

## HANGAR & PILOT

### SOFTWARE

Software and control App for the HUB series



HANGAR  
HUB SERIES WEB APP



PILOT  
HUB SERIES CONTROL APP

## USER MANUAL

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## 1. INTRODUCTION

The configuration and control of the digital zone managers of the HUB series is done through its embedded web application HANGAR. This user interface can be managed from any web browser, running on any device, be it Windows, MacOS, Tablet or a Smartphone.

We recommend upgrading the browser to its latest version for proper application operation.

Demo version available! Visit our website and access the HANGAR application online, without the need to physically connect to a HUB device, to explore all the possibilities of the devices. Visit the versions available on the corresponding product pages:

- <https://www.ecler.com/hubseriesdemo/>

**Note:** some features are not available, requiring a physical connection to a HUB device, such as a firmware update.

### 1.1. VERSIONS

- **V1.0r5 (June 2020) – Last firmware version**
- V1.0r0 (April 2020)

### 1.2. PUBLISHING NOTES

- The "Allow Loading Predefined Setups" option is removed from Users. It could accidentally cause the delete of already created Users.

### 1.3. LIST OF COMPATIBLE DEVICES

- HUB1616
- HUB1408

## 2. FIRST STEPS

To access the HANGAR web application from an external device (computer, Tablet, etc.) through a web browser, first make sure that both are physically connected to the same local network (LAN), and configured within the same network range.

The HUB devices have DHCP (Dynamic IP address assignment), in addition to being able to manually configure the network parameters. There are 2 procedures to connect to the HANGAR web application embedded in the HUB devices

### 2.1. AUTOMATIC CONNECTION

By default, the network configuration is in DHCP mode so if you have a router/switch with a DHCP server (see your device specifications), you don't have to configure the network parameters, it will be done automatically. Follow these steps:

1. Connect the HUB device to the router/switch using a CAT5 cable or higher (Ethernet port on the HUB device)
2. Connect the device with a web browser (computer, tablet, etc.) to the same local network (router/switch). You can do it by cable or by Wi-Fi, depending on your network device and computer/Tablet.
3. Check the IP assigned to the device to access the web application from your browser. To consult the network parameters, press and hold the CTRL and rotary encoder keys simultaneously for 3 seconds.

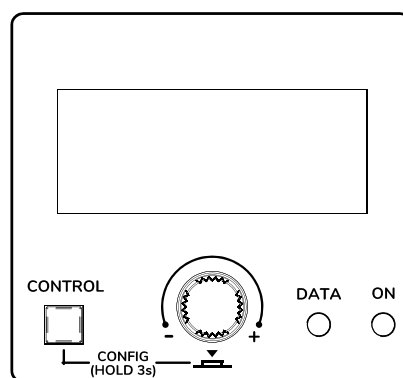


Figure 1: Front panel LCD display and control keys

**Note:** HUB devices use the mDNS service so that they can be accessed in an intuitive way, through a web browser in the same local network (LAN) when the computer is **connected by cable** (not available when connected via WiFi). To do this, enter in the search bar of your browser: device\_name.local. By default “hub1616.local” in HUB1616, “hub1408.local” in HUB1408.

The configuration screen (CONFIG) shows the following information:

- Firmware version running on the unit
  - NAME: name of the HUB unit
  - Network connection parameters: IP address, subnet mask and network gateway
  - Auto/Manual: IP assignment mode. AUTO: is in DHCP mode, the IP address assignment is automatic. MANUAL: allows the configuration of manual network parameters. Default:
    - IP: 192.168.0.100
    - MASK: 255.255.0.0
    - GW: 192.168.0.1
  - Admin: number of admin users connected to the unit (0 or 1)
  - Users: number of client users, via Ecler pilot application or web browsers (0 to 20)
4. Finally open your browser and enter the IP address shown in the configuration screen, or “hub1616.local” (using the mDNS service in a HUB1616, for example).

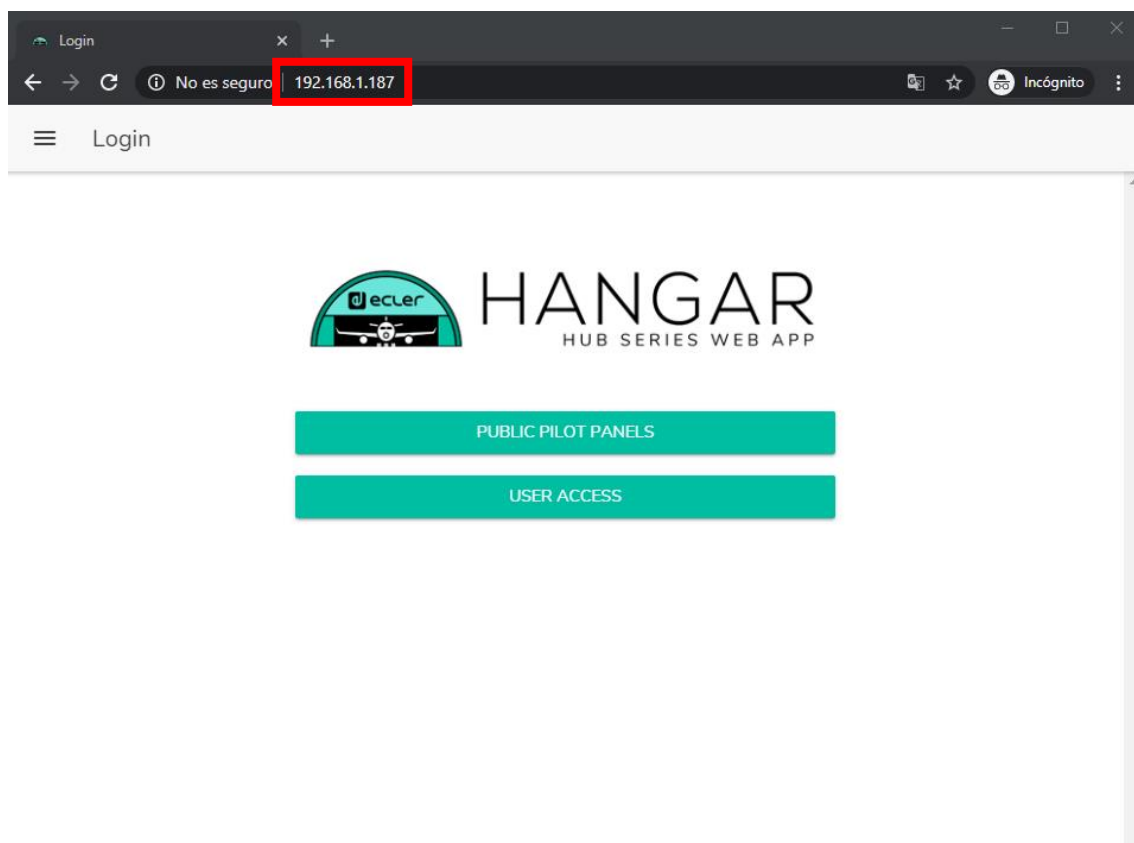


Figure 2: login page for the HANGAR web application

## 2.2 MANUAL CONNECTION

If you wish to connect through a network with static IP addressing, you will need to make a manual configuration. Follow these steps:

1. Access the configuration (CONFIG) page on the front panel by pressing and holding the CTRL and rotary encoder keys simultaneously for 3 seconds.
2. Change the IP assignment mode of the HUB device to manual ("MAN.") by turning the rotary encoder and confirming. The device will restart with the default network parameters
  - IP: 192.168.0.100
  - MASK: 255.255.0.0
  - GW: 192.168.0.1
3. If the default network configuration of the HUB device is not in the same IP range as that of your external device (computer, etc.), you must change the latter's so that both are in the same range and the connection can be established.
4. Connect the HUB device point to point, using a CAT5 cable or higher, to a computer.
5. Access the HANGAR web application by entering the IP address shown in the configuration screen, or "hub1616.local" (using the mDNS service in a HUB1616, for example).
6. Change the network configuration of the HUB device according to the IP range established in your local network. See chapter [ACCESS TO THE WEB APPLICATION HANGAR](#)
7. Disconnect the HUB device from the computer and connect it to the local network.
8. Connect the computer to this network.
9. Make the necessary network settings on the computer so that it is within the IP range supported by your local network.
10. Open the HANGAR web application again, entering the new IP previously assigned to the HUB device.



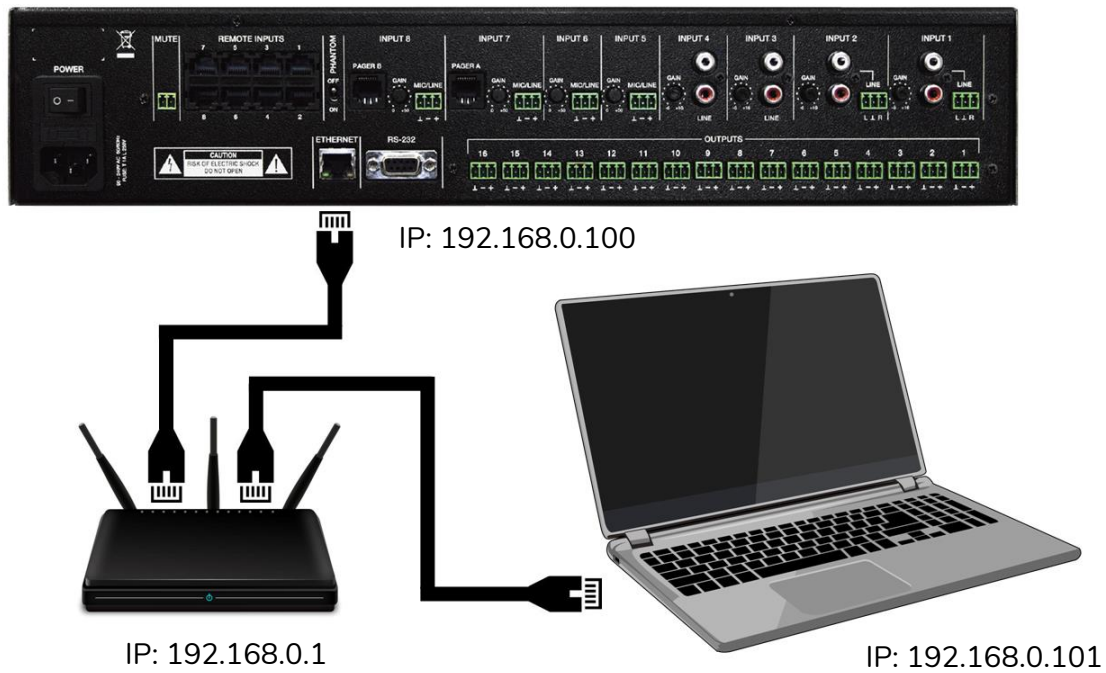


Figure 3: LAN local network connection

### 3. ACCESS TO THE WEB APPLICATION HANGAR

Once the 2 devices, HUB and computer/Tablet/Smartphone, etc. are connected in the same local network, and configured within the same IP range, open your preferred browser on the control device (computer e.g.) and enter the IP address of the HUB device in the browser bar. You will access the HANGAR web application.

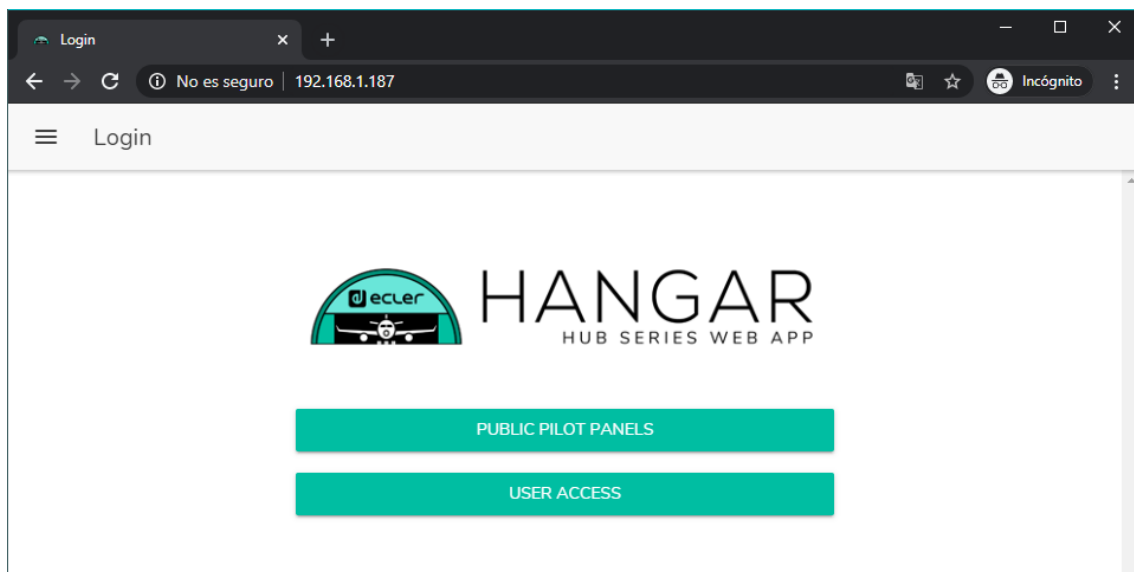


Figure 4: login page for the HANGAR

There are 2 types of access to the application:

- **Public pilot panels:** access to pilot zone control panels, public profile (no access credentials required). These control panels are created by the administrator. See chapter [PILOT PANELS](#) for more details about the control panels.
- **User,** with 2 access levels:
  - **Administrator:** as an administrator, you have access to all the functions of the HUB device, you can configure any parameter of the matrix and its peripherals, and you are the one who creates the different users and control panels for the **Ecler pilot** application.
  - **Users:** users (non-administrators, or end users of the system) have limited access. The functions they can perform are only for control (control the volume of a certain output, e.g.), never for configuration.

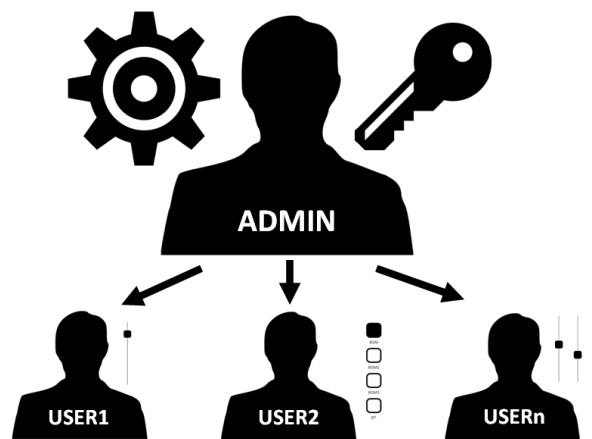


Figure 5: administrator-users hierarchy

Both the access as administrator and the access of the different users are protected by a password. By default, to access as administrator, these are the credentials:

- User name: admin
- Password: admin

The administrator can change his own access password from the HANGAR web application, as well as manage the users and passwords for them.

**Note:** Both the username and the password are case sensitive.

In the chapters from [CONFIGURATION](#) to [PILOT PANELS](#) included, the web application is displayed and explained once you are logged in as administrator. In chapter [ACCESS TO PUBLIC PILOT PANELS](#) and in chapter [ACCESS TO THE WEB APP AS A USER](#), the web application is explained in detail when you access it as a user.

## 4. CONFIGURATION

Once the application is accessed as an **administrator**, the first page displayed is the configuration page.

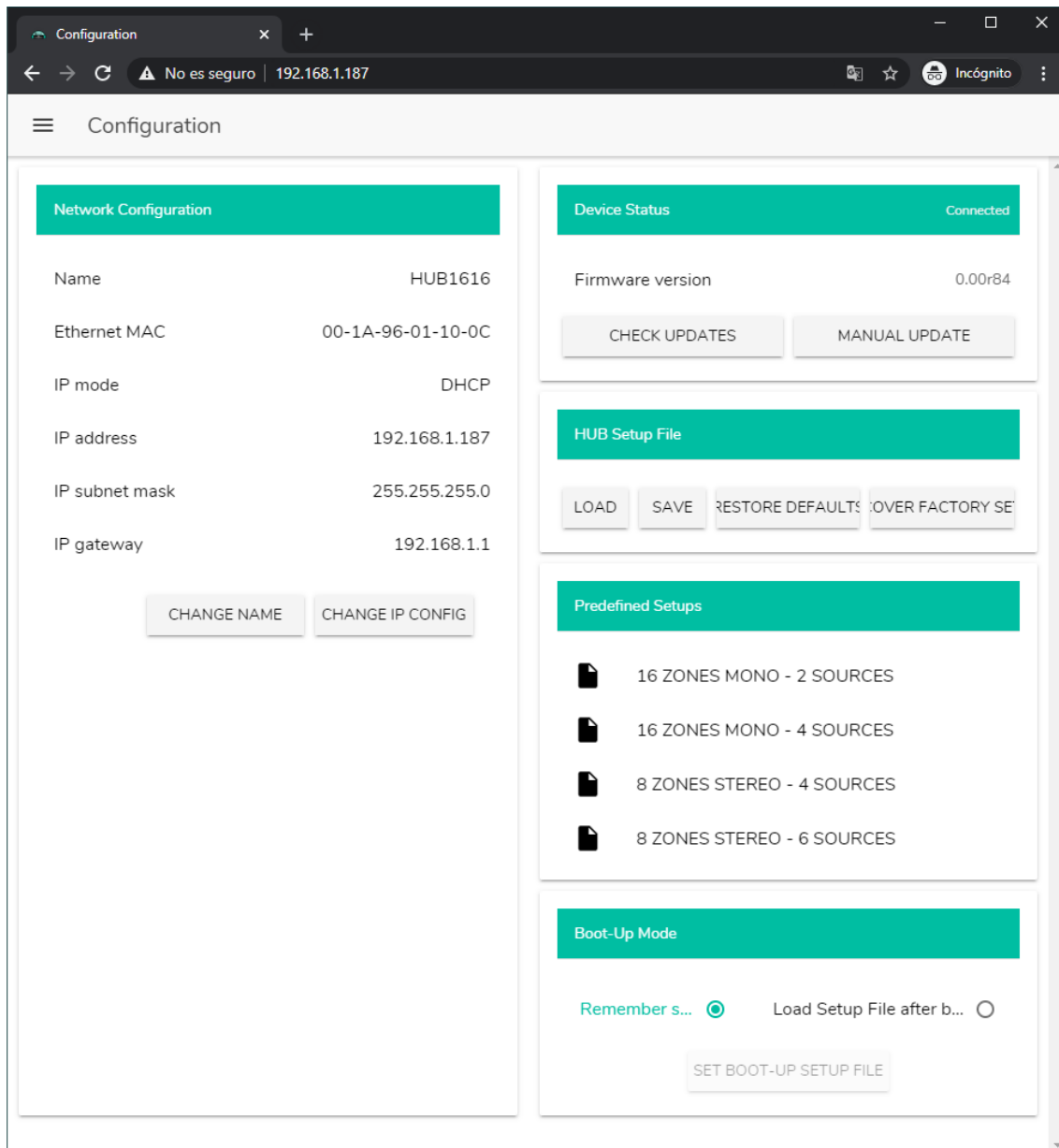


Figure 6: configuration page (CONFIGURATION)

On the upper left corner of the options menu, you can display the user's connection status of the HUB device:

- **Connected as:** displays the connected user, either the administrator or a user, in which case the name given to the user will be displayed:

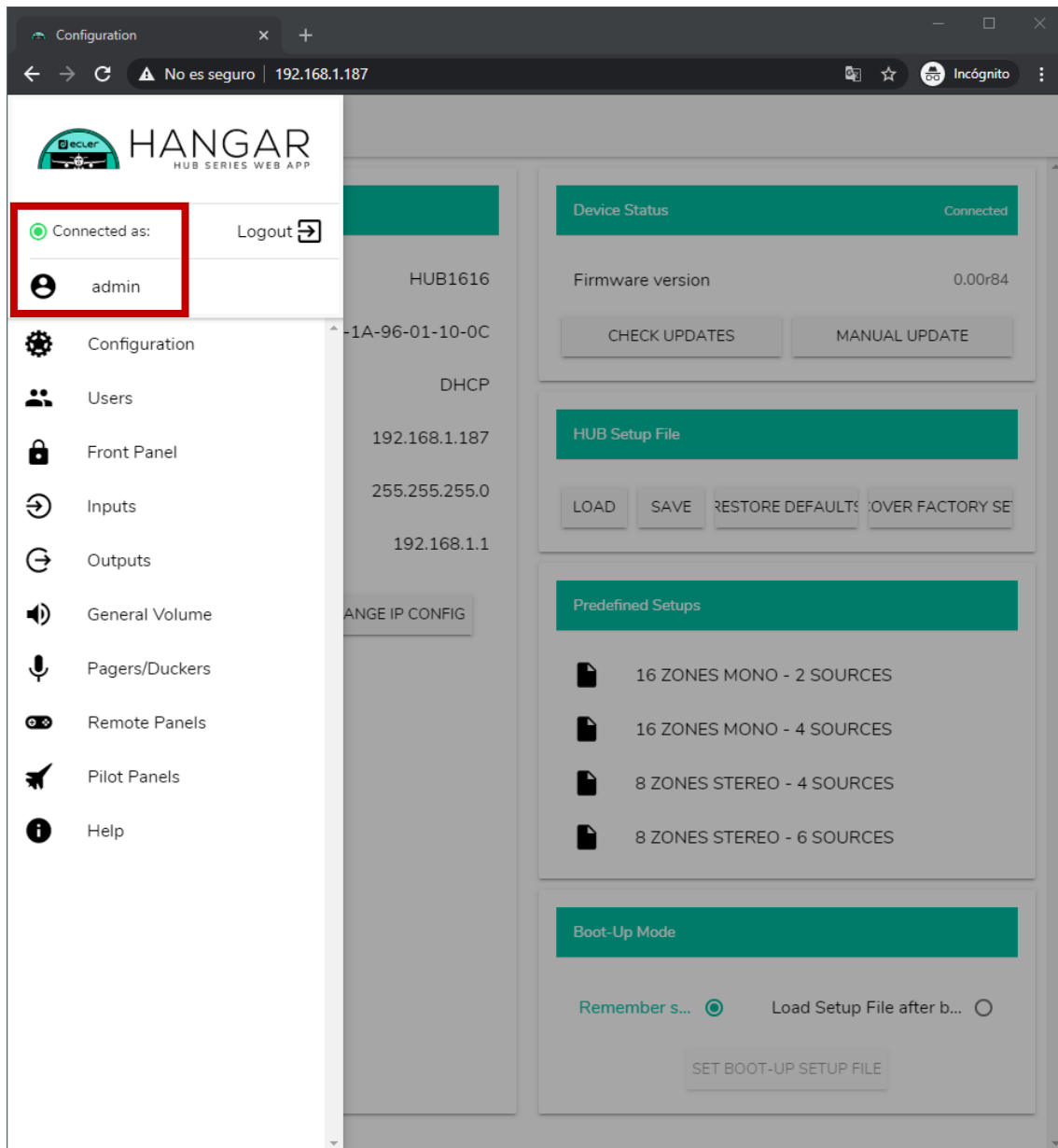
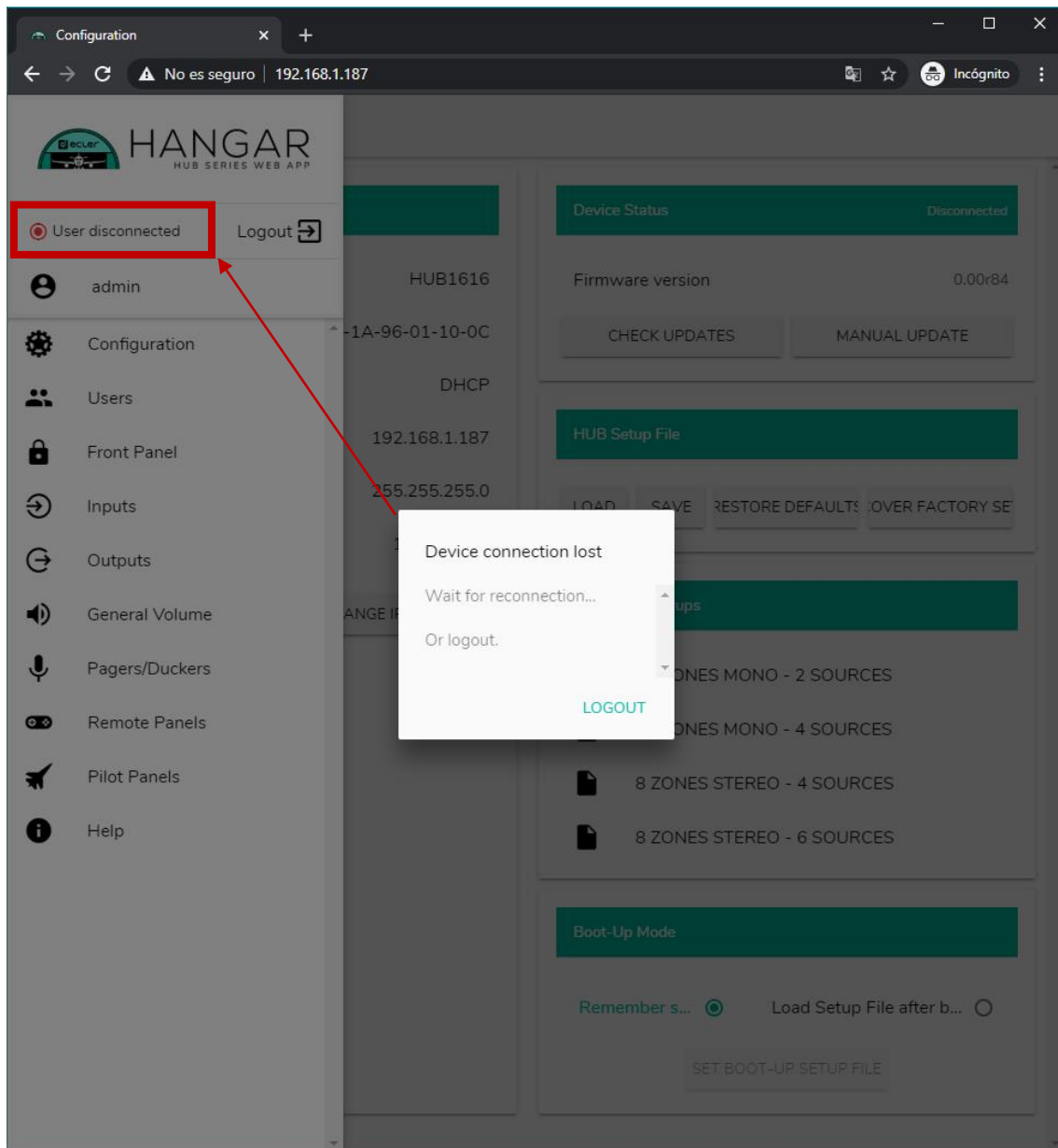


Figure 7: connected user

- **User disconnected:** This is displayed when a connection to the HUB device cannot be established. Check the network status.



Next to the connection status, you can find the logout button.

The same browser session can only keep one user session open in the HANGAR web application. So if you need to change users on the same device, you must first log out and log in again with another user.

## 4.1 NETWORK CONFIGURATION

In this box, you can configure the Ethernet network parameters of the HUB device, in addition to its name.

- **Name:** name of the device.
- **Ethernet MAC:** read-only parameter, unique and assigned by the manufacturer of any Ethernet device.
- **IP mode:** indicates the IP addressing mode: DHCP or STATIC.
- **IP address:** IP address.
- **IP subnet mask:** subnet mask.
- **IP gateway:** gateway.

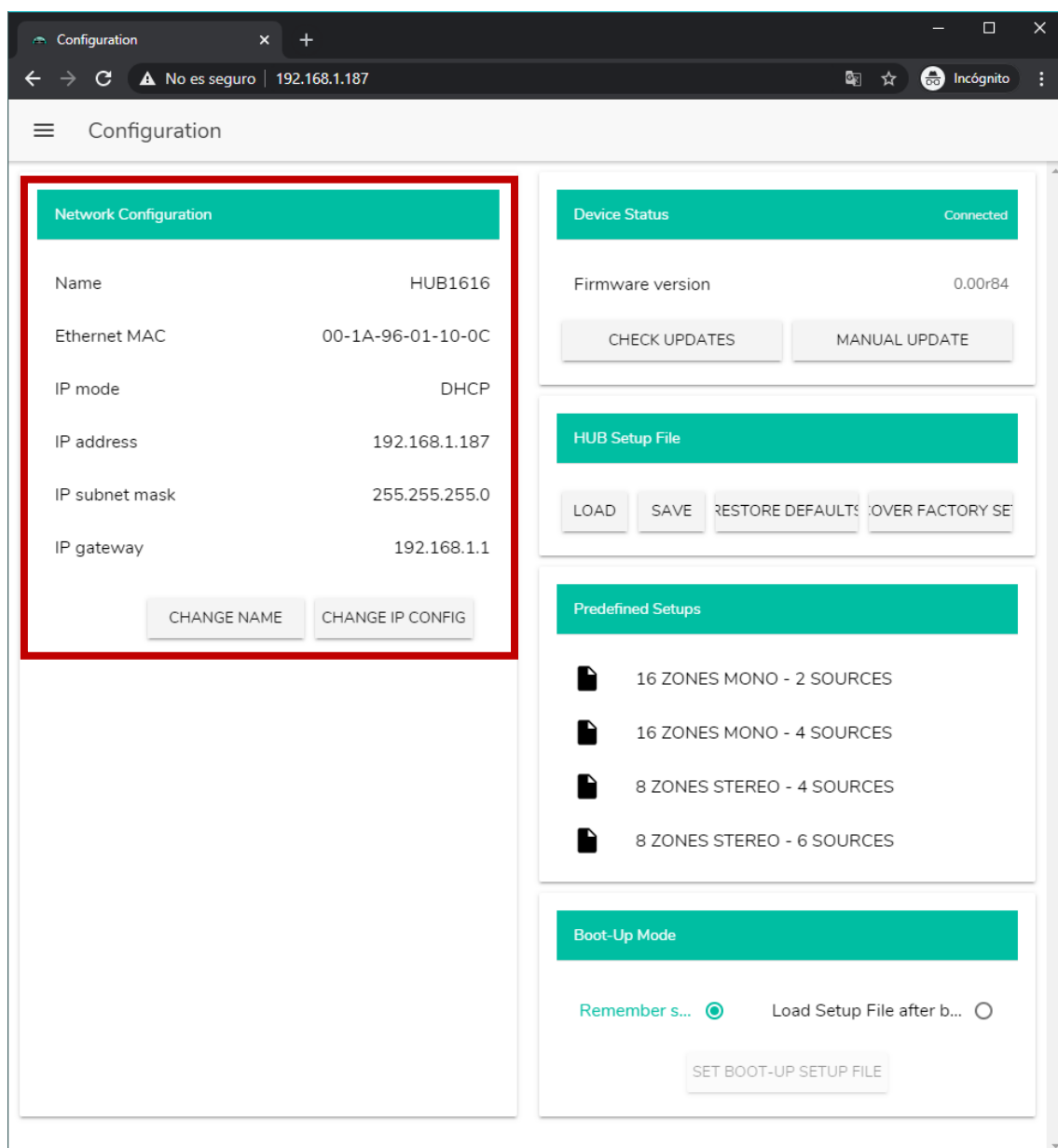


Figure 8: network configuration

To change the network parameters, press the CHANGE IP CONFIG button. A dialog box will open where you can choose the IP addressing mode: DHCP or STATIC. By default, the HUB device is set to DHCP. If static IP addressing is required, select the STATIC option and modify the network parameters according to your local network. Once the changes are applied, pressing the APPLY & REBOOT button will restart the device with the new network configuration.

