AEQ XPEAK

IP INTERCOM SYSTEM

USER´S MANUAL
ED. 01/25

V. 1.5 - 10/09/2025

Firmware Versions:	**Xpeak_R / Xpeak_D / Xpeak_BP:**	**CPU 3.1.0 or higher**
	Xpeak_IF:	**CPU 3.1.0 / AoIP CPU 4.2.6.5 or higher**
	Xplorer:	**CPU 1.01.001 or higher**
	Xplorer MAX:	**CPU 1.03.000 or higher**
Software Versions:	**Xpeak**	**1.0.18 or higher**
	Xpeak Virtual	**1.0.8 or higher**
	Xpeak Virtual Android	**1.0.11 or higher**

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1. INTRODUCTION.

1.1. Product Concept.

1.1.1. 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 audiocodecs 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.

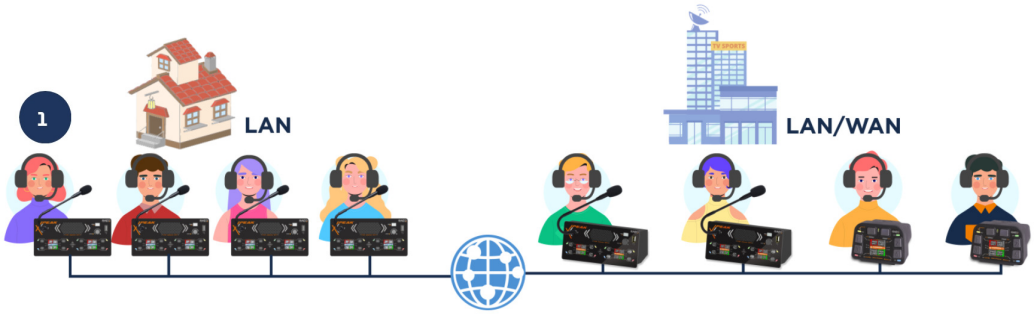
In Xpeak, different hardware or software user panels are interconnected as if they were all part of the same physical production center. It doesn't matter whether they are on the same LAN network, or if they are dispersed in different places with access to Internet or to a WAN - they will all connect.

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 cyber-attacks. Therefore, Xpeak includes advanced security features such as access control rules, security control and traffic encryption.

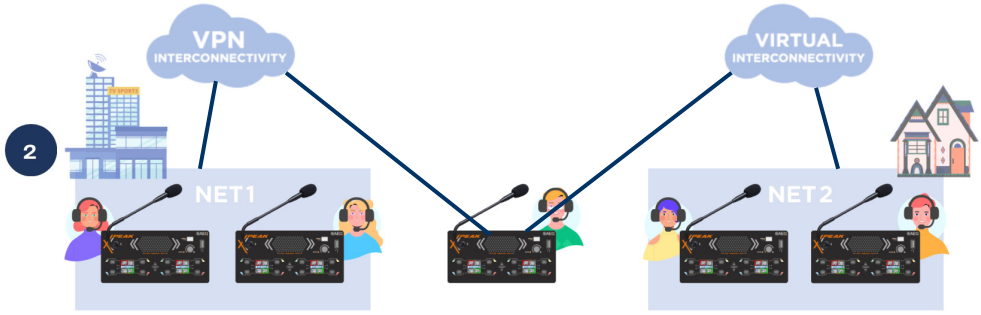
You do not have to have a static IP, nor do you need a dynamic DNS, nor do you need to set port forwarding, because each user panel is automatically configured according to the local network of this location. It works immediately in all network environments, even on very restrictive networks.

1.1.2. Basic functionality in detail.

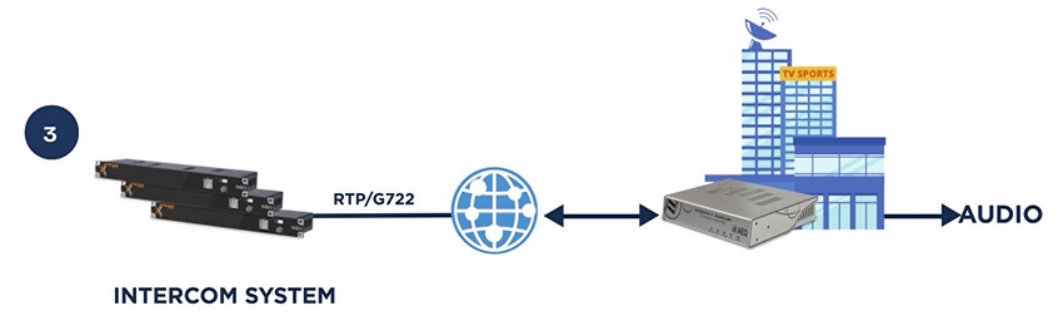
- System dimensions: Up to 28 user terminals or external inputs and outputs.
- Two working modes:
    - Intercom mode in which each key of a user terminal can be configured with the same functions as in a system with an AEQ matrix.
    - 4-channel Party-Line mode, which hardly requires any configuration.
- 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 beltpack, wireless beltpack and PC application.
- The wired user terminals support USB and Bluetooth (via approved dongle/adapter) 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 audiocodecs.



IMPORTANT NOTE: It is not possible to use switches or devices with **EEE** (Energy Efficient Ethernet or Green Ethernet) enabled in networks with Xpeak equipment. Therefore, it is recommended that:

1. If you use managed switches, ensure that they allow EEE to be disabled. Make sure that EEE is disabled on all ports used for Xpeak system.

2. If you use unmanaged switches, do not use those that support the EEE function, because you cannot disable that option in these switches.

1.1.3. Devices comprising the system.

The system is composed by the following terminals:

- **Xpeak_R:** Rackmount User Panel.
- **Xpeak_D:** Desktop User Panel.
- **Xpeak_BP:** Wired Beltpack.
- **Xplorer** and **Xplorer MAX** beltpacks offer a working mode specially designed to integrate with Xpeak.
- **Xpeak Virtual:** App for PC.
- **Xpeak_IF:** I/O Interface.



1.1.4. Operating modes.

- **Xpeak specific modes:**
    - **Virtual Matrix Mode:** A matrix-less system is configured on Xpeak panels and beltpacks. It is compatible with Xplorer wireless system, were keys (8 in stationary devices and 4 in the beltpacks) are programmed with the same flexibility found in AEQ-KROMA matrix-based systems. Max capacity of this matrix is up to 28 panels. Audio quality is 7 kHz HD-voice.
    - **Party-Line HD mode:** A Party-Line system is configured on Xpeak panels and beltpacks, offering 4 channels and compatible with Xplorer wireless system. Through 4 keys, each terminal's talk destination and listening source can be selected. Audio quality is 7 kHz HD-voice.
- **Legacy modes:**
    - **CrossNET mode:** Xpeak panels turn into 8-key CrossNET user panels, and Xpeak_BP turns into a 4-key one. Audio quality is Kroma G711.
    - **Conexia mode:** Xpeak panels turn into 8-key Conexia user panels, and Xpeak_BP turns into a 4-key one. Audio quality is 7 kHz HD-voice.

- **EasyNET mode:** The new panels and beltpacks turn into EasyNET Party-Line panels, which are compatible with the current ones and with Xplorer. Audio quality is Kroma G711.

1.2. Xpeak_R and Xpeak_D user panels description.



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 signaling 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.
- GPIOs: 10-pin mini-Hartmann connector includes 2 opto-coupled GPIs and 2 GPOs, one external circuit power pin, and ground.
- Front audio:
  - Gooseneck electret microphone supplied with the panel.
  - Internal speaker that develops 84dB SPL @ 1 m.
- USB Audio:
  - Front USB for headset.
  - Rear USB B Type: To incorporate PC audio.
- Bluetooth audio: The equipment can be paired with a Bluetooth device, for example a headset or a smartphone, using an approved dongle/adapter connected to front USB.

It combines audio signals that arrive at the equipment from the different devices.

Dimensions and weight:

- Xpeak_R: Front: 482.6 x 44.5 mm. Depth 103 mm. Weight: 1.87 Kg.
- Xpeak_D: Front: 217 x 105 mm. Depth 101 mm. Weight: 1.46 Kg.

Functional:

- Programming of two functions (for example, listen and talk+listen) and volume on each lever for a crossover point.
- Lever paging: 2 pages of levers, total 16 virtual levers.
- Echo cancellation process.

1.3. Xpeak_BP wired beltpack description.

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 audio: The equipment can be paired with a Bluetooth device, for example a headset or a smartphone, using an approved dongle/adapter connected to rear USB.
- Ethernet network connection. RJ45 connector with interlocking.
- PoE power supply.
- GPO: One GPO output through two pins.
- Mechanics: Anti-shock plastic beltpack.

Dimensions and weight:

- Front: Width: 92 mm. Height: 70 mm.
- Depth: 130 mm.
- Weight: 327 gr.

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.



1.4. Xplorer and Xplorer MAX wireless beltpacks for Xpeak description.



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 (Xplorer) or via the open 5GHz radio band (Xplorer MAX).
- Power through rechargeable batteries. 20 hours of operation (Xplorer) / 10 hours of operation (Xplorer MAX).
- Recharge at the charging station.
- Mechanics: Anti-shock plastic beltpack.

Dimensions and weight:

- Front: Width: 92 mm. Height: 70 mm.
- Depth: 130 mm.
- Weight: 365 gr.

Functional:

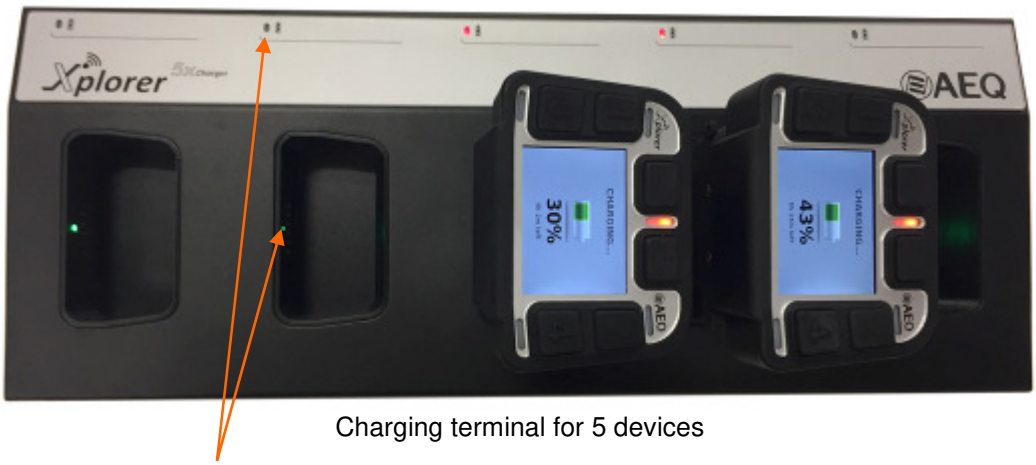
Xplorer and Xplorer MAX terminals can be ordered on demand ready with capability to operate in Xpeak systems, with the following **functional characteristics:**

- 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.

Charging Terminal functional description:

It has slots to simultaneously charge 2 or 5 devices.



Charging terminal for 5 devices

Each slot has **2 associated LEDs:**

- A green interior LED to assist in positioning.

  IMPORTANT: if this LED is off or blinking this slot should NOT be used: there is some supply problem and it may damage the device.

- An upper LED that indicates charging activity:
  - it's off when there's no device in the slot.
  - it turns on red when the device is charging.
  - and green when charging is finished.
  - if it turns off while charging it indicates a problem during this process, such as charge/precharge time exceeded, overvoltage or battery disconnection).

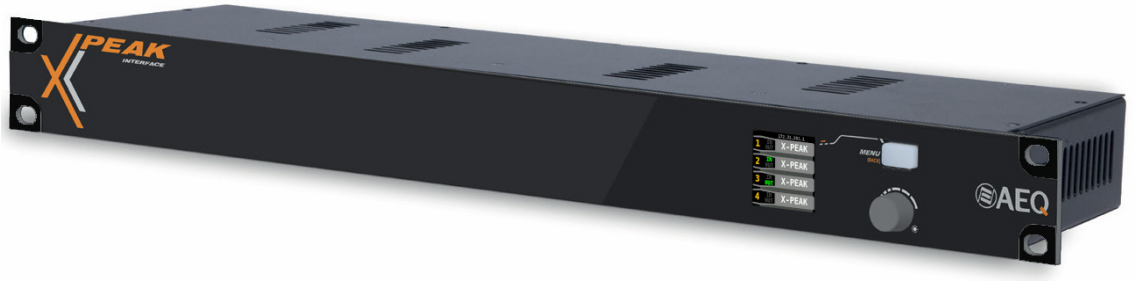
The charger receives continuous power current from an external power supply. Devices can be charged both being on and off (if the device is on, the approximate current charge level is displayed on its screen: it's recommended to wait until the upper LED of the charging terminal turns on green to consider the device fully charged).

Technical specifications:

- **Charging terminal for 5 devices:**
  - Dimensions: 430 x 65 x 182 mm.
  - Weight: 2.2 Kg.
  - Input voltage: 12 - 15VDC (external power adapter supplied with 100 - 240 VAC 50/60Hz input).
  - Maximum consumption: 40W.
  - Charge time, full cycle: approximately 7h. (Xplorer) / approximately 3h. (Xplorer MAX).
- **Charging terminal for 2 devices:**
  - Dimensions: 175 x 65 x 182 mm.

- Weight: 950 gr.
- Input voltage: 12 - 15VDC (external power adapter supplied with 100 - 240 VAC 50/60Hz input).
- Maximum consumption: 16W.
- Charge time, full cycle: approximately 7h. (Xplorer) / approximately 3h. (Xplorer MAX).

1.5. Xpeak_IF I/O Interface Description.



Ergonomics:

- 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 B type 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.
- GPIOs: Mini-Hartmann connectors include 4 opto-coupled GPIs 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.

Dimensions and weight:

- Front: Width: 482.6 mm. Height: 44.5 mm.
- Depth: 155 mm.
- Weight: 2.42 Kg.

1.6. Xpeak Virtual application description.

- Virtual user panel.
- PC software.
- Windows operating system.
- 16 virtual crossover keys.
- Compatible with Xpeak in all work modes.
- Adaptive screen configuration: vertical, horizontal or square.

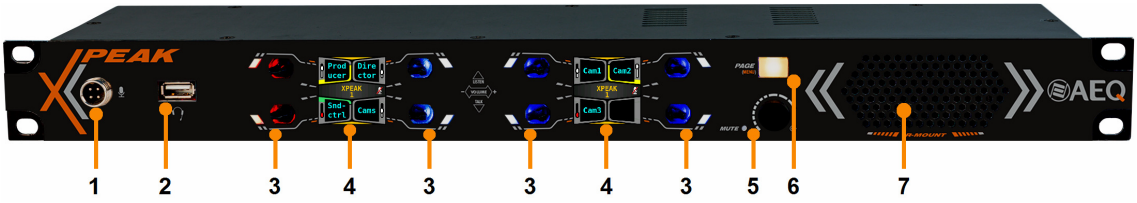


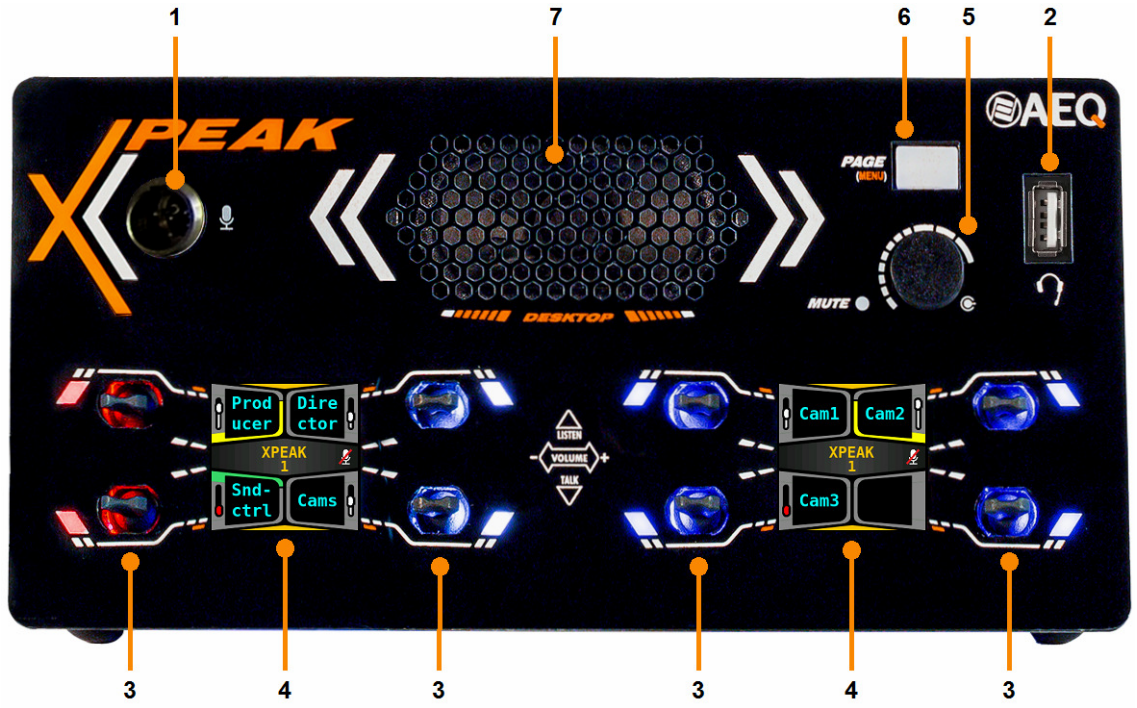
2. PHYSICAL DESCRIPTION OF THE DEVICES.

In order to understand each unit's wiring, installation and operation procedures, first it is necessary to get used to the connectors and the rest of specific elements found in the device's front and rear panels.

2.1. Physical description of Xpeak_R and Xpeak_D user panels.

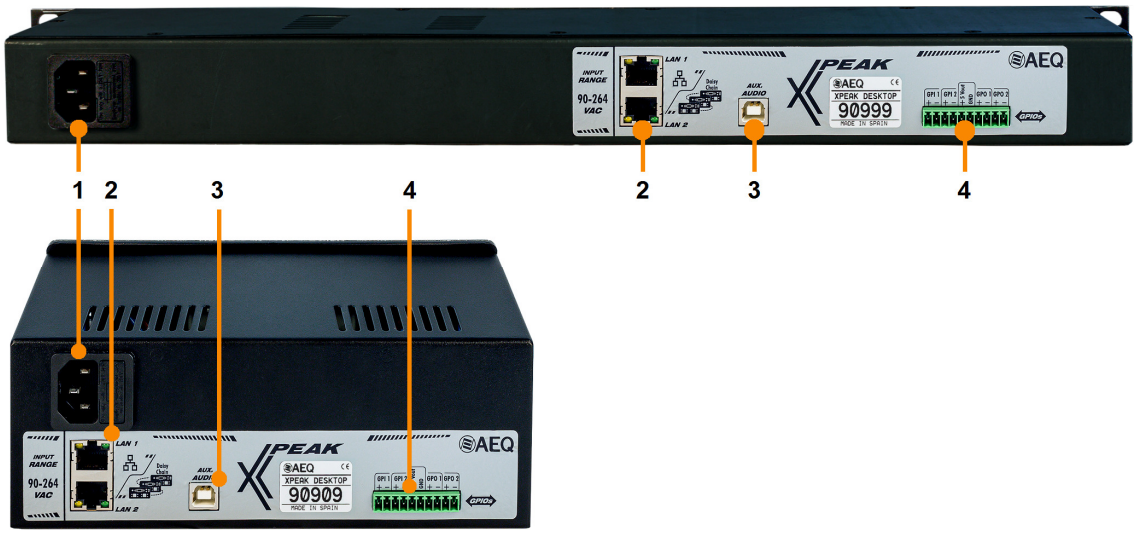
2.1.1. Front panels description.





1. Microphone connector. This connector is valid exclusively for the provided condenser microphone.
2. USB connector for optional headset. A-type connector compatible with any USB standard headset. The equipment can also be paired with a Bluetooth device, for example a headset or a smartphone, using an approved dongle/adapter connected to USB. When any of them is connected, the local microphone and integrated loudspeaker are deactivated.
3. 8 x 2-axis lever keys. Each one has an associated RGB LED.
4. 1,54" TFT Color screens.
5. Rotary encoder with push-button. During operation, the push-button activates the MUTE function, and the attached indicator is illuminated.
6. Page and configuration menu access key.
7. Integrated loudspeaker.

2.1.2. Rear panels description.

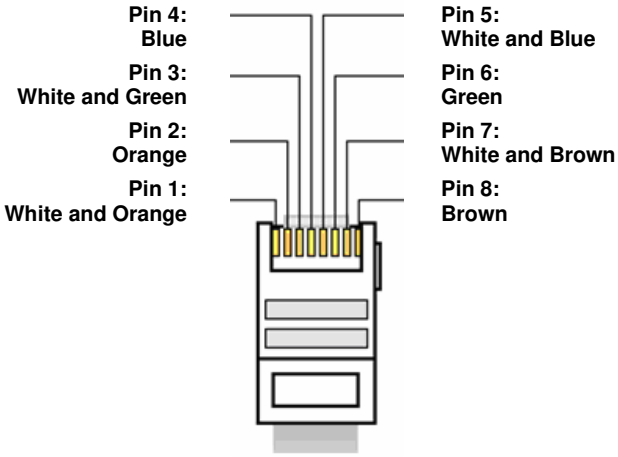


1. Power supply connector. AC inlet, fuse and fuse-holder. This device includes an internal AC/DC power supply, admitting 100 - 240 V AC +/-10%, 50-60Hz (universal auto-range). Standard 3-pin IEC connector.
2. Dual Ethernet port. Two Ethernet RJ45 10/100BaseT connectors can be found which are used to connect the interface to the network using IP protocols. This allows for direct connections to a switch and also several panels can be connected in Daisy Chain using a single switch port. Any of the two Ethernet connectors allow for these connections, as the panel includes an internal switch.



Detail of ETHERNET connectors

Physically, both are RJ45 10/100/1000, connectors, with the pinout described below:



RJ45 connector pinout

3. USB type-B connector for connection to a PC. Digital USB audio input / output on a B-type female connector. Inputs are in digital format and mono, as they are designed to incorporate or extract audio to/from the Intercom system.

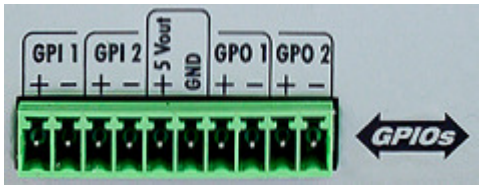
When connecting this port to a PC by means of a proper USB cable, the PC will automatically detect a new audio device (that is displayed as “USB Audio CODEC”). Audio towards the intercom system can be sent from any audio playback software as if it was an external professional-grade soundcard. Also, audio from the Intercom can be recorded on the PC using any audio recording software. This audio comes from the channels which have been routed to the corresponding output.

This virtual sound card is “plug&play" under Microsoft Windows™ and Apple Computer Mac OS™, operating system, and they don’t require any specific driver.

IMPORTANT NOTE: Shielded cable is required to make the connection between the USB port and PC.

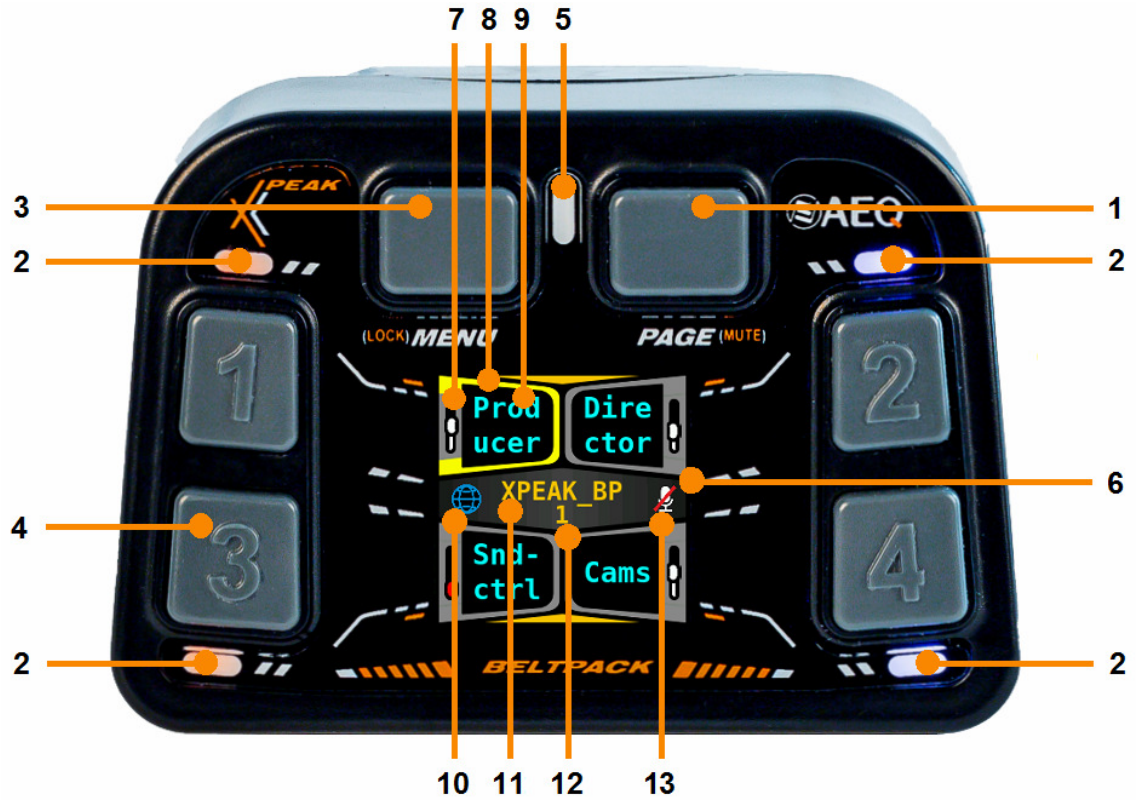
4. 2 GPIOs multi-pin connector. A 10-pin, 3.5mm pitch pluggable connector can be found. A screw-terminal male block is provided with the unit. As seen from the rear, and from left to right, the + and – pins for each of the two GPIs are available. Then, a 5V supply output and ground, and then the + and – pins for each of the two GPOs.

5V supply is provided to bias external devices such as transistors closing the GPO contacts. Connecting a 4K7 ohm resistor in series with every circuit is recommended. In any case, max. supplied current is 50mA, so the equivalent resistance between +5V and GND must always be >100 ohm.



2.2. Physical description of Xpeak_BP wired user beltpack.

2.2.1. Front panel description.



1. Programmable key. By default, direct paging and microphone mute.
2. RGB LEDs associated to the direct-access or channel selection keys.
3. Programmable key. By default, enters a menu with access to configuration options and keyboard lock.
4. Four programmable keys for direct cross-point access or channel selection when operating in Party-Line mode.
5. Status indicator.
6. TFT Screen.
7. Incoming audio level indicator for the key-associated circuit.
8. Key frame: indicates the status of each key (grey=inactive key, green=active key, red / blinking red or yellow = different conversation states).
9. Key label indicating the remote-peer name or group.
10. External access symbol (active TRV): system is open to remote correspondents.
11. Panel name label showing its name within the Intercom system.
12. Page number. In systems based on virtual or physical matrix, pages are identified by the color and number displayed in the center area of the screen.
13. Muted microphone indicator.

2.2.2. Rear panel description.



1. General volume adjustment.
2. Pressed-key volume adjustment. It corresponds to the first key by default.
3. Ethernet + PoE port.
4. GPO connection.
5. USB headset connection. The equipment can also be paired with a Bluetooth device, for example a headset or a smartphone, using an approved dongle/adapter connected to USB.

Under the belt hook, there is a safety clip that allows you to hook the USB headset cable and prevent it from being accidentally disconnected due to a pull.



2.3. Physical description of Xplorer and Xplorer MAX wireless user beltpacks for Xpeak .

2.3.1. Front panel description.



1. Programmable key. By default, access MENU to configuration options and keyboard LOCK. The function of the key at all times is related to the information indicated on the label located on the screen, just below the key. Each key can have two functions, one is activated with a short press and the other with a long press.
2. Status indicator.
3. Programmable key. By default, PAGE (direct paging of keys 1, 2, 3 and 4) and microphone MUTE. The function of the key at all times is related to the information indicated on the label located on the screen, just below the key. Each key can have two functions, one is activated with a short press and the other with a long press.
4. Four programmable keys for direct access to communication channels, or channel selection in Party-Line mode, engraved with the numbers 1, 2, 3 and 4. The function of each key at any time is related to the information indicated in the nearest screen quadrant. Short press activates or deactivates the communication (latch mode). Long press activates the communication while the key is pressed (PTT mode). With these 4 keys, complemented by the PAGE key that develops 4 sets of 4 keys, 16 different communications can be managed.
5. 2.4” TFT Display.
6. WiFi level indicator (Xplorer) or radio signal level indicator (Xplorer MAX).
7. Mute indicator for the user's microphone.
8. User terminal name label.
9. Battery level indicator.
10. Four tri-color LED mode indicators. They usually indicate the programming mode of the intercom channel that is accessed with the key next to the LED.
11. Input level indicator for each contact or destination.

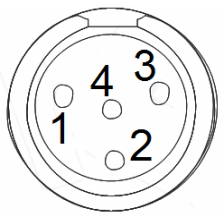
2.3.2. Other elements.



12. Rotary encoders: general volume, particular volume, movement between menus and other functions.
13. Headset connector, "Tini-QG" (mini-XLR), underneath. See section 2.3.3.
14. ON/OFF Switch, underneath. In order to turn off the unit, press and keep pressed for 5 seconds.
15. Belt anchors (to be used as a shoulder strap with tape, or with a carabiner).
16. Belt hook.
17. Charging connector.

2.3.3. Headset connector.

Micro-headphone headsets are connected to a male "Tini-QG" connector located at the bottom of the unit. The input stage for the headset's microphone is designed to be used with "electret" capsules homologated by AEQ, requiring 2.8V supply.



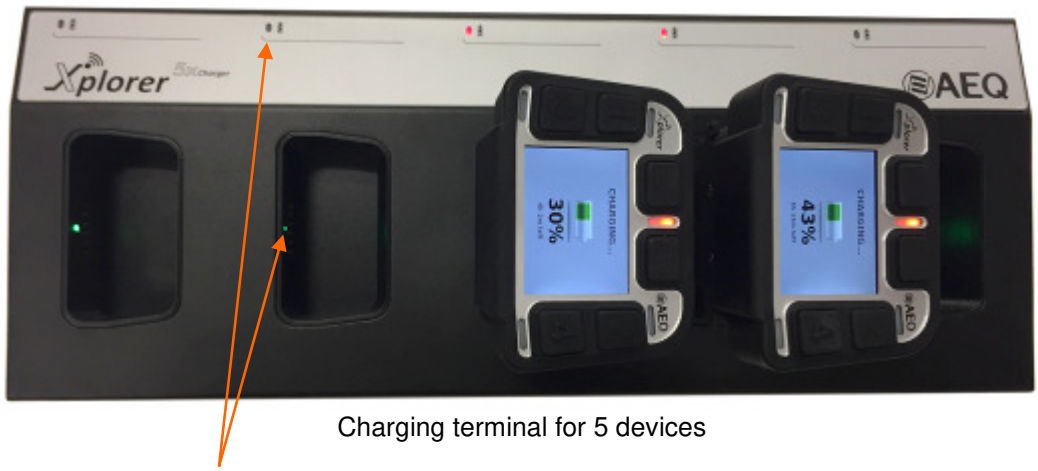
Technical specifications vary from one headset to another, and compatibility with a non-homologated mode must be consulted first.

The "**Tini-QG**" connector pinout is as follows:

Tini-QG	FUNCTION
1	Microphone GND
2	Earphone (speaker) output -
3	Microphone input
4	Earphone (speaker) output +

2.3.4. Description of the Charging Terminal.

It has slots to simultaneously charge 2 or 5 devices.



Charging terminal for 5 devices

Each slot has **2 associated LEDs:**

- A green interior LED to assist in positioning.

  IMPORTANT: if this LED is off or blinking this slot should NOT be used: there is some supply problem and it may damage the device.

- An upper LED that indicates charging activity:
  - it's off when there's no device in the slot.
  - it turns on red when the device is charging.
  - and green when charging is finished.
  - if it turns off while charging it indicates a problem during this process, such as charge/precharge time exceeded, overvoltage or battery disconnection).

The charger receives continuous power current from an external power supply. Devices can be charged both being on and off (if the device is on, the approximate current charge level is displayed on its screen: it's recommended to wait until the upper LED of the charging terminal turns on green to consider the device fully charged).

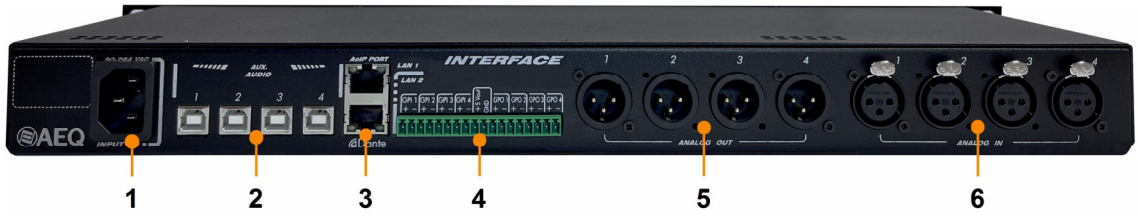
2.4. Physical description of Xpeak_IF I/O interface.

2.4.1. Front panel description.



1. USB type A.
2. Screen.
3. Rotary encoder with push button.
4. Key.

2.4.2. Rear panel description.



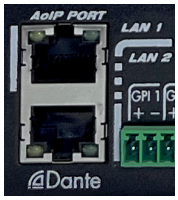
1. Power supply connector. AC inlet, fuse and fuse-holder. This device includes an internal AC/DC power supply, admitting 100 - 240 V AC +/-10%, 50-60Hz (universal auto-range). Standard 3-pin IEC connector.
2. USB type-B connectors to connect to a PC. The module includes 4 Digital USB audio input / outputs, on 4 B-type female connectors. Inputs are in digital format and mono, as they are designed to incorporate or extract audio to/from the Intercom system.

   Each of the four USB ports provides 1 digital input and 1 digital output.

   When connecting any of the 4 USB ports to a PC, the PC will automatically detect a new audio device (that is displayed as “USB Audio CODEC”). Audio towards the intercom system can be sent from any audio playback software as if it was an external professional-grade soundcard. Also, audio from the Intercom can be recorded on the PC using any audio recording software. This audio comes from the channels which have been routed to the corresponding output.

   This virtual sound card is "plug&play" under Microsoft Windows™ and Apple Computer Mac OS™, operating system, and they don’t require any specific driver. If several USB ports from one or more USB modules are connected to the same PC, the operating system will mount a new audio device per port, which will be identified as "USB Audio CODEC", "USB Audio CODEC (2)"…up to "USB Audio CODEC (4)"

   IMPORTANT NOTE: Shielded cable is required to make the connection between the USB port and PC.
3. Dual Ethernet port. Two Ethernet RJ45 10/100BaseT connectors can be found which are used to connect the interface to the network using IP protocols.

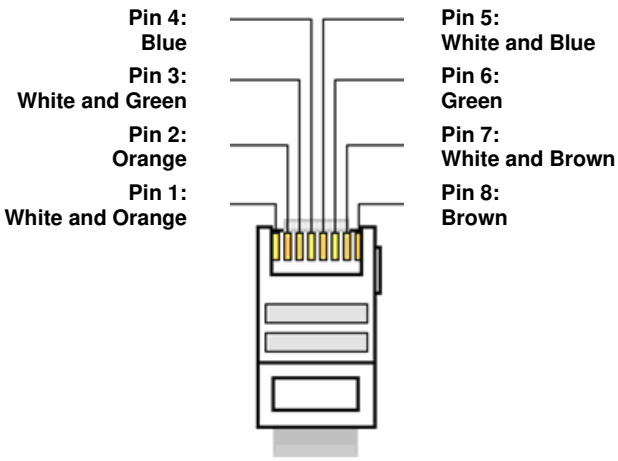


Detail of ETHERNET connectors

This allows for direct connections to a switch and also several panels can be connected in Daisy Chain using a single switch port. Any of the two Ethernet connectors allow for these connections, as the panel includes an internal switch.

If one of the interfaces is connected to a Dante network, and this network needs to be separated from the Intercom network, it is possible to configure separated networks. In that case, the upper port will be configured in the Intercom network and the lower one will be configured as the Dante interface.

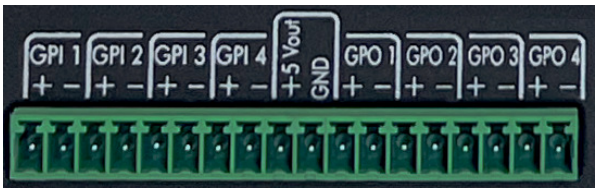
Physically, both are RJ45 10/100/1000, connectors, with the pinout described below



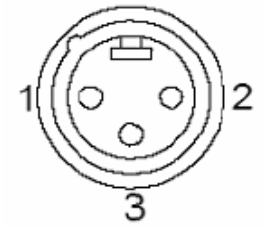
RJ45 connector pinout

4. GPIOs multi-pin connector. An 18-pin, 3.5mm pitch pluggable connector can be found. A screw-terminal male block is provided with the unit. As seen from the rear, and from left to right, the + and – pins for each of the 4 GPIs are available. Then, a 5V supply output and ground, and then the + and – pins for each of the 4 GPOs.

5V supply is provided to bias external devices such as transistors closing the GPO contacts. Connecting a 4K7 ohm resistor in series with every circuit is recommended. In any case, max. supplied current is 50mA, so the equivalent resistance between +5V and GND must always be >100 ohm.

