MULTI-FORMAT DUAL-CHANNEL ISDN AUDIO CODEC

EAGLE

The Eagle is a multi-format dual-channel ISDN audio codec with analog and digital AES/EBU inputs and outputs, dual displays to facilitate operation, and unique features such as a Multiplexing, which places both ISDN B channels in conference, all in a one-rack unit height..

BENEFITS AND SPECIAL FEATURES

- Member of the E@sy Family: E@sy allows a group of Eagles and other E@sy equipment to be control from a multipoint network, making up a system with powerful functions and great benefits.
- Built-in ISDN terminal adapter, with dual-port ETSI (Euro ISDN) and ANSI (NATIONAL-1), ISDN connections can be established at 64 or 128 Kbps.
- Two independent channels available simultaneously for all 64 Kbps encoding modes: G.711, G.722 and MPEG.
- Auxiliary phone, available as an intercom and DTMF control on all encoding modes, ideal for control and studio room applications.
- Headphone monitoring and microphone input connector located on the front panel for easy tech and central control room applications
- MULTIPLEXING switch located on the front panel allowing for easy conference of both "B" channels while ON AIR.
- Dual backlit displays for menu configurations, dialing and access to phone book information.
- Independent LED bar-graph meters for the transmission and reception of both channels.
- Analog and digital AES/EBU inputs and outputs, with 24-bit converters and SRC (Sample Rate Converter).
- Silent operation: no built-in cooling fan.

E@sy SOFTWARE FOR eagle

Not only can the Eagle be controlled through the front panel, but through the E@sy software application as well. The EAGLE can be controlled and configured from a PC connected to the E@sy network in which several applications can be run, such as:

Real Time Control and Management Software (Included with purchase at no extra cost)
These applications permit the control of E@sy devices connected to a computer, checking their status and remotely changing their configuration. Users can check on the type of equipment and board connected, update the telephone directory, change coding algorithms, check status of each line and even place calls.
The standard version also includes an application for updating firmware through the E@sy network
The following applications are optional and are an important added value to the simple control of the equipment.

Codec Share
Software that aids in sharing E@gle and Course codecs between multiple studios and routes the audio through Impact digital routers. Please tell us number of users when ordering.

Systel 6000
Multi-conferencing and talk show system over ISDN/POTS lines. The backbone of the system is Impact, Eagle and Course.

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CONTROL MODES

- From the front panel.
- By muti-frequency dialing, from auxiliary phone
- By contact closures on programmable GPI interface.
- Through the E@sy port, the E@sy application can be installed in one or several computers. Up to 128 E@sy units such as the Eagle, Course, Impact and Ranger can be controlled simultaneously.

INDEPENDENT CONTROL KEYS PER CHANNEL

ON/OFF: activates/de-activates line.
- LED off: line available.
- LED steady red: line busy
- LED flashing red: receiving call.
- LED steady orange: audio not synchronized.
- LED steady green: audio synchronized

COMM Key:

When activated, the audio input and output on the back panel is disconnected, and the mic input on the front panel is activated.

CONFIGURATION KEYPAD

Used to access the main menu, change encoding modes and setup of unit, backlit display is directly associated with keys.

WAIT: places calls on hold

ON AIR: places calls "on air", routing audio to the corresponding output connector

MULTIPLEX:
When there are two active calls, it enables conference between both lines and the studio.

DIALING KEYPAD
Has alpha-numeric assignment for editing and creating phone book entries.

FUNCTION KEYPAD
Used to access functions from the dialing menu and phone book, backlit display is directly associated with keys.

LEVEL METERS
Independent metering for transmission and reception

MON Key:
Activates the monitoring circuit, which routes the input and output audio of the selected channel to the headphone output.

AUXILIARY PHONE JACK:
Provides the audio interface and power necessary for connecting a conventional analog phone. The circuit is equipped with off-hook detection and DTMF decoder, in order to be able to use the phone as a remote control for the unit.

