

# DZONE88

# 1 - Safety instructions

## Important safety information



This appliance is designed to operate in a heated space and away from any form of humidity or water splashes. Use in humid, unprotected areas or areas subject to extreme temperature fluctuations may pose a risk to the appliance and any person in the vicinity.



Only competent technical services recognized by CONTEST are authorized to carry out maintenance on this device. Routine maintenance procedures must be carried out in accordance with the precautions described in this manual.



This appliance contains non-insulated parts inside its casing that are live and whose voltage is high enough to pose a risk of electric shock. Under no circumstances should you perform maintenance on this appliance while the power is on.

## Symbols used



The IMPORTANT symbol indicates an important recommendation for use.



The WARNING symbol indicates a risk to the physical integrity of the user and any other person present. The product may also be damaged.



The CAUTION symbol indicates a risk of damage to the product.

## Instructions and recommendations

### 1 - Read the instructions:

It is recommended that you read all operating and usage instructions before using the appliance.

### 2 - Keep the instructions:

It is recommended that you keep the operating and usage instructions for future reference.

### 3 - Heed the warnings:

Please heed all warnings and operating instructions of the product.

### 4 - Follow the instructions:

It is recommended that all operating and usage instructions be followed.

### 5 - Water and humidity:

Do not use this appliance near water, for example, near a bathtub, washbowl, sink or laundry tub; or in a wet location or near a swimming pool, etc...

### 6 - Installation:

Do not place this appliance on an unstable stand, tripod, bracket, or table. The appliance may fall, causing serious injury to a child or adult and serious damage to the unit. Only use a rolling cabinet, a shelf, a tripod, a stand or a table recommended by the manufacturer or sold with the appliance. In all cases, when installing the appliance, follow the manufacturer's instructions and use only with tools recommended by the manufacturer.

Care should be taken when moving the cabinet while the appliance is in use. Sudden stops, excessive force and rough surfaces may cause the unit to tip over.

### 7 - Ceiling or wall mounting:

It is recommended that you contact your dealer before mounting.

### 8 - Ventilation:

Slots and openings in the casing are provided for ventilation, to ensure the product can be used with confidence and to prevent overheating. These openings should not be blocked or covered. Care must be taken to never block these openings by placing the product on a bed, sofa, blanket or other such surface. This appliance should not be placed in an enclosed installation such as a suitcase or rack unless proper ventilation has been provided or the manufacturer's instructions have been followed.

### 9 - Heat:

It is recommended that the product be kept away from heat sources such as radiators, stoves, heat reflectors, or other products (as well as amplifiers) that produce heat.



**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
**DO NOT OPEN**



**WARNING:** To reduce the risk of electric shock, never remove the covers. There are no user-serviceable parts inside the casing. Contact qualified service personnel for maintenance of this appliance. To reduce the risk of electric shock, do not use an extension cord, multi-socket, or other connecting device unless all metal parts that come into contact with each other are completely out of reach.



## Noise level

Public address systems are capable of delivering a sound pressure level (SPL) that is harmful to human health. Seemingly non-critical sound pressure levels can damage hearing if a person is exposed to them over a long period. Do not stand in the immediate vicinity of operating loudspeakers.



## Environmental protection

- HITMUSIC is an advocate of protecting the environment - we only sell clean products that comply with RoHS standards.
- Your product is made of materials that must be recycled. Do not dispose of it as household waste and bring it to your local waste sorting centre. Authorised sorting centres will take back your appliance at the end of its service life in order to dispose of it in an environmentally-friendly manner.
- For more information:  
<http://www.hitmusic.fr/directives-deee.php>.

### 10 - Power supply:

This product operates only on the voltage indicated on the label on the back of the unit. If you are unsure of the voltage of your electrical system, consult your dealer or power company.

### 11 - Protecting electrical cables:

Care must be taken to ensure that electrical cables are not likely to be walked on or pinched by objects placed upon or against them, paying particular attention to the cables around the plugs and their exit points on the appliance.

### 12 - Cleaning:

Unplug the appliance from the wall outlet before cleaning. Do not use accessories not recommended by the manufacturer. Use a damp cloth to wipe the surface of the appliance. Do not place the device underwater.

### 13 - Period of non-use:

Unplug the power cord from your player if you are not going to use it for a long period.

### 14 - Objects or liquid ingress:

Never allow objects of any kind to enter this appliance through the openings as they may cause a fire or electric shock. Never spill liquids of any kind on the product.

### 15 - Damage requiring maintenance:

Refer all servicing to qualified service personnel in the following cases:

- When the power cord or plug is damaged.
- If liquid has been spilled or objects have fallen into the product.
- If the product has been in contact with rain or water.
- If the product does not operate normally by following the instructions.
- If the product has received a shock.

### 16 - Maintenance/servicing:

Do not attempt to service this product yourself. Doing so would expose you to dangerous voltage. Refer all servicing to qualified service personnel.

### 17 - Operating environment:

Operating temperature and humidity: +5 to +35°C; relative humidity not exceeding 85% (unobstructed ventilation hole).

Do not install the unit in a poorly ventilated space or a place subject to high humidity or direct sunlight (or strong artificial light).

## 2 - Specifications

### DSP module

Processor	32-bit 300MHz floating/fixed-point DSP
Latency	< 1ms
A/D and D/A conversion	24-bit
Sampling rate	48KHz

### Analogue input and output

Input channels	8 balanced inputs/line or mic level
Audio connectors	12-pin 3.81mm Phoenix plug
Input impedance	11.5k $\Omega$
Maximum input level	14dBu/line, -7dBu/mic
Phantom power	+48VDC, 6.5mA, separately assignable to each channel
Output channels	8 balanced outputs, line level
Output impedance	150 Ohms

### Audio specifications

Frequency response	Line: 20Hz-20kHz ( $\pm$ 0.5dB) Mic: 20Hz-20kHz ( $\pm$ 1.5dB)
Total harmonic distortion	Line: -90dB (@12dBu, 1kHz, A-weighted) Mic: -86dB (@-7dBu, 1kHz, A-weighted)
Signal-to-noise ratio	Line: 105dB (@12dBu, 1kHz, A-weighted) Mic: 95dB (@-7dBu, 1kHz, A-weighted)

### Connector and indicators

USB	Micro-B type, driverless
TCP/IP	RJ-45
RS232	Serial communication port
RS485	Serial communication port
LED indicators	Power, Link, phantom power, audio inputs and outputs

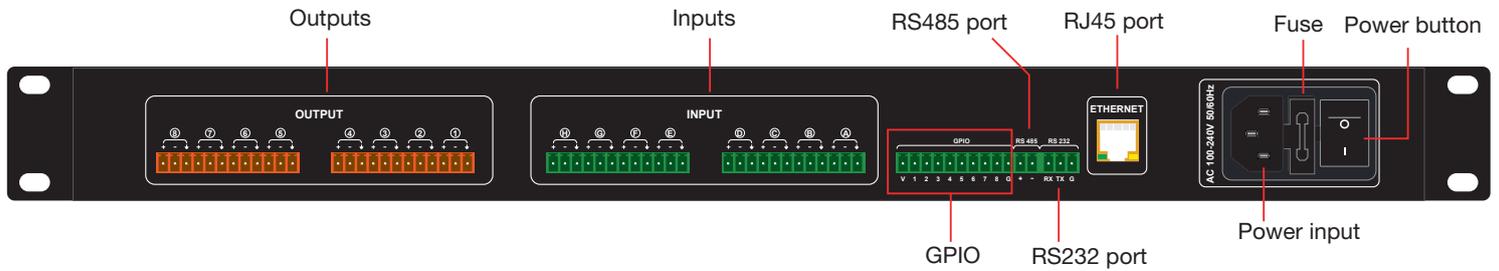
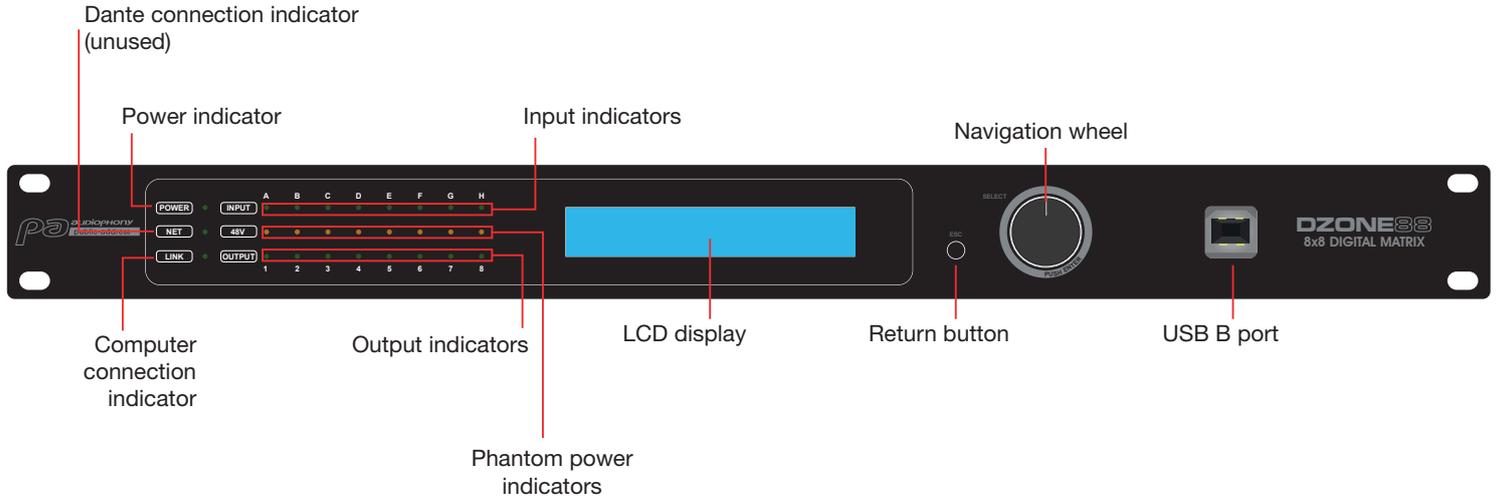
### Electrical and physical specifications

