



X-PEAK

Distributed Global Intercom System

A REAL GAME CHANGER FOR
BROADCAST PRODUCTION





A GLOBAL INTERCOM FOR LOCAL OR REMOTE PRODUCTION

In conventional AV/Media production, the intercom is an essential tool for the technical coordination of everyone involved: Directors, producers, camera operators, presenters, floor managers, Audio and Lighting teams, etc.

Remote production is nowadays a standard part of operations. The need to produce Television and Radio minimizing the mobilizing and remote deployment of technical personnel, has become a fact. It is now required that Production personnel is able to work from different locations, some of them temporary (hotels, stadiums, etc).

Until now, these situations have been resolved by connecting intercom systems to audio codecs and IP telephony systems and configuring the systems separately, which involves the deployment of expensive systems and the development of complex connection and set-up tasks.

For this reason, we have created Xpeak, an intercom system that incorporates virtual network technology, through an automatic global interconnection Wizard. The Wizard avoids the difficulties of creating a virtual network and configuring the devices to work on it.

In Xpeak, different hardware or software user panels are interconnected as if they were all part of the same physical production center. It doesn't matter whether they are on the same LAN network, or if they are dispersed in different places with access to Internet or to a WAN – they will all connect.

You do not have to have a static IP, nor do you need a dynamic DNS, nor do you need to set port forwarding, because each user panel is automatically configured according to the local network of this location. It works immediately in all network environments, even on very restrictive networks.

On the other hand, the system does not need a matrix: The elements of the system form a network of P2P (peer to peer) devices with Ethernet virtualization.

Further, an intercom system is a mission critical tool that must neither fail nor be vulnerable to cyberattacks. Therefore, Xpeak includes advanced security features such as access control rules, security control, and traffic encryption.

SYSTEM EQUIPMENT



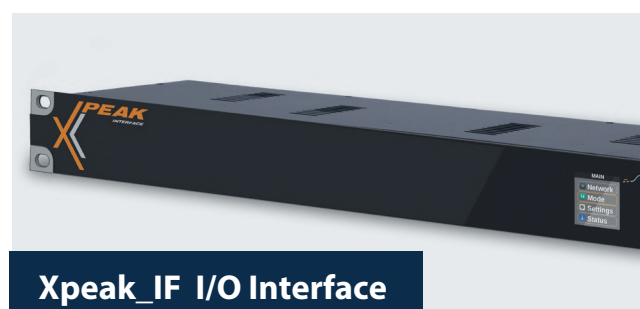
Xpeak_R User Panel



Xpeak_D User Panel



Xpeak_BP Wired Beltpack



Xpeak_IF I/O Interface



Xpeak Virtual App for PC



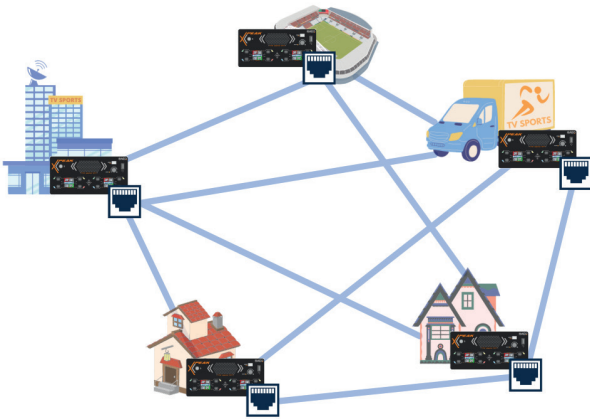
Xplorer Wireless Beltpack



ADVANTAGES OF XPEAK

1 Three modes of operation:

- **Virtual Matrix:** Xpeak obtains the flexibility of AEQ intercom systems without incorporating a matrix. Each panel maintains the cross-point programming according to its defined role.



- **4 channel Party-Line:** Very simple configuration since it is only necessary to determine which channels each panel will talk to and which channels each panel will receive.

- **Physical Matrix:** The Xpeak panels works as a very cost-effective user-panels, with 8 physical keys (up to 32 virtual keys) in AEQ Conexia and Crossnet Matrix systems.

2 Wizard for automatic global interconnection.

Simplify the use of virtual network technology to streamline remote productions.

3 The panels do not belong permanently to a specific system:

- The same user panel can work on multiple locations.
- The same panel can be part of different intercom systems.
- Possible expansion of the system through the cloud in a subscription-by-use scheme that does not require acquiring resources that are not used regularly.

