NICOLAUDIE ARCHITECTURAL

ESA PRO2

ESA Pro Version 2.2 User Manual

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Introduction

Welcome to ESA Pro 2.2, the latest update to the powerful DMX programming software from Nicolaudie Architectural. In this guide we'll cover everything you need to know to get to grips with the software and begin creating stunning lighting displays.

You can find the ESA Pro 2.2 Quick start guide by following the link below:
https://eu-litterature.n-g.co/Release/esapro_2_qs_en.pdf

What's In The Box?

Your package should include the following:

- USB DMX Interface
- USB Cable
- Technical Datasheet
- Power Supply (optional accessory)

The latest versions of our software and manuals can be found by following the link below to the Nicolaudie Architectural 'Downloads' page:
https://www.nicolaudie.com/download.htm

Note: When downloading the latest software it is recommended to check you have the latest firmware using the included HardwareManager app.

Minimum System Requirements

- Microsoft Windows 10 & 11 (64 bit)
- Mac OS Catalina and newer
- 4Gb ram, 1GB free hard disk space, 1680x1500 minimum display resolution
- OpenGL 3.2 minimum for Easy View 2 3D Visualizer

Limitations

For DMX controllers with internal flash memory, you may run out of available memory. To reduce the risk of the software will keep the scene length as short as possible. Short scenes can be made to play for long periods of time by looping them forever (default behavior) or setting them to loop x number times. *Basic Blocks* or *Paint* (the software's 'Step Editor') tend to use less memory than dynamic effects.

To use longer scenes, dynamic scenes and effects we recommend selecting a DMX controller with SD memory. Refer to the Technical Datasheet for your controller to see the type of memory used or check the list of architectural controllers below:

Internal Flash Memory:
STICK-CW4, STICK-GU2, STICK-GA2, SLESA-U9, SLESA-U8
SLESA-U10, DINA DR Micro

These controllers are based on STICK4, STICK5, STICK2C, STICK2B, SIUDI-9S, SIUDI-8A, SIUDI-10A and SUSHI-1A hardware.

SD Memory:
SLESA-U11, DINA DR2, DINA DR1, DINA SR1, STICK-KE2, STICK-DE3, SLESA-UE7

These controllers are based on SIUDI-11A, DINA2A, DINA1A, STICK1C, STICK3, SIUDI-7B hardware.

Included Software

The following software is included:
ESA Pro 2.2 - Lighting programming software
EasyView 2 - real-time 3D visualizer
Hardware Manager - Device configuration tool

Fixture Profiles

To program your lights or fixtures, ESA Pro 2.2 needs to understand the DMX channels and functions (presets) that make up each DMX channel. The more accurate the fixture profile, the easier it will be to program your lighting with ESA Pro 2.2. DMX channels and other information is stored in 'Fixture Profiles' which have the .ssl2 file extension. Generic architectural lights, such as mono (single dimmer), RGB, RGBW and LED pixel tape are now easily accessible in the **Add Lights** panel.

For more complex lights, you can search for a suitable profile in our database of over 20,000 fixtures by brand and fixture model name. These fixtures are located within the ESA Pro2\ScanLibrary folder. You can also search the database online at two locations:
https://store.nicolaudie.com/ssl
https://cloud.nicolaudiegroup.com/#/profiles

"What if a profile does not exist?"
If you have a fixture that does not exist in our database, you can create a New Fixture Request to have a profile built for you by our dedicated team. Visit the page below to create a new profile request:
https://store.nicolaudie.com/en/ssl

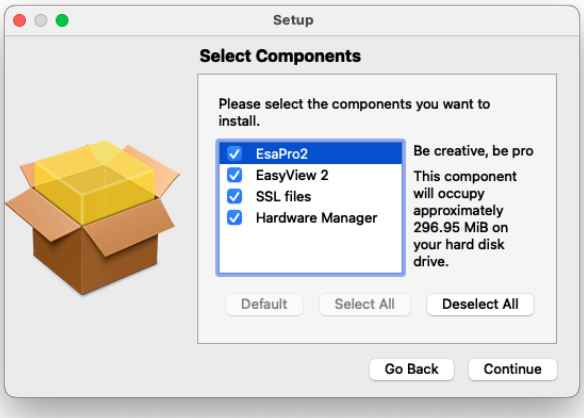
Useful Definitions

Standalone Mode: A controller operating on its own without a connection to the computer.
Live Mode: A live connection between the controller and computer for programming and dmx output. This is useful for testing effects before writing to the controller. A controller is in Live Mode when set to 'Active' in ESA Pro 2.2.
NSA Device: Devices with the *New StandAlone* engine which includes advanced triggers known as TCA (Trigger Condition Action). These include SLESA-U11 (SIUDI-11A), DINA DR1 and DR1 LITE (DINA1A), DINA DR2 and DR2 LITE (DINA2A) and DINA SR1 (SRACK1). Other SIUDI11 devices exist which can be upgraded to use ESA Pro 2.x.
non-NSA Device: all other lighting control devices from Nicolaudie Group. These use standard calendar triggers for date/time and ports.

Installation

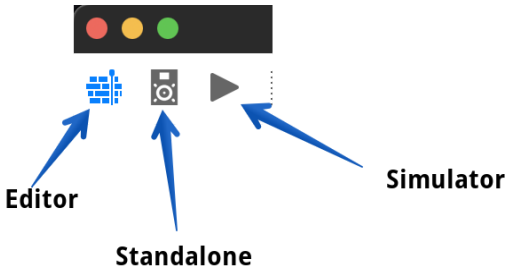
To begin you'll need to visit our website so you can download the latest version of ESA Pro 2.2. Please visit the link below:
https://www.nicolaudie.com/esapro2.htm
Note: Versions of ESA Pro 2.0 & ESA Pro 2.2 are listed on the website. Please download ESA Pro 2.2 to work with this User Manual.

During the installation process you'll be asked which auxiliary software packages you would like to install. To get the most out of ESA Pro 2.2 you should install all of the software.



Note: Windows systems may run a second device driver installation. Once you see a message on the taskbar to say that the driver has been installed, you are ready to start the ESA Pro 2.2 software.

ESA Pro 2.2 is divided over three pages; **Editor**, **Standalone & Simulator**. You can switch between the pages by using the selector (pictured below) in the top left corner of the software.



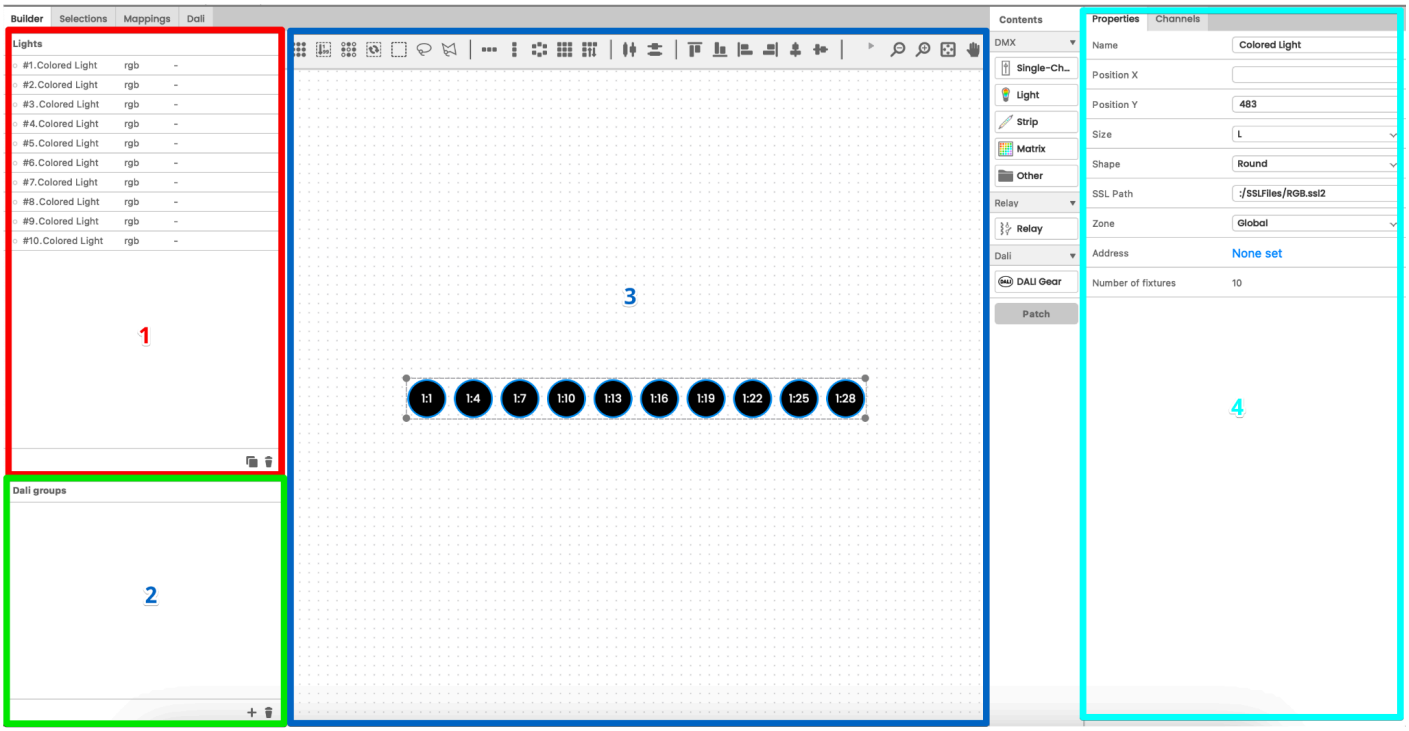
We're first going to begin by looking at the **Editor** page.

Editor

The **Editor** page is divided into four sections accessible by tabs; **Builder, Selections, Mappings** and **DALI.**
We'll begin in the Builder tab.

Builder

The **Builder** is where fixtures are added to your project. Once added, your fixtures are displayed in a list in the top left (1) and DALI groups in the bottom left (2). Fixtures are represented by 2D shapes in the workspace (3). Fixture properties, such as DMX address, are displayed on the right (4) when a fixture is selected.

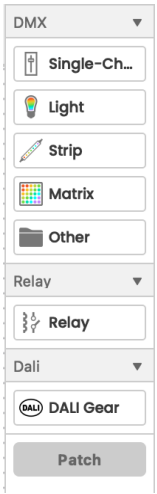


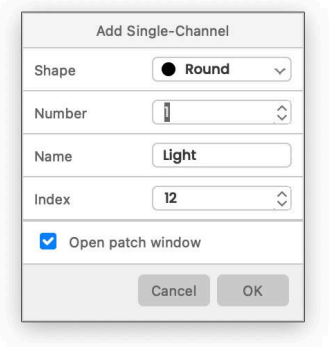
Adding Fixtures & Fixture Types

Most architectural lights can be controlled with 4 options : Single Channel, Add Light, Strip or Matrix. For more complex fixtures, ESA Pro 2.2 comes equipped with 20,000 + profiles from some of the biggest light manufacturers in the world in the fixture library .

If you can't find your profile in our database then you can always request it by following the link below:
https://store.nicolaudie.com/en/ssl

ESA Pro 2.2 comes equipped with several generic, simple fixtures and external devices for you to patch.



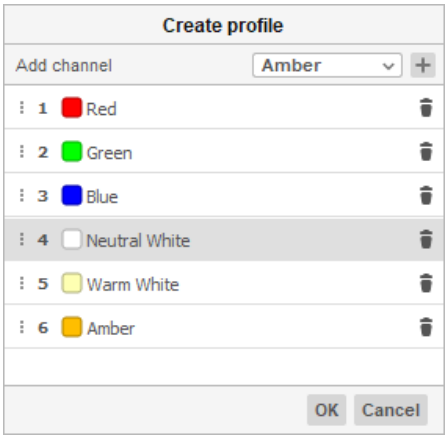


When you add any DMX fixture you will see a window that allows you to select the number, shape and, in some cases, type. There's also a check box to open the patch window if you wish to assign a DMX address right away. This can be done later in the Properties panel when a fixture is selected.

Single channel fixtures (as the name implies) are very simple and will only feature one assignable control, a Dimmer.

Note : A Single Channel fixture can be used with Basic Blocks, however, as it contains no color mixing channels it will not work with Pixel or Mapping Effects. If you need to work with these, you can patch as a Colored Light > Custom *and patch a single Neutral White channel.*

Colored fixtures by default will list RGB, RGBW and WWCW fixture types. Using the Type > **custom** option you can create lights containing one or more of the following channels; Red, Green, Blue, Neutral White, Warm White, Cold White, Amber and UV.



Note: The order the channels appear here reflects their channel order in the profile.

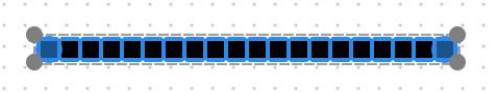
The Custom profile builder is accessible across Colored, LED Strip and Matrix.

The **LED Strip** is designed to work with digital addressable pixel tape. Select your light Type and the number of dots. Each dot represents an LED on your strip and has a DMX address.

Note: the LED Strip type is not suitable for controlling or visualizing analogue LED strips where all the dots share the same DMX Address given by the DMX driver.

Some digital pixel tape is or can be configured to control more than 1 LED per dmx address. In this case, a single dot in the software may represent 2 or more dots on your tape.

LED Pixel also gives you some unique positioning capabilities. When you first add an LED Pixel tape it will look like this:



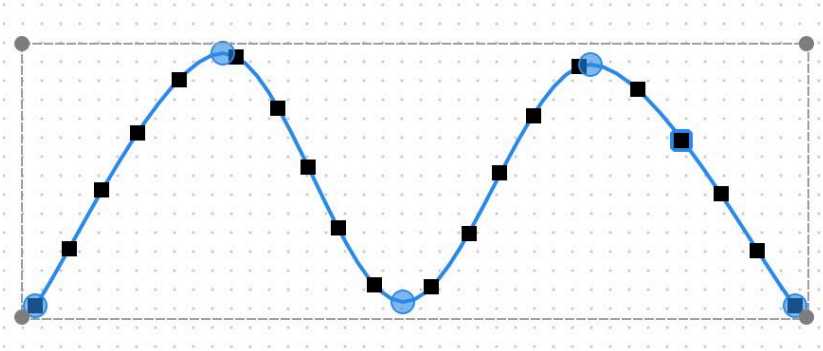
This line of Pixels can be stretched and curved however you like.

To stretch, click and drag one of the anchor points at either end. This will space out the LED's whilst keeping them equi-distant from one another.

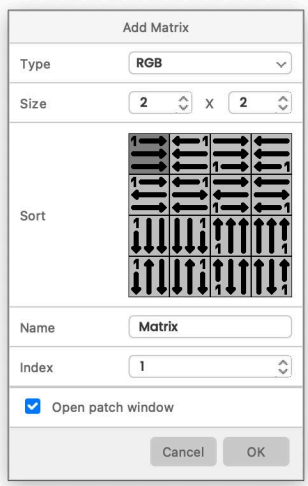
To add a curve :

- double click on any pixel to add another anchor point.
- click on a blank area on the grid to deselect all points.
- reselect the new point.
- Move the point to bend the LED tape into the desired shape.
  Anchor point can be moved along the length of the LED strip.

In the example below we've created a sine wave shape with our LED Pixels using the anchor points highlighted in blue.



Note : Each LED strip can only occupy space within 1 universe (512 channels); it cannot span several. For example, an RGB strip is limited to 170 dots (3 channels x 170 = 510 channels). For LED strips that span several universes use Colored Lights instead and position them using the positioning tools in the grid.



The **Matrix** fixture option allows you to quickly create a matrix of coloured lights. When you select this fixture the pop up window will ask you to specify the length and width of the matrix you wish to create. The sort options in this window allow you to set the flow of the matrix.

Note : Each Matrix can only occupy space within 1 universe (512 channels); it cannot span several. For matrices that span several universes use Colored Lights instead and either the *Auto Matrix* or *Custom Matrix* positioning tools to set the position and direction of the effect.

Relays allow you to trigger external electrical relays connected to the relay connections on the DINA DR1, DR1 LITE and DINA SR1. Once you've patched your Relay you'll need to activate the Relay Port on your controller.

To do this you should navigate to the Standalone screen and look for the 'Outputs' tab in the bottom right of the window. From here you can map the outputs of your controller. Select the 'Relay Port 1 or 2' output and select which relay you want to correspond to which output.

Programming Relays will be discussed later in the manual. See your controller technical datasheet for information on the physical connections.

ESA Pro 2.2 introduces the option to programme **DALI** control gears (fixtures).

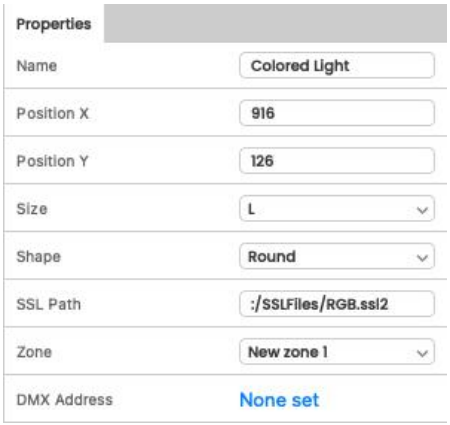
*Note: The **DALI** fixture type is only compatible with the DINA DR1 and SR1 controllers.*

Note: The patch window that appears when patching DALI gears is completely different than the one that appears when adding DMX fixtures, this will be covered in the next section where we discuss patching and in the dedicated DALI section later in the manual

The Other icon is used to **import fixture profiles** from our fixture library. When you click it you'll have a pop up window appear that will contain all of the fixtures in our library, listed by brand. When you import these fixtures you'll see a slightly different pop up window appear that includes the option to change the mode your fixture is in.

Note: The SSL Fixture library is unchecked by default during installation due to memory saving purposes.

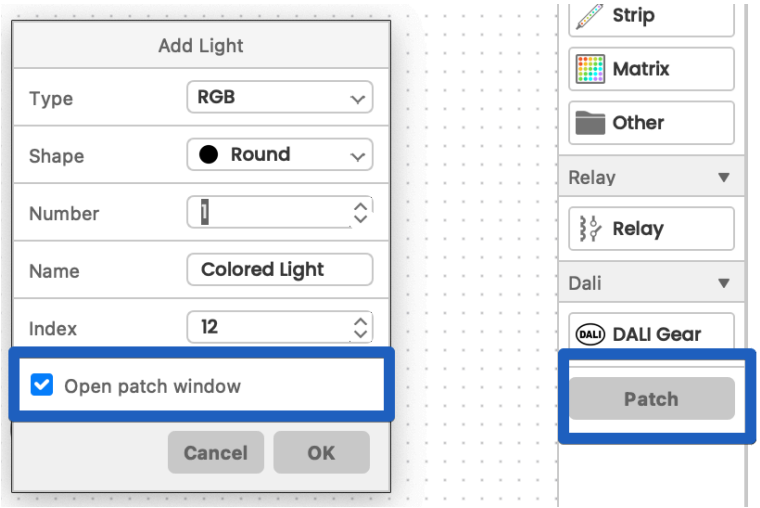
If you want more information about a particular fixture in your project you can select the fixture and then view the associated information in the **Properties** menu on the right side of the screen.



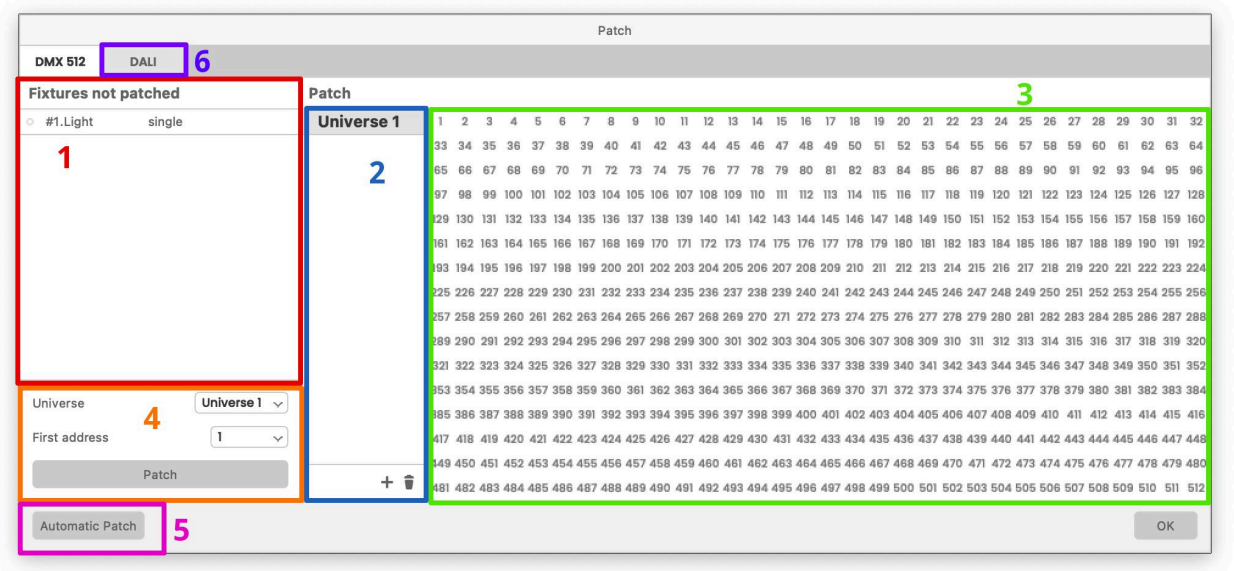
From this window you can edit fixture name, position, size, shape and address.
The **SSL Path** refers to the file path used to locate your fixture profile.