Power supply	AC100-240V 50/60Hz
Dimensions	483 x 210 x 44 mm
Net weight	2.8kg
Operating temperature	-20°C to 80°C

### Package contents

DZONE88 array
1x IEC power cord
1X USB flash drive containing the software
1 USB-A/USB-B cord
User guide

### 3 - Appliance overview



## 4 - Menus

<pre>DZONE88      SALLE1 192. 168. 111. 199</pre>	<p>Main menu</p>
<pre>MENU  *1  I N  VOLUME  I N  [ ] [ ] [ ] [ ] VOL  [ ] [ ] [ ] [ ]</pre>	<p>Menu 1: Adjusting input levels. Select the channel, press the wheel and adjust the level. Press again to confirm.</p>
<pre>MENU  *2  O U T  VOLUME  O U T      2    3    4 VOL        6    7    7</pre>	<p>Menu 2: Adjusting output levels. Select the channel, press the wheel and adjust the level. Press again to confirm.</p>
<pre>MENU  *3  P R E S E T S  P R E S E T S  1. Defaul t P                 2. SALLE 1</pre>	<p>Menu 3: Selecting saved presets. The presets that you have saved via the software can be accessed directly from this menu.</p>
<pre>MENU  *4  I N P U T  S O U R C E  [ ] L I N E      [ ] L I N E [ ] L I N E      [ ] M I C  5DB</pre>	<p>Menu 4: Setting the type of each input. Each input can be either line level or mic level. For mic-level inputs, you can set the level in 5 dB steps.</p>
<pre>MENU  *5  I P  S E T  I P   : 192. 168. 111. 199 GATE :  0.   0.   0.   0  OK</pre>	<p>Menu 5: Setting the IP address and subnet mask.</p>
<pre>MENU  *6  R E N A M E  M A C H I N E  N A M E [DZONE88    ]  OK</pre>	<p>Menu 6: Renaming the appliance.</p>
<pre>MENU  *7  S E C U R I T Y  S C R E E N  A U T O  L O C K  ? *YES  NO</pre>	<p>Menu 7: Locking the screen. To avoid mishandling, you can activate the screen lock. To unlock the screen, press and hold down the wheel for more than 5 seconds.</p>

## 5 - Software

### 5-1 Introduction to the software

The software provides users with a quick interface to control one or more machines, configuration settings can be stored in preset files, which is very convenient for recalling or resetting the various applications.

### 5-2 Operating system, environment and installation

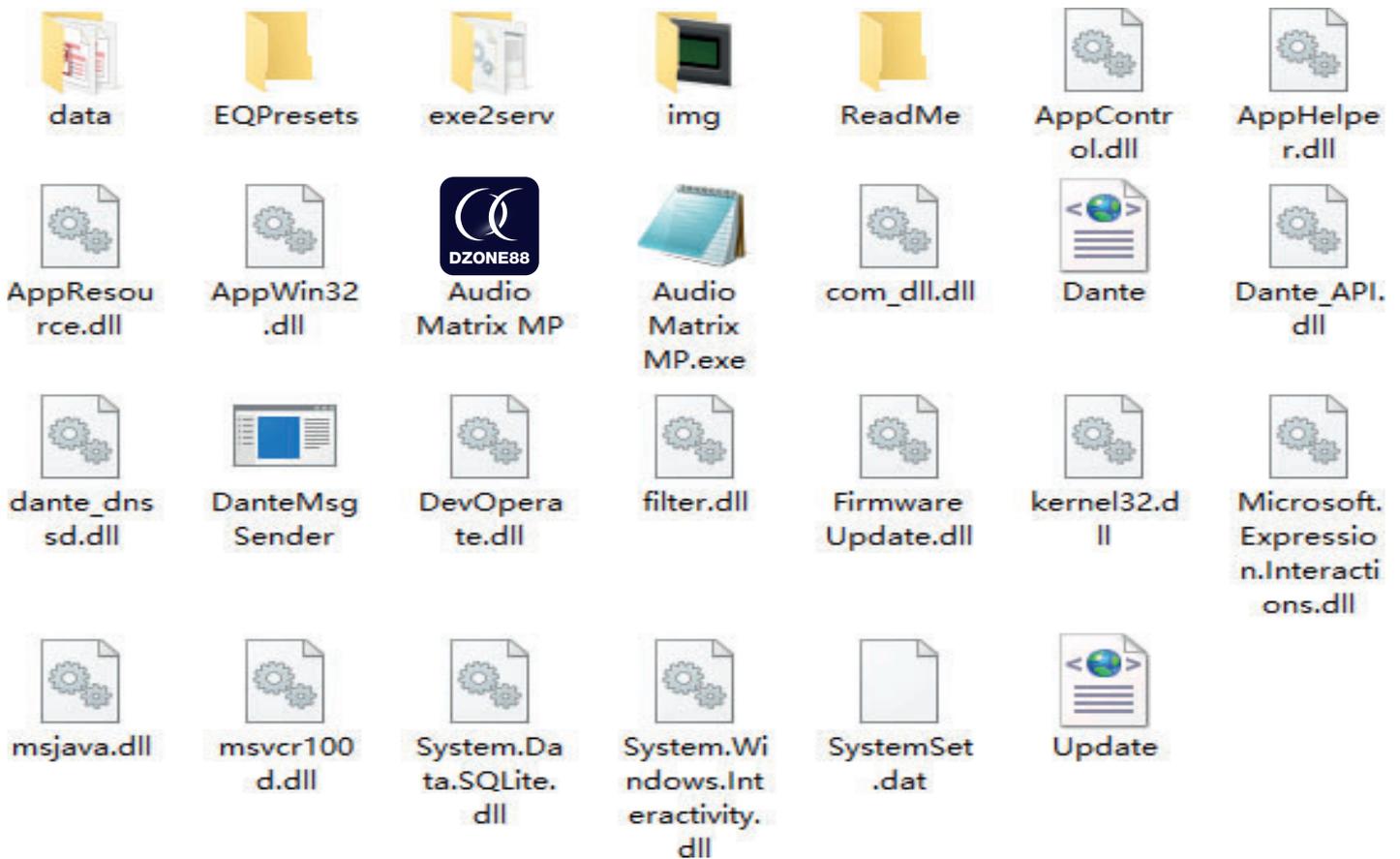
The software is compatible with Windows 7, Windows 8 and Windows 10 operating systems on which .NET Framework 4.0 is installed.

.NET Framework NET 4.0 is available for download from the Microsoft® website.

