio features

Clipping Level	+20dBu (auxiliary output)
Gain max MIC	65 dB programmable, 1 dB steps
MICROPHONE max. level	-25 dBu
MICROPHONE nominal level	-60 dBu
LINE/AUX max. gain	45 dB
LINE/AUX max. level	+22 dBu
LINE/AUX nominal level	+ 0 dBu
Crosstalk @ 1 kHz	< -70 dB
Crosstalk @ 20 kHz	< -53 dB
Frequency Response	20Hz to 20kHz +/- 0,35 dB
Total Harmonic Distortion	<0.17 % @ input -45 dBu
Mic Input Eq. Noise @ 200 ohms	< -126 dBu

Sample Frequencies

Analogue I/O: A/D D/A converter	24 bit Sigma-Delta 48 kHz max.
IP sampling frequency	8 kHz, 16 kHz, 24 kHz, 32kHz, 48 kHz
POTS sampling frequency	8kHz without compression algorithm
ISDN sampling frequency	16kHz, 24kHz, 32kHz, 48kHz
X.21/V.35 sampling frequency	16kHz, 24kHz, 32kHz, 48kHz
X.21/V.35 bit rate	256 Kbits/s maximum

Communications Interfaces

IP Standard interface	RJ45 Ethernet port
PGA-O1 POTS interface	POTS Modem module and telephone hybrid with frequency extender. RJ11 connector.
PGA-02 GSM interface	GSM Module 4 bands 850-900-1800-1900 MHz. External antenna. (requires sim card.
PGA-03 ISDN interface	Euro ISDN and National 1 module with up to 2 B channels supported per module. RJ11 & RJ45 connector.
PGA-04 X.21/ V35	DB15 male connector.
Satellite	External Satellite phone can be connected to IP interface or the ISDN module.
3G telephone	External 3G phone can be connected to IP interface.

Compression Algorithms

IP	G.711, G722 Mpeg Layer 2, Mpeg Layer 3, PCM 12,16,20 & 24 bits, AEQ LD EXTEND, AAC-LC
PGA-O1 POTS	AEQ POTS, AAC-LC.
PGA-02 GSM	Not compressed
PGA-03 ISDN	G.711, G.722, Mpeg Layer 2, Mpeg Layer 3, AAC-LC, AEQ LD EXTEND
X.21/V35	G.711, G.722, Mpeg Layer 2, Mpeg Layer 3, AAC-LC, AEQ LD EXTEND

The PHOENIX can use, through its optional PGA interface modules, a simultaneous second communication channel for backup or coordination/talkback.

Data and Control Interfaces

USB Slave- Master	USB -1.1 slave or master configurable (host)
LAN 10 base T	RJ45 connector
GPI: General Purpose Input	By optocoupler 2,7-50 V.
GPO: General Purpose Output	Open collector Max 50 V. 50 mA.

Other features

Temperature range:	-10 to +45 ° C (14 a 114 ° F)

PHOENIX STUDIO Rackmount Codec

Front Panel Interface:	Keypad 20 Key . 2x Display 128x22 pixels OLED
Level Indicators	Vumeters in the display.
Internal routing	Digital audio router
GPI-GPO	2 GPI and 2 GPO
Dimensions	1RU 486 mm x 280 mm x 44 mm - 19.x 11 x 1.75"
Weight	3,5 kg (7,72 lbs)
Power	90-250VAC, 15 VA. Auto Sensing 3 PIN IEC connector.

PHOENIX MOBILE Codec portátil

Front Panel Interface	Keypad 33 Key . Display 240x320 pixels TFT color
Level Indicators	Vumeters in the display.
Internal routing	Digital audio router
Dimensions	240 x 210 x 72 mm (8.45 x 7.4 x 2.5")
Weight	1,65 kg (3,34lbs)
Power	12V DC (9 to 18 V DC),4 PIN Mini XLR male connector. 15 VA operation, 20 VA Charge, 20 VA Charge+ Operation. External 90-250 V - 20 VA adaptor-charger
Battery duration	More than 2,5 hours in normal operation

Characteristics subject to changes without any previous notice

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