After you've chosen which fixtures you want to import it's now time to begin patching them.

There are two ways to call up the **Patch window** in ESA Pro 2.2. The first way is to tick the **Open Patch window** option that appears in the pop up window when creating a fixture. The second is to press the **Patch** button that appears underneath the Profile Library icon.



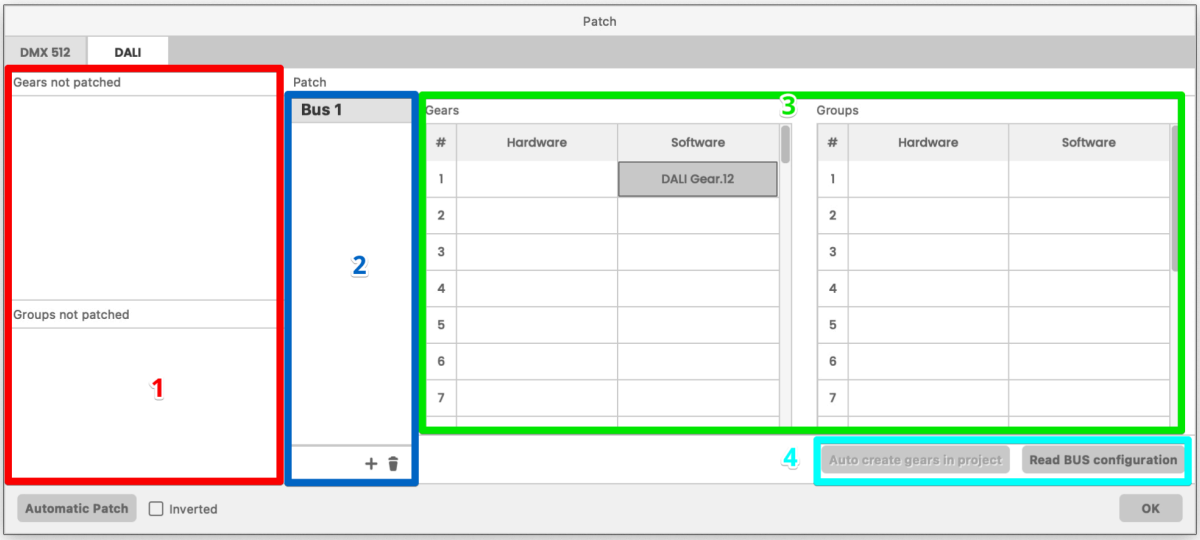
Once you patch a fixture with the box ticked or press the Patch button the Patch window will appear.



Fixtures that are waiting to be patched will appear in the **Fixtures not patched** column (1). In the column to the right of this (2) you can see we have Universe 1 listed, if we want to add more universes to our show we can do so by pressing the **+** button at the bottom of this column, to remove universes click the bin icon, this will remove the last universe in the list. The big, numbered grid (3) represents the currently selected universe and gives you a visual representation of what's patched & what channels in the universe it's set to.
Using the **Universe** and **First address** dropdowns (4) we can begin patching.
If you have multiple fixtures awaiting to be assigned an address you can either drag and drop the fixtures onto the channels in the universe to assign them or select the address you want to begin with and press **Patch.** Once patched you can drag a fixture to a new address if desired.
If you wish to patch all fixtures awaiting an address beginning with the next available channel you can press **Automatic Patch** (5).
Next to the **DMX 512** tab at the top of the window is the **DALI** tab (6). Switching tabs will show you the DALI patch window.

Note: If you're unsure how many universes your device has you can check the technical datasheet for your device, or the SUT window in Hardware Manager (compatible devices only).
You can purchase more universes for devices that are SUT compatible by following this link: https://store.nicolaudie.com/en/

DALI Patch Window

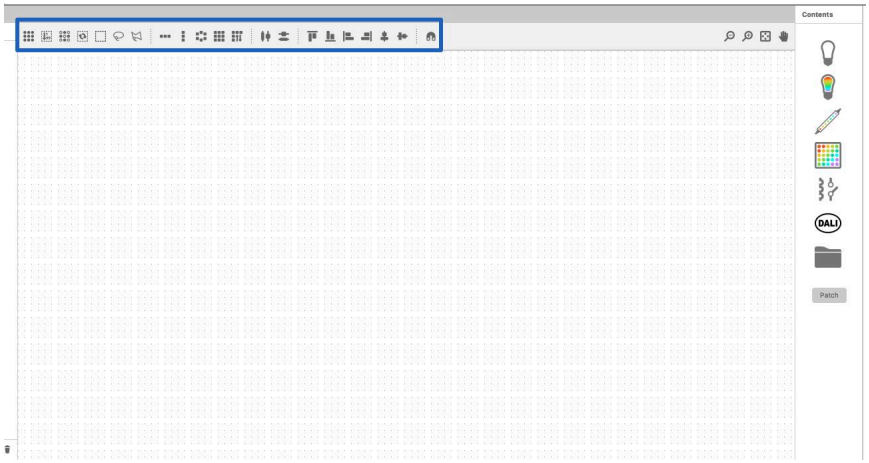


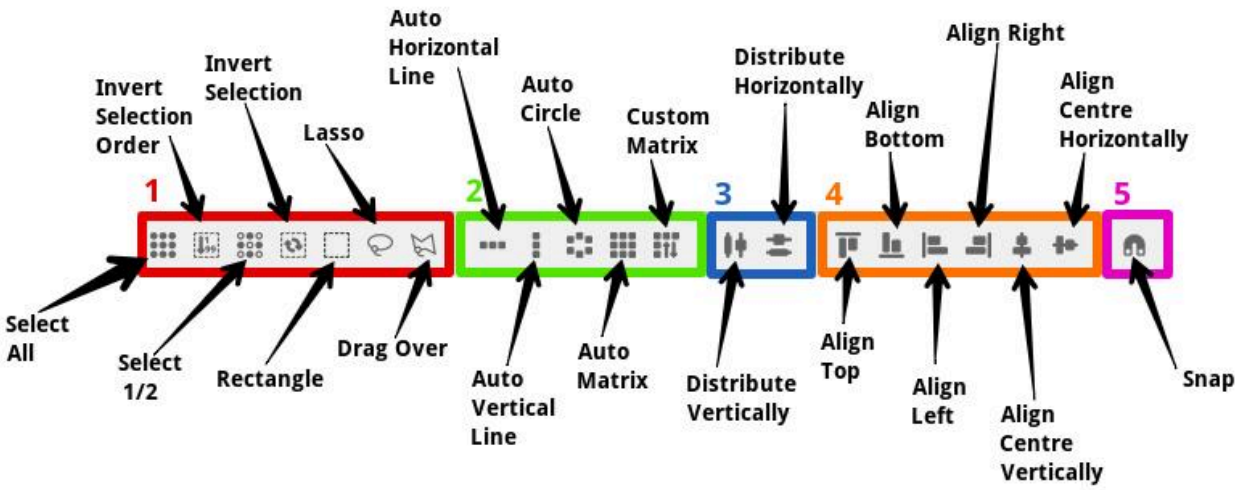
The **DALI** patch window bears some similarities to the DMX 512 patch tab. On the left side (1) you have Gears (fixtures) and groups (a selection of gears on the same DALI bus) that are waiting to be patched. Next to this is the column where you select which DALI bus you're looking at (2).
DALI buses function like DMX universes, each bus can control up to 64 DALI gears, you can add or remove buses using the **+** and **bin** buttons at the bottom of this column.
The **Gear** and **Group** columns (3) show you how your gears and groups are assigned, much like the universe view in the DMX 512 patch tab.
Beneath the **Group** column you have two buttons (4), **Auto create gears in project** and **Read BUS Configuration**.
The **Read BUS configuration** button will make ESA Pro 2.2 communicate with any connected DALI bus and pull the addresses of any connected gears, importing them.

*Note: For the **Read Bus Configuration** feature to work you need to commission your DALI bus in Hardware Manager. For more information on this please see the DALI section of the manual or the DALI documentation on the website.*

You can then use the **Auto create gears in project** button to have the software import these gears to the project, create the 2D icons and patch them.

Now you've imported & patched your fixtures it's now time to arrange them. ESA Pro 2.2 gives you several tools to help with arranging your fixtures. You can find arrangement tools in the bar at the top of the workspace.



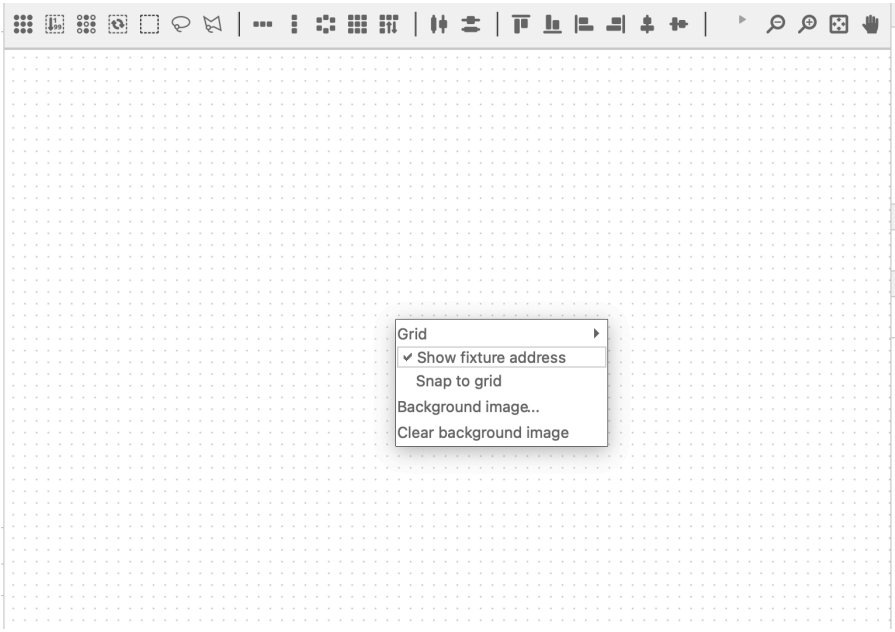


The tool bar is divided into 5 key sections, Selection tools (1), Position Tools (2), Distribution Tools (3), Alignment Tools (4) and the Snap tool (5). Position, distribution, alignment and the snap tools are only available in the Builder screen, Selection Tools are also available in the Selections screen.

Managing the Workspace

You can manage the workspace using the tools in the top right corner to zoom and drag your way around.

ESA Pro 2.2 also gives you some limited customization options, including how the grid appears (if at all) in the workspace. You can also import a background image, this makes fixture positioning very easy if you have a floor or fixture plan for your project. These can be found in the context menu that appears when right clicking in the workspace.



Note: Only the following image file formats are accepted: PNG, JPG & HEIC (MacOS)

Zones

Zones allow you to group fixtures and control them independently of each other. Scenes from different zones are loaded onto different pages (A,B,C or 1,2,3 etc.) on the controller. Zones don't have to be playing the same scene, each zone can be playing a different scene. For example, these are useful for controlling different rooms in a house or different zones within a room, depending how you want to use them.

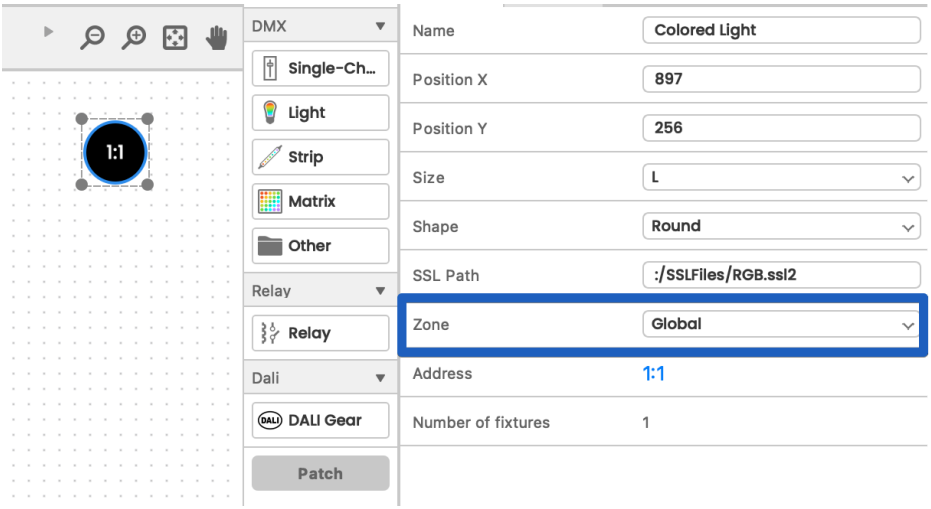
When a new project is created you are given one zone called Global which controls all of your fixtures. It is your choice if you want to use this Zone or not; you may choose to use custom zones only to control, for example, different rooms.
A fixture can be in the Global zone and one other custom zone; It cannot be in multiple custom zones.
Each Zone contains the Builder, Selections and Mappings tabs. This allows you to work only on the fixtures and scenes in each zone. Scenes created in one zone cannot play on fixtures in another.
You can find Zones along the top bar of the software.

Use the **+** and **x** buttons to add and remove zones. You can also rename your zone by double clicking on it.

Note: Deleting a zone that contains scenes will also delete the scenes.

Note: Some of our interfaces have limits on how many zones they can control. If you're unsure how many zones your device can control you can find the information on the Technical Datasheet for your device. If the datasheet doesn't mention zones your controller only has a single zone.

It's possible to change which zone a fixture is in without re-patching it. Head to the **Builder** tab and select the fixture you wish to reassign. Then select the **Zone** dropdown from the **Properties** menu that appears on the right side of the screen and select the zone you wish to move your fixture to.



If a fixture isn't in the zone you're currently editing then it will appear grayed out.

Selections

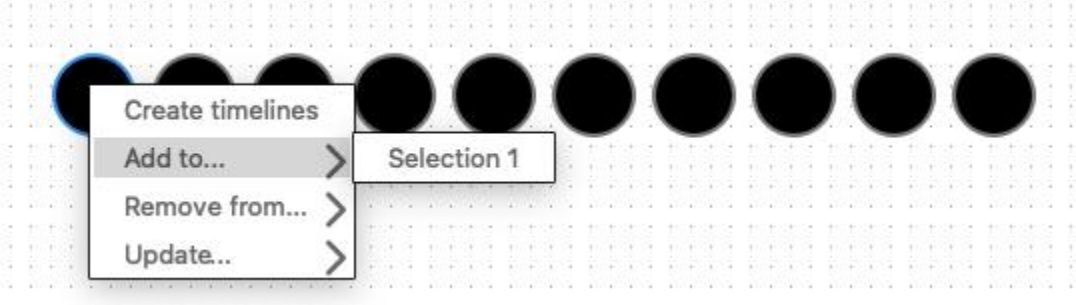
The **Selections** tab allows for fixture selections to be created and linked with effects on a timeline. Selections are created either by dragging a box around a set of fixtures on the fixture grid, using the selection tools or by holding ctrl (PC) or command (Mac) and clicking fixtures as you would with files within a folder.

Selection order can be changed by ctrl (pc) or command (mac) clicking individual fixtures or by using the selection tool set in the top left of the work space. More information on these tools can be found in the previous section: **Builder; Arranging Fixtures**.

This allows you to select fixtures in a custom order. For example, if you wanted to create a custom knight rider effect that doesn't play in a linear fashion.

Selections may be saved for later use by clicking the + button to the bottom right of the **Selections** panel. This is very useful for grouping fixtures in a zone together for quick recall or adding a selection as a target to a block. To do this simply select the selection from the Selections list.
Each selection can be expanded to view fixtures within the selection, to do this click the dropdown arrow on the left side of the desired selection.

You can add a light to an existing selection by right clicking on it pressing >Add To>Selection



Scenes

Scenes can be added using the dropdown menu in the **My Project** panel in the bottom left corner of the Editor. This is where you'll find the scenes you've programmed. Only the scenes you've programmed for the zone you're currently in will appear, for example if you have a red scene in zone 2 it won't appear in the zone 3 scene list.

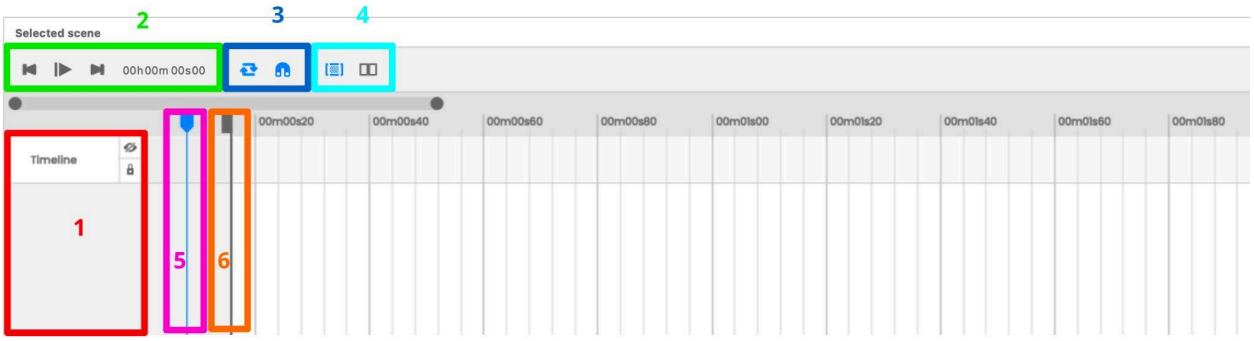
In the scenes panel you can add new scenes via the dropdown(1) and copy scenes to the clipboard to be used in other zones or be duplicated and remove scenes (2). As you can see in the image above, each scene lists total scene length (3). Next to this is the pre-selection indicator (4), when this is blue it means the scene has been selected for Standalone mode and can be seen in the Standalone screen. Scenes can also be locked (5) to prevent any further editing.
You can use the three dots to the left of a scene (6) to re-order it in the list.

Timelines

In ESA Pro 2.2 there are two kinds of timeline available; the **master timeline** and the **features timeline**. Let's begin by looking at the **Master Timeline.** The **master timeline** is where your effect blocks appear and is where you automate basic controls such as Opacity, Phasing & Saturation. If you wish to learn about the **Features timeline** you can jump ahead to **page 26**.

Master Timeline

The **Master Timeline** window is located next to the **My Project** panel.
Each scene contains at least one timeline, this is where you'll program your scenes.
When you first create a scene the master timeline window will look like this:

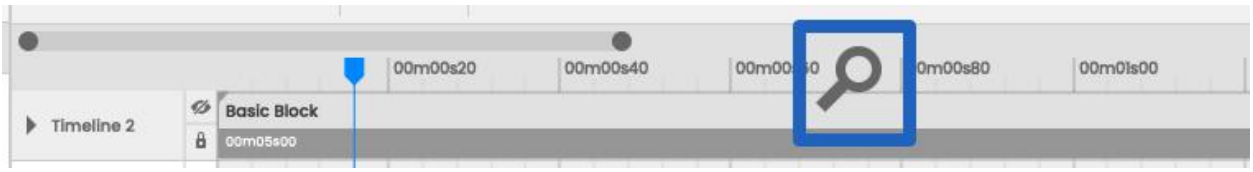


The timelines in your scene will be listed in the column on the left (1), if your scene has multiple timelines these will be listed as well. Each timeline has controls to enable/disable the timeline (the eye) and to lock the timeline (the padlock), preventing further editing.

At the top of the window you have the playback controls (2) and timecode; Play, move forward and move backwards. Next to these you have the Loop and Snap tools (3). The loop tool will loop your scene. The snap tool will snap effect blocks to the grid lines in the timeline when moving them.

To the right of these you have two icons that allow you to enable or prevent block overlaps in the timeline (4). The blue line (5) is your playhead, you can use this to locate where you are in a scene, this can be dragged to change where you are if desired. The gray line (6) marks where your scene ends.

The gray bar between the timeline tools and the timeline allows you to zoom in/out and scroll the timeline, when the cursor becomes a magnifying glass you can left click and drag up & down to zoom in & out.

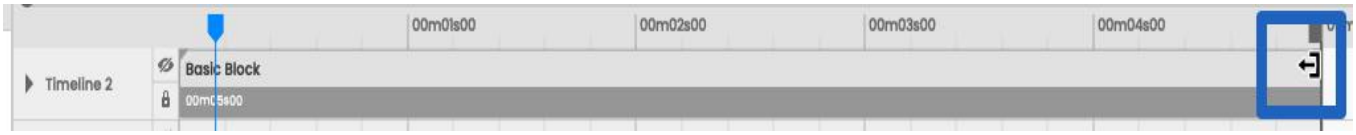


Master Timeline Blocks

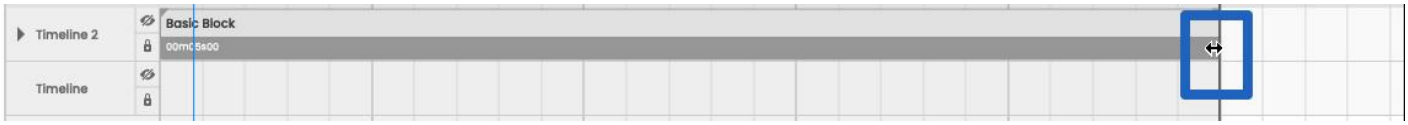
The programming data you create to control your fixtures is represented by **Blocks** on the timeline. To add an effect block to a timeline simply drag and drop the effect you wish to create onto the fixtures you wish to affect.