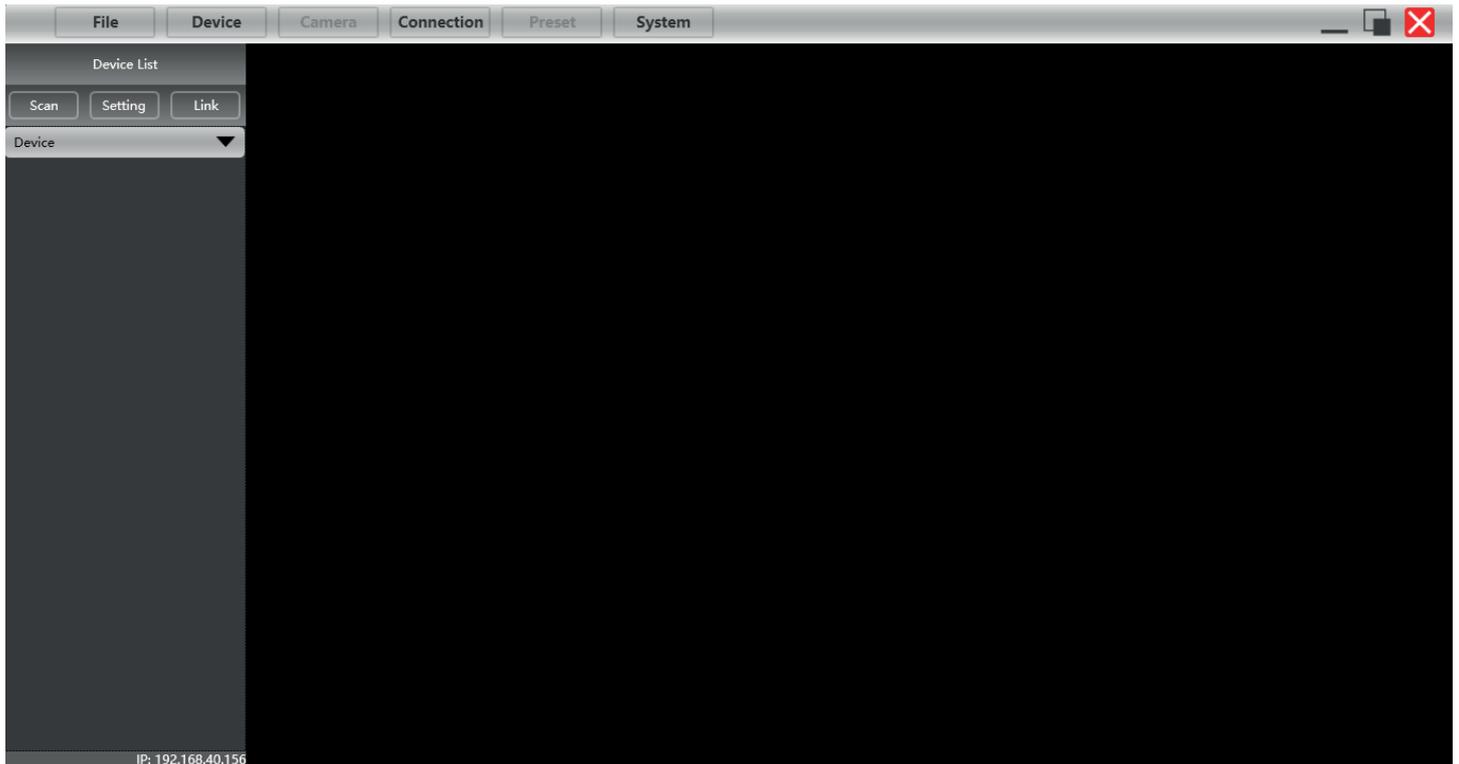
The software does not require any particular installation.



Unpack the archive in a directory of your choice by double-clicking on the  icon

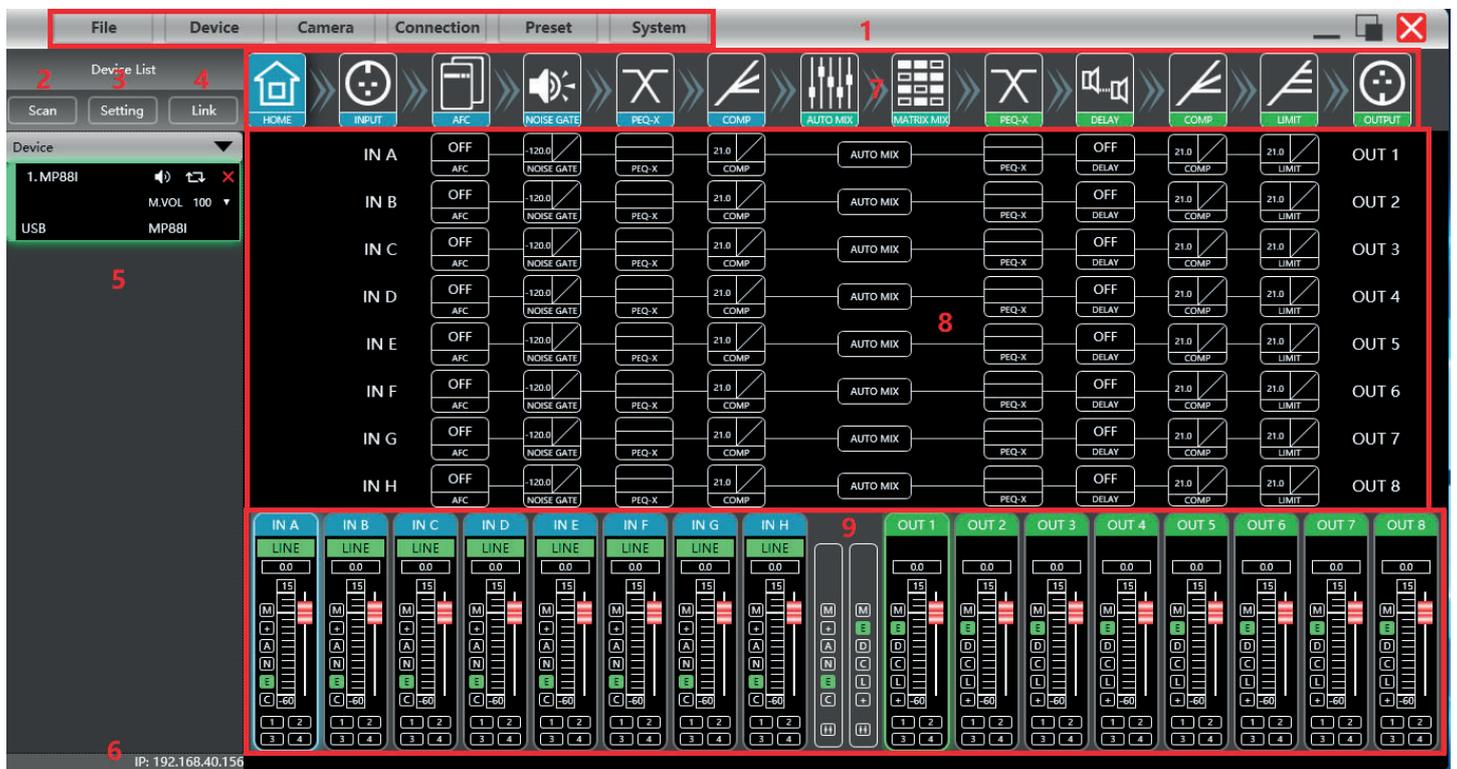


### 5-3 Interface overview



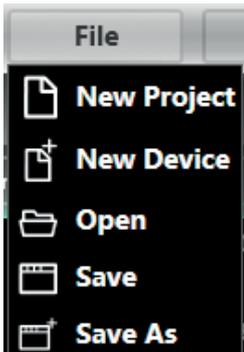
Software main page

Once connected to the array, the software looks like this:



- 1 - Main menu
- 2 - Scan button: Find the various devices connected to the computer
- 3 - Setting button: Manage the different types of connections
- 4 - Link button: Manage groups of devices (if several are connected)
- 5 - List of detected devices
- 6 - IP address of the computer running the software
- 7 - DSP buttons: Access settings for all DSP functions
- 8 - Input and output module interface
- 9 - List of inputs and outputs

### 5-3-1 List of menus



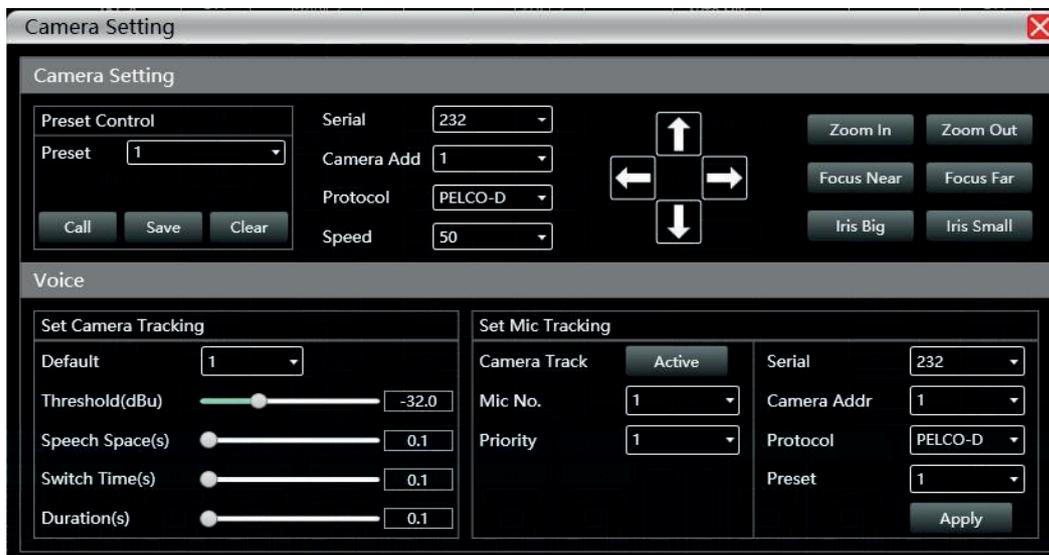
- New Project** - Create a new project  
**New Device** - Add a new array  
**Open** - Open an existing project  
**Save** - Save the current project  
**Save As** - Save the current project under a different name

#### Device menu



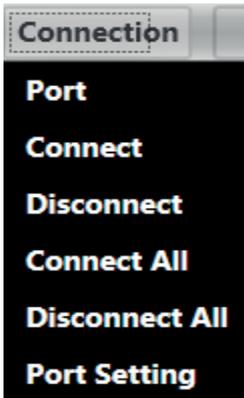
- Device** - Manage the names, IP addresses, etc. of connected arrays.  
**Channels** - Rename the input and output channels  
**Channel Copy** - Copy parameters from one or more channels to another array  
**Central Control** - Manage all the functions from a single menu  
**GPIO** - Assign an action to each GPIO connection