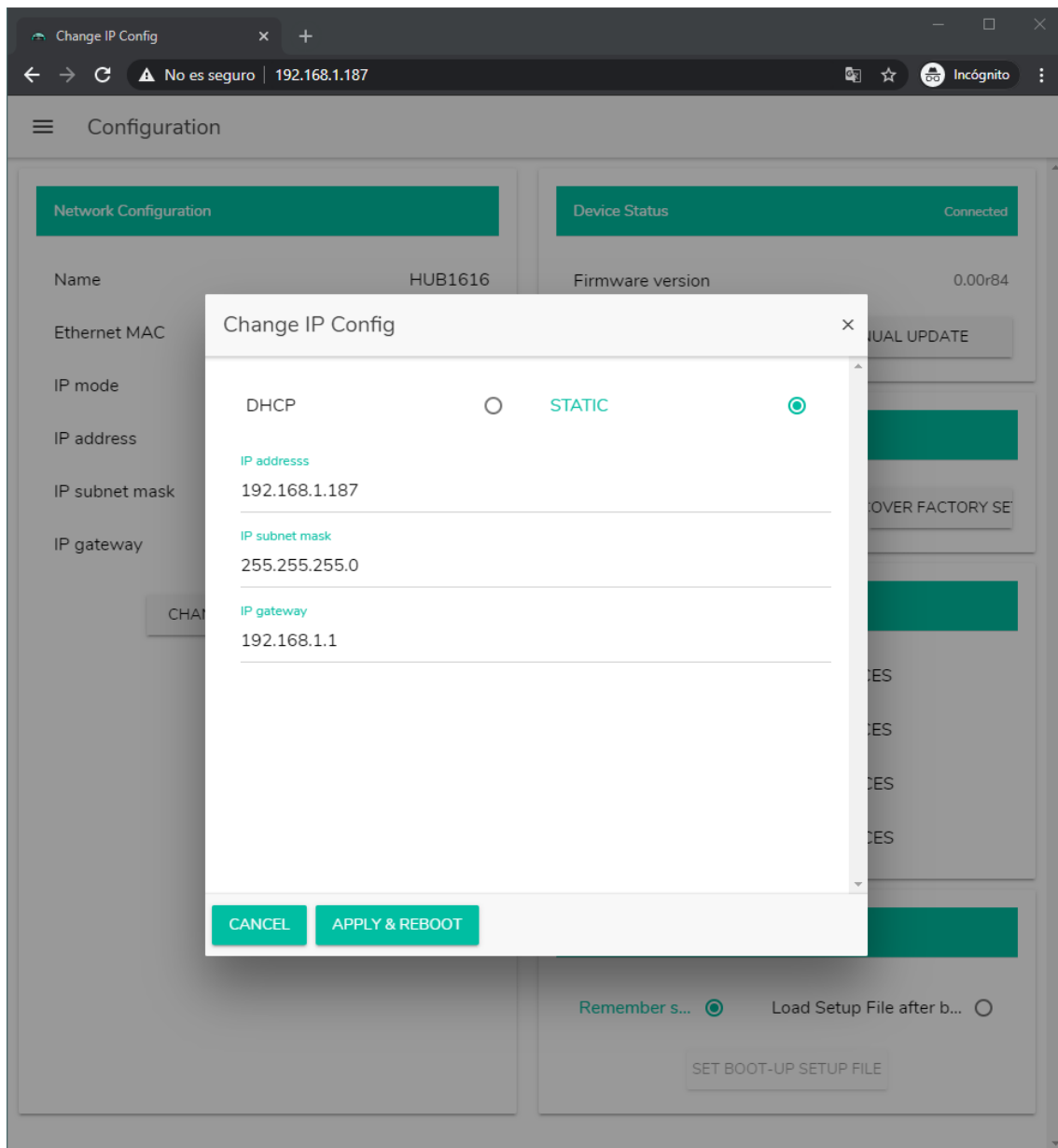


Figure 9: modification of the network configuration

## 4.2. DEVICE STATUS

This box shows the device connection, *connected* or *disconnected*, and the current firmware version running on the HUB unit:

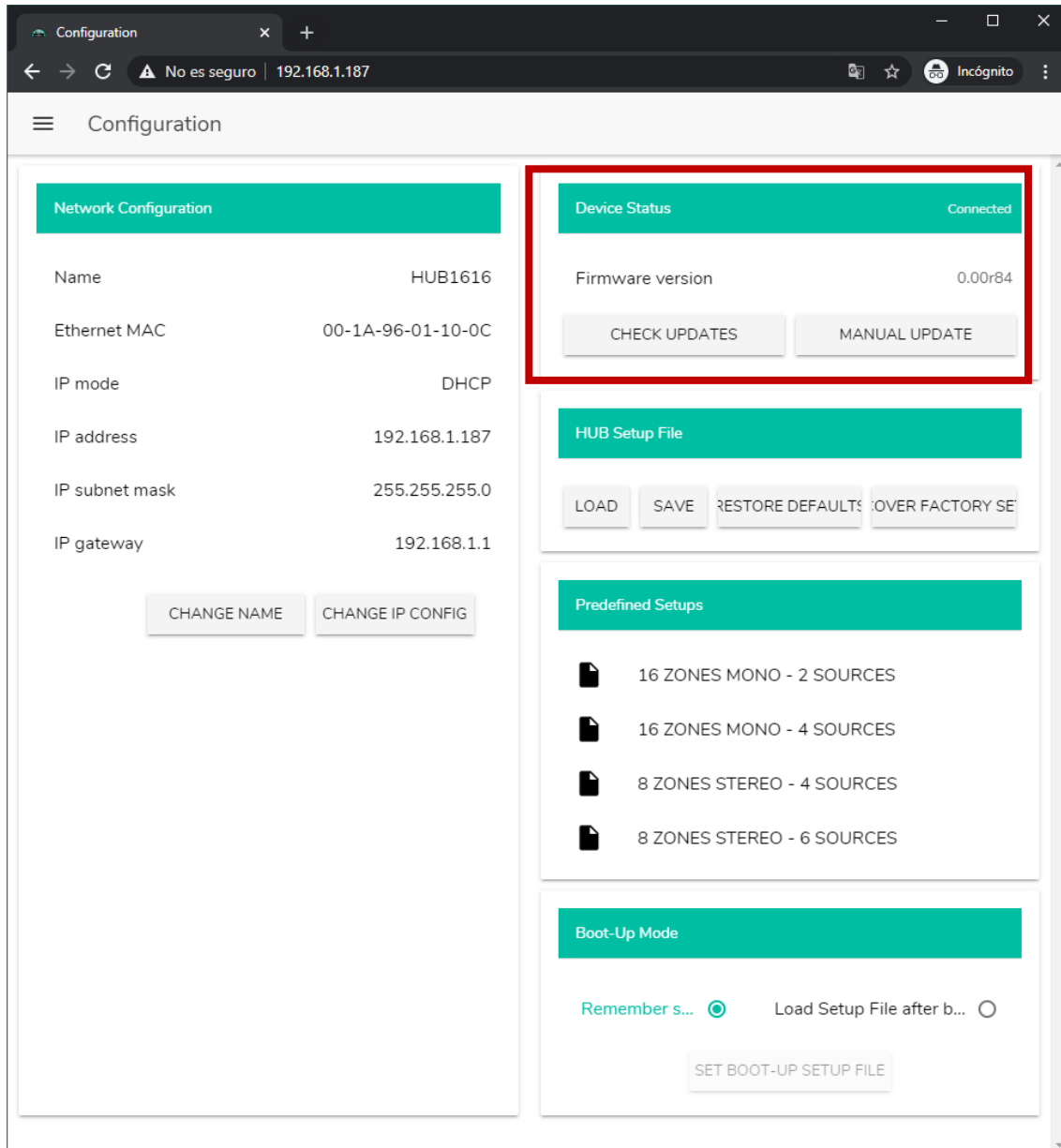


Figure 10: DEVICE STATUS

- **Check updates:** automatically searches for the latest firmware version available. If there is a more recent version, the device will be updated after confirmation. Internet connection is required to use this function.
- **Manual update:** clicking on this box opens a folder browser window, from where you must select a valid, previously downloaded firmware file on your computer (HUB\_v1\_01r01.bin for example).

This process, if completed successfully, should keep the previous configuration of the HUB unit complete.



**IMPORTANT NOTE:** The firmware upgrade operation is delicate, and if it is not successfully completed you may lose the configuration of your HUB device. **Be sure to save a copy of the project before updating the device.**

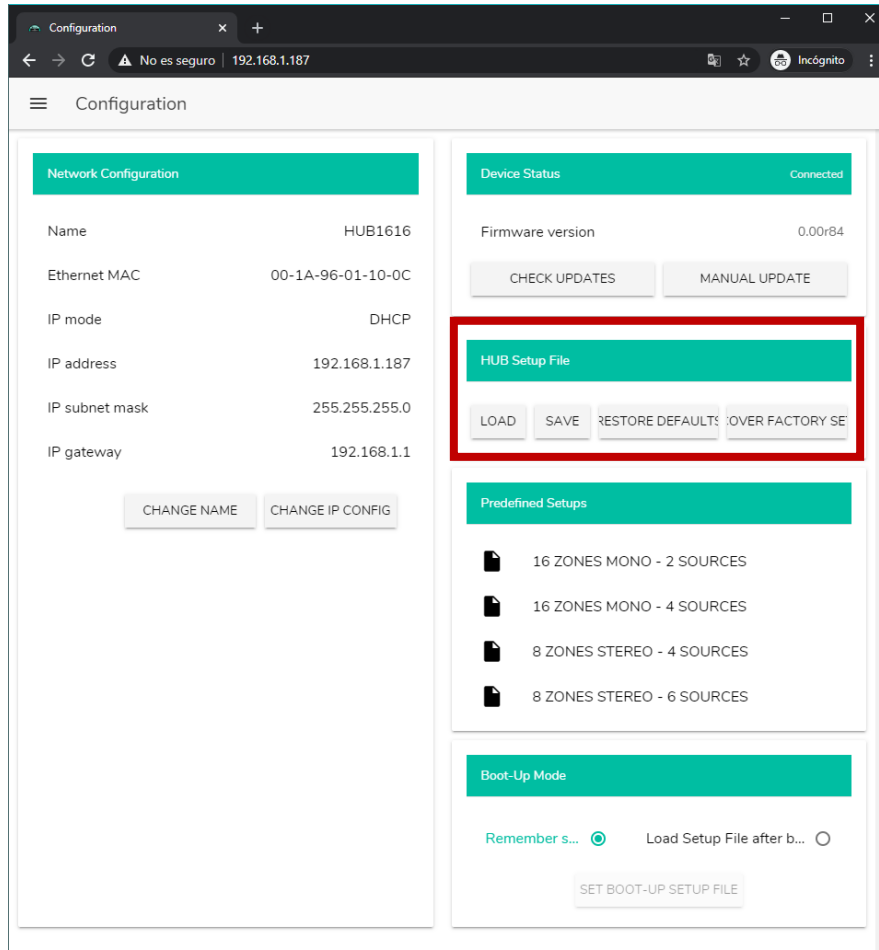
Try to always have the latest available firmware version installed on your HUB unit. The latest official version can be found on the HELP page (see chapter [HELP](#)) or at the following link:

- [HUB1408](#)
- [HUB1616](#)

### 4.3. HUB SETUP FILE

This box manages the HUB configuration files, as well as being able to reset the device to its factory configuration or completely reset it (without configuration, if you want to start from scratch).

**Note:** the configuration files are unique to each model. Thus the extension of a configuration file for a HUB1616 is “.HUB1616” while a configuration file for a HUB1408 is “.HUB1408”. They are not compatible between HUB models or with eMIMO1616 configuration files.



## Project Data: HUB series Project Management

- **LOAD:** allows to load a previously saved configuration file. Clicking on LOAD opens a file browser. You must select a valid project file on your computer, for example “my\_project.HUB1616”.
- **SAVE:** allows you to save the current configuration of the HUB device. Enter a name for the file: “my\_project”, for example. After clicking save, a file “my\_project.HUB1616” will start downloading in the download folder configured in your computer's browser.
- **RESTORE DEFAULTS:** sets the device to its default values. No Internet connection is required by the HUB device to retrieve this file. See chapter [RESTORE DEFAULTS](#) for more details about the default parameters.
- **RECOVER FACTORY SETUP:** sets the device to its factory settings. The factory setting corresponds to the first predefined setups. In the case of the HUB1616: 16 ZONES MONO - 2 SOURCES. In the case of the HUB1408: 8 ZONES MONO - 2 SOURCES. See chapter [PREDEFINED SETUPS](#) for more information. An Internet connection is required by the HUB device to retrieve this configuration file. See chapter [APPENDIX](#) for more details on the factory settings.

### 4.4. PREDEFINED SETUPS

This box allows the loading of predefined setups. These are quick configuration files, which will allow a quick start up, starting from a predefined configuration and pilot control panels previously created. A predefined setup, after being loaded into the HUB device, can be modified to fit the user's needs. An Internet connection is required to access these settings.

These configuration files are also available through the Ecler pilot application for the public profile, which allows a quick configuration using only a mobile device. This option can be disabled by the administrator.

Each model of the HUB series has its own configuration files, which are not compatible with each other.

See chapter [PILOT PANELS](#) for more details about the pilot control panels. See chapter [APPENDIX](#) for more detailed information about the parameters in these quick setup files.

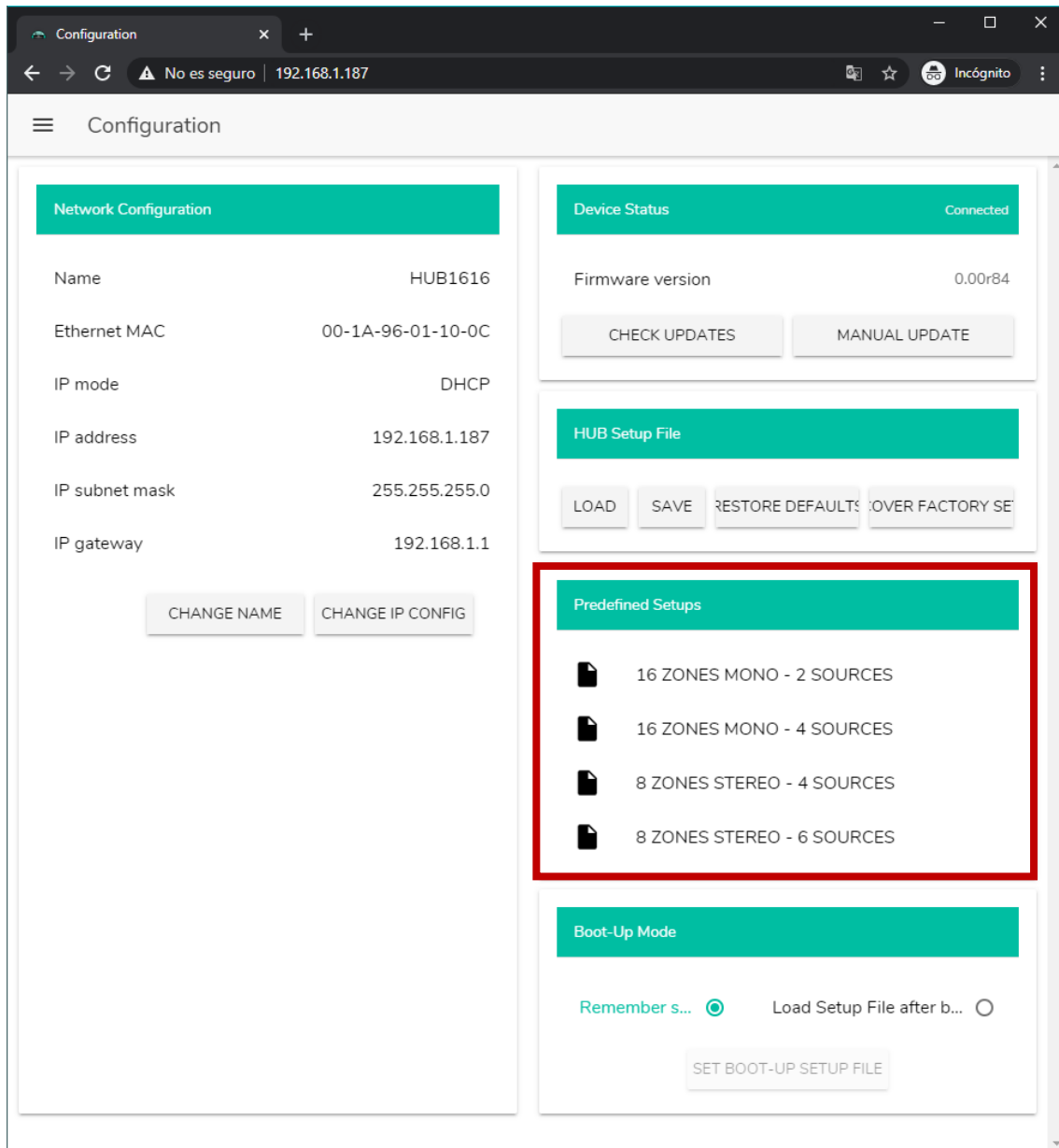


Figure 11: Predefined setups

## 4.5. BOOT UP MODE

This box manages the boot mode of the HUB device.

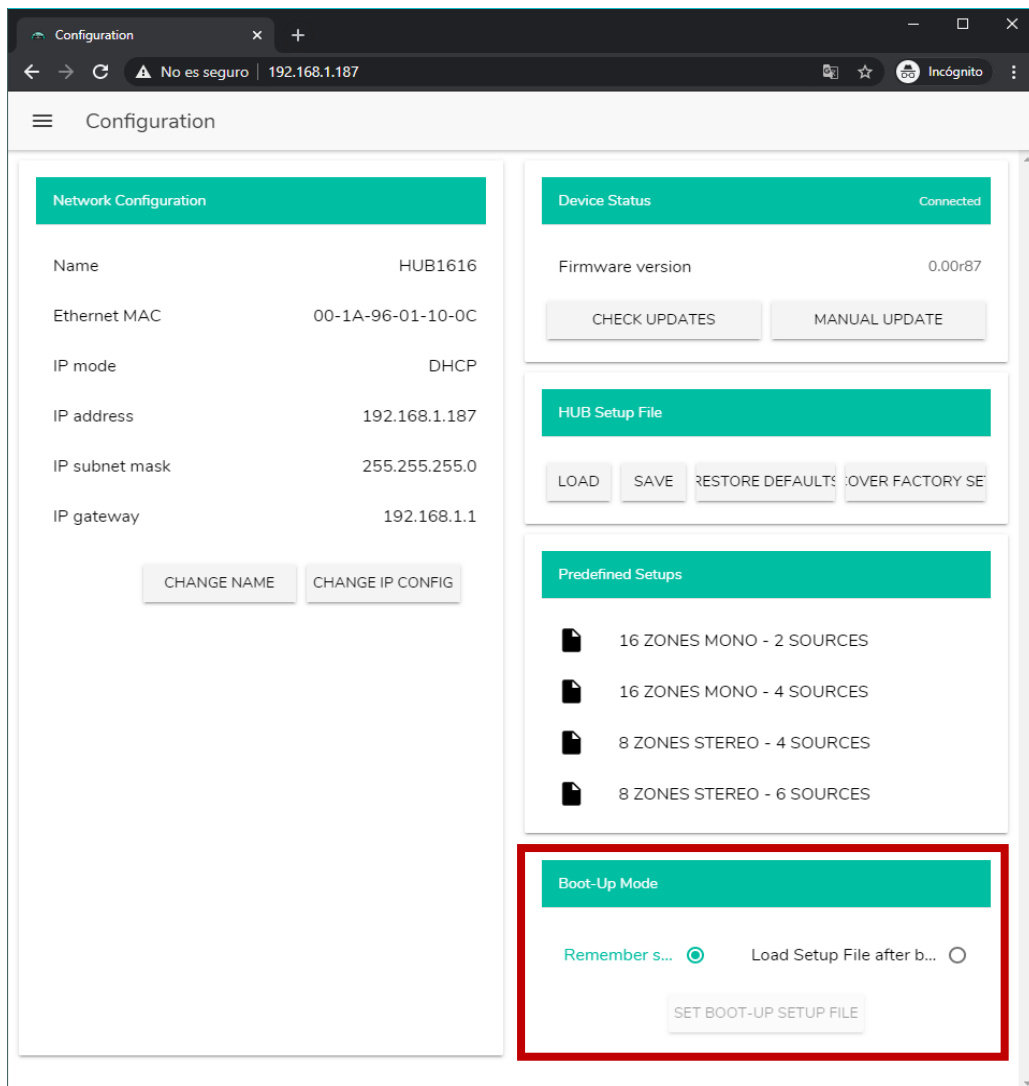


Figure 12: boot mode configuration

- **Remember status:** the device starts up with the settings it had just before it was turned off, including the status of volumes, selected sources, equalization settings, etc.
- **Load setup file after boot up:** allows you to load a configuration file right after booting, ignoring the configuration you had before shutting down. To select this project, select the “Load setup file after boot up” option and click on the “Set boot up setup file” button. The saved boot setup file will be the exact configuration of the HUB device at that time. This operation overwrites the previously configured boot project. If the “Load setup file after boot up” option is selected and no project has been configured, the device will remember the last configuration before it was shut down.

## 5. USERS

The USERS page allows the creation and management of the accounts of the different “client” users. Each user can access the HANGAR web application or mobile application (**Ecler pilot**) with credentials assigned by the administrator: username and password. Access to the public profile does not require credentials.

A user, after accessing the application, will only display and manage those control panels and controls that have been assigned by the administrator on a certain zone/s. There are 3 types of control: volume, source selection and equalization. For more details on the control a user can exercise over the matrix, please refer to the chapter [PILOT PANELS](#).

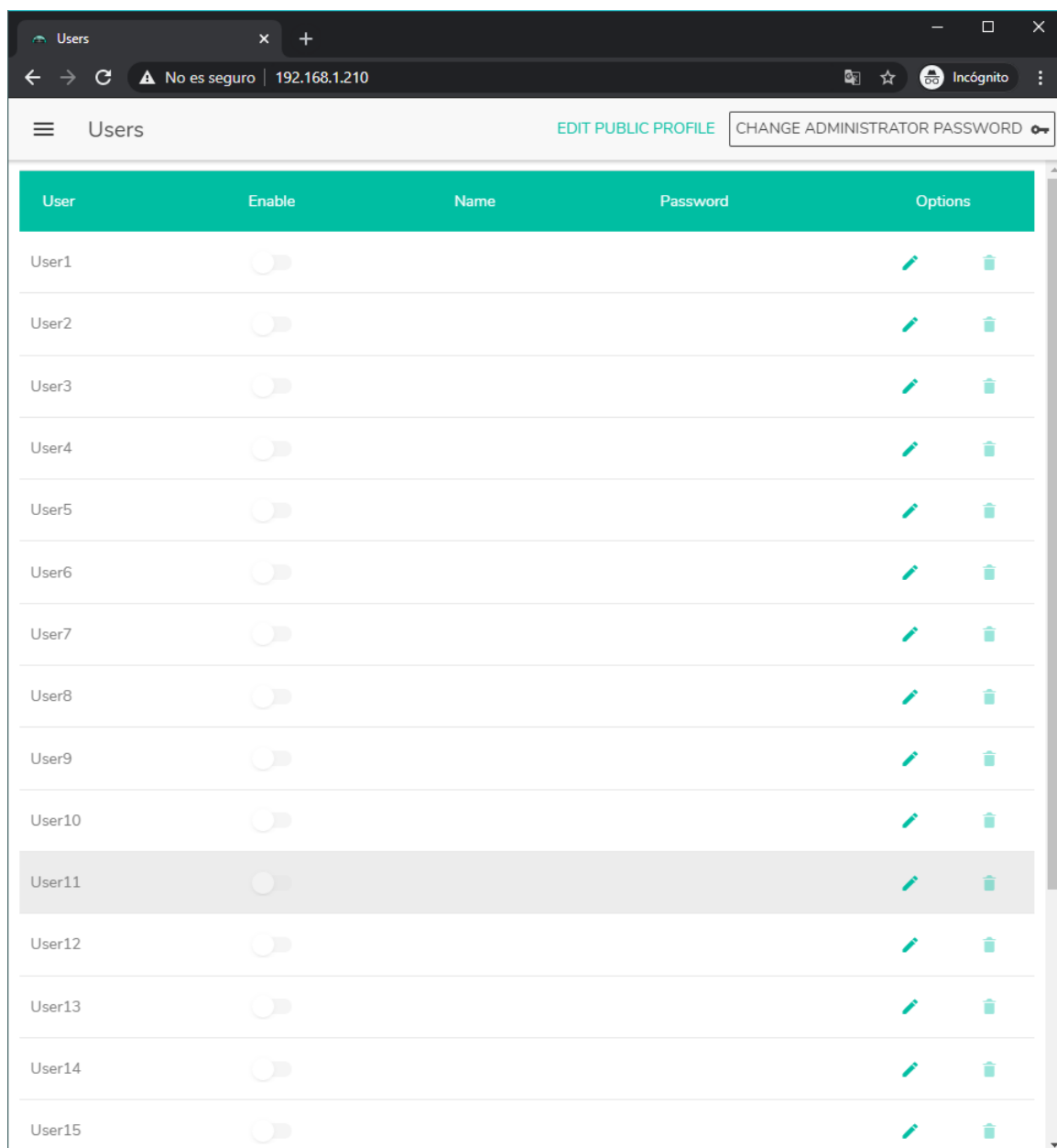



Figure 13: user management page

You can edit up to 20 different users, each with their own credentials. To edit a user, click on the icon  to the right of the page. Enter the name, password, and enable it if you want to assign control panels to it (pilot panels, see chapter [PILOT PANELS](#) for more details).

You can enable or disable it later at any time.

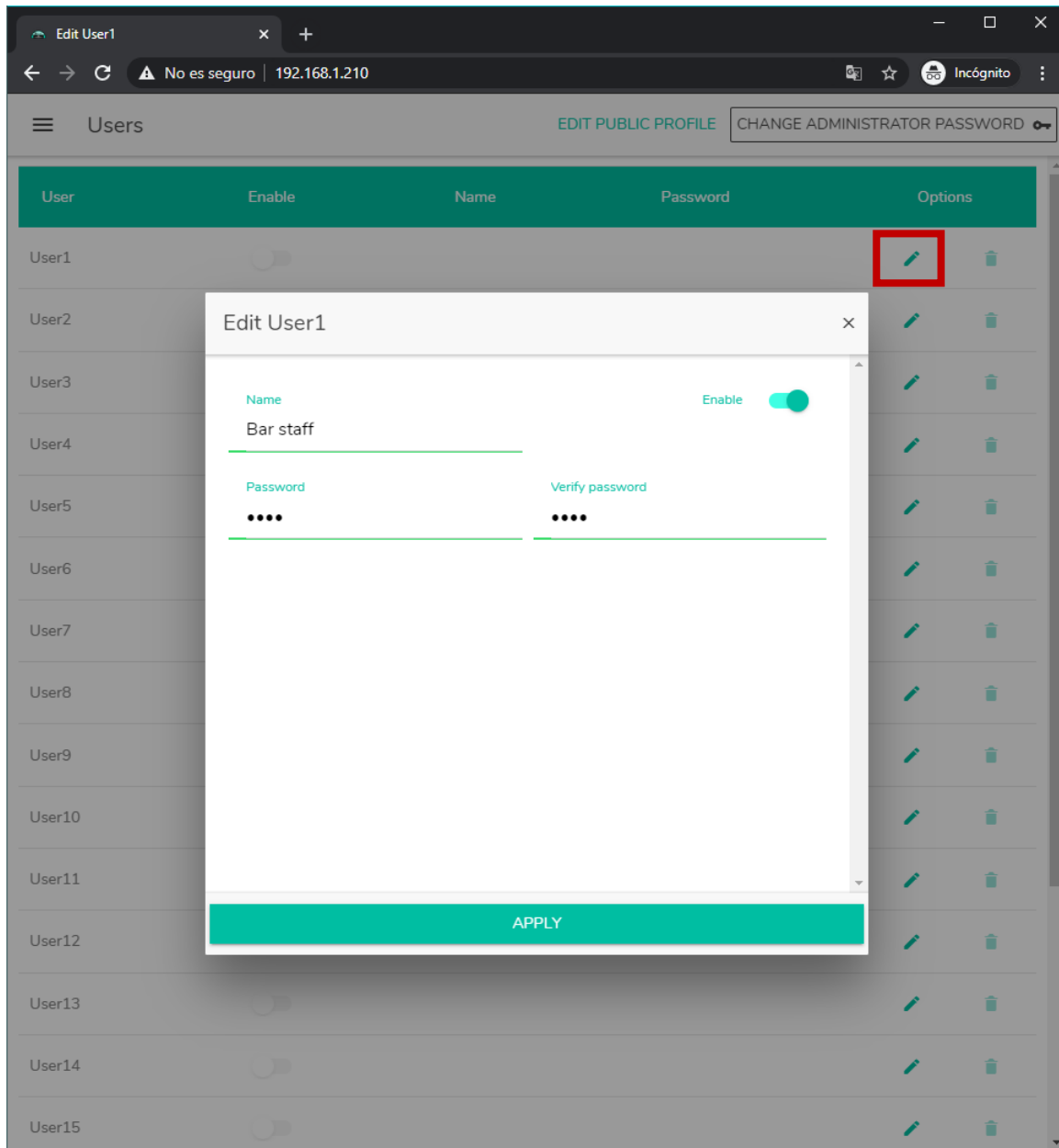



Figure 14: editing a user

To remove user credentials, select the icon  to the right.

## 5.1. EDIT PUBLIC PROFILE

Clicking on the “Edit public profile” button opens a dialog box with the options available for the public profile.

- **Allow loading predefined setups:** disable this option if you want that from the public profile (access without credentials) the default setups cannot be loaded and therefore, modify the device settings.