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BACK PANEL

Auxiliary data channels 1 & 2. RS232 Ports.
Two female DB9 connectors, labeled ANCILL. 1 and ANCILL. 2, are used for transmitting and receiving data on RS232 protocol. A male-to-female cable is used to connect them to a serial port on a computer.

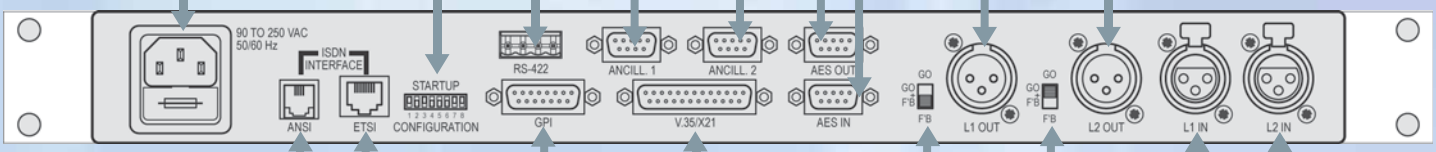
E@SY Control Ports (RS232 & RS-422).
These ports allow for the Eagle to be remotely control and updated through a computer using specialized software.

AES/EBU synchronism, input and output Sub-D Connectors.
Two DB-9 connectors, top male connector for AES/EBU output and bottom female connector for AES/EBU input.

Output analog audio 2 and 1 connectors.
These outputs are configurable as send Tx (Go), send plus fallback Tx+Rx (Go+F'B) or Fallback Rx (F'B)

Mains connector and fuse housing.

DIP Switches (STARTUP CONFIGURATION).
1 Through 8 for quick selection of preprogrammed configurations at power up.



RJ11 connector for ISDN U Interface.
The RJ11 connector links the built-in terminal adapter with the ISDN network access point (termination). The U interface is used in the USA and Canada. In this interface the EAGLE provides the network termination (NT1).

RJ45 connector for ISDN S Interface. The RJ45 connector links the built-in terminal adapter with the ISDN network access point (termination Named TR1 or NT1) provided by the phone company, it is used with the EURO_ISDN protocol.

General Purpose Interface, GPI.
The GPI port allows an external device to control the audio codec.
For instance, it facilitates control as a telephone hybrid from a console.

V35 Interface DB25 Connector

Audio Selection Switch.
Allows the output signal to be sent as send Tx (Go), send plus fallback Tx+Rx (Go+F'B) or Fallback Rx (F'B)

Input analog audio 2 and 1 connectors.

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SPECIFICATIONS

Communication Interfaces.

ISDN.

"S" 2B+D interface Euro ISDN compatible (ETS 300 012, ETS 300 125, ETS 300 102), RJ-45 connector.
"U" 2B1Q interface ANSI compatible (ANSI T1.601-1992, T1.602-1996, T1.607-1998), RJ-11 connector.

Point-to-Point.

RS-422 connector, V.35 o X.21 interface, DB-25 connector.

Analog inputs and outputs.

Main inputs.

- Transformer balanced, with RF filters, XLR-3 female.
- Input Impedance: > 6 kOhms.
- Max level: + 22 dBv.
- A/D Converters at 24 bits.

Intercom Mic Input.

- Transformer balanced with a built-in RF filter.
- Nominal level: +22 dBm.

Main Outputs.

- Transformer balanced, XLR-3 male.
- Output Impedance: < 50 Ohms.
- Max Level: + 22 dBm.
- A/D Converters at 24 bits

Headphone Output.

- Jack Stereo with volume control.
- Maximum power: 150 mW.
- Headphone impedance 8 to 600 Ohms.

Auxiliary Telephone Connector.

- RJ-11 connector.
- Power: 18 mA CC.
- DTMF decoder.
- On/Off hook detection.

Digital audio Interfaces.

