

# Cameo D4

English

# Table of contents

<b>1.Quick Start</b>	1
<b>1.1.Installing the Software</b>	1
<b>1.2.Adding Lighting Fixtures</b>	3
<b>1.3.Programming a Scene</b>	4
<b>1.4.Controlling Live</b>	8
<b>1.5.Creating Your Own Graphical Interface</b>	11
<b>2.Introduction</b>	12
<b>2.1.What is DMX?</b>	13
<b>2.2.What is Cameo D4 and what hardware do I need?</b>	13
<b>2.3.What's New in Cameo D4?</b>	14
<b>3.Patch</b>	18
<b>3.1.Fixture Profiles</b>	19
<b>3.2.Patching Fixtures</b>	19
<b>3.3.Fixture Properties</b>	20
<b>4.Edit</b>	21
<b>4.1.Arranging Lighting Fixtures</b>	22
<b>4.2.Controlling Lighting Fixtures</b>	25
<b>4.3.Creating Scenes</b>	27
<b>4.4.Creating Effects</b>	30
<b>5.Live</b>	33
<b>5.1.Controlling Your Show Live</b>	34
<b>5.2.Editing Your Show Live</b>	36
<b>5.3.MIDI</b>	38
<b>5.4.DMX</b>	41
<b>5.5.Dry Contact Ports</b>	43
<b>5.6.Keyboard</b>	46
<b>5.7.Audio</b>	47
<b>6.Show</b>	49
<b>6.1.Adding Controls to Show Mode</b>	50
<b>6.2.iPhone/iPad/Android (Easy Remote app)</b>	53
<b>7.Other Information</b>	54
<b>7.1.DMX Recording</b>	55
<b>7.2.Stand Alone</b>	55
<b>7.3.DMX &amp; Art-Net Devices</b>	58
<b>7.4.Hardware Manager</b>	59

# 1.Quick Start

## 1.1.Installing the Software

### Downloading

Thanks for checking out Cameo D4. The quick start topics contain all the information you need to start using the software in less than 1 hour. The manual then proceeds to explain the functionality in depth. The full software version can be downloaded from our website.

Minimum computer requirements:

Computer working under Windows 7 or higher, or MAC OSx 10.10 or higher

1 Ghz speed processor

2 Gb Memory (RAM)

1280\*768 pixel screen

OpenGL 3.1 (for 3D)

Recommended computer requirements:

Computer working under Windows 7 or higher, or MAC OSx 10.10 or higher

2 Ghz speed processor, dual core

4 Gb Memory (RAM)

Video card with 1GB video memory

1920\*1080 pixel screen

OpenGL 3.1 (for 3D)

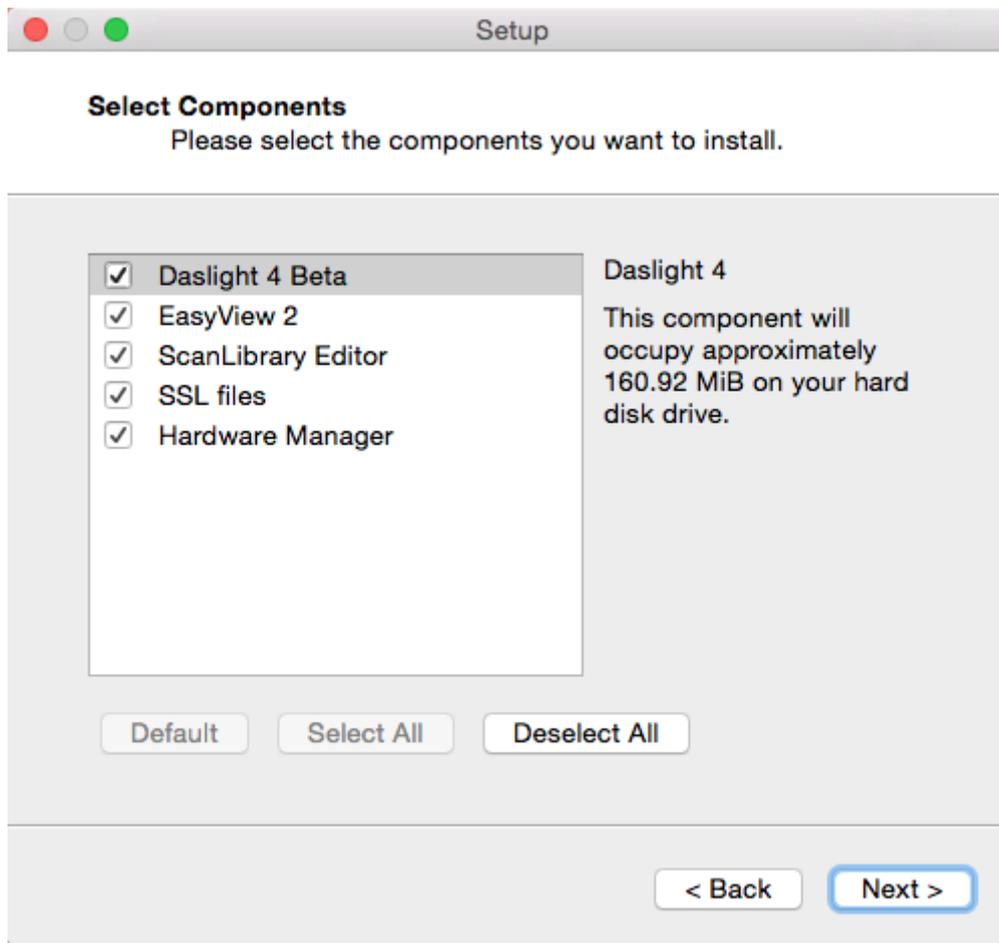
### Installation

Open the downloaded setup DMG (Mac) or EXE (PC) and follow the wizard to install the software. During the installation process, you will have the option to install the following components:

- Cameo D4 - the main lighting controller software
- Easy View 2 - a real-time 3D visualizer allowing you to see your lights and effects whilst programming
- Scan Library Editor - the tool used to make fixture profiles (the unique personality file for every lighting fixture)
- SSL Files - the full library of fixture profiles (SSL files)
- Hardware Manager - the tool used to manage your DMX interface (update firmware, test the DMX output etc...)

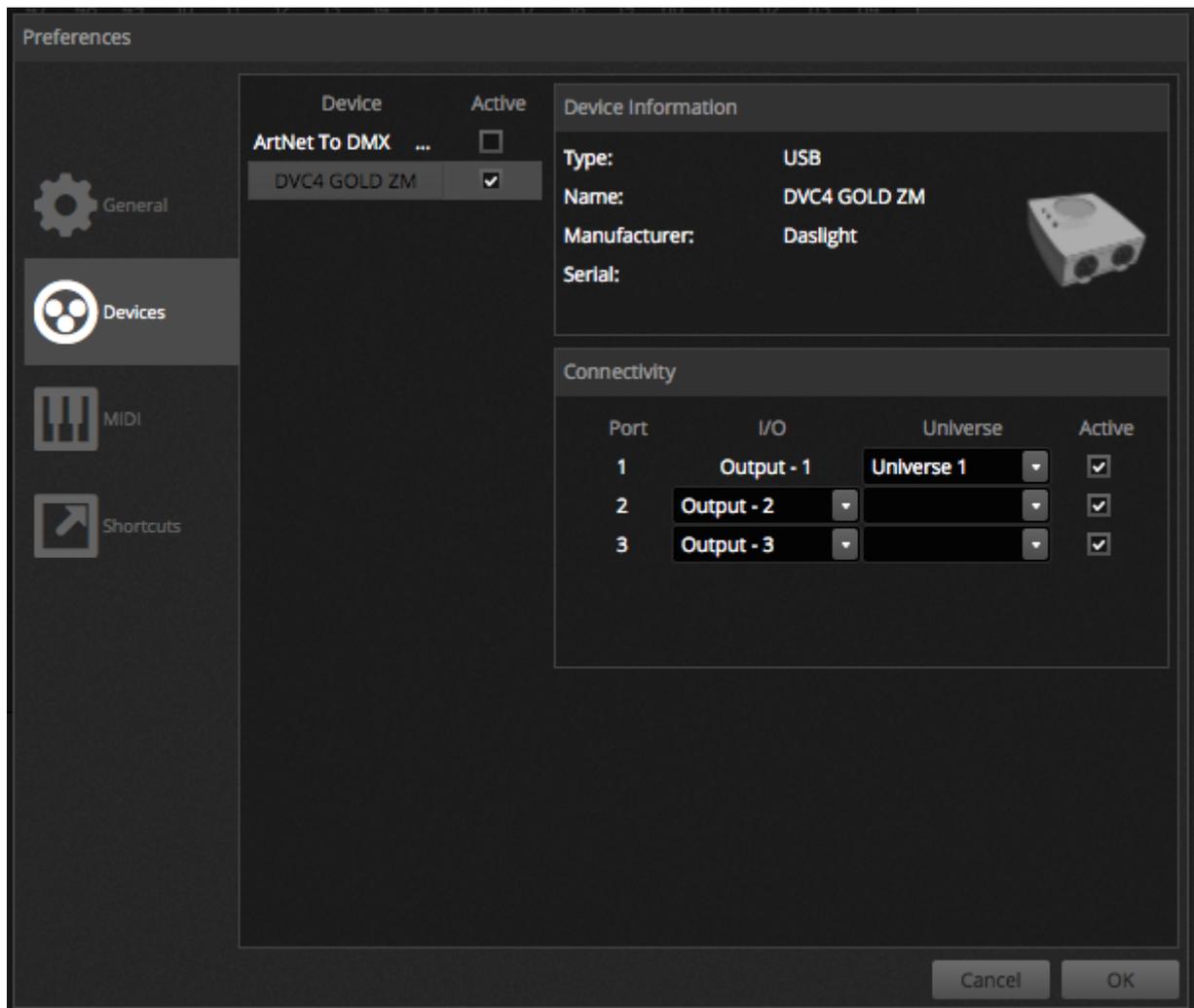
We recommend that you install all these options.

*\*Note\** If you're installing on a PC, a Windows driver installation wizard will pop up. Be sure to follow the steps to install the drivers. The first time the software opens, you will also see a firewall message pop up. It's important that you click 'Allow' if you want the network capabilities of the software to work properly.



## Starting the software

When Cameo D4 is launched, you will be presented with the following window. Here we see a list of all DMX and Art-Net devices connected to your computer or local network. The window can also be accessed from the Cameo D4->Preferences menu on Mac, or Edit -> Preferences menu on Windows. If no devices are listed, this means that your device has not been detected. In this case, check that you have a Cameo D4 device connected and if so, open up the Hardware Manager included in the software directory and check to see if your device is detected here. Check the 'Active' checkbox for each device you want to use and then click OK. You're now set up and ready to use Cameo D4!



## 1.2.Adding Lighting Fixtures

### Fixture Profiles (SSL)

Every light used in Cameo D4 has its own profile. This is called a Fixture Profile or SSL profile. The profile contains all the information about the lighting fixture (for example, which channel controls the Color, Dimmer etc...). If your fixture profile is not available, you can create it yourself using the included Scan Library editor, or request a profile from our website.

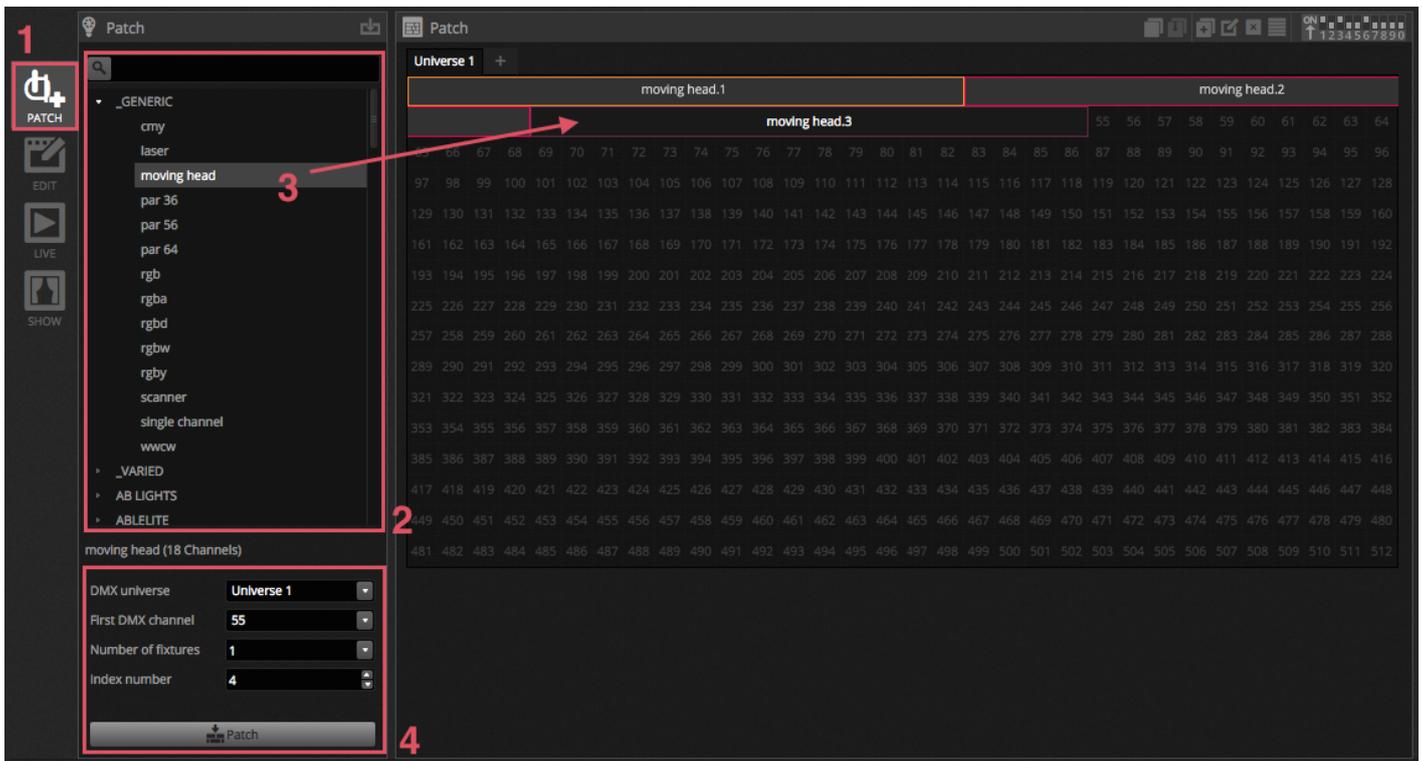


ScanLibrary

## Patching fixtures

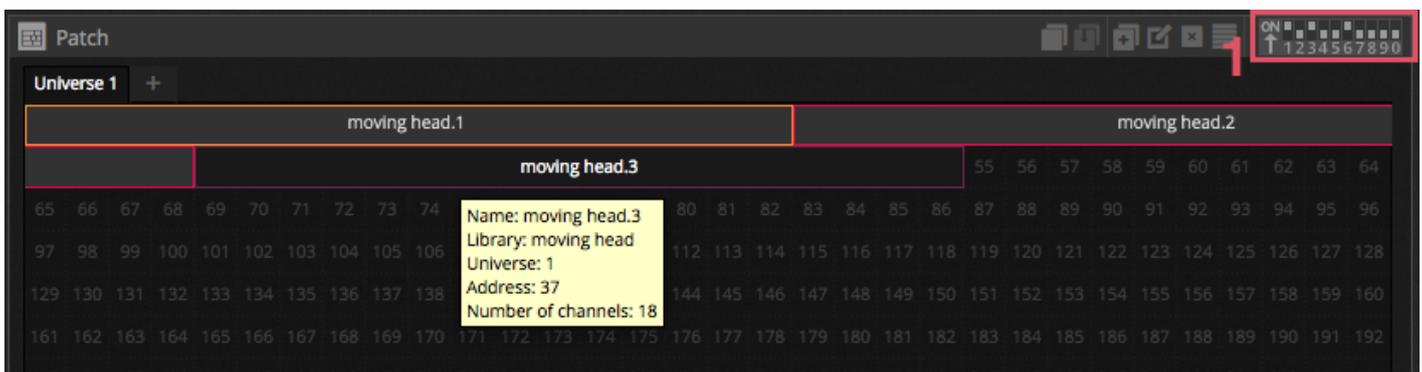
To add a lighting fixture to your show:

- click the Patch button (1)
- select your fixture profile from the list (2)
- drag and drop it onto the table (3)
- several lights can be added at once by selecting the number of fixtures and the starting DMX channel (4)



## Addressing your lighting fixture

Each lighting fixture has a unique address. This is so Cameo D4 knows which fixture it's controlling. In the example below, moving head.3 has an address of 37 and takes up channels 37-54. An address is set on the actual lighting fixture, either with a digital display or in binary with DIP switches. The DIP switches which need to be set for the selected lighting fixture are displayed in the top right of the patch window (1).



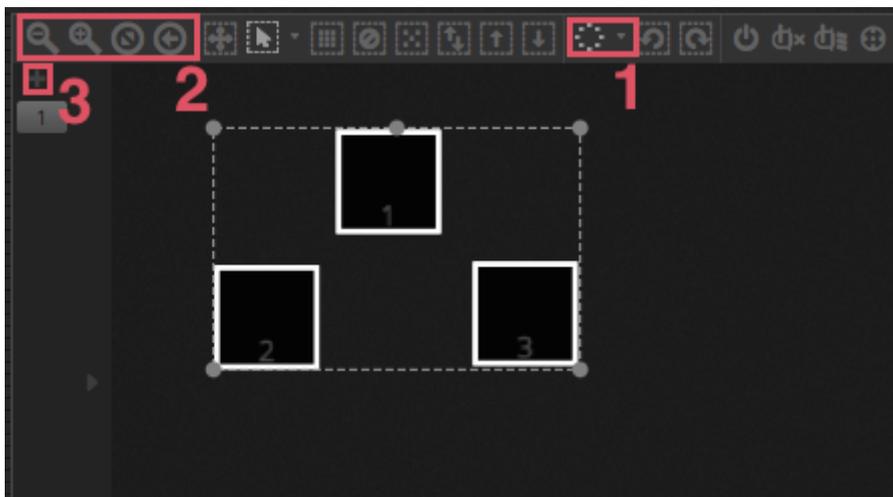
## 1.3.Programming a Scene

### Selecting and arranging your lights

Click the EDIT tab towards the top left to access the edit screen. The edit screen is where all programming is made.

Each lighting fixture in Cameo D4 is represented by a square in the fixtures window (bottom right section of the software). Multi-beam lights such as LED bars will be formed of several squares. Click and drag the squares to position. Lights can also be rearranged into common shapes using the shape wizard (1).

Depending on how many fixtures you have patched, you can zoom in and out and reset the positioning using the 4 icons in the upper left (2). For quick selection, groups can be created by selecting some fixtures and clicking the 'Create Group' button (3).



### Controlling your lights with the faders

To select a fixture, click one of the squares in the fixture window on the right, and then move the corresponding faders on the left. The lights will change in real-time. There are several ways to view the output:

- See the actual lighting fixture respond in real-time
- See the color and beam state in the fixture window
- See the raw DMX data being sent in the DMX output window (Tools -> DMX levels)
- See a 3D representation of your light in the 3D visualizer (Tools -> 3D visualizer)

With some fixtures, you'll need to move several faders before seeing a light beam. In the example below, the dimmer, iris and zoom channels all need to be set. This can be done quickly by clicking the 'Beam On' button (1). You can also quickly position your fixtures in the center by pressed the 'Center' button (2).



## Controlling your lights with the palettes

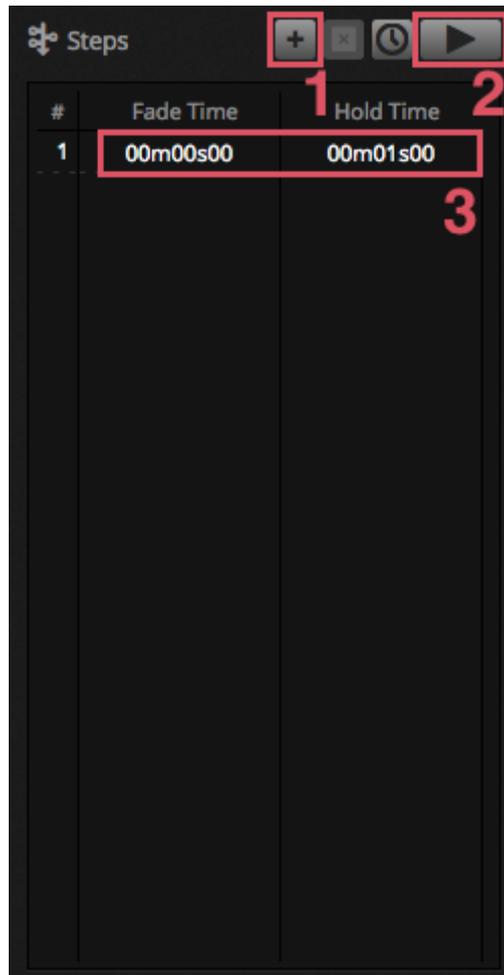
The palettes allow for quick access to channel properties. Position a moving fixture with the Pan/Tilt grid, or set a color with the color wheel.



## Creating scenes and steps

All programming in Cameo D4 is made with scenes and steps. Everything you set with the faders and palettes is saved to the selected step. A scene includes 1 or more steps. Each step can have a Fade Time and a Hold Time. The Fade time determines how long it will take to move to the next step and the hold time determines how long a step will freeze before moving to the next step.

