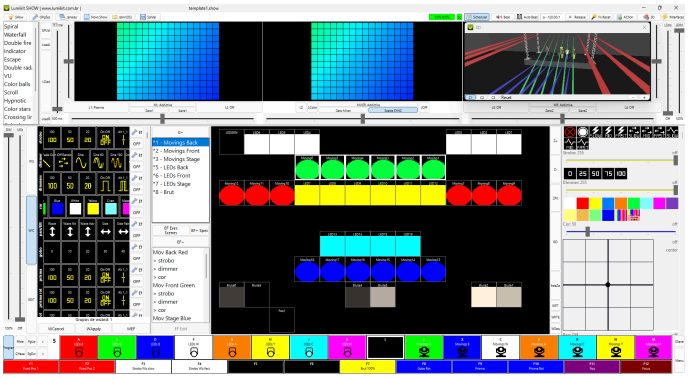
User manual

Lumikit SHOW 2026



For good functioning of the software, we recommend the following specs:

- **Windows 10 or higher (64 bits)** operating system;
- Intel Core i3 CPU or higher (10th gen i5 or i7 or higher recommended);
- 4 GB of RAM memory for processing;
- 100 MB of HD memory for storage;
- HD video resolution 1280 x 800 px (full HD 1920 x 1080 px recommended);
- If using the 3D External Visualizer, a dedicated graphics card (NVIDIA, AMD).

* The computer's specs will depend directly on the DMX fixtures quantity the software will control. Deactivating skins (software's appearance) increases performance on older computers.

Compatible interfaces: All of Lumikit's interfaces or other manufacturers' which are compatible with Art-Net protocol.

Manual revision: 0 - 17/12/25

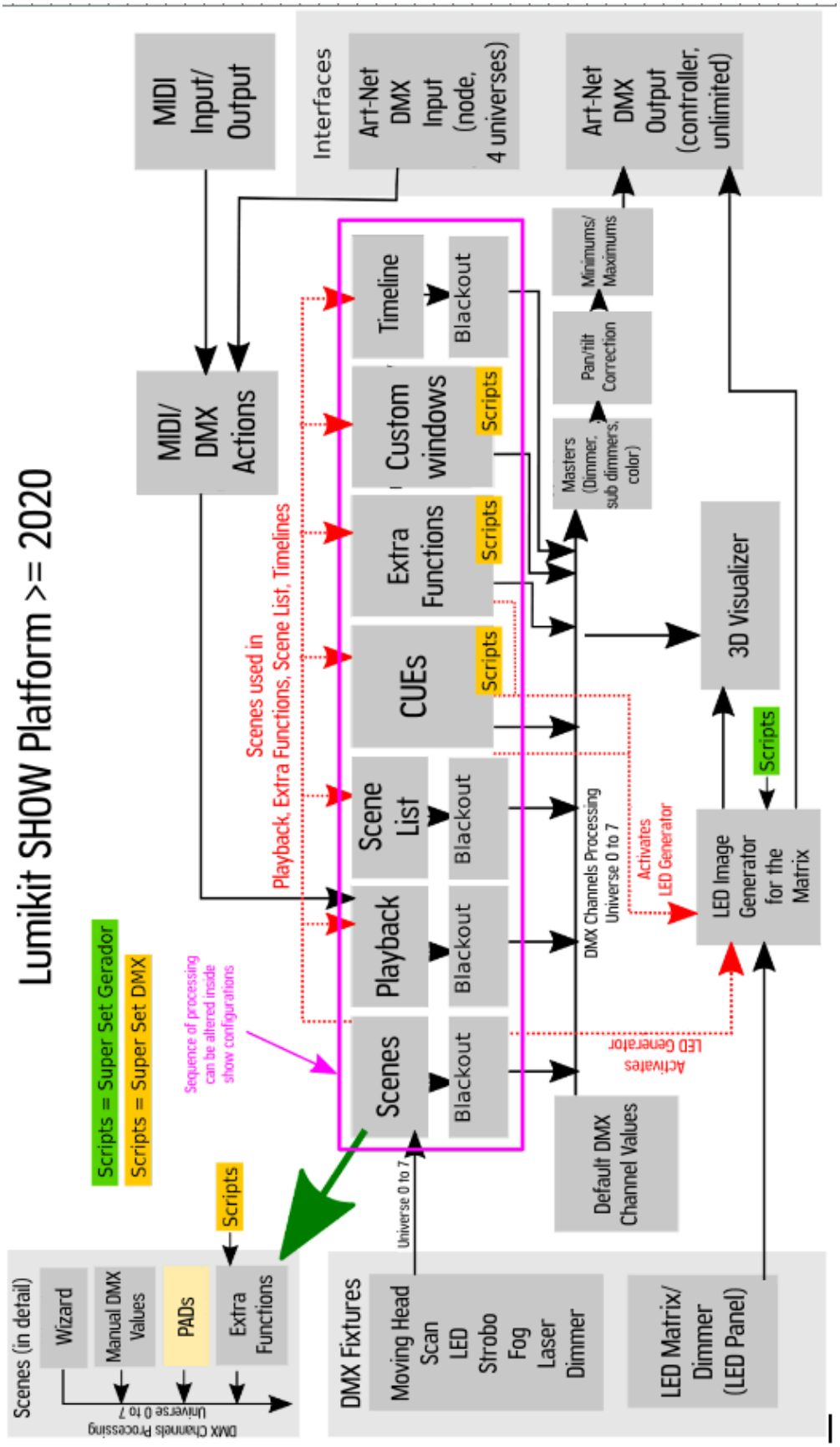
Summary

Quick start

Bought a board or interface, downloaded and installed Lumikit SHOW, and now **don't know what exactly to do?** Our suggestion is to **watch the videos** we leave **available at Lumikit University!** They are organized in a logical sequence for learning, from basic topics to more advanced ones. The easiest thing is to follow the *BASIC* course and in a few hours you will be able to take advantage of many of the program's features. Also check the **Getting Started in Lighting with Lumikit** video: https://youtu.be/Mdb8G9IS0Rs.

1. Lumikit SHOW Overview

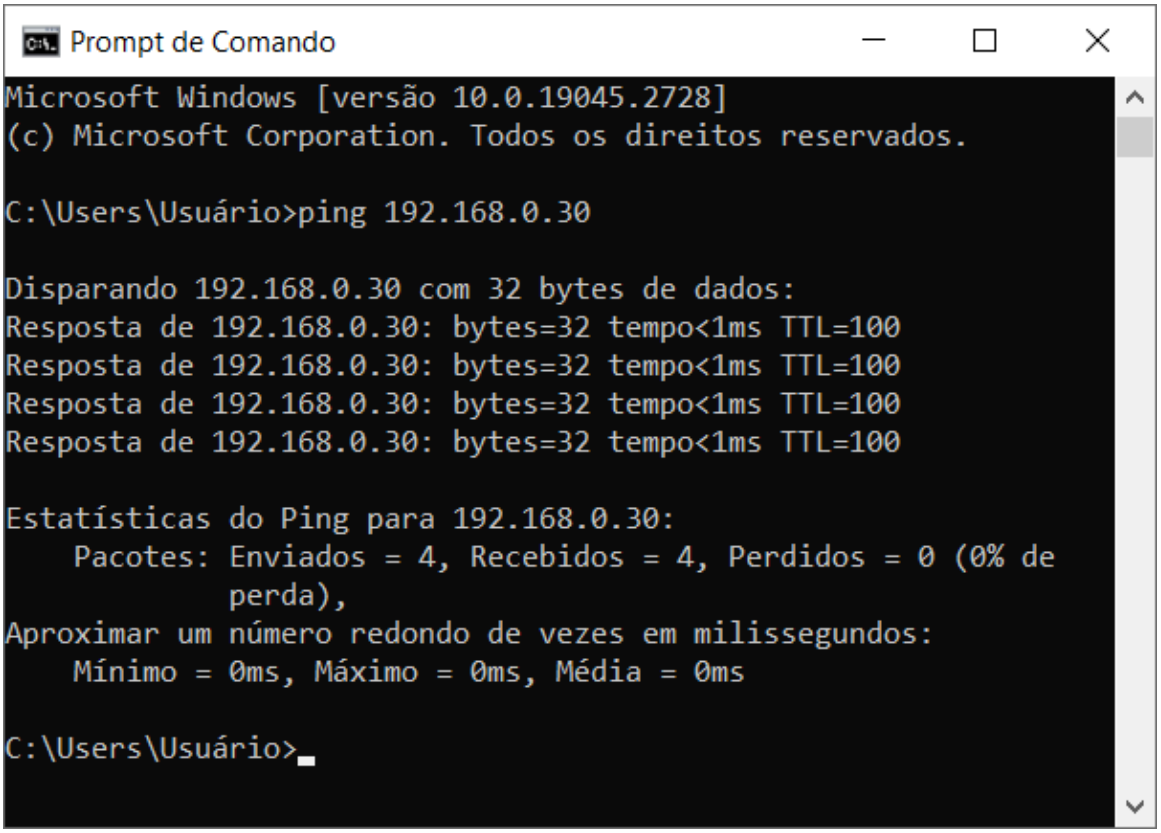
Below is a block view of the software showing the main features.



2. Interface Configuration

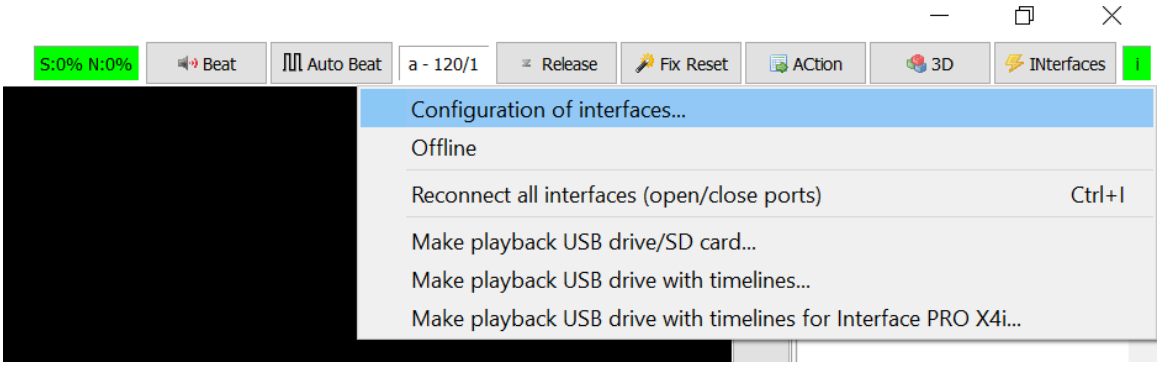
To use Lumikit SHOW with the interfaces, these must be configured within the software, but first it is important to check some questions:

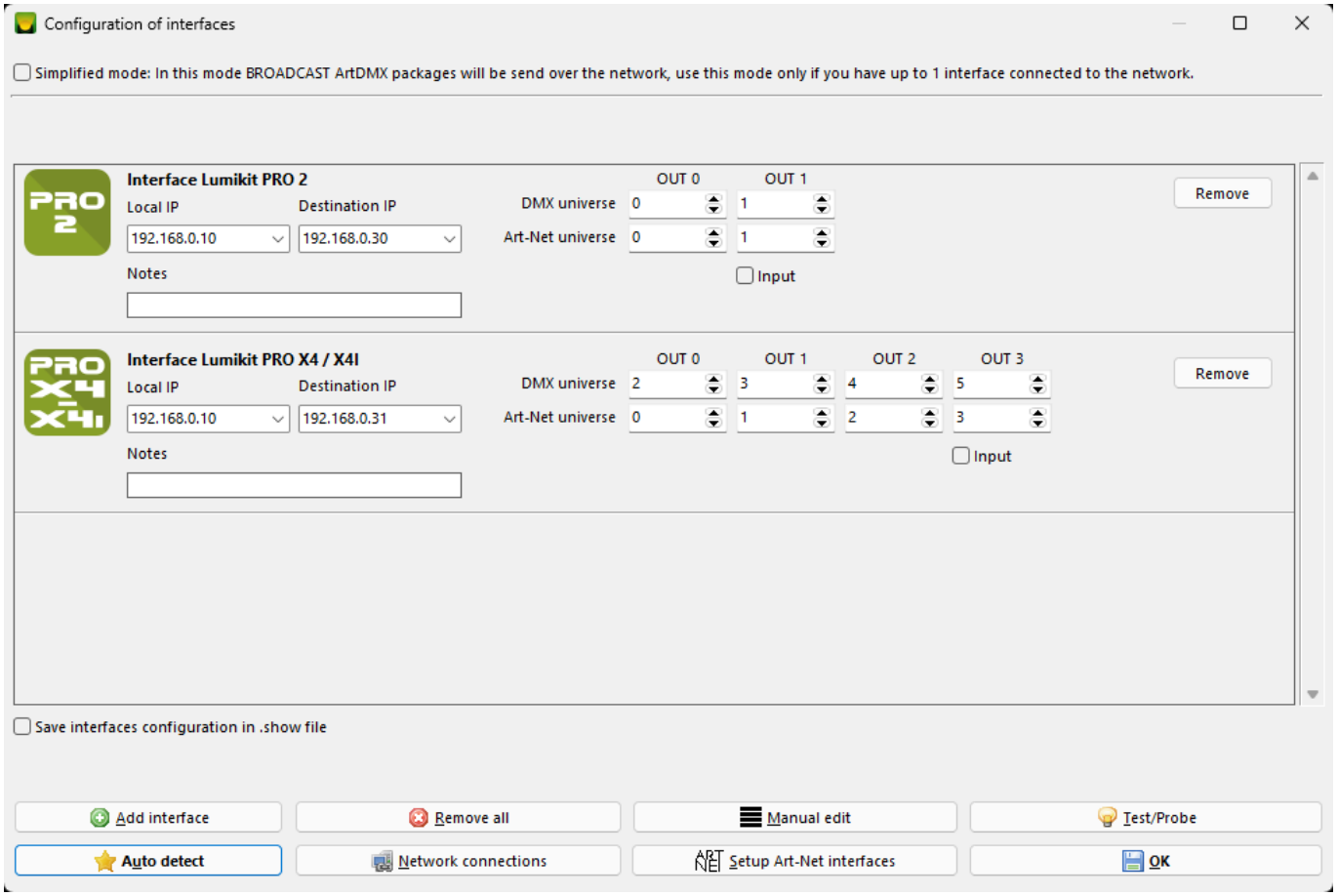
- **For USB interfaces:**
  - Not supported anymore since version 3.0, utilize older versions to use with USB interfaces (https://youtu.be/xF0cDU39U7M).
- **For Art-Net interfaces (Lumikit PRO line):**
  - Check if you can “ping” the network address of the desired device.
    To verify that communication with the interface is working, at the command prompt, type ping [ip_address] (*ping 192.168.0.30* for example):



If the interface does not respond to the ping command, it is possible to add one or several Art-Net servers manually at the IP address 255.255.255.255. This address is called BROADCAST, in this way all the interfaces in the network will receive the software data regardless of the IP configuration. Check the next chapter for more information.

The interface configuration window is shown when clicking on the “INterfaces” button in the main window, then selecting the “Configuration of interfaces...” option.





Communication with the interfaces is done through Art-Net Controllers and Nodes:

- Art-Net Controller sends DMX data to an interface; if the interface uses more than one universe, more Art-Net Controllers have to be created (one Art-Net Controller for each universe);
- Art-Net Node allows the software to receive Art-Net packages from Art-Net Controllers (from another software for example).

2.1. Simplified Mode ON

In Simplified Mode the software automatically creates Art-Net Controllers for each universe that has been configured in the DMX fixtures and sends ArtDMX in BROADCAST mode (see more ahead). This mode is recommended if only one interface is used on the network.

2.2. Simplified Mode OFF

When Simplified Mode is off, the software will follow what was manually configured. Lumikit's interfaces respond to ArtPing packages, thus can be manually added through the "Auto detect" button.

Remember to check the DMX universe within the software and the Art-Net universe configured in the interfaces, in addition to making sure that the DMX universe and DMX channel of the DMX fixtures are correctly configured within the software and also physically connected to the DMX fixtures.

2.3. Interface Configuration in BROADCAST mode

If for some reason the interfaces are not located automatically or do not respond to the Lumikit SHOW "Ping", the interface can be used in BROADCAST mode. BROADCAST mode can also be used without any problems if only one interface is used on the network or if all interfaces on the network use the same Art-Net universe.

The fact that the interfaces do not respond can be linked to several reasons, for example, the network configured on the computer is of a different class from the network configured on the interface, or the computer or some equipment on the network is blocking the interface's response to the software, probably due to a firewall (which may be active on the computer or something on the network), router (especially wireless ones) or antivirus (on the computer).

If these items have already been checked and the problem still persists, a solution is to add Art-Net Controllers in the 255.255.255.255 address as described. To do so:

- Go to "INterfaces", then "Configuration of interfaces...";
- Click "Remove all" to remove all other interfaces (if there are any);

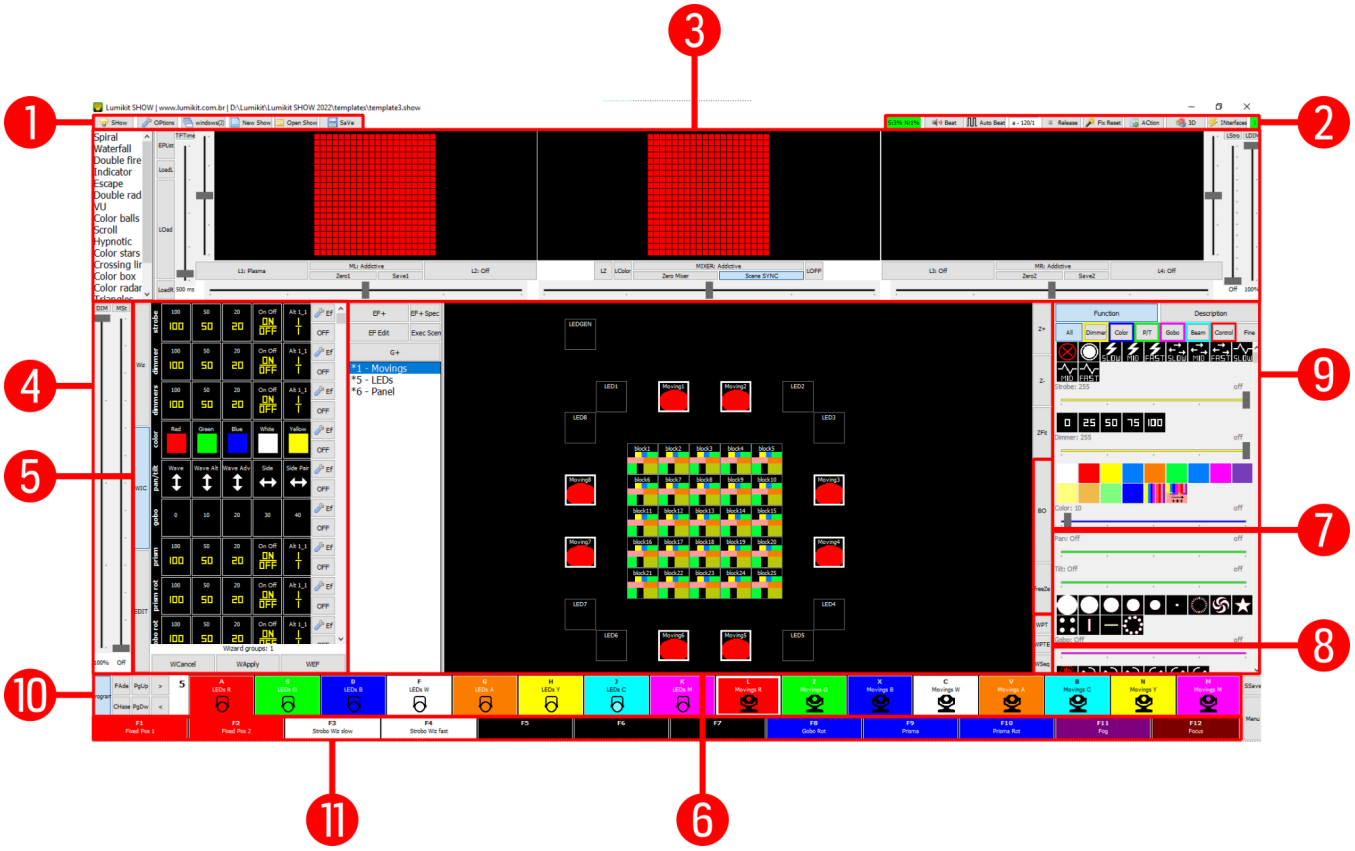
- Click “Add interfaces”, then “Art-Net Controller”;
- In the follow window, fill the fields accordingly:
    - Local IP address: 0.0.0.0;
    - Destination IP: 255.255.255.255.

If the interfaces have more than one universe, add more Art-Net Controllers as needed. In general, the interface manual shows the step by step configuration that must be done.

3. Lumikit SHOW

3.1. Main Window

The main window brings together all the necessary controls for creating/editing scenes. See below how the main window is divided.



- **1:**
  - **SHow:** Fixtures configuration, as well as other software parameters.
  - **OPtions:** General software settings.
  - **windows(J):** Show or hide additional windows.
  - **New Show:** Creates a new show.
  - **Open Show:** Opens an existing show (.show file).
  - **SaVe:** Saves current show (.show file).
- **2:**
  - **CPU Indicator:** “S” represents the calculation of the current scene, and “N” the time taken to send the information to the network adapter. If the values are greater than 100% some frames are not being processed in time, in which the indicator will turn red.

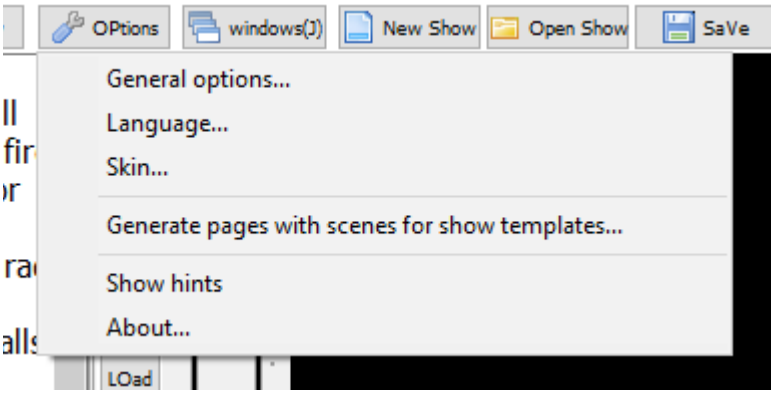
    - **Time Code:** Turns time code on or off.
    - **tc:** Indicates if it is receiving time code. When clicked, shows the time code settings window.
    - **Beat:** Marks a beat when clicked. Clicking it repeatedly will change the software's BPM.
    - **Auto Beat:** Turns audio effects on and off according to the BPM.
    - **a:** Shows audio options.
    - **Release:** Turns off all faders in the playback window, all CUEs in the CUEs window, all faders and buttons in the custom windows, and all scene lists active.
    - **Fix Reset:** DMX fixtures reset (turning on and off all channels or calling the specific macro configured on the DMX fixture).
    - **ACtion:** MIDI, DMX input, Time Code and Scheduler configuration.
    - **3D:** 3D configuration, editor, and shows or hides internal or external 3D visualizers.
    - **INterfaces:** Art-Net interfaces configuration.
    - **i:** Art-Net controllers and nodes status.
- **3: LED Generator.** Four LED generators to run effects on LED panels/floors/tracks and even on DMX fixtures as long as these are in a Wizard group and mapped in the matrix within the show configuration.
- **4: MASTERS Faders.** Master Dimmer, Strobo and Color faders. Also found here are the "CHase", "Fade" and "DMX Input" when active.
- **5: WIC.** Allows you to directly apply the effects of the wizard on fixtures, groups and wizard groups.
- **6: Fixture Selection.** Allows making a selection of devices configured in the show. This selection changes according to the selected PAD, indicating which device is being used in the PAD.
- **7: Blackout and Freeze.** Turns blackout or freeze functions on or off.
- **8:**
    - **WPT:** Used to create and correct Wizard Pan/Tilt positions from manual values or movements being performed.
    - **WPTE:** Highlights fixtures that contain pan/tilt via color or dimmer.
    - **WSeq:** Lets you create sequences directly by selecting fixtures.
- **9: Fixture Parameters.** Shows the parameters of the fixtures that are configured in the selected fixtures. These parameters were configured in the show Configuration

window, using the “SHow” button. The parameters shown are those of the fixtures selected in area 5.

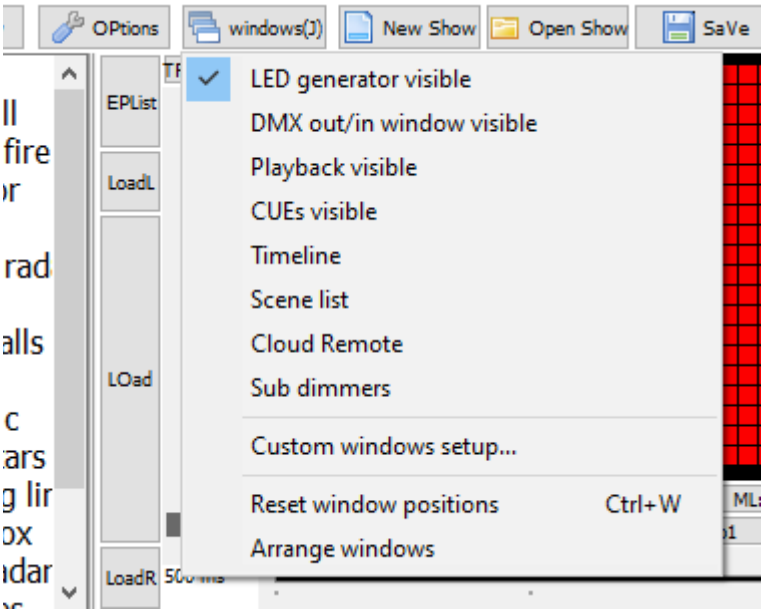
- **10: Scenes.** Shows the scenes that have already been saved and allows the selection of scenes with the mouse or directly with the keyboard using the corresponding letter.
- **11: Extra Functions.** Buttons for quick access to functionalities.

3.1.1. OPtions and Windows Buttons

The OPtions button presents a menu where you can change the language and appearance of the software. There are also General Options to enable and disable some software functions.



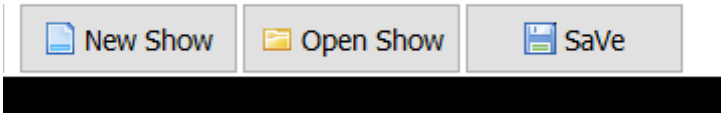
The Windows button allows to show or hide some other Lumikit SHOW functionalities and windows. Remembering that the software also works using 2 or more monitors on the same computer.



In case some window is hidden, for example when changing from 2 monitors to 1 monitor, use the option “Reset window positions” to put all the software windows in the initial position.

3.1.2.1. Options with Files

The whole show is saved in a .show file; on the computer itself, on a pen drive or any other storage device. This allows, for example, for a show to be created on one computer and used on another. To create a new show, you can either use the New Show or Open Show (opens .show file) buttons.



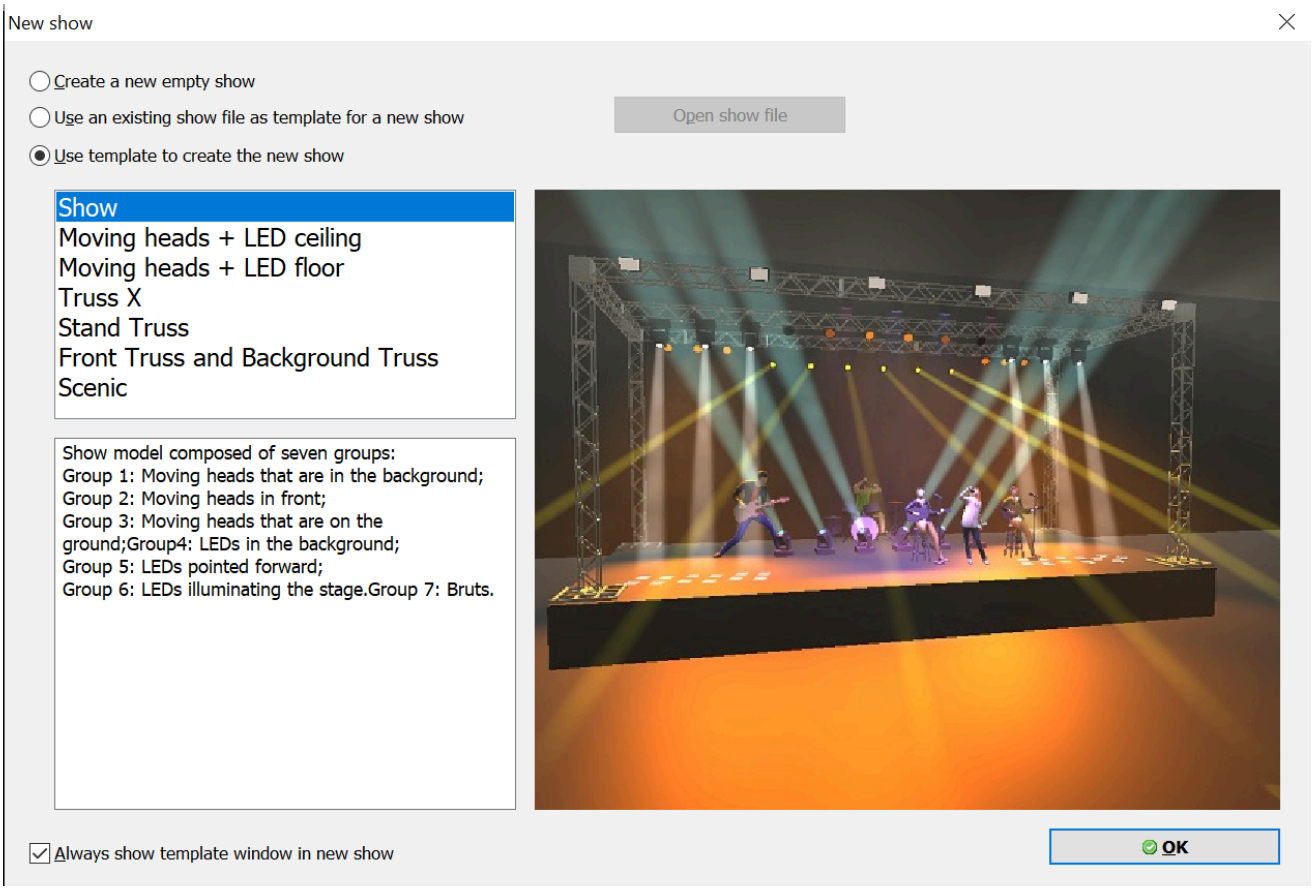
3.1.2.2. Show Templates

The show templates are a simple and quick way to create a show. Each template has 64 scenes and 12 extra functions ready. These scenes make use of the Wizard and are programmed specifically for Moving Heads and PAR LEDs. The extra functions are already provided and ready to use with Moving Heads, PAR LEDs, smoke machines and strobes. Other fixtures can easily be used in shows created with templates.

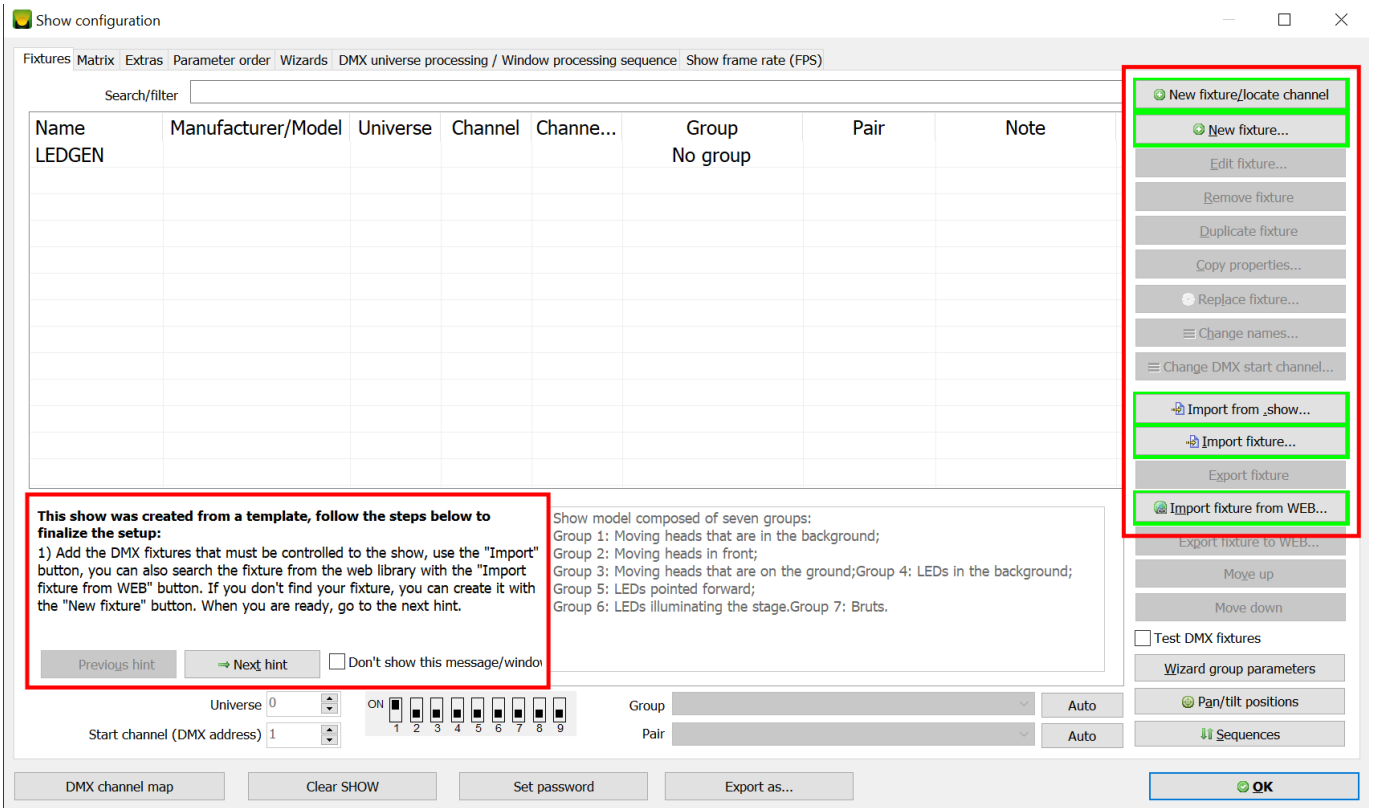
The show templates, in addition to facilitating the creation of new shows, can also serve as an example. The lighting technician will be able to take ideas from the ready-made scenes and eventually improve them.

3.1.2.2.1. How to Use a Show Template

To use a template, click the New Show button. The following window will open.



You can choose a template according to your needs. After choosing and clicking OK, the show configuration window will then open, with some parts highlighted and instructions to follow.



3.1.2.2.2. Show Template's Wizard Presets

These scenes that accompany the templates are made from the Wizard (see Wizard chapter). The Wizard is composed of presets that are buttons with something already recorded in them. You can also change them according to your needs.

3.1.2.2.3. Show Template's Scenes

All show templates follow the same scene pattern as shown in the table below. The names of the scenes also follow a pattern of letters, for example: "**RW Slow Flash**" (Slowly Flash Red and White), where the first set of letters represents the colors according to the table below.

R (Red)	G (Green)	B (Blue)	C (Cyan)	M (Magenta)	Y (Yellow)	W (White)	A (Amber)

"Slow" and "Fast" represent the moving speed of the Movings. "Flash" represents the flashing LED if there is any effect other than dimmer 100% on.

On page 8 there are alternative scenes with different effects. Up next, the table of scenes with all the templates.

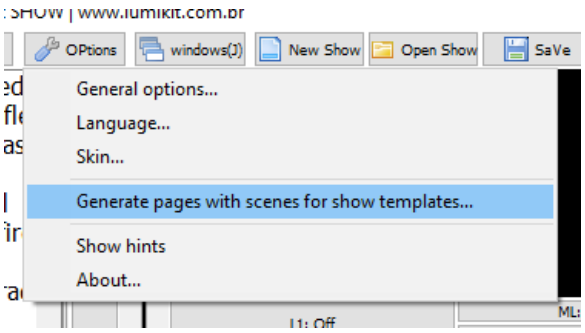
Scenes/Pages	5 - Stop Scenes	6 - Slow Scenes	7 - Fast Scenes	8 - Alternative Scenes
A	R LEDs	R Slow Flash	RY Fast Flash	Alt RW Slow
S	G LEDs	G Slow Flash	RG Fast Flash	Alt GW Fast
D	B LEDs	B Slow Flash	RB Fast Flash	Alt BW Slow
F	W LEDs	W Slow Flash	GB Fast Flash	Alt W Fast
G	A LEDs	A Slow Flash	GC Fast Flash	Alt AW Slow
H	Y LEDs	Y Slow Flash	BM Fast Flash	Alt RGB Fast
J	C LEDs	C Slow Flash	BC Fast Flash	Alt RGBW Slow
K	M LEDs	M Slow Flash	RGB Fast Flash	Alt RYGCBM Fast
L	R Movings	RY Slow	RYG Fast Flash	Alt RG Slow
Z	G Movings	RG Slow	RMB Fast Flash	Alt RB Fast
X	B Movings	RB Slow	BCG Fast Flash	Alt GB Slow
C	W Movings	GB Slow	BYM Fast Flash	Alt BM Fast
V	A Movings	GC Slow	CMY Fast Flash	Alt BC Slow
B	C Movings	BM Slow	RWY Fast Flash	Alt Strobo W Fast
N	Y Movings	BC Slow	BWC Fast Flash	Alt Strobo RGB Fast
M	M Movings	RGB Slow	AGR Fast Flash	Alt Strobo RYGCBM Fast

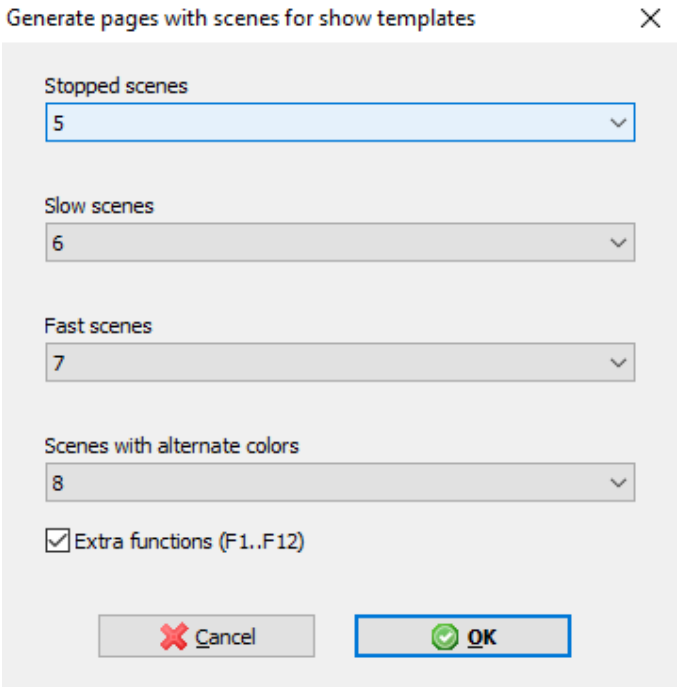
The templates also have 12 extra functions, accessible through the F keys (F1, F2, F3, ... F12) according to the table below.

Shortcut	Name	Extra Function	Type
F1	Fixed Pos 1	Wizard in “Fixed pos 1” (Fixed position, like for mirrored globes, DJ or stage)	On/Off
F2	Fixed Pos 2	Wizard in “Fixed pos 2” (same as before)	On/Off
F3	Strobo Wiz Slow	Dimmer wizard, makes channels marked as dimmer slowly flash (for all fixtures)	On/Off
F4	Strobo Wiz Fast	Dimmer wizard, makes channels marked as dimmer flash fast (for all fixtures)	On/Off
F5			
F6			

F7			
F8	Gobo Rot	Apply parameters (globe rotation)	On/Off
F9	Prisma	Apply parameters (prism)	On/Off
F10	Prisma Rot	Apply parameters	On/Off
F11	Fog	Apply parameters	Only while being pressed
F12	Focus	Apply parameters	On/Off

The extra scenes and functions can also be generated in another show using the “Generate pages with scenes for show templates” window inside the “OPtions” button.





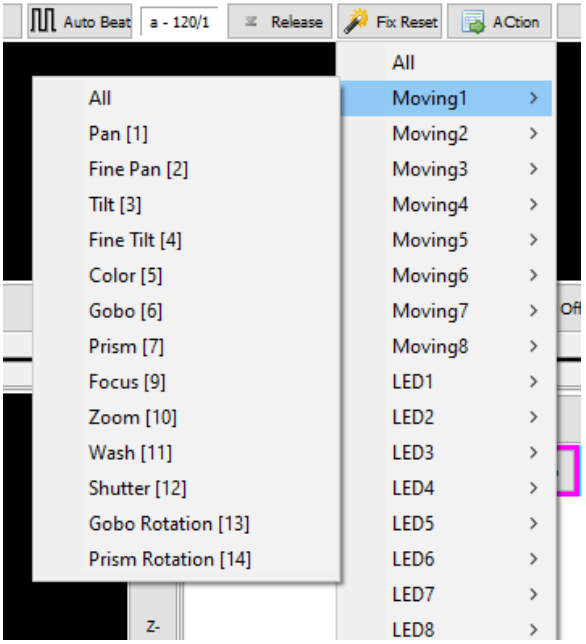
3.1.2.3. DMX Channels Reset

A reset of a DMX channel can be done. The reset within the software is done by keeping the DMX channel for 10 seconds with a value of 255 and another 10 seconds with a value of 0.

This can be useful for getting moving heads that are out of PAN/TILT position back into the correct position, or in fixtures where the color wheel or globes are out of position.

In the main window in the upper right corner there is a “Fix Reset” button that is only active when there are fixtures created in the show configuration, so it is important to create all fixtures correctly in the show configuration.

When the “Fix Reset” button is clicked, a menu will be shown with all the fixtures configured in the show configuration and their channels. Just click on the channel or on the “All” option.



If the fixture needs a different reset value, you can create a macro with the name “RESET” for the fixture within the fixture editor window. The macro will be shown in this menu.

3.1.2. Keyboard Commands

All buttons and faders (except for the Wizard which is configured via the effect configuration window) in the main window can be accessed directly from the keyboard. Just press the ESC key while in the main window and a field will be shown at the center of the screen.

As the letters are typed, a list of corresponding commands is shown. You can just type the letters that are capitalized on the corresponding button or fader for the respective functionality. You can also use the arrow keys to move the selection up or down. For example, the SHow button can be accessed by the letters SH, which are the letters that are capitalized in its name.

3.1.2.1. Faders

It is possible to define the value of a fader. Just type the corresponding letters and then the value. In the case of faders, the unit of time (milliseconds, or ms) or percentage is shown next to the input field.

For example, the dimmer fader “DIM” button on the main window in the DMX output can be accessed with the letters DIM and then its value can be informed. The DIM50 command will set the fader to 50% of its value.

3.1.3. Shortcut Key or Hotkeys

In addition to the possibility of using the keyboard commands, some controls also have shortcut keys.

- **Main Window:**
  - **ESC:** Access keyboard commands.
  - **Spacebar:** Switches Blackout on and off.
  - **O:** Switches Freeze on and off (software functionality, not freeze channels).
  - **I:** Release All button (turns off all CUEs, Extra Functions, Scene Lists, Custom Windows, and Playback).
  - **Del:** Activates audio.
  - **Ctrl + Del:** Show audio input configuration.
  - **F1, F2, F3, ... F12:** Activates the respective Extra Function.
  - **A, S, D, ... N, M:** Activates the respective scene.
  - **<:** Previous scene.
  - **>:** Next scene.
  - **E:** Access EDIT screen.
  - **W:** Access Wizard screen.

    - **Shift + Enter:** Turns PAD execution on and off.
    - **0, 1, 2, … 9:** Switches between scene pages.
    - **Ctrl + 0, 1, 2, … 9:** More scene pages.
    - **Shift + 0, 1, 2, … 9:** More scene pages.
    - **PgUp:** Next scene page.
    - **PgDn:** Previous scene page.
    - **Ctrl + Arrow Keys:** Moves the point in the active PAD screen.
    - **Ctrl + Shift + Arrow Keys:** Adjusts fine pan/tilt in the active PAD screen.
    - **Ctrl + M:** Reconnects all MIDI devices in the software (closes and opens connections).
    - **Ctrl + I:** Reconnects all Art-Net Controllers and Nodes.
    - **Ctrl + A:** Saves the current show.
    - **Ctrl + W:** Resets window positions.
- **Wizards:**
    - **Alt + 1, 2, 3, … 20:** Selects the respective wizard group.
    - **Alt + W:** Selects the “Master” wizard group.
- **Playback:**
    - **A, S, D, … N, M:** Activates the respective scene.
    - **R:** Resets all faders.
    - **0, 1, 2, … 9:** Switches between scene pages.
    - **PgUp:** Previous page.
    - **PgDn:** Next page.
- **CUEs:**
    - **Ctrl + Arrow Keys:** Previous/next page.
    - **Arrow Keys:** Moves cursor between CUEs.
    - **Enter:** Turn selected CUE on or off.
- **Timeline Editor:**
    - **Spacebar:** Play/pause.
    - **Enter:** Alternates dimmer between 0% and 100% in the selected area in the grid.
    - **1, 2, 3, … 9:** Dimmer from 10% to 90%.
    - **0:** Dimmer at 0%
    - **F:** Fade the selected area.
    - **+:** Zoom in.
    - **-:** Zoom out.

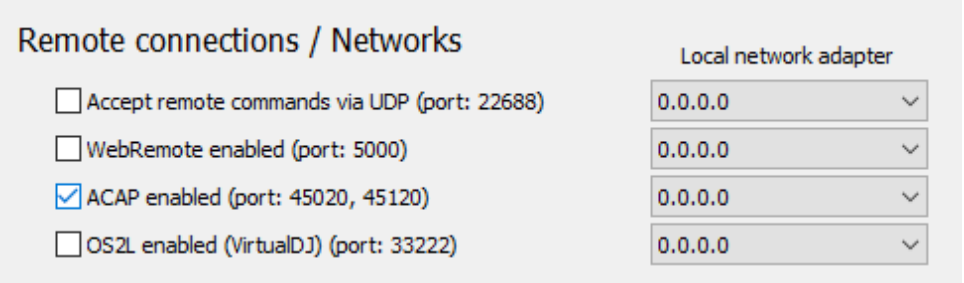
    - **Ctrl + C:** Copy.
    - **Ctrl + V:** Paste.
- **Custom Windows:**
    - **Arrow Keys:** Previous/next page.

3.1.4. Audio Triggering with ACAP

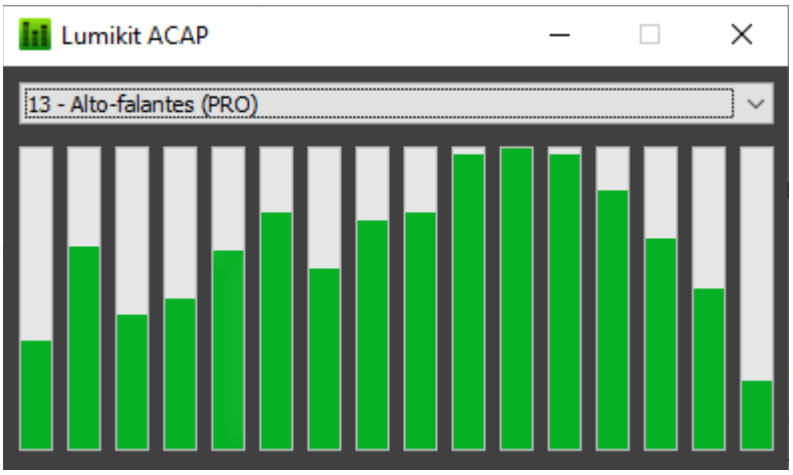
You can also trigger some functionalities with audio in the software, and use it in:

- PAD activation, according to the rhythm of the music.
- Some of the LED Generator effects (such as Audio Balls, Audio Corners, and VU).
- Some Wizard effects (all parameters that have the “audio” effect).

For this to work, you need to activate the ACAP functionality in the software settings (OPtions).



The audio capture is done through the Lumikit ACAP software, which you can find in the Lumikit SHOW installation folder. This program analyzes the audio coming from the network and sends it to Lumikit SHOW, and you can select where the audio comes from.



The audio source can be from a sound output or an input such as a microphone (use a quality microphone for best results).

The audio captured and analyzed by ACAP is sent over the network (UDP ports 45020 and alternative port 45120) to Lumikit SHOW, so ACAP can be run on the same computer or on another computer that is on the same network as Lumikit SHOW.

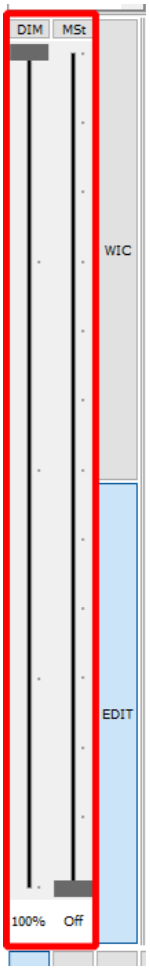
The signal that arrives at Lumikit SHOW is analyzed again and Lumikit SHOW only considers the peaks in the bass, midrange and treble to use in the effects. This can also be seen in the main window in the upper right corner by the button “a” that will blink in red as the bass peaks.

By clicking on the “a” button in the main window, it is also possible to turn on/manually configure the Master BPM and the division of time over the BPM that can be used in some effects.

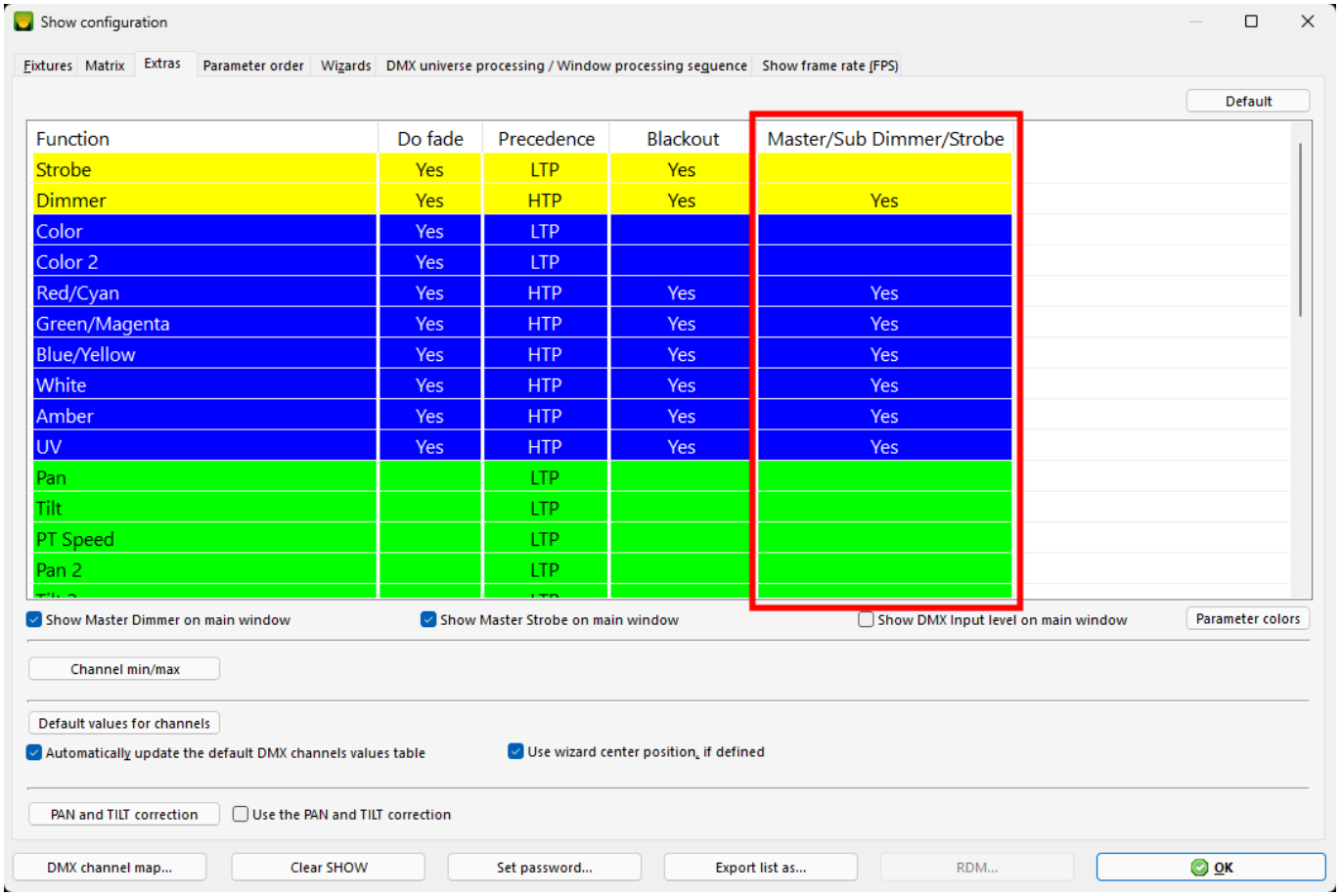
To change the point in the PAD as the audio is being activated, turn on the corresponding “Audio” checkboxes; in the LED Generator, and in the effects Wizard.

3.1.5. Masters

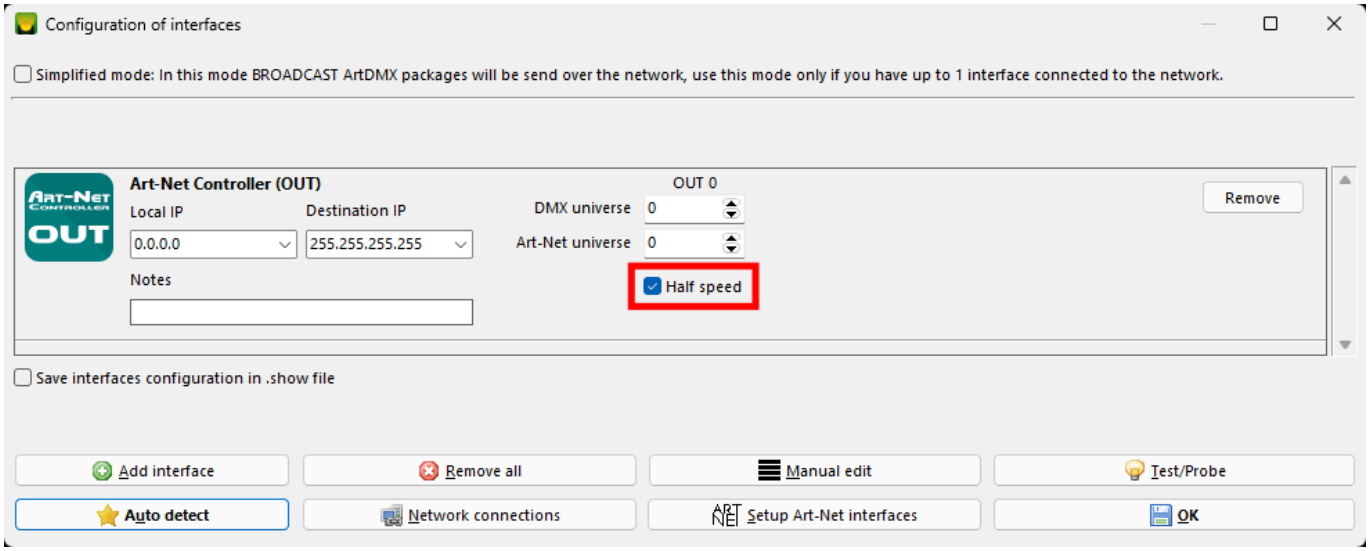
The master dimmer and strobe faders are located on the left side of the main window.



- Master Dimmer: goes from 0% to 100%. It is not saved in the scene. The types of channels that will be affected must be chosen in the show configuration (SHow window, “Extras” tab), as shown below;

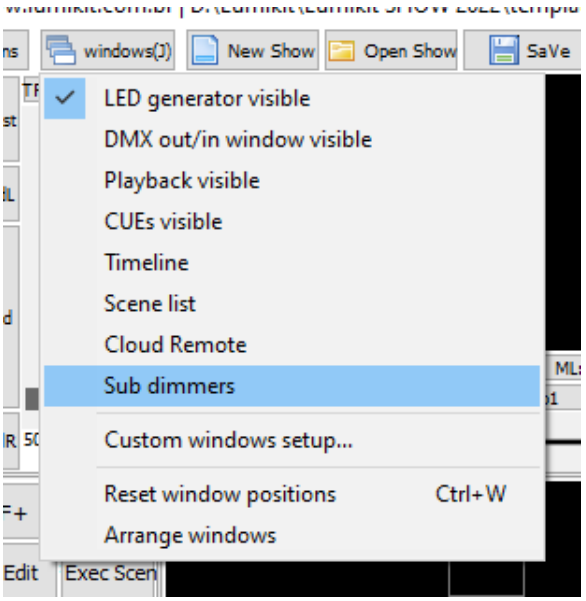


- Master Strobo: the channels that the Master Strobo affects will be turned on and off many times per second, creating a stroboscopic effect. The speed varies according to the value of this fader. The types of channels that will be affected must be chosen in the show configuration (SHow window, “Extras” tab), as shown above. The speed will be slower if there is any Art-Net Controller configured as half-speed (see below).

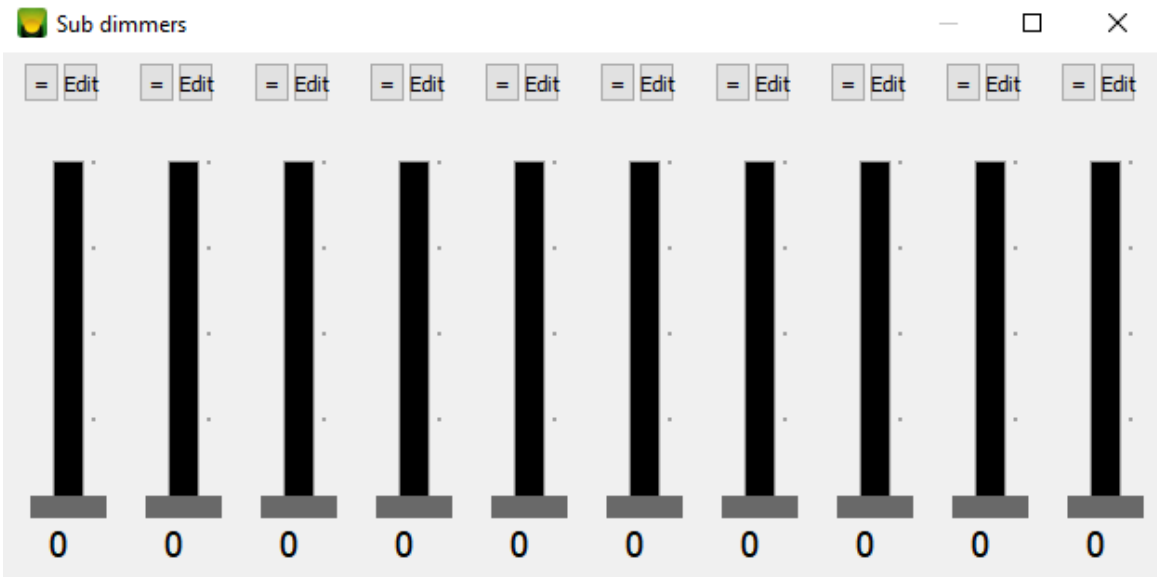


3.1.7. Sub Dimmers

The sub dimmers act just like the master dimmer, but only in certain wizard groups or DMX fixtures. You can access them through the “windows(j)” button.

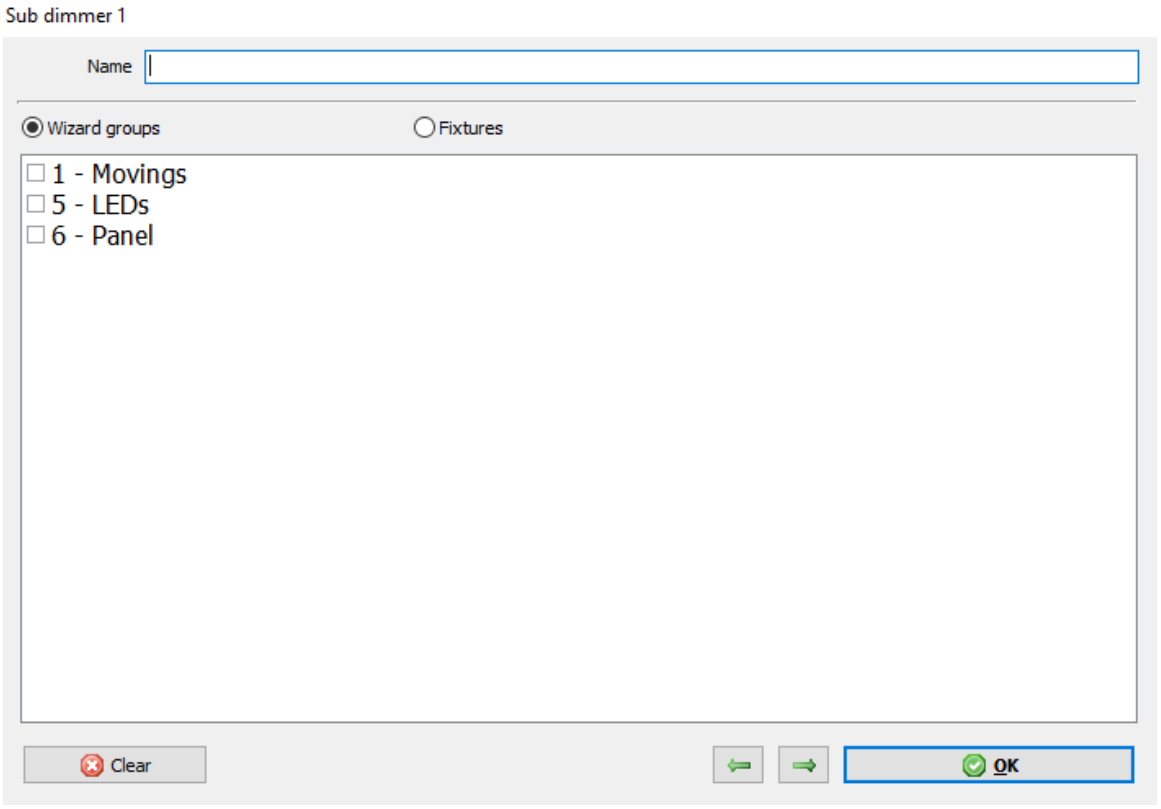


There are a maximum of 10 sub dimmers.



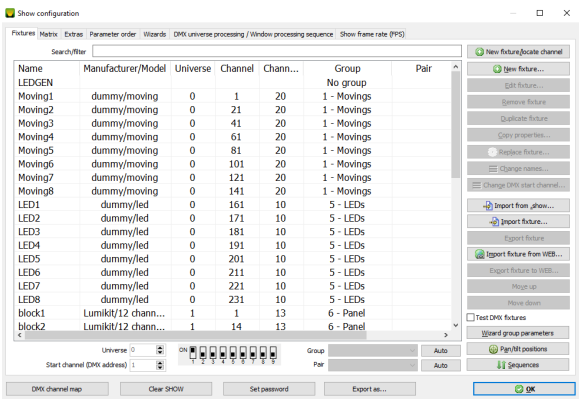
Clicking the “=” button synchronizes all marked faders with each other. The position of the faders is saved in the show.

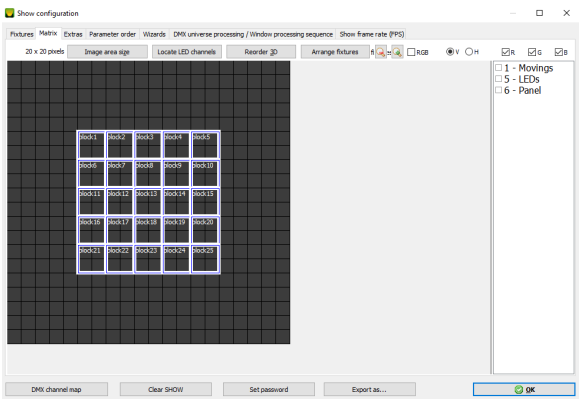
Clicking the “Edit” button you can select which wizard groups or fixtures the sub dimmer will be applied to.