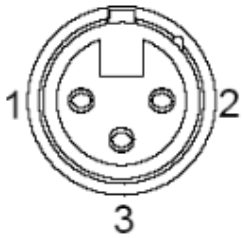


5. Analog output connectors. Four XLR-3 Male connectors. Balanced output.



Pin 1 → GND
Pin 2 → Output +
Pin 3 → Output -

6. Analog input connectors. Four XLR-3 Female connectors. Balanced input.



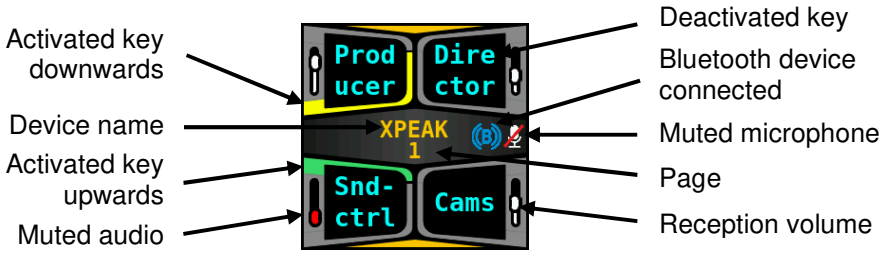
Pin 1 → GND
Pin 2 → Input +
Pin 3 → Input -

3. MENUS DESCRIPTION.

3.1. Xpeak_R and Xpeak_D menus.



On the operation screen of the unit, the displays show the following information:



In the example above, all 4 keys are configured and the destinations associated with each key are "Producer", "Director", "Snd-ctrl" and "Cams" respectively. When programming a key from the "AEQ Xpeak" application, a label is automatically associated with it according to the destination and the type of command: if we use the default label it appears written in white on the display, while if the text is changed appears in cyan.

Regarding the color of the keys, green indicates that the key has been pressed on the equipment itself and red indicates that communication has been established (unidirectional if it's flashing or bidirectional if it remains fixed). The color yellow would indicate the combination of green and red, as follows:

- Fixed yellow: fixed green (pressed key) + fixed red (bidirectional communication).
- Blinking between green and yellow: fixed green (pressed key) + blinking red (unidirectional communication).
- Fixed green: the key has been pressed but there is no communication with the destination device.

In the following example, there are just 3 keys configured and the destinations associated with each of them are "Cam1", "Cam2" and "Cam3" respectively. In addition, the first and second keys ("Cam1" and "Cam2") are activated and the audio is muted in the third one ("Cam3"). The first key is red because the communication has been established from the remote device (it remains fixed when communication is bidirectional and blinks when it's unidirectional), while the second key is yellow because it's been pressed on the equipment itself and bidirectional communication is established.

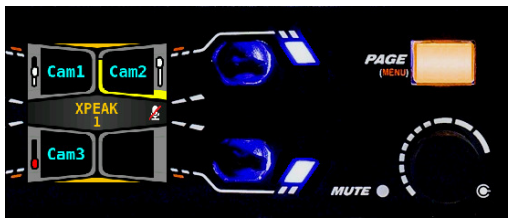


Finally, at the left of the device name, the icon of the globe may also appear (indicates that there is an Internet connection) or the icon of the key (indicates that the unit is connected to the AEQ VPN service: Remote Virtual Network - Xpeak Cloud):

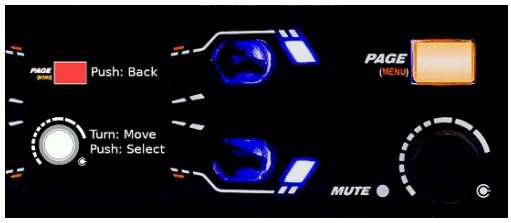




Long pressing the "*PAGE* (MENU)" key leaves the operation screen, taking us to the device's setup menus. Some frequently used options can be found, while other are for configuration.



In configuration mode, the right screen will show a remainder about how to operate the menus: press the "*PAGE* (MENU)" to go back, press the encoder button to accept and turn the encoder knob to navigate throughout the menu options.



The left screen shows the different available menu options.

The first menu level includes the following five options:



By turning the encoder, we can select any of them. Press the encoder button to enter the selected option. Pressing "*PAGE* (MENU)" takes you back in the menu and repeating the key press takes you back to the operation screen.

3.1.1. "Xpeak" menu.



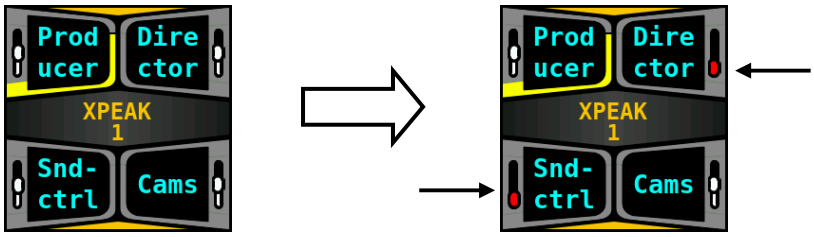
This is the most used menu during operation as it shows very important functions for online operation. Press the encoder button when the "Xpeak" option is visible on screen to enter this first menu. The different options in this menu are highlighted by turning the encoder knob, and pressing it enters the selected one.



3.1.1.1. "Mute Key" option.

Allows you to mute the audio coming from a destination. When selecting this option by pressing the encoder, the displays return to the operation screen, where the key or keys to be muted are selected by pressing the associated lever downwards (it is possible to select one or several keys of page 1 or, pressing "*PAGE* (MENU)", of page 2).

In those keys, the reception volume control indicates then that the audio has been muted: in the example, the second and third keys ("Director" and "Snd-ctrl").



Once the key o keys are selected, you can return to previous menu by long pressing the "*PAGE* (MENU)" key.

3.1.1.2. "Dev. Name" option.



Allows you to change the device's name. It supports a maximum of 8 characters.

When accessing this option, the current name's first character is selected. By pressing the encoder, the cursor will be highlighted in red. By turning the encoder, the character can be substituted by another. From left to right, numbers from 0 to 9 and capital letters can be chosen.

By pressing the encoder again, the cursor is highlighted back in white so by turning the knob we can move to another character within the device name. By pressing the encoder again, the cursor is highlighted in red and the character can be modified. The name must be confirmed by pressing in any direction the lever next to the "Save" legend (the changes can be discarded by means of the "Cancel" option).

By pressing the "*PAGE* (MENU)" key once, we'll go back to the main screen of the "Xpeak" menu, and two more pressings of "*PAGE* (MENU)" take us to the operation screen.

3.1.1.3. "Key Auto" option.



Allows you to enable the auto-discovery mode. When a Xpeak device "discovers" another device on the network and has no keys programmed to communicate with it, a key is automatically programmed to establish that communication if this mode is enabled.

For this purpose, the first not used key is programmed (if all they are configured, that automatic programming is not carried out).

3.1.1.4. "Key Config" option.



Allows you to change the configuration of each cross-point key. It's possible to configure any of the 8 available keys of any of the 2 available pages.

When entering this option, the first step is to select the key that you want to configure by means of the "Select Key" option: by pressing the encoder, the operation screen appears and you can select the key to be configured by pressing downwards the associated lever (you can select a key of page 1 or press "*PAGE* (MENU) and select one of page 2). Once the key is selected, it automatically returns to the previous screen, where the key appears reflected in the third field, which is merely informative (in the example, key 1 of the first page has been selected: "**Pg: 1 Key: 1**").

Next step is to define the destination that this key will provide access to by means of the "Select Target" option. Once selected, it will appears reflected in the fourth field, which is also only informative.



Finally, you have to confirm that the configuration is applied by means of the "Apply" option.

3.1.1.5. "Key Delete" option.

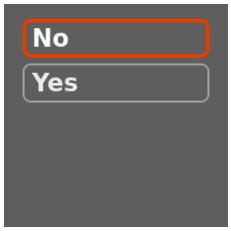


Allows you to delete the configuration of a certain cross-point key.

When entering this option, the first step is to select the key whose configuration you want to delete by means of the "Select Key" option: by pressing the encoder, the operation screen appears and you can select the key by pressing downwards the associated lever (you can select a key of page 1 or press "*PAGE* (MENU) and select one of page 2). Once the key is selected, it automatically returns to the previous screen, where the key appears reflected in the second field, which is merely informative (in the example, key 2 of the first page has been selected: "**Pg: 1 Key: 2**").

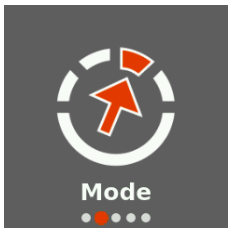
Next step is to confirm that the configuration of the selected key is deleted by means of the "Apply" option.

3.1.1.6. "Erase Config" option.

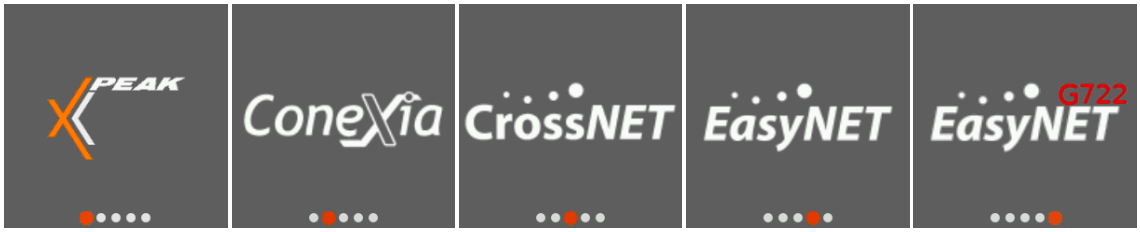


Allows you to erase the panel's configuration. Confirmation is required.

3.1.2. "Mode" menu.



Allows you to select between the different panel operating modes. There are five options:



- **Xpeak mode:** Up to 28-terminals matrix-less, Xplorer-compatible system, local and global Plug & Play. 7 kHz HD audio. Native mode including all the features.
- **Conexia mode:** Xpeak panels turn into 8-key user panels compatible with Conexia intercom Matrix. Audio quality is 7 kHz HD.
- **CrossNET mode:** Xpeak panels turn into 8-key user panels compatible with CrossNET intercom Matrix. Audio quality is Kroma G711.
- **EasyNET mode:** Panels integrate into the EasyNET 4-channel Party-Line system, compatible with earlier panels and Xplorer. Audio quality is Kroma G711.
- **EasyNET G722 mode:** Panels integrate into a 4-channel Party-Line system, compatible with Xplorer wireless system. Audio quality is 7 kHz HD.

3.1.3. "Network" menu.





By pressing the encoder when the "Network" option is visible on the screen, you enter this menu which presents the following options:

- **IP:** Allows you to modify the panel's IP address.

  When accessing this option, the first digit of the current IP address is selected. By pressing the encoder, the cursor will be highlighted in red. By turning the encoder, the number can be substituted by another. Numbers from 0 to 9 can be chosen (the figure that can be configured in each octet is limited between 0 and 255).



By pressing the encoder again, the cursor is highlighted back in white so by turning the knob we can move to another number of the IP address. By pressing the encoder again, the cursor is highlighted in red and the number can be modified. The new IP address must be confirmed by pressing in any direction the lever next to the "Save" legend (the changes can be discarded by means of the "Cancel" option).

If the IP address you are trying to configure is not correct, the octet number is automatically corrected to a valid value (between 0 and 255).

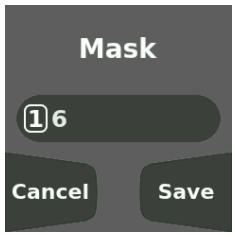
- **DHCP:** Enables or disables automatic IP address configuration. When this menu entry is highlighted, pressing the encoder button checks or disables this option.



- **Mask:** Configures the mask of the subnet the panel is connected to. Its max. length is 32 bits (up to 255.255.255.255).

  If you are not used to this format, remember that:

  24 bits is equivalent to mask 255.255.255.0
  16 bits is equivalent to mask 255.255.0.0
  8 bits is equivalent to mask 255.0.0.0

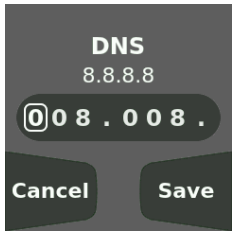


The procedure to change the mask and confirm the changes is the same as the one defined for the IP address.

- **Gateway:** IP address of the gateway to external networks. It is configured just in the same way as the panel's IP address.

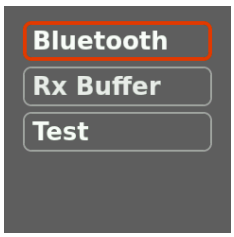


- **DNS:** IP address of the Domain Name Server to be used. It is configured just in the same way as the panel's IP address.



3.1.4. "Options" menu.

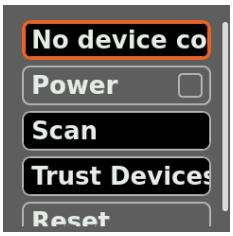




By pressing the encoder when "Options" is visible on the screen, you enter this menu which presents the following options:

- **Bluetooth:** Allows you to configure connectivity with Bluetooth devices.

  When accessing this option, the first field shows if there is any device connected.



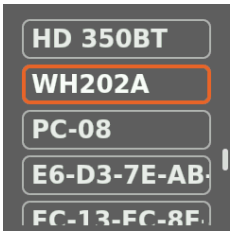
  Once the dongle/adapter is connected to front USB, the first step is to activate Bluetooth connectivity by pressing the encoder when the "**Power**" option is highlighted (you can deactivate it by pressing the encoder again). At that point, the "Scan" and "Trust Devices" options become available.

  When you turn on the unit, if the dongle/adapter is already connected, the "Power" option is automatically activated.



  The "**Scan**" option allows you to search for new Bluetooth devices. When you press it, after doing that search, a list of the detected devices appears.





  After selecting the desired device and pressing the encoder, it appears reflected in the first field and is available for use. By pressing on it, it's possible to disconnect it (then it indicates "No device connected"):



  The "**Trust Devices**" option shows a list of the devices that have been previously paired, allowing you to select any of them with no need for a new "Scan". That list is saved on the unit, but it's associated with the dongle/adapter, so if you change the dongle, the devices associated with the first one will not appear.



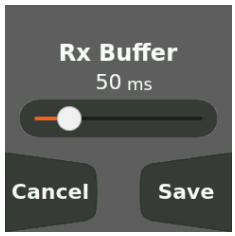
  The "**Reset**" option allows you to restart the Bluetooth configuration, it eliminates previously paired devices (in "Trust Devices" a "No devices" indication appears).



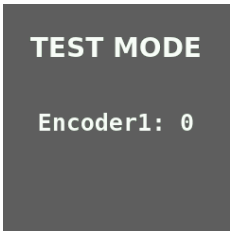


- **Rx Buffer:** Allows you to adjust the VoIP audio reception buffer, thus adjusting the audio latency according to the quality of the network being used.

  The default value is 50 ms, adjustable between 0 and 250 ms (in 25 ms increments). By turning the encoder you can change the value and you can confirm it by pressing in any direction the lever next to the "Save" legend (the changes can be discarded by means of the "Cancel" option).

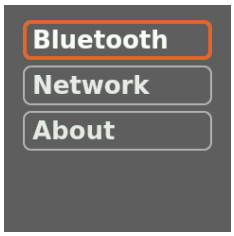


- **Test:** Gives access to a test option where the encoder, the keys and the LEDs of the unit's front can be checked.



3.1.5. "Info" menu.





By pressing the encoder when the "Info" option is visible on the screen, you enter this menu that allows you to check the main configuration parameters of the panel and that presents the following options:

- **Bluetooth:** Allows you to check the Bluetooth configuration of the panel.

  The fields that appear are: “Power” (indicates whether the Bluetooth connectivity is activated or not) and MAC address of the connected dongle/adapter. See section 3.1.4 of this manual.



- **Network:** Allows you to check the network configuration of the panel.

  The fields that appear are: MAC address, IP address, mask, gateway and DNS. In section 3.1.3 the way to configure all these parameters is detailed.

  In addition, the Inet (indicates if there is an Internet connection) and VPN (indicates if the unit is connected to the AEQ VPN service: Remote Virtual Network - Xpeak Cloud) fields appear.



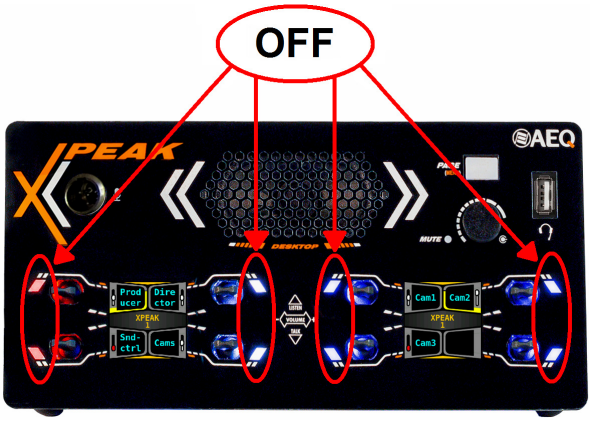
- **About:** Allows you to check the operative system version, the firmware version, the serial number and unit's type (RACK when it's a Xpeak_R and DESKTOP when it's a Xpeak_D).



3.1.6. Menu differences in other operating modes.

3.1.6.1. All modes except Xpeak.

Xpeak mode is the only one that supports families characterized by a defined color of the LED associated to each 2-axis lever. Thus, these LEDs don’t illuminate in the rest of operating modes.



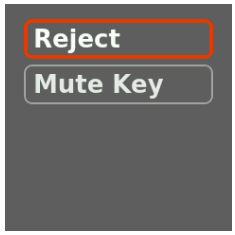
3.1.6.2. Conexia and CrossNET modes.

In these modes, operation using a matrix means that specific options are defined in the **CrossMapper** software for general system configuration.





When in these operating modes, the first menu shows two specific functions:



- "**Reject":** It allows to cut off a communication. If a remote panel has established communication with our panel and we want to "hang up" that "call" this option should be used. When selecting it by pressing the encoder, the displays return to the operation screen, where the key whose communication you want to cut off is selected.

  Then the key will be disabled both in the source panel of the communication and in the destination panel.

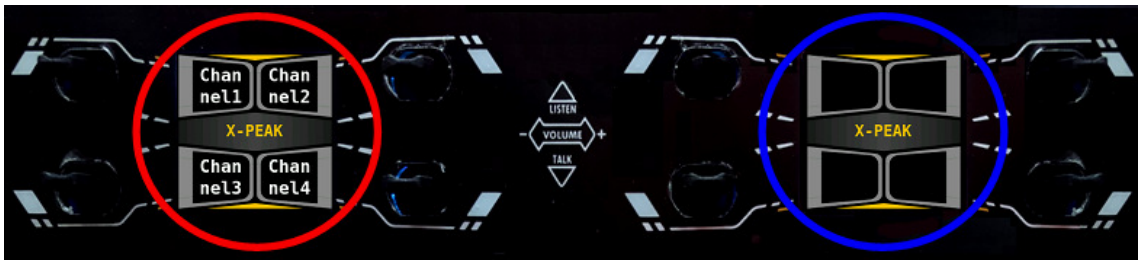
- "**Mute Key":** The functionality is the same as defined in section 3.1.1.1.

3.1.6.3. EasyNET and EasyNET G722 modes.

They are 4-channel Party-Line modes, so in operating mode there are only 4 active keys, the ones associated to the left screen.



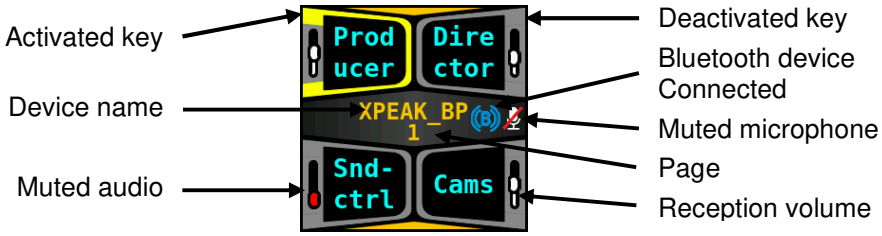




3.2. Xpeak_BP menus.



On the operation screen of the unit, the display shows the following information:



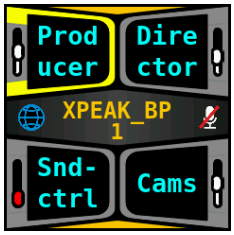
In the example above, all 4 keys are configured and the destinations associated with each key are "Producer", "Director", "Snd-ctrl" and "Cams" respectively. When programming a key from the "AEQ Xpeak" application, a label is automatically associated with it according to the destination and the type of command: if we use the default label it appears written in white on the display, while if the text is changed appears in cyan.

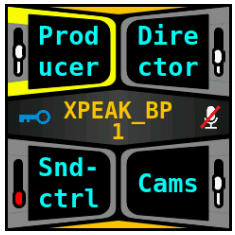
Regarding the color of the keys, green indicates that the key has been pressed on the equipment itself and red indicates that communication has been established (unidirectional if it's flashing or bidirectional if it remains fixed). The color yellow would indicate the combination of green and red, as follows:

- Fixed yellow: fixed green (pressed key) + fixed red (bidirectional communication).
- Blinking between green and yellow: fixed green (pressed key) + blinking red (unidirectional communication).
- Fixed green: the key has been pressed but there is no communication with the destination device.

In the example above, the fist key is yellow because it's been pressed on the equipment itself and bidirectional communication is established; that key would be red if the communication had been established from the remote device (fixed red when that communication was bidirectional and blinking when it was unidirectional).

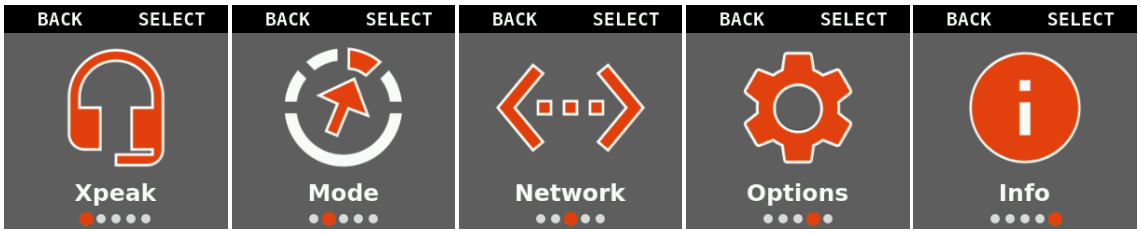
Finally, at the left of the device name, the icon of the globe may also appear (indicates that there is an Internet connection) or the icon of the key (indicates that the unit is connected to the AEQ VPN service: Remote Virtual Network - Xpeak Cloud):





Short pressing the "(LOCK) *MENU*" key leaves the operation screen, taking us to the device's setup menus. Some frequently used options can be found, while other are for configuration.

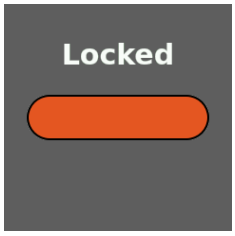
The screen shows the different available menu options. The first menu level includes the following five options:

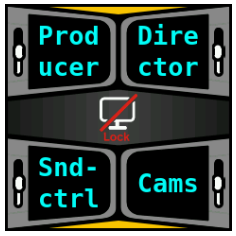


By turning the right encoder seen from the front, we can select any of them. Press the "*PAGE* (MUTE)" key (labeled on screen as "SELECT") to enter the selected option. Pressing "(LOCK) *MENU*" (labeled on screen as "BACK") takes you back in the menu and repeating the key press takes you back to the operation screen.

From the operation screen, long pressing the "(LOCK) *MENU*" key allows you to lock the keyboard. This status appears reflected on the display by a blinking icon.







A new long press of this key allows you to unlock the keyboard.





3.2.1. "Xpeak" menu.



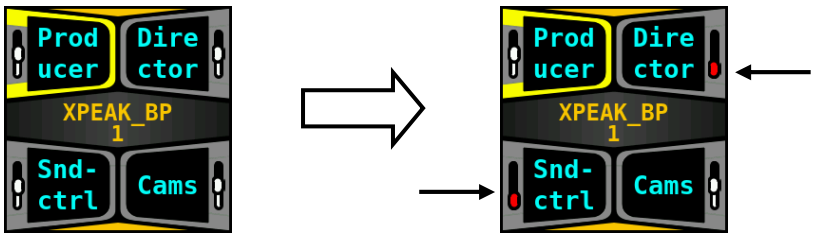
This is the most used menu during operation as it shows very important functions for online operation. Press the "*PAGE* (MUTE)" key when the "Xpeak" option is visible on screen to enter this first menu. The different options in this menu are highlighted by turning the right encoder knob, and pressing the "*PAGE* (MUTE)" key enters the selected one.



3.2.1.1. "Mute Key" option.

Allows you to mute the audio coming from a destination. When selecting this option by pressing the "*PAGE* (MUTE)" key, the displays return to the operation screen, where the key or keys to be muted are selected by pressing them (it is possible to select one or several keys of page 1 or, pressing "*PAGE* (MUTE)", of page 2).

In those keys, the reception volume control indicates then that the audio has been muted: in the example, the second and third keys ("Director" and "Snd-ctrl").



If any of the keys was previously muted, now selecting it will unmute it.

Once the key o keys are selected, you can return to previous menu by long pressing the "(LOCK) *MENU*" key.

3.2.1.2. "Dev. Name" option.



Allows you to change the device's name. It supports a maximum of 8 characters.

When accessing this option, the current name's first character is selected. By pressing the "*PAGE* (MUTE)" key, the cursor will be highlighted in red. By turning the right encoder, the character can be substituted by another. From left to right, numbers from 0 to 9 and capital letters can be chosen.

By pressing the "*PAGE* (MUTE)" key again, the cursor is highlighted back in white so by turning the right encoder we can move to another character within the device name. By pressing that key again, the cursor is highlighted in red and the character can be modified. The name must be confirmed by pressing the key 4, labeled with the "Save" legend (the changes can be discarded by means of the "Cancel" option, associated to key 3).

By pressing the "(LOCK) *MENU*" key once, we'll go back to the main screen of the "Xpeak" menu, and two more pressings take us to the operation screen.

3.2.1.3. "Key Auto" option.



Allows you to enable the auto-discovery mode. When a Xpeak device "discovers" another device on the network and has no keys programmed to communicate with it, a key is automatically programmed to establish that communication if this mode is enabled.

For this purpose, the first not used key is programmed (if all they are configured, that automatic programming is not carried out).

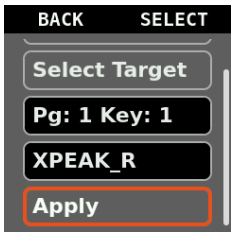
3.2.1.4. "Key Config" option.



Allows you to change the configuration of each cross-point key. It's possible to configure any of the 4 available keys of any of the 2 available pages.

When entering this option, the first step is to select the key that you want to configure by means of the "Select Key" option: by pressing the "*PAGE* (MUTE)" key, the operation screen appears and you can select the key to be configured by pressing it (you can select a key of page 1 or press "*PAGE* (MUTE) and select one of page 2). Once the key is selected, it automatically returns to the previous screen, where the key appears reflected in the third field, which is merely informative (in the example, key 1 of the first page has been selected: "**Pg: 1 Key: 1**").

Next step is to define the destination that this key will provide access to by means of the "Select Target" option. Once selected, it will appears reflected in the fourth field, which is also only informative.



Finally, you have to confirm that the configuration is applied by means of the "Apply" option.

3.2.1.5. "Key Delete" option.



Allows you to delete the configuration of a certain cross-point key.

When entering this option, the first step is to select the key whose configuration you want to delete by means of the "Select Key" option: by pressing the "*PAGE* (MUTE)" key, the operation screen appears and you can select the key by pressing it (you can select a key of page 1 or press "*PAGE* (MUTE) and select one of page 2). Once the key is selected, it automatically returns to the previous screen, where the key appears reflected in the second field, which is merely informative (in the example, key 2 of the first page has been selected: "**Pg: 1 Key: 2**").

Next step is to confirm that the configuration of the selected key is deleted by means of the "Apply" option.

3.2.1.6. "Erase Config" option.

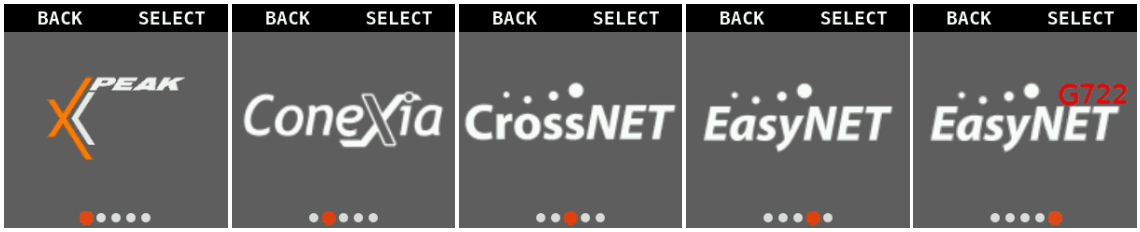


Allows you to erase the beltpack's configuration. Confirmation is required.

3.2.2. "Mode" menu.

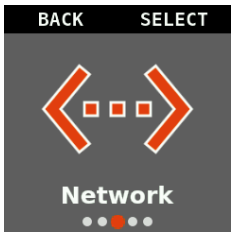


Allows you to select between the different beltpack operating modes. There are five options:



- **Xpeak mode:** Up to 28-terminals matrix-less, Xplorer-compatible system, local and global Plug & Play. 7 kHz HD audio. Native mode including all the features.
- **Conexia mode:** Xpeak beltpacks turn into 4-key user panels compatible with Conexia intercom Matrix. Audio quality is 7 kHz HD.
- **CrossNET mode:** Xpeak beltpacks turn into 4-key user panels compatible with CrossNET intercom Matrix. Audio quality is Kroma G711.
- **EasyNET mode:** Xpeak beltpacks integrate into the EasyNET 4-channel Party-Line system, compatible with earlier panels and Xplorer. Audio quality is Kroma G711.
- **EasyNET G722 mode:** Xpeak beltpacks integrate into a 4-channel Party-Line system, compatible with Xplorer wireless system. Audio quality is 7 kHz HD.

3.2.3. "Network" menu.





By pressing the "*PAGE* (MUTE)" key when the "Network" option is visible on the screen, you enter this menu which presents the following options:

- **IP:** Allows you to modify the IP address of the beltpack.

  When accessing this option, the first digit of the current IP address is selected. By pressing the "*PAGE* (MUTE)" key, the cursor will be highlighted in red. By turning the right encoder, the number can be substituted by another. Numbers from 0 to 9 can be chosen (the figure that can be configured in each octet is limited between 0 and 255).



  By pressing the "*PAGE* (MUTE)" key again, the cursor is highlighted back in white so by turning the right encoder we can move to another number of the IP address. By pressing that key again, the cursor is highlighted in red and the number can be modified. The new IP address must be confirmed by pressing the key 4, labeled with the "Save" legend (the changes can be discarded by means of the "Cancel" option, associated to key 3).

  If the IP address you are trying to configure is not correct, the octet number is automatically corrected to a valid value (between 0 and 255).

- **DHCP:** Enables or disables automatic IP address configuration. When this menu entry is highlighted, pressing the "*PAGE* (MUTE)" key checks or disables this option.



- **Mask:** Configures the mask of the subnet the beltpack is connected to. Its max. length is 32 bits (up to 255.255.255.255).

  If you are not used to this format, remember that:

  24 bits is equivalent to mask 255.255.255.0
  16 bits is equivalent to mask 255.255.0.0
  8 bits is equivalent to mask 255.0.0.0

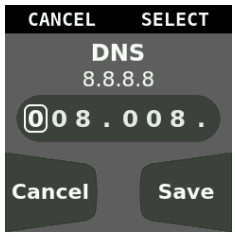


  The procedure to change the mask and confirm the changes is the same as the one defined for the IP address.

- **Gateway:** IP address of the gateway to external networks. It is configured just in the same way as the beltpack's IP address.

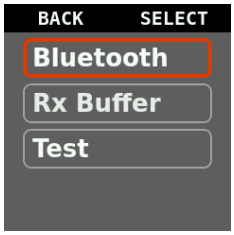


- **DNS:** IP address of the Domain Name Server to be used. It is configured just in the same way as the beltpack's IP address.



3.2.4. "Options" menu.





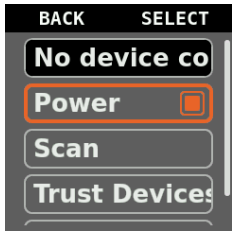
By pressing the "*PAGE* (MUTE)" key when "Options" is visible on the screen, you enter this menu which presents the following options:

- **Bluetooth:** Allows you to configure connectivity with Bluetooth devices.

  When accessing this option, the first field shows if there is any device connected.

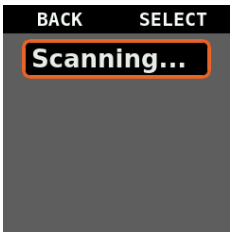


  Once the dongle/adapter is connected to front USB, the first step is to activate Bluetooth connectivity by pressing the encoder when the "**Power**" option is highlighted (you can deactivate it by pressing the encoder again). At that point, the "Scan" and "Trust Devices" options become available.



  When you turn on the unit, if the dongle/adapter is already connected, the "Power" option is automatically activated.

  The "**Scan**" option allows you to search for new Bluetooth devices. When you press it, after doing that search, a list of the detected devices appears.





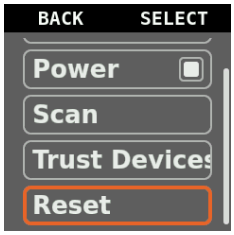
  After selecting the desired device and pressing the encoder, it appears reflected in the first field and is available for use. By pressing on it, it's possible to disconnect it (then it indicates "No device connected"):



The “**Trust Devices**” option shows a list of the devices that have been previously paired, allowing you to select any of them with no need for a new “Scan”. That list is saved on the unit, but it’s associated with the dongle/adapter, so if you change the dongle, the devices associated with the first one will not appear.



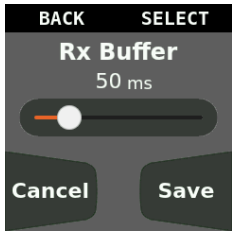
The “**Reset**” option allows you to restart the Bluetooth configuration, it eliminates previously paired devices (in “Trust Devices” a “No devices” indication appears).



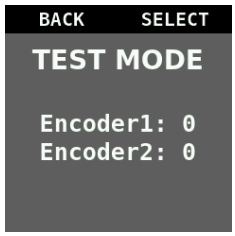


- **Rx Buffer:** Allows you to adjust the VoIP audio reception buffer, thus adjusting the audio latency according to the quality of the network being used.

  The default value is 50 ms, adjustable between 0 and 250 ms (in 25 ms increments). By turning the right encoder you can change the value and you can confirm it by pressing the key 4, labeled with the “Save” legend (the changes can be discarded by means of the “Cancel” option, associated to key 3).

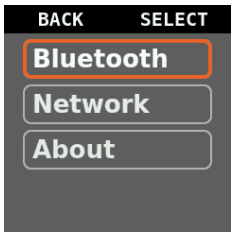


- **Test:** Gives access to a test option where the 2 encoders and the keys and LEDs of the unit's front can be checked.



3.2.5. "Info" menu.





By pressing the "*PAGE* (MUTE)" key when the "Info" option is visible on the screen, you enter this menu that allows you to check the main configuration parameters of the beltpack and that presents the following options:

- **Bluetooth:** Allows to check the Bluetooth configuration of the panel.

  The fields that appear are: “Power” (indicates whether the Bluetooth connectivity is activated or not) and MAC address of the connected dongle/adapter. See section 3.2.4 of this manual.



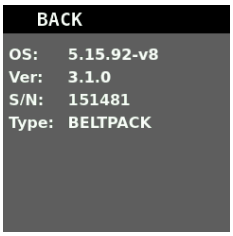
- **Network:** Allows to check the network configuration of the beltpack.

  The fields that appear are: MAC address, IP address, mask, gateway and DNS. In section 3.2.3 the way to configure all these parameters is detailed.

  In addition, the Inet (indicates if there is an Internet connection) and VPN (indicates if the unit is connected to the AEQ VPN service: Remote Virtual Network - Xpeak Cloud) fields appear.



- **About:** Allows you to check the operative system version, the firmware version, the serial number and unit's type.



3.2.6. Menu differences in other operating modes.

3.2.6.1. All modes except Xpeak.

Xpeak mode is the only one that supports families characterized by a defined color of the LED associated to each cross-point key. Thus, these LEDs don't illuminate in the rest of operating modes.

3.2.6.2. Conexia and CrossNET modes.

In these modes, operation using a matrix means that specific options are defined in the **CrossMapper** software for general system configuration.

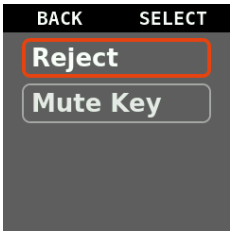




When in these operating modes, the first menu shows two specific functions:

- "**Reject":** It allows to cut off a communication. If a remote panel has established communication with our panel and we want to "hang up" that "call" this option should be used. When selecting it by pressing the "*PAGE* (MUTE)" key, the display returns to the operation screen, where the key whose communication you want to cut off is selected.

  Then the key will be disabled both in the source panel of the communication and in the destination panel.

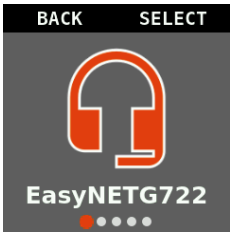


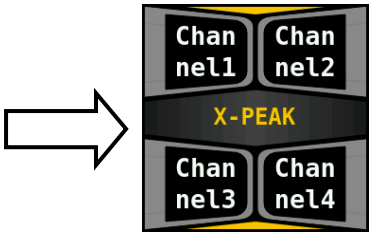
- "**Mute Key":** The functionality is the same as defined in section 3.2.1.1.

3.2.6.3. EasyNET and EasyNET G722 modes.

They are 4-channel Party-Line modes, so in operating mode there are only 4 active keys.

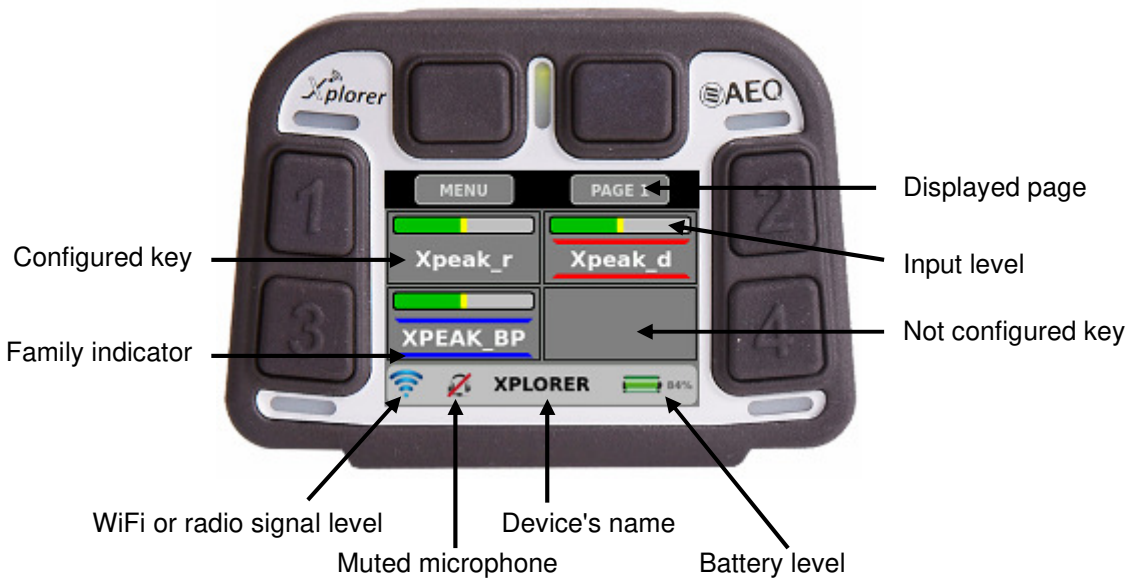






3.3. Xplorer and Xplorer MAX menus for Xpeak.

On the operation screen of the unit, the display shows the following information:



In the example above, there are 3 keys configured on page 1 and the destinations associated with each key are a Xpeak_R unit, a Xpeak_D and a Xpeak_BP. The second and third destinations are also associated with families identified respectively with red and blue colors.