- AES/EBU (AES-3), with transformer.
- Sampling frequency supported from 16KHz to 48KHz.
- Sampling Rate Converter (SRC): range 1:3 and 3:1, 24 real bits without truncating, independent inputs and outputs.
- External synchronism input AES-11.
- SRC Dynamic Rangel: 128 dB
- SRC THD + noise @ 1KHz: -117 dB.
- Dual AES/EBU independent monaural interface (with different sampling rate) configurable to one dual input.
- DB-9 connectors.

Other Interfaces.

- Data Sub-channel: DB-9, RS-232, asynchronous, data 8 bits, no parity, 1 stop bit, configurable speed.
- Remote control: DB-9, RS-422 full-duplex multi-access 38.400.

Encoding, synchronism and bandwidth modes.

- G. 711 A y μ Laws, with echo cancellation. 300 Hz - 3,3 KHz.
- G. 711 with frequency extender compatible with AEQ TLE-02D. 50 Hz - 3 KHz. Echo cancellation.
- G.722, statistical 20 Hz - 7 KHz.
- G.722, H.221/H.242, 20 Hz - 7 KHz.
- AEQ H.221/H.242, 20 Hz - 3,5 KHz., 32 Kbps.
- MPEG LII at 24, 32 and 48 KHz sampling, 64 Kbps, 20 Hz - 11 KHz.
- MPEG LII at 32 KHz sampling, 128 Kbps, dual, 20 Hz - 11 KHz.
- MPEG LII at 48 KHz sampling, 128 Kbps, mono 20 Hz - 20 KHz, joint stereo 20 Hz - 15 KHz.
- MPEG LII at 48 KHz sampling 256 Kbps stereo, 20 Hz . 20 KHz.
- MPEG LIII at 32 y 48 KHz sampling, 64 Kbps, 20 Hz - 15 KHz.
- MPEG LIII at 32 KHz sampling, 128 Kbps, dual, 20 Hz - 15 KHz.
- MPEG LIII at 48 KHz sampling, 128 Kbps, mono , 20 Hz - 20 KHz.
- MPEG LIII at 48 KHz sampling, 128 Kbps, stereo, 20 Hz - 15 KHz.
- Universal decoder LIII for all MPEG LIII modes at 64-128 Kbps, 48 KHz.
- AEQ-LD2 at 32 kHz sampling, low delay 128 Kbps (ADPCM multiband) 20 Hz – 15 kHz.
- Split Mode:
  Channel 1 MPEG LIII encoding (48 kHz, 64 Kbps) G.722 Decoding; vice versa in the return channel.
- J.52 and IMUX Synchronization at 128 Kbps.

Power.

Auto-range; auto-switching from 90 to 250 VAC, 50/60Hz

Standard.

Electromagnetic Compatibility: EN 50081-1, EN 50082-2.
CE approved

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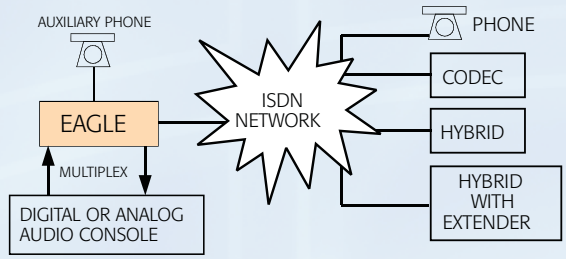
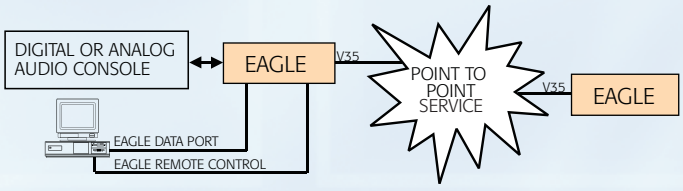
APPLICATIONS

Analog line telephone hybrid replacement. It handle analog and ISDN line calls.



The EAGLE can be set up to provide a data sub-channel over the audio. Each channel of the two channels can send and receive audio and data simultaneously. The band split for audio and data is user selectable.



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