4 User terminals that support Bluetooth and USB micro-headsets.

Compatible with a wide range of headsets with excellent value for money.

5 User panels that can be connected to PCs and Smartphones.

Via Bluetooth and USB connectivity.

6 Great audio quality with low bit rate

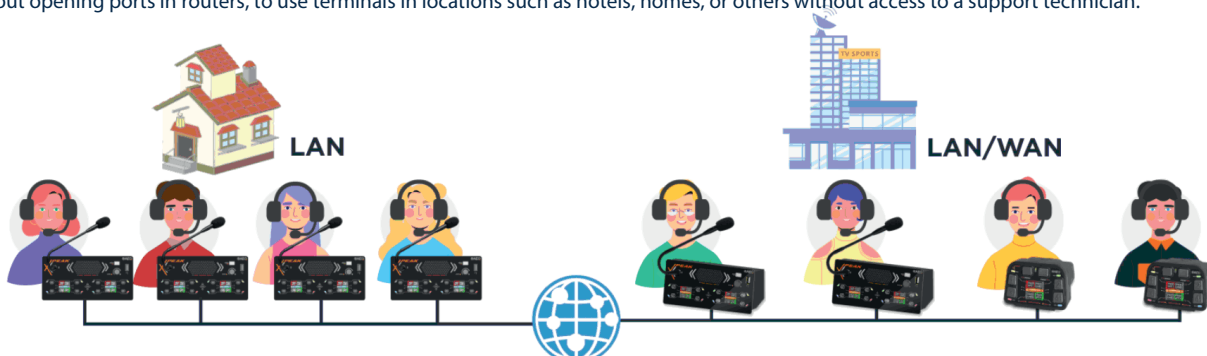
It allows incorporating remote terminals through different connection methods.

7 Stationary panels can be connected in Daisy Chain.



BASIC FUNCTIONALITY IN DETAIL

- System dimensions: Up to 28 user terminals or external inputs and outputs.
- Two working modes:
 - Intercom mode in which each key of a user terminal can be configured with the same functions as in a system with an AEQ matrix.
 - 4-channel Party-line mode, which hardly requires any configuration.
- Intercommunication between the members of a domain regardless of their location. The panels can work in a local LAN network or in a WAN network that can be global in nature through the internet. In this case, intelligent connectivity is available through virtual network technology, through an automatic global interconnection wizard, which simplifies configuration, discovering the elements of the system within the domain. Connection without opening ports in routers, to use terminals in locations such as hotels, homes, or others without access to a support technician.



- Virtual network architecture allows a device to subscribe to different virtual networks on demand as needed.
- The system and its elements are compatible with previous intercom systems bearing the AEQ and KROMA brands.
- System is configured from the user panels themselves. There is also an optimized configuration tool, online and offline, for the most complex environments.
- With common user terminal architectures: stationary, desktop, wired belt-pack, wireless belt-pack and PC application.
- The wired user terminals support USB and Bluetooth headsets from the most basic, to the highest quality and best features.
- Rack and desktop equipment will use 4-way levers instead of keys, for easier operation of basic functions: Listen, Talk, and adjust the receive volume.
- Additional equipment is included to provide analog, digital and IP audio inputs and outputs to the system.
- The equipment has been designed to be very cost effective with optimum performance.
- Great audio quality (HD Voice up to 7 KHz) with bit rate limited to 64 kbps.
- The system can exchange RTP / G722 streams with audio codecs.



OPERATING MODES

Xpeak particular modes:

- **Virtual Matrix Mode:** The system without Matrix is configured directly from the Xpeak panels and belt-packs. It is compatible with the Xplorer Wireless Systems. The 8 Keys of the Stationary User panels and the 4 Keys of the Belt-packs are programmed with the same flexibility as the AEQ-KROMA matrix systems. The maximum capacity of this Virtual matrix is for 28 user panels. Audio is HD 7KHz.

- **Party-line HD Mode:** The 4-channel Party-line mode is selected directly from the Xpeak user panels and belt-packs. This mode is also compatible with the Xplorer wireless system. Through four keys, it is selected which channels each Terminal speaks to and which channels each Terminal listens to. Audio is HD 7KHz.

Backward Compatibility Modes:

- **Crossnet Mode:** Xpeak panels become 8-key user panels and Xpeak_BP belt-pack, 4-key panel, for Crossnet. Audio is G711 Kroma legacy.

- **Conexia Mode:** Xpeak panels become 8-key user panels, and the Xpeak_BP belt-pack, 4-key panel, for Conexia. Audio is HD 7kHz.