Short pressing the "MENU" key leaves the operation screen, taking us to the device's setup menus. Some frequently used options can be found, while other are for configuration. Long pressing the "MENU" key allows you to lock/unlock the keyboard.

The screen shows the different available menu options.

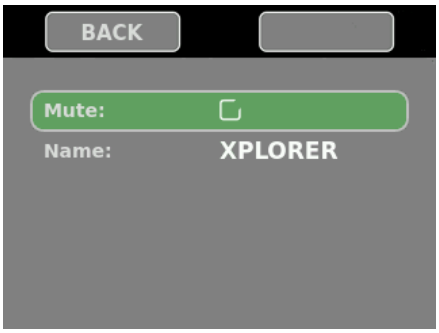
The first menu level includes the following five options:



By turning any of the two encoders, we can select any of them. Press the "SELECT" key to enter the selected option. From there, pressing the "BACK" key takes you back in the menu and repeating the key press takes you back to the operation screen.

3.3.1. "XPEAK" menu.

This is the most used menu during operation as it shows very important functions for online operation. When the "XPEAK" option is highlighted in green, by pressing the key labeled as "SELECT" this first menu is accessed; this menu shows a different name depending on the selected operating mode.

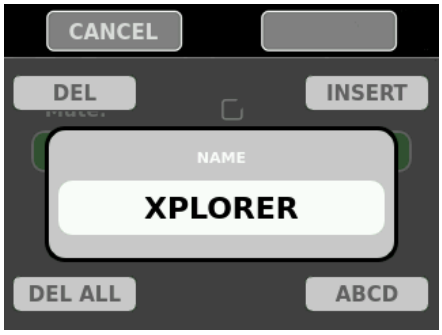


There are 2 options that are highlighted by turning any of the two encoders. By pressing the "SELECT" key activate or enters the selected one.

- **Mute:** This option allows the user to mute or reactivate the microphone. While it is muted, a micro-headphone icon with a red crossing bar appears, indicating its inactivity. However, headphones still remain active, so the configured conversations can be heard.



- **Name:** Allows you to change the device's name. It supports a maximum of 8 characters. When accessing this option, the current name's last character is selected. By turning any of the two encoders, the character can be substituted by another. The keys 1 to 4 respectively allow us to delete the last character ("DEL"), add a new character at the end ("INSERT"), delete all characters ("DEL ALL") and switch between letters, numbers and special characters ("ABCD"). The upper keys allow us to confirm or discard the changes.

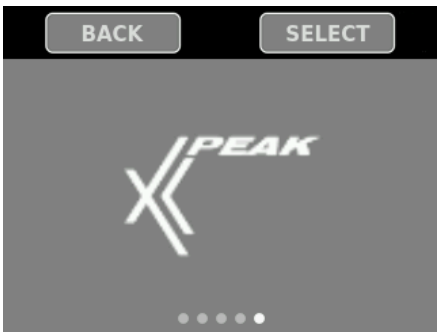


3.3.2. "MODE" menu.

This is a configuration menu that allows you to select between the different beltpack operating modes.



When the "MODE" option is highlighted in green, by pressing the key labeled as "SELECT" this second menu is accessed.



This option allows the user to choose which kind of system the beltpack will connect: Conexia, CrossNET, EasyNET (Party-Line), EasyNET G722 (Party-Line) or Xpeak. Using any of the two encoders, the different options can be selected, and they are validated by pressing the "SELECT" key. If a system of the selected type is found, the center LED of front panel will illuminate in steady green color. On the other hand, if no valid system is found, this LED will blink green.

3.3.3. "CONNECTION" menu.

In the case of Xplorer, this is a configuration menu that allows the user to select the parameters of the Wi-Fi network the unit will connect to and configure the IP parameters of the terminal. In the case of Xplorer MAX, this menu allows the user to configure only those IP parameters (it gives direct access to the “Config IP” option described ahead).

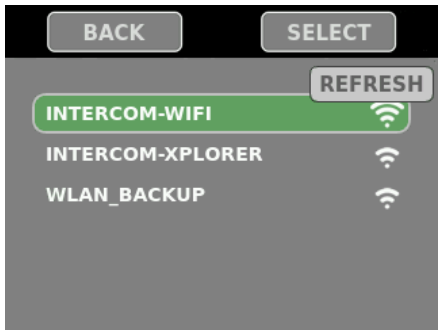


When the "CONNECTION" option is highlighted in green, by pressing the "SELECT" key this third menu is accessed.



Any of the two encoders can be used to navigate through the 6 options of the menu and the "SELECT" key allows to enter the selected one. The available options are:

- **WiFi Scan:** Allows you to search for available Wi-Fi networks. The key 2 allows you to refresh the content of the displayed list. You can navigate through the list using any of the two encoders and choose the Wi-Fi network by pressing the "SELECT" key.



- **SSID:** This option allows to type or modify the name of the WiFi network that the terminal has to connect to.



There are 4 options associated to keys 1 to 4:

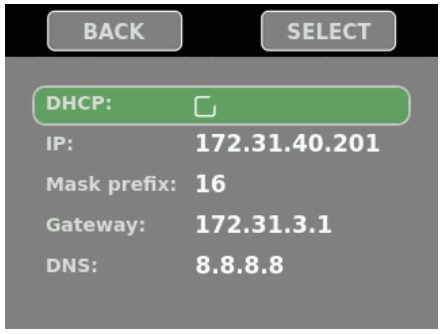
- DEL: Allows to delete the last character.
- INSERT: Allows to add a new character at the end. After pressing the key, the character is configured by turning any of the two encoders.
- DEL ALL: Allows to delete all characters.
- ABCD: Allows to switch between uppercase letters, lowercase letters, numbers and special characters.

By pressing "OK" (right function key) the typed name is validated. By pressing "CANCEL" (left function key) changes are ignored and the former name will remain.

- **Password:** Use this option to type or modify the password of the WiFi network that the terminal has to connect to. The procedure is the same as for creating or editing the name.

- **Hidden SSID:** This option should be checked if the WiFi network the terminal will connect to is hidden (it doesn't publish its SSID).

- **Config IP:** Allows you to configure the IP parameters of the terminal.



The following options appear:

- **DHCP:** Enables or disables automatic IP address configuration. When this menu entry is highlighted, pressing the "SELECT" key checks or disables this option.

- **IP:** Allows you to modify the IP address of the beltpack.



When accessing this option, the first digit of the current IP address is selected. By turning any of the two encoders, the number can be substituted by another. Numbers from 0 to 9 can be chosen (the figure that can be configured in each octet is limited between 0 and 255).

By pressing the key 2 ("NEXT") we can move to the next number in order to modify it the same way. By pressing the key 1 ("PREV") we can move to the previous number. Once modified, the new IP address must be confirmed by pressing "OK" (or changes can be discarded by pressing "CANCEL").

- **Mask prefix:** Configures the mask of the subnet the beltpack is connected to. Its max. length is 32 bits (up to 255.255.255.255).



By turning any of the two encoders, the number can be modified. By pressing the key 4 ("RESET") you can return to the initial value.

If you are not used to this format, remember that:

24 bits is equivalent to mask 255.255.255.0
16 bits is equivalent to mask 255.255.0.0
8 bits is equivalent to mask 255.0.0.0

- **Gateway:** IP address of the gateway to external networks. It is configured just in the same way as the beltpack's IP address.

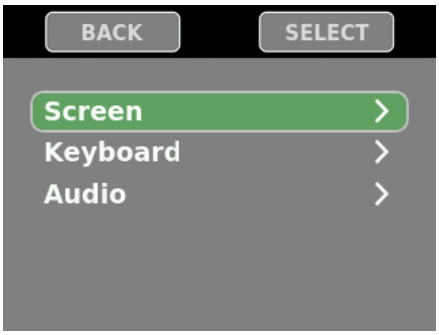
- **DNS:** IP address of the Domain Name Server to be used. It is configured just in the same way as the beltpack's IP address.

3.3.4. "SETTINGS" menu.

This is a configuration menu that allows you to define the operation of the display and the left and right function keys, as well as configure the VoIP audio reception buffer.

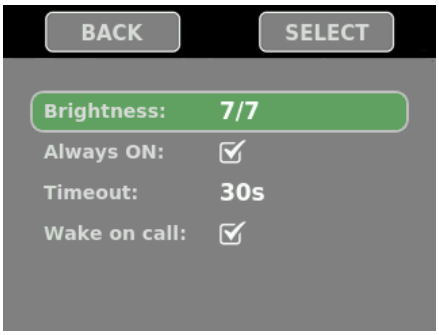


When the "SETTINGS" option is highlighted in green, by pressing the "SELECT" key this fourth menu is accessed.

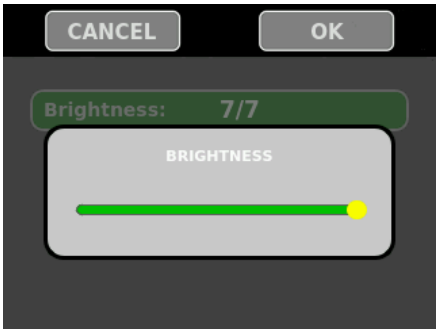


Any of the two encoders can be used to navigate through the 3 options of the menu and the "SELECT" key allows to enter the selected one. The available options are:

- **Screen:** Allows to configure the following display parameters:



  - **Brightness:** When this option is selected, an auxiliary screen appears where the screen brightness can be modified using any of the two encoders within a range from 1 (low) to 7 (high), in order to suit the operating environment ambient light. Press the "OK" key when the adjusted brightness level is adequate.

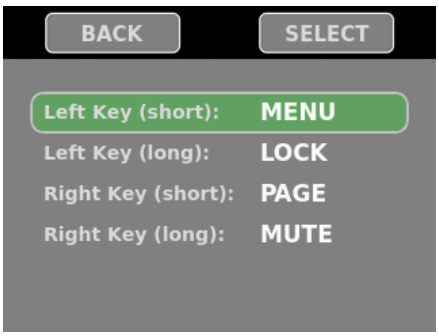


- **Always ON:** When this option is activated, the screen will always remain ON.
- **Timeout:** This option allows the user to adjust in seconds the time that the screen remains active since the last press of a key. It will turn back on when you press any key.



- **Wake on call:** This option allows the user to configure the screen to turn on when an incoming call is received. It turns off again when the "Timeout" expires.

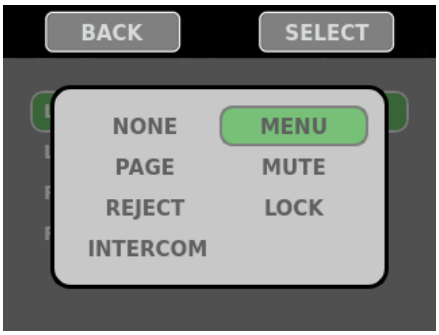
- **Keyboard:** Configures the usage of the left and right function keys.



Their default configuration is as follows:

- Left Key (short pressing): MENU.
- Left Key (long pressing): LOCK.
- Right Key (short pressing): PAGE.
- Right Key (long pressing): MUTE.

However, a different configuration may be more adequate depending on the particular operating way. Press the "SELECT" key when a key and option (short or long pressing) is highlighted in order to go to next screen, where one among 7 different functions can be assigned to that key and pressing mode.



- **Audio:** Allows to configure the VoIP audio reception buffer, thus adjusting the audio latency according to the quality of the network being used. The default value is 200 ms, adjustable between 0 and 250 ms (in 25 ms increments).

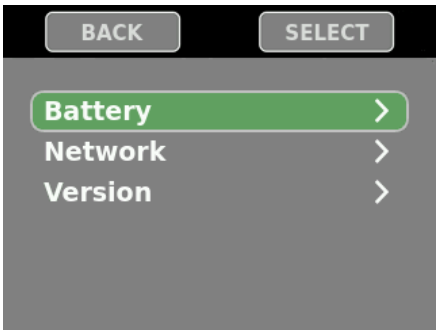


3.3.5. "STATUS" menu.

This is an information menu.

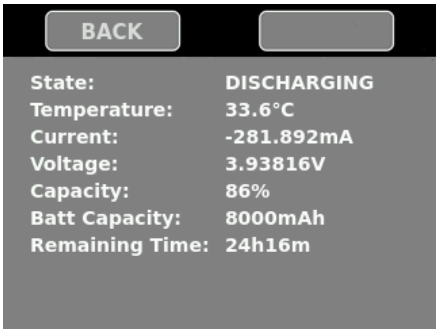


When the "STATUS" option is highlighted in green, by pressing the "SELECT" key this fifth menu is accessed.



Any of the two encoders can be used to navigate through the 3 options of the menu and the "SELECT" key allows to enter the selected one. The available options are:

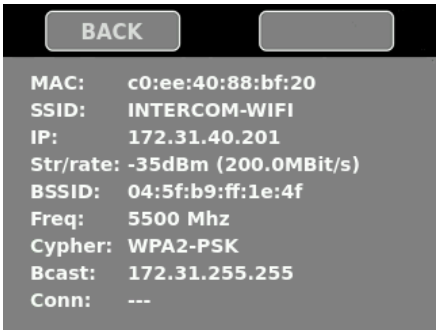
- **Battery:** Provides detailed information about the battery status.



- **Network:** Allows you to check the network configuration of the beltpack.

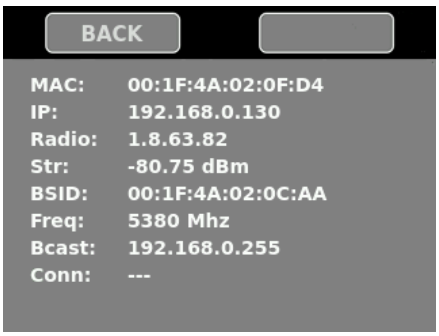
In the case of Xplorer, the fields that appear are:

- MAC address of the terminal.
- SSID: Public name of the Wi-Fi network the terminal is connected to.
- IP address of the terminal.
- Str/rate: Power level of the received signal and maximum speed of communication with access point.
- BSSID: MAC address of the access point the terminal is connected to.
- Freq: Frequency of the Wi-Fi channel in which we are working.
- Cypher: Security algorithm being used.
- Bcast: Network broadcast address. This data is important in EasyNET modes if BS3000 and BP3000 units are used (this data is necessary to configure them).
- Conn: Internet and VPN connection indication: when the device does not have an Internet connection "---" appears, when it has an Internet connection "Internet" appears and when it's connected to VPN (Remote Virtual Network - Xpeak Cloud) "VPN" appears.



In the case of Xplorer MAX, the fields that appear are:

- MAC address of the terminal.
- IP address of the terminal.
- Radio: Internal IP address of the radio module.
- Str: Radio signal level.
- BSID: MAC address of the base station the terminal is connected to.
- Freq: Working frequency.
- Bcast: Network broadcast address. This data is important in EasyNET modes if BS3000 and BP3000 units are used (this data is necessary to configure them).
- Conn: Internet and VPN connection indication: when the device does not have an Internet connection "---" appears, when it has an Internet connection "Internet" appears and when it's connected to VPN (Remote Virtual Network - Xpeak Cloud) "VPN" appears.



- **Version:** Allows you to check the operative system version, the firmware version, the user interface version (only for Xplorer) and the serial number.



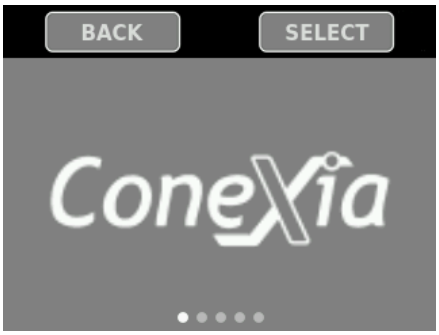
3.3.6. Menu differences in other operating modes.

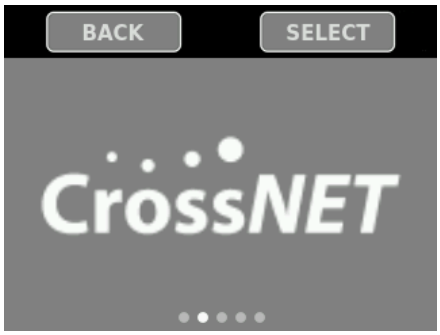
3.3.6.1. All modes except Xpeak.

Xpeak mode is the only one that supports families characterized by a color, so that in the rest of operating modes the family indicators don't appear on the display.

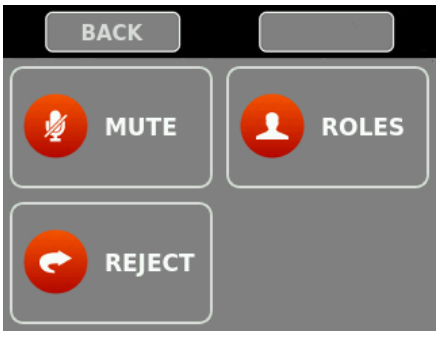
3.3.6.2. Conexia and CrossNET modes.

In these modes, operation using a matrix means that specific options are defined in the **CrossMapper** software for general system configuration.





When in these operating modes, the first menu shows three specific functions associated to keys 1 to 3:



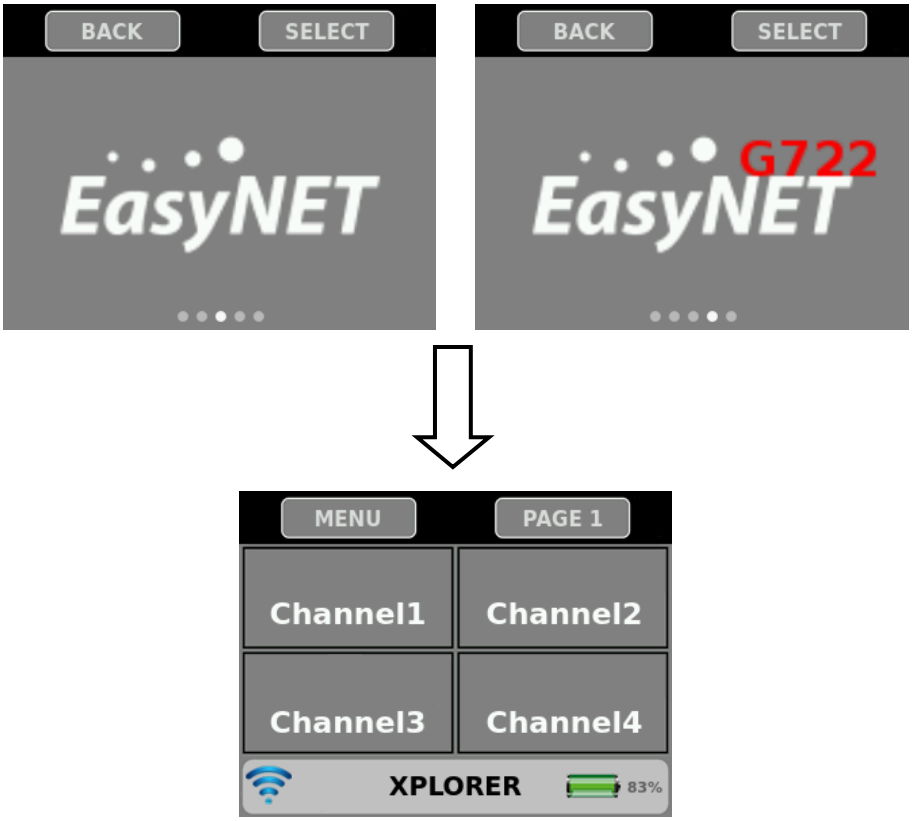
- **MUTE:** This option allows the user to mute or reactivate the microphone. While it is muted, a micro-headphone icon with a red crossing bar appears, indicating its inactivity. However, headphones still remain active, so the configured conversations can be heard.



- **ROLES:** Shows the list of the user roles that can be assigned to the unit (if they're configured in the matrix and enabled in the unit) for the operator to select the desired one.
- **REJECT:** Rejects an incoming call.

3.3.6.3. EasyNET and EasyNET G722 modes.

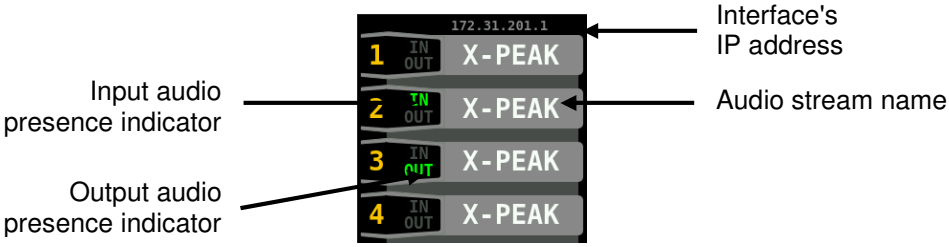
They are 4-channel Party-Line modes, so in operating mode there are only 4 active keys.



3.4. Xpeak_IF menus.



On the operation screen of the unit, the display shows the following information:



The Xpeak_IF I/O interface handles 4 independent audio streams. Each of the 4 lines that appear on the operation screen is associated with one of those streams; the name of each stream can be edited from the "AEQ Xpeak" application. In the example above, the presence of input audio to the second stream and output audio from the third stream is indicated.

Long pressing the "*MENU* (BACK)" key leaves the operation screen, taking us to the device's setup menus. Some frequently used options can be found, while other are for configuration.

The screen shows the different available menu options.

The first menu level includes the following three options:







By turning the encoder, we can select any of them. Press the encoder button to enter the selected option. Pressing "*MENU* (BACK)" takes you back in the menu and repeating the key press takes you back to the operation screen.

3.4.1. "Network" menu.





By pressing the encoder when the "Network" option is visible on the screen, you enter this menu which presents the following options:

- **IP:** Allows you to modify the interface's IP address.

  When accessing this option, the first digit of the current IP address is selected. By pressing the encoder, the cursor will be highlighted in red. By turning the encoder, the number can be substituted by another. Numbers from 0 to 9 can be chosen (the figure that can be configured in each octet is limited between 0 and 255).



By pressing the encoder again, the cursor is highlighted back in white so by turning the knob we can move to another number of the IP address. By pressing the encoder again, the cursor is highlighted in red and the number can be modified. The new IP address must be confirmed by long pressing the encoder (the changes can be discarded by pressing the "*MENU* (BACK)" key).

If the IP address you are trying to configure is not correct, the octet number is automatically corrected to a valid value (between 0 and 255).

- **DHCP:** Enables or disables automatic IP address configuration. When this menu entry is highlighted, pressing the encoder button checks or disables this option.



- **Mask:** Configures the mask of the subnet the interface is connected to. Its max. length is 32 bits (up to 255.255.255.255).

  If you are not used to this format, remember that:

  24 bits is equivalent to mask 255.255.255.0
  16 bits is equivalent to mask 255.255.0.0
  8 bits is equivalent to mask 255.0.0.0



  The procedure to change the mask and confirm the changes is the same as the one defined for the IP address.

- **Gateway:** IP address of the gateway to external networks. It is configured just in the same way as the interface's IP address.

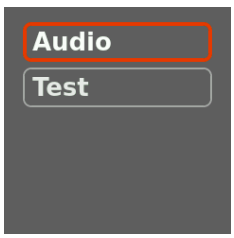


- **DNS:** IP address of the Domain Name Server to be used. It is configured just in the same way as the interface's IP address.



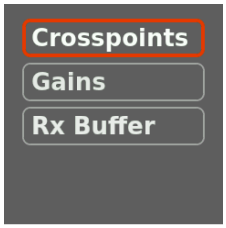
3.4.2. "Options" menu.



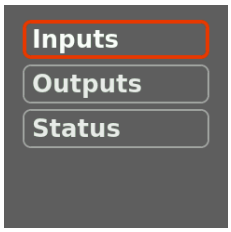


By pressing the encoder when the "Options" option is visible on the screen, you enter this menu which presents the following options:

3.4.2.1. "Audio" option.



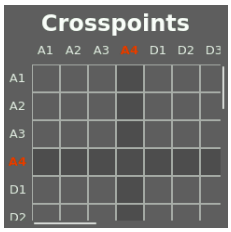
Allows you to change the crosspoints configuration, the gain of interface inputs and outputs and the VoIP audio reception buffer.



When you enter the "**Crosspoints**" option 3 options appear. The "**Inputs**" and "**Outputs**" options respectively present a list of the inputs and outputs available on the device.



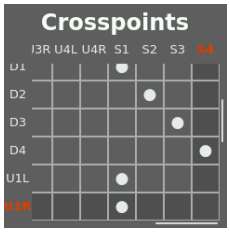




On the other hand, the "**Status**" option presents an informative XY view with the crosspoints configured on the device. The left column shows the inputs of the unit and the upper row the outputs.

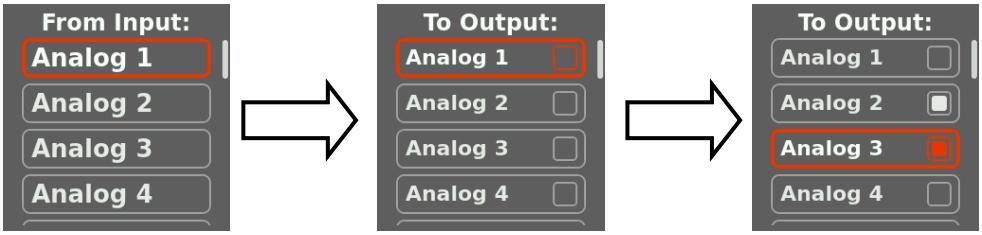
You can scroll horizontally through the view by turning the encoder. When you press the encoder the horizontal displacement changes to vertical, rotating the encoder in the same way. When you press the encoder again, the horizontal displacement returns.

The crosspoints are represented this way in the XY view:

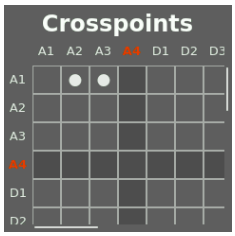


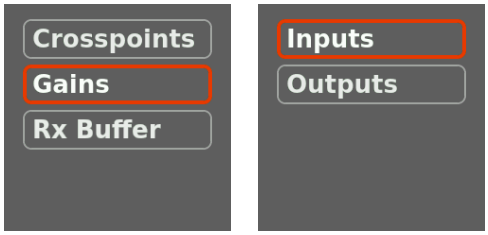
The process to change the crosspoint configuration is as follows. The first step is to select from one of the 2 lists the input or output whose routing you want to modify. If an input is selected, when you press the encoder a list of the outputs to which that input can be routed is displayed; if an output is selected, when you press the encoder a list of the inputs that can be routed to that output is displayed. Next, by turning and pressing the encoder you can activate/deactivate the desired crosspoints.

In the following example, the analog input 1 is selected and routed to analog outputs 2 and 3:

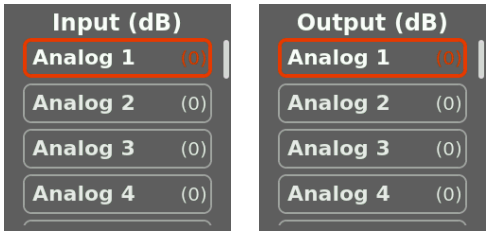


That routing is represented this way in the XY view:





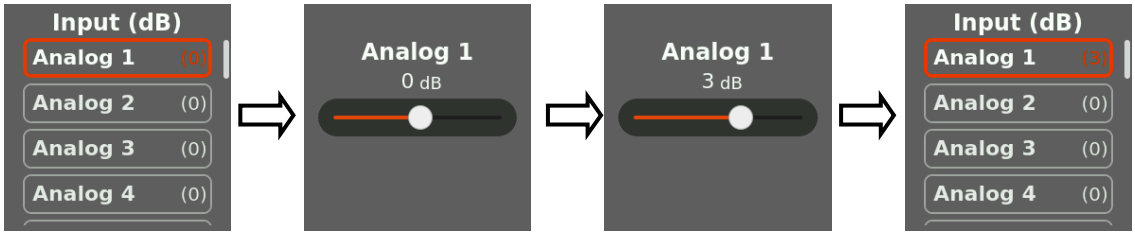
When you enter the "**Gains**" option 2 options appear, "**Inputs**" and "**Outputs**", that respectively present a list of the inputs and outputs whose gain can be modified.

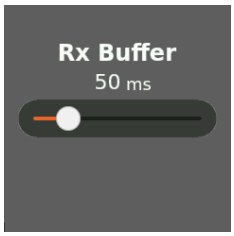


At the right of each input or output, the associated gain is indicated inside parentheses.

The process to change the gain of an input or output is as follows. The first step is to select from one of the 2 lists the input or output whose gain you want to modify. Next, by turning the encoder you can change that gain. Once the desired gain has been set, it's confirmed by long pressing the encoder. Gain adjustment is from **-infinity** to **+12dB.**

In the following example, the analog input 1 is selected and the gain is changed from 0 to +3dB:

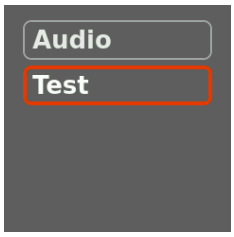


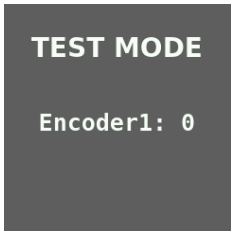


Finally, when you enter the "**Rx Buffer**" option the screen that allows you to adjust the VoIP audio reception buffer appears, thus adjusting the audio latency according to the quality of the network being used.

The default value is 50 ms, adjustable between 0 and 250 ms (in 25 ms increments). By turning the encoder you can change the value and you can confirm it by long pressing it.

3.4.2.2. "Test" option.

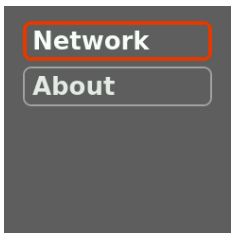




Gives access to a test option where the encoder and the LED of the "*MENU* (BACK)" key can be checked.

3.4.3. "Info" menu.





By pressing the encoder when the "Info" option is visible on the screen, you enter this menu that allows you to check the main configuration parameters of the interface and that presents the following options:

- **Network:** Allows you to check the network configuration of the interface.

  The fields that appear are: MAC address, IP address, mask, gateway and DNS. In section 3.4.1 the way to configure all these parameters is detailed.

  In addition, the Inet (indicates if there is an Internet connection) and VPN (indicates if the unit is connected to the AEQ VPN service: Remote Virtual Network - Xpeak Cloud) fields appear.



- **About:** Allows you to check the operative system version, the firmware version, the serial number and unit's type.



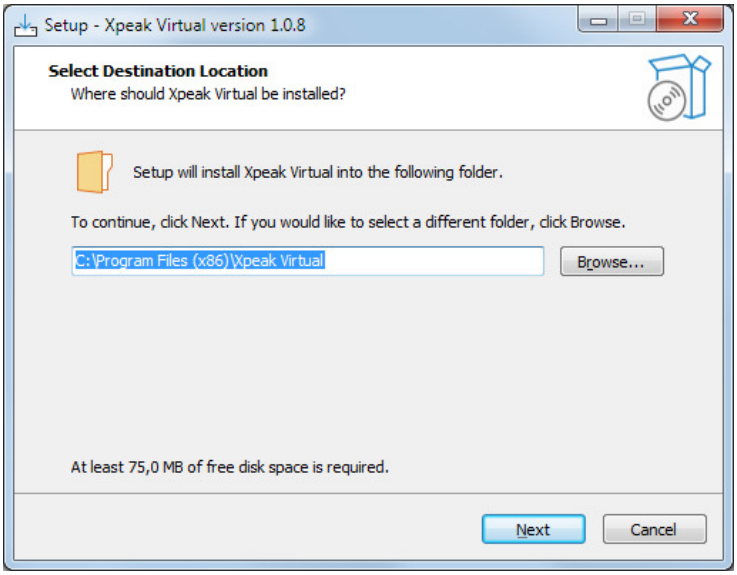
4. INSTALLATION AND USE OF "XPEAK VIRTUAL" APPLICATION.

The "**AEQ Xpeak Virtual**" application is the software that allows you to convert a PC into a 16 keys virtual user panel for the Xpeak system.

The application works on Windows 7 or higher operating system.

In order to use the application, previous activation of its **license** is required (see section 4.1).

The auto run USB key furnished with the Xpeak devices contains the executable file that installs the application. Installing it is simply a matter of executing this file and following the on-screen instructions as they come up.



Once the software is installed (by default, in C:\Program files\Xpeak Virtual), you can start it up by double-clicking the icon displayed on the desktop:



The application is also available for **Android** operating system (version 8.1 or higher). The auto run USB key furnished with the Xpeak devices contains the APK file that allows you to install the application. In the same way, in order to use it, previous activation of its **license** is required (see section 4.1). The appearance of the Android version is almost identical to the Windows version, as well as its use, which is described in the following sections.

4.1. Running the application. License activation.

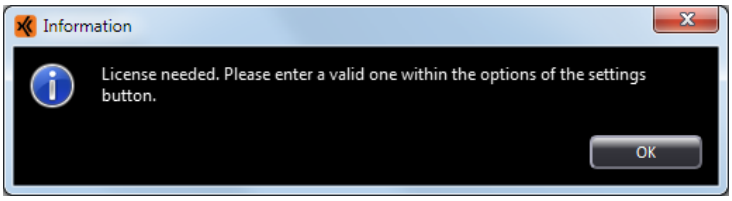
Once the application starts, the welcome screen is displayed, showing the application version at the bottom:



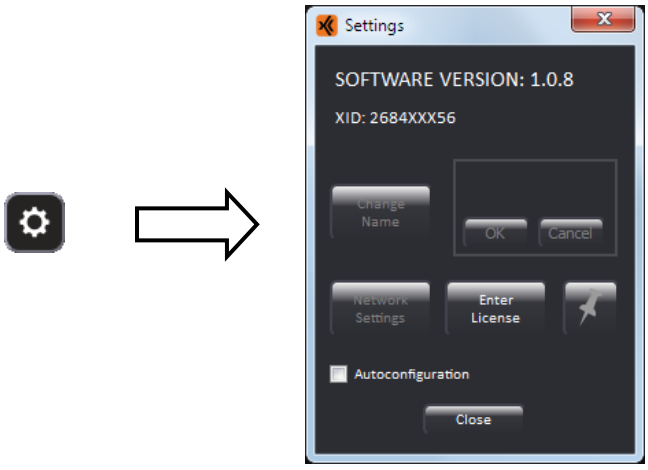
Next, the initial screen of the application appears:



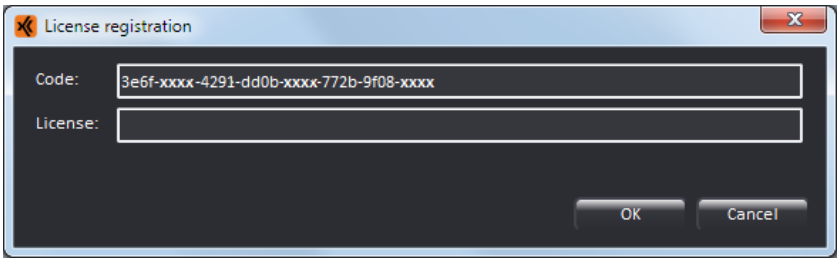
In case the **license** of the application is not activated (or it has expired, when it's a temporary license), a window will appear informing the user of the need to activate it:



In order to do this, press the button that gives access to the settings window on the initial screen:

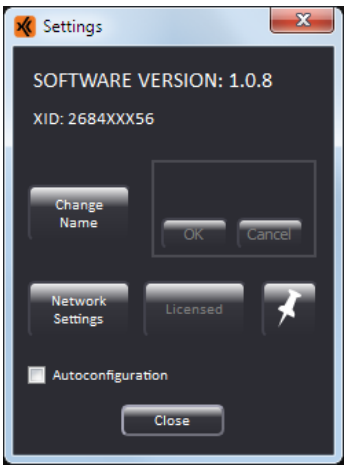


When you press the "**Enter License**" button, a window will appear allowing you to introduce the key.

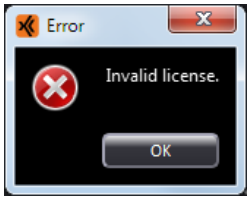


You must copy the content of the "Code" field and send it to **AEQ** in order to generate the associated license and send it back to you (you must paste it in the "License" field).