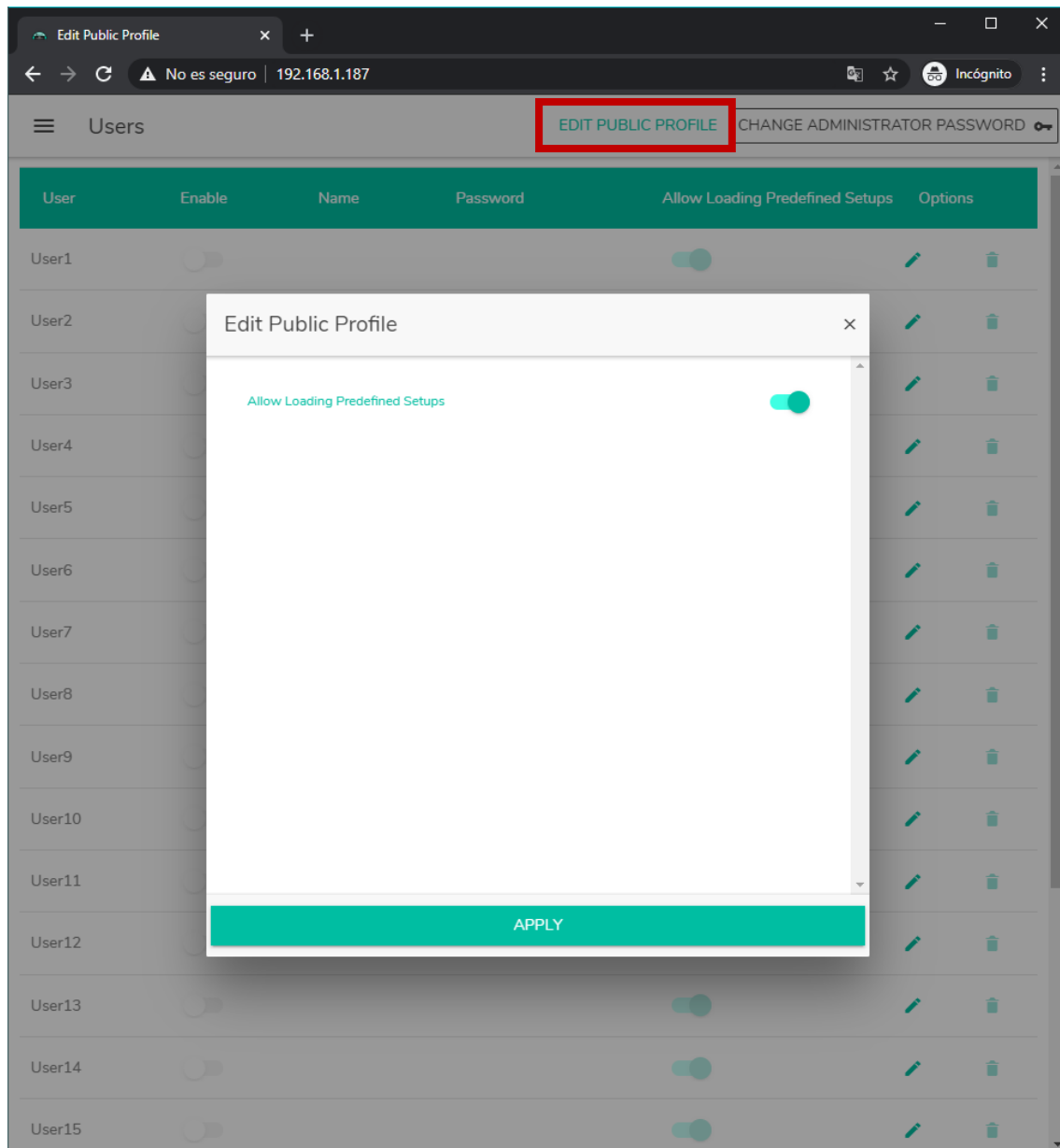


Figure 15: editing the public profile

**Note:** If there are enabled users, the “Allow Loading Predefined Setups” option will be disabled and will not be available until all users are disabled.

## 5.2. CHANGE ADMINISTRATOR PASSWORD

Under the “Change administrator password” button, you can change the access password as administrator, by default, admin.

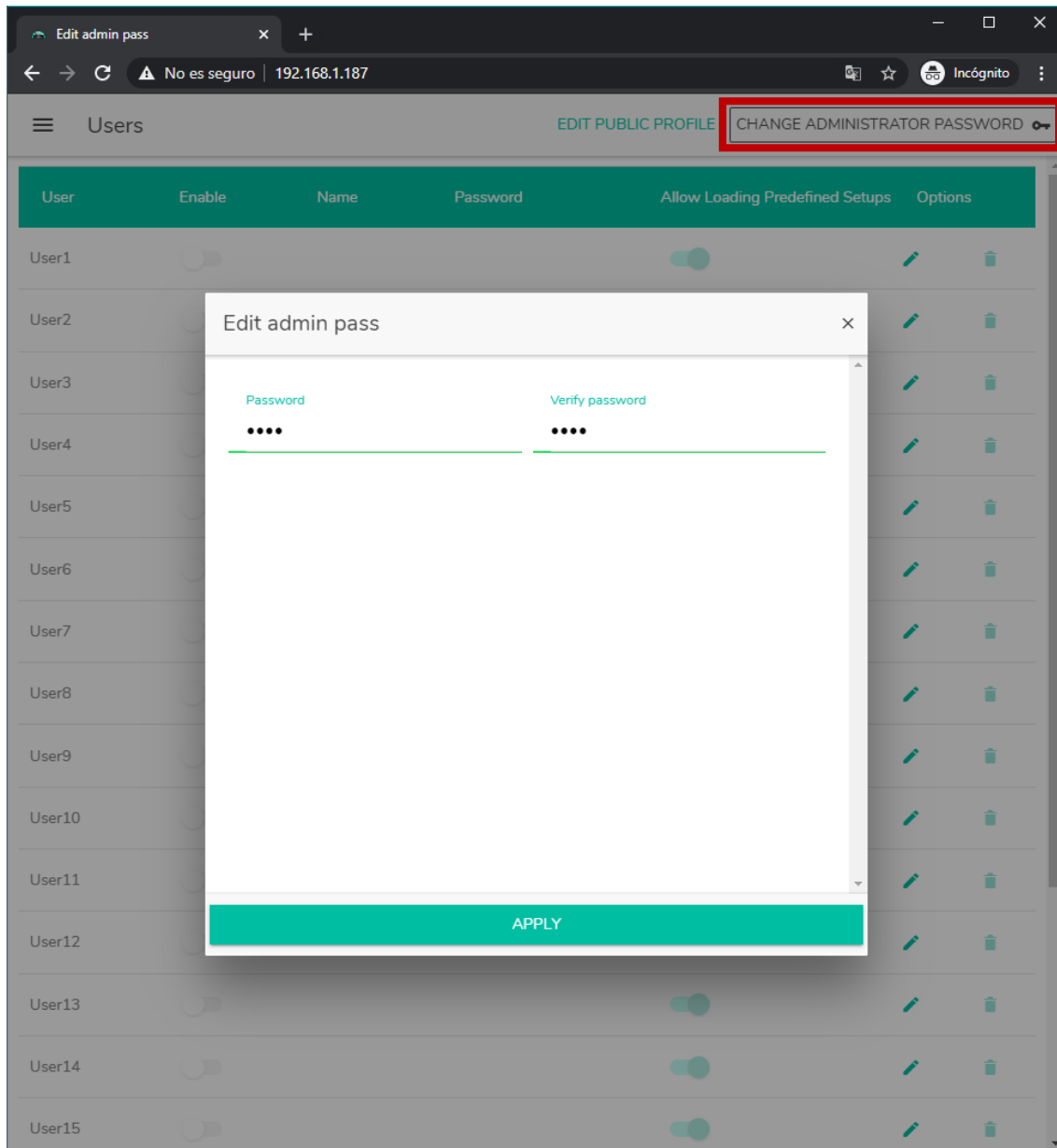


Figure 16: change administrator password



## 6. FRONT PANEL

On the FRONT PANEL page, you can set the lock of certain functions on the front panel of the HUB device. This allows you to be assured that the matrix configuration will not be altered by the end user, if desired. It will prevent tampering with the audio installation, making it more robust.

In addition, this page allows you to adjust the parameters and operation of the front panel LCD display.

### 6.1. ALLOWED CONTROLS

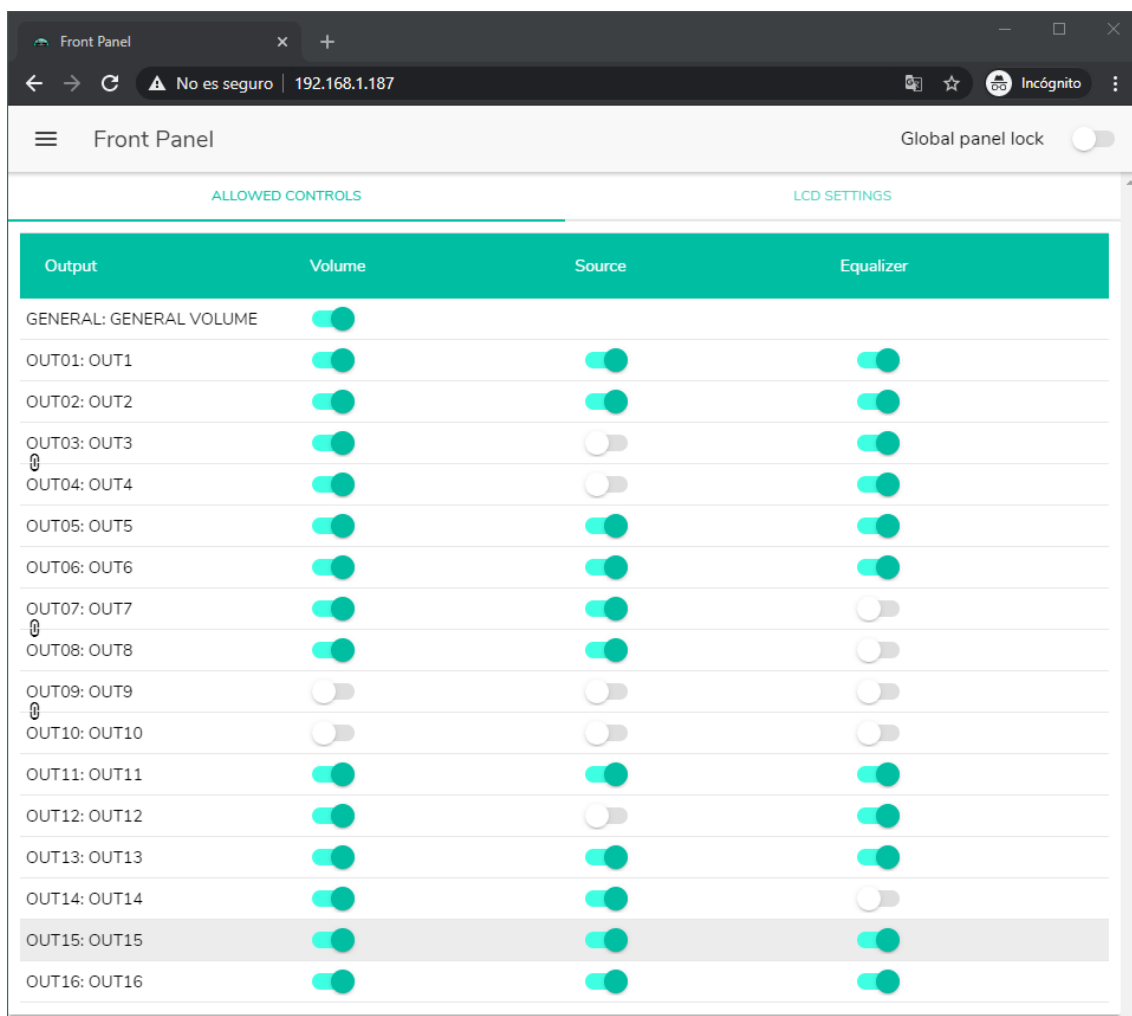


Figure 17: allowed controls on the frontal panel

The General Volume, which acts on all or selected zones, can be disabled for control from the front panel. It is accessed by a short press on the rotary **encoder** on the front panel.

For each zone, you can enable/disable manipulation from the front panel of:

- **Volume:** volume control of the audio signal in that zone
- **Source:** source selection for that area
- **Equalizer:** tone control (bass-middle-treble) of the selected signal in that area

Thus, observing the example of the Figure 17, from the front panel you cannot manipulate the equalization of zone 14 (OUT14). However, it is allowed to control the volume of the zone, as well as the selection of the audio source.

## 6.2. GLOBAL PANEL LOCK

By enabling the Global Panel Lock option (top-right corner), **ALL** front panel manipulation options are locked, turning the device into a “black box” facing the end user.

You can always check the device information: by holding down the CTRL + rotary encoder keys. This function is not disabled.

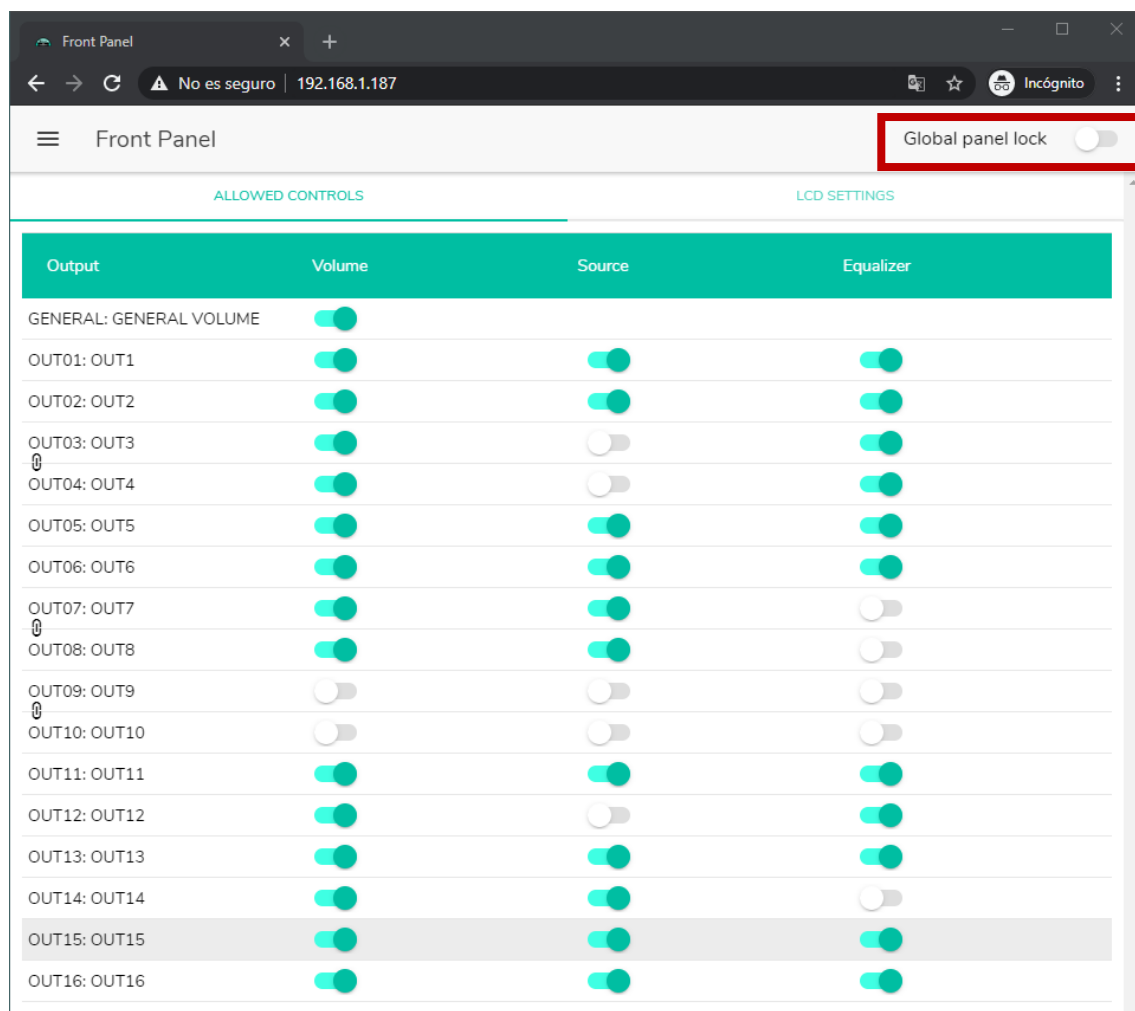


Figure 18: locking all front panel options

### 6.3. LCD SETTINGS

Here you can set the behavior of the LCD display:

- **NORMAL:** The display remains on at all times.
- **DIMMED:** After 30 seconds of inactivity, the display dims. It returns to its normal state as soon as some control on the front panel is manipulated.
- **OFF:** After 30 seconds of inactivity, the display turns off (minimum brightness). It returns to its normal state as soon as some control on the front panel is manipulated.

You can also adjust the display brightness (Backlight) and contrast (Contrast) in NORMAL mode.

In addition, the “Default zone selection” option allows for automatic selection, after a few seconds of inactivity (10 sec.) of:

- **LAST ZONE:** the last zone selected. It shows again on the screen the controls of the last selected zone, after modifying the general volume.
- **GENERAL VOLUME:** the general volume. It displays the general volume control again, after modifying any parameter of a zone.

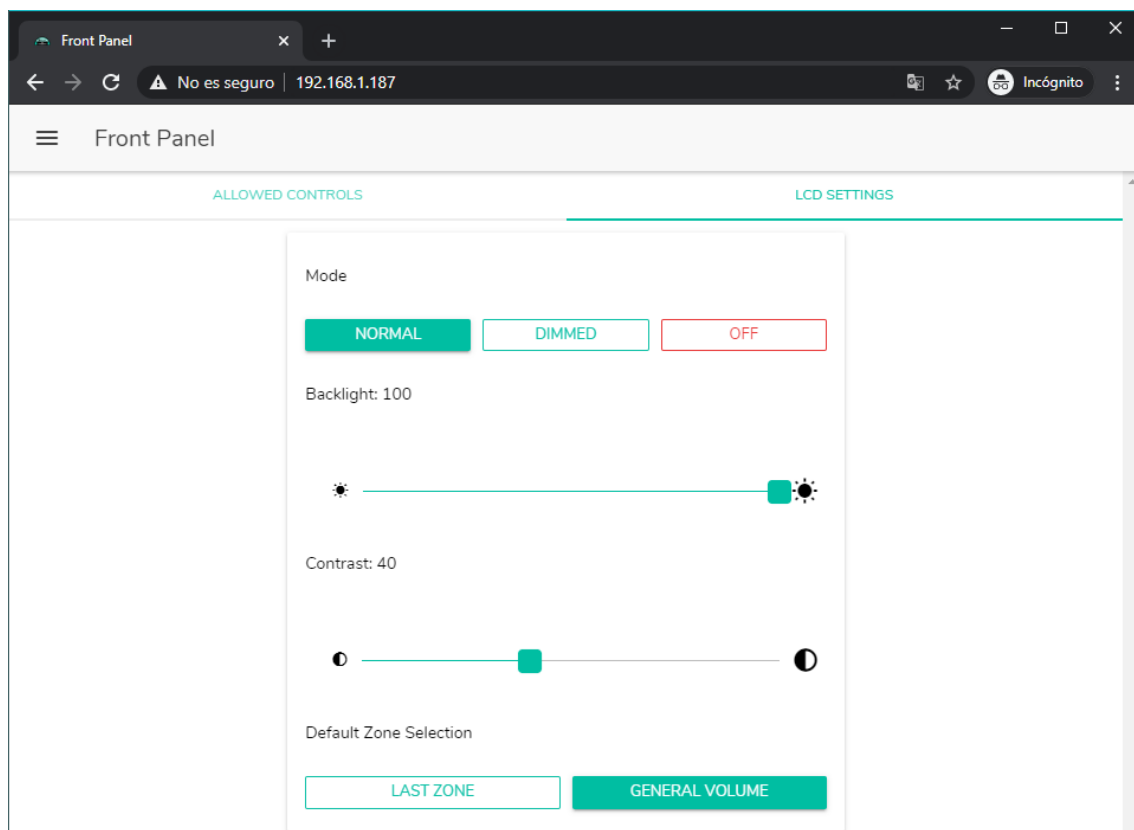


Figure 19: screen options

## 7. INPUTS

On the INPUTS page, the audio sources are configured, i.e. each of the audio inputs available to the HUB unit.

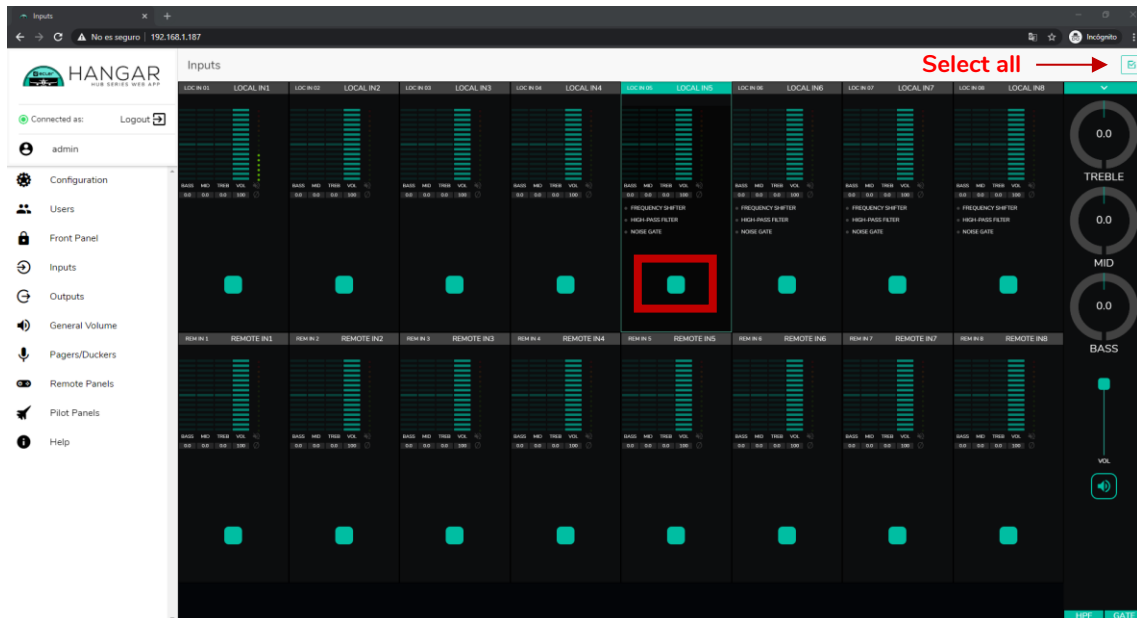



Figure 20: INPUTS HUB1616 page

To select an input, click on the central button of that input (see Figure 20). When an input is selected, it changes color, indicating that it is selected.

If you want to edit several inputs at once, you can select several by holding down your radio button for a moment. To select all inputs, click on the SELECT ALL icon in the upper right corner: 

**Note:** you can select several inputs using the keyboard shortcut: by pressing the CONTROL key, and without releasing it, select the inputs by clicking the left mouse button. You can also deselect an input by selecting it while holding down the CONTROL key. In addition, you can make a quick selection of several contiguous inputs by clicking from the first to the last one while holding down the SHIFT key. For example, if you want to select inputs 1 to 8: while holding down the SHIFT key, click with the mouse first on input 1 and then on input 8.

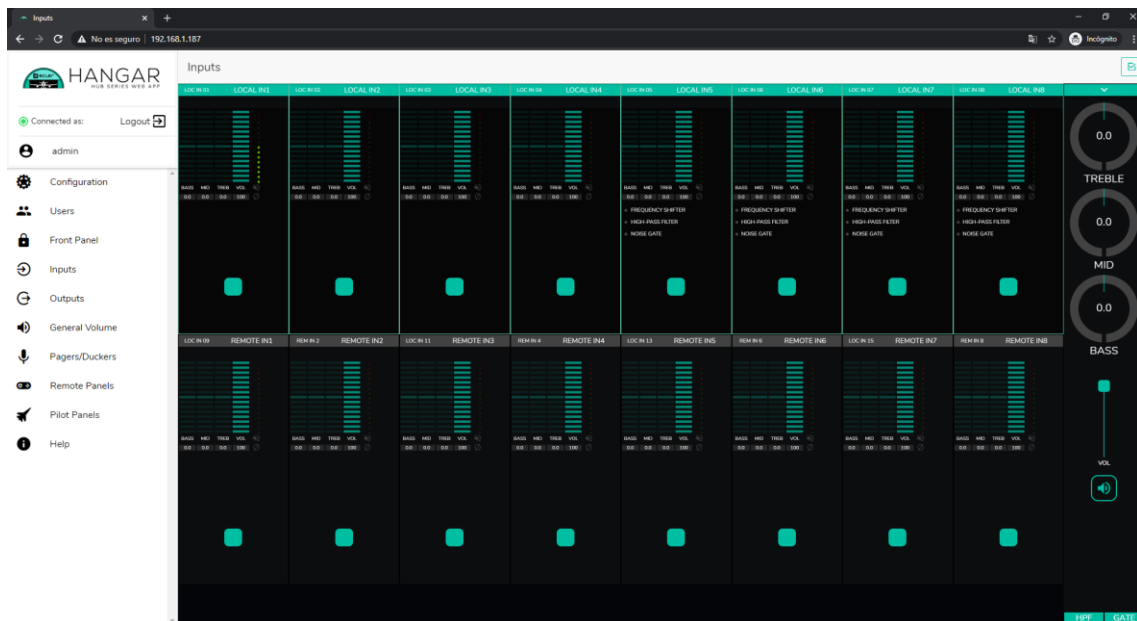
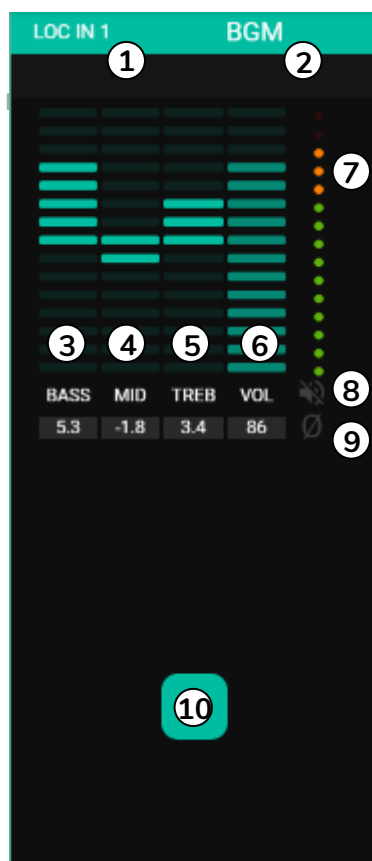


Figure 21: selection of several inputs

Each input shows a summary of its current configuration:



1. Local input indicator, connectors on the rear panel (LOC) or remote (REM), remote control panels with audio input, plus the corresponding numbering.
2. Input label (editable).
3. Graphic and numeric levels of the bass tone control. The center position corresponds to 0: no enhancement or attenuation.
4. Graphic and numerical levels of the mid-tone control. The center position corresponds to 0: no enhancement or attenuation.
5. Graphic and numeric levels of the treble tone control. The center position corresponds to 0: no enhancement or attenuation.
6. Graphical and numerical levels of the volume control.
7. Vumeter (VU) indicating the audio signal level at the input. The red LEDs indicate a saturation (CLIP) of this signal (last 2 LEDs of the VU).
8. MUTE indicator. If lit, this indicates that the input has been muted.
9. Polarity indicator. If it is illuminated it indicates that the phase of the signal has been inverted with respect to the original.
10. Input selection button.

In addition, the microphone/line inputs, local inputs from IN5 to IN8 on HUB1616 and local inputs from IN3 to IN6 on HUB1408, have active function indicators: FREQUENCY SHIFTER, HPF (high-pass filter) and GATE (noise gate). A green LED indicates that the function is enabled. The green LED indicates that the device is connected. For more information, please refer to sections 3, 5 and 6 of this chapter.

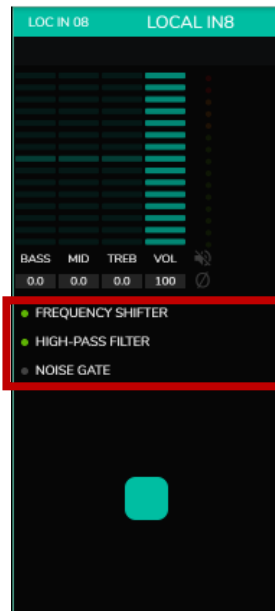


Figure 23: DSP indicators active on inputs

To edit these parameters, on the right of the INPUTS page, the necessary controls are always visible.

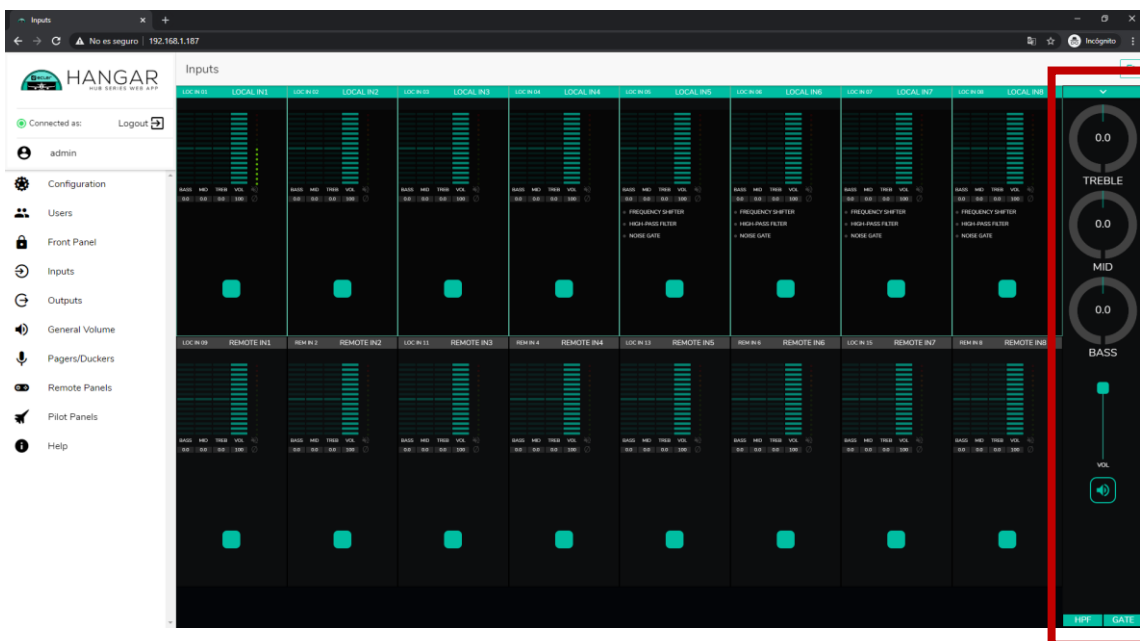
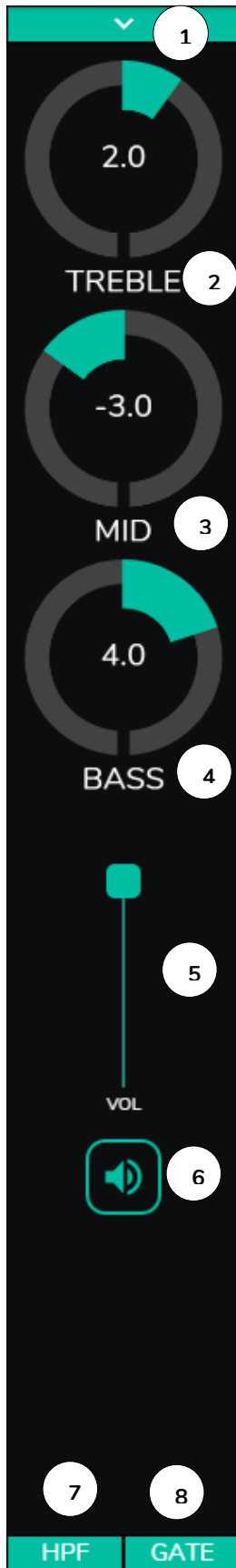


Figure 24: input control and editing



1. Drop-down menu showing the options for POLARITY, STEREO, FREQUENCY SHIFTER and LABEL edition.
2. Tone control setting: treble (6.3kHz). A long press on the control adjusts it to its central position.
3. Tone control adjustment: mid (1kHz). A long press on the control adjusts it to its central position.
4. Tone control setting: bass (200Hz). A long press on the control adjusts it to its central position.
5. Volume control adjustment.
6. MUTE: Mute the input signal.
7. Drop-down list showing the high-pass filter (HPF) setting. Only available for microphone inputs.
8. Drop-down list showing NOISE GATE settings. Only available for microphone inputs.

