# AEQ CAPITOL SCREEN

## USER'S MANUAL
## ED. 03/15
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**Firmware Version:** PBA Base CPU v1.54 or higher
**Software Version:** AEQ CAPITOL SCREEN v1.12 or higher

# CONTENTS

## 1. INSTALLING AND RUNNING THE APPLICATION.

### 1.1. Installation. System requirements.

"**AEQ CAPITOL SCREEN**" application is available in two different versions for the following operating systems:

- iOS.
- Windows.

The iOS version can be downloaded from Apple Store, while the Windows version is provided by the AEQ dealership network. Both of them feature a Demo mode: in this mode, the application operates against a dummy console, allowing for the evaluation of the product and user training. In order to work with a real console, activation of its **license** is required by means of "Capitol Setup" or "Capitol IP Setup" application (please consult console user's manual).

"AEQ CAPITOL SCREEN" application has been designed to be used in tactile devices, but it can be used with a mouse as well.

The iOS (for iPad) and Windows (for Windows 7, 8 and 8.1) versions have the same appearance -except for very small particularities- and, of course, they provide the same functionality.

iOS requirements.

"AEQ CAPITOL SCREEN" app for iOS must be installed on an iPad with iOS 5 or later operating system. Correct presentation cannot be guaranteed with older versions. A minimum free storage space for applications of 7Mb is required.

Windows requirements.

"AEQ CAPITOL SCREEN" software for Windows must be installed on a PC running Windows 7, 8, 8.1 or later operating system. Correct presentation can not be guaranteed with older Windows versions.

The installation process simply consists on running the provided installer and following the on-screen instructions as they come up.

A minimum free hard disk space of 15Mb is required, and any processor supported by the above mentioned operating systems with more than 2Gb RAM is enough for correct performance. Optimal screen resolution is 1920x1080p although the program will adapt to other resolutions. In any case, it is strongly recommended that the monitor aspect ratio is 16:9.

### 1.2. Running the application.

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



Capitol Screen
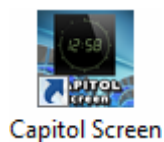
The application will also be accesible from the Start menu.

Once the application starts, an access screen as the following one will be displayed:

This screen allows the user to select which device the application will connect to.

In order to do so, just click on the drop-down menu and select one of the available options.



In case that the desired option is not presented in the menu, just select the "DEMO" option and the intended device will be added afterwards as a new device. The way to do so will be explained later, in chapter 4.4 of this manual.

In order to be able to connect to the console, the PC must have a compatible IP address within the same network. In most cases, if you can successfully issue a PING command to the frame, the application will be able to connect to it.

This screen also shows the application's **version**.

Once the console is selected in the drop-down menu, just press on the "**POWER**" button to connect to it.

In case it's not found, an error message will be displayed:



In case there's connection, but the **license** of the console is not activated, the following indication will appear:

If the console has been successfully connected, it will be checked then for a proper active license to use "**AEQ CAPITOL SCREEN**". This license resides in the console, not in the software, so the same software will work or not depending on the console it's trying to connect to.

In case there's connection and the license is activated, a "Login" screen like this will appear:
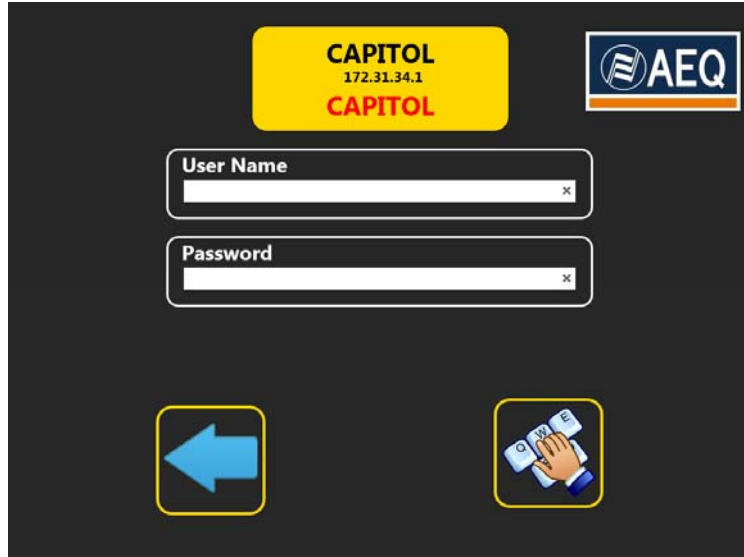


If the "**Auto Login**" option is configured in the devices section (for the selected device), this screen will appear only temporarily, and as soon as all the configuration data is received from the console, it will give pass to next screen. On the other hand, if that option is not activated, the user must type in a valid user and password to continue.

The "**User Name**" field must be filled in with the user name defined in the console configuration software. By default, the user is ADMIN.

The "**Password**" field expects a key associated to that user. The password is defined in the console configuration software.  By default, the password for user ADMIN is 1234.

 The button with the left blue arrow allows you to return to the device selection screen. The user must click on this button to leave the application (Windows version only), or when the device to be controlled needs to be changed (all versions).

Once a correct user and password have been entered, the application main idle screen is accessed by clicking on the button on the right. In case user and password are not correct, an error message will appear ("Invalid User Name or Password") and the application will remain in this screen until correct ones are entered.

## 2. IDLE SCREEN.

This is the idle screen, where important information for the console user is displayed: the VUmeters, the clock/calendar, the button for access to the "**AEQ CAPITOL  VIRTUAL**" application (if a valid license is available), the auxiliary screens button and the indicators for "ON AIR" and active telephone lines.



This screen also shows two vumeters groups. The most important ones are displayed at the left and are presented with their maximum resolution. Their names are fixed and correspond to PROGRAM, AUDITION, AUX 1 and AUX 2 signals.
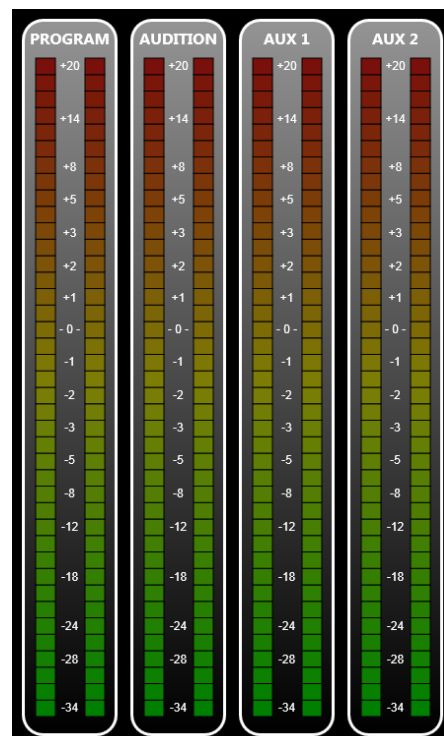
The other vumeters group represents the three first multiplex buses and the CUE signal (or the control monitoring bus, when there are no channels sent to CUE). Note that the CUE label is fixed, while the three multiplex bus labels will change depending on the name assigned to each signal in the console configuration software.

The MPX 1 vumeter (used for the telephone hybrid 1) and the MPX 2 vumeter (used for telephone hybrid 2) are displayed in a special way: in both of them the left bar represents the transmission patch while the rightmost one represents the reception.



The rest of vumeters feature the usual L and R channels representation. In case that the signal is mono, both vumeters will have the same value at the same moment.
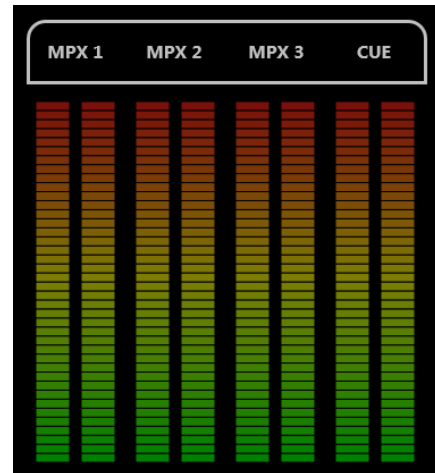
The top right area displays the surface date and time (not the one corresponding to the device the application is running on, either PC or iPad). In order to adjust the right date and time, the console NTP services will be used (this is set up by the configuration software, by using the synchronization option within the options menu, as explained in chapter 4.3.5. of this manual) Time can also be manually changed on the surface, as described in its user's manual.
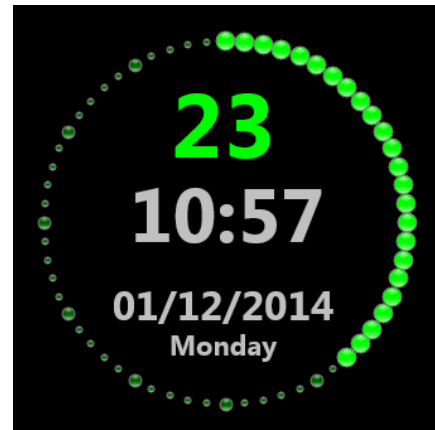


There are also two more buttons giving access to more functions.



This button opens the console remote control ("CAPITOL VIRTUAL"), provided that the console has an active **license** to be remotely controlled. Otherwise, it will be represented shaded, meaning that it is deactivated, and the remote control won't be accessible. Remote control is explained later, in chapter 5 of this manual.



This other button gives access to the console options menu. These options are almost the same as the ones displayed in the main display of the Control and Monitoring module of the physical console, although now they are presented in a much more accessible than from the console itself.

The menu options are explained later, in chapter 4 of this manual.

And last, three status indicators are also presented in this screen.