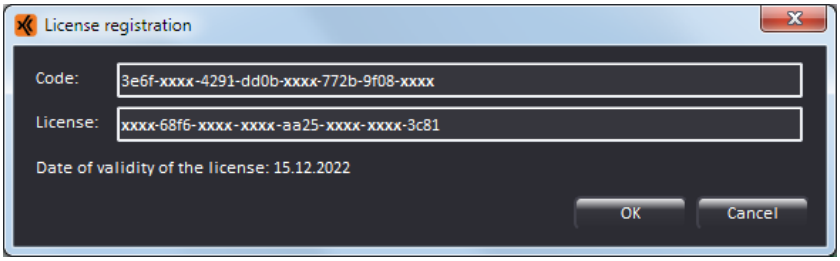
The "**OK**" button allows you to confirm the key and, when it's correct, activate it. In that case, in the "Settings" window the "Enter License" button changes to "**Licensed**" and the other buttons get activated:



In case the license is not the right one, an error message will appear:



In case the license is temporary, when entering it, the validity date is indicated:



4.2. Software operation.

As indicated in the previous section, when starting the application, the welcome screen appears and, after it, the initial screen. In case its license is already activated and their buttons have been configured from the "Xpeak" application, it will look something like this:

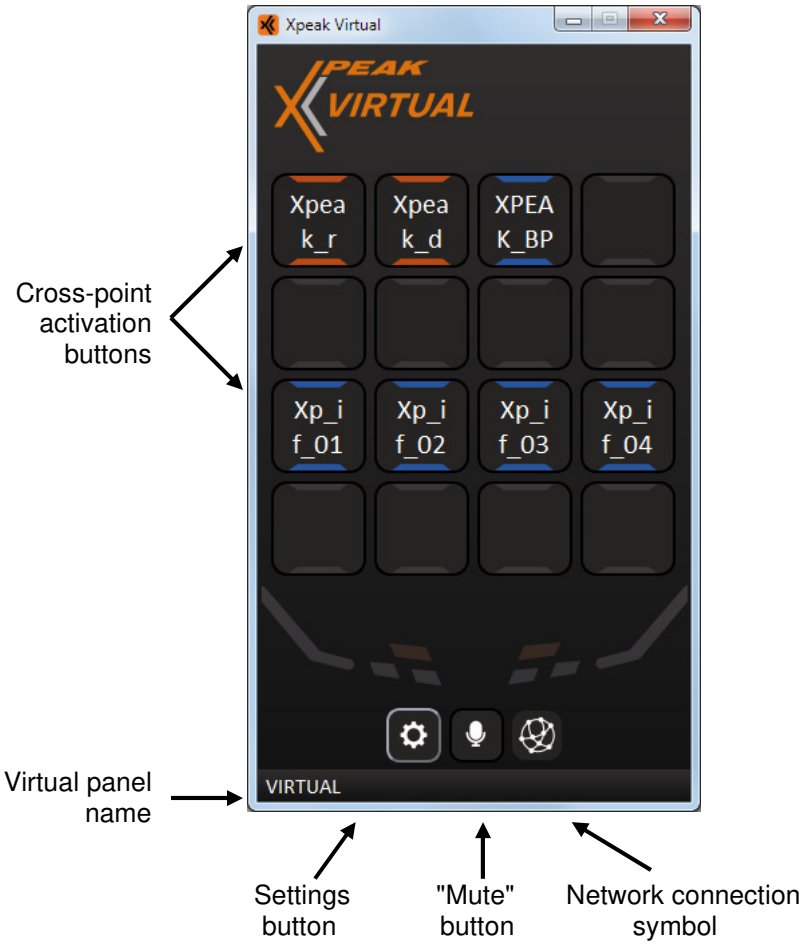


The default position of the window is in the center of the main monitor screen (if there are several), or near the upper left corner if the resolution is very low. By clicking with the mouse anywhere that is not a button and keeping it pressed, it's possible to move the window and place it where you want.

The default format of the application is shown in the previous image. There are two other alternative formats to which it can be resized to adapt the occupation on the screen to the needs of the user to share the monitor with other applications. In order to do this, just place the mouse in a corner of the window, click and drag.



In any of the available formats, the elements that appear reflected in the application are the following:



Each button displays the label that has been configured in the "Xpeak" application, that refers to the "Target" device the button will allow communication with (see section 5.2.4.7.1 of this manual). In addition, the color of the lines above and below the label indicates the target **family** (if the "Target" device belongs to one).



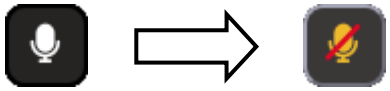
In the example of the previous image, we have created 2 buttons in the first row that allow to activate a "Talk" with a Xpeak_R and a Xpeak_D panel respectively and a button that allows to activate a "Talk & Listen" with a Xpeak_BP beltpack. On the other hand, in the third row there are 4 buttons that allow you to activate a "Talk" with each of the 4 channels of a Xpeak_IF interface.

The name of the virtual panel that appears at the bottom left is the name that will identify the "Xpeak Virtual" application in the system. It's possible to edit it from the application settings window (see section 4.2.2) or from the "Xpeak" application (see section 5.2.4.6).



This button allows you to access to the application settings window (see section 4.2.2 of this manual).

The "Mute" button allows you to mute the microphone, so that the audio originated or processed on the PC will not be sent. When activated, the button changes its appearance:



The symbol that appears in the lower right part indicates if there is a network connection, both local and remote, that is, if there is a connection to the local network and data frames are received from the devices on it or if there is an Internet connection or VPN. If there is no connection, no symbol appears and, if there is, the order of priority (from lowest to highest) is local connection, Internet and VPN; several situations can occur at the same time and then the symbol corresponding to the highest priority will appear:



No connection

Only local connection

There's Internet connection

There's remote connection (VPN)

4.2.1. Cross-point activation buttons.

There are 16 cross-point activation buttons available in the application. Pressing any of the configured buttons activates the programmed command. There is a color code to indicate the operational status of each button.

The colors that the buttons can show are the following:

- **Dark grey** (off)**:** Button not programmed or deactivated (not pressed).
- **Fixed green:** Indicates that a programmed button has been pressed. It remains this way if no communication is established between the 2 devices involved.
- **Fixed red:** Indicates that communication has been established between the 2 devices involved and a "Talk" and a "Listen" are being executed (bidirectional communication). It remains this way if the button has been pressed on the remote device.
- **Blinking red:** Indicates that communication has been established between the 2 devices involved and a "Talk" or a "Listen" are being executed (unidirectional communication). It remains this way if the button has been pressed on the remote device.
- **Fixed orange:** Indicates that communication has been established between the 2 devices involved and a "Talk" and a "Listen" are being executed (bidirectional communication). It remains this way if the button has been pressed on the "Xpeak Virtual" application. It's the combination of fixed green and fixed red status.
- **Blinking between green and orange:** Indicates that communication has been established between the 2 devices involved and a "Talk" or a "Listen" are being executed (unidirectional communication). It remains this way if the button has been pressed on the "Xpeak Virtual" application. It's the combination of fixed green and blinking red status.

In the following example (the two images show the variation in time of the application), there is a red button indicating that a bidirectional communication has been established between the "Xpeak Virtual" application and a Xpeak_R panel. In addition, since this color is fixed, it indicates that this Xpeak_R panel is the one that has established the communication (the associated button has been pressed on it). On the other hand, the upper and lower lines of the button indicate that the Xpeak_R belongs to a family identified with red color.

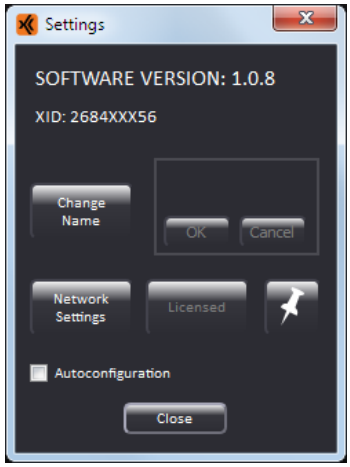
We can also see that there are two buttons blinking between green and orange indicating that a unidirectional communication has been established between the "Xpeak Virtual" application and the first two channels of a Xpeak_IF interface and, furthermore, that the associated buttons have been pressed on the application. Furthermore, the upper and lower lines of both buttons indicate that the Xpeak_IF belongs to a family identified with blue color.





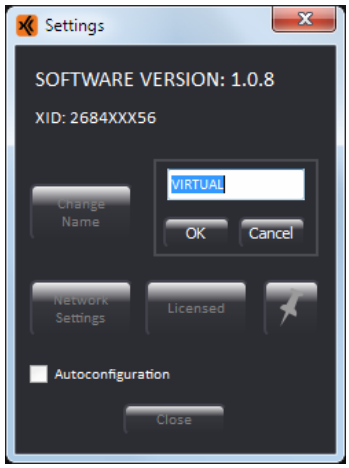
4.2.2. Software configuration.

As previously indicated, the button  gives access to the application settings window:



The application version is shown at the top of the "Settings" window. Below is the internal identifier of the application in the system.

Next, the "**Change Name**" button allows you to change the name that identifies the "Xpeak Virtual" application in the system. Pressing on it enables the edit box on the right (and disables everything else), allowing the name to be modified:

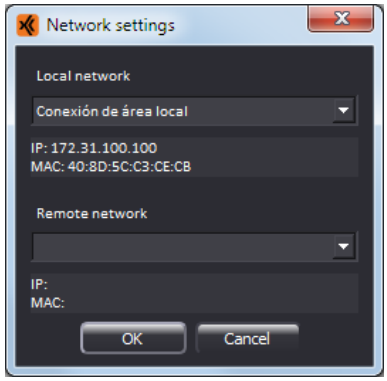


Once the name has been modified, it's validated by pressing the "OK" button or by pressing "Enter" on the keyboard. To discard the changes made, press the "Cancel" button.

Once the name has been modified, it will appear on the bottom line of the application, as well as on the "Xpeak" application and on the buttons of other devices where communication commands with the "Xpeak Virtual" application are configured.

It's also possible to change the name from the "Xpeak" application (see section 5.2.4.6 of this manual).

The "**Network Settings**" button opens the window that allows you to configure the network parameters of the application.



There are two sections in that window:

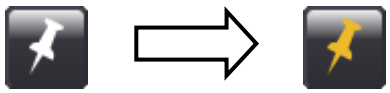
- "**Local network":** Allows you to select the local network (LAN) interface that the application will use.
- "**Remote network":** Allows you to select the remote network (VPN) interface that the application will use.

When selecting any of them, the IP and MAC addresses corresponding to that interface will appear in the lower box.

As explained in section 4.1, the "**Licensed**" button indicates that the application has the **license** it needs to work activated. That license activation process is detailed in the same section.



This button allows you to bring the application to the foreground, so that it is not hidden when the mouse is clicked anywhere else on the monitor. When activated, the button changes its appearance:



Finally, the "**Autoconfiguration**" box allows you to enable the auto-discovery mode. When the application "discovers" a Xpeak device on the network and has no buttons programmed to communicate with it, a button is automatically programmed to establish that communication if this mode is enabled. The first not used button is programmed (if all they are configured, that automatic programming is not carried out).

4.2.3. Use of the application without mouse.

In case the mouse doesn't work (or you want to speed up certain actions via keyboard), the application can be used using the keyboard.

With the tabulator you can focus on the different elements of the application. This selection of elements has a specific order and goes in a circle, so that the final element returns to the initial one. It's also possible to move through the application using the keyboard arrows. Once an element is selected, you can press/unpress it using the keyboard's "Enter" key.

5. INSTALLATION AND USE OF CONFIGURATION AND CONTROL APPLICATIONS.

5.1. Configuration and control applications for PC.

In order to configure the Xpeak system to work in Virtual Matrix mode, "**AEQ Xpeak**" application must be used.



If the Xpeak devices are used in Conexia or CrossNET matrix-based systems, they must be configured by means of "**CrossMapper**" application. Please consult the application user's manual for more information.



In addition, in the case of the **Xpeak_IF**, in order to control the system and select sources and destinations of AoIP Dante audio signals, "**Dante Controller**" application must be used. Please consult the AEQ AoIP user's manual for more information.

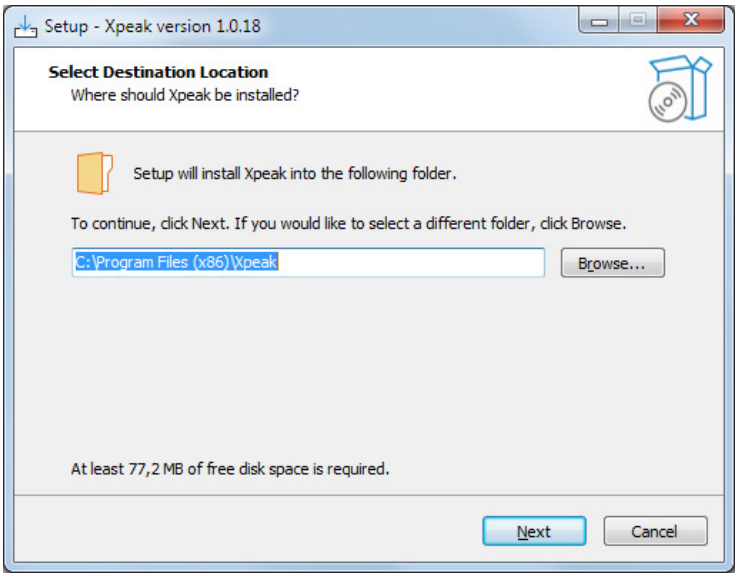


5.2. "AEQ Xpeak": Xpeak configuration and control software.

5.2.1. Introduction.

"**AEQ Xpeak**" application is the configuration and control software for the Xpeak devices.

The auto run USB key furnished with the devices contains the executable file that installs the application. Installing it is simply a matter of executing this file and following the on-screen instructions as they come up.



Once the "**AEQ Xpeak**" software is installed (by default, in C:\Program files\Xpeak), you can start it up by double-clicking the icon displayed on the desktop:



5.2.2. Screen organization and preliminary definitions.

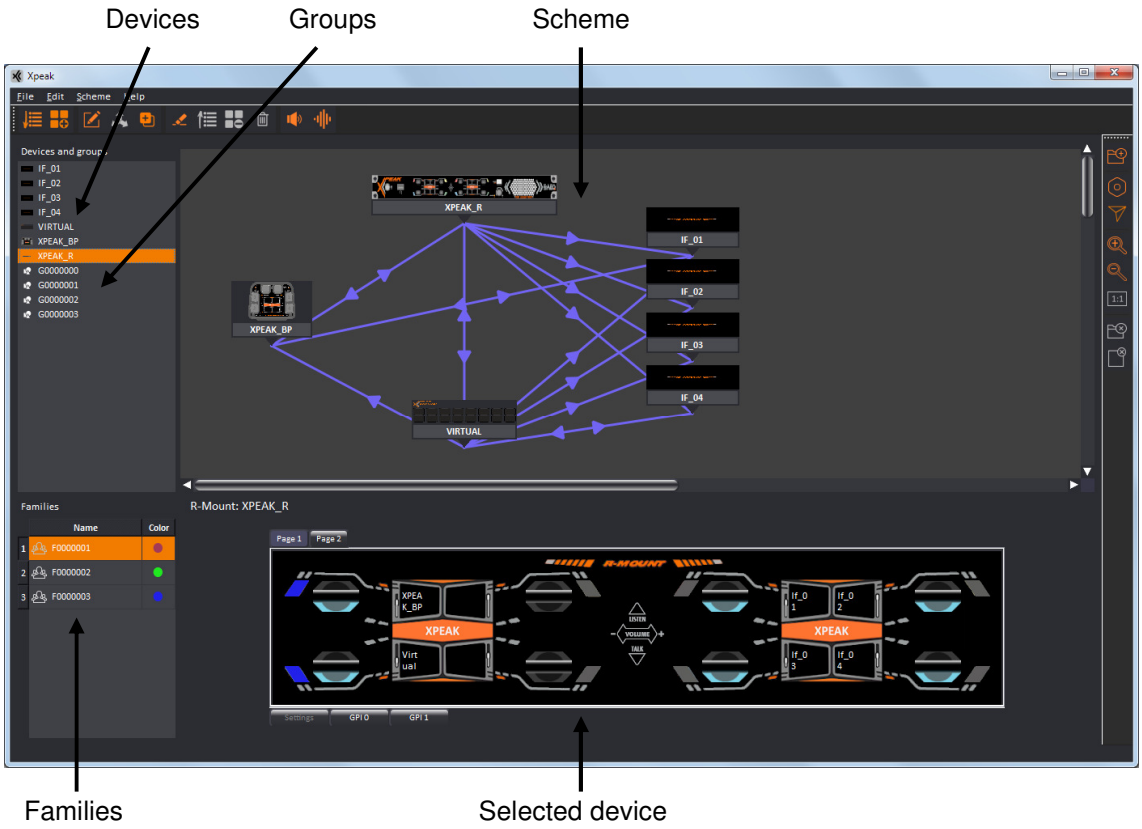
The elements that appear reflected in the "**AEQ Xpeak**" application are the following:

- **Device:** Any user terminal, rack or desktop panel, wired or wireless beltpack or software application allowing for interaction.
- **Group:** A set of user terminals that objectively have the same functionality. For example, camera terminals.
- **Family:** A set of user terminals assigned an identifying color by the system administrator because they share the same subjective or operative function.

The operation screen has menu bars in the top and right areas.

The rest of the screen -the main area- is divided into four quadrants:

- Upper left: Devices and groups list.
- Lower left: Families list.
- Upper right: System diagram display area.
- Lower right: Selected device or group display area.

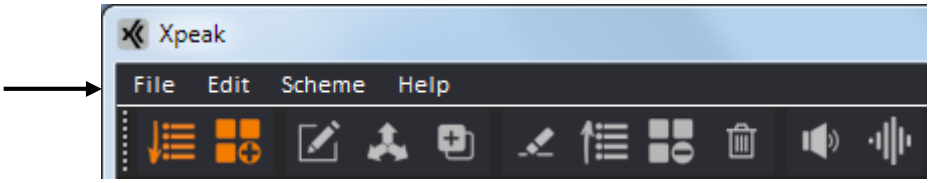


It is possible to resize the height of each of the quadrants at both sides using the mouse. Place the cursor in the lower and upper windows' delimiting area, where the cursor icon changes, in order to modify the size of the two upper and two lower windows at the same time. You can do this by holding the left mouse button pressed and dragging up or down.

Resizing like this, it is possible that only the two upper quadrants or the two lower ones are visible. In order to be able to see the four quadrants again, place the mouse cursor in the limiting area where it was left in the former operation (the cursor icon will change) and move it in the opposite direction.

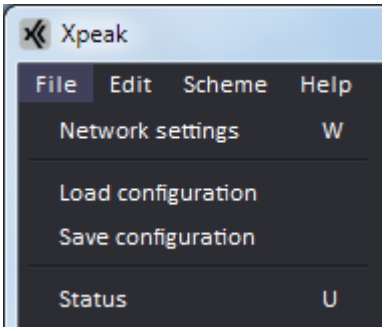
5.2.3. Menus.

5.2.3.1. Upper left menu. Upper line with drop-down menus .



The "**File**" drop-down menu gives access to the following options:

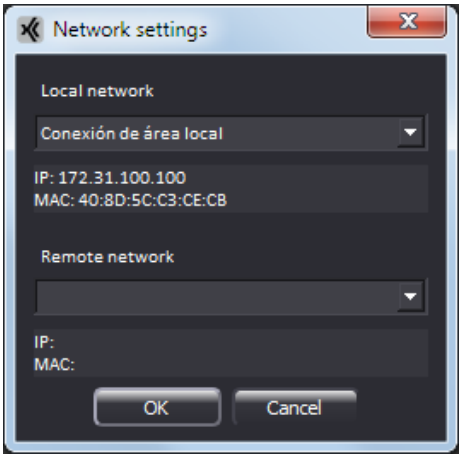
It is possible to access any of them by selecting it with the mouse or also by pressing the "Alt" key and then the letter that appears at the right of the desired option.



- **Network settings:** This option opens the window that allows you to configure the network parameters of the application.

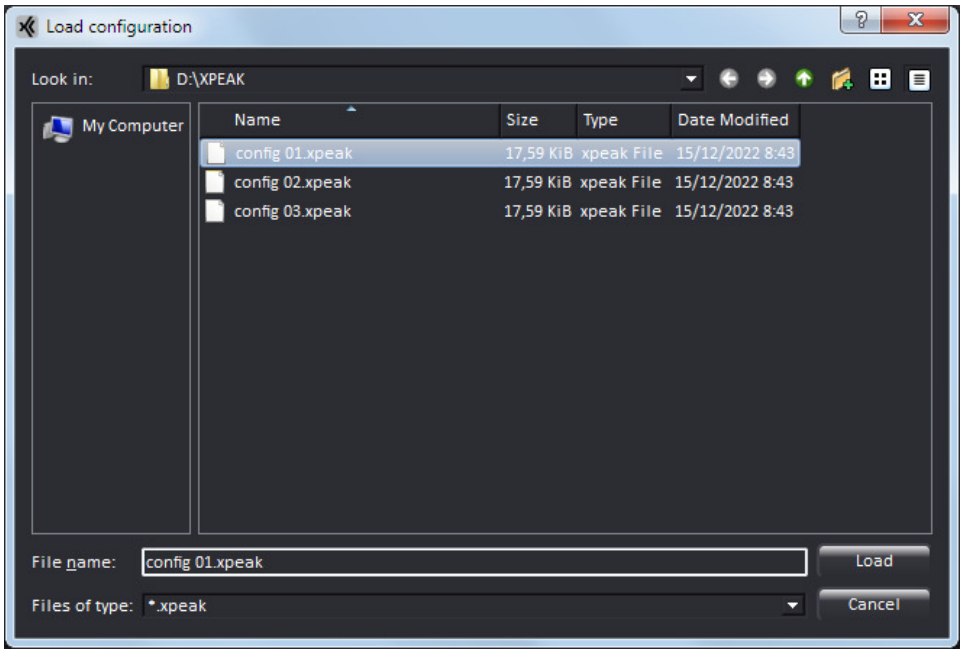
  There are two sections in that window:

  - "**Local network":** Allows you to select the local network (LAN) interface that the application will use.
  - "**Remote network":** Allows you to select the remote network (VPN) interface that the application will use.



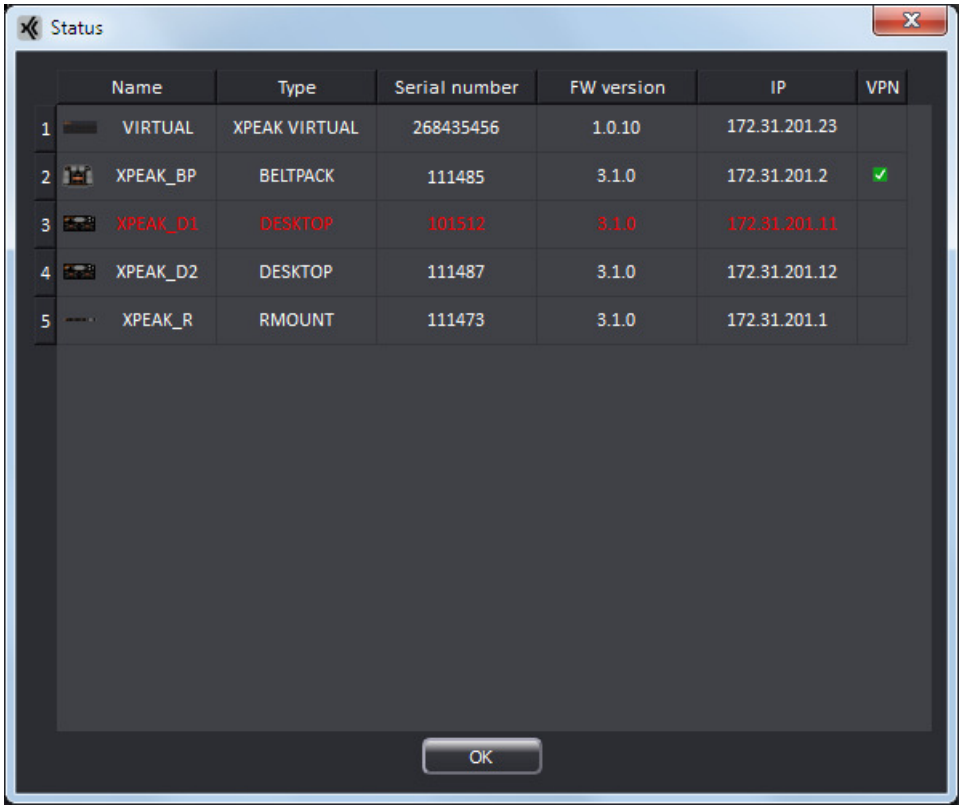
  When selecting any of them, the IP and MAC addresses corresponding to that interface will appear in the lower box.

- **Load configuration:** This option opens the window that allows you to select and load a configuration file previously created.

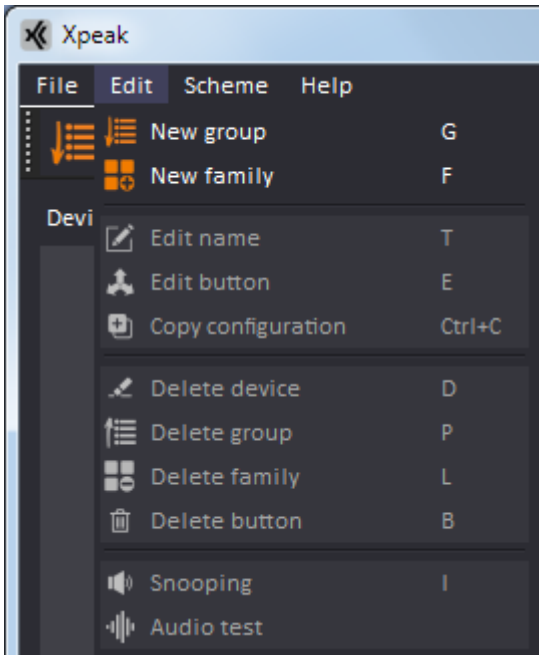


- **Save configuration:** This option opens the window that allows you to save the created configuration, assigning a name that allows to recognize it.

- **Status:** This option opens the window that allows you to check the status of the devices that appear in the list on the left. It shows the status of the devices (white when visible on the network and red when not), name, type, serial number (internal identifier in the case of "Xpeak Virtual"), firmware version (software in the case of "Xpeak Virtual"), IP address, and whether it's connected by VPN (indicated by a green marked button). The list of devices is updated as the list on the left is refreshed.



The "**Edit**" drop-down menu gives access to the following options:

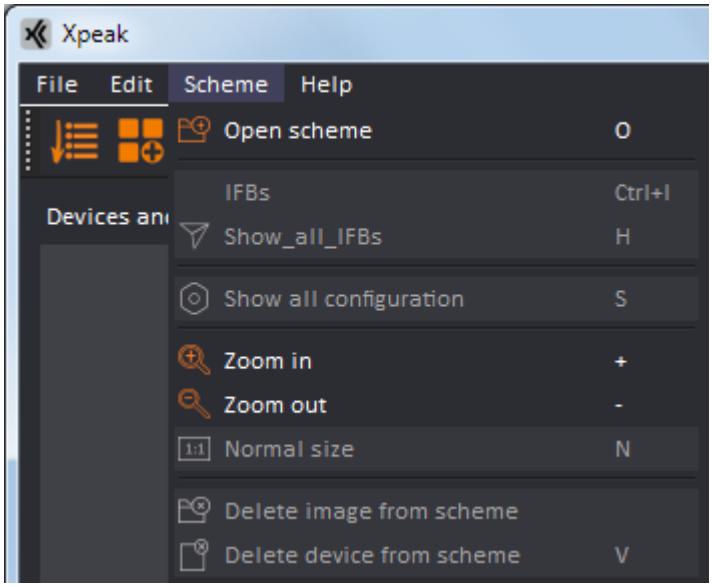


It is possible to access any of them by selecting it with the mouse or also by pressing the "Alt" key and then the letter that appears at the right of the desired option. In the case of the "Copy configuration" option, keyboard access is by pressing "Ctrl+C".

Those options that require a previous selection are shown by default in grey and change to orange when the device, button, group or family on which you want to act has been selected.

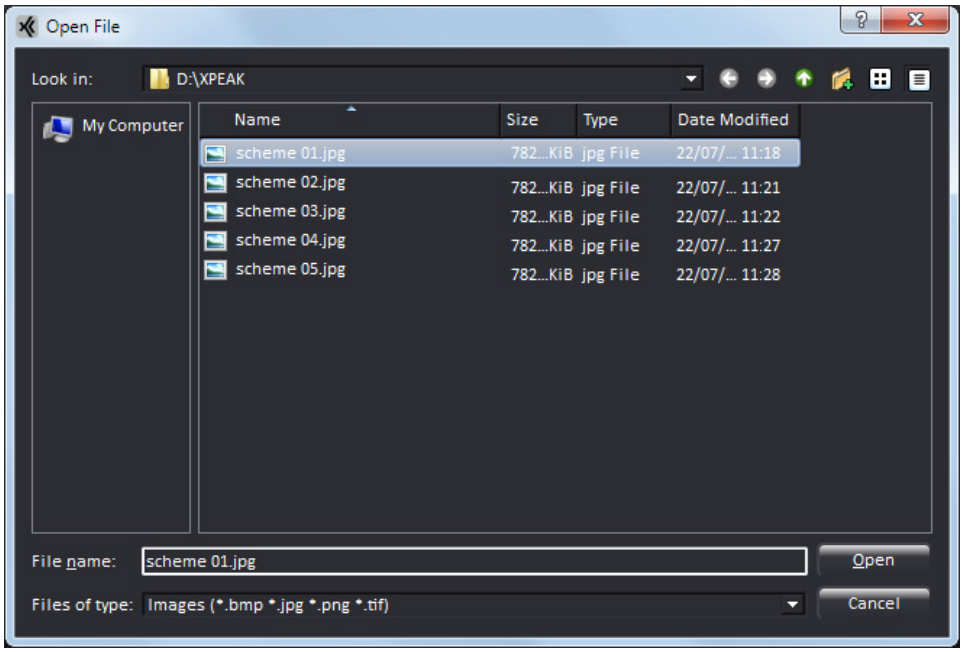
- **New group:** Allows you to create a group of user terminals.
- **New family:** Allows you to create a family of user terminals.
- **Edit name:** Allows you to change the name assigned to a device, group or family.
- **Edit button:** Allows you to define or modify the function assigned to a certain device's key or lever.
- **Copy configuration:** Allows you to copy the buttons configuration of a device to another device(s) of the same type.
- **Delete device:** Allows you to eliminate a device.
- **Delete group:** Allows you to eliminate a group of user terminals.
- **Delete family:** Allows you to eliminate the selected user terminals families.
- **Delete button:** Allows you to eliminate the function assigned to a certain device's key or lever.
- **Snooping:** Allows you to put the application in place of a selected panel to check its operation.
- **Audio test:** Allows you to start audio playback for testing.

The "**Scheme**" drop-down menu allows you to customize the image and schematic represented in the upper right quadrant of the screen and gives access to the following options:



It is possible to access any of them by selecting it with the mouse or also by pressing the "Alt" key and then the letter that appears at the right of the desired option. In the case of the "IFBs" option, keyboard access is by pressing "Ctrl+I".

- **Open scheme:** This option opens the window that allows you to select the background image or plan for the upper right quadrant.

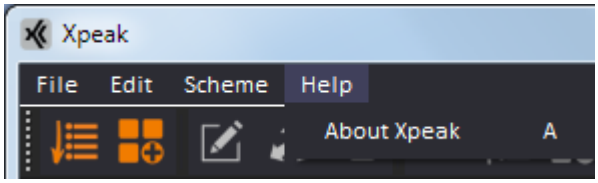


- **IFBs:** Allows you to program IFBs (Interrupted FoldBack), which are crosspoints assigned between a source and a destination that can be interrupted by an event, with the possibility of level variation. See section 5.2.3.1.1 of this manual.
- **Show_all_IFBs:** It shows in the scheme all the IFBs configured between devices.
- **Show all configuration:** It shows in the scheme all the communication flows between devices, whether they are active or not at that moment.
- **Zoom in:** Enlarges the image.
- **Zoom out:** Reduces the image.
- **Normal size:** Adjusts the image size to the default dimensions.
- **Delete image from scheme:** Deletes the background image or plan for the upper right quadrant.
- **Delete device from scheme:** Deletes the selected device from the upper right quadrant window.

These functions (except "IFBs" option) are duplicated in the menu bar located at the right side of the operation screen (see section 5.2.3.3 of this manual).

The "**Help**" drop-down menu allows you to access to the window that shows the application version by selecting the "About Xpeak" option.

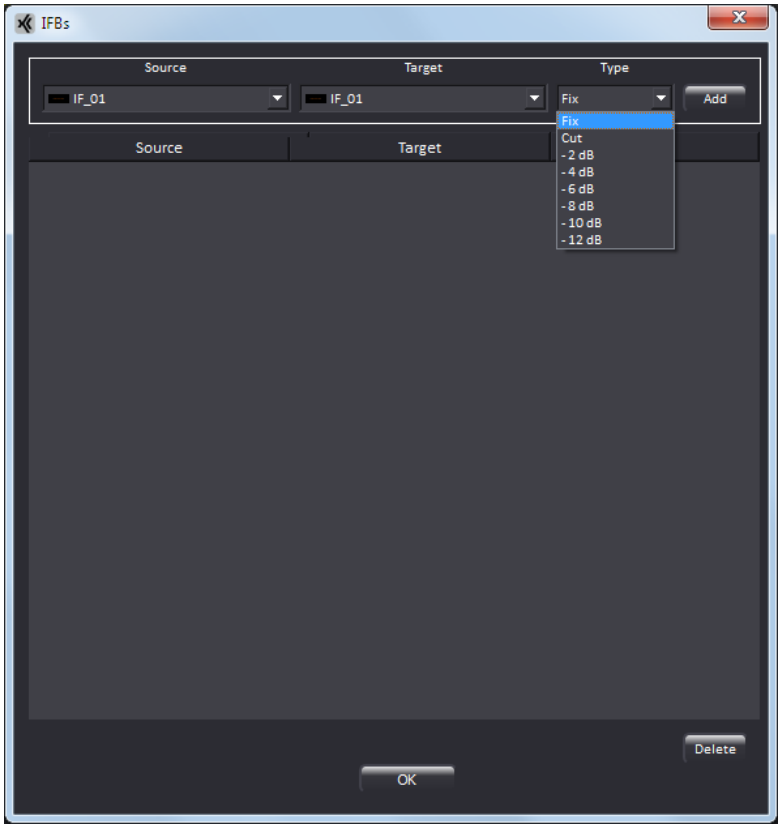
It is also possible to access that window by pressing the "Alt" key and then the letter that appears at the right ("A").





5.2.3.1.1. IFBs.

When accessing this option from the "Scheme" drop-down menu (or by pressing "Ctrl+I" on the keyboard), the window that allows you to define the IFBs (Interrupted FoldBack) between the system devices appears. IFBs are crosspoints assigned between a source and a destination that can be interrupted by an event, with the possibility of defining a level variation.



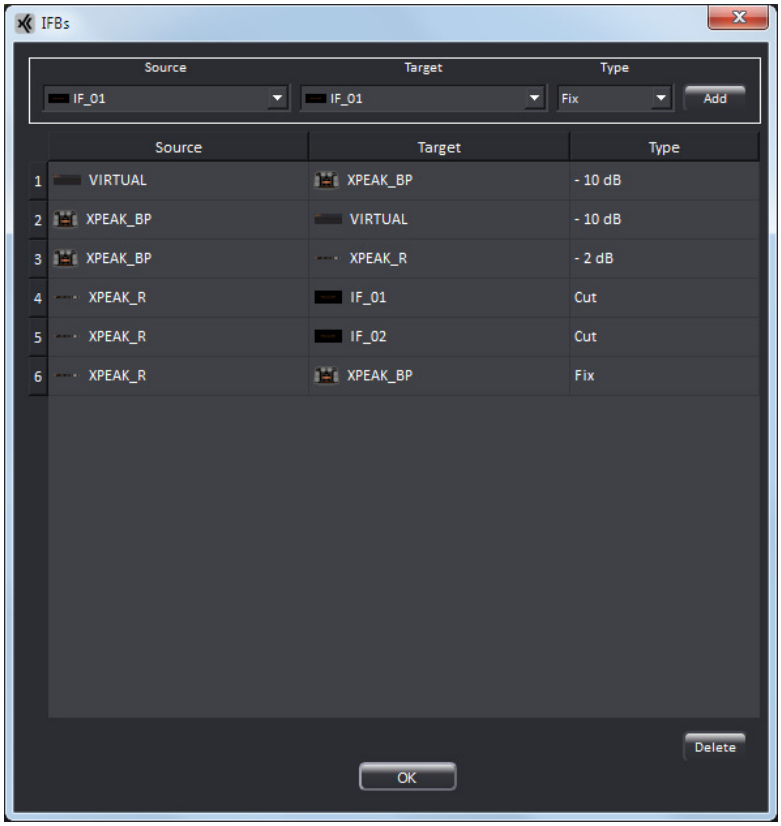
The "Source" field allows you to select the source device and the "Target" field the destination device. The "Type" field allows you to select the type of IFB, between the following options:

- **Fix:** There is always audio between source and destination.
- **Cut:** There is audio between source and destination as long as no device calls the destination; in the event that this call occurs, this audio is cut off.

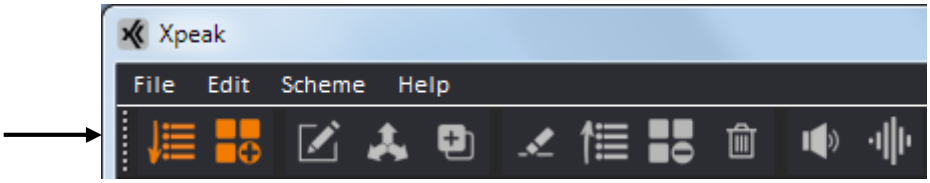
- **-2 dB:** There is audio between source and destination as long as no device calls the destination; in the event that this call occurs, this audio is not cut off, but attenuated 2 dB.
- **-4 dB:** There is audio between source and destination as long as no device calls the destination; in the event that this call occurs, this audio is not cut off, but attenuated 4 dB.
- **-6 dB:** There is audio between source and destination as long as no device calls the destination; in the event that this call occurs, this audio is not cut off, but attenuated 6 dB.
- **-8 dB:** There is audio between source and destination as long as no device calls the destination; in the event that this call occurs, this audio is not cut off, but attenuated 8 dB.
- **-10 dB:** There is audio between source and destination as long as no device calls the destination; in the event that this call occurs, this audio is not cut off, but attenuated 10 dB.
- **-12 dB:** There is audio between source and destination as long as no device calls the destination; in the event that this call occurs, this audio is not cut off, but attenuated 12 dB.

Once the IFB is configured, press the "Add" button to add it to the list. You can delete one or more IFBs by selecting them in the list and pressing the "Delete" button. Once the IFBs are defined, press the "OK" button to close the window.

It's possible to associate the same source with several destinations as well as several sources with the same destination. In the second case, the audio from the different source devices is added to the destination and, when any device calls the destination, the selection in the "Type" field is applied to each audio.

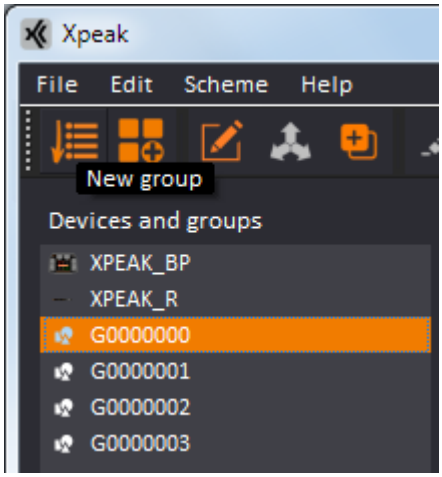


5.2.3.2. Upper left menu. Lower line with icons .

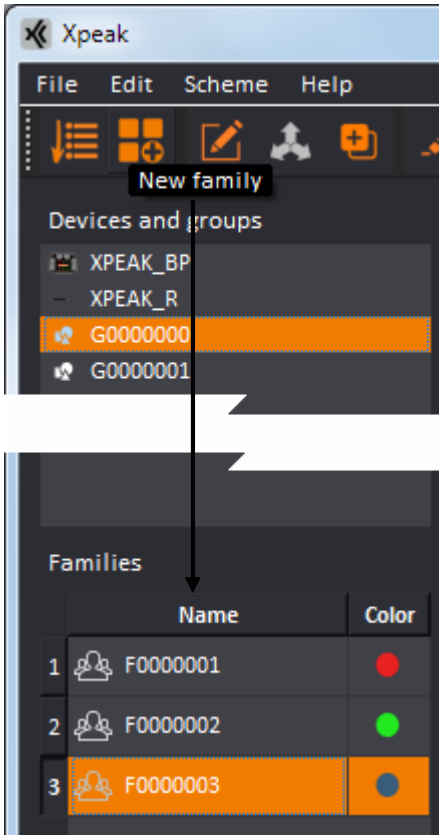


The options that require a previous selection are shown by default in grey and change to orange when the device, button, group or family on which you want to act has been selected.