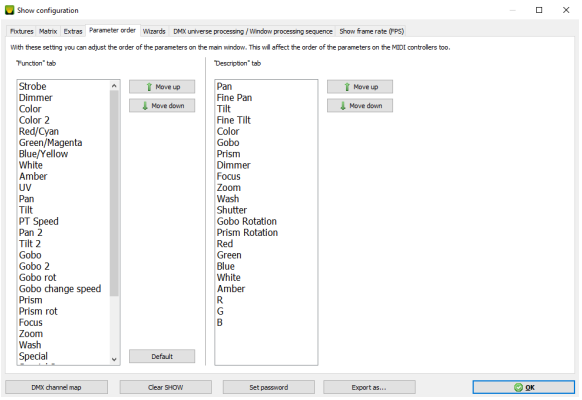


3.2. Show Configuration

In the show configuration is where the DMX fixtures are created, the LED matrix size informed, important wizard configuration done, as well as other software parameters. You can access it through the “SHow” button.

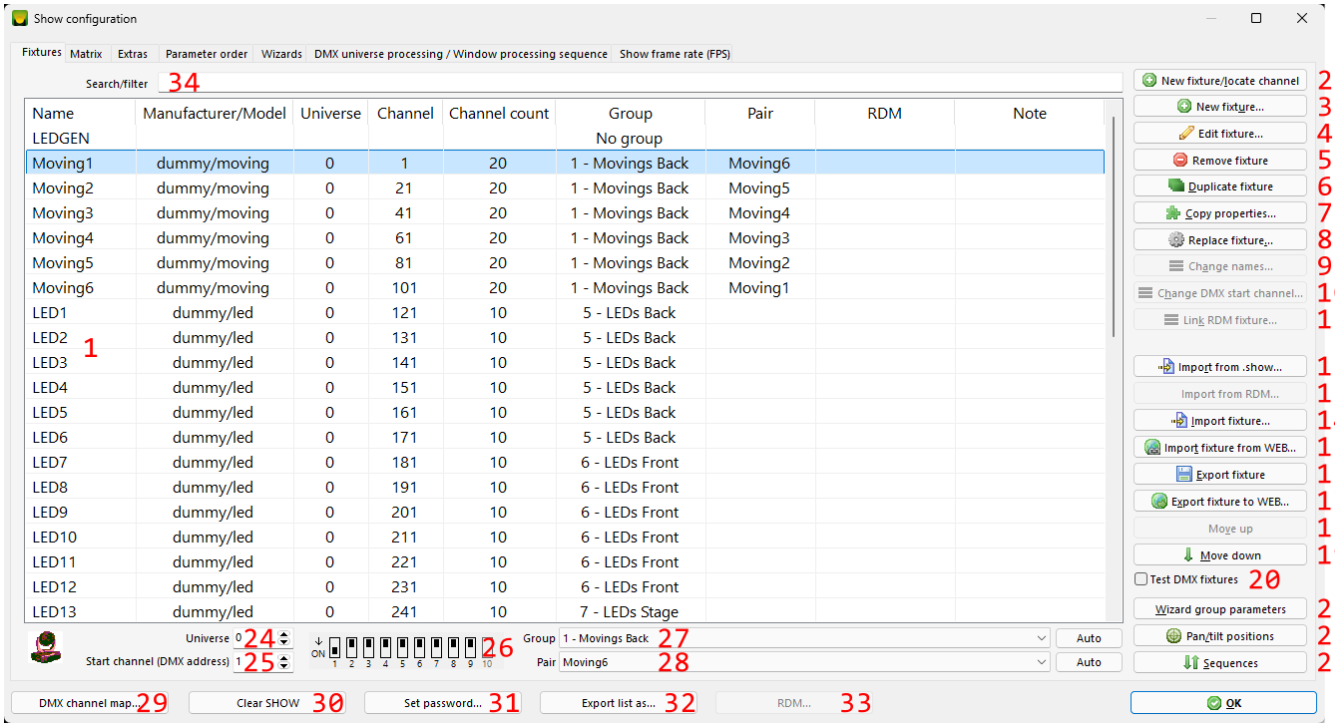






3.2.1. DMX Fixture Configuration

In the first tab “Fixtures” you can configure the DMX fixtures.



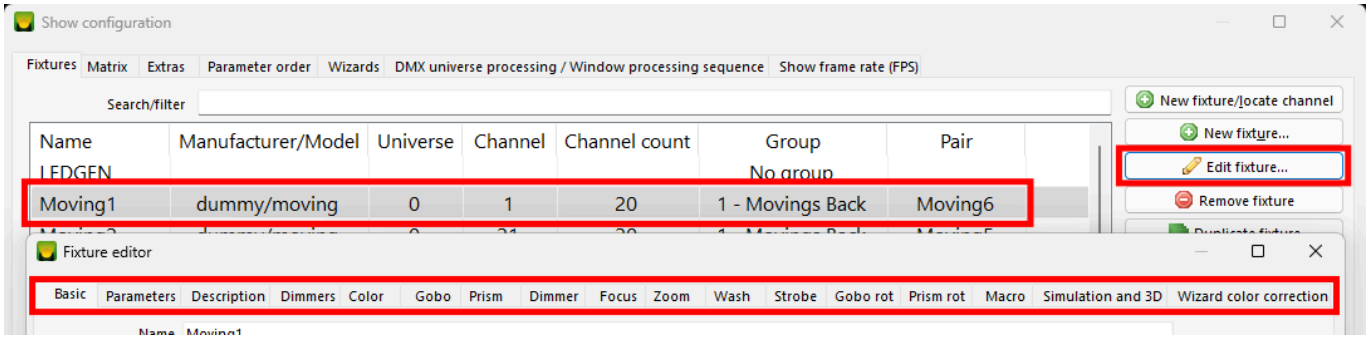
- **1:** List of all created fixtures. Upon selecting one or more, certain actions are enabled on the right side of this window;
- **2 - New fixture/locate channel:** Creates a new fixture. Allows you to send DMX values to the DMX channels to test and find out the fixture’s channels. Useful for when you don’t know the fixture’s channels or don’t have its manual;
- **3 - New fixture:** Creates a new fixture;
- **4 - Edit fixture:** Edits selected fixture (opens fixture editing window);
- **5 - Remove fixture:** Deletes selected fixture (fixture will be removed from the list);
- **6 - Duplicate fixture:** Creates an exact copy of the selected fixture;

- **7 - Copy properties:** Copies parameters from the selected fixture onto other fixtures (will open a window where you can choose which ones to copy to);
- **8 - Replace fixture:** Replaces selected fixture with another one (opens a window where you can choose which fixture to replace with);
- **9 - Change names:** Changes fixtures name prefixes (more than one fixture has to be selected to enable the button);
- **10 - Change DMX start channel:** Changes selected fixtures starting DMX channel (button only enabled when at least 2 fixtures are selected);
- **11 - Link RDM fixture:** Links an RDM fixture with the selected DMX fixture. Only RDM fixtures that have no link will be shown. This process also occurs automatically through comparing the RDM and DMX fixture's DMX channel and universes (this button is just a manual way to do it);
- **12 - Import from .show:** Imports fixture(s) from a .show file;
- **13 - Import fixture from RDM:** Imports fixture(s) from a list of RDM fixtures that have no link (no DMX fixture in the same channel and universe). The parameters of these imported fixtures have to be manually adjusted after being imported (inform what each one does);
- **14 - Import fixture:** Imports fixture(s) from a .fixture file;
- **15 - Import fixture from WEB:** Imports fixture(s) from the web (from Lumikit's web library of fixtures)
- **16 - Export fixture:** Exports selected fixture to a .fixture file;
- **17 - Export fixture to WEB:** Exports selected fixture to the web (Lumikit's web library);
- **18 - Move up:** Moves selected fixture up in the list;
- **19 - Move down:** Moves selected fixture down in the list;
- **20 - Test DMX fixtures:** Tests selected fixtures when enabled (puts dimmer, strobe and RGBW channels at 100%);
- **21 - Wizard group parameters:** Opens wizard group parameters window;
- **22 - Pan/tilt positions:** Opens pan/tilt positions window;
- **23 - Sequences:** Opens sequences window;
- **24 - Universe:** Displays selected fixture's DMX universe. It is also possible to change it by altering the number;
- **25 - Start channel (DMX address):** Displays selected fixture's starting DMX channel. It is also possible to change it by altering the number;

- **26 - DMX address DIP switch:** Displays selected fixture's DIP switch position based on its DMX address. Not all manufacturers follow this model, so it is best to check the fixture manual;
- **27 - Groups:** Displays selected fixture's wizard group. It is also possible to change it. Clicking the "Auto" button will automatically assign fixtures to groups based on the fixture types and name prefixes. For example: fixtures "moving1" and "moving2" will be assigned to wizard group "moving" (if the group doesn't exist, it will be created), "movingAlt1" will be assigned to "movingAlt", and so on;
- **28 - Pairs:** Displays selected fixture's pair. A paired fixture will mirror the effects of the other (used in wizard). Clicking the "Auto" button will automatically assign pairs to fixtures based on the wizard groups;
- **29 - DMX channel map:** Opens DMX channel map window. Helps to visualize DMX channels;
- **30 - Clear SHOW:** Clears all scenes, subscenes, programs, PADs, extra functions and CUEs from the show. This process CANNOT BE REVERTED, so use it carefully!
- **31 - Set password:** Sets password for show. If password is set, some functionalities will require the password to be informed before being able to execute/open them;
- **32 - Export list as:** Exports the fixture configuration to PDF or HTML;
- **33 - RDM:** Opens RDM options window;
- **34 - Search/filter:** Searches/filters through created fixtures.

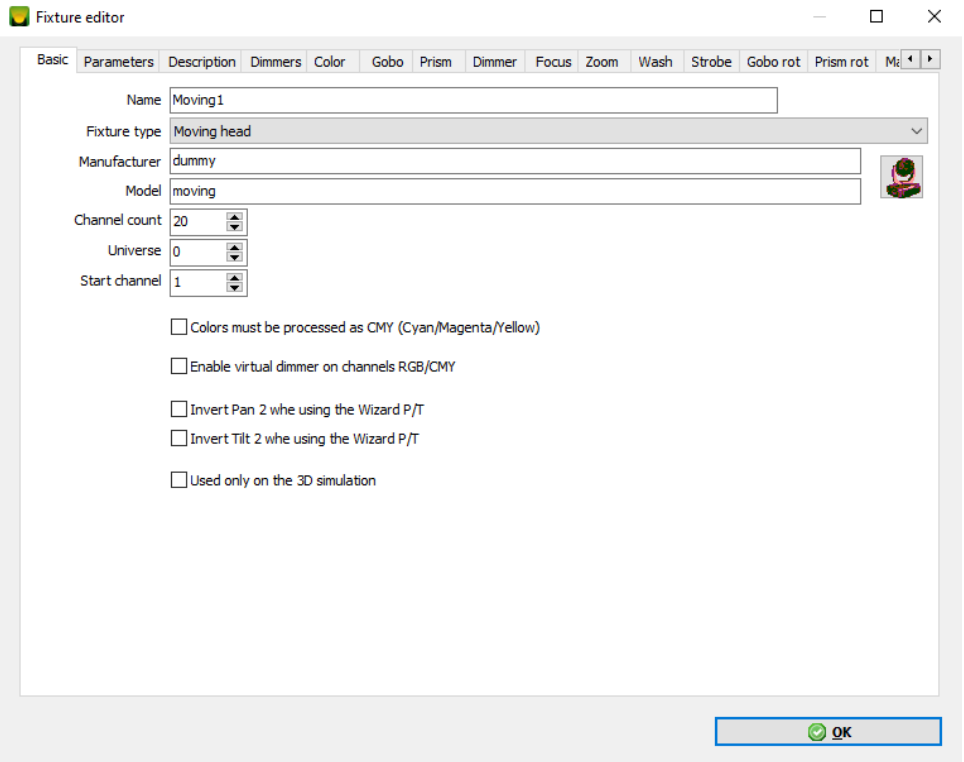
3.2.1.1. Fixture Editor

You can edit a fixture by either double clicking it or clicking the "Edit Fixture" button. The fixture editor has many tabs to configure the fixture, based on the type of fixture ("Fixture type" field) and channels informed.



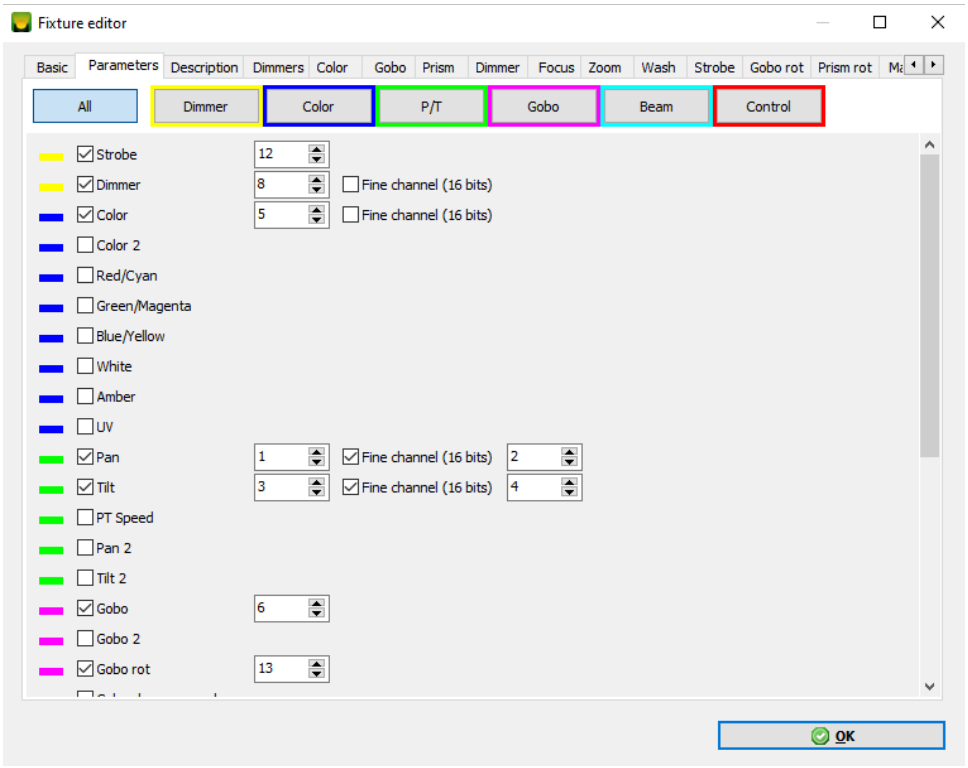
3.2.1.1.1. Basic

Here you can define the fixture's name, type, manufacturer, model, number of channels, as well as other parameters.



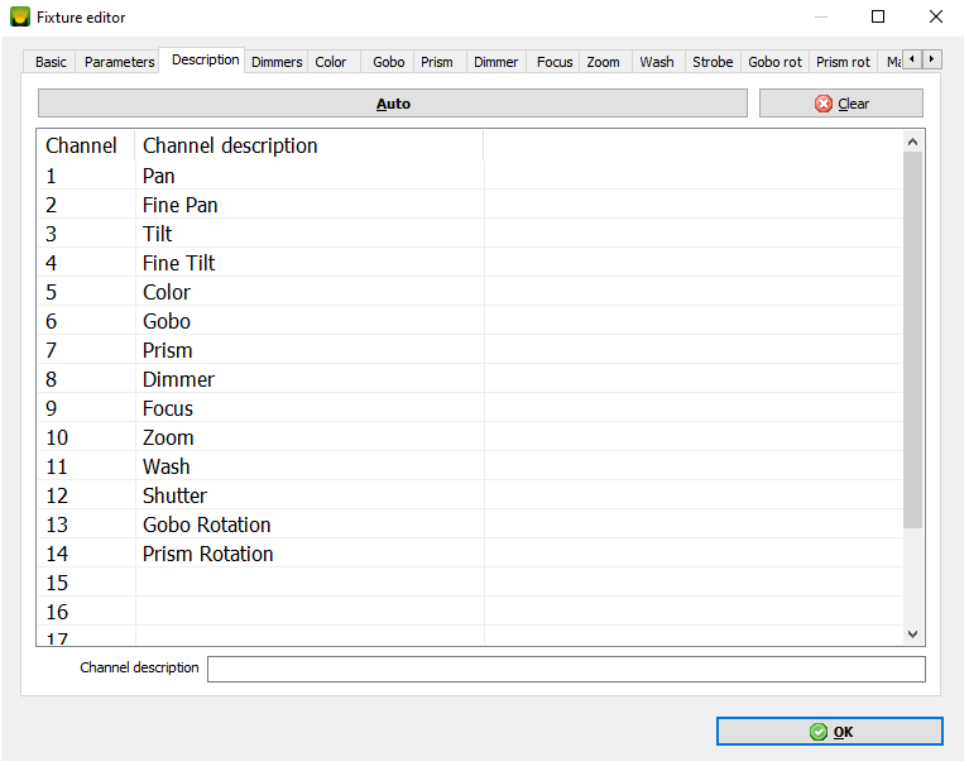
3.2.1.1.2. Parameters

Here you can define the fixture's functions, such as the dimmer, strobe, colors, pan/tilt, etc.



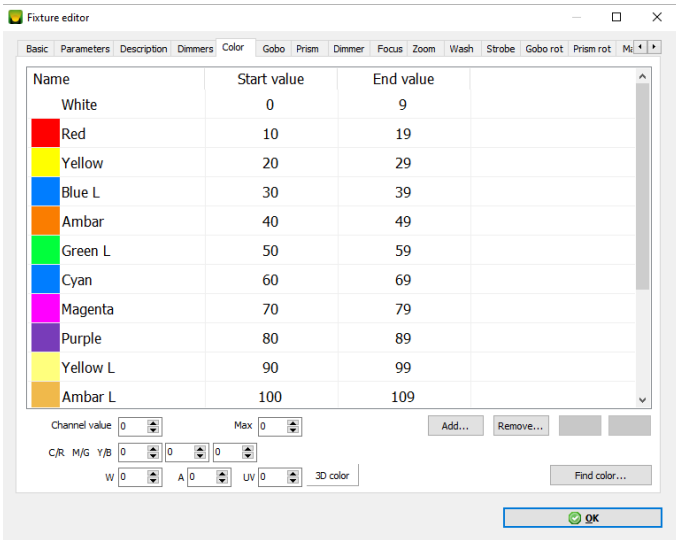
3.2.1.1.3. Description

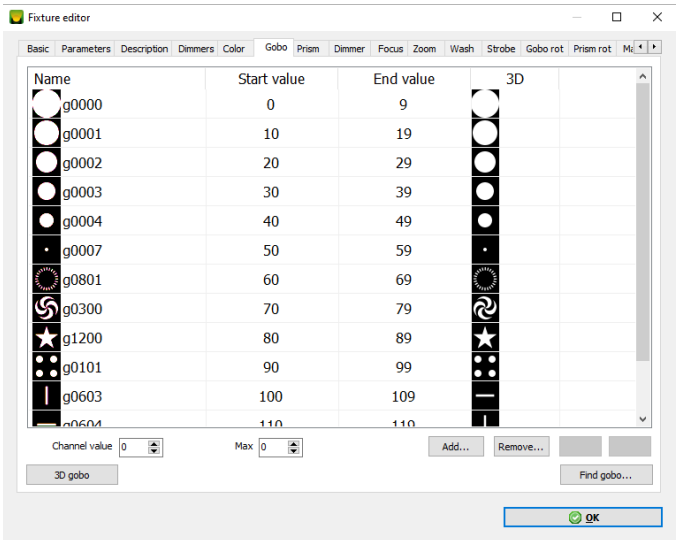
Here you can add a description to each channel. The “Auto” button automatically names each channel based on the configured parameters.



3.2.1.1.4. Dimmers, Color, Gobo, and the other tabs

Each tab will allow configuration of its respective function. You will be able to inform the colors in the “Color” tab, the gobos in the “Gobo” tab, and so on.

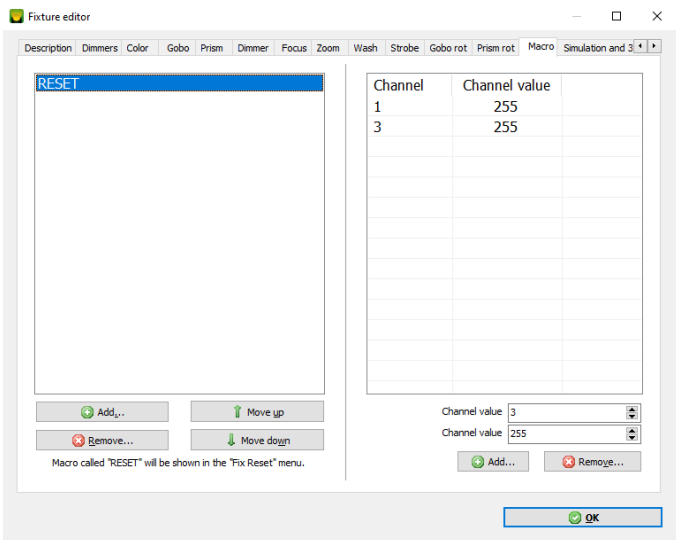


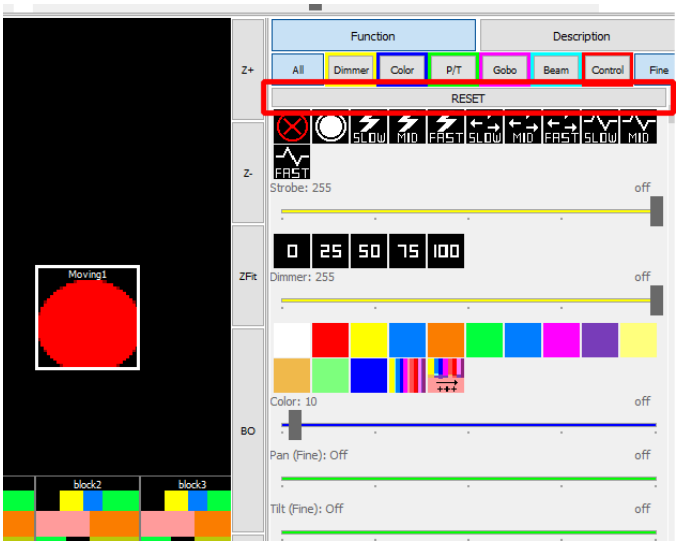


3.2.1.1.5. Macros

Here you can define fixture specific macros. A macro is a button with a specific function, as you can configure it to change the values of specific channels. The button appears in the main window, upon clicking the fixture, as well as other places throughout the software.

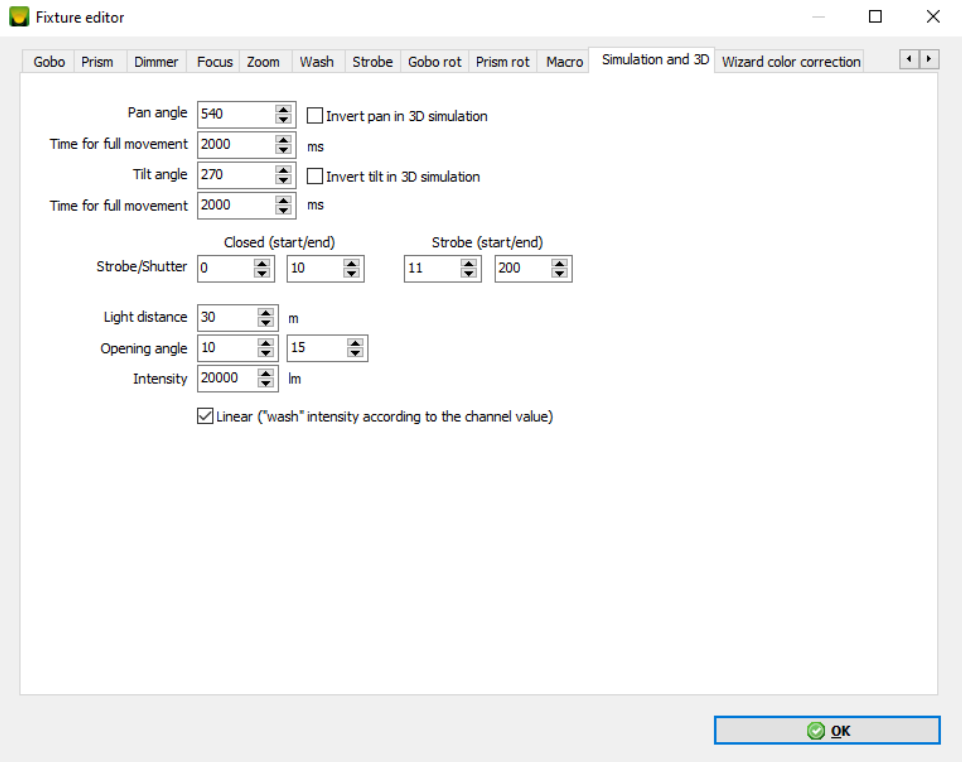
If you name the macro “RESET”, it will be shown in the “Fix Reset” button, and the values attributed in the macro will be added for 10 seconds if the “Fix Reset” button is clicked.





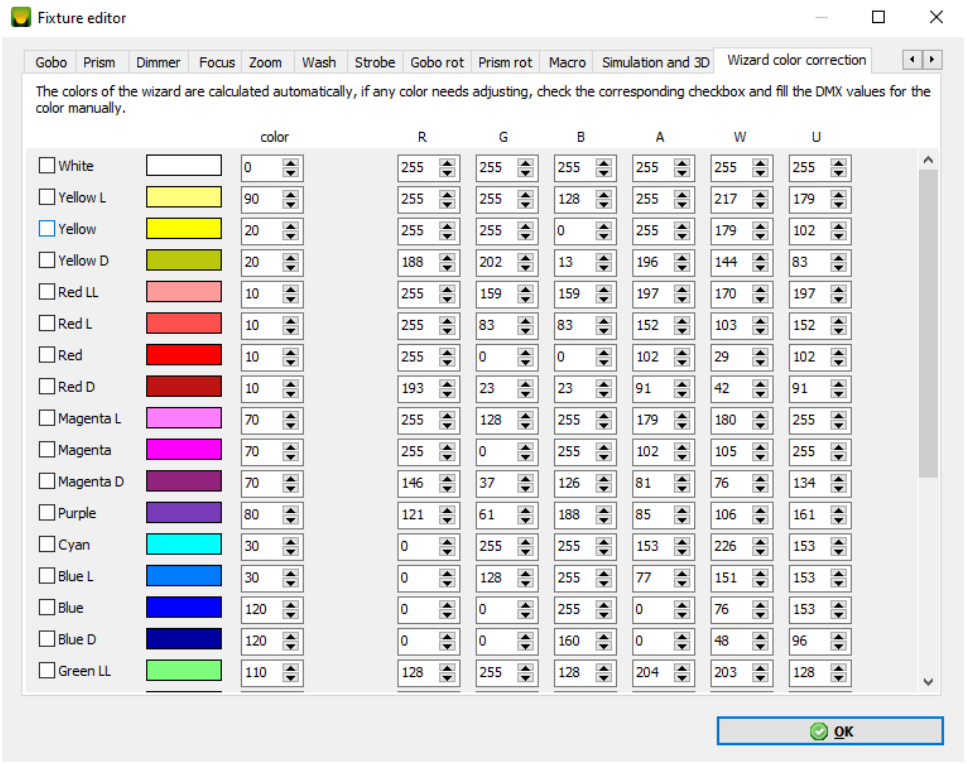
3.2.1.1.6. Simulation and 3D

Here you can adjust some 3D visualization parameters. Some parameters will apply only to the external 3D visualizer.

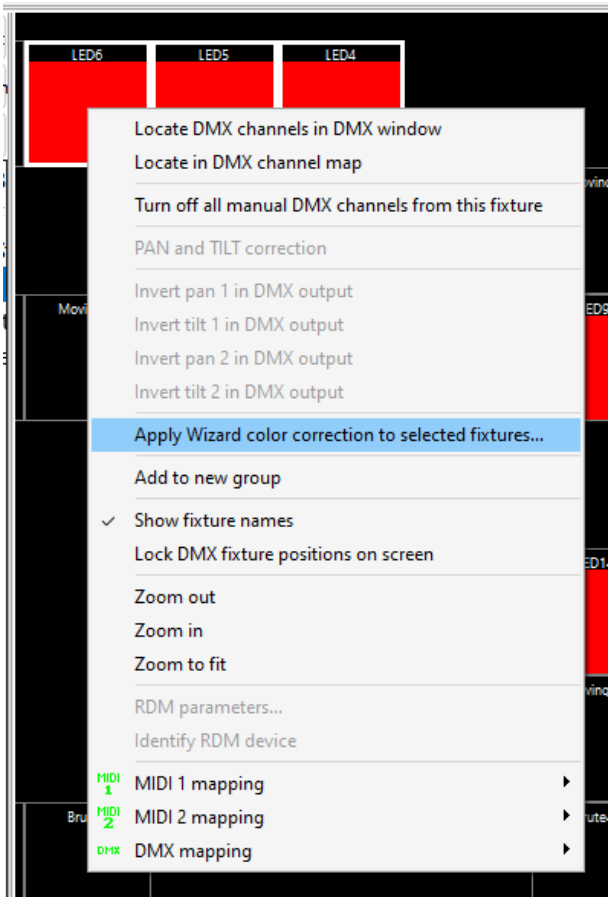


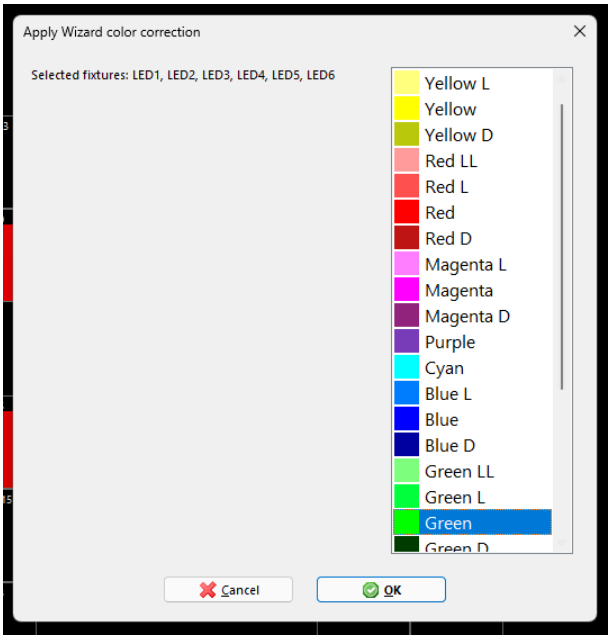
3.2.1.1.7. Wizard Color Correction

Here you can adjust the colors that the wizard uses. The wizard uses up to 28 colors, and each has the Red, Green, Blue, Amber, White and UV (ultra violet) fields. Each color is composed of a number of channels, and sometimes some fixtures may need adjusting. For example: if the color purple appears to have a little bit too much of blue, you can lower the value on the “B” field for the “Purple” color.



The color correction can also be done through the main window. Just select the fixtures, right click them, and choose the “Apply Wizard color correction to selected fixtures” option. A window will then open where you can choose which color to apply.



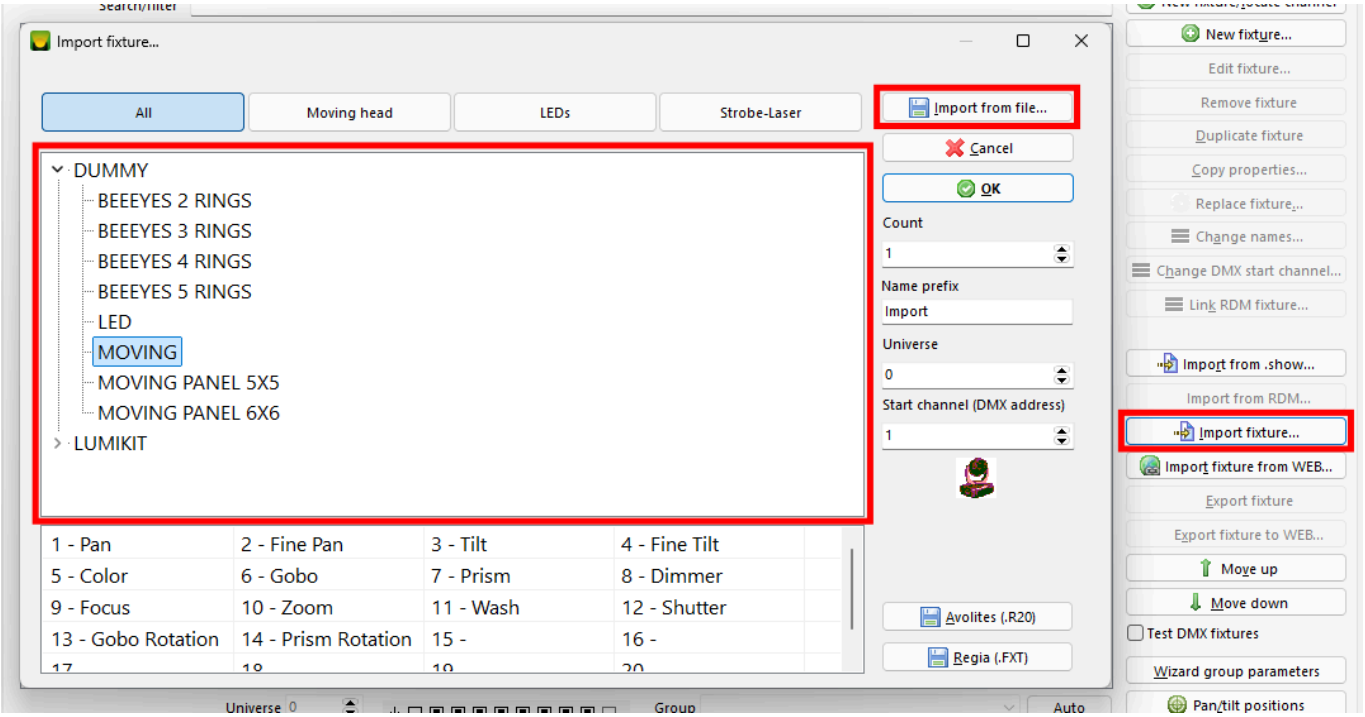


3.2.1.2. Import DMX Fixtures to Lumikit SHOW

There are some ways you can import fixtures into Lumikit SHOW.

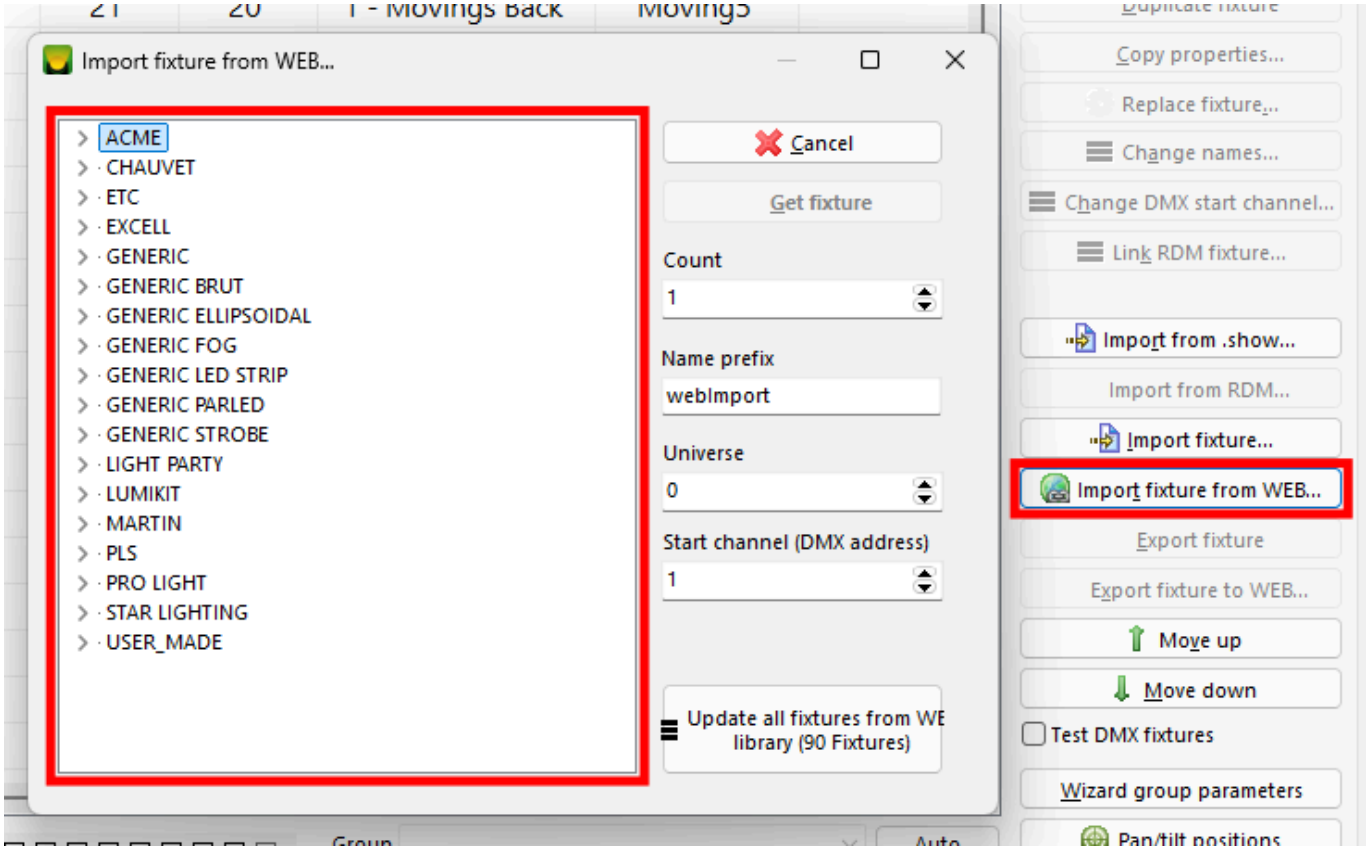
3.2.1.2.1. Lumikit's Fixtures Library

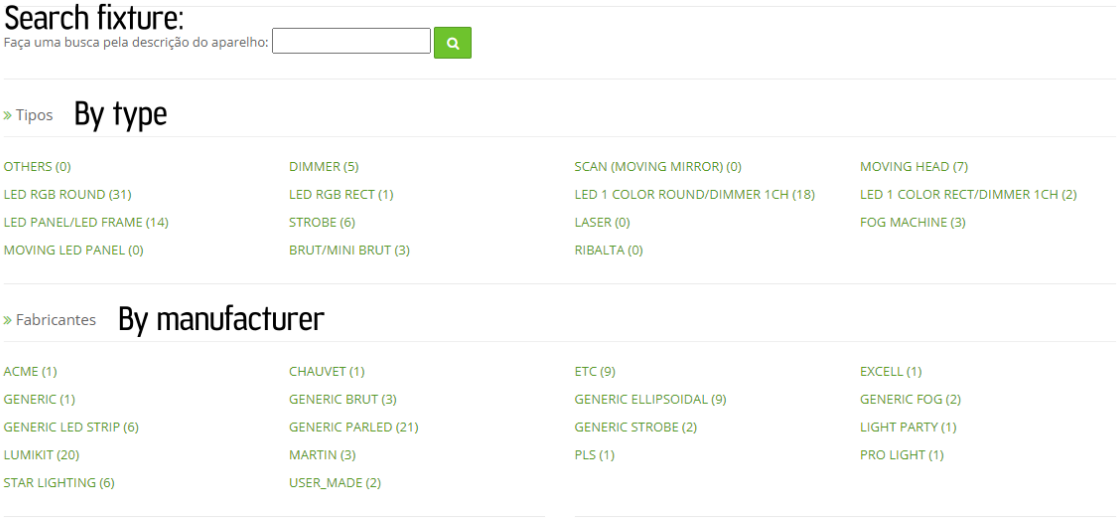
A library of DMX fixtures is available, and you can import and use them in Lumikit SHOW. You can get them through the "Import Fixture" button in the Show Configuration window. You can either choose from a list, or from a file, as shown below.



3.2.1.2.2. Lumikit's Web Fixtures Library

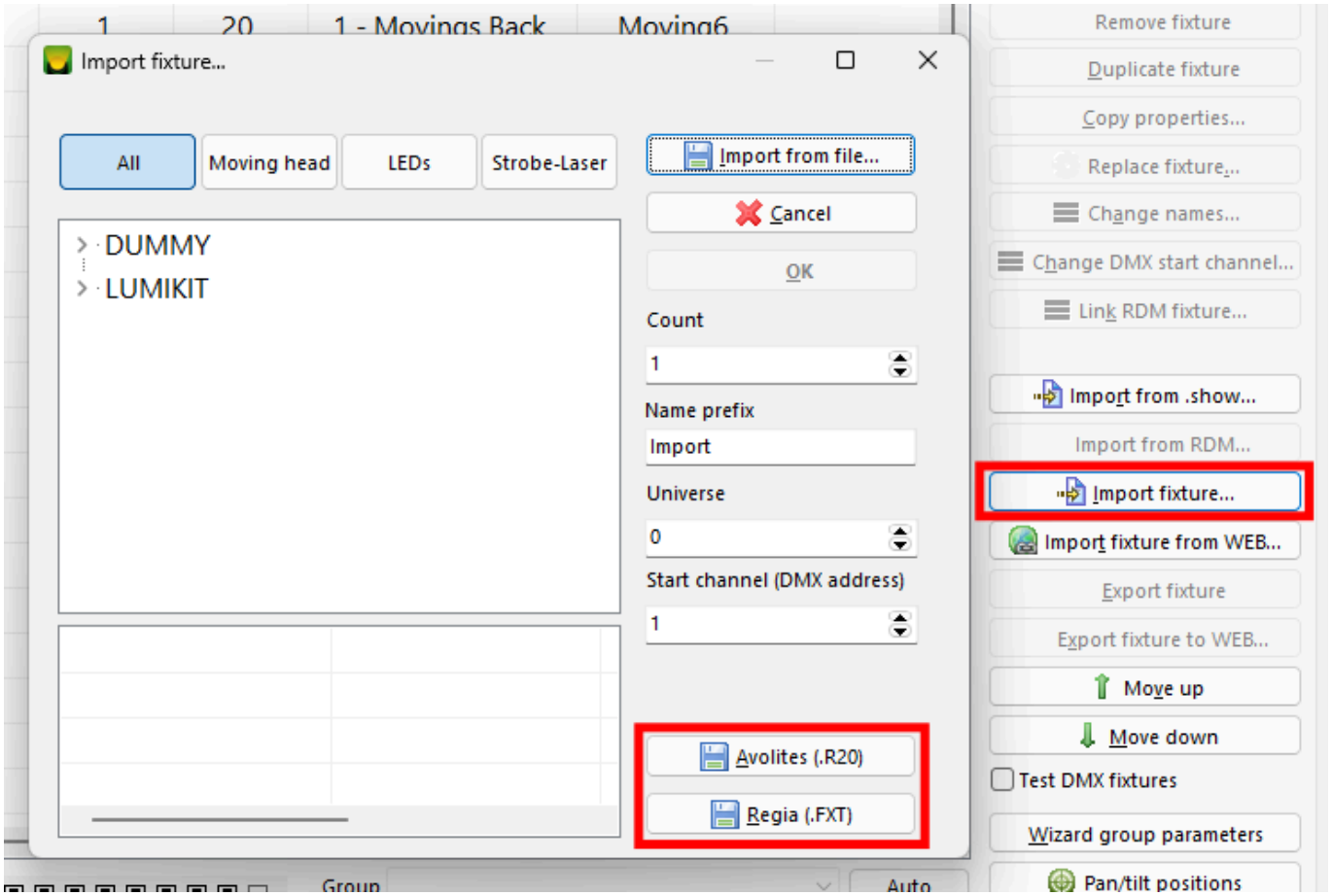
A library of DMX fixtures is also available on the Lumikit website. You can get them through the "Import Fixture from Web" in the Show Configuration window in Lumikit SHOW, or in Lumikit's Web Fixtures Library: http://www.lumikit.com.br/lib.





3.2.1.2.3. Fixtures from Avolites and Regia

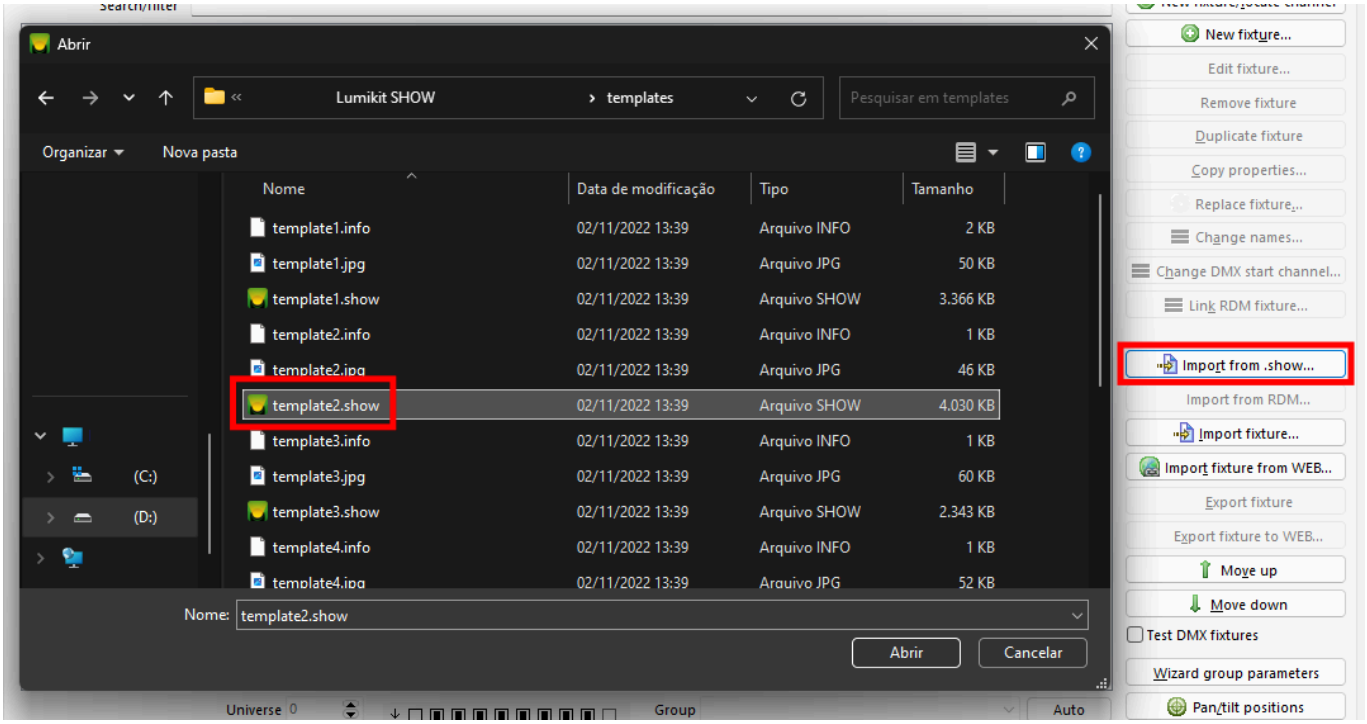
You can also import .R20 and .FXT fixture files from Avolites and Regia (respectively). To do so, click the “Import Fixture” button, then “Avolites (.R20)” or “Regia (.FXT)” button.



As the files that Lumikit SHOW uses need more information than those contained in these files, it will be necessary to make some corrections in the imported fixtures. Avolites and Regia file customizations can be obtained (respectively) from: http://www.avolitesdownload.com/PersonalityLibrary and http://www.regia2048.com/en/fixtures.asp?m_id=10.

3.2.1.2.4. Fixtures From .show File

You can also import a fixture from a .show file. To do so, click the “Import From .show” button. The imported fixture will have the same DMX universe and DMX channels as the one in the show it’s being imported from.



3.2.1.2.4. Fixtures From RDM

See chapter below.

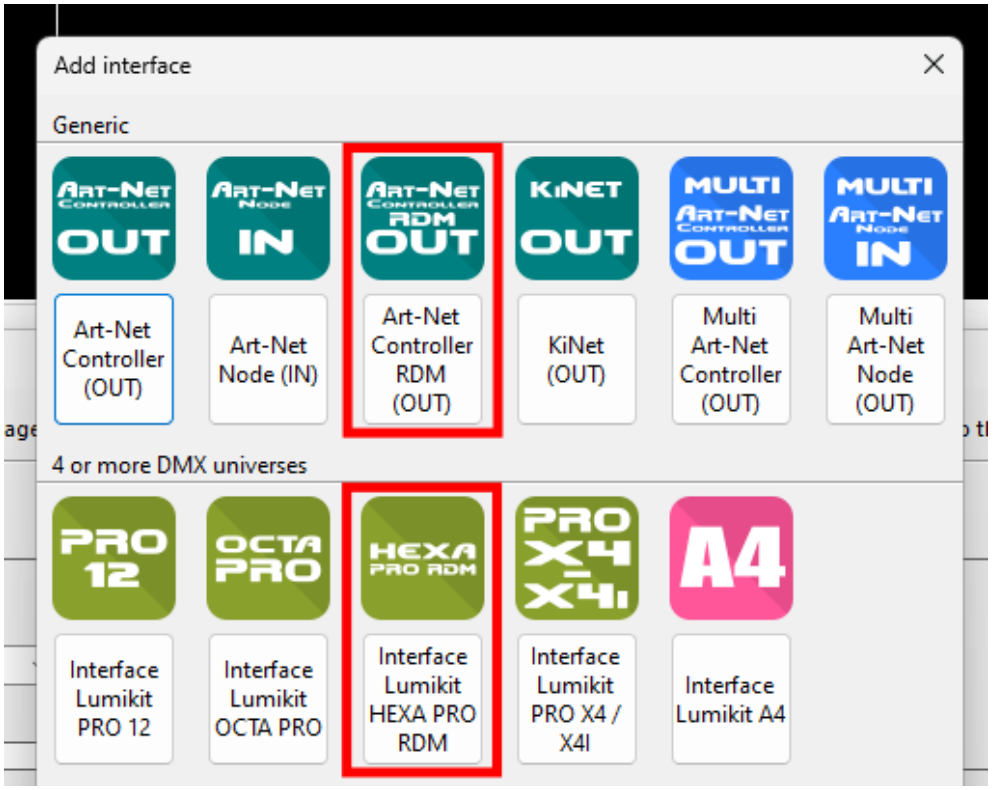
3.2.1.3. RDM (Remote Device Management)

Remote Device Management protocol, or RDM for short, is a communication protocol used in lighting. It is an extension of the DMX protocol, expanding on its functionalities.

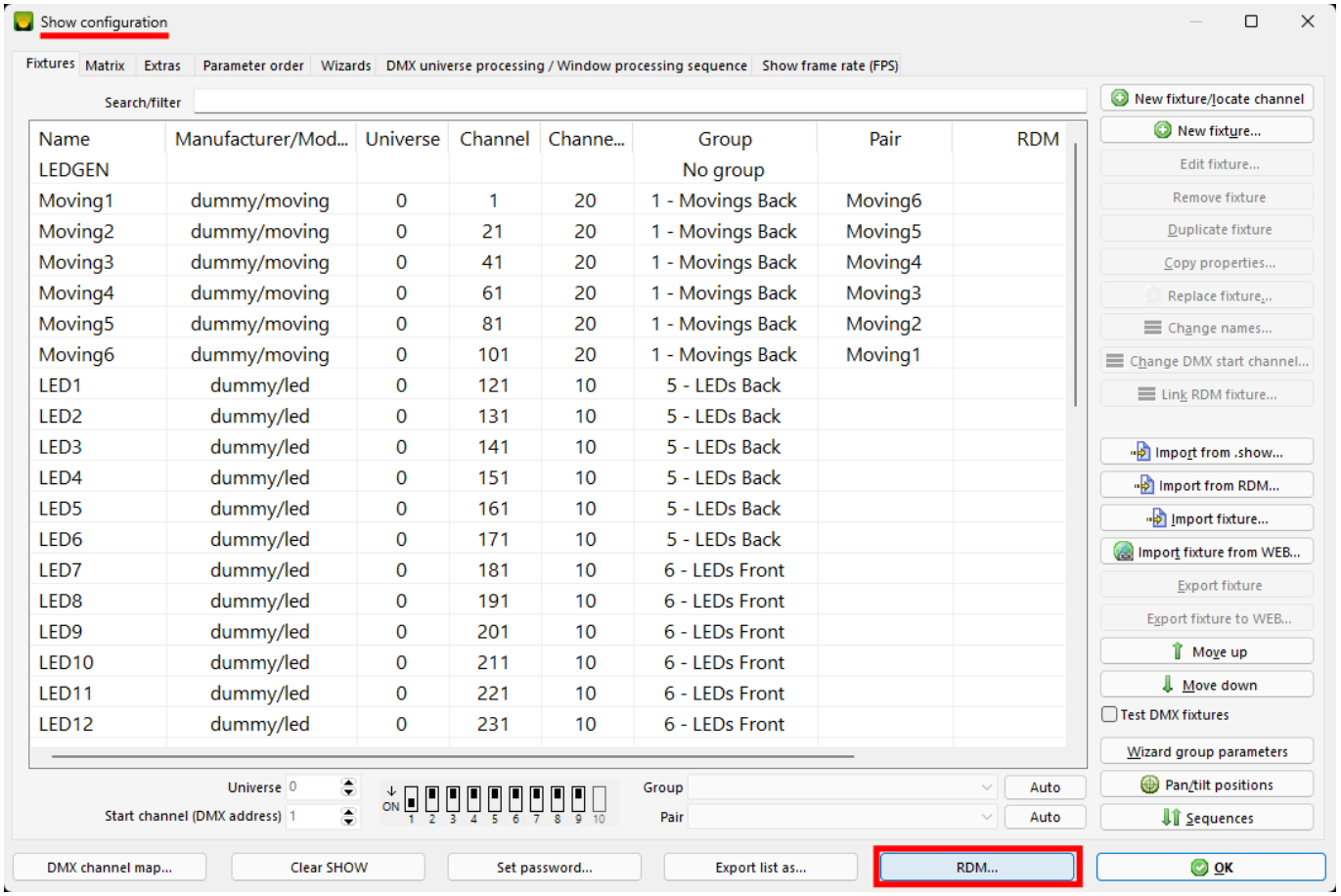
RDM allows a bidirectional communication with devices, where the controller can send data, and the devices can respond (opposite from the DMX protocol which is unidirectional, where only the controller can send data, and the devices can’t respond).

Since the devices can also send data, through RDM it is possible to manage the DMX devices directly through the software. In other words, you can, for example: change the DMX channel, invert PAN and/or TILT, reset the device, among several other functions depending on the type of device and the functions provided by the manufacturer.

For the RDM functionality to be enabled, there needs to be at least one Art-Net + RDM interface configured in Lumikit SHOW in the “INterfaces” menu, “Interface configuration...”. Example of interfaces with RDM support:

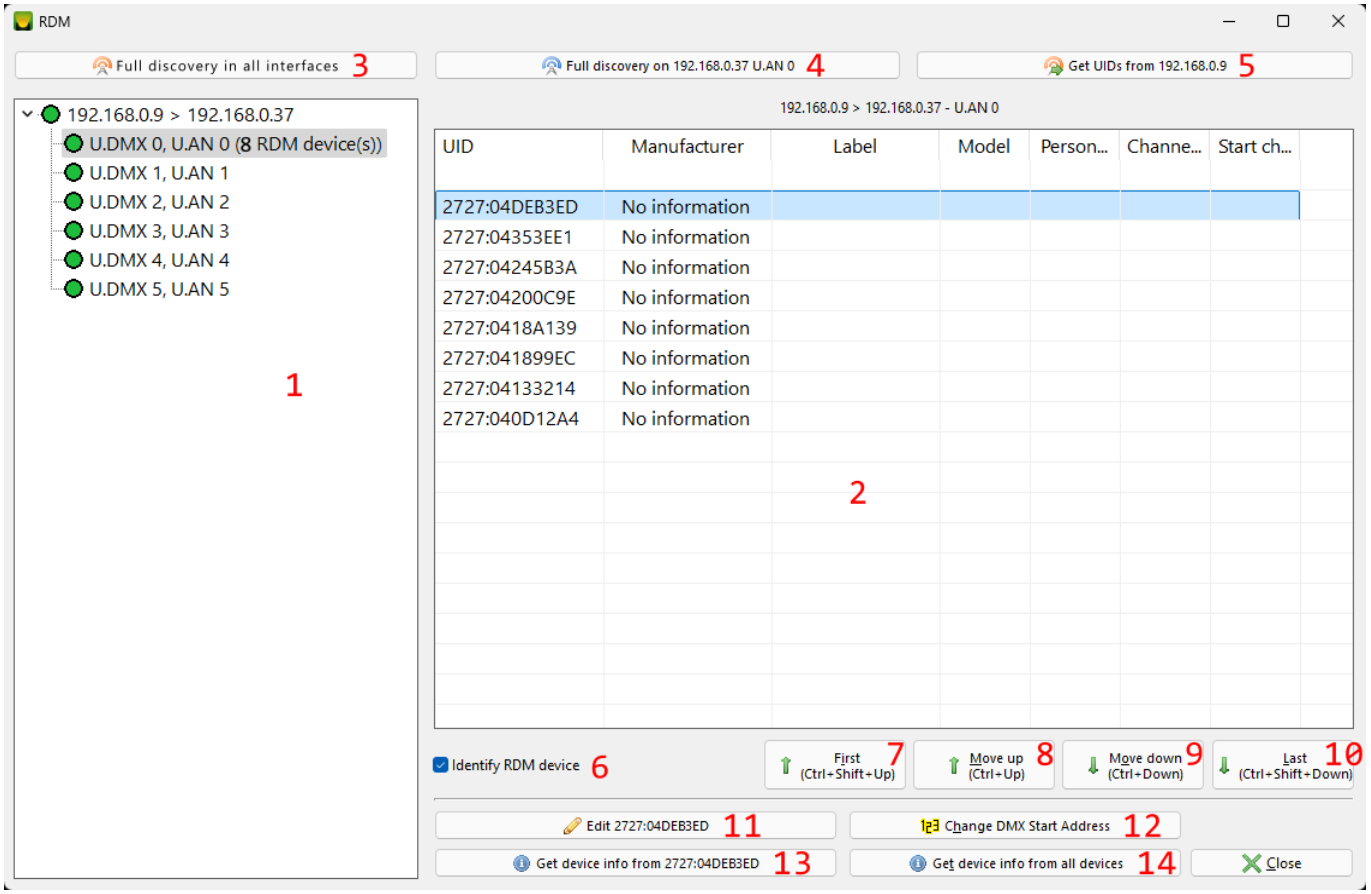


In Lumikit SHOW, RDM functionalities are available in some locations shown below, but the starting point is the Show Configuration window. In the Show Configuration window, at the bottom, we have the “RDM…” button. This will be inactive if there are no RDM interfaces configured.



Name	Manufacturer/Mod...	Universe	Channel	Channe...	Group	Pair	RDM
LEDGEN					No group		
Moving1	dummy/moving	0	1	20	1 - Movings Back	Moving6	
Moving2	dummy/moving	0	21	20	1 - Movings Back	Moving5	
Moving3	dummy/moving	0	41	20	1 - Movings Back	Moving4	
Moving4	dummy/moving	0	61	20	1 - Movings Back	Moving3	
Moving5	dummy/moving	0	81	20	1 - Movings Back	Moving2	
Moving6	dummy/moving	0	101	20	1 - Movings Back	Moving1	
LED1	dummy/led	0	121	10	5 - LEDs Back		
LED2	dummy/led	0	131	10	5 - LEDs Back		
LED3	dummy/led	0	141	10	5 - LEDs Back		
LED4	dummy/led	0	151	10	5 - LEDs Back		
LED5	dummy/led	0	161	10	5 - LEDs Back		
LED6	dummy/led	0	171	10	5 - LEDs Back		
LED7	dummy/led	0	181	10	6 - LEDs Front		
LED8	dummy/led	0	191	10	6 - LEDs Front		
LED9	dummy/led	0	201	10	6 - LEDs Front		
LED10	dummy/led	0	211	10	6 - LEDs Front		
LED11	dummy/led	0	221	10	6 - LEDs Front		
LED12	dummy/led	0	231	10	6 - LEDs Front		

In the RDM window, on the left side, we have a list of interfaces and universes with RDM support. This same list shows the number of RDM devices found. When you click on the list on the left side, the RDM devices are listed on the right side:

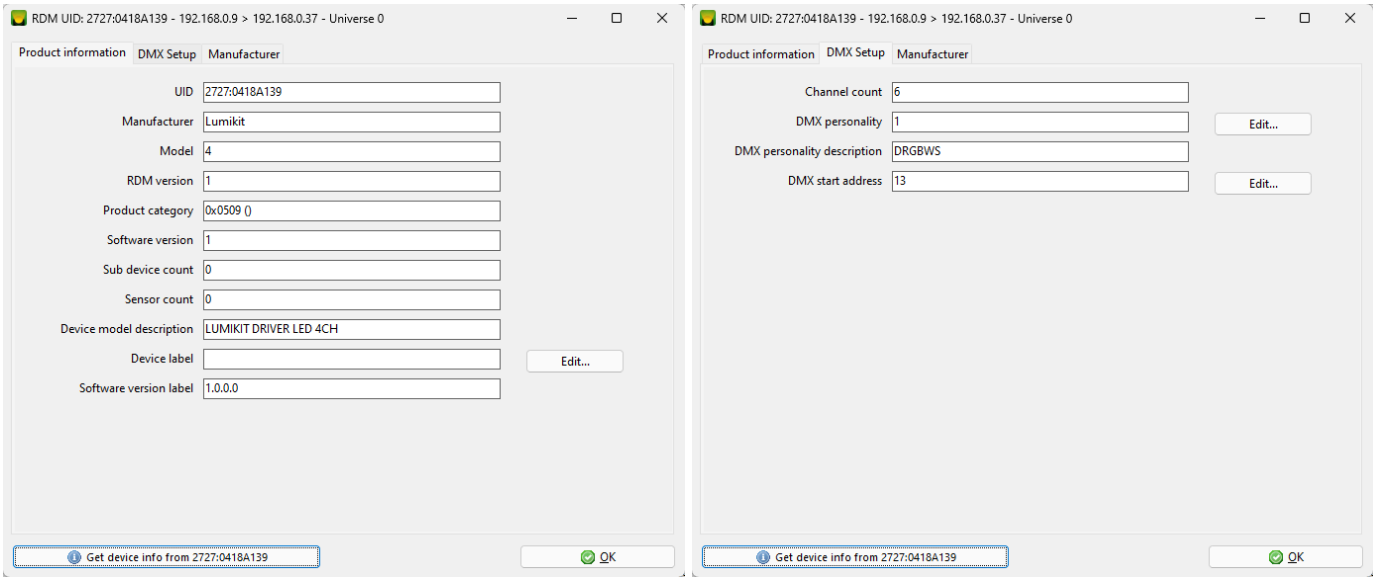


- **1:** List of all configured RDM interfaces (List 1);
- **2:** List of all RDM devices found in the selected universe (List 2);
- **3 - Full discovery on all interfaces:** Sends the command to start the Full Discovery process in all configured RDM interfaces (List 1). The Full Discovery process lists all found RDM devices for the selected universe(s) or interface(s);
- **4 - Full discovery on ...:** Sends the command to start Full Discovery in the selected interface (List 1);
- **5 - Get UIDs from ...:** Sends the command asking for the RDM devices list in the selected interface (List 1);
- **6 - Identify RDM device:** Sends the command to identify the selected RDM device (List 2), if checked. Most devices will flash or turn on some LED for ease of identification;
- **7 - First:** Sends the selected RDM device to the top of the list (List 2);
- **8 - Move up:** Sends the selected RDM device up in the list;
- **9 - Move down:** Sends the selected RDM device down in the list;
- **10 - Last:** Sends the selected RDM device to the bottom of the list.
  The RDM devices list order is not stored, so if the list (List 2) is updated, the order will be lost;
- **11 - Edit ...:** Opens the RDM device editing window for the selected RDM device;

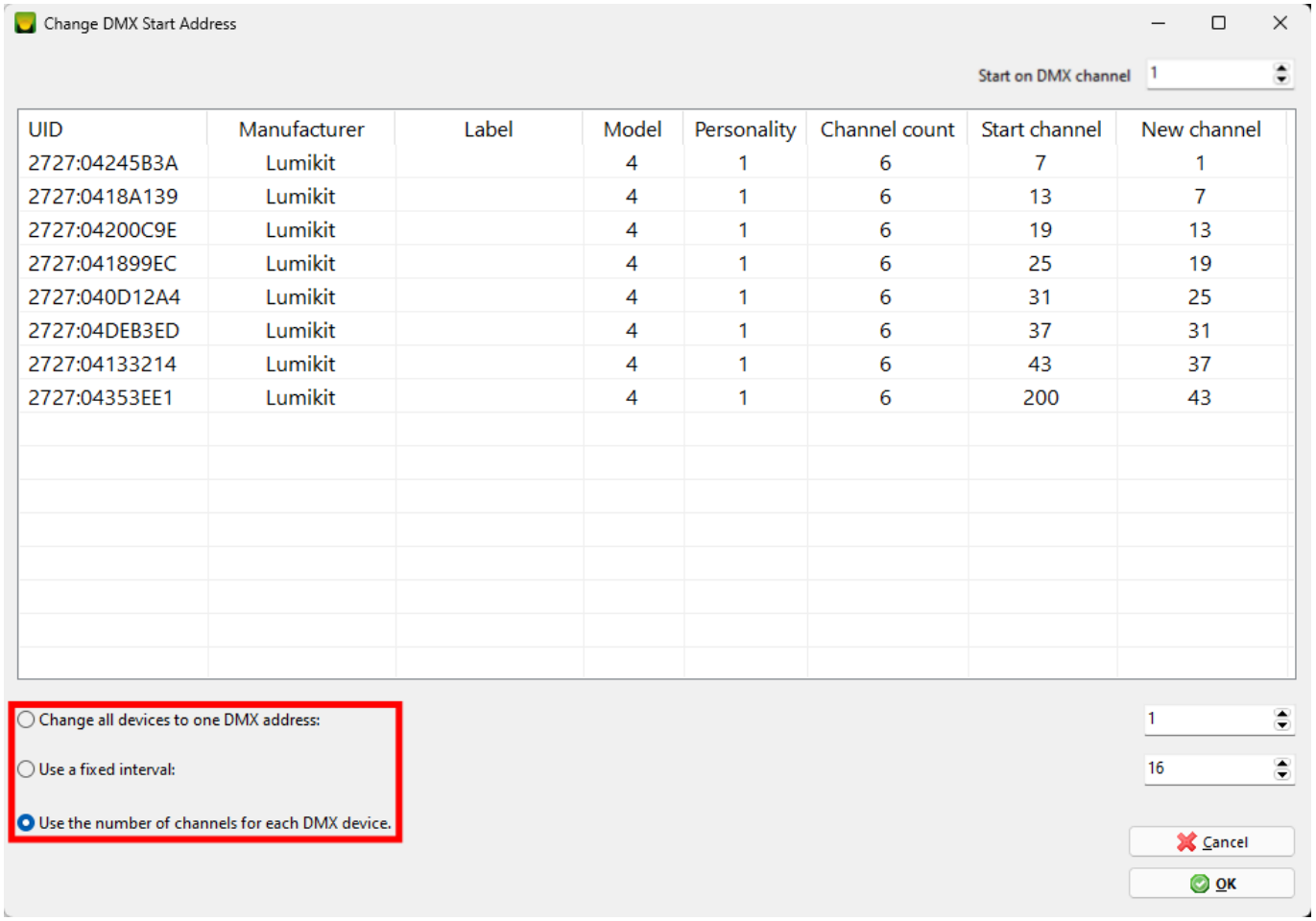
- **12 - Change DMX Start Address:** Changes the DMX address based on the order in which the RDM devices are in the list.