The "**ON AIR**" indicator informs whether the studio is "on air", meaning that some microphone is open. Different channels can be associated to this activation by means of the console configuration software, but it usually corresponds to the studio microphones opening. When this occurs, the indicator turns to red indicating that it is active.



The other two messages represent the status of the telephone hybrids TEL 1 and TEL 2. The possible estates are:

- "ON HOOK": it will appear in black indicating that the telephone hybrid is idling.

- "INCOMING CALL": it will be displayed in yellow, indicating that there is an incoming call. The appropriate console programmable key needs to be pressed in order to answer this call.

- "WAIT": it will appear in green, indicating that the call is on hold, what means that it is still not on air (you can send audio to the telephone line, but the audio from the line is not received in the console).

- "ON AIR": it will be displayed in red, meaning that the signal is already available in the console channel. However, it won't actually be on air until the channel is activated and the fader is turned up.

## 3. CHANNEL PARAMETERS ADJUSTMENT SCREEN.

When the "SELECT" button in any of the CAPITOL configured channels is pressed, the idle screen will give pass to a screen similar to this one:
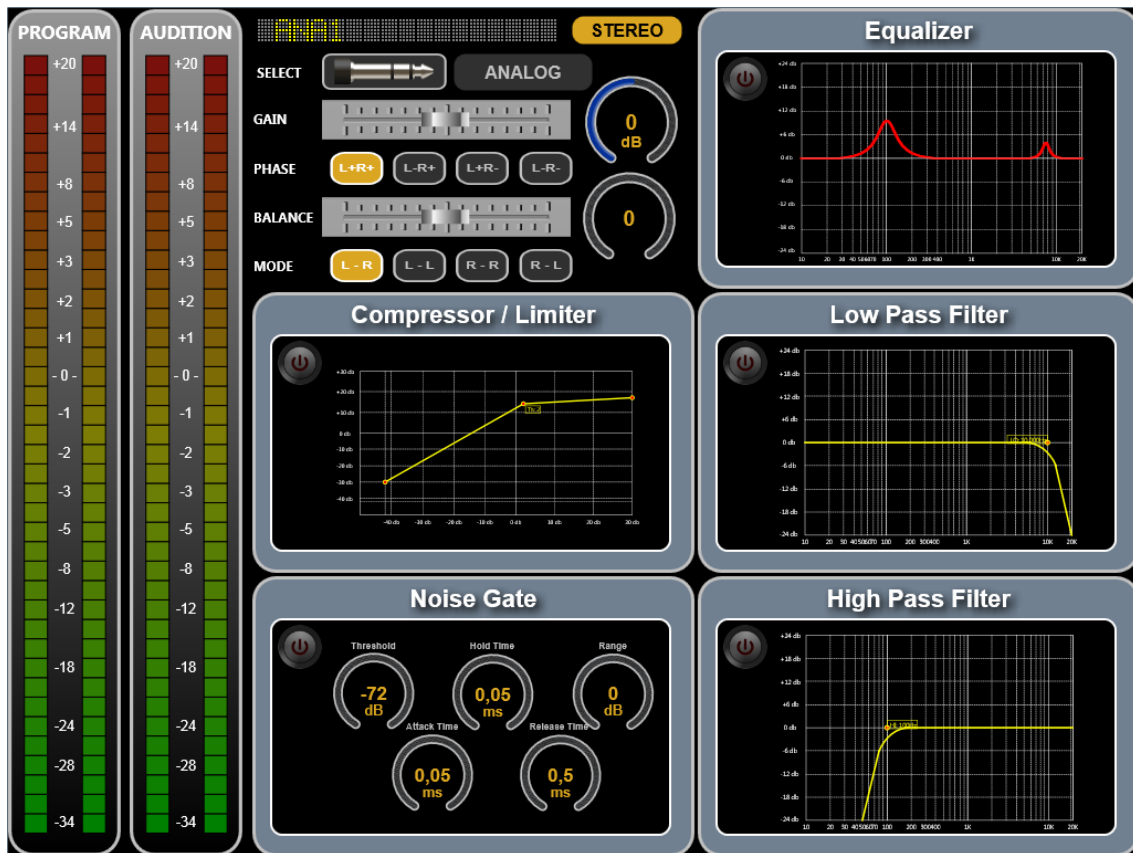


All the characteristics of the channel whose "SELECT" key has been pressed are displayed. In order to return to the idle screen, the "SELECT" key of the console must be clicked on again.

If the application is running in DEMO mode, the console "SELECT" button is substituted by an orange click indicator displayed in the lower left corner of the clock.



Once you are in the parameters adjustment screen, in order to return to the idle screen when in DEMO mode, click on the orange button at the upper right corner of the "Compressor / Limiter" window.
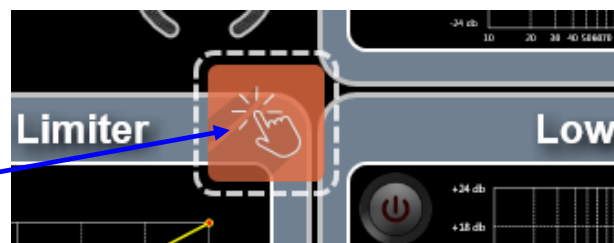


The most important system vumeters, PROGRAM and AUDITION, are always displayed in the channel's parameter adjustment screen, at the left. This way, these importat signals are still monitored even when we are displaying the information for a particular channel.

## 3.1. Channel name, gain and routing.

All the characteristics of a signal, including its name, are displayed in the top central area. In case that the signal is defined as mono, it will be represented this way:
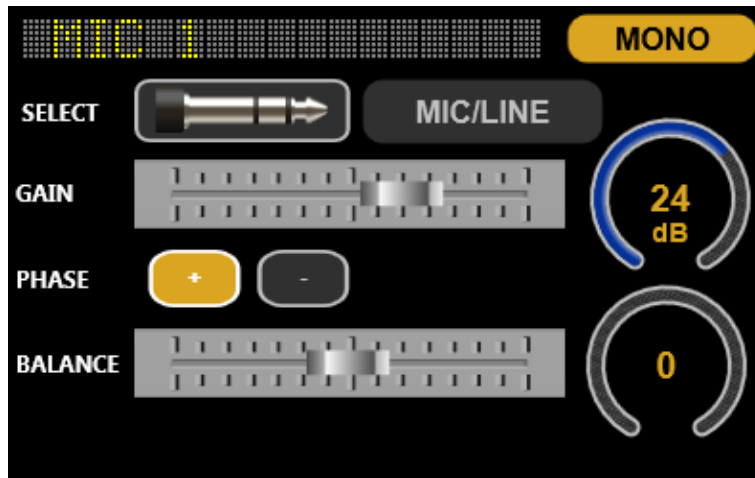


On the other hand, if the signal is stereo, it will look like this:
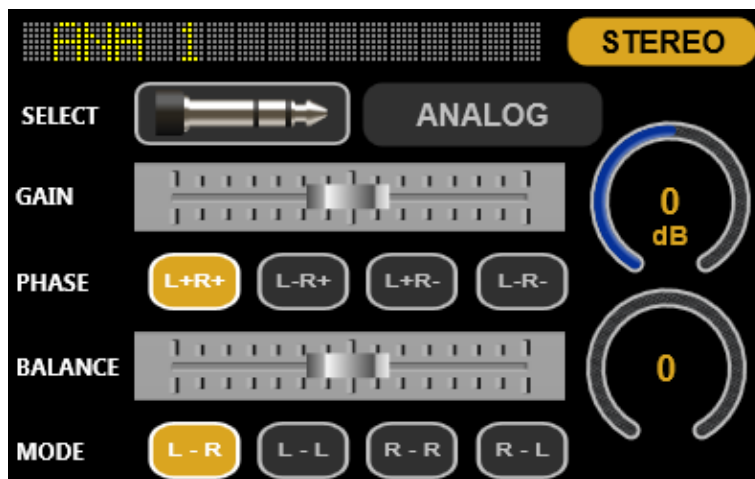


If the "SELECT" button is clicked on (represented by a jack drawing), a menu with all the available signals that can be associated to this channel is presented.

The availability of these signals is configured from the console configuration software. If they don't fit in the window, scroll can be made by dragging with the mouse or finger.

The right upper indicator informs whether the signal is mono or stereo.

The indicator with gray background describes the type of signal: DIGITAL, MIC/LINE, ANALOG, USB, HYBRID, MADI, AOIP or INOUT (this last one will only appear when the signal is internal).
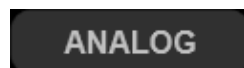
The "GAIN" field represents and allows you to change the gain level for the selected input. A graphical representation of the actual fader value is presented at the right, together with the value in dB.



The "PHASE" buttons allow the user to change the input signal's phase, by simply clicking on the desired option. It will normally be (L+R+) for stereo signals and (+) for mono ones.
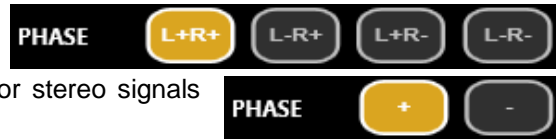


The "BALANCE" field represents and allows you to change the balance or panorama for the signal. A graphical representation of the balance status is presented at the right: if it is centered in 0, it will be centered, while an "R" or "L" sign and the corresponding value will appear when the signal is displace to one or either side.



The "MODE" field represents and allows you to change the sending mode of the stereo input signal toward the stereo outputs that is routed to. The normal working mode is L-R (the L input channel is sent to the L output channel and the R input channel is sent to the R output channel). This field will appear only for stereo signals.