#### Camera menu

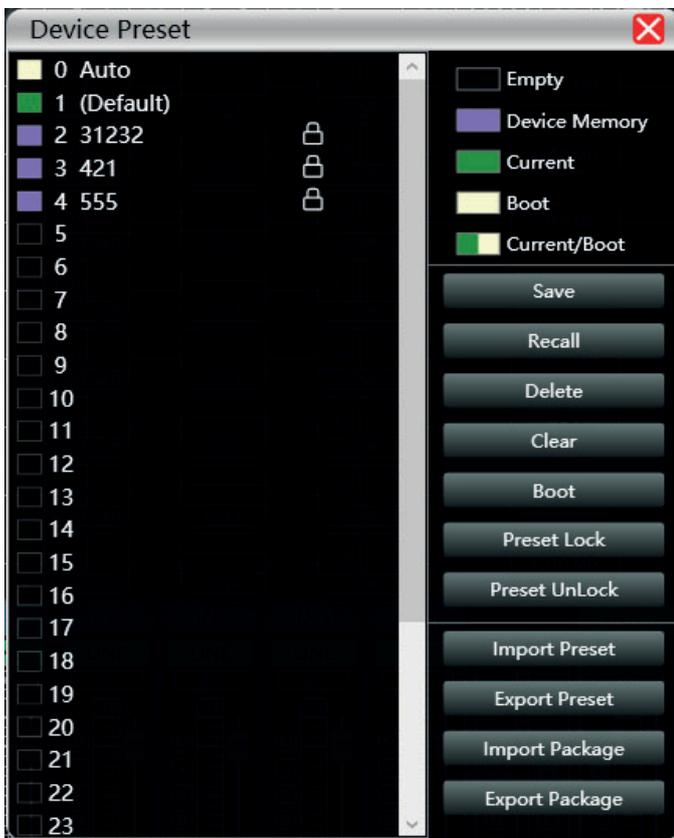


The Camera menu provides access to a remote management interface for motorised cameras

Connection menu



Preset menu



**Save** - Save all current parameters to the array

**Recall** - Retrieve parameters from the array

**Delete** - Delete the selected preset

**Clear** - Delete all presets from the array

**Boot** - Assign a preset as a startup preset

**Preset Lock** - Lock a preset with a password

**Preset UnLock** - Unlock a preset

**Import Preset** - Import a preset from the computer

**Export Preset** - Save a preset to the computer

**Import Package** - Import a group of presets from the computer

**Export Package** - Save a group of presets to the computer

System menu



**Language** - Select the language of the interface

**About** - Provides information on internal software and array firmware versions

**Upgrade** - Install an update

5-3-2 Device management area



**Scan** - Detect all arrays connected to the network

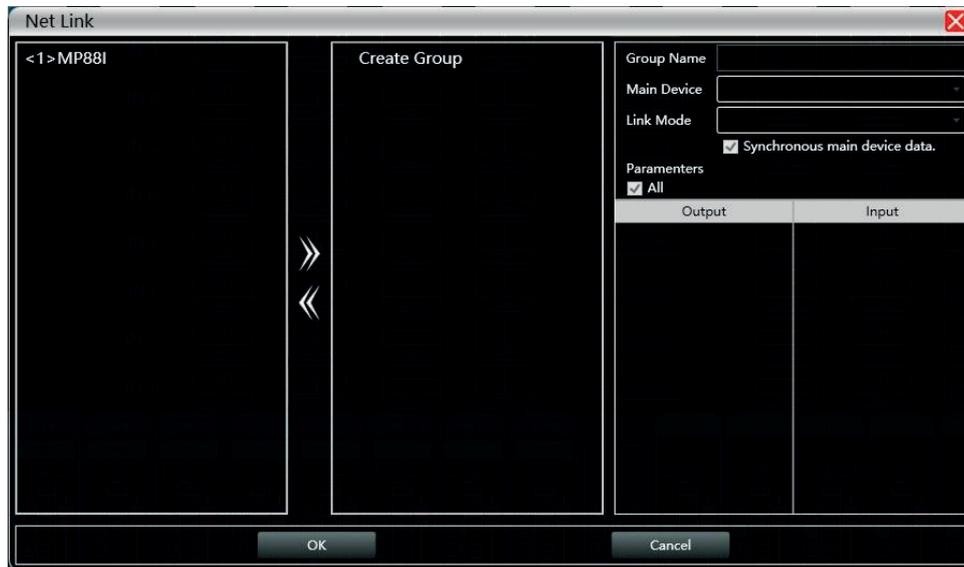


If several arrays are connected, several scans will have to be performed.

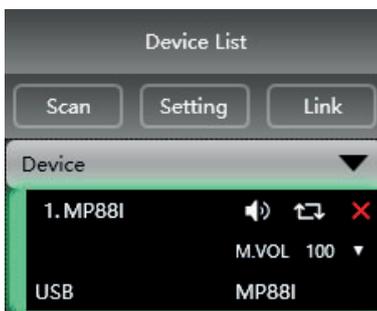
**Setting** - Choose the ports on which the detection operations take place. Opposite is the port configuration window. Click "Refresh" to update the port list.



**Link** - Create groups of arrays in order to control several parameters on several arrays at the same time.

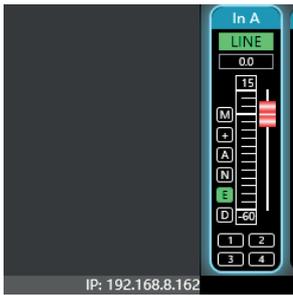


5-3-3 Device list

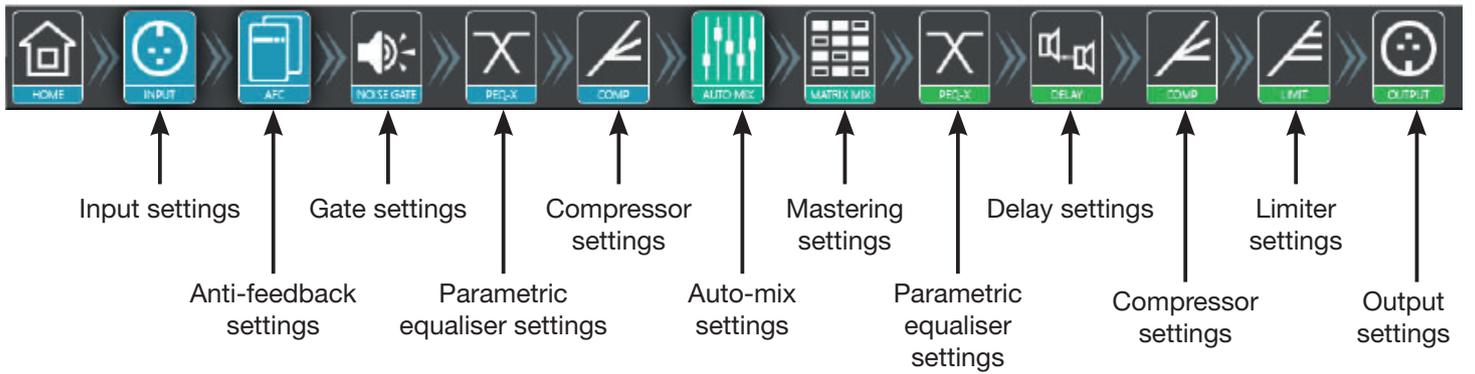


After scanning or manually adding arrays, all the connected arrays will appear in this list

5-3-4 IP address



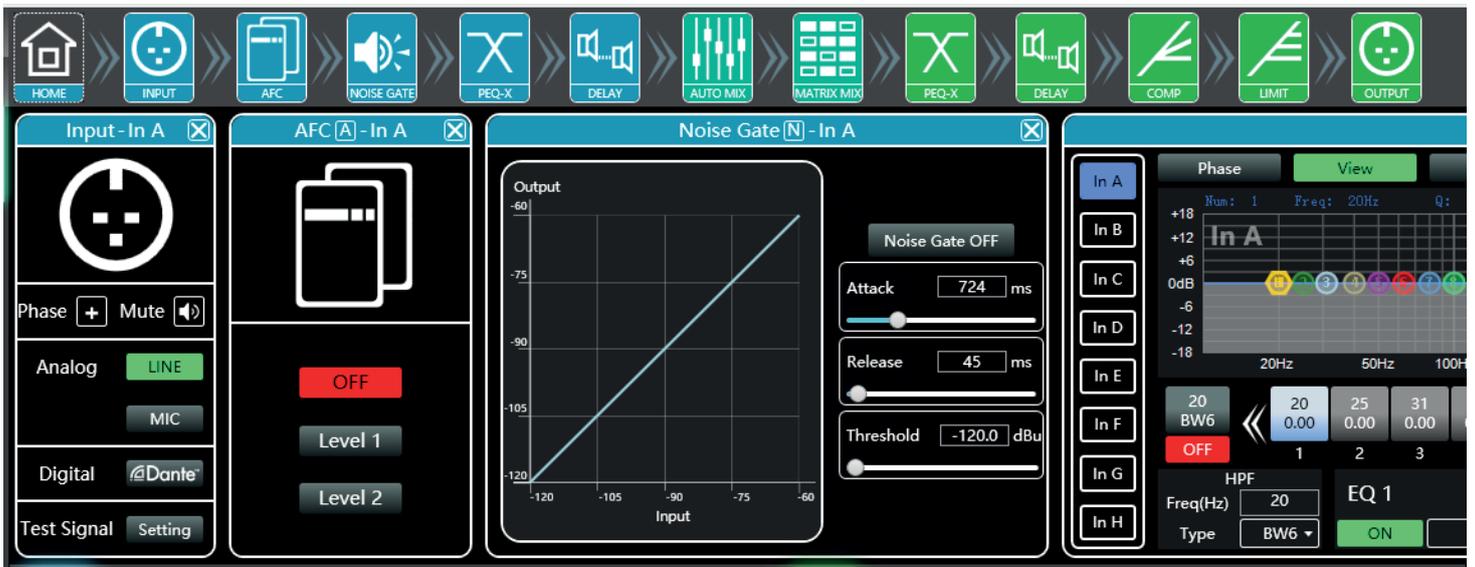
When opened, the software shows the IP address of the computer in the lower-left corner of the main window.