  The First, Move up, Move down and Last buttons are used to order the RDM devices in the list. The Change DMX Start Address button changes the DMX addresses of the RDM devices (List 2) based on this order;
- **13 - Get device info from ...:** Sends the command to start the Get Info process of the selected RDM device, if there isn't already a local copy of the device's parameters. The Get Info process gets all the device's parameters;
- **14 - Get device info from all devices:** Sends the command to start the Get Info process of all the RDM devices in the list (List 2);

When an RDM device is selected and then the Edit button clicked, a window will be opened showing all the device's RDM parameters that were found. The parameters that can be edited have an "Edit..." button next to them. The parameters are shown in categories, divided into tabs:



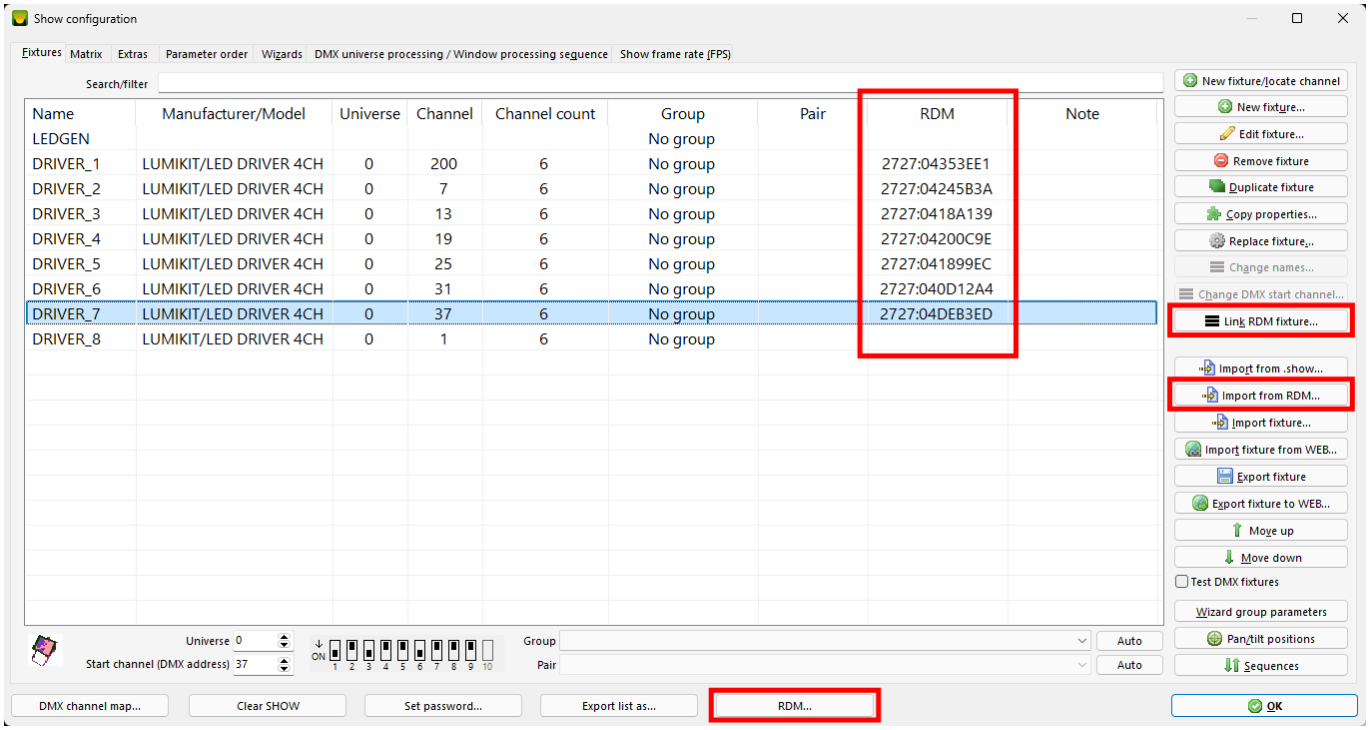
Using the "Change DMX addresses" button, you can change the DMX address of all devices shown in the list, according to the order chosen by the user. There are 3 options for addressing, as shown in the image below:



3.2.1.3.1. Link Lumikit SHOW Fixtures with RDM Fixtures

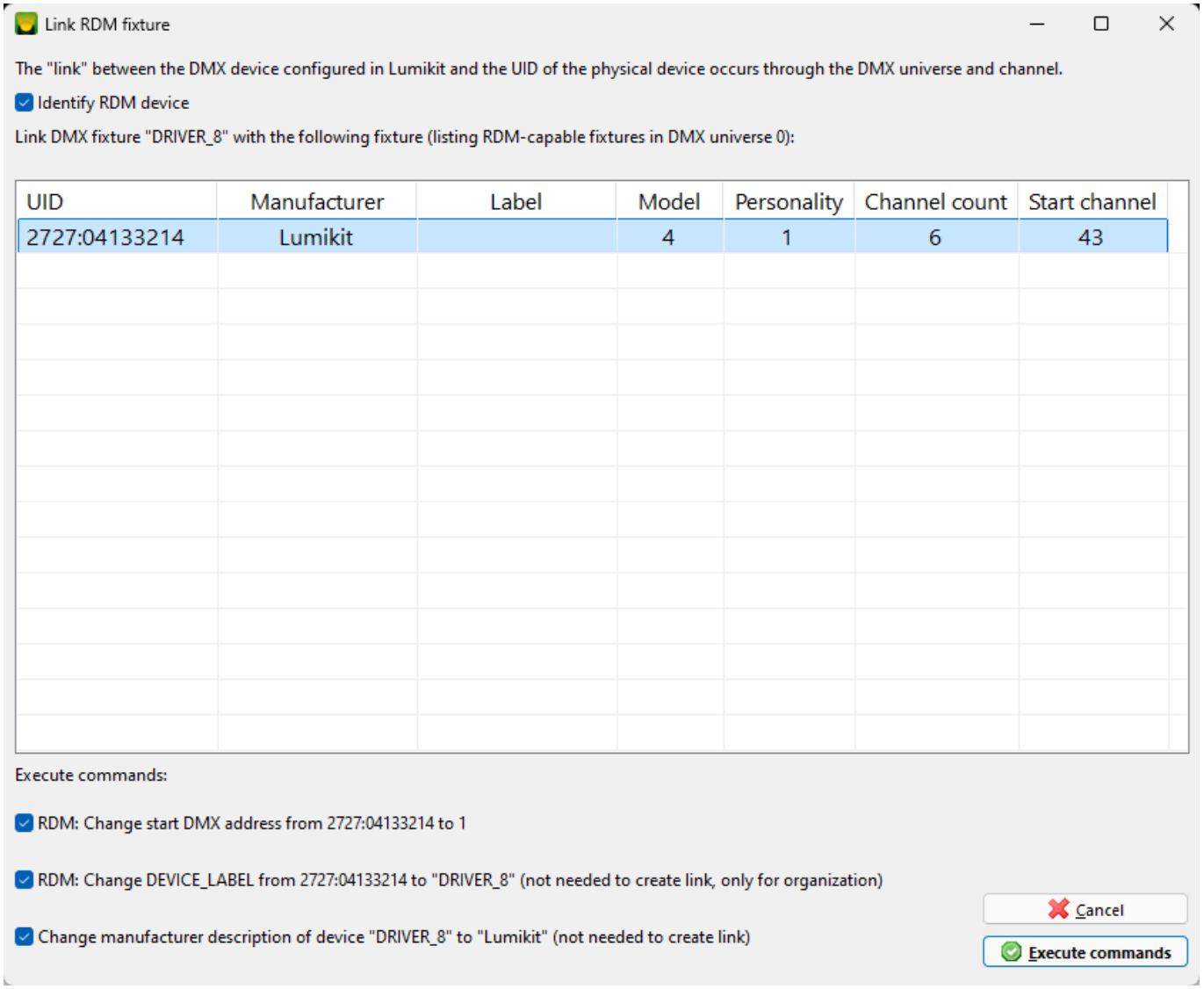
Lumikit SHOW will automatically create a link between the fixtures configured in the show and the RDM fixtures found in the universes, if they have the same DMX channel. This link is not necessary, but it makes it easier when creating the show.

In the Show Configuration window, the RDM column will show the UID of the RDM device if the DMX fixture and RDM fixture are on the same DMX channel and universe.



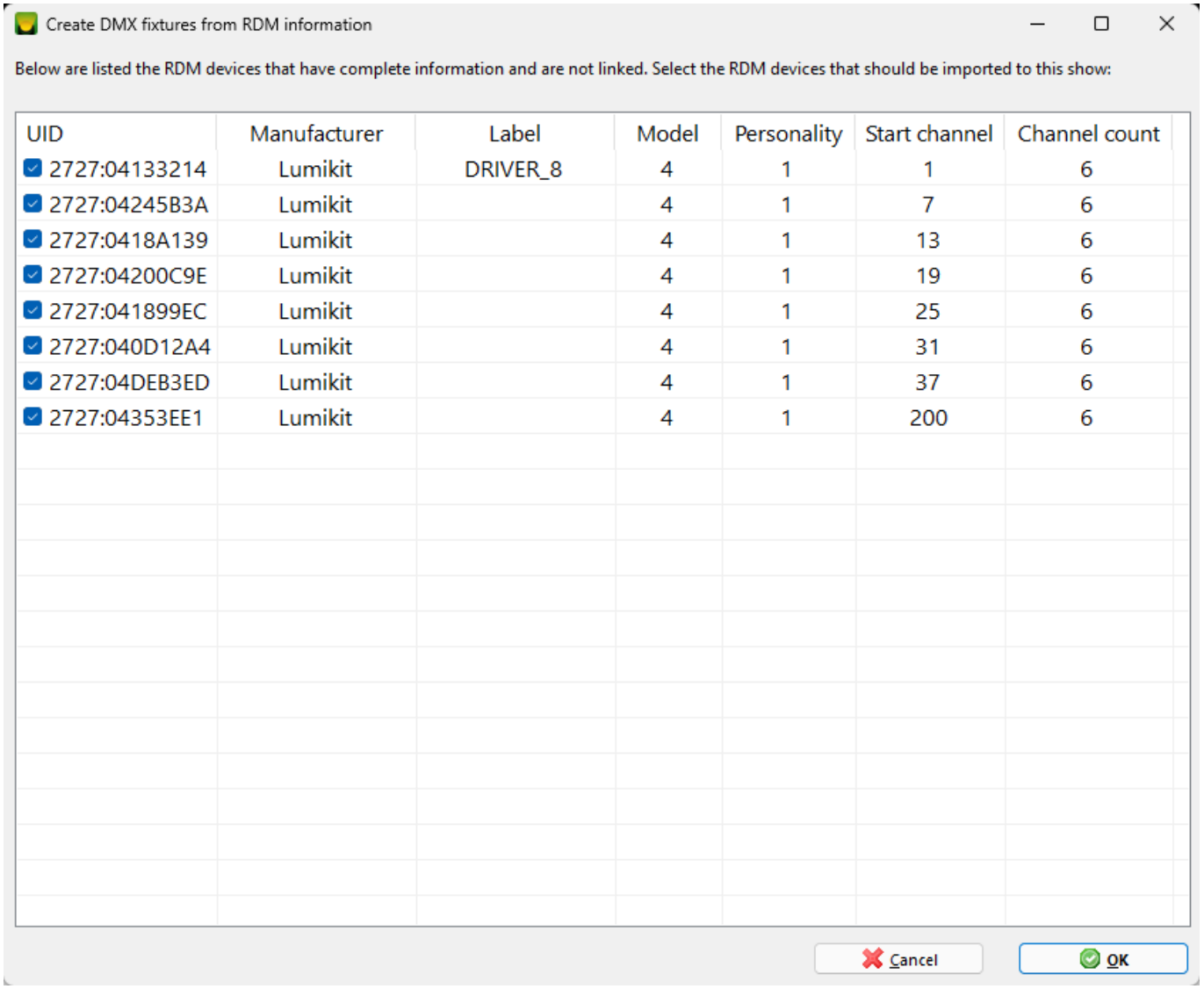
In the same window, there are 2 more buttons with functions related to RDM, namely “Link RDM fixture” and “Import from RDM”.

When selecting a fixture without any link and clicking on the “Link RDM fixture” button, the Link RDM Fixture window will be opened. The list will show the RDM devices without any fixture in the show. Through this window, the DMX address of the RDM device will be changed and in this way the fixture configured in the show and the RDM device will be linked.

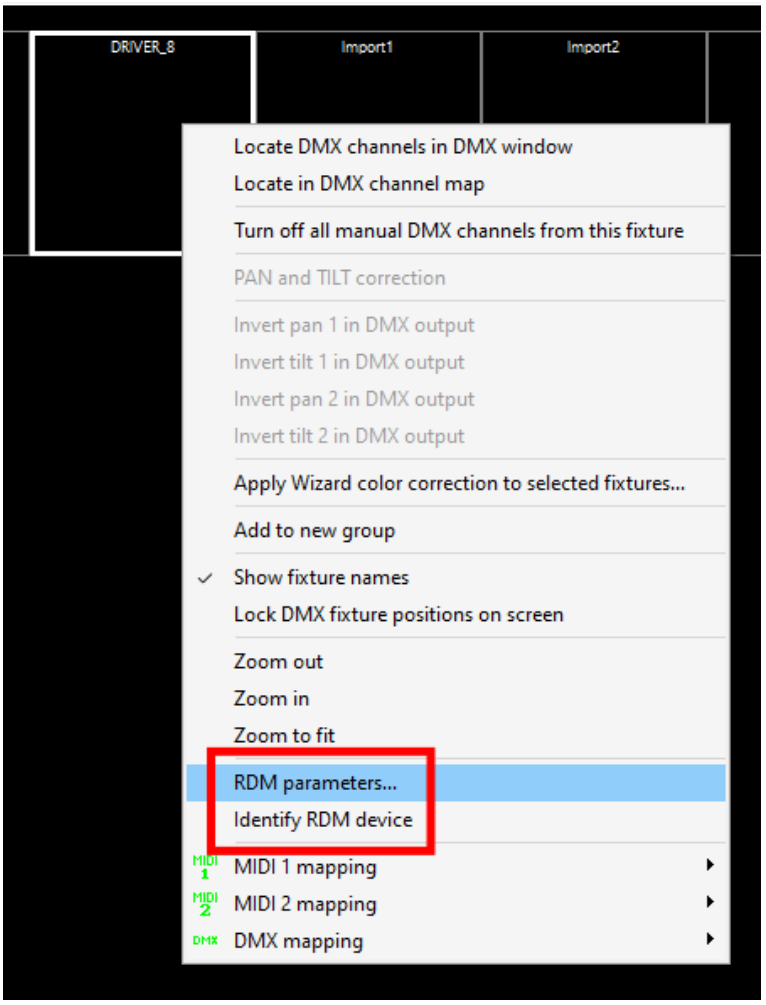


The “Import from RDM” button will show the RDM devices without any link.

When confirmed, corresponding fixtures will be created in the show. Keep in mind that these newly created fixtures must be edited, informing the function of each DMX channel for example.



In the Main Window, when selecting devices then right-clicking on one that has a link to an RDM device, 2 options will be enabled in the context menu: “RDM Parameters…”(the same window as the “Edit…” function) and the “Identify RDM device” function:



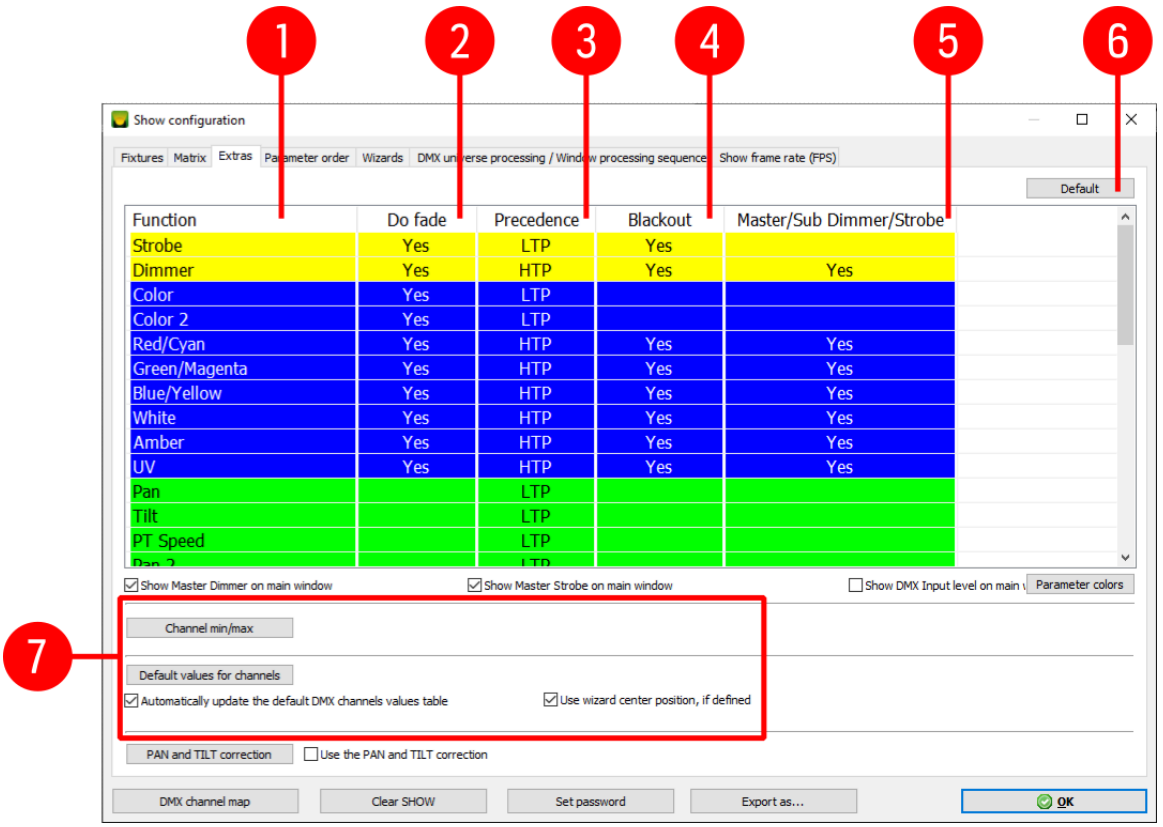
3.2.1.3.2. RDM Parameters Supported in this Version

- RDM_PID_DEVICE_MODEL_DESCRIPTION;
- RDM_PID_DEVICE_LABEL;
- RDM_PID_SOFTWARE_VERSION_LABEL;
- RDM_PID_DMX_PERSONALITY;
- RDM_PID_DMX_PERSONALITY_DESCRIPTION;
- RDM_PID_DMX_START_ADDRESS;
- RDM_PID_DEVICE_HOURS;
- RDM_PID_LAMP_HOURS;
- RDM_PID_LAMP_STRIKES;
- RDM_PID_LAMP_STATE;
- RDM_PID_LAMP_ON_MODE;
- RDM_PID_DEVICE_POWER_CYCLES;
- RDM_PID_DISPLAY_INVERT;

- RDM_PID_DISPLAY_LEVEL;
- RDM_PID_PAN_INVERT;
- RDM_PID_TILT_INVERT;
- RDM_PID_PAN_TILT_SWAP;
- RDM_PID_IDENTIFY_DEVICE;
- RDM_PID_RESET_DEVICE;
- RDM_PID_POWER_STATE;
- All manufacturer parameters are also supported (> $8000).

3.2.2. Tables Configuration (*Extras* tab)

You can also change some of the software's general parameters in the Extras tab in the Show Configuration window.

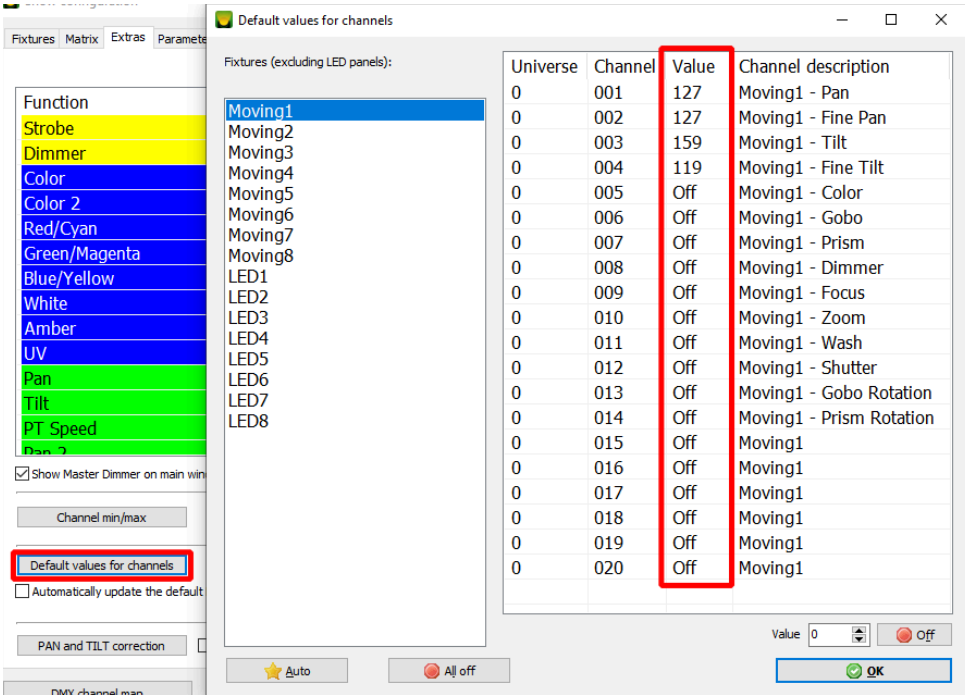


- **1- Function:** List of DMX channel functions;
- **2 - Do fade:** Indicates whether fade will be applied or not;
- **3 - Precedence:** Determines what DMX values will actually be sent to the fixtures. Can either be LTP (lowest takes precedence) or HTP (highest takes precedence).

    - **LTP:** The lowest DMX value will be sent. If two different scenes act on the same DMX channel, the value of the DMX channel will be the lowest of the two scenes. If one scene sends “120” and the other “60”, “60” will be sent. Recommended for channels types that are not *dimmer*;
    - **HTP:** The highest DMX value will be sent. In the above example, “120” will be sent. Recommended for channels types that are *dimmer*;
- **4 - Blackout:** Indicates if the channel will be affected by blackout;
- **5 - Master/Sub Dimmer/Strobo:** Indicates if the channel will be used as Master Dimmer, Sub Dimmer or Master Strobo;
- **6 - Default button:** Reverts all settings to default;
- **7 - Auxiliary tables:** Extra parameters for configuration (more about them in the following chapters).

3.2.2.1. Default Values for Channels

When a DMX channel has a value equal to "Off", the value of this channel is replaced by the value that was defined in the table of default values.

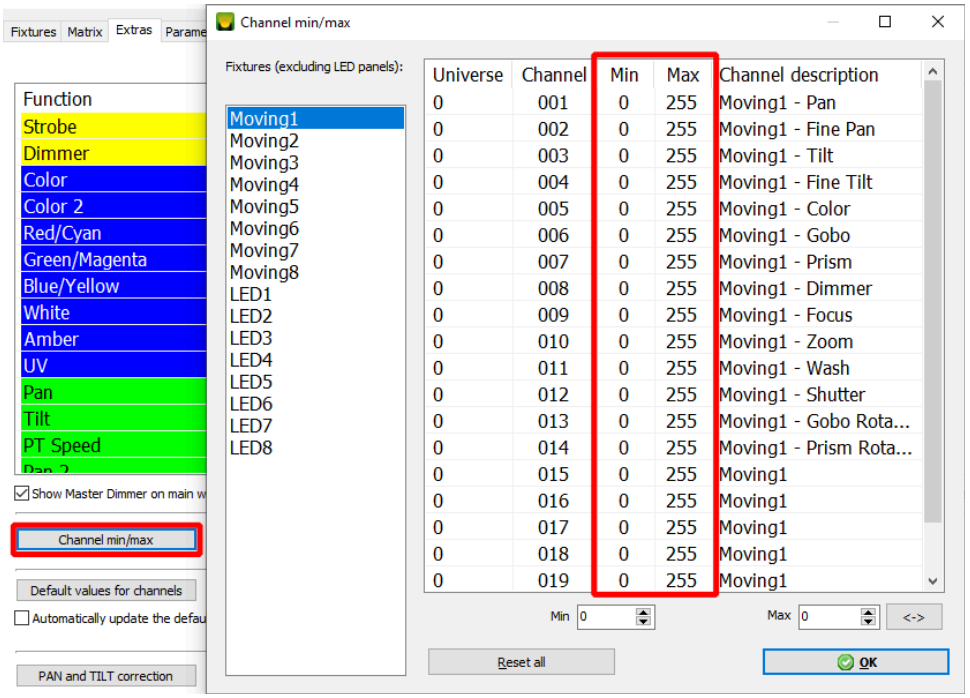


This function is useful, for example, when making the blackout in the pan and tilt channels, instead of the moving head staying in the initial position, it can be configured to stay in a central position or another one defined by the lighting technician.

By default this table updates itself. Pan/tilt channels = 127 (50%) and CMY channels = 255 (100%). Values can also come from positions defined for use in the Wizard.

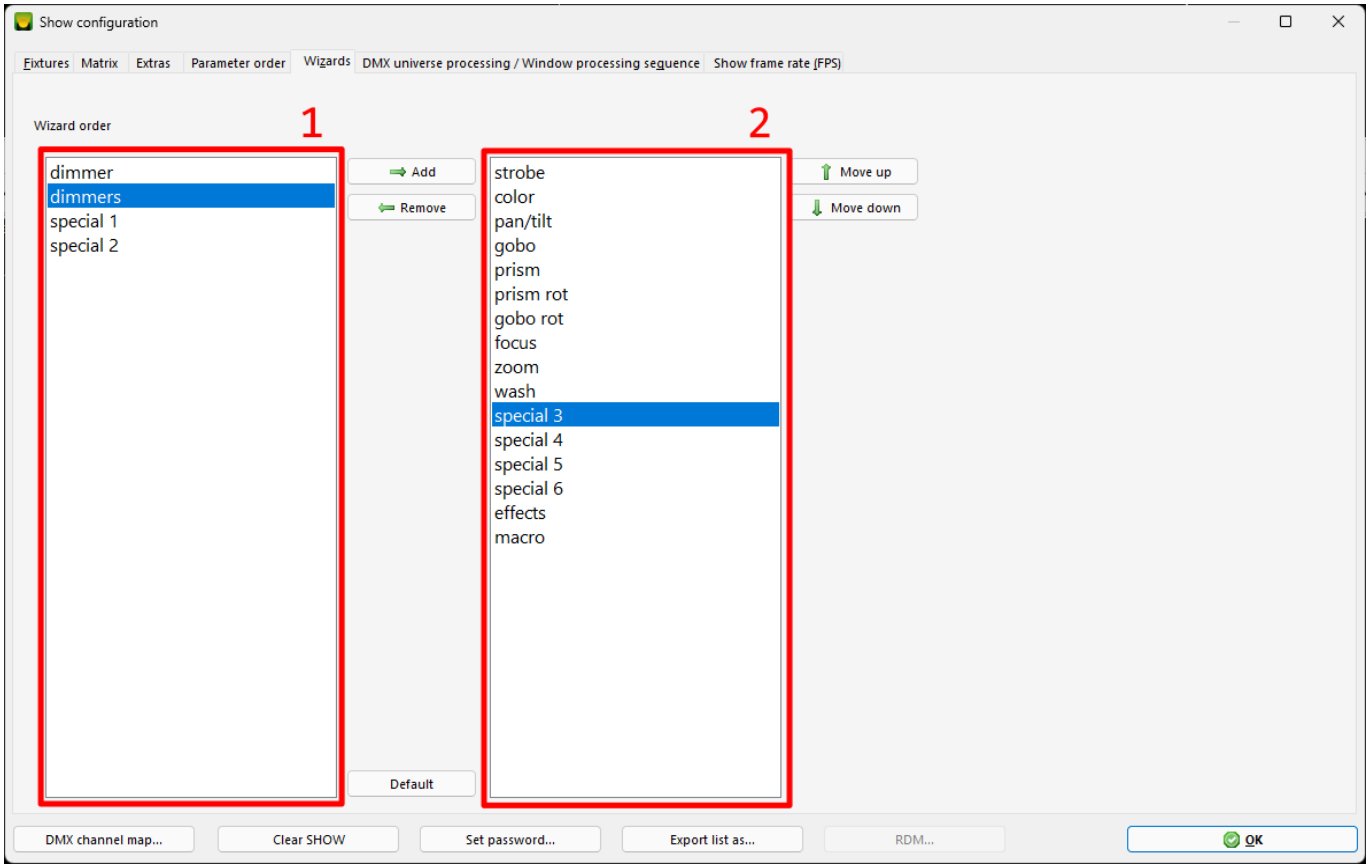
3.2.2.2. Channel Minimums and Maximums

For output DMX channels, maximum and minimum values can be set individually. This allows you to limit the movement of a moving head, defining the maximum and minimum values for the pan and tilt channels or limiting the output of a dimmer. Pan and/or tilt inversion must be done by switching between the minimum and maximum values.



3.2.2.3. Wizards

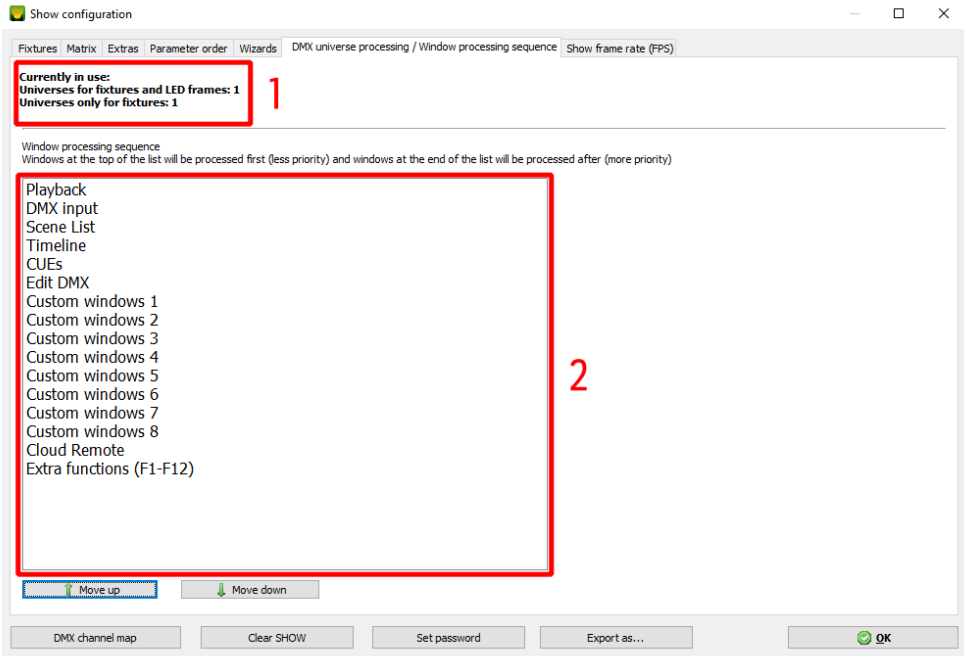
Here it's possible to configure what channel types will appear in the Wizards.



The channel types in the list to the left (1) are going to be disabled/hidden, while the ones in the right (2) will be enabled/shown normally. You can also reorder them (up and down).

3.2.3.4. DMX Universe Processing/Window Processing Sequence

Here you can define the window processing sequence by positions in the list. Lower positions will be processed last (will have more priority) and positions higher in the list will be processed first (will have less priority).

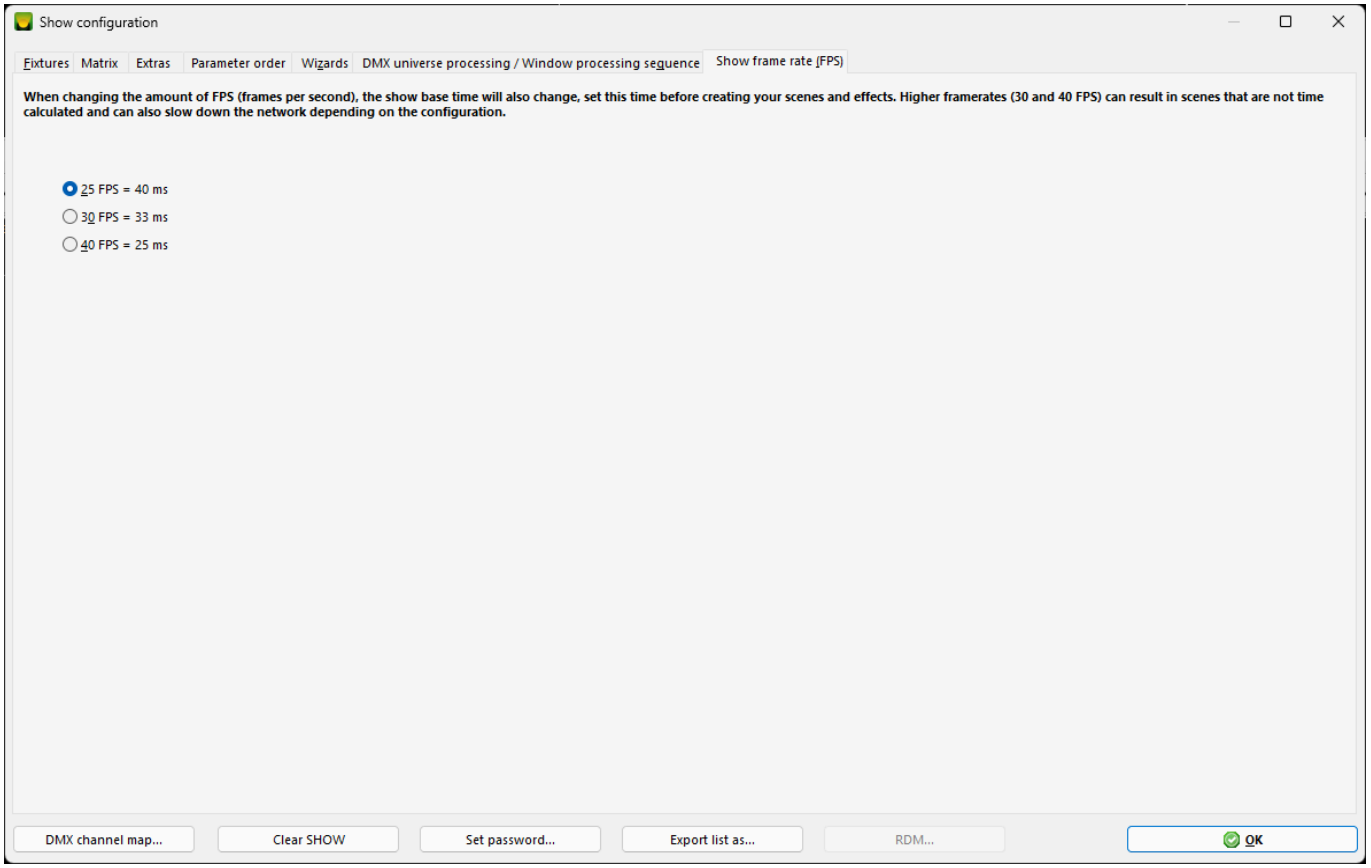


- **1:** Shows DMX Universes currently in use.
- **2:** Lists windows priority.

3.2.3.5. Show Frame rate

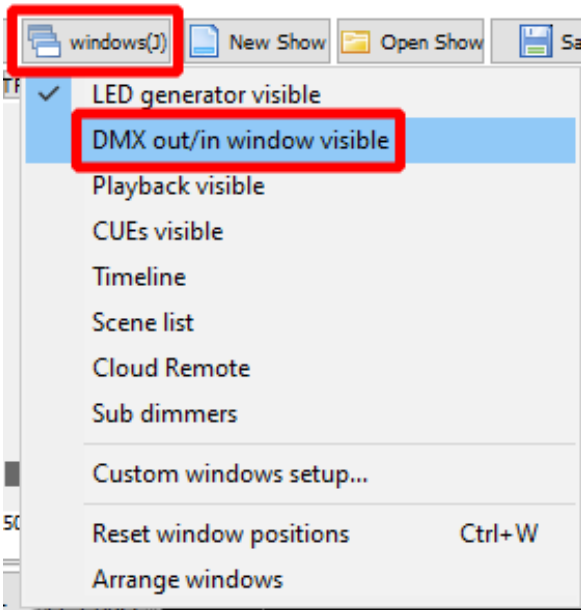
Here it's possible to configure how many Art-Net packages will be sent per second (frames per second, or FPS). The effects' speed are directly correlated to the FPS. The higher the FPS, the faster the effects' speed.

⚠️ **Extremely important! It is highly recommended to not alter the FPS of shows that are already programmed, only in new shows/empty shows/shows that are going to be programmed from scratch. Once the show's FPS has been set, it should not be altered. Changing an already programmed show's FPS will make it so that all of the scenes and effects will have their time altered, making the programming be completely out of order; that being, the programming will need to be done again from scratch.**



3.3. DMX Window

In this window you can see the DMX values of each channel and navigate through the DMX universes, both output and input. To access this window, click on the "windows(j)" button, and then on "DMX Out/In Window Visible" (toggles between visible and not visible).



Each bar represents a DMX channel, their value and where its value is coming from. The “Univ” fader lets you navigate through the DMX universes.

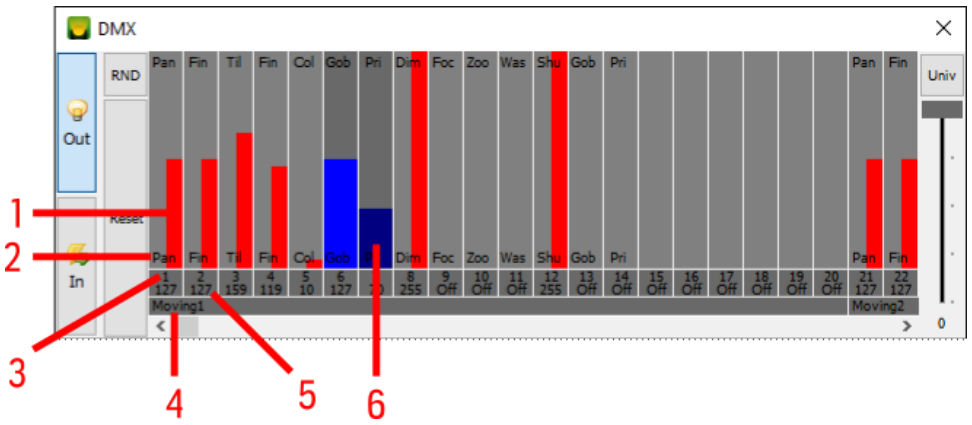
You can also change the DMX channel values (as long as the output is in "manual"), generate random values ("RND" button) and reset the channels ("Reset" button).

3.3.1. Channel Dimmer

The DMX channel dimmer is a proportion between the value of the channel and the defined dimmer. The dimmer value is informed in percentage. If the dimmer is at 50% and the DMX channel value is at 255, the output will be 127 (50% of 255), not 255.

3.3.2. DMX Output Bars

The DMX Output bars show information related to each DMX channel.

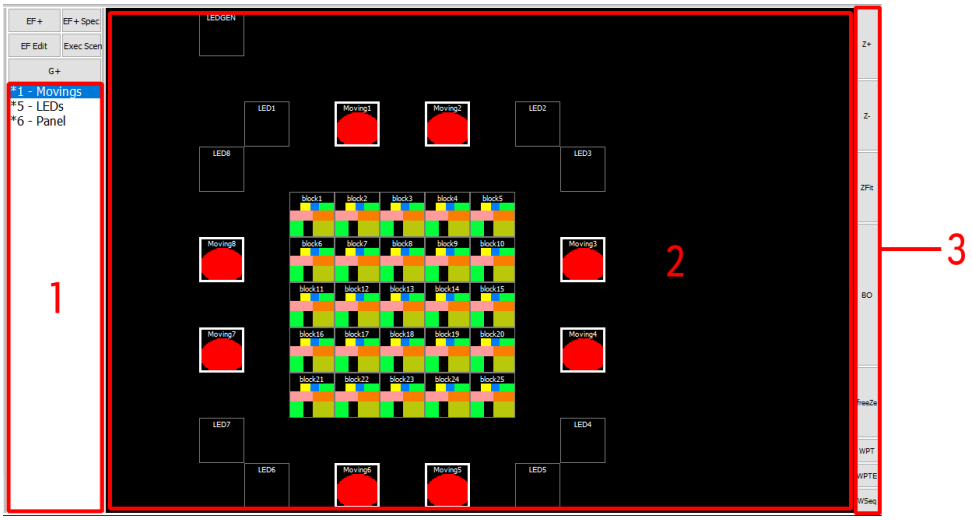


- **1: DMX Channel Output Value.** Shows what is going to be sent to the DMX output.
- **2: DMX Channel Description.** Shows description for the DMX channel (defined in the Show Configuration window).
- **3: DMX Channel Number.** Shows the DMX channel’s number. Starts at 1 and goes to 512 (normal DMX universe).
- **4: DMX Fixture Name.** Shows the name of the fixture to help with identification.
- **5: DMX Channel Value.** Shows current DMX value for the channel.
- **6: DMX Channel Value.** Shows what is coming from the “Edit DMX” mode that was attributed manually.

3.4. Fixture Selection

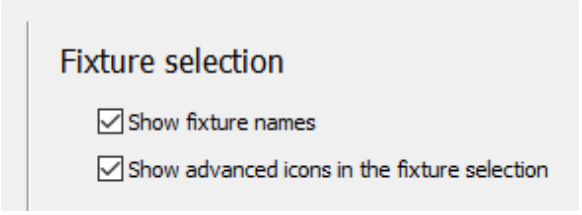
In the center of the main window are shown the DMX fixtures that were created in the Show Configuration window. The main function is to show the parameters of each DMX fixture. When a device or group is selected, its parameters are shown on the right side of the main window.

It is possible to move the fixtures in the window. To do so, keep the left mouse button pressed and drag the devices. To prevent fixtures from being dragged while using the program, you can check the option "Lock DMX Fixtures Position on Screen", by right-clicking or accessing the general options via the "OPtions" button.



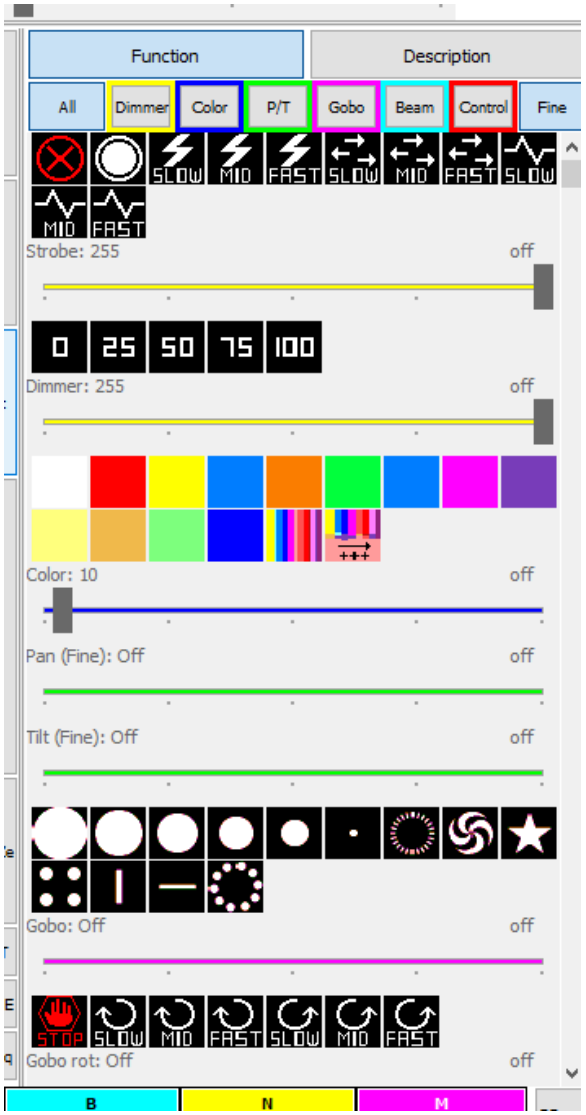
- **1: Fixture Groups.** Clicking on one will select all respective fixtures. Groups with a “*” in their name are groups created in the Show Configuration window.
- **2: Fixture Selection Screen.** Here you can select the fixtures and all respective functions.
- **3: Commands Buttons:**
  - **Z+:** Zoom in.
  - **Z-:** Zoom out.
  - **ZFit:** Fits screen to view selected fixtures. If none is selected, shows all fixtures.
  - **BO:** Turns Blackout on and off.
  - **freeZe:** Turns Freeze on and off.
  - **WPT:** Another way of defining wizard pan and tilt positions.
  - **WPTE:** Highlights the selected fixtures (through colors or dimmer).
  - **WSeq:** Another way of defining wizard sequences.

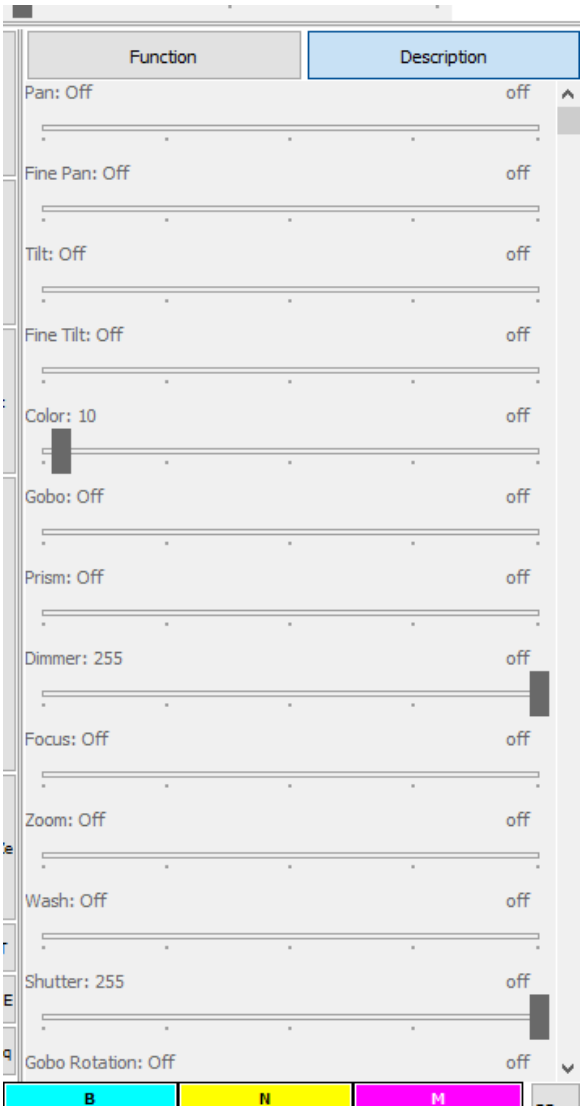
There are two visualizations available: icons visualization, and advanced visualization. This can be changed in the General Options, through the “Show advanced icons in the fixture selection”.



3.5. Parameters

On the right side of the main window, the fixture’s parameters are shown.

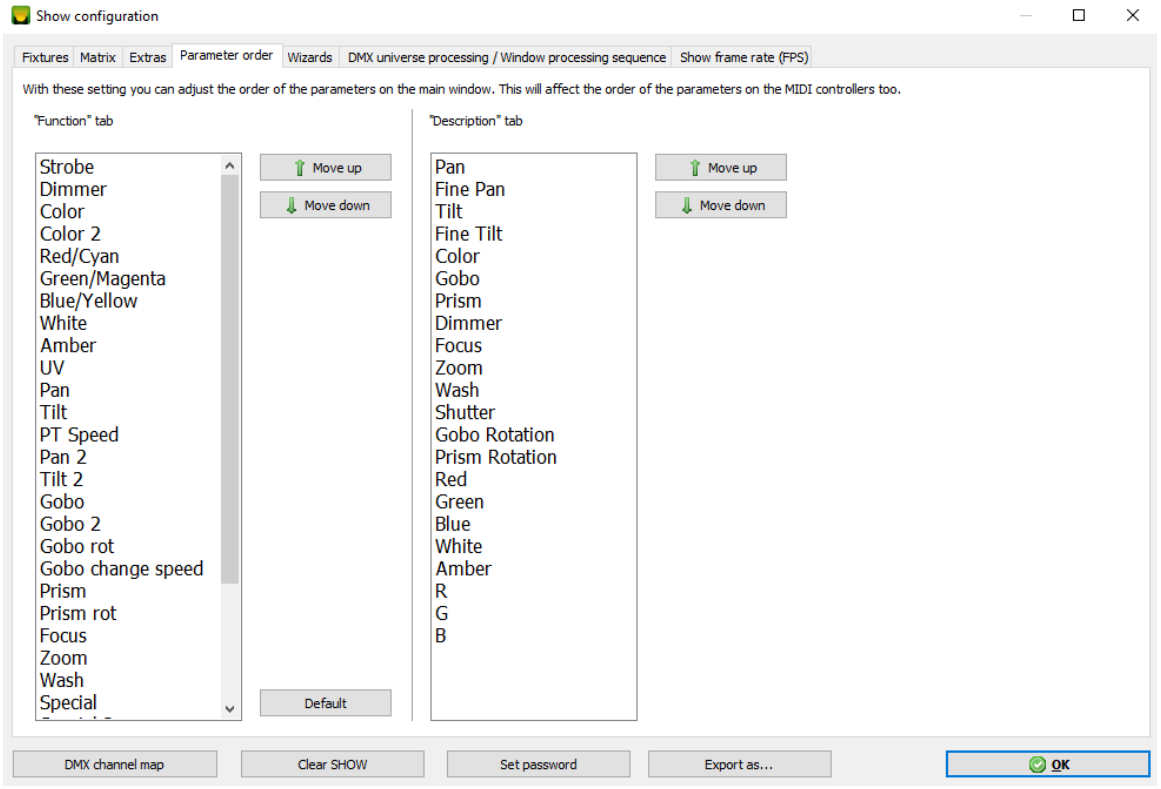




The "Function" tab shows the parameters according to the functions configured in the "Show Configuration" window, being able to filter the parameters by function, and the "Description"

tab shows the same, but only in the form of faders with the description of the respective channel.

The order in which the parameters appear can be defined in the "Parameter Order" tab of the "Show Configuration" window.

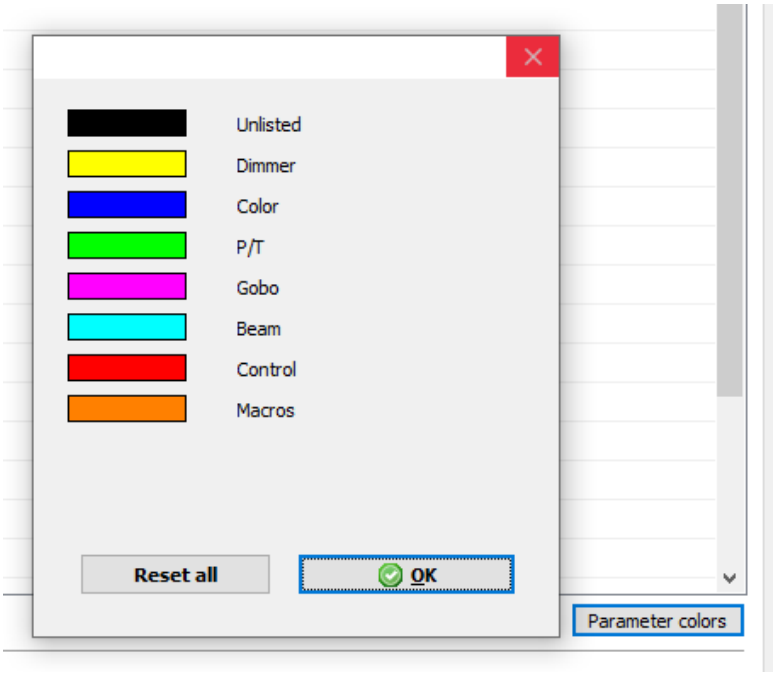


If more than one fixture is selected in the main window, the "Function" tab of the parameters window will only show what exists in common between the two fixtures. For example: if two fixtures are selected, one of which has the colors and gobo channels, and the other only has the colors channel, the parameter window will only show the color parameter, and the colors displayed will only be those with the same name between the two fixtures.

When configuring a dimmer, the descriptions of the channels can be filled in as “Purple”, “Red” and so on, and these channels will automatically be grouped in the “Description” tab, thus making it easier to change all the “Purple” channels of the dimmers.

Above each parameter there is an “Off” marker, and clicking on it turns it off (the channel will then assume its default value).

You can also define the color of the parameters in the “Extras” tab of the “Show Configuration” window, through the “Parameter Colors” button.

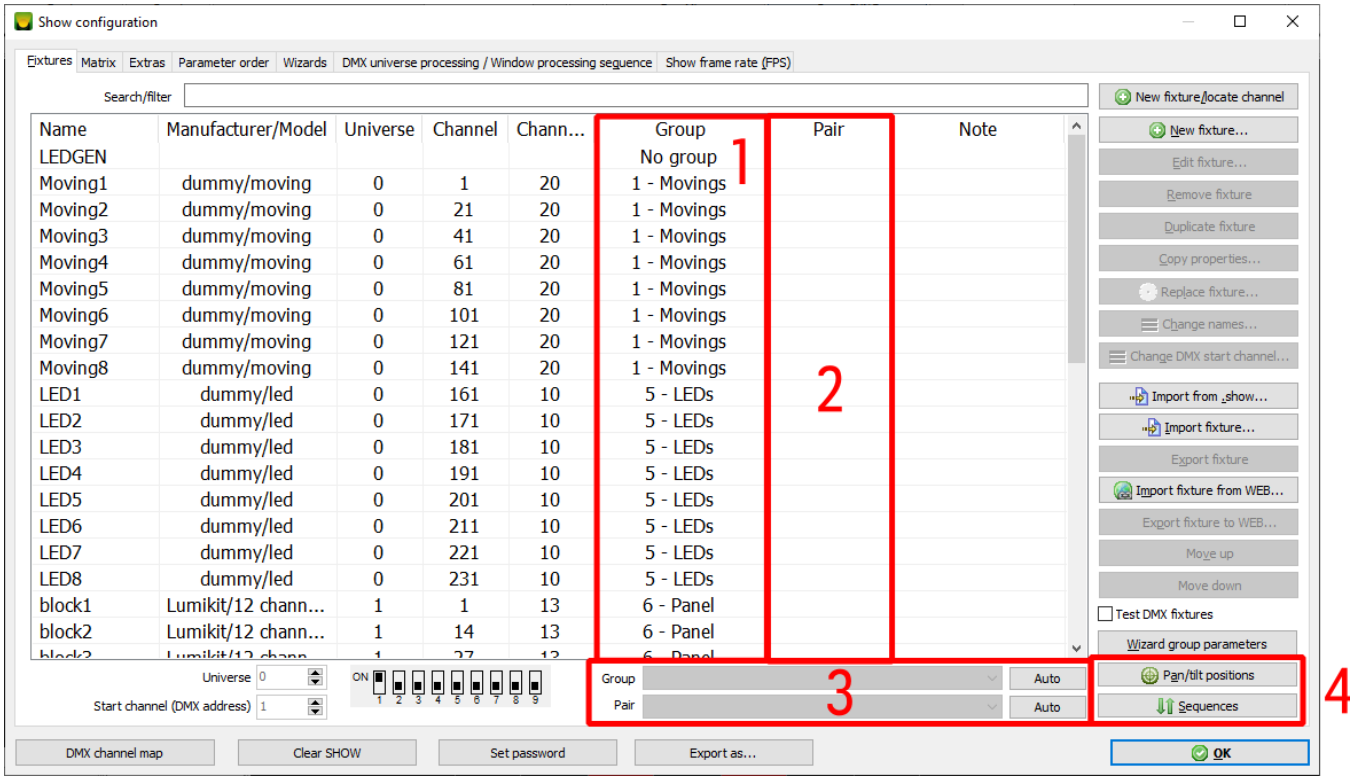


3.6. Wizard

The Wizard is a powerful tool for creating scenes within Lumikit SHOW. We recommend that all scenes be created by the Wizard, because even if the DMX fixtures are changed to other models, the effects will still be the same. Not to mention that the Wizards' effects are very complete, adding the possibility of creating sequences and using matrices, the possibilities are practically endless.

The Wizard can be used on the following DMX channels: pan and tilt, dimmer, dimmers (when the DMX fixture has more dimmer channels), colors, gobo, strobe, prism, rotating prism, rotating gobo, focus, zoom, wash (frost), special, special 2.

It is important to note that the Wizard will only work on channels that are turned off. For example: if the dimmer channel of “Fixture1” has a value other than Off (it can be changed using the “EDIT” button), even turning on the dimmer Wizard for that DMX device, the Wizard will not be effective.

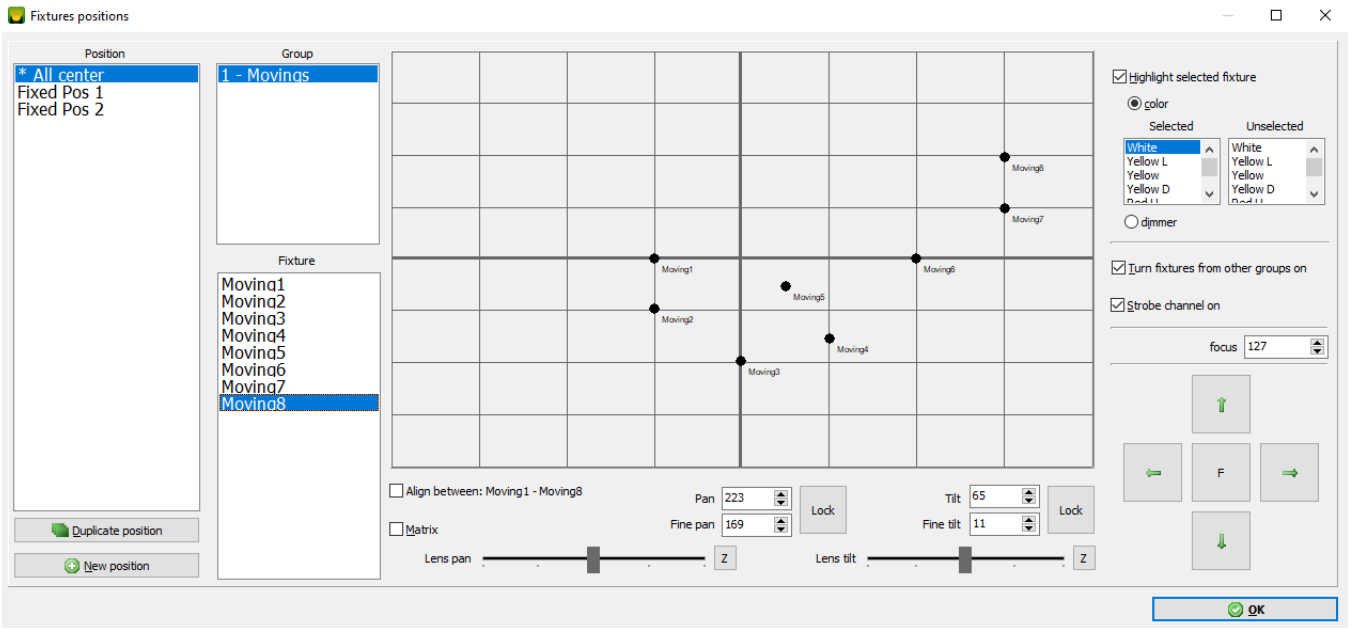


For the best functioning of the Wizard, you can configure the following items:

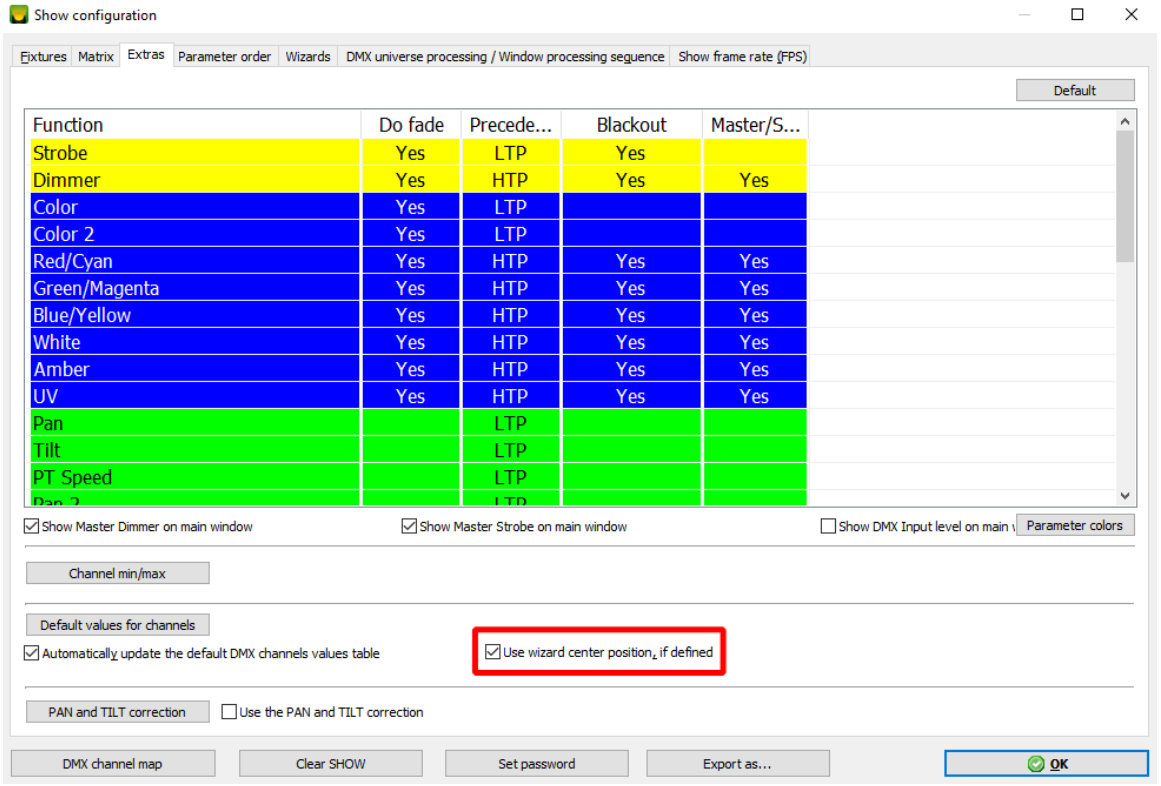
Which Wizard group the DMX fixture is configured. This can be done by selecting the fixtures in the list and choosing from the list marked 3 (the group is shown at 1). Another possibility is just to select the fixture in the list and press 1, 2, 3, ... to 0 on the keyboard. The name of the groups is set in 4 in the “Wizard Group Parameters” button.