## 3.2. Channel processes.

The rest of the screen shows the graphical representations of the processes. This way, the status of all them can be seen at a glance:
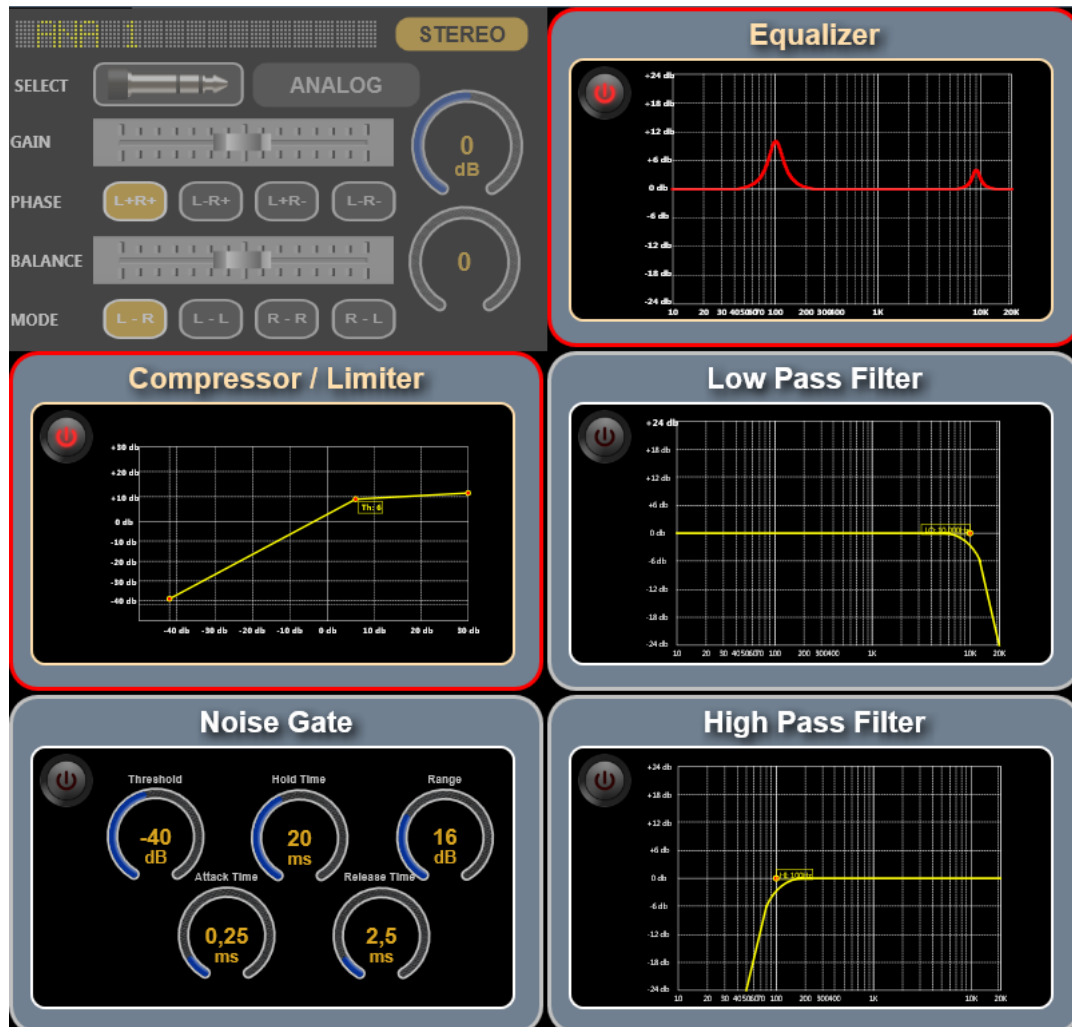


Each one of the sections represents one of the processes, and all of them can be edited in a similar way. They have an **ON/OFF button** (by pressing it the process is activated/deactivated; when activated, the button and the process section are highlighted in red) and a **graphical representation** of the process.

The particular configuration of each process can be accessed by clicking on its graphical representation.

Once inside that screen, in addition to modify the process associated parameters, the **ON/OFF button** (at the top left area) allows you o activate/deactive the process and the button (at the top right area) allows you to return to the previous screen (or simply by clicking on the graphical representation).

Changes are applied to the audio in real time, provided that the process is active.
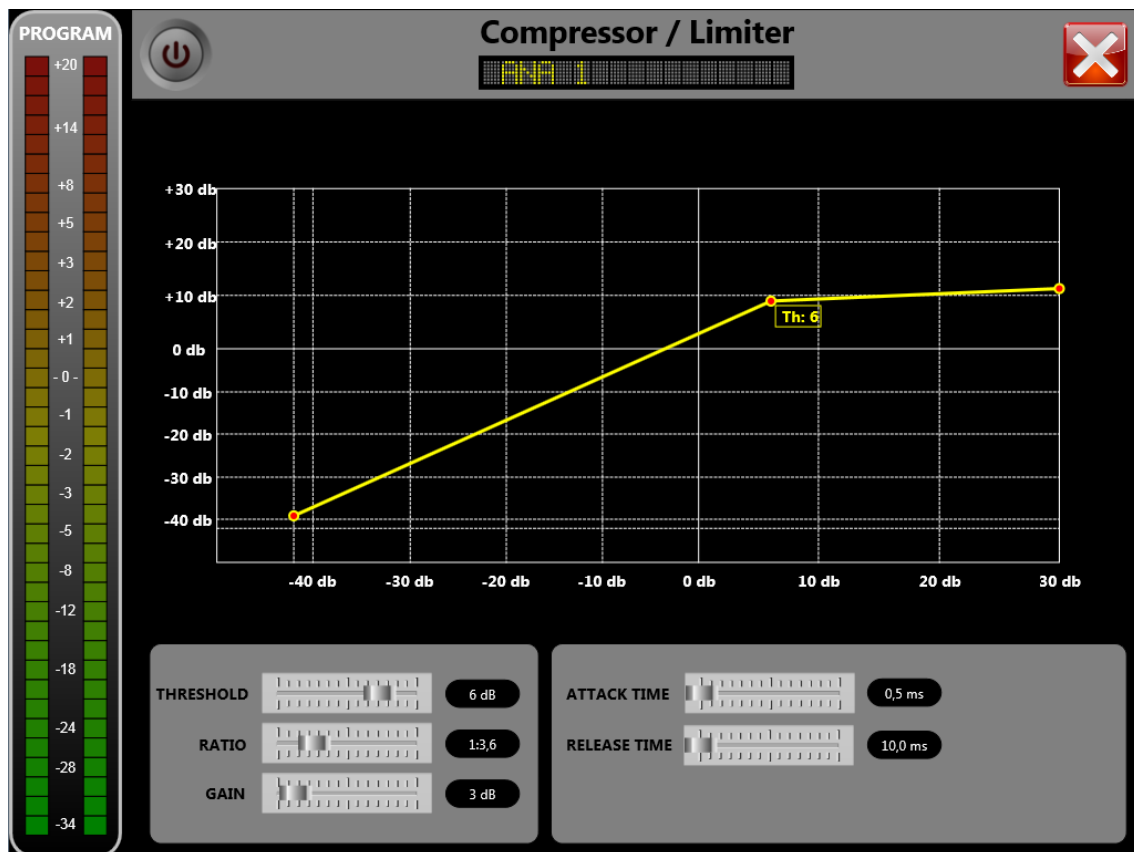
The configuration screen for each process will still display, on the left, the main PROGRAM vumeters to avoid loosing control over this important signal.

### 3.2.1. Compressor / Limiter.

The Compressor / Limiter section has an appearance like this:
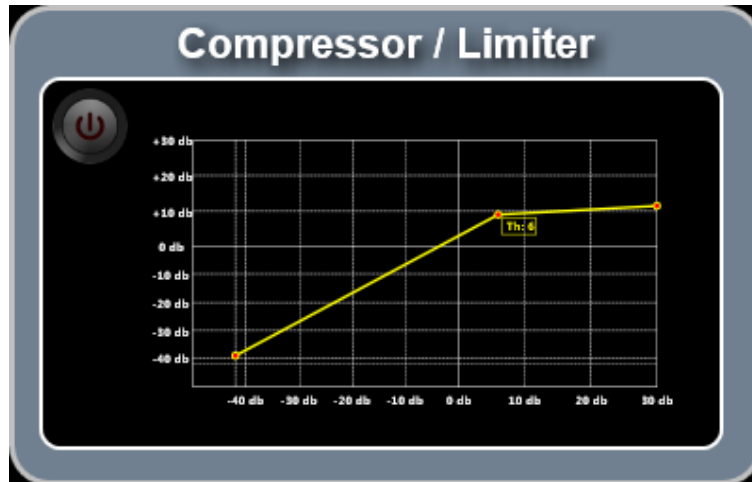


By clicking on the graphical representation the configuration screen is accessed:
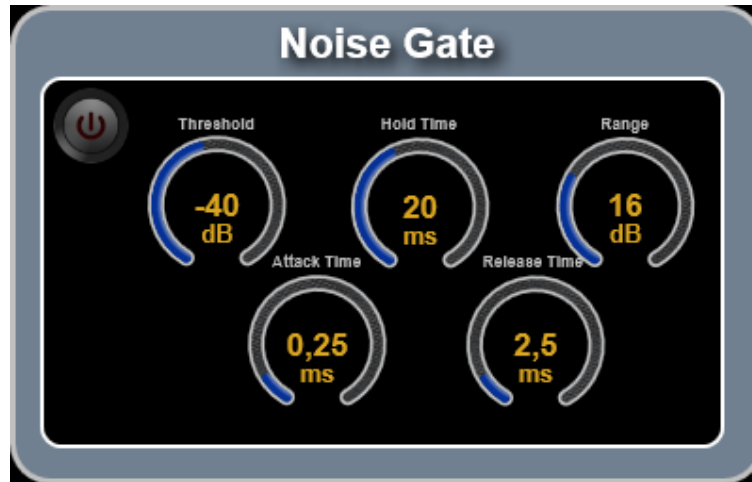


