NICOLAUDIE ARCHITECTURAL

ESA PRO2

User Guide

Updated 1 March 2023

Before We Start

What's New

Welcome to ESA Pro 2 - a powerful DMX programming software package for standalone DMX interfaces. For a quick overview of the software, jump straight to the *Getting Started* topics.

Below is a list of some new features added since ESA Pro:

- New User Interface - Zones are managed via tabs at the top. The main work area is divided into Builder, Selections and Mappings
- Timeline automation - Color, dimmer, saturation...and other features can now be modified with linear curves on top of the timelines. For example, add a dimmer to an effect allowing it to fade from 0% to 100% following the timeline
- Sequences - a new way to program, streamlined for controllers with limited storage.
- New bank of effects
- Full color management
- New looping modes
- Mac compatibility
- Compatibility with DMX interfaces containing Flash Memory
- Connect your DMX interface at any time without the need to restart the software.

The ESA Pro 2 Package

What's in the box
Your package should include the following:

- USB-DMX interface
- USB cable
- Technical datasheet
- Power supply (optional accessory)

The latest software versions and user manuals are available from the downloads section of our website.

Compatibility

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

Limitations
For dmx controllers with internal flash memory only, we recommend only using *Sequences* as these are more memory efficient than Scenes. To use Scenes we recommend selecting a DMX controller with SD memory. Refer to the Technical Datasheet for your controller to see the type of memory used. A brief guide to our architectural controllers' memory is below.

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

Or controllers based on STICK4, STICK5, STICK2C, STICK2B, SIUDI-9S, SIUDI-8A

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

Or controllers based on SIUDI11, DINA2A, DINA1A, STICK1C, STICK3, SIUDI-7B hardware.

Software
The following software is included:
ESA Pro 2 - DMX lighting programming software
EasyView 2 - real-time 3D visualizer
Hardware Manager - dmx interface management software. Update firmware, diagnostics, change settings etc.

Fixture Profiles

To program your lights or fixtures, ESA Pro 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. DMX channels and other information is stored in 'Fixture Profiles' which have the ssl2 file extension. Standard 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 15,000 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 2 locations:
https://store.nicolaudie.com/ssl
https://cloud.nicolaudiegroup.com/#/profiles

If a profile does not exist
If you have a fixture that does not exist in our database, you can launch a *New Fixture Request* to have a profile built for you by our team. Visit the page below

and use the *Request for Assistance* button at the Nicolaudie Helpdesk page (link below). Select 'Software' and 'I don't see the lighting fixture profile … '
https://help.nicolaudie.com/#/home

You can also create your own fixture profile using our online Profile Builder app
https://cloud.lightingsoft.com/profilebuilder
A user guide for the Profile Builder app is available at the link below:
https://storage.googleapis.com/nicolaudie-eu-litterature/Release/profile_builder_user_guide_en.pdf

Useful Definitions

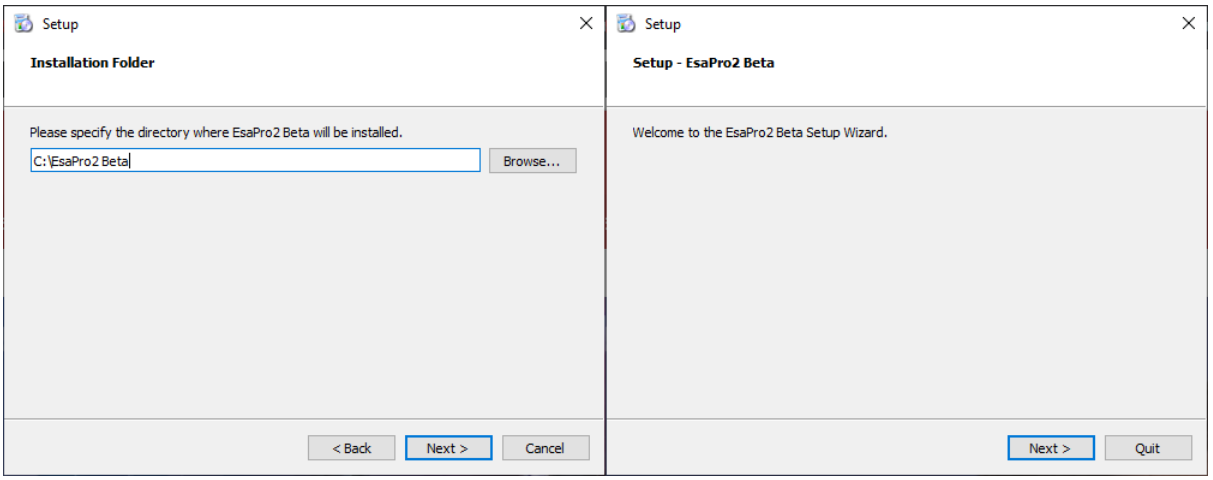
Standalone Mode : controller operating on its own without a connection to the computer
Live Mode : a live connection between the controller and computer for programming and dmx output. This is useful for testing effects before writing to the controller. A controller is in live mode when set to active in ESA Pro 2.

Quick Start

Installation

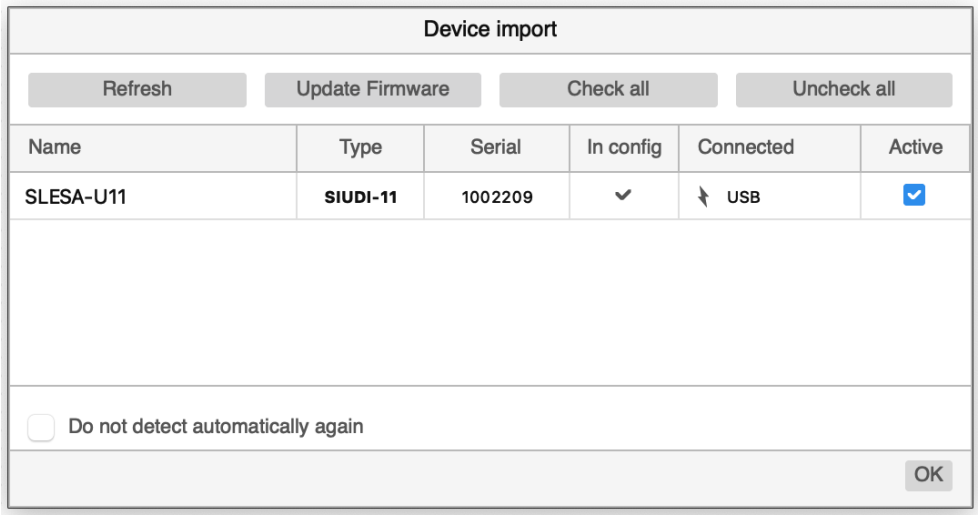
- Download and install the latest version of ESA Pro 2 from our website nicolaudie.com/esapro2.htm
- Once the installation is complete, connect your USB-DMX interface

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 software.



Windows Firewall
If using Windows you may see a *Windows Security Alert* message appear the first time you run the software which happens when ESA Pro 2 tries to access your local network. If you wish to connect the software to your controller over a local network make sure to *Allow Access* to the software. This will create a Windows firewall rule.

Starting the software
When ESA Pro 2 is launched, if you have a Nicolaudie controller connected, you will be presented with the following window. Here we see a list of all DMX connected to your computer by USB or local network.

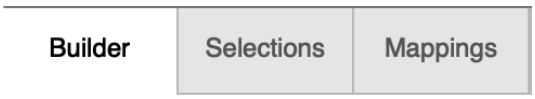


The window can also be accessed from the ESAPro2 ->Settings -> Import. Check the 'Active' checkbox for each device you want to use and then click OK. You're now set up and ready to use ESA Pro 2!

Note: If no devices are listed, your device has not been detected. In this case, check that you have a Nicolaudie device connected. If so, close ESA Pro 2 and open Hardware Manager included in the software directory and check to see if your device is detected here. Try updating the firmware on th device if a newer version exists.

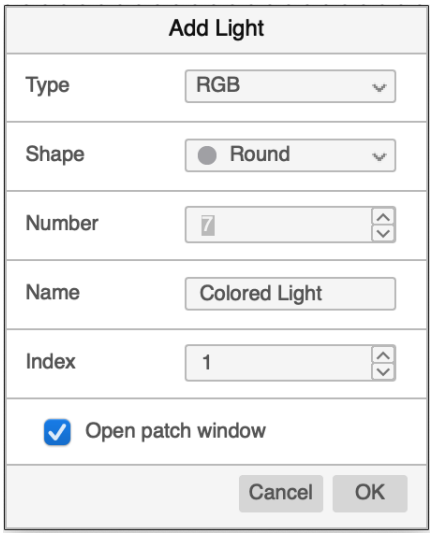
Add fixtures

When you first open the software you are presented with the *Builder* area which is where you add and arrange Fixtures in the grid. Here you can add just about any type of DMX fixture you can imagine.

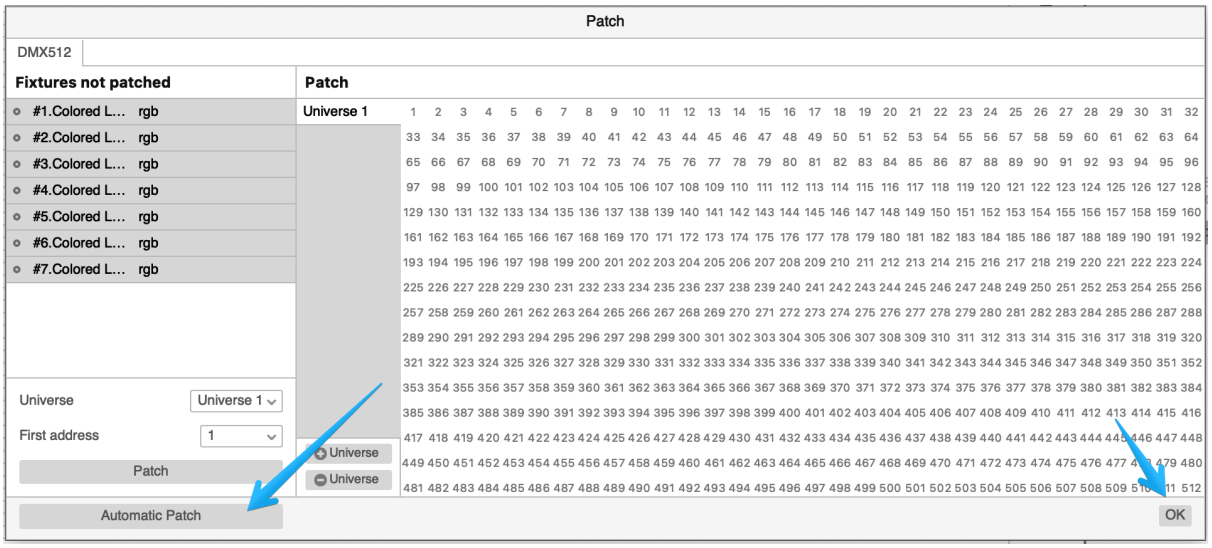


For the purposes of this Quick Start section we will add 7 RGB lights and arrange them in a circle.

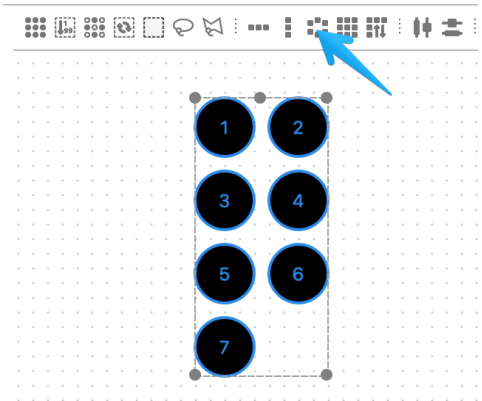
1) Select the color mixing light shown in the image (right)..
2) Change the number to 7 and click OK.



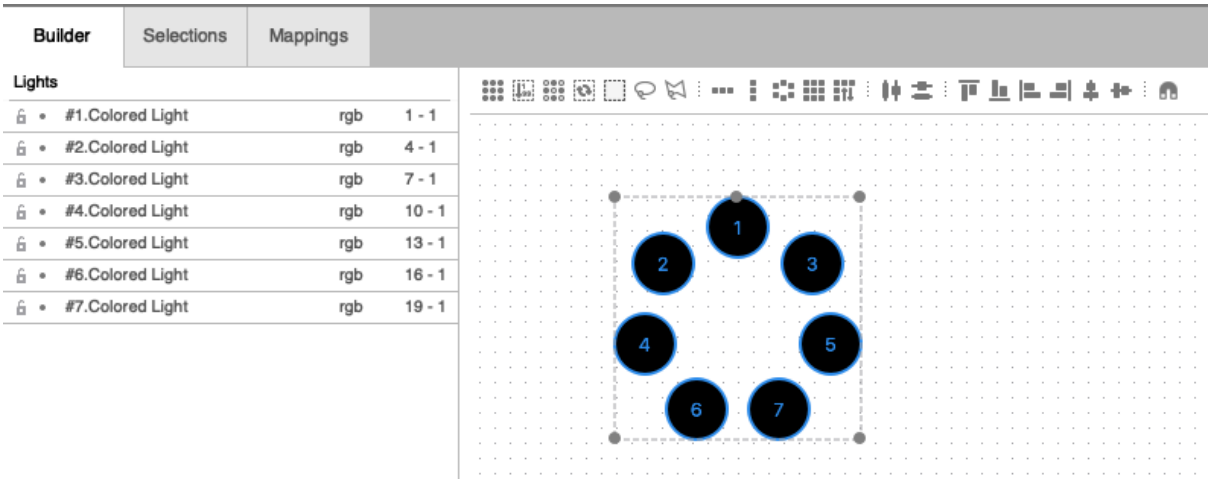
3) The Patch window will open to allow you to set the DMX addresses for your fixtures. Click *Automatic Patch* to patch the RGB lights to the first available channels in your patch grid and click OK. Each number in the patch grid represents a DMX channel up to a maximum of 512. The first number for each fixture is the DMX address for that fixture.



4) Press the Auto Circle button to arrange your fixtures in a circle.



You should now have 7 RGB lights arranged in a circle as below. Next, it's time to program some scenes!

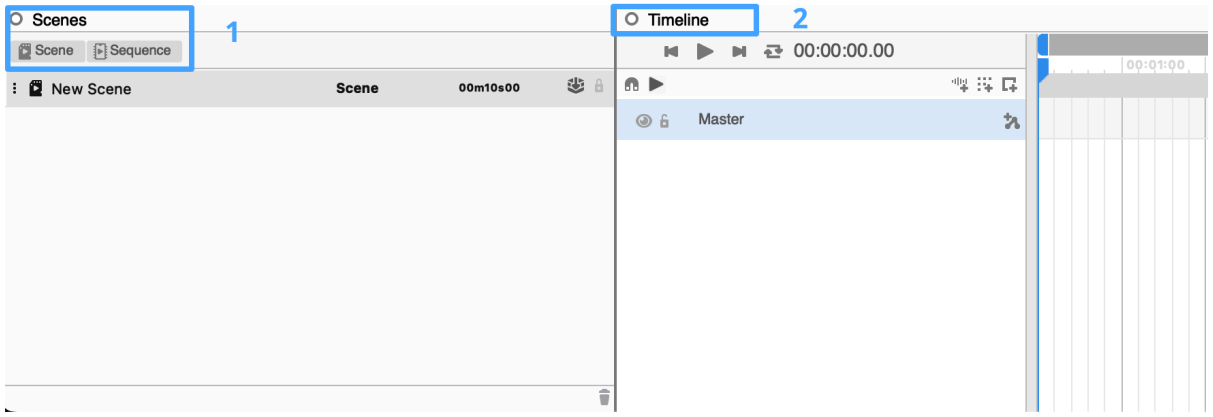


Programming a Scene

This quick start section will cover creating some basic scenes with color mixing lights (e.g. RGB).

Scenes

By default, you will always start with 1 zone called *Global* which contains all fixtures and 1 empty scene called *New Scene*. Like any scene this contains a Master timeline which controls all the fixtures in your zone and provides basic control functions such as Color Mixing, Pan/Tilt and Dimmer.