You have several tools at your disposal to edit blocks on the timeline.
To move a block you should hover along the top half of it, the cursor will become a hand, allowing you to drag it along the timeline as you please.

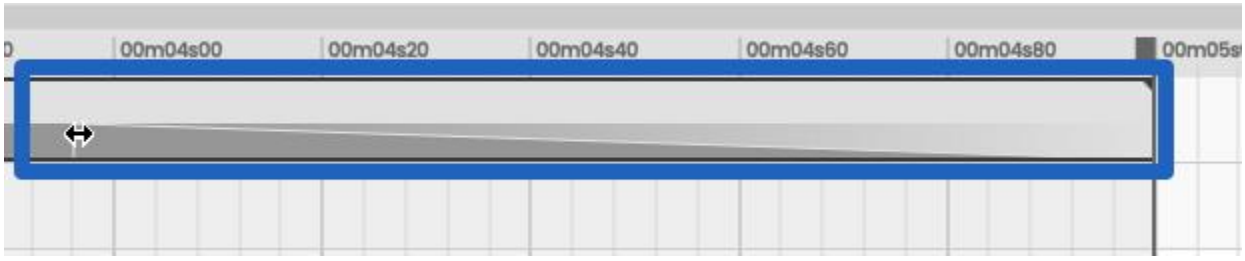
If you wish to lengthen or shorten your block you should find the start or end of the block and hover in the top half, like in the image below. When you see the icon appear you can drag left or right to shorten/lengthen the block.



You can also add fades to blocks from the timeline. To do this go to the start or end of the block and hover in the lower half, when you see the icon in the picture below appear you can then click and drag left or right to create a fade.



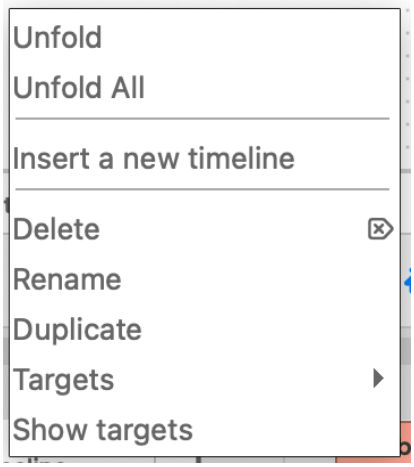
2



You can also import Audio files to your timeline, this is very handy if you're programming scenes to music.
To do this you simply drag & drop your audio file onto a timeline, you can then view the waveform of the audio file by clicking the dropdown arrow on the timeline.
Note: Only .mp3 & .wav files are compatible with ESA Pro 2.2.

Note: Our controllers don't store & play the audio file you import, this should be handled by a third party product.

There are two context menus that provide useful tools when working with Master Timelines.
Right clicking on the **Timeline** will summon the context menu pictured below.

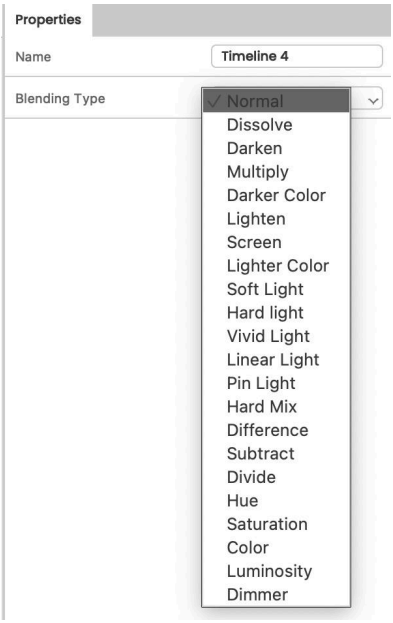


Unfold and Unfold All expands either the selected timeline or all timelines. If you already have your timelines expanded to view automation data these will appear as Fold or Fold All.
Insert a new timeline will add a new timeline to the scene.
Targets refers to fixtures the selected timeline is targeting. Hovering over this gives you options to view the fixtures the timeline is targeting and add or remove your selected fixtures.

Right clicking on the effect block that appears on your timeline gives you the options that appear below.

The options that appear here work in the same way they do when selecting a timeline with the notable exception of **Split**.
Split will split (or Cut) your blocks and all the data within it at the point you right clicked on. This is very handy if there's a particular portion of an effect block you want to apply to other fixtures or timelines without recreating all of the data.

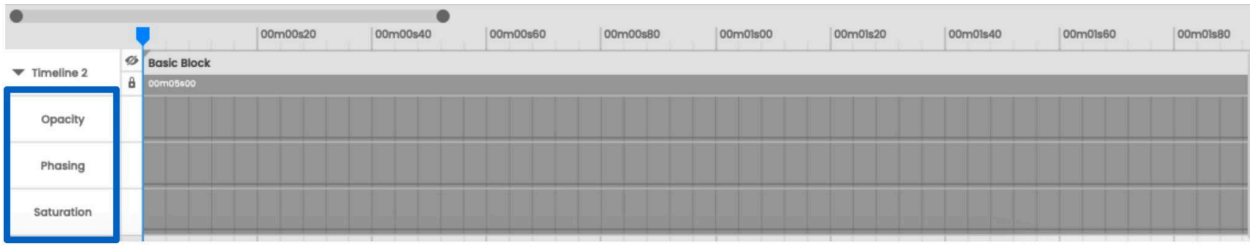
Several timelines can be linked with the same target selection of fixtures. The topmost timeline will take priority over the timelines lower down. Timelines may be blended together by selecting the timeline (be sure to select the timeline and not the effect block) and setting the blending type from the *Properties* panel.



Master Timeline Automation

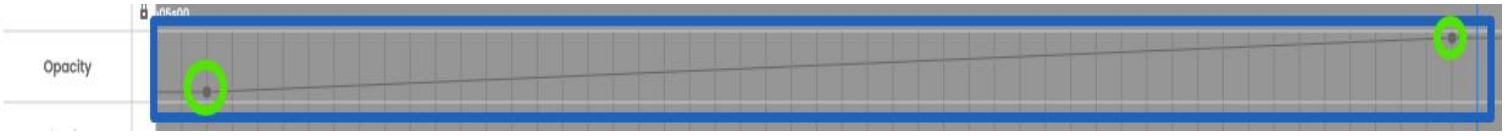
Master Timelines can be automated. To view timelines where automation is available you should click the dropdown arrow icon to the left of your timeline name to expand the timeline.

Once you've done this the timeline will expand into four timelines, the main timeline you see when the timeline is collapsed and then timelines for Opacity, Phasing & Saturation.



If you're familiar with timeline automation in most Digital Audio Workstations (e.g. Cubase, Logic Pro, Pro Tools etc.) this will be very familiar as it works in the same way. Double click on a point in the timeline where you want to make a change, this creates a cue point. You can drag this cue point up and down to affect the level of

that particular timeline or left & right to change when the cuepoint takes place. To create fades you need at least two cue points, just as you see in the image below.



However you're not limited to just two cue points, you can place as many as you need, see the image below which has several cue points in it to create a 'peaks and valleys' style effect on the opacity channel.

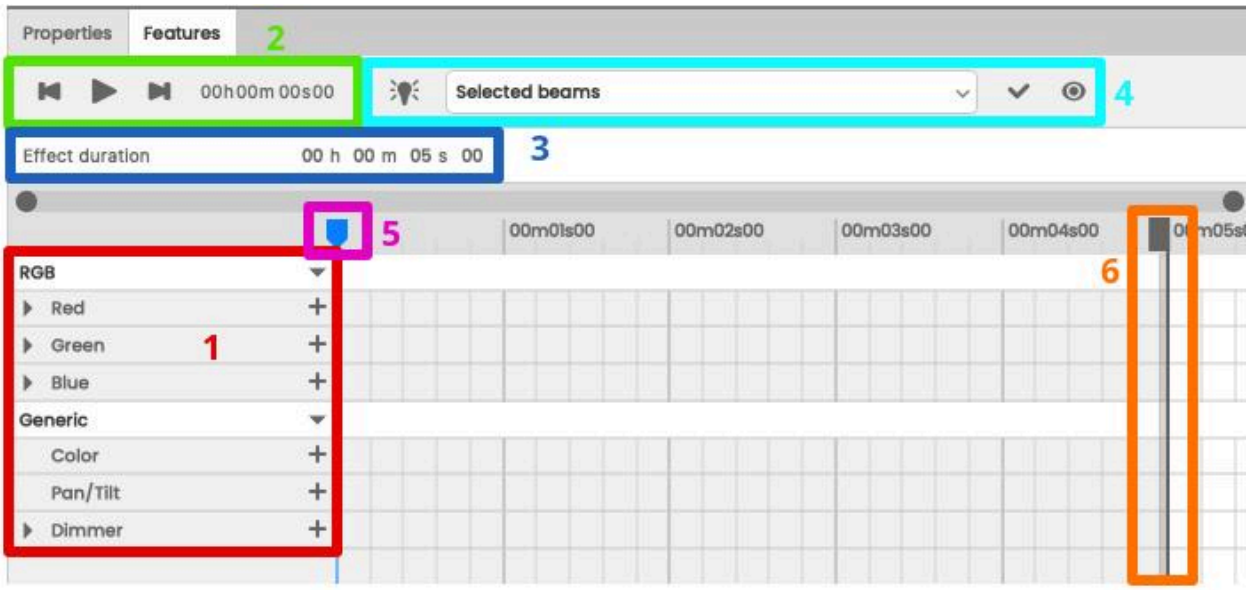
Automation allows you to create truly unique lighting effects every time you start a new project and can be used to create amazing custom effects.

Feature Timeline

The second type of Timeline in ESA Pro 2.2 is the **Features Timeline**. This is where fixture specific feature timelines appear. The **Features Timeline** window appears when you drag a **Basic Block** object to your fixtures or timeline. This is where you can edit and automate fixture specific features.
For example, a generic coloured light may only have Red, Green & Blue channels appear in this timeline as those are the only controllable parameters available, whereas an Elation Arena Par has Red, Green, Blue, White, Color Macros, Dimmer & Strobe channels available for programming and automation. In the image below you can see the features of an Elation Arena Par (1) and a simple coloured fixture (2).

Note: This window only appears with the Basic Block.

When you first see the **Features Timeline** window it will look something like it does in the image below.



The column on the left (1) is where you'll find the features specific to the fixture you have selected. In this case we only have Red, Green & Blue available as we're using a generic coloured fixture.
You can find your playback tools and time code for the Features Timeline at the top of the window (2). Below this the total duration of the effect you're creating can be found (3), you can edit the total length by double clicking on the timecode and entering the desired length.

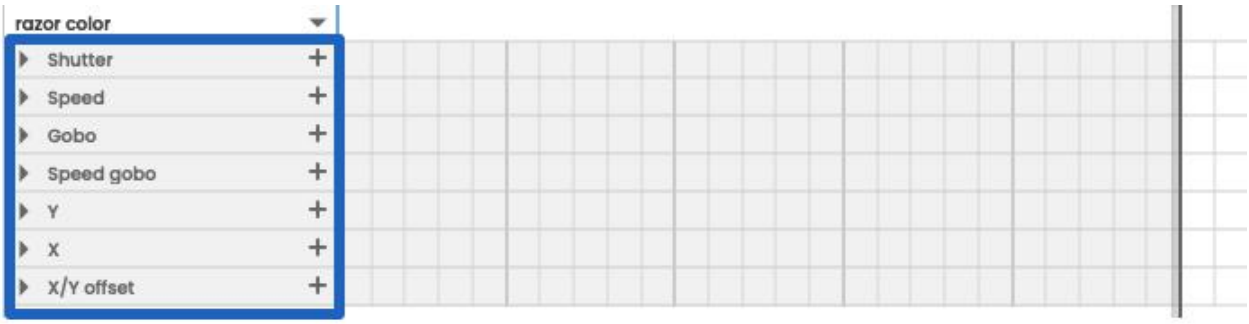
To the right of the playback bar is where you find beam controls (4).
You can use the **Beams On** button (pictured right) to activate the beams on any fixtures associated with the Basic Block you've created, this is a quick way to identify which fixtures you're effecting. When you press this button key points will be added to your color channels so you don't have to keep pressing this to activate your beams.
You can use the dropdown next to this (Beam selection dropdown) to manually update which fixtures you have selected. Any selections you've previously created will also appear here.

The **Update Beams** button (pictured, right) which is located next to the beam selection dropdown can be used to quickly apply the effects that you've made in the Basic Block to new fixtures.

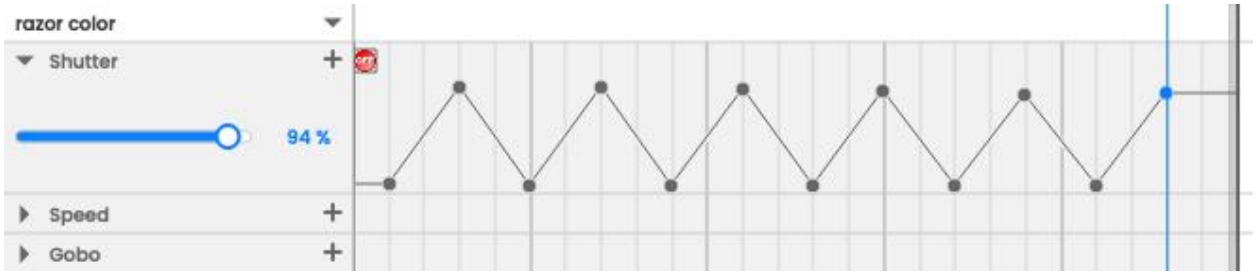
The **Show Current Beams** button (pictured, right), highlights which fixtures you're affecting in the workspace and also shows their order.

Just as with the master timeline, the playhead is the blue line (5) and the gray line (6) shows where your effect ends. Dragging the playhead in the **Features Timeline** window will also update where the playhead is in the master timeline.

These timelines are automatable, just like the master timeline in the previous section. Because the features timeline is where fixture specific channels appear you'll have expanded automation options here, depending on which fixture you have selected. Below you can see the channels that can be automated on an Elation Razor Color fixture.



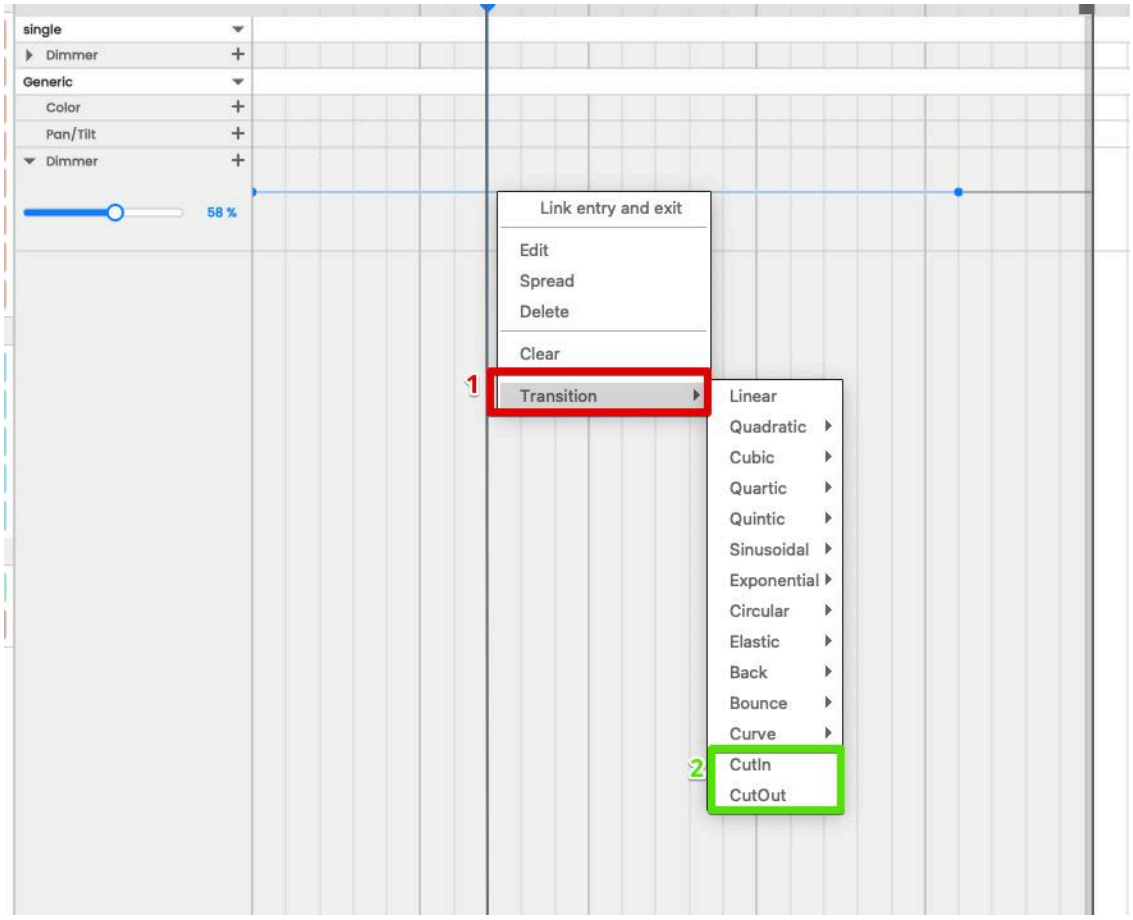
Like master timelines, you double click to add a new cue point, you can then drag the cue points to create the automation curves you desire, just as in the image below.



Automation Transitions

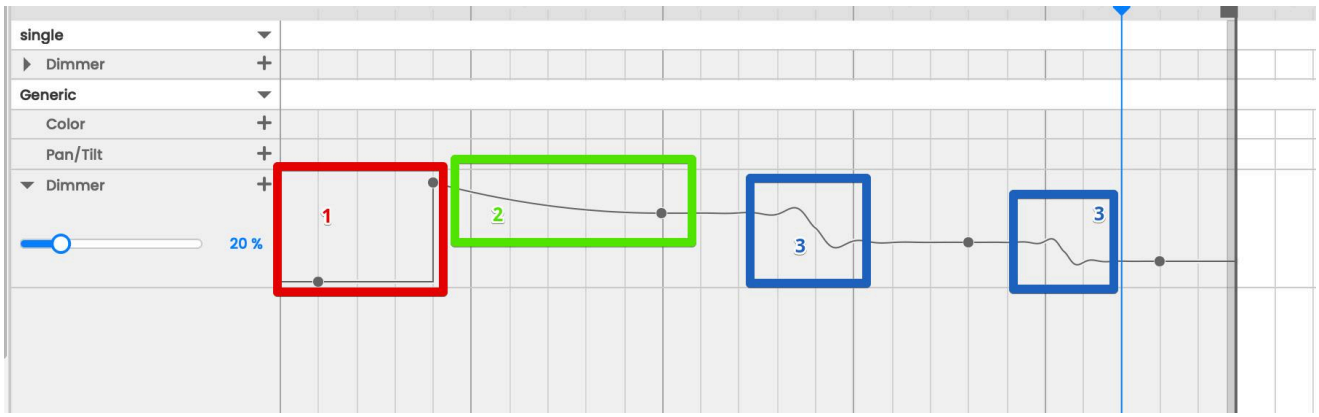
It's possible to add a number of pre-programmed curves between the cue points in your automation, these are called transitions.

To access Transitions you should right click on or between the cue points in the feature timeline you wish to automate and select 'Transitions'. You can now choose from a variety of transition options (1).



Of particular note are the 'Cut In' & 'Cut Out' (2) transitions which allow you to create a vertical automation transition (e.g. Automation jumps from 0-255 opposed to transitioning to 255 in a linear fashion, which is the default behavior). These are particularly useful for controlling DMX devices that require an On/Off state.

You can use several transitions in a single feature automation timeline between cue points. In the image below you can see a dimmer that has cut-in (1), quadratic (2) & elastic (3) transitions.



Step Programming (The Paint Block)

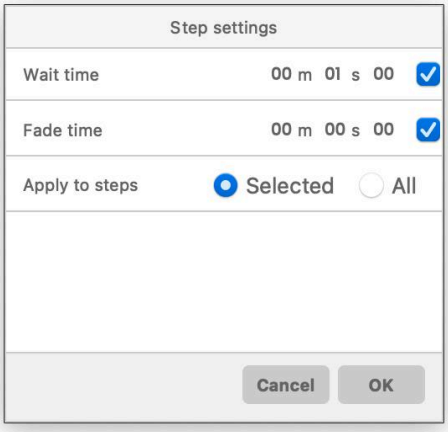
Sequences from ESA Pro 2.0 have been replaced with the Paint feature, our new step editor.

When you first create a **Paint block** you'll have a new window appear called **Paint Steps** . This appears next to the properties tab, where feature timelines appear when programming a basic block.

You can change the color of your **Brush** by clicking on the colored square (2). You can use the square with a line through it to make fixtures inactive. The dotted square (3) puts you into selection mode so you can drag across which fixtures you're affecting. Next to this is the paintbrush tool, you can use this to click on fixtures, painting them the color you currently have selected.

Steps you've created will appear in the steps list (4). Wait time controls how long your scene will stay on a particular step before moving to the next step, fade time allows you to fade between steps.

At the bottom (5) of this window you have controls to create a new step, delete, copy & paste steps. If you click the pencil icon you'll call up a steps edit window like the one pictured below.