**Note:** Click to the right of any potentiometer-shaped control (rotary), or to the top of the fader-shaped control (slider), to increase its value by 0.1 (fine adjustment). Click to the left of the potentiometer knob, or to the bottom of the slider knob, to decrease its value by 0.1 (fine tune). Click on any control while holding down the CONTROL key on the keyboard, or long press the control to set its default value.

Figure 25: input controls

## 7.1. CHANGE LABEL

It allows to edit the name of the input signal.

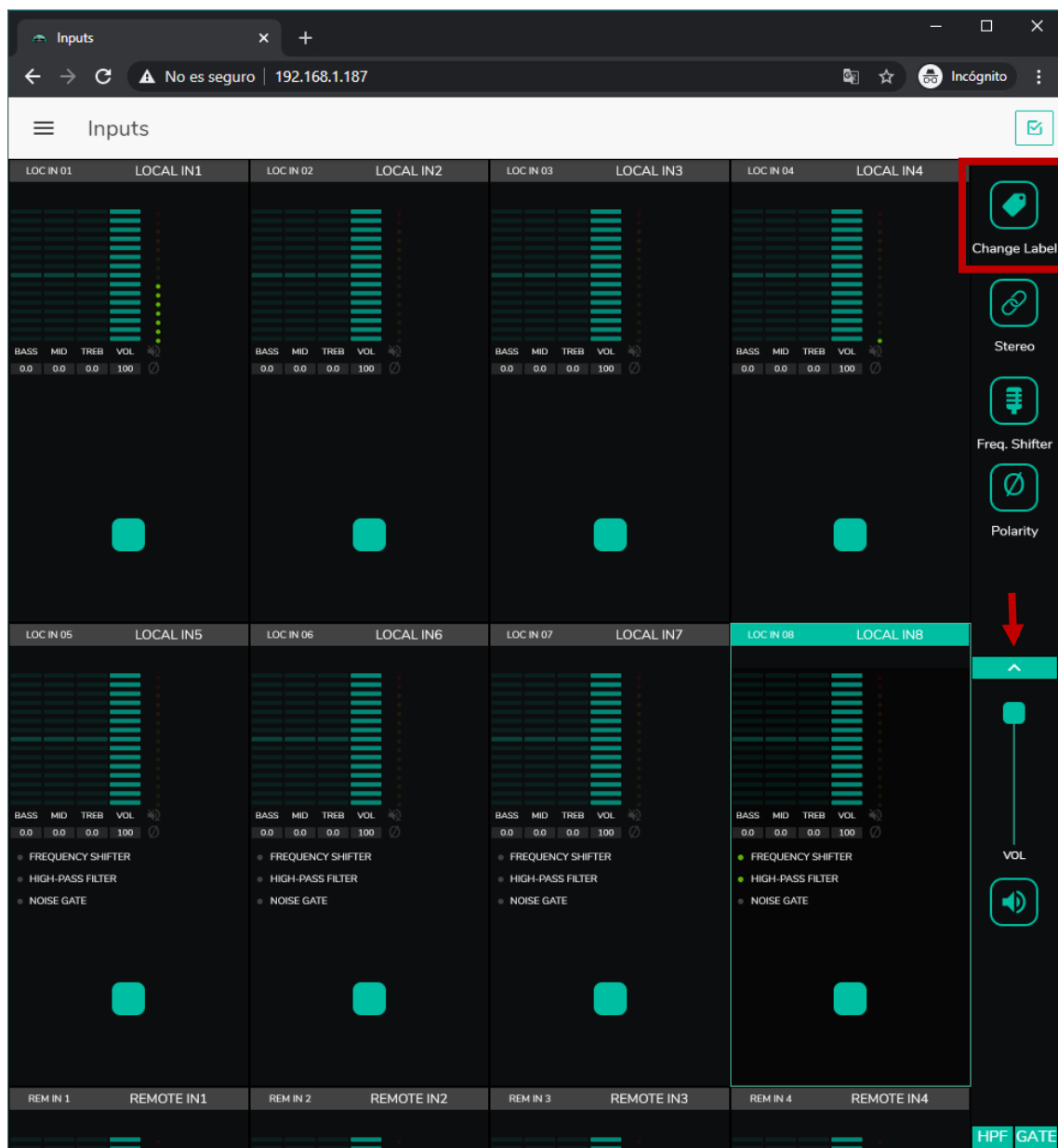


Figure 26: changing the input's name



## 7.2. STEREO

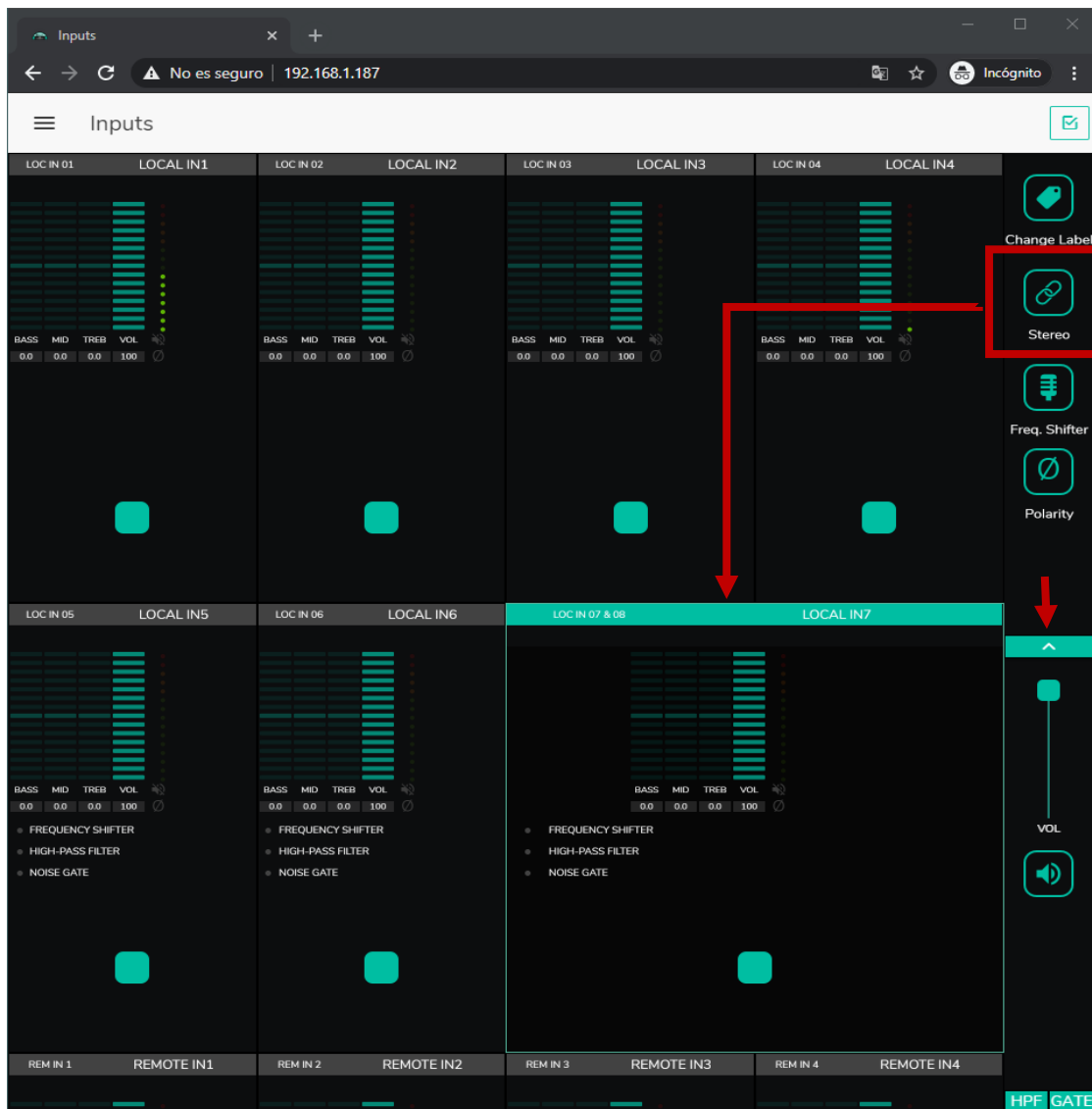


Figure 27: conversion of 2 mono inputs to a stereo one

You can convert 2 balanced mono inputs (micro/line inputs) into a stereo pair using this control. The 2 graphic representations of both mono inputs are converted into a single one, which shows the information of the pair. In addition, automatically, if assigned to an output that is also configured in stereo, the odd input is routed to the odd output, and the even input is routed to the even output (left to left and right to right). In the same way, any adjustment made to any of the 2 inputs (duckers, EQ, volume, DSP, etc.) will affect both. This option is only available for the balanced micro/line inputs of the device: local inputs from IN5 to IN8 in HUB1616 and local inputs from IN3 to IN6 in HUB1408.

**Note:** If a stereo input is assigned to a mono output, the HUB unit automatically performs the stereo to mono (L+R) conversion. If a stereo input is assigned to a stereo output, both outputs will contain the same audio source (double mono), but the same processing will be applied.

### 7.3. FREQUENCY SHIFTER

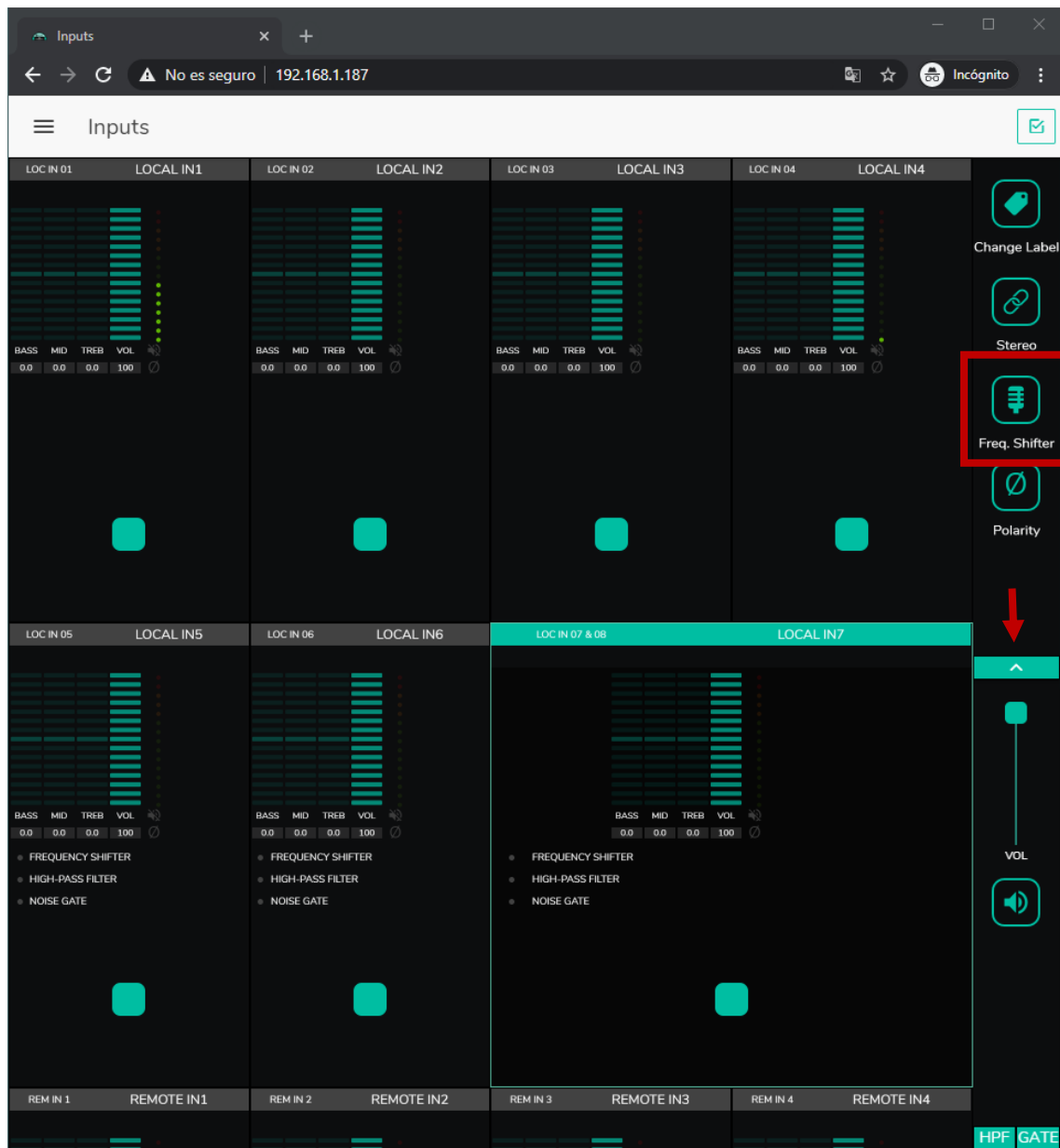


Figure 28: enabling the feedback canceller (FREQUENCY SHIFTER)

It allows to activate the feedback canceller, an efficient system to reduce the possibilities of feedback loops (couplings, Larsen effect) when a microphone source is close to the speaker or speakers that broadcast its signal, once amplified. When activated, this function performs a slight frequency shift of the incoming signal on the affected channel (*Frequency Shifter*), before sending it to the outputs to which it has been routed. The shifting is so slight that it becomes barely noticeable to the listener, especially when it occurs in the frequency range of the human voice. A few cycles (Hz) of shifting are sufficient to greatly increase the system's protection against feedback.

## 7.4. POLARITY

Polarity change of the input signal It can be useful to fix phase problems.

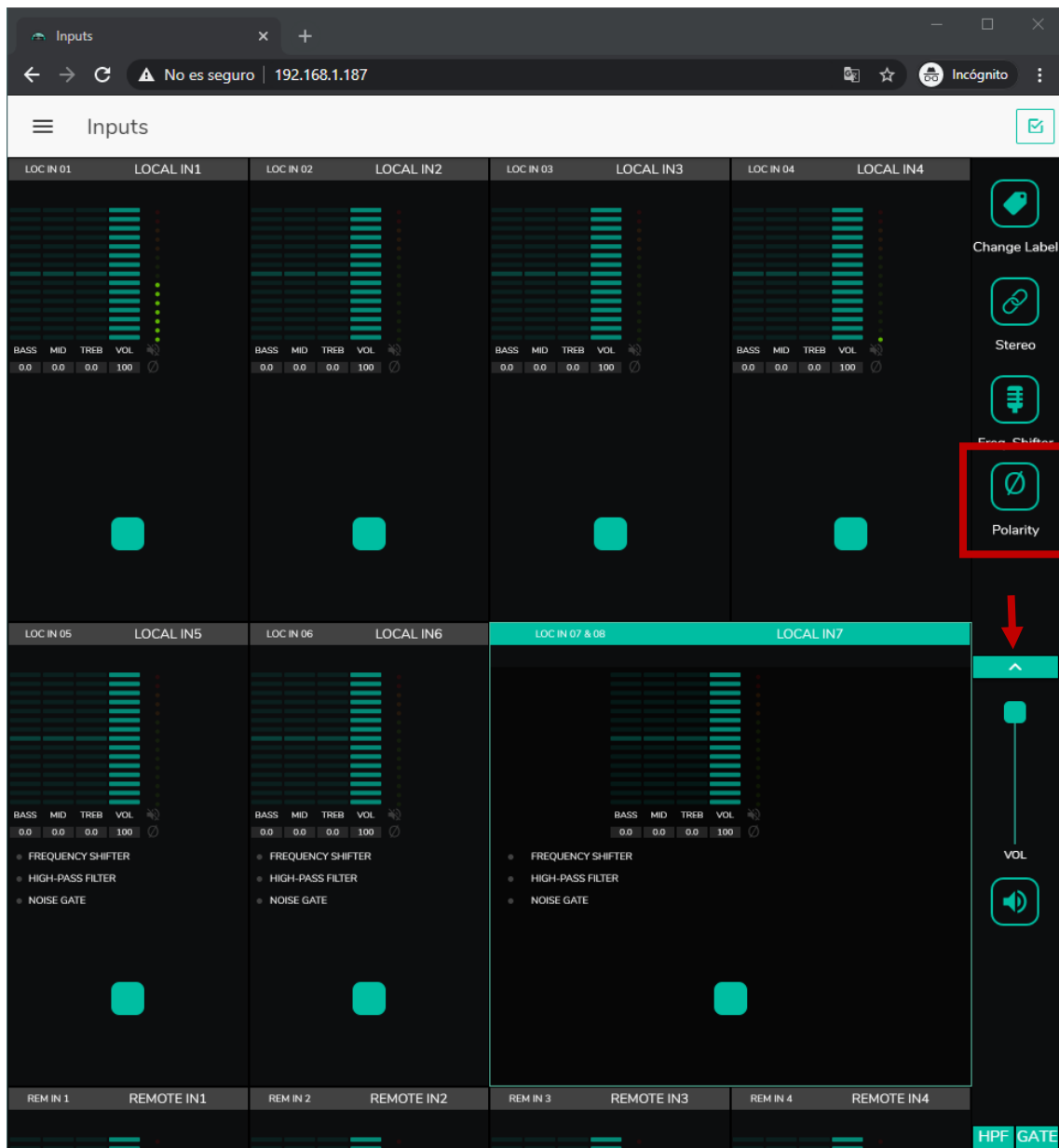
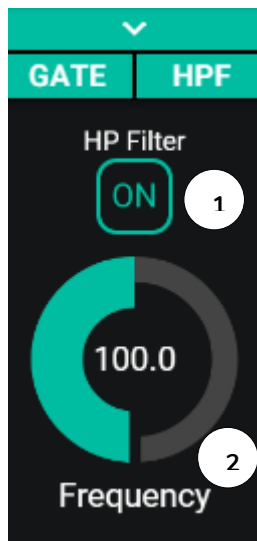


Figure 29: Polarity change of the input signal

## 7.5. HPF



Useful for attenuating the proximity effect of a microphone (boost at low frequencies) or eliminating/attenuating background noise, handling noise, etc:

1. ON/OFF: activates/deactivates the high-pass filter
2. Frequency: Filter cut-off frequency. Selectable from 50Hz to 150Hz.

Figure 30: high-pass filter configuration of an input

## 7.6. GATE

Noise gate Useful for attenuating or eliminating background noise picked up by a microphone (or other audio source particularly sensitive to noise due to interference, etc.) by discriminating between background noise and valid audio signal:

1. ON/OFF: activates/deactivates the noise gate When in OFF mode the rest of the controls in this section are disabled.
2. THRESHOLD: detection threshold. This defines the input signal level below which the signal will be affected by the attenuation marked by DEPTH (gate closed). The range of this parameter is from -80dB to +12dB.
3. DEPTH: attenuation applied to the signal when it is below the detection threshold (gate closed). The range of this parameter is from 0dB to +80dB.
4. ATTACK: attack time. It determines the time from the threshold being exceeded to the cancellation of the attenuation applied to the input signal (gate open). Adjustment range from 0.1ms to 500ms.
5. HOLD: holding time, in which the gate is still open (no attenuation) once the signal falls below the detection threshold again. Adjustment range from 10ms to 3 seconds.
6. RELAX: Relaxation time. Determines the time it takes for the door to close again after the hold time has elapsed. In this case, the range covers from 10ms to 1 second.

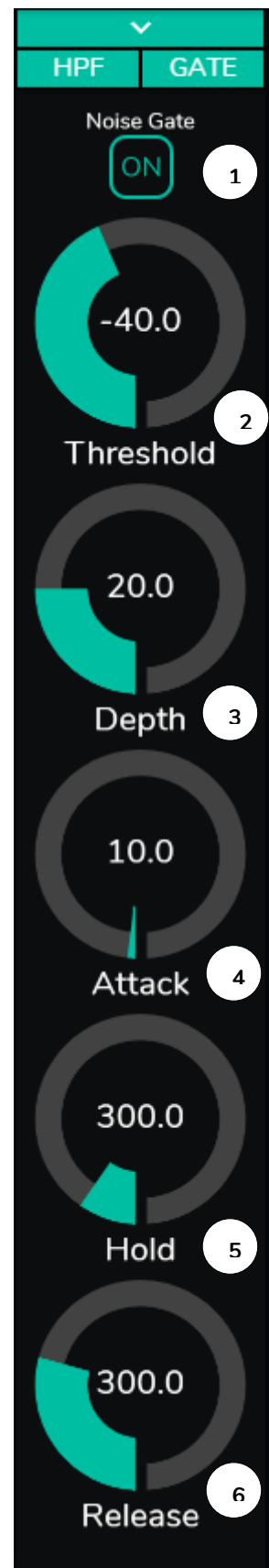


Figure 31: noise gate configuration of an input

## 8. OUTPUTS

The OUTPUTS page allows you to configure the audio outputs of the HUB devices. The graphical interface and operation is identical to the INPUTS page, with a few exceptions.

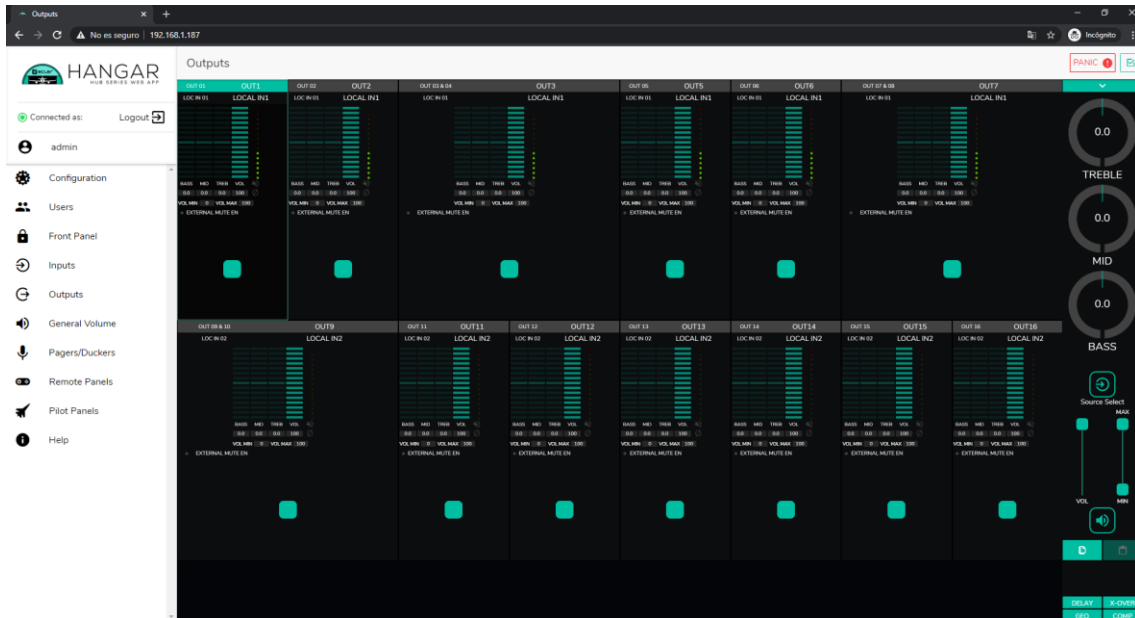


Figure 32: HUB1616 output configuration page

Each output displays a summary of its current configuration. The outputs have the same information as the inputs (except for the noise gate and the high-pass filter), plus:

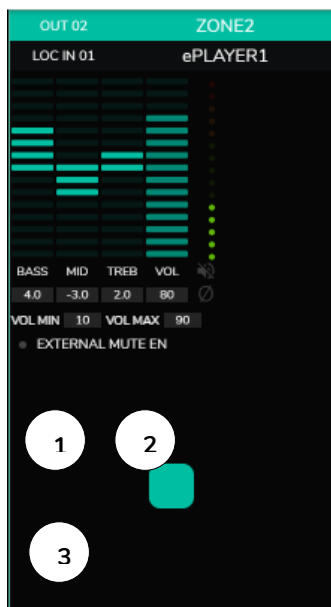


Figure 33: output representation

1. VOL MIN: minimum volume allowed for this output (adjustable).
2. VOL MAX: maximum volume allowed for this output (adjustable).
3. External contact closure MUTE function (connected to the MUTE port on the rear panel) enabled/disabled: an orange LED indicates that the function is enabled.

**Note:** End users can only adjust the volume of a zone (output) within the range VOL MIN - VOL MAX.

To edit these parameters, on the right of the OUTPUTS page, the necessary controls are always visible.

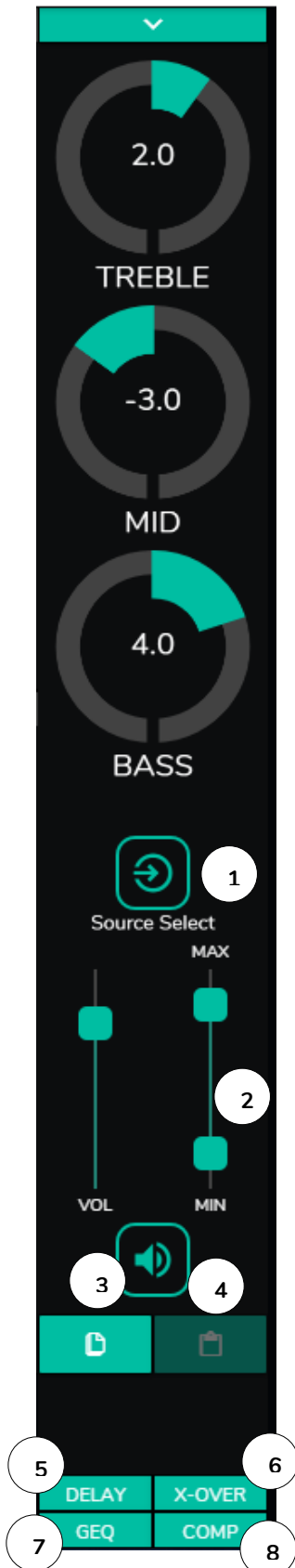


Figure 34: output controls

1. Source selection: allows you to select any of the 16 inputs available for the selected output.
2. Maximum and minimum volume: allows you to define the range between the maximum and minimum volume that can be adjusted in that zone using the corresponding volume control.
3. Copy DSP Configuration: Allows you to copy the DSP configuration (DELAY, X-OVER, GEQ and COMP) of an output.
4. Paste DSP configuration: allows you to paste the DSP configuration (DELAY, X-OVER, GEQ and COMP) previously copied from one output to another.
5. Drop-down list showing the delay configuration (DELAY). Available for outputs 1 to 8 in all HUB devices.
6. Drop-down list showing the crossover filter configuration (X-OVER). Available for outputs 1 to 8 in all HUB devices.
7. Drop-down list showing 8-band graphic equalizer (GEQ) settings. Available for all outputs.
8. Drop-down list showing compressor / limiter (COMP) settings. Available for all outputs.

By clicking on the drop-down list (as with the inputs), the options available for an output are displayed.

### 8.1. STEREO

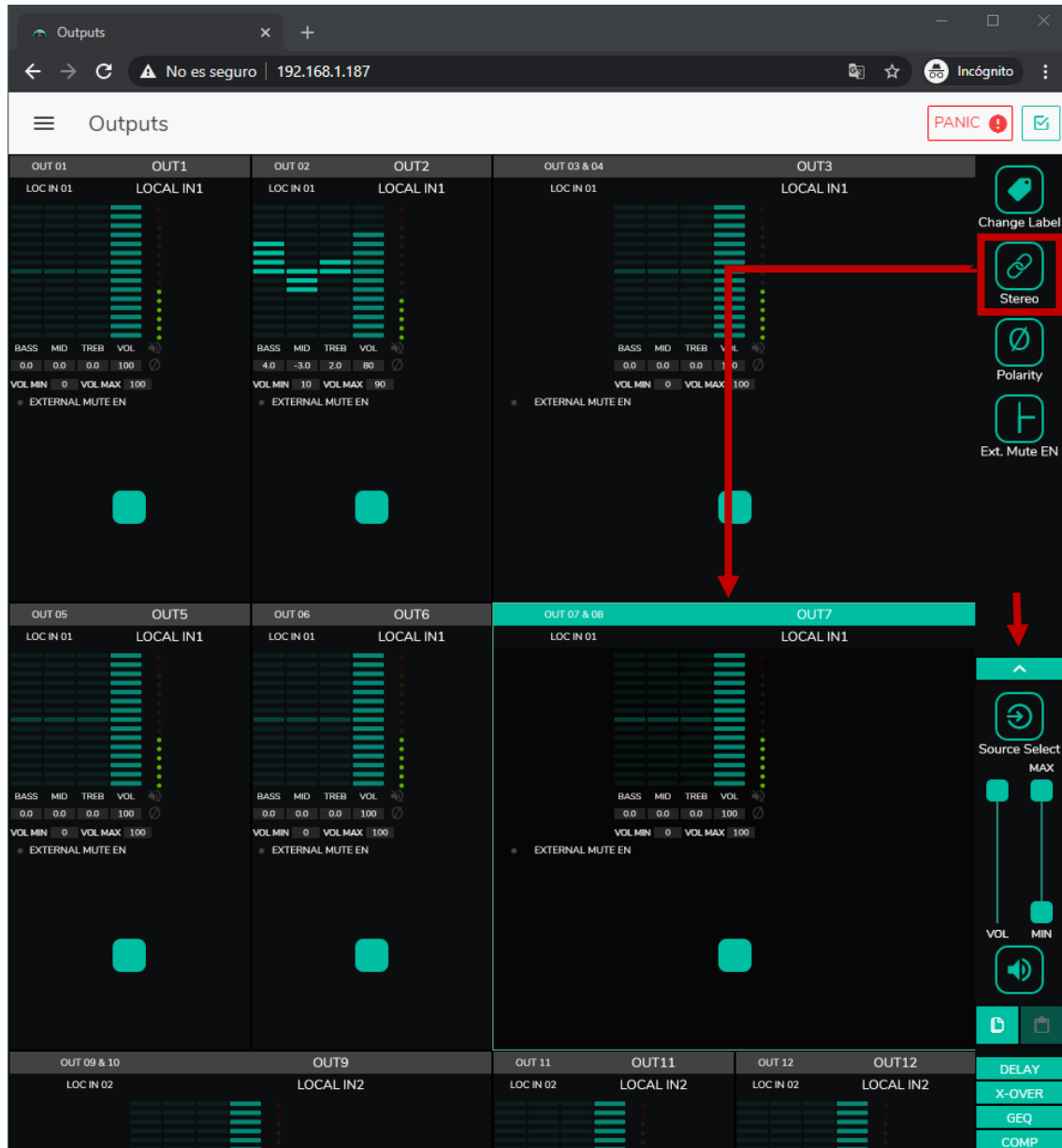


Figure 35: outputs configured as a stereo pair

You can convert 2 mono outputs into a stereo pair (natural pairs: 1-2, 3-4, etc.) using this control. The 2 graphic representations of both mono outputs are converted into a single one, which shows the information of the pair. Moreover, automatically, if you assign a stereo signal as input, the left channel is directed to the odd output, and the right channel to the even output (left to left and right to right). In the same way, any adjustment made to any of the 2 outputs (duckers, EQ, volume, DSP, etc.) will affect both.



**Note:** If a stereo input is assigned to a mono output, the HUB device automatically performs the stereo to mono (L+R) conversion. If a stereo input is assigned to a stereo output, both outputs will contain the same audio source (double mono), but the same processing will be applied.

