

**The Most Versatile and Powerful
Stationary IP Audio Codec In The Industry
and PSTN (POTS), ISDN (RDSI),
DIGITAL HYBRID, 3G, GSM ...**



Dual Channel, Full Duplex, Audio Codec - specifically designed for use with a wide array of communications connections and full list of codec protocols.

Complete And Versatile Communications Platform - includes Ethernet connectivity for use with audio over IP networks, X.21 / V.35 for point-to-point links, USB for use with cell phones, and two slots for optional comms modules - PSTN and ISDN available now, more coming soon.

Unique Design Features - fully independent Main Program and Coordination / Talk-Back channels. Connect one stereo or two mono feeds to distinctly diverse locations. Easy to navigate advanced user interface.

Maximum Compatibility – connects with virtually all manufacturer's codecs over IP and ISDN. Fully compliant with N/ACIP EBU Tech 3326 recommendations. Complete SIP support. Employs widely used industry standard encoding / decoding algorithms.

IP Advantages - Adaptive buffer mitigates network jitter. DHCP automatically configures IP connection parameters. Dual, independent IP interface connections – one for audio over IP and the other for remote control.

AEQ SIP Server - To simplify IP connections, AEQ puts its own SIP server at your disposal – and at no cost to you.

The ideal solution for your station's communications needs.

GENERAL DESCRIPTION

The Phoenix Studio is a rack mounted, dual channel, stationary codec designed to communicate with the Phoenix Mobile or other compatible IP codecs. The Phoenix Studio can connect with two other audio codecs simultaneously. Its optional communications modules provide diverse connectivity with other codecs as well. Its front panel controls and associated on-screen menus are very complete and easy to use. The Phoenix Studio also has an IP based remote control and configuration software application for occasions when many units need to be accessed simultaneously.

AEQ's Phoenix family of audio codecs are fully compliant with the N/ACIP EBU Tech 3326 recommendations. AEQ customers can simplify IP connectivity by using AEQ's own SIP server - at no cost what so ever.

It also comes with an X.21/V.35 interface for point-to-point, full-duplex links.

The unit's USB interface provides connectivity with external devices, such as cell phones, to establish communications over 3G or GSM data networks.