Double-click on each of these buttons to open the corresponding module. The blue buttons correspond to the inputs, the green buttons correspond to the outputs.

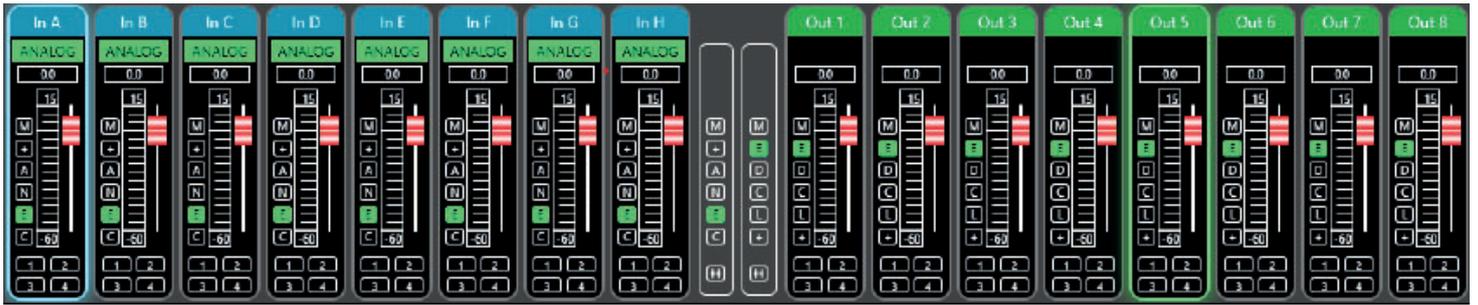
You can open several modules at the same time.

5-3-5 DSP module access buttons



Each window gives access to the detailed settings of each function.

5-3-6 List of input and output channels



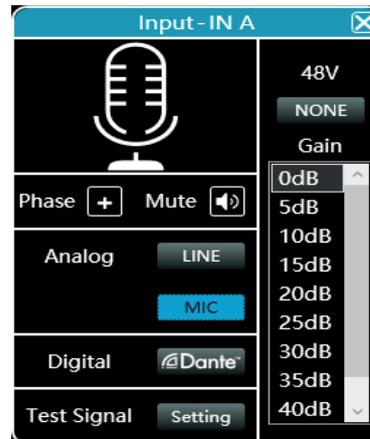
For each channel, you can view levels, input types (mic/line), channel names and DSP shortcuts.

- **M** stands for Mute
- **+** stands for polarity
- **A** stands for anti-feedback
- **N** stands for gate
- **E** stands for equaliser
- **D** stands for delay
- **C** stands for compressor
- **L** stands for limiter

## 6 - Functions

### 6-1 Input interface

Double-click on the  button.

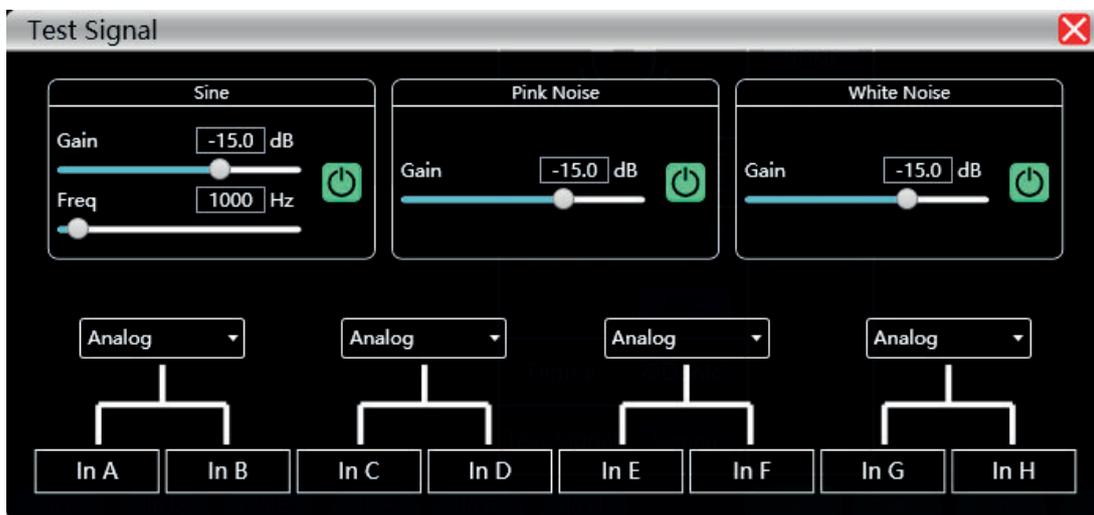


The input interface is used to:

- Set the polarity
- Mute the channel: Mute
- Select the type of input: Line, microphone or test signal.  
The test signal is sent to two channels at the same time.
- When the channel is on microphone level, phantom power can be enabled and the gain setting ranges from 0 to 40dB.

### 6-2 Test interface

In the input setting interface, click on "Setting".



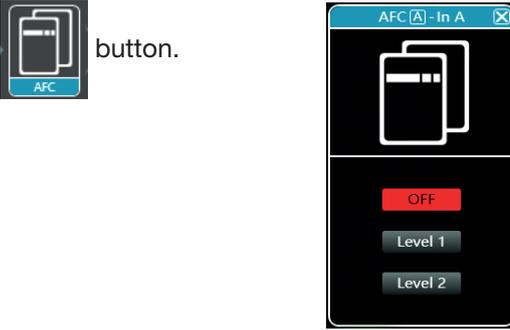
The generator can send three types of signals:

- Sine: Adjustable gain and frequency
- Pink noise: Adjustable gain
- White noise: Adjustable gain

The test signal is sent to two channels simultaneously.

### 6-3 Feedback reduction interface

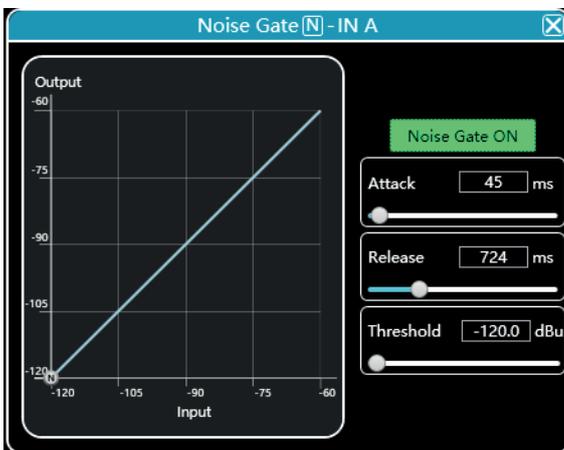
Double-click on the  button.



The feedback reducer has two levels Level 1 and Level 2. Level 2 is more powerful than level 1.

