8000 SERIES Broadcast-quality intercom panels

TP8116 16 keys rackmounted panel

EP8116 16 keys expansion panel

TP8416 16 keys desktop panel

8000 Series user intercom panels have been designed to provide broadcast quality audio and to be used with the digital technology of Conexia and CrossNET matrixes. Audio is captured and processed at 48kHz, with 24 bits/sample, providing full audio bandwidth with negligible noise and distortion levels.

Ease of installation has also been taken into account, featuring a redundant IP port taht handles high-quality DANTE format audio and also compatible with AES 67 standard.

Audio is digitally processed to cancel acoustic echo and automatically compensate for voice level and particular speech habits of each operator. Acoustics has been seriously engineered to reach the highest possible intelligibility and clarity of sound.

Each panel offers a user interface consisting in 16 (rack-mounted or desktop). Expansion panels are available to expand the system up to 80 keys.

Audio Processing

The TP8000 panels are providing the following audio processing functions:

- 3 band parametric EQ, Low and High pass filters, making it possible to balance natural sound and comprehension of the voice.
- Dynamic adjustment:
    Compression to allow for a wide range of distance and angles of the position of the microphone.

    Expander and noise-gate to eliminate or minimize the ambience background noise.
- Echo cancellation, avoiding the local acoustical echo and the delayed return of the proper voice causedd by, for example, a remote loop.

The audio processing is accomplished through the "Crossmapper" appication that will also allow for using factory default preset profiles, modify these or create new customized profiles. These profiles can be applied depending on the type operation and acoustical conditions.

Conectivity

TP8000 panels featuring the following connection ports, making them compatible with any KROMA intercom matrix:

An Ethernet IP Interface for:

- Connection of broadcast quality audio to one or two matrices in DANTE /AES67 multichannel mode.
- A redundant IP port for high-quality DANTE format connection, or for low-bitrate compressed audio, to ensure compatibility with older Kroma systems*
- A Kroma high-qualilty digital*
- A high-quality analog port*

* (High-quality port is obtained only by connecting 8000-series panels to the Conexia and CrossNET ma trixes).

Panels can be connected simultaneously to 4 different intercom systems.

VoIP AoIP @Dante AES67

AEQ

KROMA by AEQ

EP 8116

TP 8116

8000-serie rear view

TP8416

Auxiliary connections

Adicionally, a GPIO (general purpose I7O port) is available through the unused pins of the analogue port, voltage (GPII) or contact-closure (GPO) activated.

Internal audio matrix

Given the large variety of available audio ports, all panels feature a small internal audio matrix, configurable from the on-screen menu or the Crossmapper software. It is possible to make use of this function in different applications, for instance: a digital port and an analogue one can be used as an A/D interface to a matrix by simply establishing a permanent crosspoint.

Multiple key configurations to choosen from

It is possible to configure up to 4 key pages for each panel, effectively multiplying by 4 the number of sequences of co-munications.
On the other hand, every key can also be configured to operate in LATCH, PTT and INTERLOCK modes, as well as in a mixed way.

Local reprogramming of user panel keys

It is not necessary to have the configuration software activated to change the functionality of a key panel. It is possible to reprogram the user panel keys from the proper key panel.

Repeating of the last seconds of t he received audio

It is possible to reproduce the first 16 seconds of audio received. This is useful to avoid the non receiving of a message if the operator is momentarily away from the sation or has difficulties in comprhending the messege due to, for example, a momentary high level of ambience noise.

Independent gain adjustment

In order to optimize working levels, the input and output gain for each port is set between ±24dB; microphone, headset microphone and speaker and headphone output.

Incoming Call Disconnect Function

From a user panel it is possible to disconnected calls to the panel that have been initiated/established from other panels.

The design and specifications of CrossNET intercom matrix and the TP8000 Panels was awarded with TV Technology´s "Best Show" at the NAB Show 2015.

8000-Series panels technical specifications

	10 Mb/s or 100 **Mb/s**.or 100 Mb/s.
	2 Dante channels: 48kHz, 24bits/sample, 20 Hz / 20 kHz bandwidth. Typical delay at 48 kHz sampling frequency: 2ms (it depends on network quality and complexity). Kroma system channel: 8 bits, 8.3 kHz. 10 kb/s., Kroma PRTP Allows for the Daisy-chaining of panels
Analogue connection	RJ45 port, carrying 4-wire analogue balanced audio with broadcast quality. Nominal level: 4 dBV, output impedance: 20 Ω, input impedance: 24 KΩ. Bandwidth: 20 Hz - 20KHz
Kroma digital connection	RJ45. Sampling frequency: 41,66 kHz, 16-bit audio + **control.** Proprietary KROMA Intercom protocol at 2Mb/s.
Microphone	Unidirectional electrets microphone, sensibility -36 dBu. (0 dB = 1 v/Pa. Frequency response 80 Hz-12 kHz
Speaker	Dynamic speaker, protected with a compressor/limiter. Max 84 dB SPL @ 1 metre
Headset Input	Headset input for electrets microphone, sensibility -36 dBu. 5 volt polarisation.
Headset Output	Allows for impedance from 16 through 600 ohms. (Only certified Headset combinations should be used. See Headset references in this document)
Test signal Generator	Normalised Test Signal generator (tone and pink noise)
GPIO	On unused analogue port pins: RJ 45, GPI input level: +(5-24)V. GPO: contact-closure type.
Expansion port	RJ45 connector, control via RS422
USB connector	For maintenance tasks only
Headset	4-pins Tini-QG (mini-XLR type)
Power supply	Double range redundant power supply, admitting 90 to 132VAC and 187 to 264VAC in two ranges. 50/ 60 Hz line frequency.
Power consumption	typ. 20W, max. 32W

Ordering information

TP8116	Ports: 1 redundant Dante + Kroma network port, 1 digital Kroma, 1 analog. 16 keys, 2 LCD.
EP8116	Expansion 16 Keys and 2 LCD for TP8116, TP8132, TP8016 or TP8032.
TP8416	Ports: 1 redundant Dante + Kroma network port, 1 digital Kroma, 1 analog. 16 keys, 2 LCD. Desktop version.
Headsets	
732-014-183	MC7000X07 Ear-mount earset. (w/o microphone)
732-014-180	MC7000X09 Mono headset with microphone
732-014-181	MC7000X10 Binaural headset with microphone
732-014-182	MC7000X11 Binaural closed headphone with microphone (adapted from Beyerdynamic)
732-014-214	MC7000X12 Ear-mount earset. (w/o microphone)
Dimensions and weight	TP 8116 and EP 8116 panels. 1RUx19``x120mm. 1,6 Kg. TP8416 Panel .280mm x 205mm x 85mm. 1,6 Kg