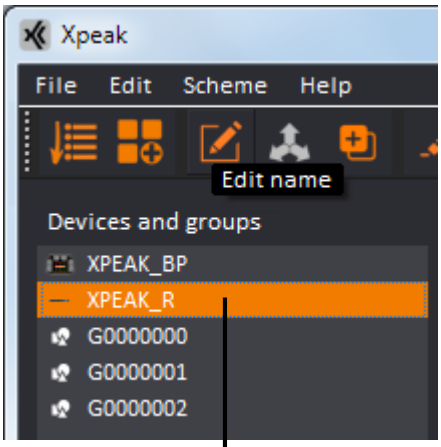
New group: Allows you to create a new group of user terminals. The new group's default name starts with a capital G followed by seven digits. This name can be replaced by any other alphanumeric name, of course.



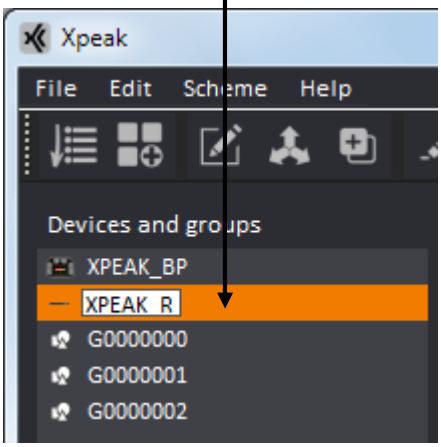
New family: Allows you to create a new family of user terminals. The new group's default name starts with a capital F followed by seven digits. This name can be replaced by any other alphanumeric name, of course. Each family is associated to a different color.



Edit name: Provides a way to edit the name of a panel, group or family and substitute it by any other with a maximum length of 8 characters. In order to do that place the cursor on the name to be edited (the icon changes from grey to orange) and then press the icon.



Then the icon returns to grey and the name field changes to allow edition:

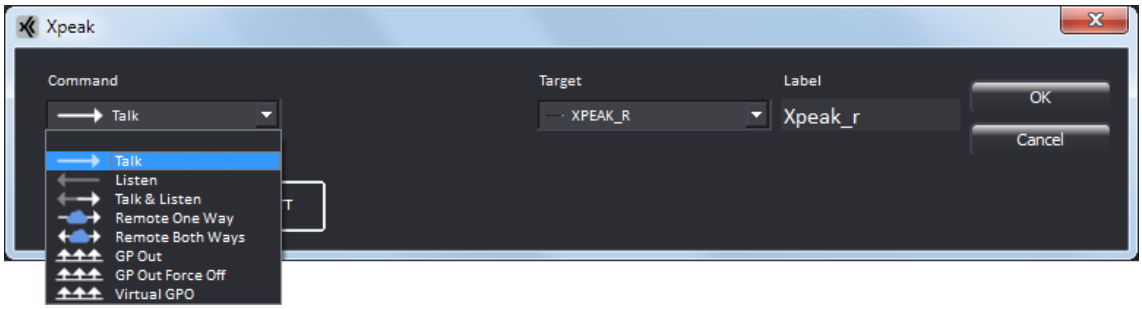


Edit button: After a device has been selected (appears then in the lower right quadrant), when we place the cursor over one of its buttons, it is highlighted in yellow and, when we press it, in orange. If now we press the icon (it changed from grey to orange) or double-clicking on the button, a window pops up in order to assign commands or functions to the button.

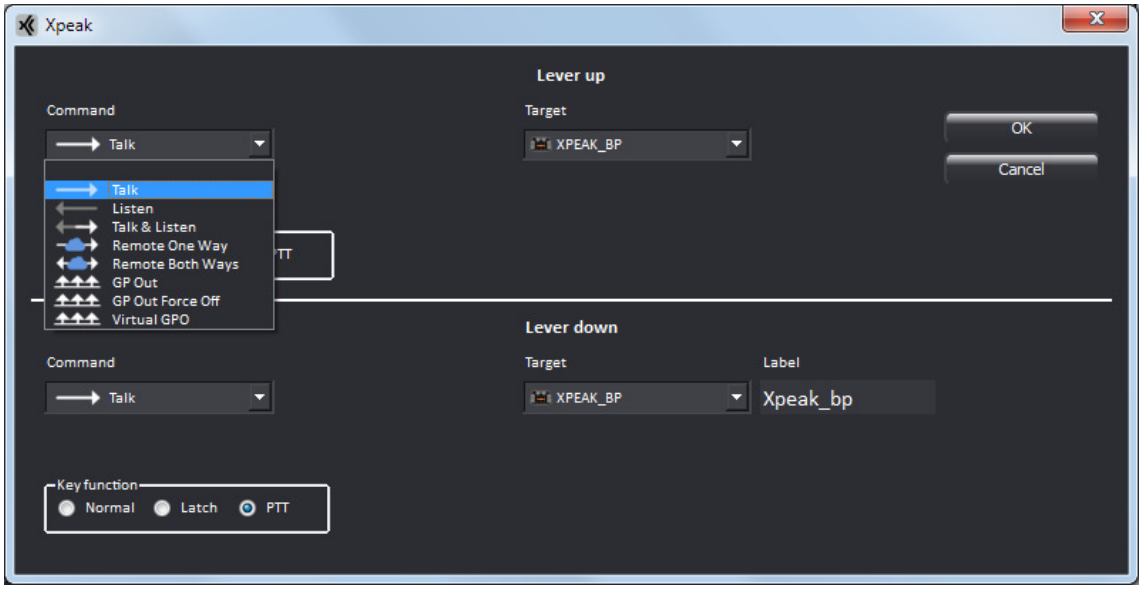


The buttons or cross-point activation or communication assignation elements in the panels or beltpacks designated in the software as "button" can be of two kinds:

- Key: Xpeak beltpacks (Xpeak_BP, Xplorer and Xplorer MAX) have 4 keys that are activated by pressing them. Each key can be programmed to perform a single cross point function.



- Lever: Xpeak panels (Xpeak_R and Xpeak_D) have 8 two-axis levers that can be moved up, down, left and right. Each lever can be programmed to perform two cross-point functions, one for the upwards activation ("Lever up"), and other for the downwards movement ("Lever down"). Also, it is programmed to raise the reception volume by moving it to the right and lower it by moving the lever to the left.



The "Command" fields allow us to select the command that we want to assign to the button. Assignable commands, which make operation flow more flexible to the users, are the ones commonly available in AEQ matrix-based intercom systems:

- Talk.
- Listen.
- Talk & Listen.
- Remote One Way.
- Remote Both Ways.
- GP Out.
- GP Out Force Off.
- Virtual GPO.

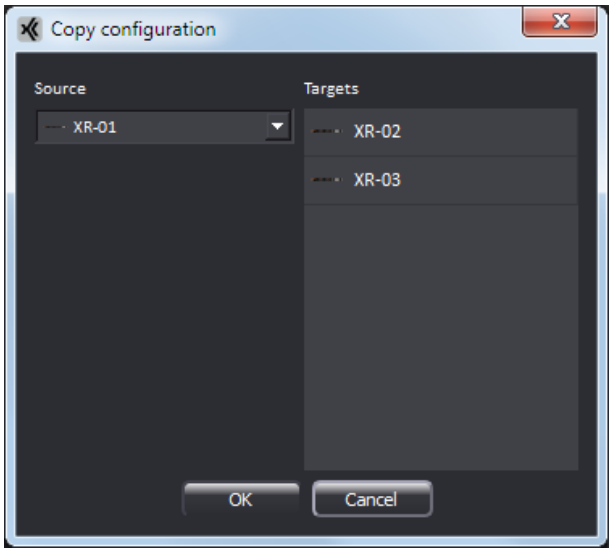
As previously indicated, in the case of the levers, two commands can be assigned, one for the upwards activation and the other one for the downwards activation, whose joint programming is accessed by placing the cursor either on the upper or lower half of the button.

The "Target" field allows you to select the device the key or lever is going to interact with.

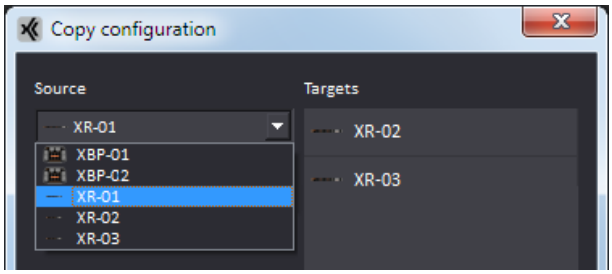
The "Label" field allows you to configure the name that will be assigned to the key (which is usually referenced to the "Target" device). When programming a key, a label is automatically associated with it according to the destination and the type of command: if the default label is left it will appear written in white on the display, while if the text is changed it will appear in cyan.



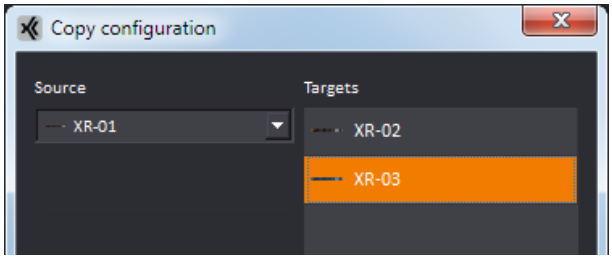
Copy configuration: This option allows you to copy the buttons configuration of a device to another device(s) of the same type. When you click on the icon, the following window appears:

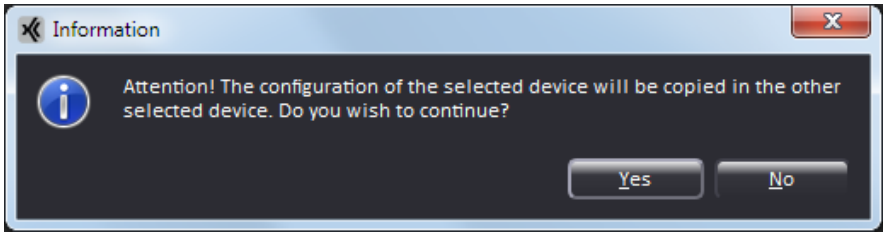


The "Source" field allows you to select the device whose configuration you want to copy.



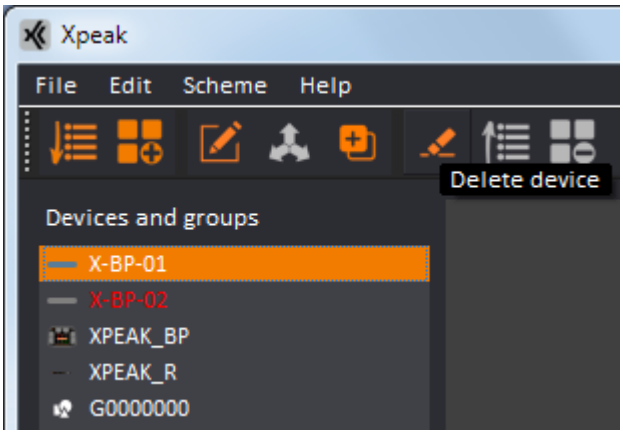
The "Targets" field shows the devices of the same type as the selected one. Then it's possible to copy the configuration of that one to the device selected in the second field (it's possible to select several devices in "Targets" by simply clicking on them). By pressing "OK" the configuration copy is executed (confirmation is required).



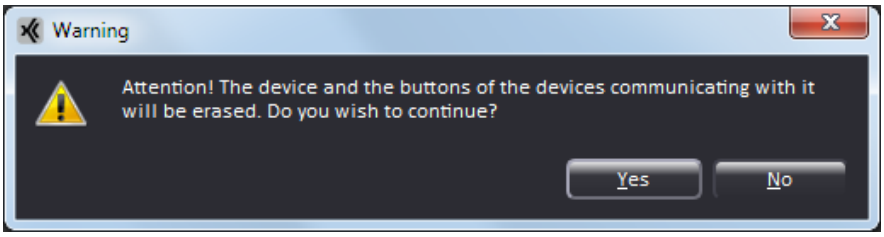


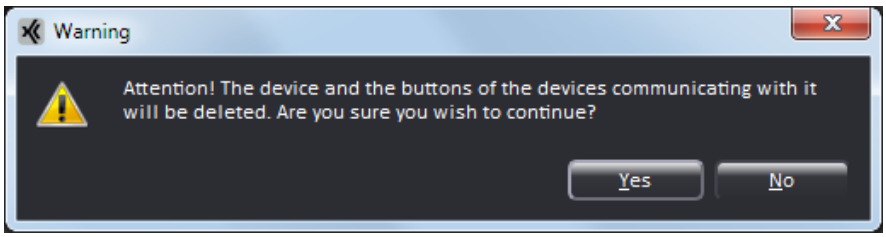


Delete device: This option allows you to remove a device from the list of devices when it's no longer visible on the network (for example, because it's been turned off; the device appears in red on the list and scheme).

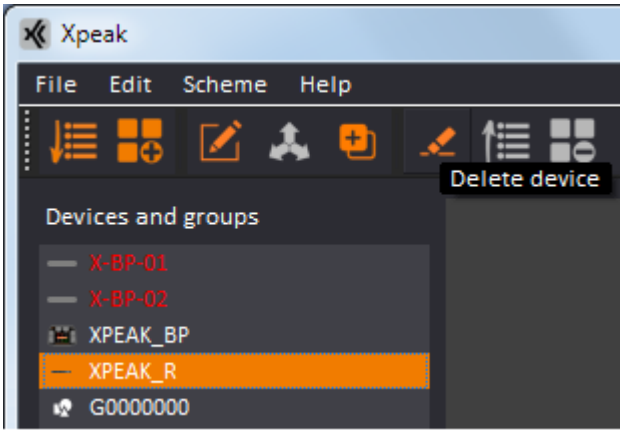


After a device is selected (the icon changes from grey to orange), when clicking on this icon the device is deleted from the list, eliminating both that device and the buttons of the other devices configured to communicate with it. That's why double confirmation is required.

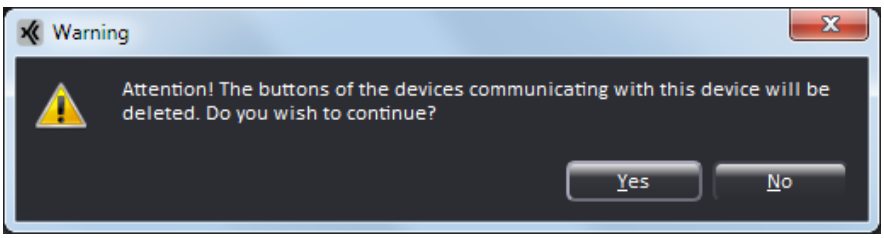


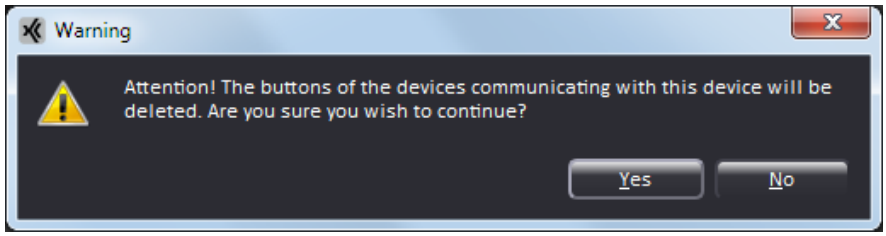


In the case of a device that is visible on the network, this option deletes the device only at a configuration level, that is, all the buttons configured at the device and the buttons of the other devices configured to communicate with it are deleted. The device will still appear in the list and in the scheme.



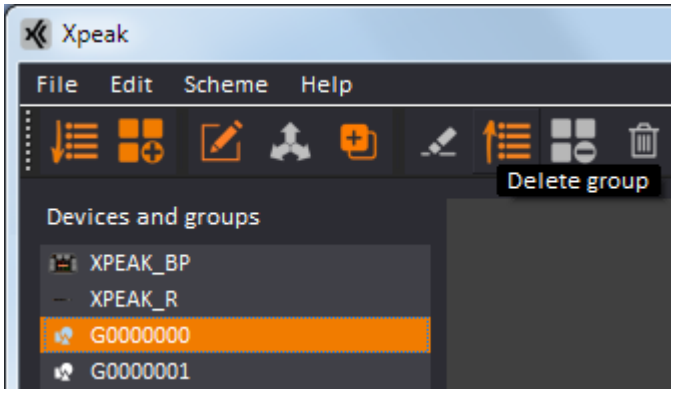
After a device is selected (the icon changes from grey to orange), when clicking on this icon those configurations are deleted, also interrupting all active communications at that moment that device was involved in. That's why double confirmation is required.

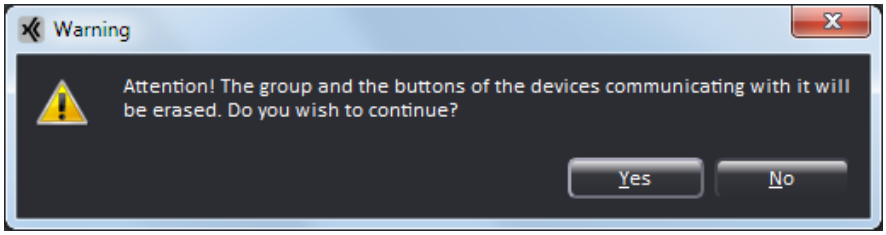


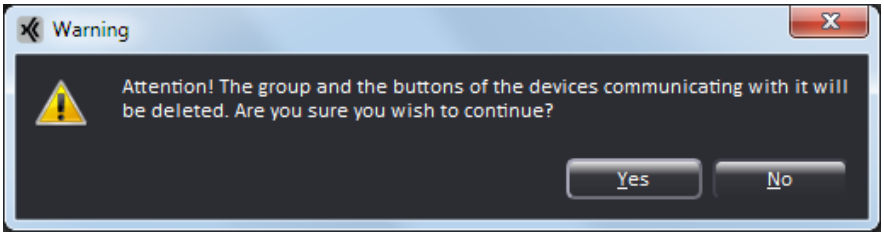




Delete group: After a group is selected (the icon changes from grey to orange), when clicking on this icon the group is deleted, also removing the buttons of the devices configured to communicate with it. That's why double confirmation is required.

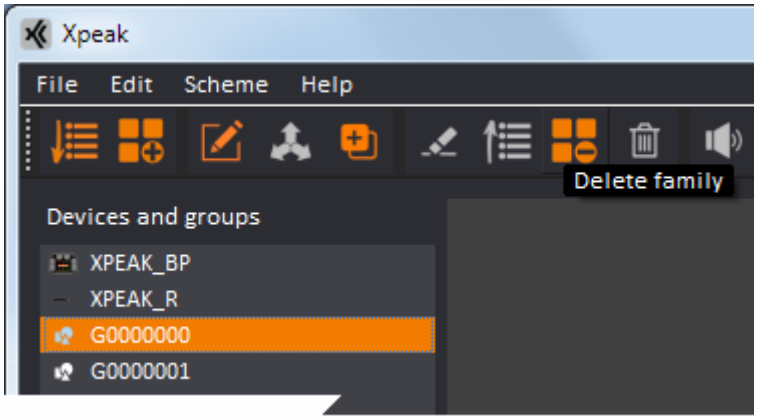


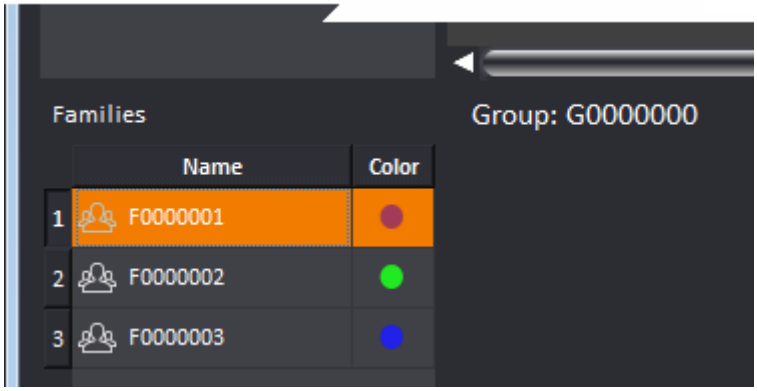


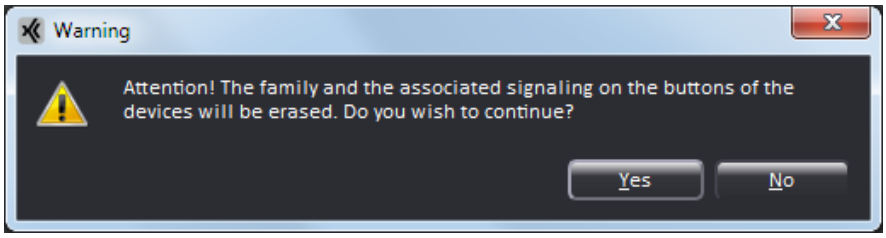


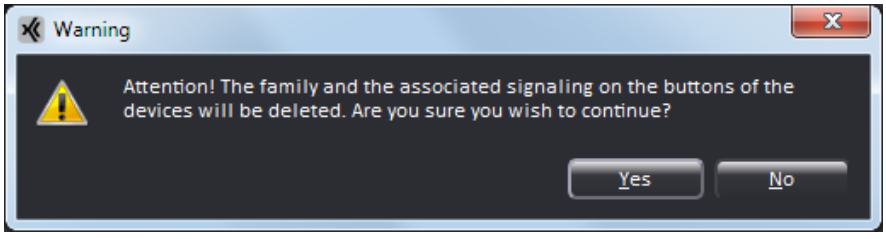
Delete family: After a family is selected (the icon changes from grey to orange), when clicking on this icon the family is deleted, also removing the signaling associated to that family on the devices buttons. Double confirmation is required.

It is possible to select several families by keeping pressed the "Ctrl" key when making the selection.



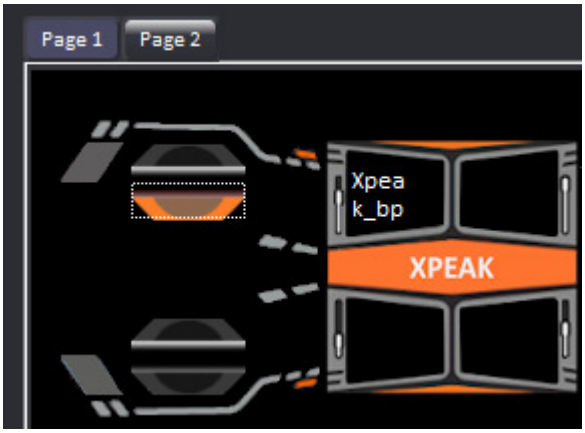






Delete button: When a button is selected in the device located in the lower right quadrant (the button and the icon change from grey to orange), when clicking on this icon the button is deleted, also interrupting the communication with the destination if it's active at that moment.

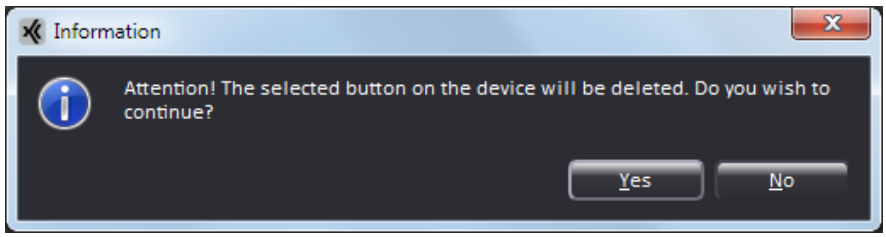
In the case of levers, regardless of whether the lower or upper lever is selected, the actions associated to both presses are deleted.

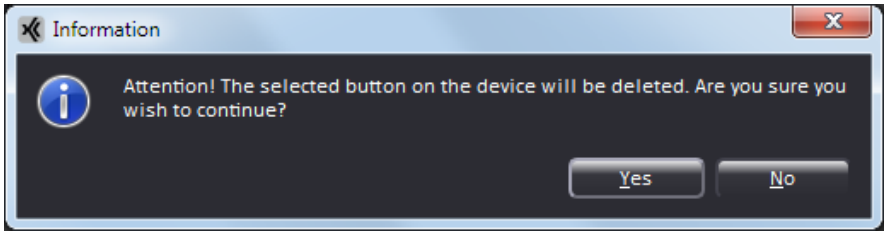


It's also possible to delete a button if, once selected, the keyboard's "Ctrl" key is pressed and, without releasing it, the right mouse button is clicked on it: a contextual menu then appears which, when pressed, deletes the button.



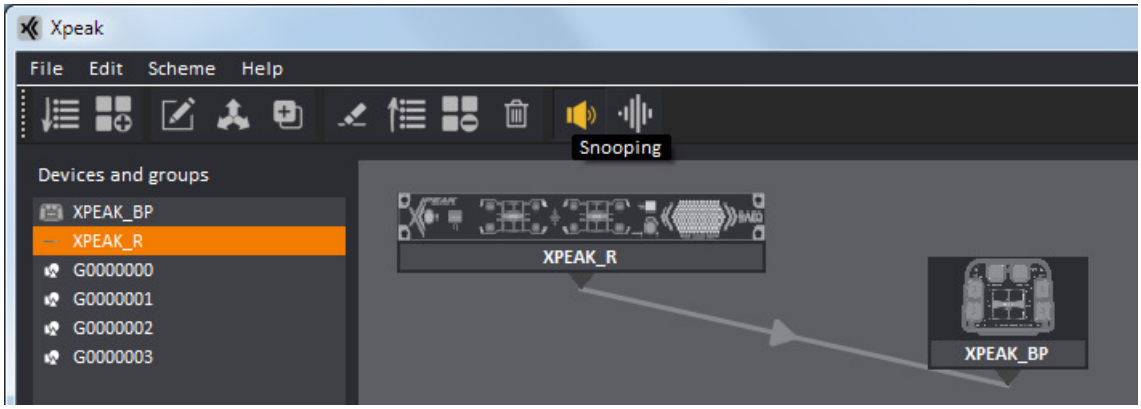
In both options, double confirmation is required.







Snooping: After a device is selected (the icon changes from grey to orange), when clicking on this icon (it changes to yellow) the PC where the application is installed will replicate the selected device in terms of audio, that is, everything that the physical device is listening to will also be heard on the PC (the audio of all the devices with which a "listen" command is active) and the audio from the PC (audio played or from the microphone, depending on how the PC is configured) will replace the audio from the physical device (reaching all devices with which a "talk" command is active). Please consult section 5.2.4.11 of this manual for more information.





Audio test: After a device is selected (the icon changes from grey to orange), when clicking on this icon (it changes to yellow) it's possible to make an audio test on the system. Please consult section 5.2.4.12 of this manual for more information.

5.2.3.3. Upper right window menu.



The menu located at the top right part of the application gives access to the following options:

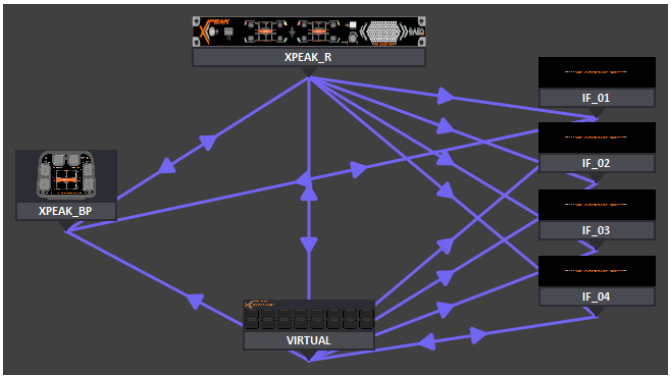
As in the rest of the menus, each option will only be available when it appears marked in orange.



Open scheme: Allows you to open the window to select the background image or plan for the upper right quadrant. This option is also available in the "Scheme" menu.

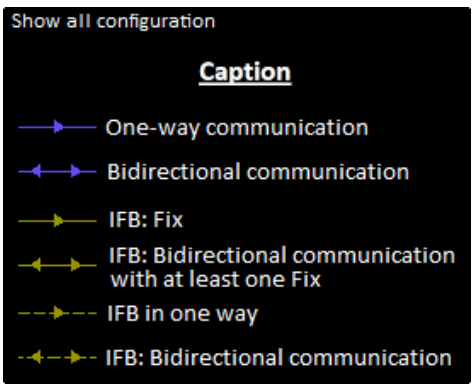


Show all configuration: When clicking on this option, all communication flows are depicted in the diagram, independently on each key status, that is, routes are depicted even if some of them are not established at a certain moment as the key is not activated.



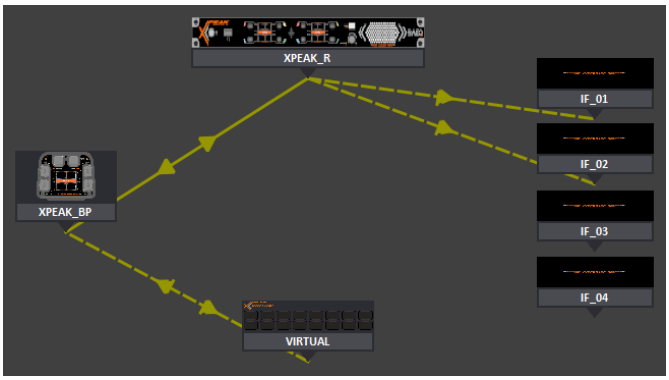
When you place the mouse cursor over this option, an informative window appears with the color code used for the lines between devices.

As indicated, communication flows are represented with purple continuous lines with an arrow indicating the direction (two if communication is bidirectional).





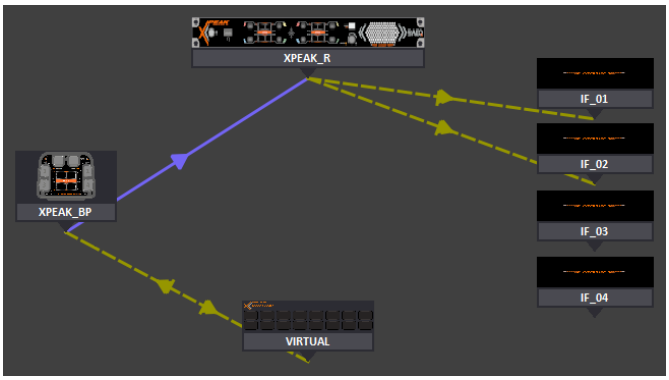
Show_all_IFBs: When clicking on this option, all the IFBs (Interrupted FoldBack) configured between the system devices are depicted in the diagram.



When you place the mouse cursor over this option, the informative window also appears with the colors code used for the lines between devices. As indicated there, the IFBs of "Fix" type (in at least one direction) are represented with green continuous lines and the IFBs of any other type with green discontinuous lines.

In the case that both a defined communication key and an IFB exist between two devices, if the 2 previous options are clicked at the same time, the line corresponding to the communication flow of the key will be depicted in the diagram, hiding the line corresponding to the IFB (although its arrows are still shown). Likewise, if only the "Show_all_IFBs" option is clicked and that communication key is pressed on the device, the line corresponding to the key will hide the IFB line in the diagram (although its arrows are still shown).

In the previous example, if there's a key that makes a "Talk" from the Xpeak_BP to the Xpeak_R and it's activated, when you click on the "Show_all_IFBs" option the diagram shows like this:





Zoom in, Zoom out and **Normal Size:** These options allow us to adjust the display scale of the image selected as background for the scheme in the upper right quadrant.

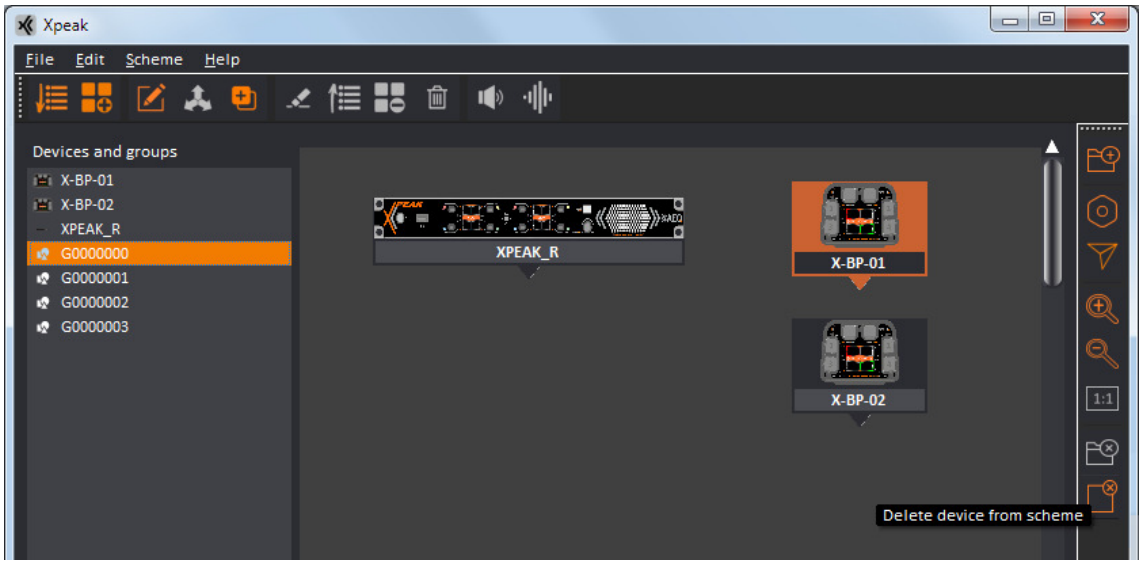
This adjustment can also be made by clicking on the scheme, pressing the keyboard's "Ctrl" key and, without releasing it, turning the mouse wheel. In this case, the focus will remain centered on the point of the image where we have clicked.

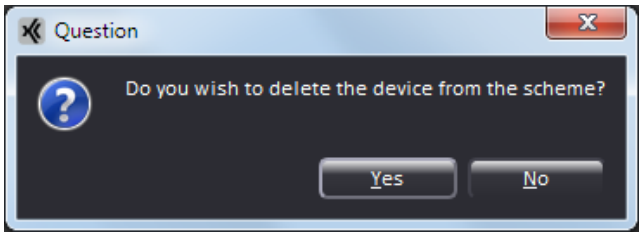


Delete image from scheme: When clicking on this icon the background image or plan for the upper right quadrant is deleted.



Delete device from scheme: After a device is selected in the scheme (the icon changes from grey to orange and the device is highlighted in orange), when clicking on this icon the device is deleted from the diagram, although it will still appear in the list of devices on the left and it will maintain its configuration. Confirmation is required.

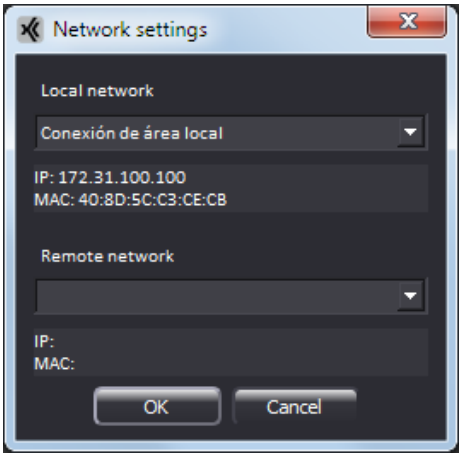

Xpeak
File
Edit
Scheme
Help
Devices and groups
X-BP-01
X-BP-02
XPEAK_R
G0000000
G0000001
G0000002
G0000003
XPEAK_R
X-BP-01
X-BP-02
1:1
Delete device from scheme


Question
Do you wish to delete the device from the scheme?
Yes
No

5.2.4. Software operation.

5.2.4.1. Configuration of network parameters.

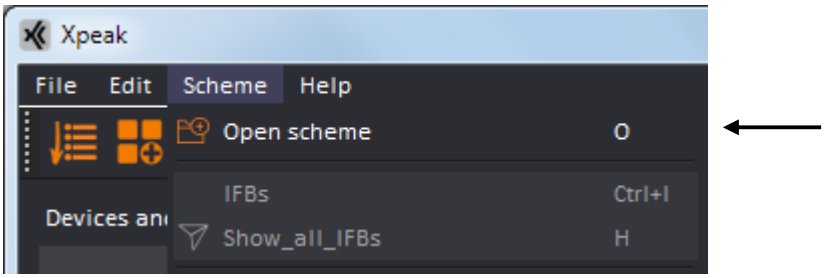
When the application is started, the first step is to configure the network parameters of the application itself from the "**Network settings**" option of the "**File**" drop-down menu:



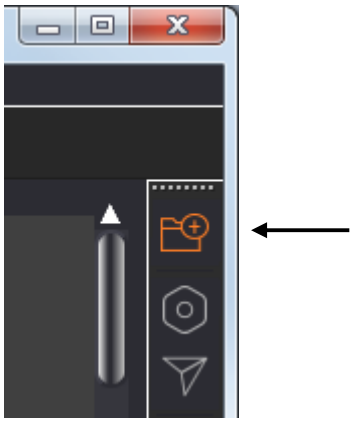
The "**Local network**" and "**Remote network**" sections respectively allow us to select the local network (LAN) interface and the remote network (VPN) interface that the application will use.