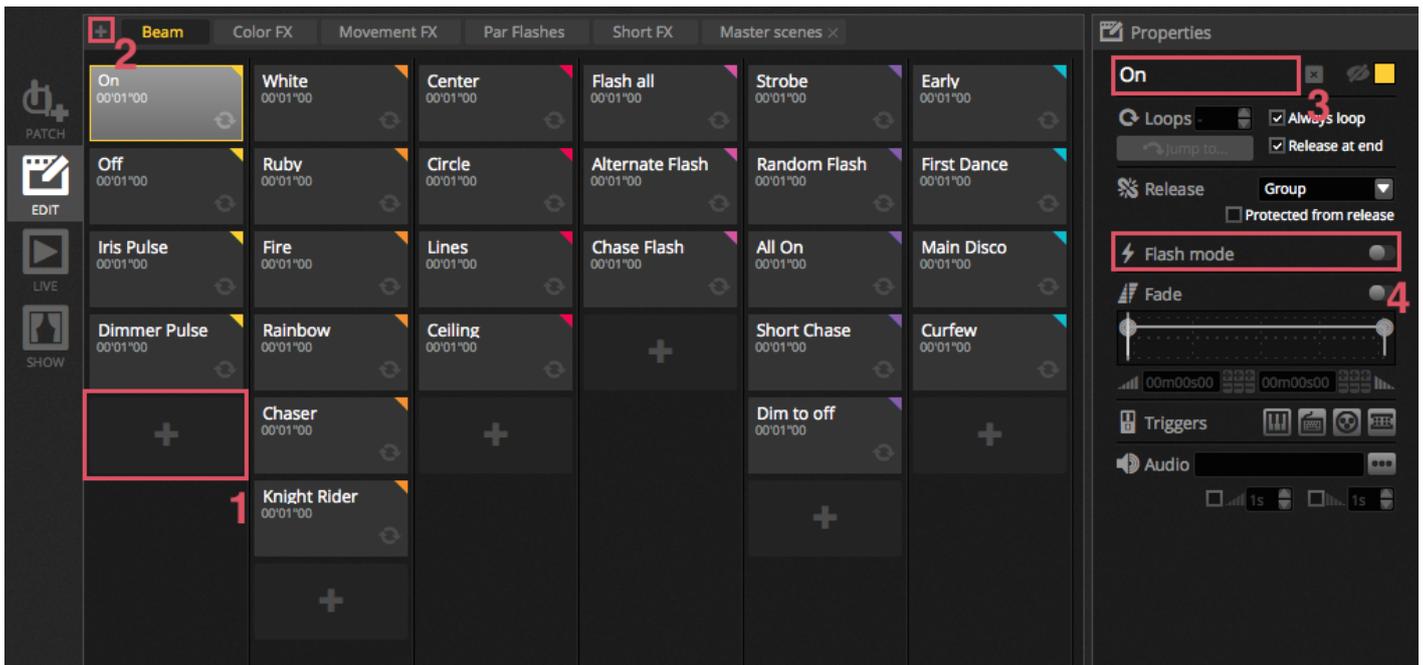
- All steps inside the selected scene are displayed to the right
- Click the 'Add' button to add a new step (1)
- Click the 'Play' button to play the selected scene (2)
- Double click a fade or hold time to change it (3)



## Managing scenes

New scenes can be created here (1) and groups can be created here (2). By default, you can play 1 scene per group at a time. We recommend organising different types of effects into different groups. For example, color effects, movement effects, beam effects etc.. This way, you can easily stack different effects together. It's also a good idea to put all your master scenes into a group and create a groups for short bursts and flashes which you want to temporarily trigger over your show (strobes, blinders etc...). Alternatively if you have a fully pre-programmed live concert or theatre show, you may use a group like a cuelist for each song or act.

The properties for a scene can be changed on the right. There's more detailed information on this further on in the manual, but the important items you'll probably want to know about for now are the scene name (3) and setting the scene as a flash scene (4).



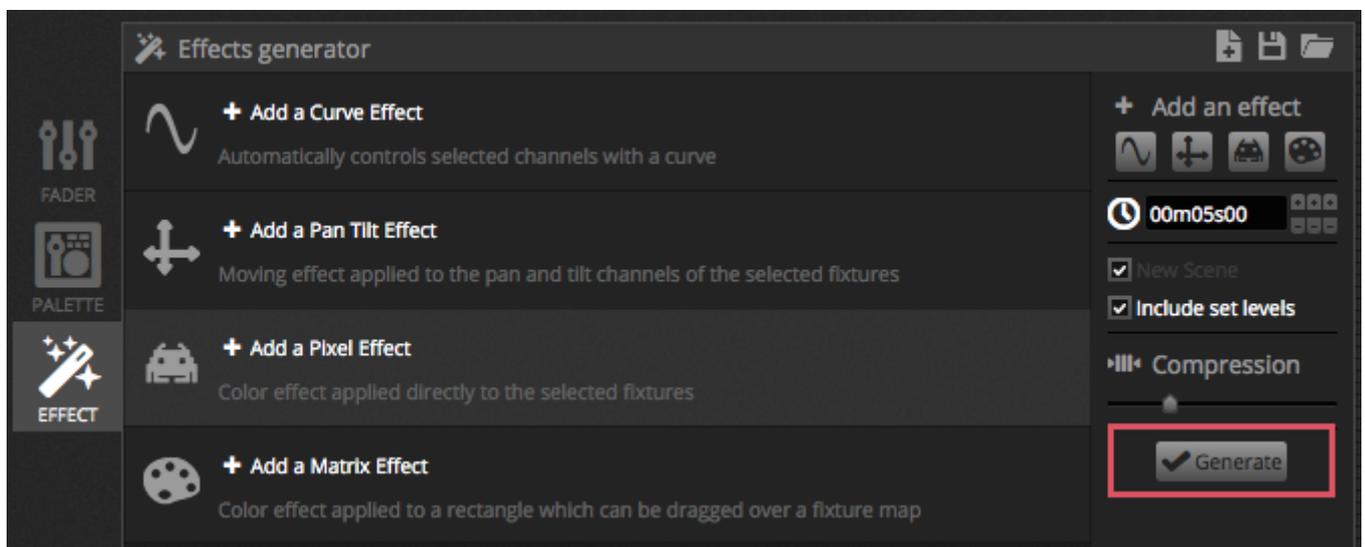
## Building effects

The Cameo D4 effects engine allows you to program movements, color effects, beam effects and more-without the need to set each individual step and level manually. This speeds up programming dramatically and turns a basic show into something spectacular.

There are 4 types of effects available each of which are described later on in the manual. To create an effect:

- select the fixtures to be included in the effect
- select an effect type
- if a Matrix Effect has been selected, drag and drop the video rectangle over the fixtures you want to control
- once the effect parameters have been set, hit the 'Generate' button

**\*NOTE\*** When the effect tab is visible, selected effects will always override any scenes which may be playing in the background.

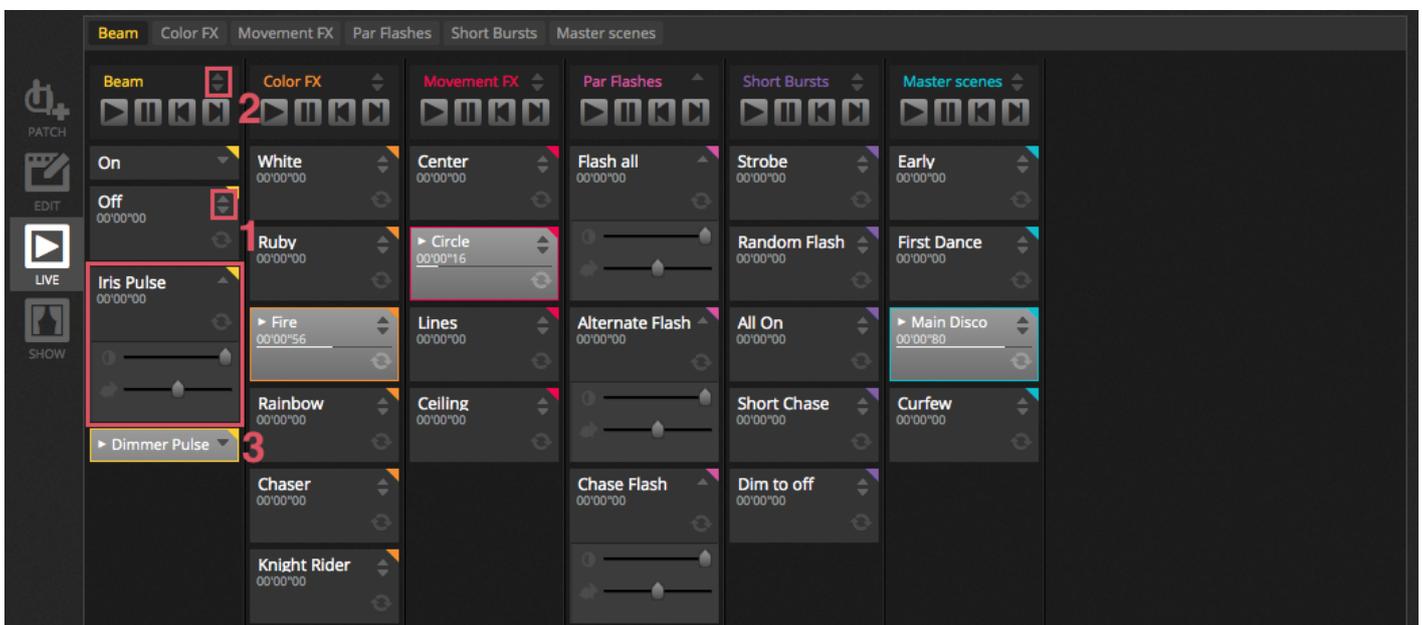


## 1.4. Controlling Live

### Triggering scenes

Click the LIVE tab towards the top left to access the live screen. The live screen is where you control your show. The example below shows several scenes playing at the same time. As long as scenes use different channels, they will be stacked and merged together. If a scene is triggered which uses the same channels as a scene which is already playing, the latest scene will take priority over the others.

Scenes can be displayed in 3 sizes. Clicking the up and down arrows will change the size of the scene (1) and clicking the arrows in the group header will expand and contract all scenes within the group (2). When a scene is set to it's largest size, two horizontal faders will appear (3). The first allows you to change the speed of the scene and the second allows you to dim the brightness.



### The Live Bar

The area to the right of the Live screen shows a Live bar along with a Master Dimmer.

The master dimmer will override the dimmer and color channels of all your lights. It's a quick way to globally dim your full rig.

The 8 Live buttons at the top allow you to:

- Jump forwards and backwards between scenes
- Pause the entire show
- Blackout all lighting fixtures
- Globally enable and disable fading between scenes
- Lock the software (useful if you need to leave your computer unattended)
- Take a snapshot of your show and save it into a new scene
- Take a snapshot of your show and save it into a new scene, but include any live edits you may have made with the faders (more on this later!)

The Reset buttons manage resetting live edits. For example, you could override a scene by selecting some fixtures and moving a fader, you could then reset this live edit by clicking on one of the 3 reset buttons.



## Sound to light

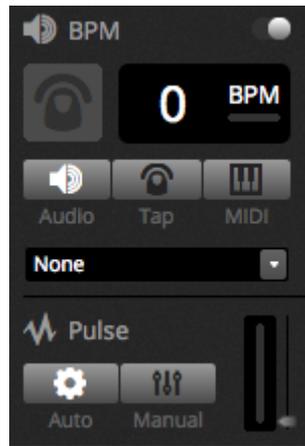
Scenes can be synchronised with the BPM of the music, or follow the pulse of the music. Right click a scene and select 'BPM' or 'Pulse'. There are 3 options available:

- Step - jumps to the next step when a beat or pulse is triggered
- Scene - replay the scene when a beat or pulse is triggered
- Fade - play the scene normally, if a beat or pulse is triggered before the step is reached, jump to the step

BPM stands for 'Beats Per Minute'. This is a trigger which is normally sent at a consistent time interval (imagine tapping your foot to the music beat). There are 3 BPM detection methods available in Cameo D4:

- Audio - analyses the incoming audio signal to calculate the BPM (the audio input device can be selected below)
- Tap - a manual button which can be tapped to determine the BPM
- MIDI - reads 'MIDI clock' allowing you to read the BPM from many popular DJ software packages and mixers (the MIDI clock device must be selected in the software preferences)

Pulse will transmit a trigger each time the incoming audio level hits a threshold. The threshold can be set automatically or manually with the fader. Threshold is great if you're looking for your lights to 'follow' the music but stop at quieter sections.



## Using a MIDI controller

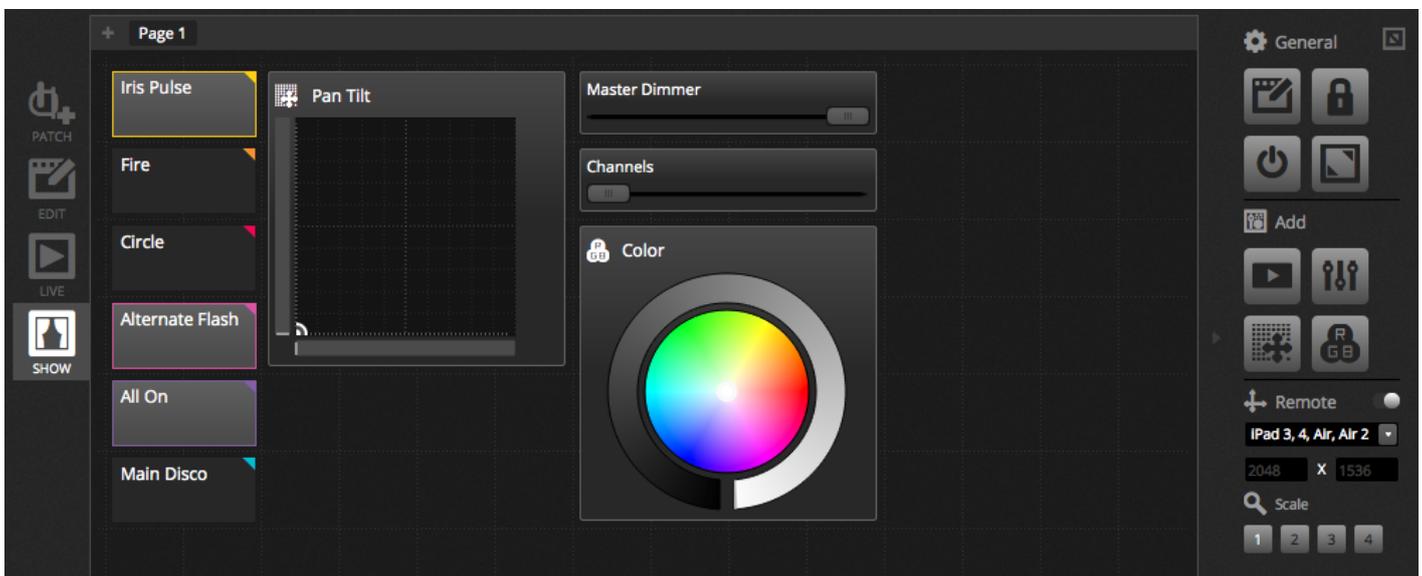
Scenes and faders can be controlled with a MIDI console along with many other Cameo D4 features such as BPM tap, live snapshot and more. To pair a MIDI console:

- Navigate to the software preferences (Cameo D4 -> Preferences on Mac, Edit -> Preferences on PC)
  - Select 'MIDI' on the left. Choose your MIDI input/output devices
  - To map a fader/scene - right click the fader/scene and select 'Map to MIDI In'
  - Move the corresponding fader/button on your MIDI controller. This will be paired automatically
- Further information on MIDI mapping can be found later in the manual.

## 1.5.Creating Your Own Graphical Interface

### Adding buttons, faders and more!

Click the SHOW tab to access Show Mode. Show mode is a powerful feature in Cameo D4 which allows you to build an entirely custom screen design. Adding components to the screen can be done simply by holding ALT and clicking the component, and that's it! No pairing or other editing required. This works with scenes, faders, palettes and other buttons around the software.



## Editing the interface

The position, size and pairing of a control can be edited by clicking the edit button (1). Double click a control to open up the Control Editor. Here you can change the color, add some custom text and assign a custom icon. Other functions on the Show Bar include:

- screen lock
- fullscreen
- add a component manually



## Connecting with a smartphone or tablet

The Show mode screen can be linked with an iPhone/iPad/Android smartphone or tablet. To set this up:

- Be sure the remote is switched on (1)
- Download the free Easy Remote app from the App Store or Google Play
- Connect your tablet or smartphone to the same local network as Cameo D4
- Start the app. If the connection is successful you will see a list of all computers on your network running Cameo D4
- Simply tap the instance you want to connect to and your screen will appear automatically

When 'Edit' is switched on in Show Mode, you will see a white dotted line showing the Easy Remote canvas area. If the size and position of the components don't fit neatly on your smartphone or tablet's screen, this can be changed by selecting a different preset or custom screen size (2). You can also scale the Easy Remote canvas by choosing one of the 4 scale buttons.



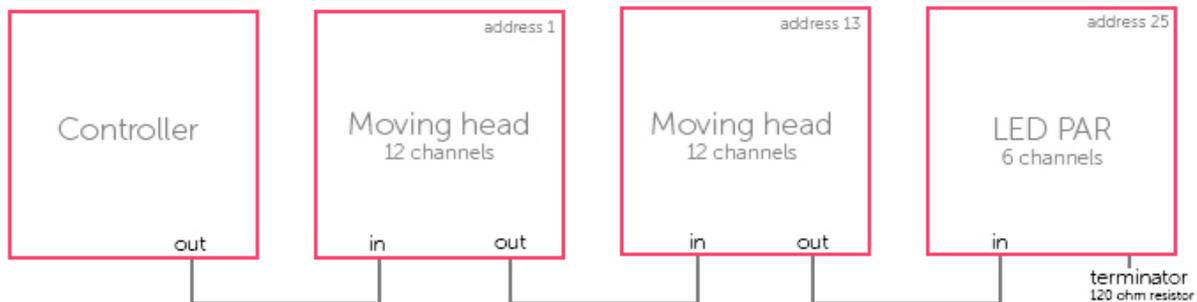
## 2.Introduction

### 2.1.What is DMX?

DMX is a universal lighting control system. It stands for 'Digital multiplex' and is a digital data system which allows a DMX controller to take control of any DMX compatible device, regardless of the manufacturer. DMX devices are normally referred to as 'Fixtures' or 'Drivers'. Each fixture has a DMX input and a DMX output. Up to 32 fixtures can be daisy-chained. For connections of more than 32 fixtures, a DMX splitter must be used.

Each DMX device uses a certain number of channels. For example there may be 1 channel to set the gobo, 3 channels to set the color, 2 channels for movement, 1 channel to control the dimmer etc... 1 DMX universe can control up to 512 channels. Once the universe is full, you need to use a second connection from the controller. The example below shows 2 moving heads and 2 LED Par's which take up a total of 30 channels.

Each fixture needs an address so that the software knows which device it's controlling. The address determines the starting channel. In the example below, the LED par takes up channels 25, 26, 27, 28, 29, 30. An address is usually set via a digital display or a set of switches called DIP switches (more information on dip switches can be found in the 'Patch' section).



### 2.2.What is Cameo D4 and what hardware do I need?

Cameo D4 is a DMX lighting control software package. It can be used to control any type of DMX light. The software has been specifically designed for controlling lighting in Discos, Clubs, Theatres and Live shows, and can also be used to control Architectural lighting.

To use the software, you will need to connect a Cameo D4 USB-DMX interface via USB or Ethernet. This converts the information sent by the software to DMX which a lighting fixture can understand. The software can also send Art-Net over a local network provided that a compatible device is connected (more information in the 'DMX & Art-Net Devices' chapter).



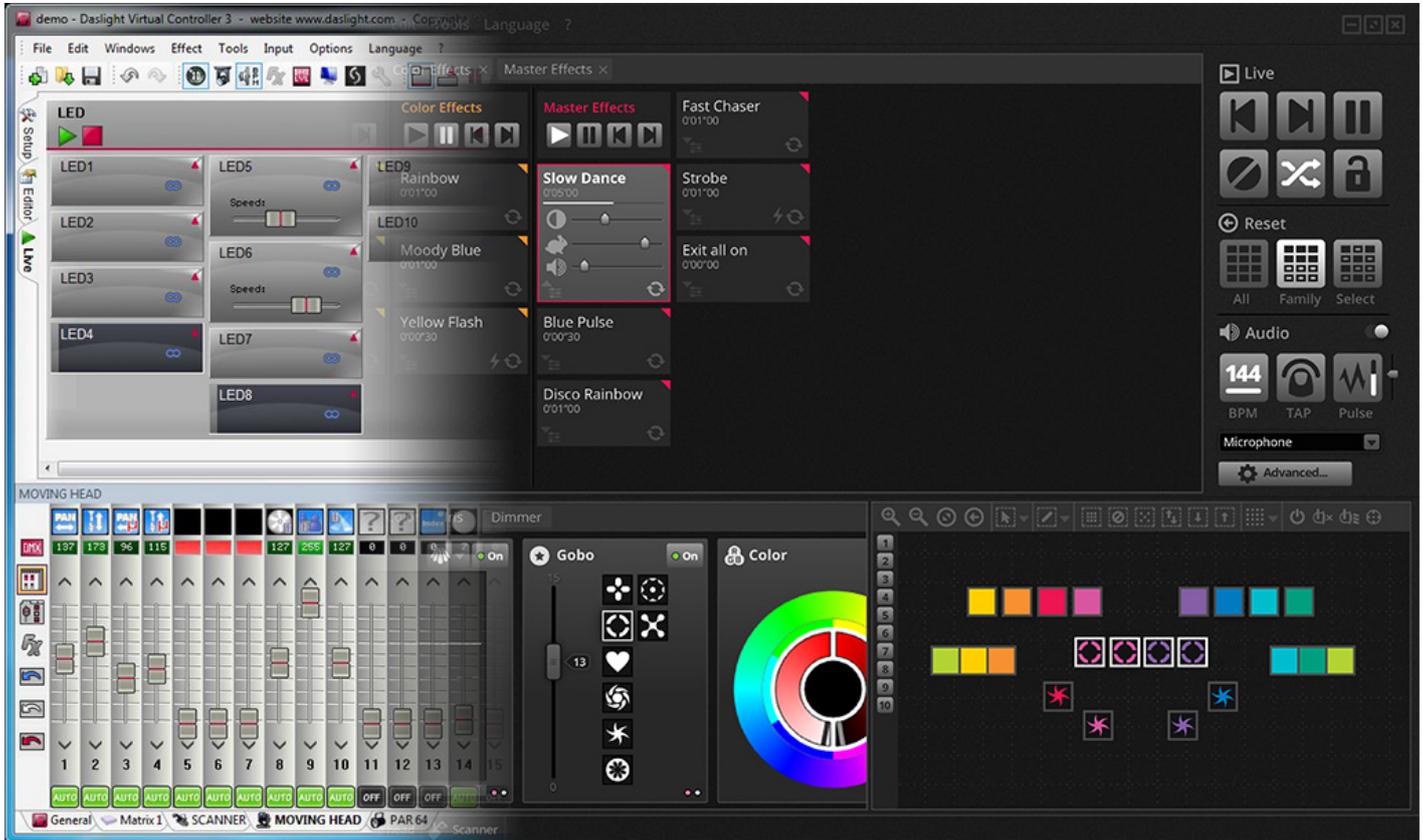
## What's included?