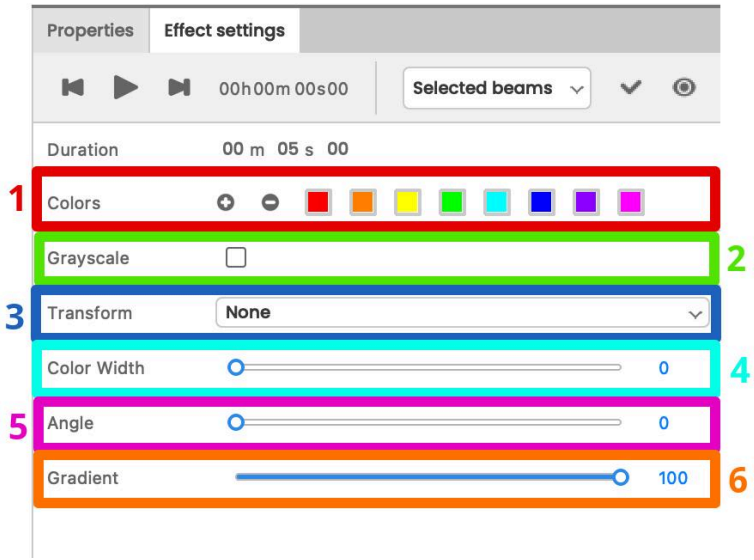
This window is a great way to change wait and fade times on multiple steps at once.

Effects

ESA Pro 2.2 comes with a powerful effects engine that allows you to manipulate and customize several pre-programmed effects, this allows you to create amazing lighting with ease. To begin using these effects you simply need to drag and drop them onto the desired fixtures.
Let's begin by looking at pixel effects.

Pixel Effects

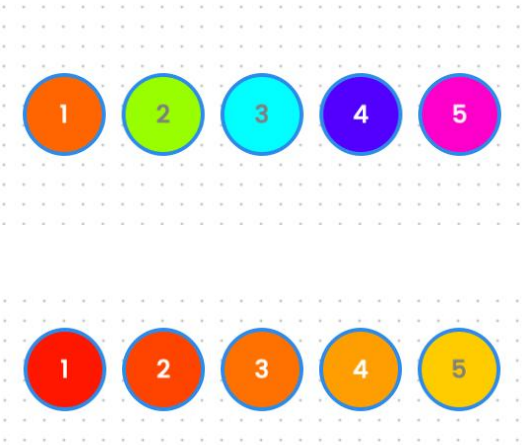
When you drag and drop effects onto your fixtures the **effect settings** tab will appear.



The parameters that appear here will vary from effect to effect. The effect we selected in the above image was Rainbow but a lot of them will be similar.
You can edit the color palette the effect uses (1), and add or reduce the amount of colors in it.
The grayscale option (2) will translate the color effect into grayscale, allowing it to be played on lights that don't have color options such as generic single channel fixtures.
The transform dropdown (3) allows you to apply vertical or horizontal symmetry to your effect.

As the name suggests, Color Width (4) widens a color. In the case of a rainbow effect each fixture will have a different color, like in the image below.

When you increase color width each color will begin to appear over multiple fixtures, like below.

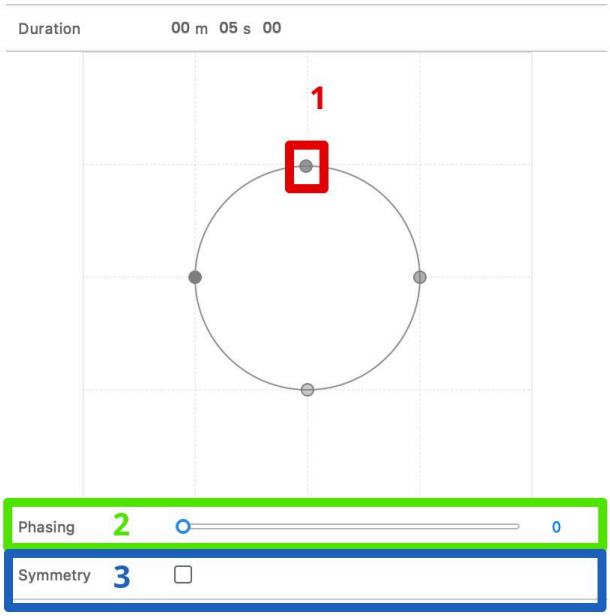


Angle (5) shifts the angle of an effect anywhere from 0°-360°, particularly useful when working with a matrix.
Gradient (6) affects the gradient between fixtures, when set to 100 the color transition from fixture to fixture is smooth, at 0 the color between fixtures becomes a hard change, see the images below.

X/Y Effects

X/Y Effects or Move effects, work exclusively with moving fixtures, if you don't have any of those patched, the effects won't do anything.

The X/Y Effects are named by the motion your fixtures make but you're not limited to these movements. When you first drag one of these effects to your fixtures the effect settings window will look like it does below.

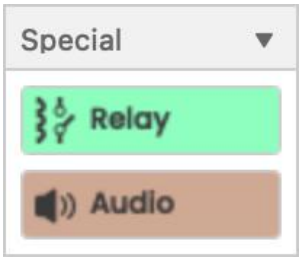


The shape in the center (a circle in this case) represents the motion your moving head will make. By dragging and stretching the dots around the shape (1) you can manipulate the motion your moving head makes. You can add anchor points just like with the LED strip fixture type, this allows for truly unique movement.

The Phasing slider (2) manipulates the phase of your moving heads, controlling if they move in or out of sync with each other.

The Symmetry tickbox (3) will make your moving fixtures move in symmetry, very useful if you have multiple groups of moving heads moving together.

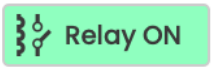
Special



Relay ON

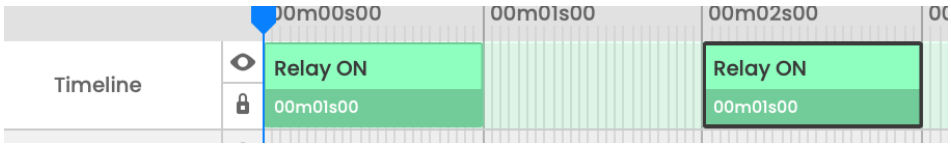
The Relay ON block can be used to turn on and off up to 2 external relays. This effect can only be used with Relay fixture types and is only compatible with the DINA DR1, DR1 Lite and SR1 controllers.

To use yours relay(s) :

1) Drag and drop a *Relay On* block 

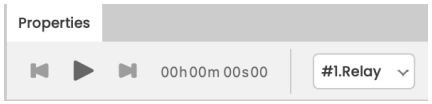
2) onto a Relay fixture in the grid area. 

This will create a new Relay On block to control your fixture. You can change the size of this block and duplicate it to create multiple blocks. For any empty space on the timeline the relay will be turned off. In the example below, the relay will turn on and off every second.



Relay On blocks can be targeted at Relay fixtures using the drop-down list in

the Properties window



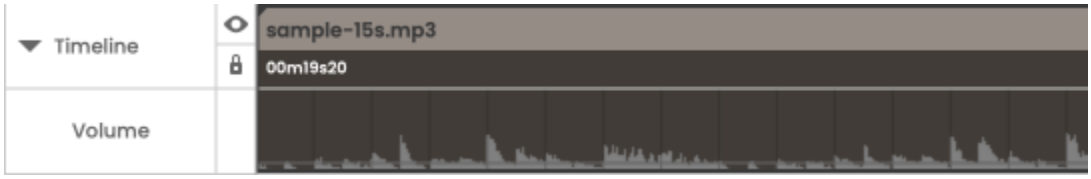
3) Next, assign the Relay fixtures On the Standalone screen, to outputs in the Output window (bottom/right). This is also covered in the *Output Window* section.

For information about wiring your relay(s) please refer to the Technical Datasheets available on the Downloads page of the Nicolaudie website.

Audio

When you drag the Audio block to a timeline a file tree screen will appear, allowing you to import the audio file of your choice. Clicking the down arrow next to Timeline will display the Volume timeline and the Waveform. This can be useful if you want to manually target effects to happen at particular points in the audio.

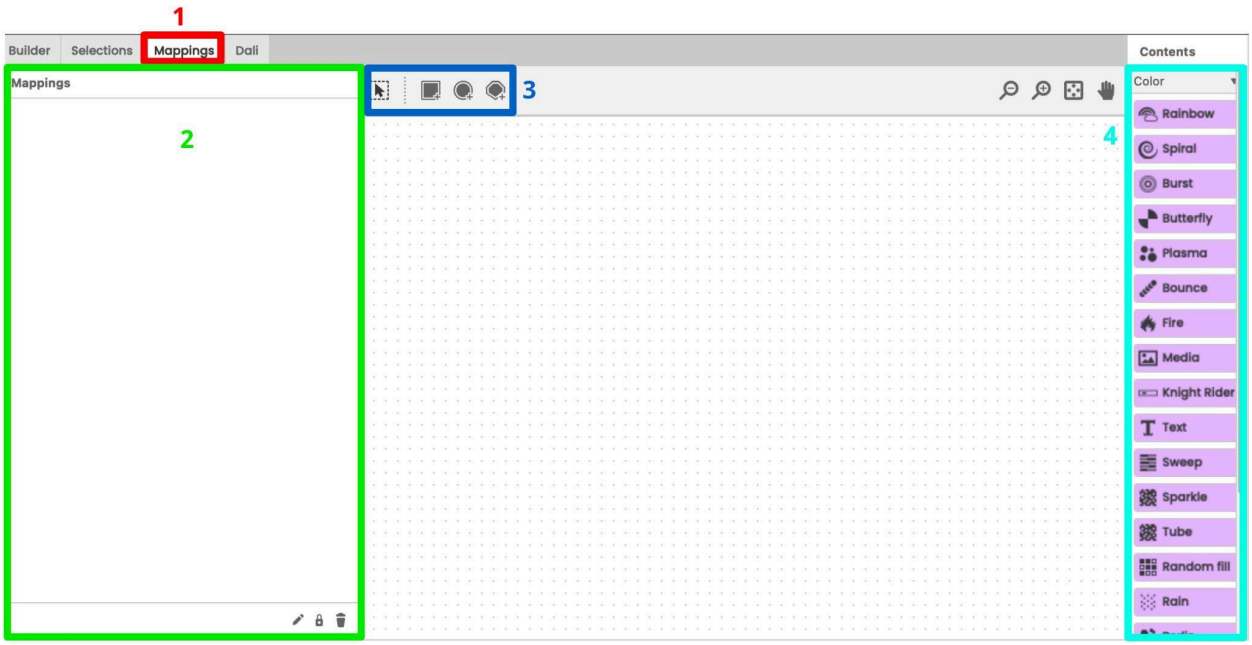
Note: Only .mp3 & .wav files are compatible with ESA Pro 2.2.



The audio block is not used for automatic sound-to-light. For this see the section: Standalone > Sound-to-Light with T-C-A.

Mappings

Mappings is where you create a shape and link it with a timeline. There are a few key differences between the Selections Tab and the Mappings Tab, these are highlighted in the image below.



You can select the mappings tab from the tab selector (1). Just like in the selections tab, your mappings will appear on the left side of the workspace (2).

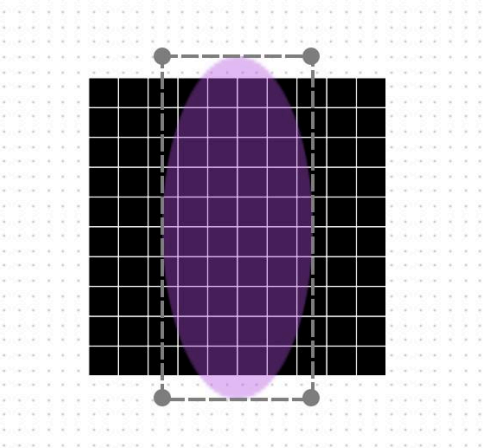
Mappings provides a different toolset (3) than what's in the selections. The pointer with a dotted square around it allows you to select fixtures. The tools to the right of this allow you to create rectangles, circles and polygons in the workspace, these are essential for mappings.

On the right hand side of the workspace you have mapping effects, these are exclusive to the mappings tab and can't be accessed in any other tab.

Creating Mappings

After you've patched your fixtures you can begin creating mappings. Go to the mappings tab and choose a tool to create your shape.

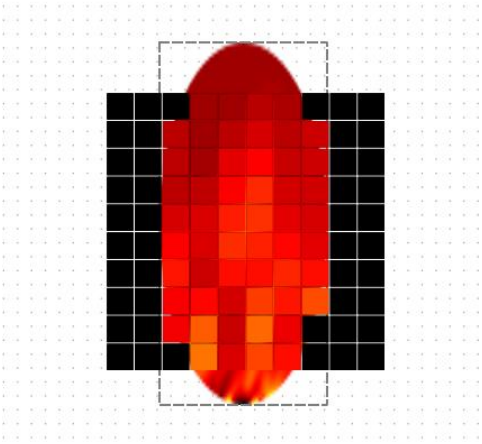
You should then click & drag to create your desired shape. You can do this over the top of fixtures or create your shape and then drag it over the desired fixtures. You can resize the shape once it's been created.
As you can see in the image below I've created an oval mapping over a matrix.

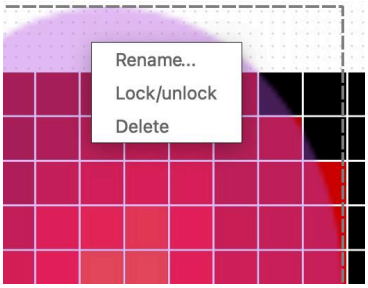


Once you've created a shape it's time to create your programming.
Mappings offer several unique ways to program your fixtures. You can drag and drop one of the pre-programmed effects to your mapping or use the Media block
to import a media file of your choice to be mapped.
Note: Only the following video formats work with ESA Pro 2.2; .Gif, .MP4, .MOV (with resolutions less 1280x780 pixels)

Below you can see the Fire effect mapped to an oval.

Each mapping effect has multiple parameters to adjust, giving you a world of possibility for your effects.
Each mapping can be locked to prevent accidental editing by right clicking and pressing lock/unlock from the context menu that appears





DALI

The DALI tab is where all DALI programming takes place using DALI Command Blocks within Scenes or DALI Sequences.

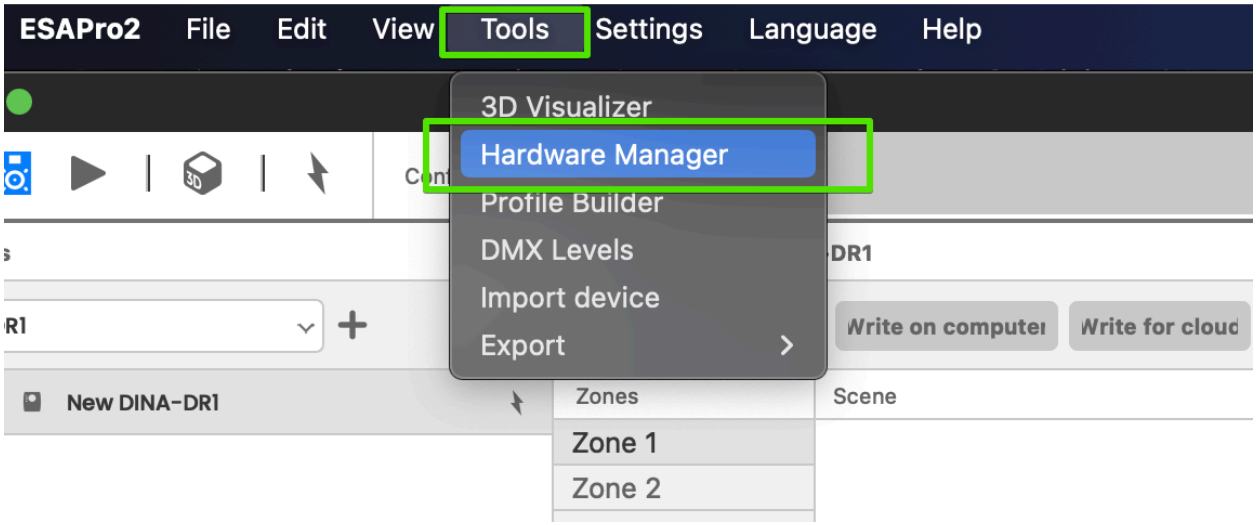
DALI is available as standard on the Nicolaudie DINA DR1 and DINA SR1 models. It is available as an optional license upgrade for the DINA DR1 LITE. See Smart Upgrade Tools for more information.

Note: Available features vary depending on what type of DALI gear you're using. Not all DALI Gear types are fully compatible with ESA Pro 2.2, some will only respond to basic generic commands. Full compatibility will be coming in future updates.

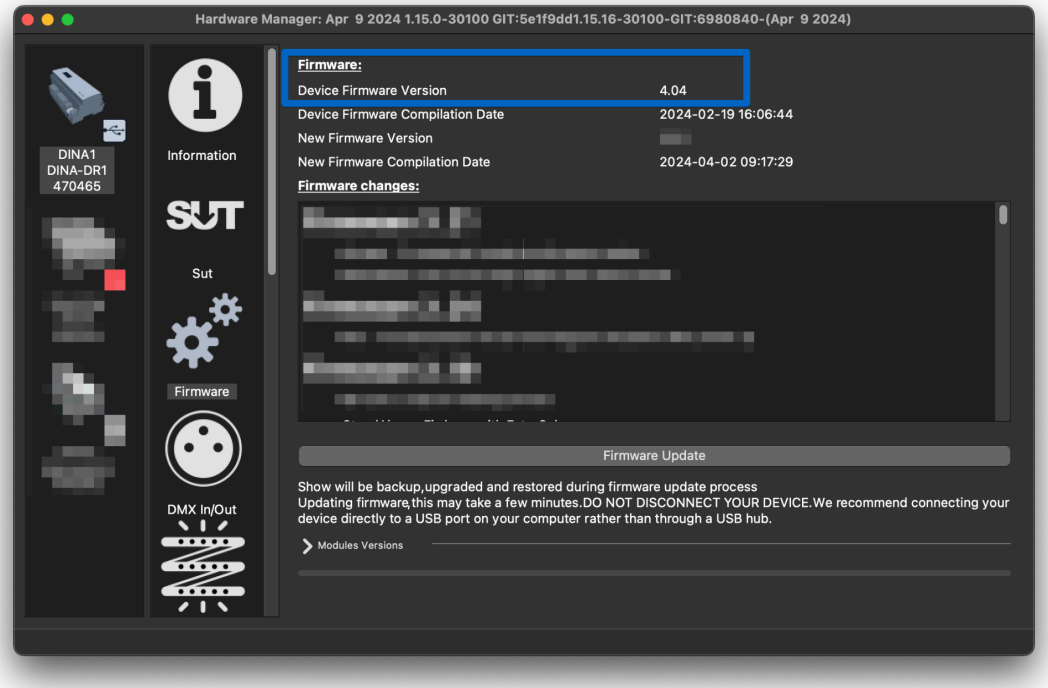
DALI Gear Compatibility Table

Gear Type	Description	Full Compatibility?
DT0	Fluorescent Single Channel	Yes
DT1	Self-Contained emergency control gear	Future update
DT2	Discharge (HID) Lamp	No
DT3	Low Voltage Halogen Lamp	No
DT4	Incandescent Lamp	Future Update
DT5	DC Converter	Future Update
DT6	LED Lamp (Single channel)	Yes
DT7	Switching (relay) Gear	Future Update
DT8	Colour Control Gear	Yes

Before you can begin programming your DALI gears you'll need to commission your DALI bus. This process takes place within the **Hardware Manager**. You can access Hardware Manager via the **Tools** drop down in the software or in the **Hardware Manager** folder, found in the file structure for ESA Pro 2.2.

