

The TH5000 hybrid matrixes from KROMA are the heart of the new generation of KROMA hybrid intercom systems.

By integrating audio sources of different nature (**analogue, digital and Voice-over-IP**), the unit can natively host a wide range of signals, like audio from CCUs, user panels and wireless beltacks. With four different versions in 12, 24 and 48 ports (upgradeable by software) and only 1RU high, the TH5000s represent a state-of-the-art compact solution for small and middle-sized intercom systems.

Integration of different audio sources

The TH5000s are provided with up to 48 ports of 3 different types:

- **Analogue ports:** Four transformer-isolated 4-wires ports can be used to connect Camera Control Units (CCUs) or audio programme sources, as well as any other external 4-wires analogue audio source.
- **Digital Ports:** The digital ports main purpose is usually to host KROMA user panels. Alternatively, interface cards may be used so that telephone lines or additional analogue ports may be integrated into the system.
- **IP ports:** One RJ45 connector provides the gateway to the virtual IP ports via a switch Ethernet. These virtual ports can be used to connect user panels or beltacks through a LAN, remote terminals through an WAN, or KROMA WiFi beltacks.

Different models for different requirements

The TH5000 is available in 3 different sizes with 12, 24 and 48 ports and 4 different ports combinations (see attached chart). It is possible to upgrade to larger versions with just a software update.

Model #	IP virtual ports	Digital ports	Analogue Ports
TH5012R02	4	4	4
TH5024R01	12	8	4
TH5024R11	4	16	4
TH5048R01	28	16	4

Wireless base station

The TH5000 is both a crosspoint matrix and a wireless base station. KROMA wireless beltacks can be connected to this unit just by adding a WiFi point of access.

Configurable crosspoint audio levels

The TH5000s provide independent control of the input and output audio levels for each crosspoint combination. The system is capable of balancing the different audio levels when audio from external devices is used.

IFB

Different modes of IFB are implemented by the matrix and configured by the Crossmapper software. The different modes include complete interruption and attenuation of the signals involved.

PTSN/ISDN/GSM calls

The matrix is compatible with external phone calls implemented either by the public telephone network, ISDN or GSM SIM cards. *KROMA interface cards are required.

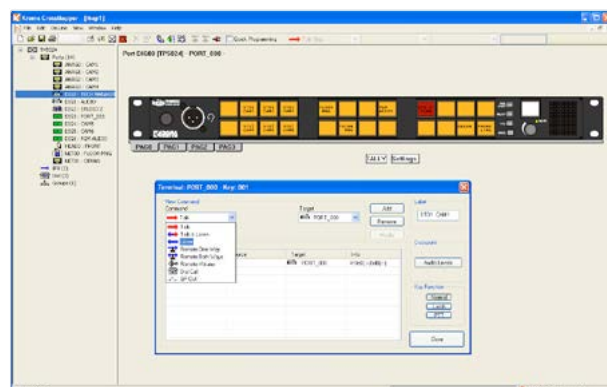
Easy configuration

The PC based Crossmapper software for easy system setup provides a simple way to configure the complete talkback system through an intuitive graphic user interface. The map can then be loaded through the auxiliary Ethernet port of the TH5000s or alternatively through the front USB port.