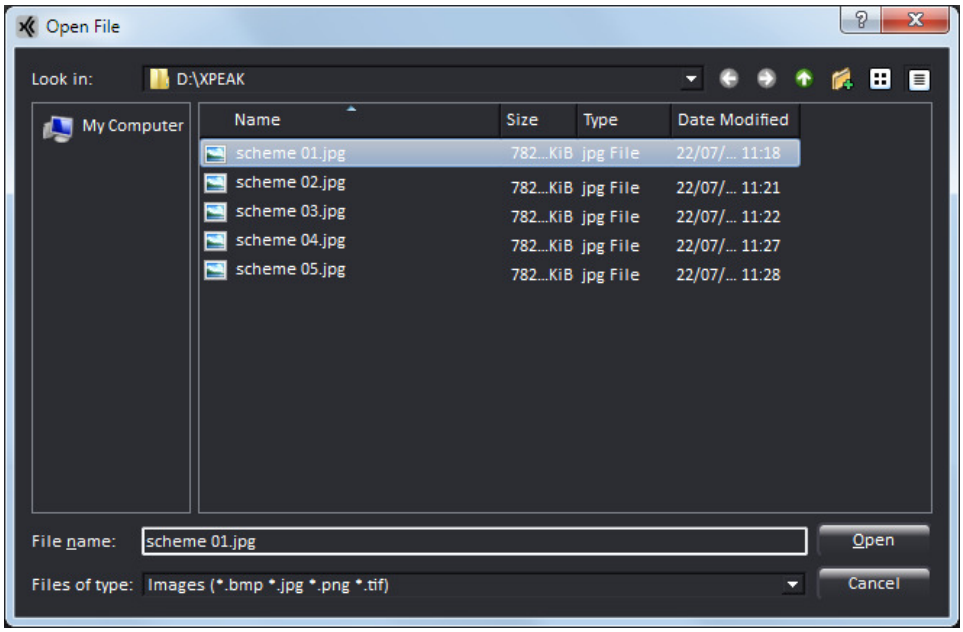
5.2.4.2. Scheme background image selection.

If there is no selected background image, a grey background will be applied by default in the upper right quadrant. Using the "**Open scheme**" option of the "**Scheme**" drop-down menu (keyboard shortcut "O"), a dialogue shows up where the user can choose an image in bmp, jpg, png or tif format in order to use it as background for the scheme.



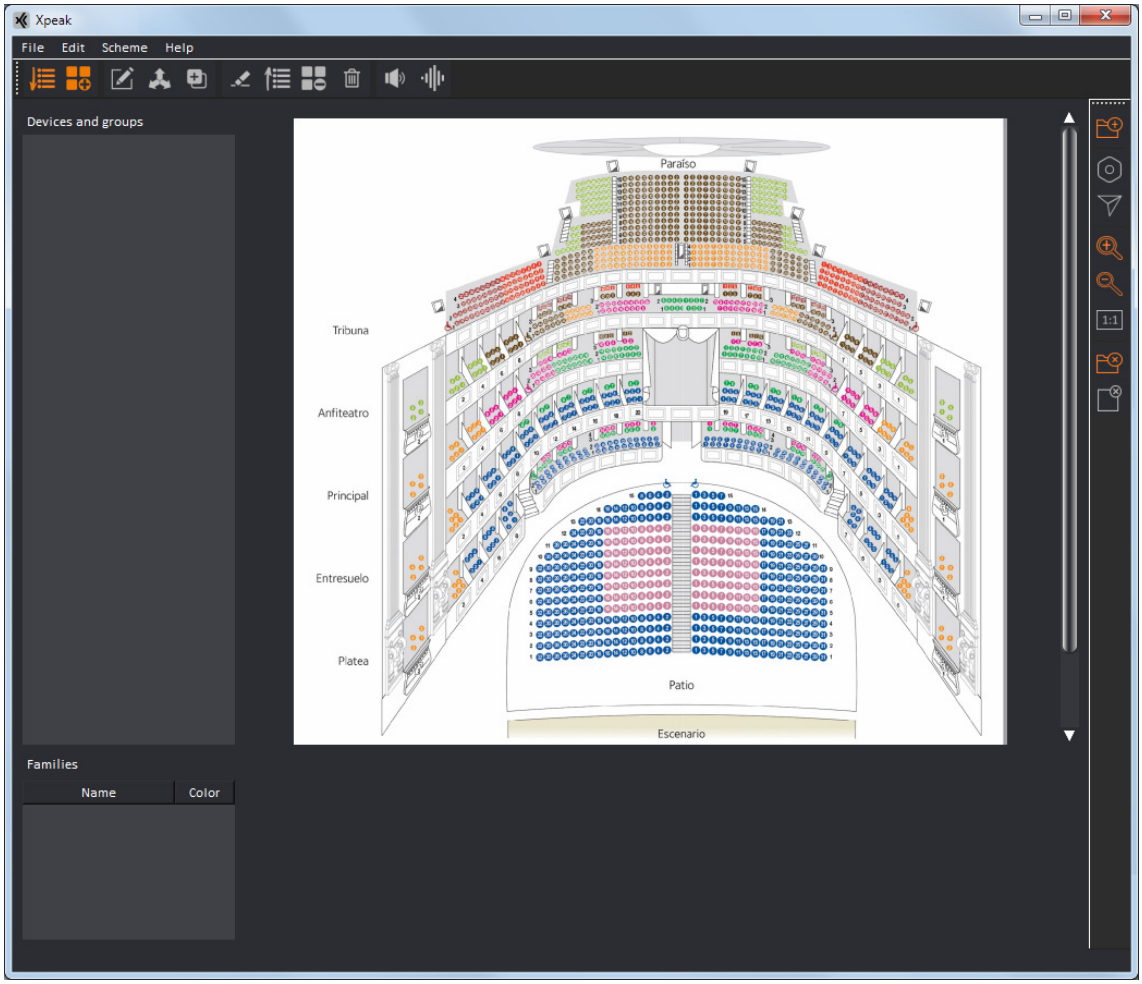
It's also possible to access that option from its icon in the menu bar located at the right side of the operation screen:





If the image is too small, it's resized, but preserving its original aspect ratio (referred to its larger dimension), and, if necessary, filled with a grey color so the largest dimension reaches the minimum size.

When an image has been selected, it won't be necessary to select the same one each time the application is started.



5.2.4.3. New devices, groups and families.

The application allows the user to add manually groups and families and to modify and delete devices, groups and families (even if they are assigned to buttons).

These are the modifications that can be done:

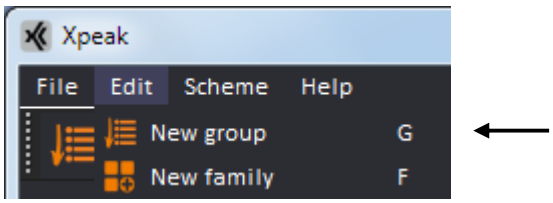
- For devices, its name and buttons configuration can be changed.
- For groups, its name can be changed, as well as the selection of the devices forming it.
- For families, its name can be changed, as well as the selection of the identifying color and the devices forming it.

Devices and groups can only be deleted individually (the selected one), while several selected families can be deleted at once.

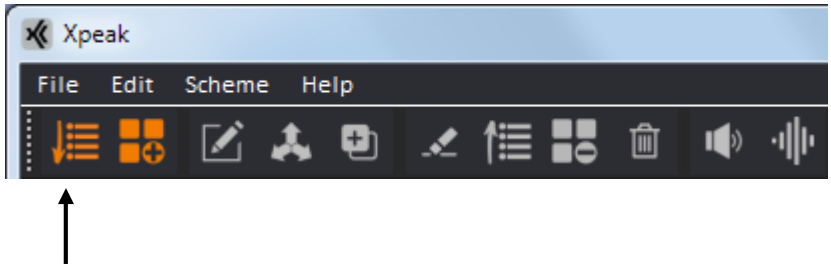
Any of these actions will be updated in the software and devices in real-time.

The addition of devices is only possible automatically, when the application receives an internal message generated by the system publishing their discovery.

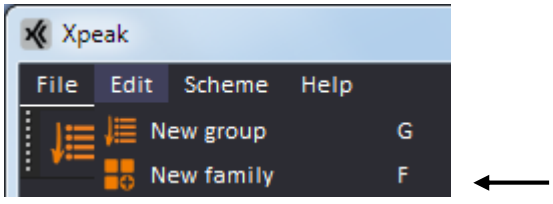
Group addition is automatically performed with the reception of an internal message indicating which devices belong to that group. It can also be done manually using the "**New group**" option of the "**Edit**" drop-down menu (keyboard shortcut "G"): in this case, no devices will be associated initially to it. Group are added to the bottom of the devices list, in the upper left quadrant of the main screen. The application informs each device about the members that its group has (devices that belong to it).



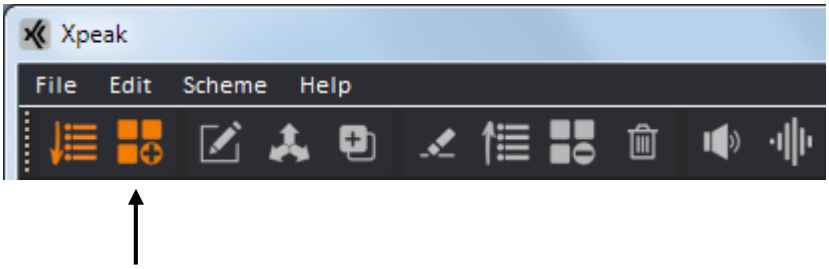
It's also possible to add manually a group from its icon in the lower line:



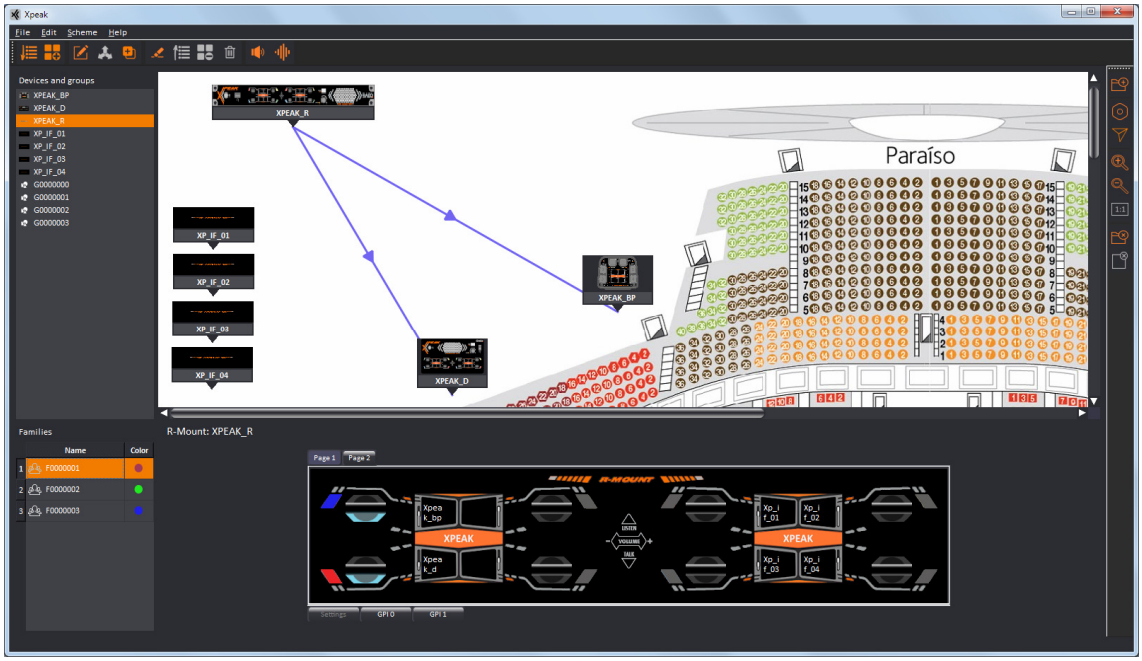
A family is automatically added when a device associated with it is discovered, or manually using the "**New family**" option of the "**Edit**" drop-down menu (keyboard shortcut "F"): in this case, no devices will be initially associated to it.



It's also possible to add manually a family from its icon in the lower line:



Next image shows the appearance of the application when different elements (devices, groups and families) has been added. Information about each device is updated every few seconds in both the devices and the software, so if there is any modification (name, buttons configuration, etc.), it is updated in the corresponding device screen, as well as in the devices list. If the group or family the device is associated to is also modified, the corresponding group or family window will be updated. Besides, if the devices that a key or lever activates communication with are shown in the scheme, a line indicating the path between those devices will appear when that key or lever is pressed.



Each type of device is represented differently both in the list and in the scheme:



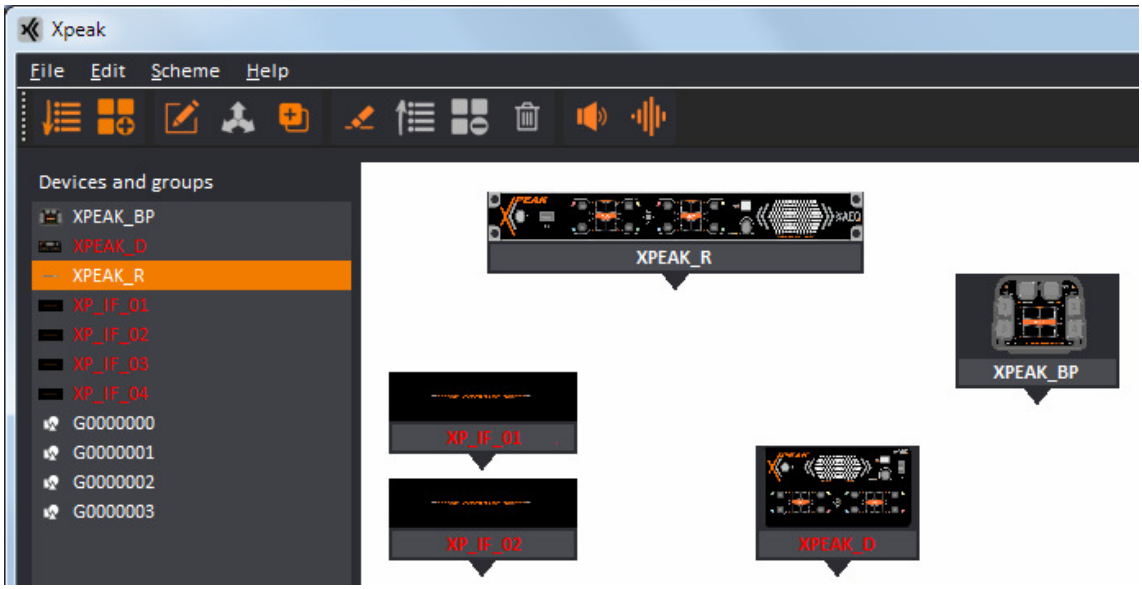
When the cursor is placed over a device of the list, its serial number or identifier will appear overwritten:



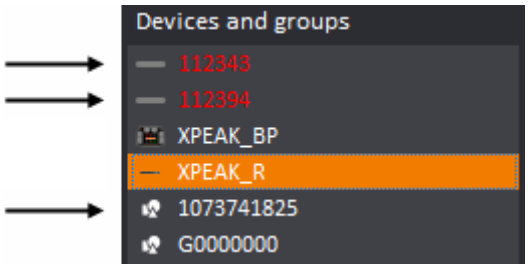
The serial number or identifier also appear if the cursor is placed over a device in the scheme:



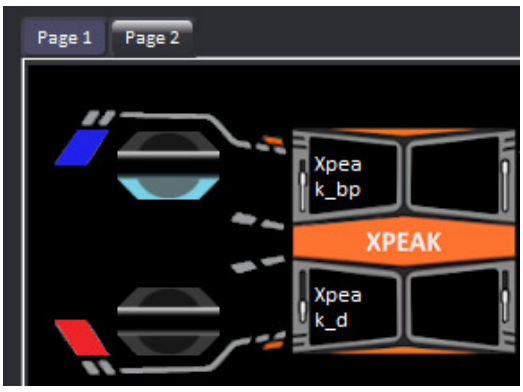
When a device is no longer present in the network, its name in the list and scheme will turn red to signal that condition. As soon as communication is re-established with it, the corresponding name will be displayed in white again.

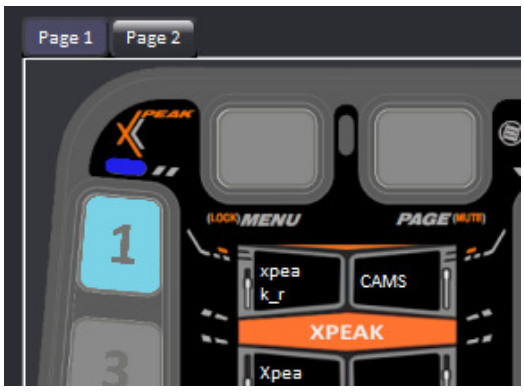


When the configuration of a key or lever includes a device or group which doesn't correspond with any already configured, it is created in the list as an unknown device or group, and its name will be its serial number or identifier. The following image shows this situation:



It is also indicated by the application whether a key or lever is pressed or not. Activated keys or levers are colored in blue in the selected device representation in the lower right quadrant.





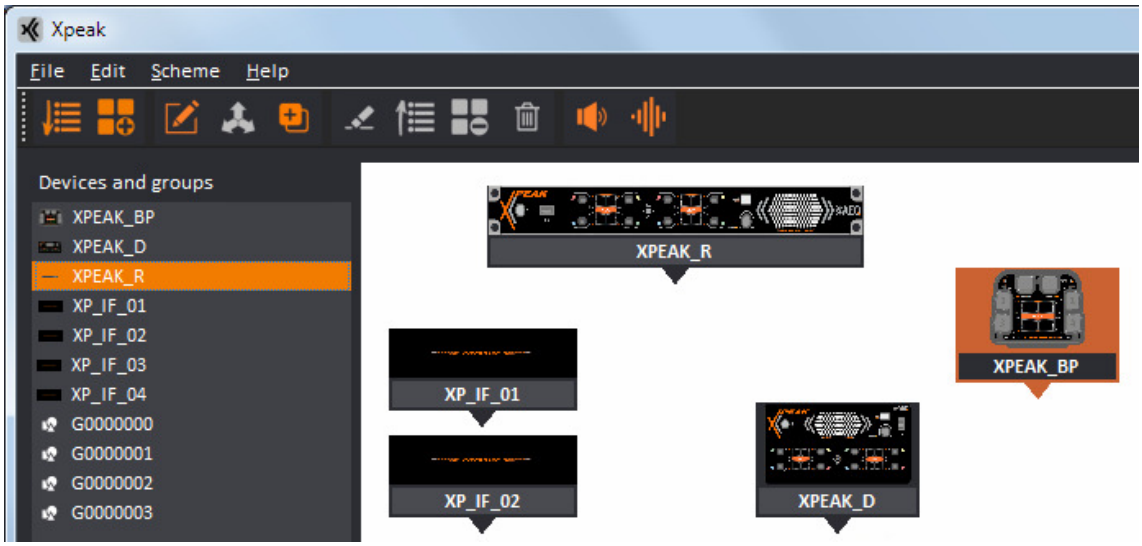
Whenever a new device is added, the application sends a message to it in order to request the configuration of its keys or levers.

5.2.4.4. Working on the scheme.

In order to place devices in the scheme of the upper right quadrant, click on one of the devices in the list and, keeping the mouse pressed, drag it to the desired position within the scheme.

Once in the scheme, the device can be relocated just in the same way. If, in addition, that device has established communication with others, the lines indicating that connection in the scheme will also move accordingly when moving the device.

A device is selected when clicking on it in the scheme, so focus will also move to that device and it will get highlighted in an orange background.



A device's location within the scheme can also be changed using the keyboard: when it's selected (and hence highlighted in orange), using the keyboard arrow keys can move it to the desired place.

There are several ways to change a device's name in the schematic: double-clicking with the mouse on the device's name area or, when the device is selected, pressing the F2 key, using the "Edit name" option of the "Edit" drop-down menu or the equivalent button in the lower line . It can also be changed by right-clicking on the device's name and selecting the "Edit name" option that appears:

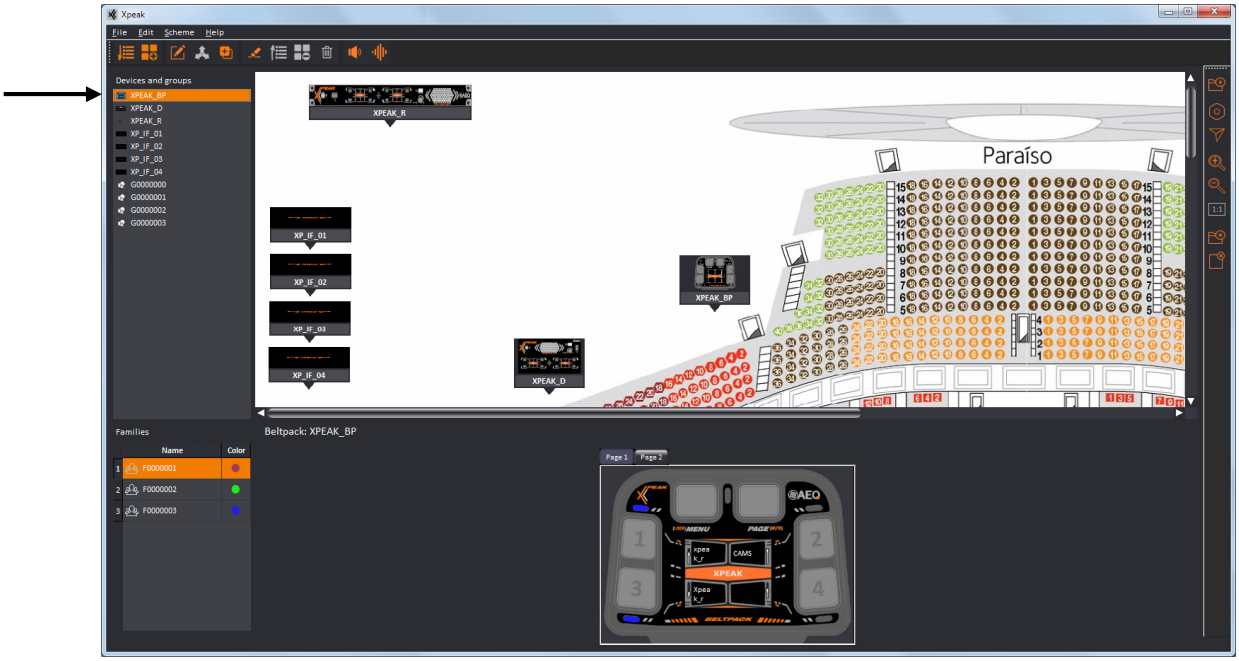


When the name change procedure is complete, it can be validated by clicking outside it or pressing the keyboard's "Enter" key; then the editor is closed and the device's name is changed in all places showing it.

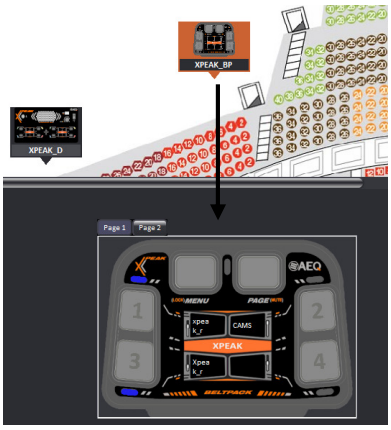
By double-clicking on a device in the scheme, outside its name area, it will be represented in the device view at the lower right quadrant.

5.2.4.5. Devices or groups detail display.

In order to be able to display in the lower right quadrant a device or group selected in the list, just click on the device, which becomes highlighted. Keyboard's up and down arrow keys allow us to change the device or group to be displayed.



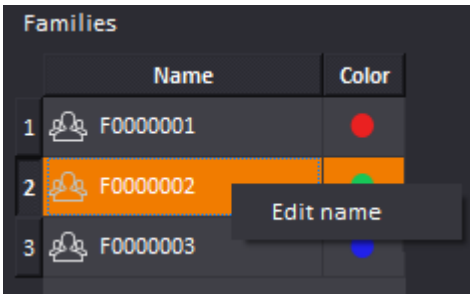
It is also possible to display in the lower right quadrant a device that appears in the scheme of the upper right quadrant by double clicking on that device.



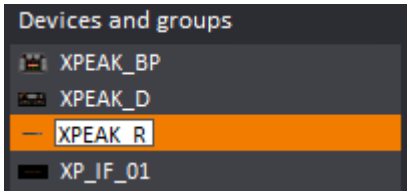
5.2.4.6. Editing the name of a device, group or family.

The list in the upper left quadrant shows the name associated to each device or group of the system. The list of the families with their respective name appears in the lower left quadrant. Any of those names can be changed by double-clicking on the name or, when the device, group or family is selected, by pressing the keyboard's F2 key. It can also be changed using the "Edit name" option of the "Edit" drop-down menu (keyboard shortcut "T") or the equivalent button in the lower line 

In the case of families, it's also possible to change their name by right-clicking on the family's name and selecting the "Edit name" option that appears.



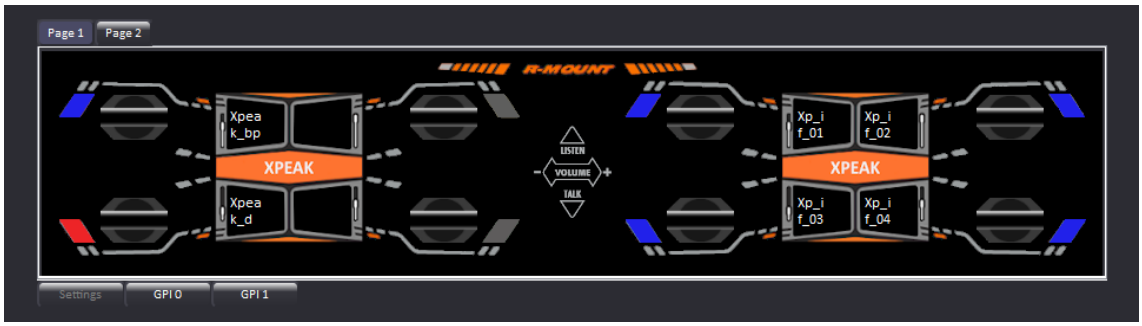
The editor that appears has a white edition box used only for name modification. In other words, only the device, group or family name can be altered, but not its type, that is displayed before by a symbol. Once the name modification is completed, it can be validated by clicking outside it or using the keyboard's "Enter" key; then the editor will be closed and the name will be modified anywhere it is included.



5.2.4.7. Editing the configuration of devices or groups.

The device or group selected in the list or in the scheme to modify its configuration appears in the lower right quadrant of the application.

In the case of devices, depending on the type of equipment, several tabs may appear corresponding to the buttons pages and GPIs. In the case of Xpeak_IF interface, the "Settings" tab also appears.



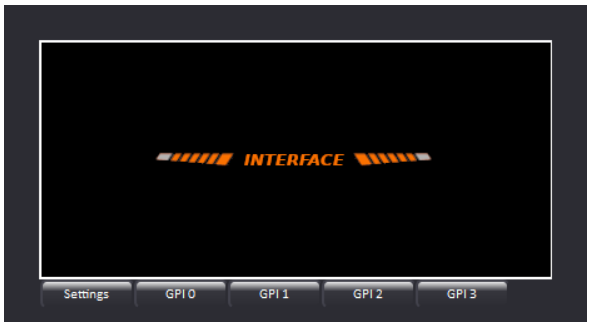
Xpeak_R / Xpeak_D



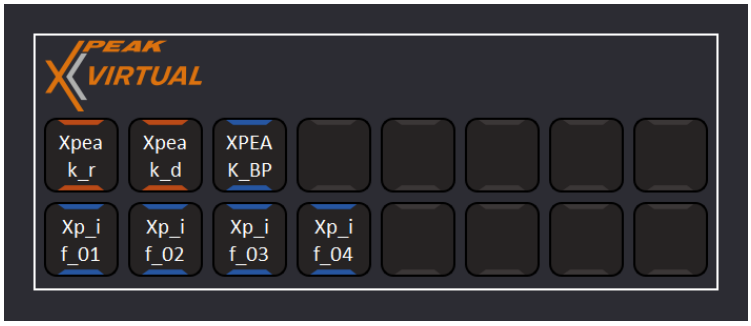
Xpeak_BP



Xplorer / Xplorer MAX

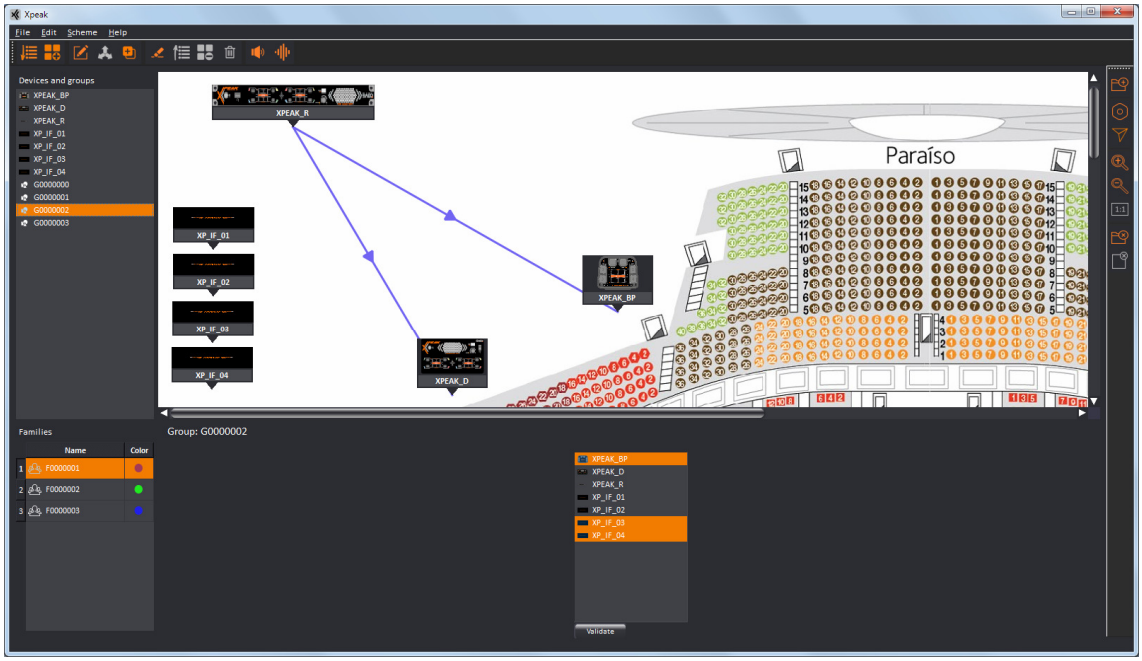


Xpeak_IF

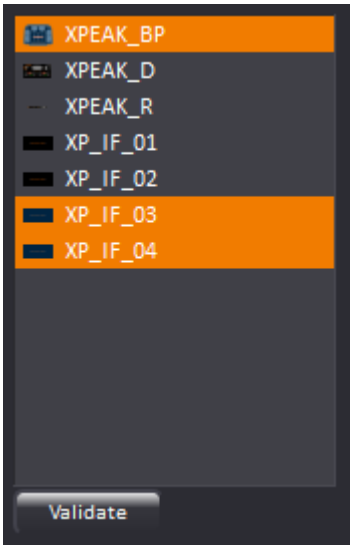


Xpeak Virtual

In the case of groups, they are represented as follows in the lower right quadrant:



In the example, the group "G0000002" consists of a Xpeak_BP and the last 2 channels of a Xpeak_IF (devices are highlighted in orange):



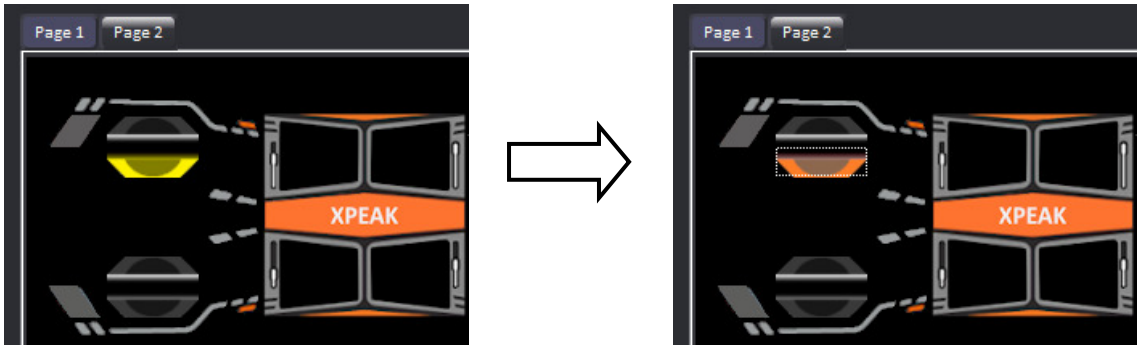
It's possible to modify this group by clicking on any of the devices to include it (marked in orange) or remove it from the group (marked in dark grey). Once the group has been configured, pressing the "**Validate**" button will save the changes made.

The name of the group that is being displayed appears in the upper left area of that quadrant and, after clicking on it, it can be modified by double-clicking on it, pressing the F2 key, using the "Edit name" option of the "Edit" drop-down menu (keyboard shortcut "T") or the equivalent button in the lower line .

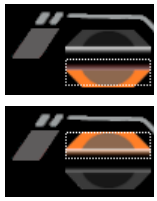


5.2.4.7.1. Editing the buttons of a device.

When a device is displayed in the lower right quadrant and the mouse cursor is placed over any button, it changes to yellow color until it is clicked on. Single-clicking on it, the button is selected and it changes to orange. If you click now on another point in the application, the button is deselected and changes to the original grey.



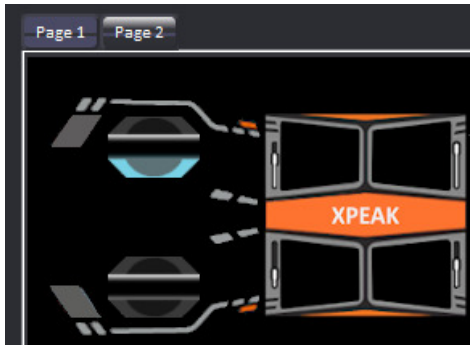
Note that in the case of **Xpeak_R** and **Xpeak_D** panels, buttons are levers and can be independently configured to define their behavior when they are pulled upwards and pressed downwards, so when selecting the button for its edition the upper or lower half of it must be pressed respectively. It is common to assign both functions to a same destination and make them be complementary; in particular, the "Talk" in Latch mode is usually assigned to the upper position and "Talk" in PTT mode to the lower one.



Once a button is selected, you can also change the selection by moving through the buttons of the device using the Tab key or the arrow keys.

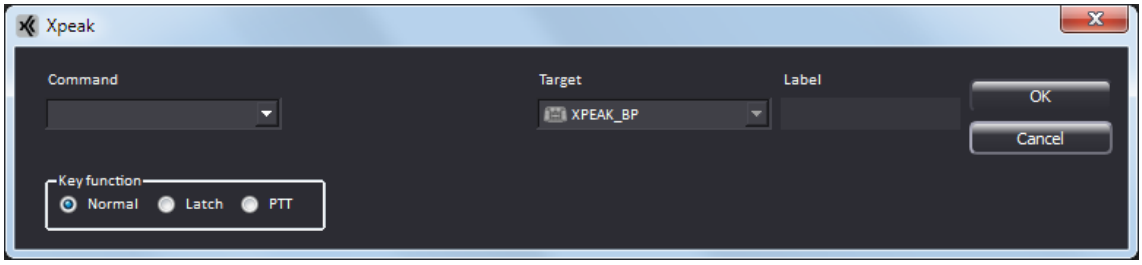
When right-clicking on a button, it's activated, just as we were activating it in the physical device, so it changes from "OFF" to "ON" status and it changes to blue color. If the button already has a function assigned to it, it will be executed.

In order to set it to "OFF" again, right-click on it again, and it will return to the original grey color. Another way to do it is using the keyboard, so when a button is selected, it is set to "ON" by pressing the "Enter" key and pressing it again sets it back to "OFF".

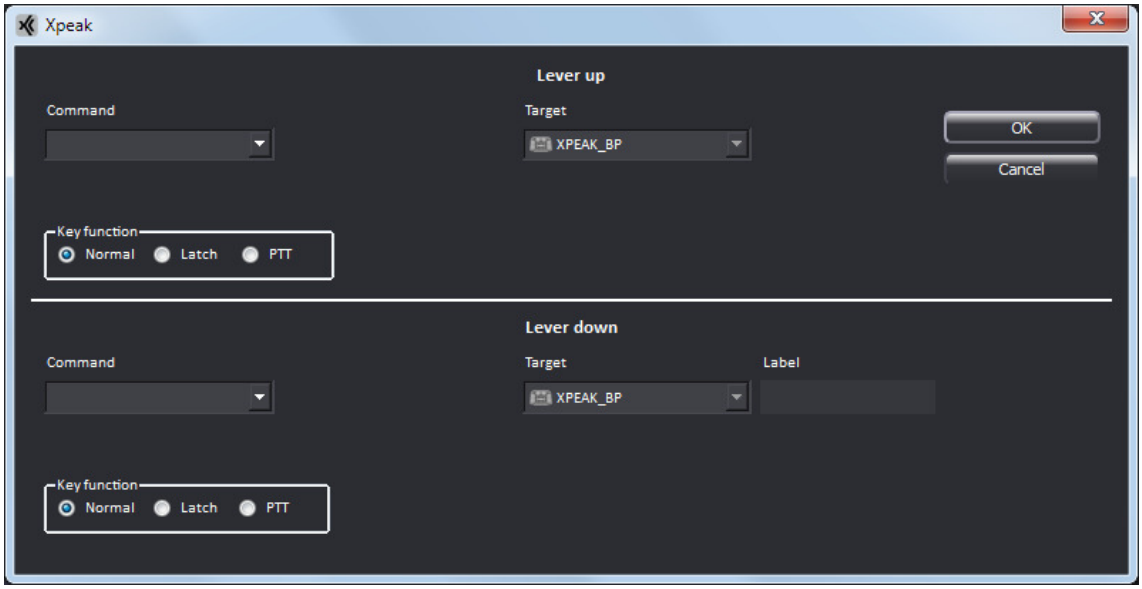


When a button is selected (hence highlighted in orange), by double-clicking on it, selecting the "Edit button" option of the "Edit" drop-down menu (keyboard shortcut "E") or pressing the equivalent button in the lower line , the button properties window appears, allowing you to assign commands or functions to it:

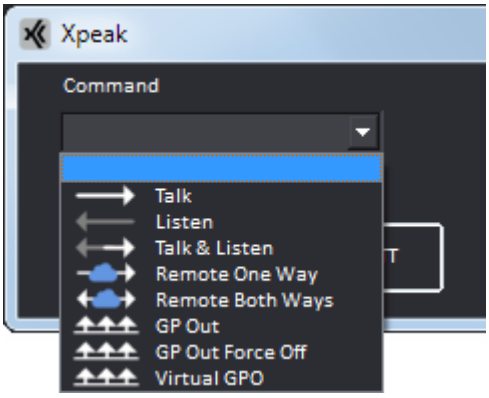
In the case of the beltpacks (Xpeak_BP, Xplorer and Xplorer MAX) the window looks like this:



In the case of the panels (Xpeak_R and Xpeak_D) the window looks like this, with an area to program the upwards activation ("Lever up"), and other for the downwards movement ("Lever down"):



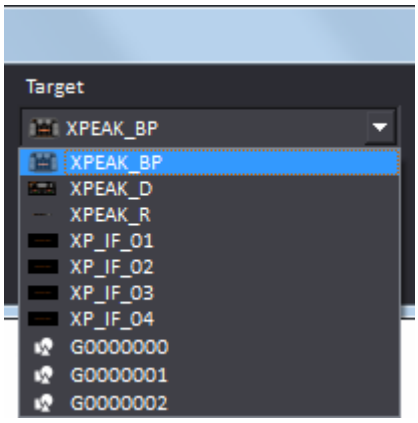
Select the command to be assigned to the button in the "**Command**" drop-down menu. Depending on the selected command, different configuration parameters may appear. The available commands are:



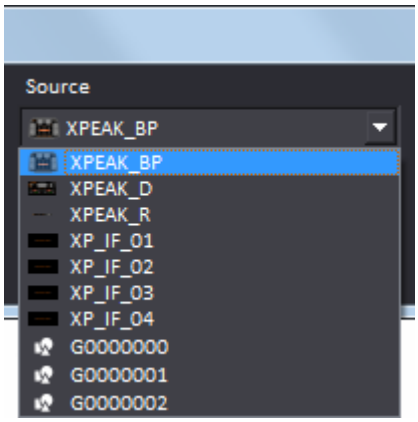
With each of them, the following options are available:

1. Talk: "Target", "Label" and "Key function"
2. Listen: "Target", "Label" and "Key function"
3. Talk & Listen: "Target", "Label" and "Key function"
4. Remote One Way: "Source", "Target", "Label" and "Key function"
5. Remote Both Ways: "Source", "Target", "Label" and "Key function"
6. GP Out: "Target", GPO, "Label" and "Key function"
7. GP Out Force Off: "Target", GPO, "Label" and "Key function"
8. Virtual GPO: "Target (IP)", Id Number, "Label" and "Key function"

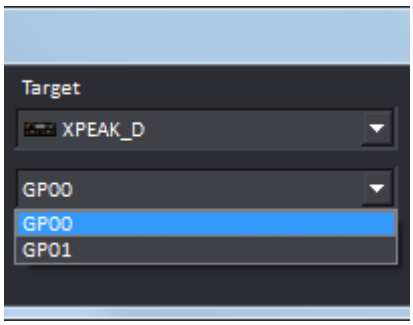
The "**Target**" drop-down menu allows you to select the system device or group that will be the destination with which the device we are configuring will interact (to which it will talk, listen or talk and listen).