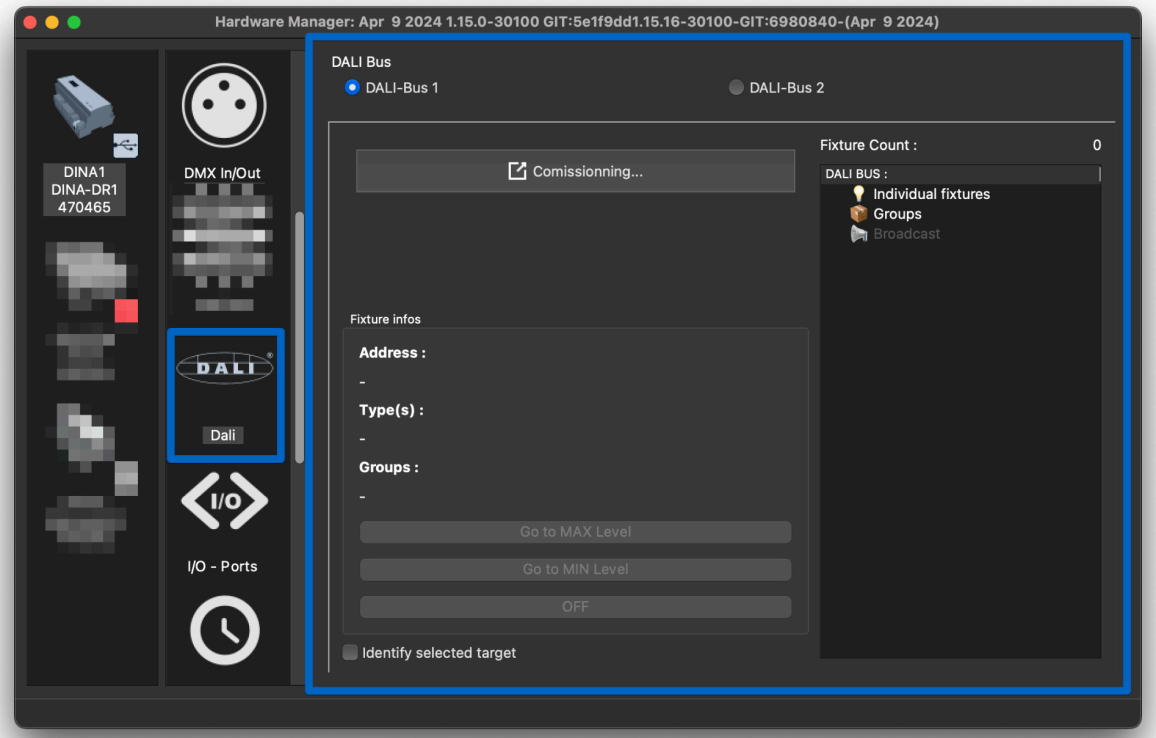


Once you're in Hardware Manager you should connect to your DINA DR1. The first step to take is checking your device firmware. To use the DALI functionality you need to be Using **firmware 4.00+**

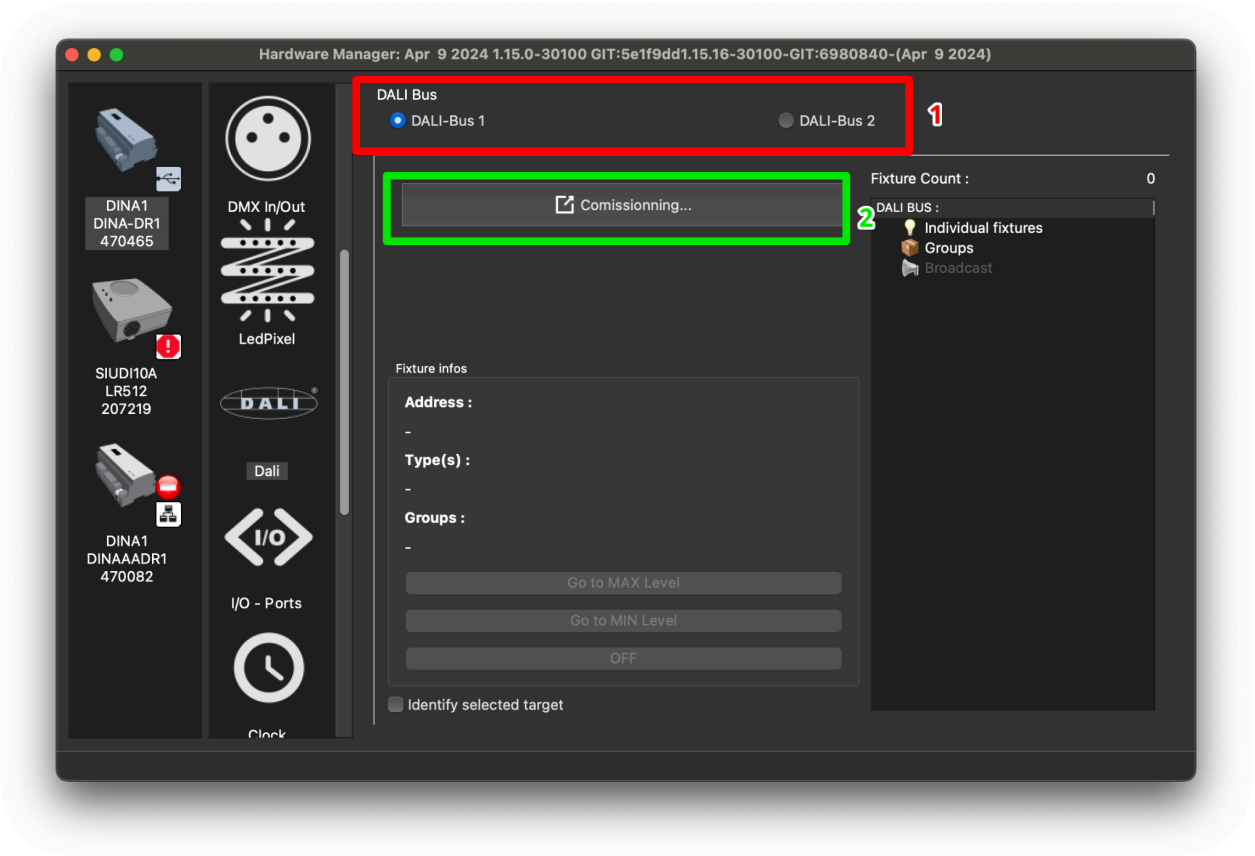


If you don't have the option to update to **Firmware 4.00+** you should download a new version of Hardware Manager from the downloads page on our website… https://www.nicolaudie.com/download.htm

Once you've updated to **firmware 4.00+** you'll see a new tab appear in HardwareManager; **DALI**.



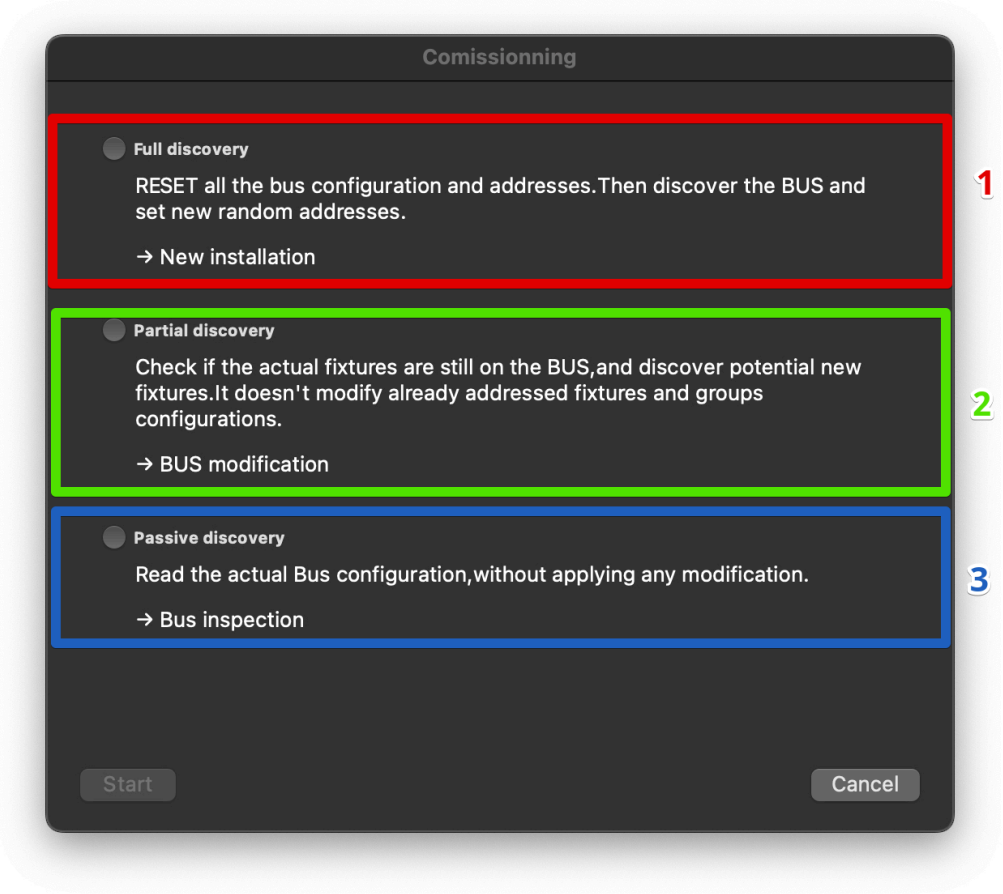
This tab is where all DALI commissioning takes place.



To begin you should select the DALI bus you want to commission (1). The DINA DR1/SR1 can control up to two DALI buses. Each bus can control up to 64 gears.

Once you've selected the bus you can now press the 'Commissioning...' button (2).

Next, the Commissioning screen will appear which lists the options available to you.

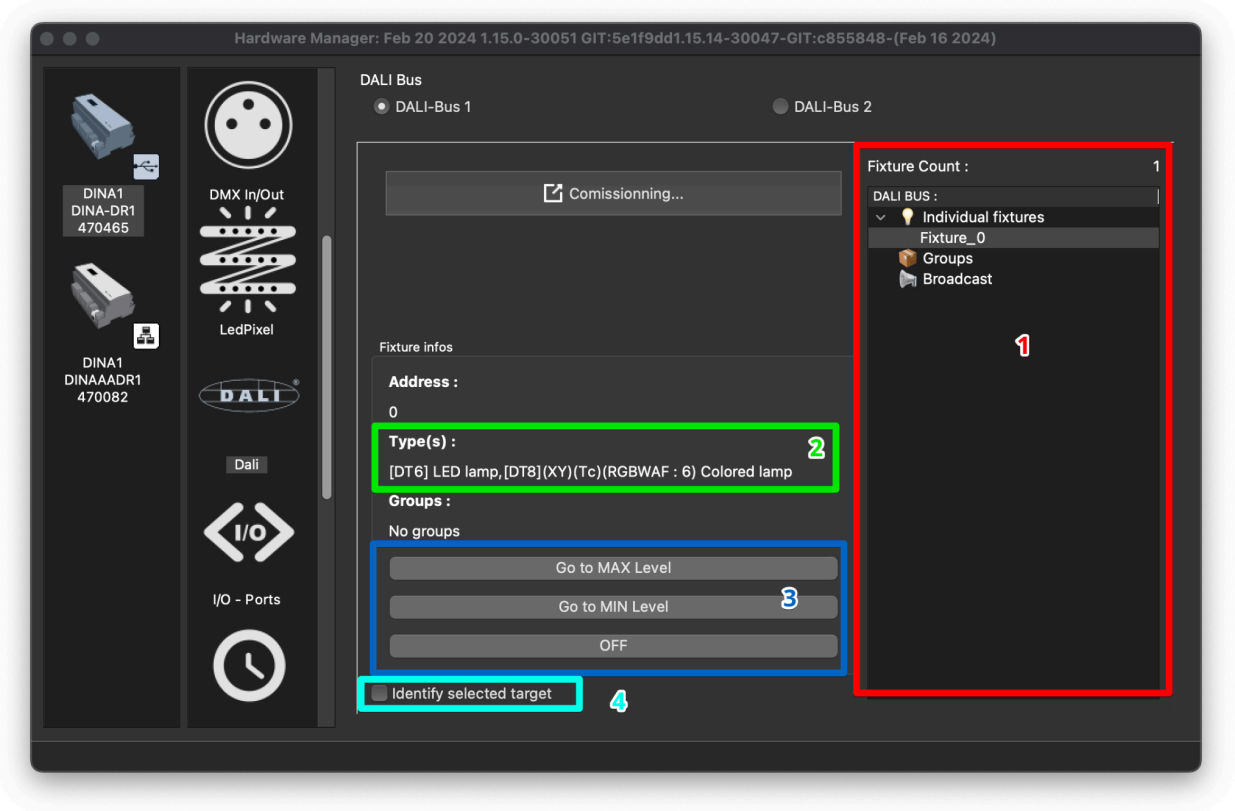


Full Discovery (1) should be used when commissioning your bus for the first time. It will scan the bus, check for gears & their types and automatically address them.

Partial Discovery (2) will check the bus to see if all gears are still present, check for new gears & remove gears no longer present on the bus from the software list. This should be used if you're integrating new gears into a bus or removing them, without resetting the whole bus configuration.

Passive Discovery (3) will read the bus status but won't make any modifications to it. This is useful if you want to check what gears are on your bus.

Once you've commissioned your DALI Bus your gears will appear in a list on the right.



Gears on your bus will appear on the right side of the window (1). When you select a gear you'll have information about it appear in the middle of the screen (2). It will typically include the address,type of gear (DT number), groups and the available color channels.
This information is all stored within the Gear(s) memory.

In the above image you can see there's a DT6/DT8 (switchable) Gear that has access to RGBWAF channels. You can recall the maximum or minimum levels for the selected gear or turn it off (3).
If you wish to identify the gear you have selected you can check the **Identify Selected Target** (4) box at the bottom of the window. This will cause the selected gear to flash until the box is unchecked.

Once you've commissioned your bus you can close HardwareManager and return to ESA Pro 2.2 and begin programming. Your device can only connect to one bit of software at a time.

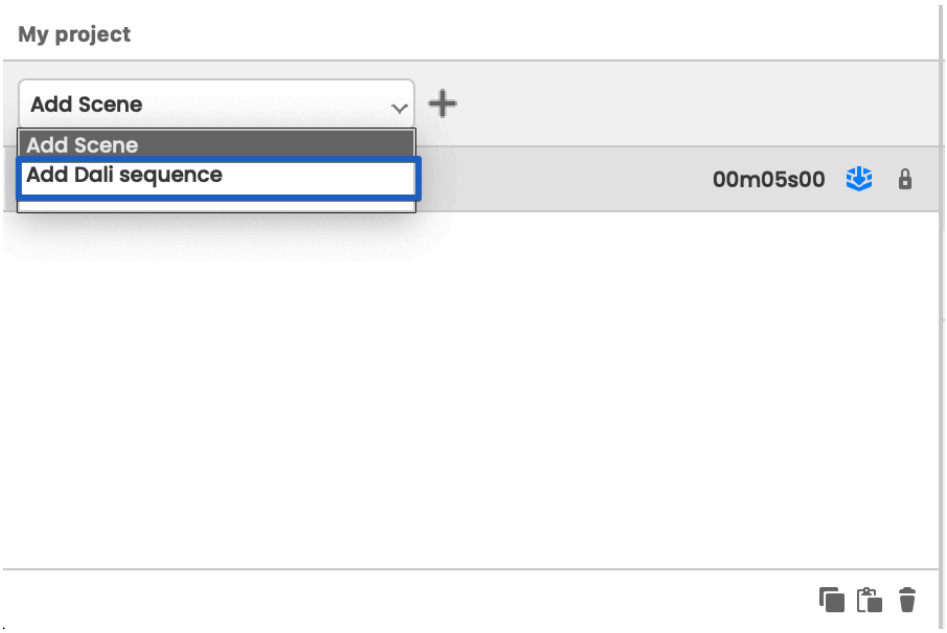
Programming DALI

Now your bus has been commissioned you can import the gears into ESA Pro 2. This is done via the DALI tab in the Patch window. Information about the DALI patch screen can be found earlier in this manual under **DALI Patch Window.**. It's recommended you patch your DALI gears in a separate zone to your DMX fixtures if you want to control them independently. If you plan to control your DALI fixtures using the same scenes as your DMX fixtures you can patch them into the same zone.

When your gears are patched you can begin programming.

There's two ways to program your DALI gears:

1) Scene & DALI Blocks : Yellow DALI command blocks are added to a scene timeline and send commands when they are reached in the scene playback.
2) DALI Sequence : DALI Sequences behave as a scene with no duration and no loops, all DALI commands are sent immediately when the sequence is started.



DALI Blocks & Scene Timelines

DALI commands are found on the right side of the workspace in Yellow.
General Commands (1) can be used with any DALI gear that's compatible with ESA Pro 2.2, for a list of compatible gears Gear type-specific commands (2) will be listed underneath the relevant gear. In the image to the right you can see the color command is only usable with DT8 gears.

The list of DALI commands will increase as we expand DALI functionality in ESA Pro 2.2 and add compatibility for additional DALI Gears.

The table below details each command.

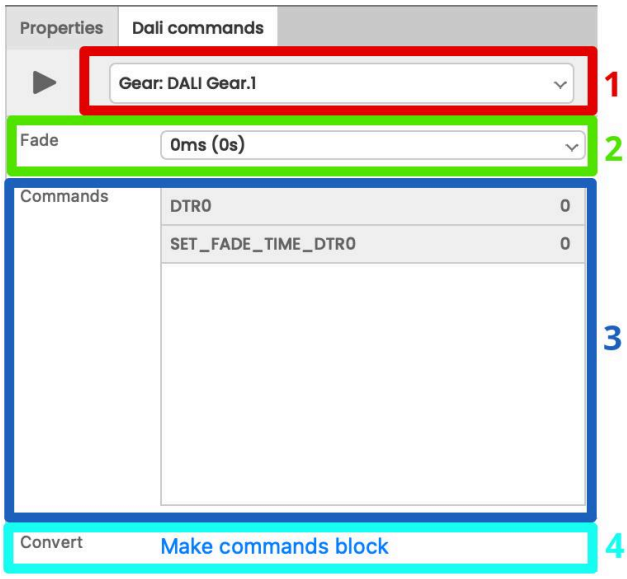
Configuration Commands	Commands that configure a parameter for the selected gear(s) until told otherwise
Fade	Configure fade time for selected gear(s)
Non-Fading Commands	These commands will ignore any set fade configuration
On (100%)	Recall Maximum gear level
Off	Turn gear off

Fading Commands	These commands follow the fade configuration unless instructed otherwise
Dimmer	Set dimmer level
Scene	Start a scene from the gear(s) memory
DT8 Commands	These commands are only compatible with DT8 gears.
Color	Set a color (DT8 only)
Miscellaneous	
Commands	Create a custom block with advanced commands

Note: When programming changes to color temperature with DALI values are in Mirek (or Mired). These values don't work like Kelvin. For example 0 Kelvin = 65535 Mirek/Mired and 10,000 Kelvin = 100 Mirek/Mired

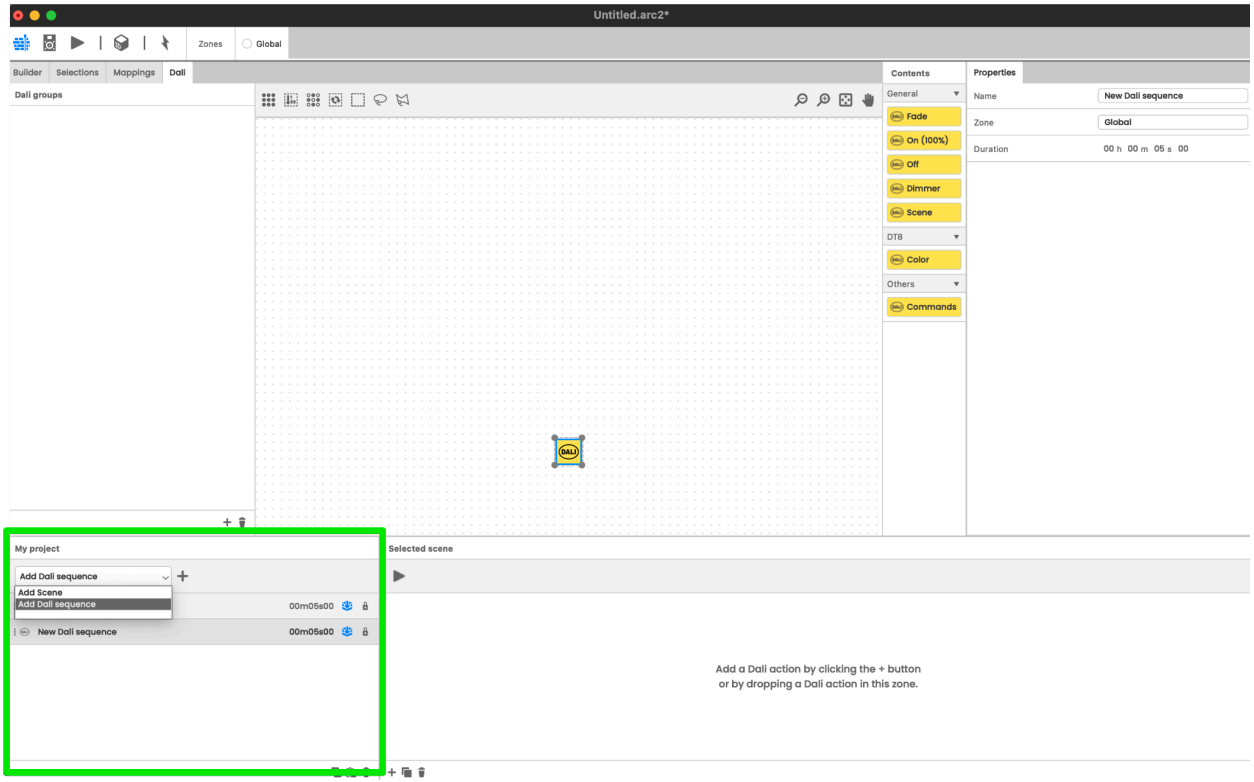
There's two ways to assign commands to your DALI gear(s).
Option 1): Use the same method as creating Selection & Mapping effects where you select which gear(s) you wish to affect using the click/drag or shift/click methods

Option 2): Use the dropdown highlighted in the image below (1) to select if the command is sent to a specific gear, group or broadcast to all gears present on the selected bus.
The Properties window that appears when editing DALI command blocks is very different to the one you've previously seen when editing Selection & Mapping effects.



The fade dropdown (2) will add a fade to the selected command. If a fade is set here the selected gear(s) will ignore any fade configuration commands previously sent .
If this is set to **ignore** then the gear(s) will continue to fade according to any fade configuration command you've previously sent. The Commands box (3) breaks down the actions that happen, and the order in which they occur in a command block.
To edit the actions that happen in a block and the order they happen in you should select Convert; Make commands block (4).

You can add DALI commands to any scene, just as you would a regular effect but you can also create a **DALI Sequence**. These can be selected from the dropdown in the **My Projects** section of the editor window.