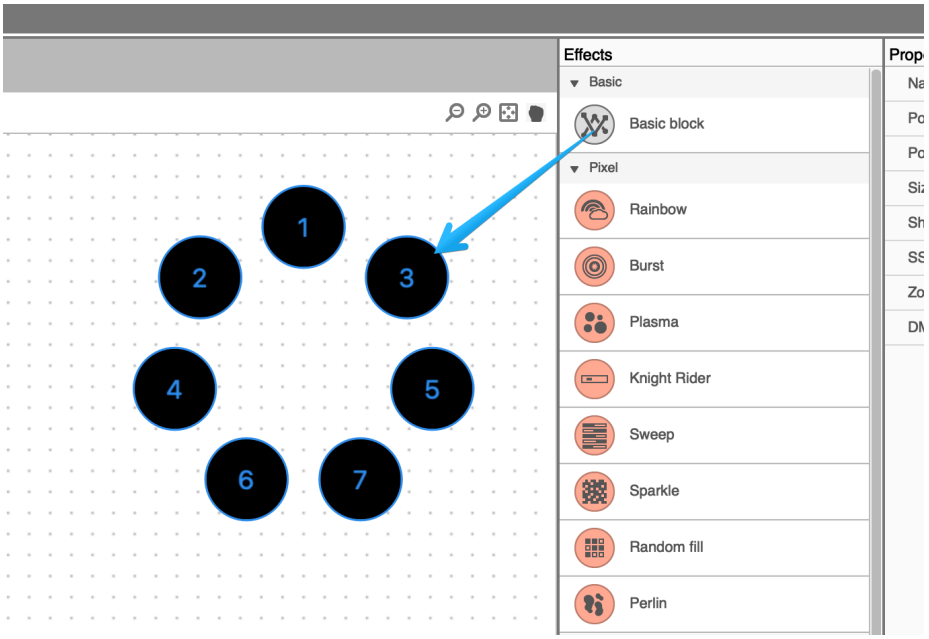
Now let's create some scenes using effects blocks and timelines!

1) Rename your scene by right clicking on it in the scene list or select it and change it in the Properties panel (top right). You could call it 'color effect 1'.

2) Select your fixtures in the grid by dragging a box around them or individually selecting them with Cmd (Mac) or CTRL (Windows) pressed. Once selected they will highlight blue and be numbered to show the fixture

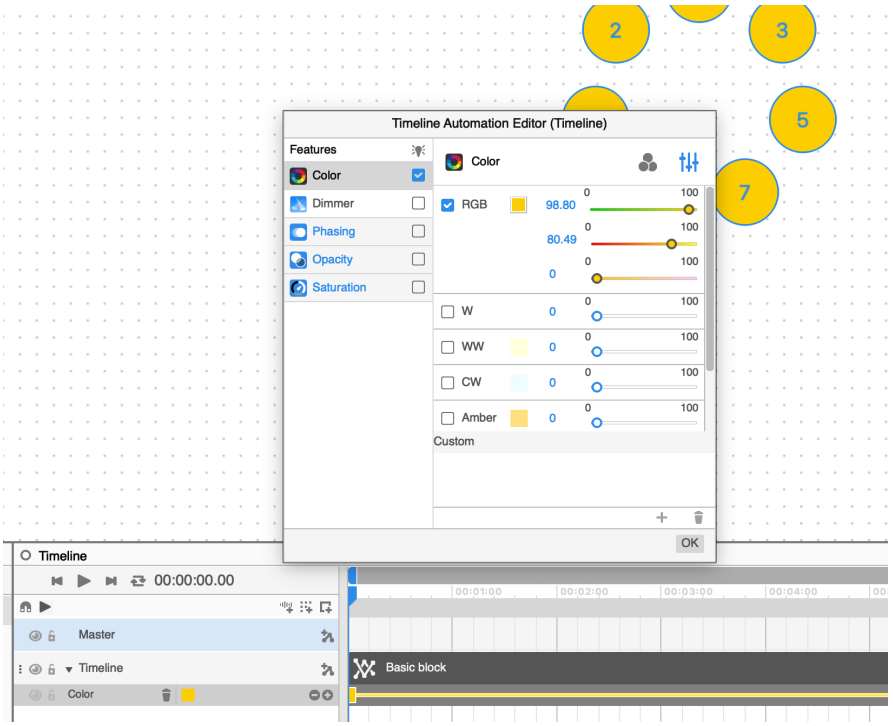
selection order.

3) Drag a Basic Block onto one of your fixtures from the top of the Effects list on the right. (see image below)



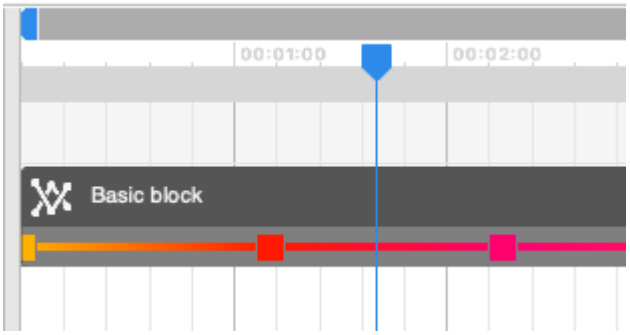
4) This will create a new Timeline with a Basic block and open the Timeline Automation Editor (image below). The new Timeline will have whichever lights you selected set as its target.

5) In the Timeline Automation Editor window, check the *Color* checkbox and use the Color Wheel (default) or advanced color controls (faders icon, top right) to set a color. By default the start and end point of the block are linked so that if the scene is played in a loop there is no sudden change in color.



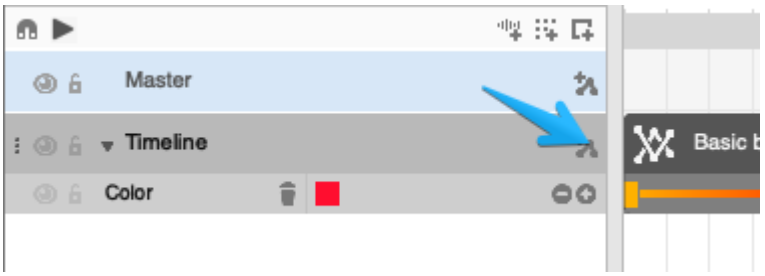
Let's make our effect more interesting by adding some extra color points.

6) Double click anywhere on the color bar to add another color point, then adjust the color in the Timeline Automation Editor. Below, I have added 2 additional color points. They can be dragged left and right to change the timing of the color effect.



Press the 'Activate/Deactivate loop' icon to enable playback looping. Press the Play button you can see the fixtures changing color. Next we'll add some phasing (time delay) to enhance the effect.

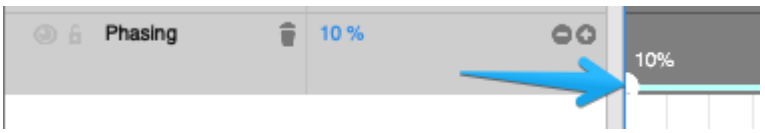
7) Click *Add Automated* icon



8) Check the *Phasing checkbox.* The Timeline Automation Editor will open. Note: Do not adjust the phasing value yet as this will create a point

wherever the blue playhead is on the timeline. If you do this you can delete it by right clicking on the point and using the menu.

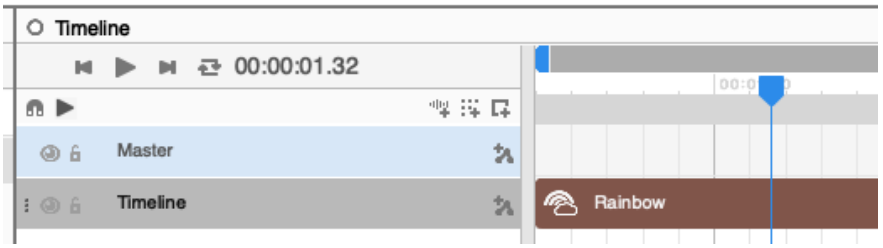
9) Select the Starting point with a single left click



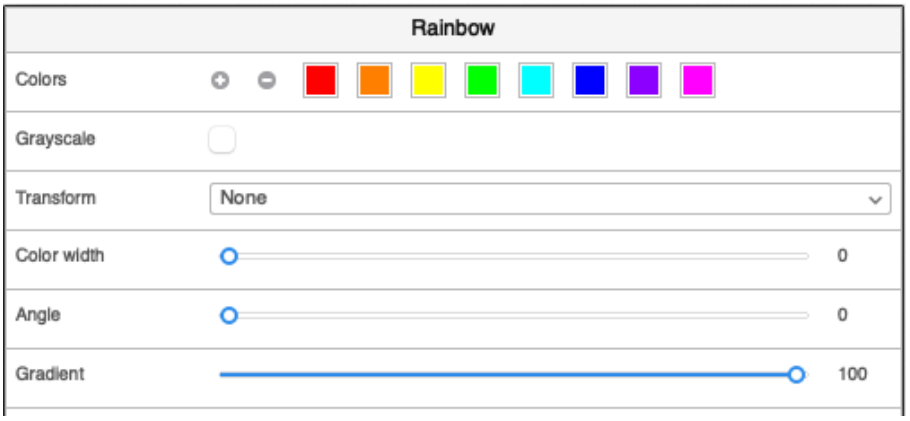
10) Adjust the Phasing value either by dragging this point directly on the timeline or in the Timeline Automation Editor (for finer adjustment). The end point will also move with the start point as the two are linked by default. You have made your first effect.

Now let's try creating a scene using one of the premade effects in ESA PRO 2.

1) On the Selections tab, create another scene and drag one of the Pixel effects (Rainbow, Burst, Plasma etc) onto your selected fixtures in the grid (as you did in step 2 above). A new timeline will be created with an Effect block.



2) Double click on the Effect Block will open the configuration window for that effect. See Rainbow example below. Adjust the settings and click OK.



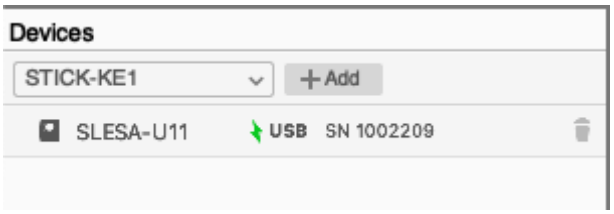
You now have 2 scenes. Feel free to try making some more if you wish before moving to the next section.

Write Scenes

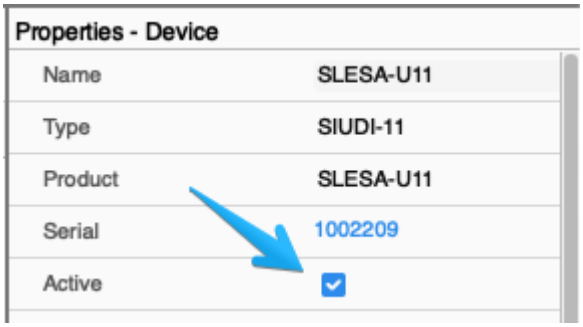
Now we have some scenes, let's write them to our controller so that it can play them back in standalone mode. For the purposes of this Quickstart guide we will assume your controller is already connected by USB.

1) Go to the Standalone screen by selecting the icon of our STICK-DE3 model (see image).

2) If your device is already connected you will see it listed in the Devices list in the Config 1. Tab. In the example below, a SLESA-U11 is connected by USB. The green lightning bolt icon indicates that it is currently active (live mode) and ready to write. .



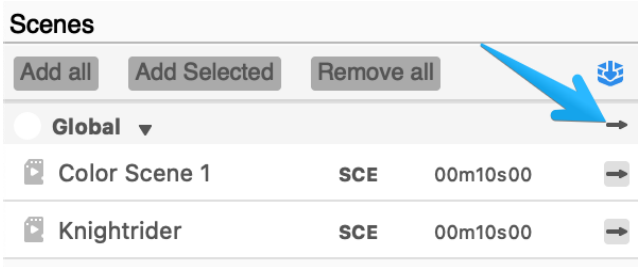
If your device is in the list but not active (gray lightning bolt icon), select the device and select *Active* in the *Properties - Device* panel (top right).



If your device is connected by USB and you do not see it in the list, go to *Settings > Import device* in the top menu. It should appear in the Device Import window. Checking *Active* will import it and activate it at the same time.

3) Make sure your device is selected in your device in the Devices list. You see it appear in the center panel with one or more empty zones (Zone 1, Zone 2 etc) depending on how many zones your device supports.

4) Add all of your scenes from the Global zone using the arrow button shown in the image below.. Your scenes will appear in Zone 1 which will be renamed *Global*.



5) Press the Write button to transfer the project to your device. For some devices you will be asked 'Store file in the device's memory to be able to retrieve it later?'. This will allow the project to be read from the device in future and is recommended for devices with enough memory. The project is stored as /show1/show.arc2

   Once complete it will say 'Memory successfully written'.

   If you find that the Write button is not clickable, check that the device is active and then try again. See step 2 above.

Test Standalone

To put the device into standalone mode without closing the software you can…

- press the Test button on the Standalone screen …

  OR

- In *Properties - Devices* uncheck *Active*

You should now be able to control your device to activate different scenes. See device technical datasheet for specifics about how to change scenes when in standalone mode.

You have now completed the *Quick Start* section. The following sections will go into greater detail about the features available in ESA Pro 2.

Editor

The Editor is split into three sections :

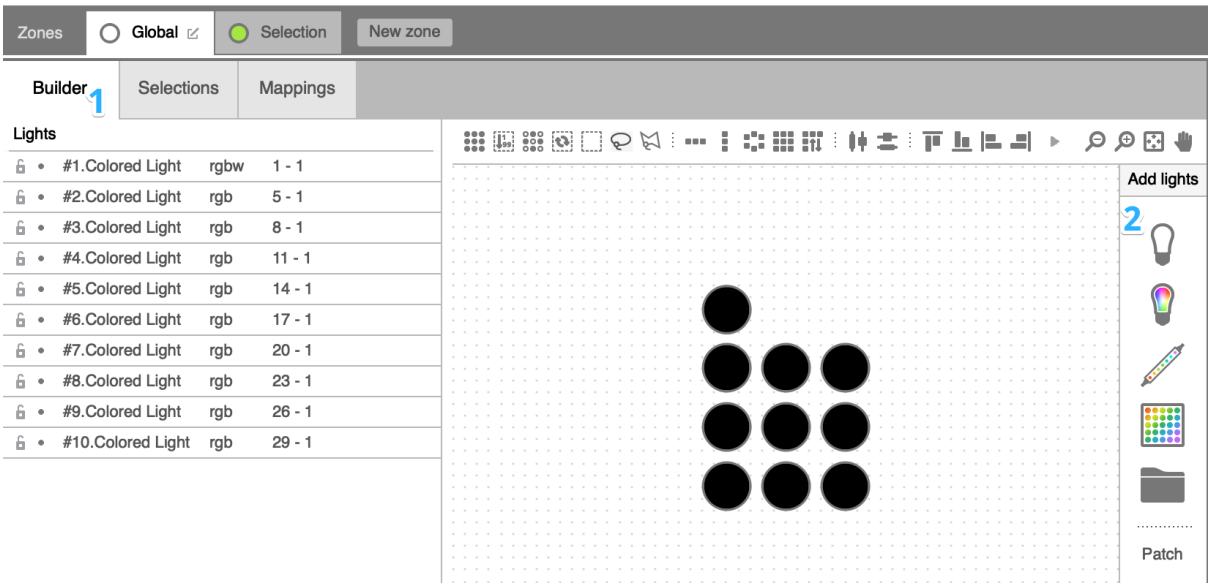
Builder - Add fixtures, arrange them in the grid and apply dmx addresses
Selections - Create effects based on fixture selection order
Mappings - Create effects based on position of lights in 2D space

Builder

The *Builder* is where lighting fixtures are added to your project. Once added your lighting fixtures are displayed in a list on the left and by 2D shapes in the grid (center). Fixture properties, such as DMX address, are displayed on the right when a fixture is selected.

Add Fixtures
ESA Pro 2 needs to be told what type of fixtures you have and what DMX address has been set for each fixture.

Go to the Builder tab (1) and select your fixture type in the *Add Lights panel (2)*. There are 4 basic lighting types to choose from: Single-channel (dimmer), Color Mixing, Strip and Matrix. Each of these opens up a window allowing you to change the parameters.



Single Channel

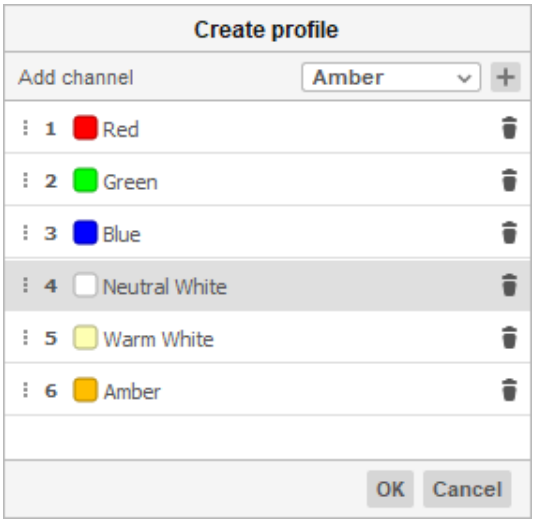
Useful for controlling simple dimmable lights or fixtures (water pumps, dimmer packs etc) with Basic Blocks. Note : Pixel or Mapping effects will not

work with single-channel fixtures because they do not contain any color mixing channel. Single-channel fixtures can be patched as colored lights with a single white channel to allow the use of effects; see the next section *.

Colored Light

This type of light is useful for controlling fixtures which only contain one or more color mixing channels; Red, Green, Blue, Neutral White, Warm White, Cold White, Amber, and UV.

The list shows some premade examples RGB, RGBW, and WWCW. If your light contains a different combination, select type *custom*. You will be able to create a color mixing profile using the window shown below. Note that you can also create custom profiles like this for use with LED strips and Matrices.