The following parameters can be modified in this process:

- **Threshold.**
- **Ratio.**
- **Gain.**
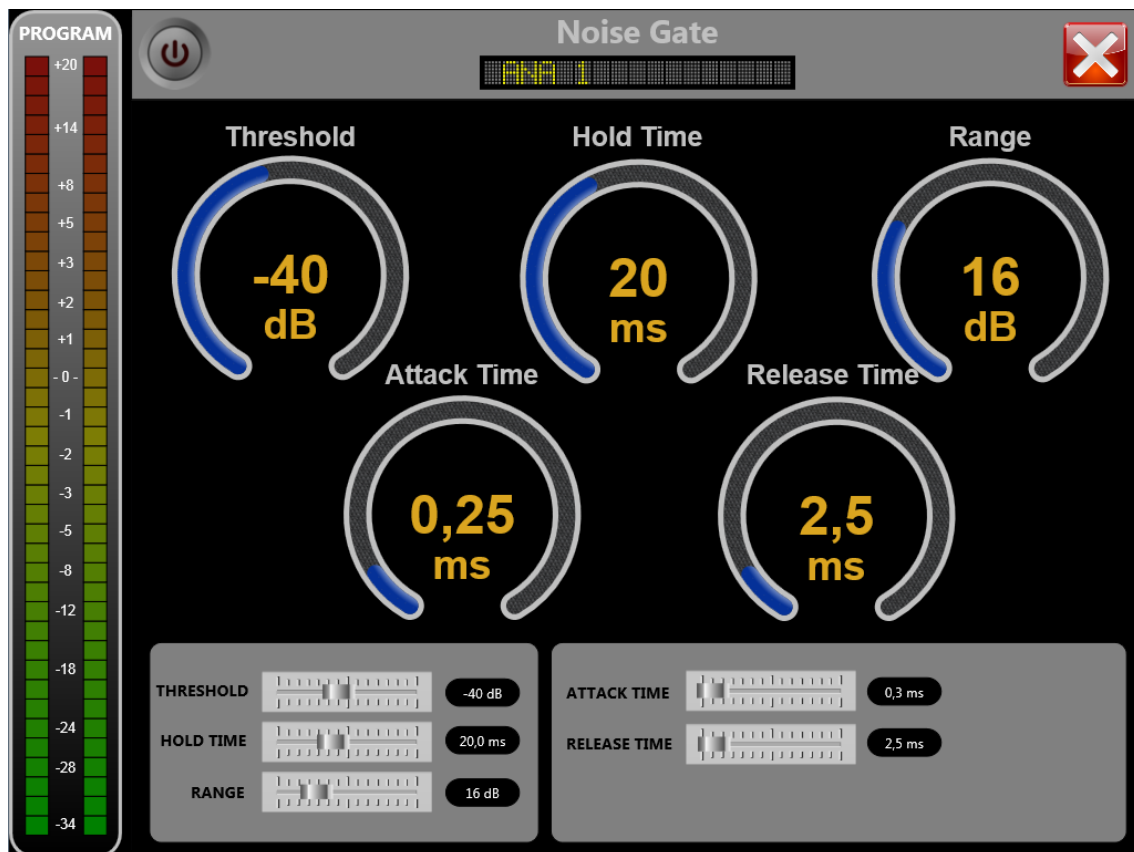- **Attack Time.**
- **Release Time.**

For more information regarding these parameters, please consult the console user's manual.

### 3.2.2. Noise gate.

The Noise gate section has an appearance like this:



By clicking on the graphical representation the configuration screen is accessed:
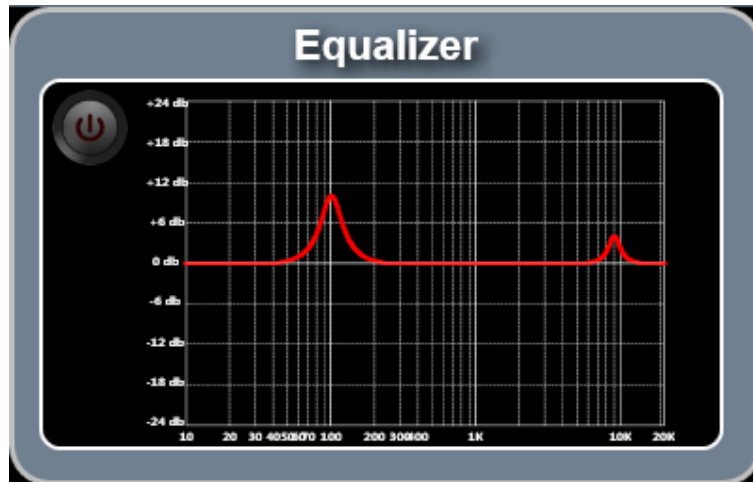


The following parameters can be modified in this process:

- **Threshold.**
- **Hold Time.**
- **Range.**
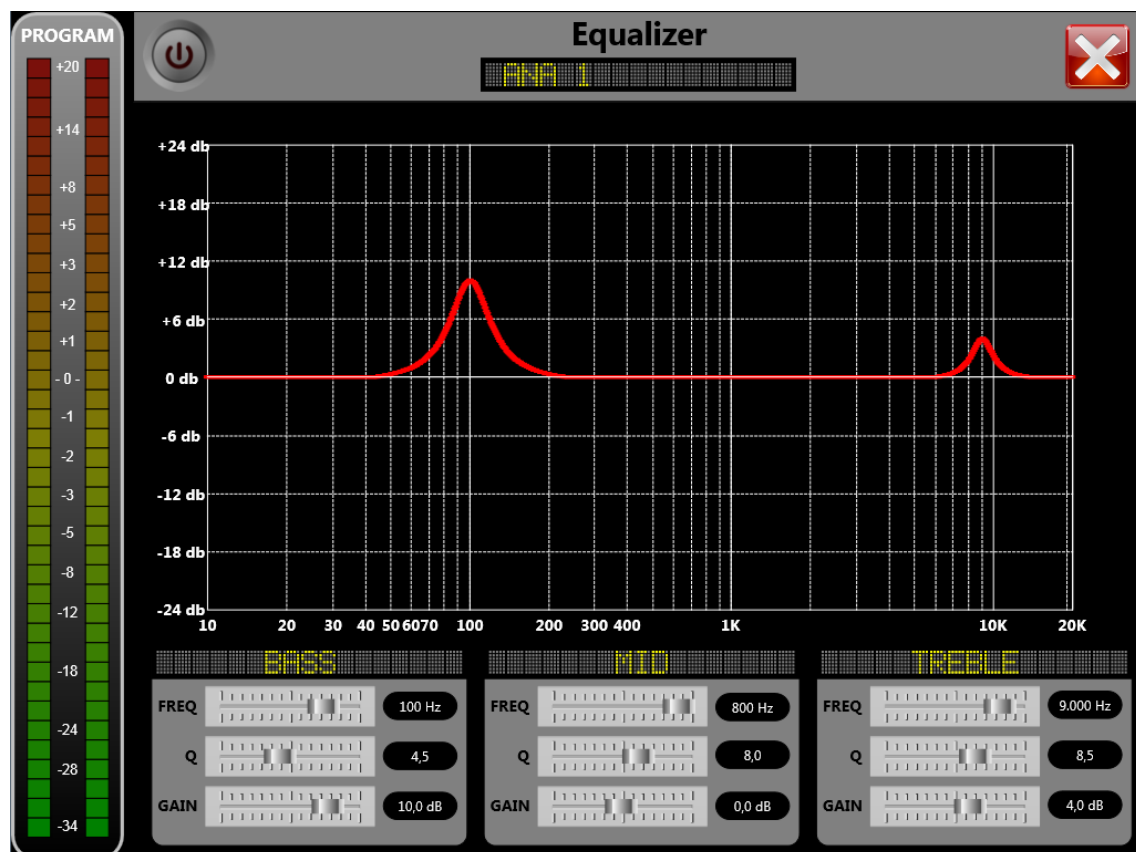- **Attack Time.**
- **Release Time.**

For more information regarding these parameters, please consult the console user's manual.

### 3.2.3. Equalizer.

The Equalizer section has an appearance like this:



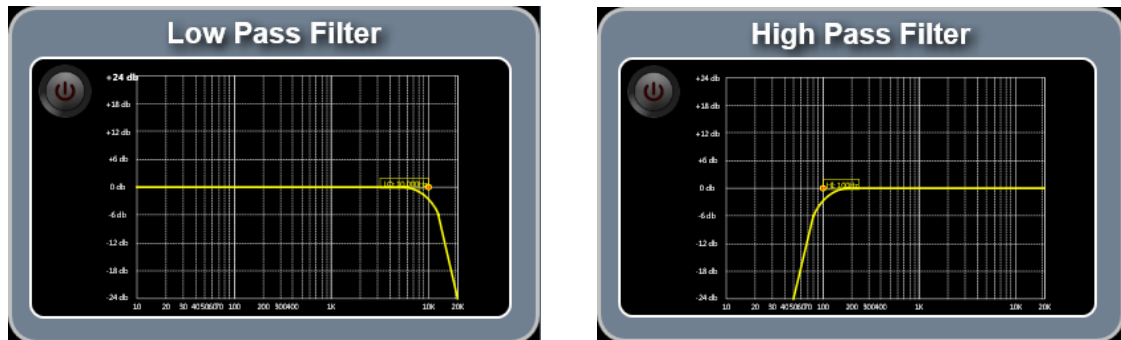By clicking on the graphical representation the configuration screen is accessed:



The Equalizer has three bands and the following parameters can be altered for each one of them:

- **Frequency.**
- **Q.**
- **Gain.**

For more information regarding these parameters, please consult the console user's manual.