What are the pairs of each device (shown in 2). This information is mainly used in Wizard pan and tilt. Remembering that only pairs from the same group should be used, and the pair can be selected in the “Pair” list in 3.

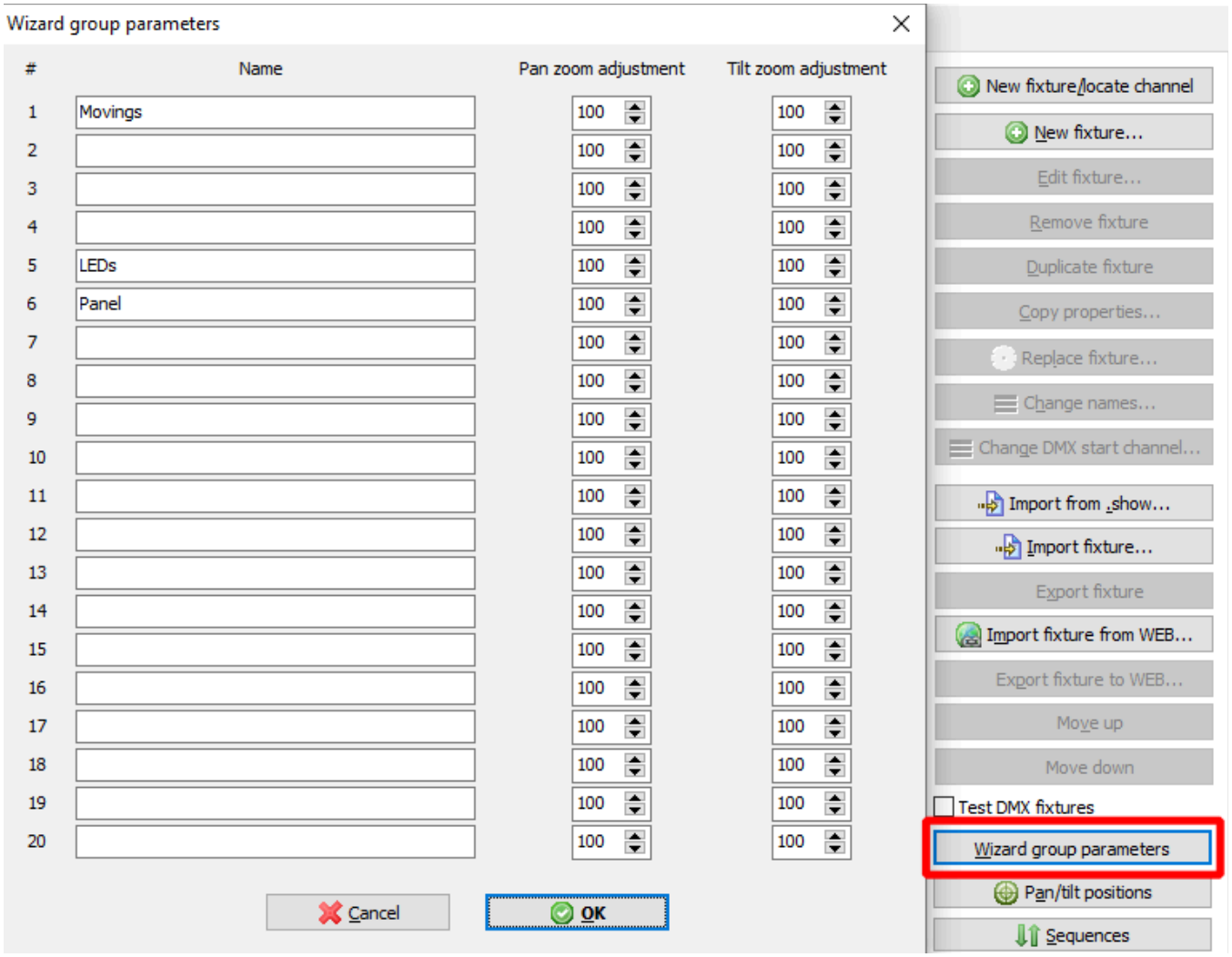
What is the central position of fixtures with pan and tilt (fixtures with pan and tilt channels, such as moving heads, scans, etc.). It must be set by the button “Pan/tilt Positions” in 4. On this screen the position “* All center” must be set for each fixture (that has pan and tilt channels) configured in the show. This is the center position of the stage or location that will be lit.



The "* All center" position is used in Wizard Pan and Tilt as the center position of the fixtures in the show, and these DMX values are also used in the "Default values for channels".

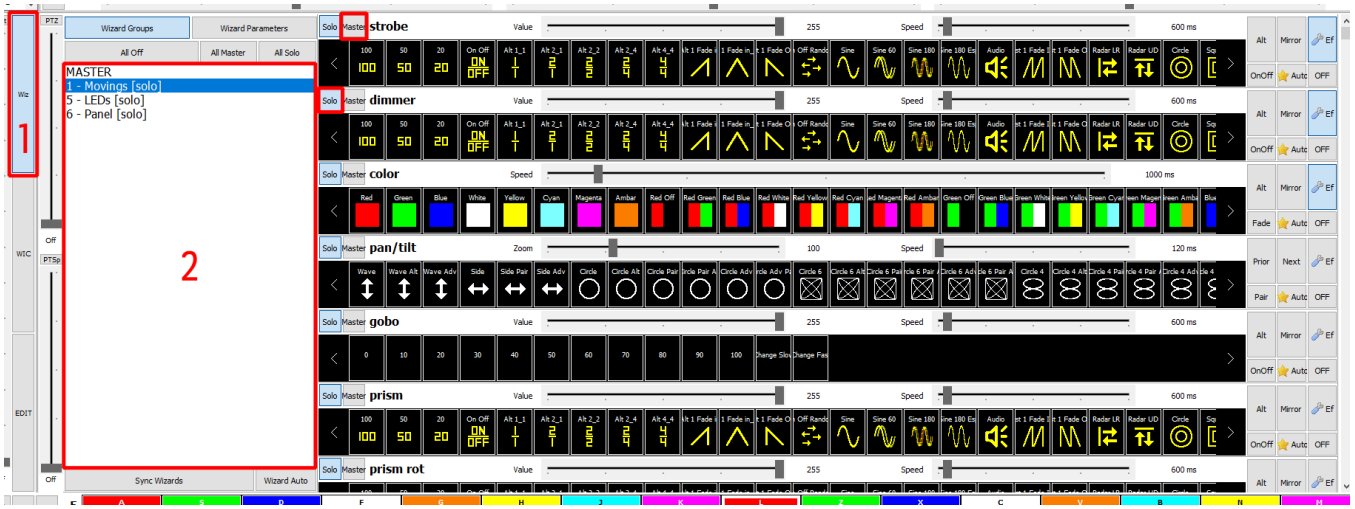


In the Wizard group parameters window, the name of each group can be informed, as well as the default Pan and Tilt Zoom setting for the Wizard groups. 100% is the default aperture, and lower values will make smaller moves.



3.6.1. Wizard Screen Structure

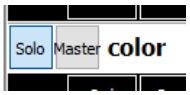
If there are DMX fixtures configured in any Wizard group, the “Wiz” button will be shown (button 1 in the image below).



List 2 shows the Wizard groups defined there in the show configuration. You can easily select a group using the keyboard with Alt + 1, Alt + 2, ... up to Alt + 0. This way you can quickly select the group you want to change. The shortcut for MASTER is Alt+W.

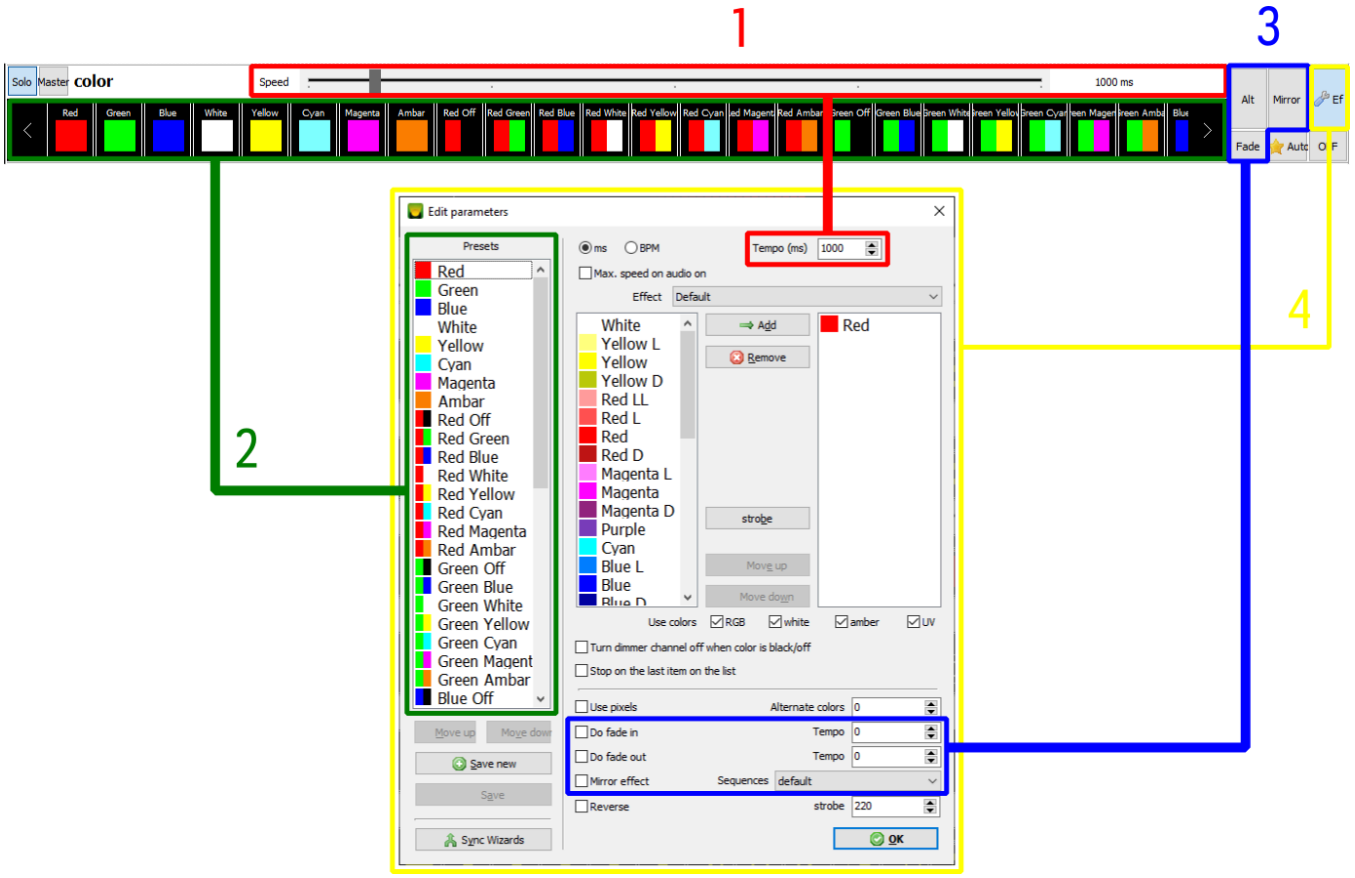
The sequence in which the parameters are shown can be changed within SHow, Wizards tab, under Wizard Order.

The SOLO/MASTER selection allows you to configure the parameters by group (SOLO) or together with other groups (MASTER). A practical example is when the illuminator wants to control the colors of all groups, instead of going into each of the defined groups and selecting the color. The simplest thing is to pass all the Color Wizards to MASTER and then select the MASTER and define the color there, changing the colors of all the groups at once.



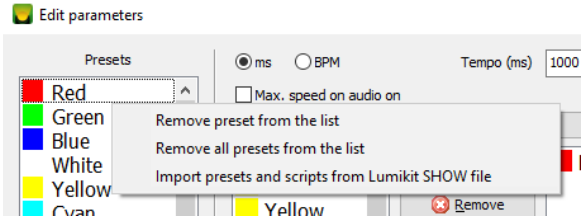
3.6.2. Structure of a Wizard

In general, a Wizard, regardless of the type, is composed of a control panel located in the main window with main commands and a more complete window called “Edit Parameters” with more options. To open the parameter editing window, click on the Wizard's “EF” button.



- **Wizard type**, and if it's in Master or Solo.
- **Presets list.**
- **Faders** (depends on wizard type).
- **EF button.** Edits parameters.
- **Save button.** Saves current effect in current preset (overrides old one).
- **Save New button.** Saves current effect in a new preset.

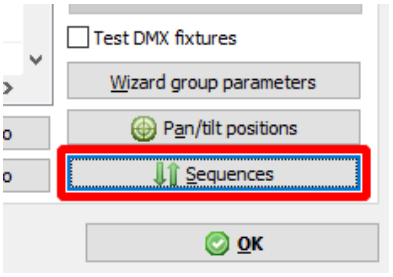
It is also possible to import presets from .show files. To do so, right click anywhere in the presets list, then choose "Import Presets and Scripts from Lumikit SHOW File".



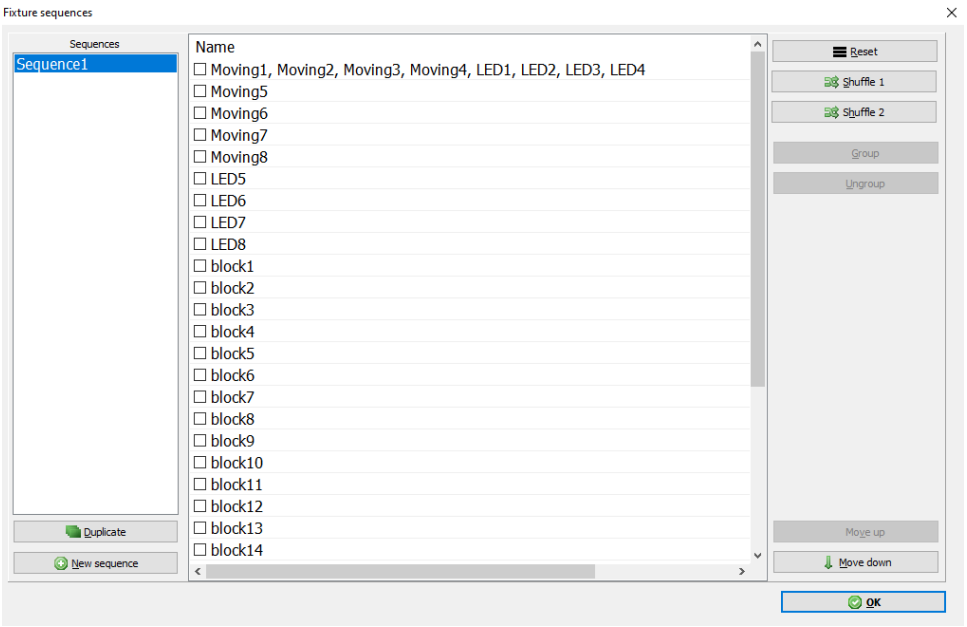
3.6.3. Fixtures Sequences Inside of the Wizard

By default, the Wizards use the fixture sequence that was configured within the show configuration. In some Wizards, this sequence can be changed using the "Sequence" field

within the Wizard parameters. These sequences must be previously created in the show configuration using the “Sequences” button.



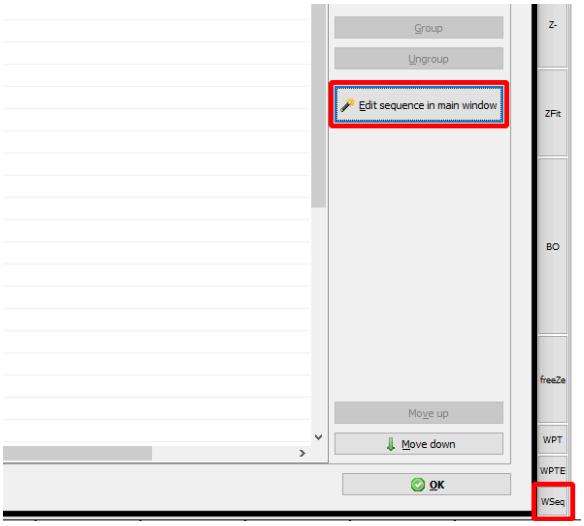
Within a sequence it is also possible to group some DMX fixtures using the “Group” button.



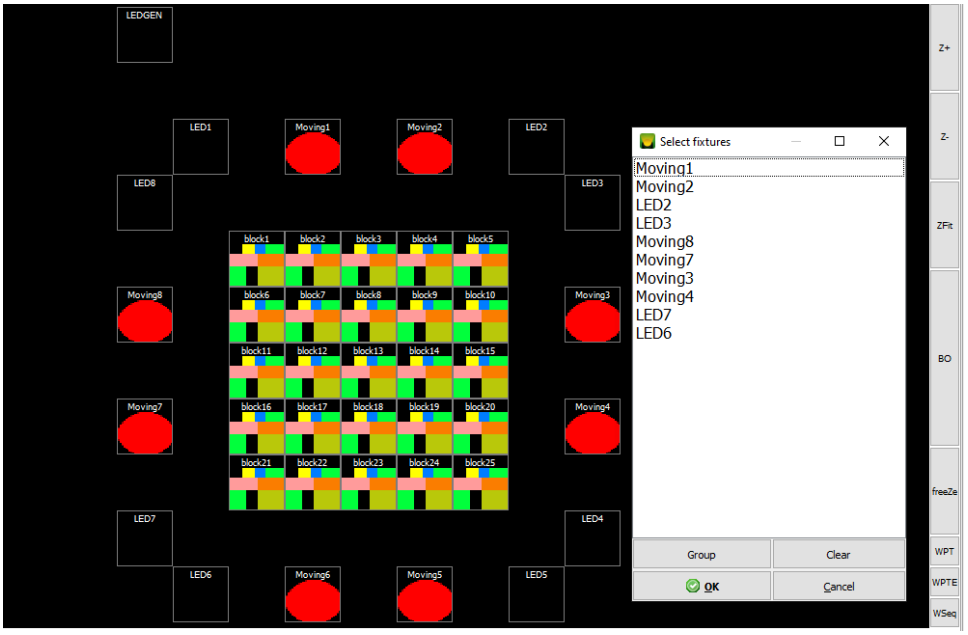
Remembering that the groups created within the sequences do not overlap the Wizards groups defined in the show configuration window.

3.6.3.1. WSeq Button

To speed up the creation of sequences, the sequence window can be called using the WSeq button in the main window.



By clicking on it, a new window will be shown and it will be possible to select the fixtures from the selection in the main window.



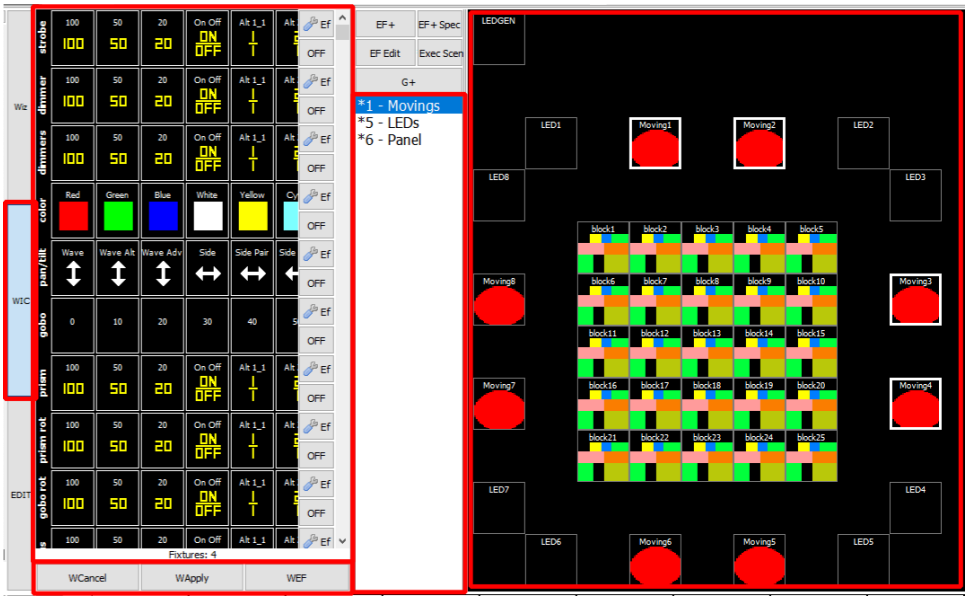
As a DMX fixture is selected, it is listed, if the “Group” button is checked, a group will be created with the fixtures to be selected. By clicking again on “Group”, you can create a new group.

3.6.4. Default Presets in a New Show

When creating a new show, by default the Wizard is loaded with the presets present in the template .show file.

3.6.5. Wizard Constructor (WIC)

The Wizard Constructor is shown on the left side of the main window by the WiC button. It works as an assistant for creating an Extra Function of the Wizard type within a scene.



On the left side of the window, the wizards by type are shown, inside the preset icons, and the Off buttons to turn off the corresponding wizard and EF to make adjustments.

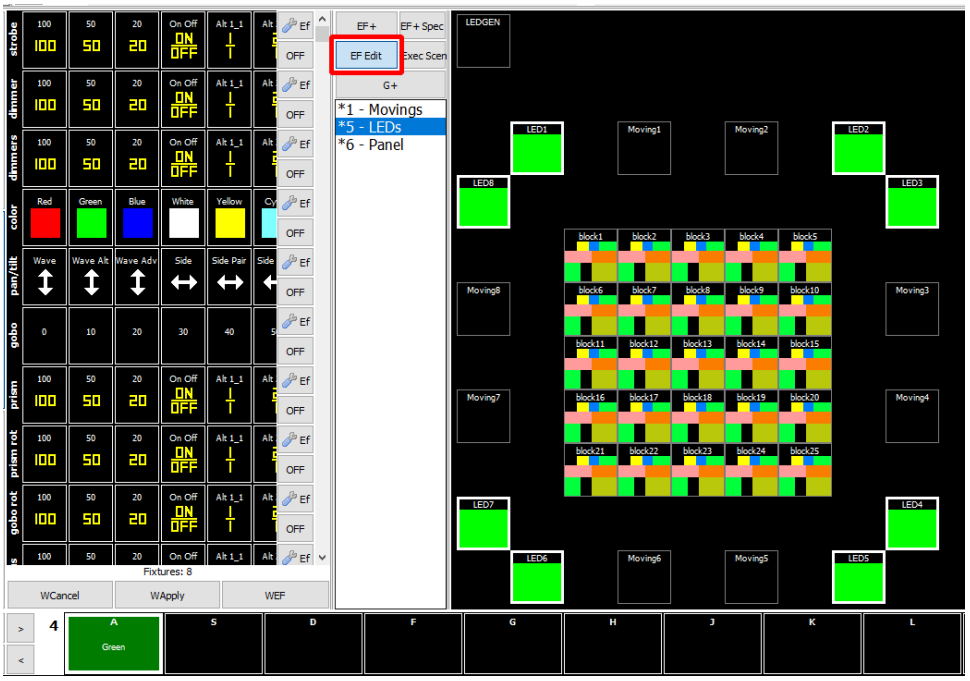
One or more groups must be chosen from the list. You can also select the fixtures manually.

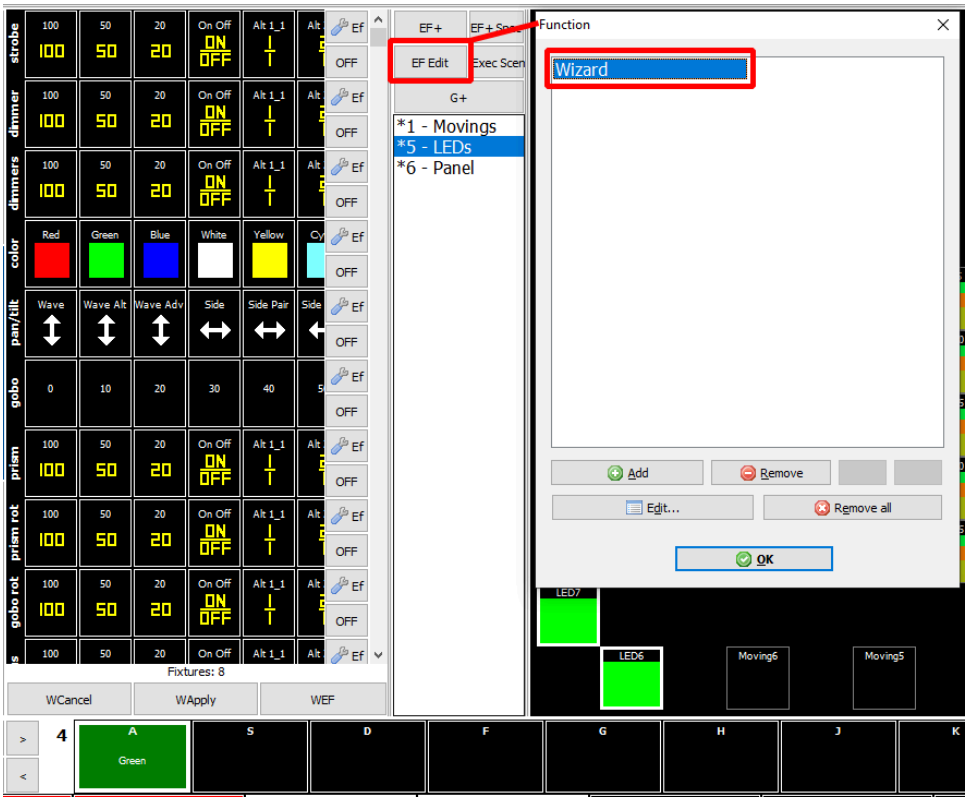
The wizard will be applied according to what is selected. Remembering that it is possible to select Wizard Groups or Fixture Groups, never both simultaneously.

At the bottom on the left side there are 3 buttons:

- **WCancel:** Turns all Wizards off.
- **WApply:** Creates the extra function inside the scene with the chosen options.
- **WEF:** Creates the extra function with the chosen options inside another window, like the Custom Windows, CUEs, F1, F2, etc.

After applying the Wizard Constructor to the scene, the EF Edit button will be highlighted, informing that there is an Extra Function in the scene. The default name will be “Wizard”, this Extra Function can be edited as needed. There is no limit to how many Extra Functions can be placed within a scene.





3.7. Scenes

Scenes are easily triggered by keyboard, on-screen buttons, external commands (remote control, MIDI, DMX input, etc.) or scripts.

It is recorded in the scene:

- Manual channel values.
- Sequence of points active on the PAN/TILT PAD.
- Switching points enabled on the PAN/TILT PAD.
- Wizard effects.
- Scene's extra functions.
- Effects configured in the LED generator, provided that the "Save all mixers states" (or the other options, different from "Don't save anything") is active when the scene was saved.

What is not recorded in the scene is the position of the coordinates of the points on the PAD. This means that if a set of points in a PAD is changed, that change will be reflected in all scenes that use that set of points in the PAD.

Scenes can be saved/accessed through the central area marked with buttons and letters in the main window.

- **A:** The page that is currently selected.
- **B:** The page that will be activated when pressing a letter corresponding to a scene.

The buttons with the letters A, S, ..., M correspond to the scenes and can also be accessed using the keys on the keyboard.

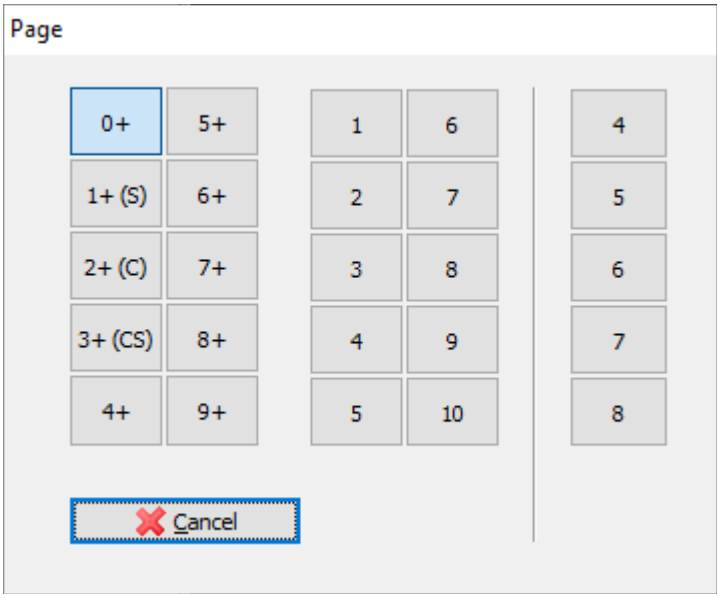
The "<" and ">" buttons trigger the previous and next scene respectively within the same page. The shortcut keys for these buttons are "," and "." on the keyboard.

3.7.1. Pages

It is possible to record up to 1600 scenes in one show. The scenes are divided into 100 pages, which are: 1 to 9, 10, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, C1, C2, C3, C4, C5, C6, C7 , C8, C9, C10, CS1, CS2, CS3, CS4, CS5, CS6, CS7, CS8, CS9 and CS10, 51 to 99. Each page has 16 scenes.

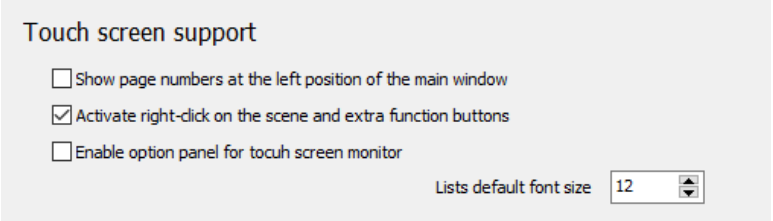
Pages starting with the letter C are accessed by pressing Ctrl + the page number. Pages starting with the letter S by the Shift key + the page number. Pages that have the letters CS are accessed by the keys Ctrl + Shift + page number.

An alternative way to access the pages via mouse or touch screen is to click on the page number to display a menu with available pages.



It is also possible to switch pages with the PgUp and PgDn keys on the keyboard.

Checking the option “Show page numbers at the left position in the main window” in the General Options will show buttons that also make it easier to change pages.

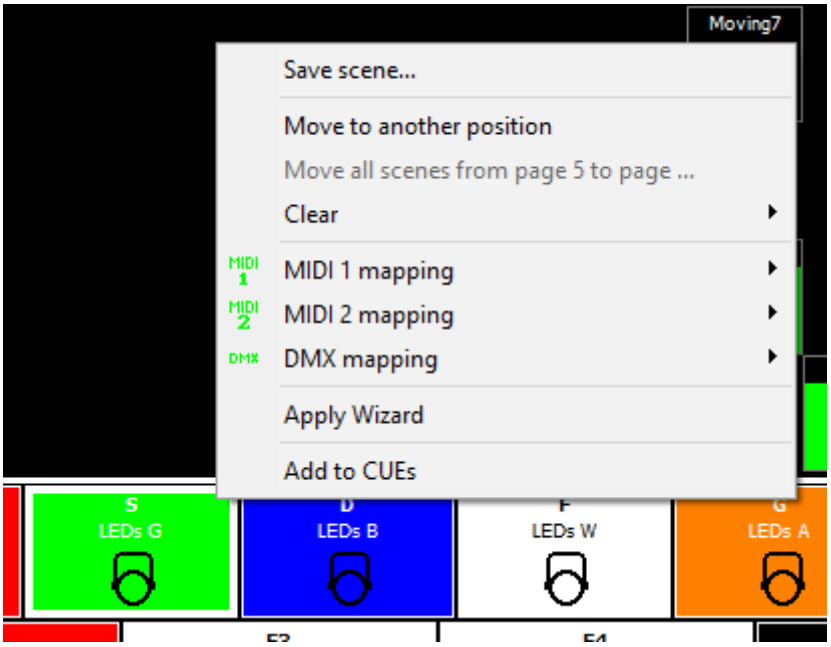


3.7.2. Selecting a Scene

Scenes are accessed by keyboard or mouse. Each scene is called up by the following keyboard keys: A, S, D, F, G, H, J, K, L, Z, X, C, V, B, N, M.

To activate a scene, just choose the page, pressing the corresponding key (1, 2, 3, ... to 0) and then press the letter of the respective scene.

To save a scene, right-click on the scene and choose the “Save” option, or press the Menu button and then click or select the scene.



A scene can be triggered via MIDI and DMX with the “Trigger with MIDI/DMX” options.

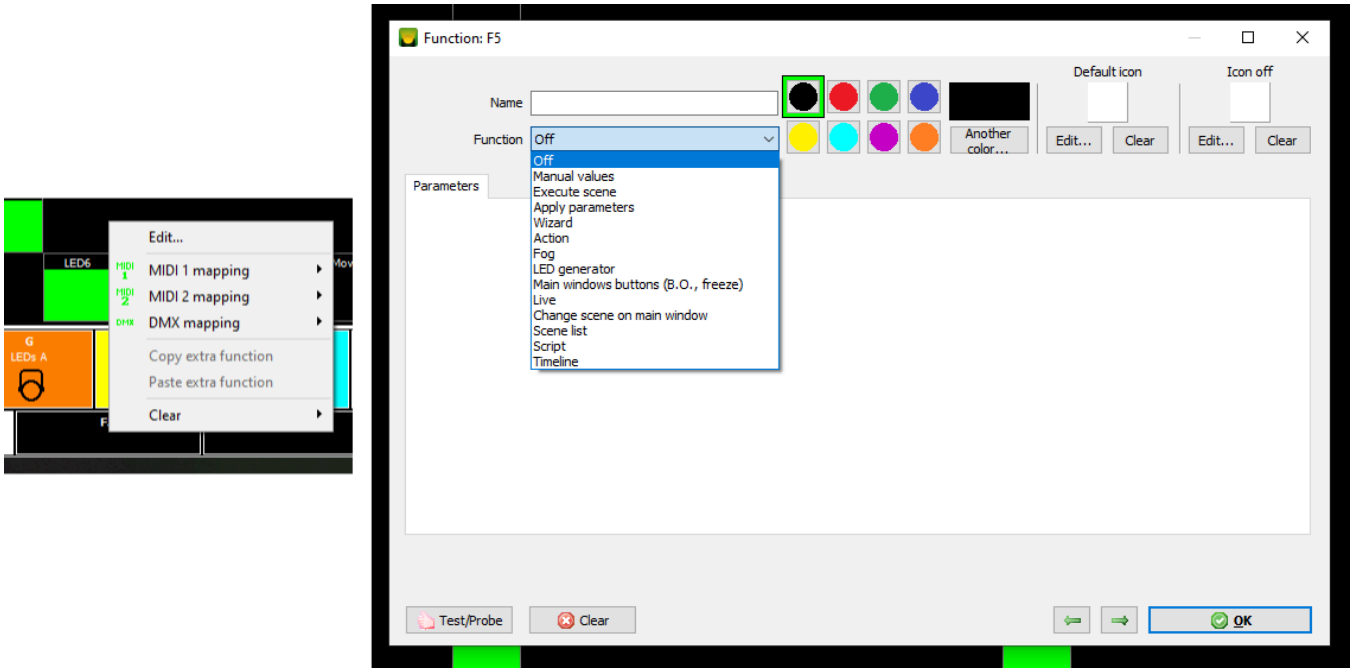
It is possible to include Wizard presets in a scene even without the scene being activated by the Apply Wizard option in the scene.

The scene can also be triggered in the CUE window or in the Extra Functions.

3.8. Extra Functions

The extra functions are a powerful tool to help with lighting operation. In the main window, 12 extra functions are available, accessed by the F1 to F12 keys. Still in the CUEs window, several extra functions divided into pages can be activated. It is also possible to configure extra functions within a scene, and virtually all controls in a Custom Window use Extra Functions.

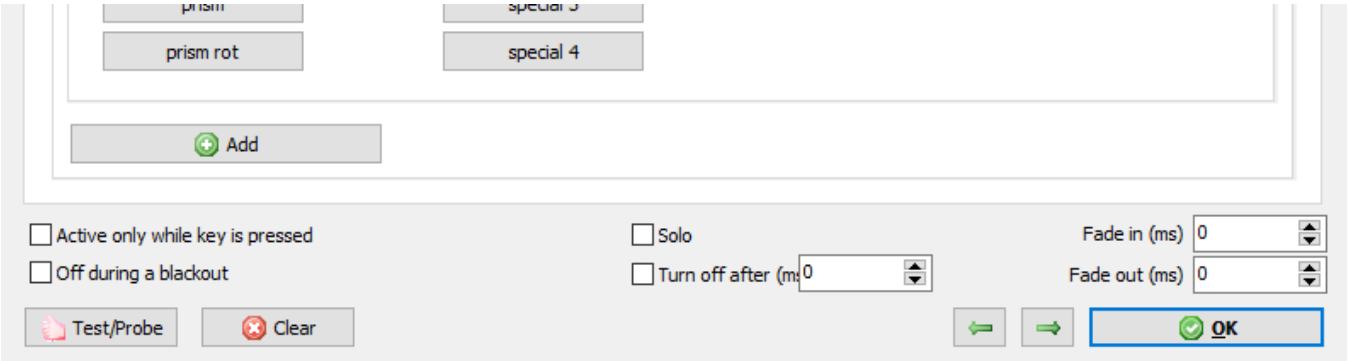
Through the “Function” box, it is possible to choose which function will be used.



- **Manual Values:** This function allows you to assign a DMX value to one or more DMX channels. Always check if it is not easier to use the “Apply Parameters” function that applies DMX values to certain fixtures or give preference to the Wizard.
- **Execute Scene:** This function allows you to run one or more scenes.
- **Apply Parameters:** In a simple and quick way, it allows assigning the DMX value to certain DMX channels of fixtures.
- **Wizard:** With this function it is possible to run a wizard for a group of fixtures or individual fixtures.
- **Action:** Allows simulating an external DMX or MIDI command.
- **Fog:** Triggers smoke machines.
- **LED Generator:** Function that allows triggering LED generator presets and other functions.
- **Main Window Buttons:** Function that turns buttons on the main window on and off (blackout, freeze, etc).
- **Live:** Allows following parameters to be changed:
    - **The Live Colors:** Which are used within the color wizards.
    - **Fixtures List:** These are lists that can be defined dynamically. Fixtures, groups and wizard groups can be included in up to 8 lists. These lists of fixtures are used within the wizards.
    - **Base Position in the Pan and Tilt Wizards that are active:** Only for the "Move by defaults" and "Rotate around" effects that use the base positions, or others will not be affected.

- **Change Scene in Main Window:** As the name already informs, when activated, it changes the scene.
- **Scene List:** Allows you to execute, Go+ and Go- in scene lists.
- **Script:** Executes Super Set DMX Scripts.
- **Timeline:** Starts or stops a timeline or timeline list.

Depending on the selected type, some more options will be shown at the bottom of the window.

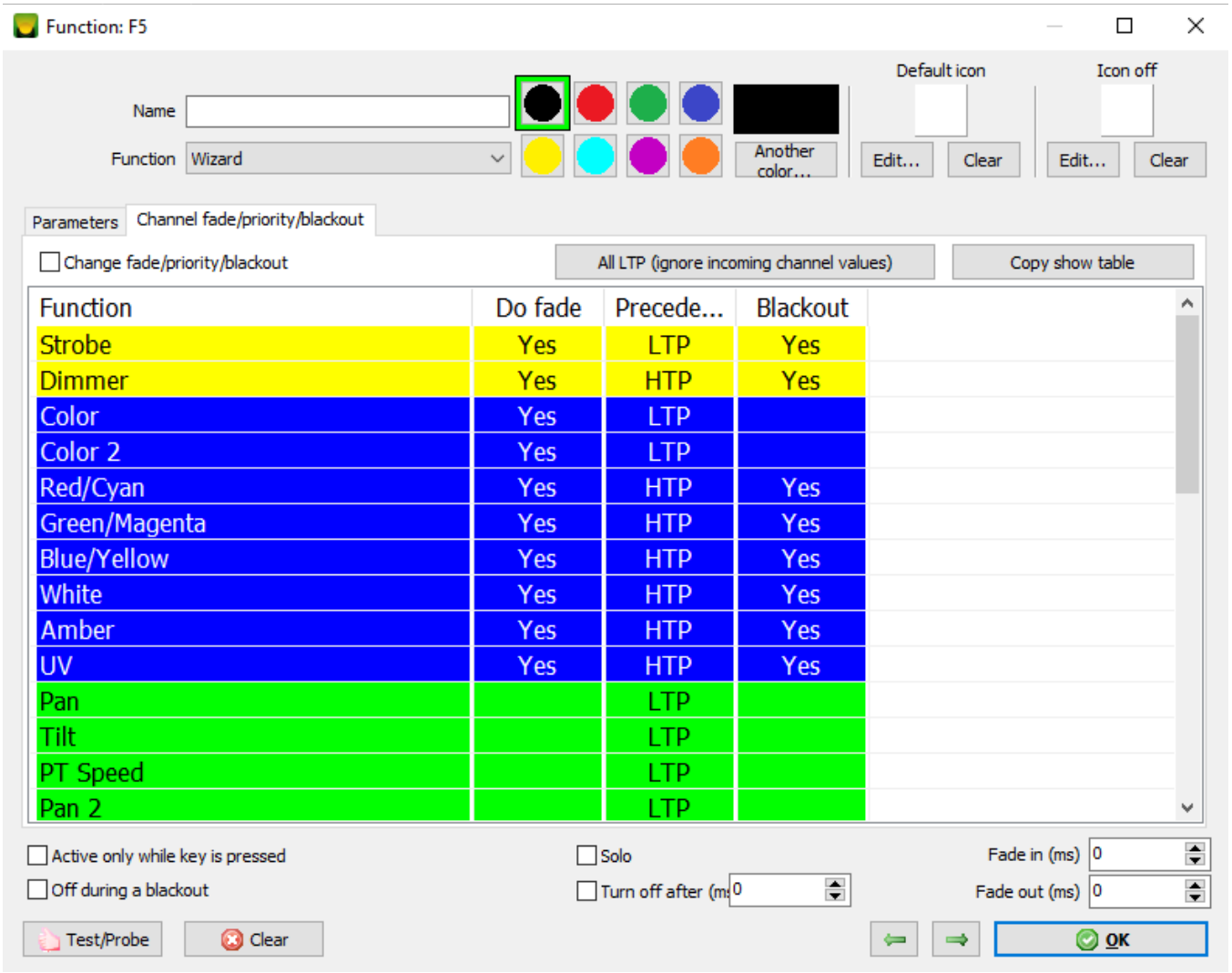


- **Activate only while key is pressed:** If the Extra Function is running inside a button, it will only be active while this button is on.
- **Off during a blackout:** It will not execute this extra Function if the blackout is turned on.
- **Solo:** When activating this Extra Function, only it will be executed, everything else will not be executed.
- **Turn off after:** Turns extra function off after informed time (in ms).
- **Fade In/Out:** If a value is set, a fade will be performed.

Bearing in mind that these functionalities may be related to what is configured in the table shown in the next chapter, for example the fade will only work on the types of channels marked to fade.

3.8.1. Extra Functions: Channels Fade/Priority/Blackout

In the Extra Functions that directly change values of DMX channels. It is possible to define the priorities, if the fade is to be made and if the blackout is to be applied, this individually by Extra Function, in the Fade/Priority/Blackout tab.



A practical example: the Dimmer channel in the show settings is working as HTP (the highest value has priority), but in the Extra Function a wizard was defined with an On/Off effect on the Dimmer channels. This will only work correctly if the Dimmer works in LTP (the last value has priority). So, when programming the show, it is important to check this table to see if it will perform exactly as expected.

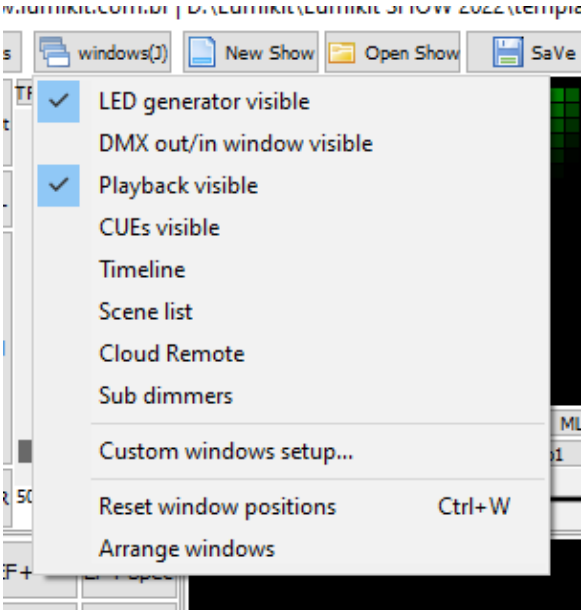
3.9. Playback Window

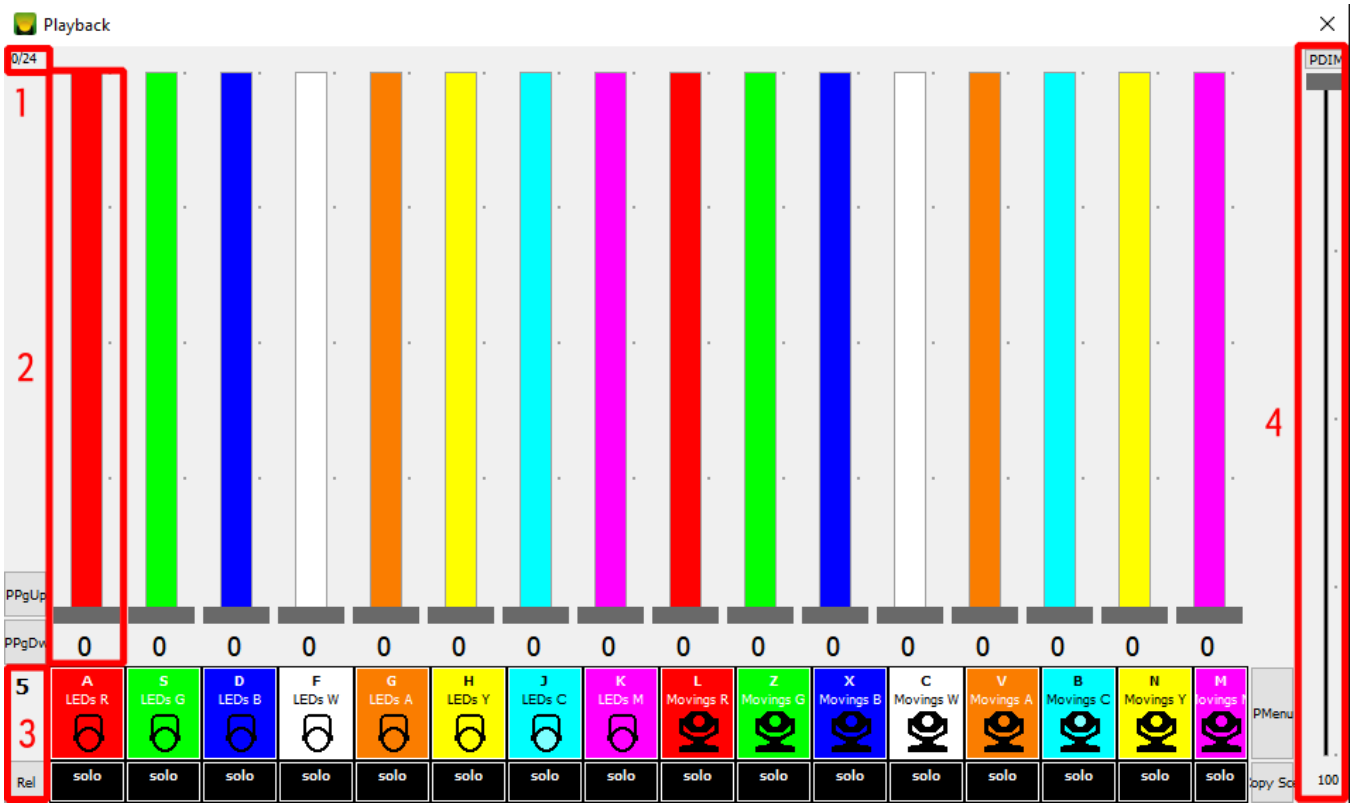
This window is indicated for live presentations or with many dimmer channels that must be mixed quickly, where it is not possible to leave everything pre-programmed. This way, the lighting technician has the possibility of activating the desired scene at the necessary moment and mixing it with other scenes, keeping in mind that these functionalities are also available in the Custom Windows.

For this in Playback mode, 17 faders are available. Each of the first 16 faders represents a scene, and the 17th fader is the DMX or MIDI input that can also be mixed with the other scenes.

The entry of DMX/MIDI values can be configured in the DMX window, in the “In” button, then by the “DMX” and “MIDI” options in the “Actions” button in the main window.

Pages can be changed normally using the numbers or PgUp and PgDn keys on the keyboard or through the side menu if it is configured to be visible in the software options.





- **1:** Playback faders.

- **2:** Playback Dimmer.
- **3:** Current page and “Rel” button to turn off all scenes.
- Number of active scenes (maximum of 24 simultaneous scenes. If you need more, use the Custom Windows).
- **4:** To change the fader to 100% or to 0%, press the corresponding key on the keyboard, for example “A” or click on the button corresponding to the desired fader.

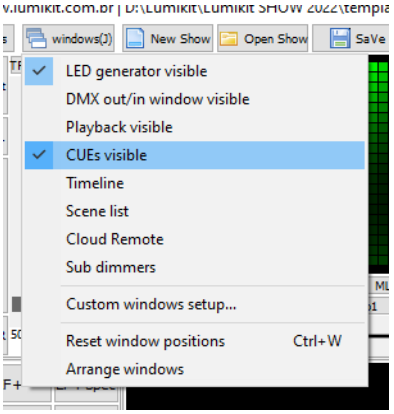
3.9.1. Playback Window Additional Functionalities

If the scene that will be controlled in Playback mode has one or more Wizards Pan and Tilt configured and the Zoom of these Wizards is different from 100%. The Playback fader of this scene will directly influence the Zoom of the Wizard pan/tilt allowing the control of the Zoom by the fader.

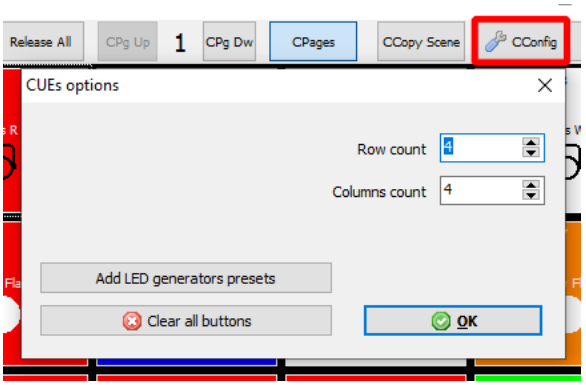
3.10. CUEs Window

In the CUEs window numerous extra functions can be activated simultaneously. This screen was mainly designed to be used with touch screen monitors, but can easily be used with a mouse or keyboard.

The CUEs window is divided into pages. The “Page+” button allows adding new pages the amount of CUEs available can be configured using the “OPtions” button.



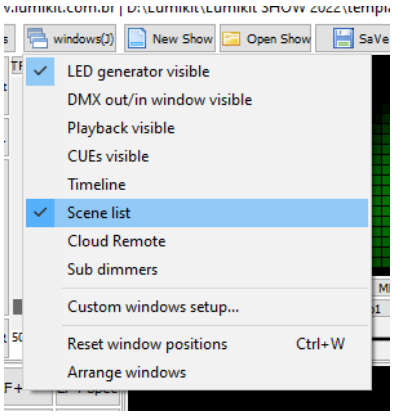
To enable the window, use the “Cues” option within the “OPTIONS” button menu, where you can inform the number of rows and columns and also some other options.

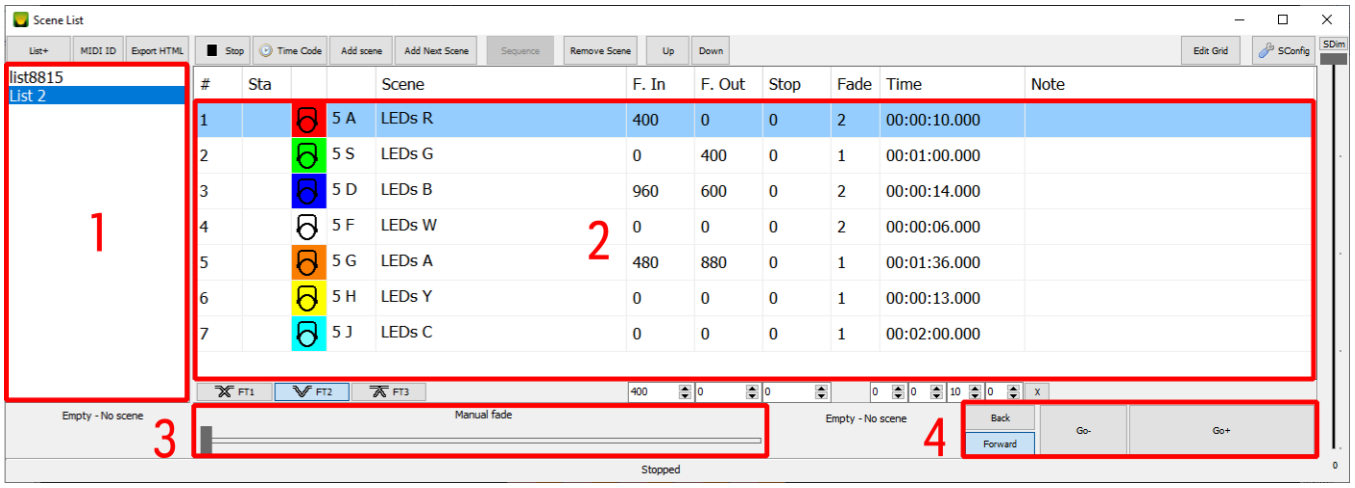


To edit the extra function of a button, right-click on the corresponding button, the options are the same as shown in Extra Functions.

3.11. Scenes List

The scene list lets you run scenes in a defined sequence. Switching between scenes can be automatic, manual with the Go+ and Go- buttons, or manual with a fader.





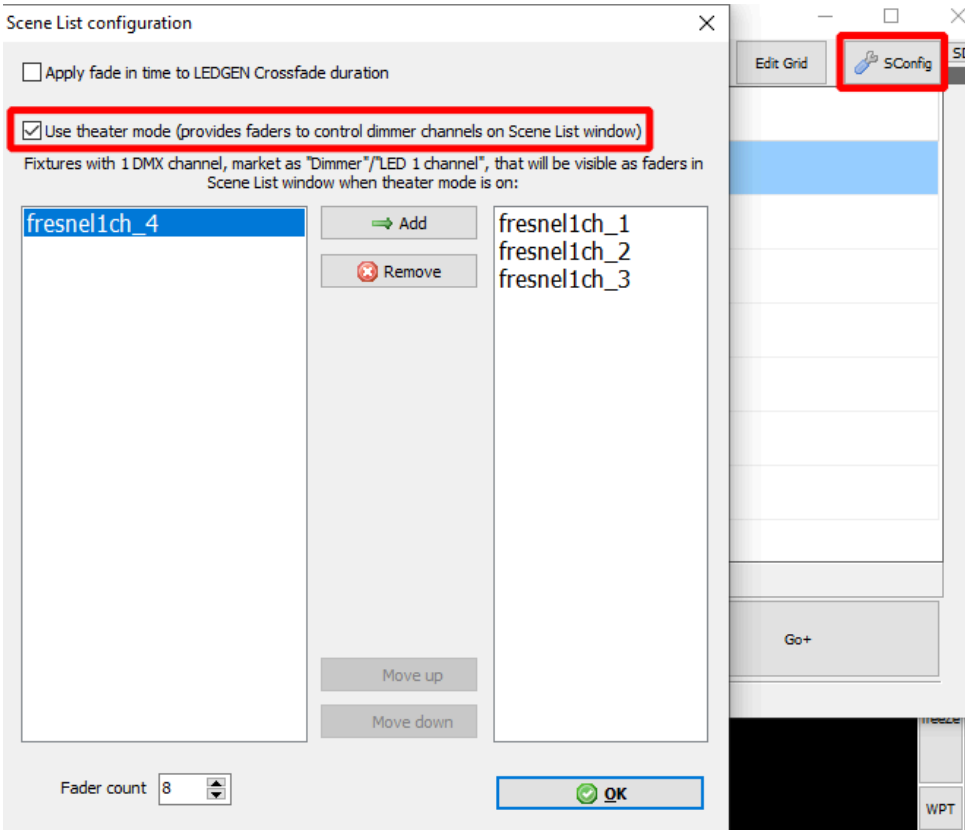
- **List of Scenes:** More lists can be added with the “List+” button, to rename or remove use the right mouse button over the list name.
- **Scenes in the List:** The times and type of fade are also shown in the table.
- **Status:** This column shows the dimmer percentage of the scene and also the next scene is marked with “NEXT”.
- **Manual Fade:** Fader to switch from one scene to another manually.
- **Go+ and Go- Buttons:** Go+ goes to the next scene, and Go- goes to the previous scene.

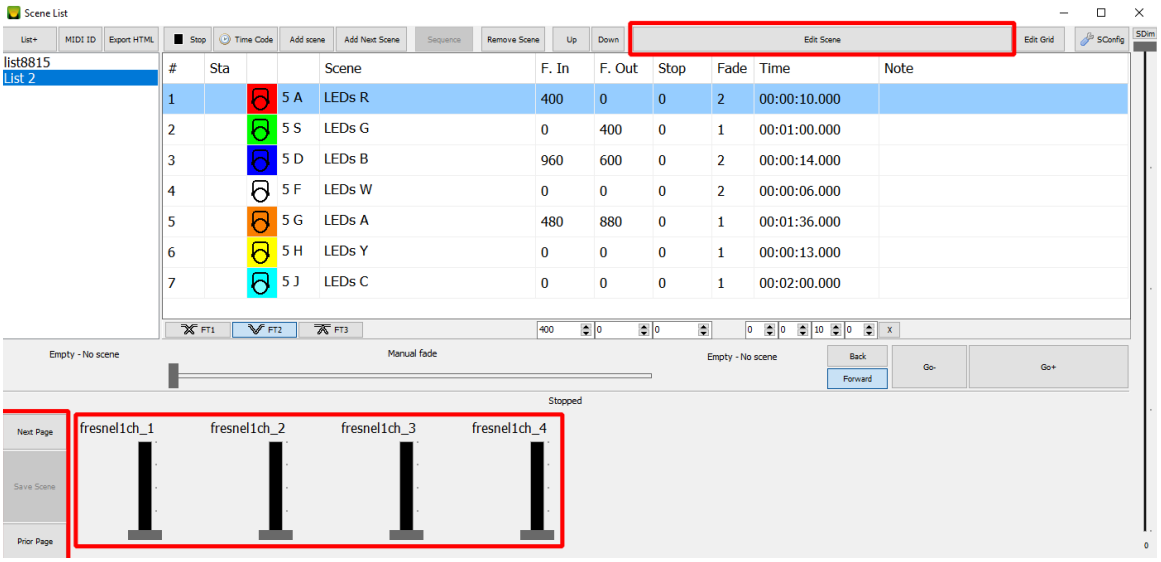
The “Stop” button for executing the list of scenes; “Add scene”, “Add Next Scene” adds scenes in the selected list; “Remove Scene” removes the scene from the list; and “Up” and “Down” change the sequence of scenes within the list.

It is possible to place more than one scene within a list step.

3.11.1. Theater Mode

Using the “SConfig” button, fixtures that have only 1 DMX channel (like “dimmer 1 channel round” or “dimmer 1 channel rectangular”) can be selected. For each such fixture included in the list, a fader will be shown at the bottom of the Scene List window.



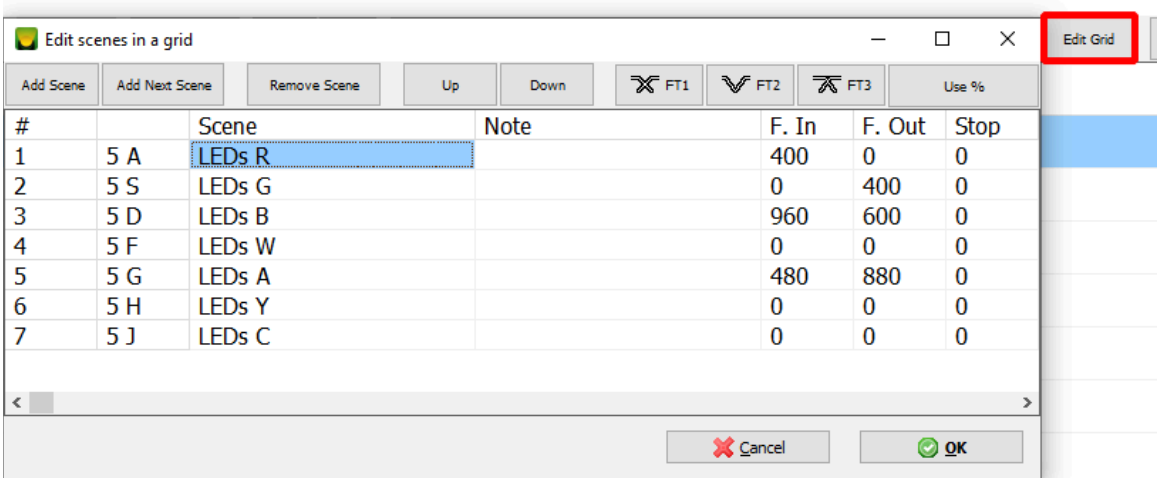


Through these faders it is possible to edit the scene without having to go to the main window. To do this click on “1”, change the faders and to save use button “2” or to cancel click on “1”

again. Remembering that after saving the scene using button “2”, the “Preview” button in the main window will be turned off.

3.11.2.1. Grid Editing in Theater Mode

When the theater mode is activated, the scenes can also be edited using the “Edit Grid” button. All the scenes in the list will be shown in a new window, in a grid format where all the dimmers of the DMX fixtures and the name of the scenes.

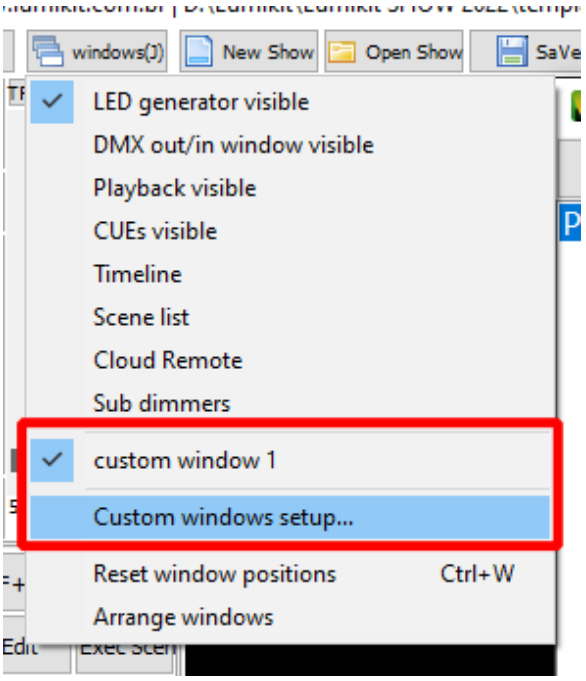


When confirming the window, the scenes and the list of scenes will be updated with the information filled in the table, thus facilitating the editing of several scenes.

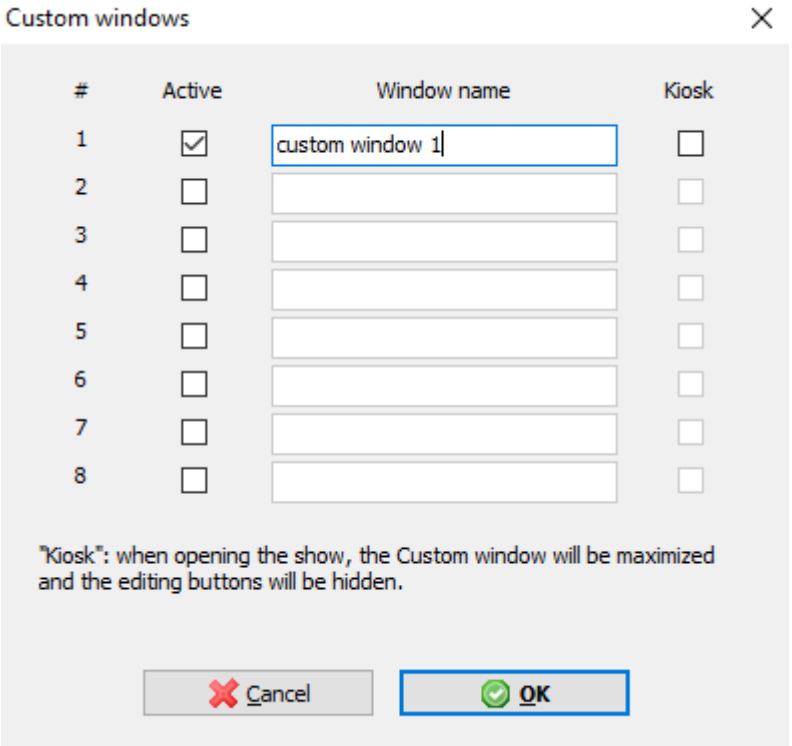
3.12. Custom Windows

Custom windows can replace CUEs and Playback modes or supplement these modes with more functions as needed.