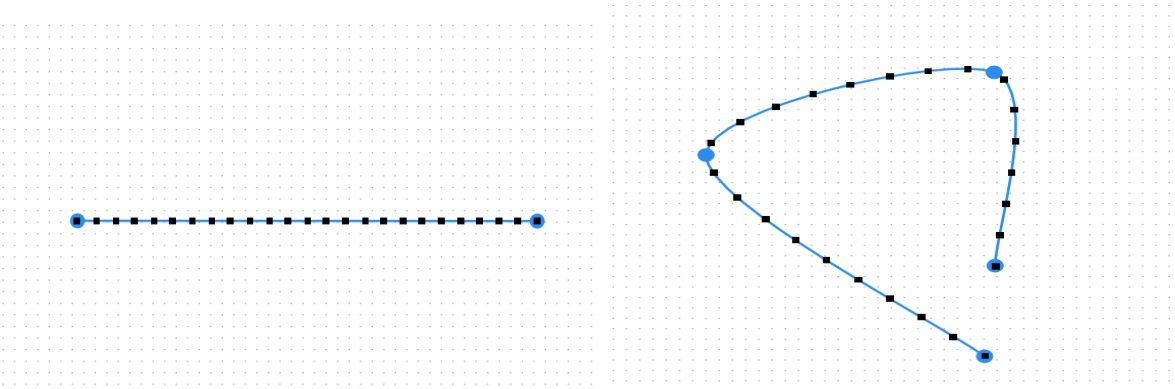
* To use a single-channel light with pixel or mapping effects, you can create a light with a single Neutral White channel. You can also control like a dimmer using a Basic Block and controlling the amount of white on the W channel in the Timeline Automation Editor > *Advanced Color* options.

If your color mixing light contains other channels such as a pan/tilt, master dimmer etc you will need to import an ssl2 profile using the *Add Other* button.

LED Strip

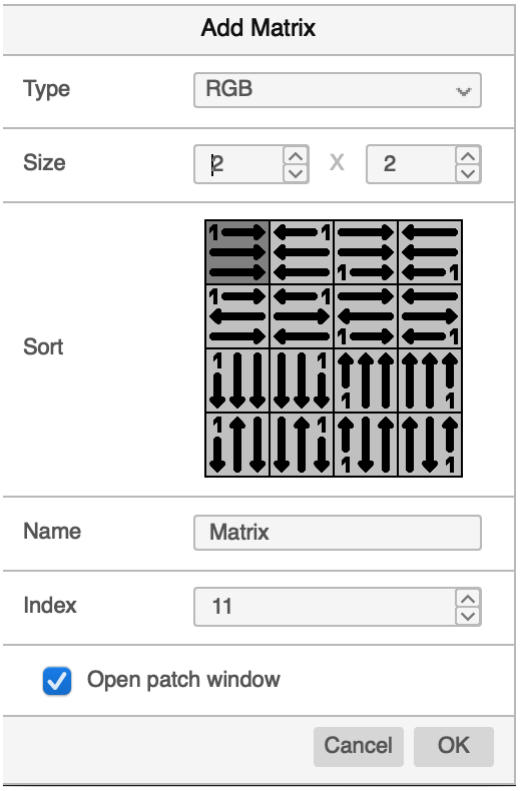
This type of fixture represents an LED strip of color mixing lights. The number of Dots indicates the number of lights on the strip. You can also add anchor points by double clicking on the strip, to bend and orient it to the desired shape. The strip contains 2 or more colored lights.

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.



Matrix

The Matrix option allows you to create a grid or Matrix of color mixing lights. You can select the size of the matrix and the direction in which a pixel effect will flow using the *Sort* options.



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.

Add Other

To import a profile for a more complex fixture, click the folder icon that appears in the *Add lights* bar. This will open the scan library folder which

contains many fixture profiles. For more information, see section Before We Start > Fixture Profiles.

Patch Window

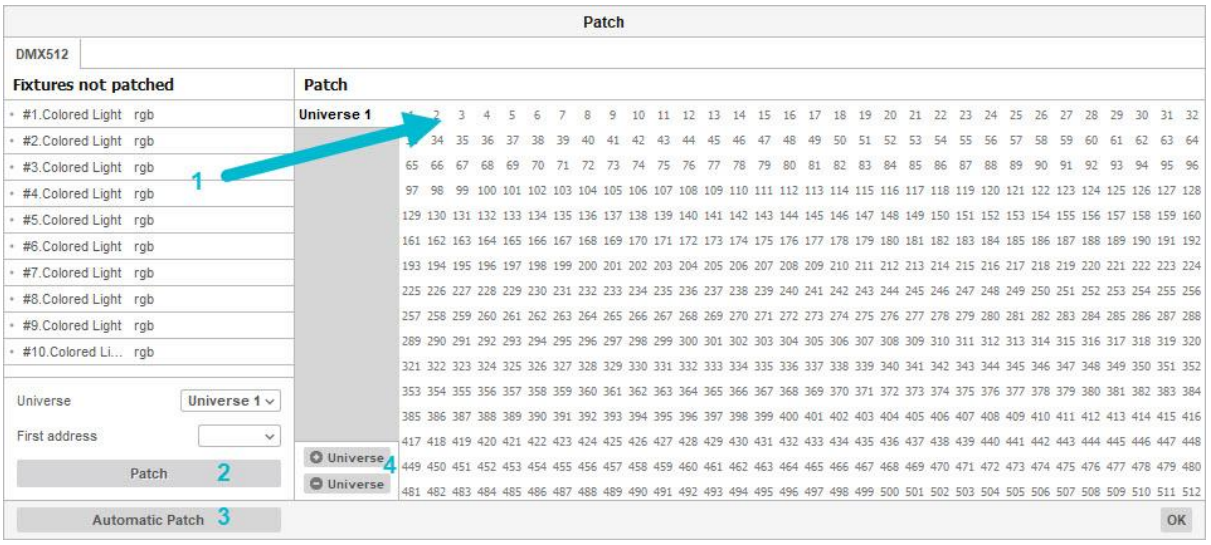
The Patch window can be accessed when adding a new fixture or by selecting the Patch button on the Builder window.

The *Patch* window displays a grid representing the 512 channels in a DMX universe. A DMX fixture can use between 1 and 512 dmx channels. The DMX address is always the first channel used by a fixture.

If you need more universes, and your dmx interface supports this, you can click the *+ Universe* button to use additional DMX outputs.

To patch your lights to the dmx channel grid, do any of the following :

- Press *Automatic Patch (3)*. This will patch them in list order.
- Drag and drop them (1) from the list (left) into the grid.
- Select them in the list, select an address and press *Patch(2)*

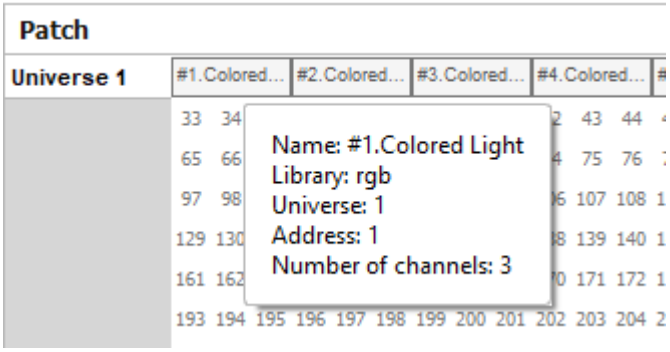


Universes

You can adjust the number of DMX universes used by your project using the + and - Universe buttons (4). Note: Depending on your model, some controllers require a license upgrade to use extra DMX outputs. If unsure, please refer to the section Other Features > Upgrades.

Note: Assigning dmx addresses in the software does not update the real dmx address of your fixture. You will need to know what the dmx address for each fixture is. For more information on setting the DMX address of your fixture, refer to the manufacturer's documentation.

Once patched, you can check the dmx address by hovering your mouse over any fixture.



To adjust the patch at a later date, select the fixtures and hit the *Patch* button in the *Add lights* panel.

Arranging Fixtures

Make sure you are on the Builder tab. Fixtures can be arranged by selecting one or more and dragging them within the 2D workspace while holding down the left mouse button. Use the tools above the workspace area to select, move and align your fixtures.

There are multiple options for selecting and arranging fixtures after they have been added to a project.

Selection Tools

Available on the *Builder* and *Selections* tab.

Select all fixtures

Invert fixture selection

Select every second fixture

Invert fixture order. If fixtures are selected 1-6, they will be inverted 6-1, consequently inverting the order in which an effect is applied or the order in which they are positioned in a line

Rectangle - Click and drag to create a rectangle that highlights all the fixtures within

Lasso - draw a shape around fixtures to select them

Drag Over allows you to select the fixture you want by clicking and dragging a line through the fixtures you want. Fixtures are indexed according to the order in which they are selected

Position Tools

Available on the *Builder* tab only.

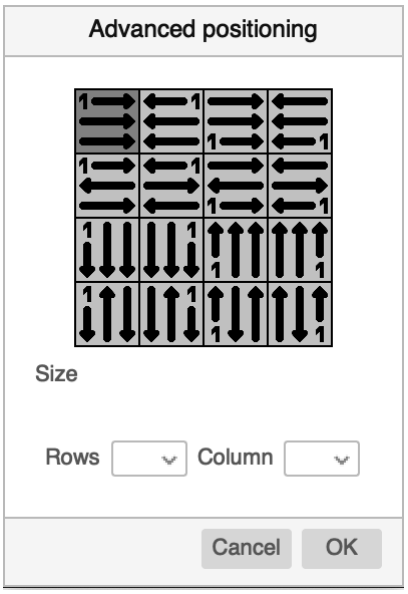
 Arrange horizontally

 Arrange vertically

 Arrange in a circle

 Arrange in a Matrix

 Custom Matrix. Set the rows and columns and the direction of the effect



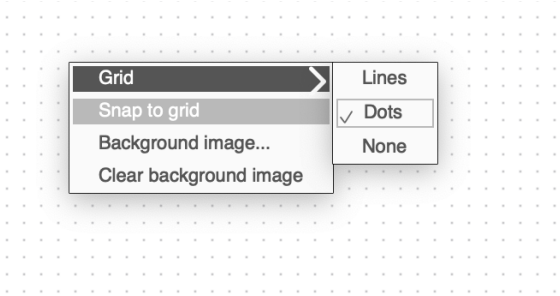
Managing the Grid

These tools allow you to Zoom Out, Zoom In, Scale to Fit and Navigate (Pan).
Available on the *Builder*, *Selections* and *Mapping* tabs.

Note: the Navigate tool requires you to reselect it after every use.

Right clicking on the grid brings up the grid options menu.

- Show lines or dots in the background to help align fixtures.
- Set a custom background image.



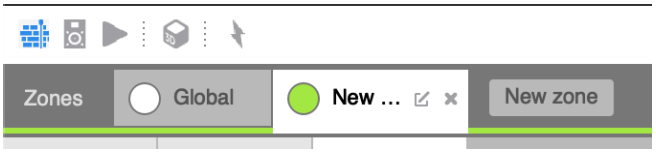
Zones

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 etc) on the controller. 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.

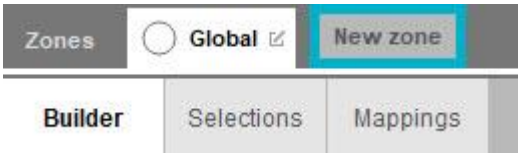
Each Zone contains the Builder, Selections and Mappings tabs. This allows you to work only on the fixtures and scenes in each zone. Scenes created in one zone cannot play on fixtures in another.



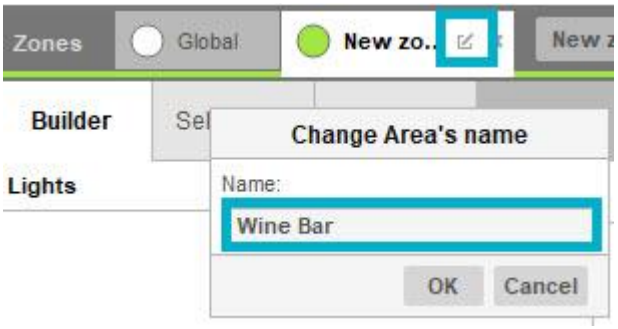
Note: some DMX interfaces only support control of a single zone which is Global. Check your device datasheet. If it does not mention zones, your controller has only a single zone.

To use Multizone control, follow the steps below.

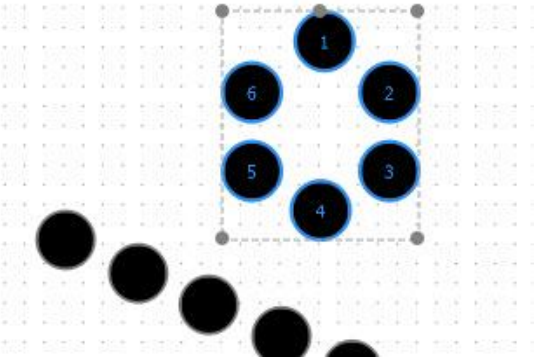
1) Click *New Zone.*



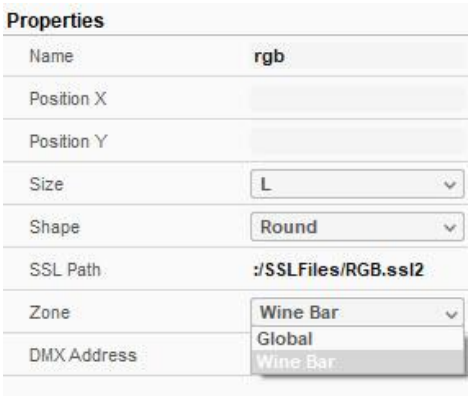
2) Select the pencil icon to rename your zone.



3) Go back to the *Global* tab again.
4) Select the fixtures you want to add to your new zone in the grid. These will be outlined in blue and will have a bounding box.

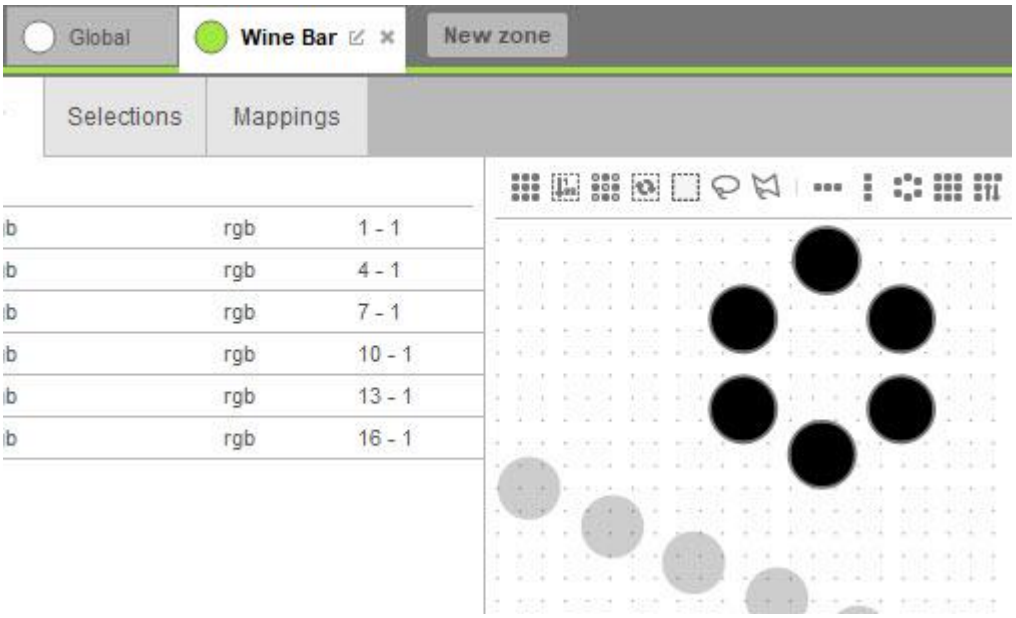


5) In the Properties window select your new zone from the Zone list.



6) Select your new Zone's tab (e.g below *Wine Bar*). You will notice that only the fixtures in the zone are editable. Fixtures not in this zone are displayed

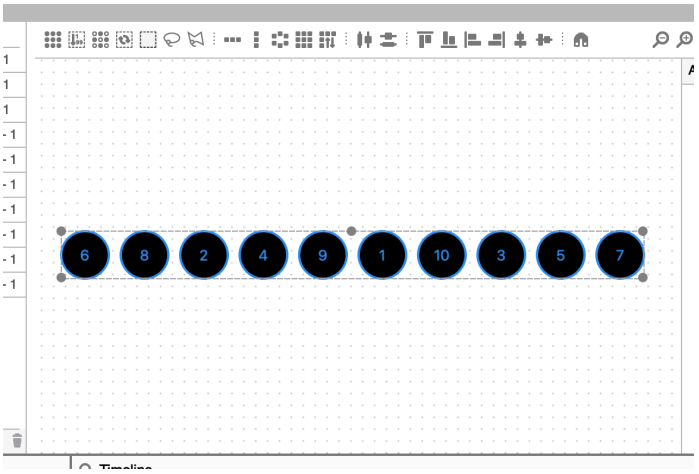
but shown as transparent.