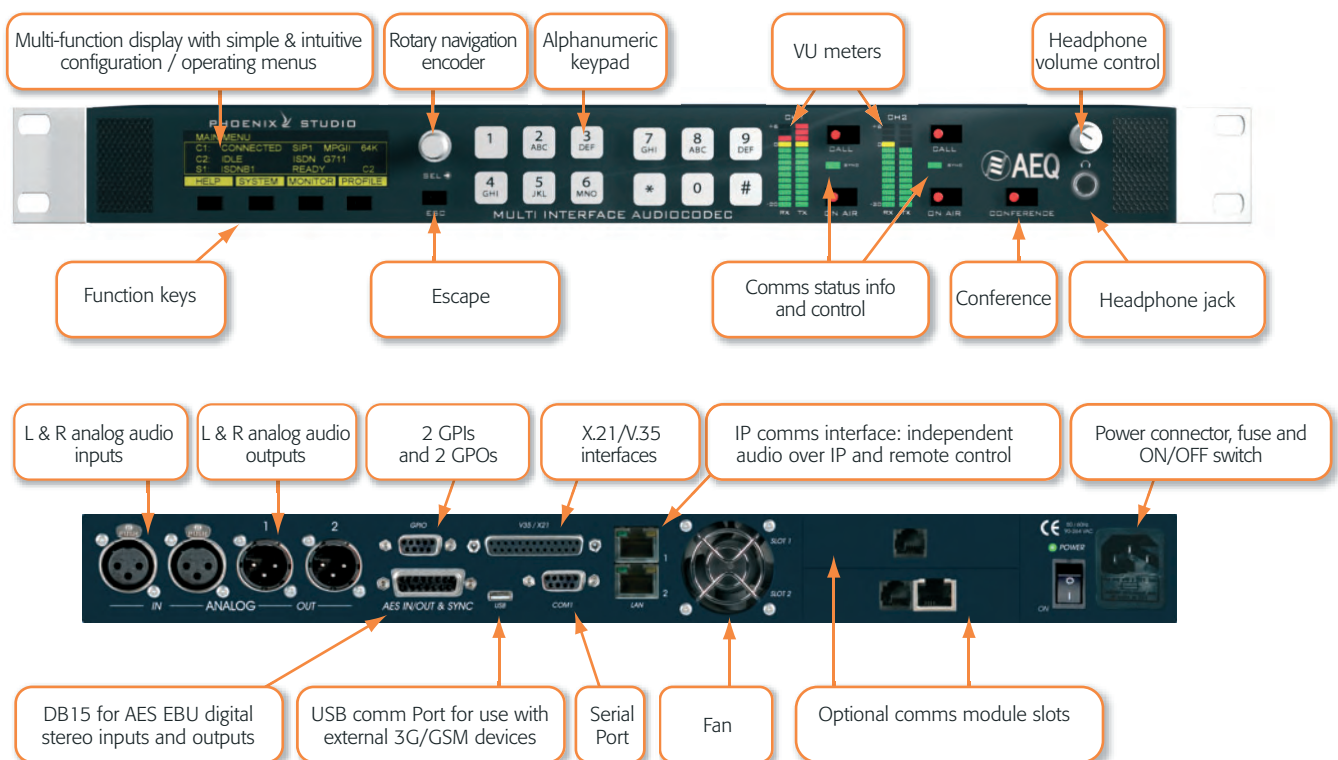
The Phoenix Studio is a very flexible and extremely versatile communications platform. In addition to the built-in IP, it includes two slots which accommodate additional comms interfaces, allowing you to connect via PSTN and / or ISDN lines. Additional comms modules will be developed as the market might require.

Housed in a single rack unit, the Phoenix Studio has two independent codecs which are used to establish stereo, mono, dual, or joint stereo feeds using any of the many default communication interfaces, or with the optional comms modules.

The Phoenix Studio is designed for total compatibility with all existing and future equipment made by AEQ, as well as those of other equipment manufacturers. It comes equipped with a wide variety of codec modes, including AAC, allowing it to connect with other compatible IP codecs. And, its optional comms modules allow it to connect with virtually any ISDN codec on the market.

The Phoenix Studio allows you to select the desired encoding mode and output bit rate which is best suited to your particular network's bandwidth. It also includes an adaptive buffer which mitigates network jitter, as well as a DHCP option for automatic Ethernet parameter configuration when making connections via IP.

FRONT AND REAR PANELS





APPLICATION SCENARIOS AND CONNECTION METHODS

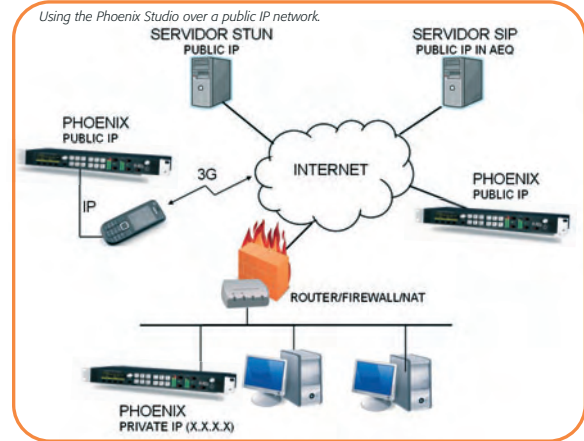
Using The IP Communications Interface

The Phoenix Studio's built-in IP ports allow it to connect to another Phoenix Studio, Phoenix Mobile, or to any compatible equipment over Ethernet or the Internet, and circuits which can be adapted to IP such as 3G, WiFi and satellite.

