NETBOX 4 MH
IP audio interface with microphone / line inputs and headphone + line outputs
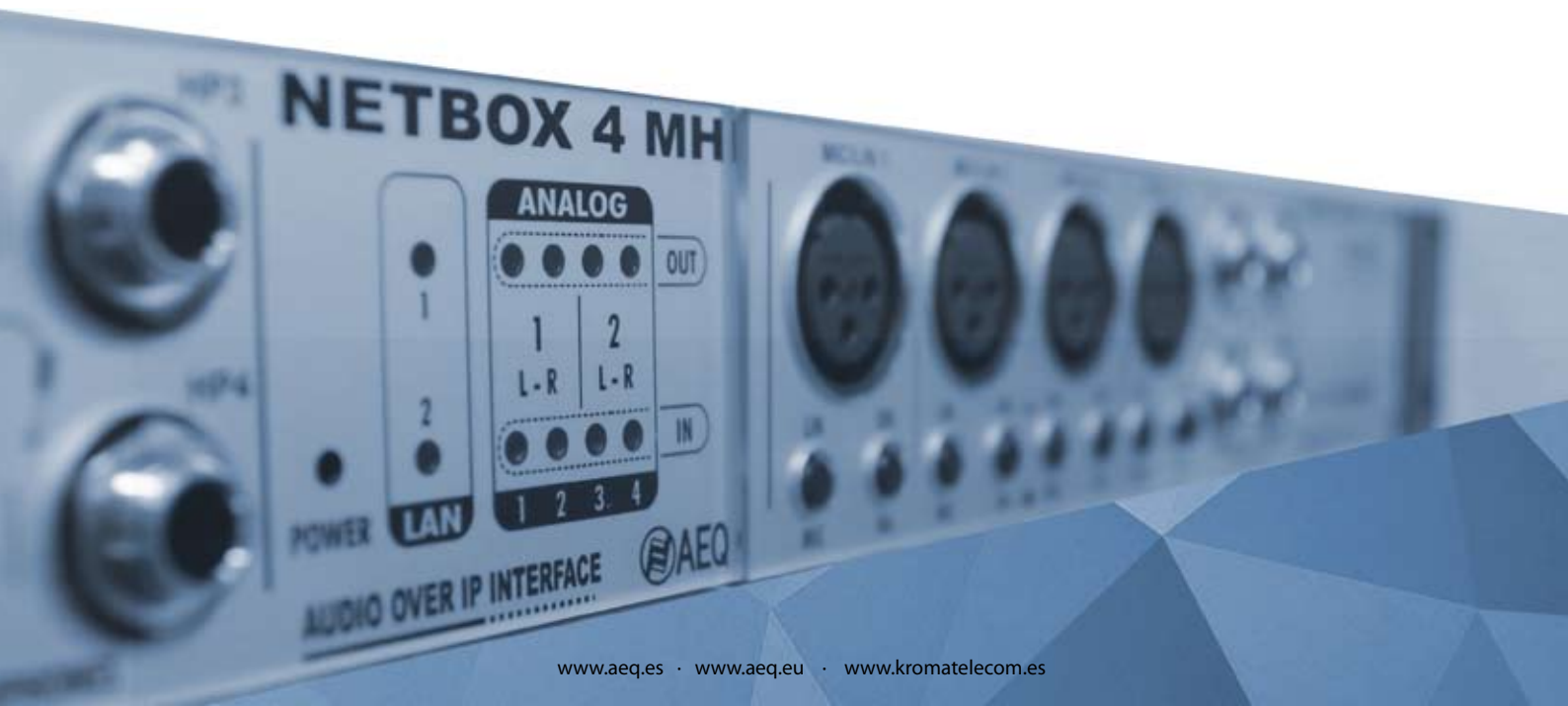Features general-purpose and radio booth signaling GPIOs

AEQ

Product summary

This product is designed to cover the need for high-quality microphone inputs and headphone outputs availability outputs, for example in radio and TV studios, stage or multimedia installations. The multichannel IP connectivity (Audinate DANTE™ protocol) makes the Inputs of the unit available at any point of the network.

As a complementary feature, the unit is sporting the same inputs and outputs as analogue balanced line Inputs and Outputs.

Also, the interface includes 4 General Puurpose inputs and outputs (GPIO) as interfaces for signaling transport between the different devices in the IP network.

Further, the NETBOX 4 MH has additional GPIOs that can be used in for example a studio installation and as an interface to signaling terminals such as the AEQ SRC 03. This greatly facilitates the implementation of services such as remote CUE and Cough-cut, User keys, ON AIR and READY lights, etc.

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Front panel elements

Four microphone inputs

o Female XLR connectors, MIC/LIN and Phantom individual external switches. Microphone preamplifier with the same high quality as those used in AEQ digital consoles.

o Gain control for these microphone/line inputs from a PC-based software application. They can be adjusted individually or grouped in stereo pairs. The latest gain settings used are stored even if there is no PC connected.