There are several tools included within Cameo D4:

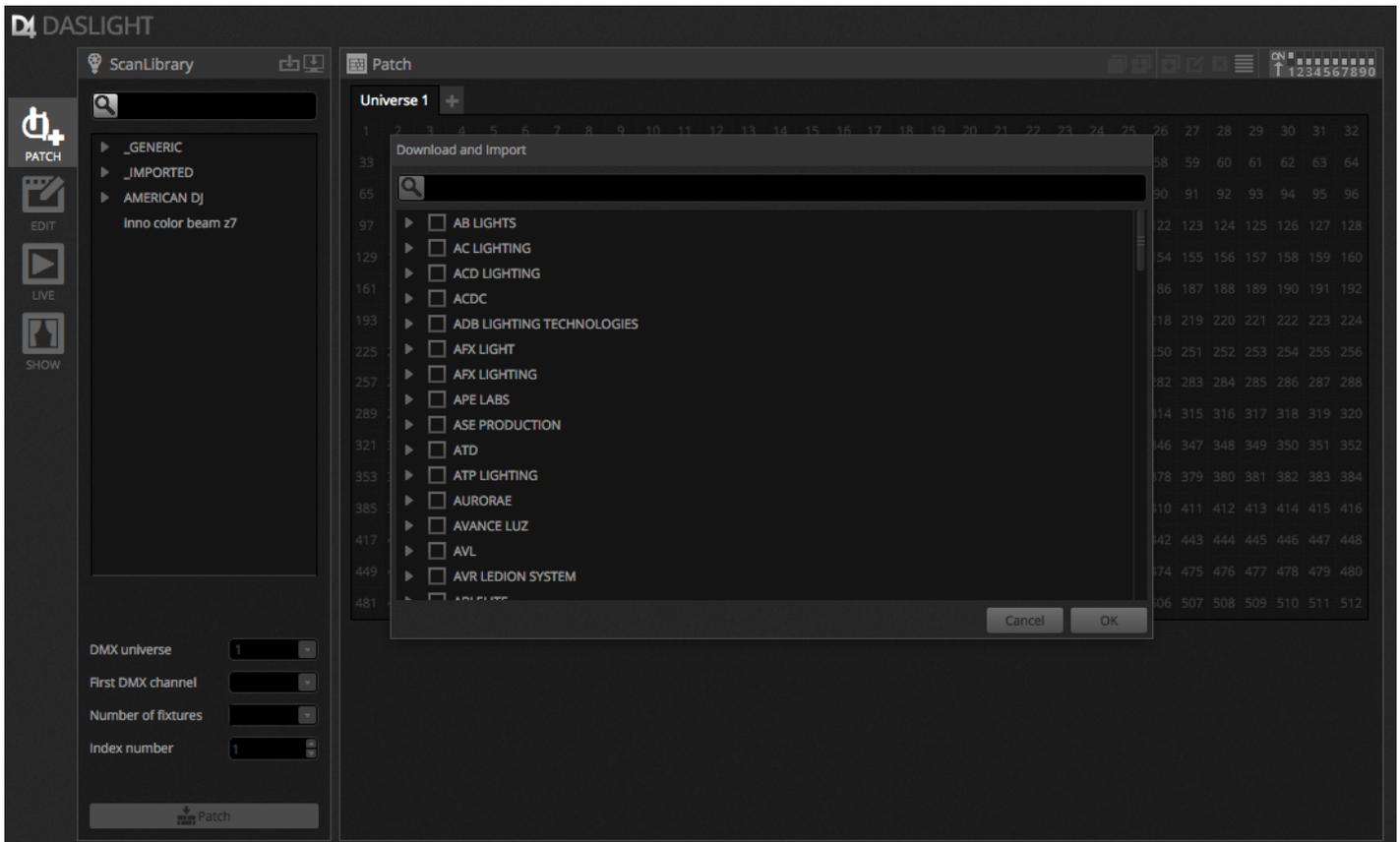
- Cameo D4 : the lighting control software
- Easy View : a real-time 3D visualizer which allows you to plot a virtual stage allowing you to program your lights off-site
- Scan Library Editor : a tool which allows you to build SSL profiles (more on this in the Patch chapter)
- Hardware Manager : a DMX hardware maintenance tool which can be used to upgrade the firmware and set specific stand-alone settings such as the internal clock/calendar



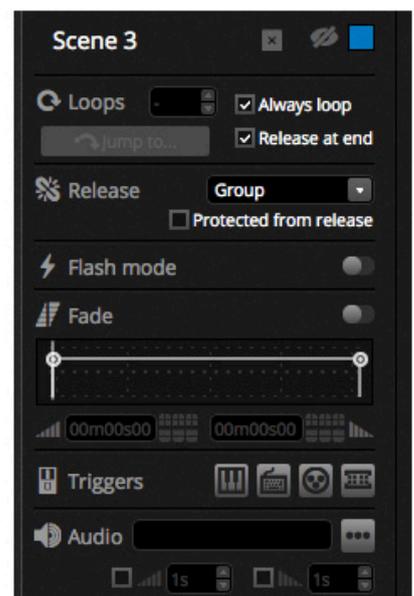
**2.3.What's New in Cameo D4** has been re-designed from the ground up with a new user interface and available for both PC and Mac. Users of earlier software versions will find that we have kept all the important areas in the same place (patch, scenes, steps, fixtures, faders etc...). Here we will find out what's new in Cameo D4.



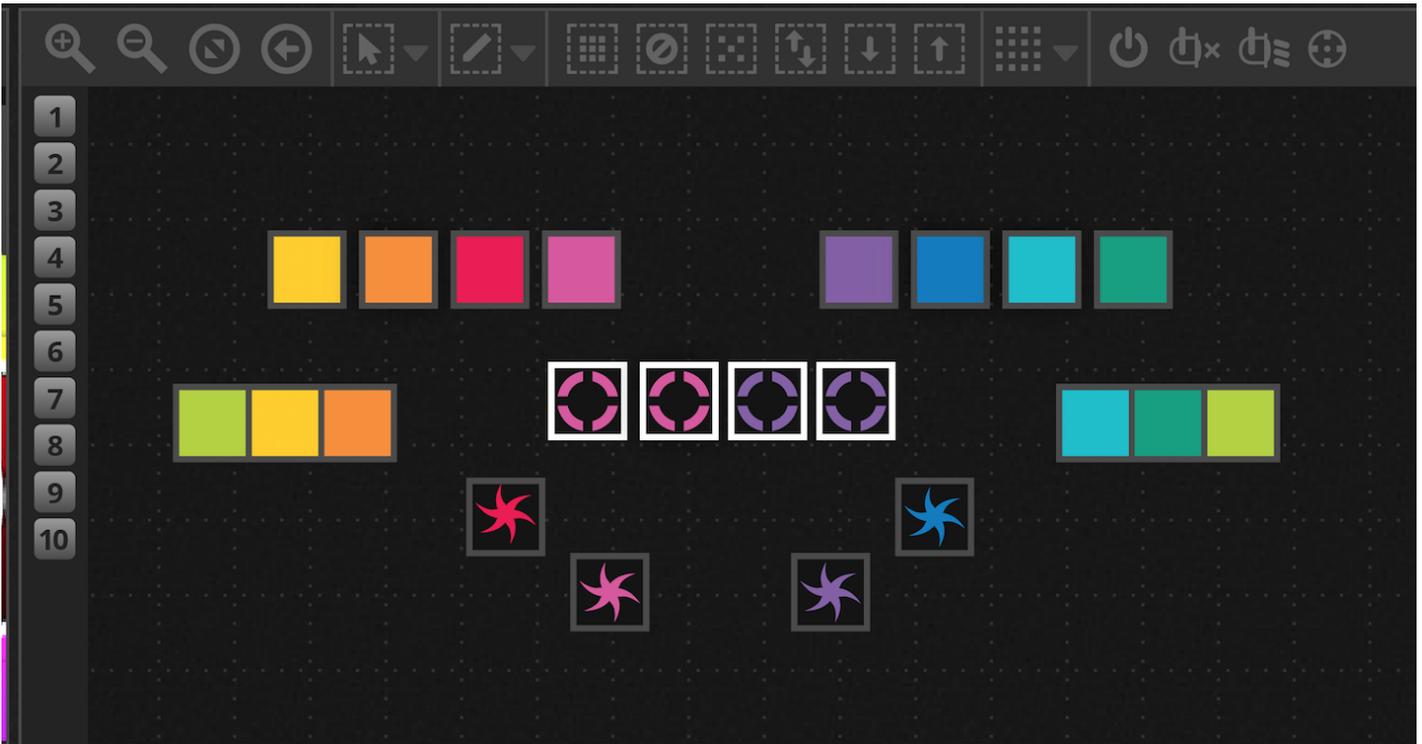
The patch window has been integrated within the patch tab. We have also added a search box so you can quickly find the profile's you're searching for along with the option to search our online library directly from the software.



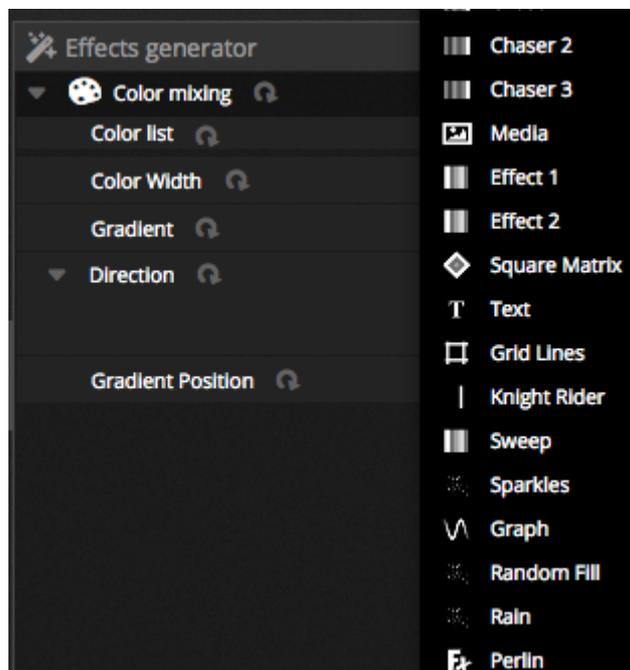
The editor tab now shows scenes in a grid view instead of a list view, allowing for more scenes to be visible at a time. The scene properties are now displayed in a way which is easier to read with a graphic to see a visual representation of the fade in and out times.



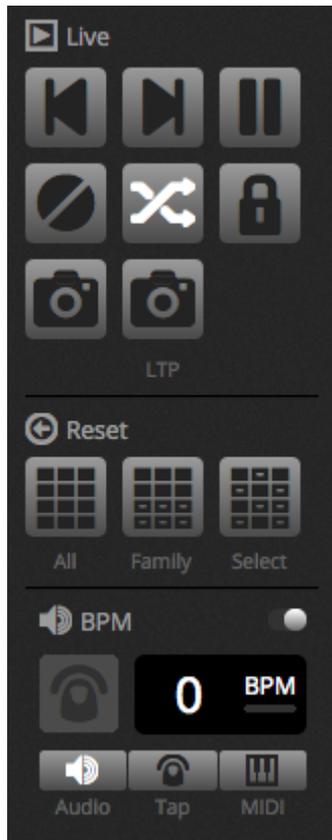
A new fixture window allows for easier group creation, fixture positioning and selection.



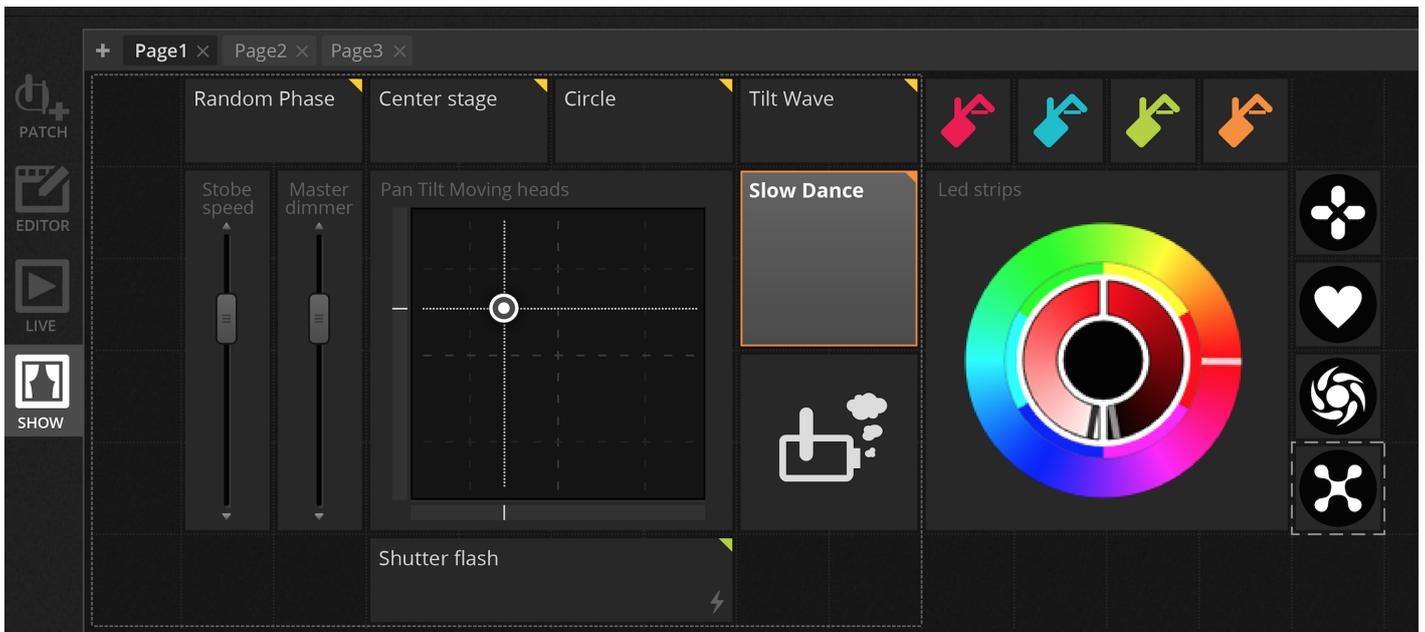
The new XEEL (X-platform Effects Engine Library) gives access to hundreds of new effects including a Matrix effect tool which allows you to layer an effect on a rectangle and drag it over the top of your lights. Other features include audio effects and new curve shapes.



The live screen has been cleaned up with the all new Live Toolbar designed for ease of use and touch screens. This includes quick access commands to reset channel LTP overrides and live snapshots (replacing Effect buttons).



The all new Show Mode replaces DVS (Cameo D4 Virtual Screen). Show mode allows you to quickly create a custom screen and use it on a touch screen, or send it to an iPhone/iPad or Android device. Pairing commands can be done simply by holding ALT and clicking on the part of the software you wish to link.



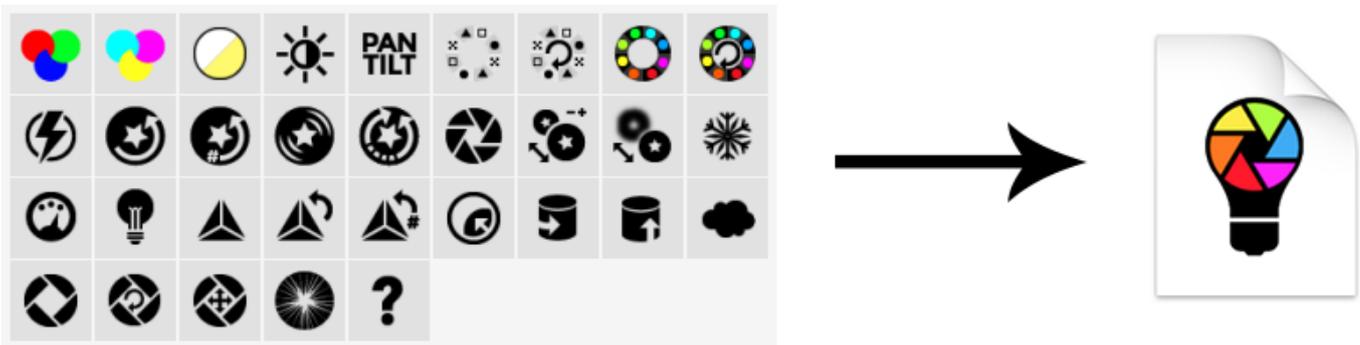
## 3.Patch

### 3.1.Fixture Profiles

A fixture profile (often referred to as a Fixture Personality) is a file containing all information about a particular fixture. this includes:

- Fixture information - Number of channels, lamp type, name, number of beams
- Channel information - Gobo, Color, Pan/tilt, Shutter, Iris, Zoom etc...
- Preset information - presets are inside a channel. For example: gobo star, gobo line, gobo open

Cameo D4 supports SSL2 fixture profiles. A library of over 15,000 is included with the software. Profiles can be created and edited with the Scan Library Editor. The accuracy of the fixture profile is very important, for example if the 'Dimmer' channel is not in the correct place, you will not see a light beam when you click the 'Beam Open' button in Cameo D4.



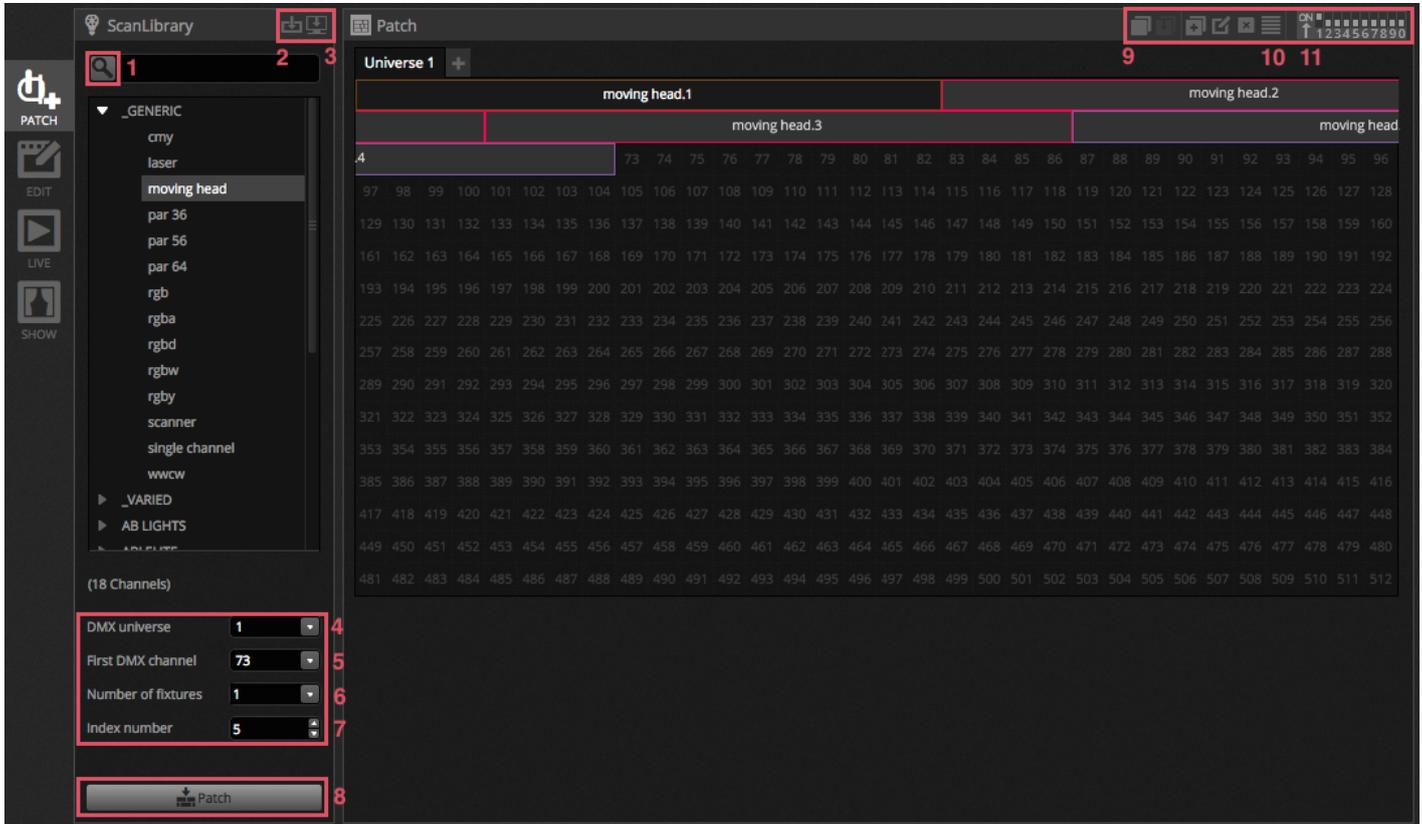
### 3.2.Patching Fixtures

Before you can begin programming, a fixture must be patched (or added) to the software. Fixtures can be chosen from the Scan Library profile list to the left of the PATCH screen.

To patch a fixture, drag a fixture from the left and drop it onto the patch grid on the right, or select a fixture on the left and click the 'Patch' button. Be sure that the address the fixture has been patched to matches the fixtures address in reality. The example below shows 4 moving heads patched to address 1, 19, 37 and 55. The address is normally set either by a digital display on the lighting fixture itself or via a set of DIP switches. To find out which DIP switches need to be set on a particular fixture, select the fixture in the patch grid and refer to the DIP switch graphic at the top right.

1. Search for a profile
2. Import a profile
3. Search for a profile within our online library
4. Select a DMX universe
5. Select a starting DMX channel
6. Choose how many fixtures should be patched
7. Choose an index number for the fixture (effects are create in index order when the 'Select All'

- button is clicked within the fixture window)
- 8. Patch
- 9. Copy/Paste/Rename/Duplicate or Delete the selected fixture
- 10. List View
- 11. Dip switch view



### 3.3. Fixture Properties

To modify how a particular fixture operates, click the 'List View' button. A list of all patched fixtures is displayed along with their DMX address, fixture name, channel name and fixture profile location.