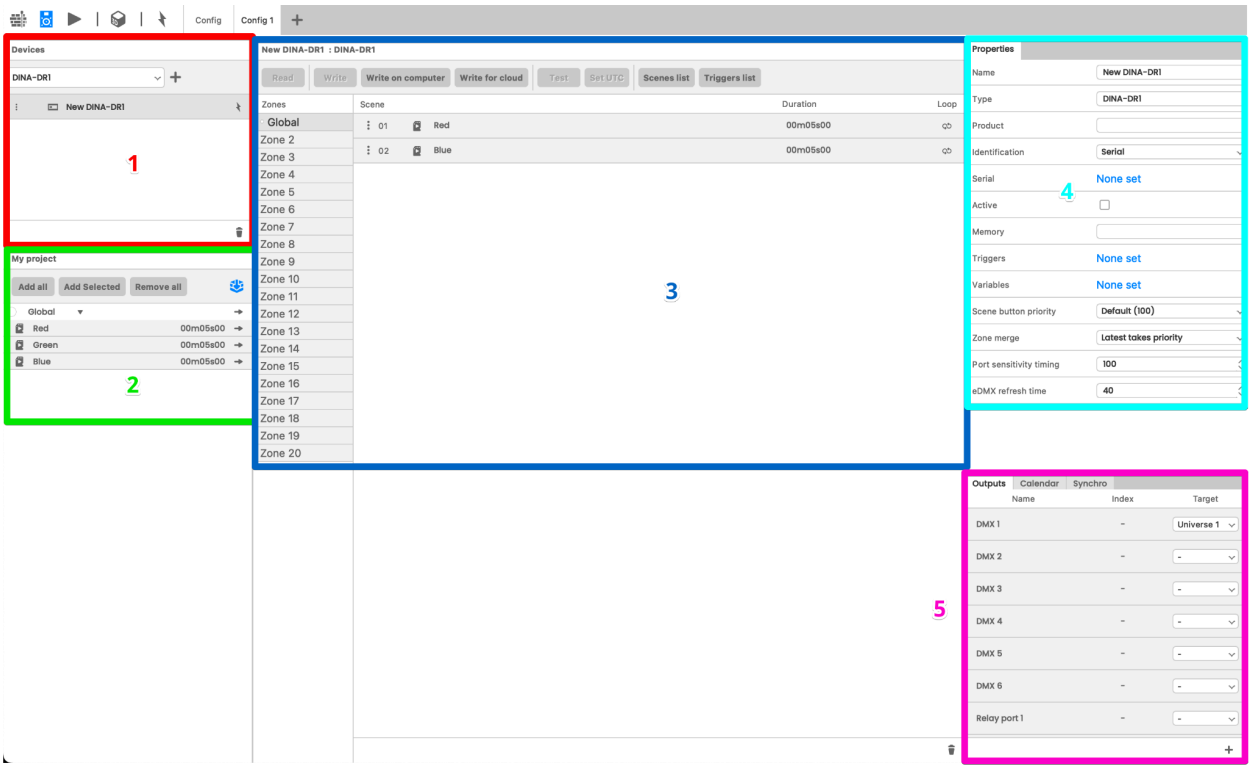
In a DALI sequence you can stack multiple commands. These commands will be issued in the order they appear in the sequence. Commands take approximately 40 ms to send.

DALI commands can be placed in a timeline just as regular mapping & effect blocks do, however they can't be stretched/shortened or automated. You can have both DMX and DALI in a timeline.

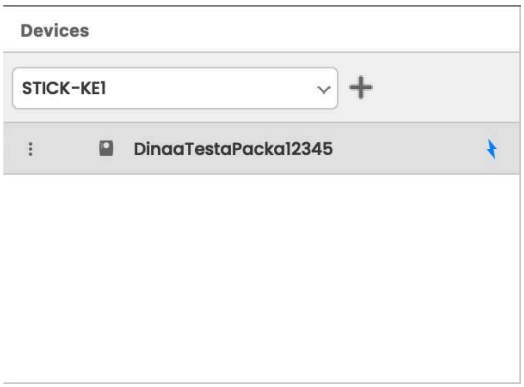
Standalone

The Standalone screen is where you will add your programmed scenes to your controller. Other standalone options can be set from here, such as calendar triggers and other types of external triggers to start scenes.
Note: The options that appear in this screen can vary depending on the controller you're using, these will be covered as we get to them.

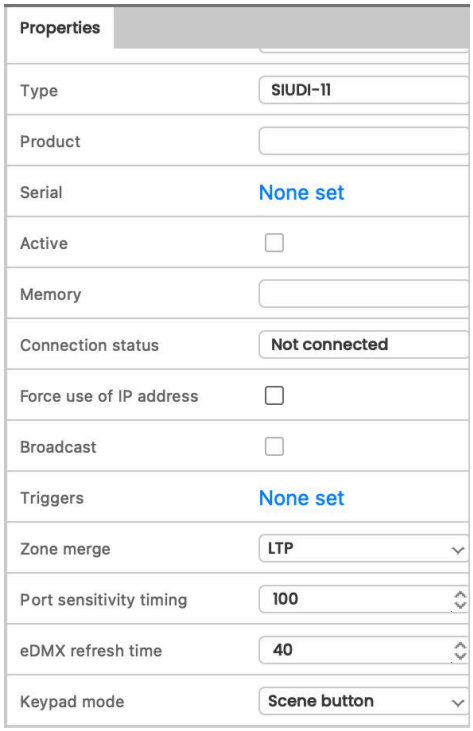
When you enter the Standalone Screen it will look something like it does in the image below, divided into 5 main sections, the devices window (1), the My Project window (2), the device memory window (3), the Properties window (4) and the Output/Calendar/Synchro window (5).



The Devices window, pictured below, is where you manage the devices ESA Pro 2.2 is connected to. Here you can add a device by selecting the dropdown, selecting the device type you wish to import and pressing the + button. This is very useful if you don't have access to the device your programming will end up on. When you've added a device here you'll need to assign it a serial number, you can do this by right clicking on it and selecting the serial number associated with the connected device. You can also toggle if the device is active here. An active device will have a blue lightning bolt next to it.



When you select a device in this window you'll see Device Properties appear in the properties window to the right of the device memory window.



This is where you can edit some of the advanced options on your device. The Active tick box controls if your device is active in the software.
Memory shows you the total available memory on the device. On controllers with expandable storage you can have up to 32Gb of memory.

Force use of IP address bypasses automatic detection when connecting via LAN and connects directly to the specified device IP address and subnet mask. Refer to the technical datasheet for your device to learn how to find the IP address. Automatic network detection relies on broadcast messages sent from your computer reaching the controller. These can be blocked by some network configurations and common devices such as wifi-extenders.

Triggers is where you go to set T-C-A (Trigger-Condition-Action) triggers. This will only appear if you have an NSA Device (Nicolaudie Standalone Engine).
Note: NSA compatible devices are the DINA DR1, SR1 & DR2 as well as the SLESA U11.
TCA triggers will be covered in depth later in this section.

Variables is where you can create and assign variables for your triggers and controller. This functionality is only available on NSA devices. Variables will be covered later in the manual.

Zone Merge when using the Global zone and a custom zone in the same project, it is possible to trigger 2 scenes in different zones which control the same fixture(s). This setting allows you to control how this is managed.

Below is a brief description of the two operating modes:
LTP (Last Takes Priority): This mode means that the last triggered scene will always take priority and be visible regardless of which zone it is in. This is the default behavior.

Zone order: Imagine Zone 1, 2, 3 etc stacked on top of each other, with zone 1 at the top and 3 at the bottom. In this mode, scenes playing higher in this stack will hide those playing on zones below until they are stopped (released).

For a more in-depth description see the section ***Advanced Standalone Techniques***.

Port Sensitivity Timing changes how often the controller checks for behavior on the Dry Contact Ports on your device in milliseconds. This is set to 100ms by default so the controller will check for new behavior on the ports every 100 milliseconds.

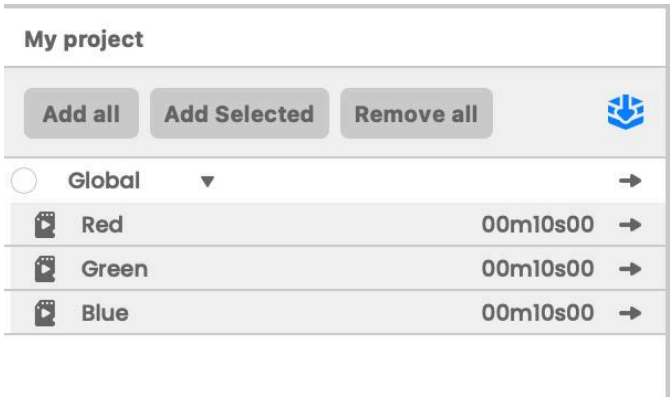
eDMX Refresh Time allows you to adjust how many DMX frames your controller sends via Art-Net, for example the DINA DR1 sends 100 frames per second but this is too much for some Art-Net devices to handle, in this case you should adjust this parameter.

Keypad Mode is a parameter exclusive to the SLESA U11A. By default this parameter is set to Scene Button but you also have the option to set the Keypad to trigger mode, allowing you to use the keypad buttons as a trigger method with TCA triggers or to disable the keypad entirely.

Selecting a Zone in the Device Memory window will give you two options to modify in the properties window. Starting scene dictates what scene the Zone will start on when the controller boots up, by default this is set to 'Last Played Scene'.
The other option you're given is whether you want the controller to process triggers for the zone you have selected on startup, by default this option is enabled.

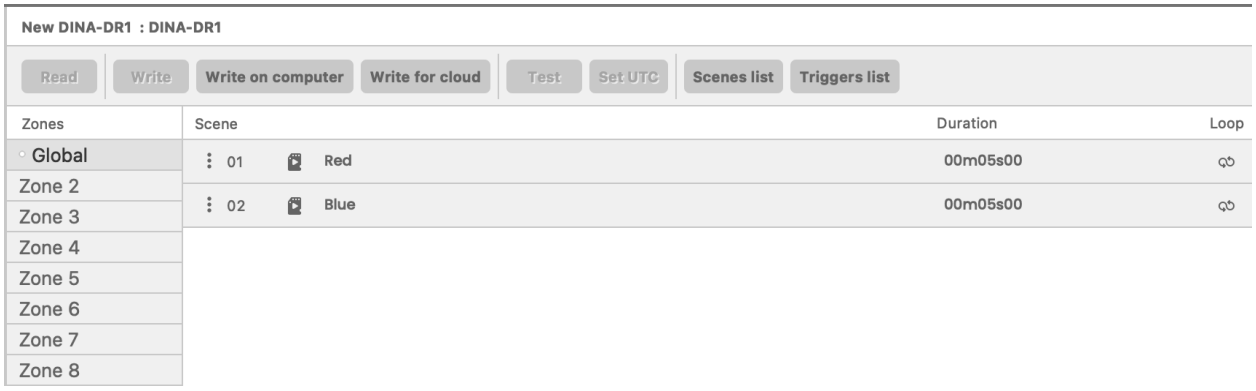
Adding Scenes to Memory

The **My Project** window, pictured below, is where your programmed scenes appear in their relevant zones. You can add or remove scenes and zones by using the arrows that appear next to them or by pressing the Add all, Add Selected or Remove All buttons.
The Pre Selection icon that you see appear next to your scenes in the Editor tab also appears here. By default this is active but if you deactivate it then any scenes that don't have pre-selection enabled will disappear from this list.



The device memory window is where you view the scenes that are waiting to be written to your devices memory and access tools to create show files and test your show in Standalone mode.

Scenes in this window can be re-arranged by clicking and dragging the three dots that appear left of a scene.



Along the top of this window is where you have device memory tools.
Read will pull the showfile that's stored on your device and import it into ESA Pro 2.2 (If compatible), this is very useful if you want to edit a show but don't have the original file to hand, just the device.

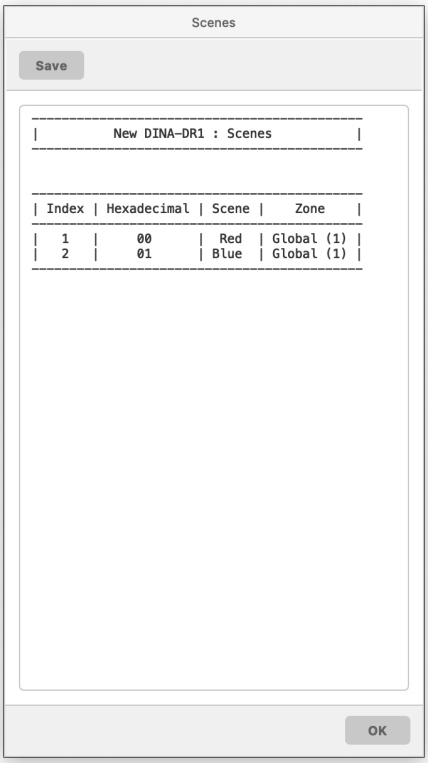
Write; will write all of the scenes listed in this window to the device memory.

You can use the **Write on Computer** button to create the same showfile that would be written to the device on your computer.
If you're creating a show to be uploaded to the Nicolaudie Cloud use the **Write for Cloud** button.

The **Test** button puts your device into standalone mode within ESA Pro 2.2, this allows you to check your show has been written correctly and all of your fixtures are behaving as expected.

Set UTC allows you to set your device's internal clock. To do this you should first navigate to the **Settings** menu and click the **System Location** option that appears. From here you can select the location of your controller. Once you've done this press **Set UTC** to update the Date, Time & Location of your device.

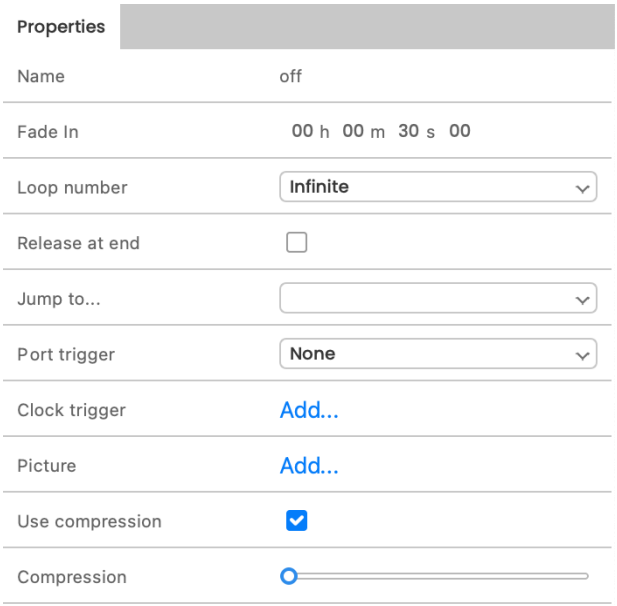
Scenes List will create a simple, exportable, plain text scene list. This details the scene index, hex identifier, name & zone.



Scene Properties

When you select a scene in this window you'll see some more options relating to the scene appear in the properties window on the right hand side.

Note: The options that appear here will vary from device to device, device exclusive features will be noted.



Scene name . This name may show on remote control apps or on the screen of the device depending on which device you have.

Fade in sets the scene fade time from the last scene. In the example above, it will take 30 seconds.

Loop number controls how many times a scene will loop before finishing, this can be set to infinite, as it is in the above image, to loop until another scene command is given.

The **Release at end** tickbox lets you dictate what happens when a scene reaches it's total number of loops, if ticked the scene will be released after the final loop and go to blackout if there's nothing playing in the global zone or begin playing the same scene that's in the global zone.

In non-NSA devices (e.g. STICK DE3) you'll have the option to assign what scene the controller jumps to when a scene is released just below the Release At end tick box.

The **Port Trigger** dropdown is where you assign scenes to dry contact ports for triggering. The amount of ports available varies from device-device, if you're unsure

how many ports your device has you can find out by consulting the technical datasheet for your device on our website by following the link below:
https://www.nicolaudie.com/en/download.htm

Clock Trigger is where you create Date & Time triggers for non-NSA devices such as the STICK DE3. Clock Triggering will be covered in detail later in this section.

Picture is an option available exclusively for the STICK DE3. This allows you to upload an image file to be displayed when the selected scene is playing.
Note: Only .jpg & .png files with a maximum resolution of 160x128 are accepted.

Compression tools are very useful if you're working with a large project or devices with limited storage capacity.
Use the tick box to enable/disable compression.
The slider below this dictates how compressed your scene will be. It's worth noting that on dynamic scenes more compression will lower the resolution of the scene, to keep a scene running smoothly you should use minimal or no compression.

Zone Properties

Zone properties can be used to set the startup behavior of scenes in each zone on NSA devices (DINA DR1, SR1 DR2 and SLESA-U11).

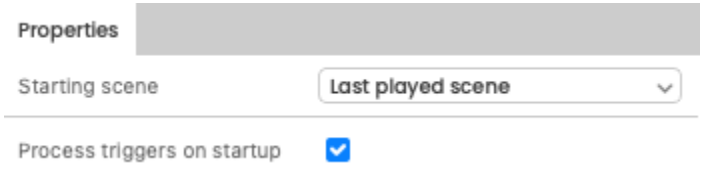
Devices can have a different starting behavior for each zone using the zone properties below.

Starting Scene
- Last played scene : start the last played scene.
- blackout: start with the zone off. (i.e. scene 00)
- Set scene : select a specific start scene from those assigned to the device.

Process triggers at startup: if enabled, the device will run through the triggers from that day, ensuring the device state is as it should be.

1. Select a Zone in the list

2. Look at the options in the Properties panel to see options for Starting Scene and triggers.



Process triggers on startup. When the device goes into standalone mode, after a connection to software or power off, the device simulates time triggers at each minute between the last time we were in Standalone mode (24h max) and current time.

Note: For non-NDA devices the Zone properties window is blank. Insead, look in Device properties in ESA Pro 2 or HardwareManager > Settings. Devices such as the SLESA-UE7 and Stick-DE3 have a scene recovery system. This will trigger the last scene from that day regardless of whether the device has been in standalone mode or not.

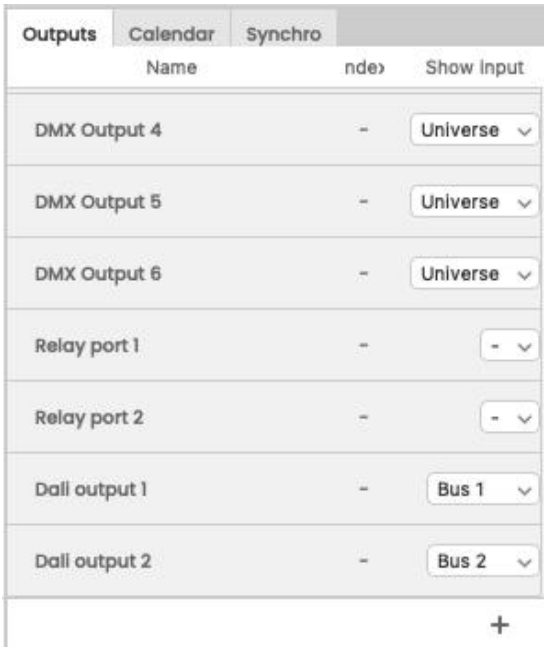
Output, Calendar & Synchro

The **Output, Calendar & Synchro** window has three tabs, these will be individually covered beginning with the Output window.

Output Window

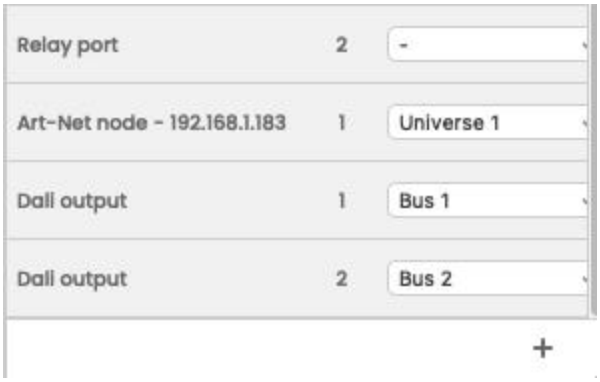
The **Output** window will look something like it does in the image below.

Note: This window will vary from device-device, not all devices will have the features listed here.



DMX Output directly correlates to DMX output on your controller, in the image above a DINA DR1 is connected which has 6 DMX outputs so we have the option to change which universe each output is sending. If your device has alternative output options (such as relays or DALI) these will also appear here.
When you click on the Universe dropdown a list of 100 universes will appear, select the universe you wish to output from the DMX output. For example; both DMX output 1 and DMX output 2 can output universe 1 etc.

The Relay port option is exclusive to the DINA DR1, DR1 LITE and SR1. Use the dropdown menu to select which relay these ports control.



If you scroll down in the Output window you'll also find options for Art-Net & DALI outputs if these are available for your controller.

Art-Net will be covered later in the manual.

You can add new additional Art-Net universes or sACN outputs by clicking the **+** button in the bottom right corner of the software.

Note: Additional Art-Net universes must be purchased separately, you can check how many Art-Net universes your device has licenses for in the SUT window of Hardware Manager.

Calendar

The calendar window allows you to quickly view which days of the week have a date/time trigger occurring.

Days that have a trigger occur are marked by a dot below the date, you can see this highlighted in the image below where a scene is triggered every Sunday.

Network Synchronisation

(**Synchro** for short) works with STICK KE2 & DE3 controllers. This feature allows two or more STICKS of the same model (e.g. 2x STICK DE3's) to have scene selection synchronized on a per page basis. For example, if a user selected scene 2 on page A on one STICK, all the other STICKs on the network can be made to select this scene if configured as below. This is particularly useful when controlling one space from different locations in a building. Note that this feature relies on broadcast network messages being sent and received and is therefore not compatible with VPNs.