## 8.2. EXTERNAL MUTE EN

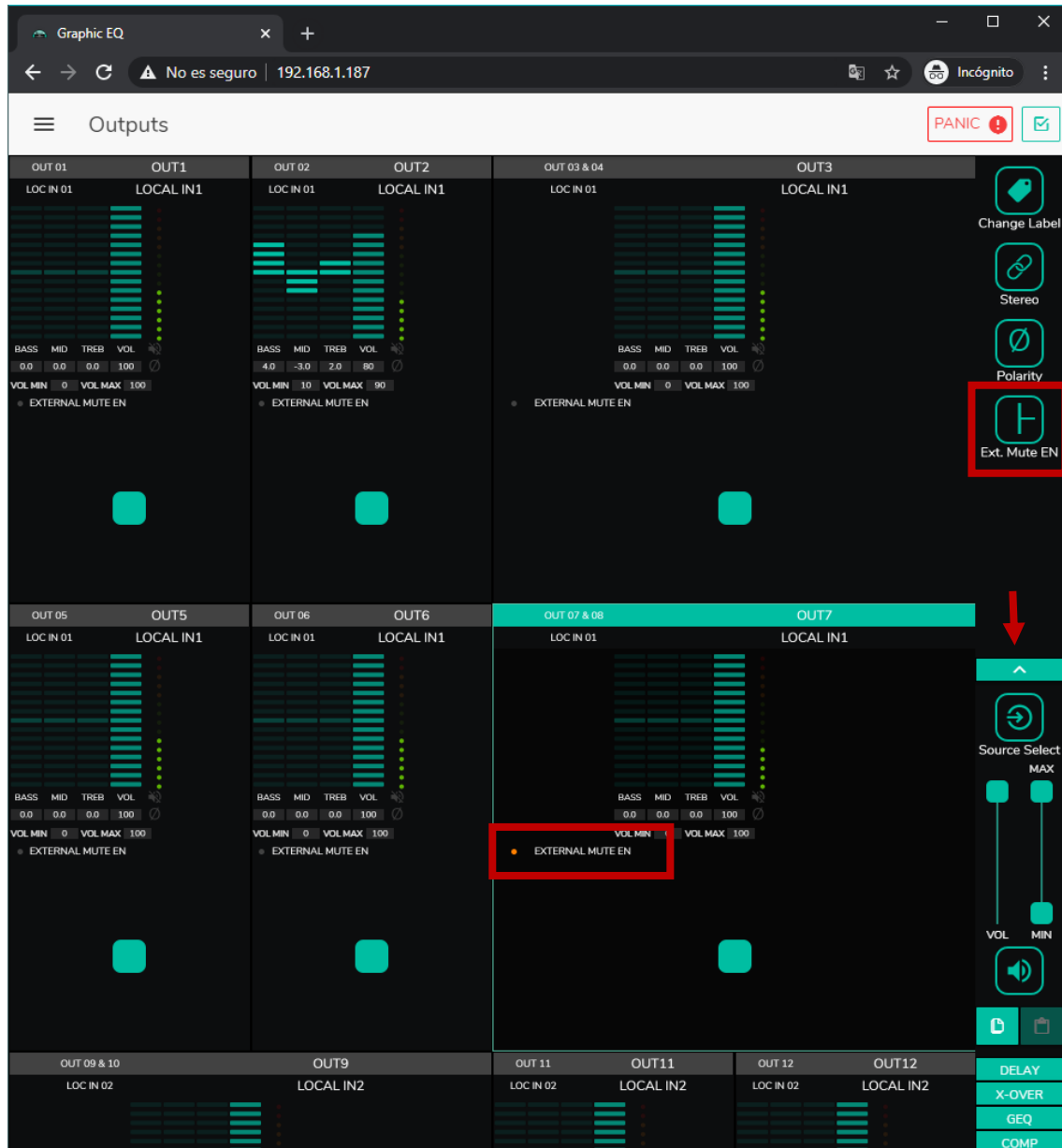
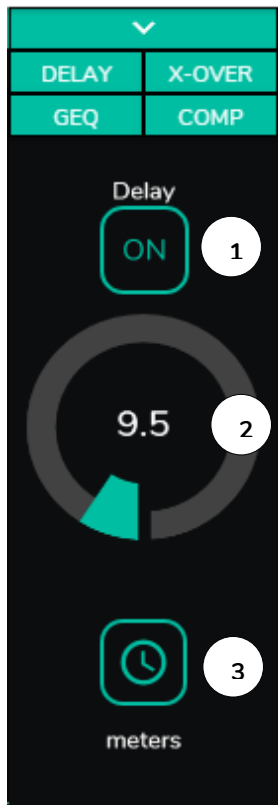


Figure 36: activation of external mute by contact closure on one output

Enables or disables muting (MUTE) of the output by external dry contact closure (NO, normally open), connected to the rear panel MUTE port. Useful for connection to fire detection systems, emergencies, alarms, etc. The priority modules that send messages to this area will also be muted in this area, while the contact closure is active.

### 8.3. DELAY



It allows the adjustment of a delay in milliseconds, meters or feet, to be applied between its input and output. It is independent for each output. Useful to adjust sound reinforcement systems that use reinforcement speakers far from the main system and avoid delaying signals to the audience. Available for outputs 1 to 8 in all HUB devices.

1. ON/OFF: activates/deactivates the delay
2. Adjusting the amount of delay
3. Selection of the delay parameter:
  - Milliseconds: 0 to 300ms
  - Meters: from 0 to 103m
  - Feet: 0 to 338 feet

Figure 37: setting the delay

### 8.4. X-OVER



Allows you to insert a crossover filter (low pass or high pass) on the selected output. It is independent for each output. Useful if you connect a sub-bass to this output, for example. Available for outputs 1 to 8 in all HUB devices.

1. ON/OFF: activates/deactivates the filter
2. Filter type selection: low pass (LPF) or high pass (HPF)
3. Selecting the filter cut-off frequency

Figure 38: setting a crossover filter

## 8.5. GEQ

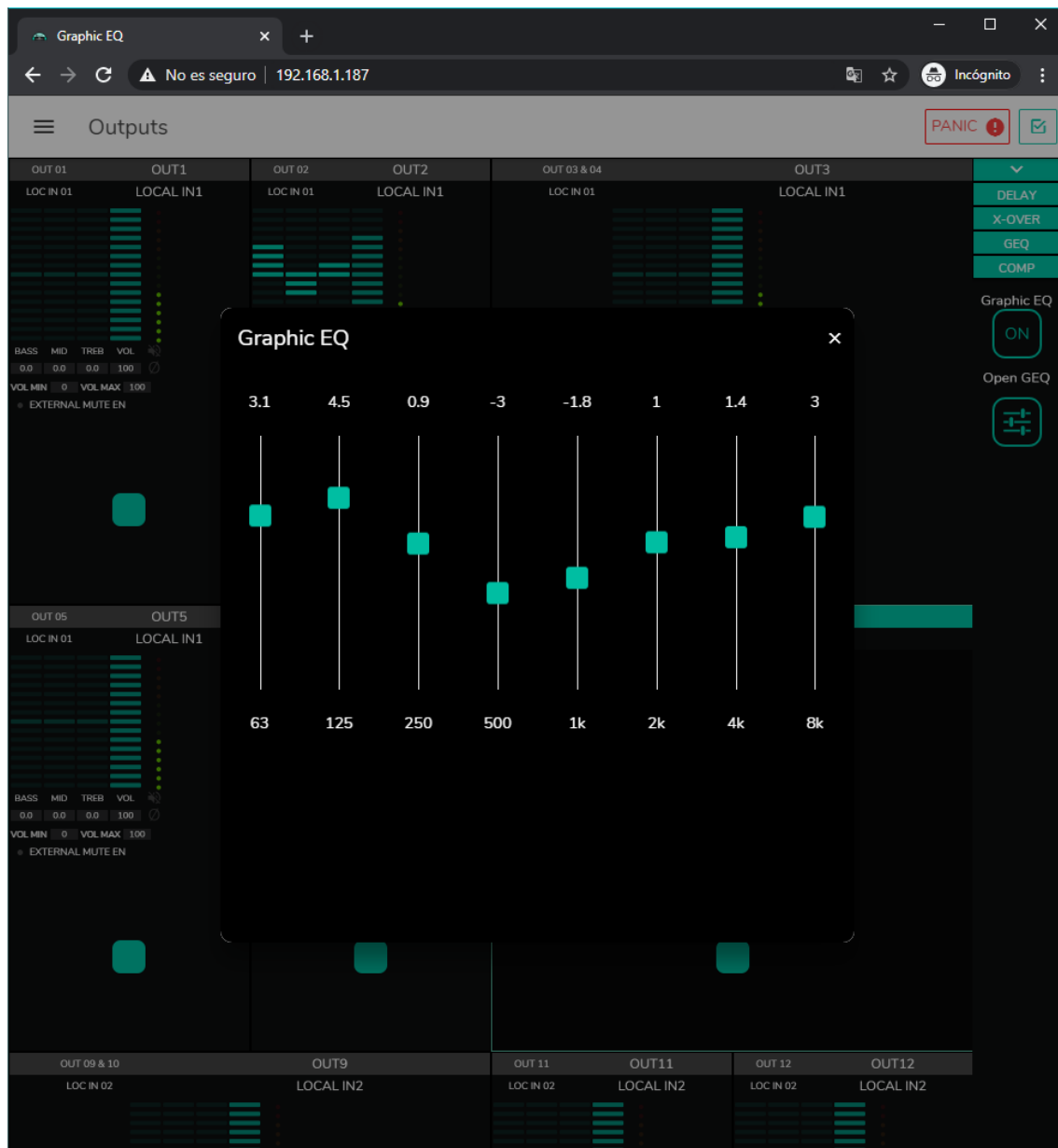


Figure 39: setting the graphic equalizer on an output

Allows you to set up an 8-band graphic equalizer at the output. Each band allows a  $\pm 10$ dB adjustment.

It is independent for each output and available in all of them.

**Note:** when the graphic equalizer is activated on an output, the tone control will be disabled for that output. If a pilot panel has been created with the tone control for the zone, it will be inactive. This is also true for the wall panels and the front panel, indicating that the graphic equalizer is active.

## 8.6. COMP

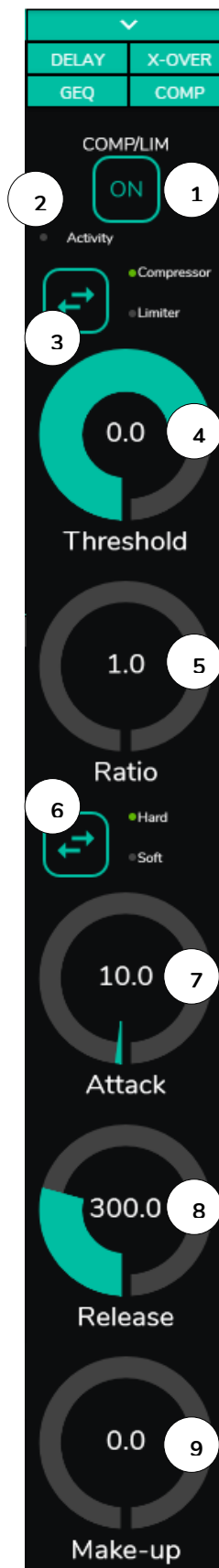


Figure 40: setting an output compressor

It offers a treatment on the dynamic behavior of the output signal, allowing to control the output intensity to avoid that it exceeds certain levels. Useful for limiting the output level in an area, for example. It is independent for each output and available in all of them.

1. ON/OFF: activates/deactivates the compressor
2. Activity LED: The activity LED lights up when the output signal exceeds the set threshold. It indicates that the compressor is running. Adjust the threshold so that the Activity LED lights up occasionally, coinciding with the peaks of the output signal.
3. Compressor/limiter mode selection. When selecting the limiter mode, reset the compressor parameters to act as a limiter (Ratio = inf., for example).
4. THRESHOLD: Compression threshold used to specify the input signal level at which compression begins to occur. The range of this parameter is +12dB to -36dB
5. RATIO: compression ratio. It specifies in what proportion the output signal volume is reduced by increasing the input signal level above the threshold. The value 1:1 states that the signal level will remain unchanged, while the extreme value inf:1 represents a signal limiter, in which any signal above the threshold will be contained at that threshold level.
6. KNEE: determines how compression will be applied in the transition zone or "bend", once the compression threshold is exceeded, in a progressive (soft) or more direct (hard) way.
7. ATTACK: attack time. It determines the time elapsed from the threshold being exceeded to the compressor coming into operation. The range covers from 0.1 ms. to 500 ms.
8. RELAY: determines the time it takes for the compressor to stop acting once the input signal level falls below the threshold. In this case, the range covers from 10ms. to 1s.
9. MAKE-UP: additional gain applied to the channel signal once it has been compressed, with the aim of recovering the lost decibels for the maximums of the signal, as an effect of the compression applied. The range covers from 0 to 10dB.

## 8.7. PANIC

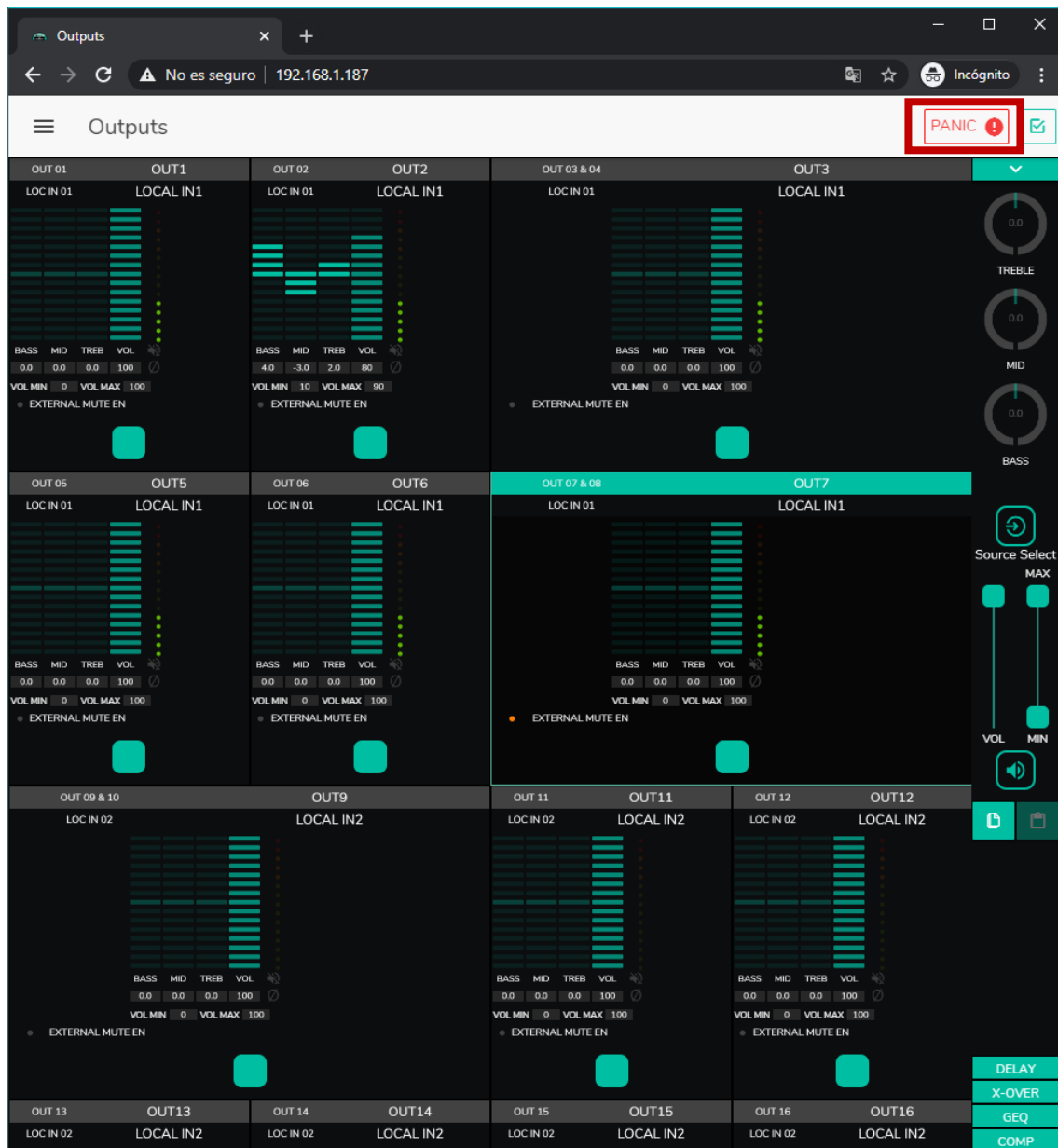



Figure 41: PANIC button on a HUB1616

Finally, the exits have a panic button (PANIC) located in the upper right corner of the OUTPUTS page.

When activated, all the output channels of the HUB device are muted (absolute silence of the system), including the priority modules. Deactivating it restores the MUTES ON or OFF setting prior to activation. The icon  corresponding to each output will flash after activating the PANIC button, if it was not previously muted.

## 9. GENERAL VOLUME

The general volume is configured in the GENERAL VOLUME page.

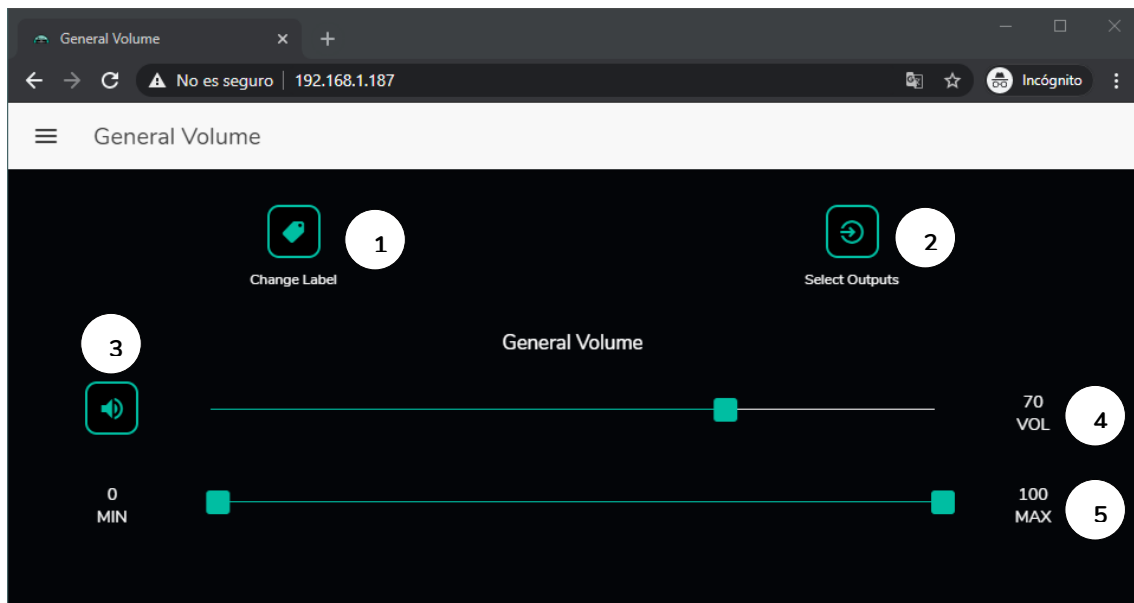


Figure 42: general volume configuration page

The overall volume affects all outputs assigned to this control (by default, all outputs). It is a volume control proportional to the individual volumes of each outlet, so that if the general volume is set to 70, but a certain outlet (OUT1 e.g.) has the volume at 100, the effective volume in the zone will be 70. If another zone has the volume set to 50 (OUT2 e.g.), the volume in that zone will be reduced by 30%, as the overall volume is set to 70. Similarly, if the general volume is set to MUTE or volume 0, all outputs assigned to that volume will be muted.

It can be controlled from the front panel and from the pilot panels.

It has the following configurable options:

1. **CHANGE LABEL:** allows you to modify the name of the general volume control
2. **SELECT OUTPUTS:** allows you to select those outputs that will be affected by the overall volume.
3. **MUTE:** mutes the overall volume. Pressing this button will mute all zones that are affected by the overall volume, and the zone LEDs on the front panel of the device will illuminate.
4. **Adjusting the overall volume.**
5. **Maximum and Minimum Volume:** allows you to define the range between the maximum and minimum volume that can be adjusted using the appropriate volume control.

## 10. PAGERS/DUCKERS

In the PAGERS/DUCKERS page, up to 4 priority modules can be configured, two of them in DUCKER mode only (automatic priority triggering by audio signal detection), and the other two in PAGER mode (manual management by means of warning console, eMPAGE) or DUCKER.

### 10.1. DUCKERS

Ducker function (priority): an input can be configured with priority over another/s, being able to attenuate and replace the audio content of certain pre-selected zones, when it exceeds the detection threshold. This function is vital in emergency/evacuation systems, where a certain alarm and/or evacuation message must be played instead of the usual audio program when an emergency scenario is detected.

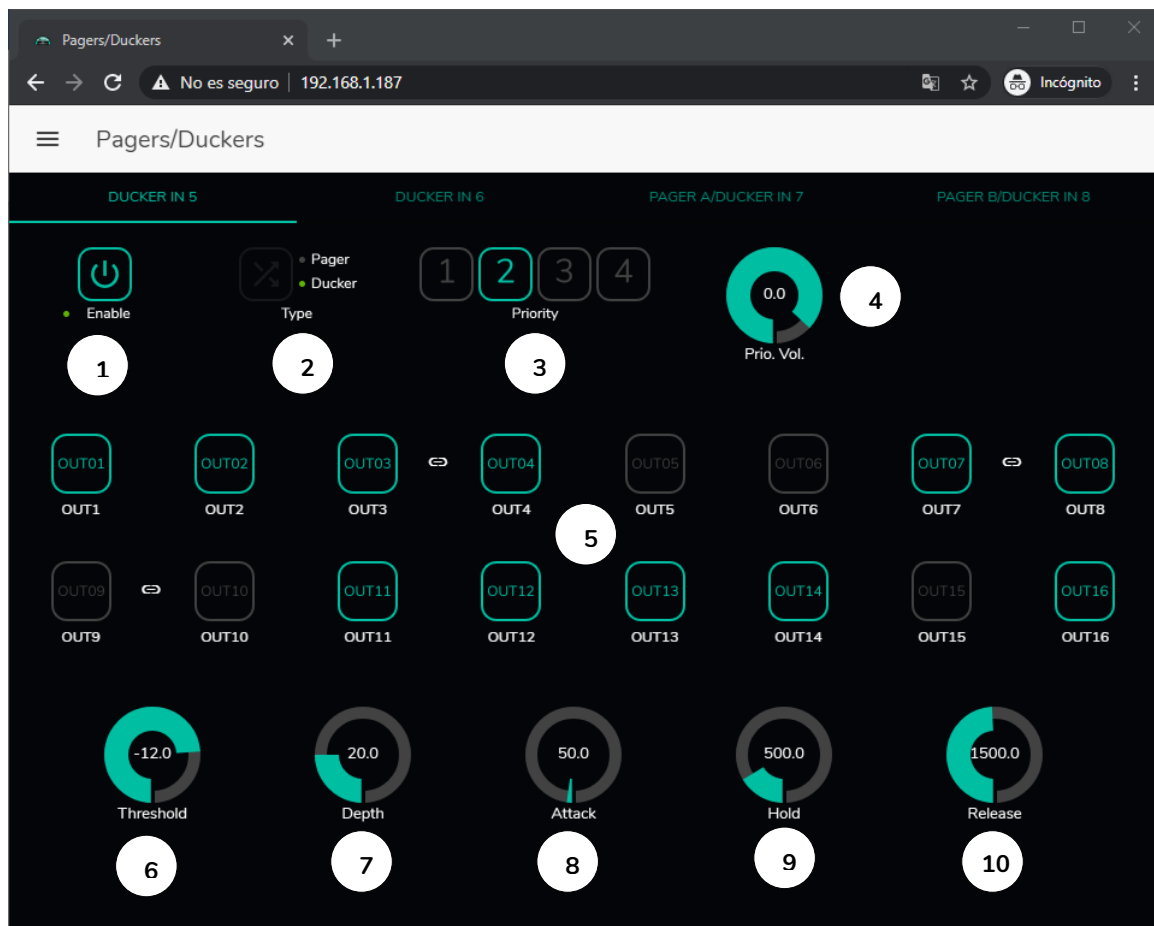


Figure 43:pagers/duckersZZ page

The microphone inputs can be configured to behave like a *ducker*. For each *ducker*, the following parameters can be set:

- **Enable:** Enables or disables the *ducker* function for that input.
- **Pager/Ducker:** only available for the pager inputs, all other microphone inputs have this function disabled. Switches between *pager* and *ducker* function, indicating with a green LED the selected option.
- **Priority:** There are 4 priority levels, 1 being the maximum priority level and 4 the minimum.
  - A signal with higher priority inhibits the rest, with lower priority, as long as it keeps the priority module active
  - A signal with a higher priority, if it appears when a signal with a lower priority has triggered the priority module, will “eject” it from that module, taking control over it, and as long as it keeps the priority module active
  - If two or more signals with the same priority coincide in time, the first one to exceed the detection threshold will have priority, the others being ignored as long as the first one keeps the module active.
- **Prio. Vol:** volume of the priority module. The priority module volume setting is independent of the zone volume and overall volume, so if any of the zones are muted (MUTE) or very low in volume, priority voice messages are guaranteed to reach that zone at an appropriate volume. It allows a setting that covers from -40dB to +6dB.
- **Zone Pre-Select Buttons:** Allows you to select those zones to which priority messages will be sent.

*Ducker* parameters adjustment:

- **THRESHOLD:** activation threshold. When the input signal exceeds this threshold, the *ducker* function is activated, sending the signal to the target zones (-80 to 12dB).
- **DEPTH:** attenuation applied to the rest of the signals sent to the target zone(s) during the range in which the *ducker* function is active (0 to 80 dB)
- **ATTACK:** Attack time. It determines the time elapsed from the detection threshold being exceeded until the *ducker* starts working (the attenuation of the rest of the signals in the target zones is activated). The range covers from 5 ms to 2 seconds
- **HOLD:** Holding time, in which the *ducker* function is still active once the signal drops below the detection threshold again. Adjustment range from 10 ms to 3 seconds
- **RELEASE:** determines the time it takes for the attenuation to disappear after the period determined by HOLD. In this case, the range is from 50 ms to 3 seconds.



## 10.1. PAGERS

On the same PAGERS/DUCKERS page, two priority modules can be configured in PAGER mode, A and B (management by means of the alert console, eMPAGE), assignable to the pager inputs.

Pager function (priority): sending voice warnings in real time to certain destination zones, selected by means of an eMPAGE console.

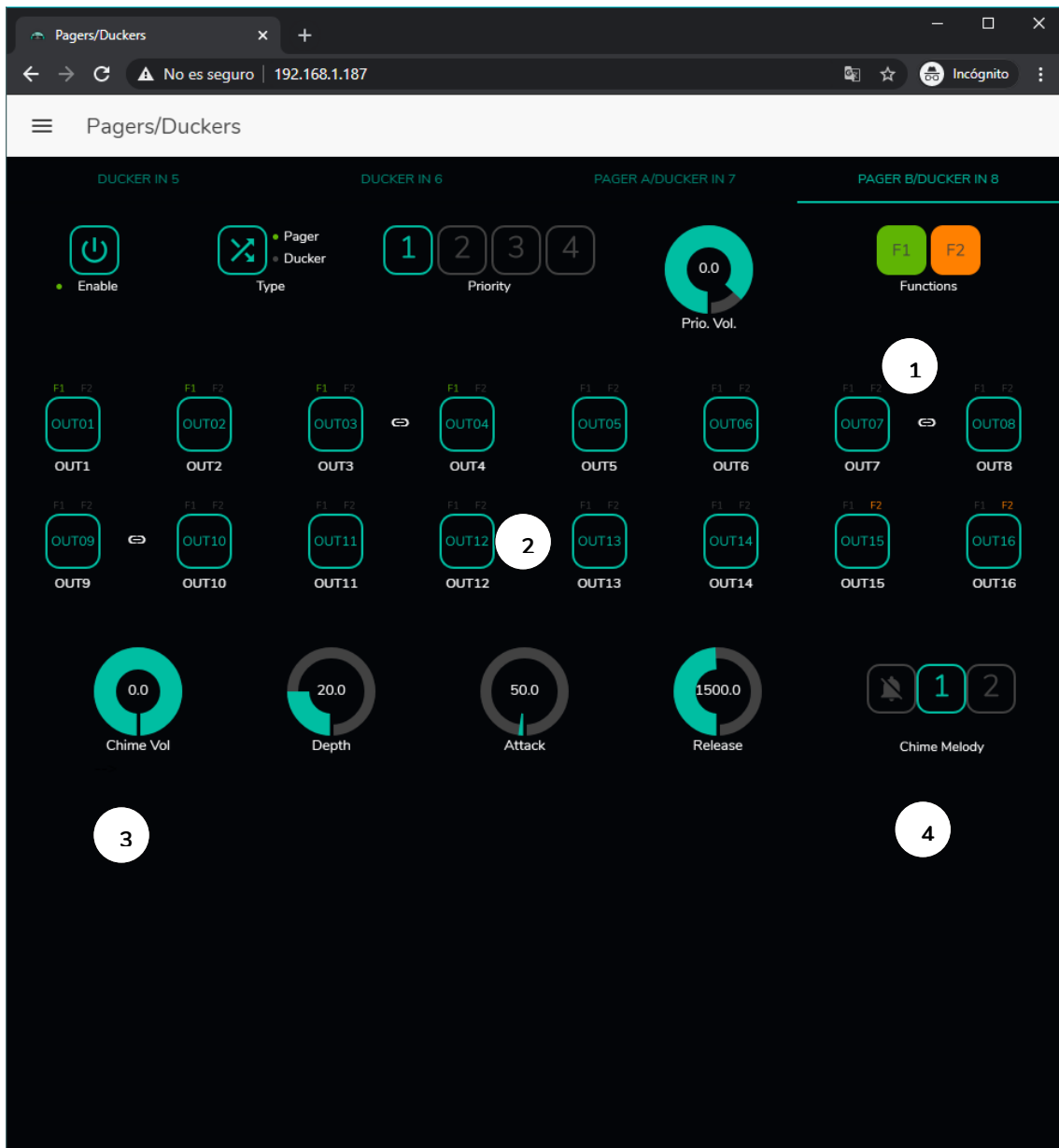


Figure 44: pager configuration page

A pager is configured in the same way as a ducker, with the exception of a few features:

- Special function keys **F1** and **F2**: they allow to group several zones, so that when one of these keys is pressed on the console, all those zones that have been grouped under that key will be selected.

To select the grouped zones by pressing the F1 or F2 key on the console, it is necessary to press on their representation in the web application and select the desired options from the drop-down menu that will appear.

A miniature F1 / F2 icon will appear over each zone indicator, indicating which zones are grouped using these keys. In the Figure 44, the F1 key groups the selection of zones 1, 2 and 3-4 (stereo zone) and the F2 key groups the selection of zones 15 and 16.

- **Zone enable buttons**: allow you to decide which zones a console can select as the destination of its messages. Pressing them enables them (in green) or disables them (in grey) for later selection from the front panel of the console.
- **Chime Vol**: playback volume of the carillon melody (-12 to 0dB). This melody is mixed with the microphone signal of a PAGER (RJ-45) input, its effective volume being affected by the general volume of the input channel.
- **Chime melody selector**: allows you to select two possible chimes (MELODY 1, MELODY 2) or none at all. Every time a console starts sending a message by means of the PAGE key, first the selected melody will be heard in the destination zones, so that the console user can then give way to the voice message.