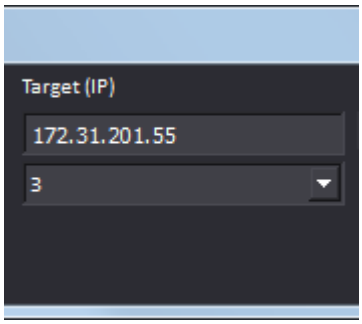
In the case of the "**Remote One Way**" and "**Remote Both Ways**" commands, the "**Source**" drop-down menu also appears, allowing you to select the system device or group that will interact with the destination selected in "Target".



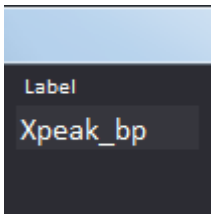
In the case of the "**GP Out**" command, the drop-down menu that appears below "Target" allows you to select the GPO that will be activated on the target when the button is pressed. In the case of the "**GP Out Force Off**" command, the drop-down menu that appears below "Target" allows you to select the GPO that will be necessarily deactivated on the target when the button is pressed. In both cases, only Xpeak_R, Xpeak_D, Xpeak_BP and Xpeak_IF type devices appear in the "Target" list, which are the ones that have GPOs (this command is not applicable to the Xplorer/Xplorer MAX wireless terminal or to groups).



In the case of the "**Virtual GPO**" command, in the "**Target (IP)**" field the destination IP address is entered and, in the drop-down menu that appears below, the order number of the virtual GPO into the unit (Id Number) is selected, which must be less than 256. The same virtual GPO can be sent to different units, in that case different buttons should be created pointing to different IP address and with the same Id Number.



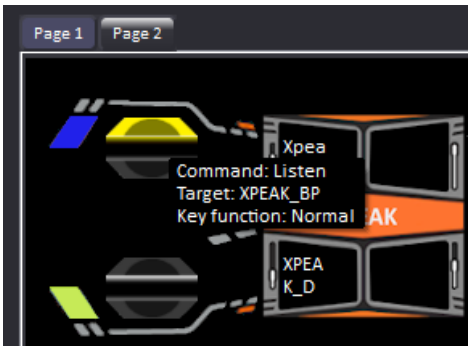
The "**Label**" field allows you to configure the name that will be assigned to the button (which is usually referenced to the "Target" device). If we use the default label it will appear written in white on the display, while if the text is changed it will appear in cyan.



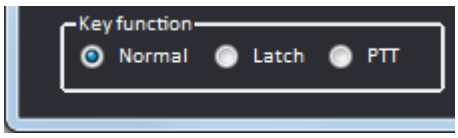
By default, labels are configured combining upper and lower case so the action assigned to the button is easily recognized from the label itself:

1. Talk: Only the first letter in uppercase. Example: Xpeak_bp
2. Listen: All lowercase. Example: xpeak_bp
3. Talk & Listen: All uppercase. Example: XPEAK_BP
4. Remote One Way: First three letters of the source in uppercase, right arrow and first three letters of the target in uppercase. Example: BP1->BP2
5. Remote Both Ways: First three letters of the source in uppercase, dual arrow and first three letters of the target in uppercase. Example: BP1<>BP2
6. GP Out: All uppercase (same as Talk & Listen). Example: XPEAK_BP
7. GP Out Force Off: All uppercase (same as Talk & Listen). Example: XPEAK_BP
8. Virtual GPO: V_GPO

In the case of the **Xpeak_R** and **Xpeak_D** panels, on whose levers two functions can be programmed, the label is always associated with the function corresponding to pressing down. If two functions have been configured on a lever, the application will show the function associated with pressing up in the text box that appears when the cursor is placed over the upper half of the button (it changes from grey to yellow).



In the "**Key function**" section, the button's operating mode is selected. In "PTT" mode, the command is only executed when the button is pressed and held (and deactivated when released). In "Latch" mode, the command is executed when the button is pressed and is maintained when it's released; in order to deactivate it, you have to press the button again. The "Normal" mode is a combination of the previous ones: a short press on the button works in "Latch" mode (the command is executed when the button is pressed and is maintained when the button is released), while a long press works in "PTT" mode (releasing the button deactivates the command).



Quick button configuration:

It is possible to make a quick, automatic and predefined configuration of the buttons of a device by dragging devices or groups from the list to those buttons.

To do this, when a device is selected in the lower right quadrant, click on one of the devices or groups in the list and, keeping the mouse pressed, drag it until you drop it on the desired button of the device in the lower right quadrant (the button changes to yellow when placed over it, also appearing a square with a "+", and it changes to orange when you release the mouse). In this way, communication with the device or group that we have dragged is assigned to that button.

When we assign a quick configuration to a Xpeak_BP, Xplorer or Xplorer MAX beltpack key (single-function), the "Talk" function in "Normal" mode is programmed by default.

When we assign a quick configuration to a Xpeak_R or Xpeak_D panel lever (with two possible functions), the "Talk" function in "Normal" mode is programmed by default when pressing downwards and the "Listen" function in "Normal" mode when pulling upwards.

Transfer of a button configuration:

The application also allows you to move the configuration from one button to another one, even through different pages, within the same device, the one that appears in the lower right quadrant.

To do this, click on one of the buttons of the device and, keeping the mouse pressed, drag it until you drop it on the desired button (the button changes to yellow when placed over it, also appearing a square with a "+", and it changes to orange when you release the mouse). This way, the configuration of one button is moved to the other.

In case that one or both buttons are active (highlighted in blue), that activation will be voided when this transfer operation is performed.

In order to transfer the configuration to a button on another page, once the button to be moved is selected, keep the mouse pressed over the tab of the desired page and, once accessed, drag it until you drop it on the desired button.

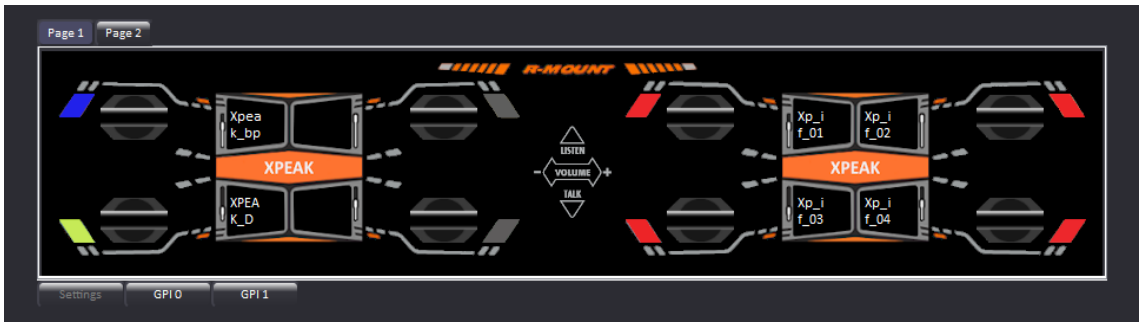
Family indicators:

When a button is configured, either from the configuration window or through the quick configuration process, if the "Target" device belongs to a family, the LED associated with the button will be set to the color associated with that family.

This is the case if you configure a "Talk", "Listen", "Talk & Listen" or "GP Out" command. No family LED is configured for the "Remote One Way" and "Remote Both Ways" commands.

In Xpeak_R and Xpeak_D panels, a LED associated to the lever will illuminate in the color corresponding to the family of the destination associated with pressing down the lever. In Xpeak_BP beltpacks every button has an associated LED which takes the color from the destination family. In Xplorer/Xplorer MAX beltpacks and in "Xpeak Virtual" application, a line with the family color will be displayed above and below the button's corresponding text.

The following images show examples of family LEDs configuration in a Xpeak_R, a Xpeak_BP and a Xplorer.







<u>Copy the buttons configuration of a device to another device</u>:

It is possible to copy the buttons configuration of a device to another device(s) of the same type by means of the "**Copy configuration**" option (see section 5.2.3.2 of this manual).

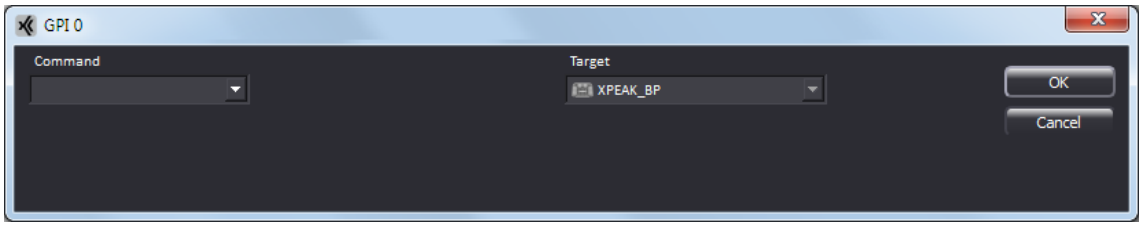
5.2.4.7.2. Editing the GPIs of a device.

When a device is shown in the lower right quadrant, it's possible to configure its GPIs using the tabs that appear at the bottom of the device:



Logically, these tabs only appear if the selected device is a Xpeak_R, a Xpeak_D or a Xpeak_IF, since they are the only devices that have GPIs (2 in the case of the panels and 4 in the case of the interface).

Pressing one of these tabs displays the window that allows you to configure the GPI:



Select the command to be executed when the corresponding GPI is activated on the device in the "**Command**" drop-down menu. The available commands are the same as those detailed for the buttons and, in the same way, depending on the selected command, different configuration parameters may appear:



The "**Target**" drop-down menu allows you to select the system device or group that will be the destination with which the device we are configuring will interact (to which it will talk, listen or talk and listen).

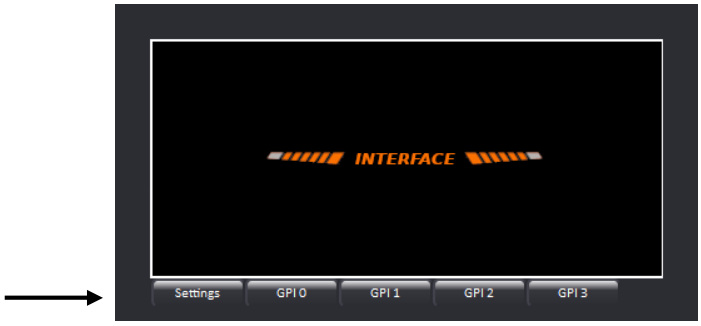
In the case of the "**Remote One Way**" and "**Remote Both Ways**" commands, the "**Source**" drop-down menu also appears, allowing you to select the system device or group that will interact with the destination selected in "Target".

In the case of the "**GP Out**" command, the drop-down menu that appears below "Target" allows you to select the GPO that will be activated on the target when the corresponding GPI is activated on the configured device. In the case of the "**GP Out Force Off**" command, the drop-down menu that appears below "Target" allows you to select the GPO that will be necessarily deactivated on the target when the GPI is activated. In both cases, only Xpeak_R, Xpeak_D, Xpeak_BP and Xpeak_IF type devices appear in the "Target" list, which are the ones that have GPOs.

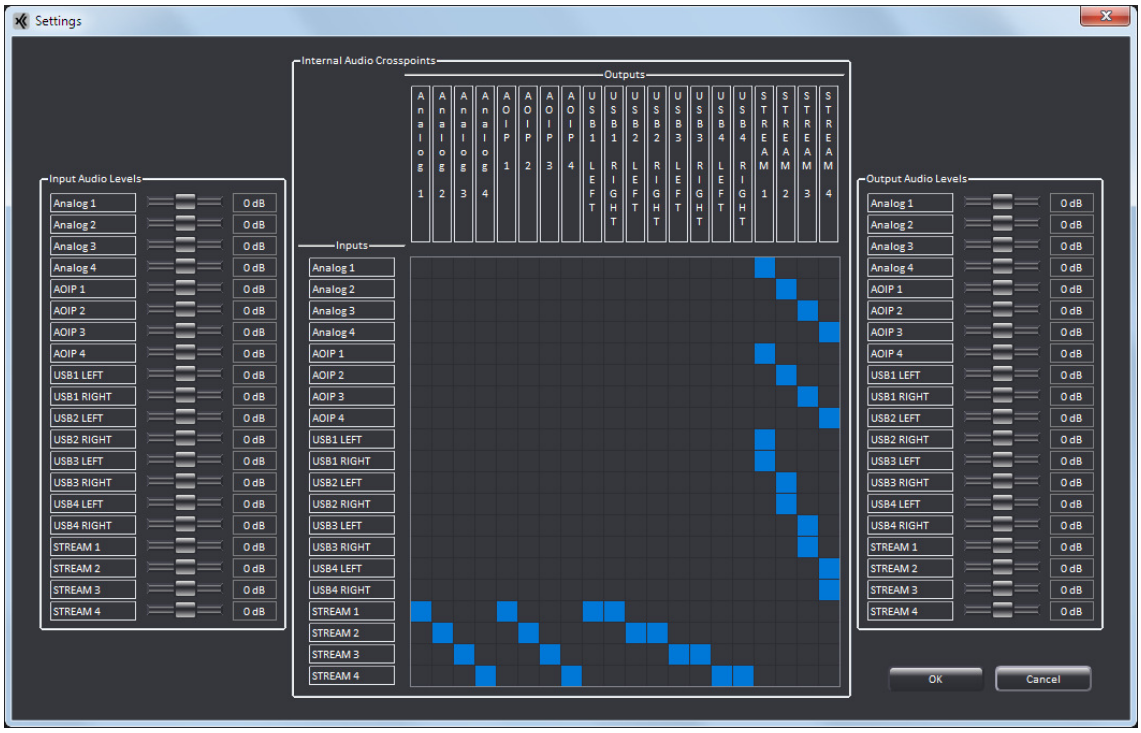
In the case of the "**Virtual GPO**" command, in the "**Target (IP)**" field the destination IP address is entered and, in the drop-down menu that appears below, the order number of the virtual GPO into the unit (Id Number) is selected, which must be less than 256. The same virtual GPO can be sent to different units, in that case different buttons should be created pointing to different IP address and with the same Id Number.

5.2.4.7.3. Editing the crosspoints and the gains of a Xpeak_IF device.

When a Xpeak_IF type device is shown in the lower right quadrant, it's possible to configure its internal crosspoints and the gain of its inputs and outputs using the "Settings" tab that appears at the bottom of the device:

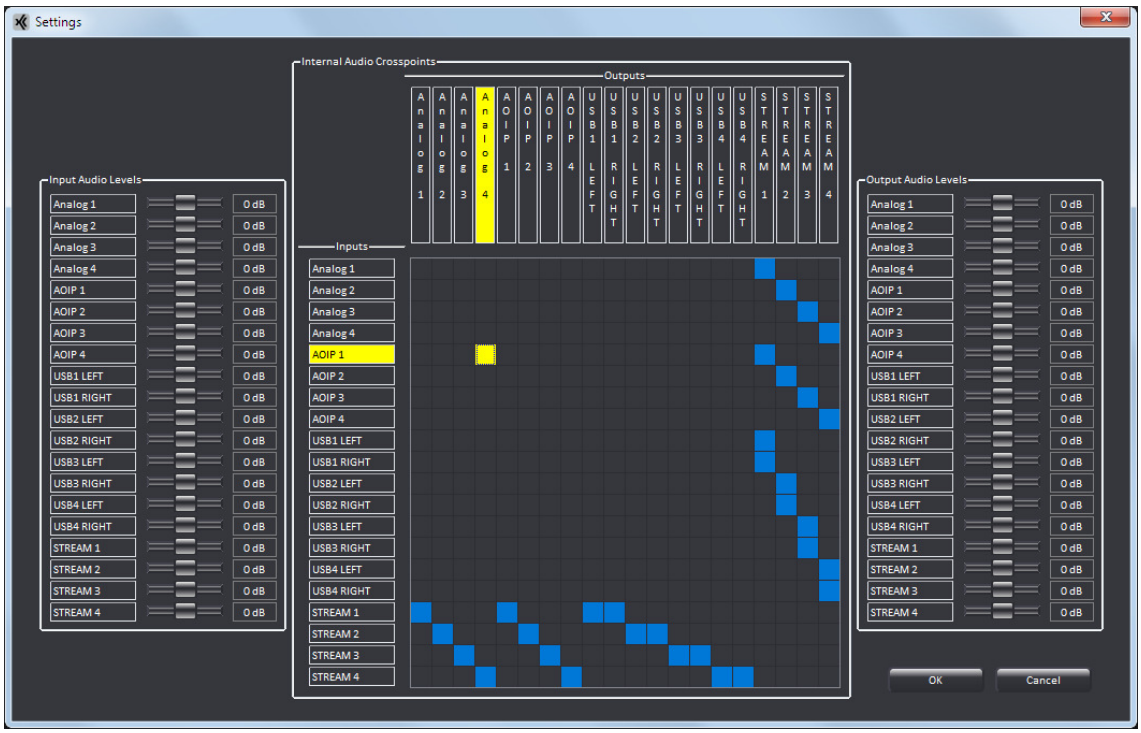


Pressing the "Settings" tab displays the window that allows you to make that configuration:

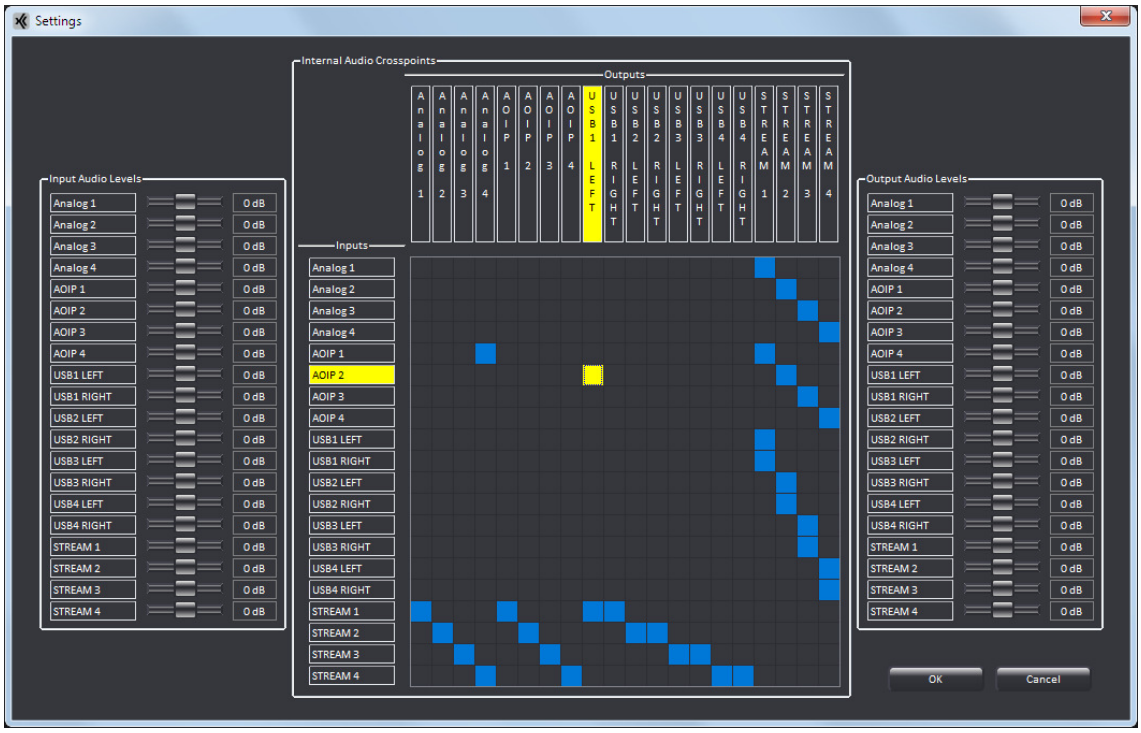


In the central part of the window, the XY view appears, showing the device's internal crosspoints configuration and allowing you to modify it. On the left side the gain configuration table for the audio inputs appears and on the right side the one for the outputs.

If you move the mouse over the XY view, the focus is placed on the crosspoint where the mouse cursor is and it's colored yellow, as well as the corresponding input and output labels:

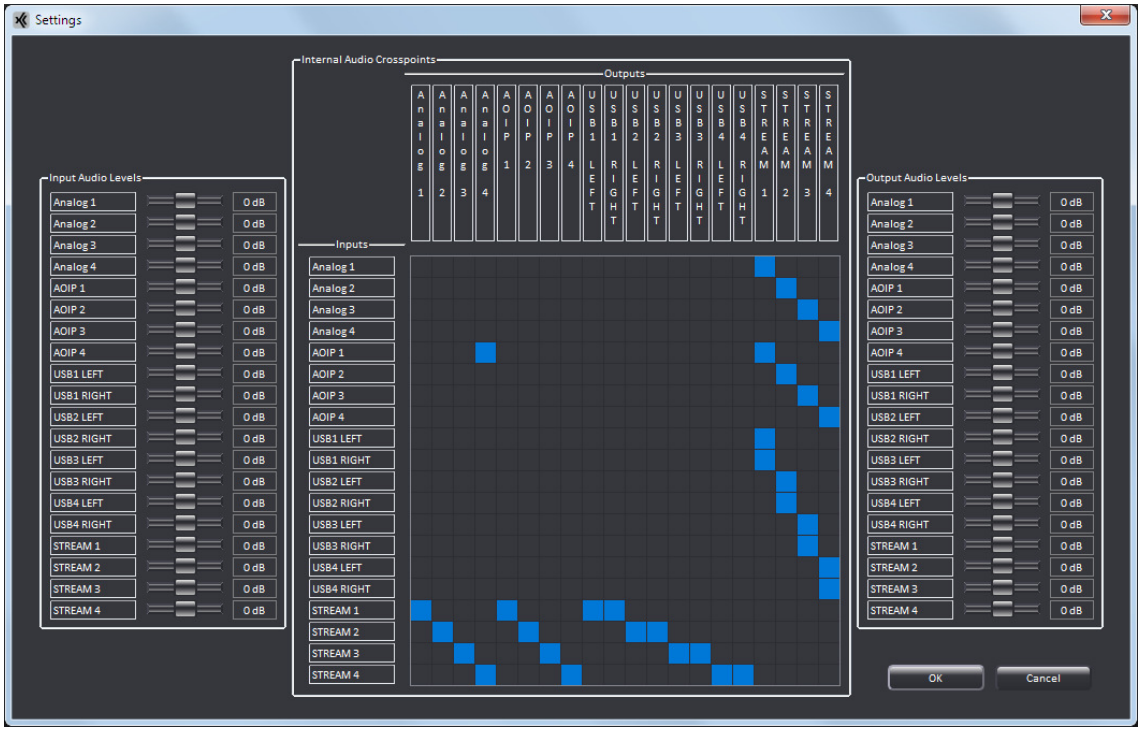


If you now press the right mouse button and move the cursor, the previous point changes from yellow to blue to indicate that the crosspoint has been activated.



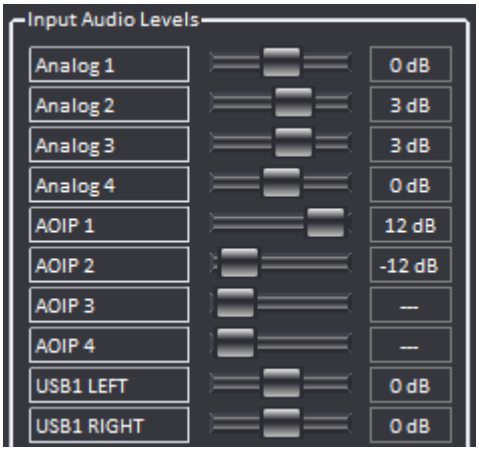
More crosspoints can be activated using the same procedure. It's also possible to deactivate some of the existing crosspoints in the same way.

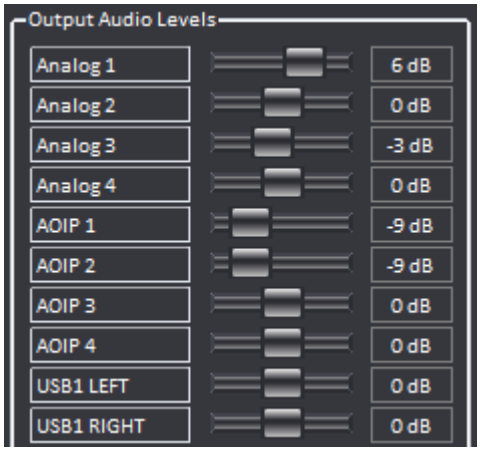
Once the desired changes have been made, press the "OK" button to confirm and apply them (or press "Cancel" to discard them). In the example, a new crosspoint between AoIP input 1 and analog output 4 has been created:



Instead of using the mouse, you can also move around the window using the tabulator and the arrow keys on the keyboard, activate/deactivate crosspoints using the space bar and confirm changes with the "Enter" key.

On the other hand, in the tables located at the left and right of the XY view it's possible to configure the individual gain of each audio input and output of the interface. Gain adjustment is from **-infinity** to **+12dB.** Just like with crosspoints, once the desired changes have been made, press the "OK" button to confirm and apply them (or press "Cancel" to discard them).

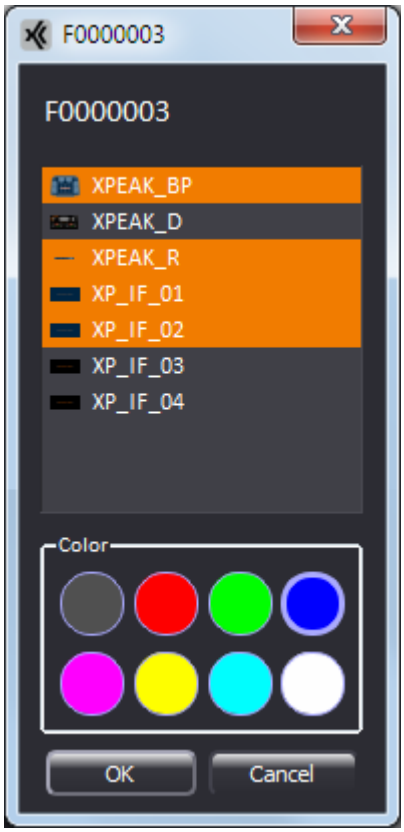




Instead of using the mouse, you can also move around the table using the tabulator and modify gains using the arrow keys on the keyboard.

5.2.4.8. Editing the members and color of a family.

In order to change the devices and the color associated to a family, double-click on that family's "Color" column. Alternatively, when the cursor is on that column, use the "Enter" key (the keyboard's up and down arrows you can change the selected family and with the left and right arrows you can change the selected column). At that moment, a window will appear in order to edit the family:



In the example, the family "F0000003" consists of a Xpeak_BP, a Xpeak_R and the first 2 channels of a Xpeak_IF (devices are highlighted in orange). It's possible to modify this family by clicking on any of the devices to include it (marked in orange) or remove it from the family (marked in dark grey). t can also be accomplished using the keyboard, moving around the devices using the up and down arrow keys and selecting the ones we want to include with the right arrow and the ones we want to remove with the left arrow.

IMPORTANT NOTE: Remember that a device can be part of one family only. When a device is assigned to a family and it was already assigned to another, it is deleted from that one and remains in the new family.

In order to select the family color, click on the desired color icon (when on the color selection area, you can also use the keyboard's arrow keys to move between colors).

The name of the family under edition appears in the upper part of the window and, by clicking on it, it is possible to edit it.

Once all changes are made, if the button "**OK**" is clicked on, modifications are saved. On the other hand, clicking on the "**Cancel**" button discards.

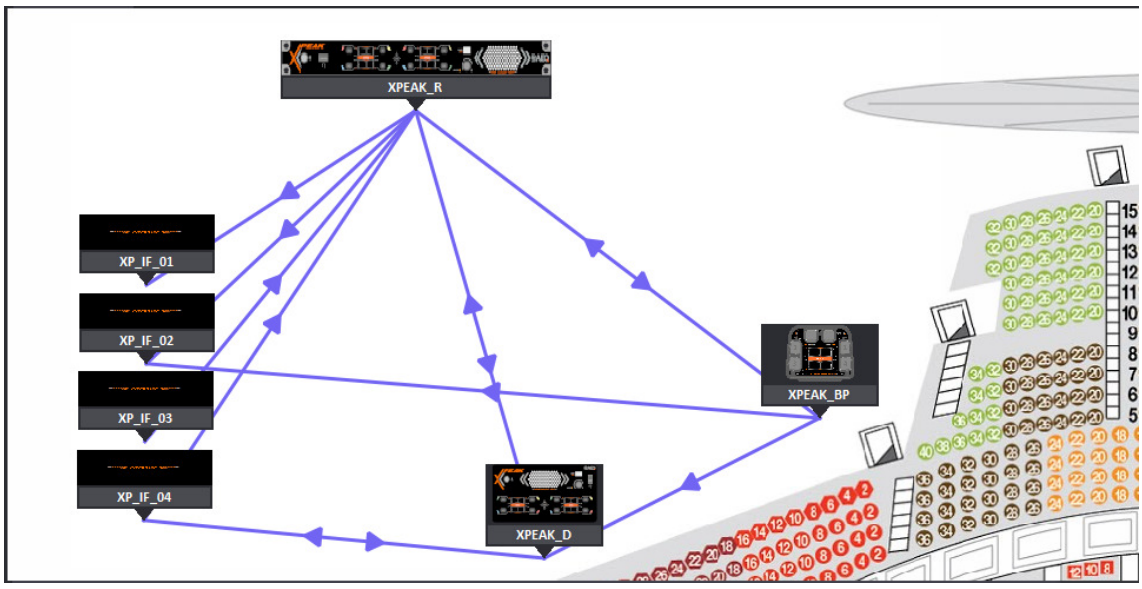
5.2.4.9. Communication flows scheme.

Lines indicating communication flows between pairs of devices appear on the scheme in the upper right quadrant, according to the configuration of the cross-point buttons in the different devices:

- If we select the "Show all configuration" option of the "Scheme" drop-down menu (keyboard shortcut "S") or press the equivalent button in the upper right menu , a diagram showing all possible communications between devices is obtained, whether they are active or not at that moment, that is, regardless of the status of each button.
- If "Show all configuration" option is not active, only the communication flows active at that moment will be represented, that is, those in devices with pressed buttons (highlighted in blue) and where a command is configured.

Have in mind that, in both cases, the "GP Out" type commands will have no associated lines.

The following image shows an example of communication flows between devices:



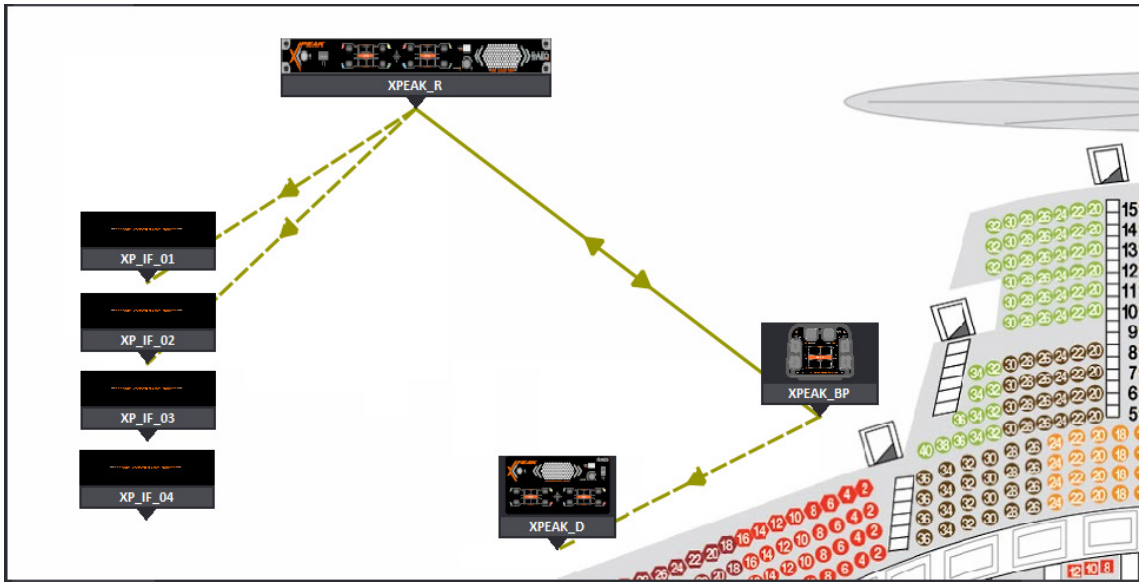
The purple lines with just an arrow indicate communication flows in only one direction (the one indicated by the arrow) and are associated with commands of "Talk", "Listen" or "Remote One Way" type. The purple lines with two arrows indicate flows in both directions and are associated with "Talk & Listen" or "Remote Both Ways" commands (also "Talk" or "Listen" commands executed in both directions between two devices).

Depending on the commands configured for each button, if the communications are established or not through the corresponding key, and if the "Show all configurations" option is active or not, a different set of lines will be represented in the scheme.

5.2.4.10. IFBs scheme.

Lines indicating crosspoints between pairs of devices appear on the scheme in the upper right quadrant, according to the configuration of IFBs (Interrupted FoldBack) in the different devices, if we select the "Show_all_IFBs" option of the "Scheme" drop-down menu (keyboard shortcut "H") or press the equivalent button in the upper right menu .

The following image shows an example of IFBs between devices:



The green lines with just an arrow indicate crosspoints in only one direction (the one indicated by the arrow), while the green lines with two arrows indicate that crosspoints in both directions have been defined. On the other hand, the IFBs of "Fix" type (in at least one direction) are represented with continuous lines and the IFBs of any other type with discontinuous lines.

In the case that both a communication key and an IFB exist between two devices, if the "Show all configuration" and "Show_all_IFBs" options are clicked at the same time, the line corresponding to the communication flow of the key will be depicted in the diagram, hiding the line corresponding to the IFB (although its arrows are still shown). Likewise, if only the "Show_all_IFBs" option is clicked and that communication key is pressed on the device, the line corresponding to the key will hide the IFB line in the diagram (although its arrows are still shown).

5.2.4.11. Deleting devices, buttons, groups and families.

The deletion process of any of these system elements is described in sections 5.2.3.1 and 5.2.3.2 of this manual.

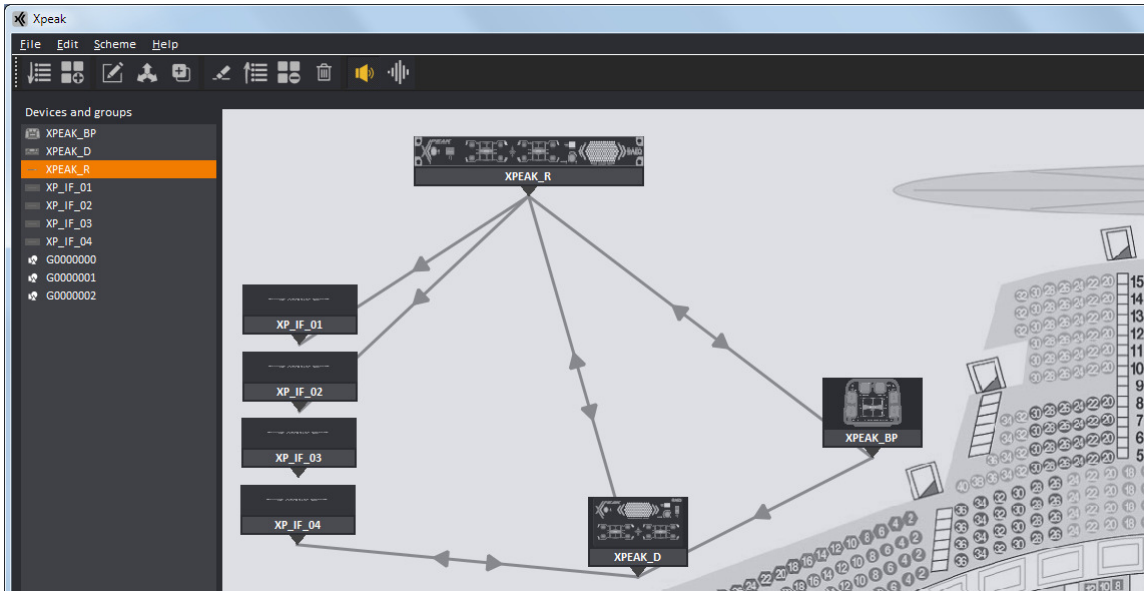
On the other hand, the process of erasing a device only from the scheme is described in sections 5.2.3.1 and 5.2.3.3 of this manual.