Selections

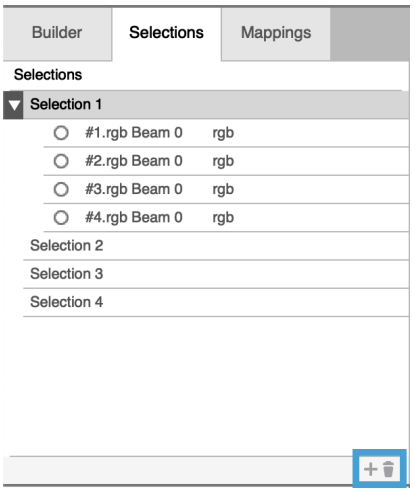
The Selections tab allows for fixture selections to be created and linked with effects on the timeline. Selections are created either by dragging a box around a set of fixtures on the fixture grid, or by holding ctrl (PC) or command (Mac) and clicking fixtures as you would with files within a folder.

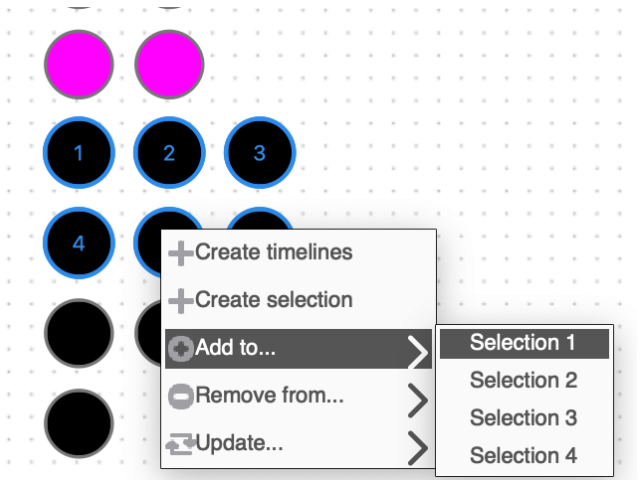
Selection order can be changed by ctrl (pc) or command (mac) clicking individual fixtures. This allows you to select fixtures in a custom order. For example if you wanted to create a custom knight rider effect that doesn't play in a linear fashion.



Selections may be saved for later use by clicking the (+) button to the bottom right of the *Selections* panel. Each selection can be expanded to view fixtures

within the selection. Select and right click fixtures on the fixture grid to add or remove from a selection.





Scenes

Scene List
Within the *Scenes* panel you have the choice to create a new *Scene* or Sequence. We will focus on *Scenes* first, offer more features and are recommended for controllers with SD memory.

Each scene may contain several timelines and multiple effects. The scenes panel contains the scene name (1), the type of scene (2), the duration (3) and Preselect (4) for Standalone. This last option enables/disables the scene showing on the standalone screen in the scenes list on the left. You can use this to prevent certain scenes from being available to write to your controller.

Effects

Effects can be dropped from the Effects list directly onto selected fixtures or into a timeline.

Drag block to fixtures : A new timeline will appear with those fixtures set as the target.

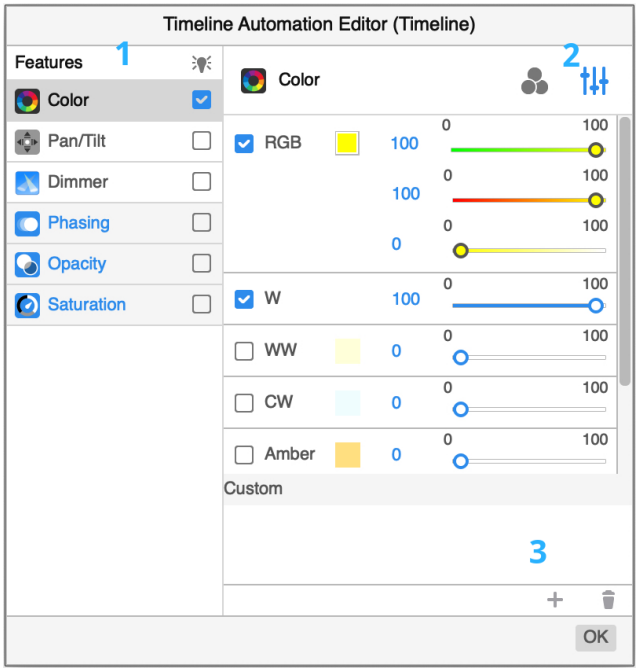
Drag effect to timeline : the effect will control whichever fixtures are targeted by the timeline.

See the section on Timelines for more information.

Basic Block

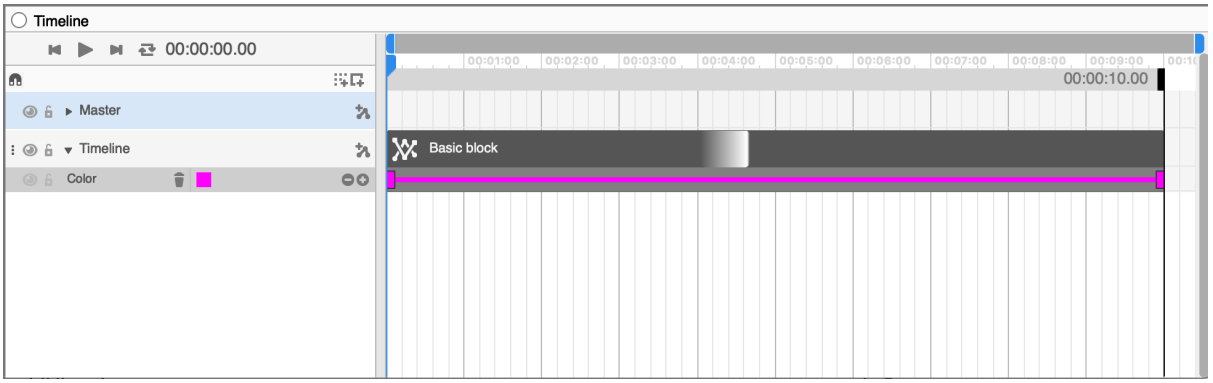
A Basic Block allows you to manually control your fixture features (aka presets) with a timeline using Automations. For example, you may want to fade between 2 or more colors and add some phasing (time delay) and opacity. You are able to do this by adding points along the timeline, inside a basic block, which contain a value for each feature.

When a Basic Block is first assigned or when you double click it, the *Timeline Automation Editor* will open. In the example below it is configured for the Master timeline which offers basic color mixing, pan / tilt and dimmer presets. These may or may not be relevant to your fixtures. The Master timeline is unaware of what features your fixture has and provides a way to control all fixtures in your zone.

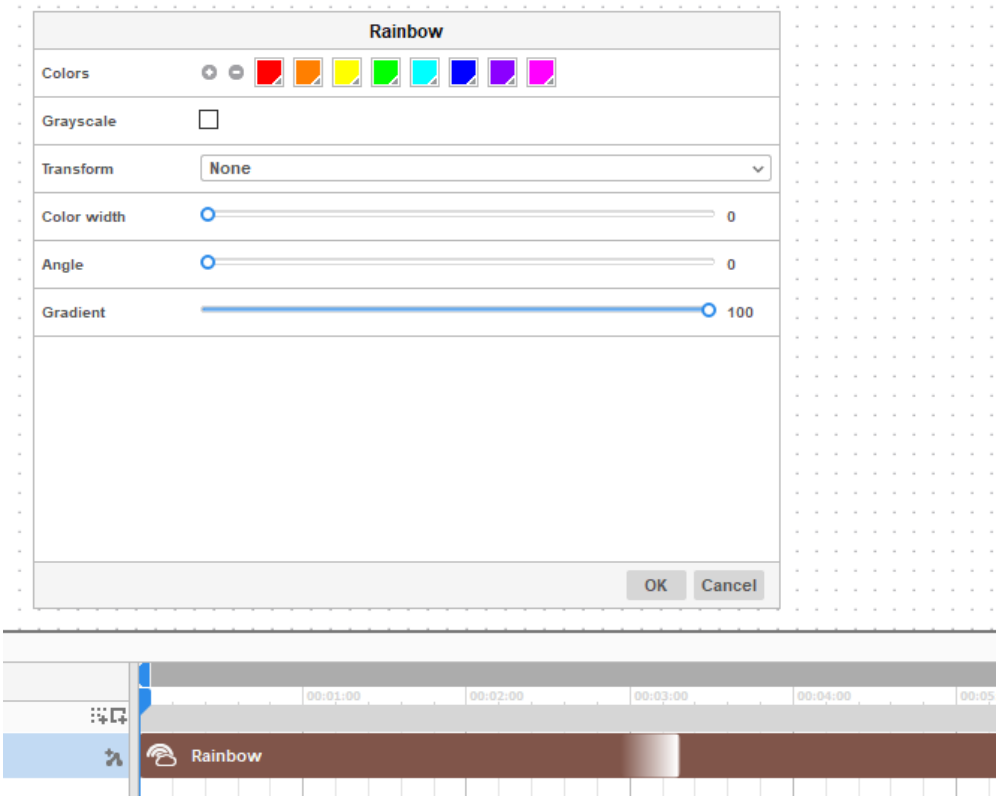


1) Features - The number of features shown will change depending on if the block is on the Master timeline (as above) or a standard timeline and what features (presets) your fixture has. The number and type of features available is set when the timeline is first created.
2) Swap between Color Wheel and Advanced Color modes (as shown above). Note that to control a Neutral White channel you must use the W channel fader.
3) Custom Color swatch. Create colors set to the values in the settings above using the + button.

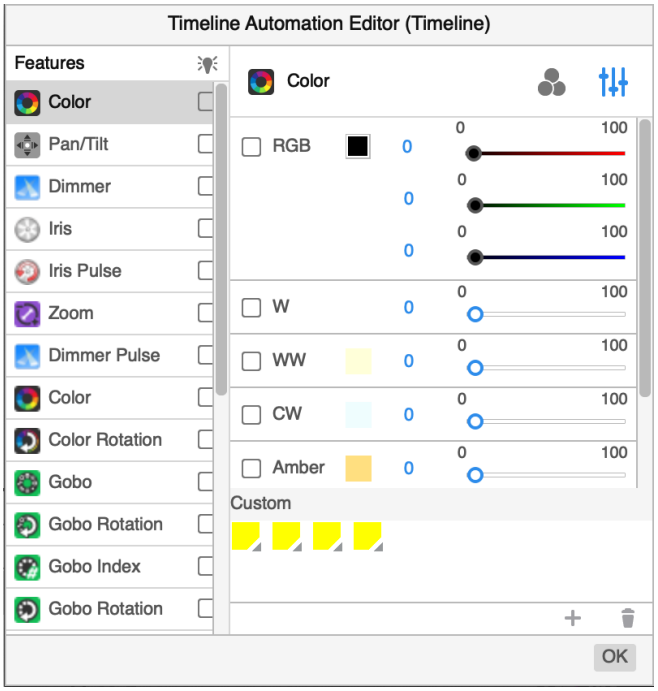
To create static colors use the 'Basic Block' with Link Entry/End points selected in the Properties panel. The image below shows a basic block set to magenta.



Effect properties can be edited by double clicking on a block. The image below shows the Rainbow effect properties.



In the example image below, you can see lots of features available for a complex light. A Moving Head has been patched using the *Add Other* button on the Builder screen (_Generic/moving head.ssl2) and then a Basic Block has been dropped onto the fixture in the grid in the Selections tab . This has created a new timeline with the following features. Pressing the *Light Bulb* icon at the top of the feature list will activate the default presets to turn the light on.



Important Concept

If you are coming from ESA Pro 1 or ESA2, it's important to realize that the Features list does not represent DMX channels or the DMX channel order. These features (presets) control functions of the fixture that may occupy all or part of a channel depending on how the fixture firmware (and fixture profile) have been designed.

For example, a Shutter channel may contain a Shutter Open and Shutter Closed preset. The Shutter channel itself is not shown anywhere in ESA Pro 2, only the features (presets). A key advantage to this is that new fixtures can be added or removed from timelines because you are not directly controlling the channels. Instead, you are manipulating a common set of presets. This system offers great flexibility. We'll discuss more about this in the Timeline section.

E.g. Channel 14 for the Moving Head above contains 4 presets for Shutter Open, Close, Strobe and Flash. These will each appear separately in the list of features.

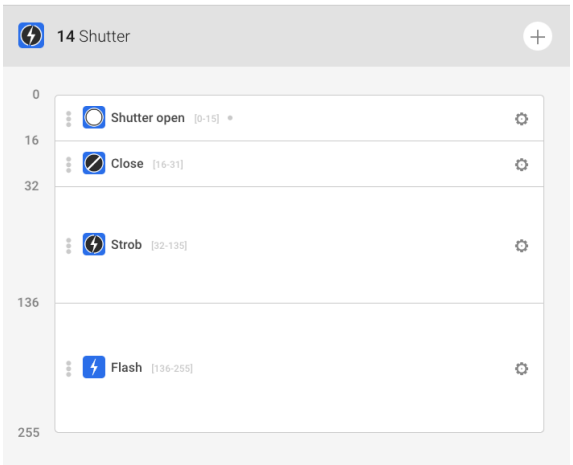


Image left: Nicolaudie Profile Builder (online tool)

https://profile.nicolaudiegroup.com//#/home/create

Controlling Complex Lights

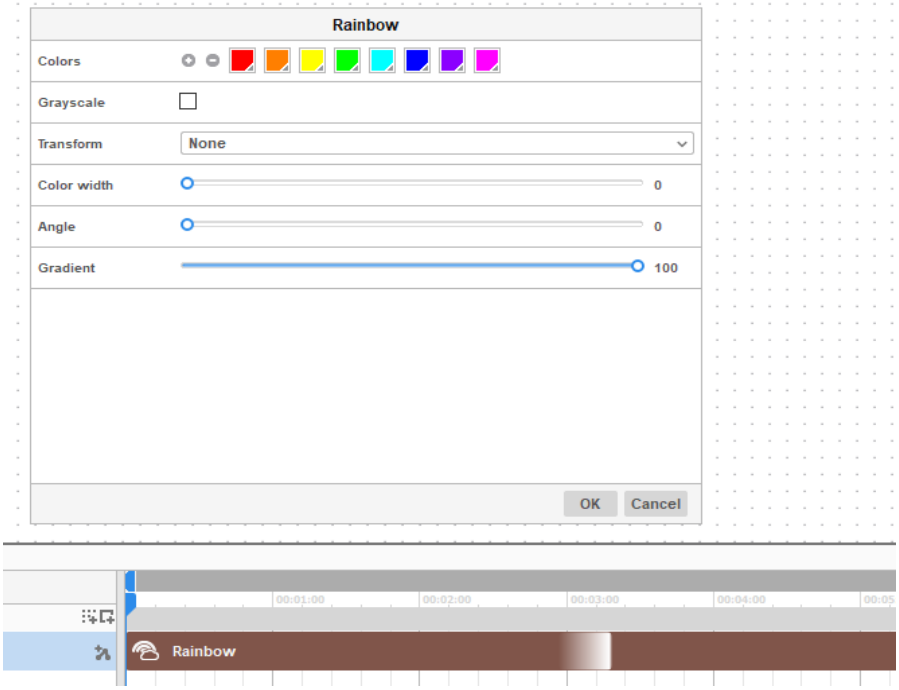
1) In the software, it is possible to select more than one preset from the same channel. In reality, you can only control 1 preset in a channel. The software handles this by giving priority to the last selected preset (last takes priority).

2) Some complex fixtures may contain more than one channel controlled by a particular preset type. A common preset type is the undefined preset often represented by the ? icon though it can be assigned other, more useful, icons. These will appear as 'Other' presets.

A limitation of ESA Pro 2.0 is that one timeline can only control one of a particular preset type (e.g. one undefined preset). This can be overcome by using multiple timelines. It is recommended to work with the *preview* button (see image) enabled so that the output from several timelines is always shown when playing a scene.

Pixel Effects

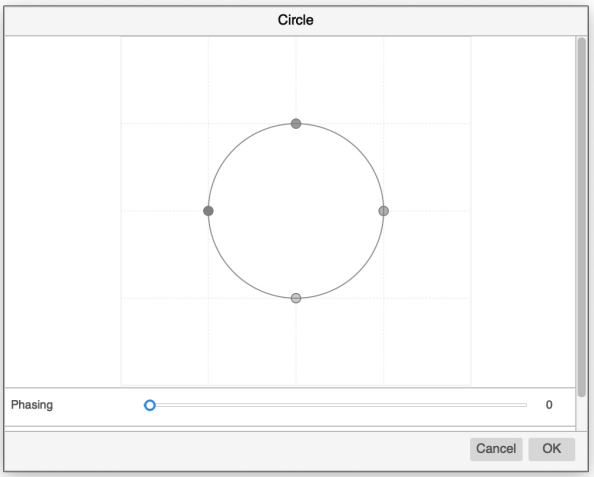
Pixel effects operate on color mixing channels and can be configured using the parameters available in the effect window. The Rainbow effect window is shown below. If a speed parameter does not exist, the speed can be changed by increasing or decreasing the length of the effect block on the timeline. Any effect can also be looped by editing the effect block properties in the properties panel.