**Note:** there is no HOLD setting. The HOLD time for an eMPAGE console corresponds to the time the user holds the PAGE button down

## 11. REMOTE CONTROL PANELS

The eMCONTROL1 remote control wall panels, connected to the REMOTE ports on the rear panel of the HUB device, are configured on the REMOTE PANELS page, so that they can be either completely disabled or enabled to act as user control for an area of the installation, including some or all of the following functions:

- Sound source selection, from a custom list for each panel that includes some local sources and/or the [remote source itself](#)\*
- Volume adjustment (with maximum and minimum operating range) and mute control
- Equalization adjustment, with 3-tone control (BASS-MID-TREBLE)

\***Remote source:** Signal entered into a WPa patch panel, adjacent and complementary to an eMCONTROL1 remote control, providing the WPa panel with a mono and balanced (line level) audio signal to the eMCONTROL1 panel. This audio signal will be routed from the eMCONTROL1 panel to the REMOTE port of the HUB unit via a single CAT5 cable or better, together with the necessary control data and DC power. Please refer to the user manual of the WPaMIX-T and eMCONTROL1 devices for more information about the connection.



Figure 45: WPaMIX-T in combination with eMCONTROL1

The REMOTE PANELS page shows the status of the 8 panels that can be connected to a HUB unit.

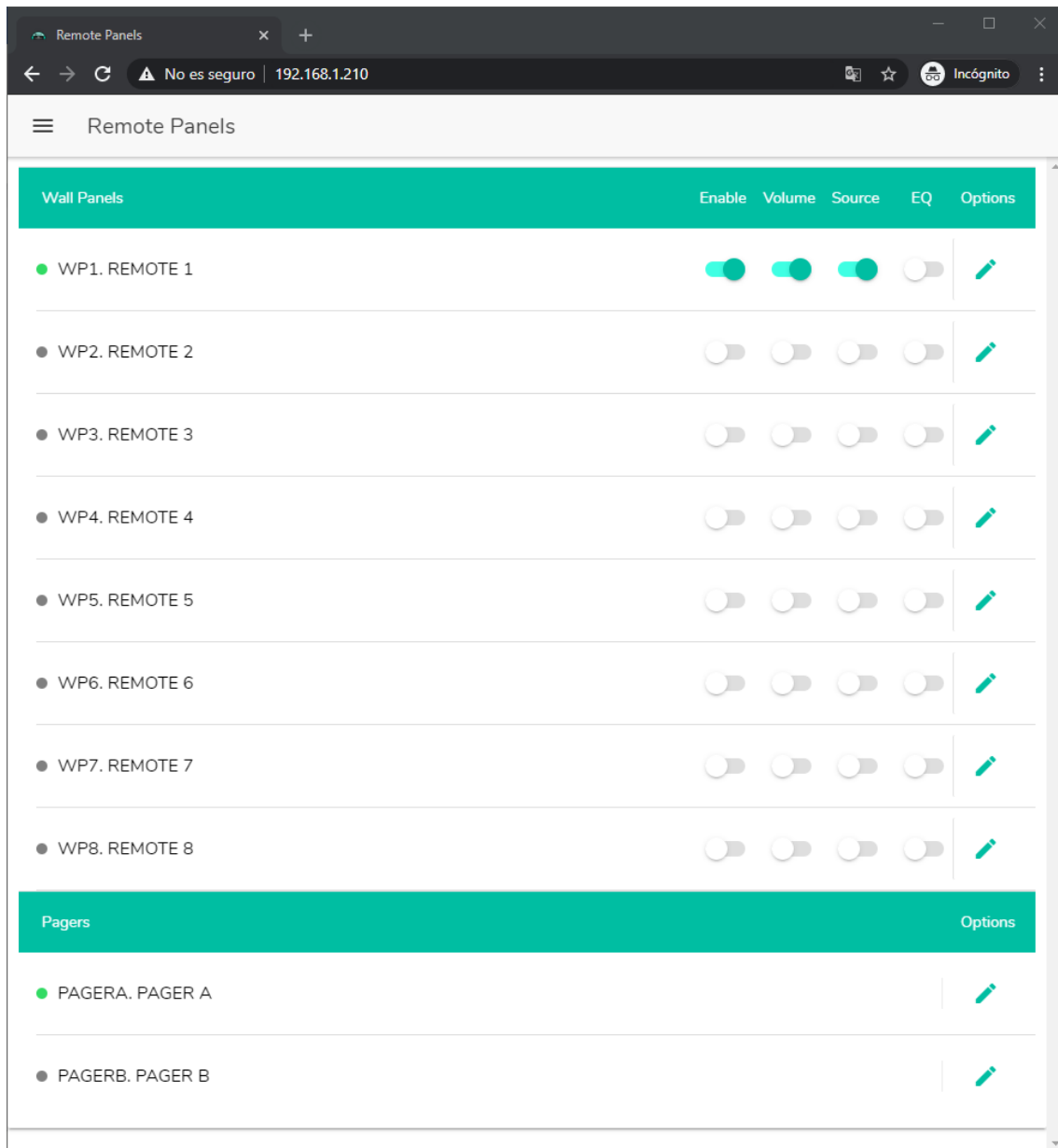


Figure 46: remote control wall panels configuration page

The circular indicator on the left side of the remote panel indicates its status: disconnected (grey) or physically connected (green) to the HUB unit.

The eMCONTROL1 remote controls have the following options:

- **Enable:** enabled or disabled status of the unit
- **Volume:** Volume adjustment function enabled or disabled for the unit
- **Source:** source selection function enabled or disabled for the unit
- **EQ:** equalization adjustment function, tone control, unit enabled or disabled

Clicking on the edit icon under the Options column takes you to the next configuration window.

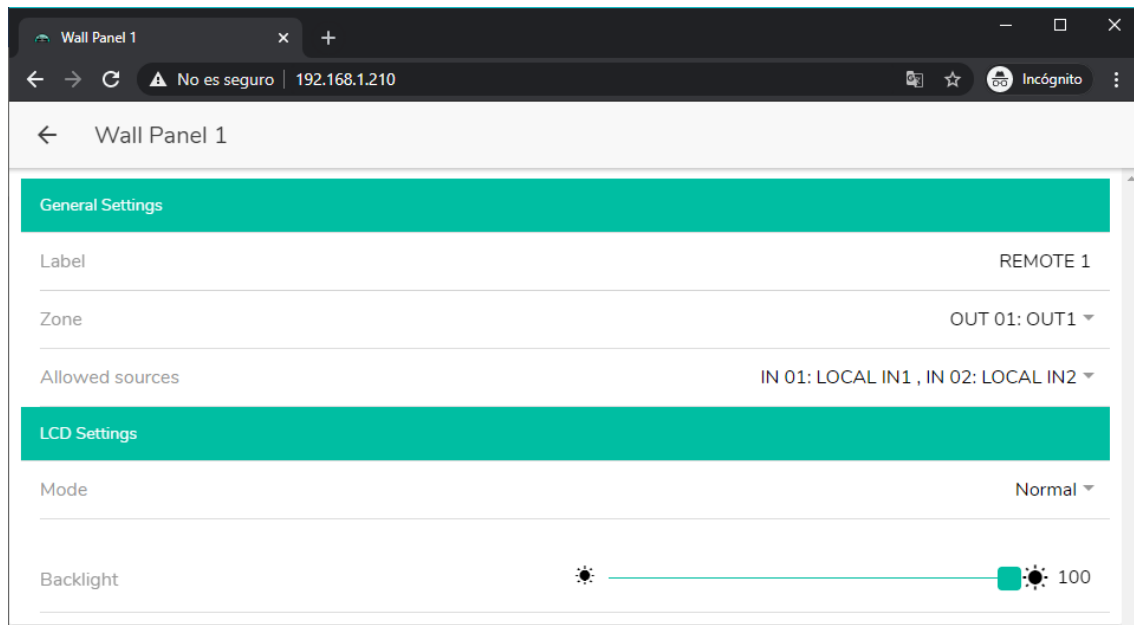


Figure 47: eMCONTROL1 setting parameters

The options available in this window, for each eMCONTROL1 remote control panel, are:

- **Label:** name assigned to the panel. Editable
- **Zone:** zone (output of the HUB unit) under control from the remote panel Selectable from a drop-down menu. One panel can manage only one zone.
- **Allowed sources:** list of music sources (inputs from the HUB unit) that can be selected by the remote panel to be played in the area under your control. Selectable from a drop-down menu. More than one source can be selected.
- **Mode:** behaviour of the remote panel backlighting after a period of 20 seconds with no activity on its physical controls. The options are, selectable from a drop-down menu:
  - Normal: remains unchanged
  - Dimmed: the backlight is dimmed)
  - Off: The backlight is completely turned off.
- **Backlight:** intensity of the remote panel backlighting in use. Sliding adjustment, with values from 0 to 100

On the same page it is possible to display the status of the eMPAGE message consoles connected (or not) to the HUB unit.

The circular indicator on the left of each station indicates its status: disconnected (grey) or physically connected (green) to the HUB unit.

By clicking on the edit icon under the Options column, you can access the station configuration window, where you can edit the name of each station.

## 12. PILOT PANELS

On the PILOT PANELS page, the administrator configures the control panels that users can operate through external devices by running the **Ecler pilot** application (see chapter [ECLER PILOT](#) for more information) or standard web browsers, after identifying themselves with their credentials. Up to 32 pilot panels can be created, each with its own configuration.

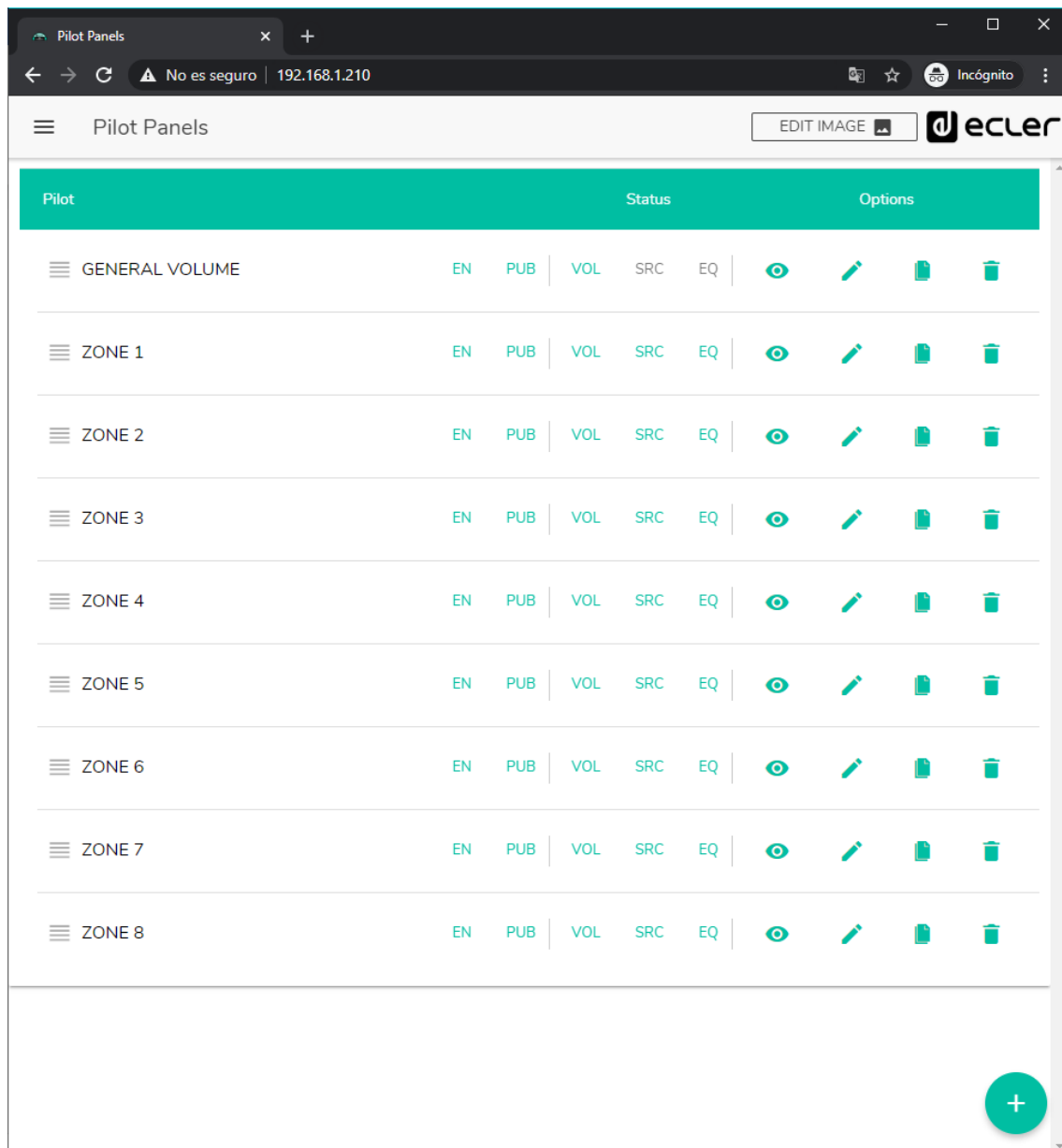


Figure 48: pilot panels configuration page

A *pilot panel* is a set of controls for a zone (or audio output from a HUB device), which can be manipulated by one or more users. The controls that can be accessed on a *pilot panel* are: **volume, source selection and equalization**. Each of these 3 controls can be enabled or disabled within the *pilot panel*.

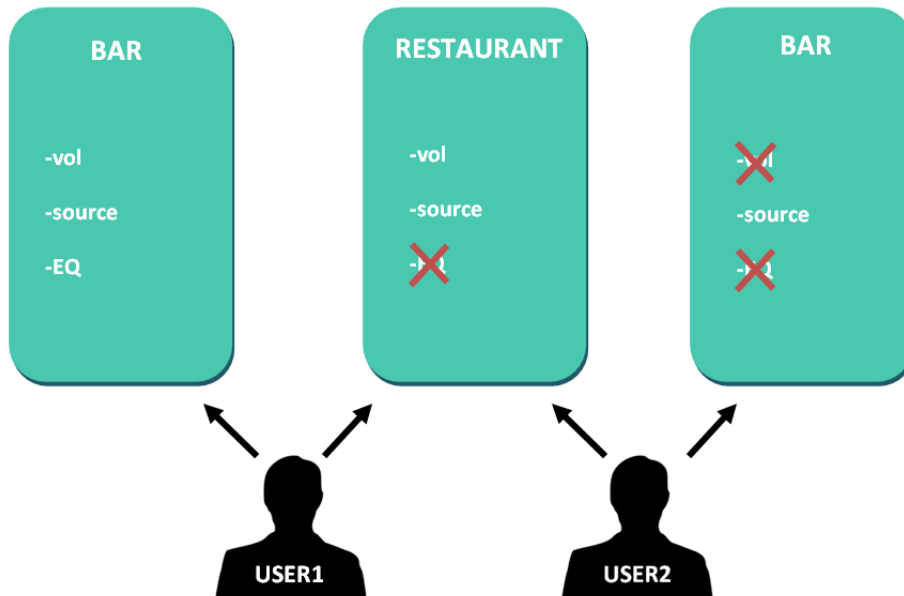


Figure 49: example of pilot panels configuration

In this way, the same user can control different zones (or *pilot panels*), in each of them, he will have control over the functions he is allowed (volume, source selection, EQ). On the other hand, the same zone can be controlled by different users, but with different permissions (two *pilot panels*): in the Figure 49, user 1 has access to all bar controls, however, user 2 can only manipulate the source selection.

Each user displays in his application (web/iOS/Android) only those *pilot panels* to which he has access. Similarly, it only displays the controls it has enabled on those *pilot panels*. You can change the order in which the list of *pilot panels* is displayed by dragging one of them to the desired position while holding down the icon to the left of the name (☰).

Application for Android and iOS, to control available *pilot panels*: **Ecler pilot** (see chapter [ECLER PILOT](#) for more information).


In the PILOT PANELS page is shown a summary of the panels created (see Figure 48). To the right of the *pilot panel* name, the available options are displayed.





## 12.1. STATUS

Status of the panel options. Displays a summary of the panel settings:

- **EN**: enabled/disabled. A *pilot panel* can be enabled or disabled by accessing the panel editing page.
- **PUB**: if it is green, it indicates that the *pilot panel* belongs to the public profile, i.e. all users have access to the *pilot panel* (no credentials required).
- **VOL**: if it is green, the volume control (and MUTE) is enabled in the *pilot panel*.
- **SRC**: if it is green, the source selection is enabled in the *pilot panel*.
- **EQ**: if it is green, equalisation is enabled on the *pilot panel*.

## 12.2. OPTIONS

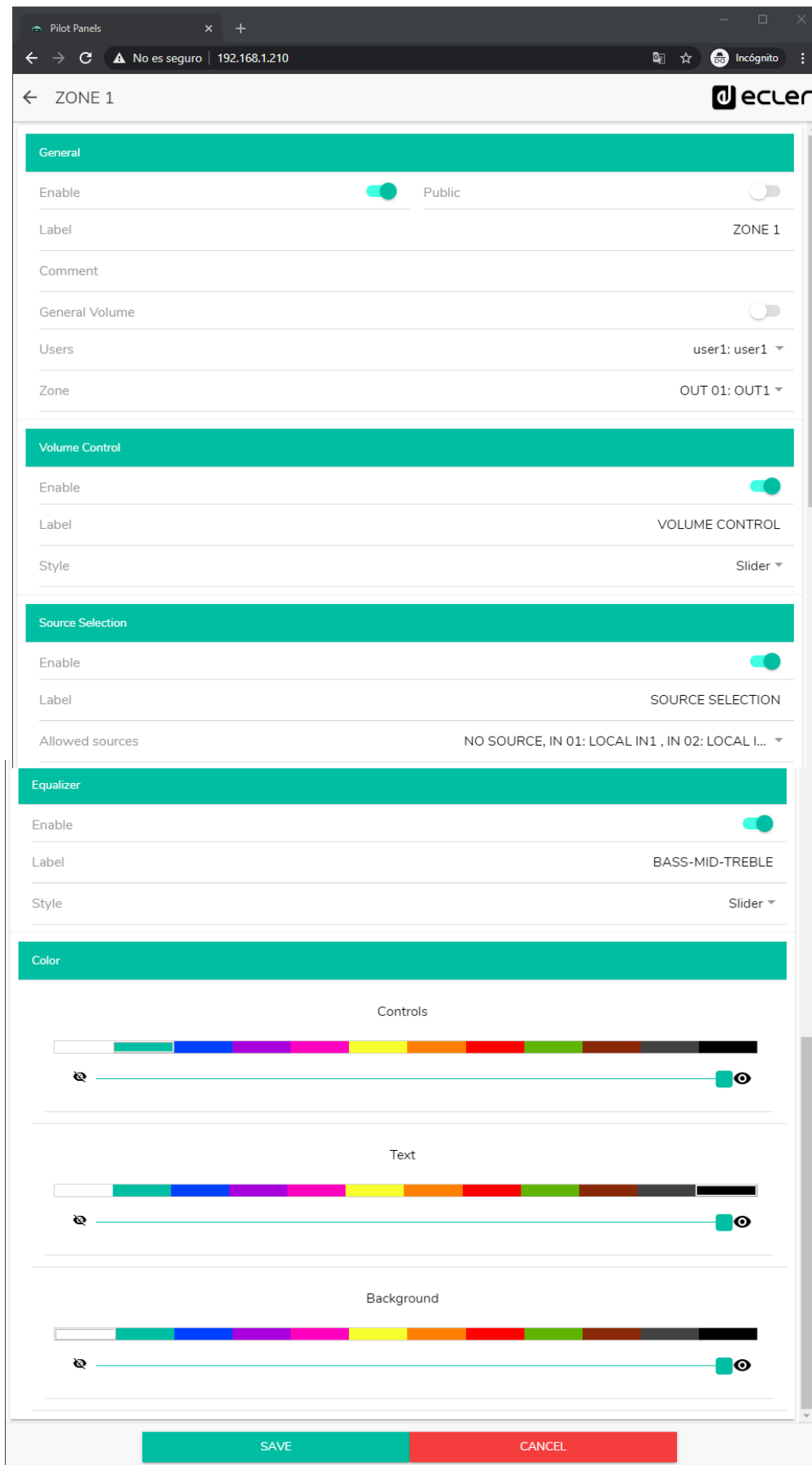
Editing options of a previously created panel. To create a new pilot panel, click on the button  in the lower-right corner. On the *pilot panel* configuration page, the following options are available:

- : preview of the *pilot panel*.
- : edit page of the *pilot panel*.
- : duplicates the *pilot panel*.
- : deletes the *pilot panel*.

Clicking on the edit icon accesses the *pilot panel* configuration page. It is also accessible when creating one for the first time.

Once the *pilot panel* is configured, press the SAVE button to save and apply the changes. Press the CANCEL button to cancel any modification in the panel.





**ZONE 1**

**General**

- Enable:  Public
- Label: ZONE 1
- Comment:
- General Volume:
- Users: user1: user1
- Zone: OUT 01: OUT1

**Volume Control**

- Enable:
- Label: VOLUME CONTROL
- Style: Slider

**Source Selection**

- Enable:
- Label: SOURCE SELECTION
- Allowed sources: NO SOURCE, IN 01: LOCAL IN1, IN 02: LOCAL I...

**Equalizer**

- Enable:
- Label: BASS-MID-TREBLE
- Style: Slider

**Color**

Controls

Text

Background

SAVE CANCEL

Figure 50: Pilot panel configuration page

### 12.3. GENERAL

- **Enable:** enable/disable *pilot panel*.
- **Public:** determines if the panel belongs to the public profile or not. If it belongs to the public profile, any user has access to the *pilot panels* of this profile (no login credentials required). If selected, the user selection option (*Users*) will be disabled.
- **Label:** you can give this pilot panel a name, for example, the name of the area under control.
- **Comment:** allows you to add a comment.
- **General Volume:** you can create *pilot panels* of the general volume. If you select this option, the zone selection, source selection and equalization options will be disabled.
- **Users:** selection of users with access to the *pilot panel*. You can select one, several or all users.
- **Zone:** zone (audio output) under control.

### 12.4. VOLUME CONTROL

- **Enable:** Enable/disable the volume control for the selected zone.
- **Label:** you can name this volume control, which will be displayed in the control panel
- **Style:** you can select type of control for the volume.

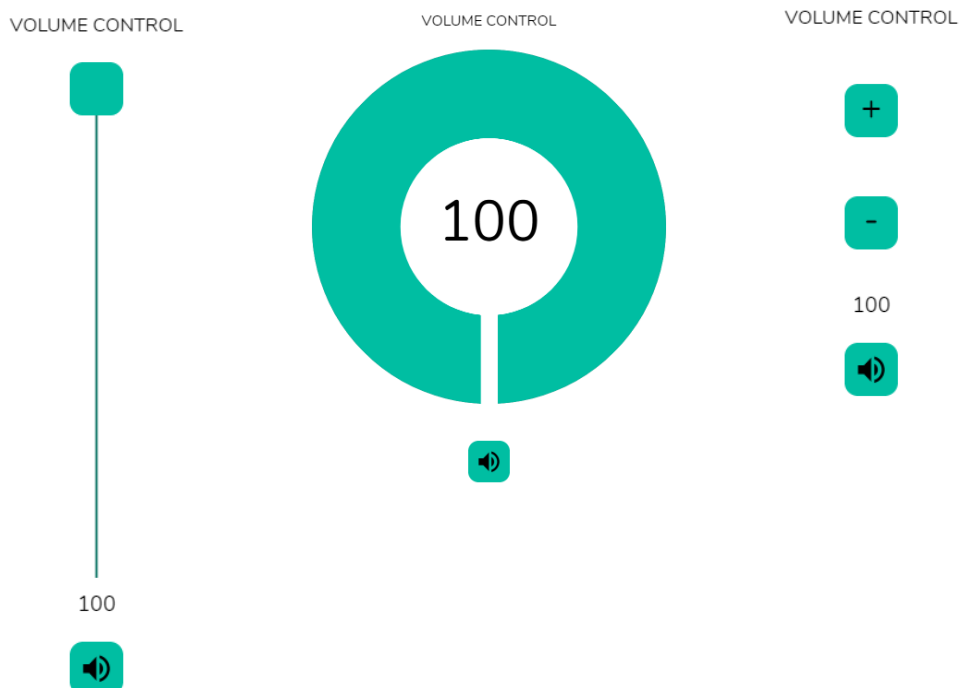


Figure 51: different types of volume control

## 12.5. SOURCE SELECTION

- **Enable:** enable/disable source selection for the selected zone.
- **Label:** you can name the source selection control, which will be displayed on the control panel.
- **Allowed sources:** allowed sources. Select the audio sources that will be available for selection in that zone. You can limit the number of sources available in a zone, or leave all of them accessible. The application will automatically draw the zone selection control.

**Note:** The end user can only select one source from the list above at a time.

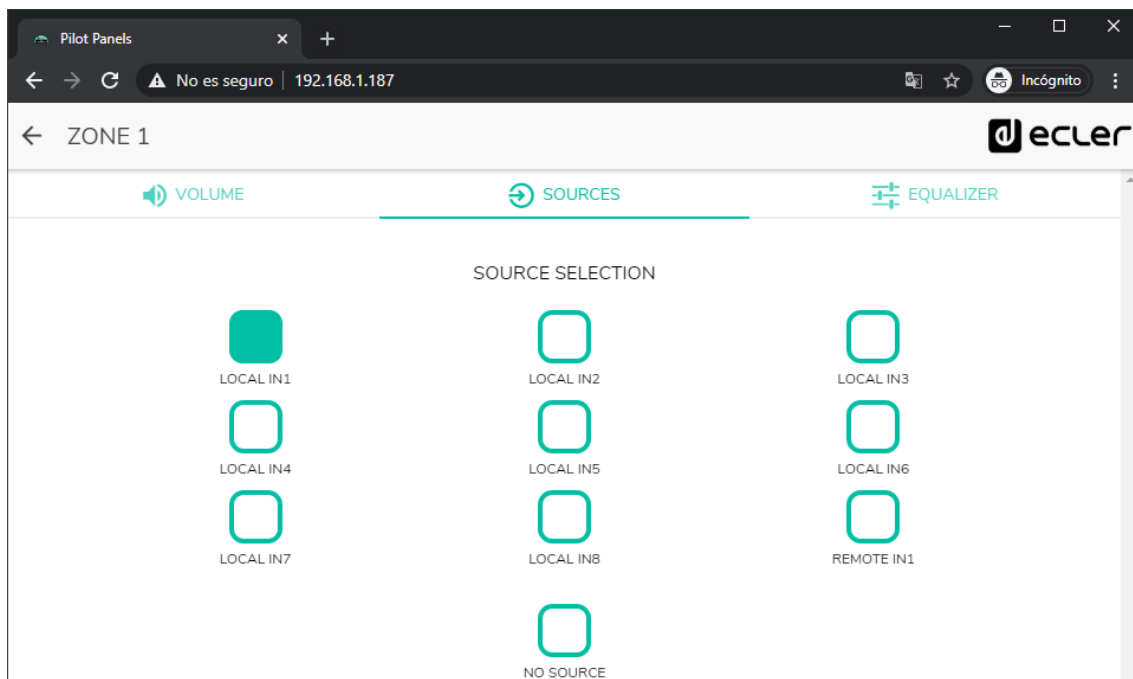


Figure 52: selecting sources from a pilot panel

## 12.6. EQUALIZER

- **Enable:** Enable/disable the EQ for the selected zone.
- **Label:** you can give a name to this equalization control, which will be displayed in the control panel.
- **Style:** you can select the type of control the EQ will have.

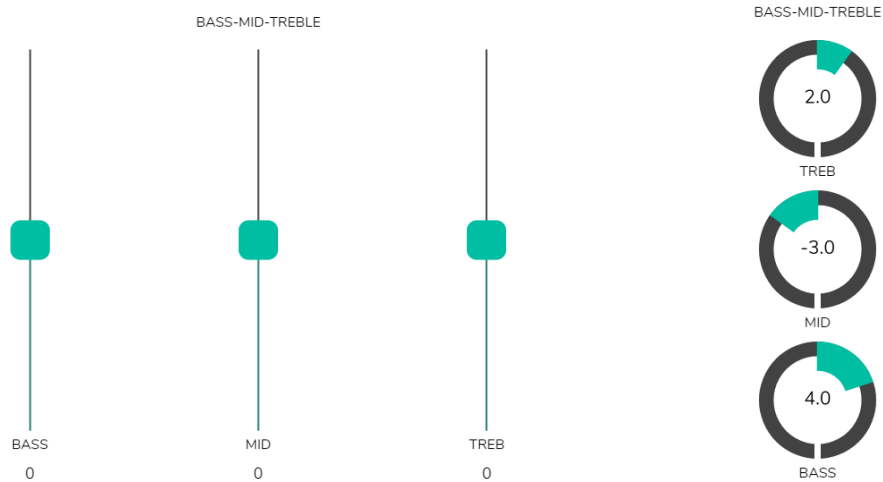


Figure 53: different types of tone control

## 12.7. COLOR

You can customize the user controls in terms of colors. Throughout the color range, you can adjust the transparency to achieve other shades.

- **Controls:** main colour of the controls.
- **Text:** Text colour.
- **Background:** Background colour.

Below are some examples of *pilot panels*.

## 12.8. IMAGE

The *pilot panels* can be customized by adding a small image or a corporate logo in the upper right corner of the panel. This image or logo will be the same for all users including the public profile.

To do this, click on the EDIT IMAGE button in the upper right corner to open the image editing dialog.