Two stereo headphone signals configurable on 4 connectors

o Four headphone outputs that can be independently configured as primary or secondary with ¼" jack (one primary plus three secondaries, two primaries plus two secondaries or four primary outputs).

o Headphone outputs are also available in 4 mono line outputs with nominal level (see image of the back).

o Gain control for these headphone / line outputs is available from the PC control software. They can be treated as individual signals or stereo pairs. The latest gain settings used are stored even if there is no PC connected.

Signaling

Power LEDs, LAN 1 and 2, 4 tri-color LEDs indicating presence of incoming signal and 4 for outgoing signal.

Rear panel elements

Line output connectors

o One DB15 connector provides 4 line-level analog outputs in parallel with the headphone outputs with the same level adjustment.

o Gain control for these lines (common with the headphones) is provided in the PC control software. They can be treated as individual signals or stereo pairs. The latest gain settings used are stored even if there is no PC connected.

DB15 GPIO connector

4 GPI and 4 GPO with common ground and +5V reference are included in the connector. The Protocol used is available upon request for integration with third party equipment.

RJ45 GPI / GPO connectors for SRC 03 or other booth-signaling devices

With RJ45 for studio signaling, compatible with SRC 03 signaling box.
The GPI connector has 7 inputs. The GPO connector includes 2 relay-activated outputs, including external power supply for ON AIR and READY booth indicators.

External power supply

Audio functions included in the unit can be powered by PoE. There is also an input for an external power supply that can be used when the LAN switch doesn't support PoE or in order to feed lamps, SRC 03 indicators or similar devices.

Dual LAN connector

Provided in order to be able to connect the device to the Dante network in either Bypass.

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Technical specifications

o Channels: 4 microphone-line input, 4 line outputs, in parallel with 4 stereo headphone outputs. Each pair can be assigned to a pair of line outputs.

o Internal sampling frequency: 48 kHz @ 24 bits. Variable using an external clock reference.

o 48V Phantom Power supply and electronic balancing for all microphone inputs.

o Electronically-balanced analog line inputs and outputs. Mute and gain control between +12 and -30 dB, individually or in stereo pairs.

o Data format: DANTE Audio-over-IP technology.

o Plug-and-play technology: automatic detection and simple channels routing.

o Precise, sample-level playback synchronization, even through several switch hops.

o Extremely low, deterministic delay through the whole network.

o Scalable and flexible network topology supporting a wide range of audio transmitters and receivers.

o Supports 100Mbps, 1 Gbps and 10 Gbps network segments.

o Supports a unique and integrated network for audio, video, control and monitoring. Compatible with other kinds of traffic using QoS policies.

o Uses low-cost, off-the-shelf network devices.

o Resolution: 24-bit at 48 kHz.

o Latency: 1.5 – 3ms (@ 48 KHz, typical, depending on network quality and complexity).

o 2 x RJ45, 100 BASE-T Ethernet ports with galvanic isolation, usable as "daisy chain" connections.

o Binary data rates: 10/100/Mbps.

o Maximum segment cable length: 100 meters using CAT5e or better cabling.

Software specifications

Netbox Tool application, running on Windows operating systems, that provides the following functionality:

o Device's headphone outputs source configuration.

o Phase and stereo pairing configuration for the device's inputs and outputs.

o Virtual fader bank to configure the device's

input and output gains.

o Sync configuration.

o Device's GPIO configuration and selection of which devices in the network can receive its GPI's.

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General specifications

o Dimensions and weight: 211 x 44 x 170 mm; 8.30" x 1.75" x 6.70" (two units in a single rack width). 1 kg (2,2 lbs).
o Power supply: PoE+ and connector for external DC 48V power supply. Power supply accepts 90-264VAC, 47-63Hz.
o Cooling: quiet natural convection cooling, compatible with operation inside the studio.
o Temperature operating range: -10 to + 45 º C (14 to 114 º F).
o "FR CAB INP" cabling accessories-compatible audio outputs.
o "FR CAB GPIO" cabling accessories-compatible GPIs and GPOs.

Easy to install

The unit has the width of half a 19" rack, and is provide with two fixing brackets, two lateral plates that can be fixed to the base or top of the unit, and 4 desktop legs.

These options allow the user to install the device in a wide variety of positions:

- As a desktop unit.
- As a desktop unit, fixed to the surface with brackets.
- Rack-mounted horizontally or vertically.
- Fixed to a piece of furniture or wall vertically, using the mounting brackets.
- Two devices can be mounted in parallel and installed in a 19" with the mounting brackets.

SRC-03 desktop signaling box

Ideal complement to be used with a digital console signaling ON AIR through a NETBOX 4 MH.

Keys:
- CUT: microphone cut.
- CUE: pre-listen.
- USER KEYS 1- 5: configurable-function keys.

Signaling:
- GREEN LIGHT: Indicates closed microphones.
- RED LIGHT: Indicates open microphones.

Dimensions and weight:
- Width: 130 mm.
- Height: 55.3 mm. Depth: 174 mm. 660 grams.

Specifications subject to change without prior notice.