### 3.2.4. Low Pass and High Pass Filters.

The Filters sections have an appearance like this:



By clicking on the graphical representation the configuration screen is accessed:
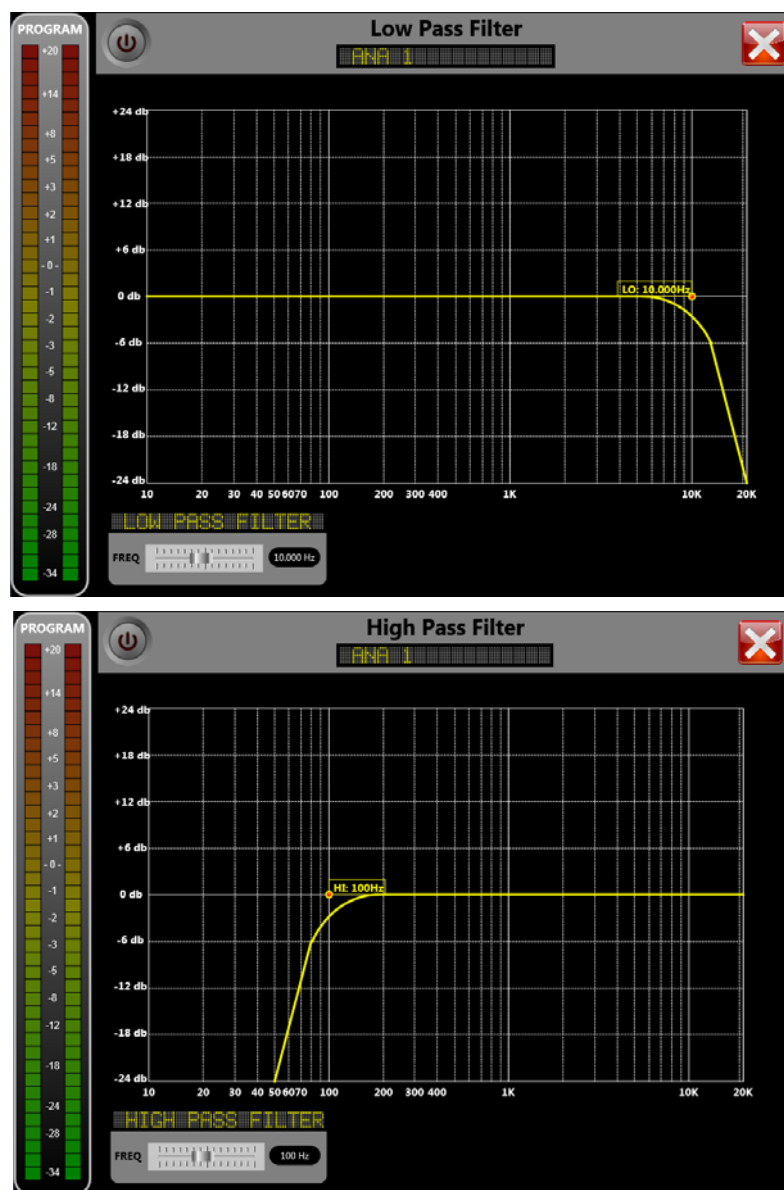




This screen allows the user to enable or disable a low pass filter (LPF) and a high pass filter (HPF) as well as changing their cutoff frequencies.

For more information, please consult the console user's manual.

**4. CONFIGURATION MENU.**

By clicking on the configuration menú button from the idle screen, the application and console configuration options are accessed.

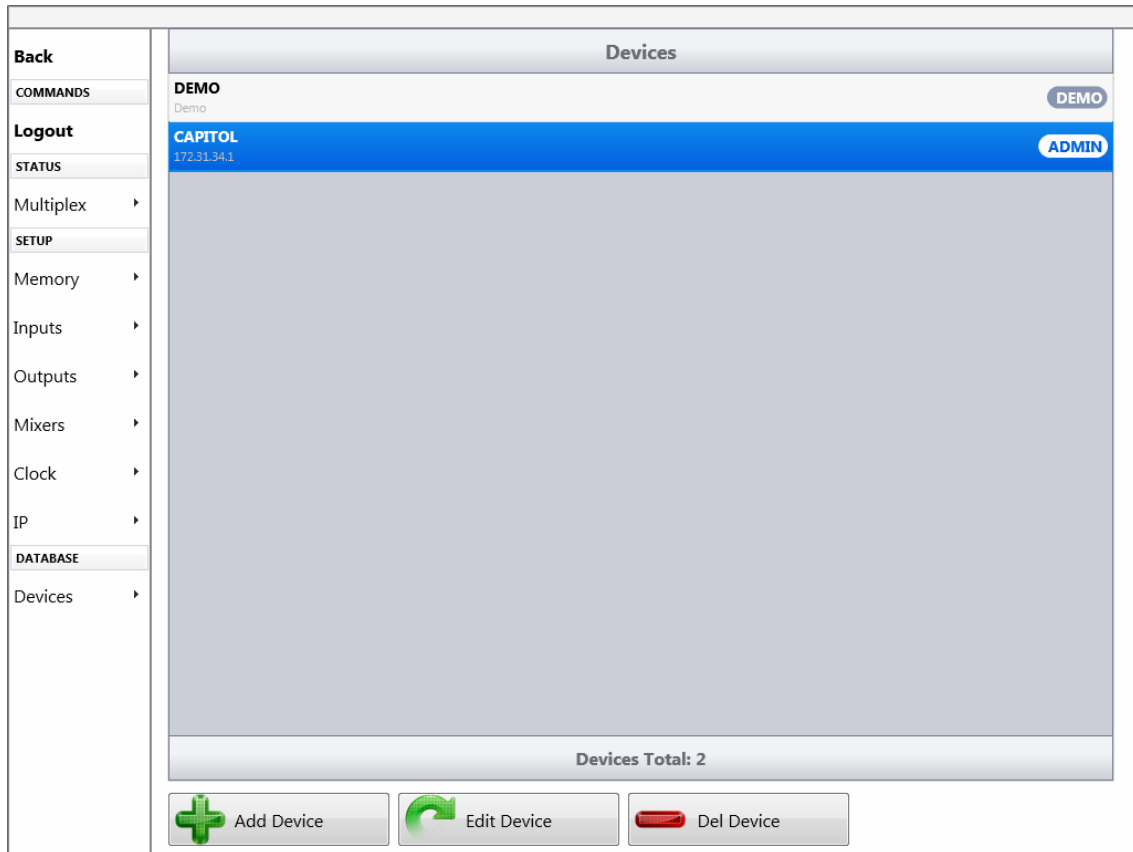A screen like this is presented:



The "**Back**" option (top left) allows you to return to the idle screen.

**4.1. COMMANDS.**

The "**Logout**" option allows you to return to the "Login" screen. From that screen you can change the user, return to the access screen in order to change the console to be controlled, or simply to exit the application (Windows version only, as in iOS the device has a dedicated physical button to leave any application).

**4.2. STATUS.**

The "**Multiplex**" option presents the current status of the system multiplex buses. More or less signals will be represented depending on the number of console configured channels and the number of multiplex buses configured by means of the configuration software.

When a signal is routed to a multiplex bus, the cross point will appear in red. When the signal is not connected, it will appear in white.

The multiplex option has an appearance like this:

## 4.3. SETUP.

A number of console configuration options are grouped under this section.

### 4.3.1. Memory.

When clicking on the "**Memory**" option, a screen like this will appear:

It shows all the system available memories (or snapshots). They can also be loaded or stored from this screen.

The "**Load**" button allows you to load in the console the configuration previously stored in the selected memory position. When it's clicked on, a dialogue will show up asking for confirmation, as the surface operation will be interrupted and all the current configuration of the console will be overwritten.

The "**Save**" button allows you to store in the selected memory position the configuration of the console at that moment. A confirmation dialogue will aso appear, as that action will overwrite that memory position. It is recommended to create a backup memory and never overwrite it, in order to always have an emergency configuration available.

### 4.3.2. Inputs.

By clicking on the "**Inputs**" option, all the system inputs will be listed. A screen with the following appearance will be displayed:
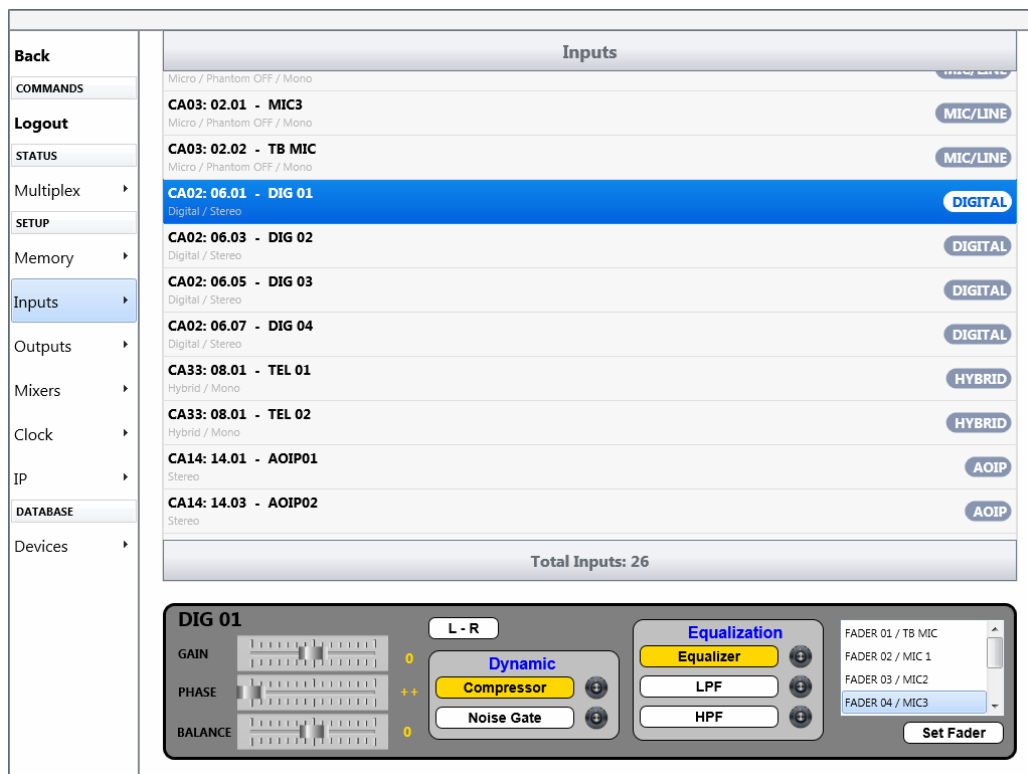