### 6-4 Noise Gate setting interface

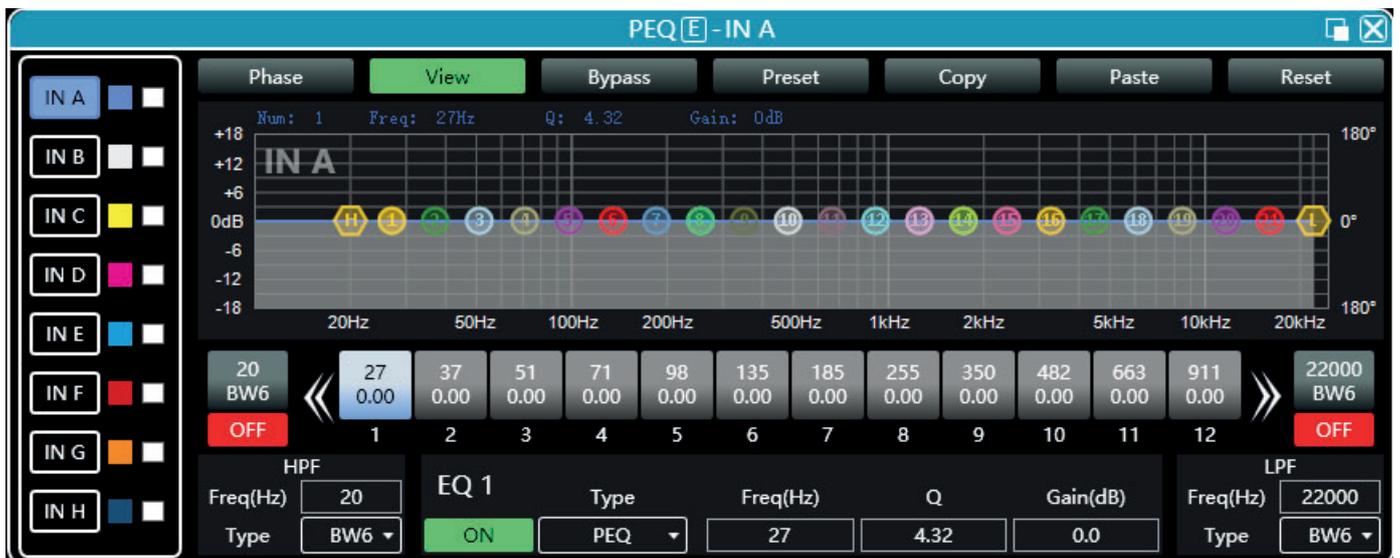
Double-click on the  button.



### 6-5 Input equalisation

Double-click on the  button. You can enlarge the window by clicking on the  button, allowing for better accuracy.

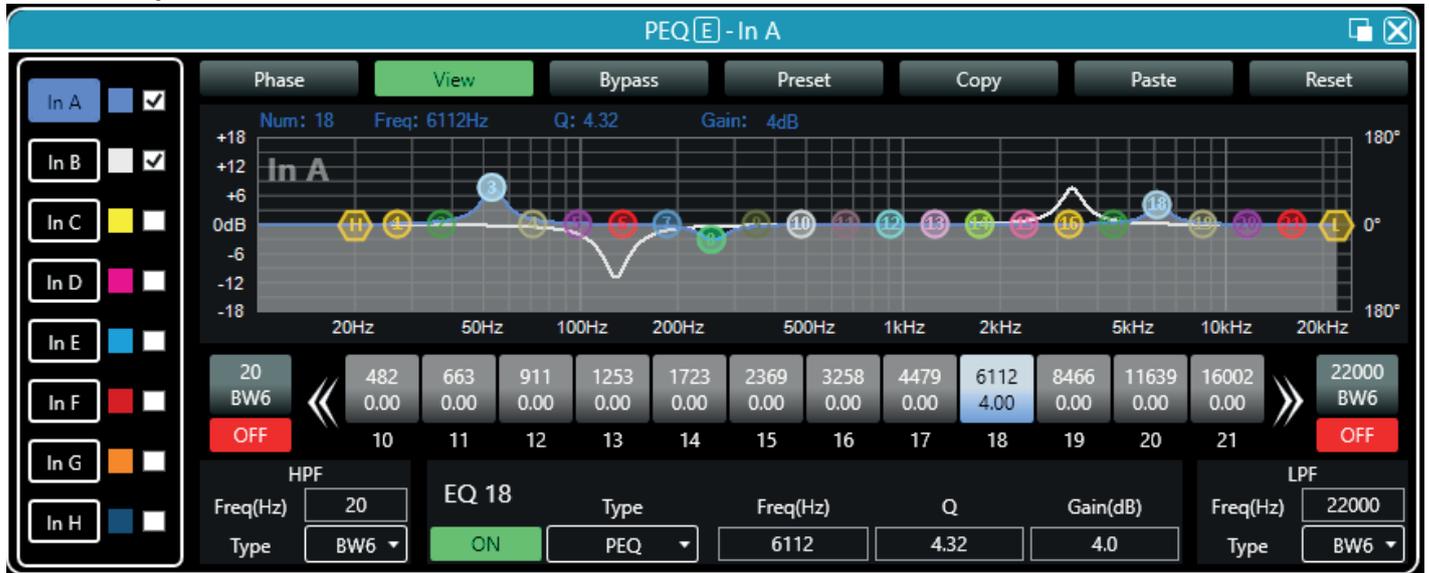
#### 6-5-1 Function buttons



Function buttons are located at the top of the window.

- Phase:** Displays the phase curve of the current channel
- View:** Shows or hides the 21 equalisation points.
- Bypass:** Disables the equaliser settings without resetting its positions.
- Preset:** Saves current equaliser settings to your computer and cancels existing equaliser settings.
- Copy:** Copies the current settings to apply them to another channel.
- Paste:** Applies the settings copied using the “Copy” button.
- Reset:** Applies the default values of the equaliser.

6-5-2 Multiple views



6-5-3 Graphic equalisation



Move the equalisation points to the desired setting.

6-5-4 Equalisation by value



Each equalisation point can be selected using the buttons below the graph. Each button shows the frequency and gain values. For each equalisation point you can activate or deactivate the adjustment, specify the type of equalisation, enter the frequency, the Q factor and the gain.



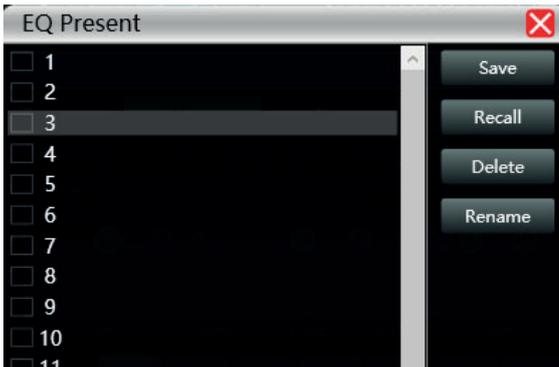
6-5-5 High-pass and low-pass filters



On either side of the EQ point selection buttons are the high-pass and low-pass filters.

For each of them, you can choose the frequency on which they act and the value of the slope.

6-5-6 Equalisation presets



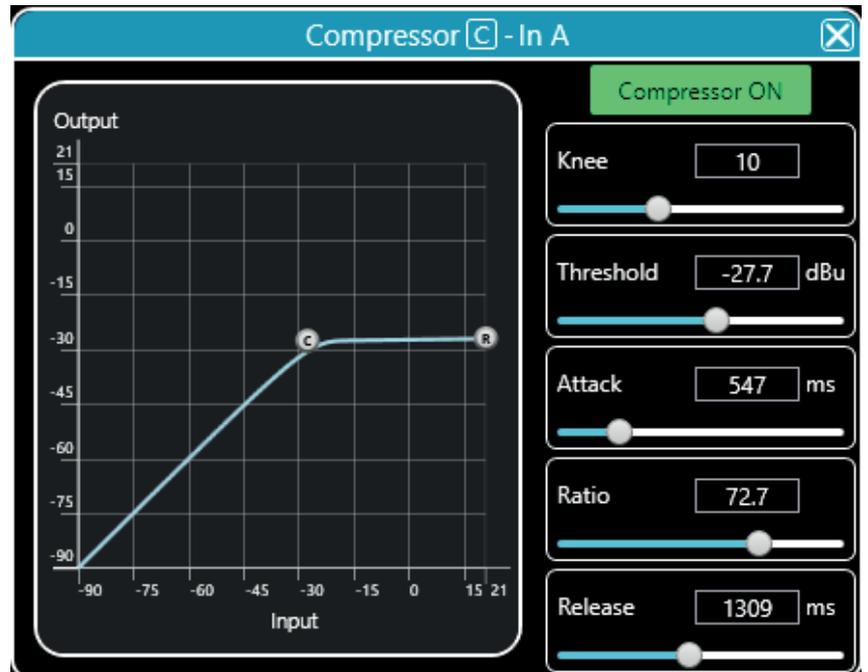
This window allows you to save an equalisation preset on the computer, retrieve one from the computer, delete or rename it.

6-6 Input compressor

Double-click on the  button.

The window opposite shows the available settings for the input compressor.

When the function is active, you can graphically move the curve to modify the threshold and ratio.

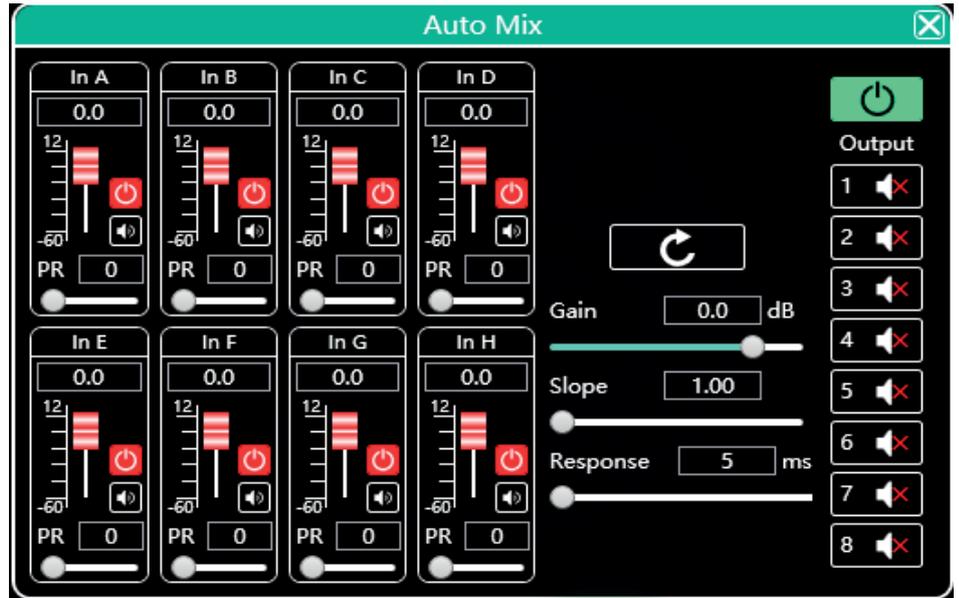


### 6-7 Auto-mix

Double-click on the  button.