To view the channels used by a particular fixture, click the triangle to the left of the fixture's address. Several checkbox's are visible to the right:

- 1. Enable/Disable fading : determines if the channel follows step fade times
- 2. Dimmer : determines whether the channel is to be dimmed when the master dimmer or scene dimmer is changed
- 3. Invert Pan : Reverses the output of the pan channel (when the channel is at value 0, the software will output value 255)
- 4. Invert Tilt : Reverses the output of the tilt channel
- 5. Swap Pan/Tilt : Swaps the pan and tilt channels. When the pan channel is modified, the software will output the data on the tilt channel and vice versa

Patch

Universe 1

Address	Name	Profile	1	2	3	4	5
001 - 018	moving head.1	_Generic/MOVING HEAD.ssl2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	X		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
2	Y		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
3	μX		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
4	μY		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
5	Cyan		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
6	Magenta		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
7	Yellow		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
8	Iris		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
9	Zoom		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
10	Dimmer		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
11	Color		<input type="checkbox"/>	<input type="checkbox"/>			
12	Gobo		<input type="checkbox"/>	<input type="checkbox"/>			
13	RotGobo		<input type="checkbox"/>	<input type="checkbox"/>			
14	Shutter		<input type="checkbox"/>	<input type="checkbox"/>			
15	Gobo 2		<input type="checkbox"/>	<input type="checkbox"/>			
16	RotGobo 2		<input type="checkbox"/>	<input type="checkbox"/>			
17	Prism		<input type="checkbox"/>	<input type="checkbox"/>			
18	Prism rotation		<input type="checkbox"/>	<input type="checkbox"/>			
019 - 036	moving head.2	_Generic/MOVING HEAD.ssl2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# 4.Edit

## 4.1.Arranging Lighting Fixtures

Each lighting fixture is represented by a square which can be seen in the fixture window to the bottom right of the main window. Fixtures with multiple beams such as LED bars are displayed with several squares, each representing a beam. Each square is capable of showing the following information (depending on the features of the actual lighting fixture):

- Dimmer
- Shutter/strobe
- Color
- Iris
- Gobo + Gobo Rotation



### Navigating around the fixture window

When fixtures are patched, the position and zoom level of the fixture window will be set automatically so all fixtures are visible. The following toolbar buttons allow you to adjust the position and zoom level:

1. Zoom in/out
2. Scale and position the window so all fixtures are visible
3. Reset the zoom to the default level but do not change the position
4. Toggles between fixture selection mode and window position mode



### Selecting Fixtures

By default, fixtures can be selected either by clicking the squares or by dragging a box around some fixtures (just like icons within Windows Explorer or OS X Finder). Multi-selections can also be made by holding cmd on Mac or Ctl on PC. Several other selection options are available:

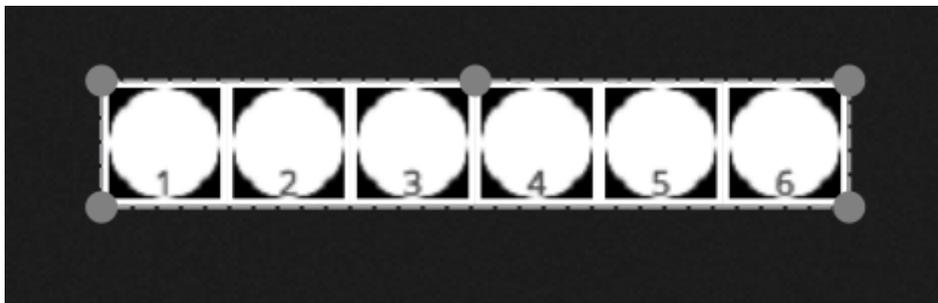
1. Free Selection: draw a shape around the fixtures you wish to select by dragging and holding the left mouse button
2. Pen Selection: Draw a line through the fixtures you wish to select

3. Select all fixtures
4. De-select all fixtures
5. Select odd fixtures (1,3,5,7 etc...)
6. Invert the selection
7. Move the selection up and down by selecting the next and previous fixtures in the order they are defined within the patch window



## Fixture Index

As fixtures are selected, a number appears at the bottom of the square. This is the fixture index. It's important to select fixtures in the correct order when working with effects because effects are generated in the index order. Imagine you have a line of fixtures and want to create a pixel effect with a rainbow scrolling from left to right. In this case, be sure that the fixture index's are numbered from left to right as the example shows below. When the quick selection buttons are used, fixtures are indexed in the order specified in the patch window.

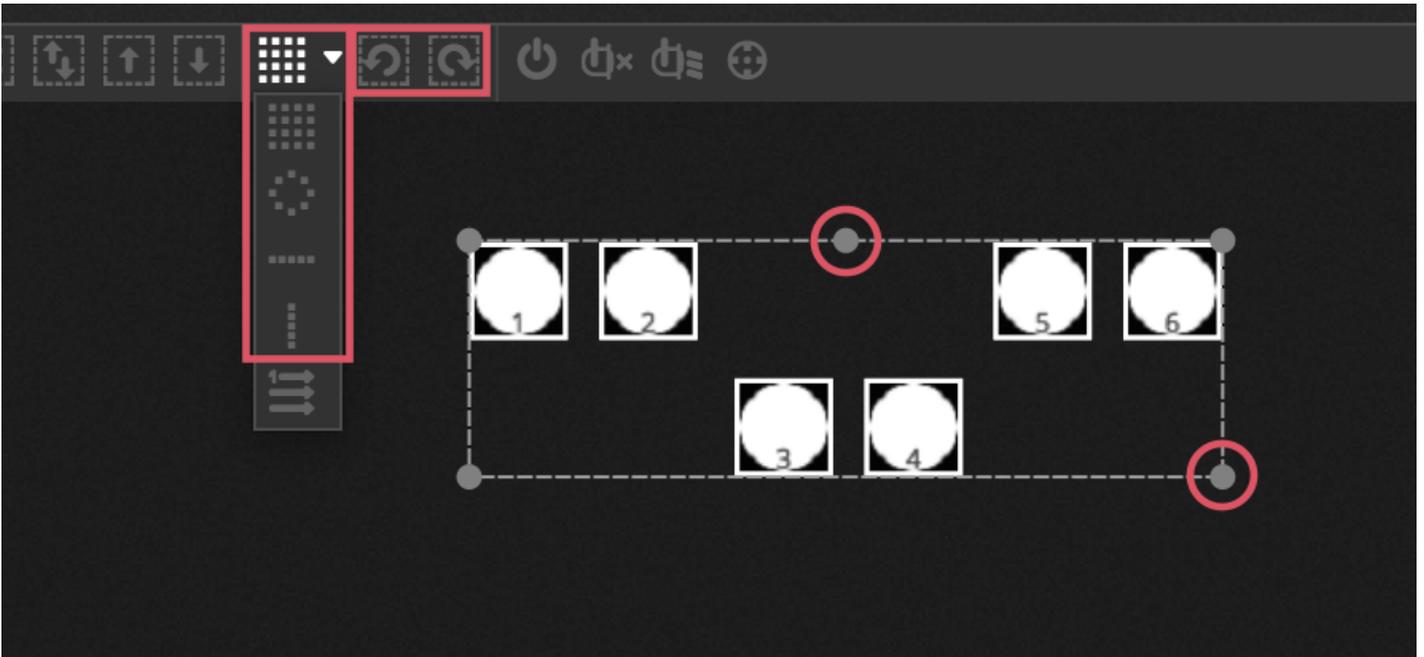


## Positioning Fixtures

Fixtures can be positioned manually by dragging a dropping the squares. If a multi-selection of fixtures has been made, you can change the relative positions by adjusting the position of the square with the small circles (like resizing an image). The selection can also be rotated by dragging the small circle at the top centre of the selection perimeter.

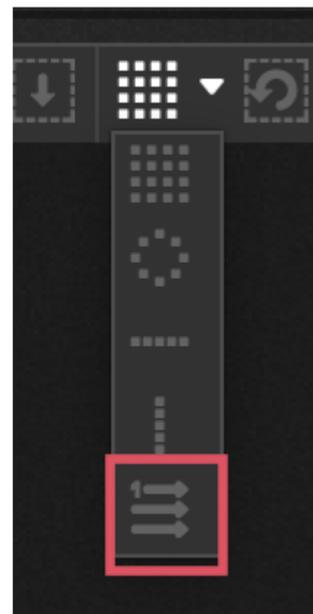
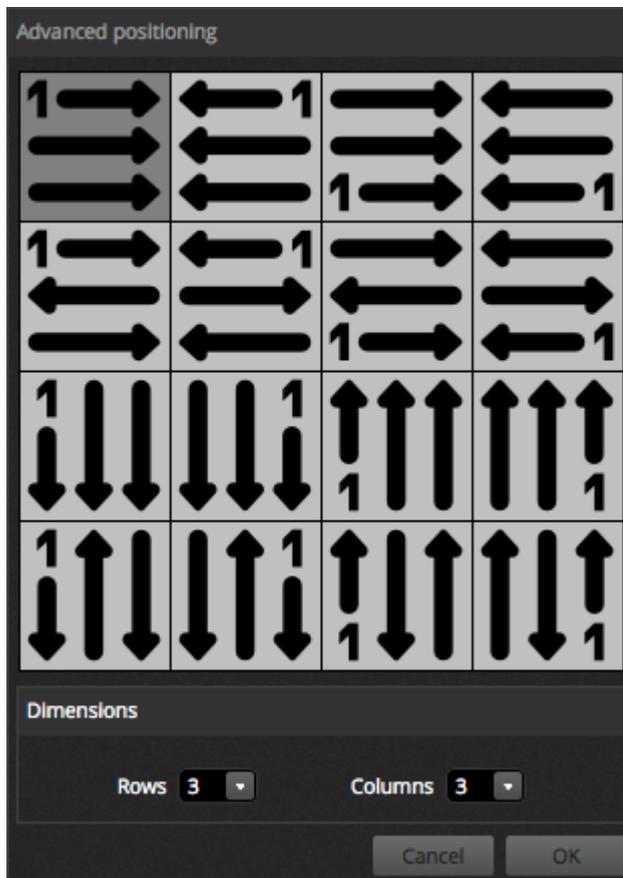
A fixture selection can be rotated 45 degrees left and right using the rotation icons on the toolbar.

Fixtures can be quickly positioned in a line, circle or matrix by clicking the shape icon on the toolbar.



## Matrix Positioning

When fixtures are positioned in a Matrix, they are positioned by default in the index order defined in the patch window from left to right and from top to bottom. Cameo D4 will also position the fixtures in the closest square possible. This fixture order can be changed by selecting 'Advanced Positioning'. Fixtures can be quickly positioned in several different orders by selecting the appropriate order, and the number of rows and columns can be selected at the bottom of the window.

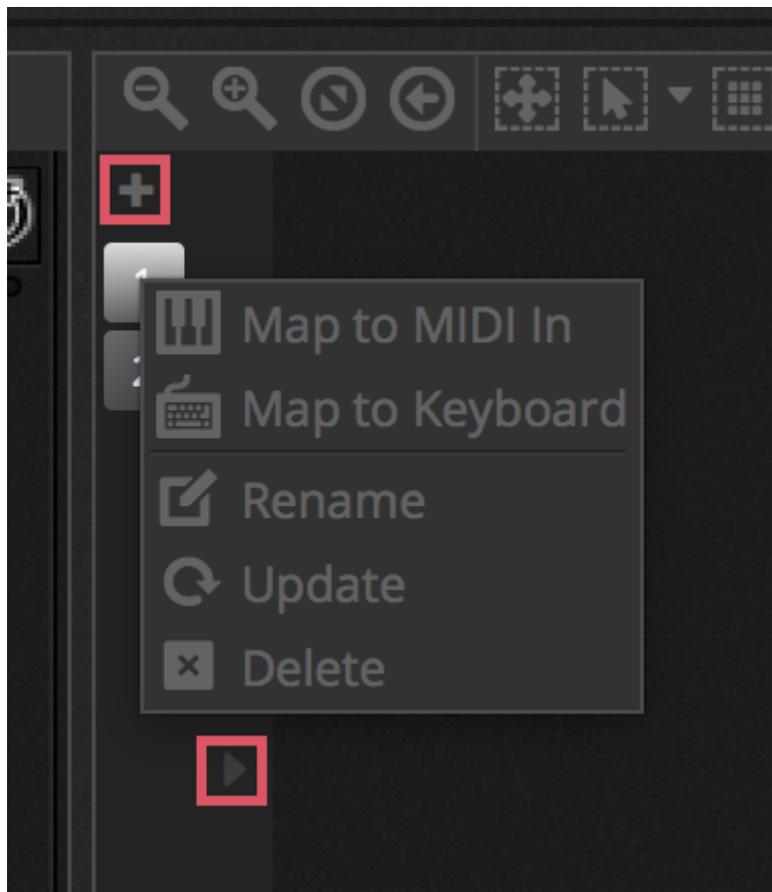


## Groups

Fixtures can be arranged into groups for quick selection. A group also stores the fixture index allowing several groups to be made with different index orders for different effect looks. To create a group, select the fixtures you wish to include within the group and click the + icon to the left of the fixture window. By default, the groups are labelled 1, 2, 3 etc.. To view the full name of the group, click the right arrow to expand the groups bar.

Several other options are available by right clicking the group menu:

1. Map to MIDI in : select the group with a MIDI message
2. Map to keyboard : select the group with the keyboard
3. Rename : Change the name of the group
4. Update : Update the contents of the group with the current selection
5. Delete : Remove the group



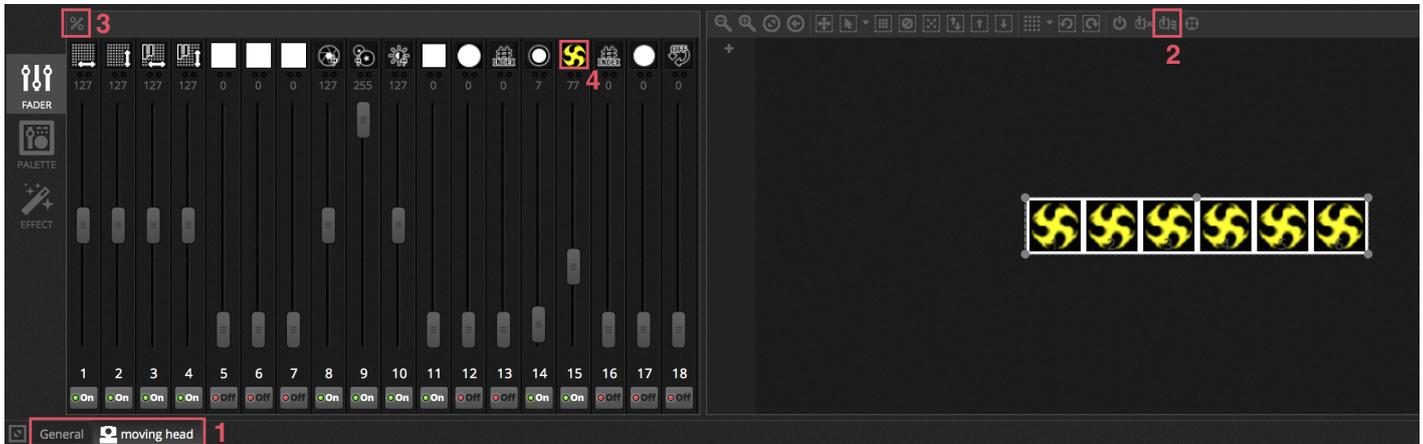
## 4.2. Controlling Lighting Fixtures

Lighting fixtures can be controlled either by the faders or by the palettes. To begin with, be sure a scene is selected, then select the fixtures which you wish to control. There's a tab for each type of lighting fixture in your show and a 'General' tab which shows all fixtures (1). Use the 'Show Light Beam' button at the top of the fixtures window to open the dimmer and set any other channels required to see the light beam (e.g. shutter, iris etc..) (2).

Drag a fader up and down to change the value of the channel. Channels can be set between 0 and 255. The DMX value of the channel is displayed towards the top and clicking this value will allow you to enter a number manually. To view the value as a %,

click the % icon to the top left of the fader window (3). To jump to a preset (for example, a particular gobo), right click the top of the channel and select the preset from the list (4).

Each channel can be turned ON and OFF by clicking the button at the bottom of the fader. If a channel is OFF, it will not be used in the scene. Therefore, if the same channel is being used in another active scene, the output value will remain the same. If a channel is switched ON and set to 0, then the output value will change to 0 when the scene is triggered.



## Controlling With the Palettes

The Palette tab provides an easy way to control the functionality of a particular channel. A palette is available for each different effect. All the effects of the selected fixture are displayed along the top of the window. Click the appropriate effect to scroll automatically to the corresponding palette.

There are 3 types of palette:

**Pan Tilt :** The X axis of the grid controls the Pan channel and the Y axis controls the Tilt channel. Move the grid cursor to control quickly, click in an empty area of the grid and drag to control with a higher precision. The precision sensitivity can be set by scrolling with the mouse wheel whilst the mouse cursor is over the grid, or by moving the horizontal fader to the bottom right. Drag the faders above and below the grid to adjust the pan and tilt individually. As with the grid cursor, clicking the fader cursors will control the channel quickly and clicking in an empty space in the fader will control the channel more slowly and with higher precision. By default, all lights will snap to the same pan and tilt values when moving the grid. If fixtures are positioned in different places, they can be moved relative to each other by clicking the 'Relative' button. In this mode, several small points are shown to indicate the position of each of the selected fixtures. To the right of the Relative button is the 'Center' button which can be used to quickly position all fixtures to 50% Pan and Tilt.

**Color :** The color wheel can be used to quickly control RGB and CMY channels. Drag the cursor inside the color wheel to set a color and drag the cursor on the circular fader to set the brightness. Other color wheels are available by right clicking on the wheel. The HSV color wheel allows you to have separate control of the hue, saturation and brightness value. Click around the color wheel to jump to a color, drag the cursor to quickly change the hue/saturation/brightness or drag in an empty space to adjust the color with a higher precision. Clicking in the centre of the wheel will show the operating systems color properties window which allows for a color to be picked from a variety of different swatches along with an eyedropper to select the color of a pixel on the screen. Its also possible to enter RGB and HSV values here.

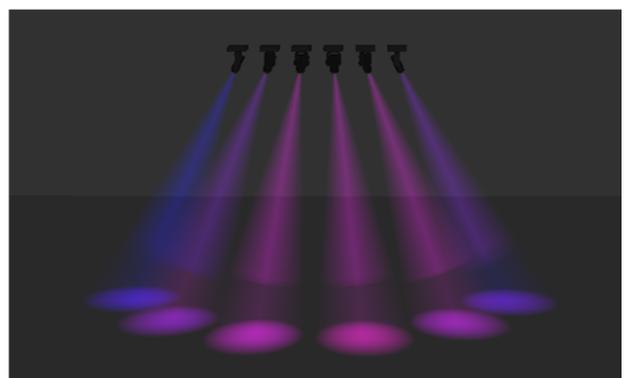
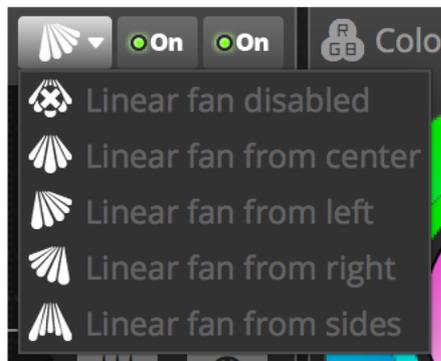
**Other :** Other channels will show a list of their presets along with a fader which is able to control the range of the preset. For example, if an 'Iris Pulse' preset is selected, the fader may control the speed of the iris pulse.



## Creating Gradients and Linear Fans

In addition to setting fixed values with the Palettes, it's also possible to set a range of values across a selection of fixtures. For example a fan of beams can be set on a selection of moving fixtures, or a color gradient across an LED strip. In Cameo D4 we call these 'Linea Fans'. To create a Linear Fan, select the the type of Fan from the dropdown list and then set the start and finish values.

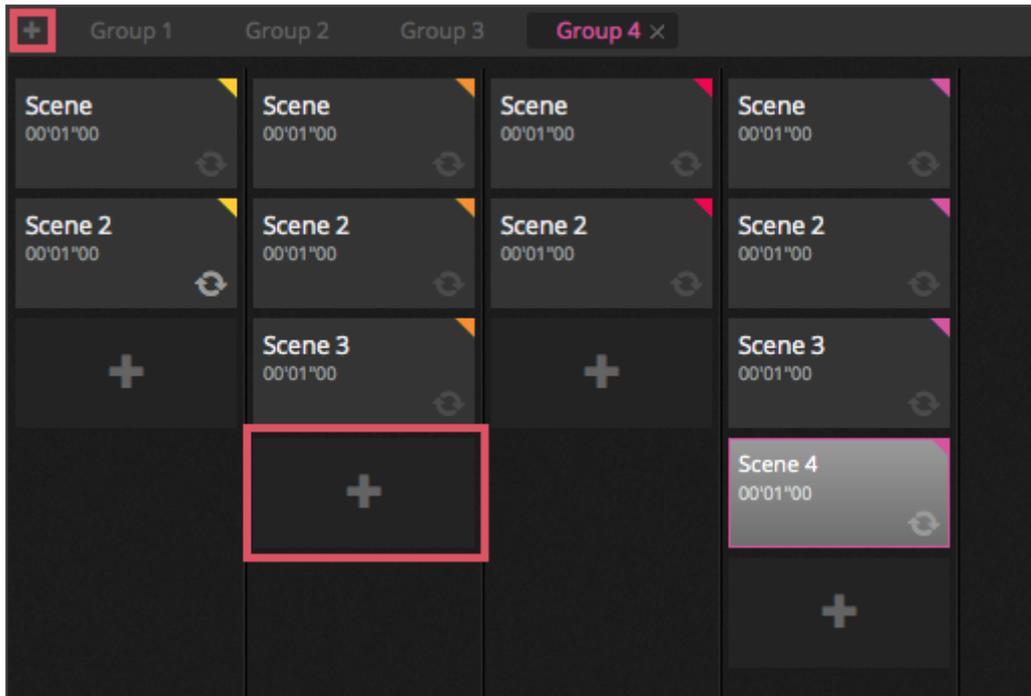
The image below shows how to create a fan of beams. In this case it's normally best to select 'Linear Fan from Left'. This means that the first fixture will be set to the first position, the last fixture will be set to the last position, and the fixtures in between will be calculated automatically.



## 4.3.Creating Scenes

When channels are set in the Editor, the values are stored in scenes. A Scene can hold a static 'look' (for example: all fixtures positioned in the centre of the room in red), or dynamic (for example: fixtures changing color with a rainbow effect). Scenes are arranged into Groups. By default, 1 scene can play at a time in each Group. Groups are designed to be stacked, for example there may be a group for color effects, a group for movement effects and a group for strobe effects etc.