For each input, virtual module type (for example, digital CA02 or hybrid CA33), virtual slot number (for example, 06), channel number within that virtual slot (for instance, 01), input's logic name (for example, DIG 01), signal type (for example, DIGITAL) and configuration details (for example, Digital / Stereo) are displayed.

When an input is selected, its parameters (gain, phase and balance), the sending mode of the stereo input signal toward the stereo outputs that is routed to (the normal working mode is L-R) and processing status can be checked and adjusted in the lower area of the screen - according to the explanations given in section 3.1 and 3.2.

In order to activate or deactivate a process, just click on the button with each process name. When it is active, the button will appear in yellow, when it is not, it will be displayed in white. Whenever any parameter of a process needs to be changed, click on the round button just at the right of its name to enter the process configuration screen, used as described in paragraphs 3.2.1 to 3.2.4.

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When the selected input is not assigned to a fader, a list of all the console channels and the associated inputs is also displayed at the right. By selecting one of them and clicking on the "Set Fader" button, the selected input is assigned to that fader.

### 4.3.3. Outputs.

By clicking on the "**Outputs**" option, all the system outputs will be listed. A screen with the following appearance will be displayed:
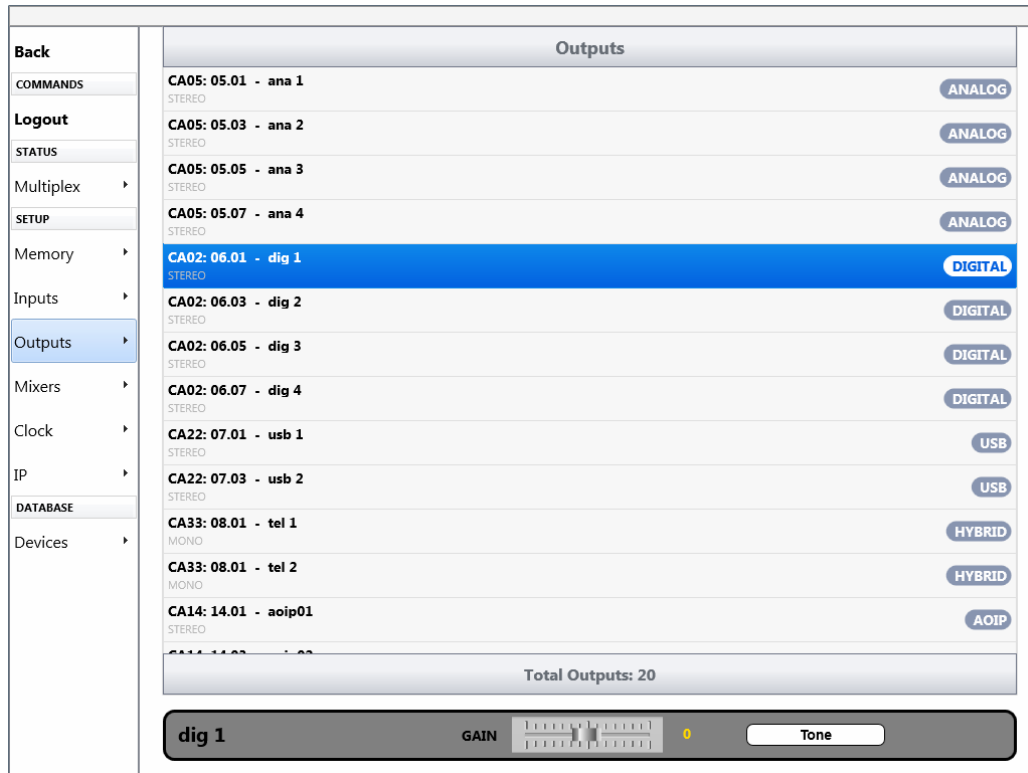


For each output, virtual module type (for example, digital CA02 or hybrid CA33), virtual slot number (for example, 06), channel number within that virtual slot (for instance, 01), output's logic name (for example, dig 1), signal type (for example, DIGITAL) and signal channels number (for example, STEREO) are displayed.

When an output is selected, the following parameters can be configured in the bottom area of the screen:

- "GAIN": allows you to adjust the output gain of the selected signal.
- "TONE": allows you to activate a 1KHz test tone. When this test signal is active, the button will be displayed in yellow. Otherwise it will be displayed in white.

### 4.3.4. Mixers.

By clicking on the "**Mixers**" option, all the internal summing buses of the system are listed. This screen is merely informative, as no modifications can be performed in it.
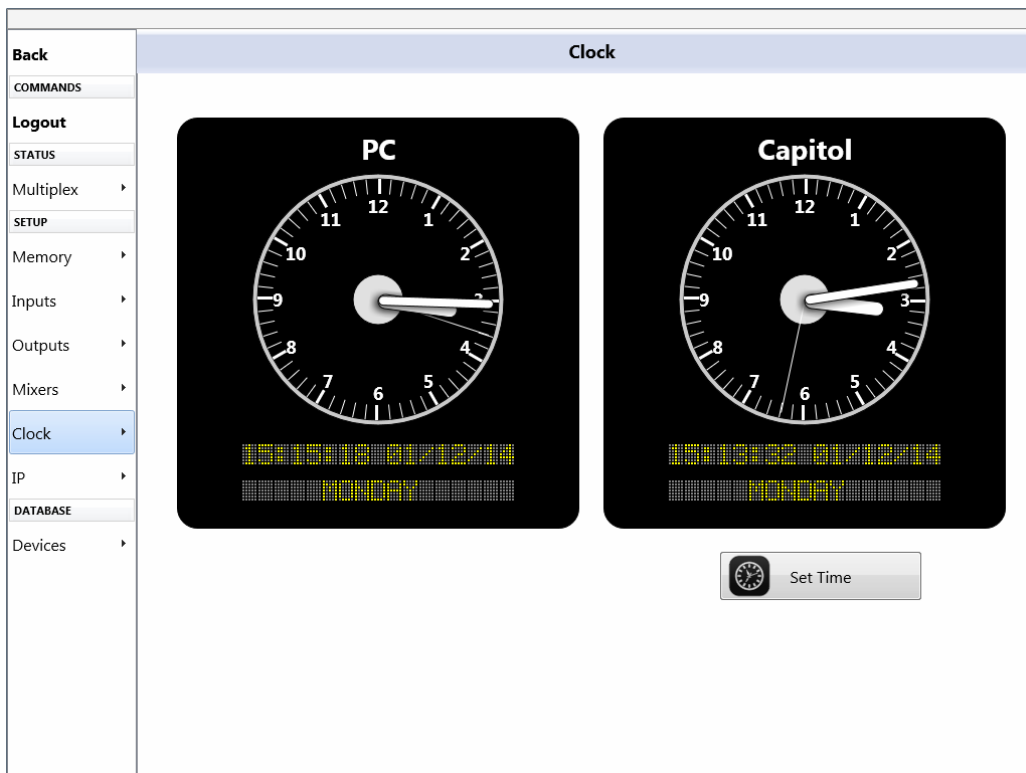
Together with the bus name, its configuration mode will appear, as well as whether it is mono or stereo.