X/Y Effects

X/Y effects (or Movement effects) allow you to control fixtures pan/tilt or x/y channels, such as moving heads, scanners, etc. You can choose from Circle, Curve, Polygon, Line or Points effects.

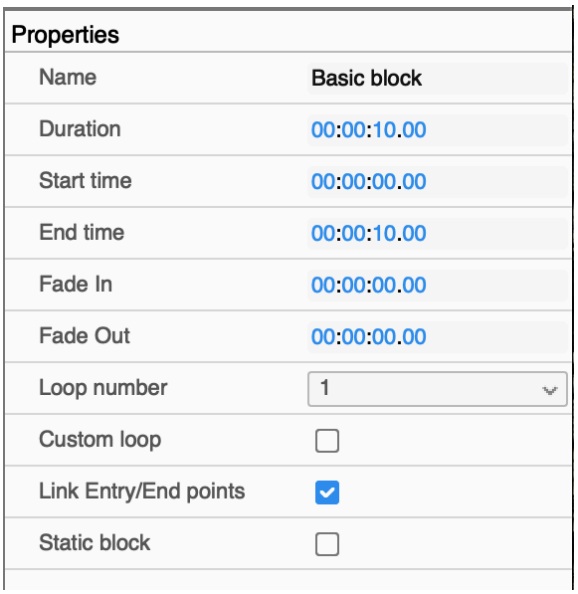
In the effect window, additional points can be added by double clicking on the lines. The Points effect can only contain 1 point.



Effect Block Properties

The selected effect block's properties can be adjusted from the *Properties* panel.

- Name : the name of the block.
- Duration : the total time the block is playing.
- Start time : the time in the scene that the effect block begins.
- End time : the time in the scene when the effect block stops.
- Fade in : the time it takes for the block to fade in.
- Fade out : the time it takes for the block to fade out.
- Loop number : the amount of times an effect will be played within the block.
- Custom loop : when selected, the loop size will be fixed and won't expand when a block is resized. This is useful if you wish to play a portion of an effect, stopping part-way through.
- Link Entry/End point : when enabled, any automation points and the end of the block will be duplicated at the start of the block, allowing for a smooth transition if the block runs from the beginning to the end of the scene.
- Static block : when selected, the first frame of the block will be frozen throughout the duration of the block.



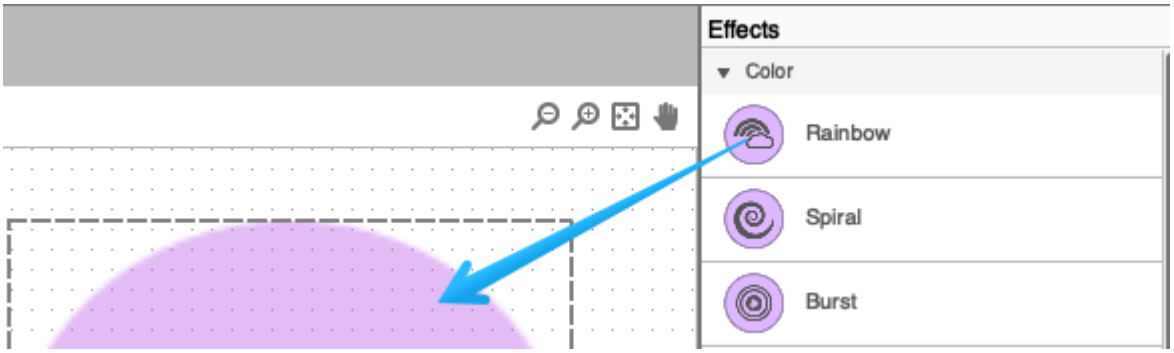
Mappings

The Mapping section operates in a similar way to the *Rects* from the original ESA Pro software. In this programming mode you will select a shape(1) and then link this shape with a timeline. Effects on the linked timeline will be mapped to the fixtures the shape covers.

You have a selection of three shapes: a square, a circle or a polygon. Select the shape then drag on the fixture grid to draw.

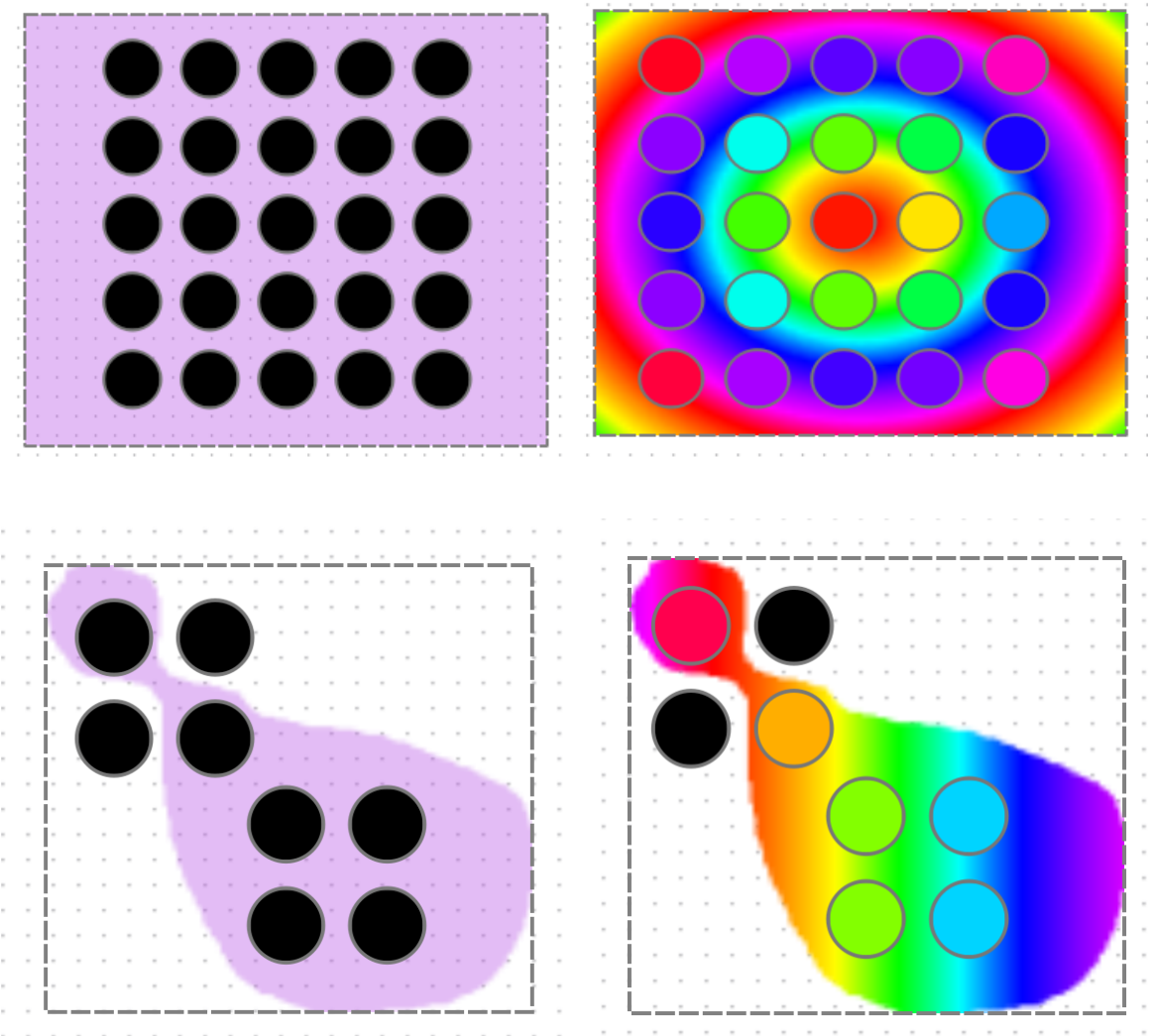
1. Create a shape using one of the options.

2. Drag an effect to the shape. A timeline will automatically be created.

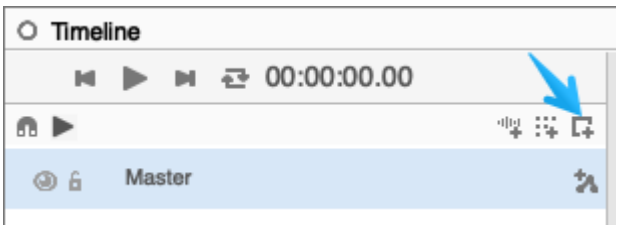


If you decide to create a Mapping Timeline and a shape separately you will need to link the Mapping timeline to the shape. To do this …

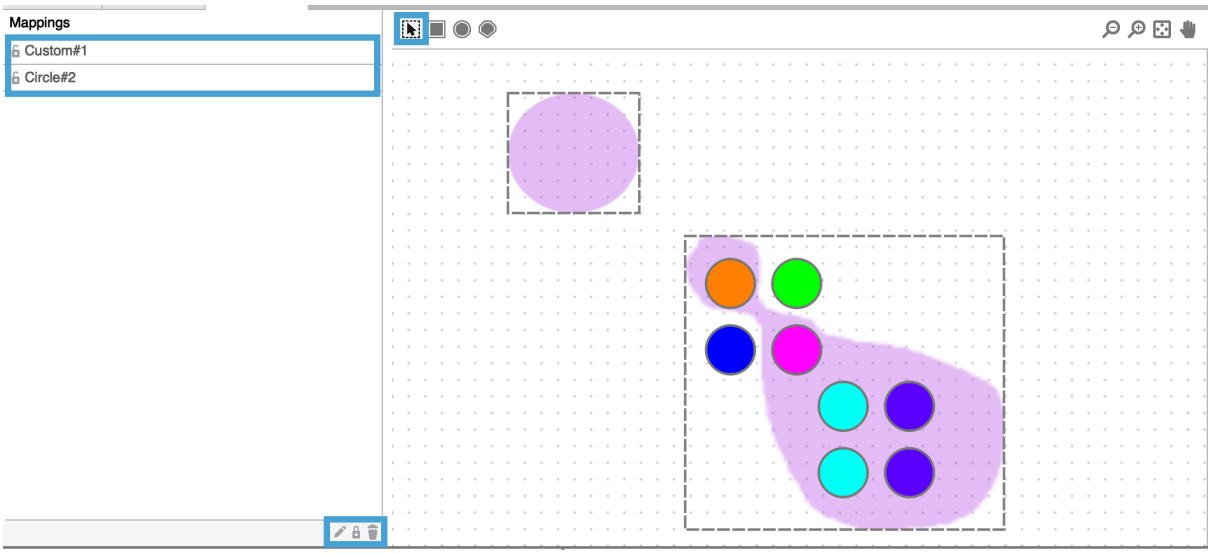
- right click where it says *Timeline (no target)* to open a menu.
- *From menu, select Targets > (Your shape name)*



Effects can be dragged from the effect list directly to the shape in the same way as with fixture selections. A mapping timeline will be created automatically with the chosen effect. You can also add a mapping timeline from the top of the Timeline panel.



Mappings can be moved and resized by selecting the mapping from the list or by clicking the selection tool. A mapping can be moved by dragging the mapping or resized by dragging one of the four corners. Mappings may also be locked to prevent accidental editing.



Video and images
You can import video and images using the Media effect which is just like any other mapping effect except you can specify a media file on your computer.

Supported file formats:
Video: MP4, MOV (with resolutions less 1280x780 pixels)
Images: PNG, JPG, HEIC (MacOS)

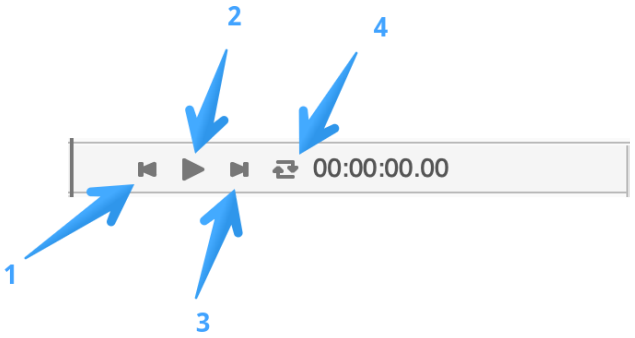
If the video is too large to be processed you will receive a warning. You may need to use video editing software to reduce the size of your video.

Timelines

Timelines may be created by clicking *Add Selection Timeline, Add Mapping Timeline or Add Audio Timeline using the buttons below.*

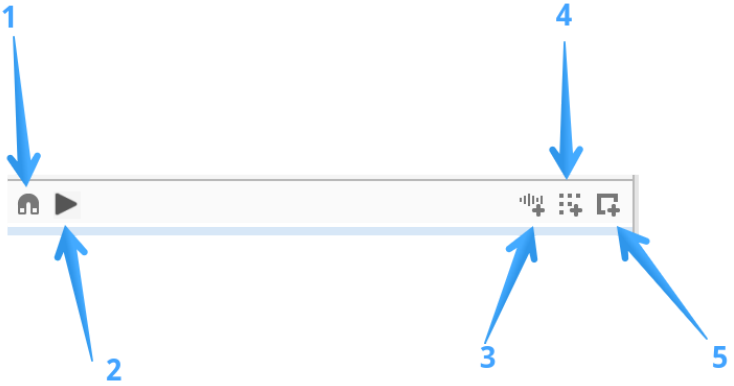
To begin, let's have a look at the layout of the timeline window and options.

Playback bar - This is where timeline playback is controlled.



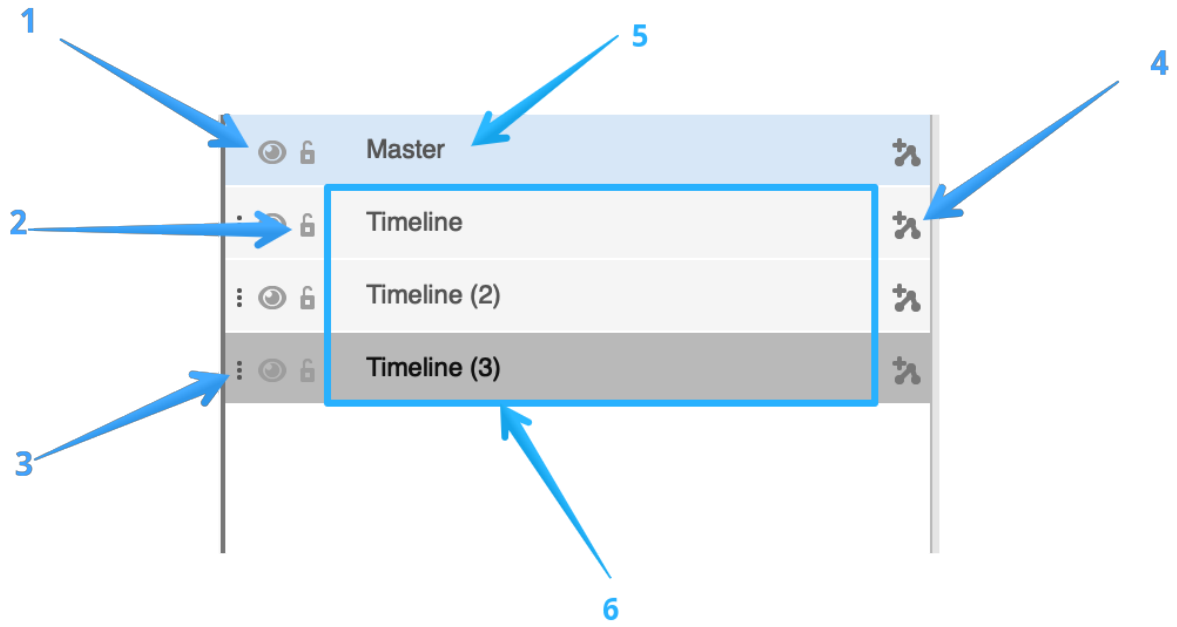
1) Skip to beginning
2) Play/Pause
3) Skip to end
4) Enable/Disable Loop

Timeline Creation - Here you can select the type of timeline you want to create and enable/disable preview and snapping behavior.



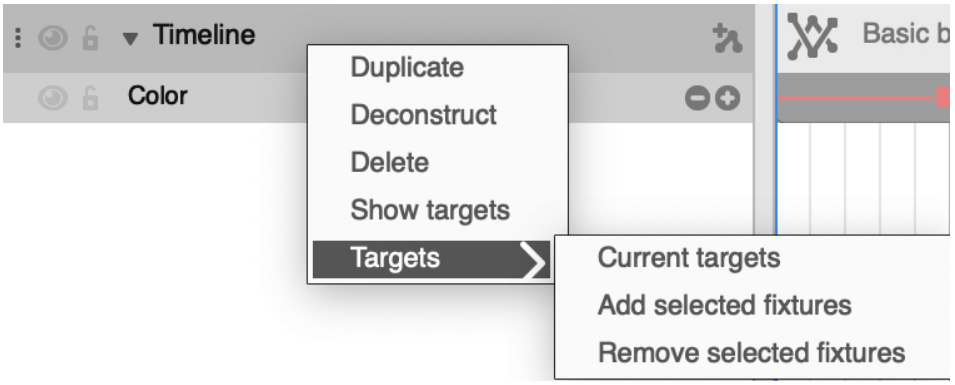
1) Snap - When enabled and moving a timeline block this will cause the block to snap to the nearest grid line.
2) Preview - when enabled, allows you to see output from all timelines within a scene when a block is selected in one of those timelines. By default, only the output from a specific block will show when selected.
3)Create Audio Timeline - allows you to add an audio track (mp3 or wav) to play in time with your scene.
4) Create Selection Timeline - Creates a timeline targeting the fixtures you have in your current selection.
5) Create Mapping Timeline - Allows you to map moving images to your fixtures.