Scenes are organised in a grid view with the groups arranged into columns. Click the large '+' to add a scene to a group. Click the small '+' in the top left to create a new Group.



### Steps

A scene has 1 or more steps. Each step stores a static 'Look'. A dynamic effect can be achieved by adding several steps with fade and hold times. To create a new step, click the '+' button (1). As the Faders and Palettes are changed, the data is stored immediately into the selected step. Fade and hold times can be changed by double clicking on a step. The example below shows a scene with 4 steps each with a fade time of 2 seconds and a hold time of 1 second. In this case, the values will hold, or 'freeze' for 1 second, and then gradually move to the next values over 2 seconds. When the final step is reached, the scene will loop back around to the first step. To preview a scene, click the 'Play' button (2).

Multiple steps can be edited at once. To do this, select a step, hold Ctl (PC) or Cmd (Mac) and select the steps you wish to modify. A range of steps can also be changed by selecting the first step of the range, holding shift and then selecting the final step. To modify the fade and hold times of a selection of steps, continue to hold Shift, Ctl or Cmd whilst double clicking the step, or click the 'Time Settings' button (3). Steps may also be re-arranged by dragging and dropping. To remove a step, hit the delete/backspace key or click the 'Remove Step' button (4).

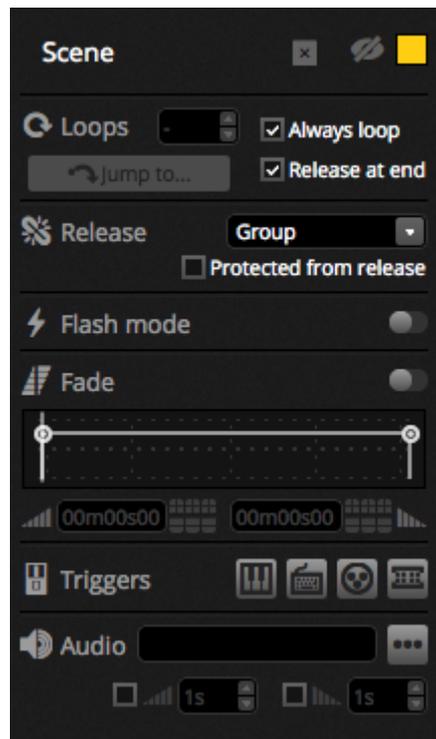
#	Fade Time	Hold Time
1	00m02s00	00m02s00
2	00m02s00	00m02s00
3	00m02s00	00m02s00
4	00m02s00	00m02s00

## Scene Properties

The properties of the selected scene are displayed to the right of the editor window. Below is a description of each property.

1. Scene name : choose a name for your scene. The 3 buttons to the right clear the scene name, show and hide the scene on the LIVE tab, and allow the color of the scene button to be changed.
2. Loops : determine how many times a scene will play. If Loops is set to 1, the scene will play 1 time. 'Always Loop' will loop the scene indefinitely until it's been released. Release at end will automatically release the scene once it has finished looping.
3. Jump to... : set which scene will play after the scene has finished playing. This can be another scene in the show file or the next scene.
4. Release : the release mode determines what will happen to all other scenes in the show when the selected scene is played. 4 release modes are available.
  1. OFF : no other scenes will be released
  2. General : all scenes will be released
  3. Group : all scenes within the same group will be released
  4. All except group : all scenes in the show will be released except those within the same group
5. Protected from release : the scene is always playing unless you stop it manually.
6. Flash mode : the scene will play when clicked and will stop playing when the mouse/keyboard key is released.
7. Fade : set a fade in and fade out time for the scene.
8. Triggers : set a MIDI/Keyboard/DMX/Port trigger for the scene (see the Triggering topic for more information).
9. Audio : select an audio file to play when the scene is triggered along with a fade in and fade out time.

Note: clicking the star button at the top right will save the current settings as the default when a new scene is created.

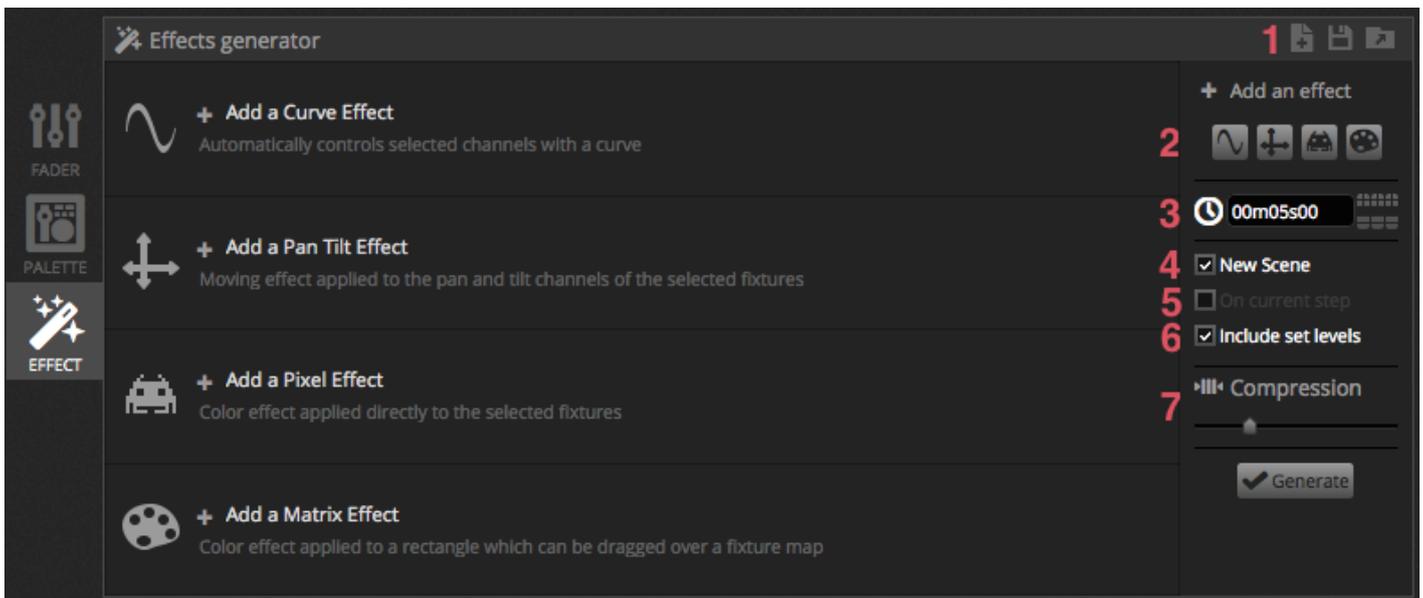


## 4.4.Creating Effects

Cameo D4 includes a powerful effects generator called XEEL. The XEEL contains hundreds of effects which can be quickly applied to a selection of fixtures and generated into steps without having to add each step individually. To create an Effect:

- Select the fixtures you want to include within the effect
- Select from one of the 4 effect types
- Adjust the properties
- Click the 'Generate' button

1. Custom effect presets can be loaded and saved
2. One of 4 different effect types can be chosen (further information below)
3. The length of the effect can be chosen
4. Effects can be generated within a new empty scene or in the existing scene
5. If 'On Current Step' is selected, the effect will begin on the currently selected step
6. 'Include Set Levels' will include any currently set fader/palette levels on each step of the generated scene
7. Compression will reduce the number of steps used in the generated effect. This is useful if the individual steps need to be edited after generating the effect, or if the scene will be written to the stand alone memory of a device where memory space is limited. This feature is also useful if the software is being used in express mode where the maximum number of steps allowed is limited



## Curve

With the curves effect, basic mathematical formulas can be used to adjust a channel. Curve types can be selected here(1). Channels can be selected here(2). In addition to controlling a specific channel, it's also possible to put a curve on the overall brightness, hue and saturation of a lighting fixture. In the image below, the red color level is being adjusted with a sinus wave.

The behaviour of the wave is adjusted with the faders.

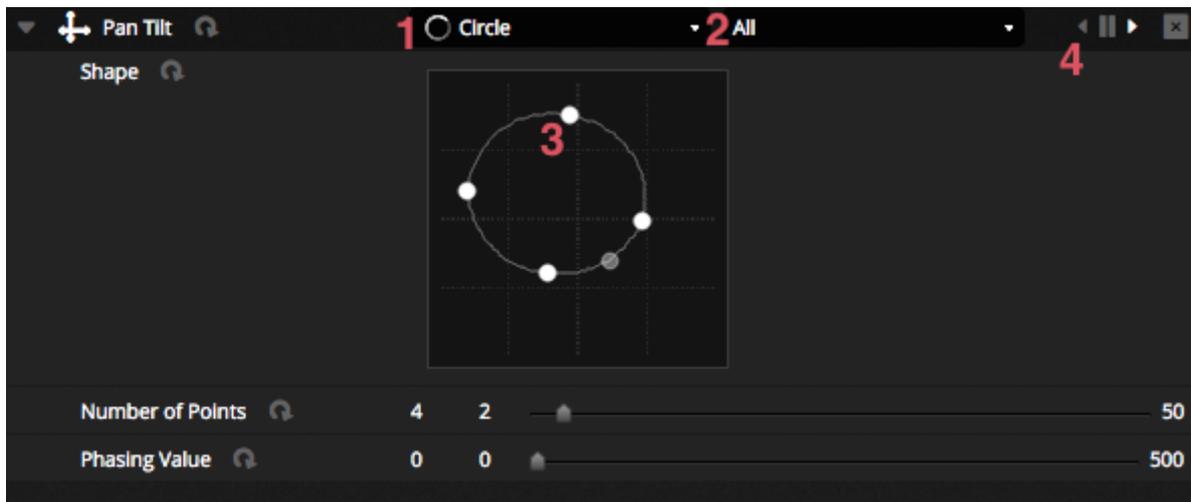
- Change the frequency of the wave by adjusting the rate, this will speed up your pattern
- Adjust the size to stretch the wave
- Move the wave backwards and forwards by adjusting the phase and adjust the offset to move the wave up or down
- Adjust the phasing value to offset the position of the effect on each fixture. For phasing to work correctly, the software must be told the order in which the fixtures are positioned. For more information on setting a Fixture Index, see the 'Arranging Lighting Fixtures' topic.



## Pan Tilt

This effect can to be used on any fixtures with pan and tilt channels. It allows moving patterns to be created easily.

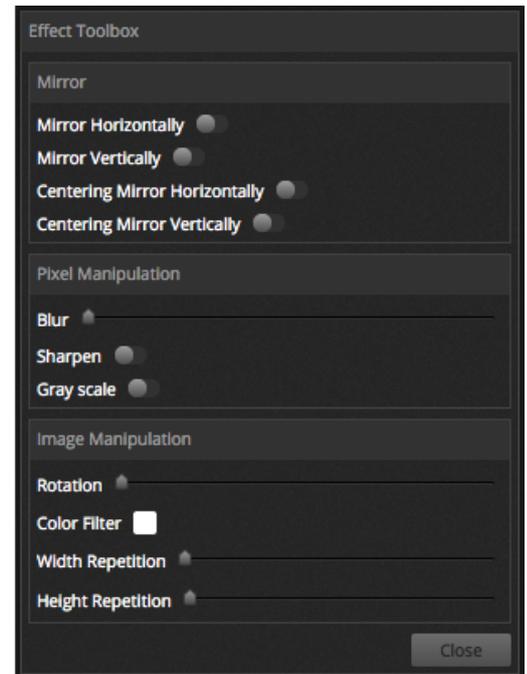
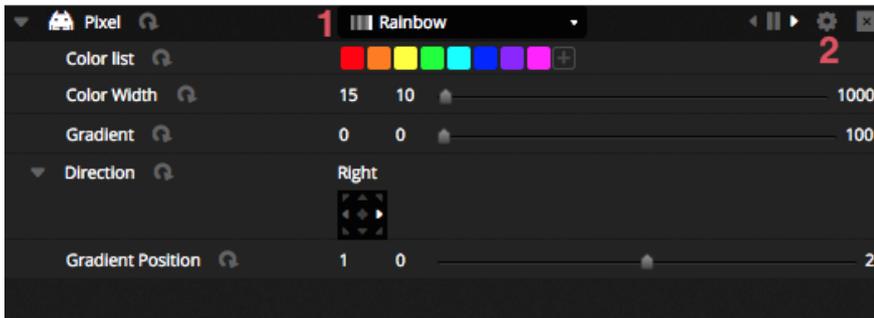
- Open the light beam by clicking the Beam On button on the toolbar of the fixture window. This allows you to see your fixtures as you adjust the position. This will only be saved as part of the effect if 'Include Set Levels' is checked
- Select the shape you wish to create here(1)
- If you have a fixture with multiple beams, select the beam number here(2)
- Alter the shape by dragging the points(3). Move the entire shape by clicking in an empty space in the grid
- Right click to remove a point
- Double click to add a point, or adjust the 'Number of Points' slider
- Phasing can be added to create a 'wave' effect
- The effect can be reversed or paused here(4). For example, you could stack 2 Pan Tilt effects and reverse one of them to make a symmetrical movement effect
- To change the speed of the effect, adjust the effect time to the right



## Pixel

The pixel effect mixes colors together to create fantastic looking effects very quickly.

- Select a pixel effect type(1)
- Double click one of the colored squares to adjust a color used inside the effect. Colors can be removed by right clicking and selecting 'Delete'
- Other options depend upon the selected color effect
- Clicking here (2) will open the effect toolbox where several other top level effect manipulation settings are available. These include mirroring the effect, blur, gray scale, stretch and scale.



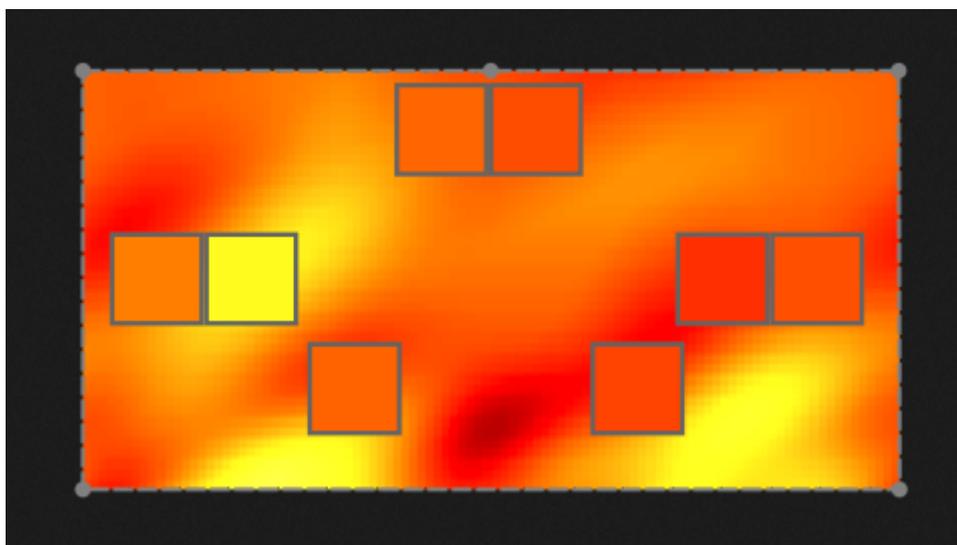
## Matrix

Matrix effects are video based effects designed to be pixel mapped. When a new matrix effect is created, it will appear within the fixture window on a rectangle. This rectangle can be dragged over lighting fixtures, resized and rotated.

All effect types available within the pixel effect are available within the matrix effect, however a matrix effect doesn't understand how many fixtures are being used, so effects such as chases and knight rider will not look as precise.

Several additional effect types are included as part of the Matrix effect:

- Audio patterns such as 'Bar Graph' and 'Level' meter allow you to manipulate patterns with an incoming audio signal
- The Bouncing effect allows you to choose different shapes to bounce around the mapped area
- The Media effect lets you choose an image or video to play on the mapped area
- Use the text effect to display or scroll custom text across the mapped area

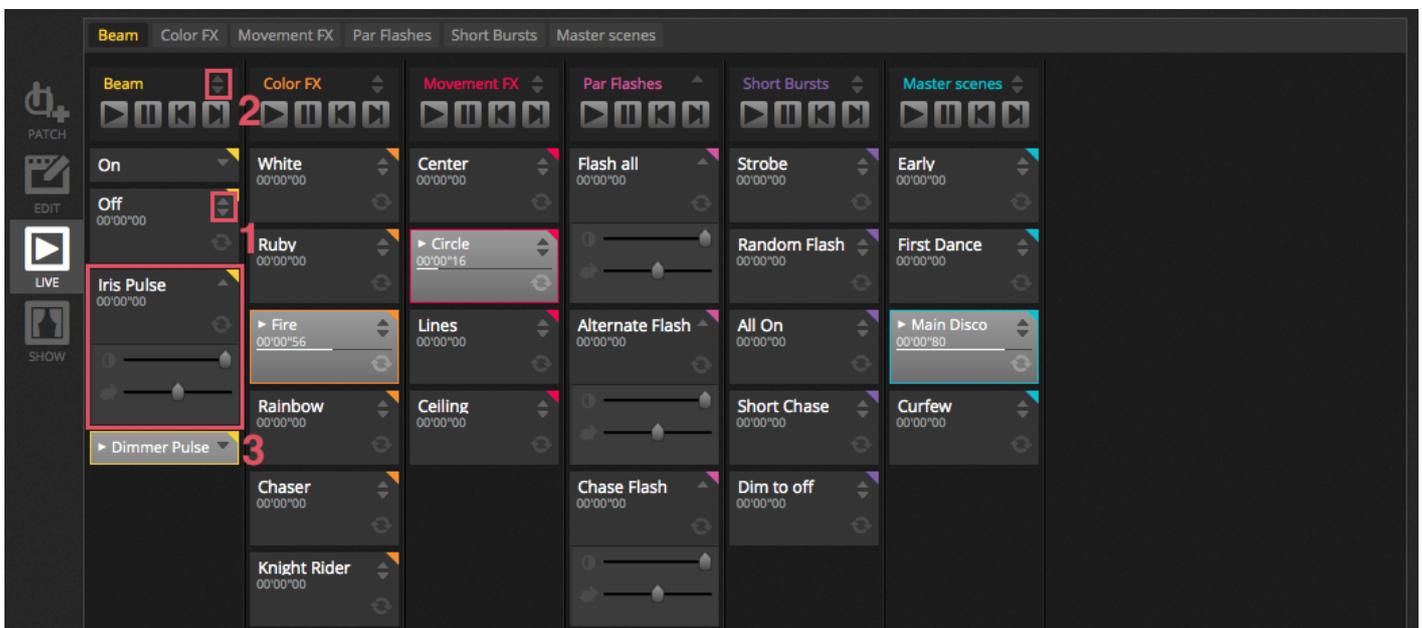


# 5.Live

## 5.1.Controlling Your Show Live

The live screen is where you control your show. The example below shows several scenes playing at the same time. As long as scenes use different channels, they will be stacked and merged together. If a scene is triggered which uses the same channels as a scene which is already playing, the latest scene will take priority over the others.

Scenes can be displayed in 3 sizes. Clicking the up and down arrows will change the size of the scene (1) and clicking the arrows in the group header will expand and contract all scenes within the group (2). When a scene is set to it's largest size, two horizontal faders will appear (3). The first allows you to change the speed of the scene and the second allows you to dim the brightness.



### Jumping Between Scenes

Each group contains 4 icons :

- Play : To begin playing a group from the 1st scene
- Pause : To freeze the current output of the playing scene
- Previous/Next to jump to the previous or next scene within the group. If the 1st scene of the group is playing and 'Previous' is checked, it will jump to the last scene. If the last scene is playing and 'Next' is pressed, it will jump to the 1st.

A group could be treated like a traditional cue-list with the 'Next' button acting like a GO button. It's possible to assign shortcuts to the group's 'Next' button within the software preferences.

It's also possible to jump all scenes forwards and backwards by using the icons on the live toolbar to the right of the live screen.



## The Live Bar

The area to the right of the Live screen shows a Live bar along with a Master Dimmer.

The master dimmer will override the dimmer and color channels of all your lights. It's a quick way to globally dim your full rig.

The 8 Live buttons at the top allow you to:

- Jump forwards and backwards between scenes
- Pause the entire show
- Blackout all lighting fixtures
- Globally enable and disable fading between scenes
- Lock the software (useful if you need to leave your computer unattended)
- Take live snapshots

Other options on the live bar include buttons to reset live edits, and BPM/Pulse management. These are explained in the 'Editing your Show Live' and 'Audio' topics.



## 5.2.Editing Your Show Live

Everybody needs to edit their show live at some point, whether it be a temporary over-ride or adjusting the color inside a scene. There are several ways to control your show beyond playing the scenes.

### Jumping Back to the Editor

If you click the editor tab whilst a show is running, the same scenes will remain activated and the show will go on. The only difference is that all channels used in the selected scene and step will over-ride the currently running show. If you want to block the DMX output of the scene currently being edited, click the 'Blind Mode' button towards the top right of the scene grid. If you need to check if blind mode is enabled whilst on the Live or Show tabs, this option can also be set within the editor menu.

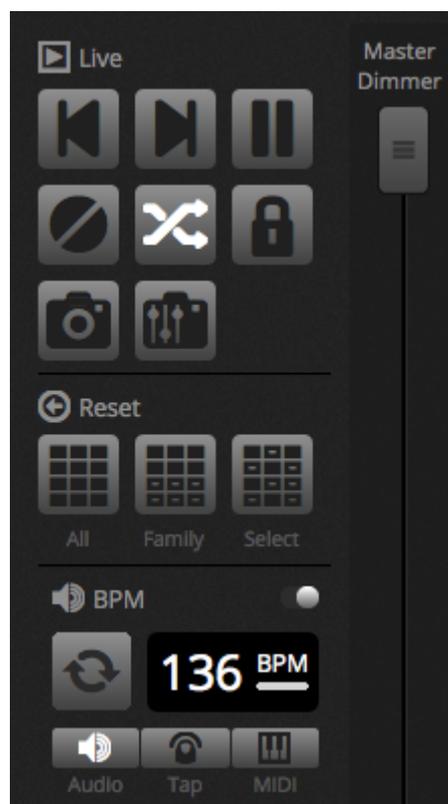
### Create Live Edits

To create a live edit, select some fixtures and then click any fader or palette. Notice the state changes from ON/OFF to LTP. LTP stands for Latest Takes Priority. This means that the last change will always take priority. When you move the fader, it will stay

at the value you set until a scene which uses the same channel is triggered. LTP edits are not stored in scenes rather layered over the top of scenes.