This screen has the following appearance, depending on the configuration that has been sent from the console configuration software:
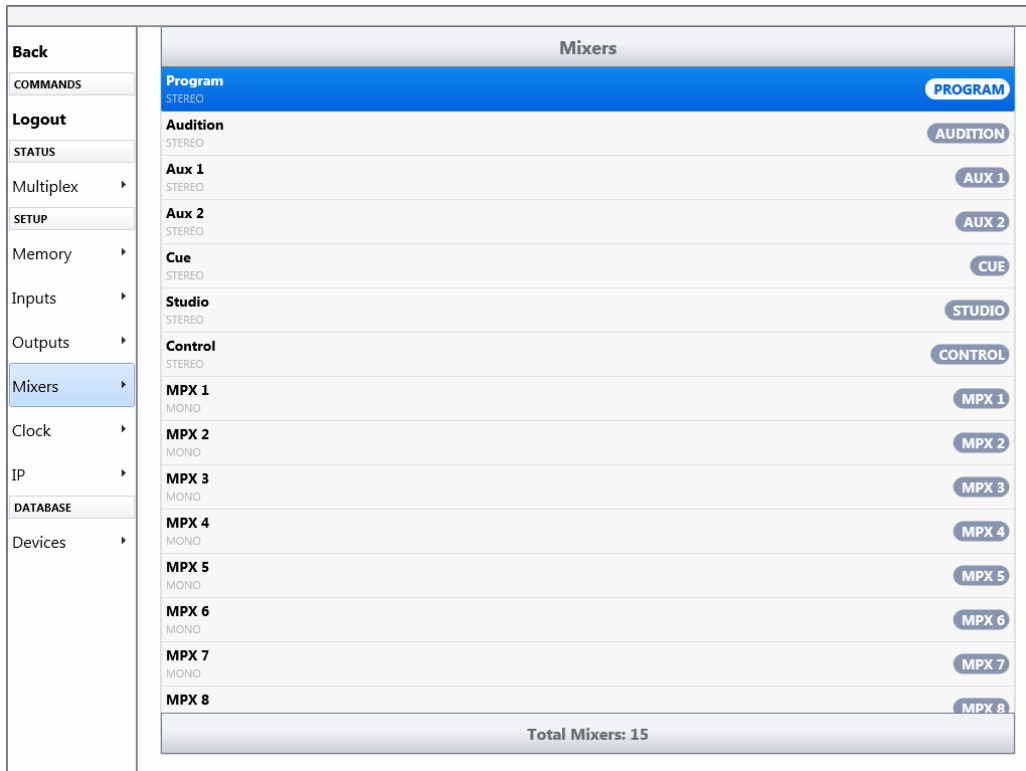
### 4.3.5. Clock.

By clicking on the "**Clock**" option, the PC (or iPad) and console time and date are displayed.



By clicking on the "**Set Time**" button, console time is synchronized to the device's time. For Windows version, the leftmost clock will be labeled "PC" while for iOS versions it will say "iPad".
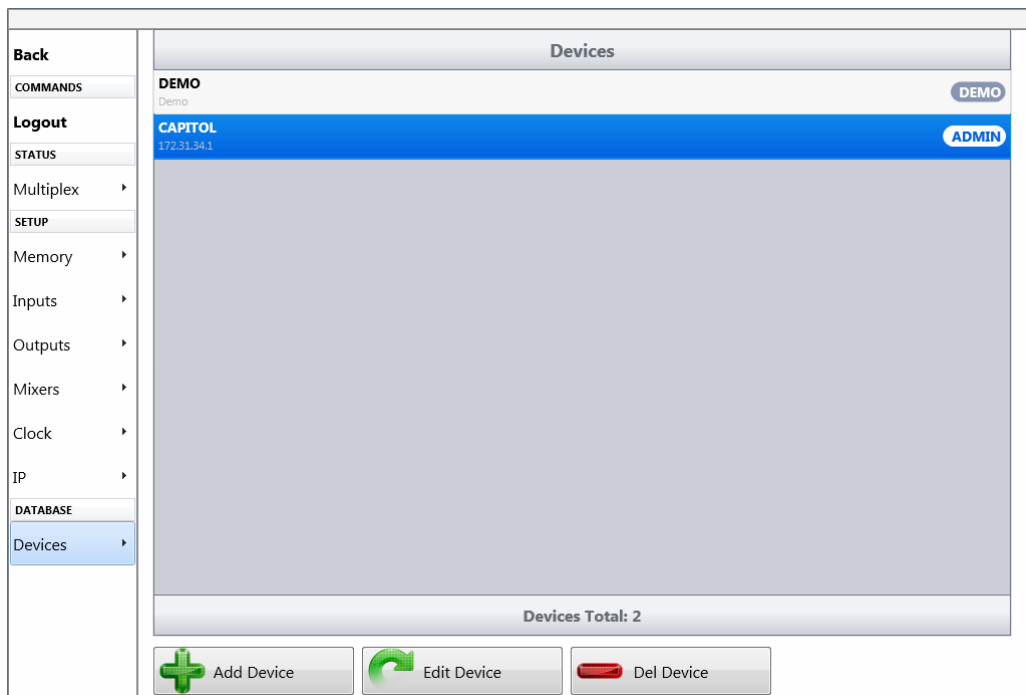
### 4.3.6. IP.

By clicking on the "**IP**" option, the parameters associated to console Ethernet port are shown and can be modified: IP address, subnet Mask and Gateway.



The configured parameters are sent to the console by clicking on the "**Set Ip**" button. A message indicates that these changes will not be active until you turn off and on the console.
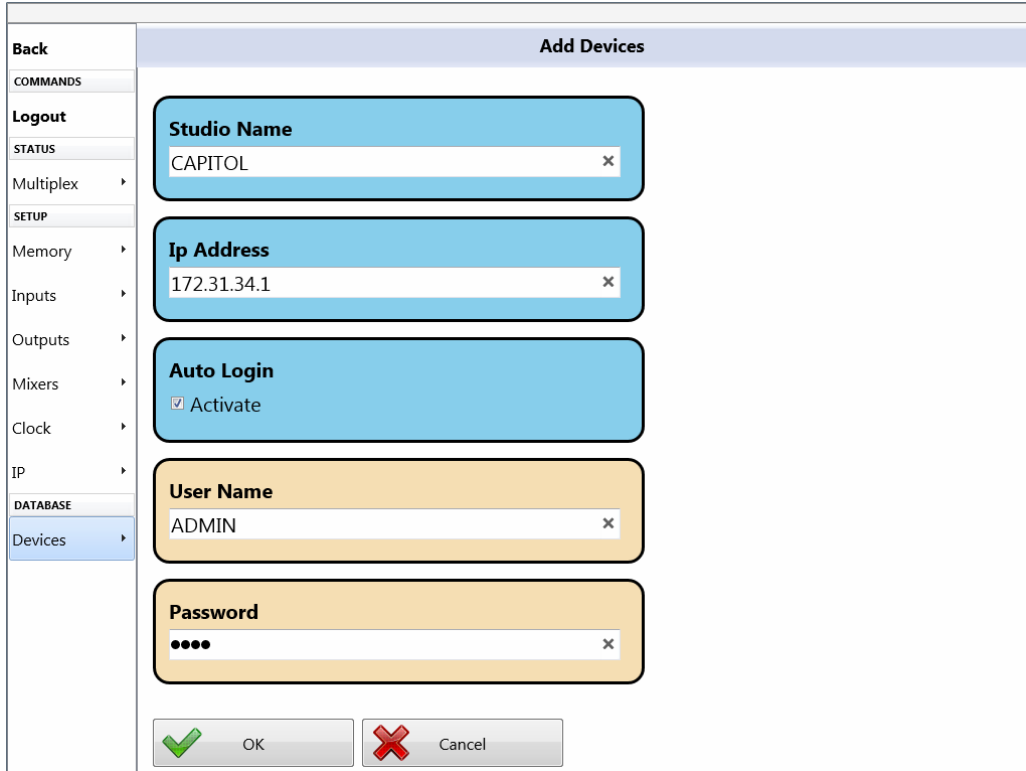
### 4.4. DATABASE.

By clicking on the "**Devices**" option, a list of the devices configured to be controlled by this software is presented. The screen will look like this:

A new console can be added with the "**Add Device**" button. The parameters of an existing console can be modified by means of the "**Edit Device**" button. A console can be deleted from the device list by clicking on the "**Del Device**" button. The "DEMO" device (that allows you to operate against a dummy console) cannot be edited or deleted.

The following screen will appear when adding or editing a console:



The parameters to be defined are the following ones:

- "**Studio Name**"**:** the name that identifies the console and that will appear in the device drop-down menu of the access screen.
- "**IP Address**"**:** the IP address of the console to be controlled.
- "**Auto Login**"**:** when this option is enabled, the initial "Login" screen parameters are automatically fulfilled and, if they are correct, after a few moments the application goes directly to idle screen. The next 2 parameters only appear when this option is enabled.
- "**User Name**"**:** the used name defined in the console configuration software (by default, the user is ADMIN).
- "**Password**"**:** the key associated to that user, also defined in the configuration software (by default, the password for user ADMIN is 1234).

If the "Auto Login" option is enabled and you want to work with a different user, after opening the application you should access to configuration menu and use the "Logout" option (in COMMANDS) to return to the "Login" screen and then enter manually the new user and password.