Timeline List - This is where your various timelines in a scene are listed.



1) Activate/Deactivate - When selected the fixtures associated with a timeline will turn off/on
2) Lock - This enables you to lock a timeline, you cannot edit a timeline whilst this is enabled.
3) Move Timeline - Click and drag to reorganize the order of your timelines.
4) Automation - Add an Automation to your timeline
5) Master time - controls all fixtures in the zone
6) Standard selection timelines (see below).

Timeline List - right click menu options



Duplicate - Create a duplicate of your timeline
Deconstruct - This will create a duplicate timeline for each fixture targeted by the timeline
Delete - delete timeline
Show targets - highlight every fixture or the mapping shape targeted
Targets -

Current targets : make the timeline target the currently selected fixtures
Add selected fixtures : add the selected fixtures to the currently targeted fixtures
Remove selected fixtures : remove selected fixtures from current targeted fixtures

Master Timeline

Each scene is created with a *Master* timeline which controls all fixtures in the selected zone and cannot be deleted. The Master timeline allows the control of basic functions such as Color(mixing), Pan/Tilt and Dimmer which may or may not be appropriate for your fixture type. This provides an easy way to control all of your fixtures in a zone. If your fixtures contain more complex features you will need to create a *Selection Timeline* (see below).

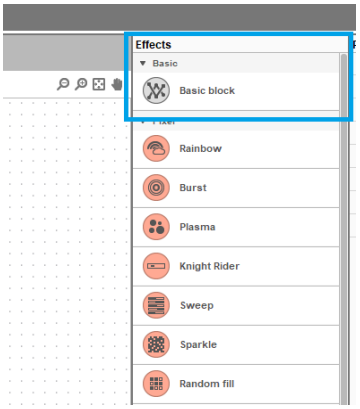
Selection Timeline

A Selection Timeline allows you to play an effect on a Selection (group) of fixtures within your zone. You can also use a Selection timeline to play an effect in the order in which the fixtures were selected when the timeline is created.

To get started :

- select your fixtures
- drag an effect from the Effects list onto the fixtures. A timeline will be created automatically and linked with the selected fixtures (Targets of that timeline).

To play effects in a specific order use cmd (Mac) or ctrl (Windows) to select your fixtures individually in the required order and then create your timeline. See the section on Selections to save your selections.



Additional blocks can be dropped onto the timeline to create multiple effects running one after another. You can set fade in and fade out times for each block by selecting the Effect block and using the Properties panel.

To add or remove fixtures linked with the timeline, right click on a timeline in the list and use the 'Target's options to add or remove fixtures.

Use the playback bar at the top left of the timeline to play and navigate to the start and end, or to loop the scene.

Mapping Timeline

Mapping Timelines are used with Mapping Effects on the Mappings Tab. A Mapping Timeline can only target one Mapping Shape created in the grid area. The target can be changed using the right click menu above.

See the section Editor > Mappings for more information about Mapping Effects.

Audio Timeline

Audio timelines are the perfect way to program to music or sound for standalone use. Simply create an audio timeline and drag and drop your desired audio file onto it!

You can move the block to your desired location relative to the other timelines you've created. By looking at the waveform shown on the timeline you can manually set effects blocks and automations to start at the correct times. It may be useful to increase the zoom level on the timeline to allow accurate timing.

Supported formats are MP3 and WAV.

Audio Block properties

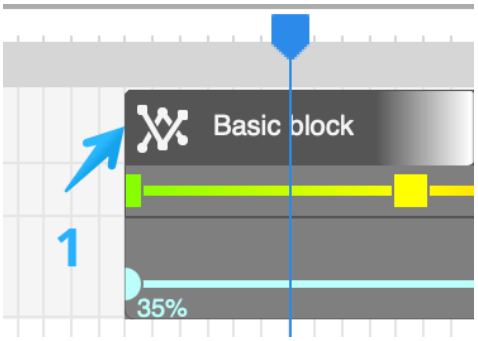
Properties - Block	
Name	e Track1 320kbps (1).mp3
Duration	00:06:04.72
Start time	00:00:00.00
End time	00:06:04.72

Notes:
1) Our devices do not support audio playback. A DMX triggerable audio player which can be bought from a third party supplier. By importing the correct MP3 player fixture profile (.ssl2 file) you can control it from the ESA Pro 2 timeline with a Basic Block as you would any other DMX fixture.

2) For beat-detection sound-to-light see the section Standalone > Audio Triggering. This method does not use the Audio Timeline.

Block Alignment

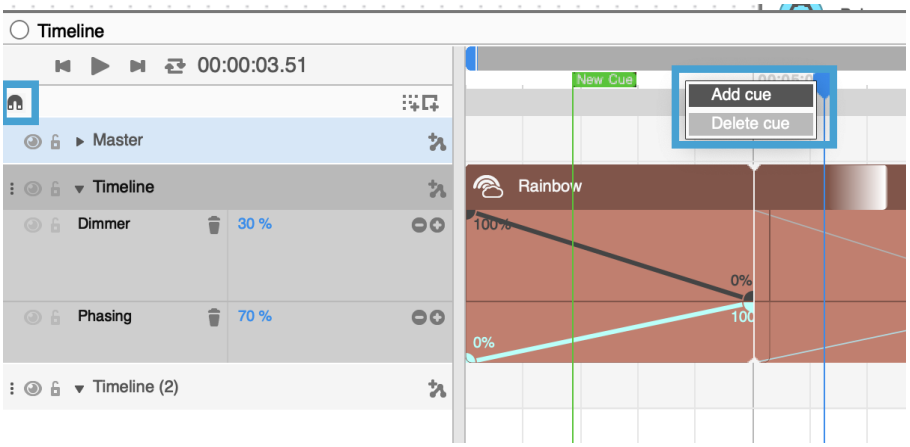
Effect blocks can be dragged across the timeline and resized. Hovering your pointer at the end of a block (1) will change the cursor to the resize option. Click and drag horizontally to resize the block.



Resizing a block will adjust the speed ; making it shorter will speed up the effect and longer will slow it down. You can increase or decrease the Block Loop number to also adjust speed.

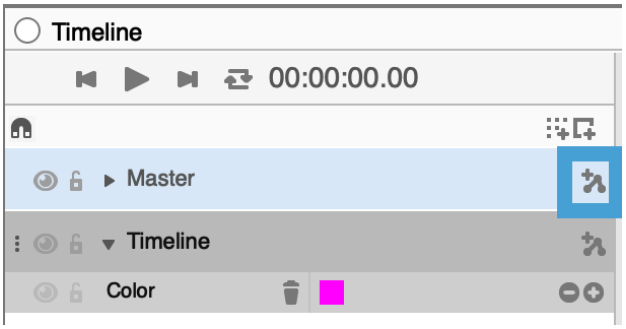
Blocks can be duplicated onto the same or another timeline by right clicking the block. Clicking the magnet icon will snap blocks to blocks and Cue points close-by. To add a cue point, right click the top of the timeline and select *Add Cue.*

Cue points can be renamed and recolored in the properties window.



Timeline Automation

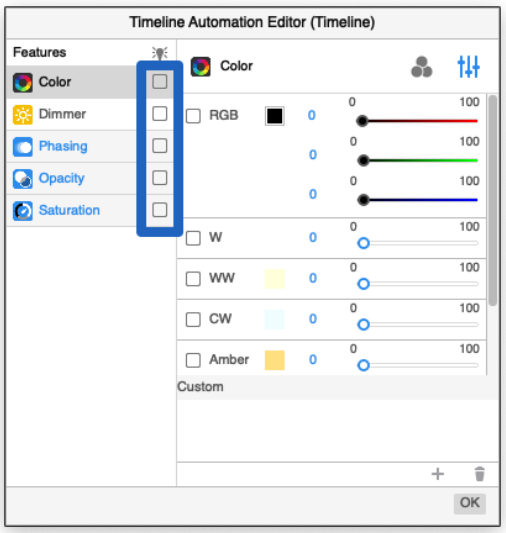
Whether it is a Basic Block or an Effect Block, each timeline contains a set of Features (presets) which may be edited by clicking the button to the right of the timeline name.



Each Master timeline contains a set of features (presets) including:

- Color : used to change the color of the target fixtures.
- Dimmer : used to adjust the brightness of the target fixtures.
- Phasing : Creates an offset on the block for each of the target fixtures, ideal for creating wave effects.
- Opacity : adjusts the opacity/transparency of the timeline, allowing timelines below to show through.
- Saturation : adjusts the saturation of colors set within the timeline.

Different effect blocks will have different parameters that can be automated depending on the target fixes and their features (presets).

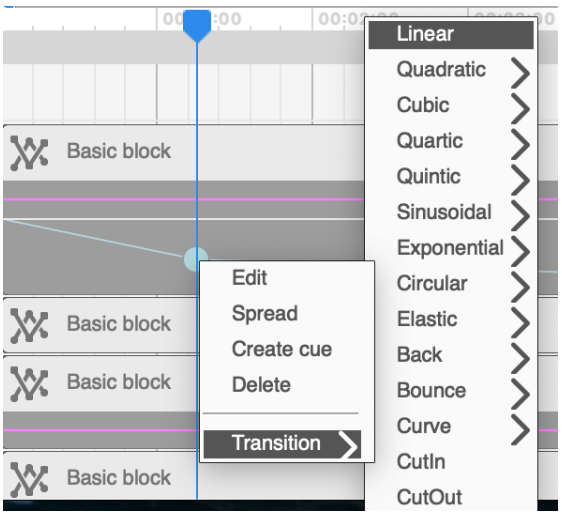


To enable automation for a parameter you should tick the checkbox highlighted above.

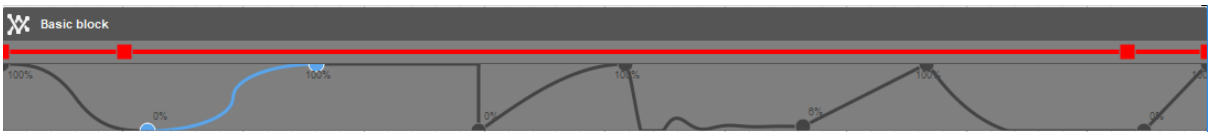
Each preset is stored inside a *Keypoint.* Keypoints may be added and removed either by clicking on the (+) or (-) buttons to the left, or by double clicking on the automation line.

Right clicking on an automation point or line allows for a transition to be chosen for setting curves between points. Selecting *Spread* will place the keypoint in

between its adjacent key points allowing for an even curve to be created throughout the selected block.

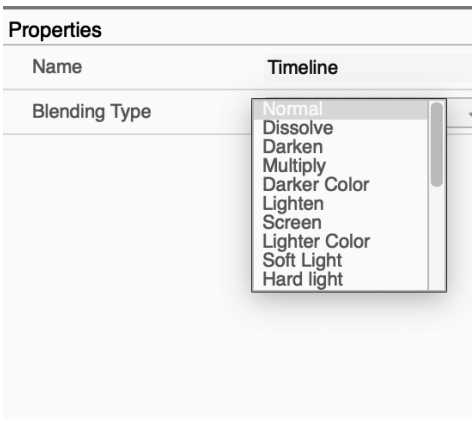


Using a combination of curves can create some interesting dimming effects.



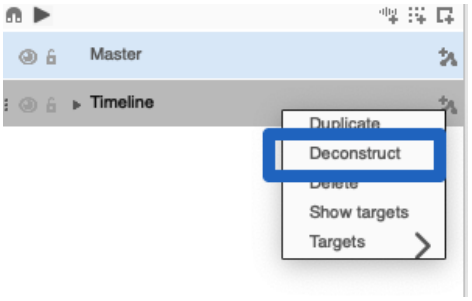
Timeline Blending

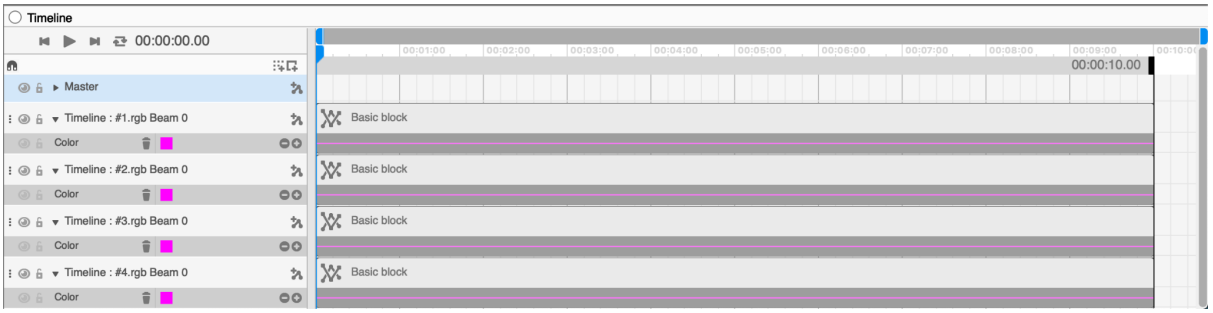
Several timelines can be linked with the same target selection of fixtures. The topmost timeline will take priority over the timelines lower down. Timelines may be blended together by selecting the timeline (be sure to select the timeline and not the effect block) and setting the blending type from the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



Deconstructing a Timeline

When a timeline is created and linked with a set of fixtures, everything added to the corresponding timeline will be applied to the linked target fixtures. To adjust the effect on one of the fixtures without affecting the rest, select the fixture, right click the timeline and select *Deconstruct*.



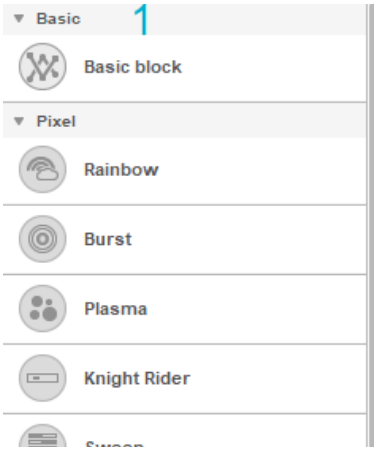


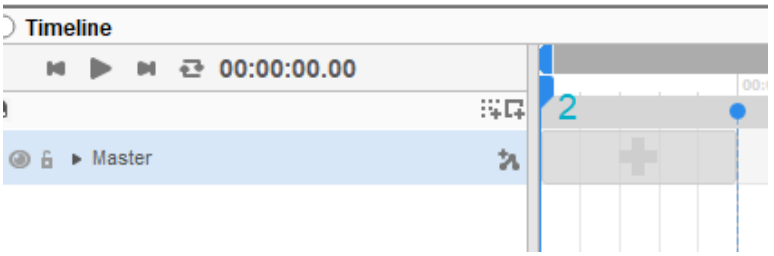
Sequences

Sequences contain a limited amount of information compared with a scene, keeping the program size smaller. This is ideal for use with controllers with limited memory (e.g. controllers without SD card memory) and for use with audio triggering where you want to limit the number of frames. Within a sequence, static blocks are locked into *slots* with fade and hold times. Automation curves are not available within sequences.

After selecting a new *sequence* (1) you will see it added to the list of scenes and sequences to the left of the timeline.

In a *sequence*, all the effect blocks are disabled and cannot be added to the timeline (1). When you go to select the timeline you'll see a (+) button (2) appear to the right.