The Phoenix Studio also has a built-in USB port which can be used to interface with external cell phones and used as a gateway for connections over 3G networks, or via GSM in the POTS mode.

To simplify operation of the unit over Internet IP networks, AEQ offers its customers (at no additional cost) the use of its own SIP server. The SIP server facilitates communication with any other user by making the physical location of the codec independent of its network identifier. You only need to know the identifier of the destination equipment in order to establish a connection - no additional information is required. Phoenix Studio also supports private user groups.

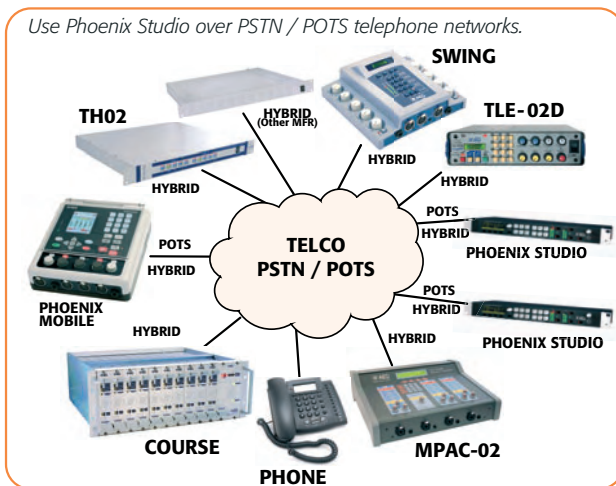
The Phoenix Studio also works with STUN servers. This allows it to connect between private networks and the Internet using the routers as gateways. Phoenix Studio simplifies sending and receiving uni-cast and multi-cast communications by means of a SAP server.



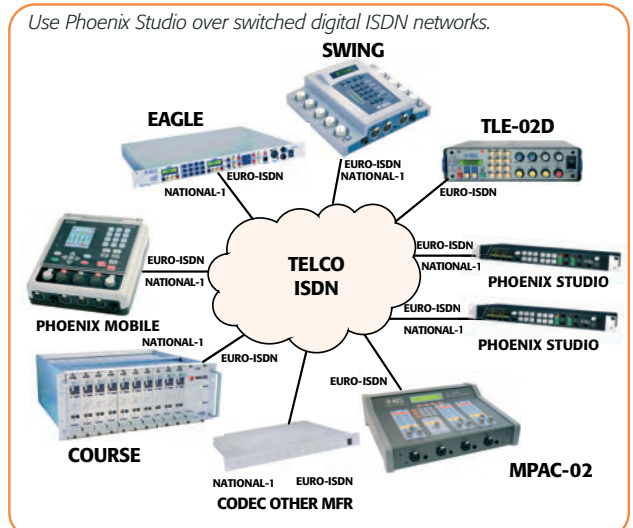
The Phoenix Studio's IP interface parameters can be configured either manually (by the user), or automatically (by Phoenix Studio) using its built-in DHCP protocol.

The Phoenix Studio provides two Ethernet ports. One is used to send audio over an IP network, and the other is for remote control via an IP network. The ports are independent of each other, and act as a physical firewall between public audio distribution networks and private networks typically used for control.

Total Versatility Using PSTN / POTS and ISDN / RDSI Comms Connections



Using the optional PGA-01 comms module (PSTN / POTS codec and digital hybrid), the Phoenix Studio can connect to another Phoenix Studio, Phoenix Mobile, or other equipment. In the telephone hybrid mode, it can connect to virtually any telephone or telephone hybrid on the market. You can also use the built-in Frequency Extender as well as the Echo Cancellation functions with another Phoenix Studio, Phoenix Mobile, Course Hybrid, SWING, MPAC, TLE02, and TH02 equipment.