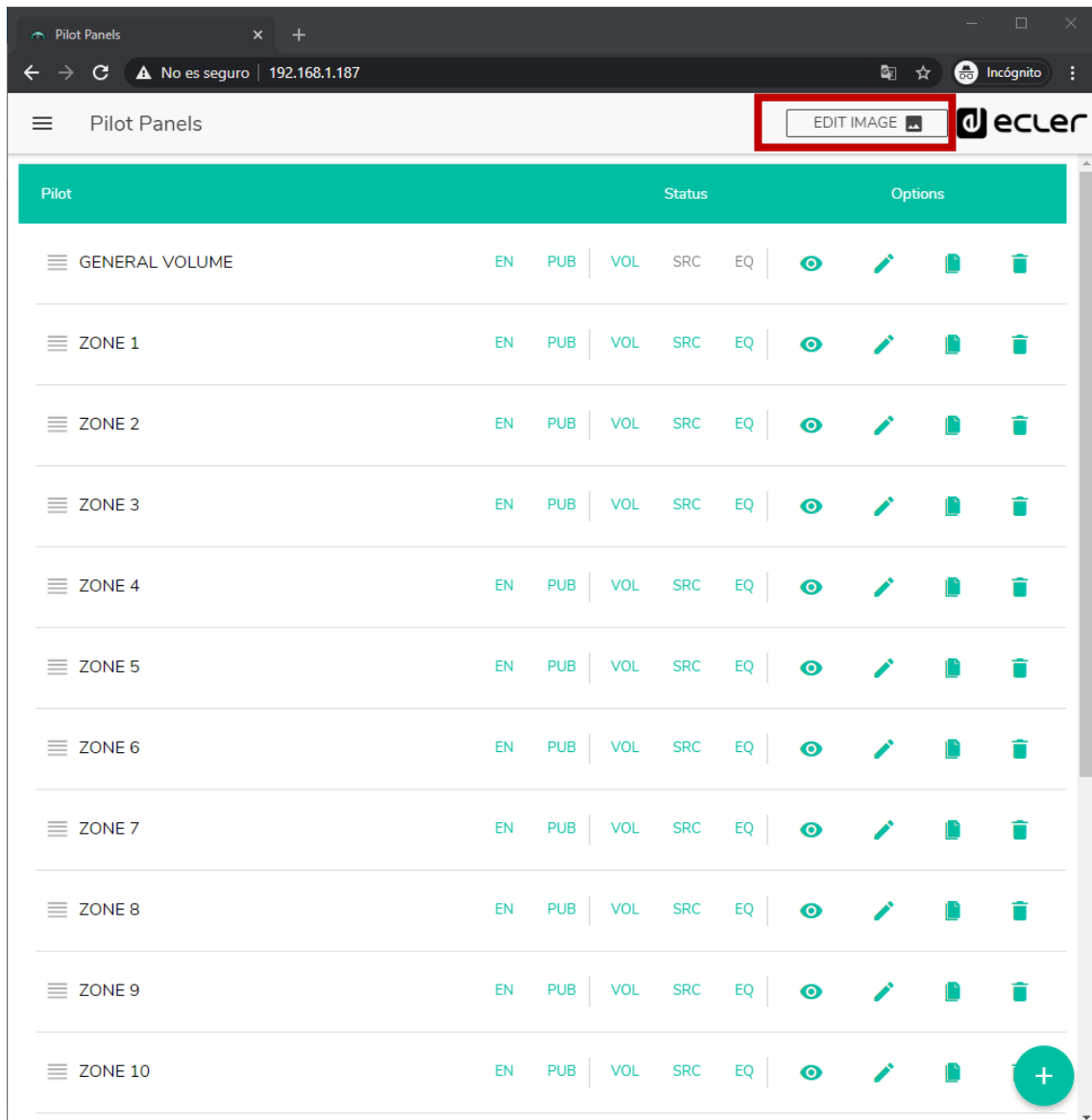


Figure 54: edit image button

To modify the image, once the dialog box is open, click on the “add” button (green “+” sign) in the upper right corner. Your file browser will open. Select the desired image and adjust the mask to it. The selected image cannot exceed 50KB. Press the save button to apply the changes.

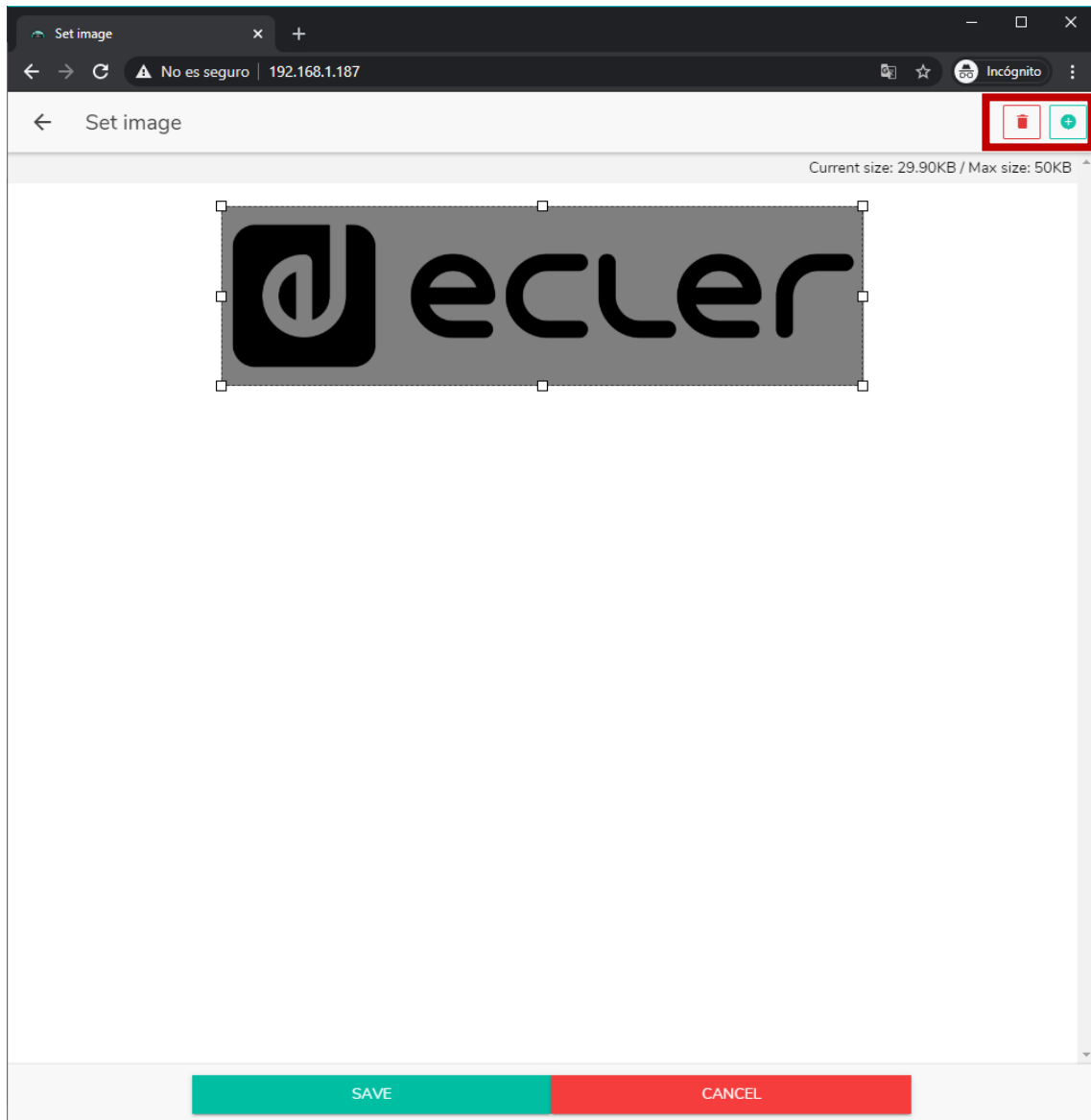


Figure 55: editing an image or logo

If you want to delete the image or logo (nothing will be displayed), click on the button represented by a trash can in the upper right corner

## 12.9. PILOT PANELS EXAMPLES

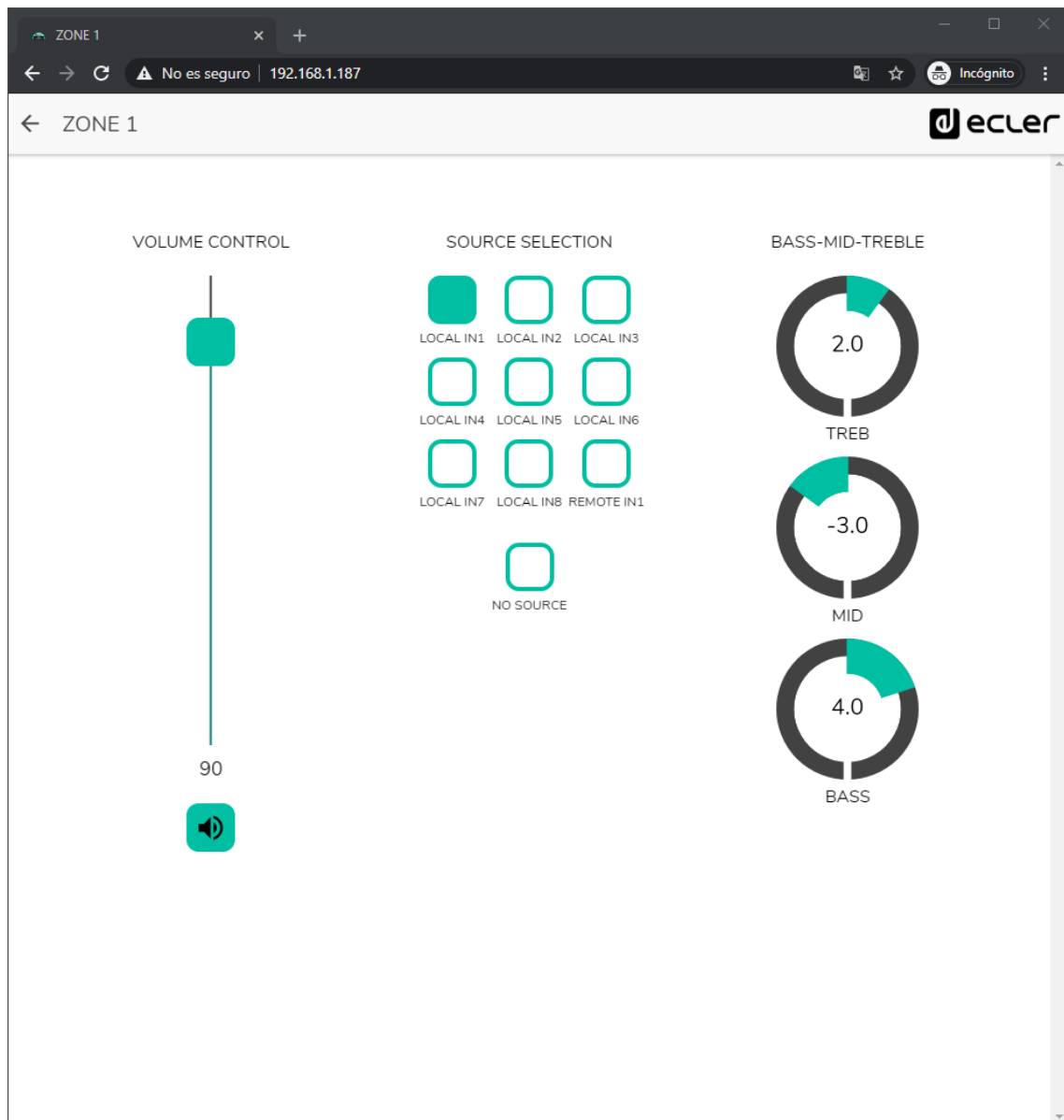


Figure 56: pilot panel with volume control, source selector and tone control

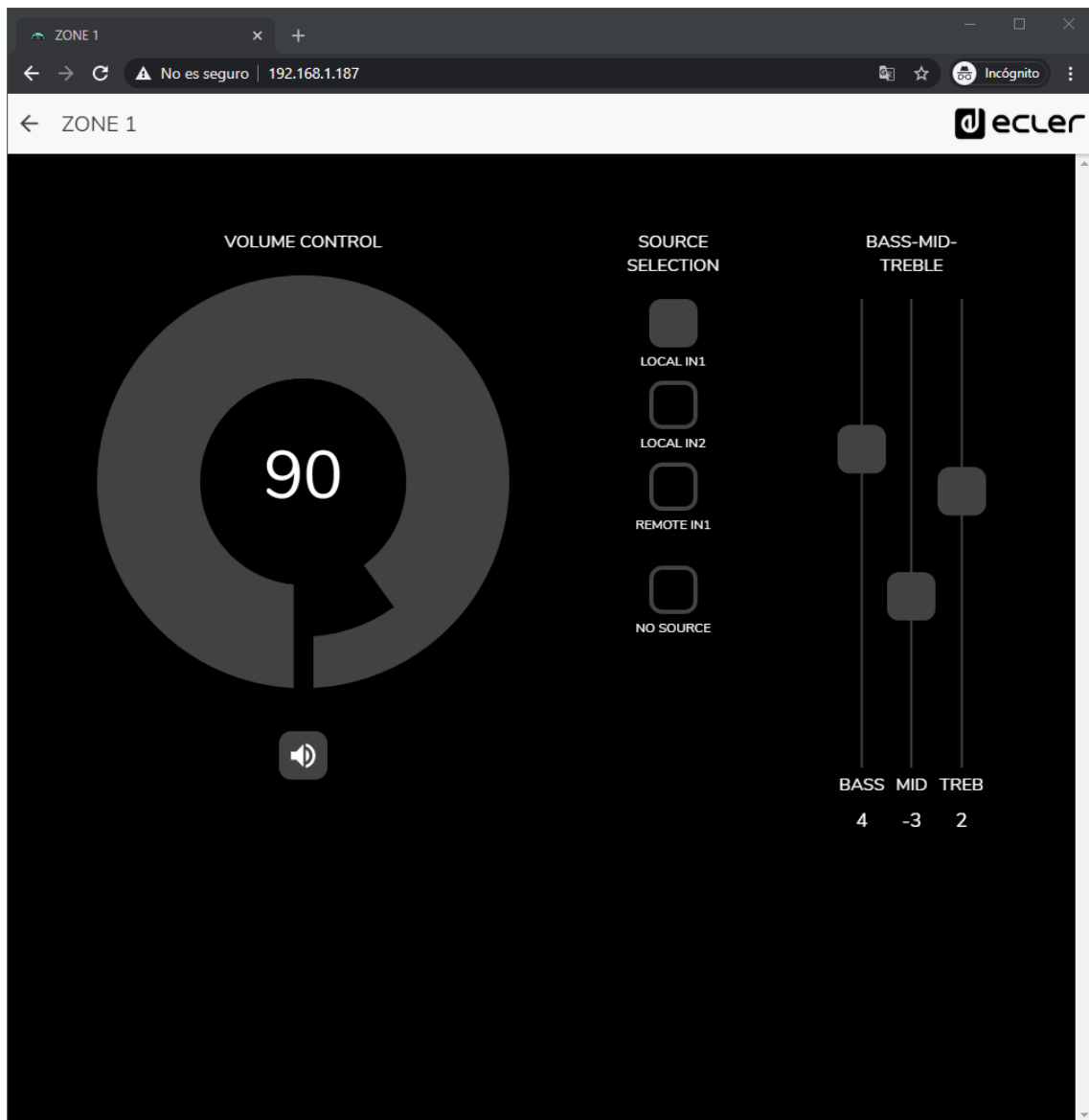


Figure 57: same pilot panel with different sources available and different color palette



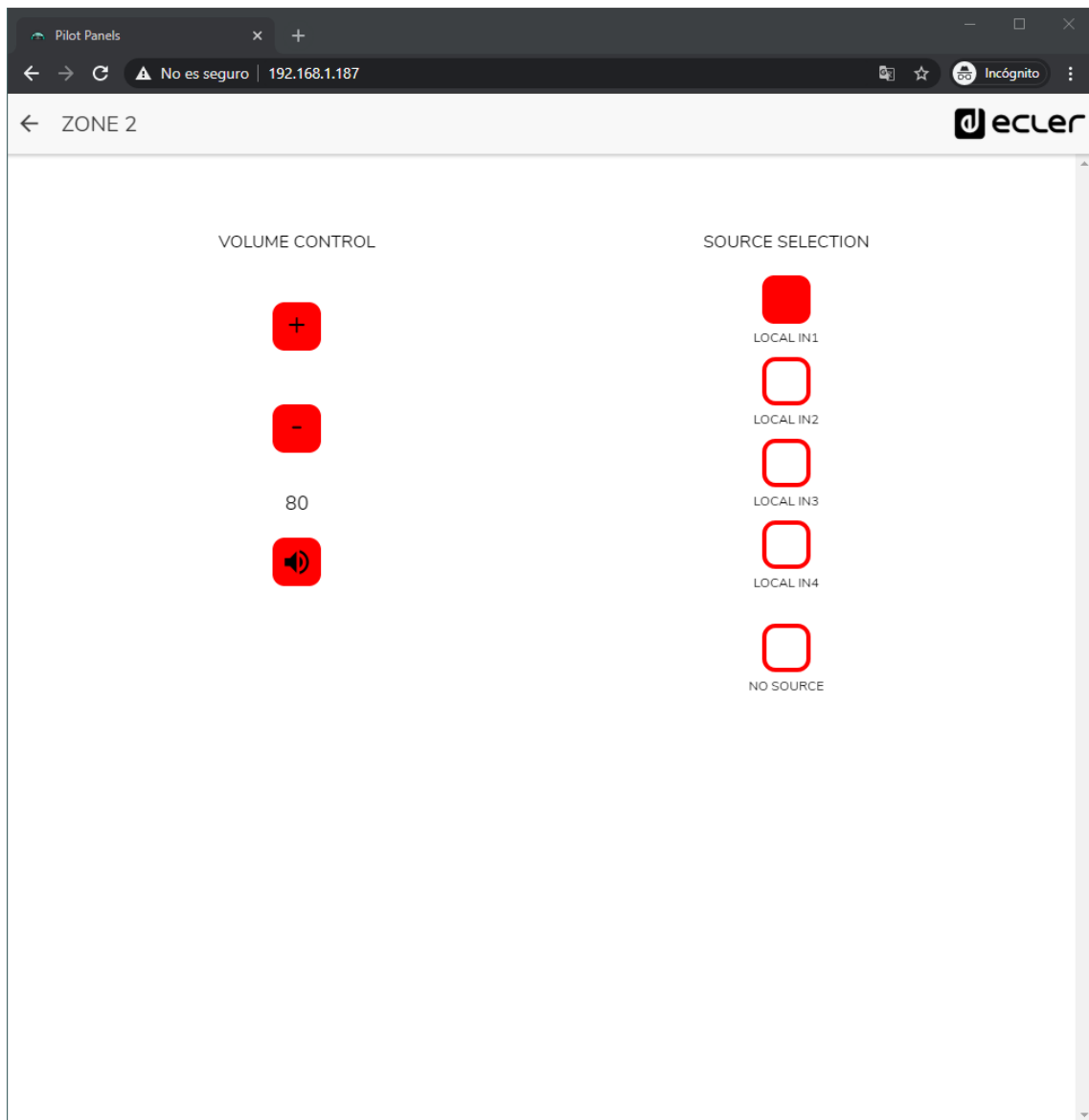


Figure 58: pilot panel with volume control and source selector

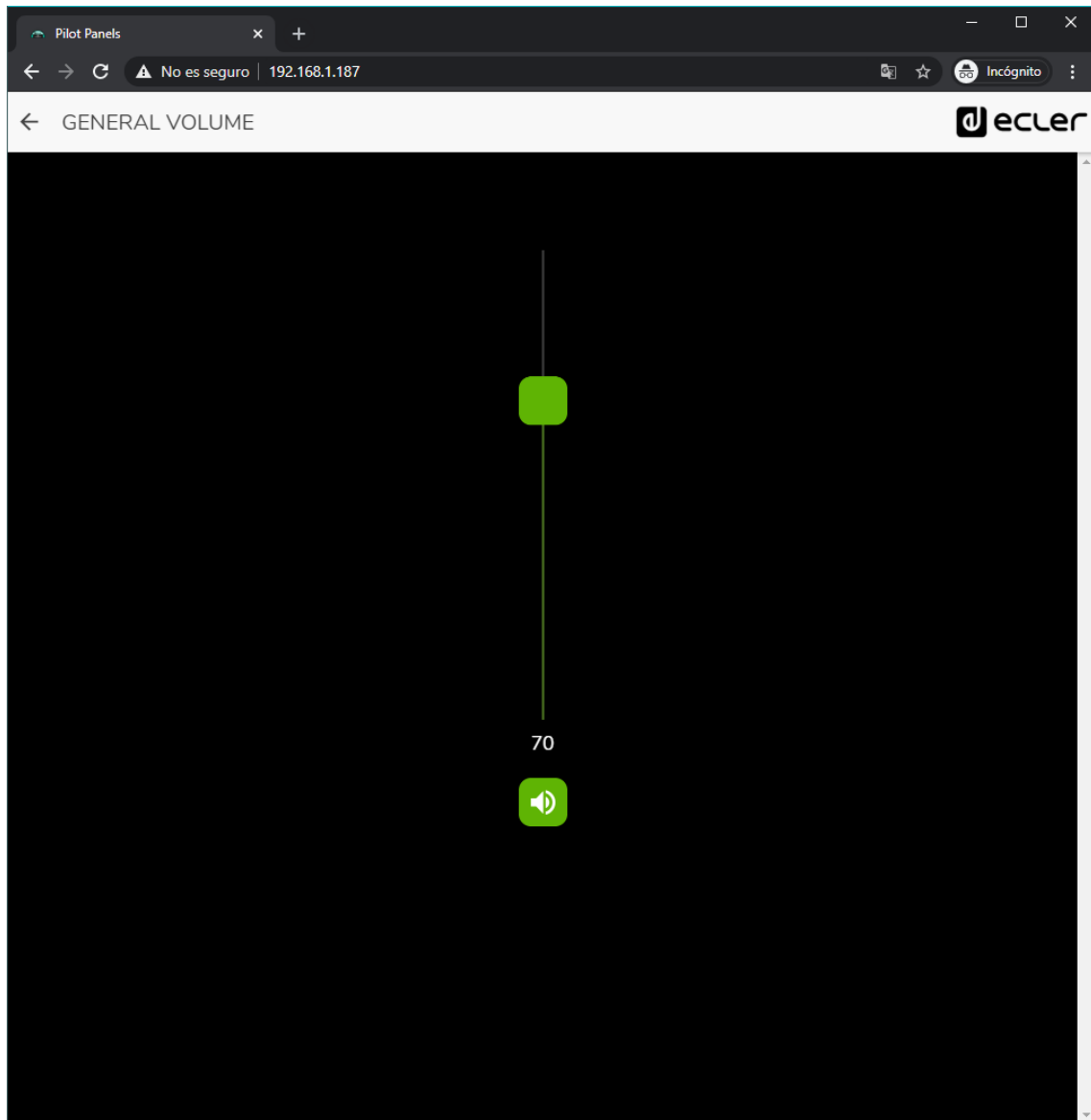


Figure 59: pilot panel of the general volume control

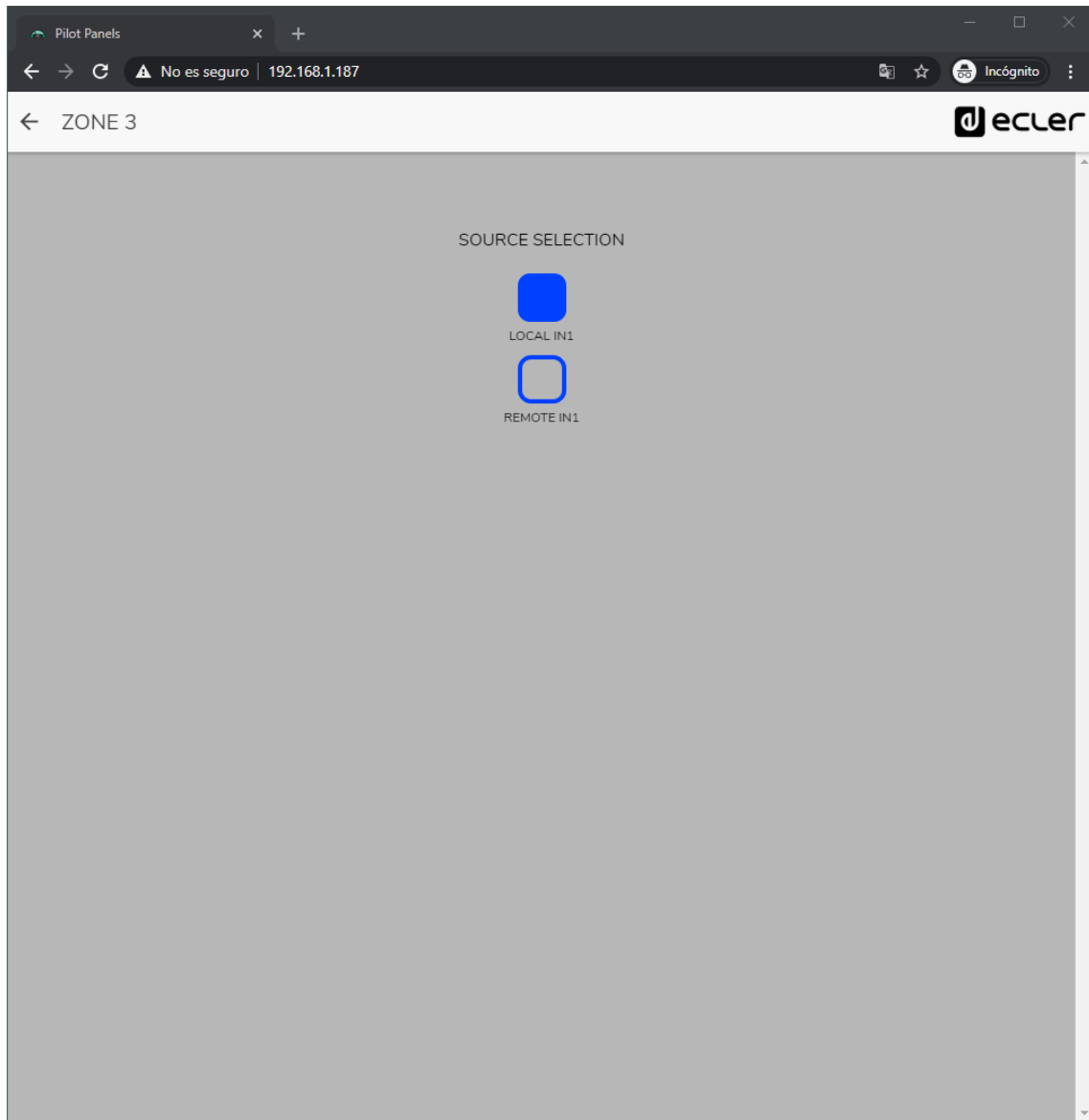


Figure 60: pilot panel with just local source selection (HUB) and remote (eMCONTROL + WPaMIX-T)

### 13. HELP

The help page contains useful information about the HUB device and is easily accessible. This information is only accessible when the device is connected to the Internet.

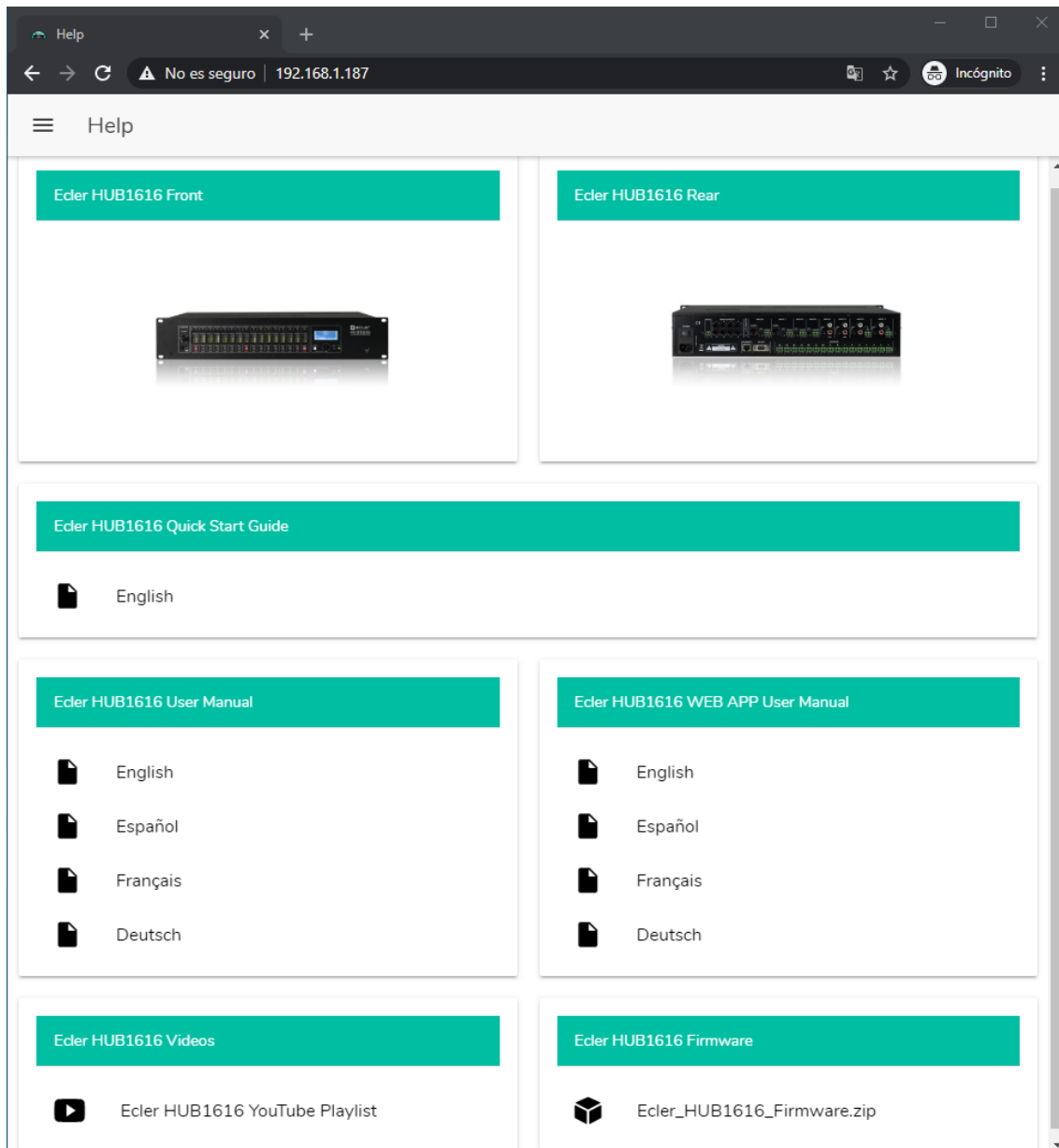


Figure 61: help/information page

- **Front and back panel:** links to high-resolution images of the device's front and back panels
- **Quick Start Guide:** link to the quick start guide for the device.
- **Manuals:** links to the manuals for the HUB device and the HANGAR web application itself
- **Videos:** links to device-related videos, such as installation and start-up video tutorials
- **Firmware:** link to the latest firmware version of the device.

## 14. ACCESS TO PUBLIC PILOT PANELS

A user can control his *pilot panels* from his smartdevice, by pre-installing the Ecler pilot application available in Google Store and Apple Store (see chapter [ECLER PILOT](#)). However, it is also possible to access these *pilot panels* from any web browser, using the HANGAR web application. In the latter case, simply open your browser and type the IP in the navigation bar of the HUB unit you want to control.

To access the public profile, click on the PUBLIC PILOT PANELS button. No login credentials are required. The *pilot panels*, created by the administrator, available in the public profile will be displayed.

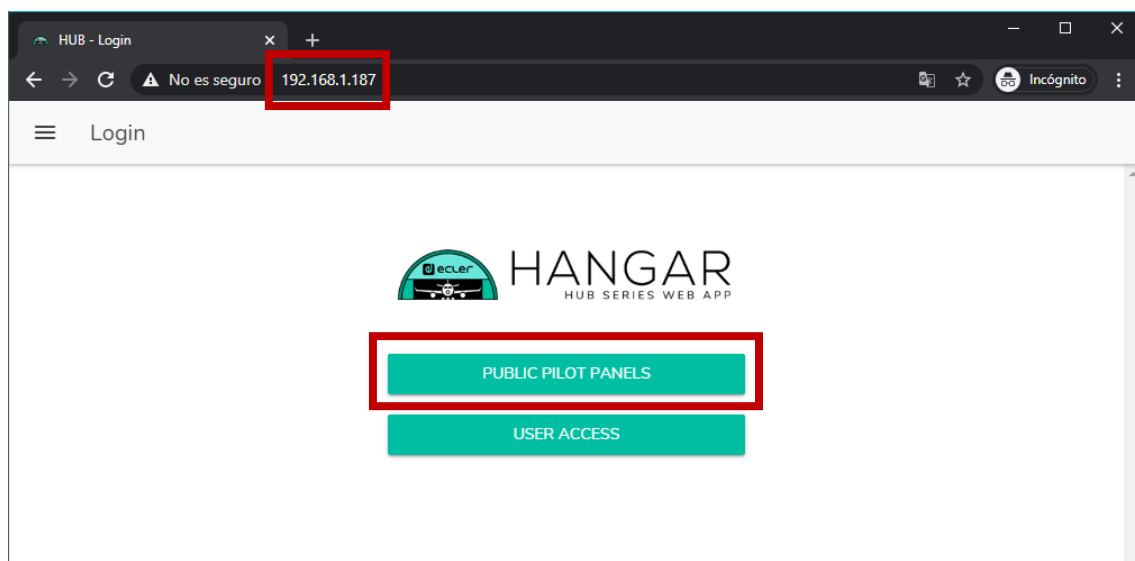


Figure 62: access to the public profile

**Note:** the client device (computer, Tablet, Smartphone, etc.) that runs the Ecler pilot application (or a web browser) to access the *pilot panels*, must be connected to the same local network as the HUB unit it is targeting, and that acts as a server for the *pilot panels*, in the same IP range as this one.