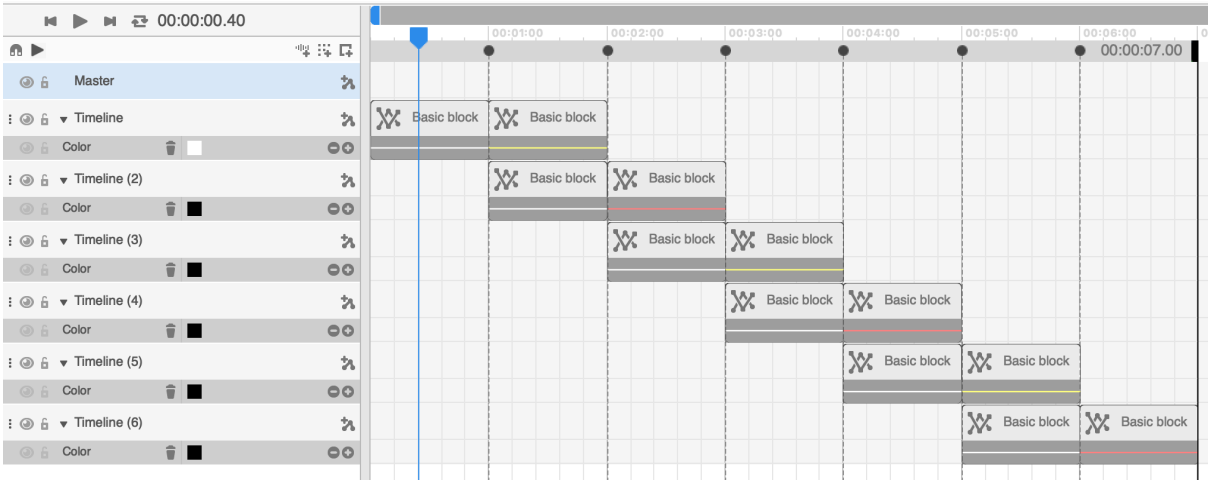




Clicking the (+) button will open up the Timeline Automation window and allow you to add a block to the timeline. Once a block has been added, it may be resized across multiple slots, or the slot size can be changed by dragging one of the vertical lines.

Each vertical line with a circle on top is a keyframe. If you are familiar with ESA2 software, you can think of these as scene steps represented on a timeline.

As with scenes you can create multiple timelines assigned to different fixtures to create simple effects. In the example below, we have 6 timelines assigned to 6 color mixing lights with a basic chaser effect. You can select 'Link Entry/End Points' in the block properties to prevent any fading.

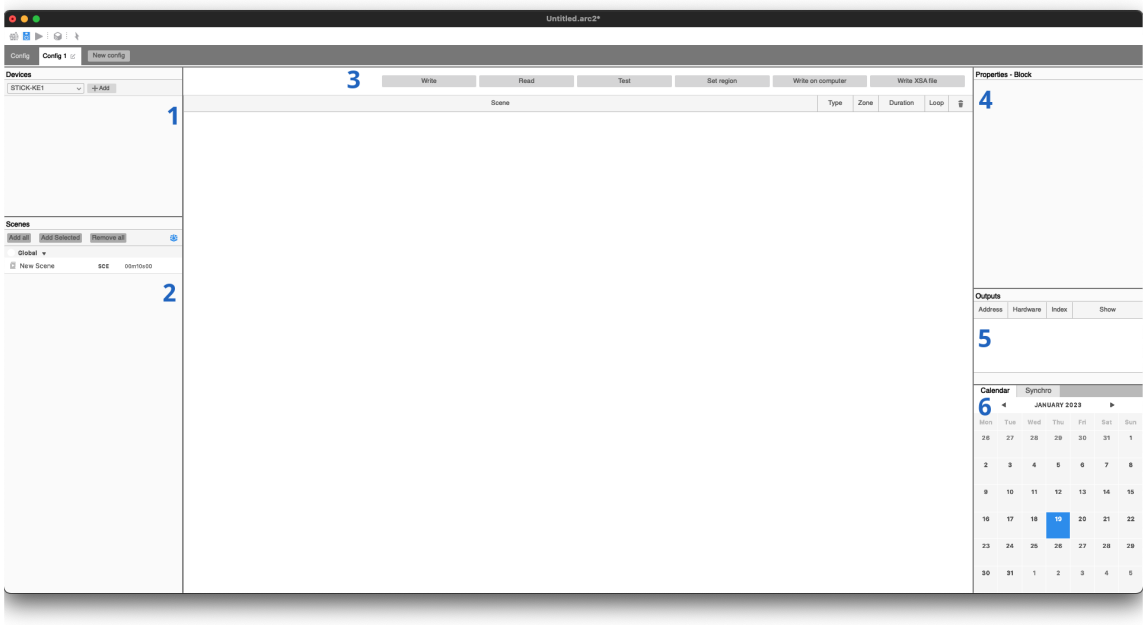


Standalone

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, for example. Note that options displayed here are sometimes dependent on the controller you are using.

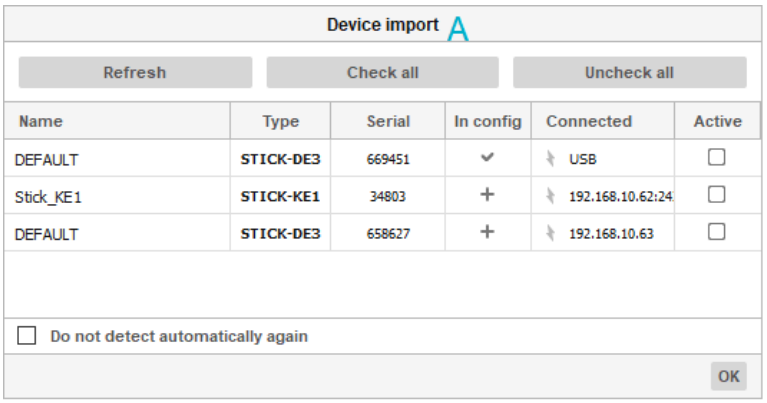
Navigate to the standalone screen by clicking the button in the top left corner of ESA Pro 2 (highlighted below) or by selecting 'Standalone' from the view menu.

On the standalone screen there are 6 different panes. Devices(1), Scenes(2), Write(3), Properties(4), Outputs(5), Calendar(6). Unless you have a controller currently attached to the software some of these windows will be empty.

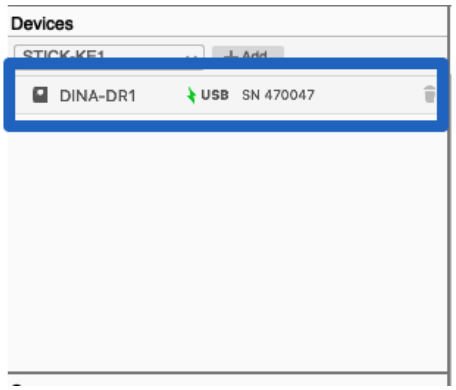


Managing devices

If you have a controller connected to the software you will see it listed in the Devices panel. You can connect a controller after the software has been started. In this case the Device import window will be shown, listing each device detected on the network and via USB. You can also open this window by the top menu: Settings > Import Device or by clicking the lightning bolt in the top left of ESA Pro 2.



Once the controller is connected, you will need to make sure it is Active. A green lighting bolt is shown alongside each active device.



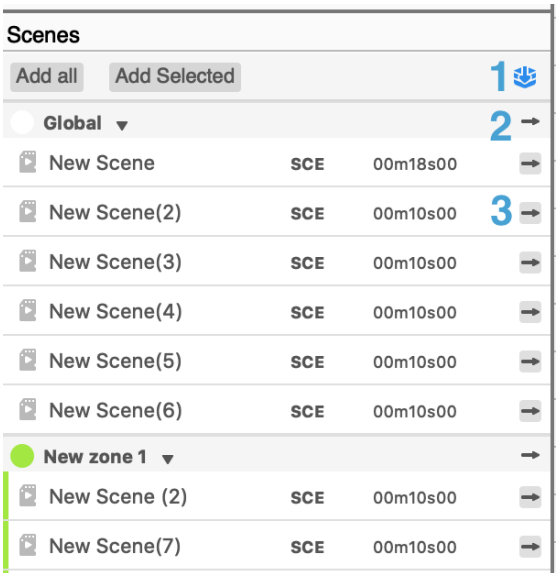
You can make a device active by selecting it in the Devices window and then checking Active in the Properties Window.

Right clicking the device in the Devices window allows for it to be linked with a serial number. For example, you may have created a configuration for a different device (of the same type) or a virtual device (of the same type) which you want to assign to your new device. Assigning the serial number in the Devices window allows this.

Assigning Scenes

Once a device has been set up and selected, a table will appear in the center of the window. This is where scenes will be added to the device. All scenes are located in the Scenes pane located at the bottom left of the screen.

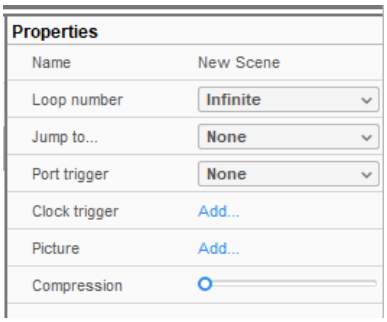
- Click the *Show All Scenes button* (1) to toggle between displaying all scenes in the project, or filtering just the scenes selected for standalone from the Scenes pane in the Editor.
- Clicking *Add all* will assign all scenes to the controller. *Add Selected* will add just the selected rows. A multi-selection can be made by holding ctrl (PC) or command (MAC). A range may be selected by holding shift.
- Clicking here (2) will quickly add all scenes from the corresponding zone and clicking here (3) will add just the corresponding scene.



Setting Scene Properties

Once a scene has been assigned to the controller. Additional properties including triggering commands can be set from the *Properties* panel. The options displayed depend on the device connected. Note that devices which support *TCA* will have fewer options here, as triggering is managed in another location (see the next topic). Standalone Scene properties include:

- The name of the scene.
- The number of times a scene should play (loop number).
- Release at end : the scene is released once finished, rather than paused on the final frame.
- What a scene should jump to when finished.
- A dry contact port trigger.
- A clock trigger.
- Image file (for devices with a display).
- Compression (for devices with limited memory).

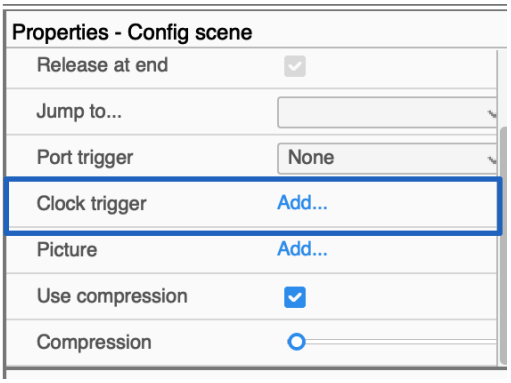


Clock & Calendar Triggering

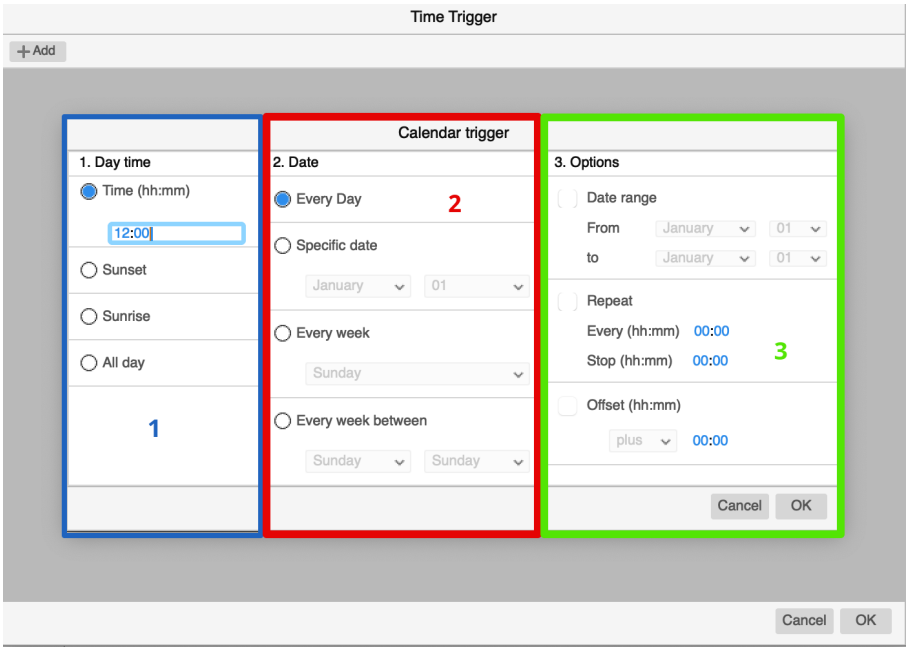
Some of our devices contain an internal clock and calendar, allowing for scenes to be triggered at certain times of day on dates that you determine.
There are two ways to create these triggers, depending on the device you are using. These are called '*Clock Trigger*' or '*TCA Triggers*' (these appear as '*Triggers*' on compatible devices). For now we will be looking at *Clock Triggers*, *TCA triggering* will be covered in the next section.

Note: Not all devices will be compatible with Clock Triggers. If unsure, consult the technical datasheet for your device.

To set up *Clock Triggering* you first need to select a scene from the scene list and then select '*Clock Trigger*' from the 'Properties - Config Scene' window.



The window you see on the next page will appear.



1. **Day Time -** The time at which the Scene will trigger. This can be set as a time of day, or a time relative to Sunrise or Sunset. (Note: for Sunrise/Sunset triggers to work accurately, the device's location must be set correctly. This can be set in the Hardware Manager tool).
2. **Date -** The date at which the Scene will trigger, including recurring dates and days of the week.
3. **Options -** Other options include triggering during a range of dates of the year, and repeatedly triggering a scene at a specified interval until a chosen time.

When you've set a trigger for a particular date or every date the calendar in the bottom right corner of ESA Pro 2 will update, having a dot on each day there's a trigger for.

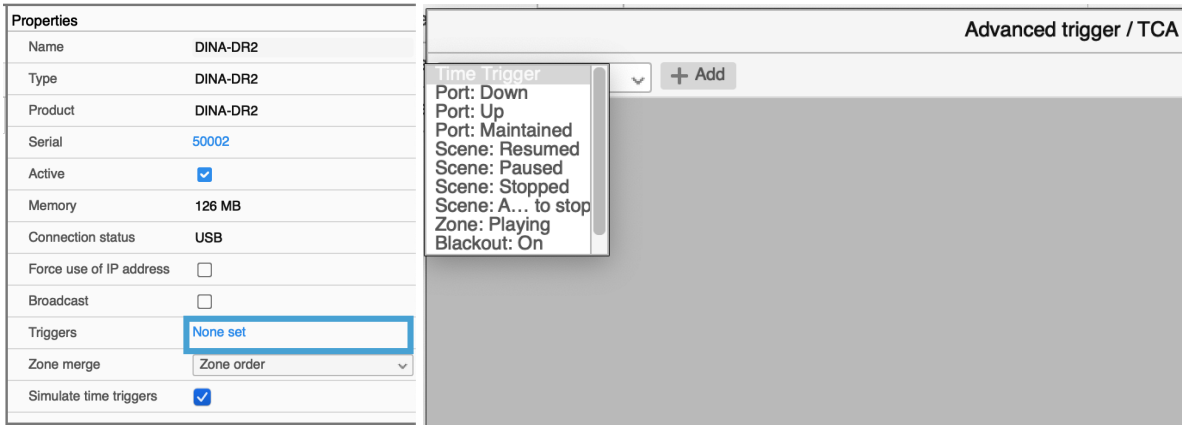
TCA (Trigger - Condition - Action)

Some controllers (based on SIUDI11, DINA1 and DINA2 hardware) offer more powerful triggering options called Trigger - Condition - Action (TCA).

To access the TCA window, select the device from the *Devices* panel and then click the blue text to the right of the *Triggers* property. A selection of different trigger and condition types are available:

- Time Trigger - trigger an action at a particular time of day.
- Port Trigger - trigger an action when a dry contact port is pressed (down), released (up), or held down.
- Scene Trigger - trigger an action in response to a scene or zone:
    - Scene Resumed.
    - Scene Paused.
    - Scene Stopped (will continually trigger as long as a scene is stopped, more useful as a condition than a trigger).

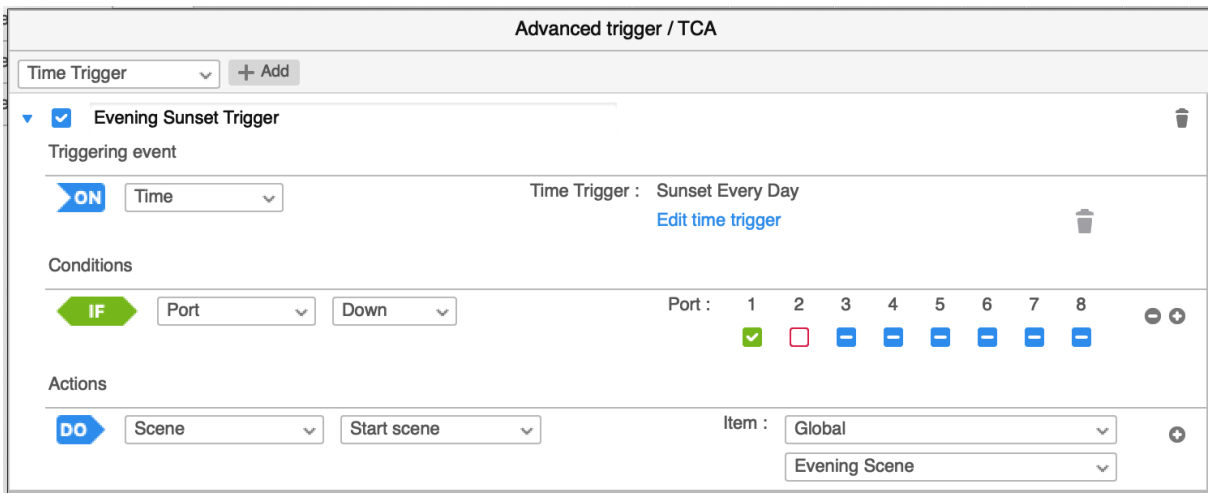
    - About to Stop (triggers one time when a scene is stopping, e.g. “Play Scene 5 when Scene 1 is about to stop).
    - Zone Playing (will continually trigger as long as a scene within the selected zone is playing, more useful as a condition than a trigger).
- Blackout - trigger an action in response to a blackout.
- Audio Beat - trigger an action in response to a detected audio beat.