- **Easynet Mode:** The new panels and belt-pack become user panels for the Party-line Easynet, compatible with the previous panels and with Xplorer. Audio is G711 Kroma legacy.

TECHNICAL FEATURES

Xpeak_R and Xpeak_D

- Ergonomics:
 - 8 x 4-way cross-point levers with associated RGB led.
 - 2 screens for menu and contextual information associated with the levers.
 - Rotary encoder, menu key and signalling LEDs.
 - Internal power supply.
 - Internal 1Gbps Ethernet switch, with two external RJ45 network ports to connect panels in "Daisy Chain" to a single switch port.
 - GPIO: 10-pin mini-Hartmann connector includes 2 opto-coupled GPIOs and 2 GPOs, one external circuit power pin, and ground.
 - Bluetooth: The equipment incorporates a Bluetooth connection as an audio interface with a telephone or headset.
 - Front audio:
 - Gooseneck electret microphone supplied with the panel.
 - Internal speaker that develops 84 dB SPL @ 1 m.
 - USB Audio:
 - Front USB for headsets.
 - Rear USB Type B: To incorporate PC audio.
 - Bluetooth audio: The equipment can be paired with a Bluetooth device, for example a headset or a smartphone.
- It combines audio signals that arrive at the equipment from the different devices.
- Dimensions: Xpeak R: 482.6 x 44.5 mm. Depth 103 mm.
- Dimensions: Xpeak D: 217 x 105 mm. Depth 101 mm.
- Functional:
 - Talk, listen and volume on each lever for a crossover point.
 - Lever paging: 2 pages of levers, total 16 virtual levers.
 - Echo cancellation process.

Xpeak_BP

- Ergonomics:
 - 4 cross-point keys with associated RGB led.
 - Screen for menu and contextual information associated with the keys, with ON and OFF function.
 - Two rotary encoders for volume.
 - Two menu keys.
 - USB: 1 rear USB connector for headset.
 - Bluetooth for audio interface with a phone or headset.
 - Ethernet network connection. RJ45 connector with interlocking.
 - PoE power supply.
 - GPO: One GPO output through two pins.
 - Mechanics: Anti-shock plastic belt-pack.
- Dimensions. Front: Width: 92 mm. Depth: 70 mm. Height: 130 mm.
- Functional:
 - Keys pagination: 2 pages, total 8 virtual keys.
 - Echo cancellation.
 - Group LEDs: The LEDs that accompany each key have a programmable color to indicate the group to which each key belongs.
 - Front light signalling of incoming call.
 - The signalling of the key and communication status is carried out in the quadrant corresponding to each key in the idle screen of the display.

Xpeak_IF

- 4 Channel audio I/O converter for analog, USB and AoIP Dante / AES67 to 4 bidirectional G722 encoded channels that integrates with the virtual matrix or the party-line system.
- USB connection: The 4 USB audio ports are type B and allow you to connect audio from a PC.
- Ethernet connection: internal switch with two external network ports. Different uses: daisy chain, separation between Dante audio and encoded audio + Control.
- GPIO: Mini-Hartmann connectors include 4 opto-coupled GPIOs and 4 GPOs, external power pin and ground.
- 1.54" color TFT screen: allows information such as IP address, audio presence and status to be displayed.
- Encoder and menu key to navigate the user interface and facilitate configuration and status viewing.

Xplorer for Xpeak

- Ergonomics:
 - 4 cross-point keys with associated led.
 - Screen for menu and contextual information associated with the keys.
 - Two rotary encoders for volume and menu navigation.
 - Two menu keys.
 - Rear connector for specific headset.
 - Ethernet network connection via WiFi.
 - Power through rechargeable batteries. 20 hours of operation.
 - Recharge at the charging station.
 - Mechanics: Anti-shock plastic belt-pack.
- Dimensions: Front: Width: 92 mm. Depth: 70 mm. Height: 130 mm.
- Functional:
 - Internal programming of the Xpeak functionality.
 - On-screen display of Xpeak status and menus.
 - 2 pages of keys, total 8 virtual keys.
 - SDN support for virtual network.
 - Group LEDs: User group On-screen signalling.
 - Party Line operating mode with high quality audio G722.
 - Virtual Matrix operating mode with high quality audio G722.
 - Local reprogramming of keys in virtual matrix mode.

Xpeak Virtual

- Virtual user panel.
- PC software.
- Windows operating system.
- 8 virtual crossover keys.
- Compatible with Xpeak in all work modes.

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