## 5. REMOTE CONTROL SCREEN: CAPITOL VIRTUAL.

If the console has active the additional **license** to be remotely controlled, the following screen will appear when the remote control button of the idle screen is clicked on:
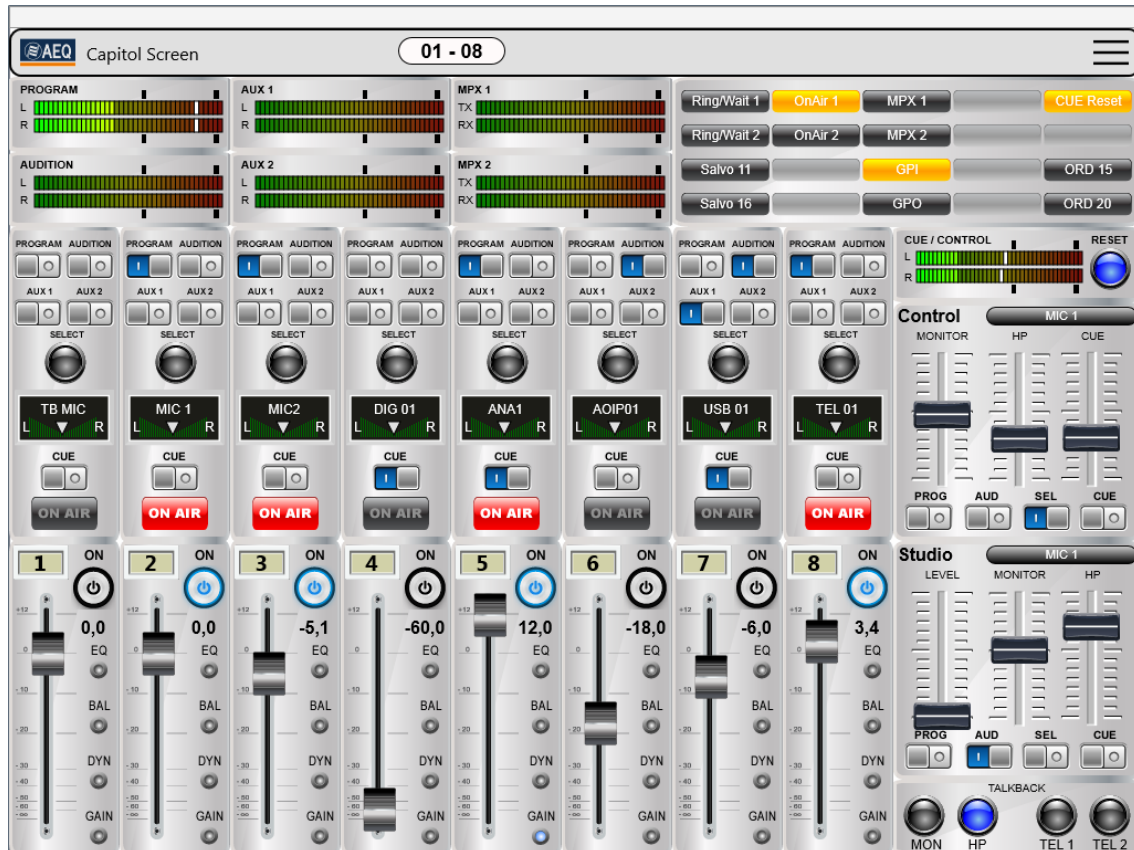




The system can be remotely controlled from this screen.

When the console is not located in the same network, the best option is to establish a VPN connection to ease connectivity and guarantee reception of the vumeters. Otherwise their correct reception cannot be guaranteed through a network such as Internet as they are transmitted as UDP traffic.

Next, the remote control screen is described. As its format and functions are very similar to those in the physical CAPITOL control surface, please refer to the corresponding chapters of the console user's manual for more details about the functions and configuration of the surface.

The screen is divided into 5 sections:

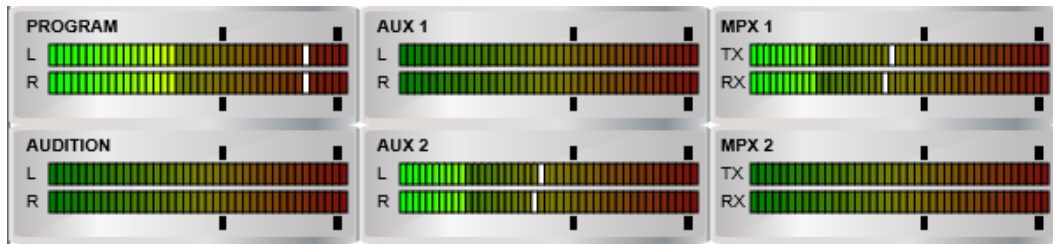1) Faders block indication. Looks like this:



The "01-08" label indicates that the represented faders are the 8 ones that the CAPITOL console has.

In order to leave this screen and return to the idle screen, click on this button, located at the right top corner.

**2)** Main vumeters. They appear on the top area of the screen.



The "PROGRAM" and "AUDITION" vumeters are always displayed, whereas the rest of them are only shown when no channel is selected by means of the button

**3)** Programmable Keys. The console's programable keys are displayed, together with their function names:



The keys operate in the same way as they do in the surface, except for the MPX keys, that operate in LATCH mode instead of in PTT mode, so the "SELECT" and programmable keys don't need to be pressed at the same time.

**4)** Control and Studio Monitoring Sections:



The CUE vumeter (or the control monitoring bus vumeter, when there are no channels sent to CUE), together with a button implementing the "CUE RESET" funciton, are displayed in the Control section. This button operates in parallel with the one programmed in the programmable keys section.

Next to the "Control" text, a button is provided that unfolds a list of available signals to monitor when the "SEL" button is selected in the monitoring.

In the Studio Monitoring section, next to the "Studio" text, the same button is presented for the signals corresponding to the Studio "SEL" button.

In the Studio Monitoring section, also a Talkback section is provided and consists of four buttons and the "LEVEL" control. This section allows for direct conversation with the studio monitors, headphones, telephone hybrid 1 or telephone hybrid 2.

**5)** Channels section. The 8 channels of console control surface are presented simultaneously.

The channel has a very similar appearance as the surface, so its use should be quite intuitive.

Each channel includes the following controls:

- the routing buttons: "PROGRAM", "AUDITION", "AUX 1" and "AUX 2"
- the "SELECT" button: allows you to access to information regarding channel status and modify some parameters.
- the "CUE" button.
- the channel ON/OFF button.
- the graphical fader.

Each channel includes the following indicators:

- display that shows the assigned signal name and status for balance or panorama.
- active channel "ON AIR" indicator.
- LEDs that indicate activation or change of equalizer ("EQ"), balance ("BAL"), dynamics ("DYN") or gain ("GAIN").

When the "SELECT" key of a channel is clicked on, the "PROGRAM" and "AUDITION" vumeters are pushed to the right, while "AUX 1", "AUX 2", "MPX 1" and "MPX 2" vumeters disappear, opening a windows where the selected channel status is presented. In order to return to the previous situation, just click on the channel "SELECT" button again.



When a channel is selected, a section with the following parameters appears (all of them can be modified except the first one):
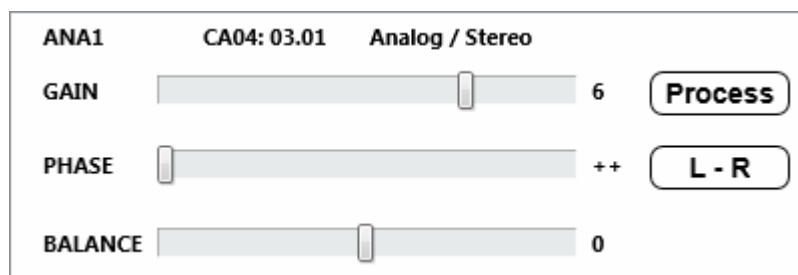


- Line name and information.
- Input gain.
- Signal phase.
- Signal balance/panorama.
- Access button to signal processes.
- Button to modify the sending mode of the stereo input signal toward the stereo outputs that is routed to. The options that appear successively when you press the button are: L-L, R-R and R-L. If you press the button once more, it returns to the normal working mode: L-R (the L input channel is sent to the L output channel and the R input channel is sent to the R output channel). This button will appear only for stereo signals.

When the  **Process**  button is clicked on, the following screen appears:
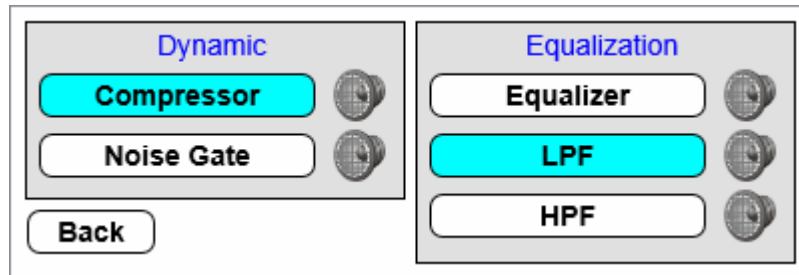
In order to activate/deactivate a process, just click on the button with its name. When the process is active, it will appear with a blue background, otherwise the button will have white background.

If any of the process parameters needs to be changed, just click on the  button right by its side. The process configuration screen then appears (see section 3.2 of ths manual).
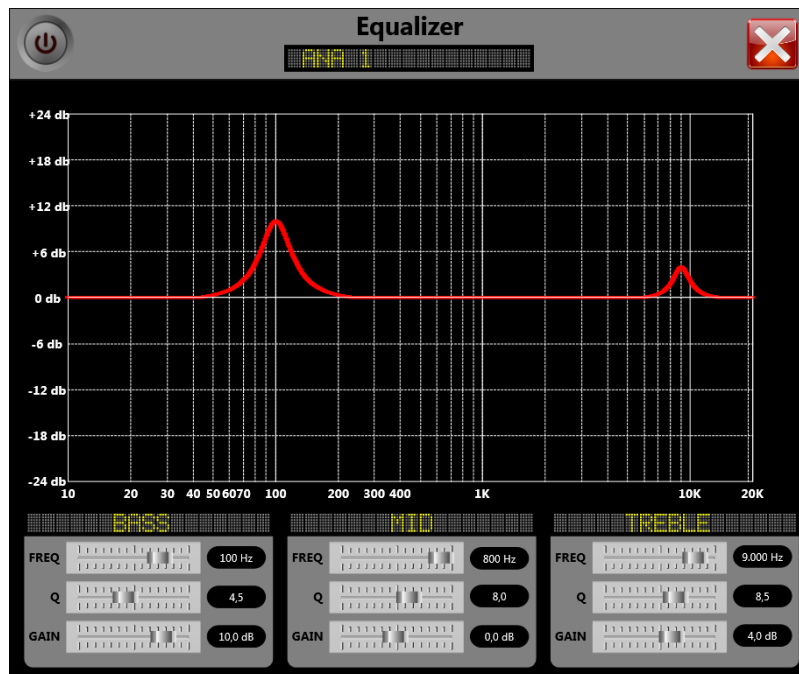


In order to leave the remote control screen ("CAPITOL VIRTUAL") and return to the idle screen ("CAPITOL SCREEN"), just click on this button, located at the right top corner of the window.