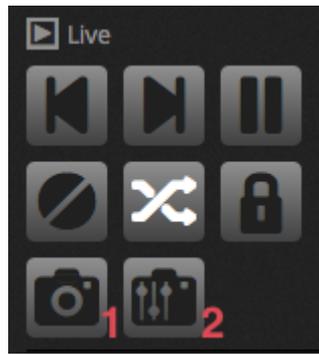
Live edits can be reset by clicking on one of the 3 Reset buttons on the live toolbar:

- All : resets all live edits in the show
- Family : resets all live edits on the selected family tab
- Select : resets all live edits on the selected fixtures



## Creating Snapshots

A static snapshot of your show can be taken and saved within a new scene. To do this, click the camera icon on the live toolbar. A snapshot of everything can be saved (1), or just the LTP edits (2). A new scene will be created within the selected group.

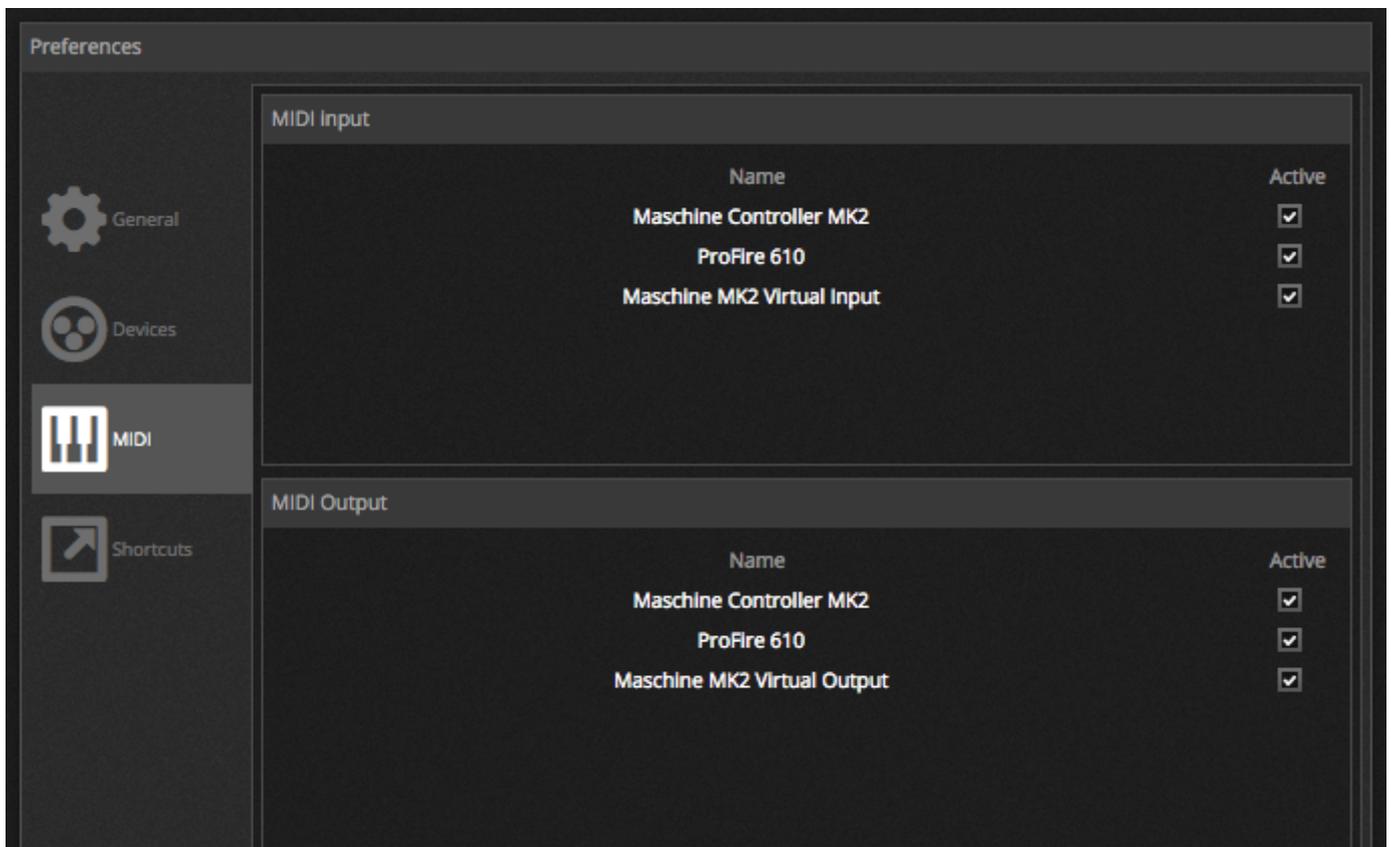


## 5.3.MIDI

MIDI stands for Musical Instrument Digital Interface and is a system which is used to communicate between different devices in the audio/visual industry. Many parts of the software can be controlled with a MIDI controller such as scenes and faders.

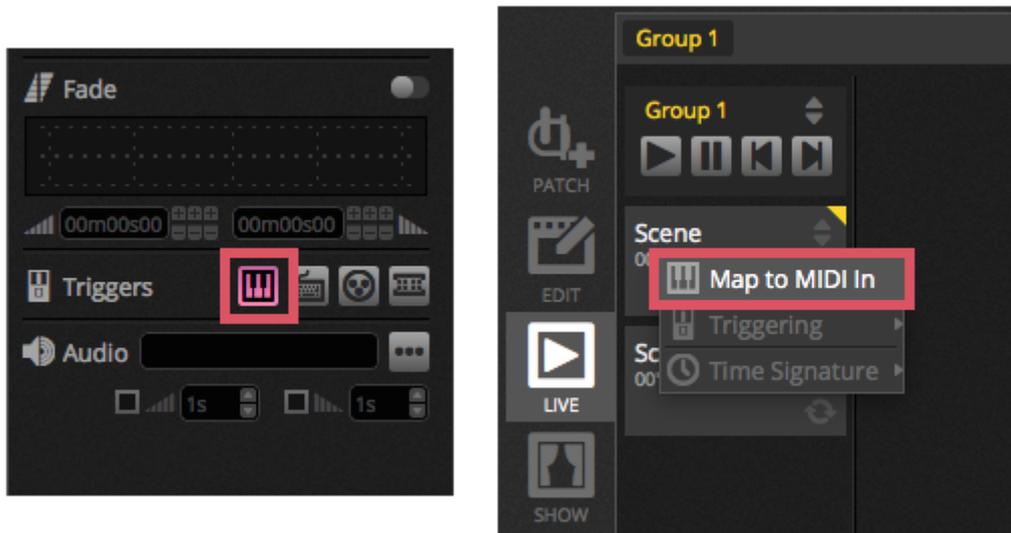
MIDI devices are normally connected with a USB cable, or through a USB-MIDI interface with a DIN cable. Once your device has been connected and the drivers installed, the MIDI device can be selected from the Preferences window.

The software can also send MIDI to the MIDI input of the MIDI controller. Some MIDI controllers can interpret this data to switch on internal lights and move motor faders. Be sure to select both the MIDI in and out devices.



To pair a MIDI button to a scene, click the MIDI triggering button in the Scene Properties window, or right

click a scene in live and select 'Map to MIDI In'. The MIDI Triggering window will then appear. Pushing the corresponding button on the MIDI controller will automatically map the command.

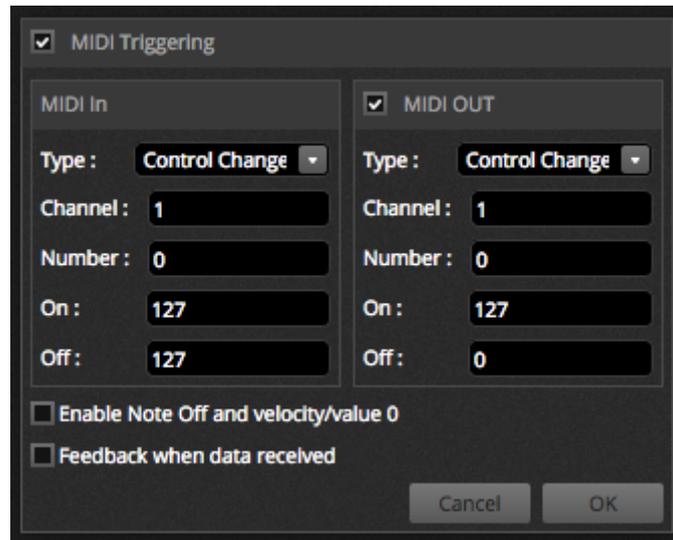


## Advanced Button Mapping

It's possible to change the individual components of the MIDI message. The incoming MIDI message can be specified on the left and the outgoing MIDI message is specified on the right.

Options include:

- Type : The type of MIDI message. Be careful with button release commands. Some controllers use NoteOn - 0, other controllers use NoteOff - 127. In the second case, a Note On/Off message type should be used
- Channel : The channel number from 1-16
- Number : The Note/CC/PC number from 0-127
- On : The value to be used to play the scene
- Off : The value to be used to stop the scene
- Enable Note Off and velocity/value 0 : the software will only listen to note off messages and messages containing value 0 if this is checked
- Feedback when data received : check this box if you need the software to send the MIDI OUT message when the button is triggered by the MIDI controller. For example, this is required on an AKAI APC controller because the hardware does not switch on it's LEDs unless it's told to by an incoming MIDI message. A Behringer BCF2000 however does not require this as the controller switches on its own LED. Be careful with this option as some controllers repeat back their incoming message in which case an infinite MIDI loop can be created



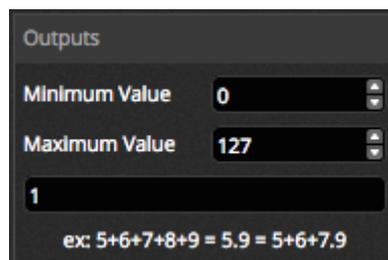
## MIDI OUT

Most of the time, the MIDI OUT value is the same as the MIDI IN. This is why when a command is auto learned, the software will learn the same message for both IN and OUT. However some controllers respond differently depending on their OUT value. For example, an AKAI APC Mini will change its button illumination color depending on the 'On' value received.

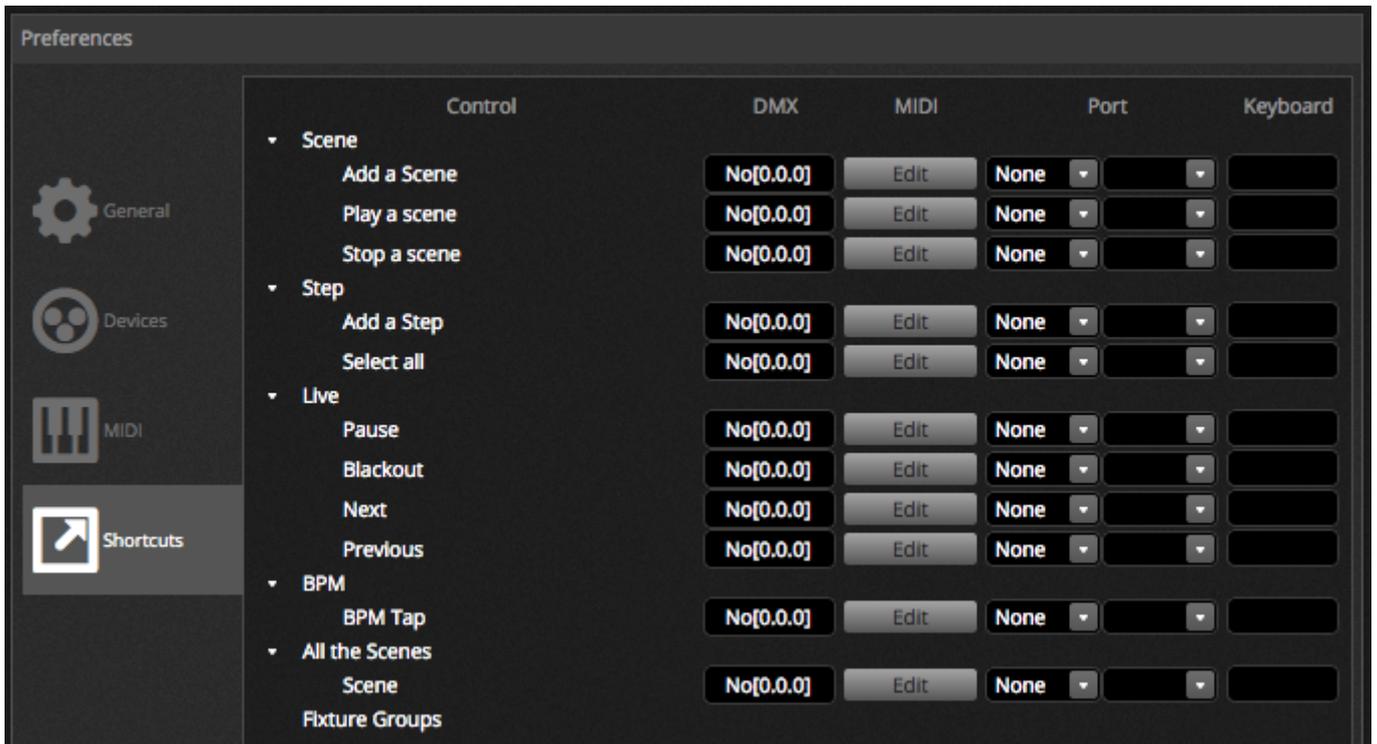
## Advanced Fader Mapping

When mapping a channel fader with MIDI, several additional options are available including:

- Minimum Value : The value the channel fader will move to when the MIDI fader is set at 0
- Maximum Value : The value the channel fader will move to when the MIDI fader is set at 127
- Multi-assignment : Allows for the assignment of several channels to 1 MIDI fader. For example, entering 5+6 will assign the fader to channels 5 and 6, entering 5.8 will assign the fader to channels 5,6,7 and 8

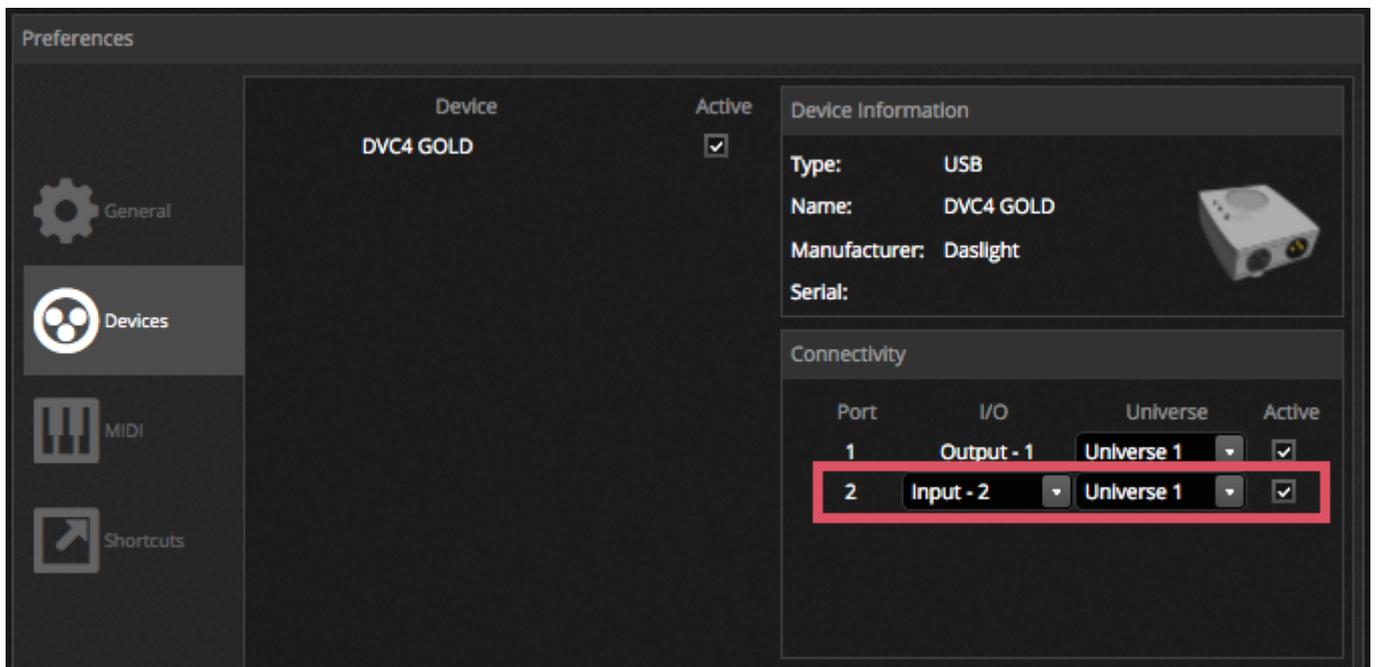


Several other areas of the software can be triggered by MIDI. These can be located within the software Preferences.



## 5.4.DMX

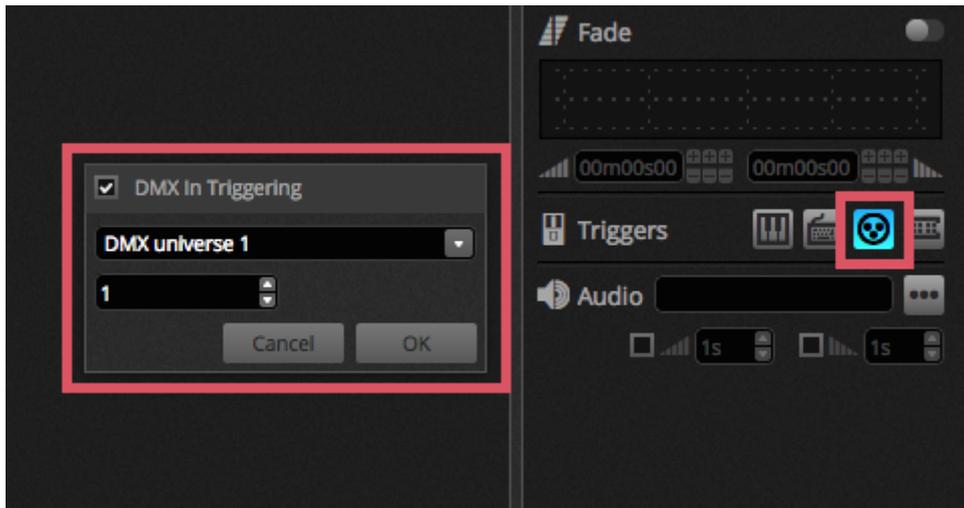
If your DMX interface has a DMX input connection, faders and scene may be triggered via a DMX input message. First of all, be sure that the correct connector on your interface is set as a DMX Input. This can be done within the Preferences.



### Scene Mapping

To map a DMX input to a scene, select the scene and click the DMX input trigger button in the scene

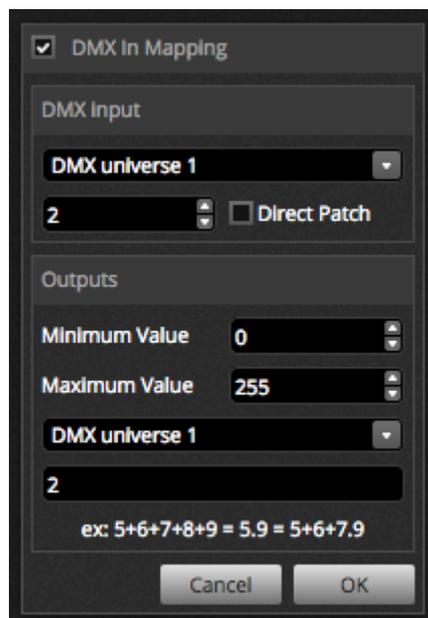
properties window. Select the DMX universe and channel number. Values 0-127 will stop the scene and 128-255 will play the scene.



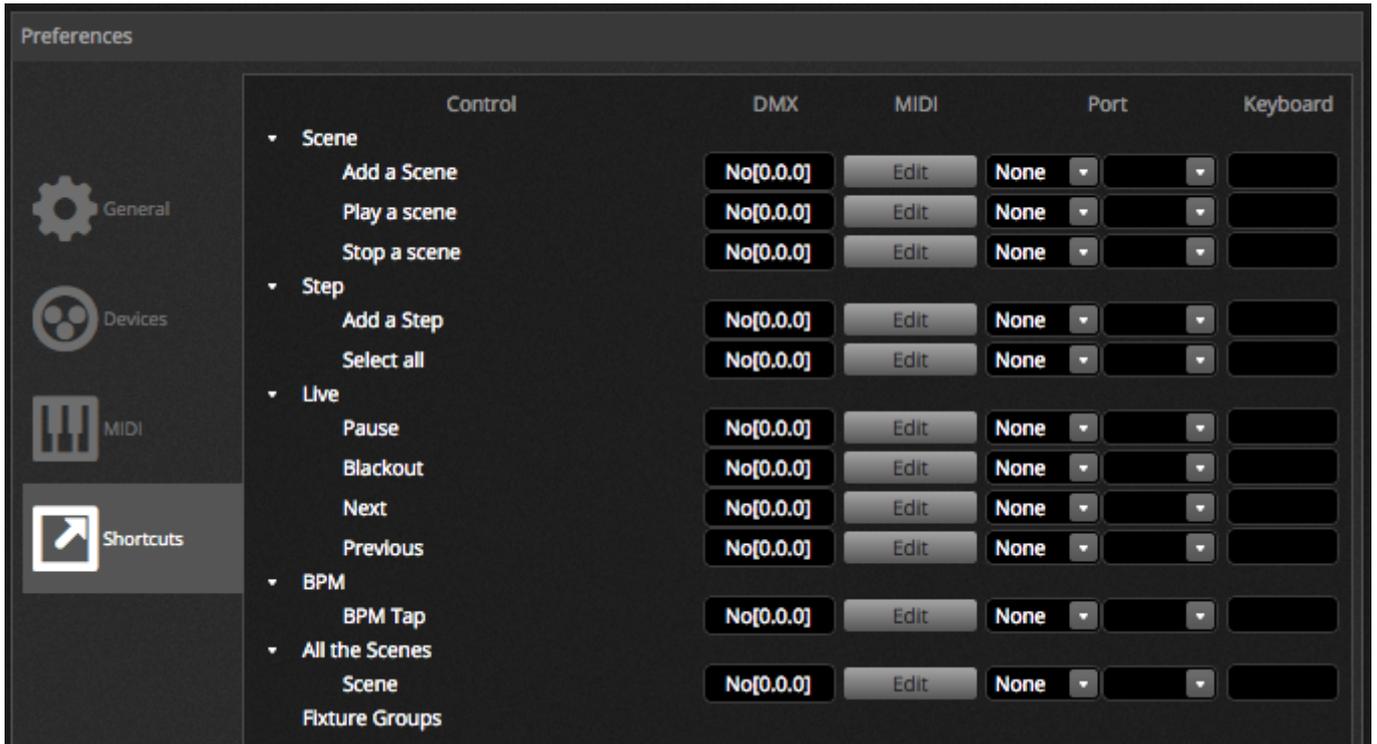
## Fader Mapping

To map a DMX input to a fader, right click the fader and select 'Map to DMX In'. Choose the DMX universe and channel number and click OK. Several other options are available:

- Direct Patch : links the channel fader with the same DMX input channel number
- Minimum Value : The value the DMX input should be to set the fader to 0
- Maximum Value : The value the DMX input should be to set the fader to 255
- Multi-assignment : Allows for the assignment of several channels to 1 DMX input fader. For example, entering 5+6 will assign the input fader to channels 5 and 6 in the software, entering 5.8 will assign the input fader to channels 5,6,7 and 8. If a multi-assignment is made and 'Direct Patch' is selected, the corresponding DMX input fader will be mapped to each of the assigned channel faders in the software. For example, entering 5+6 when 'Direct Patch' is enabled, DMX input channel 5 will be mapped to channel 5 in the software and DMX input channel 6 will be mapped to channel 6 in the software.