## 15. ACCESS TO THE WEB APP AS A USER

To access the panels assigned to a User from the HANGAR web application, open your browser, type the IP in the navigation bar of the HUB unit you want to control, enter your credentials for access (they must be provided by the administrator) and press the access button (SIGN IN).

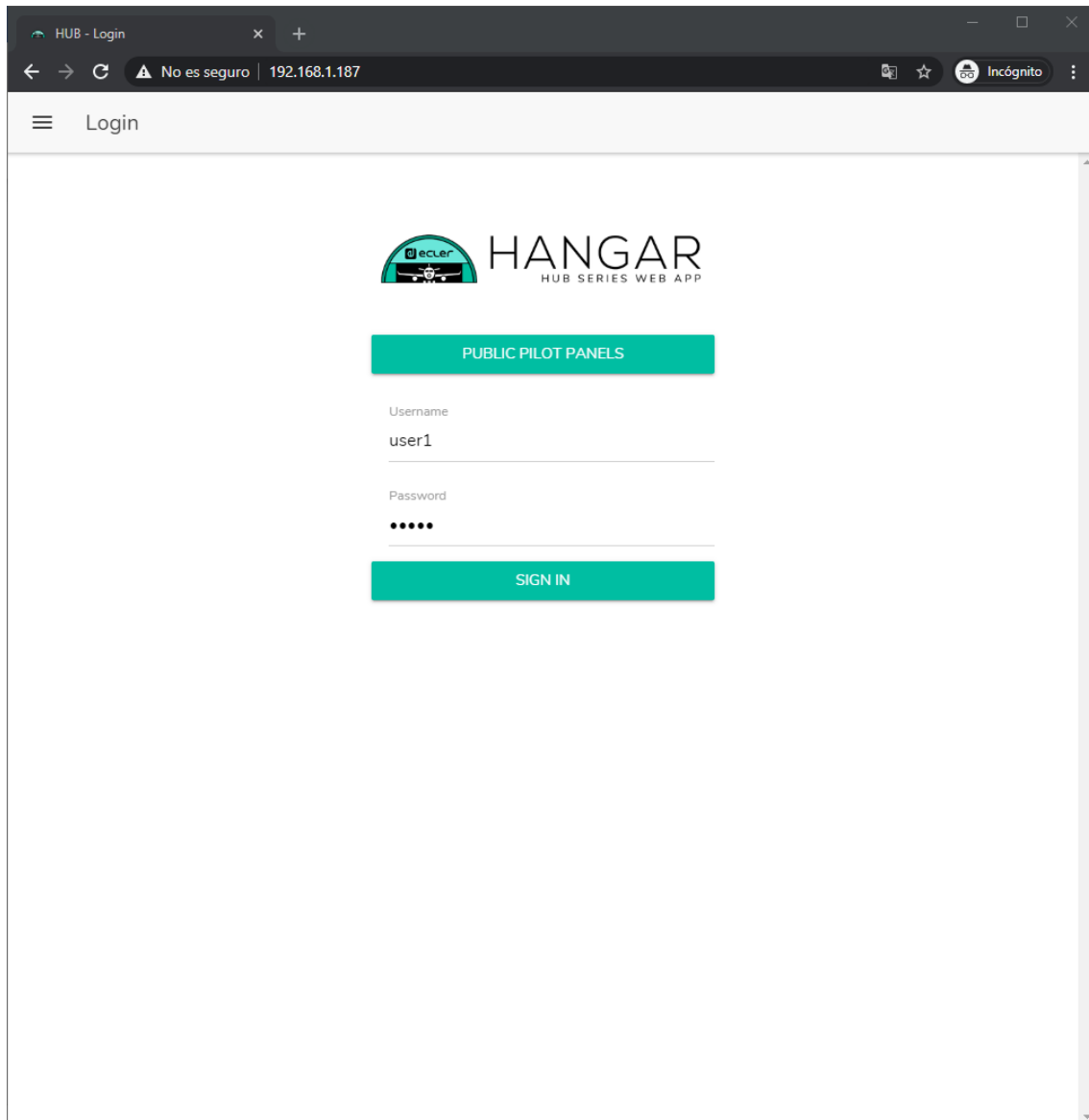


Figure 63: user access

You will then see a list of the panels assigned to that user.

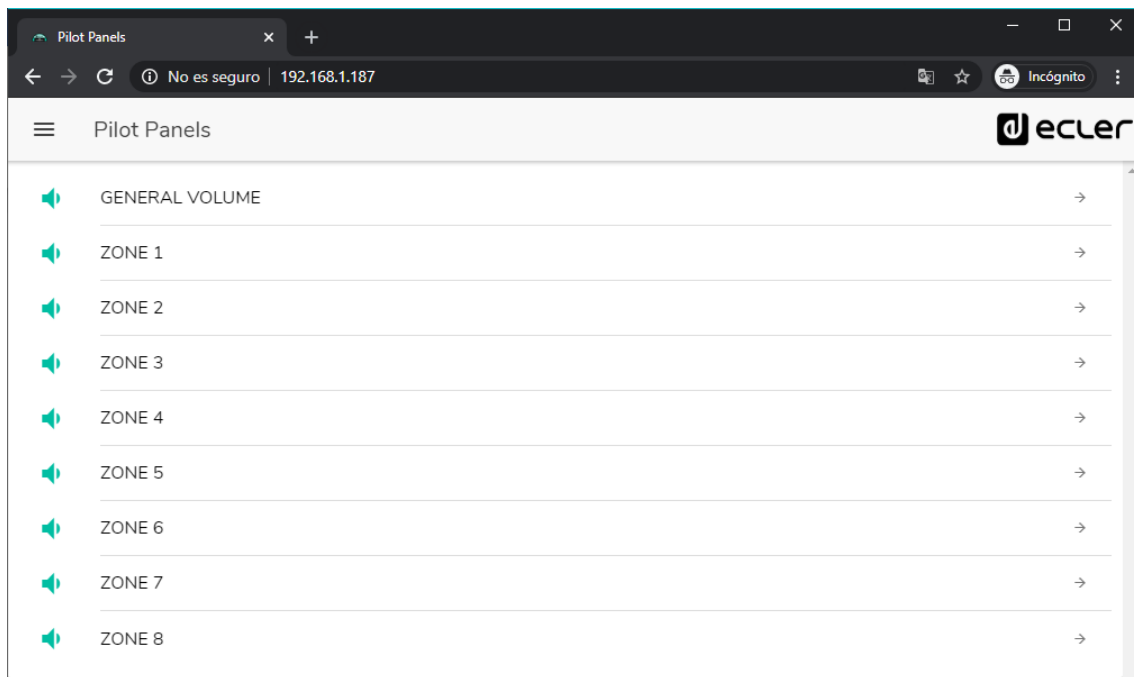


Figure 64: pilot panels assigned to a user

You can start flying your HUB device now!

## 16. ECLER PILOT

**Ecler pilot** is an application for remote control by the end user over one or more zones of an installation managed by a HUB device. It is available for iOS and Android. The application can be downloaded for free from the shops:



1. Ecler pilot logo for iOS

Before opening the application, make sure that the HUB and the control device (Smartphone, Tablet, etc.) are on the same local network. This network must have a WiFi access point to connect the Smartphone or Tablet.

**Note:** The Ecler pilot application replaces the eMIMO pilot application. The new Ecler pilot application is also compatible with Ecler eMIMO1616 devices. No eMIMO1616 device firmware update is required to use the application with eMIMO1616 devices.



## 16.1. ADDING A DEVICE

Open the application. If you open it for the first time, you will need to link a HUB device to control. To do this, press the “DISCOVER DEVICES” button to search for available HUB devices in your local network.

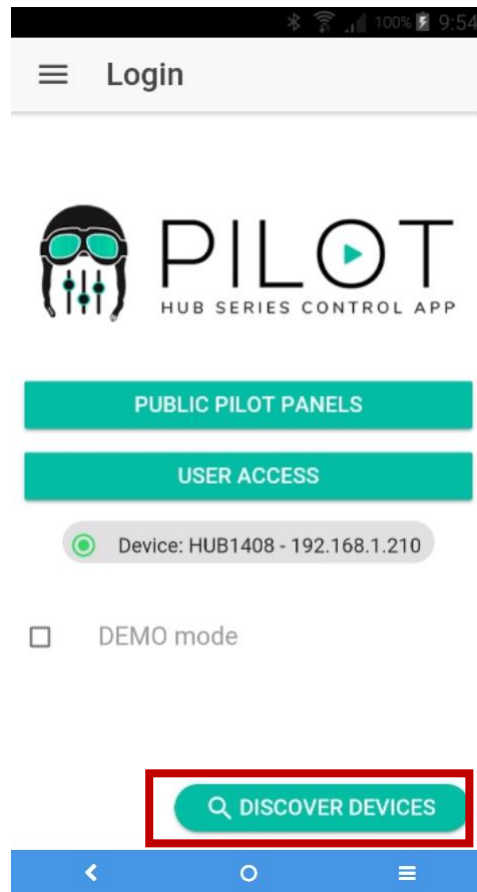


Figure 65: Ecler pilot application login page

A list of available devices (name and IP address) is then displayed. A green LED on the left side of the device indicates that the device is connected and ready to use. If the LED is grey, it is a device that was previously linked but is not currently available on the same network as the mobile device. Drag the list down to update it.

Tap on the device you want to connect to. The application will remember the devices you have previously connected to. So once linked, when you access it again from the application, it will not need to be linked again, and will automatically connect to the last device you accessed.

You can delete unavailable devices by clicking on the icon represented by a trash can.

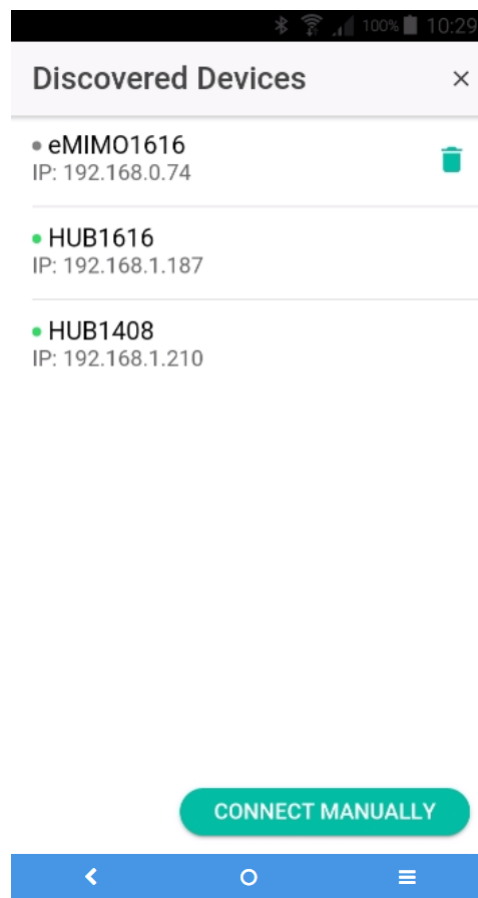


Figure 66: list of automatically discovered devices

If the device is not listed, a **manual connection** may be required. Use the following procedure:

1. Press the CONNECT MANUALLY button.
2. Check the IP address of the HUB device. You can do this by accessing the configuration screen (CONFIG) on the front panel by pressing and holding the CTRL and encoder keys simultaneously for 3 seconds.
3. Enter the IP address of the device in the application.

If connection problems persist, check the network settings.

Pressing the device to which you want to connect will take you back to the main page, where the connection status with the HUB unit is indicated.

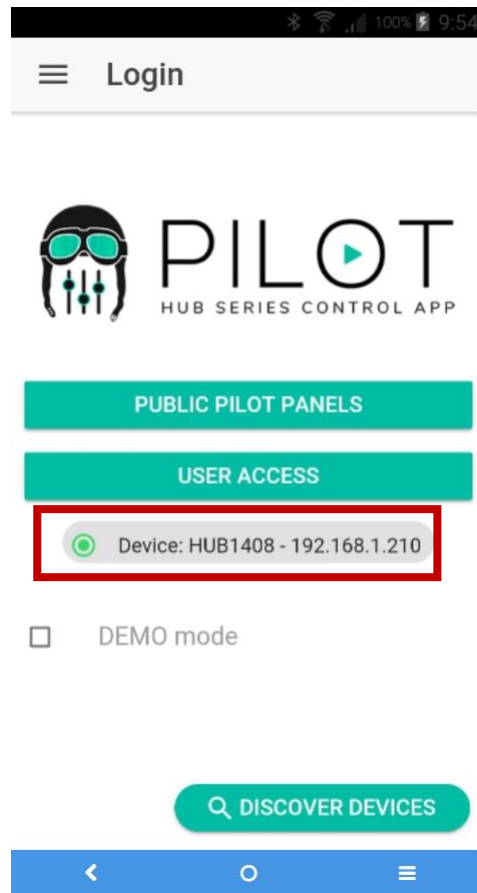


Figure 67: HUB device connection status

A green LED next to the device indicates that it is connected. If the LED is grey, it means it is not connected. The device name and IP address are also indicated.

## 16.2. ACCESSING THE CONTROL PANELS

Each user accesses the control panels assigned to them by clicking on the USER ACCESS button with their account credentials. The privileges of this account are previously configured by the HUB unit Administrator.

To access the public profile, click on the PUBLIC PILOT PANELS button. No credentials are required.

The user can then start piloting his HUB. The user will see the *pilot panels* assigned to him by the HUB administrator.

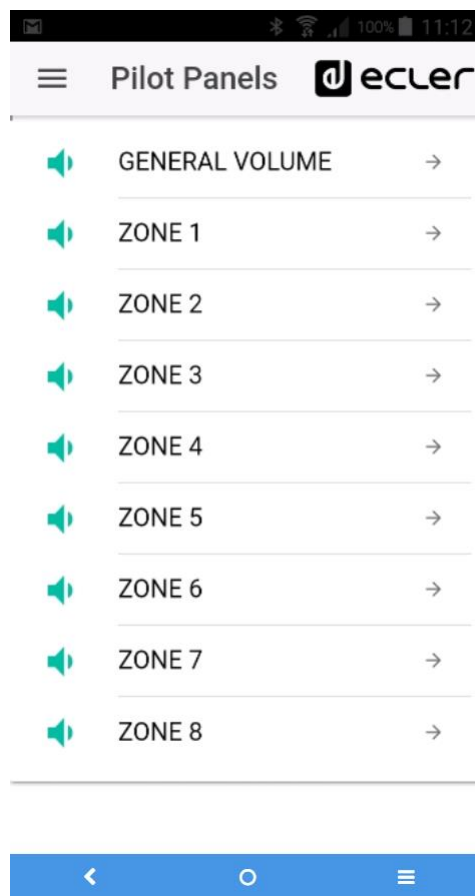


Figure 68: list of pilot panels configured for a user

By clicking on any *pilot panel* in the list, you can modify those controls to which you have access.

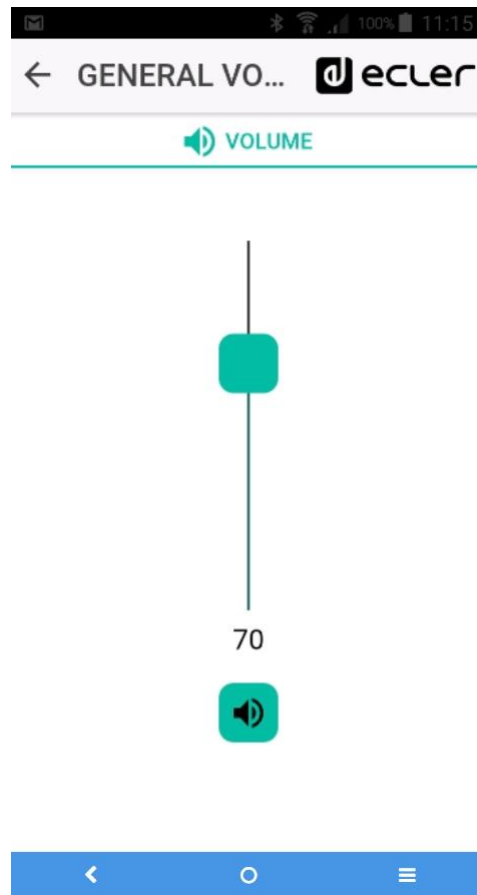


Figure 69: general volume control assigned to a given user

### 16.3. LOADING DEFAULT SETTINGS

By displaying the menu (button ≡ in the upper left corner), a drop-down menu opens where you can select the Predefined setups sub-menu, provided that the administrator has enabled this option for the public profile.

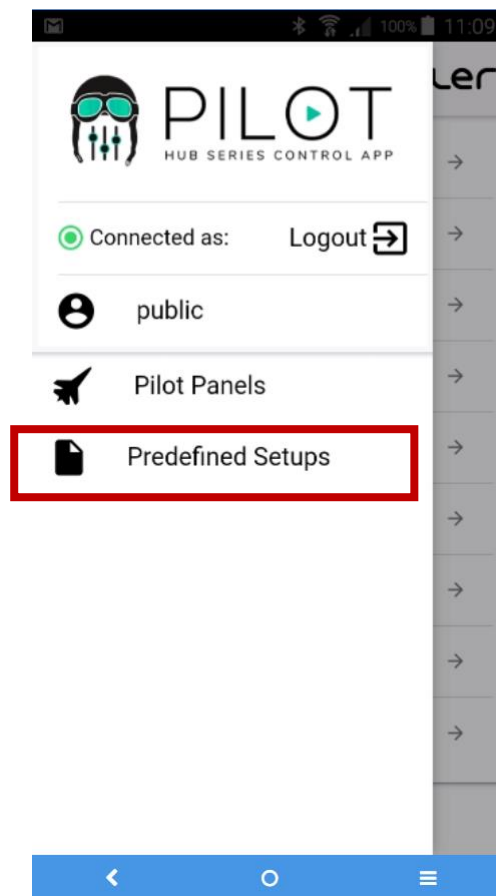


Figure 70: Predefined setups menu

Clicking on *Predefined setups* will display the list of available configurations. Clicking on one of them will load it into the device, overwriting the current configuration, and it will be restarted.

See chapter [APPENDIX](#) to learn more about these default settings.

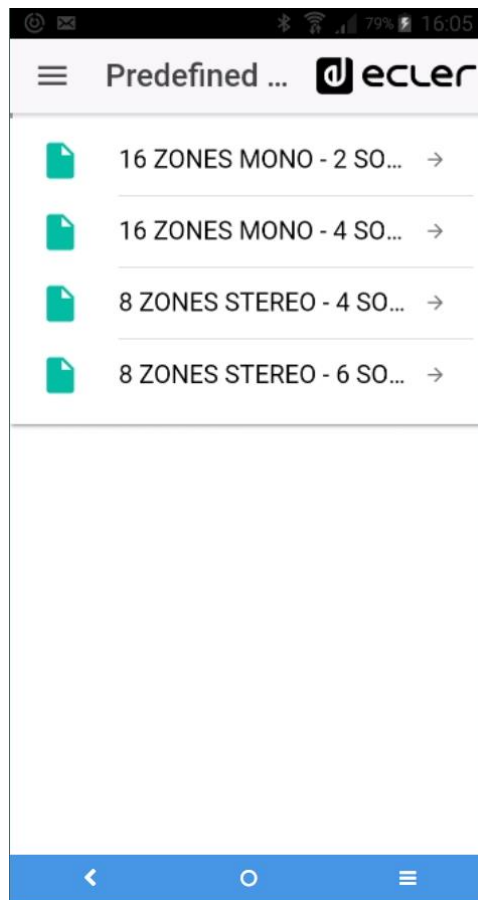


Figure 71: list of default settings for a user

## 16.4. DEMO MODE

If you do not yet have a HUB device, you can start your pilot training using the demonstration mode. Simply select the “DEMO mode” option on the home page, choose the HUB device you wish to pilot and enter a user name (any), or access the public profile. No connection to a HUB device is required in this mode. eMIMO1616 demo mode is also available.

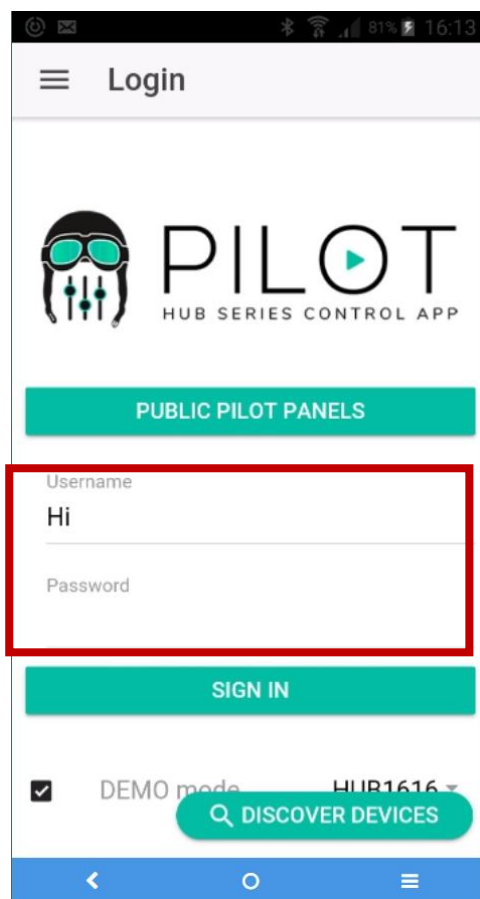


Figure 72: demo mode does not require credentials, just enter any user name



## 17. APPENDIX

### 17.1. PREDEFINED SETUPS HUB1616

General parameters:

- Network: DHCP mode
- Name: HUB1616
- Boot-up mode: remember status
- Public profile: allow loading predefined setups
- Users: no users
- DSP: all disabled
- General Volume: pilot panel. Vol = 70%
- Pagers / duckers: disabled
- Remote panels: no remote panels

#### 17.1.1. Factory setup / 16 ZONES MONO – 2 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1	ZONE 1	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 2	ZONE 2	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 3	ZONE 3	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 4	ZONE 4	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 5	ZONE 5	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 6	ZONE 6	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 7	ZONE 7	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 8	ZONE 8	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 9	ZONE 9	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 10	ZONE 10	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 11	ZONE 11	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 12	ZONE 12	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 13	ZONE 13	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 14	ZONE 14	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 15	ZONE 15	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 16	ZONE 16	OFF / 1 / 2	✓	✓
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 5	ALL OUTPUTS	LINE MONO	4		
INPUT 6	ALL OUTPUTS	LINE MONO	3		
INPUT 7	ALL OUTPUTS	LINE MONO	2		
INPUT 8	ALL OUTPUTS	MICRO	1		

### 17.1.2. 16 ZONES MONO – 4 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1	ZONE 1	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 2	ZONE 2	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 3	ZONE 3	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 4	ZONE 4	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 5	ZONE 5	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 6	ZONE 6	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 7	ZONE 7	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 8	ZONE 8	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 9	ZONE 9	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 10	ZONE 10	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 11	ZONE 11	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 12	ZONE 12	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 13	ZONE 13	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 14	ZONE 14	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 15	ZONE 15	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 16	ZONE 16	OFF / 1 / 2 / 3 / 4	✓	✓
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 5	ALL OUTPUTS	LINE MONO	4		
INPUT 6	ALL OUTPUTS	LINE MONO	3		
INPUT 7	ALL OUTPUTS	LINE MONO	2		
INPUT 8	ALL OUTPUTS	MICRO	1		

### 17.1.3. 8 ZONES STEREO – 4 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1 (L)	ZONE 1 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 2 (R)				
INPUT 1	OUTPUT 3 (L)	ZONE 2 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 4 (R)				
INPUT 2	OUTPUT 5 (L)	ZONE 3 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 6 (R)				
INPUT 2	OUTPUT 7 (L)	ZONE 4 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 8 (R)				
INPUT 3	OUTPUT 9 (L)	ZONE 5 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 10 (R)				
INPUT 3	OUTPUT 11 (L)	ZONE 6 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 12 (R)				
INPUT 4	OUTPUT 13 (L)	ZONE 7 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 14 (R)				
INPUT 4	OUTPUT 15 (L)	ZONE 8 (ST)	OFF / 1 / 2 / 3 / 4	✓	✓
	OUTPUT 16 (R)				
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 5	ALL OUTPUTS	LINE MONO	4		
INPUT 6	ALL OUTPUTS	LINE MONO	3		
INPUT 7	ALL OUTPUTS	LINE MONO	2		
INPUT 8	ALL OUTPUTS	MICRO	1		

### 17.1.4. 8 ZONES STEREO – 6 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1 (L)	ZONE 1 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 2 (R)				
INPUT 1	OUTPUT 3 (L)	ZONE 2 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 4 (R)				
INPUT 1	OUTPUT 5 (L)	ZONE 3 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 6 (R)				
INPUT 1	OUTPUT 7 (L)	ZONE 4 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 8 (R)				
INPUT 1	OUTPUT 9 (L)	ZONE 5 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 10 (R)				
INPUT 1	OUTPUT 11 (L)	ZONE 6 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 12 (R)				
INPUT 1	OUTPUT 13 (L)	ZONE 7 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 14 (R)				
INPUT 1	OUTPUT 15 (L)	ZONE 8 (ST)	OFF / 1 / 2 / 3 / 4 / 5-6 (ST) / 7-8 (ST)	✓	✓
	OUTPUT 16 (R)				
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 5 (L)	ALL OUTPUTS	LINE STEREO	2		
INPUT 6 (R)	ALL OUTPUTS				
INPUT 7 (L)	ALL OUTPUTS	LINE STEREO	1		
INPUT 8 (R)	ALL OUTPUTS				

## 17.2. PREDEFINED SETUPS HUB1408

General parameters:

- Network: DHCP mode
- Name: HUB1408
- Boot-up mode: remember status
- Public profile: allow loading predefined setups
- Users: no users
- DSP: all disabled
- General Volume: pilot panel. Vol = 70%
- Pagers / duckers: disabled
- Remote panels: no remote panels

### 17.2.1. Factory setup / 8 ZONES MONO – 2 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1	ZONE 1	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 2	ZONE 2	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 3	ZONE 3	OFF / 1 / 2	✓	✓
INPUT 1	OUTPUT 4	ZONE 4	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 5	ZONE 5	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 6	ZONE 6	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 7	ZONE 7	OFF / 1 / 2	✓	✓
INPUT 2	OUTPUT 8	ZONE 8	OFF / 1 / 2	✓	✓
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 3 (L)	ALL OUTPUTS	LINE STEREO	3		
INPUT 4 (R)	ALL OUTPUTS				
INPUT 5	ALL OUTPUTS	LINE MONO	2		
INPUT 6	ALL OUTPUTS	MICRO	1		

### 17.2.2. 8 ZONES MONO – 3 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1	ZONE 1	OFF / 1 / 2 / 3	✓	✓
INPUT 1	OUTPUT 2	ZONE 2	OFF / 1 / 2 / 3	✓	✓
INPUT 1	OUTPUT 3	ZONE 3	OFF / 1 / 2 / 3	✓	✓
INPUT 1	OUTPUT 4	ZONE 4	OFF / 1 / 2 / 3	✓	✓
INPUT 1	OUTPUT 5	ZONE 5	OFF / 1 / 2 / 3	✓	✓
INPUT 1	OUTPUT 6	ZONE 6	OFF / 1 / 2 / 3	✓	✓
INPUT 1	OUTPUT 7	ZONE 7	OFF / 1 / 2 / 3	✓	✓
INPUT 1	OUTPUT 8	ZONE 8	OFF / 1 / 2 / 3	✓	✓
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 3 (L)	ALL OUTPUTS	LINE STEREO	3		
INPUT 4 (R)	ALL OUTPUTS				
INPUT 5	ALL OUTPUTS	LINE MONO	2		
INPUT 6	ALL OUTPUTS	MICRO	1		

### 17.2.3. 8 ZONES MONO – 4 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1	ZONE 1	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 2	ZONE 2	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 3	ZONE 3	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 1	OUTPUT 4	ZONE 4	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 2	OUTPUT 5	ZONE 5	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 2	OUTPUT 6	ZONE 6	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 3	OUTPUT 7	ZONE 7	OFF / 1 / 2 / 3 / 4	✓	✓
INPUT 4	OUTPUT 8	ZONE 8	OFF / 1 / 2 / 3 / 4	✓	✓
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 3	ALL OUTPUTS	LINE MONO	4		
INPUT 4	ALL OUTPUTS	LINE MONO	3		
INPUT 5	ALL OUTPUTS	LINE MONO	2		
INPUT 6	ALL OUTPUTS	MICRO	1		

### 17.2.4. 4 ZONES STEREO – 3 SOURCES

PRESELECTED INPUT	OUTPUT	PILOT PANELS			
		ZONE	SOURCE	VOL	EQ
INPUT 1	OUTPUT 1 (L)	ZONE 1 (ST)	OFF / 1 / 2 / 3-4 (ST)	✓	✓
	OUTPUT 2 (R)			✓	✓
INPUT 1	OUTPUT 3 (L)	ZONE 2 (ST)	OFF / 1 / 2 / 3-4 (ST)	✓	✓
	OUTPUT 4 (R)			✓	✓
INPUT 2	OUTPUT 5 (L)	ZONE 3 (ST)	OFF / 1 / 2 / 3-4 (ST)	✓	✓
	OUTPUT 6 (R)			✓	✓
INPUT 3 (L)	OUTPUT 7 (L)	ZONE 4 (ST)	OFF / 1 / 2 / 3-4 (ST)	✓	✓
INPUT 4 (R)	OUTPUT 8 (R)			✓	✓
PAGERS / DUCKERS	PRESELECTED OUTPUTS	CONFIGURATION	PRIORITY		
INPUT 3 (L)	ALL OUTPUTS	LINE STEREO	3		
INPUT 4 (R)	ALL OUTPUTS				
INPUT 5	ALL OUTPUTS	LINE MONO	2		
INPUT 6	ALL OUTPUTS	MICRO	1		

### 17.3. RESTORE DEFAULTS

General parameters:

- Network: DHCP mode
- Name: HUB1616 / HUB1408 (depending on model)
- Boot-up mode: remember status
- Public profile: allow loading predefined setups
- Users: no users
- Input 1 pre-selected in All Outputs
- DSP: all disabled
- General Volume: Vol = 100%
- Pagers / duckers: disabled
- Remote panels: no remote panels
- Pilot panels: no pilot panels

All product characteristics are subject to variation due to production tolerances. **NEEC AUDIO BARCELONA S.L.** reserves the right to make changes or improvements in design or manufacture that may affect these product specifications.

For technical queries please contact your supplier, distributor or complete the contact form on our website under Support / [Technical Query](#).

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