Using the optional PGA-03 comms module (ISDN / RDSI), the Phoenix Studio can connect to practically any ISDN codec on the market - including another Phoenix Studio, Phoenix Mobile, Eagle, Course ISDN, SWING, MPAC and TLE02. The PGA-03 includes both S and U interfaces, RJ45 and RJ11 connectors, and supports the Euro ISDN as well as the National-1 protocols. Phoenix Studio facilitates using both B channels in ISDN allowing simultaneous, yet independent communications.

SPECIFICATIONS:

Analog Audio Inputs: 2 x Female XLR, 9 K Ω , Electronically Balanced, Line Level
Analog Audio Outputs: 2 x Male XLR, 50 Ω , Electronically Balanced, Line Level
Digital Audio Input: DB15, Stereo AES/EBU interface with SRC for independent inputs (different sampling frequencies available), M/JS/S selectable
Digital Audio Output: DB15, Stereo AES/EBU interface with SRC (16, 32, 48KHz)
Headphone Output: 1 x 1/4" Stereo Jack, with front panel volume control
Synchronization: 1 x Sync I/O (on DB15)

AUDIO

Input Nominal Level: 0 dBu
 Input Max. Level: + 22 dBu
 Output Nominal Level: + 0 dBu
 Output Max Level: 10 dB over nominal
 Distortion: < 0.2%
 THD+N In SRC: @ 1 KHz: -117dB
 Dynamic Range: > 95dB
 Cross-Talk: < -70dB
 Frequency Response: (+/- 0.2 dB)
 50Hz – 15 KHz in MPEG 1 L II
 20Hz – 20 KHz in MPEG 1 L III
 20Hz – 20 KHz in MPEG 4 AAC-LD
 50Hz – 7 KHz in G722
 50Hz – 3 KHz in G711
 Analog I/O: A/D and D/A converter, 24 bit Sigma-Delta, 48 KHz max
 Modes: Mono, Dual, Stereo

COMMUNICATIONS INTERFACES

- IP Standard Interface: 2 x RJ45 Ethernet ports. Independent IP connections for audio over IP and remote control. LAN 10/100 base T RJ45 connector. N/ACIP EBU Tech 3326 specification compliant.
- X.21/V.35 Interface: DB25, Binary rates of 64/128/256 Kbps
- USB OTG Interface: Slave/Master operation, to integrate external devices as gateways for communication via 3G and GSM, networks. Max power 500 mA
- PGA-01 PSTN/POTS Interface: Supports use of PSTN/POTS comms module and telephone hybrid with frequency extender. RJ11 connector.
- PGA-03 ISDN/RDSI Interface: Supports use of Euro ISDN and National 1 comms module, with up to two B channels supported per module. "S" interface (2B+D) Euro RDSI compliant (ETS 300 012, ETS 300 125, ETS 300102), RJ-45 connector. "U" interface (2B1Q) ANSI compliant (ANSI T1.601-1992, T1.602-1996, T1.607-1998), RJ-11 connector.
- Satellite Communications: An external satellite phone can be connected to the IP interface or the ISDN module.
- GPI: 2 x general purpose inputs, opto-isolated, 2.7 - 50 V
- GPO: 2 x general purpose outputs, open collector, Max 50 V, 50 mA
- Back-Up: Automatic between V35 and RDSI
- Multi-Cast IP: TX and RX. SAP Server compliant
- SIP: Complies with EBU-Tech 3326 spec. Allows private user groups

GENERAL FEATURES

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

Front Panel Control:

- 1 x 12 key, Alphanumeric Keypad
- 1 x OLED Display
- 4 x Function Keys (used with display menus)
- 1 x Rotary Encoder and Escape Key (used with display menus)
- 4 x 14 Segment LED VU Meters
- 4 x Comm Status LED Indicators
- Configuration Wizard (Internal Menu)

Remote Control Interface:

- Real-Time Web Server
- SNMP Alarm Management (OPTION)
- 2 x GPI
- 2 x GPO
- 1 x Serial Comm Port

Dimensions: 1 RU 486 x 280 x 44 mm - 19 x 11 x 1.75"