Up to 8 custom windows can be configured.



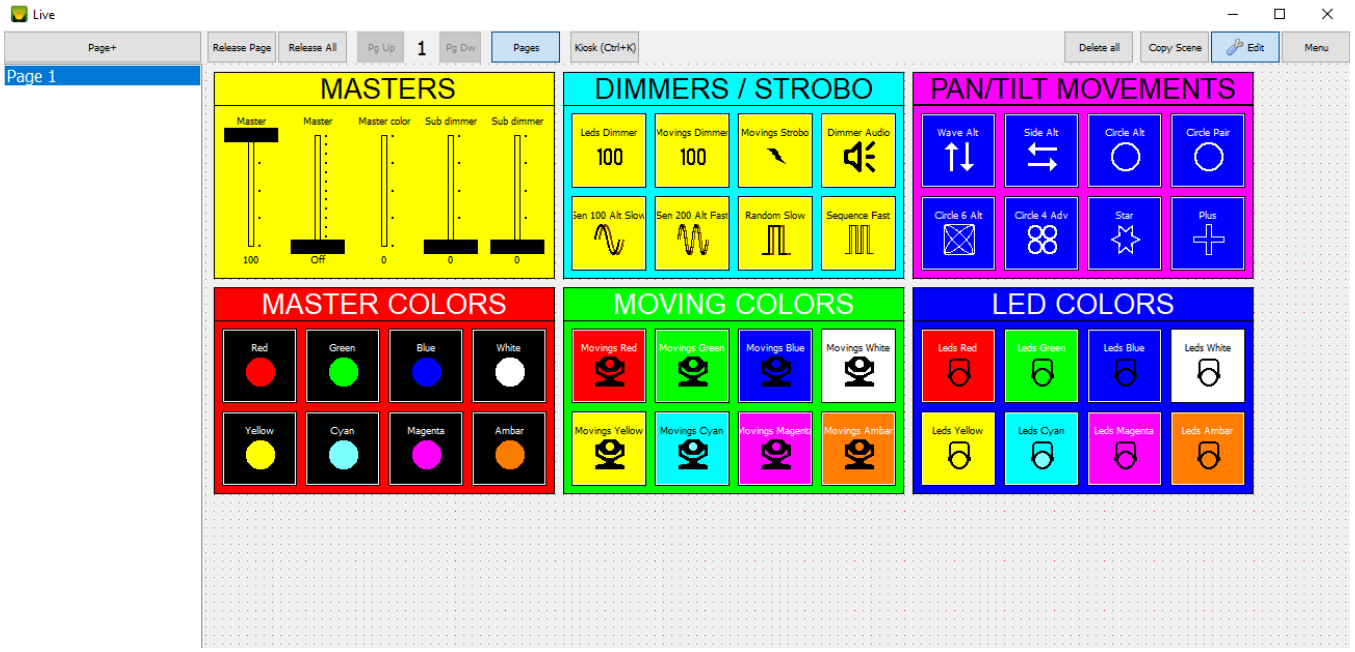
If no custom windows are currently set up in the show, you can create them. Click “Custom windows setup”, then the following window will open.



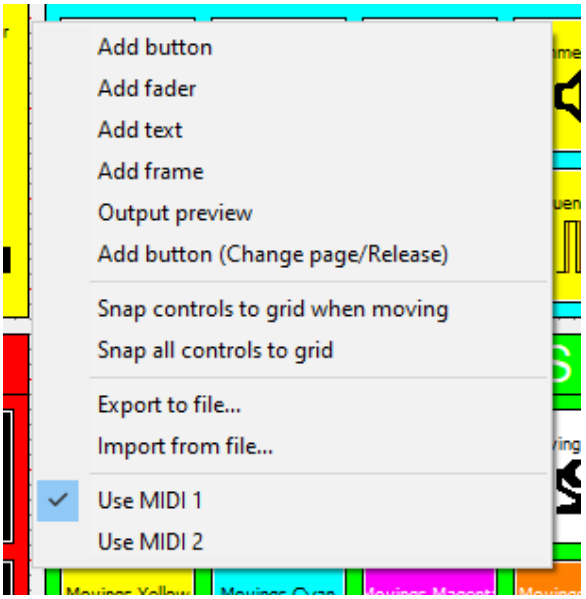
You can setup up to 8 custom windows. To create one, mark one of them as active and give it a name, then click “OK”.

Otherwise, you can click on the already created custom window to open it.

The controls can be added according to your needs.



The “Edit” button enables the editing mode, clicking with the left mouse button on the window will show the menu.



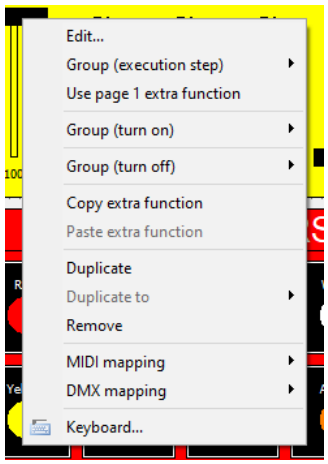
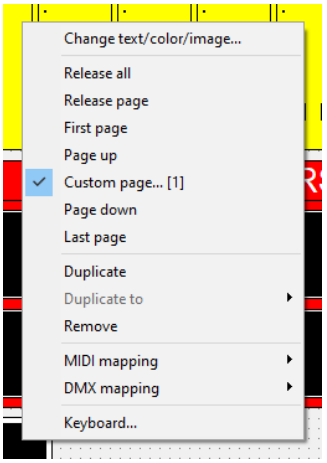
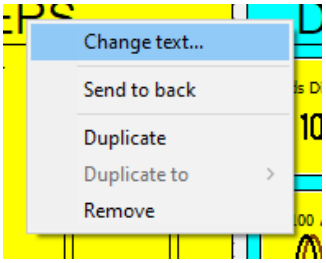
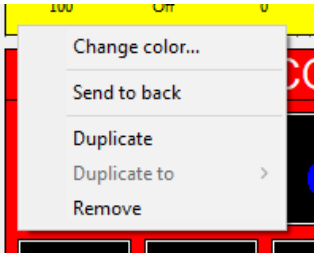
6 types of controls can be added to the window:

- **Buttons:** Activate an extra function. The buttons can also be grouped in up to 16 “groups (only one active)”, if the button is associated with a group of this type, only one button of the group can be activated at a time. The button can also be placed in a “group (disable)”, all the controls placed in that group can be turned off simultaneously, if any button has a group marked in “Disable group when activated”.
- **Faders:** Trigger an extra function as in the button. The fader can also be placed in a “group (deactivate)” and be deactivated by a button if it is marked with the same group “Deactivate group when activated”.

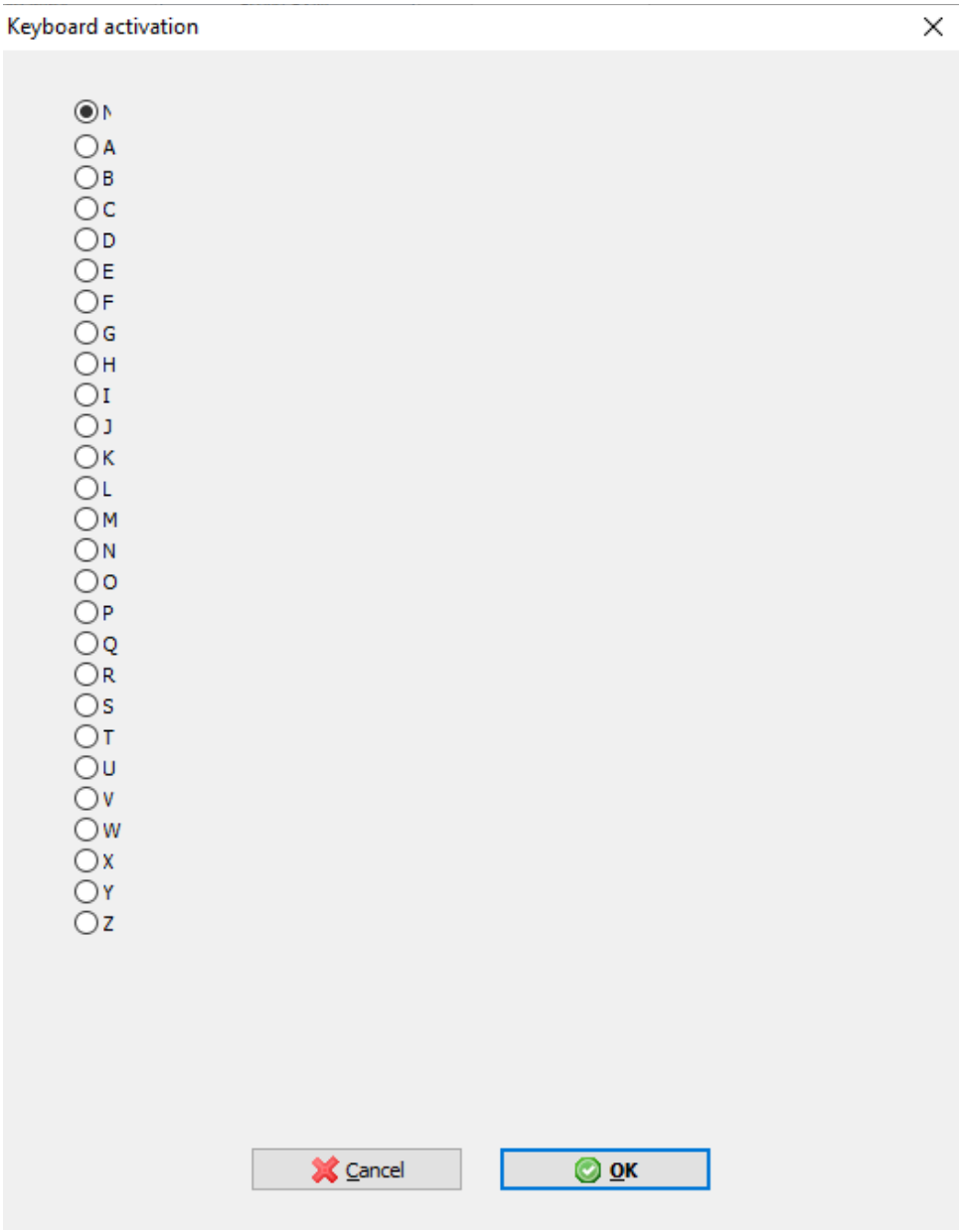
- **Text:** Allows placing a static text in the window.
- **Frames:** Colored frames to help organize the window.
- **Output Preview:** Shows the DMX output on the DMX fixtures that will be drawn on the screen according to the fixture selection in the main window.
- **Button for Page Change and Release:** As several pages can be used within a customized window, the page change can be done in the list or directly using these buttons.

Through the context menu shown above, you can define which MIDI port will be used, in addition to options to help with editing, such as snapping controls to the grid.

To change the settings of the existing control, just right-click it.

Buttons/Faders	Change Page Buttons	Text	Frames
			

Knobs and faders can be triggered by external DMX and MIDI. They can also be triggered by keyboard.



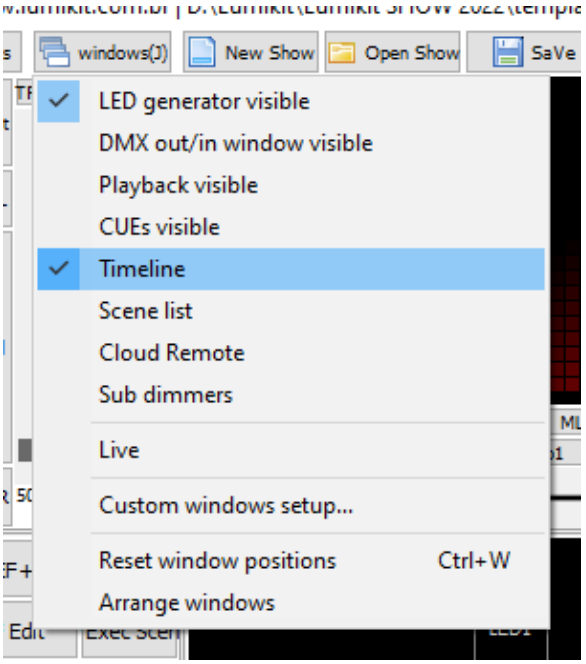
Texts and frames have the “Send to back” function. If one control is in front of the other, use this function to organize the order in which the window is drawn, for example for the frame to be behind a fader.

3.12.1. Execution groups

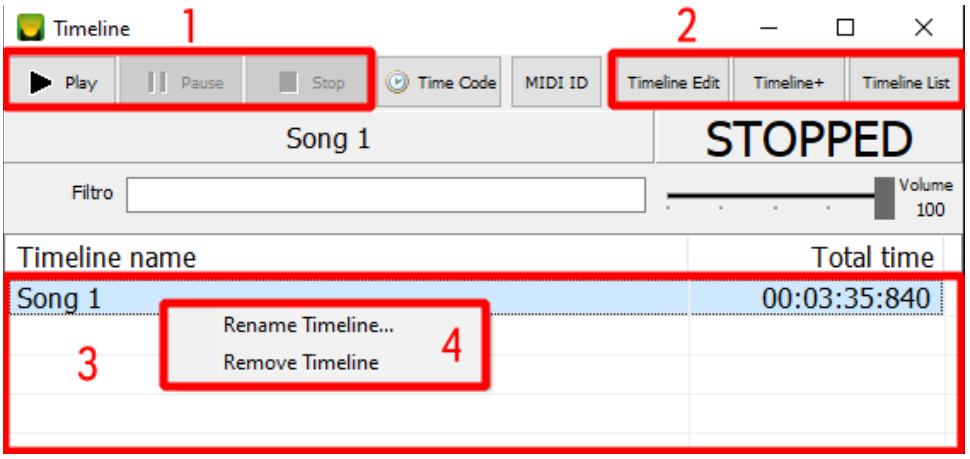
Execution groups are groups that can be attributed to buttons so that they can have yet another function, like for example when the button is activated, other buttons in a certain group are deactivated, or when the button is deactivated, other buttons in a certain group are activated, or when 3 buttons are in the same group and only one of them can be active at a time, between other behaviours.

3.13. Timeline

Timelines allow you to synchronize audio files (.mp3 and compatible formats) with the Playback window. Whenever Timelines are activated, the Playback window will also be shown.



To use a Timeline, two windows are provided.



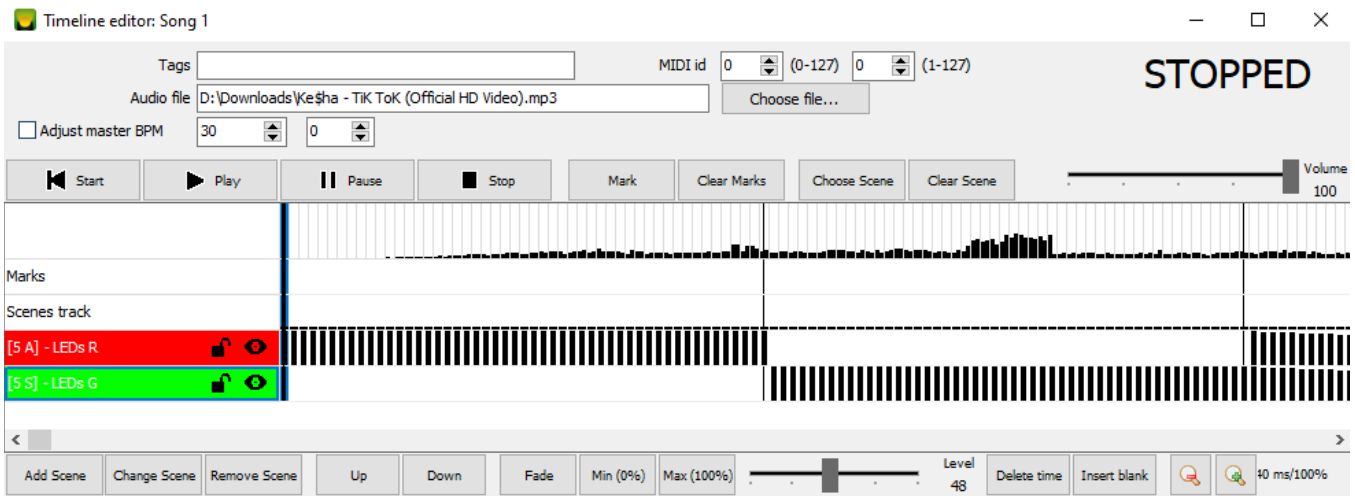
In addition to playing the audio files, it is through the player that new Timelines will be created using the “Timeline+” button. It is also possible to edit existing Timelines by selecting one from the list and clicking on the “Timeline Edit” button (2).

The other player commands are “Play” and “Pause” and “Stop” that control the reproduction of the audio file (1).

There are some options in the context menu, in the list that allows you to rename and remove selected Timelines (4).

When a Timeline is playing or being edited, the faders corresponding to the scenes used within the Timeline are disabled.

3.13.1. Timeline Editor



Through the Timeline editor it is possible to add and remove scenes from the Timeline with the “Add Scene” and “Remove Scene” buttons. The scenes are shown on the right side of the window.

The dimmer levels of the scene must be defined in the grid according to the position of the audio file. With the maximum zoom it is possible to define a new level every 40 ms (25 FPS). To set the dimmer levels you can use the “Min” and “Max” buttons or the fader. Selecting an area on the grid can be made a fade by the “Fade” button.

The “Delete time” and “Insert blank” buttons delete a position in time or add a position respectively.

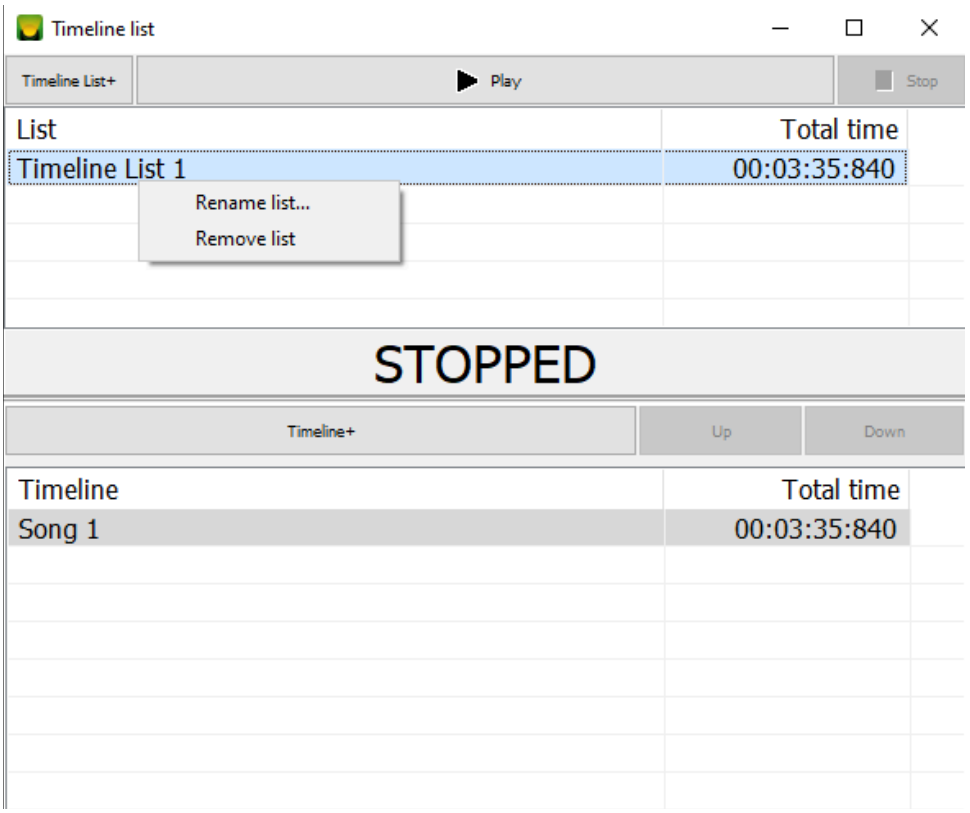
It is possible to select several scenes at the same time and apply the dimmer level, fader, remove or insert times, by clicking on the padlock it is possible to “lock and unlock” the scene, not allowing changes.

In the Tags field, keywords can be entered to facilitate the Timeline search in the player window.

To facilitate editing, the main commands can be accessed directly from the keyboard. See chapter 3.14 for a list of shortcuts.

3.13.2. Timelines List

The “Timeline List” button displays the window for playing and editing the Timeline lists. The lists are useful for automatically playing several Timelines in sequence.

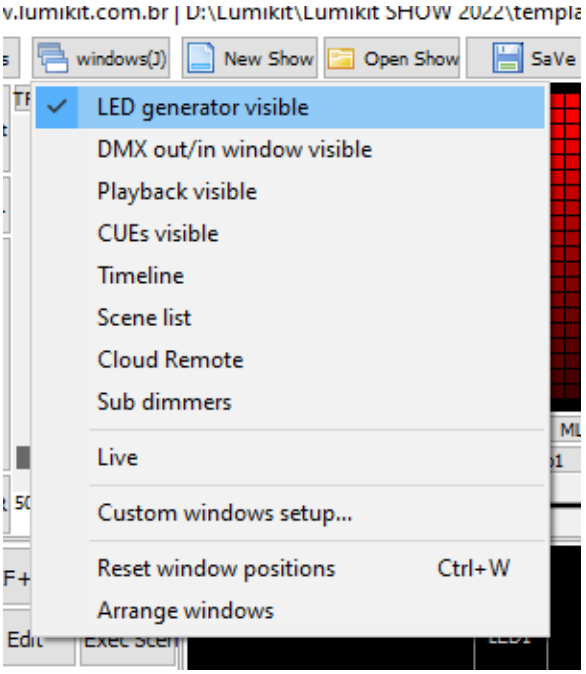


To add a list use the button “Timeline List+”, the list will be shown in 1. To add Timelines to the list selected in 1, use the button “Timeline+”, select the Timeline and it will be shown in the list 2.

3.14. LED Panels

It is also possible to control small LED panels. By LED panels we mean low resolution panels, LED tracks/floors and LED pixel projects (with mapped LED strips or other pixel shapes).

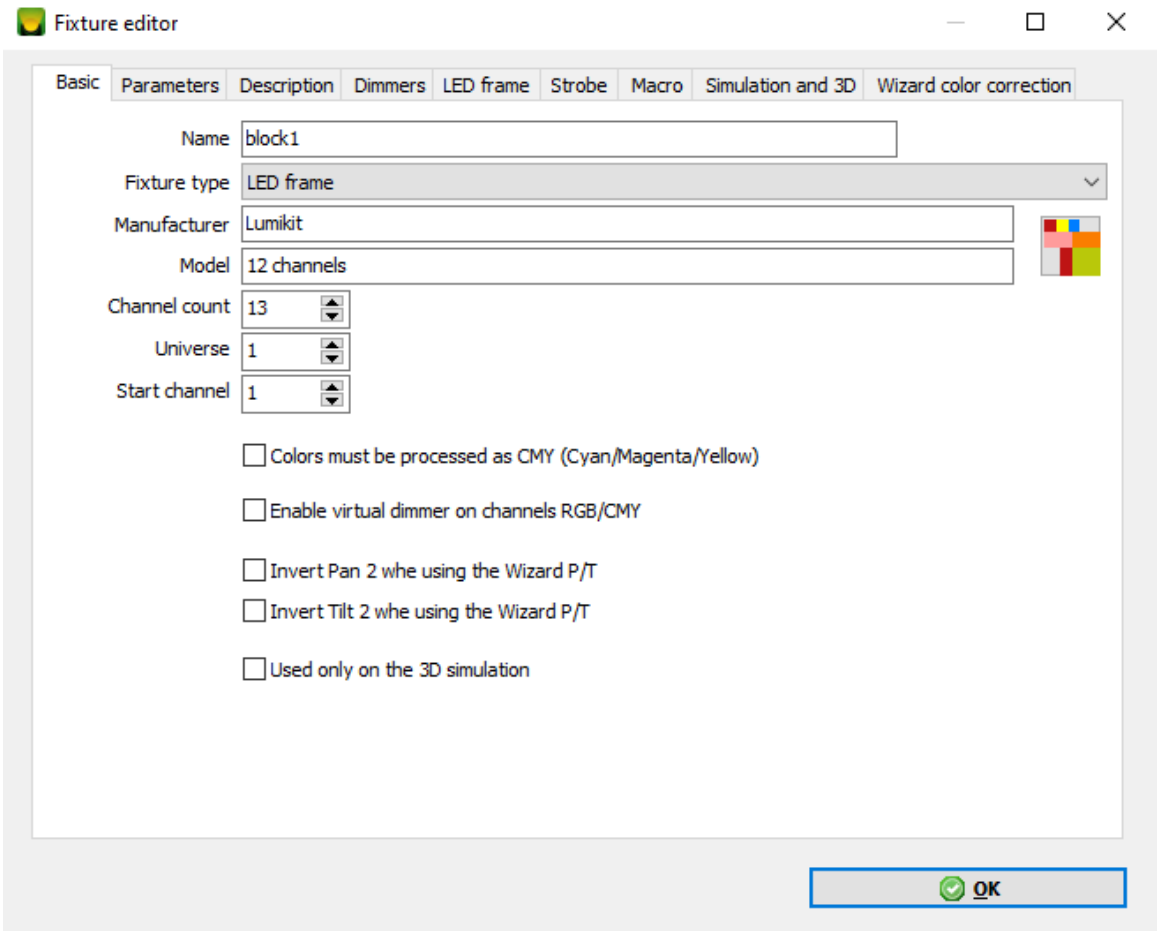
To control these panels, the program has a powerful LED image generator. To enable the generator check “LED generator visible” in the “OPtions” button menu.



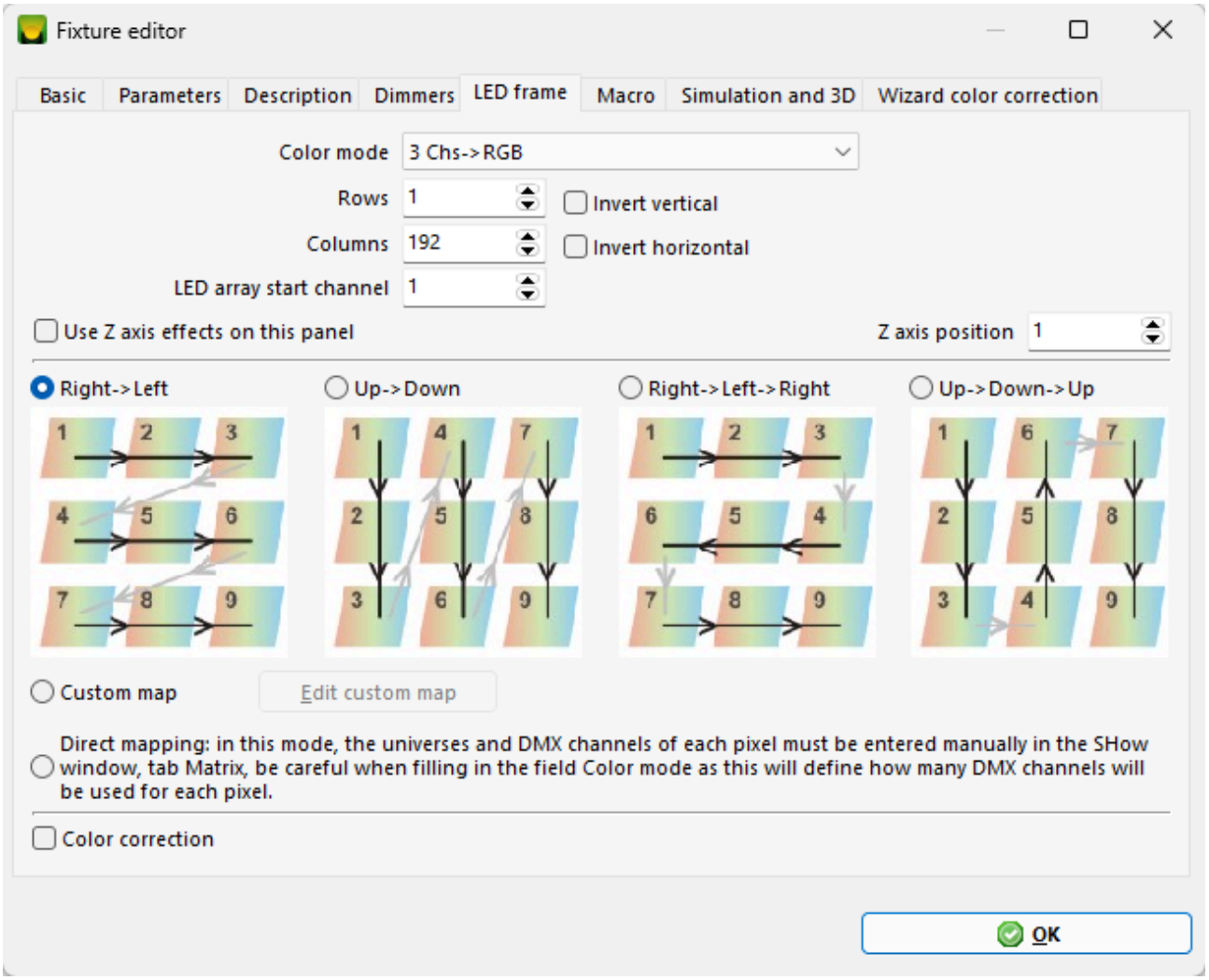
3.14.1. LED Panels Configuration

The LED panels' creation and configuration is done in the Show Configuration window.

To create one, the fixture type has to be the "LED frame".



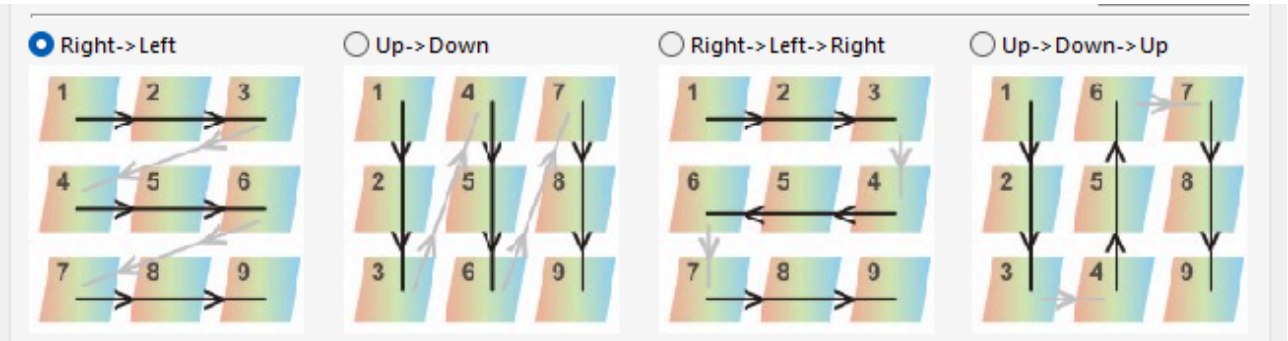
The “LED frame” tab will then be available.



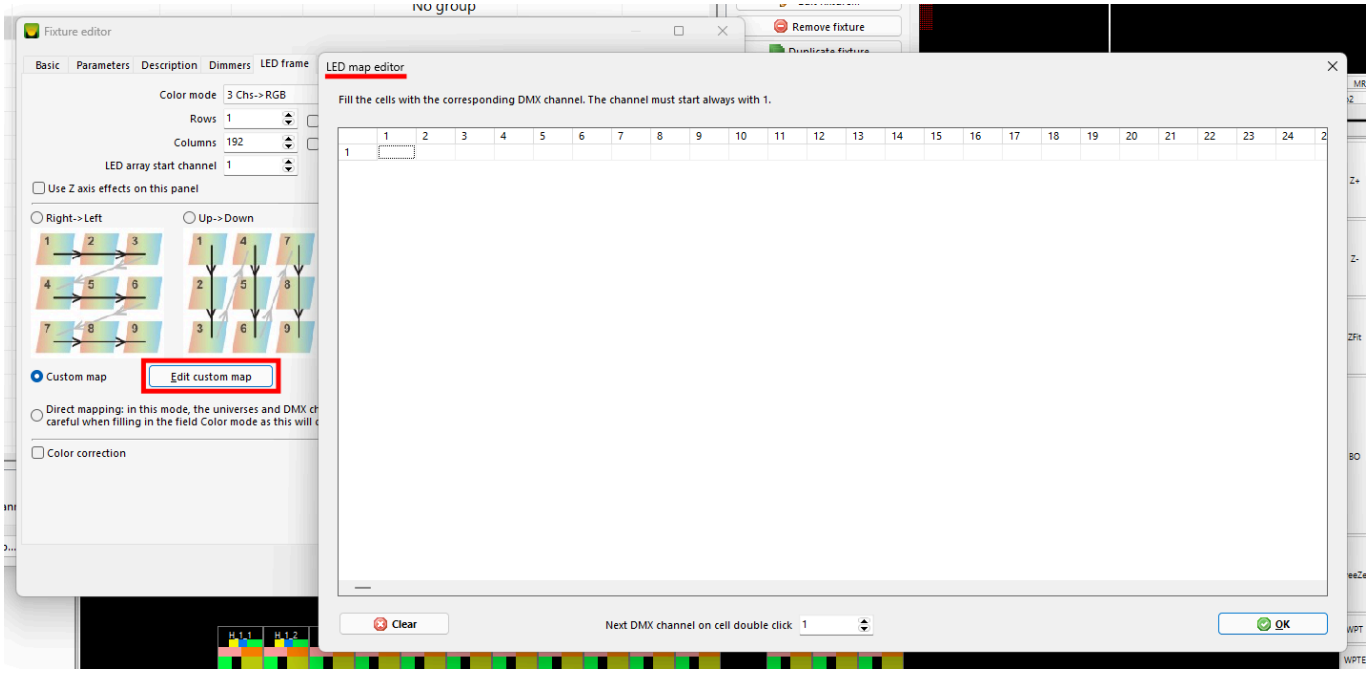
- **Color Mode:** Defines how the color of the pixel is formed. Here you can select the option based on how your LED strip is made (if it is RGB, BGR, GRB, etc.). If a color mode with dimmer is selected, the dimmer channel will always be at 100% (255 in the DMX channel), but you can change this in the effects;
- **Rows:** Number of rows (based on how the LED strip is laid out);
- **Columns:** Number of columns (same as rows);
- **LED array start channel:** DMX channel that the LEDs will start. Some LED strips have some initial control channels before the LEDs channels themselves;
- **Sequential mapping, Custom map, Direct mapping:** How the LED mapping will be made, more information below on the corresponding chapter for each;
- **Color correction:** Allows LED color correction. Here it is possible to set the max value of the DMX channel of the respective colors (for example when the LED strip has a stronger/brighter red than green, the red (or whichever color) can be set to a maximum of 225 instead of the default 255, thus making it less bright).

There are 3 types of LED panel mapping possible in Lumikit SHOW:

- **Sequential mapping:** In this mode, the pixel address have a defined sequence and direction as per the scheme shown in the image below;



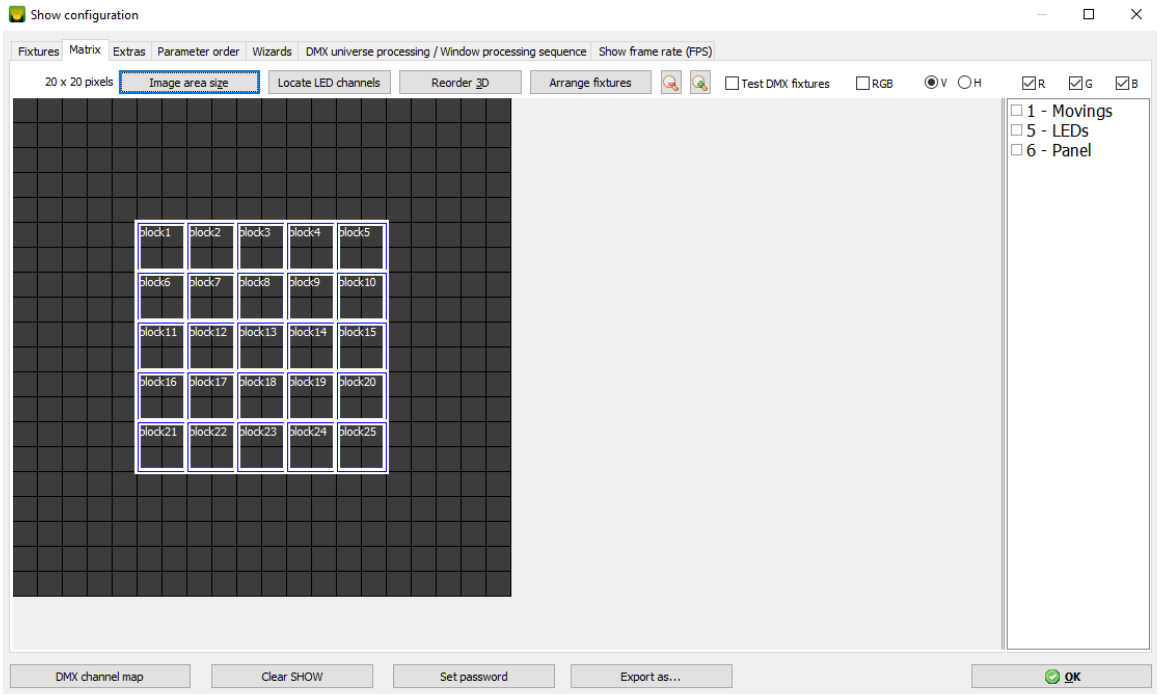
- **Custom map:** Ideal for when the sequence of pixels is repeated several times;



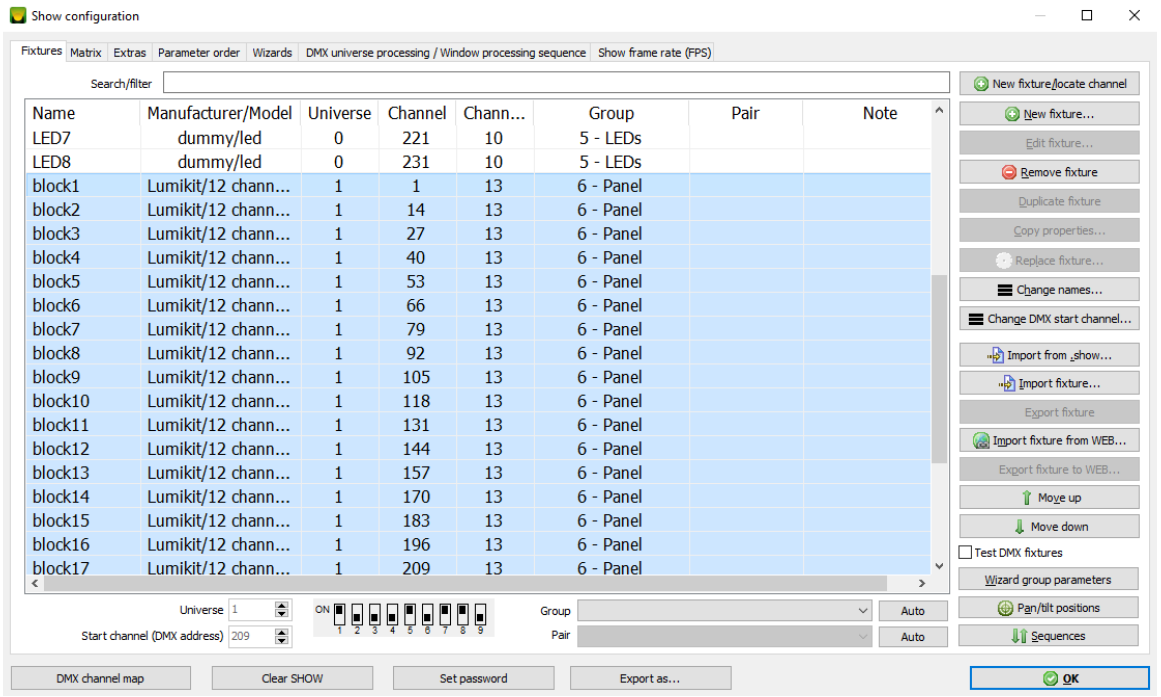
- **Direct mapping:** In this mode it is possible to directly inform the pixel's universe and DMX channel.

Following up is an example to show how you could use the LED panel.

Before creating the fixtures, go to the “Matrix” tab to define the LED Matrix size (the size is in pixels).



Then you can create the fixtures.

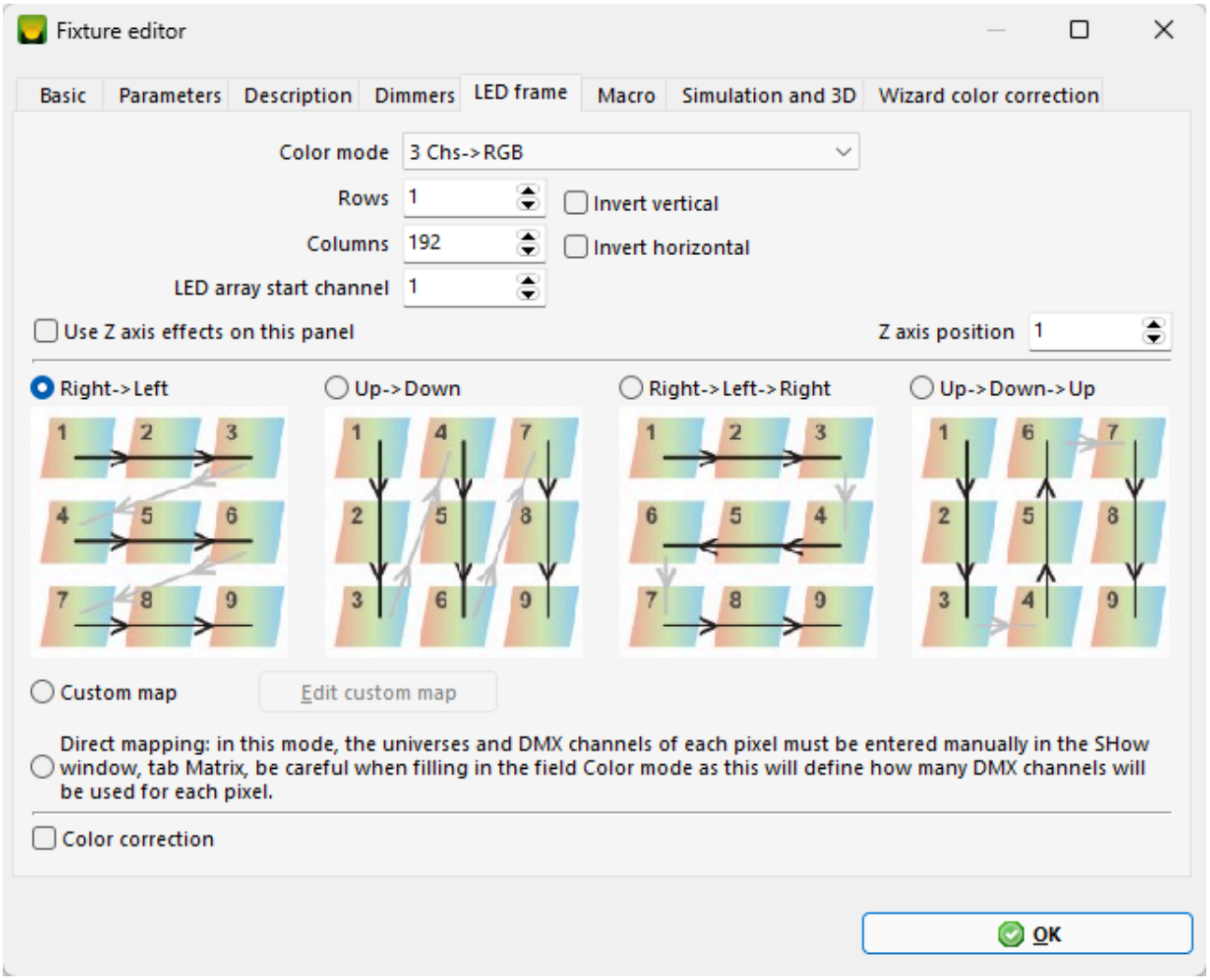


3.14.1.1. Sequential Mapping Example

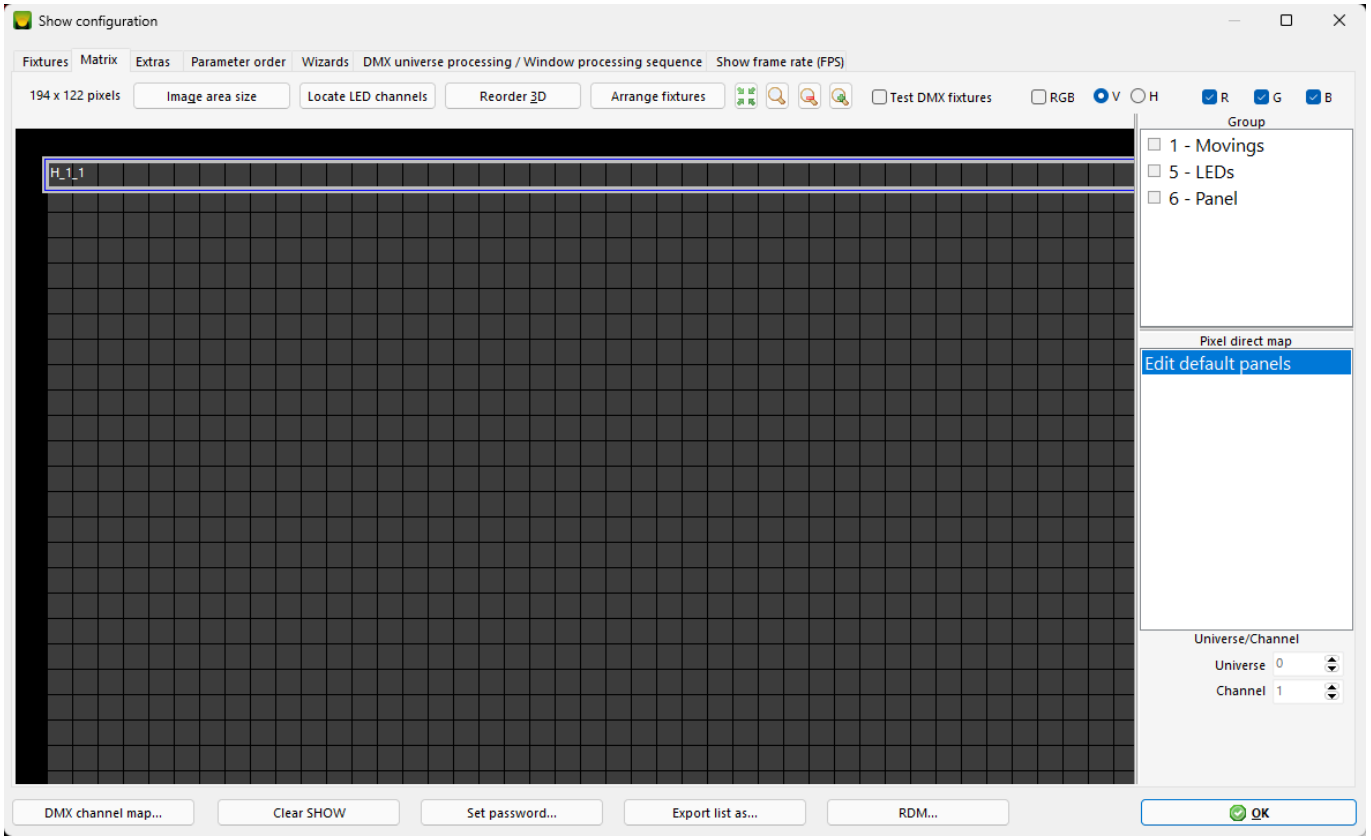
The following is an example of configuration. The values used here are just for demonstration.

- Go to the Show Configuration window;

- In the “Matrix” tab, click the “Image area size” button, then set to Width to 192 and Height to 122;
- Back in the “Fixtures” tab, create a new fixture, then:
    - In the “Basic” tab:
        - In the “Fixture type” field, select “LED frame”;
        - In the “Channel count” field, type “576” (in this case our LED panel uses 576 DMX channels);
        - In the “Start channel” field, type “1” (will start at DMX channel 1);
    - In the “LED frame” tab:
        - Color mode: 3 Chs - RGB;
        - Rows: 1;
        - Columns: 192;
        - LED array start channel: 1.

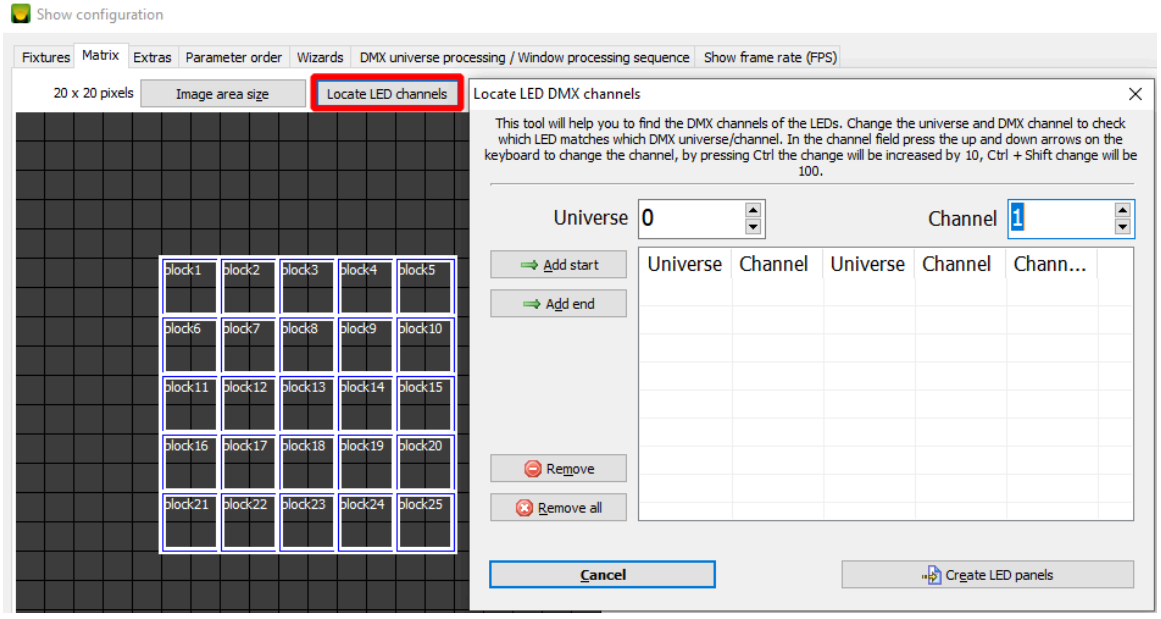


- Then back on the “Matrix” tab, organize the position of the created LED frame fixture.



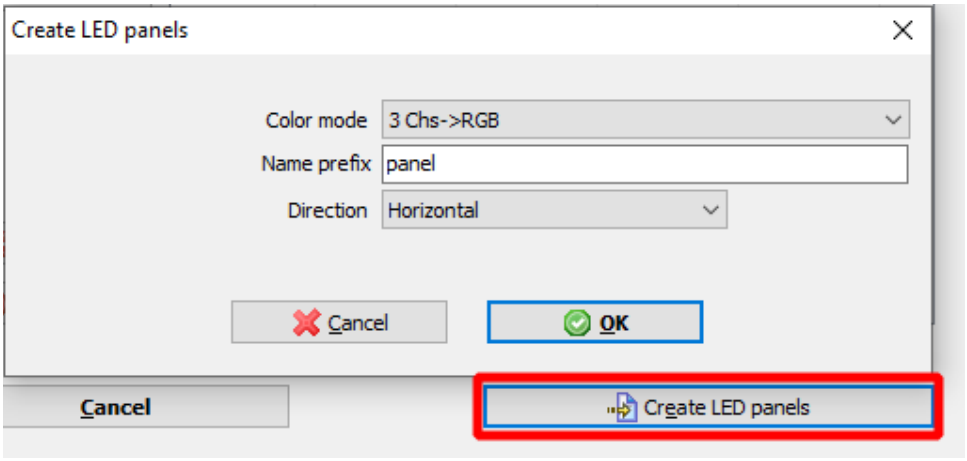
3.14.1.1.1. Locate LED Channels in the LED Matrix Tab

There is a very practical tool to locate the DMX channels of the LED panels or strips that must be mapped within the software. This tool can be activated in the “Matrix” tab within the show configuration using the “Locate channels” button. This functionality pairs very well with the Sequential Mapping.



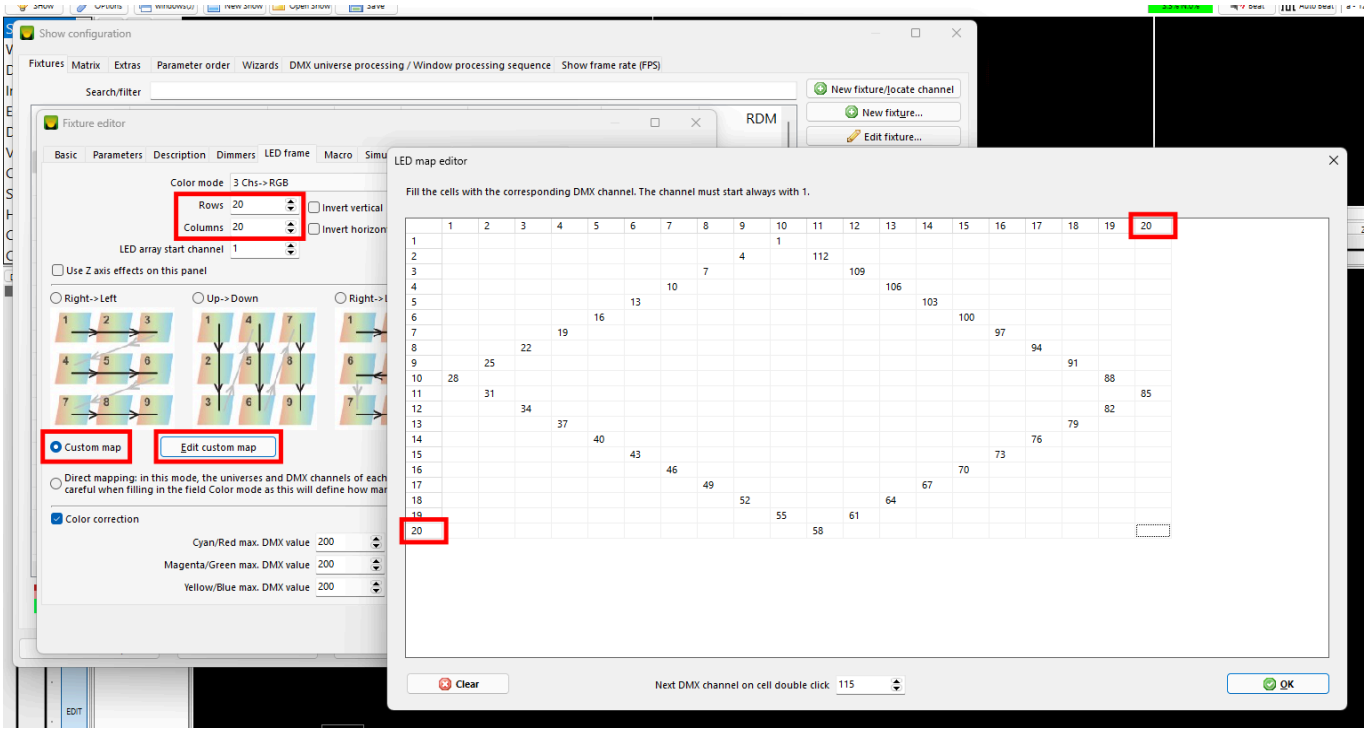
In this tool it is possible to “browse” all the DMX channels and as the DMX channels are found, the “Start” and “End” buttons create a table.

Once all the channels have been found, the “Create LED Panels” button can be used and the panels will be configured within the software by simply informing the panel parameters.



3.14.1.2. Custom Map Example

In cases where the same mapping is repeated several times, such as geometric figures, a custom map can be defined. The following is an example of configuration. The values used here are just for demonstration.



3.14.1.3. Direct Mapping Example

The following is an example of configuration. The values used here are just for demonstration.

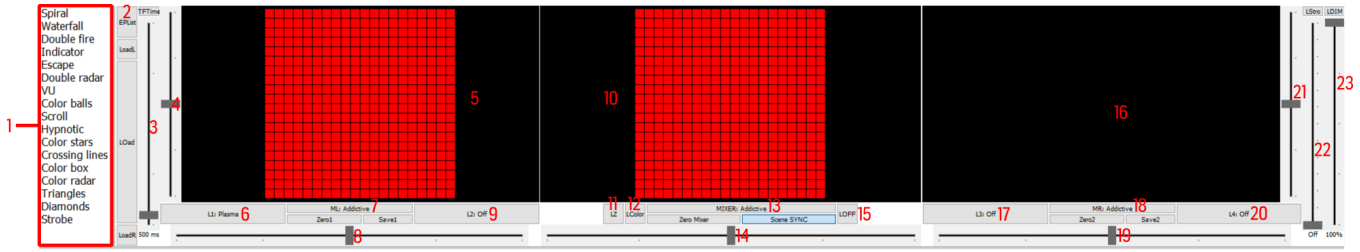
In cases where the mapping is very complex and it is not possible to use any of the previous methods, Direct Mapping can be used, where the DMX channel and universe are entered directly into the Matrix.

To use this type of mapping, open the fixture editing window of an LED frame fixture, and in the “LED frame” tab chose the Direct mapping option.

To effectively map the pixels, go to the Matrix tab in the Show Configuration window. Then, on the right side of the screen there will be a list of fixtures marked for direct mapping. Select the desired fixture to edit it. Double-clicking anywhere in the Matrix creates a pixel and right-clicking opens a context menu.

3.14.3. Image Generator for the LED Panel

An overview of the Image Generator for the LED Panel is shown below.



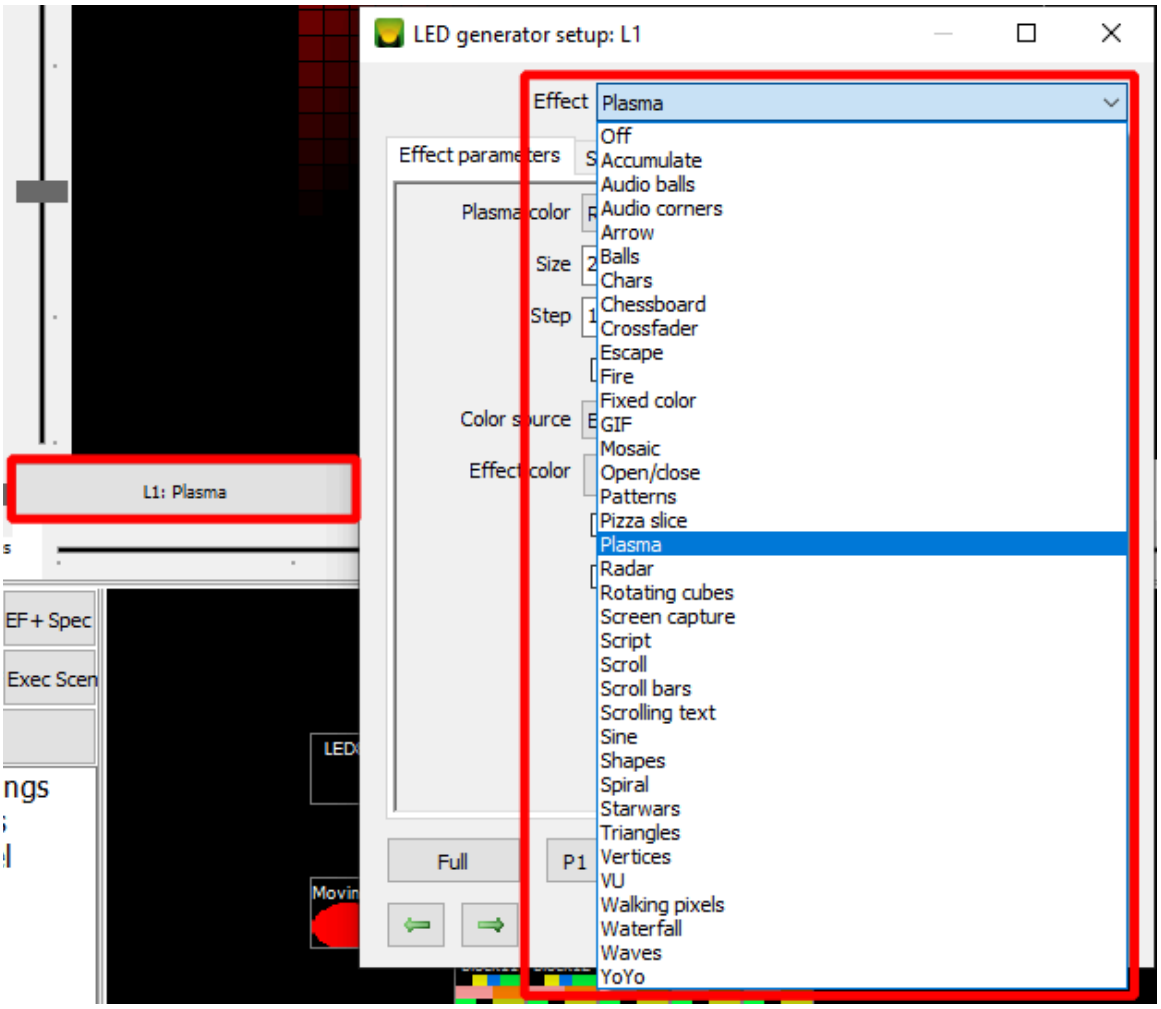
By numerical sequence the function of each control:

- **1:** Effects preset list.
- **2:** Execute Preset List button.
- **3:** TFTime button. Defines the time for the automatic crossfade, in case of using the LOad button.
- **4:** Faders that define the time of each effect, lower = faster, higher = slower.
- **5:** Preview of the images formed by the effect generators. There are 4 in total, 2 on each side (right and left).
- **6:** Buttons that show the individual settings of each of the 4 generators (L1, L2, L3 and L4).
- **7:** Mixing type between generators L1 and L2, L3 and L4 and mixing between right and left sides.
- **8:** Fader that defines how much of each of the generators on the sides (right and left) will compose the final image according to the type of mix (set at 7).
- **9:** Buttons that show the individual settings of each of the 4 generators.
- **10:** Preview of what is being sent to the LED panels already going through all the processing.
- **11:** “LZ” effects on the Z-axis, for when the panel is mounted three-dimensionally (see the “Cube.show” example).
- **12:** “LColor” button. Activates the original color to be replaced by the color defined in the LEDGEN device.
- **13:** Mixing type between generators L1 and L2, L3 and L4 and mixing between right and left sides.
- **14:** Main fader that defines the mix of the images between the right and left side.
- **15:** “LOFF” button. Turns off all generators, sets the time to minimum and the mixing mode to default values.
- **16:** Preview of the images formed by the effect generators.
- **17:** Buttons that show the individual settings of each of the 4 generators.