Once you have selected the type of triggering event you want to listen out for, further settings will appear.

1. ***Triggering Event***: set more specific properties related to the triggering event. For example, Calendar trigger options.
2. ***Condition***: set further conditions which must be met for the trigger to be actioned. Each condition may be set as an IF or IF NOT condition by clicking on the IF/IF NOT text. Several conditions can be set by clicking the (+) button to the right of the condition.
3. ***Action***: the action to perform if the Triggering event and Conditions are met.

The example below will trigger the Evening Scene within the Global Zone at Sunset every day, but only if Port 1 is closed and Port 2 is released (ports 3-8 states are ignored).



Audio Triggering
This section is only relevant to the DINA DR1, DINA DR1 LITE (with Audio triggering license upgrade) and DINA SR1 models which have sound-to-light capabilities.

How does audio triggering work?
When an audio signal is received by the controller, it will look for transients (spikes in waveforms usually from a beat) in the signal. Once detected, these are indicated with a flash from the Audio LED. These beat triggers can be used to step through a pre-programmed scene in time with music or in reaction to pulses of sound.

Using Sequences
It is important to use *Sequences* instead of *Scenes* for audio beat triggering. This is because with Sequences it is easy to set dramatic changes between individual DMX frames. By comparison, when a scene is turned into DMX the software generates 25 frames per second. In most cases, there will be very little change between frames.

Note: Sequences are referred to as Scenes in the software everywhere except on the Selections and Mappings tab.

Configure TCA Triggers for Audio

1: Create several *Sequences* in the Editor window. See the section in this manual: Getting Started : Create Scenes : Sequences.

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: Add an Audio Beat trigger

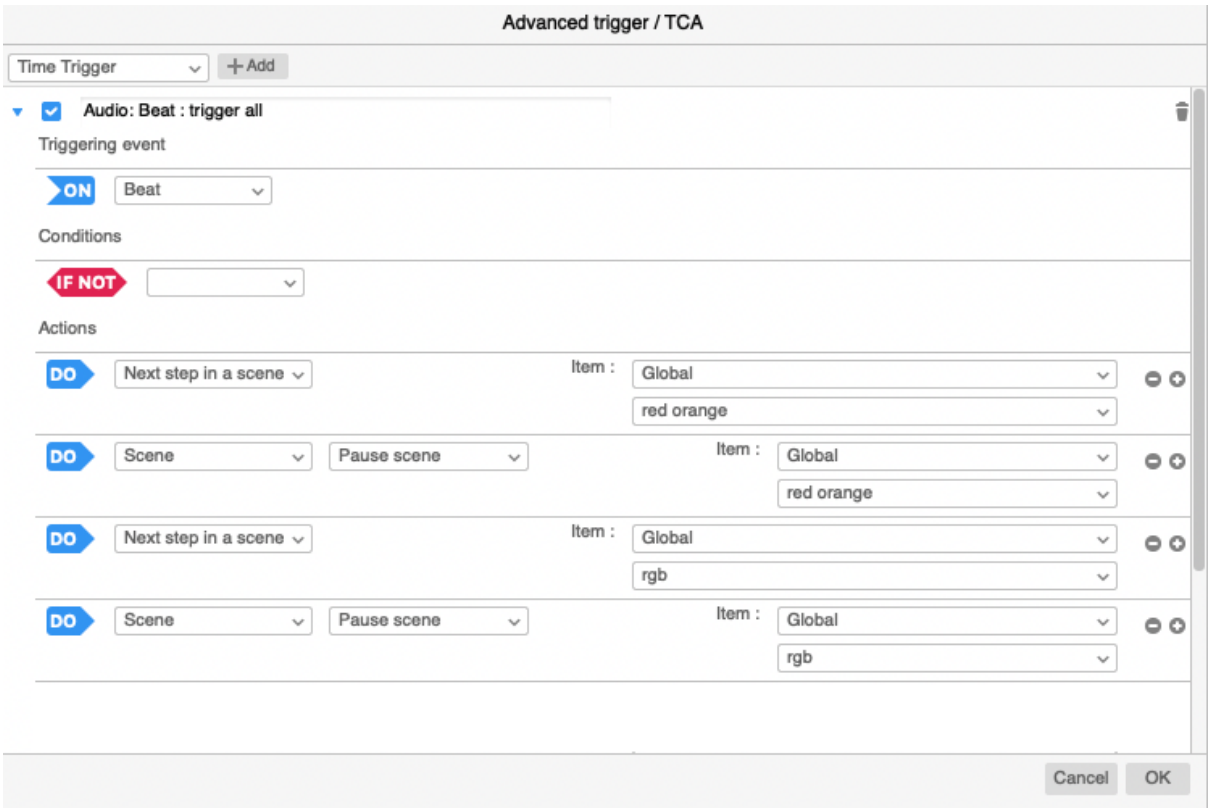
Triggering event On : Beat

Create 2 Actions for each scene (Sequence) you want to use audio beats with.

- Do: Next step in Scene : specify area and sequence name
- Do : Scene : Pause Scene : specify the same area and sequence name

  Repeat for each Sequence you want to use audio with. This one Audio Beat trigger rule will control *all* Sequences once loaded onto your controller.

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



When you trigger a scene you will notice it will play as normal (i.e. according to time). As soon as it detects an audio beat, it will make 1 step and then pause. With a series of beats it will play in time with the music.

What if you want the scene to only start playing when it detects an audio beat in music? I.e. start in a paused state.

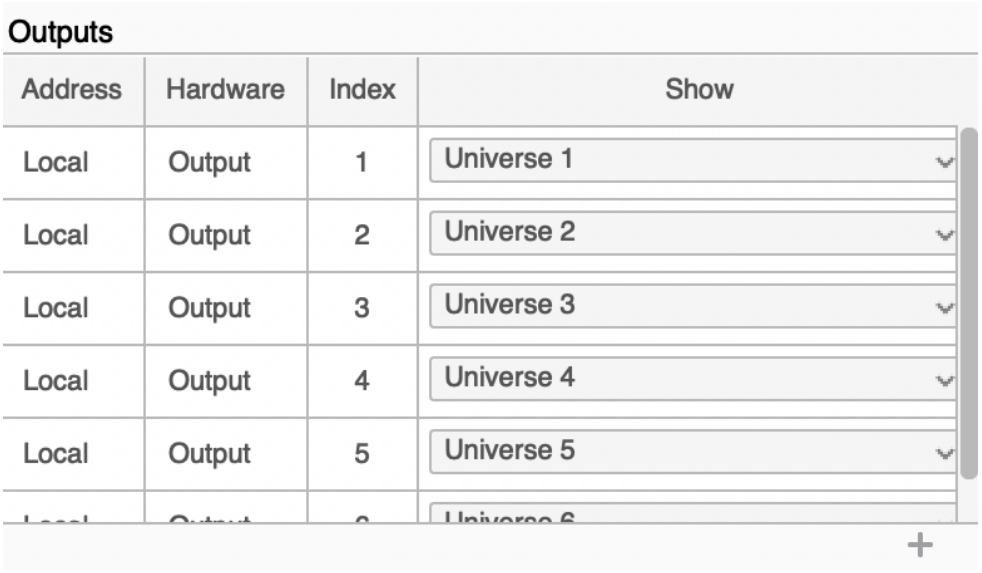
In this case, create a port trigger for each scene you want to work with audio and create 2 actions:

1. Scene : Start Scene : < Select your scene>
2. Scene : Pause Scene : < Select your scene>

When you trigger the port the scene will start with the 1st DMX frame and wait for audio beats. Your first frame could be set to do nothing with your fixtures. Ports are triggered by connecting the GND and the port number with a connector; see the Technical Datasheet for your controller for more information.

Setting Universe Outputs
In the Outputs panel you can set a Show Universe to a physical output on your controller. The *Index* is the number of the physical output. By default, show Universe 1 is assigned to output 1, show Universe 2 to output 2 etc.

Note: The number of outputs you can use is determined both by the number of physical outputs and the SUT licenses stored on the controller. For example, the SLESA-U11 has 4 physical XLR outputs but only ships with licenses to use 2 of them. As with all SUT compatible controllers, this can be upgraded at store.dmxsoft.com or store.nicolaudie.com.

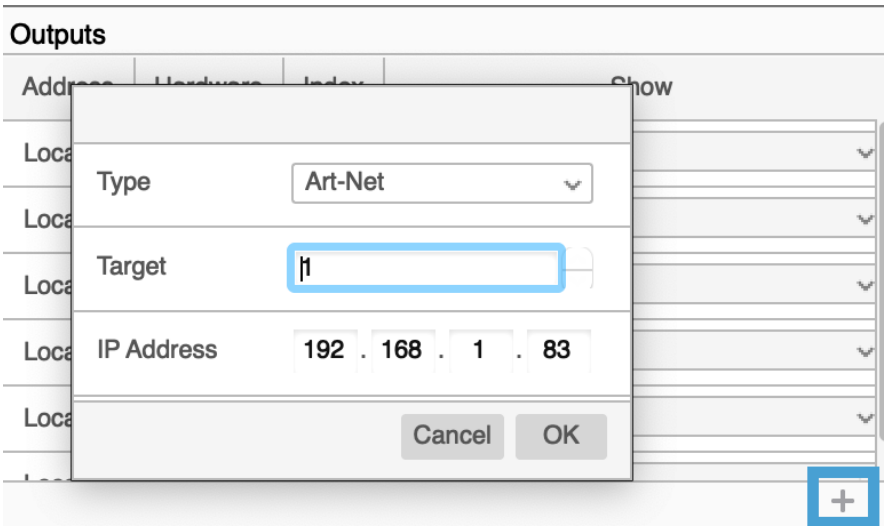


Artnet and sACN Output
The DINA DR1 and SR1 models are able to output Artnet and/or sACN data over a network. You may choose to use these protocols to make it easier to send DMX data over distance or to use more universes than the controller has physical DMX connections for.

Note that the total number of universes is limited by the number of DMX universe licenses on a device.

A DINA DR1 comes with licenses for 6 DMX universes. Purchasing an additional 8 DMX Universe licenses would allow the output of up to 14 universes, for example.

Using the *Output* panel in ESA Pro 2 you can mix and match how the universes are to be output.



To use Artnet or sACN:

- Press the + button in the Outputs window.
- Select type : Art-Net or sACN
- Set a Target number. Many Artnet and sACN devices have more than one DMX output or DMX Node. Set the number of this output here.
- IP Address: Input the IP address of your Artnet node here. The DINA and Artnet node must be on the same network and the IP addresses must be able to communicate with each other.

Example : 2 Art-Net Universes

192.168.1.83	Art-Net	1	Universe 1
192.168.1.83	Art-Net	2	Universe 2

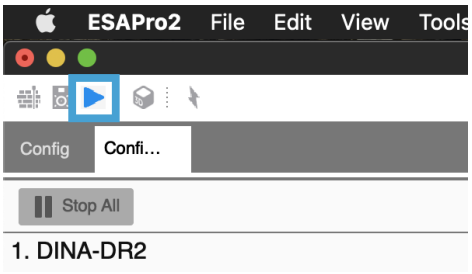
Writing to Standalone

When all scene assignments and triggers have been set up.

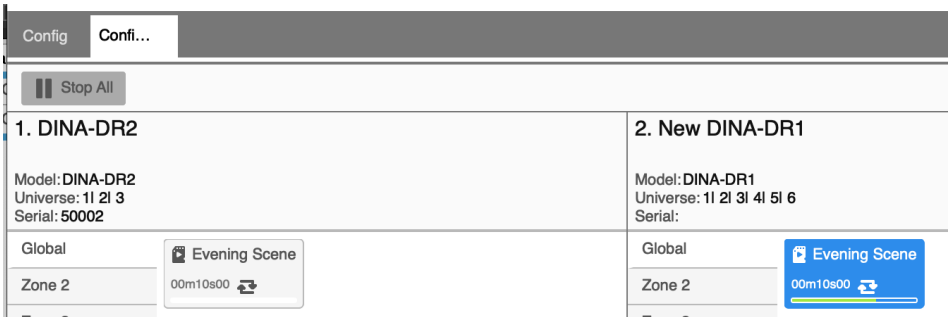
- Clicking the *Write* button will write the project to the controller.
- Clicking *Read* will read a backup project from the controller if one has been stored.
- Clicking the *Test* button will temporarily put your controller into Standalone mode allowing for scenes to be checked as if the controller was disconnected from the computer.
- The *Write on computer* button creates a local folder which can be manually copied over to an SD card at a later date and added directly to the controller. Be sure the correct device has been selected for the project to be compatible.

Simulator

The simulator screen is inspired from the LIVE tab function from our original ESA Pro software. The purpose of the *Simulator* is to verify and test all programmed scenes while your controller is still connected to the computer. The simulator can be accessed from the toolbar and View menu.

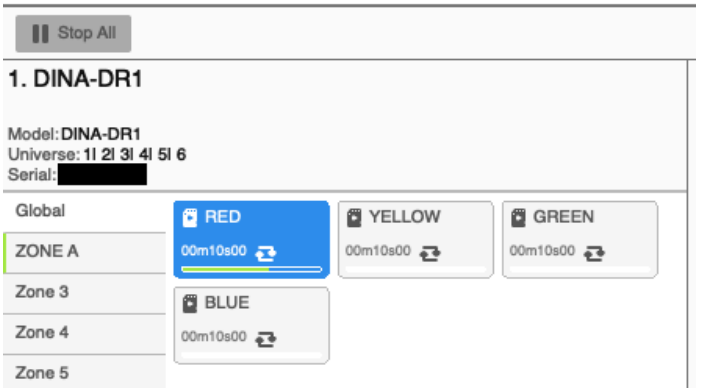


Several controllers may be tested simultaneously. Each is shown side-by-side with the Name, Model, Serial Number and assigned universes written at the top. Zones and scenes are listed below.



The simulator window imports all the scenes that are added/written to the controller. You can manually trigger the scenes by clicking the scene button. As soon as you trigger the scene button, the scene will start playing and the color of the scene button will change to *blue* to indicate which scene is playing.

For controllers with multi-zone functionality, you can play one scene from each zone at the same time. To do this, simply select the zone you want to trigger the scene in, and select the scene you want to play. To stop multiple scenes playing in different zones, you can use the *Stop All* button at the top of the screen.

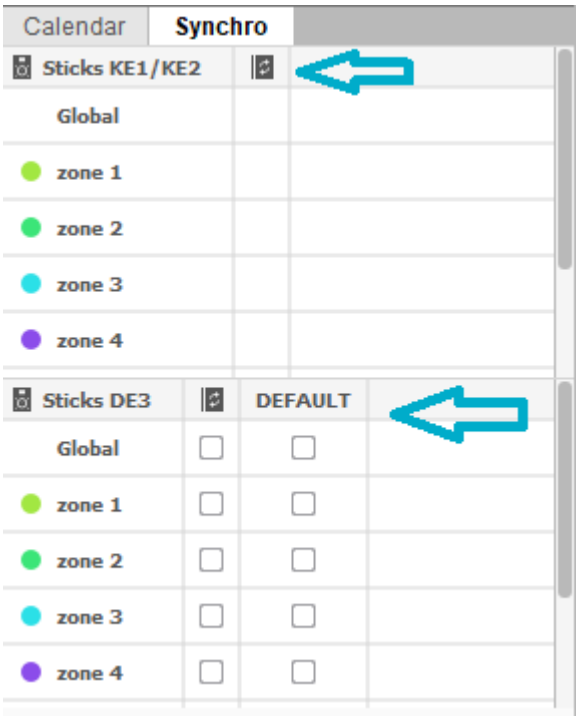


Other Features

Network Synchronisation

This feature allows you to control multiple units at the same time over a local network. As long as they have been set up with the same project and the *Synchro* option is checked, synchronized scenes will be changed together. This is great when controlling one space from multiple locations.

Note: This function is only available for STICK DE3 & KE2.



Upgrades

Many of our devices are **SUT** (Smart Upgrade Technology) compatible.
This means you can purchase additional options for your device at any time, increasing its potential functionality.
A variety of upgrades are available that include but are not limited to;

- Additional channels & universes
- Additional protocols
- Cloud functionality
- Audio Triggering

If you're unsure if your device is upgradeable follow the link below, if your device isn't listed there it can't be upgraded.
https://eu-marketing.n-g.co/Release/dcmxsoft_nicolaudie.pdf

Upgrades can be purchased here: https://store.nicolaudie.com