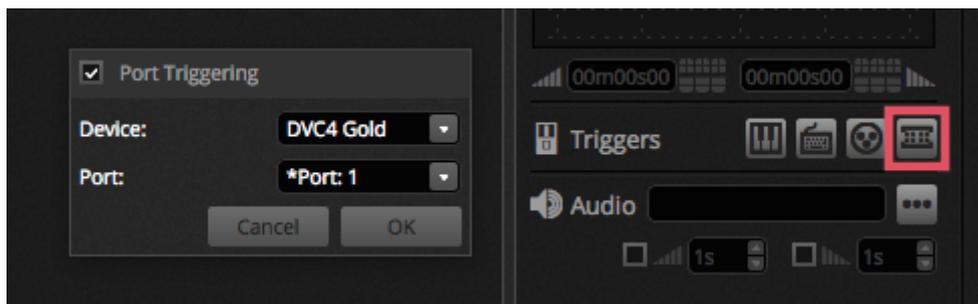


Several other areas of the software can be triggered by DMX. These can be located within the software Preferences.

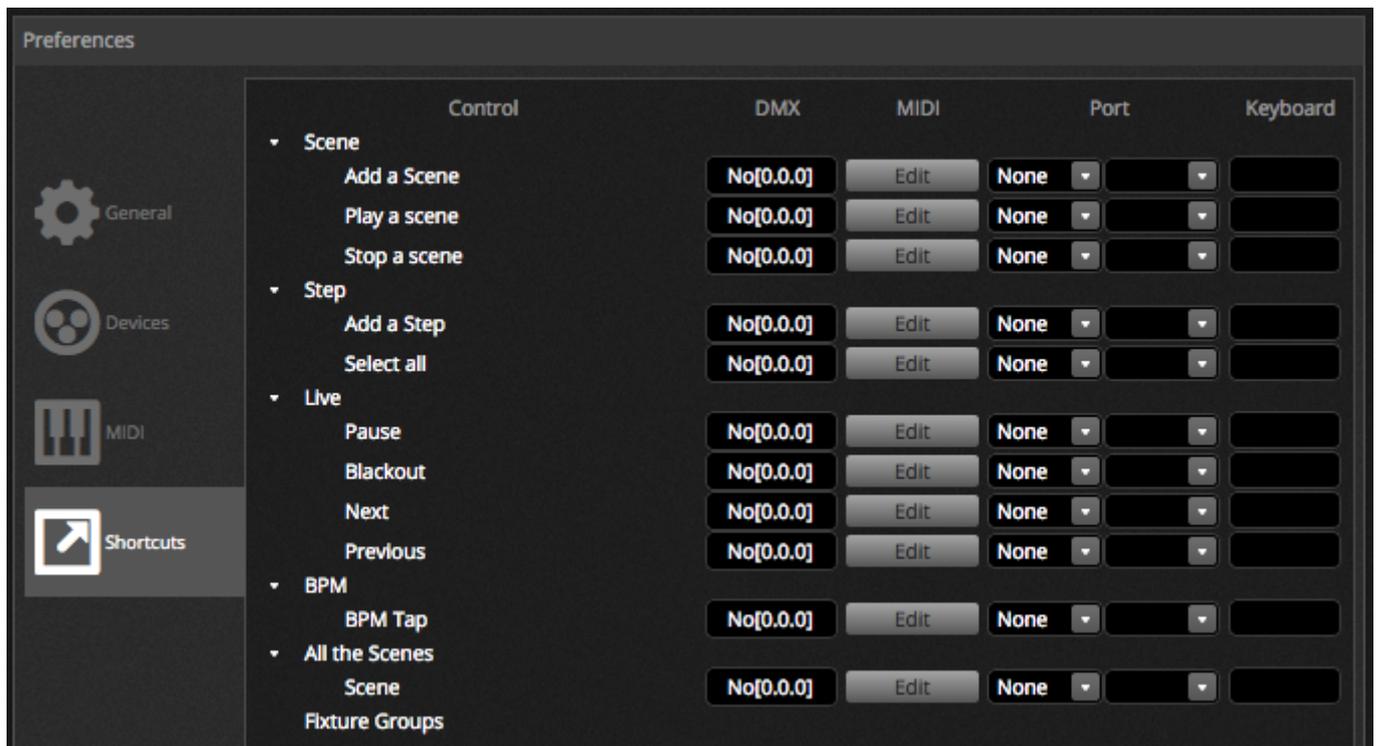


## 5.5.Dry Contact Ports

The software can be triggered by one of the 8 dry contact ports available on a compatible DMX interface. To map a port to a scene, select the scene and then click the Port trigger button within the scene properties window. An asterisk will be shown next to ports which have already been used. Note that Address 1-255 is a binary address, for example Address 7 is port 1, port 2 and port 3 together.



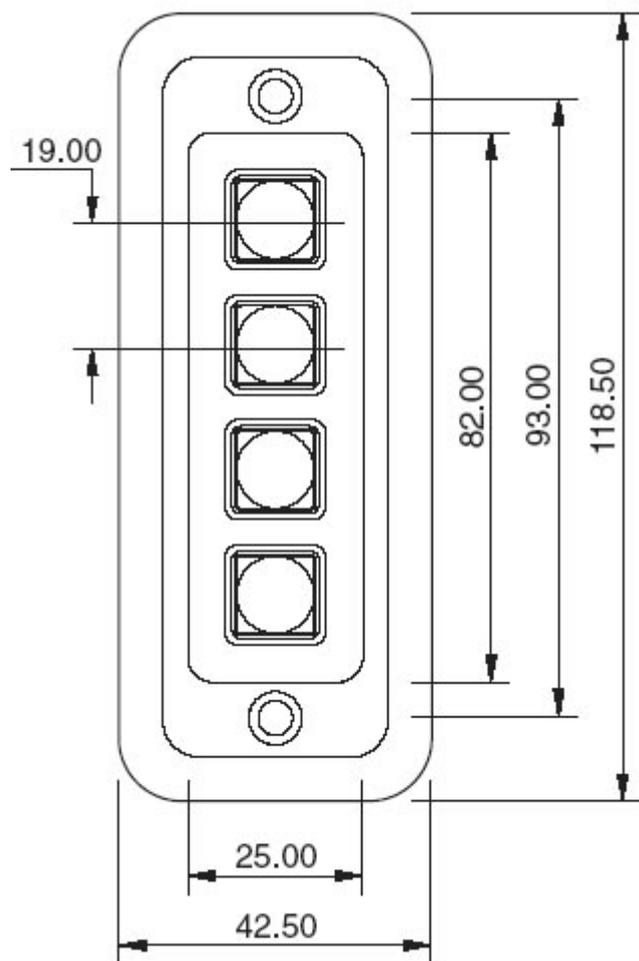
Several other areas of the software can be triggered by the dry contact ports. These can be located within the software Preferences.



**Samples of Keypads - Storm 4 buttons (details and connections)** See below for a complete description on where to order this keypad from and the components for the cable. We also explain how to make the connections. For more information visit [www.storm-keypads.com](http://www.storm-keypads.com)

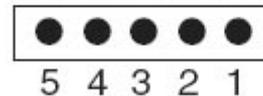
Description	Picture	Ref. <a href="#">Storm</a>	Ref. <a href="#">Farnell</a>	Ref. <a href="#">Radiospares</a>
Touch keypads for exposed public applications (Storm 1000 PLX series)		PLX0422 01	102957	301-3835
Robust keypads for harsh industrial use (Storm 2000 series)		2K0421 01	546392	

Touch keypads with snap-on keytops for custom legends (Storm Graphic Series)		GS0402 01	102799	301-3885
--	---	-----------	--------	----------

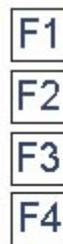


### Connection Details for 4 Key Keypad

#### CONTACT CONNECTIONS



(As viewed from rear of keypad)



KEY LOCATION  
(As viewed from front of keypad)

CONTACT MATRIX	
CONN. PIN	ROW/COLUMN
1	common
2	F4
3	F3
4	F2
5	F1

<b>Components to buy to make the cable</b>	Pictures	Ref. <a href="#">Farnell</a>	Ref. <a href="#">Radiospares</a>
HE10 Connector female 10 pins (quantity 2)		636034	454-2362

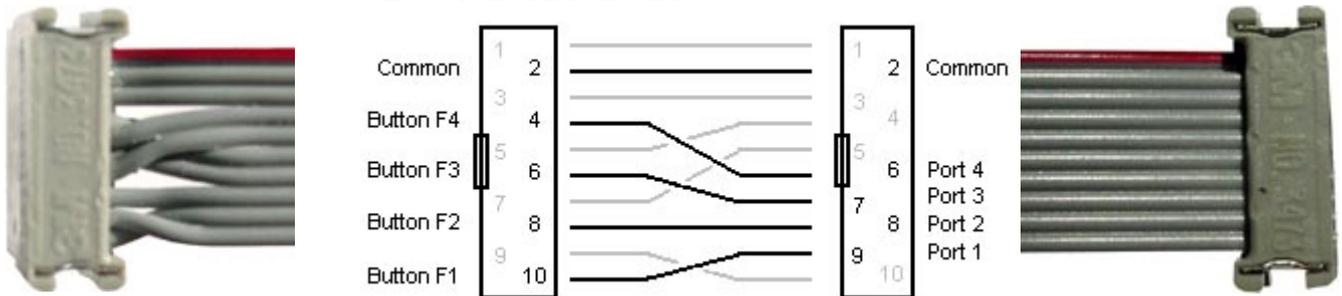
Ribbon cable (Quantity 1m or +)		148011	246-8133
---------------------------------	---	--------	----------

Connection to keypad 4 buttons

**Here is the description of the connection.**

Connection to DMX interface

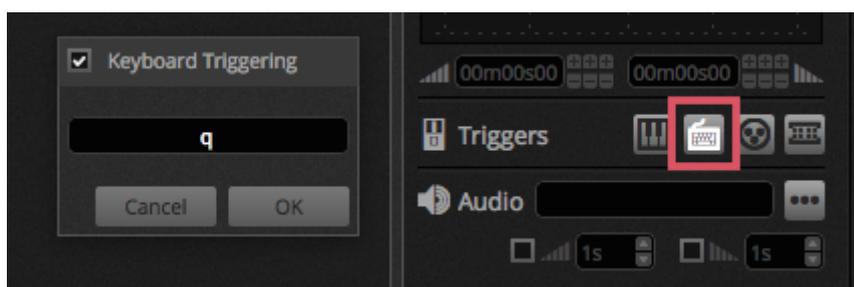
Only 5 wires are required to use the 4 buttons of the keypad, but we advise to connect the 10 wires of the ribbon cable.



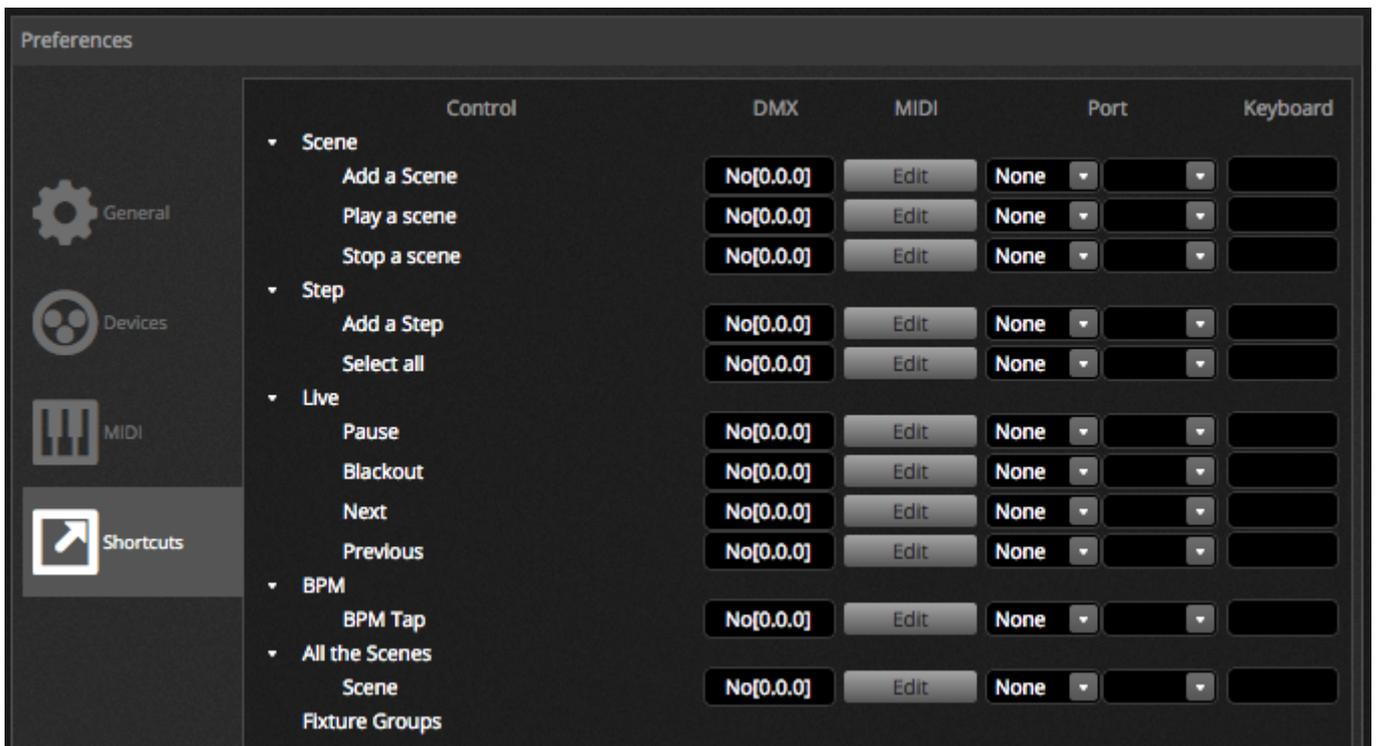
Storm Interface - Keymat 14 Bentinck Court, Bentinck Road, West Drayton, UB7 7RQ, England Tel: +44 (0)1895 431421 Fax: +44 (0)1895 431132 Email: sales@keymat.com Storm Interface USA 364 Pennsylvania Avenue, Suite 202, Glen Ellyn, Illinois, 60137, USA Tel: 630 469 2981 Fax: 630 469 2975 Email: sales.usa@storm-keypads.com [www.storm-keypads.com](http://www.storm-keypads.com)

## 5.6.Keyboard

A scene can be triggered from a computer keyboard key. To map a key to a scene, select the scene and then click the Keyboard trigger button within the scene properties window. If you want to flash a scene with the keyboard, enable 'Flash Mode' from the scene properties window.



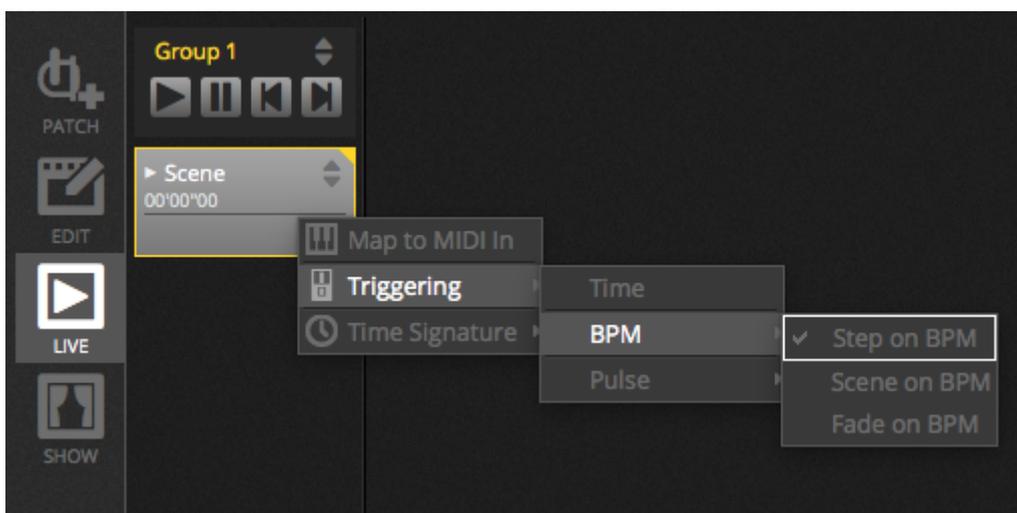
Several other areas of the software can be triggered by the dry contact ports. These can be located within the software Preferences.



## 5.7.Audio

Scenes in Cameo D4 can be synchronised with the music BPM or Pulse. It's possible to have some scenes following the pulse and others following the BPM. To map a scene to the BPM or pulse, right click the scene and select one of the following options:

- Step on BPM : The scene will jump to the next step when it receives a beat from the BPM tool
- Scene on BPM : The scene will repeat when it receives a beat from the BPM tool
- Fade on BPM : The scene will jump to the next step when it receives a beat from the BPM tool and will continue towards the next step using the set fade time
- Step/Scene/Fade on Pulse : The same as above however the Pulse tool will be used



### BPM triggering

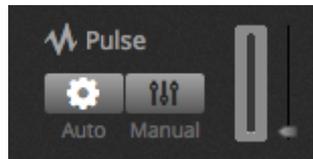
There are several different BPM synchronisation options available:

- Audio - analyses the incoming audio signal to calculate the BPM (the audio input device can be selected below)
- Tap - a manual button which can be tapped to determine the BPM
- MIDI - reads 'MIDI clock' allowing you to read the BPM from many popular DJ software packages and mixers (the MIDI clock device must be selected in the software preferences)



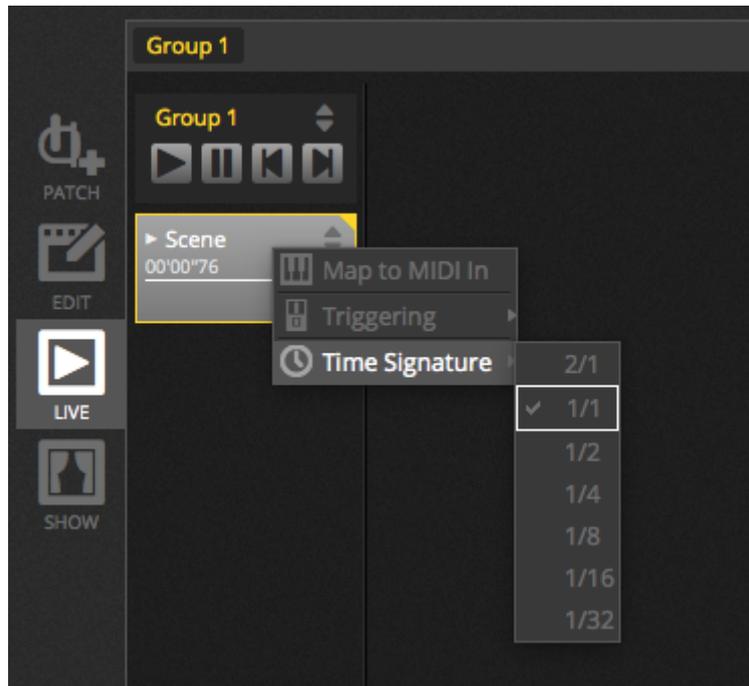
## Pulse triggering

Pulse will transmit a trigger each time the incoming audio level hits a threshold. The threshold can be set automatically or manually with the fader. Threshold is great if you're looking for your lights to 'follow' the music but stop at quieter sections.



## Time signature

When right clicking a scene, it's also possible to set a time signature. The default is 1/1 which means that each time a beat is received, the scene will repeat or jump by 1 step. This time signature can be divided so that the scene can repeat/jump several times for each beat. For example: if the time signature is set to 1/2, the scene will repeat twice or jump 2 steps for each beat.