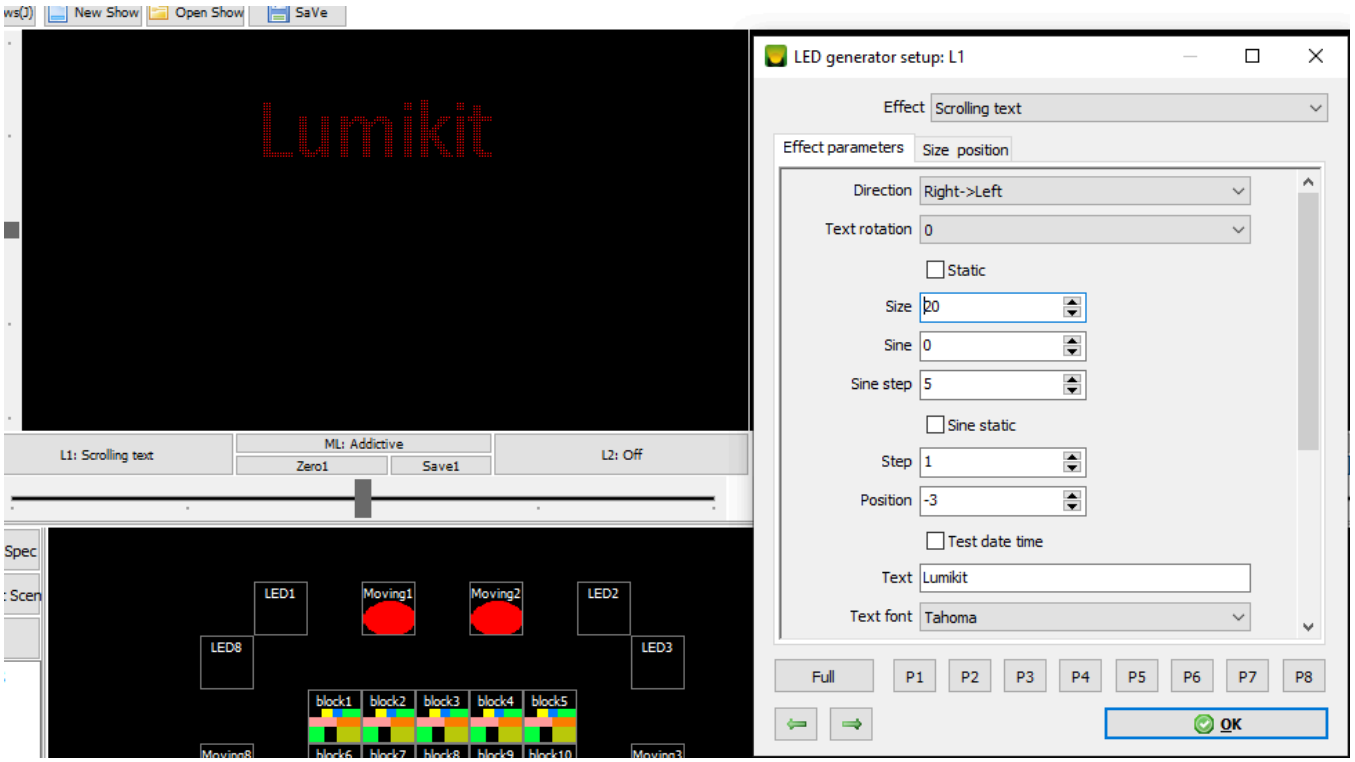
- **18:** Mixing type between generators L1 and L2, L3 and L4 and mixing between right and left sides.
- **19:** Fader that defines how much of each of the generators on the sides (right and left) will compose the final image according to the type of mix (set at 7).
- **20:** Buttons that show the individual settings of each of the 4 generators.
- **21:** Faders that define the time of each effect, lower = faster, higher = slower.
- **22:** Strobe effect for the image generator, keeping in mind that the result may not be very good depending on the type of effect.
- **23:** General dimmer for the LED Generator.

3.14.4. Effects and Image Mixing Configuration

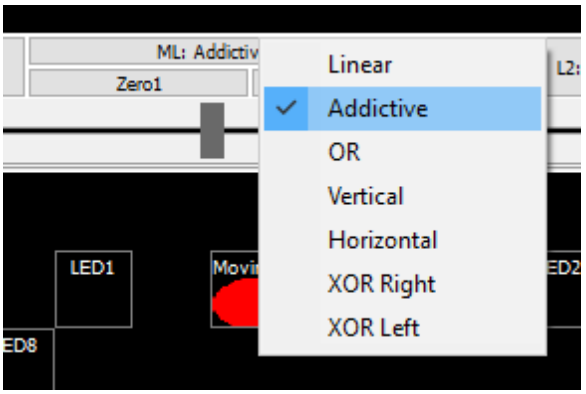
The effect can be configured using the buttons L1, L2, L3 and L4, in the upper part of the window it is possible to choose between a series of effects:



Each effect has parameters that are configured, these parameters change from effect to effect, below for example the parameters of the “Scrolling Text” effect that allows you to display texts on the panels:



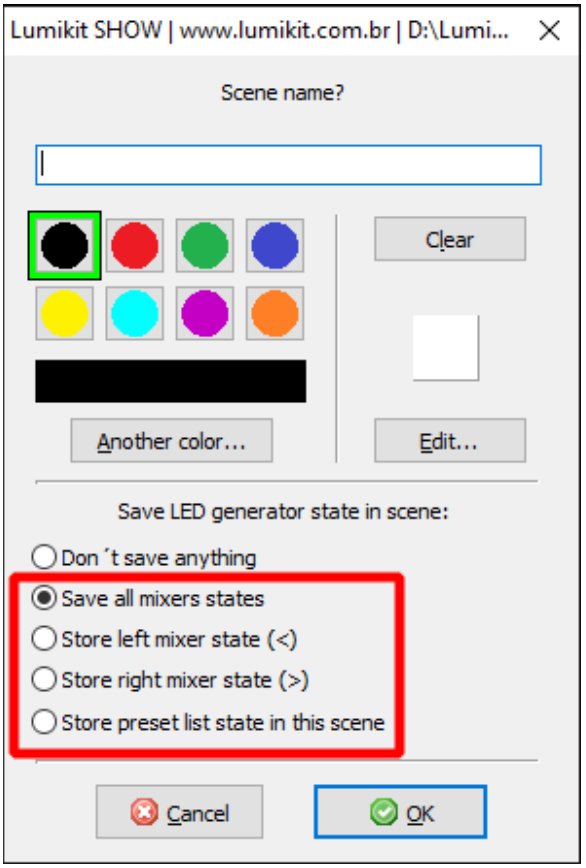
After choosing the desired effect in the generators, these effects can be mixed differently using the “ML”, “MR” and “MIXER” buttons, clicking on these buttons will show a menu with several image mixing options:



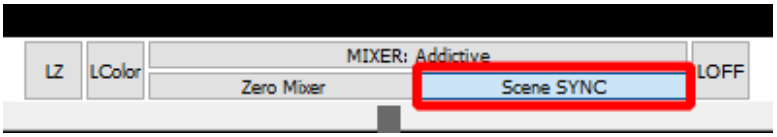
3.14.5. Saving the LED Generator Definitions in a Scene

When recording scenes with the left mouse button on the button or with the “Menu” button activated and clicking on the button and later choosing “Save scene”.

A window will be shown where you can choose the scene name, icon color, icon and in this window there are options to record what was configured in the LED Generator within the scene, so when the scene is activated the Generator will also be activated:



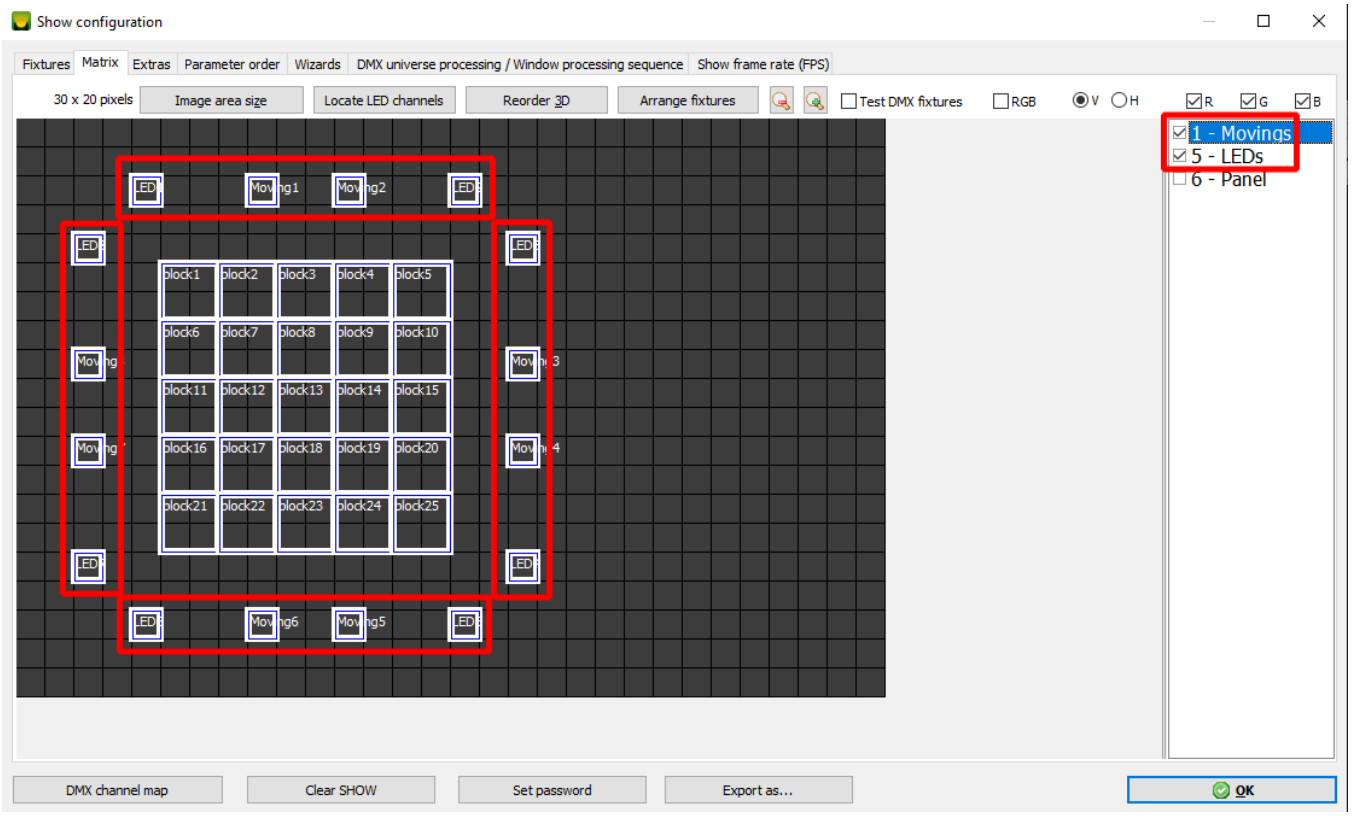
To not synchronize scenes with the LED imager, turn off the “Scene SYNC” button on the top center fader of the LED Generator:



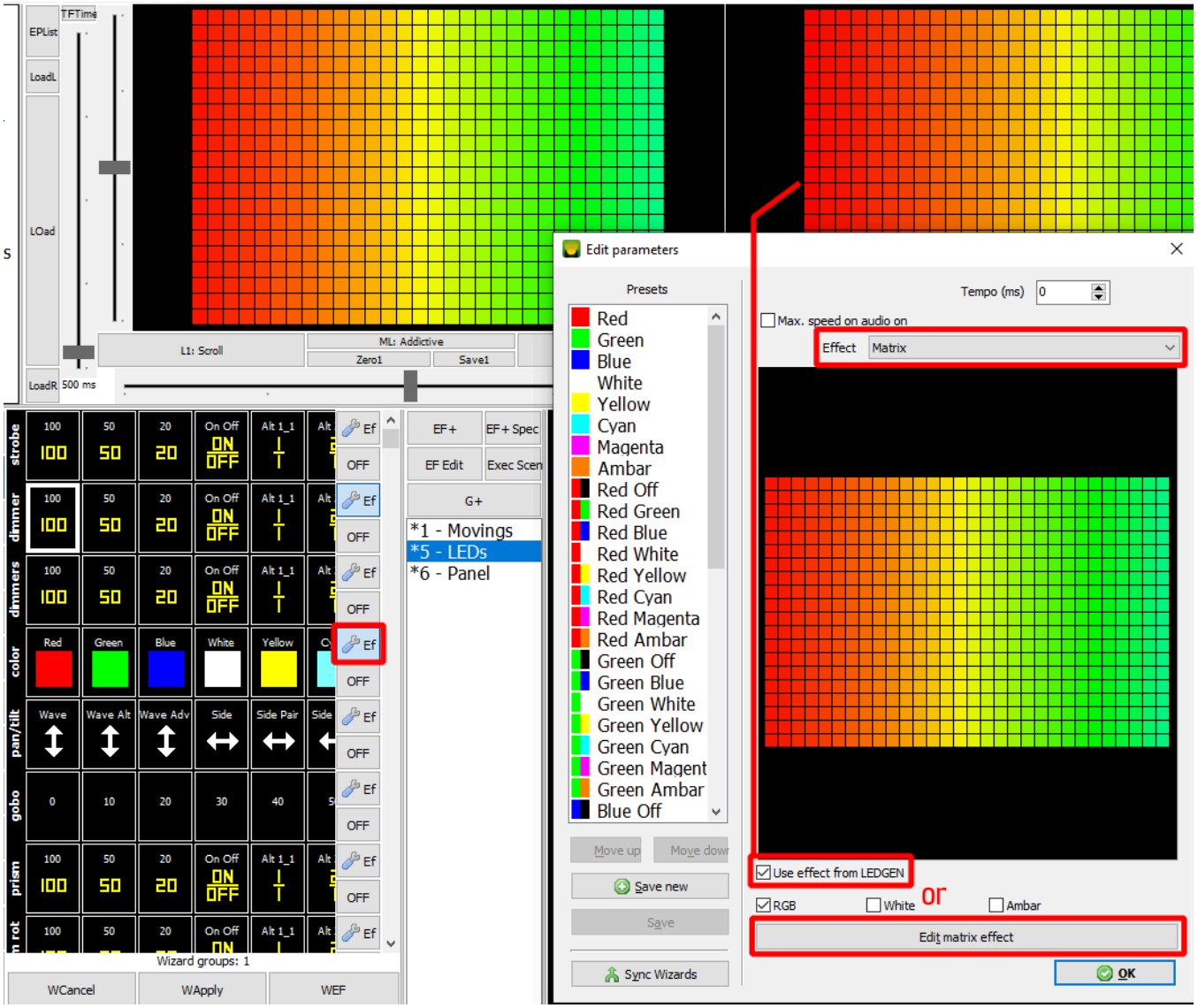
3.14.6. Mapping the Wizards with the LED Generator

It is possible to map the effects in the Wizard with the image being generated in the generator.

To use this resource, the ideal is to correctly map the devices on the image area of the matrix within the show configuration:



With this configuration completed, within the wizards, choose the “Matrix” effect and choose “Use LEDGEN effect”:



3.15. Input of Commands and Signals

There are 3 ways to control Lumikit SHOW software remotely:

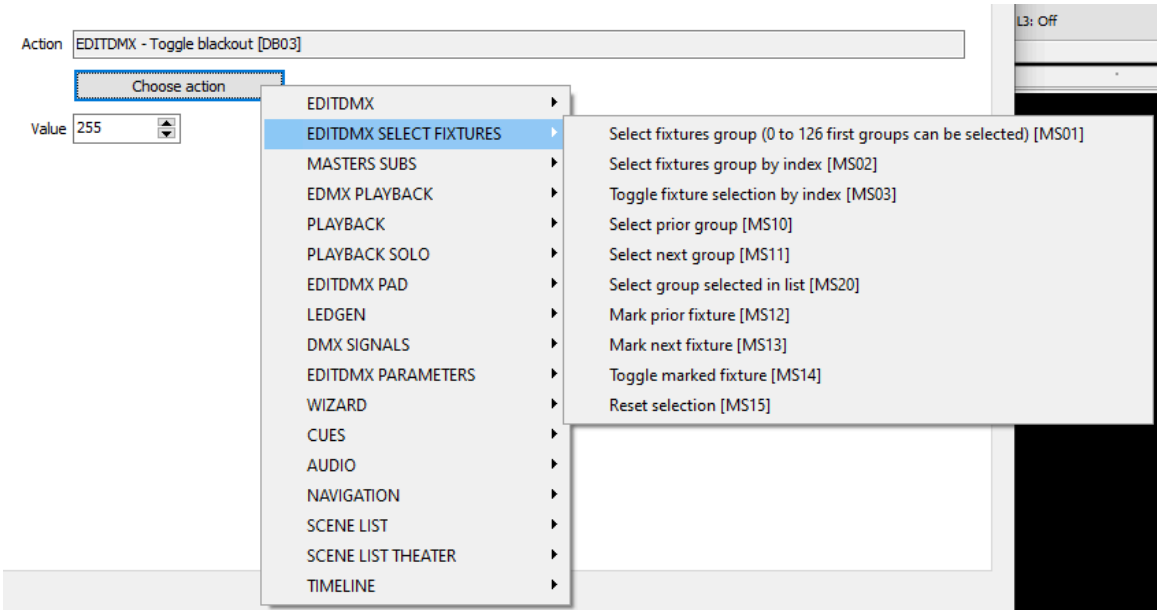
- With another DMX controller configuring an Art-Net node to receive DMX packets over the network;
- Via a MIDI interface (allowing connection with other programs, for example Sonar or Pro Tools, or else a physical controller);
- Via a UDP connection called a “remote connection”.

The buttons and faders can be controlled or else make a copy of a value sent at the input to a certain output in one of the output DMX channels. When copied, MIDI values will be multiplied by 2, as MIDI uses 7 bits (up to 127) and DMX values use 8 bits (up to 255).

To manage the software entries there is an internal structure of action tables, for each action table there are associated actions. Below is a table with what can be controlled and its respective code.

3.15.1. Actions Table

The software has an extensive list of actions that can be seen directly within the software, in the MIDI or DMX input configuration window, in the Add button, the actions are divided by categories shown in the menus:



3.15.2. UDP Connection (Remote Connection)

Lumikit SHOW accepts UDP connections through port 22688, for that, in the “Options / General Options” menu, the “Accept remote commands via UDP” option must be turned on. When turned on, up in the title of the show the IP address description will be added.

This function can be useful in case the illuminator wants to integrate the Lumikit SHOW software with some other program via UDP packets.

For sending commands to the software follow these rules:

- All commands start with 4 bytes: mDMX;
- Right after comes the name of the command, use the previous table as a reference;

- Finally, the value to be assigned (except the GC01 command where the channel is informed before the value and the PF09 command where the PAN and TILT are informed simultaneously), this value varies from 0 to 255.

Examples of sending commands:

- Call the 1A Scene and put execution time fader at 50%:
  - `mDMX:MF03:0`
  - `mDMX:MF04:0`
  - `mDMX:MF01:127`
- Alter the value of DMX channel 10 to 156:
  - `mDMX:GC01:10;156`
- Alter the pan and tilt simultaneously in PAD to half:
  - `mDMX:PF09:127;127`

To find out the IP of the computer where Lumikit SHOW is running, send a UDP packet on port 22688 in broadcast (IP 255.255.255.255) over the network with 11 bytes:

- `mDMX:PING:0`

The answer will be in another 4 bytes with the PONG message, this way it is possible to find out which IP the message came from, this is the IP of the computer where Lumikit SHOW is being executed.

3.15.3. TCP/UDP Communication Demonstration Software

An example written in C# showing how to communicate via TCP/UDP is available at http://www.lumikit.com.br/downloads/tcpudptest.zip.

3.15.4. Information Searching and Lumikit SHOW Control via WebServices

It is possible to change parameters and search for open show information in Lumikit SHOW via WebServices. It also has a small internal file server based on the “\web” folder. This technology is used for remote control via the internet browser.

To activate these services, within Lumikit SHOW, in the “OPTIONS” button, in the “General options” menu, the option “Accept remote connections” must be turned on.

To test the service and verify its response, a standard browser can be used by calling:

- http://127.0.0.1:5000/services/edmx_change_scene/0/9

This service triggers scene “L” on page 1 in the main window. The IP 127.0.0.1 can be used on the local computer or if it is on another device, enter the IP of the computer that has Lumikit SHOW active.

Accepted commands in the WebService:

Description	Service	Parameters
Changes main window’s scene	`/services/edmx_change_scene/0/9`	Page: 0 to 99 Scene in page: 0 to 15
Returns all 16 scenes’ name and color of given page	`/services/edmx_get_scenes_status/0`	Page: 0 to 99
Returns main window’s active page and scene	`/services/edmx_get_active_scene`	
Turns blackout on	`/services/main_set_blackout_on`	
Turns blackout off	`/services/main_set_blackout_off`	
Returns blackout status (if it’s on or off)	`/services/main_is_blackout_on`	
Returns main window’s extra functions’ name, colors and if they’re active	`/services/main_get_ef_status`	
Turns main window’s extra function on	`/services/main_press_ef/0`	Extra function: 0 to 11
Turns main window’s extra function off	`/services/main_release_ef/0`	Extra function: 0 to 11
Returns if playback mode is active	`/services/playback_is_active`	
Turns all playback’s scenes off	`/services/playback_release_all`	
Returns playback’s faders’ values of given page	`/services/playback_get_levels/0`	Page: 0 to 99
Alters playback’s fader’s of given page	`/services/playback_set_levels/0/9/100`	Page: 0 to 99 Scene in page: 0 to 15 Fader value: 0 to 100
Returns if CUE mode is active	`/services/cues_is_active`	
Turns all CUEs off	`/services/cues_release_all`	

Turns all CUEs off of given page	`/services/cues_release_page/0`	Page ID, starts at 0
Returns CUE's pages names	`/services/cues_get_page_names`	
Returns CUE's name, colors and status of given page	`/services/cues_get_page_status/0`	Page ID, starts at 0
Turns on CUE of given page	`/services/cues_press/0/10`	Page ID, starts at 0 CUE number, starts at 0
Turns CUE off of given page	`/services/cues_release/0/10`	Page ID, starts at 0 CUE number, starts at 0
Returns if timeline if active	`/services/timeline_is_active`	
Stops timeline execution	`/services/timeline_stop`	
Returns active timeline's name and time	`/services/timeline_get_status`	
Runs given timeline	`/services/timeline_play/0`	Timeline ID, starts at 0
Returns timeline's names and IDs	`/services/timeline_get_names`	
Returns information about the custom windows	`/services/ff_get_forms`	
Returns the layout of a certain custom window	`/services/ff_get_layout/0`	Custom window: 0 to 7
Returns the page names of a certain custom window	`/services/ff_get_page_names/0`	Custom window: 0 to 7
Selects a custom window's page	`/services/ff_set_page/0/0`	Custom window: 0 to 7 Page number: starts at 0
Returns the name and status of the selected page's custom window's controls	`/services/ff_get_status/0`	Custom window: 0 to 7
Activates a custom window's button	`/services/ff_press/0/0/9999/5`	Custom window: 0 to 7 Page number: start at 0 HASH number (version) Control ID
Releases (deactivates) a custom window's button	`/services/ff_release/0/0/9999/5`	Custom window: 0 to 7 Page number: start at 0 HASH number (version) Control ID
Changes the value of a custom window's fader	`/services/ff_change/0/0/9999/5/255`	Custom window: 0 to 7 Page number: start at 0 HASH number (version)

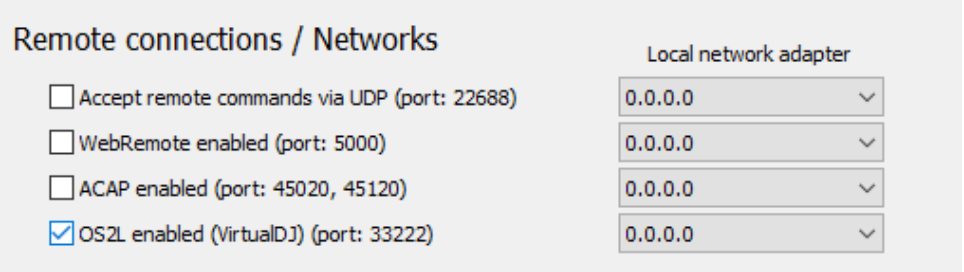
		Control ID Fader value: 0 to 255 (min. to max.)
Releases (deactivates) all the controls of a custom window	`/services/ff_release_all/0`	Custom window: 0 to 7
Releases (deactivates) all the controls of the page of a custom window	`/services/ff_release_page/0`	Custom window: 0 to 7

3.15.5. OS2L Integration (VirtualDJ)

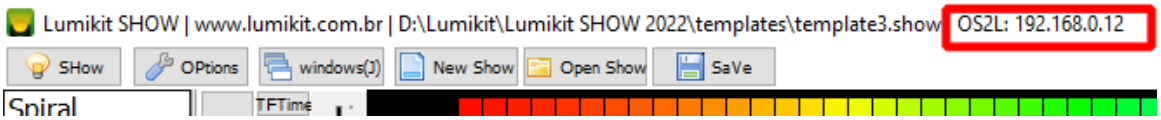
Lumikit SHOW can receive OS2L commands from other software (the specification is at http://www.osl2.org), of the 4 commands, 2 are implemented in Lumikit SHOW: BEAT and BUTTON.

With these 2 commands it is possible to synchronize the tempo of the music that is being reproduced in the other software (BEAT command), and commands can be sent to activate several functions within Lumikit SHOW (BUTTON command).

To activate OS2L in Lumikit SHOW, access “OPtions/General Options” and turn on the “OS2L enabled” option:



The connection in the other software will be on port 33222 on the IP that was configured, the IP is also shown in the main window.



In order for Lumikit SHOW to be synchronized with the BEAT command, turn on the “AUTO BEAT” button in the main window:

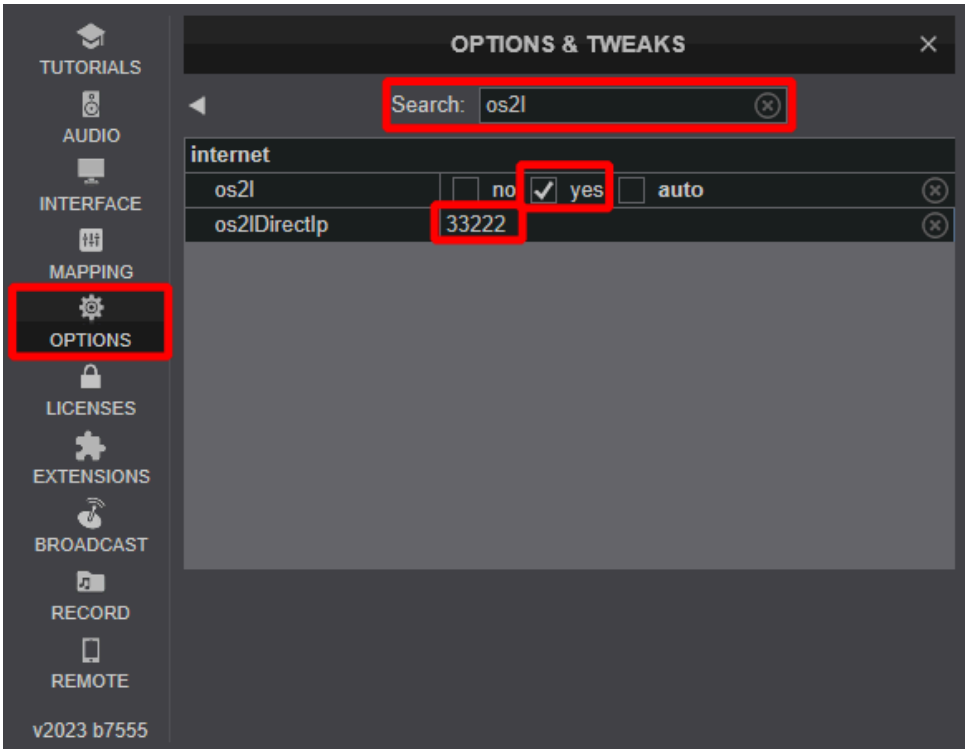
The format of accepted BUTTON commands are:

- In the main window:
  - Trigger scene by name, example: os2l_button “scene 1”
  - Trigger scene by page and letter, example: os2l_button “6D”
  - Bind extra function by name, example: os2l_button “function”
  - Turn off extra function by name, example: os2l_button “funcao” off
  - Bind extra function by position, example: os2l_button “F4”
  - Turn off extra function by position, example: os2l_button “F4” off
  - Turn on backout, example: os2l_button “blackout”
  - Turn off blackout, example: os2l_button “blackout” off
  - Turn on freeze, example: os2l_button “freeze”
  - Turn off freeze, example: os2l_button “freeze” off
  - Release button, example: os2l_button “release”
- For custom windows, add “w” and the window number, w1, w2, .. w8 then “:” and the name of the control:
  - Turn on extra function by name in custom window 1, example: os2l_button “w1:button”
  - Turn off extra function by name in custom window 8, example: os2l_button “w8:button” off
  - Acting on a fader, the value of all faders are informed between 0 and 255, example: os2l_button “w1:fader:255”
  - In the case of more pages within the same custom window, the controls on the active page at the time of the command will be activated.
- For scene lists use “sl:” in front of the command:
  - Trigger a scene list at position 2, example: os2l_button “sl:list name:2”
  - GO+ in the current list, example: os2l_button “sl:gof”
  - GO- in the current list, example: os2l_button “sl:gob”
  - STOP on current list, example: os2l_button “sl:stop”
- Actions with the “ac:” prefix in the command can be triggered (check the desired command within Lumikit SHOW, all actions can be called), examples:

- Change LEDGEN master fader, example: os2l_button “ac:LF01:127”
- Toggle the blackout button, example: os2l_button “ac:DB03:225”
- Assign the value 100 to DMX channel 20, example: os2l_button “ac:GC01:100:20” (the option “Copy GC01 action values to manual values in the active scene” must be on).

3.15.5.1. Configuring OS2L Transmission

- In Virtual DJ, open the settings window.
- Click OPTIONS.
- In SEARCH type “os2l” and two options will appear.
- In the first line click “yes”.
- In the second line enter the IP address of Lumikit SHOW, followed by port 33222, as shown in the image below.



3.15.5.2. Inserting OS2L Commands in Songs

Two important tips:

- **1:** First of all, it is important to point out that Virtual DJ creates a file called “database.xml” on hard disks and external units. This file serves to store information of all the songs that were analyzed by the software. Such as BPM, tempo, CUES and even the OS2L commands that were created. Be very careful when formatting computers, disk and removable drives, or when updating the program, so as not to lose what was done. The ideal is to leave all the songs that will be used, always on the same device, to avoid possible confusion.
- **2:** Virtual DJ, as soon as it is opened, even though it is already configured, does not automatically transmit OS2L commands. It is necessary to play at least one song with these commands for it to start streaming.

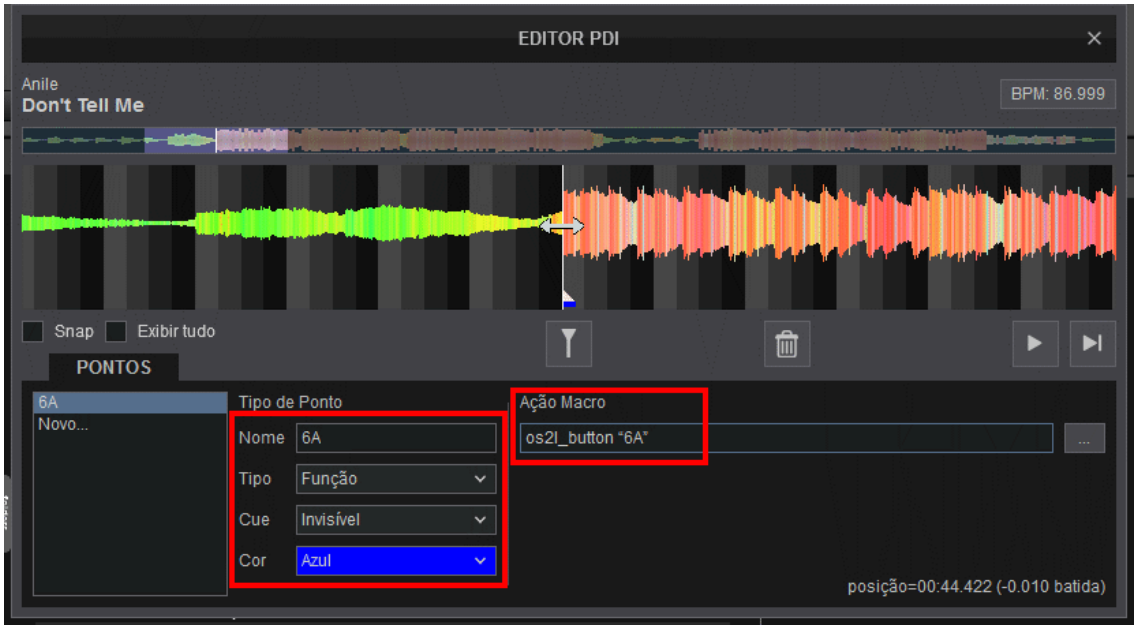
To insert OS2L commands, load the desired song in one of the decks and then right-click on the waveform of the deck, just below the song name, as shown in the image below.

- A window called “EDITOR PDI” will appear.
- Just below, in the left column, click on “New”.

Then fill in the following fields:

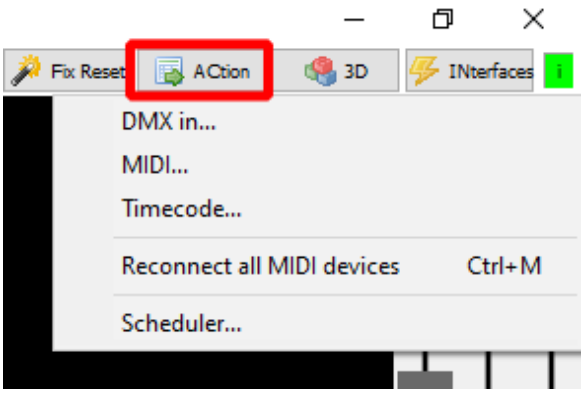
- Name: Enter the name you want;
- Type: Choose the type “function”;
- Cue: Choose the “invisible” type;
- Color: Choose the color you want;
- Macro Action: Enter the OS2L command here.

To have more precision in the trigger point of the command, position the mouse over the waveform and use the scroll to zoom in and out. And to move the cursor, just drag it with the left mouse button.



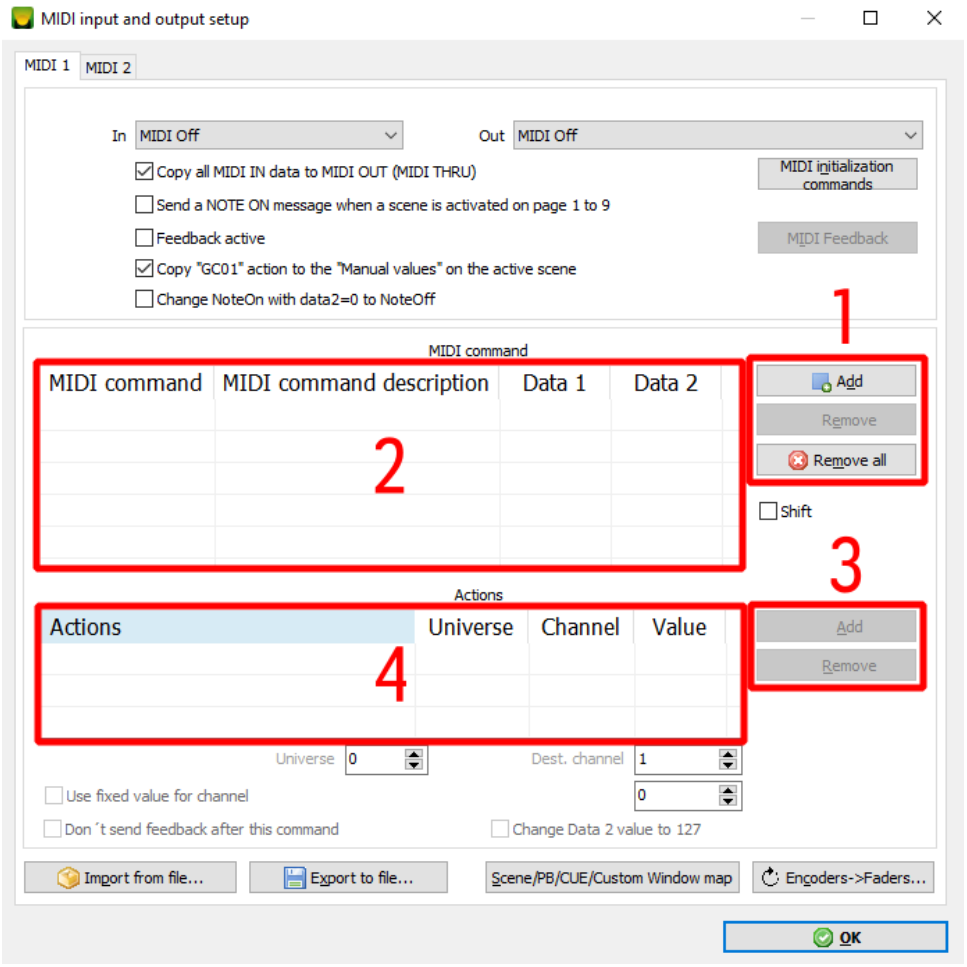
3.16 MIDI and DMX Input

To configure what will happen in the software when receiving a MIDI command or with the DMX input, the MIDI and DMX tables must be configured, this configuration is done using the “Action” button in the main window and then in the menu that appears:

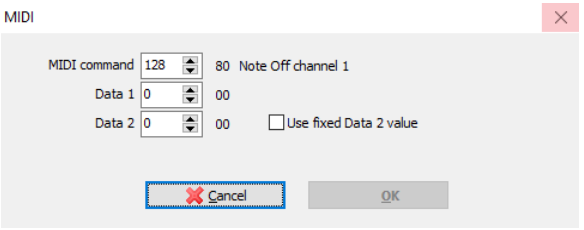


3.16.1. MIDI

The input MIDI interface and the output MIDI interface are shown at the top of the window and must be configured correctly according to the needs of the lighting technician.

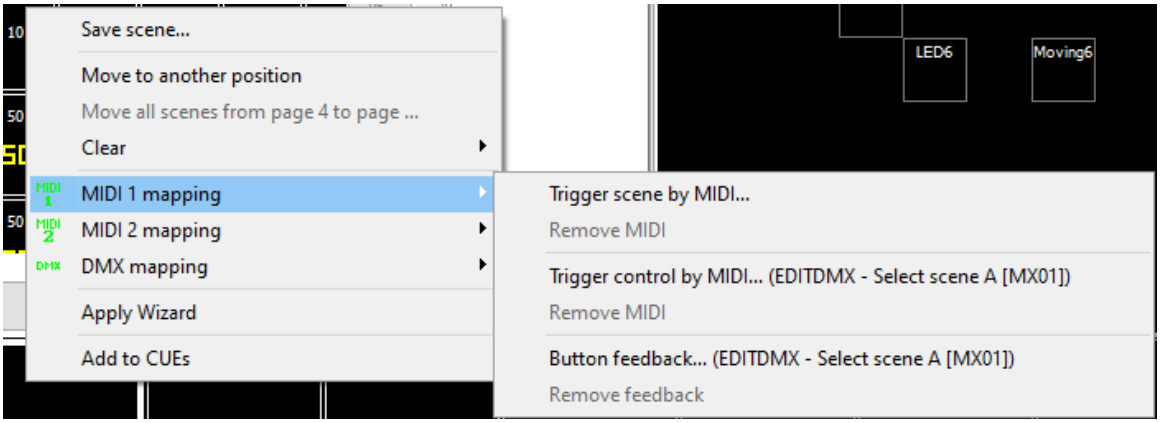


Click on “Add” (marked as 1 in the previous image) and send the MIDI signal from your controller, the software will automatically recognize the MIDI signal:



Select the desired MIDI command from the list (marked as 2 in the image) and add actions to this MIDI command with the “Add” button (marked as 3), upon receiving the selected MIDI command the software will execute the actions listed in the action list (marked as 4).

Scenes, Cues and Playbacks in addition to several other buttons and faders can also be linked with MIDI commands, just right-click on the desired control and choose the “MIDI Mapping” option:

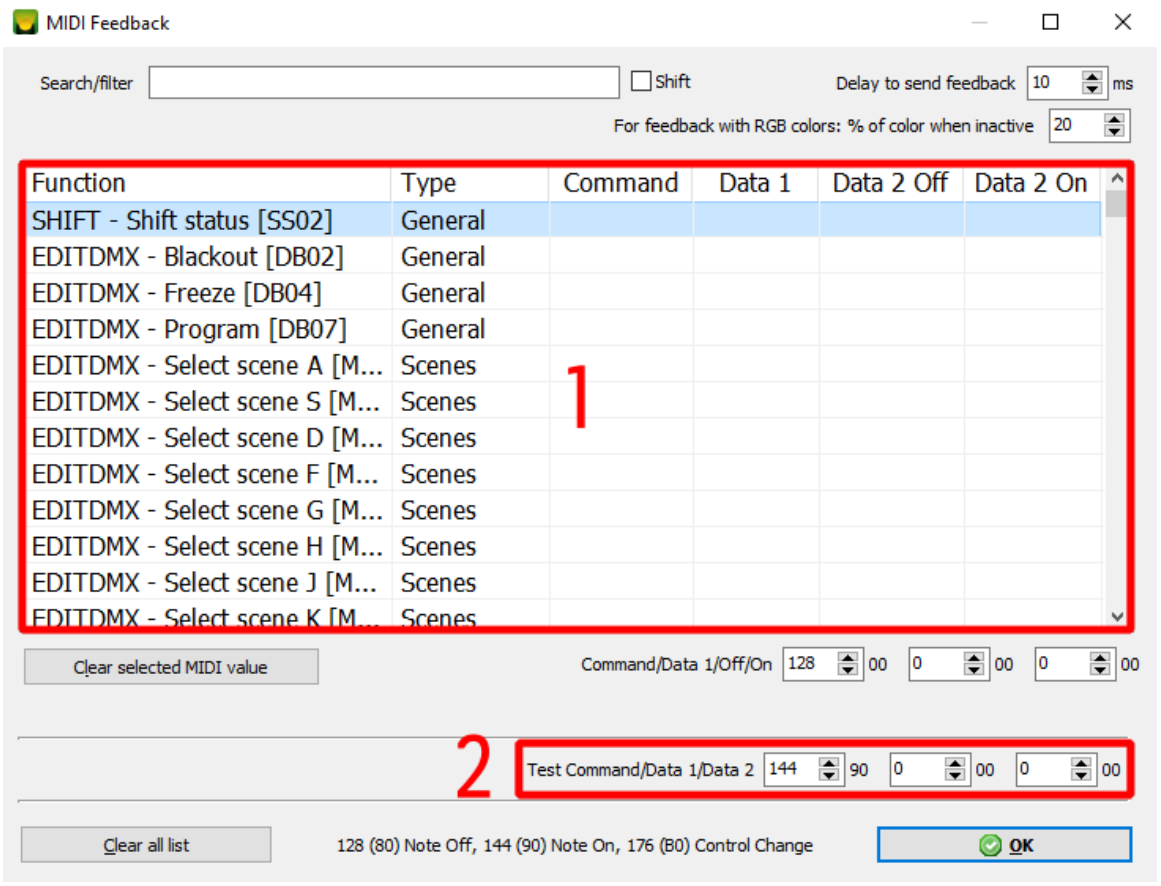


3.16.1.1. MIDI Feedback

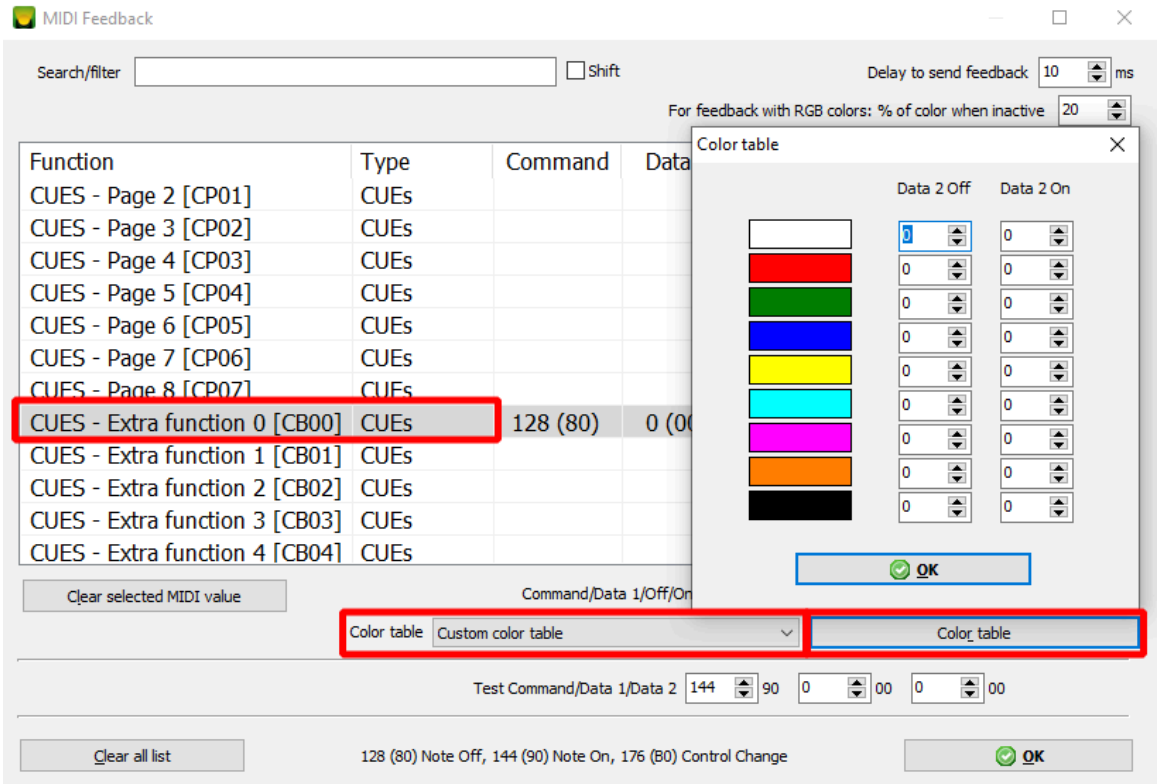
It is possible to send MIDI feedback to the configured controller in the “Out” port, the feedback is useful for synchronizing the software options with the LEDs or motorized faders of the MIDI controller, many different configurations are possible and must be done by the “Feedback” button on the MIDI settings window.

In the feedback table (1) the MIDI values must be informed in decimal format according to the desired function. Each function has a different value for on and off, in the case of controls that have a variable value (like a fader for example) the value sent to the controller will be proportional between the off (lowest value) and on (highest value) .

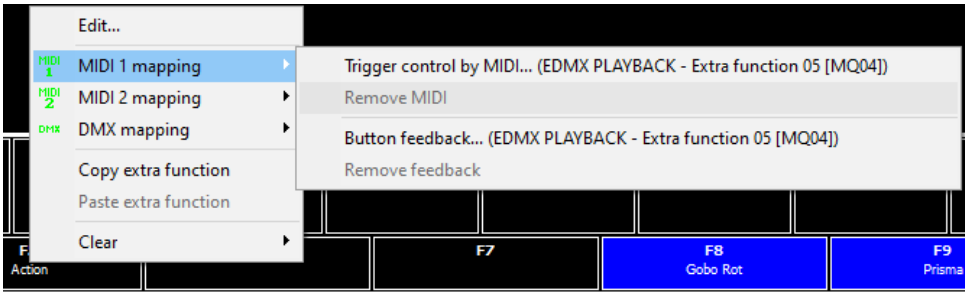
In area 2 it is possible to perform MIDI send tests to help identify the faders and/or LEDs that you want to control. Remembering that the controller must be informed in the “Out” selection box in the MIDI settings.



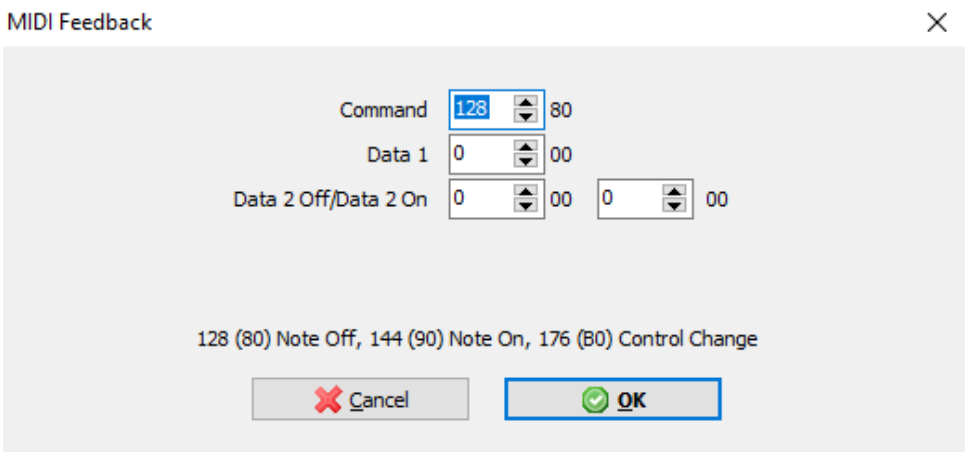
For Cue Feedback, there is an option to use a MIDI Color Table, which must be filled in according to the colors of the MIDI controller. The table will act according to the color of the CUE, sending the Data 2 value according to the informed values.



When right-clicking on a control that is linked with an action and that action has feedback, it will be shown in the context menu:



Making it easy to create the feedback table:

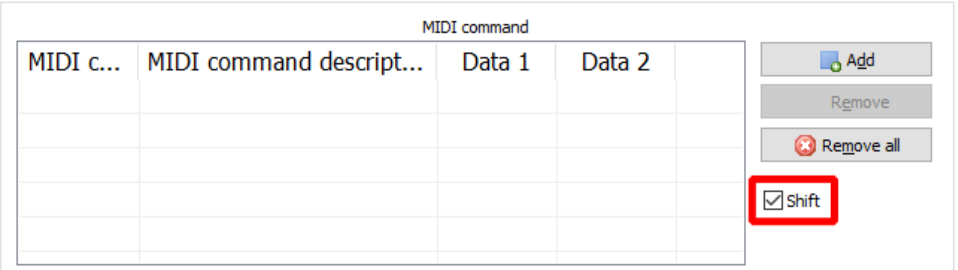


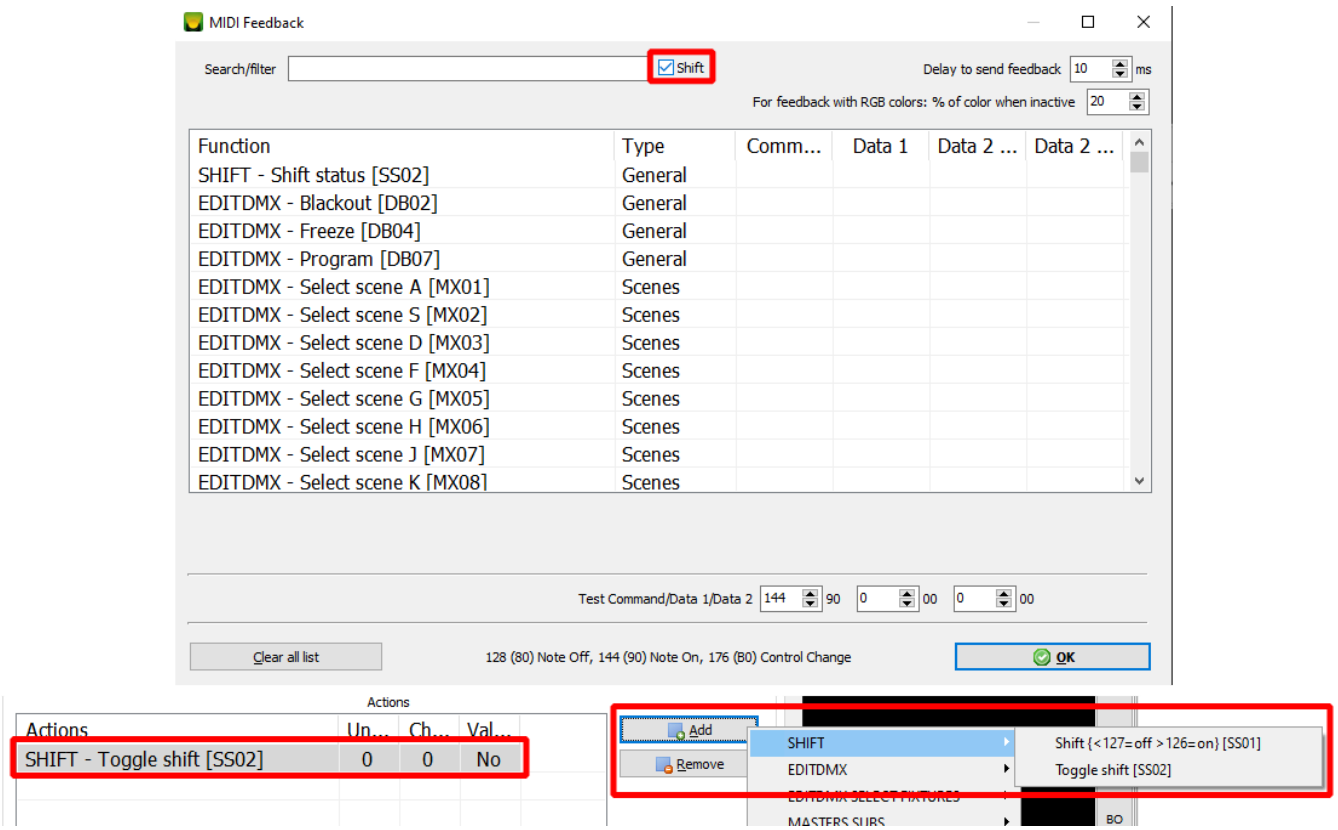
Custom window controls also have MIDI feedback functionality.

3.16.1.2. MIDI Shift

The MIDI Shift function can be used to assign more than one command to the buttons or faders of a MIDI controller, thus doubling the possible functions of each button or fader. To configure it, just enable the “Shift” checkbox in the MIDI settings window and also in the feedback configuration window.

To turn shift on and off while using the controller, a MIDI controller button or fader must be mapped with the action “SS01” or “SS02”:





Important: When mapping a button or fader to turn on SHIFT, it must be redone to turn off SHIFT, otherwise it will not be possible to turn off SHIFT.

When SHIFT is active, a “MIDI Shift” prompt will be shown in the main window:

3.16.1.3. MIDI Mappings that come with the Software

In the Lumikit SHOW installation folder, there is a folder called “midi” with some standard mappings, these can be imported directly through the “MIDI Input” window, through the “Import from file” button, the file extension is “.miniinputaction” and later edited as needed. The Behringer CMD DV 1 mapping is a good example of a mapping that uses virtually all functions such as Feedback and Encoders. This mapping, as well as the others, can easily be changed as needed.

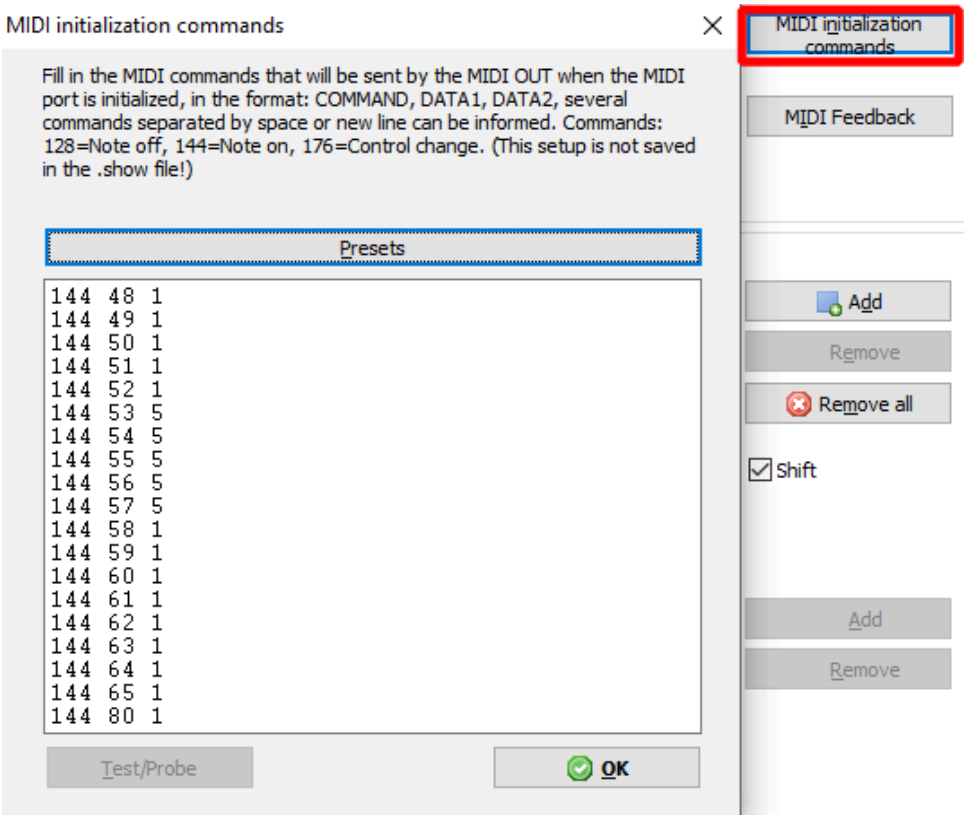
Remembering that to use the CMD line, the controllers must be configured on channel 1, to change the MIDI channel use the “CMD Channel Changer” tool provided by Behringer:

- **Windows:** http://downloads.music-group.com/software/behringer/CMD/CmdChChangerWin.zip (press START in the Behringer program and then some controller key);
- **MAC OS X:** http://downloads.music-group.com/software/behringer/CMD/CmdChChangerMac.zip.

3.16.1.4. MIDI Initializer Commands

In some controllers that have illuminated buttons, for example, it is possible to light these buttons by MIDI commands, normally feedback would be used, but not all software buttons have the feedback option. For this need, there is the possibility of sending MIDI commands when the controller is connected to the software. Remembering that the ideal is to have the MIDI controller manual that will be used to verify exactly the commands, if you don't have it, the MIDI commands can be sent manually through the feedback window.

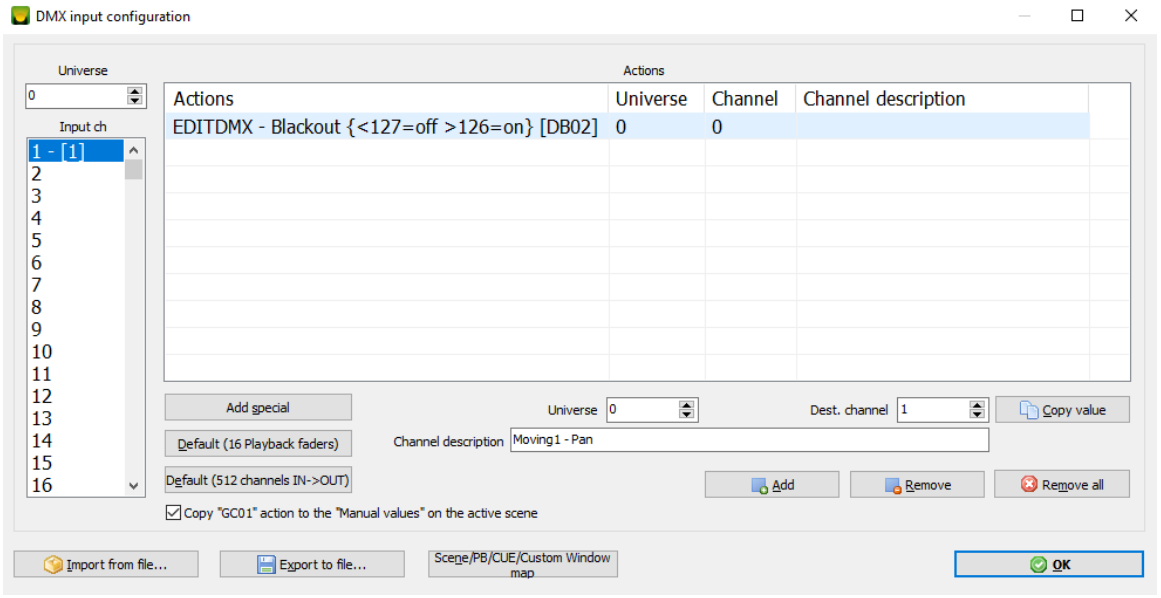
These initialization settings are not saved in the .show file, they are saved inside Lumikit SHOW's general configuration file.



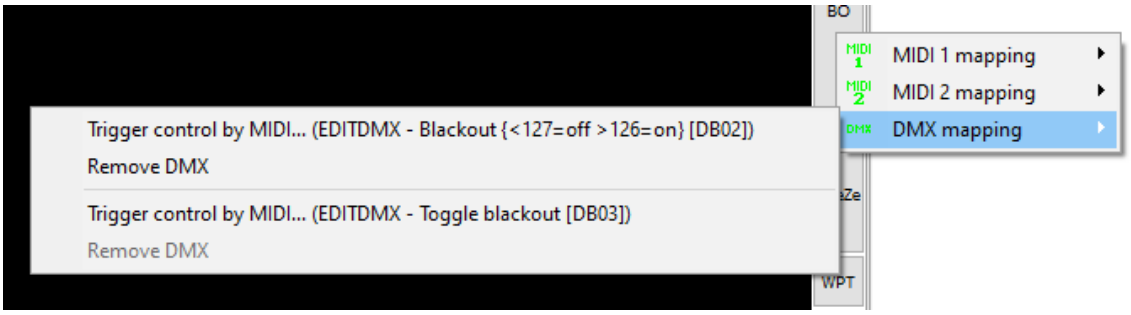
The examples that come with Lumikit SHOW are located in the software installation folder at /midiinit.

3.16.2. DMX Input

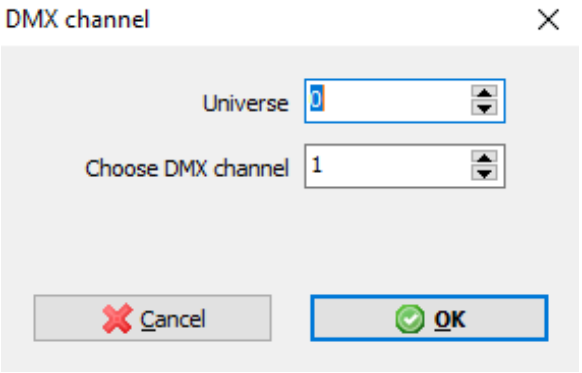
It is possible to create a DMX input action table, when the value of a certain DMX channel is changed, an action will be executed, in the example of the 512channels.dmxinputaction file that comes with the software, when some DMX channel changes its value, this value will be copied to the DMX output:



There is another way to do this mapping, in controls that have the possibility of triggering via DMX, when clicked with the right mouse button, the context menu will show the actions that can be used, for example the BlackOut button:



When choosing the option in the menu, the window to choose the universe and channel will be shown:



And this action is now linked to this DMX channel as seen in the DMX Input window.

3.16.3. Default Files for Reading DMX Consoles

To assist in the operation of Lumikit SHOW, a DMX table can be used to send commands to the software.

Currently there are basically two types of DMX table, one with 8 channels per page and another with 10 channels per page. Lumikit SHOW already comes with two presets ready for you to use your DMX table, be it 8 channels per page or 10 channels per page.

Below is the table referring to the channels and the respective actions in the software of the standard files of the DMX tables.