This function allows you to manage the priority order of the input channels and the output channels that will be affected by this order.

For each input channel you can specify a priority level (PR) and an input level ranging from -60dB to 12dB.



### 6-8 Array

Double-click on the  button.

The top row represents the inputs and the left column represents the outputs. Each input can be assigned to one or more outputs.

To assign an input to an output, double-click on the box corresponding to the desired connection.

For each connection, you can specify the gain level using either the slider on the right or the input field.

The "Reset" button resets the connections as shown in the figure opposite.

The "Clear" button clears all connections.



### 6-9 Output equalisation

Double-click on the  button.



This section works like the equalisation section described in paragraph 5.5.

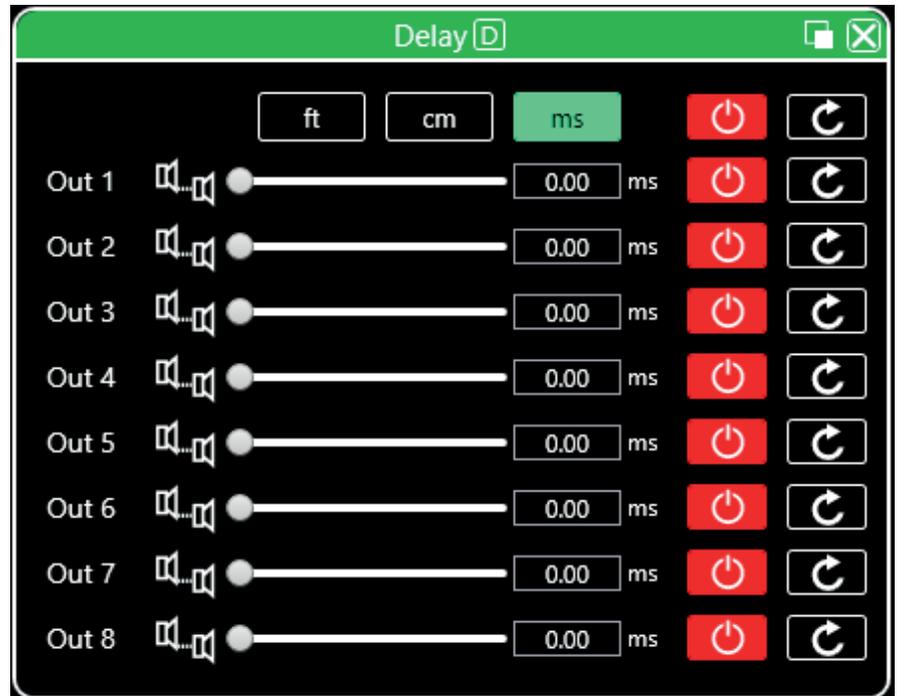
### 6-10 Output delay

Double-click on the  button.



For each output, you can set a different delay. Delays can be displayed in feet (ft), cm or milliseconds (ms).

To enable the delay on an output channel, click on the red button to change it to green. The circular arrow resets the delay to zero.



### 6-11 Output compressor

Double-click on the  button.



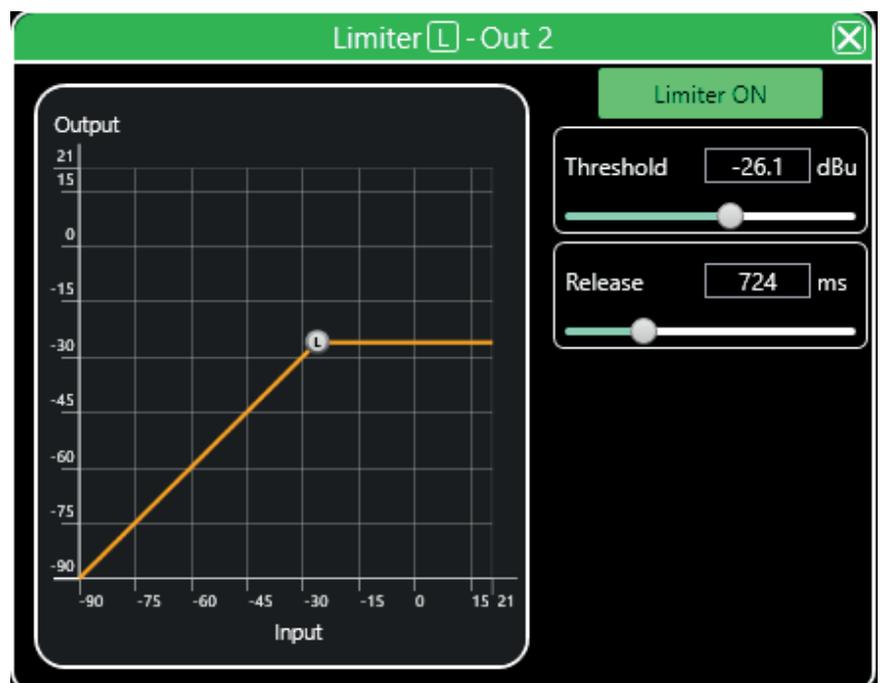
This section works like the compressor section described in paragraph 5.6.

### 6-12 Output limiter

Double-click on the  button.



The window opposite shows the settings available for the limiter. Once the function is active, you can graphically move the curve to modify the threshold value.



### 6-13 Output interface

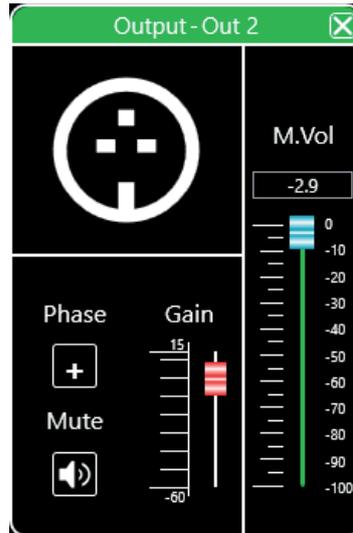
Double-click on the  button.



The output interface is used to:

- Set the polarity
- Mute the channel: Mute
- Set the gain.

The slider on the right represents the master



### 6-14 Input channels

Each input channel is broken down as follows:

Channel name

Gain in dB

Gain adjustment

Group assignment

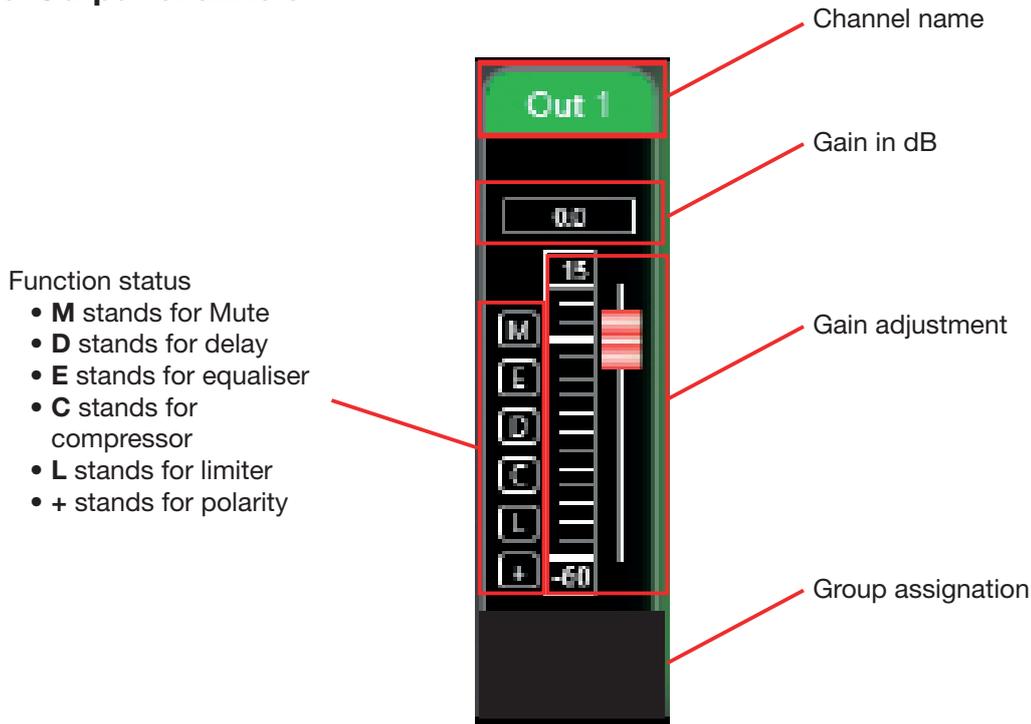
Input type: Line or mic

Function status

- **M** stands for Mute
- **+** stands for polarity
- **A** stands for anti-feedback
- **N** stands for gate
- **E** stands for equaliser
- **C** stands for compressor

The "Mute" (M) button is red when the channel is muted. The function buttons (+, A, N, E et C) are green when the corresponding function is active on the current channel.