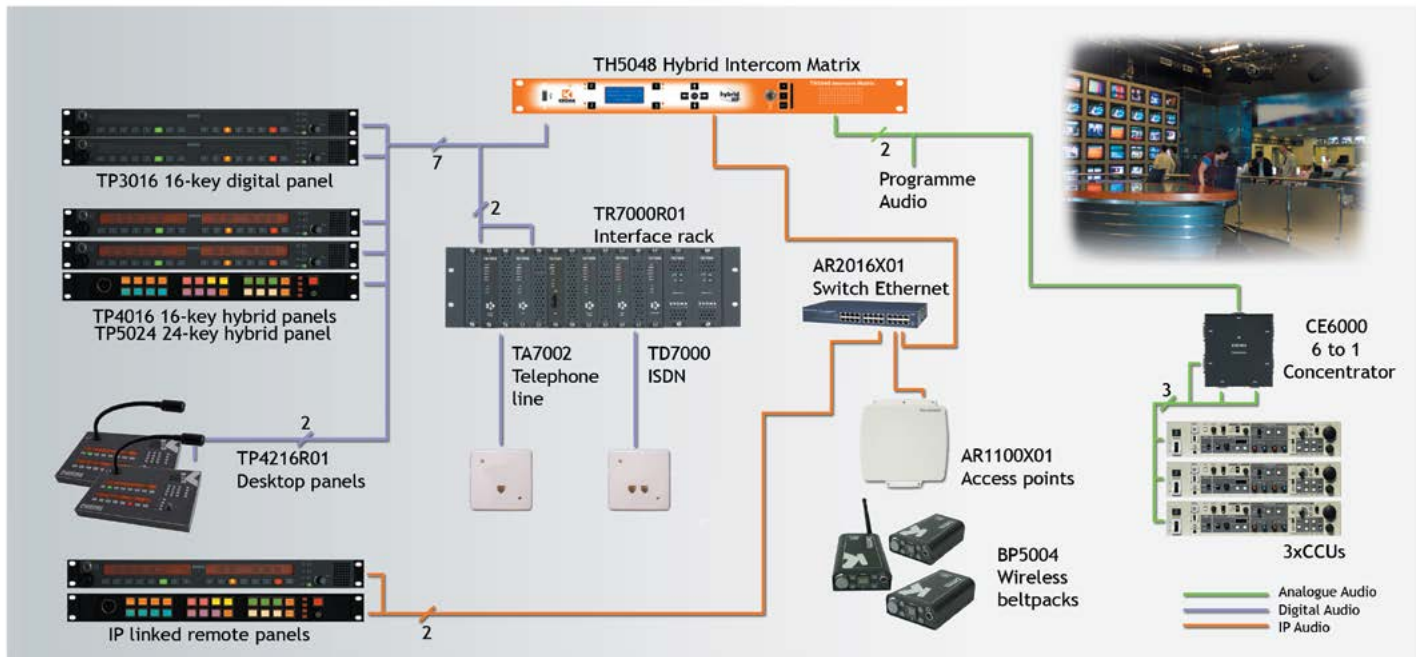
Crosspoint audio monitoring

The LCD screen may be used for monitoring the status of the different crosspoints and devices.

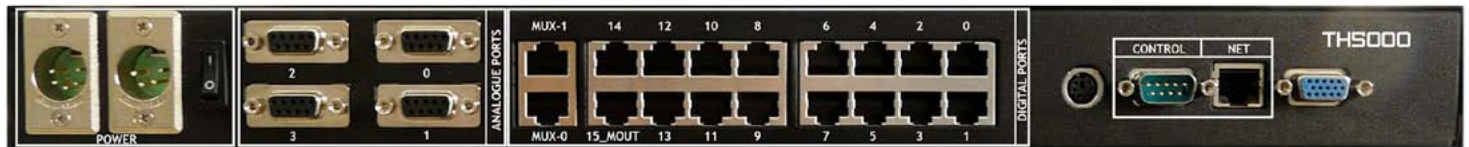
Indeed, the matrix can even be used as a simplified user panel: 4 dedicated keys in the front panel, and the 3-character electronic labels in the LCD screen, allow to speak with any of the users in the system thanks to headset front port (mini-XLR) and the built-in speaker.



TH5000 Intercom System - VoIP



Example diagram of a TH5048 connection with multiple audio sources



Rear view of TH5000

Ordering info and TH5000 technical specs

Matrix models

TH5012R02	12 ports hybrid matrix (4 an., 4 dig, 4 virtual Net ports)
TH5024R01	24 ports hybrid matrix (4 an., 8 dig, 12 virtual net ports)
TH5024R11	24 ports hybrid matrix (4 an., 16 dig, 4 virtual net ports)
TH5048R01	48 ports hybrid matrix (4 an., 16 dig, 28 virtual net ports)

Network accessories

AR2016X01	16 ports rackable Ethernet switch
AR2024X01	24 ports rackable Ethernet switch
AR1100X01	WiFi Point of Access

TH5000 Technical specs

Analogue connection	SUB-D9M ANALOGUE balanced data. PWM 4 wires audio Nominal level 4 dBv, 600 Ω output, 15 KΩ input, B=150Hz-10KHz
Digital connection	RJ45 DIGITAL 2Mb/s, 16 bits, 44.1 KHz
Net connection	Ethernet 10/100BT, B=10Kb/s, TCP/IP, UDP
Control	Data RS-232 115.200 Hz
SNR	> 80 dB
THD	< 2% at 2dB
Dimensions and weight	1RUx19"x190mm. 2.3Kg
Power supply	External AC/DC adapter. Input: 110-240V. Optional redundant PSU

Compatible user terminals

User panels

TP5024R01	2 dig., 1 Net, 1 an. ports; 24 graphic LCD keys
EP5024R01	Extra 24 graphic LCD keys for TP5024
TP5008R01	2 dig., 1 Net, 1 an. ports; 8 graphic LCD keys
TP4016R01	2 dig., 1 Net, 1 an. ports; 16 keys, 2 LCD
TP3016R01	2 dig., 1 an. ports; 16 keys
EP4016R01	Extra 16 keys and 2 LCD for TP4016 or TP3016
TP4216R01	2 dig., 1 Net, 1 an. ports; 16 keys, 2 LCD. Desktop
TP3216R01	2 dig., 1 an. ports; 16 keys. Desktop

Interfaces and linkers

Analogue interfaces

CE6000X01	6-to-1 concentrator. 6 4-wires ports.
EL6000X01	Interface for 4-wires. 2 ports to 1 port.
EL6000X01	Interface for 2-wires. 4 ports to 1 port.
IR6000R01	Interface for radio telephone (Walkie RF)
HN6000X01	Interface for telephone lines

Digital Interface frames

TR7000R01	3RU interfaces frame for 6 cards
TR5000R01	1RU interfaces frame for 2 cards

Interface cards

TA7000X01	4 wires audio interface card (transformer isolated). 4 ports
TA7001X01	4 wires audio interface card (with ISDN Pronto controller). 4 ports
TA7003X01	2 wires audio interface card (transformer isolated). 4 ports
TA7002X01	Telephone line interface card (2 ports)
TD7000X01	ISDN line interface card (G711 protocol). 2 ports
TD7003X01	1 RU ISDN lines encoder (G711 and G722 protocols). 2 ports TA7001X01 card required
TD7001X01	GSM card interface card. 1 port
TA7004X01	Telephone set interface