DMXConsole8Channels.dmxinputaction	DMXConsole10Channels.dmxinputaction
Fixture 1: Channels 1 to 8 Channel 1: Playback fader 1 Channel 2: Playback fader 2 Channel 3: Playback fader 3 Channel 4: Playback fader 4 Channel 5: Playback fader 5 Channel 6: Playback fader 6 Channel 7: Playback fader 7 Channel 8: Playback fader 8 **Fixture 2: Channels 17 to 24** Channel 17: Playback fader 9 Channel 18: Playback fader 10 Channel 19: Playback fader 11 Channel 20: Playback fader 12 Channel 21: Playback fader 13 Channel 22: Playback fader 14 Channel 23: Playback fader 15 Channel 24: Playback fader 16 **Fixture 3: Channels 33 to 40** Channel 33: Extra function 1 Channel 34: Extra function 2	**Fixture 1: Channels 1 to 10** Channel 1: Playback fader 1 Channel 2: Playback fader 2 Channel 3: Playback fader 3 Channel 4: Playback fader 4 Channel 5: Playback fader 5 Channel 6: Playback fader 6 Channel 7: Playback fader 7 Channel 8: Playback fader 8 Channel 9: Turn all playbacks off Channel 10: Playback pages **Fixture 2: Channels 21 to 30** Channel 21: Playback fader 9 Channel 22: Playback fader 10 Channel 23: Playback fader 11 Channel 24: Playback fader 12 Channel 25: Playback fader 13 Channel 26: Playback fader 14 Channel 27: Playback fader 15 Channel 28: Playback fader 16 Channel 29: Turns all playbacks off Channel 30: Playback pages

Channel 35: Extra function 3
Channel 36: Extra function 4
Channel 37: Extra function 5
Channel 38: Extra function 6
Channel 39: Extra function 7
Channel 40: Extra function 8

Fixture 4: Channels 49 to 52
Channel 49: Extra function 9
Channel 50: Extra function 10
Channel 51: Extra function 11
Channel 52: Extra function 12

Fixture 5: Channels 65 to 71
Channel 65: Wizard Solo Strobe
Channel 66: Wizard Solo Dimmer preset
Channel 67: Wizard Solo Dimmer speed
Channel 68: Wizard Solo Dimmer level
Channel 69: Wizard Solo Color preset
Channel 70: Wizard Solo Color speed
Channel 71: Wizard Solo Color fade

Fixture 6: Channels 81 to 86
Channel 81: Wizard Solo Pan/tilt preset
Channel 82: Wizard Solo Pan/tilt speed
Channel 83: Wizard Solo Pan/tilt zoom
Channel 84: Wizard Solo Gobo preset
Channel 85: Wizard Solo Gobo speed
Channel 86: Wizard Solo 2nd gobo

Fixture 7: Channels 97 to 104
Channel 97: Dimmer parameter
Channel 98: Strobe parameter
Channel 99: Color 1 parameter
Channel 100: Color 2 parameter
Channel 101: Gobo 1 parameter
Channel 102: Gobo rot parameter
Channel 103: Focus parameter
Channel 104: Frost parameter

Fixture 8: Channels 113 to 119
Channel 113: Prisma parameter
Channel 114: Prisma rot parameter
Channel 115: Gobo 2 parameter
Channel 116: Gobo speed parameter
Channel 117: Iris parameter
Channel 118: P/T speed parameter
Channel 119: Zoom parameter

Fixture 9: Channels 129 to 136
Channel 129: Select scene A
Channel 130: Select scene S
Channel 131: Select scene D
Channel 132: Select scene F
Channel 133: Select scene G
Channel 134: Select scene H
Channel 135: Select scene J
Channel 136: Select scene K

Fixture 10: Channels 145 to 152
Channel 145: Select scene L

Fixture 3: Channels 41 to 50
Channel 41: Extra function 1
Channel 42: Extra function 2
Channel 43: Extra function 3
Channel 44: Extra function 4
Channel 45: Extra function 5
Channel 46: Extra function 6
Channel 47: Extra function 7
Channel 48: Extra function 8
Channel 49: Freeze
Channel 50: Blackout

Fixture 4: Channels 61 to 64, 69 and 70
Channel 61: Extra function 9
Channel 62: Extra function 10
Channel 63: Extra function 11
Channel 64: Extra function 12
Channel 69: Extra function 11
Channel 70: Extra function 12

Fixture 5: Channels 81 to 87
Channel 81: Wizard Solo Strobe
Channel 82: Wizard Solo Dimmer preset
Channel 83: Wizard Solo Dimmer speed
Channel 84: Wizard Solo Dimmer level
Channel 85: Wizard Solo Color preset
Channel 86: Wizard Solo Color speed
Channel 87: Wizard Solo Color fade

Fixture 6: Channels 101 to 106
Channel 101: Wizard Solo Pan/tilt preset
Channel 102: Wizard Solo Pan/tilt speed
Channel 103: Wizard Solo Pan/tilt zoom
Channel 104: Wizard Solo Gobo preset
Channel 105: Wizard Solo Gobo speed
Channel 106: Wizard Solo 2ng gobo

Fixture 7: Channels 121 to 128
Channel 121: Dimmer parameter
Channel 122: Strobe parameter
Channel 123: Color 1 parameter
Channel 124: Color 2 parameter
Channel 125: Gobo 1 parameter
Channel 126: Gobo rot parameter
Channel 127: Focus parameter
Channel 128: Frost parameter

Fixture 8: Channels 141 to 148
Channel 141: Prisma parameter
Channel 142: Prisma rot parameter
Channel 143: Gobo 2 parameter
Channel 144: Gobo speed parameter
Channel 145: Iris parameter
Channel 146: P/T speed parameter
Channel 147: Zoom parameter
Channel 148: Special function parameter

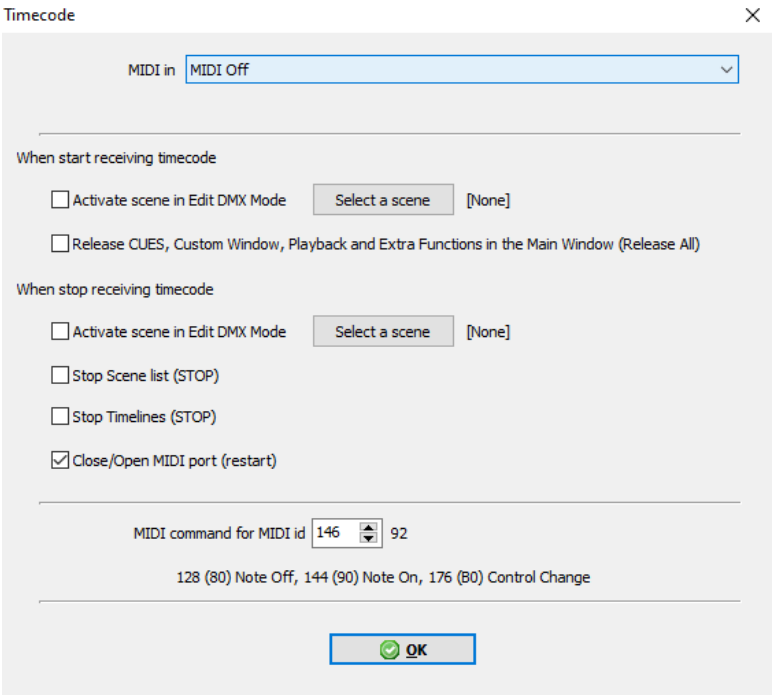
Fixture 9: Channels 161 to 168 and 170
Channel 161: Select scene A
Channel 162: Select scene S

Channel 146: Select scene Z Channel 147: Select scene X Channel 148: Select scene C Channel 149: Select scene V Channel 150: Select scene B Channel 151: Select scene N Channel 152: Select scene M	Channel 163: Select scene D Channel 164: Select scene F Channel 165: Select scene G Channel 166: Select scene H Channel 167: Select scene J Channel 168: Select scene K Channel 170: Scene pages **Fixture 10: Channels 181 to 188 and 190** Channel 181: Select scene L Channel 182: Select scene Z Channel 183: Select scene X Channel 185: Select scene C Channel 185: Select scene V Channel 186: Select scene B Channel 187: Select scene N Channel 188: Select scene M Channel 190: Scene pages

3.17. Timecode

In Lumikit SHOW, Timecode (MTC) can be used to synchronize the lighting with some external time source, such as a DAW software (Reaper, Ableton, Sonar, etc.), the ideal is to use MTC at 25 FPS, but other speeds and Lumikit SHOW will do the conversion.

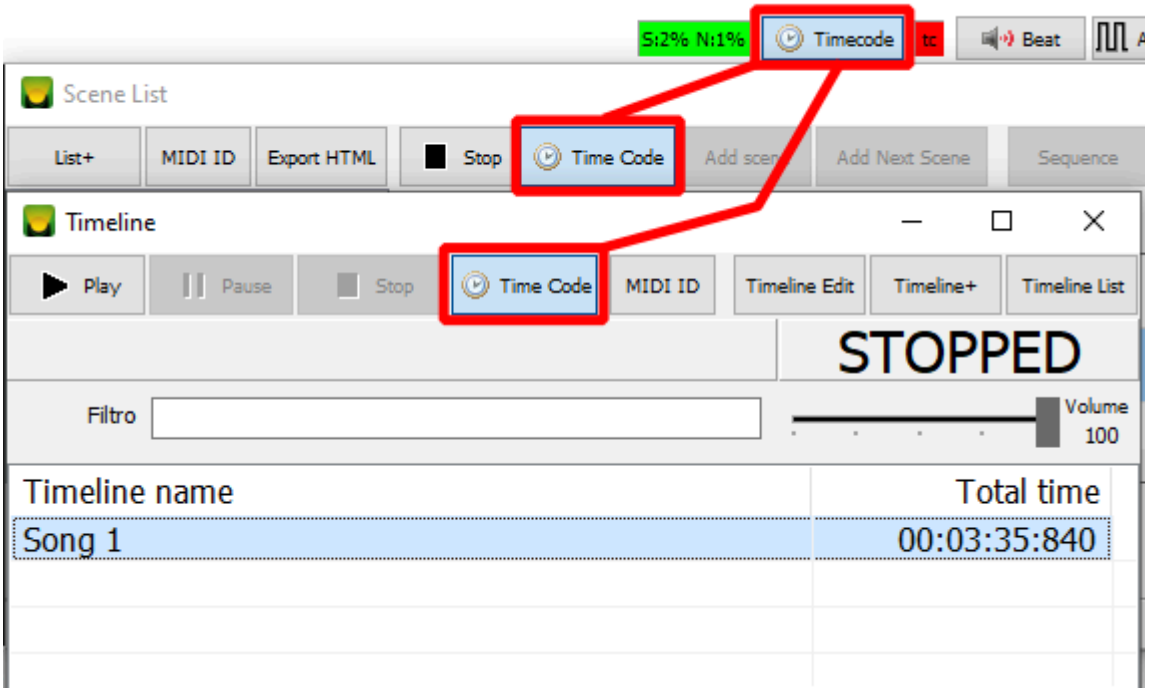
Timelines and Scene Lists can use Timecode, the setting is done using the “Action” button and in the Timecode menu:



In this window, the MIDI port through which Lumikit SHOW will receive the Timecode will be configured. There are also options for when the software starts and stops receiving the timecode.

In the “MIDI command for MIDI id” field, the value of the command to trigger a Timeline or a Scene List is defined, see in the next chapters how to configure it.

To enable timecode reception, the Timecode button must be enabled. The same thing goes for the Timeline window and the Scene List, each of these windows also has the same button:

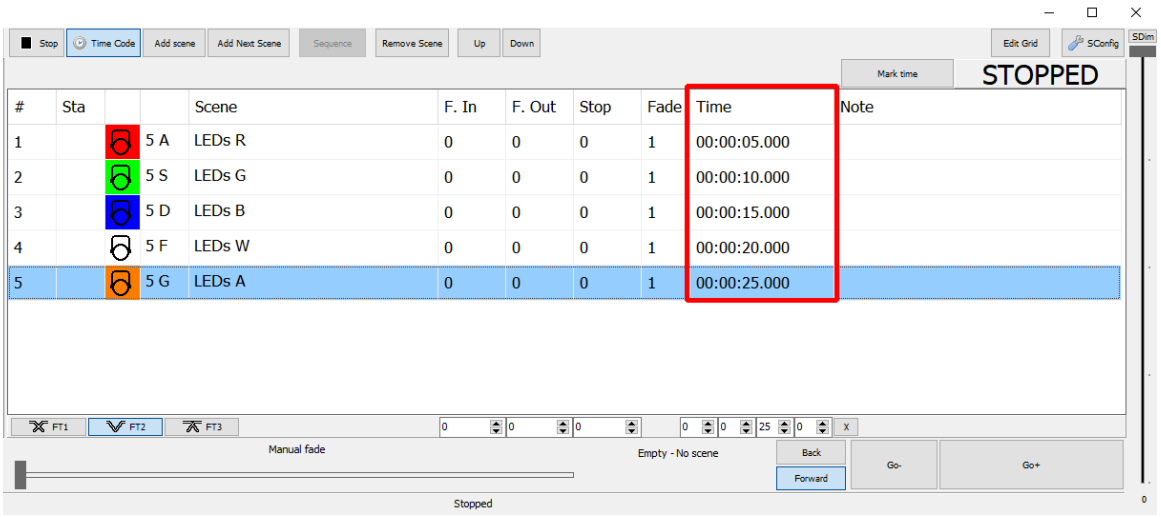


3.17.1. Timeline Synchronization

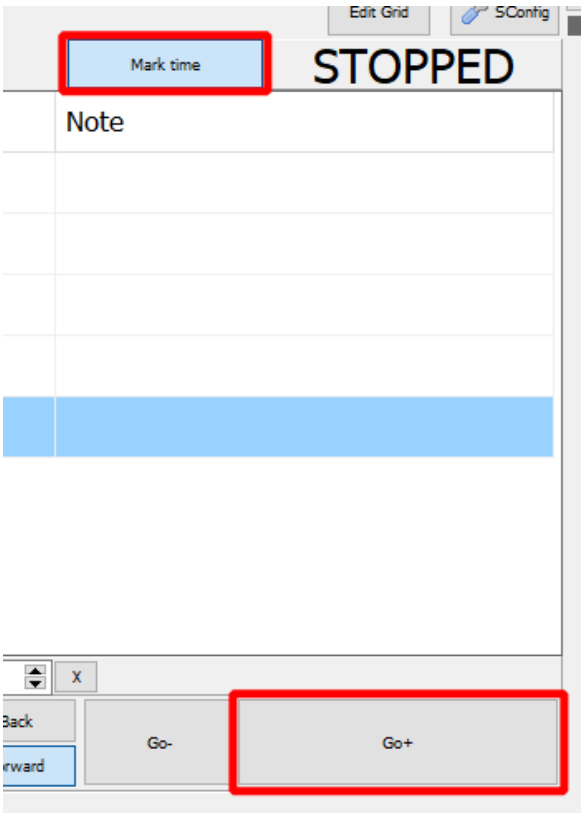
The Timecode button must be turned on in the Timeline window for the Timeline to be reproduced synchronously with the received time.

3.17.2. Scenes List Synchronization

In the list of scenes, the last column can be informed the time at which that step of the list is triggered:



To facilitate the editing of these times, the “Mark Time” button can also be used, which will fill in the times in the steps when pressing the “Go+” button or changing the scene in the main window.

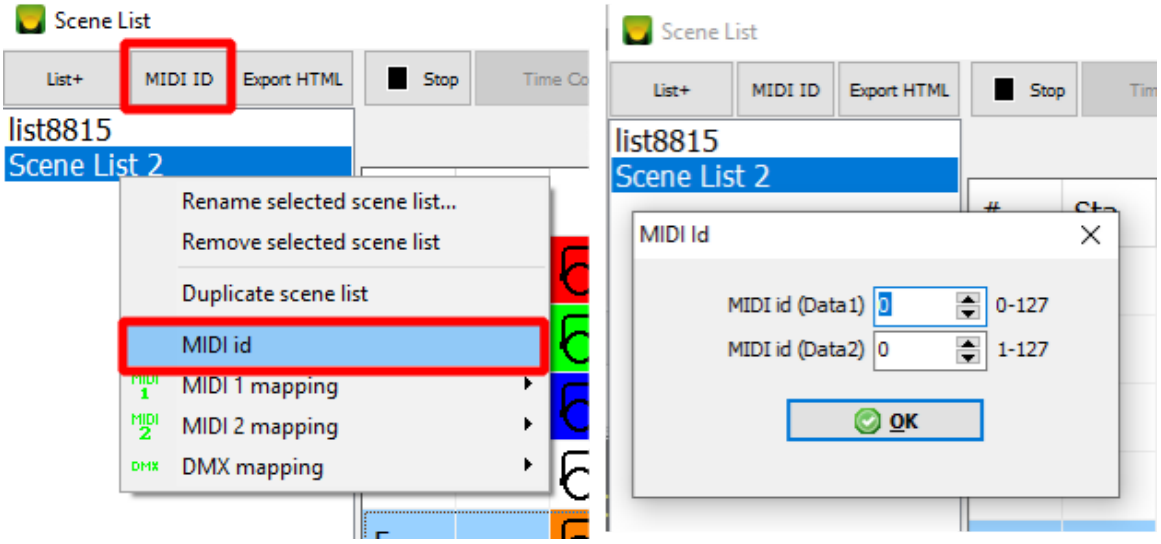


3.17.3. Timeline Execution via MIDI

As the software receives MTC (MIDI Time code), but in MTC there is no information on which Timeline or Scene List will be executed, there is the possibility of sending a MIDI message from the DAW software on the same MIDI port that is being used for the MTC.

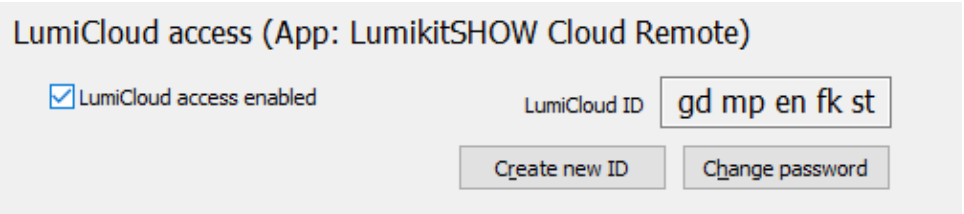
The MIDI command defined in the Timecode configuration, with the value of Data1 at 0, will be interpreted by Lumikit SHOW as a command to reproduce a Timeline or a List of scenes, this is defined in Data 1 and Data 2 of the MIDI message:

Plays the Timeline or Scene List according to the “MIDI id” specified within the Timeline Editor or the Scene List:



3.18. Cloud Remote Window

Cloud Remote is the ideal solution for cases where it is necessary to control Lumikit SHOW remotely from any point in the world with an internet connection. To do so, the computer where Lumikit SHOW is running must have an internet connection available, within Lumikit SHOW in “OPtions/General Options”:

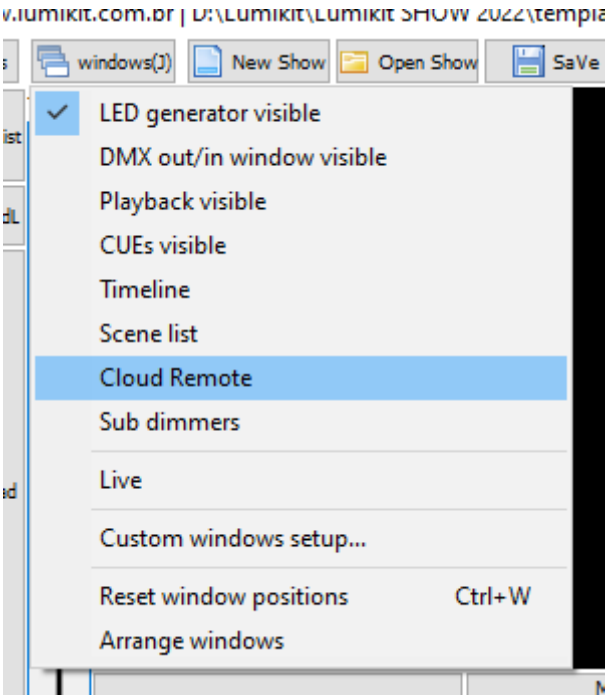


After that, a password must be defined (there is no character limit).

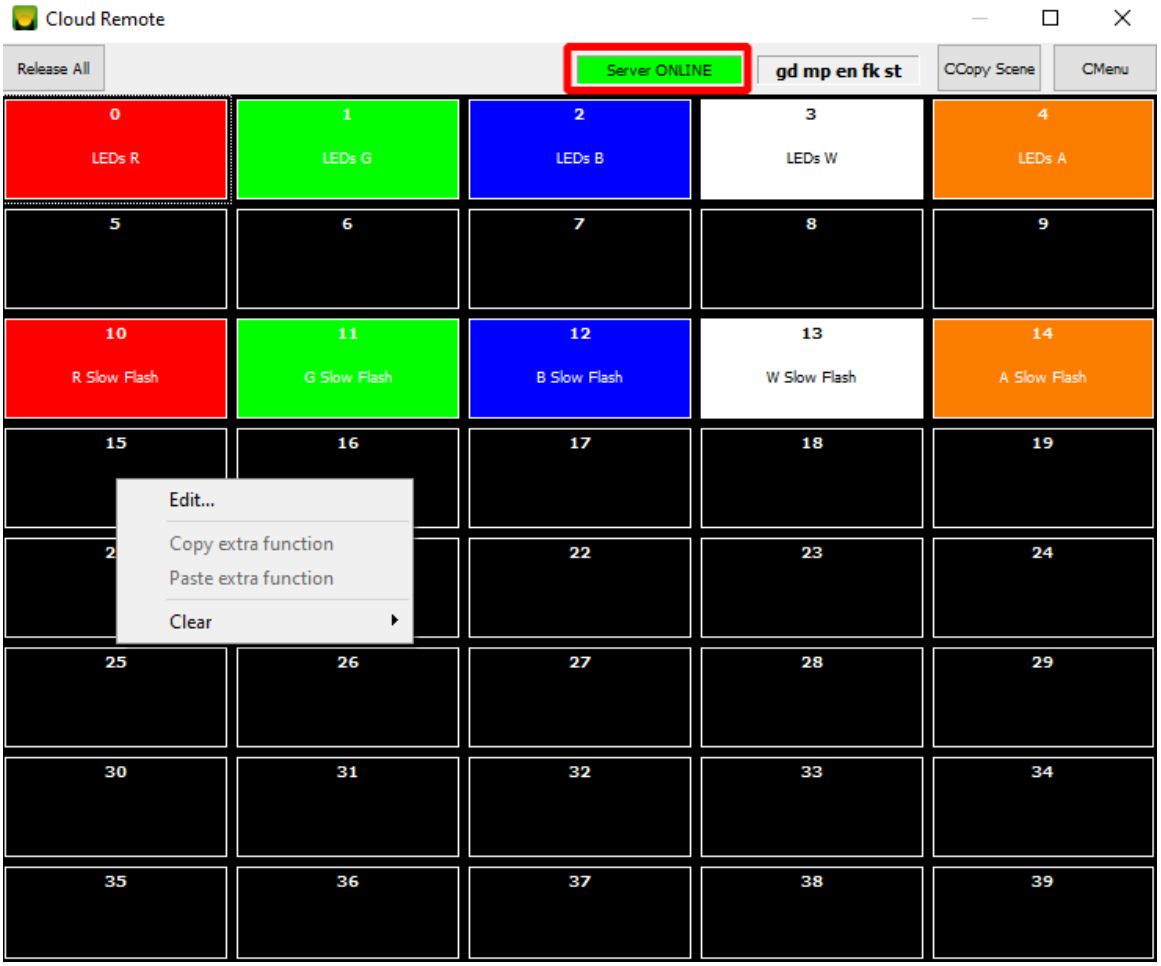
Each Lumikit SHOW will receive a unique ID called “LumiCloud ID” with 10 letters. A new ID can be generated with the “Create New ID” button. It is not necessary to be connected to the internet to generate an ID.

When a new ID is generated or the password is changed, the connected remote controls will be disconnected and will be prompted to enter the new ID or password.

Only 1 Lumikit SHOW can be executed per computer with the LumiCloud option active.

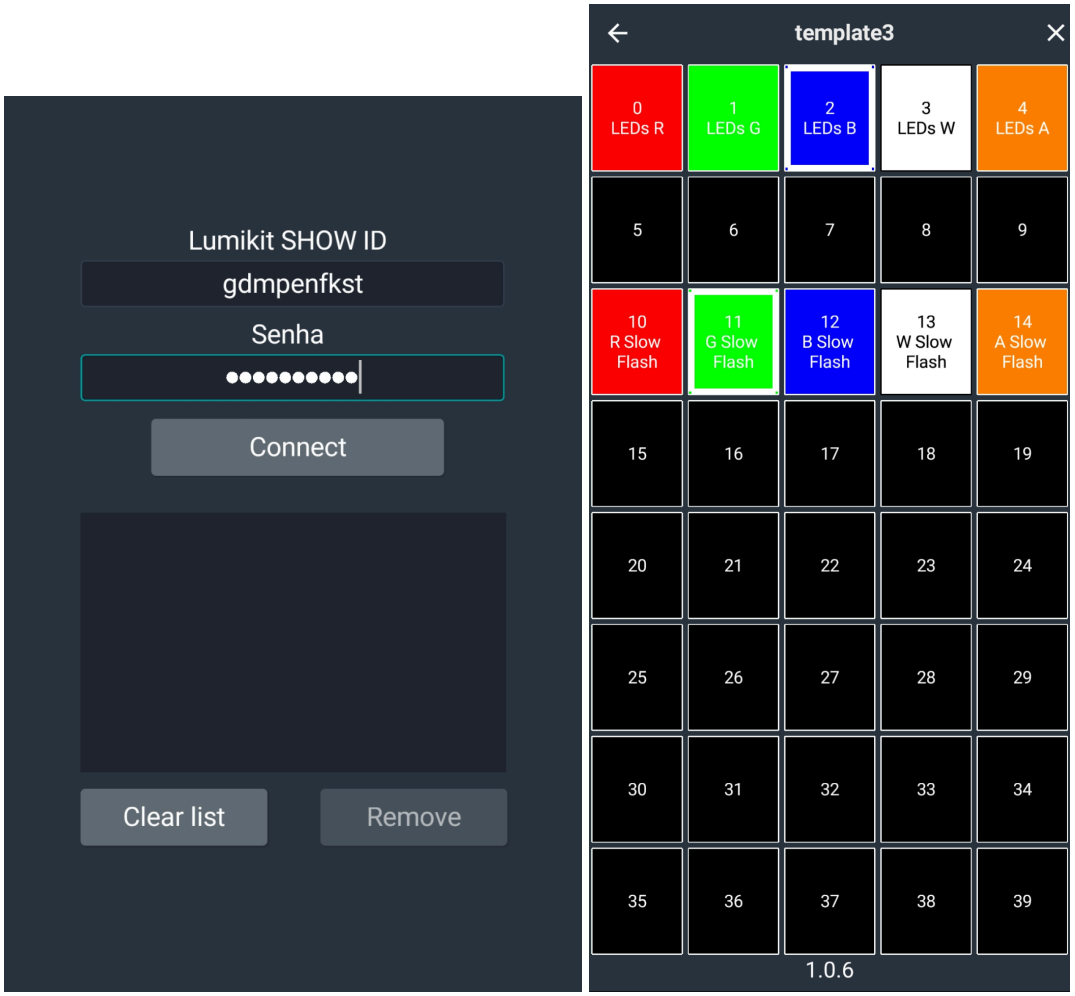


Up to 40 extra functions can be defined in the Cloud Remote window, at the top it will show “Server OFFLINE” if the computer is without internet, or “Server ONLINE” if Lumikit SHOW is connected to the Lumikit server:



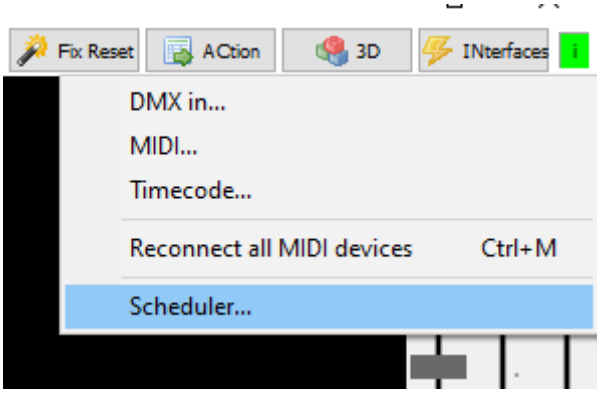
For remote control, the Lumikit SHOW Cloud Remote App for Android/iOS must be used.

In the App, inform the ID and password, remembering that the device that will control Lumikit SHOW must also be connected to the internet:



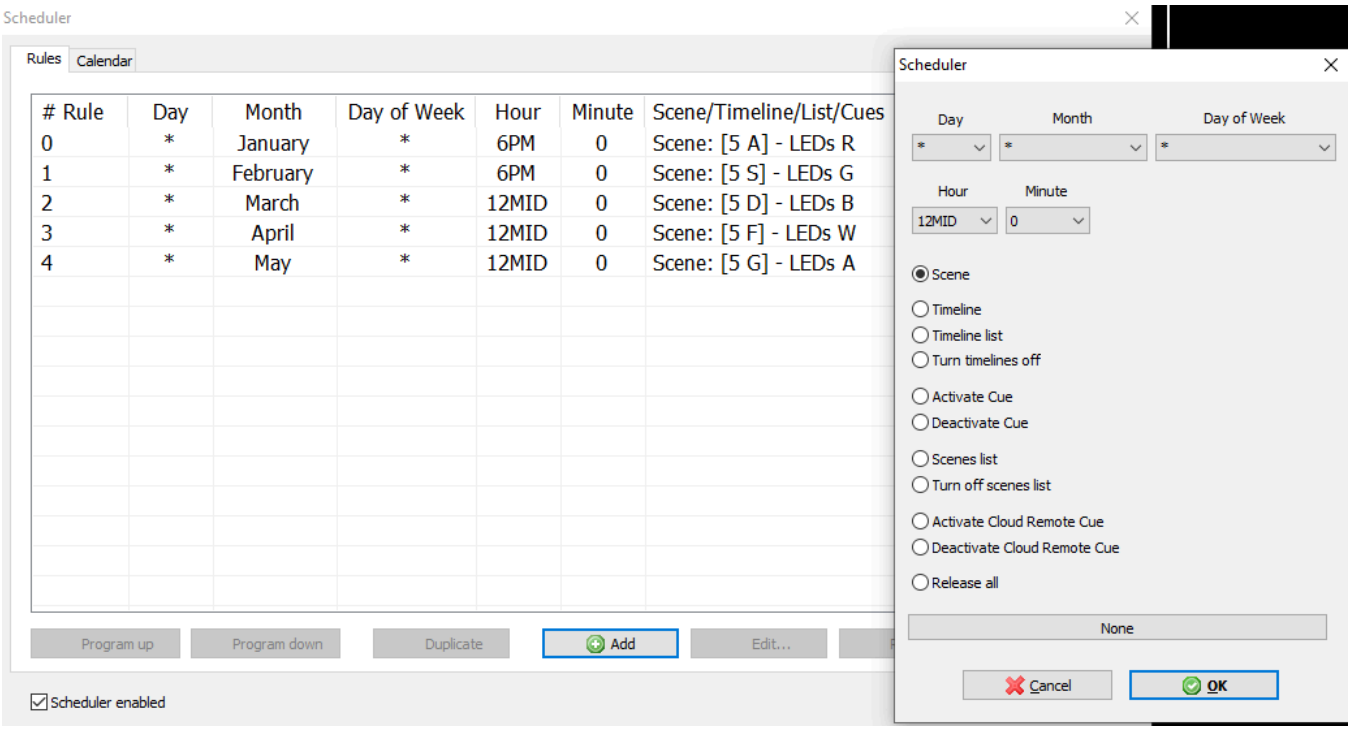
3.19. Scheduler

The scheduler is available in Lumikit SHOW in the main window, menu button of the “Action” button. With the scheduler it is possible to activate a scene, Timeline, Timeline list, turn off all active Timelines, activate/deactivate a Cue and activate/deactivate Scene Lists, it is possible to make several configurations such as, for example, defining days of the week, months, specific times, etc.

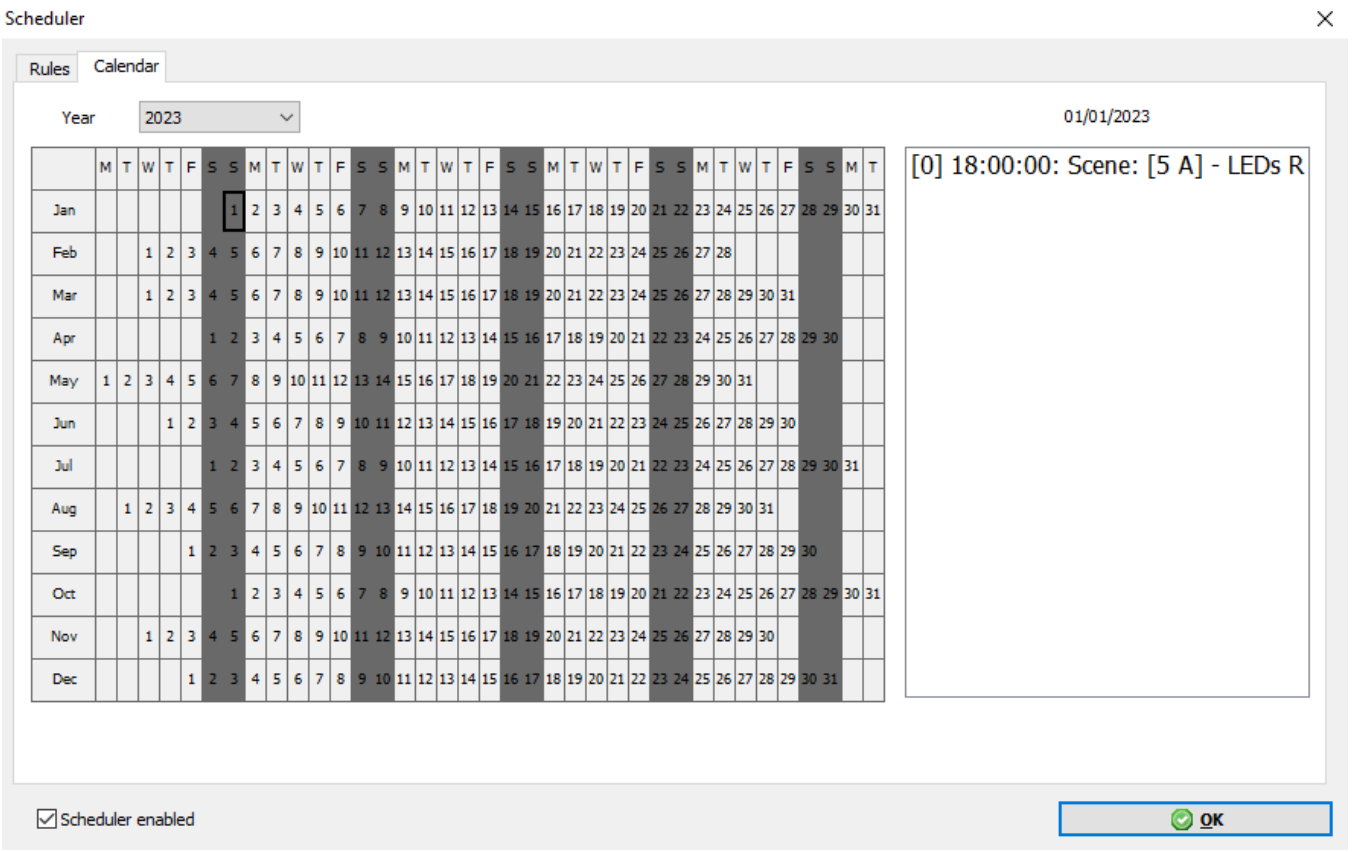


The scheduler works with rules that are defined in the rules tab, each rule is formed by day, month, day of the week, hour and minute. It is possible to define the value "*" for the day, month, day of the week and time, this value represents "ANY", that way if a rule is defined where day=*, month=*, day of the week=Sunday, time =20 and minute=0, the scene that was defined will be triggered every Sunday at 20:00.

In case there is more than one rule for the same day and time, the priority will be according to the position in the list, the higher the rule, the higher its priority, the lower the lower the priority.



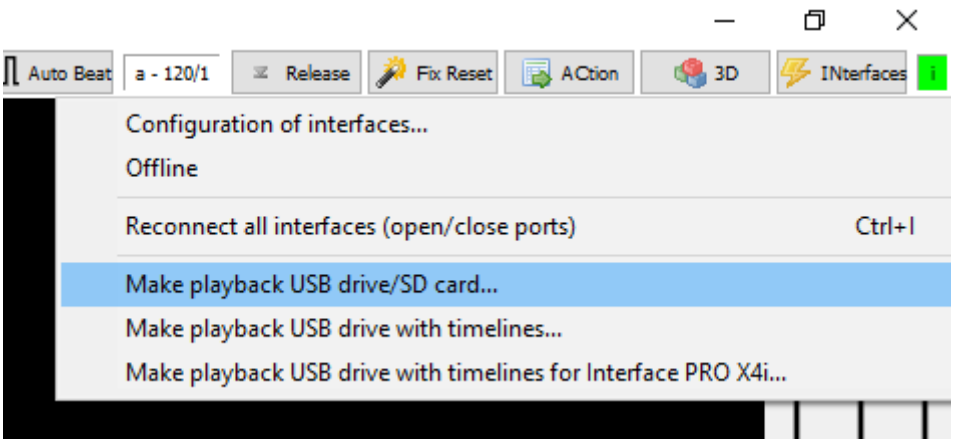
On the calendar tab, an annual calendar is shown where the days on which the scenes or songs will be triggered can be viewed:



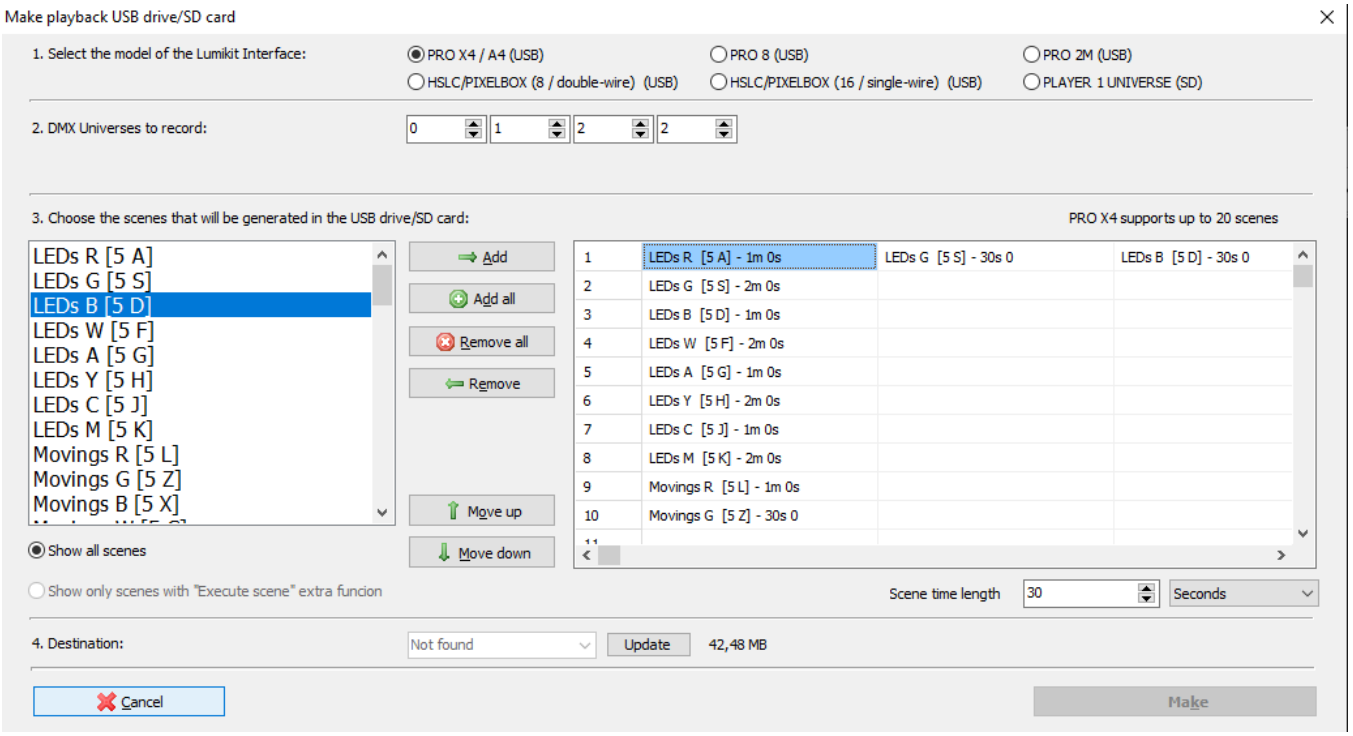
3.20. Pen Drive for External Playback

In Lumikit SHOW it is possible to create Pen Drivers with scenes that can be reproduced in all Lumikit products (Interfaces/Controllers) that have a USB port, for example Interface Lumikit PRO 8, PRO 8 LT, PRO X4i. This function is especially useful in architectural light projects or other situations where it is necessary to reproduce scenes without a computer.

To access the window, go in the Main Window to the “INterfaces” button, “Create playback Pen Drive”.



In this window, choose the controller/interface model, the universes to be generated and the scenes, remembering that a program can have several scenes:



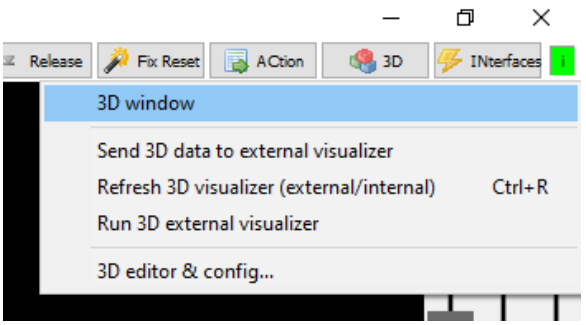
When adding a scene, changing the time the space that will be occupied is recalculated.

4. 3D Simulation

The 3D simulation allows you to see in real time the behavior of the DMX fixtures while using the software.

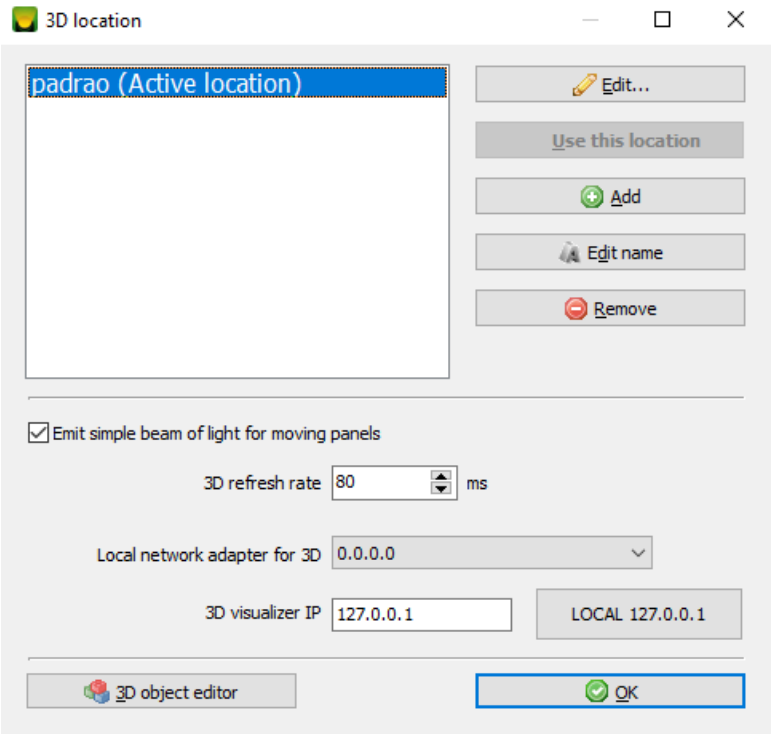
The Lumikit SHOW software has 2 3D viewers, the internal one with reduced quality, developed for older computers or those without a dedicated graphic video card, and the external viewer for computers with superior performance and a graphic video card.

The 3D simulation settings are made using the “3D” button located on the main window:



- **3D window:** Enables and disables Lumikit SHOW's internal viewer (reduced quality);
- **Send 3D data to external visualizer:** Must be turned on if using the external viewer, remembering that the external 3D viewer consumes the network, it is interesting to configure the correct IP where the viewer is running;
- **Refresh 3D visualizer (external/internal):** Shortcut Ctrl+R, if the external viewer has been opened after opening the show, probably the external viewer will not be showing anything, so choose this option that makes the data from the viewer are updated;
- **Run 3D external visualizer:** Opens the external 3D viewer as long as it is installed in a subfolder of the Lumikit SHOW installation;
- **3D editor & config:** Configures the external viewer's IP, internal and external 3D update rate, allows you to edit the user's 3D objects and allows you to edit the location currently used in the 3D simulation.

The preview is based on locations, a show can have multiple locations. That is, it is possible to visualize the behavior of the same DMX fixtures in different locations and see how the result looks with different positions, editing the location and choosing the active location is done in the option “3D editor & config”:



In the list, the location used can be chosen, each show always has a location, when a new show is created the name of this location is “Standard”, to edit the location, click on “Edit”, see in the next chapters how to edit a location .

In this window the 3D refresh rate is also configured, for fast computers 50 ms can be used, slower computers recommend higher values, for example 100 ms or 200 ms.

The IP of the 3D visualizer (external) is also defined in this window, if the external viewer is running on the same computer, the IP 127.0.0.1 can be used, it is possible to run the viewer on another computer, remembering that the network must be local and with good performance because there is a lot of information sent from Lumikit SHOW to the external viewer (Lumikit 3D). Never use BROADCAST mode (IP 255.255.255.255) for 3D information.

DMX fixtures simulated in 3D are:

- Moving head (internal viewer: pan/tilt, dimmer, colors; external viewer: pan/tilt, dimmer, colors, gobo, aperture angle, prism, wash, rotating gobo, rotating prism);
- Scan (internal viewer: pan/tilt, dimmer, color; external viewer: pan/tilt, dimmer, color, gobo, aperture angle, prism, wash, rotating gobo, rotating prism);
- Color LED/1 color round and rectangular (internal viewer: color only; external viewer: color and opening angle);
- Strobe (internal viewer: color only; external viewer: color and aperture angle);
- Panel (colors);
- Moving panel (pan/tilt and colors);

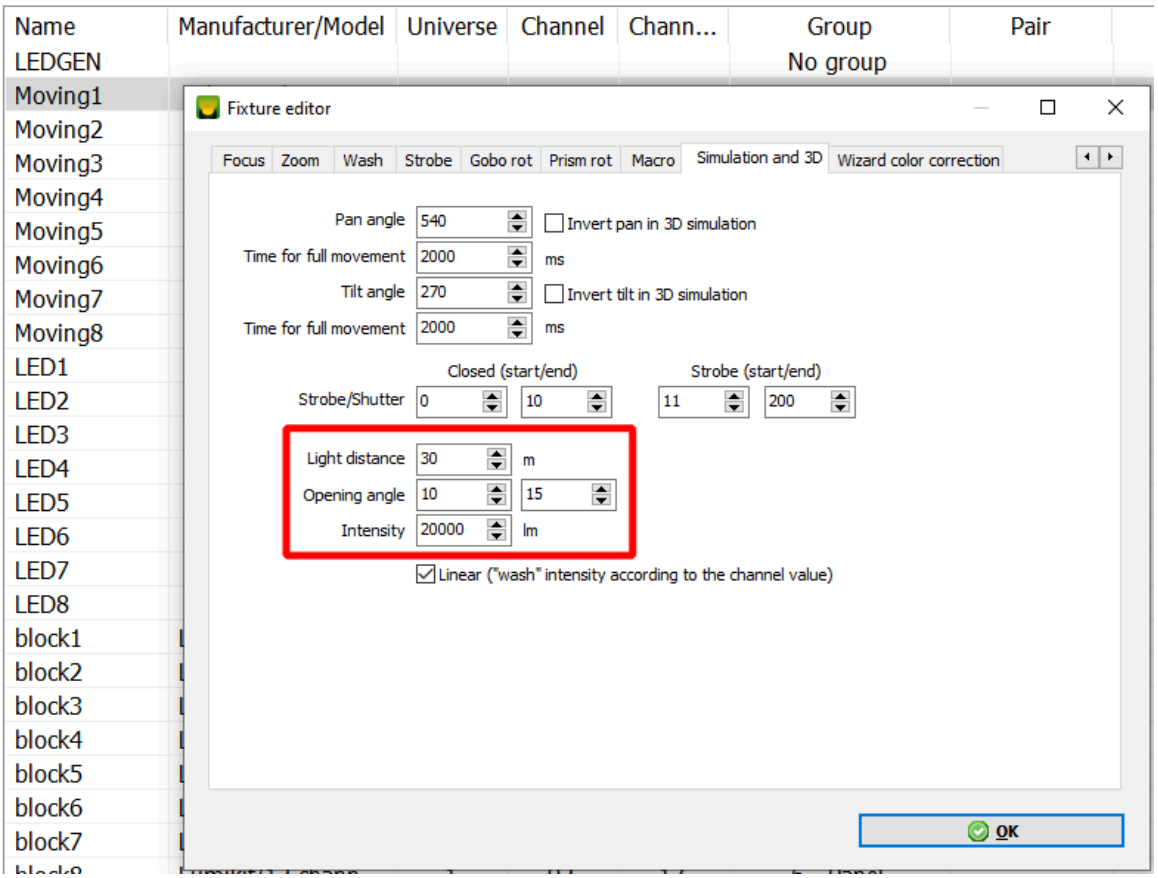
- Ribalta (internal viewer: tilt and colors; external viewer: tilt, colors, opening angle);
- Brut/mini brut (internal viewer: color only; external viewer: color and aperture angle).

The 3D External Visualizer log and configuration files will be located at:

- **Configuration files:** C:\Users\USER_NAME\AppData\LocalLow\Lumikit;
- **Log files:** C:\Users\USER_NAME\AppData\LocalLow\Lumikit\Lumikit3D.

4.1. Preparing the Fixtures for the 3D Simulation

When using the 3D simulation, it is important to make the correct configuration of the DMX fixtures in the SHOW configuration, depending on the type of fixture, the options may be different, in fixtures that emit light, observe mainly:

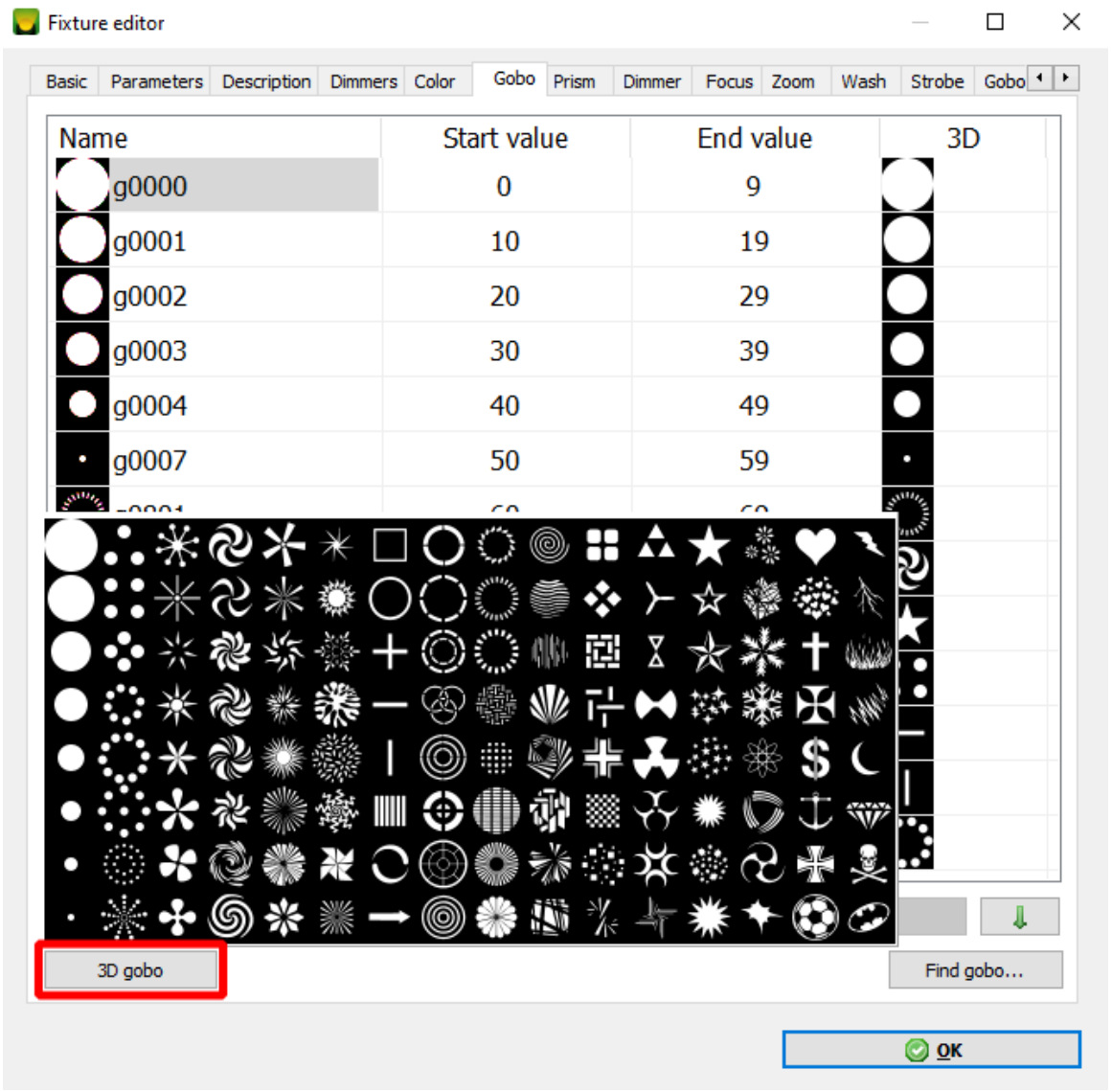


Light distance: is the range of light;

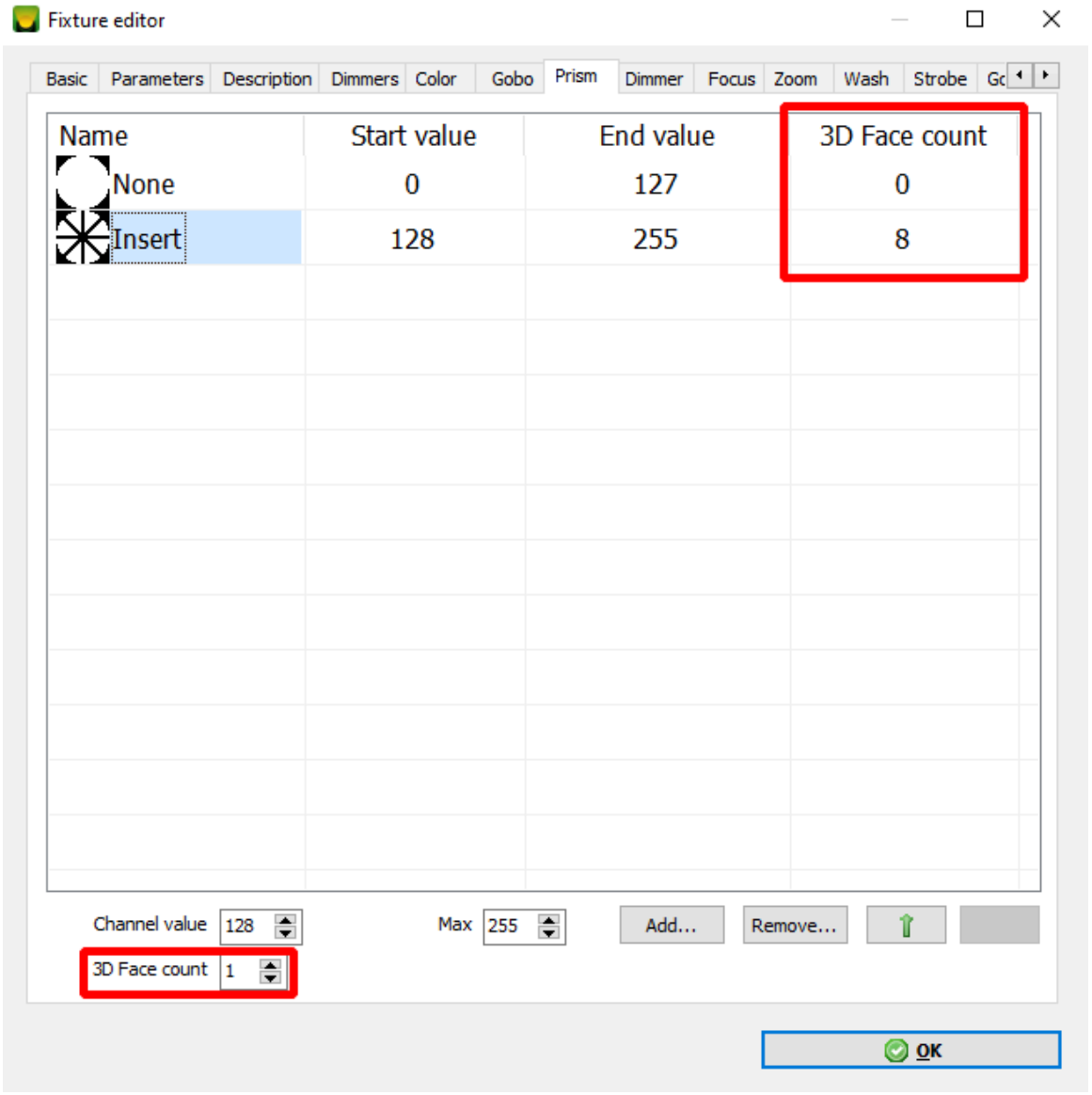
Opening Angle: how many degrees the light opens, for example: BEAM type moving heads have smaller angles, up to 5 degrees. LEDs in general have a much larger angle, for example 50 or 60 degrees;

Intensity: use 100% for the loudest fixture in the scene (eg moving BEAM) and lower values like 25% for LEDs.

For DMX devices that have gobos, in the “Gobo I” tab, the corresponding gobo in 3D must be defined:

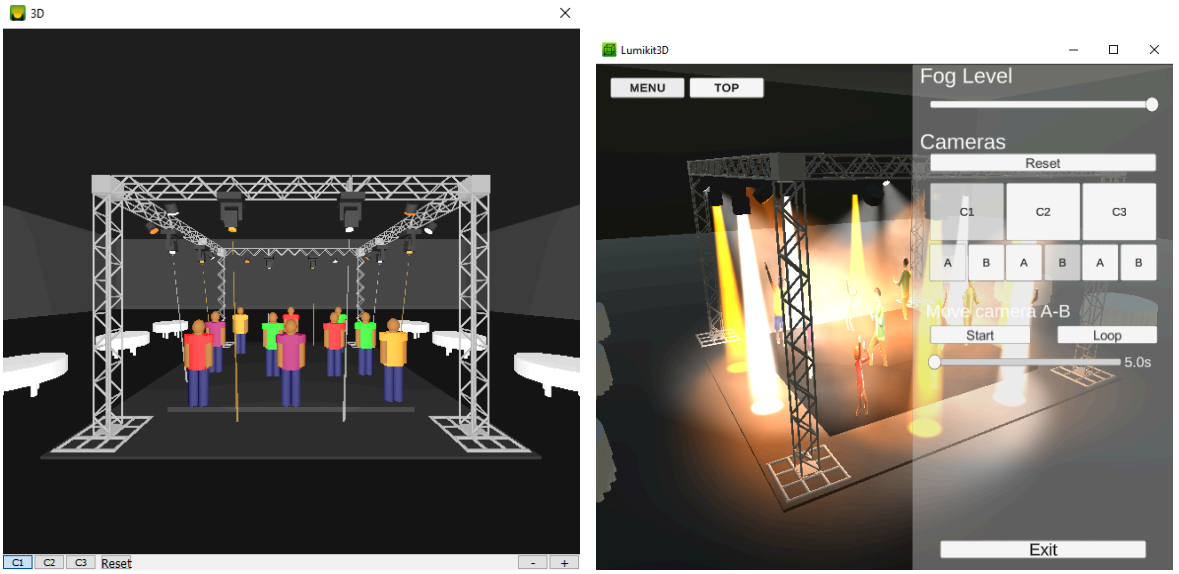


The same applies to the prism, where the number of faces of the prism must be informed in the last column, in the “Prism” tab:



4.2. Cameras

Both on the internal and external viewer, there are 3 buttons that allow the configuration of 3 different cameras (C1, C2 and C3), the “Reset” button moves the camera 10 meters from the center:



To move the cameras use:

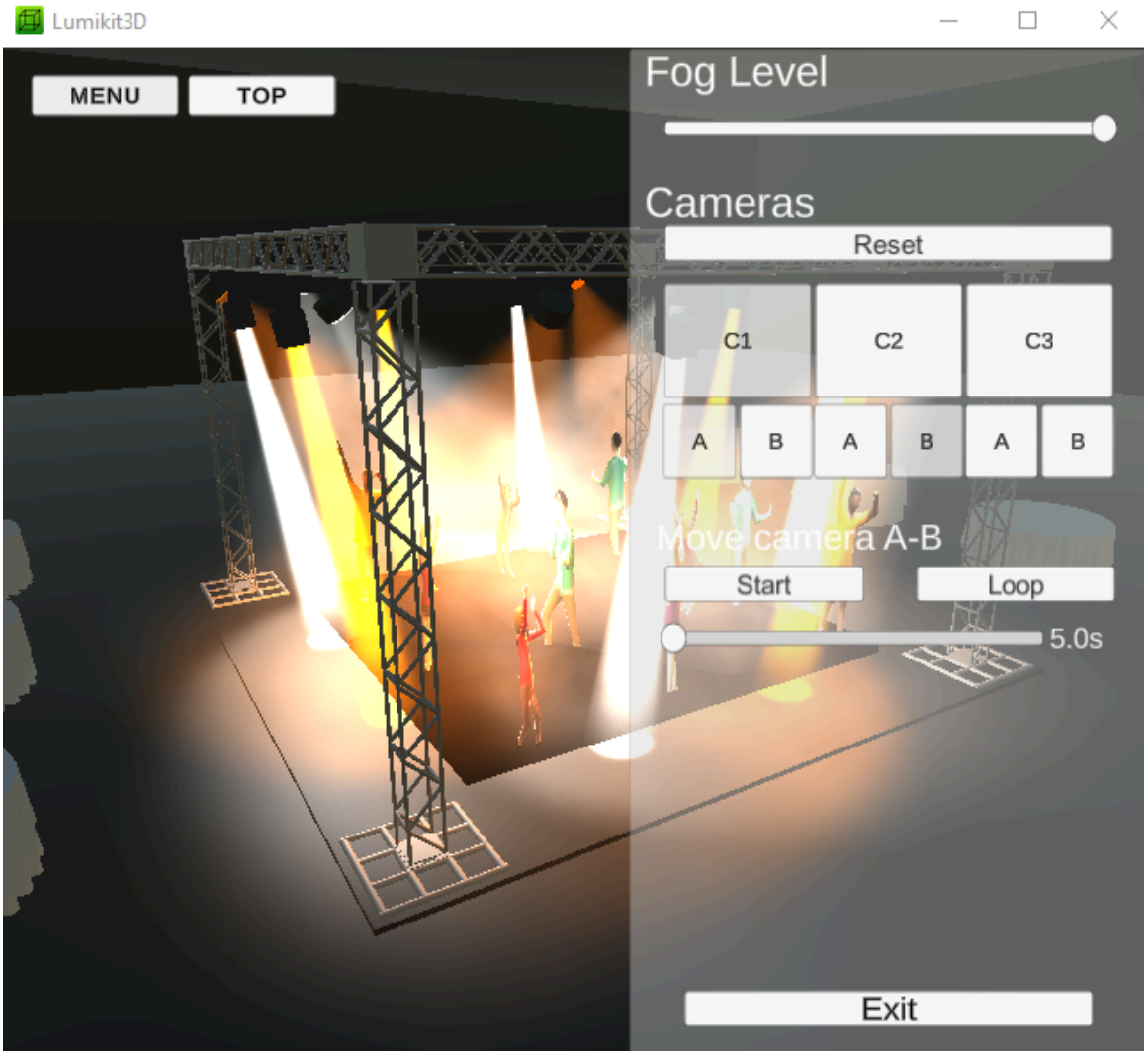
- **Mouse with the left button pressed on the X axis and Y axis:** change the camera angle;
- **Mouse with the right button pressed on the X axis and Y axis:** changes the position of the camera on the X and Y axis;
- **Mouse scroll:** change the position of the camera on the Z axis, (if your mouse does not have a scroll, use the ”+” and ”-” buttons located below the 3D simulation, only in the internal viewer).

When moving the camera, the new position is stored within the selected camera.

4.3. Lumikit’s 3D External Visualizer Functionalities

In addition to the cameras selected by the C1 to C3 buttons. The external viewer has additional functions, shown below:

- **MENU:** shows/hides the menu on the left side of the window;
- **TOP:** places the Lumikit 3D window on top of other windows, for example the main window of Lumikit SHOW.



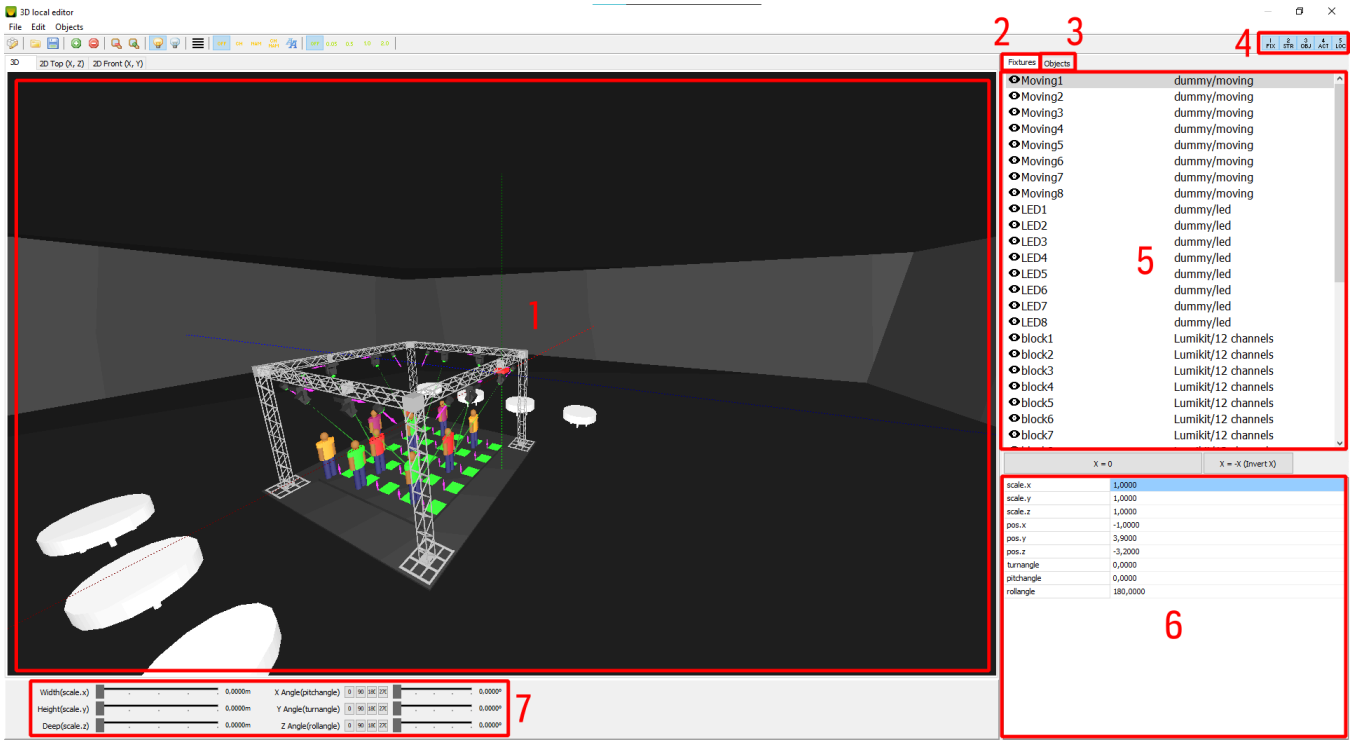
The buttons “A” and “B” below the cameras (C1 to C3) mark 2 cameras (A and B) and in the function just below, “Move camera A-B” a time can be defined, and by pressing the button “Start ” the camera moves from the position defined in the camera marked with “A” to the camera “B”. Turning on the “Loop” the movement is repeated indefinitely.