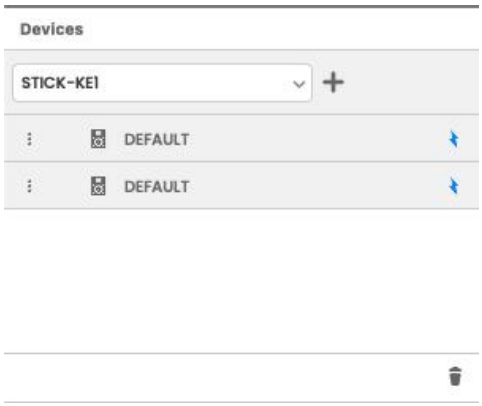
You can select which pages / zones to synchronize in ESA PRO 2. You may choose to only synchronize some of your pages / zones.

The Stick-DE3 and KE2 work slightly different:

- 1. The Stick-KE2 will only synchronize pages A - E; it does not care what zone is loaded onto it. 2. If you are using the extra pages beyond A-E such as A1, A2, A3 etc, this feature will not work.
- The Stick-DE3 is more advanced and will synchronize zones regardless of what page they are loaded onto.

How to setup Network Synchronisation:

1) Connect both of your devices to ESA Pro 2 and import them to your project. If the STICKs are available, you also add two STICK devices using the + button (see image), and activate them later using the serial number + device name (USB connection) or IP address (local network). Each can be activated in the Properties window.

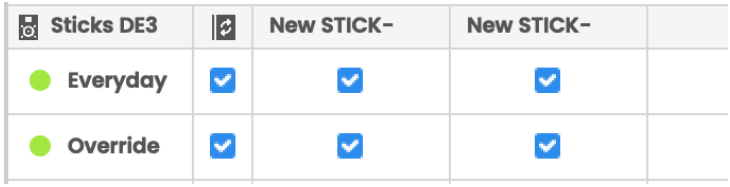


Example with 2x Stick-DE3s.

2) Add your scenes to each device. Notice the Zone name is copied to the page. (e.g. Zone 1 becomes 'Global' etc). Only scenes from the same zone can be added to a page. With the Stick-DE3, the zone order does not have to be the same on each device for sychronisation of those zones to work. With the Stick-KE2 it is necessary to use the same zone order on each page on each

device.

3) Switch the bottom right window to set up Synchro. In the example below I have enabled 2 zones on the Stick-DE3s to sync, called Everyday and Override. You will need to select each device in the Devices list and enable this.



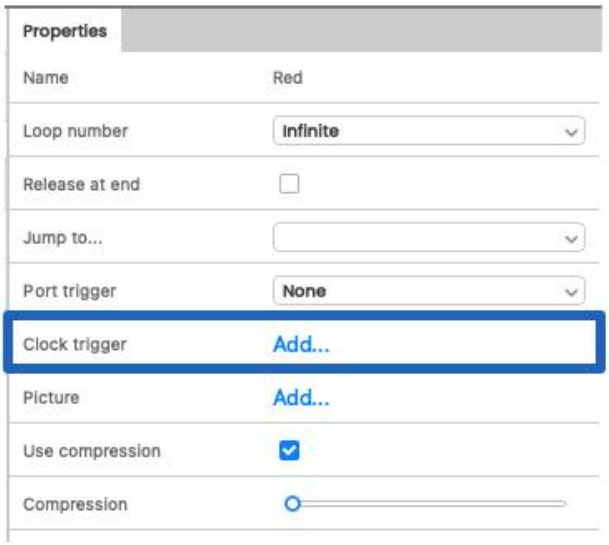
4) Write your show to each device using USB or Network.
(note : for customers who remember ESA Pro v1, it was necessary to write all devices at once over a network. With ESA Pro 2, you can write each device individually over USB or Network.)

To test the network synchronization, connect all STICKs to the same network and change scenes on the pages/zones you have selected to sync. You should see them changing. If not, re-check your sync settings above and make sure nothing on your network could block broadcast messages.

Clock & Calendar Triggering

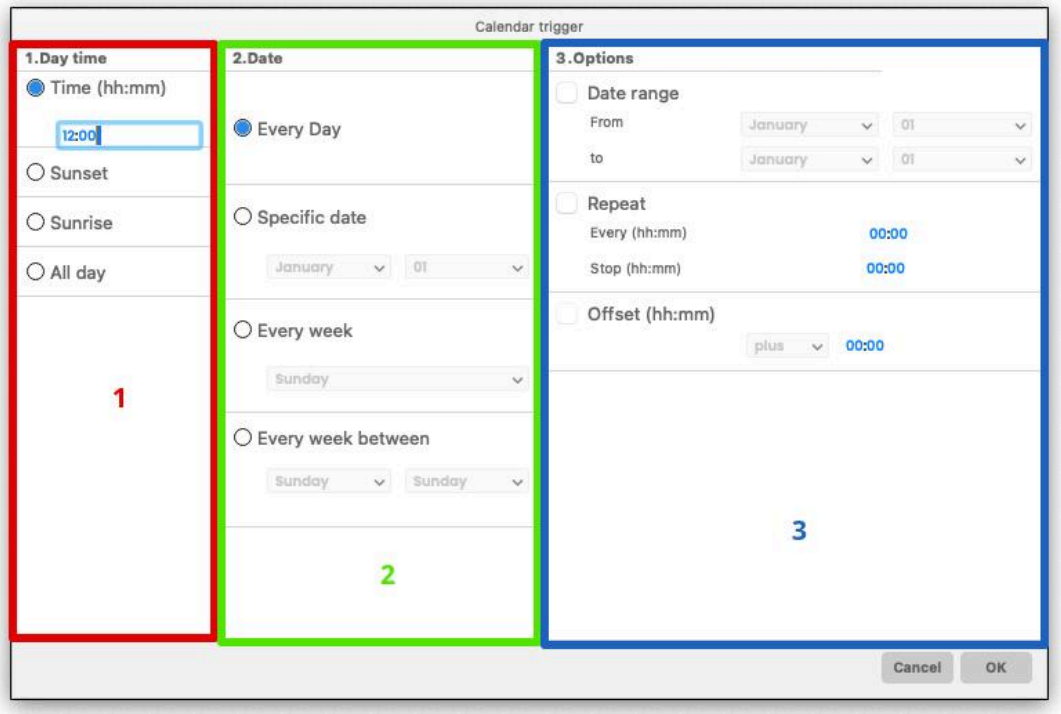
The following section discusses **Clock & Calendar triggering**. This type of triggering is only available for older, non-NSA devices such as the SIUDI 10 (and older) and the entire STICK range of controllers. The more advanced T-C-A triggering options will be discussed in the next section.

To access Clock & Calendar triggering you should begin by selecting the scene you wish to set a trigger for in the Standalone window and select 'Clock Trigger… Add' from the scene properties window.



Once you've done this the Clock & Calendar triggering window will appear as it does below.

To set up a new trigger we press 'Add' to begin creating our trigger.



The Clock & Calendar trigger window is divided into three main sections, Time (1), Date (2) and Options (3). Time is where you set the time of day you want your scene to trigger. With devices that have an astronomical clock you'll also have the options to trigger at Sunset & Sunrise for your device location.

Note: Device location can be set in Hardware Manager or by using the "Set UTC" button in the Standaloone screen of ESA Pro 2.2. All devices default to Montpelier, France as standard.

Once you've set the time of day you want your device to trigger you can move onto the 'Date' pane. Here you can set how often you want the trigger to occur, being able to select every day, a specific date, day of the week or weekday-range.

Lastly you have the Options pane. Here you can select a date range within the year to trigger, how often (if at all) you want the trigger to repeat and any time offset you want to apply.

When we've decided the parameters of the trigger we press OK and the trigger is ready to go.

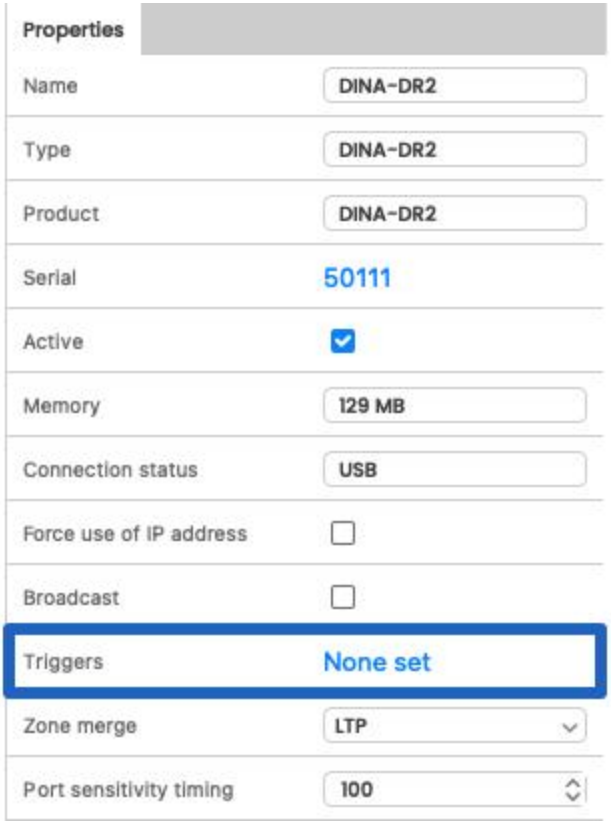
Each scene can have multiple triggers.

T-C-A Triggering

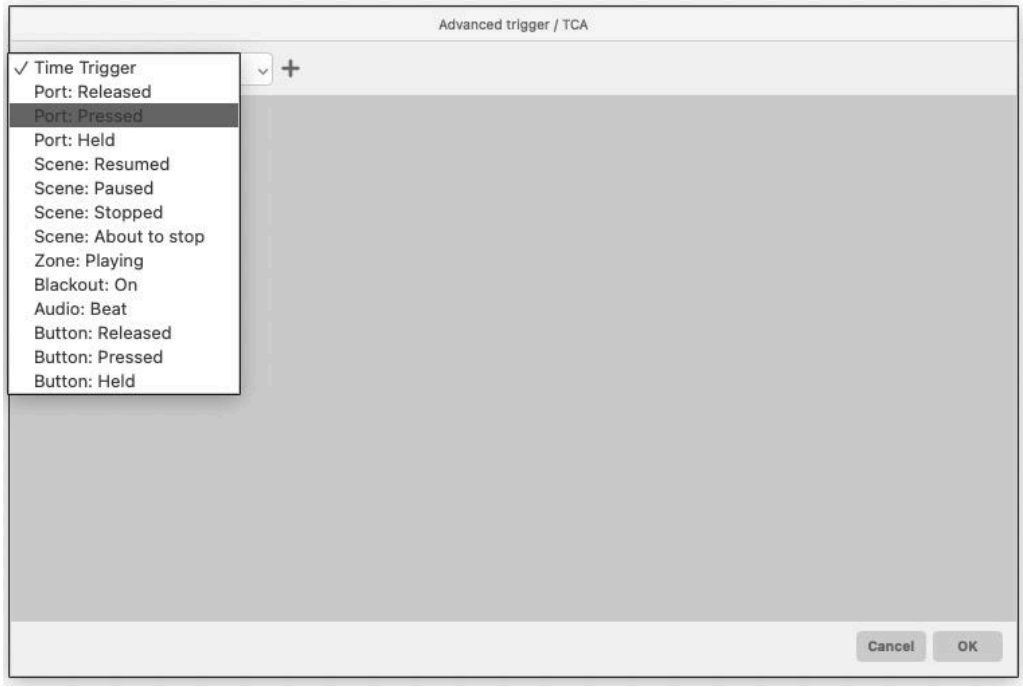
The following section discusses T-C-A Triggering. This type of triggering is only available on new NSA devices such as the SLESA-U11, DINA DR1, SR1 & DR2.

If you're searching for T-C-A definitions you should skip to the end of this section.

Trigger - Condition - Action (or T-C-A) triggering is a powerful tool only available on our newest devices. T-C-A triggering can be accessed from the device properties window by clicking on Triggers, None Set (highlighted below).

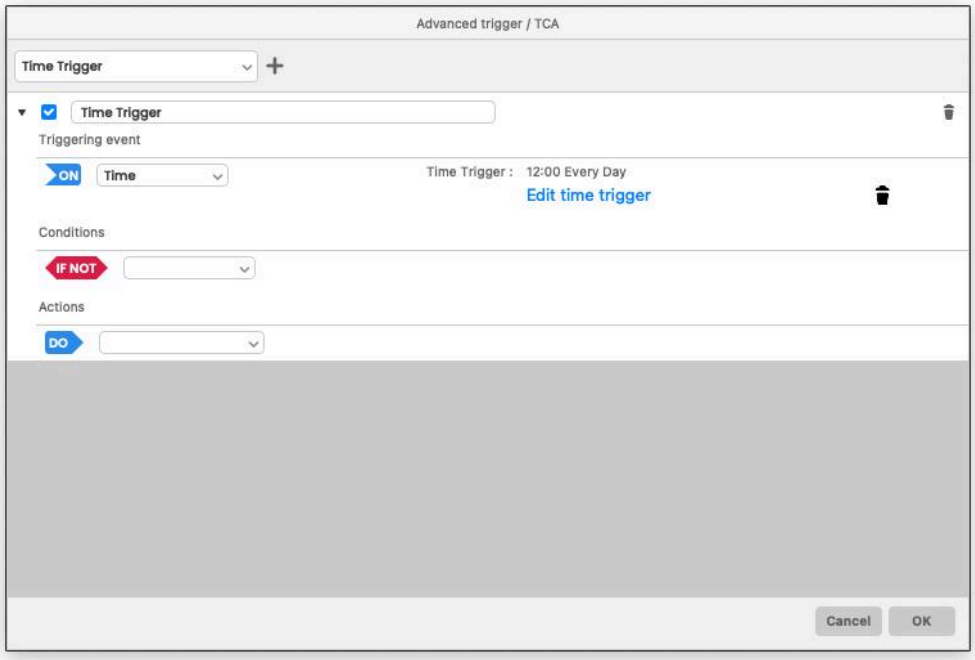


Once you've selected this the T-C-A window will appear.



The drop down above lists a variety of trigger types, for now we're going to stick with a Time Trigger.

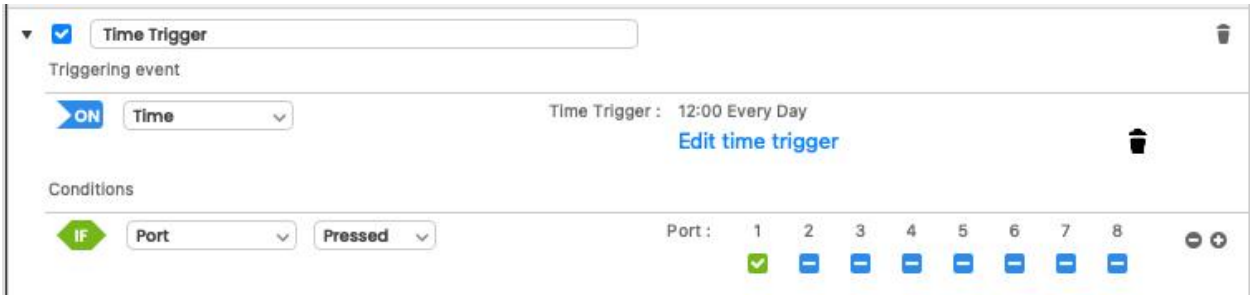
Once we've selected the trigger type we want and added it your window will appear as it does below. As you can see our trigger (T) is a time trigger occurring at 12.00 everyday.



Now we've set our trigger we can move onto the conditions (C).

You can use conditions to set prerequisites that need to be met before a trigger occurs. Each trigger can have multiple conditions and conditions can be changed from **If No**t to **If** by clicking on If Not.

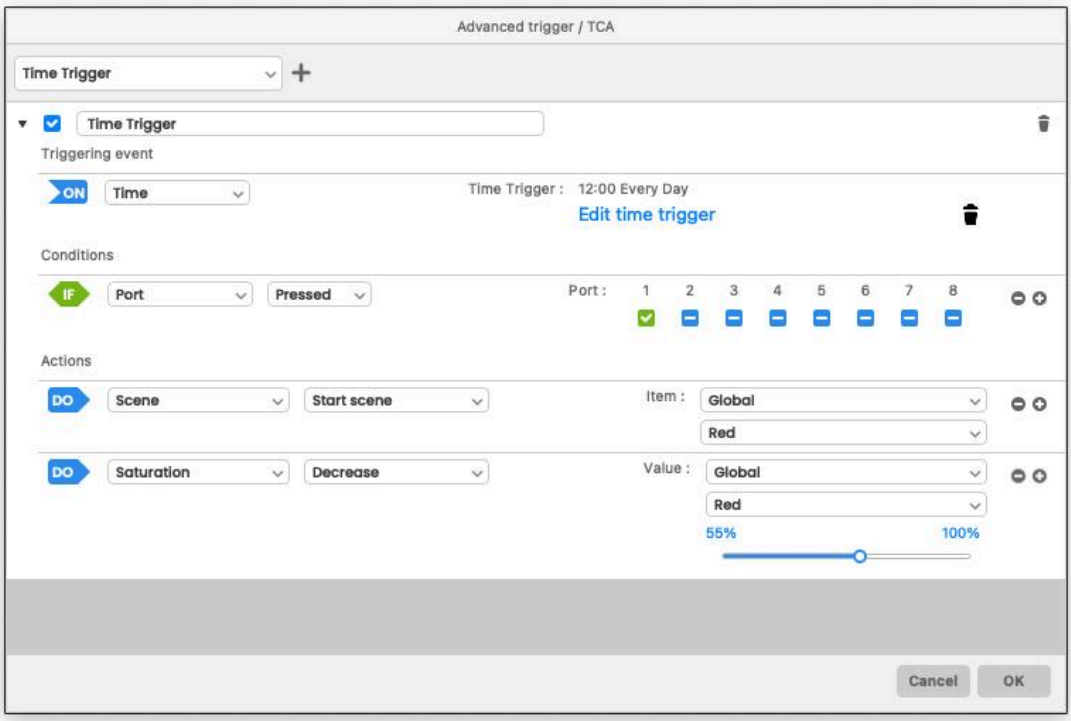
The dropdown menu gives you several condition options to choose from.



As you can see we've now got a trigger at 12.00 (T) that will only activate if port 1 is pressed (C), the only thing left for us to set is an action (A).

Just as each trigger can have multiple conditions it can also have multiple actions, in the image below you can see the two actions we have selected to occur.

In summary our T-C-A trigger occurs at 12.00 everyday IF port 1 is pressed. When it's 12.00 and port 1 is pressed the Red scene in our Global zone activates at 55% saturation. You can see the complete trigger in the image below.



This is only a brief summary of how to use T-C-A triggers. The system is very powerful and allows for a whole host of complex triggering options.
You can find out the function of each trigger, condition and action in the “Trigger - Condition - Action Functions” section at the end of the manual.

Sound-to-Light with T-C-A

ESA Pro 2.2 paired with a DINA DR1 or SR1 gives you the ability to create sound-light effects using beat detection.

This section is only relevant to the DINA DR1, DINA DR1 LITE (with Audio triggering SUT license upgrade) and DINA SR1 models.

How does audio triggering work?

When an audio signal is received by the controller, it will look for transients in the signal which are spikes in waveform. The Audio LED will flash to show when these are detected by the controller. Audio:Beat triggers can be used with the action 'Next step in a scene' to step through each DMX frame in memory with each audio pulse; this creates the sound-to-light effect.

Compatible Scenes

To create effects that work nicely with audio triggering we recommend using

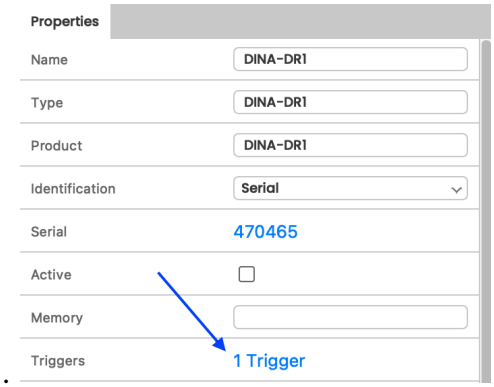
- Paint block effect with fade time set to 0:00 for each step, or
- Basic blocks, with the property *Static block* enabled.

Why is this? For sound-to-light to work well, the values between DMX frames need to be different enough that you will notice them change with each beat. Pixel and Mapping effects can generate amazing effects but many of the frames are very similar if you step through them at 60 -100 beats per minute, for example.

Configure TCA Triggers for Audio

In the example below we will create 2 scenes controlled by audio beats.