5.2.4.12. Snooping.

This option allows the location of a specific panel to be occupied from the PC, that is, the PC where the application is installed will replicate the selected device in terms of audio, that is, everything that the physical device is listening to will also be heard on the PC (the audio of all the devices with which a "listen" command is active) and the audio from the PC (audio played or from the microphone, depending on how the PC is configured) will replace the audio from the physical device (reaching all devices with which a "talk" command is active).

When a device is selected, by selecting the "Snooping" option of the "Edit" drop-down menu (keyboard shortcut "T") or pressing the equivalent button in the lower line  (it changes from grey to orange when selecting the device and to yellow when pressing the button), this option is activated.

When the "Snooping" option is active, the rest of the icons of the lower line of the upper left menu and almost all the menus of the upper line are disabled in order to avoid executing actions incompatible with this option.



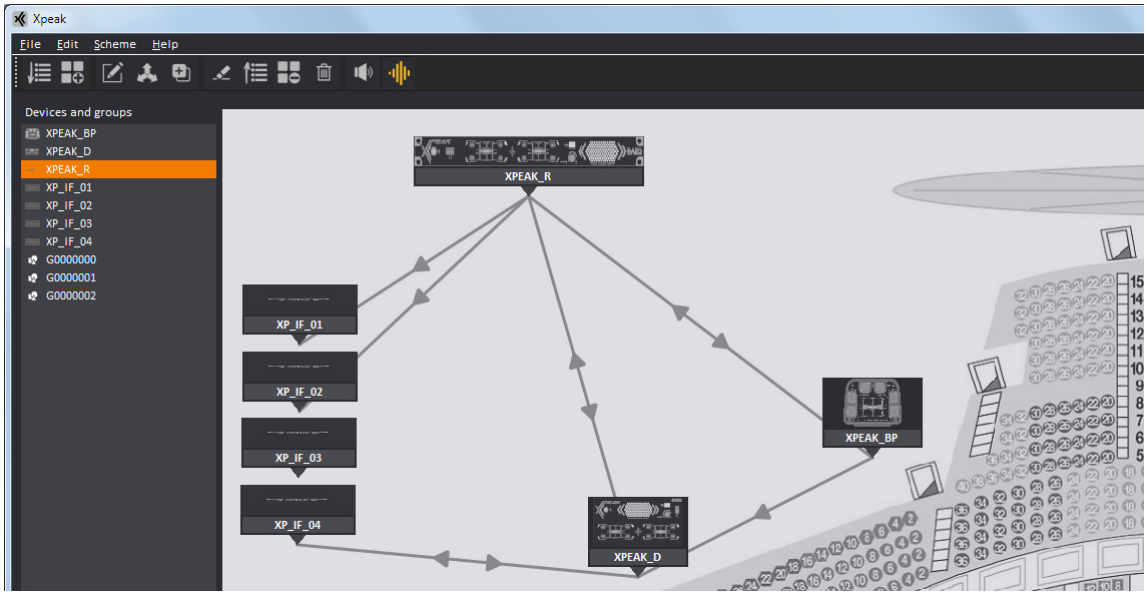
In this situation, the only action that can be executed is to activate or deactivate the buttons of the device displayed in the lower right quadrant (it's not possible to change the configuration of those buttons). Additionally, the indication "**SNOOPING**" appears on that quadrant.

5.2.4.13. Audio test.

This option allows you to do an audio test on the system, presenting the same operation as the "Snooping" mode but substituting the audio from the PC's microphone with a preset test audio.

When a device is selected, by selecting the "Audio test" option of the "Edit" drop-down menu or pressing the equivalent button in the lower line  (it changes from grey to orange when selecting the device and to yellow when pressing the button), this option is activated.

When the "Audio test" option is active, the rest of the icons of the lower line of the upper left menu and almost all the menus of the upper line are disabled in order to avoid executing actions incompatible with this option.



In this situation, the only action that can be executed is to activate or deactivate the buttons of the device displayed in the lower right quadrant (it's not possible to change the configuration of those buttons). Additionally, the indication "**AUDIO TEST**" appears on that quadrant.

5.2.4.14. Use of the application without mouse.

In case the mouse doesn't work (or you want to speed up certain actions via keyboard), the application can be used using the keyboard for all options except drag and drop. With the tabulator you can focus on the different elements of the application. This selection of elements has a specific order and goes in a circle, so that the final element returns to the initial one.

When you reach the scheme in the upper right quadrant with the tabulator and keep pressing, you go through all the devices that appear in that scheme. When leaving that area, the last selected device is deselected.

The same thing happens when you get to the lower right quadrant: as you press the tab key, you go first through the pages and GPIs tabs, and then through the device buttons. When leaving that area, the last selected button is deselected.

When we are in a certain area, it is possible to move through the elements of that area using the keyboard arrows. For example, if we are in the list of devices and groups, we can move through it with the up and down arrows, or, if we are placed in the buttons of the device that appear in the lower right quadrant, we can move through them with the keyboard arrows.

5.3. Xpeak network virtualization tools. Remote Virtual Network - Xpeak Cloud.

5.3.1. Operating principle.

Xpeak units have the option of a ***virtual network*** or "***tunnel***" service to provide the automatic connection of panels located remotely, in different local networks, or isolated. Each of the devices that make up the system will simply need an Internet connection so that, in a totally transparent way to the user, they can operate with each other as if they were connected to the same physical local network.

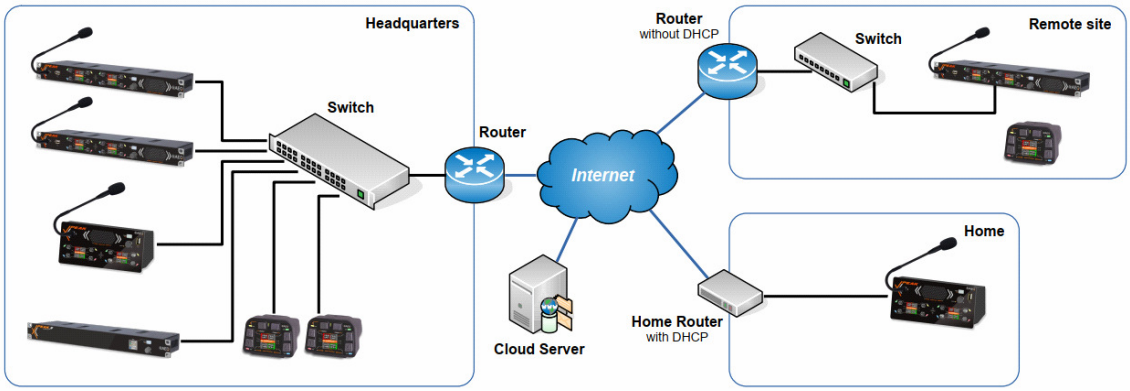
In each remote device, the minimum necessary bandwidth for the transmission of an audio channel is 64Kbps and, for the reception, 64Kbps for each device that listens simultaneously. Therefore, the recommended bandwidth for a remote device is 1Mbps, which would allow simultaneous playback of up to 15 incoming audios, more than enough for normal use.

A typical system might consist of several Xpeak devices operating at a single site, and one or several remote devices at residential or remote locations. The devices at the site, in order to access the remote ones, must have an outgoing Internet connection, in order to reach the virtual network server in the cloud that will route the audio bidirectionally to the remote panels.

When the **Xpeak** devices have an Internet connection, they are authenticated in the **Xpeak Cloud Server**, in charge of keeping a record of all the devices belonging to the same ***Virtual Network.*** The server allows visibility between all the devices that are registered in the same virtual network, and also routes through it the audio from the panels that are part of different local networks.

Xpeak units leave the factory registered to work in a ***virtual network*** when indicated on the received order. This virtual network is generated based on that order, so that, unless otherwise indicated, all the devices in the same order are associated with the same virtual network.

This is **VERY IMPORTANT** when making system expansions, since it is necessary to indicate when placing the order that the new units must be registered in an existing virtual network. To do this, you must provide us with the order number that initially generated the virtual network and the serial number of at least one of the units already registered in that virtual network.



The virtual network/domain will be registered if the corresponding **license** has been previously purchased. This license, valid for **1 year**, can be updated at any time by contacting AEQ. A maximum of 28 user panels and 4 control PCs can be registered in that domain.

5.3.2. Data of a unit and its network to install and activate the virtual network.

If the virtual network option is not initially activated, it's necessary to provide the serial numbers of the units that must be part of that virtual network. If you already have any unit that is part of that virtual network, you must provide us with the order number that initially generated the virtual network and the serial number of at least one of the units already registered in that virtual network.

5.3.3. Configuration.

If the **virtual network** option is requested when purchasing the system, everything will be configured here (the domain created and the units registered in it). If not, we will have to connect to your network in order to configure the units in that domain.

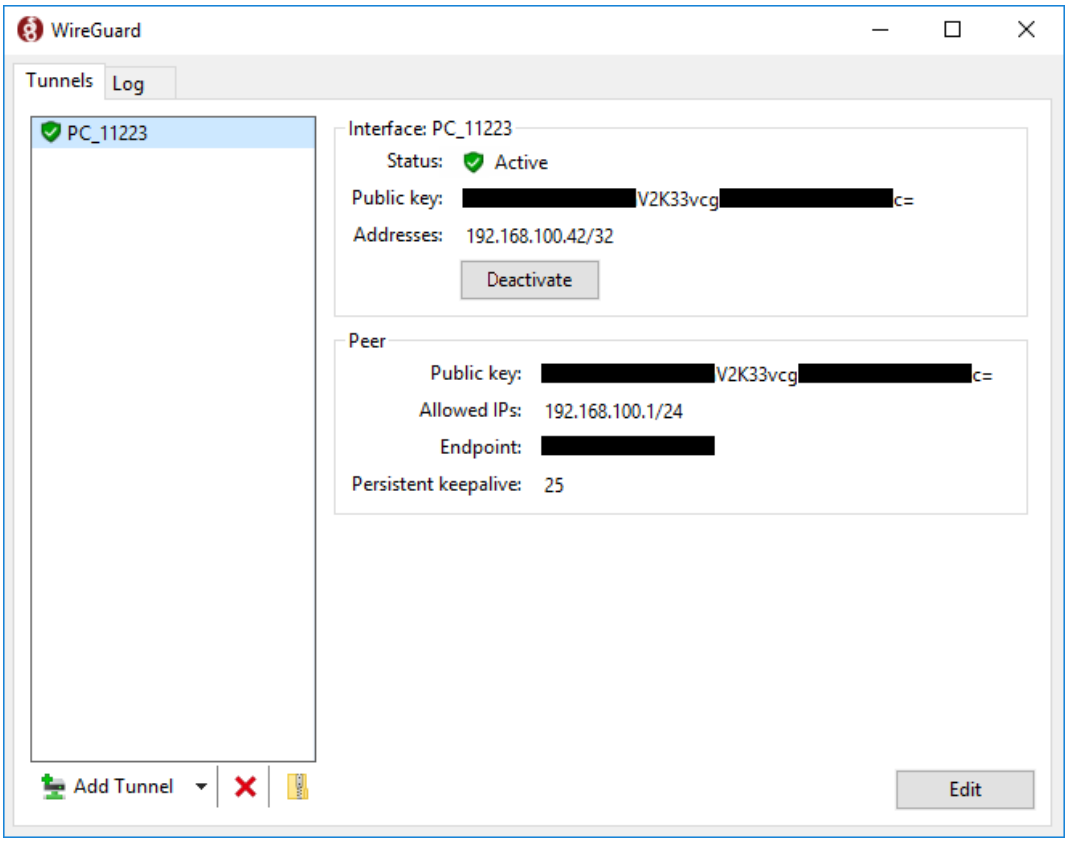
5.3.3.1. Configuration software.

You will be provided with a **conf** file to install on the network configuration computer, which will allow you to create an additional network card for the **virtual** "remote network". On the "Network settings" window of "**AEQ Xpeak**" software different IP addresses for "Local network" and "Remote network" will be shown.

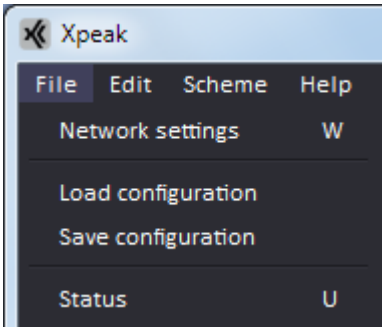
The remote network should be configured. Take note that the configuration PC has at least two IP addresses, the local one and the remote one.

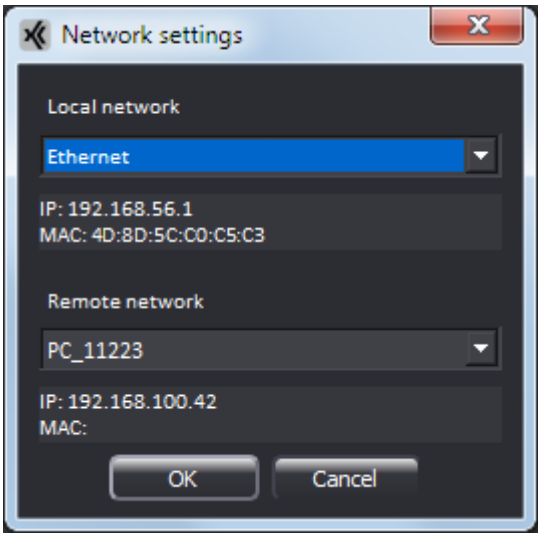
To start the service, you have to load in the "**WireGuard**" remote connection software window (supplied on the USB key that goes with the units) the "tunnel" **conf** file provided by AEQ for that specific network. In order to do that, you must use the "Add Tunnel" option that appears at the bottom left. Then it must be activated by pressing the “Activate” button.

Once the virtual network or tunnel connection is activated, the connection parameters will appear on the right part of the "**WireGuard**" software window for information and for maintenance control purposes:



In the "**AEQ Xpeak**" software, you must select in "File" → "Network settings", in the "Remote network" section, the virtual network or tunnel connection, in this example PC_11223. The IP address for the remote connection is also shown, in this case, 192.168.100.42.





From then on, the "**AEQ Xpeak**" configuration application will show the remote devices on the network that are connected to the Internet, as if they were in the same location as the local devices.

As mentioned, the configuration file for the "**WireGuard**" client software is provided by AEQ with the systems when purchasing the remote virtual network license. If you don't have this file or you need to work in different locations (with different PCs), please contact AEQ support via email support@aeq.es.

5.3.3.2. Local panels configuration.

The devices at the site must have an outgoing Internet connection, in order to reach the virtual network server in the cloud and be able to communicate with the remote devices.

In a corporate environment, we generally won't be able to use DHCP (automatic IP addresses). Usually, we will have static IP addresses, so it will be necessary to contact the administrator for the management of IP addresses and gateway. The parameters required for each Xpeak device when there is no DHCP server will be:

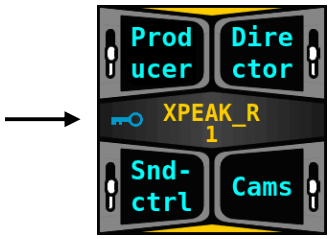
- IP address.
- Network mask.
- Gateway.
- DNS server (by default, 8.8.8.8 can be used).

The first image shows the "Network" screen of a panel working locally, and the second one shows the screen of a panel connected to the Internet and already within its VPN.





In the central left part of the display of a panel connected to the remote virtual network, the icon of the key will appear when it's properly configured and accesses the network:



The "Network" screen of the panel will show then the indication ONLINE in the "Inet" field and the indication CONNECTED in the "VPN" field.

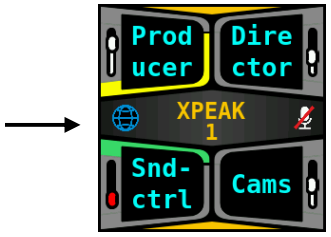
5.3.3.3. Remote panel connection.

For deployment of remote Xpeak devices in a residential or remote location, it will generally be as simple as connecting the unit to the home or remote location's router. Generally, in residential environments the router uses to incorporate directly a small switch: this is where the Xpeak device/s will be connected. For other types of remote environments, or even residential environments, there may be a switch connected to the router: in that case, it's in that switch where the Xpeak devices will be connected. In residential environments, the router usually has a DHCP server (automatic IP addresses).

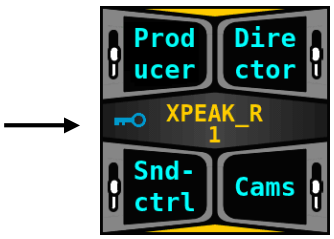
However, in other remote environments (with a router independent from the switch) it may be the case of having static IP addresses. This last case usually occurs in corporate environments or those that have a network administrator. Therefore, it will be necessary to contact the administrator for the management of IP addresses and gateway. The parameters required for each Xpeak device when there is no DHCP server will be:

- IP address.
- Network mask.
- Gateway.
- DNS server (by default, 8.8.8.8 can be used).

Most residential routers have DHCP enabled, so manual configuration will not be necessary. In this case, if the Xpeak device is configured in DHCP, it will obtain the connection data from the router and automatically connect to the Internet, showing the icon of the globe in the central left part of the display:



Once connected to the Internet, it will try to establish connection with the virtual network server, located in a "cloud" accessible from the Internet. Once connected, it will show the icon of the key:



At that point, the Xpeak panel will carry out the process of detecting the rest of the units in the system, being able to operate with them as if it were locally connected to the site network.

NOTE: This process will be the same if there is no DHCP, with the exception of having to manually configure the IP parameters of the Xpeak device to access the Internet.

5.3.4. Configuration of communication keys between panels.

In order to customize by means of the "**AEQ Xpeak**" software, the panel keys that are going to operate remotely, they can be preconfigured by previously connecting the panel to the local network where the rest of the units are and programming the panel keys.

Setting can also be customized from the remote location. For this, it's necessary to have the configuration PC in the remote position, which will have installed, in addition to the "**AEQ Xpeak**" configuration and control application, the "**WireGuard**" remote connection client software, which is supplied together on the USB key that goes with the units, and where the configuration file of the remote network supplied by AEQ should be loaded.

6. FIRMWARE UPGRADE.

Xpeak units are supplied from factory with the latest firmware versions available. However, firmware versions with new features may be released in the future, making it necessary to upgrade the equipment to be able to make use of these new functionalities.

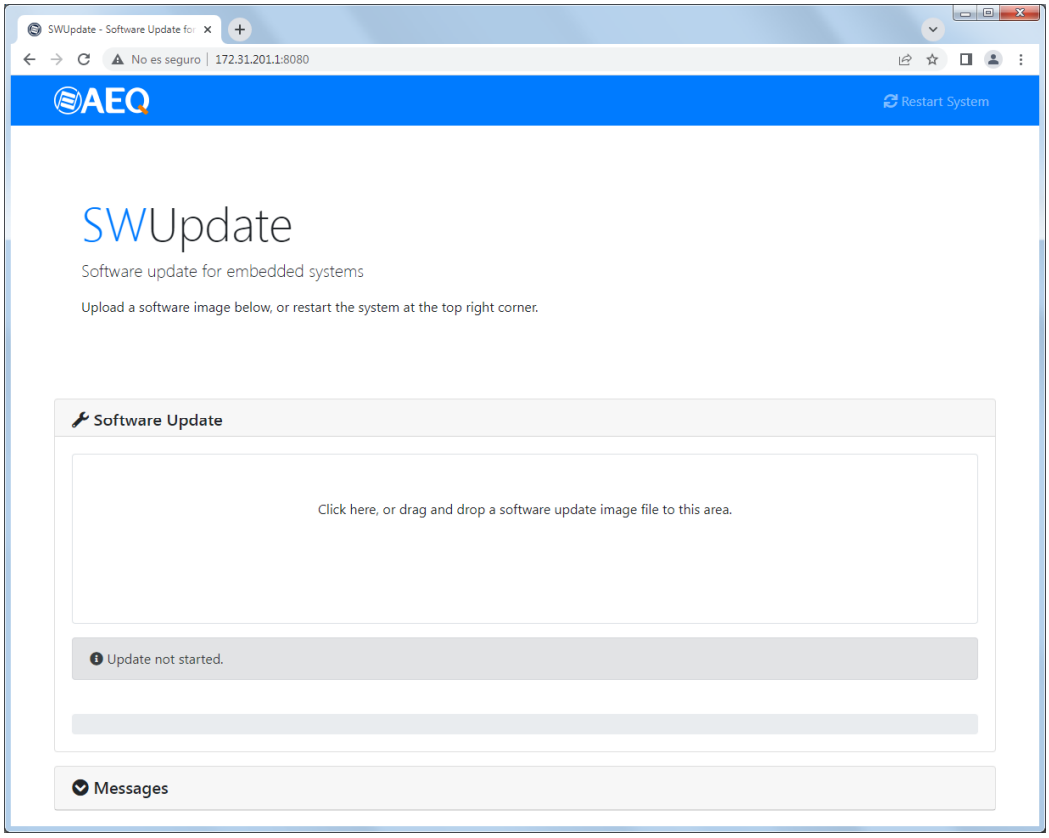
Because the upgrading process must be handled with caution, we recommend having it done by an authorized distributor, or under the instructions of the AEQ Technical Service. If you have any doubt, please consult AEQ Technical Service (**support@aeq.es**).

All Xpeak units include a **MICRO** module whose firmware can be upgraded through the Ethernet interface of the unit, with the aid of a standard web browser. In addition, the **Xpeak_IF** includes an **AoIP** module whose firmware is upgraded by means of the "**DANTE Firmware Update Manager**" application (consult the AEQ AoIP user's manual).

The procedure for upgrading the **MICRO** module firmware is as follows:

1. Check the IP address associated with the unit's Ethernet interface in the "Network" option of the unit's "Info" menu (see sections 3.1.5 and 3.2.5 of this manual).

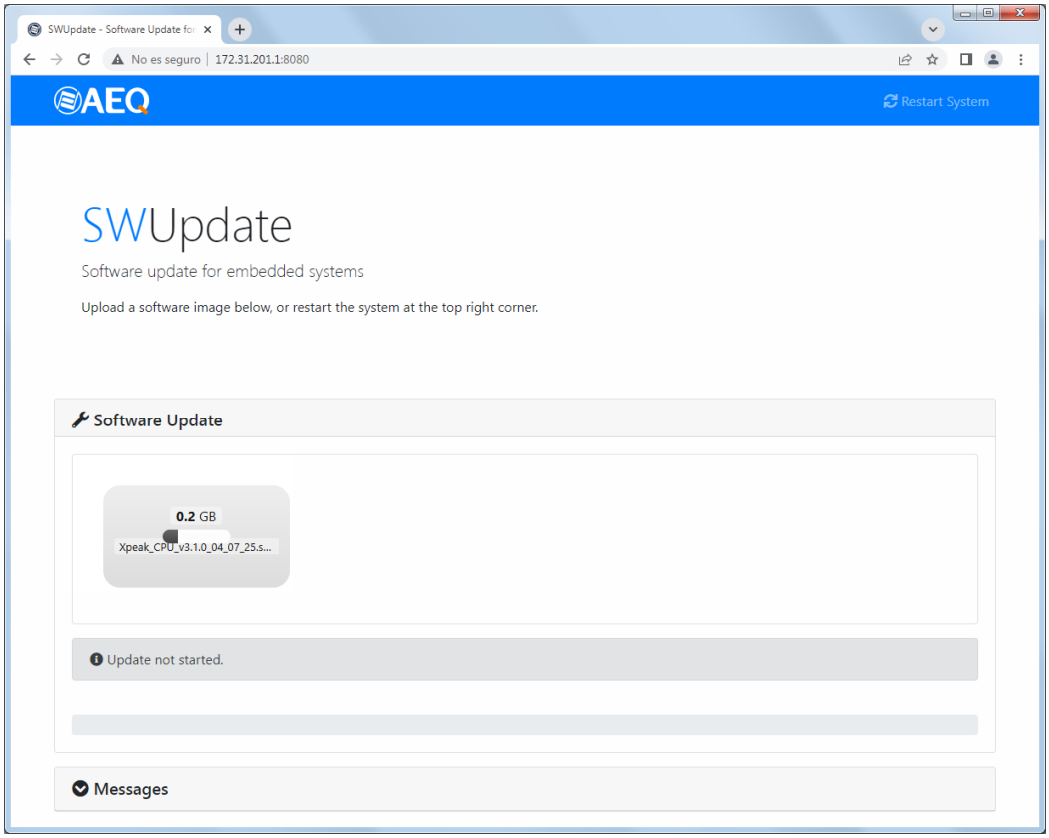
2. Open the web browser (Google Chrome for example) and type the IP address of the unit followed by :8080. In the example, 172.31.201.1:8080. Then the following screen appears:

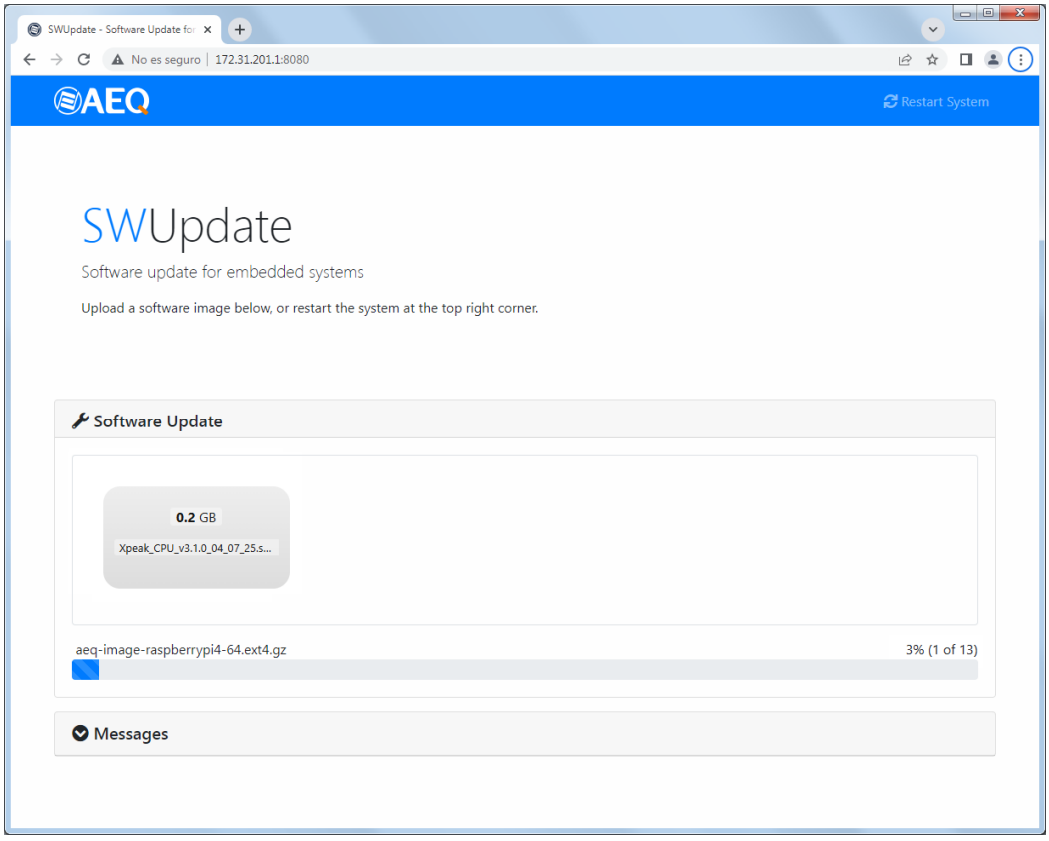


   In order to access this screen, the **proxy** in the web browser must be disabled. At the end of this section the way to do it is explained.

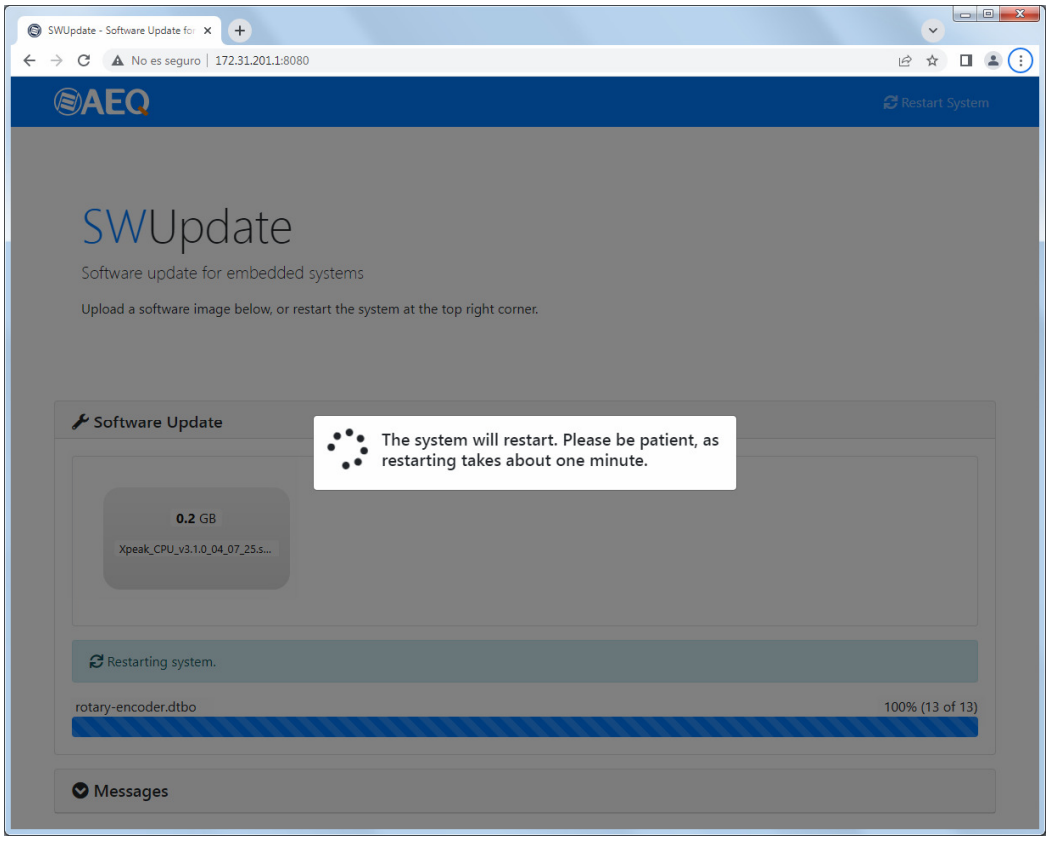
3. Click on the box that indicates "Click here, or drag and drop a software update image file to this area" and, in the windows that appears, select the "**swu**" file that contains the new version you want to load. It is also possible to directly drag the "swu" file from the file browser to this box.

4. Then the upgrading process starts:

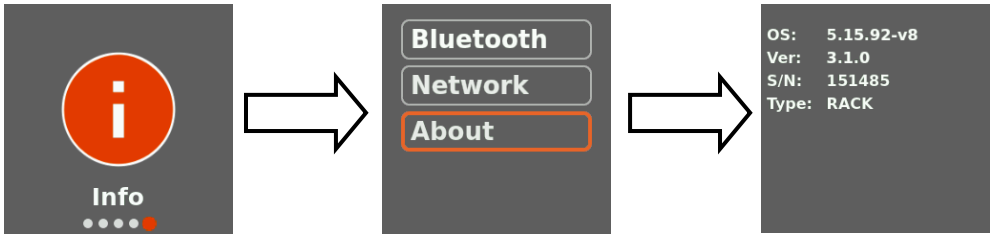




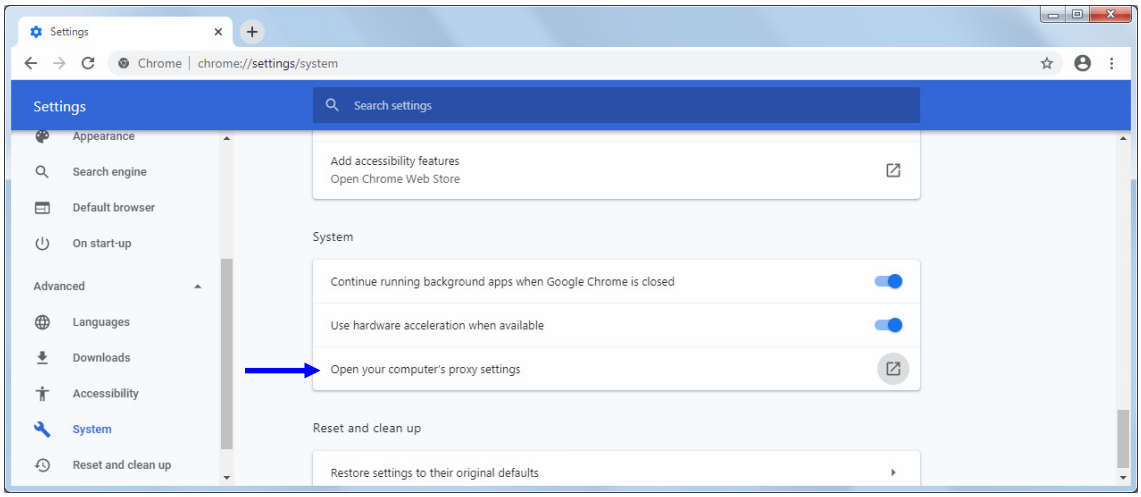
5. Once the upgrade bar reaches 100% the module restarting process begins:



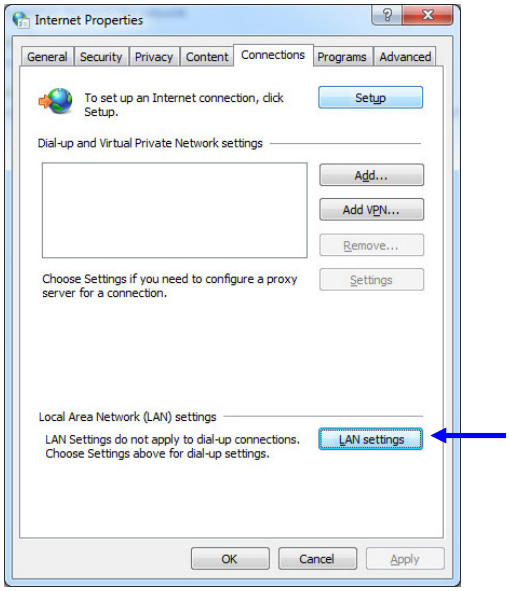
6. At the end of the process, the initial screen appears again and the new version appears in the "About" option of the unit's "Info" menu (see sections 3.1.5 and 3.2.5 of this manual).



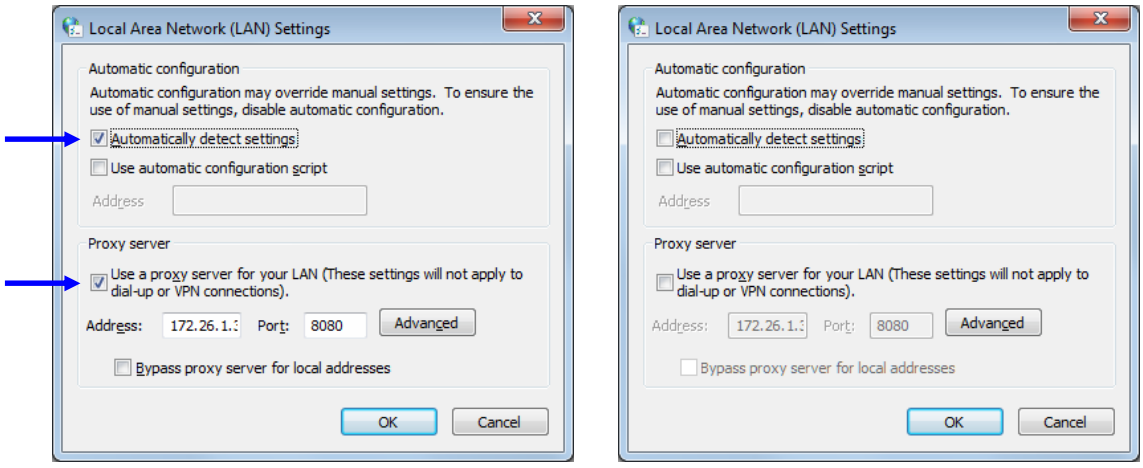
As indicated in point 2 of this section, in order to access the upgrading screen, the **proxy** in the web browser must be disabled. In order to do that you have to access to "Settings" of the browser and go to "Advanced" -> "System" -> "Open your computer's proxy settings":



In the window that appears select "LAN settings":



And deactivate the 2 indicated boxes in the following window:



Warning: You should not act on the system during the upgrading process, and you must never turn off the equipment, since this action may deprogram the module that you are trying to upgrade, which would entail sending that unit in order to be repaired.

7. A.E.Q. GUARANTEE.

AEQ warrants that this product has been designed and manufactured under a Quality Assurance System. AEQ therefore warrants that the necessary test protocols to assure the proper operation and the specified technical characteristics of the product have been followed and accomplished.

This includes that the general protocols for design and production and the particular ones for this product are conveniently documented.

1.- The present guarantee does not exclude or limit in any way any legally recognized right of the client.

2.- The period of guarantee is defined to be twelve natural months starting from the date of purchase of the product by the first client.

To be able to apply to the established in this guarantee, it is compulsory condition to inform the authorized distributor or –to its effect- an AEQ Sales office or the Technical Service of AEQ within thirty days of the appearance of the defect and within the period of guarantee, as well as to facilitate a copy of the purchase invoice and serial number of the product.

It will be equally necessary the previous and expressed conformity from the AEQ Technical Service for the shipment to AEQ of products for their repair or substitution in application of the present guarantee.

In consequence, return of equipment that does not comply with these conditions will not be accepted.

3.- AEQ will at its own cost repair the faulty product once returned, including the necessary labour to carry out such repair, whenever the failure is caused by defects of the materials, design or workmanship. The repair will be carried out in any of the AEQ authorized Technical Service Centre. This guarantee does not include the freight charges of the product to or from such Authorized Technical Service Centre.

4.- No Extension of the Guarantee Period for repaired product shall be applied. Nor shall a Substituted Products in application of this Guarantee be subject to Guarantee Period Extension.

5.- The present guarantee will not be applicable in the following situations:
improper use or Contrary use of the product as per the User or Instruction Manual; violent manipulation; exhibition to humidity or extreme thermal or environmental conditions or sudden changes of such conditions; electrical discharges or lightning; oxidation; modifications or not authorized connections; repairs or non-authorized disassembly of the product; spill of liquids or chemical products.

6.- Under no circumstances, whether based upon this Limited Guarantee or otherwise, shall AEQ, S.A. be liable for incidental, special, or consequential damages derived from the use or from the impossibility of using the product.

AEQ shall not be liable for loss of information in the disks or data support that have been altered or found to be inexact, neither for any accidental damage caused by the user or other persons manipulating the product.

8. ADDITIONAL INFORMATION.

NOTE: This equipment complies with the limits for a Class A digital device, pursuant to part 15 of the **FCC** Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



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