4.4. Location Editor

A venue is a set of static three-dimensional objects (which won't be changed by scenes) plus the fixtures that were defined in the show setup.

Each location may have a different set of objects, for example, use different structures, since the DMX fixtures will be the same as those defined in the show configuration for all locations.

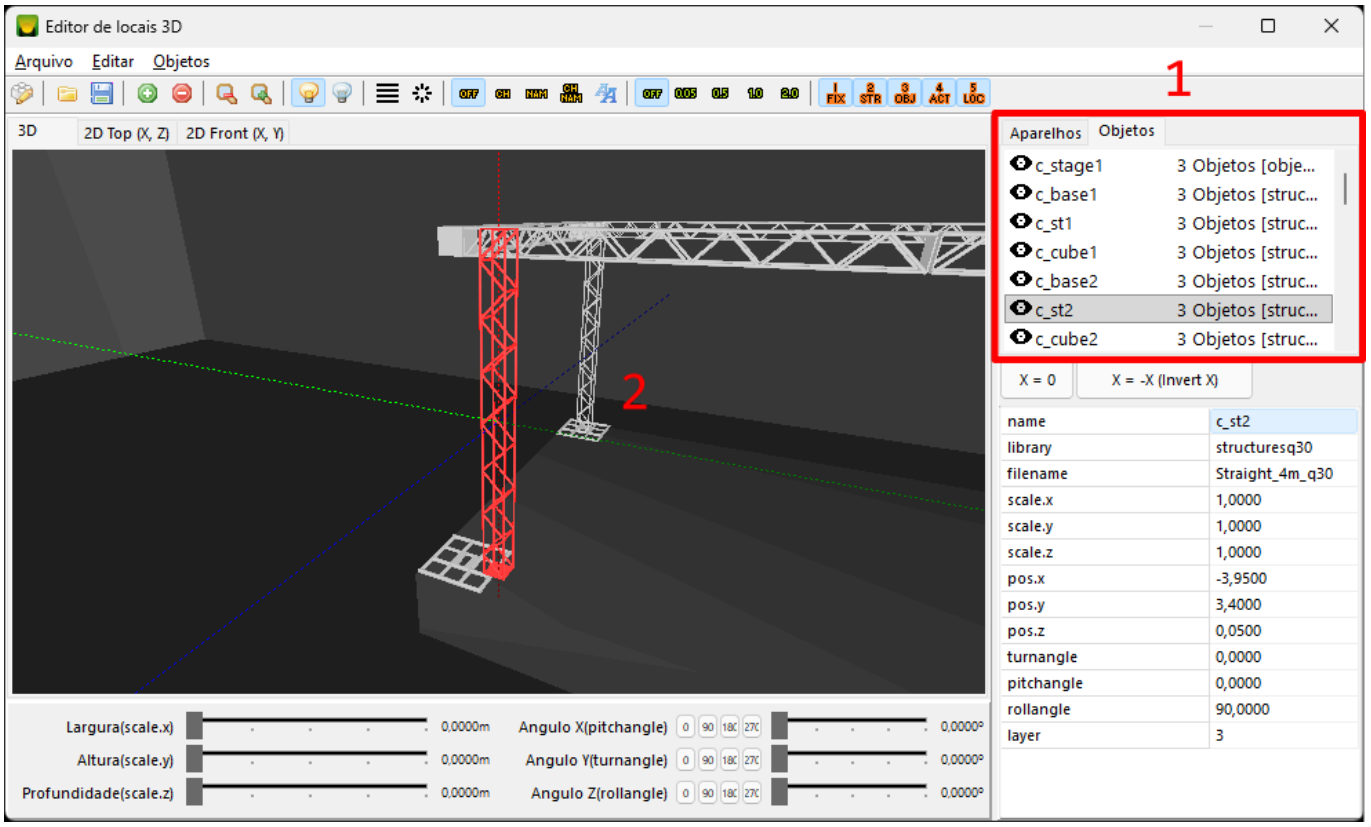
To change the objects that are in a location and also the position of the fixtures, the location editor is used. The location editor can be accessed when adding or editing a location in the 3D simulation.



- 3D window where the location is presented, with the objects and panels in the positions defined by the user, the camera (point of view) can be moved with the help of the mouse, clicking with the right button and moving the mouse, the camera will rotate around the object or device selected in the list (5), if there is no object or device selected, the camera will be positioned at the point (X:0, Y:0, Z:0), the buttons on the button bar decrease and increase the zoom respectively;
- Devices: if selected, the list (5) will show the LED panels defined in the LED panel configuration;
- Objects: if selected, the list (5) will show the objects present in the location;
- List of objects or devices: allows you to select an object or device, so that its properties (size, position, angles) can be changed;
- Properties of objects or devices: allows manually changing the properties of the object or device selected in the list (5);
- Positioning objects or devices: the available controls allow you to quickly change the size and inclination angles of the object or device selected in the list (5);
- Editing layers, see below.

To move the objects:

- Select the object or fixture you desire (one or more) in the list to the right (*Fixtures* and/or *Objects* tabs);
- Click in the 3D window;
- Move the selected objects with the keyboard's arrow keys:
    - ↑: Move forwards;
    - ↓: Move backwards;
    - ←: Move to the left;
    - →: Move to the right;
    - Shift + ↑: Move up;
    - Shift + ↓: Move down.



It is also possible to alter the position values manually ("pox.x", "pox.y", etc), as the size and rotation ("scale.x", "turnangle", etc).

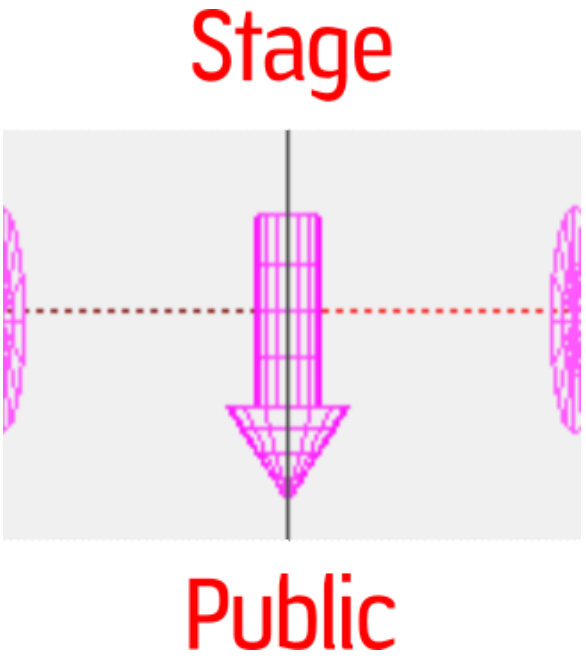
At the top of the location editor window there are 3 tabs that allow you to view the location in different ways, from the standard 3D way and in 2D (two dimensions) from above (X, Z) and from the front (X, Y).

The “OFF”, “CH”, “NAM”, “CH NAM” and “A” buttons show the DMX channel and/or fixture name on the DMX fixture side. The “A” button changes the font size.

The “OFF”, “0.5”, “1.0” and “2.0” buttons work like a grid, for example if the “2.0” button is marked, when moving the devices their position will always be a multiple of 2.

4.4.1. Central Position

When editing a location, there is a central position that is shown within the editor, represented by an arrow at position X: 0, Y:0, Z:0, the recommendation is that when drawing objects consider this marking:

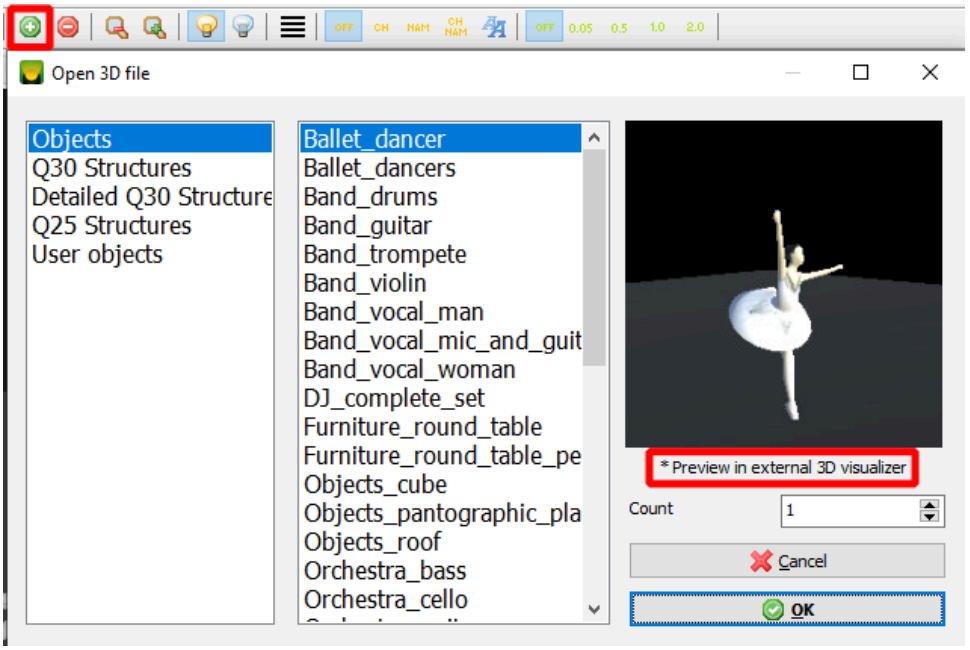


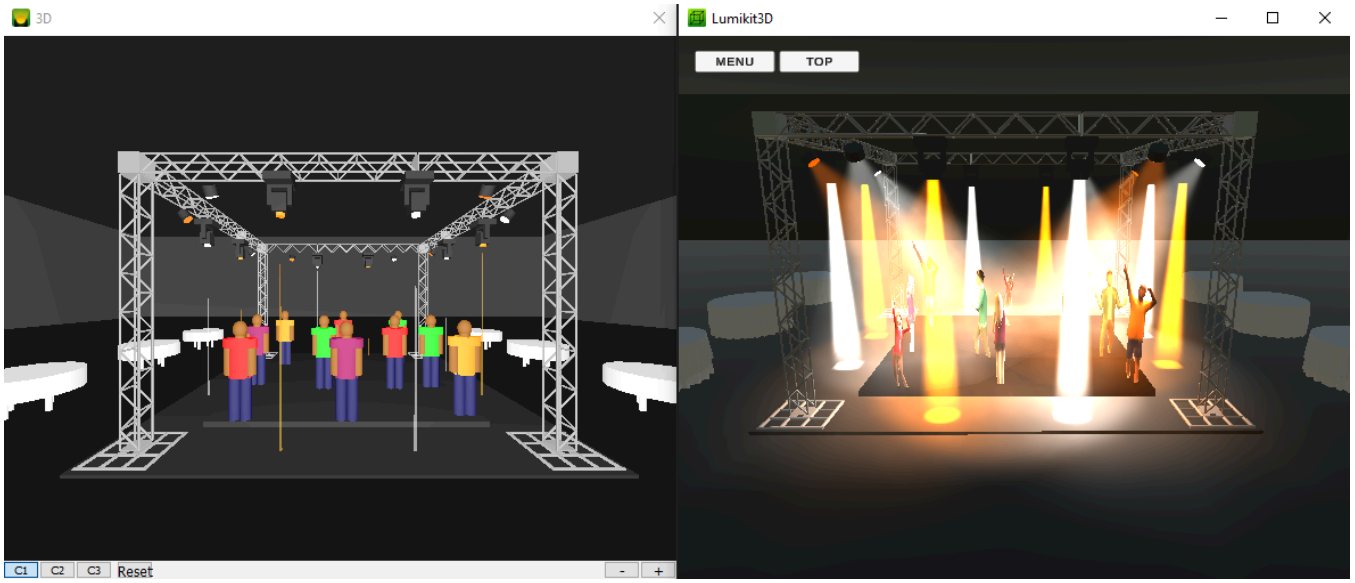
4.4.2. Objects

In one place, several different objects can be used to complement the scenery, such as the structures where the lighting will be fixed and other elements such as tables, people, sound system.

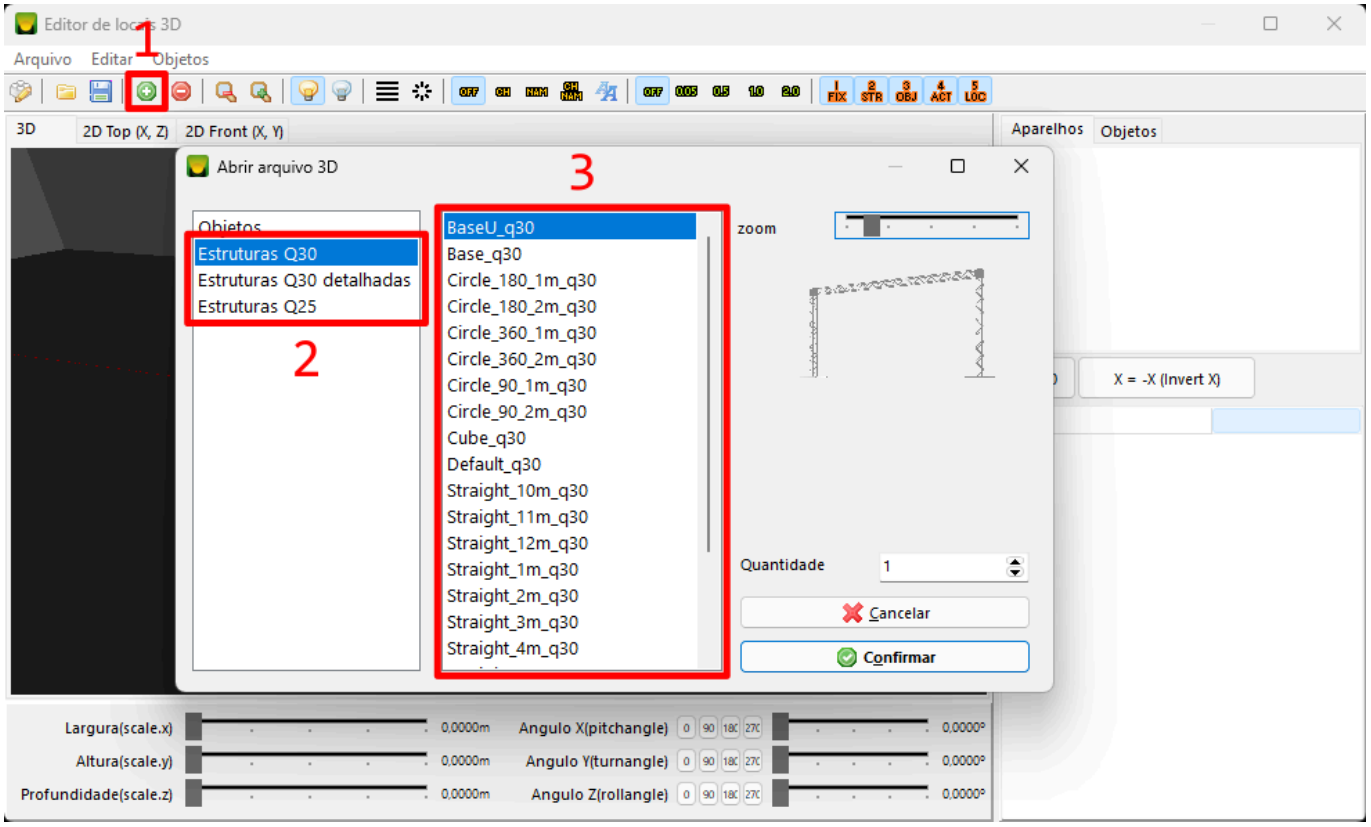
There are 2 types of objects in Lumikit SHOW, objects that are drawn with primitive types (see the next chapters) and “HD” objects, in the internal viewer they are shown in a simpler way

and in the external viewer they are shown with an improved quality, a example is the drummer:





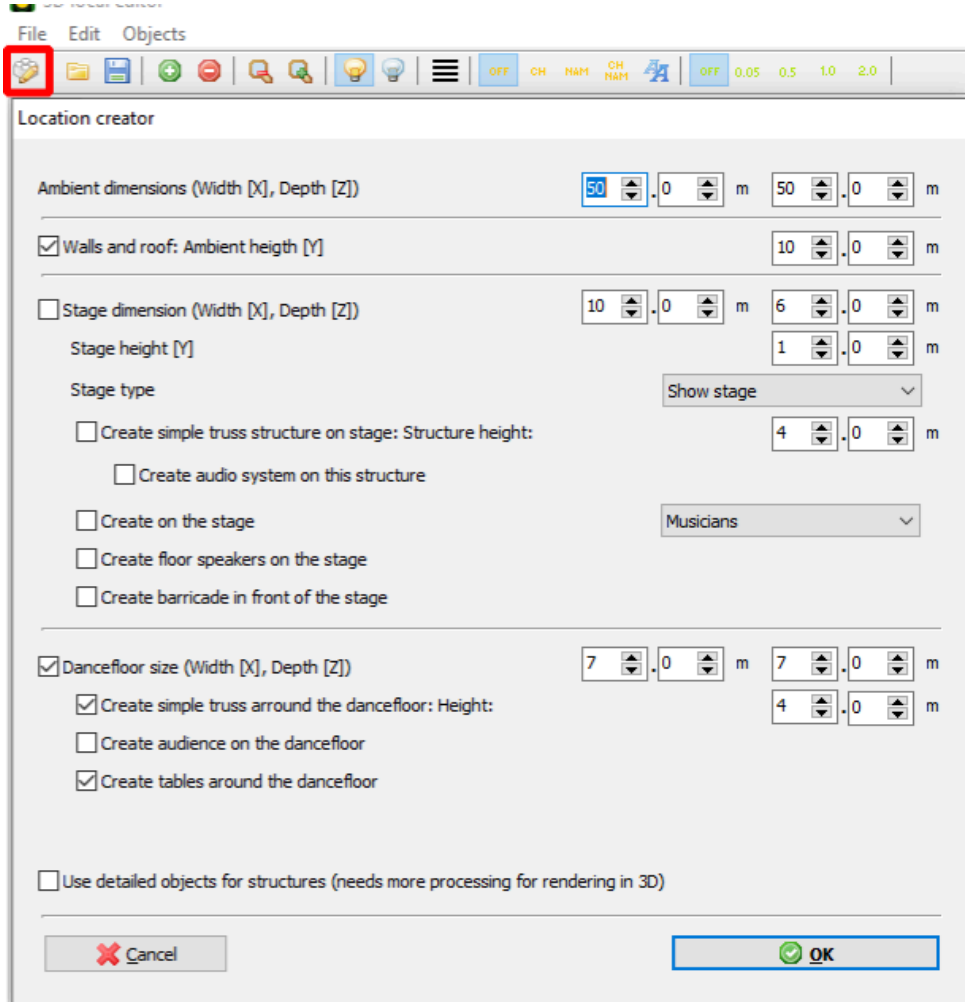
Some models like metallic structures come along with the program. To add them in the 3D location, click the “+” button (1) in the top bar, select the “Q30 Structures” in the list (2) for example, and then the objects will be listed (3).



If you do not find what you need, you can create it (see chapter 4.5).

4.4.3. Location Creator

To facilitate the creation of 3D locations, Lumikit SHOW has an automatic location generator that can be accessed using the first button on the right side of the location editor:



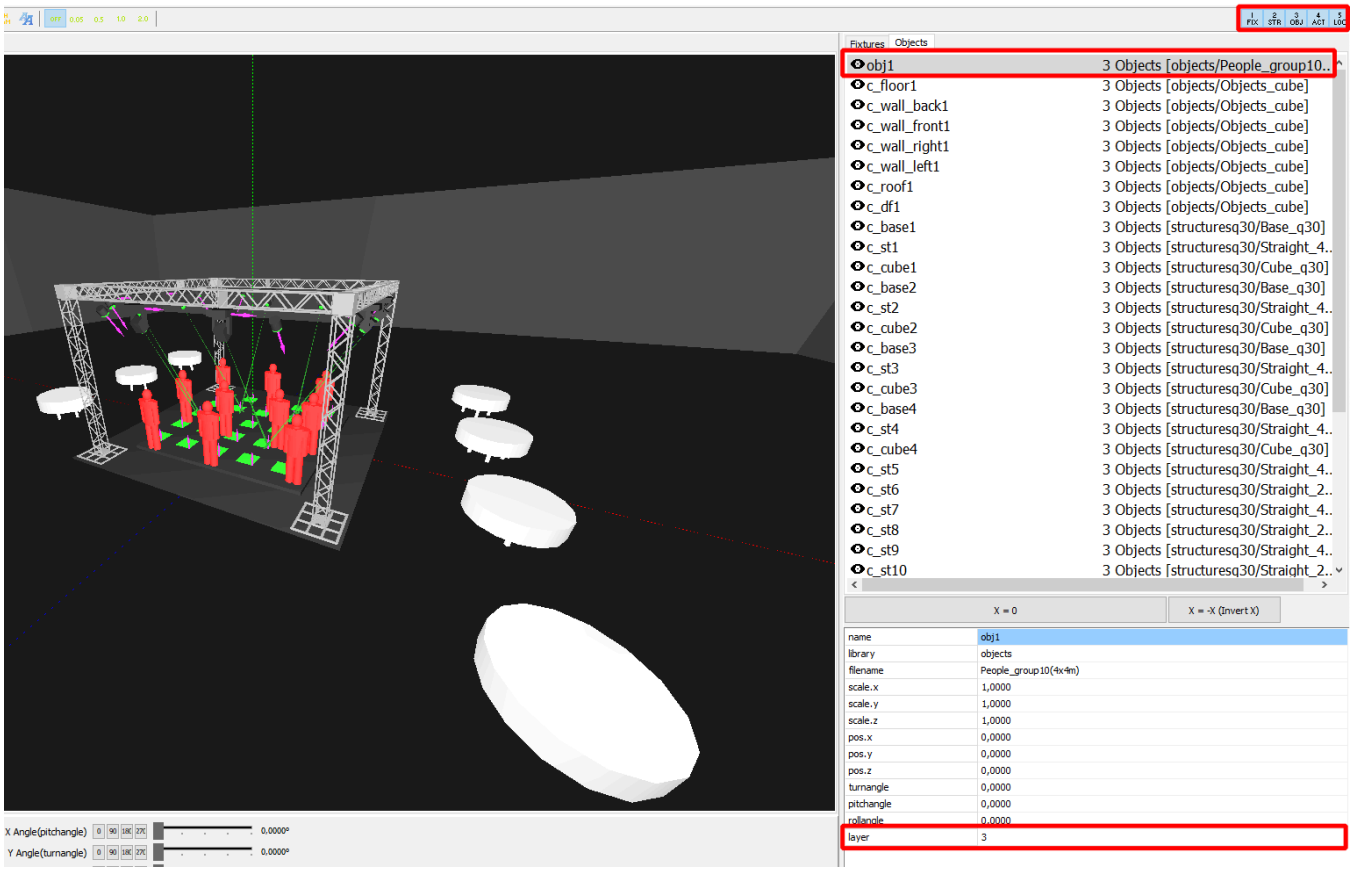
The location generator will create several objects in the scene with the name starting with the characters “c_”. Each time a new location is generated, objects with a name starting with “c_” will be deleted and generated again.

4.4.4. Layers

The Location Editor works in 5 layers.

- **1: FIX.** DMX fixtures in the show;
- **2: STR.** Structures;
- **3: OBJ.** Props (speakers, chairs, plants, etc...);
- **4: ACT.** Actors;
- **5: LOC.** 3D objects that form the location (ceiling, floor, walls).

The active layers are defined by the buttons on the left side of the window, so for example when editing the position of the DMX fixtures in the structure, you can turn off the other layers so they don't get in the way when selecting the fixtures.



It is also possible to change the layer of an object, just enter a new number inside the “layer” property as highlighted above in the image.

4.5. 3D Object Editor

It is possible to include new 3D objects in the simulation, objects that are not yet defined in the library, or change existing objects (remember that when changing an existing object and saving it with the same name, it can be deleted in a possible update of version).

4.5.1. Primitive Types

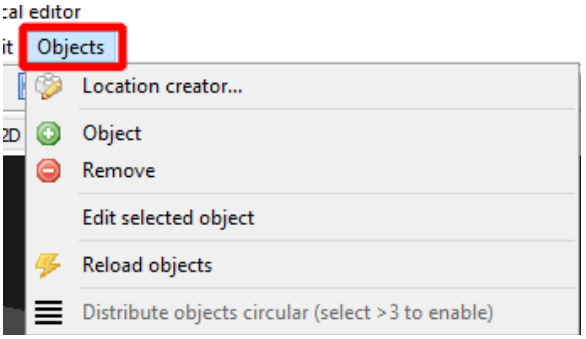
The objects in the simulation are composed of 5 types of objects called primitives:

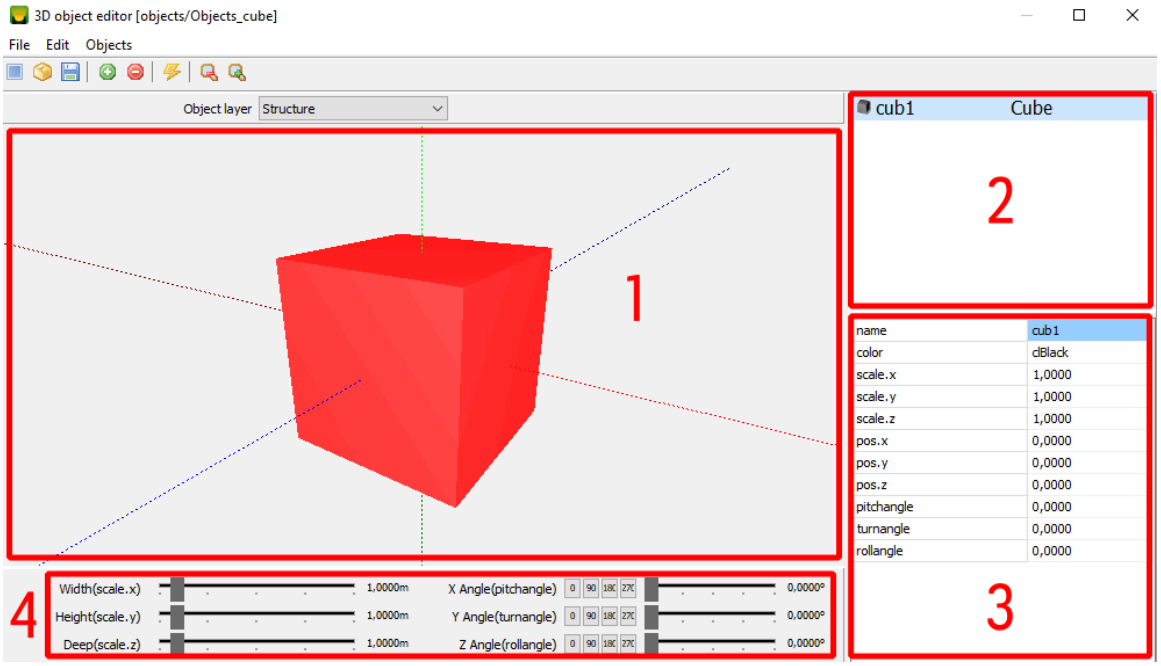
- Cube: which is not necessarily an object with 8 equal faces;
- Cylinder;
- Ball;
- Cone;

- Pyramid of parallel faces.

4.5.2. Object Editor Window

The 3D object editor consists of a window similar to the location editor window:





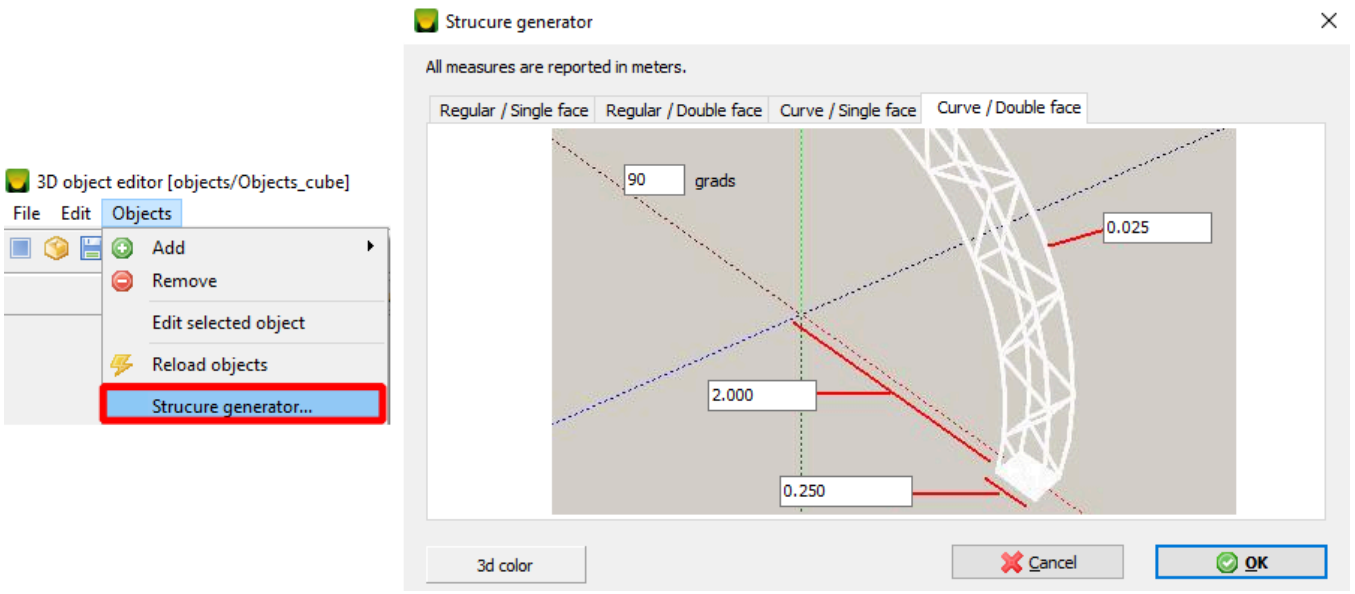
- 3D window where the object is presented, with primitive objects defined by the user, the camera (point of view) can be moved with the mouse, by clicking the right button and moving the mouse, the camera will rotate around the object selected in the list (2), if there is no object selected, the camera will be positioned at the point (X:0, Y:0, Z:0), the buttons on the button bar, decrease and increase the zoom respectively;
- List of objects or fixtures: allows you to select an object, so that its properties (size, position, angles, etc.) can be changed;
- Properties of objects or devices: allows manually changing the properties of the object selected in the list (2);

- Positioning objects or devices: the available controls allow you to quickly change the size and inclination of the object selected in the list (2).

4.5.3. Structure Generator

It is possible to generate structures automatically, if the illuminator wants to use a structure that is not in the 3D objects library, it can be generated automatically by the software.

The structure generator can be accessed through the Objects / Structure Creator menu.



It is possible to generate straight and curved, single and double sided structures.

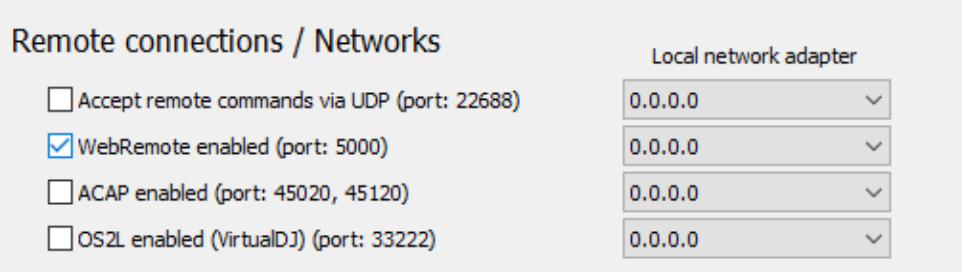
All measurements must be reported in meters.

Complex structures compromise 3D simulation performance.

5. Remote Control - WebRemote

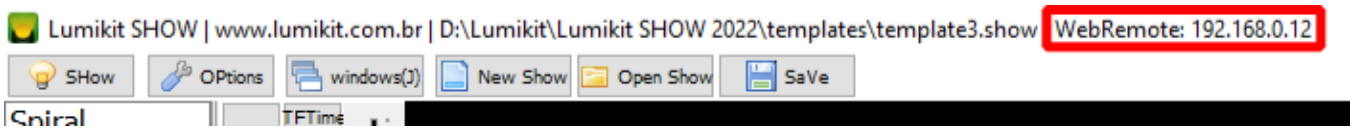
The Lumikit SHOW software can be controlled remotely via a browser (from another computer, cell phone or tablet).

For it to work correctly, check if the device that will control Lumikit SHOW is on the same network, if the computer's firewall is turned off, if the communication option is activated in Lumikit SHOW (this option can be found in the software options, at button “Options”, “General options”, “WebRemote” must be active).



In the browser just type: http://computer_ip:5000/

The IP number where WebRemote was configured will appear at the top of Lumikit SHOW in the main window:



6. Scripts

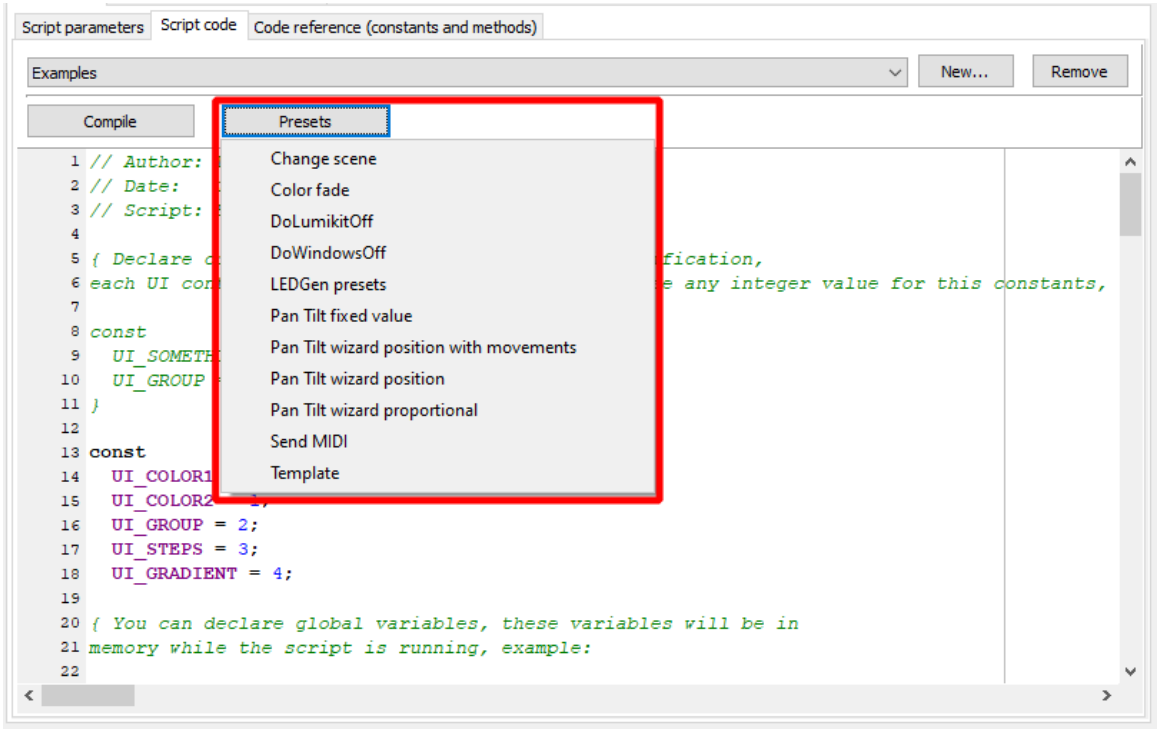
The scripts in Lumikit SHOW use the PASCAL programming language. So all commands for variable declaration (VAR, creation of structures like RECORD), variable types (BYTE, INT, DOUBLE, STRING), commands for flow control (IF, FOR, WHILE) are available. Creation of METHODS and FUNCTIONS can also be used.

To make the connection between the scripts and Lumikit SHOW, specific methods and functions are available. The name of this set of methods and functions is “Super Set”.

So with Super Sets, scripts can be run from two locations within the software:

- Inside an extra function (which can be executed in several places of the software), to read/set DMX values, control the LED Generator in the main window, change scenes in DMX edit mode, send MIDI, **Super Set DMX**.
- In image generator for dimmer and LED (in main window and in Wizards) to generate images, **Super Set Generator**.

Several examples can be found in the software installation folder, in the /scriptgen/ and /scriptdmx/ subfolders, the examples can also be loaded within the software:



6.1. Super Set DMX

6.1.1. Methods and Functions

General methods and functions:

`function BASE_TIME: integer;` Returns a value in milliseconds of the time each scene is recalculated. 25 FPS = 40ms; 30 FPS = 33ms; 40 FPS = 25ms;

`function GetDimmer: byte;` Returns a value between 0 and 100 that represents the fader value if the script is running in the custom window inside a fader;

`procedure DoTerminate;` Ends the execution of the script;

`function GetACAPData(freq: integer): byte;` Returns the value sent by ACAP to Lumikit SHOW, freq can be between 0 and 15;

procedure DoAction(code: string; value: byte); Executes an action, be careful not to call it inside OnExecute that could crash the software, code follows the codes in the action table;

Methods and functions to define and read global variables that can be passed between scripts (id ranges from 1 to 512):

```
function SCGetGlobalVar(id: integer): byte;
procedure SCSetGlobalVar(id: integer; value: byte);
procedure SCResetAllGlobalVars;
```

Methods and functions for creating a user interface and asking the script for values:

```
procedure RegisterUIText(text: string);
procedure RegisterUICheckBox(uiId: integer; text: string; default: integer);
procedure RegisterUIComboBox(uiId: integer; text: string; default: integer; items: string);
procedure RegisterUIValue(uiId: integer; text: string; default, min, max: integer);
procedure RegisterUIFixtureBox(uiId: integer; text: string);
procedure RegisterUIGroupBox(uiId: integer; text: string);
procedure RegisterUIPositionBox(uiId: integer; text: string);
procedure RegisterUILEDGenBox(uiId: integer; text: string);
procedure RegisterUIColorBox(uiId: integer; text: string);
```

function GetUIValue(uiId: integer): integer; Returns the value entered by the user within Lumikit SHOW.

Iterator para percorrer valores informados pelo usuários em listas (FixtureBox, GroupBox, ColorBox):

```
procedure IteratorUIReset(uiId: integer);
function IteratorUIRead(uiId: integer; var nextUiId: integer): boolean;
```

Functions and methods to assign/read a DMX value:

procedure SetChannel(channel: integer; value: byte); Assigns a value to a DMX channel, the channel can range from 1 to 8*512 (in the case of 12 DMX universes, the CHANNEL_COUNT constant can be used);

function GetChannel(channel: integer): byte; Reads the value of the DMX input;

Functions and methods for working with DMX fixtures configured in the show:

```
function GetFixCount: integer;
procedure IteratorFixReset;
function IteratorFixRead(var nextFixId: integer): boolean;
function GetFixInGroupCount(groupId: integer): integer;
function GetFixGroup(fixId: integer): integer;
procedure IteratorFixGroupReset(groupId: integer);
function IteratorFixGroupRead(var nextFixId: integer): boolean;
function GetFixType(fixId: integer): integer;
procedure IteratorFixTypeReset(fixType: integer);
function IteratorFixTypeRead(var nextFixId: integer): boolean;
function GetFixName(fixId: integer): string;
function GetFixStartChannel(fixId: integer): integer;
function GetFixChannelCount(fixId: integer): integer;
function GetFixIdByName(name: string): integer;
```

Functions and methods for working with parameters of DMX fixtures and Wizard groups (parameters must be informed by constants, check the list below):

```
procedure SetFixParam(fixId: integer; channelType: integer; v: byte);
procedure SetGroupParam(groupId: integer; channelType: integer; v: byte);
procedure SetGroupParamFixType(groupId: integer; channelType: integer; fixType: integer; v: byte);
```

Functions and methods for working with the colors of DMX fixtures and Wizard groups (the colors must be informed by constants, check the list below):

```
procedure SetFixColor(fixId: integer; colorId: integer);
procedure SetGroupColor(groupId: integer; colorId: integer);
procedure SetFixColorFade(fixId: integer; startColorId: integer; endcolorId: integer; currentStep: integer; totalSteps: integer);
procedure SetGroupColorFade(groupId: integer; startColorId: integer; endcolorId: integer; currentStep: integer; totalSteps: integer);
procedure SetFixColorExtended(fixId: integer; colorId: integer; rgb, amber, white, uv: boolean);
procedure SetGroupColorExtended(groupId: integer; colorId: integer; rgb, amber, white, uv: boolean);
procedure SetFixColorFadeExtended(fixId: integer; startColorId: integer; endcolorId: integer; currentStep: integer; totalSteps: integer; rgb, amber, white, uv: boolean);
```

```
procedure SetGroupColorFadeExtended(groupId: integer; startColorId: integer;
endcolorId: integer; currentStep: integer; totalSteps: integer; rgb, amber,
white, uv: boolean);
```

Functions and methods for working with the PAN and TILT of DMX fixtures and Wizard groups:

```
function GetFixPTPairIndex(fixId: integer): integer;
function GetFixPTPairId(fixId: integer): integer;
procedure SetFixPT(fixId: integer; positionId: integer; pan: integer; tilt:
integer; setPair: boolean);
procedure SetGroupPT(groupId: integer; positionId: integer; pan: integer; tilt:
integer; setPair: boolean);
procedure SetGroupPTLens(groupId: integer; positionId: integer; pan: integer;
tilt: integer; lens: integer);
procedure SetFixPTProportional(fixId: integer; startPositionId: integer;
endPositionId: integer; currentStep: integer; totalSteps: integer; pan:
integer; tilt: integer; setPair: boolean);
procedure SetGroupPTProportional(groupId: integer; startPositionId: integer;
endPositionId: integer; currentStep: integer; totalSteps: integer; pan:
integer; tilt: integer; setPair: boolean);
procedure SetGroupPTLensProportional(groupId: integer; startPositionId:
integer; endPositionId: integer; currentStep: integer; totalSteps: integer;
pan: integer; tilt: integer; lens: integer);
```

Functions and methods to change the scene in the main window:

```
procedure DoSceneChange(page: integer; index: integer);
```

Functions and methods for sending a MIDI command:

```
procedure DoMIDISend(midioutput: integer; command, data1, data2: byte);
```

Funções e métodos para controlar o gerador de LED na janela principal:

```
function GetLEDGenIdByName(name: string): integer;
function GetLEDGenCount: integer;
procedure SetLEDGenColor(r, g, b: byte);
procedure SetLEDGenUseColor(active: boolean);
procedure SetLEDGenDimmer(dimmer: byte);
procedure SetLEDGenStrobe(strobe: byte);
procedure SetLEDGenSpeed(speed: byte);
```

```
procedure DoLEDGenLoadLR(ledGenId: integer; left: boolean; doFade: boolean);
procedure DoLEDGenLoad(ledGenId: integer);
procedure DoLEDGenOff;
```

6.1.2. Constants

To help with programming, there are several constants already defined within the Super Set DMX, below is the list:

Constants used in the wizard colors (CL = Color)	Constants used in the DMX channels parameters (CT = Channel Type)	Constants used in DMX fixture types (FT = Fixture Type)
CL_WHITE=0 CL_YELLOWL=1 CL_YELLOW=2 CL_YELLOWD=3 CL_REDLL=4 CL_REDL=5 CL_RED=6 CL_REDD=7 CL_MAGENTAL=8 CL_MAGENTA=9 CL_MAGENTAD=10 CL_PURPLE=11 CL_CYAN=12 CL_BLUEL=13 CL_BLUE=14 CL_BLUED=15 CL_GREENLL=16 CL_GREENL=17 CL_GREEN=18 CL_GREEND=19 CL_AMBARL=20 CL_AMBAR=21 CL_AMBARD=22 CL_OFF=23 CL_CUSTOM1=24 CL_CUSTOM2=25 CL_CUSTOM3=26 CL_CUSTOM4=27 CL_LIVE1=28	CT_OTHER=0 CT_PAN=1 CT_PANFINE=2 CT_TILT=3 CT_TILTFINE=4 CT_COLOR1=5 CT_COLOR2=6 CT_GOBO1=7 CT_GOBO2=8 CT_PRISMA=9 CT_SPECIAL=10 CT_DIMMER=11 CT_SPECIAL2=12 CT_FOCUS=13 CT_ZOOM=14 CT_FROST=15 CT_STROBE=16 CT_SPEED=17 CT_GOBOROT=18 CT_PRISMAROT=19 CT_GOBOCHANGESPEED=20 CT_CYANRED=21 CT_MAGENTAGREEN=22 CT_YELLOWBLUE=23 CT_WHITE=24 CT_AMBAR=25 CT_8BITS=26 CT_LEDPANEL=27 CT_UV=28 CT_LAMP=29	FT_NONE=0 FT_DIMMER=1 FT_SCAN=2 FT_MOVINGHEAD=3 FT_LEDRGBROUND=4 FT_LEDRGBRECT=5 FT_LED1ROUND=6 FT_LED1RECT=7 FT_STROBE=9 FT_LASER=10 FT_FOG=11 FT_MOVINGPANEL=12 FT_MINIBRUT=13 FT_RIBALTA=14

CL_LIVE2=29 CL_LIVE3=30 CL_LIVE4=31 CL_LIVE5=32 CL_LIVE6=33 CL_LIVE7=34 CL_LIVE8=35	CT_CONTROL=30 CT_PAN2=31 CT_PANFINE2=34 CT_TILT2=33 CT_TILTFINE2=34 CT_DIMMERFINE=35 CT_COLOR1FINE=36 CT_SPECIAL3=37 CT_SPECIAL4=38 CT_SPECIAL5=39 CT_SPECIAL6=40	

Other constants:

CHANNEL_COUNT=24576; Total available channels for DMX fixtures - 48 universes * 512 channels = 24576.

6.1.3. Methods and Functions that Must be Implemented

To execute the script, specific methods must be implemented, Lumikit SHOW calls these methods at specific times:

```
{ "OnRegister" is executed after compilation, here the "Register" methods must be called to create the user interface }
procedure OnRegister;
begin
	// RegisterUIValue(UI_SOMETHING, 'Parameter name', default_value, min, max);
	// RegisterUIGroupBox(UI_GROUP, 'Group box');
end;


{ "OnStart" will be executed after the script is compiled and when starting execution. Here the variables, table and other necessary structures must be initialized. }
procedure OnStart;
begin

end;
```

```
{ "OnExecute" will be executed every 40 ms (constant BASE_TIME), here the DMX channels must be processed. To end the execution within “OnExecute”, the “DoTerminate” method can be called at any time. }
procedure OnExecute;
begin


end;


{ If the “OnTerminate” method is defined, it will be executed when the script is turned off, it can be used to do a Fade Out for example. This method will run every 40ms (BASE_TIME constant) until the DoTerminate method is called. }
procedure OnTerminate;
begin
     DoTerminate;
end;
```

6.2. Super Set Generator

6.2.1. Methods and Functions

General methods and functions:

`function BASE_TIME: integer;` Returns a value in milliseconds of the time each scene is recalculated. 25 FPS = 40ms; 30 FPS = 33ms; 40 FPS = 25ms.

`function GetACAPData(freq: integer): byte;` Returns the value sent by ACAP to Lumikit SHOW, freq can be between 0 and 15.

Methods and functions for creating a user interface and asking the script for values:

```
procedure RegisterUICheckBox(text: string; default: integer);
procedure RegisterUIComboBox(text: string; default: integer; items: string);
procedure RegisterUIValue(text: string; default, min, max: integer);
procedure RegisterUIColorBox(text: string; default: integer);
procedure RegisterUIText(text: string; default: string);
procedure RegisterDefaultTrailOption(b: boolean);
procedure RegisterDefaultTrailEnabled(b: boolean);
procedure RegisterDefaultColorOption(b: boolean);
procedure RegisterDefaultColor(i: integer);
procedure RegisterDefaultColorRandomOption(b: boolean);
```

Functions and methods for working with colors (colors must be informed by constants, check the list below):

```
function GetColorDeltaR(a, b: cardinal): integer;
function GetColorDeltaG(a, b: cardinal): integer;
function GetColorDeltaB(a, b: cardinal): integer;
function GetColorR(c: cardinal): byte;
function GetColorG(c: cardinal): byte;
function GetColorB(c: cardinal): byte;
function GetColorRGB(r, g, b: byte): cardinal;
function GetColorCurrent(fade: byte): cardinal;
procedure SetColor(c: cardinal);
procedure SetColorRGB(r, g, b: byte);
```

Methods to make the drawings on the picture:

```
procedure DoClear;
procedure DoLine(x1, y1, x2, y2: integer);
procedure DoLineAngle(x1, y1, r: integer; angle: single; centerOffset:
integer);
procedure DoPixel(x1, y1: integer);
procedure DoFrame(x1, y1, x2, y2: integer; filled: boolean);
procedure DoCircle(x1, y1, r: integer; filled: boolean);
procedure DoDiamond(x1, y1, width: integer; filled: boolean);
procedure DoStar(x1, y1, width: integer; filled: boolean);
procedure DoText(x1, y1: integer; text: string);
procedure SetTextFont(size: integer; name: string; bold: boolean);
function GetTextWidth(text: string): integer;
function GetTextHeight(text: string): integer;
```

6.2.2. Constants

To help with programming there are constants to define colors and some general constants as listed below:

Colors:

```
CL_WHITE=16777215
```

```
CL_YELLOWL=8454143

CL_YELLOW=65535

CL_YELLOWD=903868

CL_REDLL=10461183

CL_REDL=5460991

CL_RED=255

CL_REDD=1513409

CL_MAGENTAL=16744703

CL_MAGENTA=16711935

CL_MAGENTAD=8267154

CL_PURPLE=12336505

CL_CYAN=16776960

CL_BLUEL=16744448

CL_BLUE=16711680

CL_BLUED=10485760

CL_GREENLL=8454016

CL_GREENL=4259584

CL_GREEN=65280

CL_GREEND=16384

CL_AMBARL=4963827

CL_AMBAR=33021

CL_AMBARD=16512

CL_OFF=0
```

6.2.3. Methods and Functions that Must be Implemented

To execute the script, specific methods must be implemented, Lumikit SHOW calls these methods at specific times:

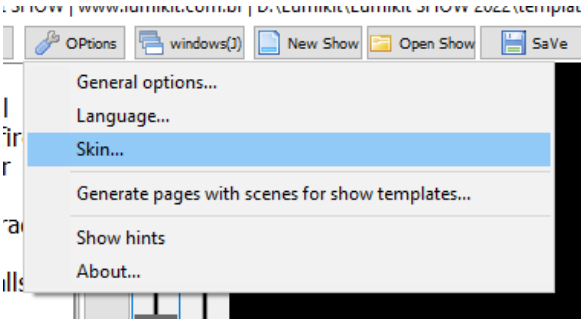
```
{ "OnRegister" is executed after compilation, here the "Register" methods must be called to create the user interface }
procedure OnRegister;
begin
```

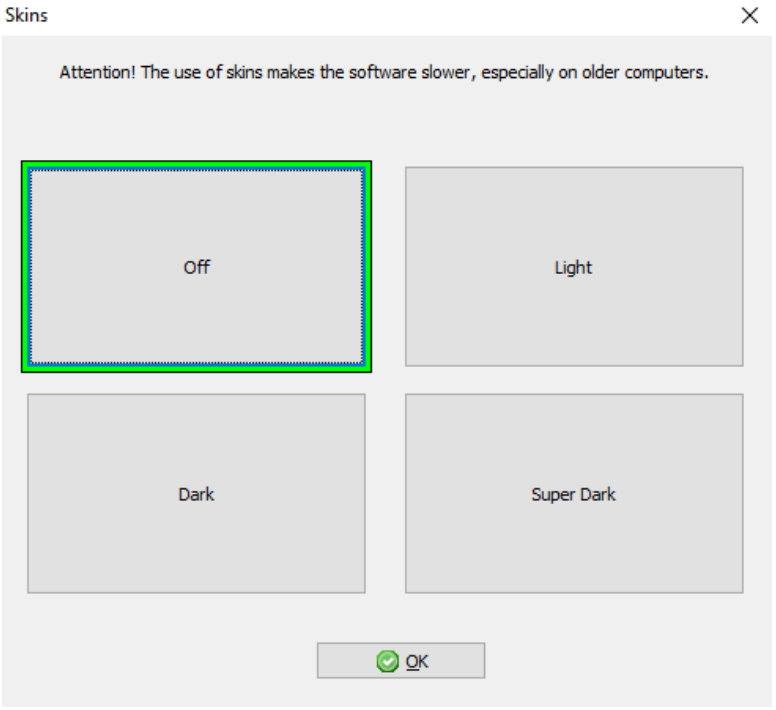
```
    // RegisterUIValue('Parameter name', default_value, min, max);

    // Shows “Trail” option: Leaves a trail in the drawing
    RegisterDefaultTrailOption(true);

    // Turns “Trail option on and off
    RegisterDefaultTrailEnabled(false);

    // Show default color options
    RegisterDefaultColorOption(true);
    // Defines default color (use constants)
    RegisterDefaultColor(CL_RED);
    // Shows “Random” option in the list of color options
    RegisterDefaultColorRandomOption(false);
end;

{ "OnStart" will be executed after the script is compiled and when starting execution. Here the variables, table and other necessary structures must be initialized. }
procedure OnStart;
begin

end;

{ "OnSetParameterInteger" is called every time some control on the screen has its value changed. Controls of type: "Value", "CheckBox", "ComboBox"; param = parameter name; value = informed value }
procedure OnSetParameterInteger(const param: string; const value: integer);
begin
    // if param='Parameter name' then do_something;
end;

{ "OnSetParameterString" is called each time some control on the screen has its value changed. Controls of type: "Text"; param = parameter name; value = informed value }
procedure OnSetParameterString(const param: string; const value: integer);
begin
    // if param='Parameter name' then do_something;
end;
```

```
{ "OnExecute" will be executed every 40 ms (constant BASE_TIME), here the DMX channels must be processed. As parameters, Lumikit SHOW sends 2 parameters: width = image width in pixels; height = image height in pixels }
procedure OnExecute(const width, height: integer);
begin

end;
```

7. Software Appearance - Skins (only available in Windows OS)

In the Windows versions of Lumikit SHOW, it is possible to change the appearance using the “Skins” option located in the main window under the “OPtions/Skin” button:





Remembering that on older computers the software may be slow using the skins.

Some colors of some software functions mentioned in this manual may be different using skins.

8. FAQ (Frequently Asked Questions)

Can I use another interface or controller with Lumikit SHOW?

Yes, provided that the interface or controller is compatible with Art-Net, it should work. We do not guarantee it because it depends entirely on how the Art-Net was implemented by the manufacturer (if it follows the protocol correctly, it should work).

I have a USB Art-Net interface. Can I use it? How do I configure it?

Yes, you can use it. Follow the steps of this video:

- **USB interface configuration with Lumikit SHOW:** https://www.lumikit.com.br/ul/LUMIDICAS4.

I didn't find the configuration file (patch) for my fixture in the library. What do I do?

Just create it manually. Check these videos to help with fixture creation:

- **Types of DMX fixtures:** https://lumikit.com.br/ul/UL101;
- **Finding the channels while creating the fixture:** https://lumikit.com.br/ul/UL104;
- **Finding colors and gobos:** https://lumikit.com.br/ul/LUMIDICAS11.

[DIMITRI continuar]

Posso importar objetos 3D para dentro do Lumikit, de outros programas ou formatos de arquivo?

Não. O intuito 3D é ser simples, desta forma não é possível usar objetos 3D fora do Lumikit. Lembrando que ainda é possível editar, excluir e criar novos objetos 3D a partir dos próprios que já estão no Lumikit (capítulo 4.5).

O Lumikit SHOW roda no MAC OS ou em outros sistemas operacionais?

Não nativamente. As últimas versões do programa foram desenvolvidas para funcionar no Windows somente. Para outros sistemas operacionais, deverá ser usada uma máquina virtual com Windows, e alguns computadores com processador ARM (caso de MACs mais recentes) poderão mesmo assim não funcionar.

Como faço para sincronizar o som com a luz?

Há 3 funcionalidades no Lumikit SHOW que podem ser usadas, a depender de sua necessidade: Lista de cenas, Timeline ou Timecode.

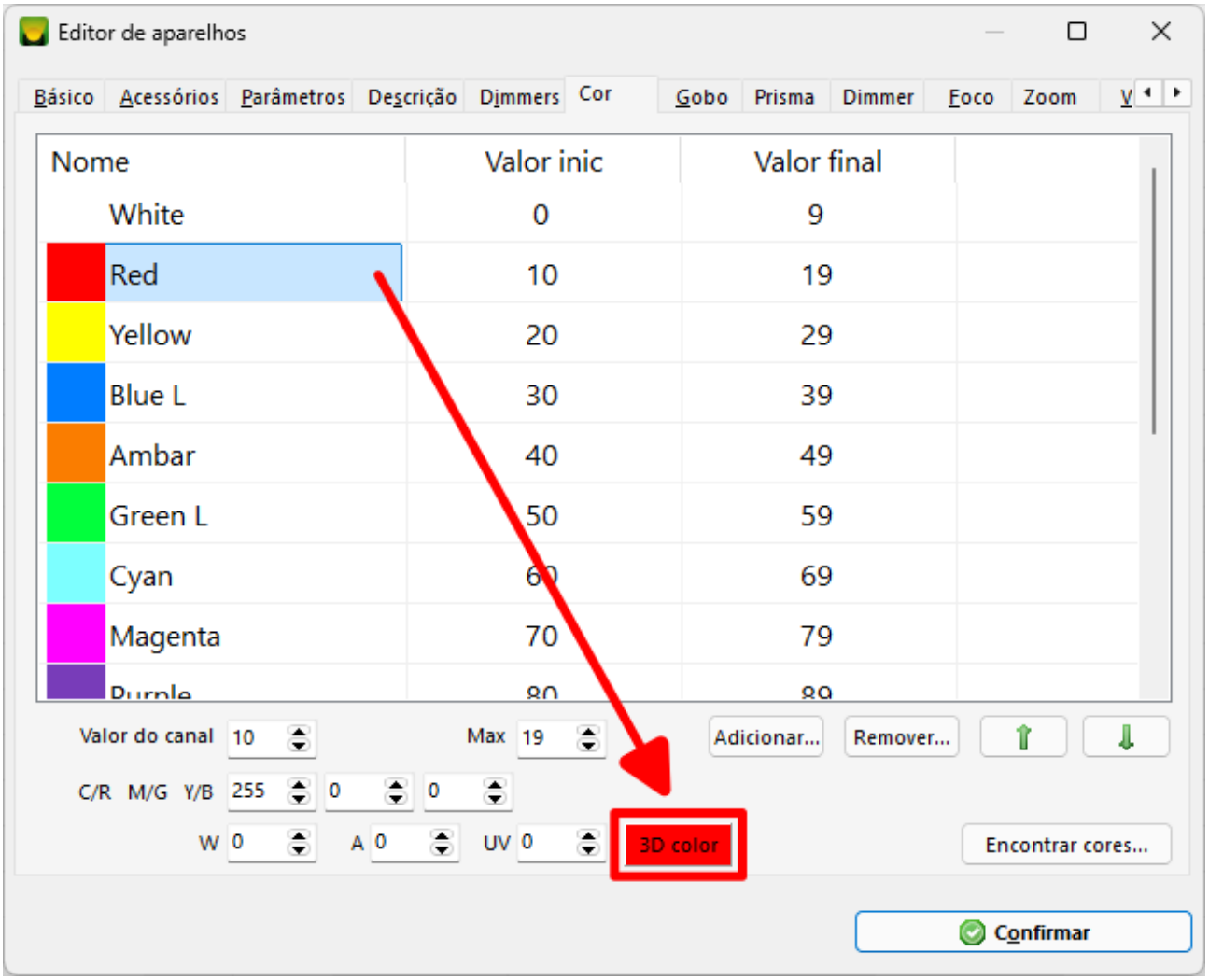
- **Lista de cenas:** Para quando você quer fazer uma programação simples e básica de cenas com tempo determinado. Cria uma sequência de cenas que são executadas automaticamente em certos períodos de tempo determinados que você programa. Veja o vídeo: https://www.lumikit.com.br/ul/UL137;
- **Timeline:** Para quando você tem o arquivo de som e quer que o Lumikit SHOW o reproduza também. Carrega um arquivo de áudio no Lumikit SHOW e então vai montando as cenas ao longo da trilha de música. Veja o vídeo: https://www.lumikit.com.br/ul/UL120;
- **Timecode:** Para quando você tem um outro programa de som (como um programa DAW por exemplo) e quer que ele envie sinais para o Lumikit SHOW chamar as cenas. Faz o mapeamento de funcionalidades do Lumikit SHOW para serem acionadas por comando MIDI Timecode (MTC). Veja o vídeo: https://www.lumikit.com.br/ul/UL134.

Meu aparelho não está aparecendo no 3D. O que pode ser, e como resolvo?

O aparelho está configurado com o “Tipo de aparelho” incorreto, um que não aparece no 3D (como “Outro” ou “Dimmer” por exemplo). Para resolver, basta escolher outro tipo de aparelho para ele, como “LED RGB redondo” ou “LED RGB retangular” se for um aparelho simples sem canal de pan e/ou tilt, “Moving Head” se tiver canal de pan/tilt, “Ribalta”, “Multi LED” para aparelhos que tem faixa central de LED ou “Painel de LED” para pixels.

O aparelho não acende as cores no 3D. O que pode ser, e como resolvo?

Provavelmente o aparelho está configurado para usar o canal “Cor” e nenhuma cor foi configurada, ou se foi, o campo “3D color” não está preenchido corretamente.



Confira também o vídeo de configuração de cores dos aparelhos:

- **Encontrar cores e gobos:** https://www.lumikit.com.br/ul/LUMIDICAS11.

9. Known Behaviors/Features and Errors in this Lumikit SHOW Version

- The AKAI APC MINI MIDI controller in Windows 10 has shown some instabilities after using its faders a lot. This issue has also been reported in many other softwares. In Lumikit’s internal tests, it should work well in Windows 7;

- When importing .gif files into the LED Generator, only the first 150 frames will be imported. This is done to prevent memory overflows;
- The virtual dimmer acts upon the RGBCMY channels of the standard DMX fixtures (moving heads, PAR LEDs, etc), and not the RGBCMY channels of a matrix (LED Frame);
- While using an extra function that calls a step of a Scene List, if you are already in this step, the button that called it won't be highlighted;
- The effect of applying a color inside the Pan and Tilt Wizard applies colors in the Color 1 and RGB channels, not in matrices;
- Using fixtures with the 8 bits pixel color mode only works through the LED Generator;
- Fade in and fade out from an extra function with a scene list will execute at the same time as the fades in the list. This can be confusing. In this case, it is recommended to test it before the times of the fades and make the eventual adjustments;
- The "LEDGEN" fixture shown when the LED Generator window is visible is used to apply colors in effects and also in the whole generator while the LColor button is active. The colors of this fixture can only be applied through the Wizard or Wizard Constructor in a given scene. Upon mixing these scenes, the LEDGEN colors will never mix; the last applied color will always be used. It is also possible to alter the LEDGEN colors in a Custom Window through 3 faders (one for Red, one for Green and one for Blue) using the Masters/Subs extra function;
- The "on/off/dimmer" of the extra functions are saved inside the .show file (except the Masters/Subs extra function);
- Effects that use the sine waves from the Wizard can't be linked to the BPM. To do a similar effect you can use the on/off effect with a fade in and fade out.