1. Create 2 *Scenes using the Paint block or Basic Block* (with Static block enabled).
2. Open the Standalone Screen, select your DINA DR1 or DINA SR1 on the left. In the Properties - Devices panel (right) click the *Triggers link*. The TCA window will open



3. Create one Audio :Beat trigger to control all scenes you want to use with sound.

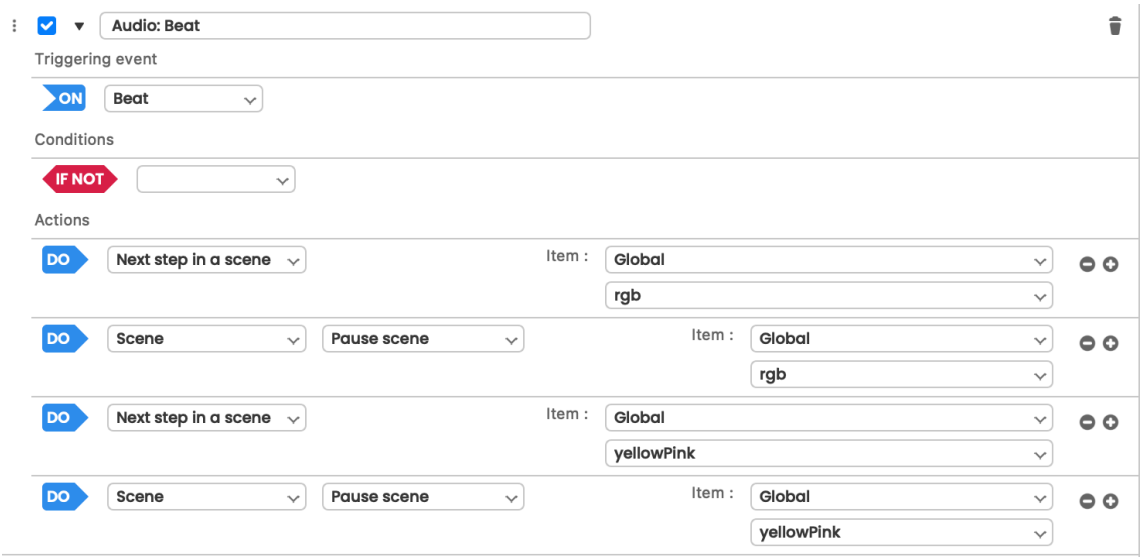
   Triggering event :
   On : Beat

   Actions:

   i. Do: Next step in Scene (specify zone and scene name)
   ii. Do : Scene : Pause Scene (specify the same zone and scene name as above)

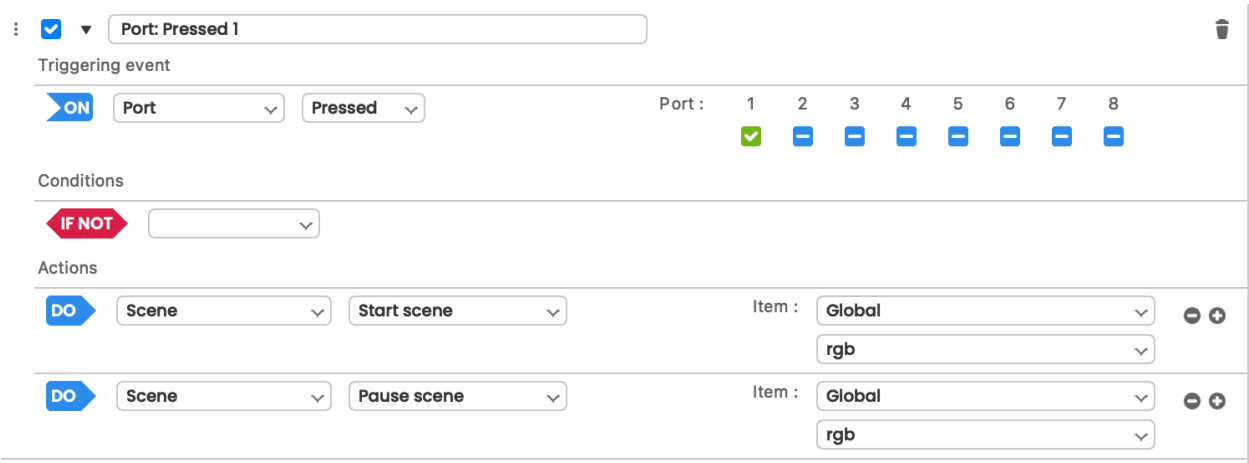
   Add these 2 actions for each scene you want to use sound-to-light with.

   See example below where 4 actions have been added to control 2 scenes.



4. Write the show to your DINA and uncheck active to put it in standalone mode.
5. Connect audio
6. Select a scene. It will start playing with time until the first audio beat is detected. When audio is detected you will see it play according to the audio beat. You have sound-to-light! If the audio stops, the scene will pause.

If you would like your scene to wait for audio beats before starting, it needs to start and then pause. You could use a port trigger as in the example below.



Variables

Variables take the power of TCA and turn it up a notch. For example, you may want to start a random scene in a particular range of scenes or select a scene based on the minute of an hour. With variables this is possible and so much more. This is an advanced topic and is only briefly covered here. More documentation will be available in future.

The variables window can be opened by selecting your device from the Devices list, then in the Properties panel look for Variables and select 'None set'.

This will open the Variables window

Let's try a simple example to get started:

Start a random scene in a specific range

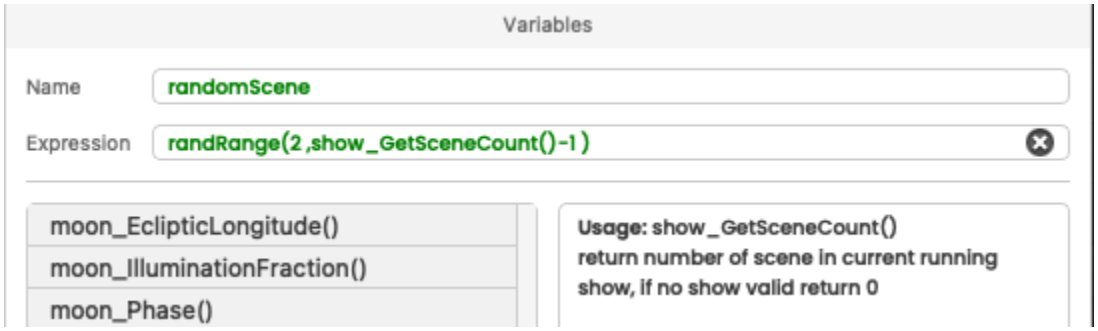
Imagine you have 7 scenes. The first 2 scenes are standard 'on' and 'low setting' scenes. Scenes 3-7 are more interesting and you want these to randomly play each minute during working hours from 9:00.

1) Open the Variables window from the Device properties panel.
2) In the Name field, give your variable a name without spaces, replacing New_variable. E.g. you could call it *randomScene*
3) In the Expression list, find and double click on RandRange(,). This function will pick a random number between 2 numbers with a min and max limit.

It appears as red because the expression is not yet valid. It needs two numbers added in the brackets, separated by a comma. Note: While we have scenes 1-7 the scene index that we will use to select scenes is actually 0-6 as computers start at 0! I.e. The scene index will always be 1 less. For the first number, we will enter '2' to select 3 as below:.

For the second number we could input '6' to trigger scene 7. But what if we wanted to add more scenes? We would have to change this number each time. We can be clever and make the device count the scenes itself and then calculate the scene index by minusing 1. See the expression below.

randRange(2 ,show_GetSceneCount()-1)

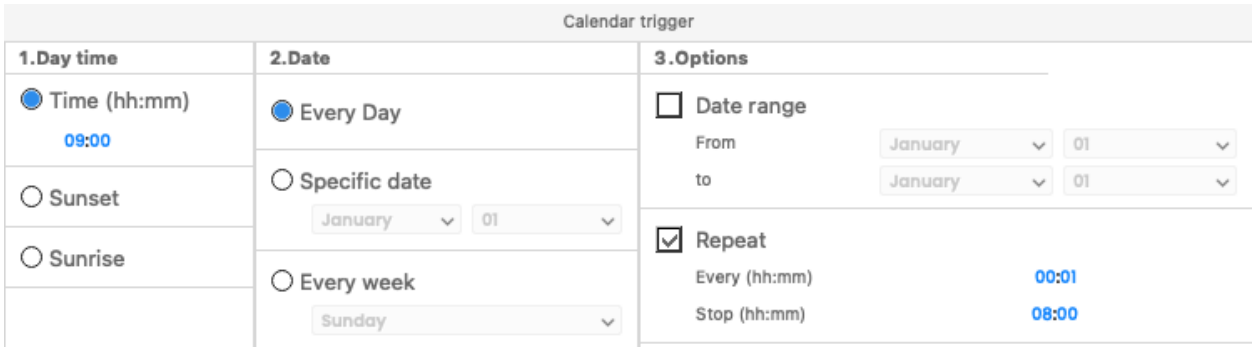


4) Leave cached and storage unchecked, and click OK.

Now we want to use our shiny new variable and expression with a TCA in place of a static number.

5) Open the Triggers window.
Create a Time Trigger. We want our device to select a new random scene every minute from 9:00 for 8 hours. We enter 9:00, Everyday and check

Repeat. Every 00:01 minute and stop in 08:00 hours. If your current time is outside of these hours you may want to adjust this for your own testing.



6) For the Action …
   select Scene : Start scene
   Item : Variable scene index : randomScene
   OK

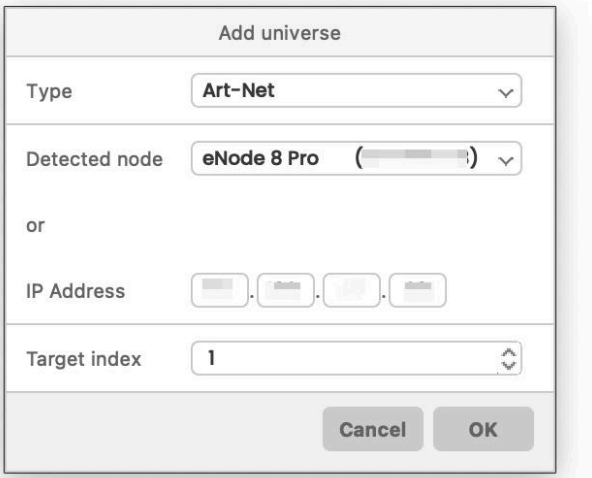
7) Make sure you have more than around 5 scenes and write the show.
8) Uncheck 'Active' to put the device in Standalone. You will notice every minute the device will randomly choose a scene in the range 3 to <max number of scenes>.

More examples will be coming soon.

Art-Net

Art-Net (also referred to as eDMX) is a royalty free protocol used to transmit DMX 512 & RDM UDP data via network.
Art-Net allows for you to use more universes than you have physical outputs for.
To begin using Art-Net you'll need an Art-Net compatible device (DINA DR1, SR1 or DR1 LITE with Licence upgrade) and an Art-Net Node.
Note: Art-Net nodes are a third party piece of hardware not supplied by Nicolaudie.

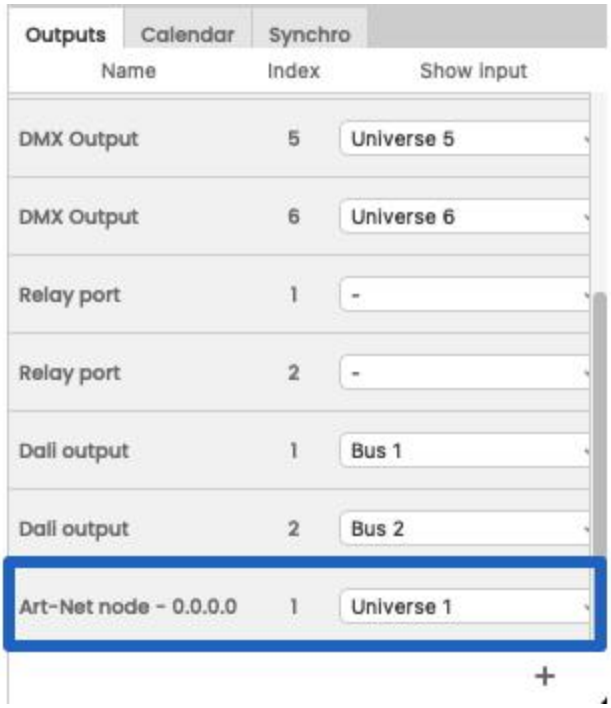
When you've got your Art-Net compatible device connected to ESA Pro 2.2 you should head to the Outputs window in the Standalone screen and press + to add a new Art-Net output.



ESA Pro 2.2 will automatically detect any Art-Net nodes on your network and fill out the IP address automatically. Alternatively you can manually enter the IP address of your Art-Net node.

Target refers to the output on the Art-Net node you wish to send your universe to. You should enter the I.P address of your Art-Net node below this, this can be found on your Art-Net node.

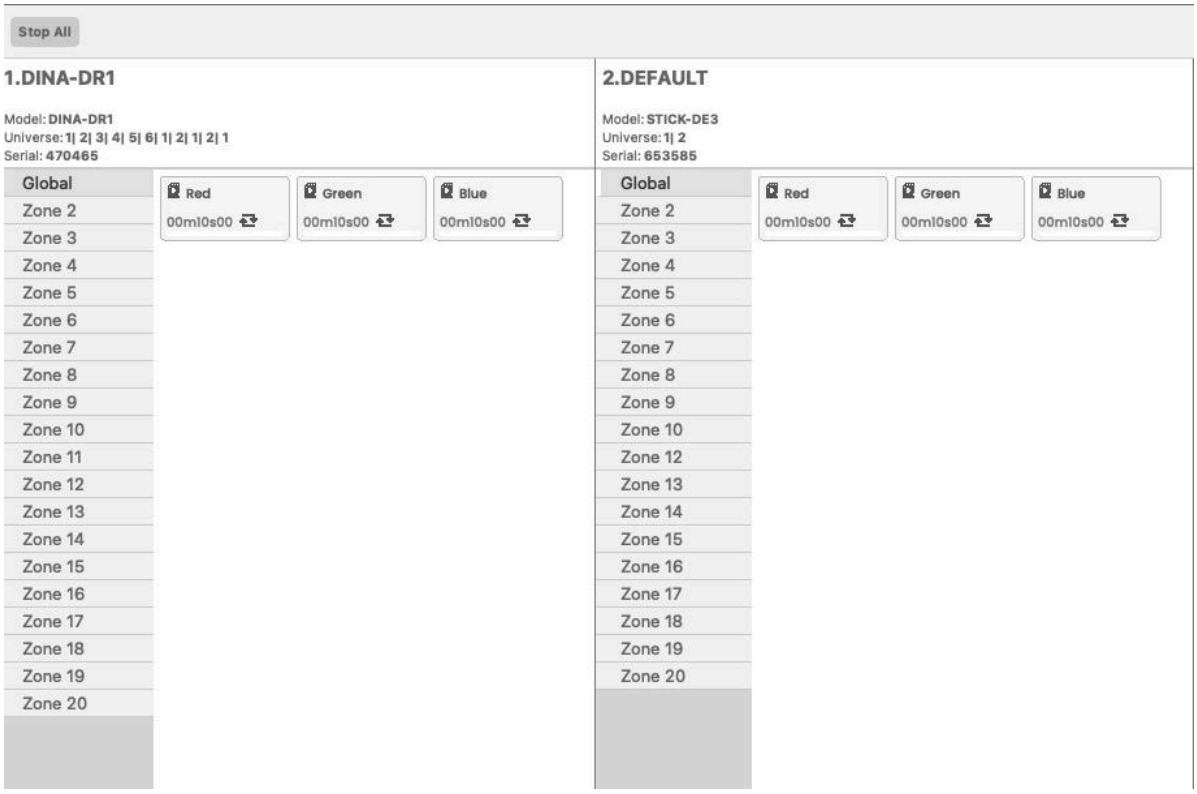
Once you've entered these settings your new Art-Net output will appear in the Outputs window.



Now you have an Art-Net output you can decide which Universe you wish to send to the Art-Net node target, in this case we're sending universe 1 to Art-Net.

Simulator

The Simulator screen is where you can test all of your programmed scenes whilst connected to your computer.



When you've added your scenes to your device they'll appear in this screen in the device they've been assigned to. As in the picture above, it is possible to have multiple controllers connected and using the Simulator at the same time.

To activate a scene in this mode you simply have to click on the desired scene.

One scene can be played per zone at once. Both controllers can be playing scenes simultaneously.

You can stop any scenes that are playing by pressing the 'Stop All' button in the top left of this window.

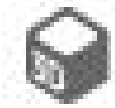
Miscellaneous

ESA Pro 2.2 comes bundled with several auxiliary softwares and features to enhance your use of the software, we'll discuss these briefly here.

Hardware Manager

Hardware Manager is the tool you can use to edit device settings such as clock, update firmware, set up networks etc. In order to check you have the latest firmware available you should check the Nicolaudie website for the latest version of Hardware Manager.
https://www.nicolaudie.com/en/download.htm

Easy View 2



Easy View 2 is 3D visualization software included with ESA Pro 2.2. This is a great tool to check how your scenes will look in a digital environment, perfect when you're away from your work site.
Easy View 2 can be launched whilst in ESA Pro 2.2 by clicking the icon pictured at the top of this section.

Smart Upgrade Tools

All current Nicolaudie Group controllers are upgradeable via SUT licenses except for our STICK models. To confirm if your device is SUT compatible, connect it to Hardware Manager software and look for the SUT screen. Here you can see all of the licenses currently installed on your controller.
The following steps will explain how to add license upgrades to your interface or change the name.

First you need to register your Nicolaudie Architectural interface to your Nicolaudie Cloud account.

Either login with your existing account using the Login button ...
https://store.nicolaudie.com/
Or create a new account ...
https://connect.nicolaudiegroup.com/SignUp

To register your interface to your account:
- Make sure to close all other software (Hardware Manager, DMX software, etc)
- Install and open the SUT tool (Mac or Windows). Links below.
https://storage.googleapis.com/nicolaudie-eu-tools/Release/driver-sut.exe
https://storage.googleapis.com/nicolaudie-eu-tools/Release/driver-sut.dmg
- Go to the Nicolaudie store and login using your account. Note: Please do not use apple private relay email address accounts as these will not work.
- Go to "My Interfaces"
- Click the button "Register a new interface"
- Connect your interface by USB cable. The interface should register automatically on your account and appear on the left hand side.

To purchase an upgrade:

- Go to My Interfaces page
- Select your interface from the list on the left. On this screen you can check installed applications and buy new applications and features.
- Add the hardware feature or software application you want to your shopping cart and checkout. This will add the feature to your interface's keycard.

To change the interface name:
- Go to My Interfaces page
- Select your interface from the list on the left.
- Select Settings (spanner icon)
- Enter a Customized Name and press OK.

To sync the new license and confirm success:
- Close the SUT tool and all Nicolaudie software
- Open HardwareManager (installed with your DMX software or available on the Downloads page).
- Connect interface and select it in HardwareManager to connect
To see upgrades : Go to the SUT screen. This will show you all licenses on your interface.

Trigger - Condition - Action Functions

ESA Pro 2.0 & ESa Pro 2.2 use an engine called the NSA engine to give you powerful triggering options for a multitude of circumstances, these are called TCA triggers (Trigger, Condition, Action).
In this section, you can find the function of each Trigger & Action.

Trigger/Condition	**Function**
Time	Trigger an event at a specific time and/or date
Port - Released	Trigger an event when a port is released
Port - Pressed	Trigger an event when a port or ports are pressed. If multiple ports are used to trigger an event, all must be pressed for the first time in the same polling cycle.
Port - Held	Trigger an event when a port or ports are pressed or held. When multiple ports are used to trigger an event, it does not matter if some have been pressed earlier than others as long as they are all active at the same time.
Button Released	Trigger an event when a button is released
Button - Pressed	Trigger an event when a button is pressed
Button - Held	Trigger an event when a button is held
Scene - Resumed	Trigger an event when a scene is resumed

Scene - Paused	Trigger an event when a scene is paused
Scene - About to Stop	Trigger an event when a scene is about to stop
Scene - Stopped	Trigger an event when a scene is stopped
Playing in Zone	Trigger an event when something is playing in a zone
Blackout	Trigger an event when a blackout occurs
Beat	Trigger an event on a beat

Action	**Function**
Scene - Start Scene	Start the specified scene
Scene - Resume Scene	Resume a paused or stopped scene
Scene - Pause Scene	Pause the specified scene
Scene - Stop Scene	Stop the specified scene
Scene - Start Last Scene	Starts the last scene in a list
Scene - Start First Scene	Starts the first scene in a list
Scene - Start Previous Scene	Starts the scene that was previous scene in a list
Scene - Start Next Scene	Starts the next scene in a list
Stop All Scenes	Stops all scenes currently playing
Start Random Scene	Starts a random scene in the specified zone

Next Step in a Scene	Transitions to the next step in a specified scene/zone
Dimmer - Increase	Increases the dimmer in a specified zone/scene to a pre determined value
Dimmer - Decrease	Decreases the dimmer in a specified zone/scene to a pre determined value
Dimmer - Set Value	Increases/Decreases the dimmer in a specified zone/scene to a predetermined value
Saturation - Increase	Increases the saturation in a specified zone/scene to a predetermined value
Saturation - Decrease	Decreases the dimmer in a specified zone/scene to a predetermined value
Saturation - Set Value	Increases/Decreases the dimmer in a specified zone/scene to a predetermined value
Hue - Increase	Increases the Hue in a specified zone/scene to a predetermined value
Hue - Decrease	Decreases the dimmer in a specified zone/scene to a predetermined value

Hue - Set Value	Increases/Decreases the dimmer in a specified zone/scene to a predetermined value
Speed - Increase	Increases the speed in a specified zone/scene to a predetermined value
Speed - Decrease	Decreases the dimmer in a specified zone/scene to a predetermined value

Speed - Set Value	Increases/Decreases the speed in a specified zone/scene to a predetermined value
Extra Colour - Increase	Increases the value of an extra color channel in a specified zone/scene to a predetermined value
Extra Colour - Decrease	Decreases the value of an extra color channel in a specified zone/scene to a predetermined value
Extra Colour - Set Value	Increases/Decreases the value of an extra color channel in a specified zone/scene to a predetermined value
Colour	Set a predetermined color in a specified scene/zone
Reset	Reset the specified scene/zone
Blackout - On	Activate a blackout
Blackout - Off	Deactivate a blackout
Blackout - Toggle	Toggle a blackout on/off depending on what's currently happening.