### 6-15 Output channels



The "Mute" (M) button is red when the channel is muted. The function buttons (E, D, C, L et +) are green when the corresponding function is active on the current channel.

The central part located between the input and output channels allows you to assign one or more functions to all channels. The left part relates to the input channels, the right part relates to the output channels.



### 6-16 Channel grouping

At the bottom of the central part there are two buttons that give access to the channel grouping function.



This function has four groups in which you can add the channels of your choice. Select the channels you want to group and click the arrow.

On the right side of the window, you can choose the functions that will be common to the channels belonging to the same group.



### 6-17 Device management

On the left side of the software is the list of connected devices.

For each device, there is:

- Its number.
- Its name. If it is connected via TCP, the name does not appear.
- The IP address if connected via TCP
- USB if connected via USB
- The COM port number if connected via a COM port



From left to right are the following buttons:

- A Mute button that mutes all input and output channels
- A refresh button
- A button to delete the device

When you click on one of the areas corresponding to a device, the central software window will be updated with the current settings for that device.

When a device is selected, the device icon is surrounded by a green border.



In the main menu, click on "File" and "New Device".  
Select the desired virtual device from the list and add it.

Note: Adding a new device does not mean that it is automatically connected.

### 6-18 Equipment management



- Software Info:** Displays software and firmware version numbers and version dates.
- Device Info:** Displays the name of the device and the name of the group to which it belongs if any.
- Device IP Info:** Displays the device IP address, subnet mask and MAC address.

You can change the IP address of the device - click OK for the change to take effect.

### 6-19 Channel names

In the main menu, click on "Device" and "Channels". In this window, you can rename all input and output channels to better suit your installation.

Names are limited to 5 characters

Click OK to save the changes.



### 6-20 Copying channels from one device to another

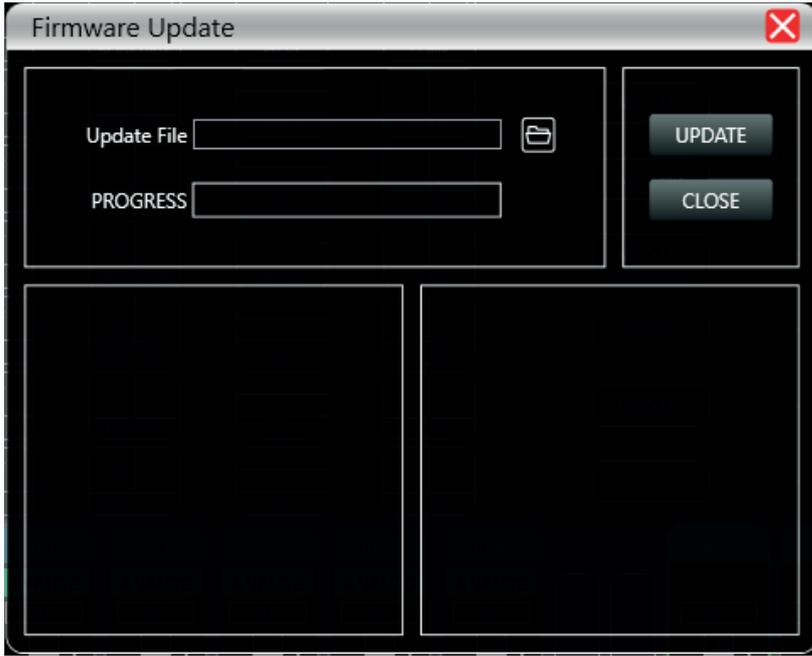


In the main menu, click on "Device" and "Channel Copy". In this window, you can copy the channel status from one device to another.

On the left side, you can select the channels you want to copy and the channels you want to copy them to. On the right side, you can select the functions you want to copy.

You cannot copy input channels to output channels or copy output channels to input channels.

### 6-21 Firmware update



In the main menu, click on “System” and “Upgrade”.  
 In the "Update File" area, select the update file on your computer.  
 Once the update is finished, the device will restart.

## 7 - Wall-mounted control panel: DCTL (optional)

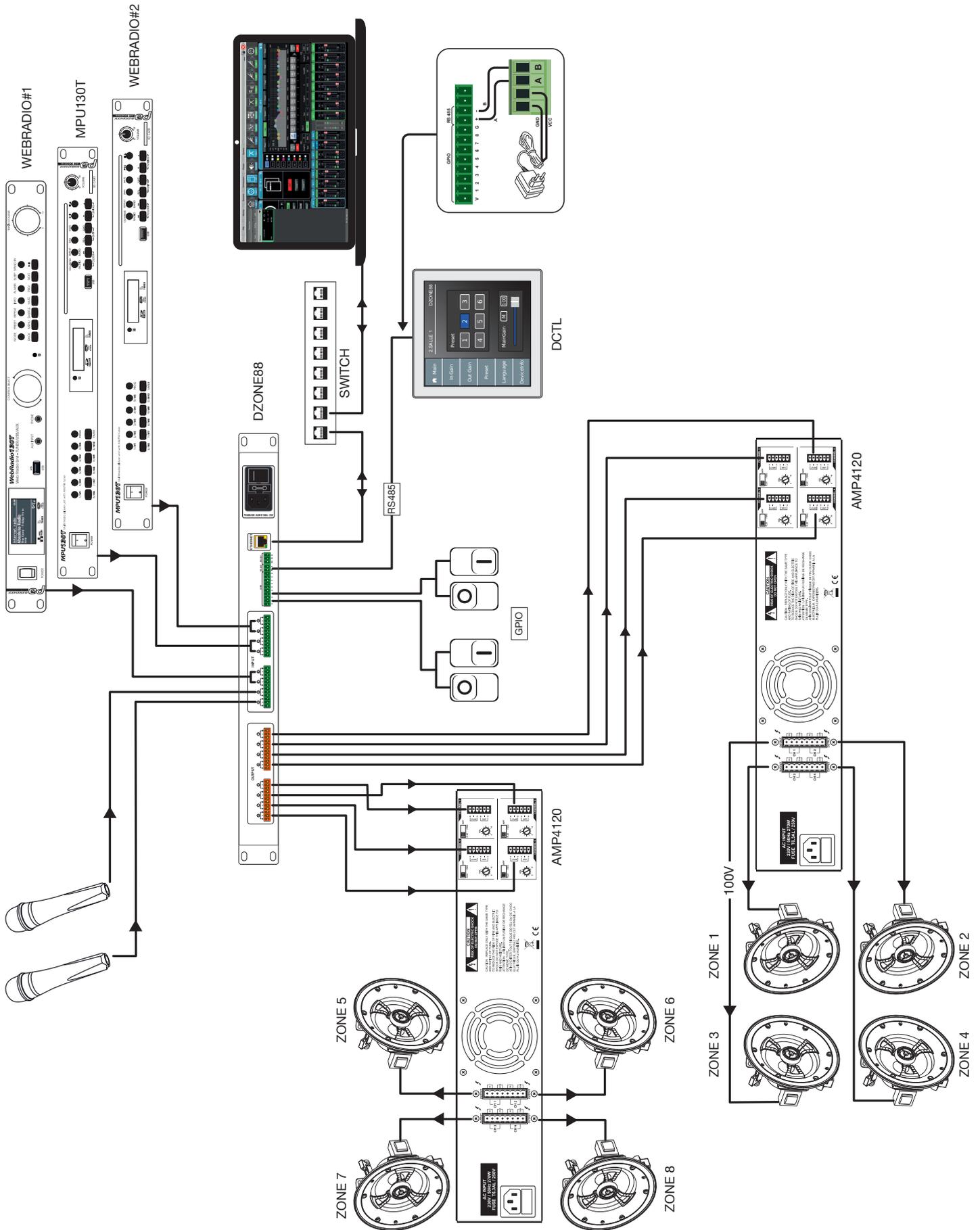
The DCTL wall-mounted control panel allows for remote control of the main functions of the DZONE88. Equipped with a touch screen it allows basic operations to be carried out remotely.

It is connected to the DZONE88 via the RS485 port.

- Access to the main screen:
- Access to the first 6 presets and general volume
- Access to input channel levels
- Access to output channel levels
- Access to 2 presets
- Language selection
- Firmware and internal software version information



# 8 - Block diagram



AUDIOPHONY® takes the greatest care in manufacturing its products to guarantee you the best quality. Changes can therefore be made without prior notification. For this reason, the technical characteristics and physical configuration of the products may differ from the specifications and illustrations presented in this manual.

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