Weight: 3.5 kg (7.7 lbs)

Input Power: 90 - 250 VAC, 15 VA, Auto-ranging, 3 PIN IEC connector

Ventilation: Ultra-low noise, Inside-studio operation compliant

CODEC Algorithms:

PHONE: No coding
 PHONE (AEQ Bass extender): No coding
 AEQ LD EXTENDED: 128kbps
 ITU G.711 A-Law mono: 64 Kbps
 ITU G.711 μ -Law mono: 64 Kbps
 G.711 A-Law mono EXTENDED: 64 Kbps
 G.711 μ -Law mono EXTENDED: 64 Kbps
 ITU G.722 Statistical Mono: 64 Kbps
 MPEG-2 LII mono fs: 24 KHz, 128 Kbps
 MPEG-1 LII mono fs: 32 KHz, 128 Kbps
 MPEG-1 LII mono fs: 48 KHz, 128 Kbps
 MPEG-1 LII stereo fs: 32 KHz, 128 Kbps
 MPEG-1 LII stereo fs: 48 KHz, 128 Kbps
 MPEG-1 LII M/JS/S fs: 48 KHz, 192 Kbps
 MPEG-1 LII M/JS/S fs: 48 KHz, 256 Kbps
 MPEG-1 LII M/JS/S fs: 48 KHz, 384 Kbps
 MPEG-2 LII mono fs: 16 KHz, 64 Kbps
 MPEG-2 LII mono fs: 24 KHz, 64 Kbps
 MPEG-1 LII mono fs: 32 KHz, 64 Kbps
 MPEG-1 LII mono fs: 48 KHz, 64 Kbps
 PCM 16bits mono fs: 32 KHz, 512 Kbps
 PCM 16bits mono fs: 48 KHz, 768 Kbps
 PCM 20bits mono fs: 48 KHz, 960 Kbps
 PCM 24bits mono fs: 48 KHz, 1152 Kbps
 PCM 16bits stereo fs: 32 KHz, 1 Mbps
 PCM 16bits stereo fs: 48 KHz, 1.5 Mbps
 PCM 20bits stereo fs: 48 KHz, 1.8 Mbps
 PCM 24bits stereo fs: 48 KHz, 2 Mbps
 MPEG-4 AAC-LC mono fs: 24 KHz, 12 Kbps
 MPEG-4 AAC-LC mono fs: 24 KHz, 22 Kbps
 MPEG-4 AAC-LC mono fs: 24 KHz, 32 Kbps
 MPEG-4 AAC-LC mono fs: 48 KHz, 32 Kbps
 MPEG-4 AAC-LC mono fs: 24 KHz, 64 Kbps
 MPEG-4 AAC-LC mono fs: 48 KHz, 64 Kbps
 MPEG-4 HE-AAC mono fs: 48 KHz, 12 Kbps
 MPEG-4 HE-AAC mono fs: 48 KHz, 22 Kbps
 MPEG-4 HE-AAC mono fs: 48 KHz, 32 Kbps
 MPEG-4 AAC-LC stereo fs: 24 KHz, 64 Kbps
 MPEG-4 AAC-LC stereo fs: 48 KHz, 64 Kbps
 MPEG-4 AAC-LC stereo fs: 48 KHz, 128 Kbps
 MPEG-4 AAC-LC stereo fs: 48 KHz, 256 Kbps
 MPEG-4 HE-AAC stereo fs: 48 KHz, 24 Kbps
 MPEG-4 HE-AAC stereo fs: 48 KHz, 44 Kbps
 MPEG-4 HE-AAC stereo fs: 48 KHz, 64 Kbps
 Note: Others available upon request (MP3, MPEG-4 AAC-LD, MPEG-4 AAC-ELD)

* Specifications are subject to change without prior notice



Web Browser Interface Via Remote IP



Project endorsed by Spain's Ministry of Industry, Tourism, and Commerce