# 6.Show

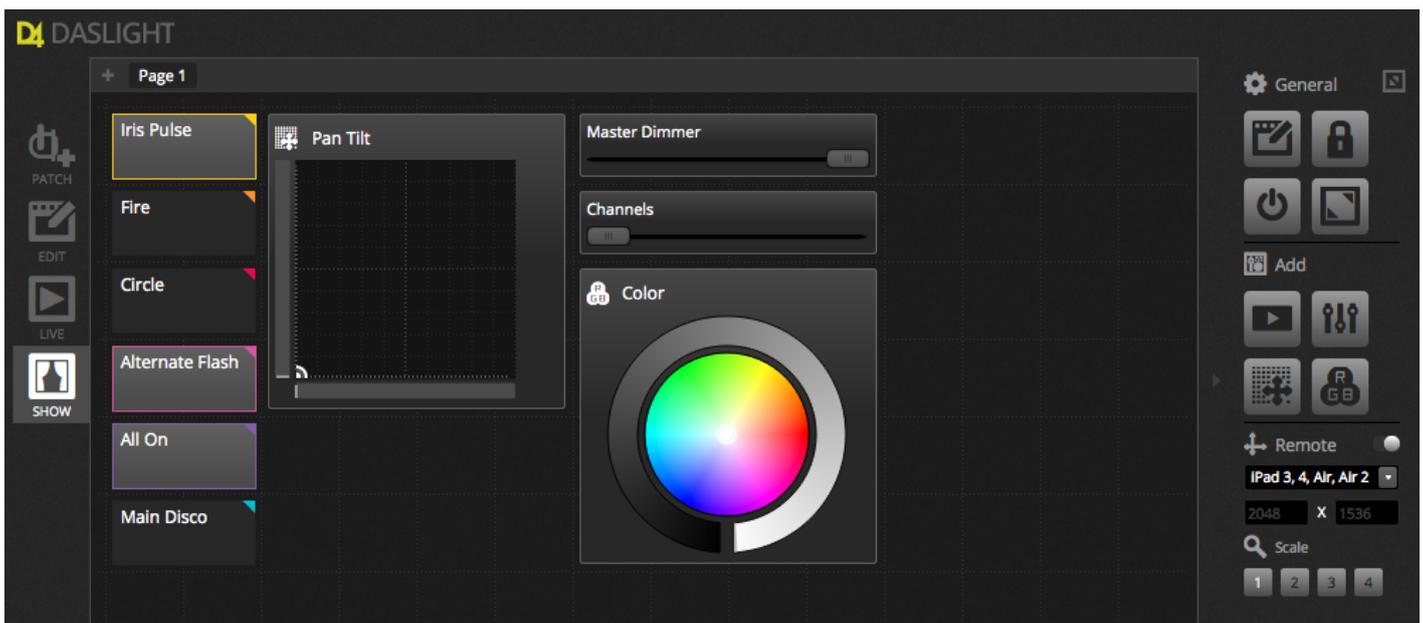
## 6.1.Adding Controls to Show Mode

Show mode is used to create a custom user interface for Cameo D4. It can then be displayed on an external monitor or in full screen. Show mode is ideal for installations and kiosks.

To add a control to the Show Mode screen, hold alt and click the required button/fader/palette. The following items can be added:

- Scenes
- Channel Faders
- Master Fader
- Palettes and presets
- Fixture groups
- Scene dimmer and speed
- Group controls (next scene, previous scene, play)
- Live bar controls

Controls can be grouped into pages which are added by clicking the + icon in the top left of the screen.



### Show Mode Toolbar

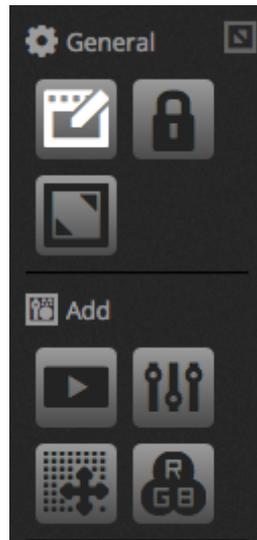
Several additional options are available on the right toolbar which can be hidden by clicking the small arrow.

General:

- Edit : Controls can be moved and resized by clicking the 'Edit' button and dragging the control.
- Lock : Lock the screen with a password. When the screen is locked, it's not possible to edit the show.
- Full Screen : Show mode screen in full screen. For setups with more than 1 monitor, choose the display adapter from the preferences

## Add:

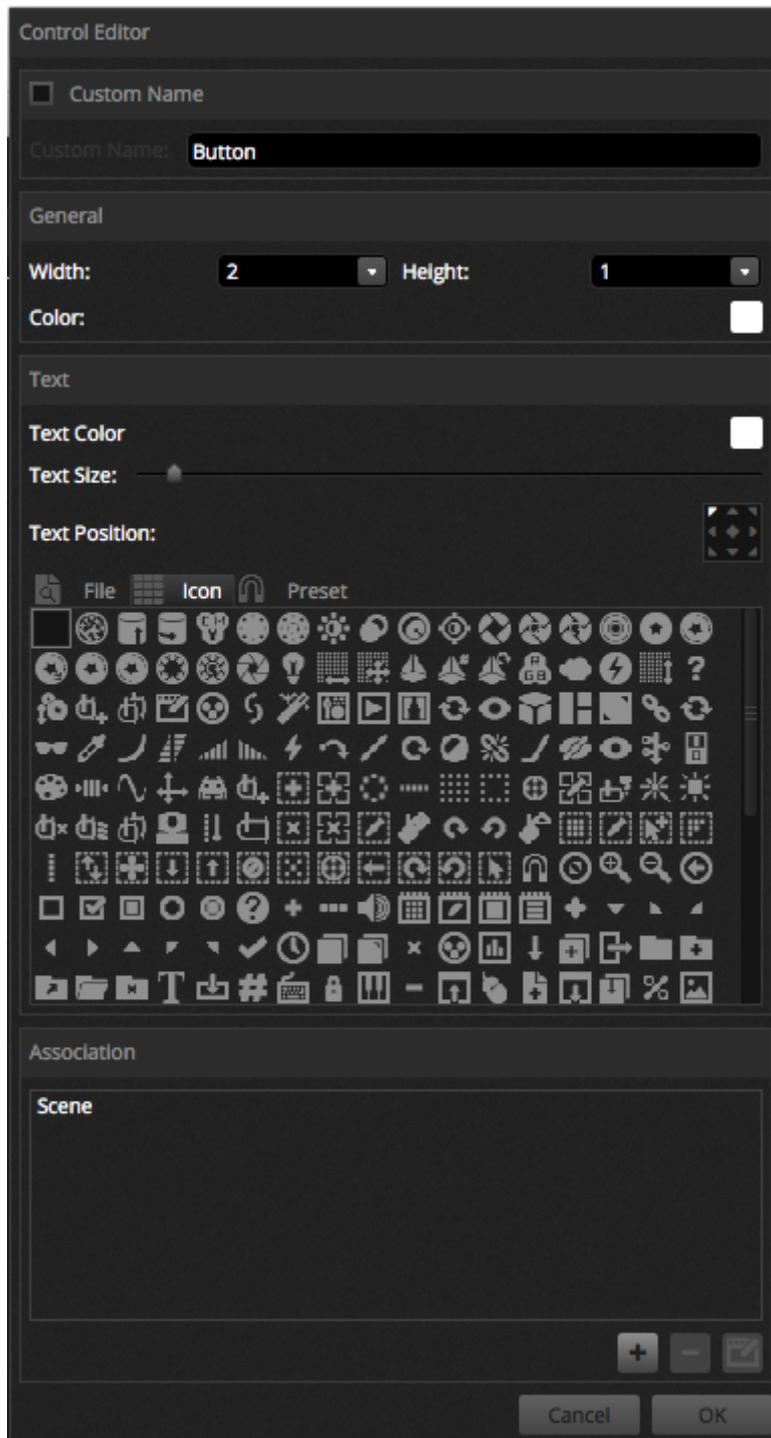
Buttons, faders, pan/tilt grids and color wheels can be added manually by clicking the corresponding button and selecting the pairing.



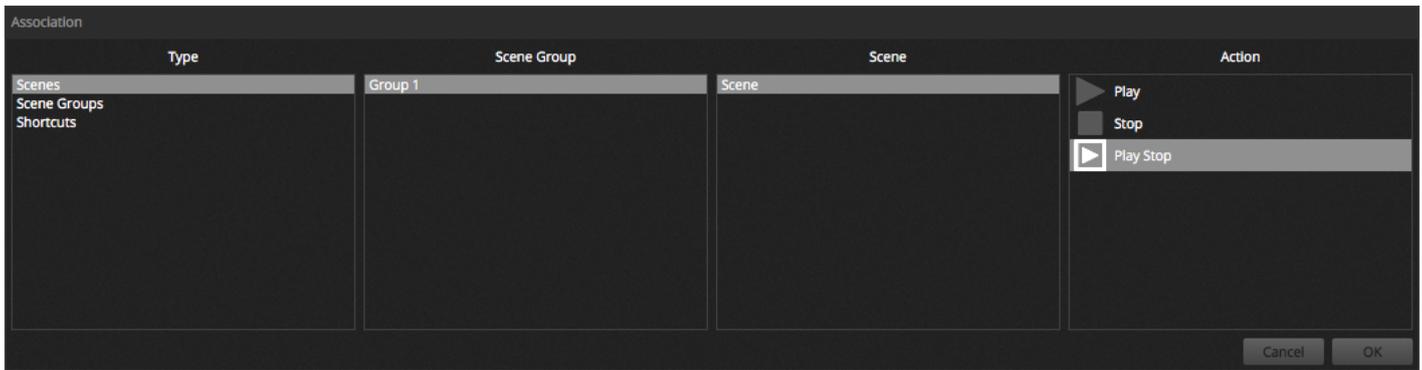
## Editing Controls

The properties of a control can be edited by double clicking. The Control Editor window allows you to make several changes:

- Custom Name : change the name of the control from the default name assigned
- Color : set the color of the control
- General : set the width/height of the control and set the label text color, size and position. It's also possible to assign a custom graphic to a button, or choose from one of the available icons. If an icon is chosen, the color will be changed automatically.



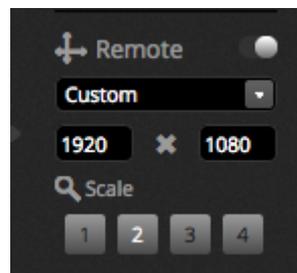
The association or pairing of a control can be edited by clicking 'Edit Association'. The Association window appears with a list of commands. Several commands may be added so that one button can be used to trigger several different scenes or 1 fader can be used to control the speed of several scenes for example.



## 6.2.iPhone/iPad/Android (Easy Remote app)

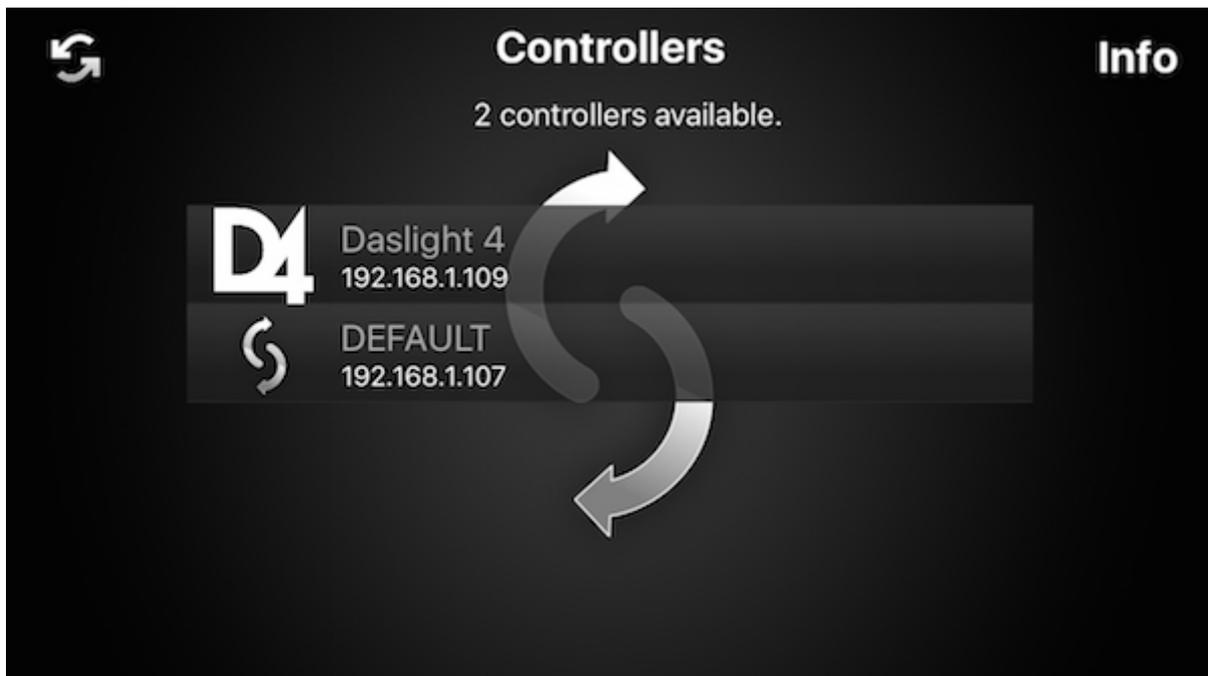
Show mode can be controlled from an iPhone/iPad/Android device using the Easy Remote app which is free to download at the App/Play Store.

To begin with, be sure that 'Remote' is enabled on the toolbar. When editing in Show mode, a white square will appear which represents the boundaries of the tablet or smartphone. Select your tablet or smartphone model from the combo box or manually enter the dimensions. Setting the dimensions correctly ensures that the components on show mode will be correctly proportioned on your tablet or smartphone. To create space to add more controls, click the one of the 4 'Scale' buttons. Increasing the space will consequently make the controls look smaller on the smartphone/tablet but will not change the size in Cameo D4.



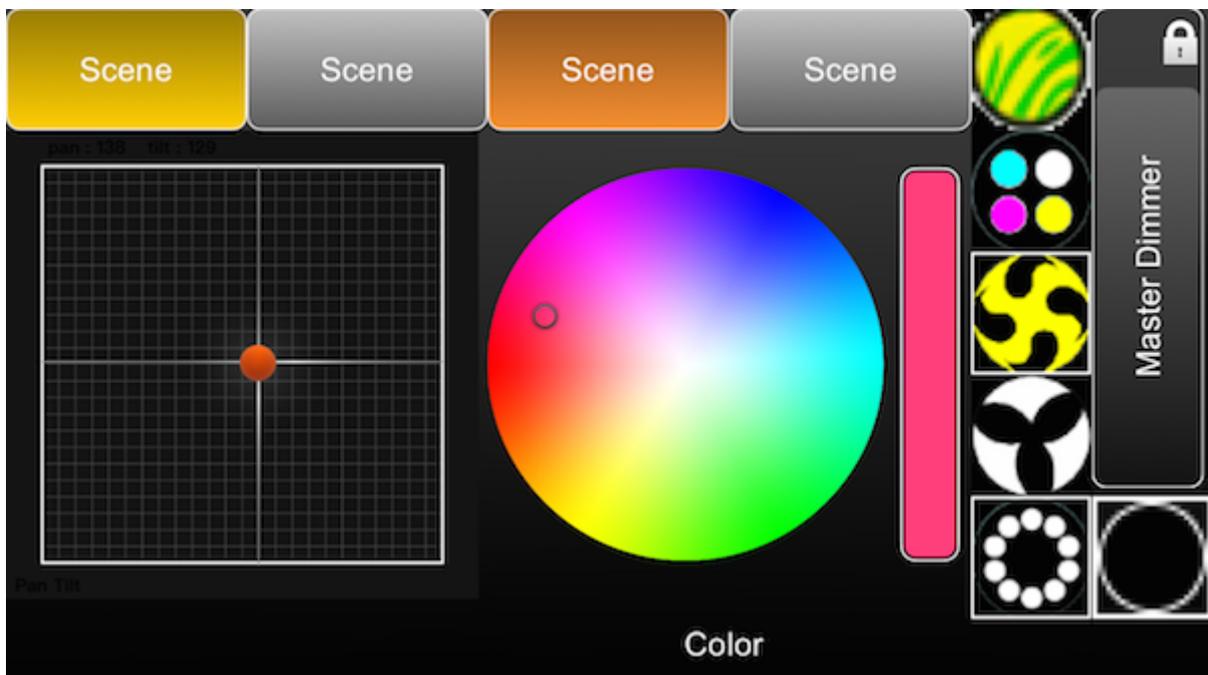
### Connecting a Smartphone or Tablet

Show mode operates over a Local Area Network, therefore the computer running Cameo D4 and the tablet or smartphone running Easy Remote must be connected to the same network. When the app is launched, Easy Remote will display a list of all devices on the network. Select Cameo D4 and the interface will be built automatically.



Buttons, faders, color wheels and pan/tilt grids are controlled in the same way as Cameo D4. If a show uses multiple pages, navigate between the pages by swiping left and right in an empty space, or by tapping one of the dots at the top.

The custom screen is updated automatically as changes are made in Cameo D4. To refresh the screen at any time, tap the 'lock' button in the top right and then tap the 'refresh' button. Tap the 'back' button to return to the device menu.



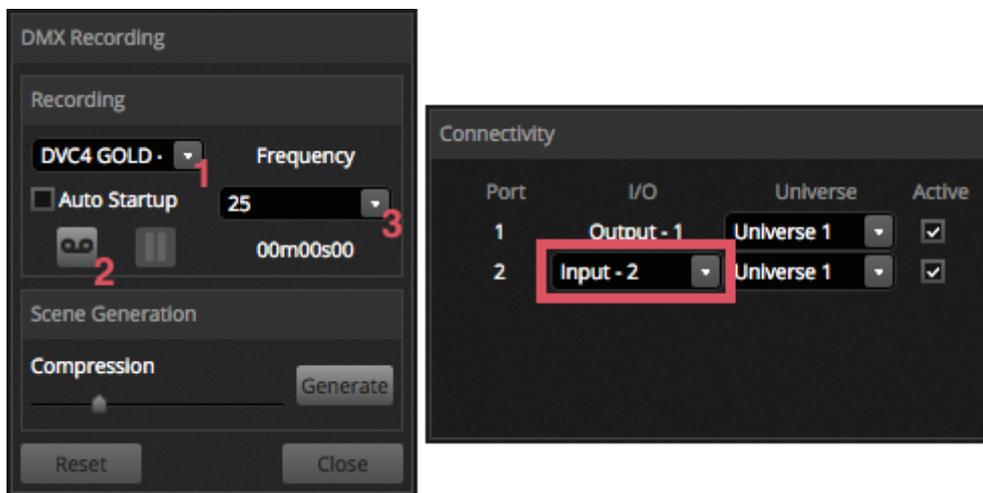
## 7. Other Information

### 7.1. DMX Recording

Cameo D4 can record an incoming DMX signal with a compatible DMX interface. The recorded data can then be compressed and written to a scene. To record DMX, at least 1 DMX Input must be activated within the Preferences. The DMX Recorder can be found in the 'Tools' menu.

DMX can be recorded by selecting the input device from the combo box (1) and then clicking record (2). When the 'Auto Startup' checkbox is checked, Cameo D4 will not start recording until a change in the DMX input is detected. DMX is normally transmitted at 25 frames per second which is the default recording frequency. The recording frequency can be changed here (3).

Once the recording is complete, the recorded data can be converted to a scene by clicking the 'Generate' button. As with Effects, the scene will be generated on the selected fixtures. The number of steps included in the generated scene can be reduced by adjusting the 'Compression' fader which is useful for stand alone scenes where memory is limited. The 'Reset' button will clear the recorded data.



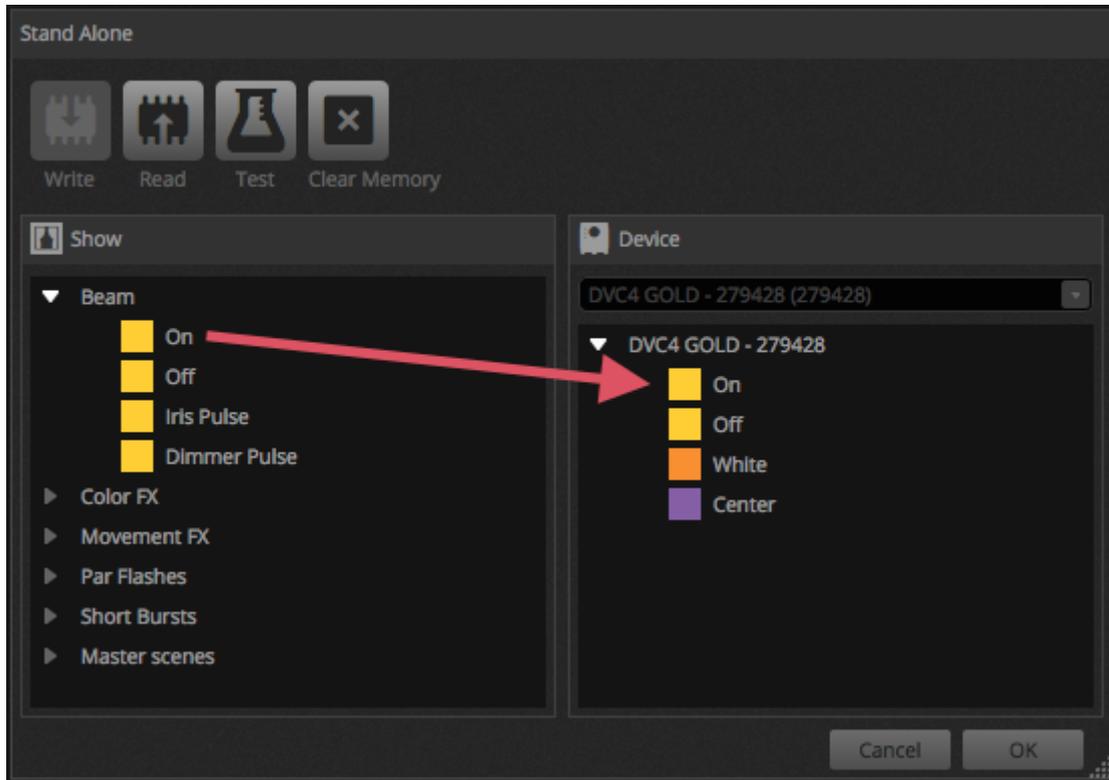
### 7.2. Stand Alone

Scenes from a Cameo D4 show can be transferred to a compatible DMX interface and run in Stand Alone without a computer. This is useful to have as a backup, or for a small show or architectural installation where a computer is not always required. Stand Alone features vary depending on the connected interface. For example, some interfaces can play several scenes at the same time while others are restricted to one scene at a time. Other features include calendar triggering and SD card memory to play larger shows. The 'Stand Alone' window can be accessed from the 'Tools' menu.

A Stand Alone show can be created by selecting a connected Stand Alone interface from the combo box on the right. A list of all scenes in the show appear on the left. Scenes can be assigned to Stand Alone by dragging the corresponding scene from the left and dropping it onto the device on the right. Multi-Page devices will show a list of pages. By dragging one scene to page A and another scene to page B, both scenes can be played simultaneously provided they are not controlling the same channels.

Once the Stand Alone show has been built, click 'Write' to write the show to the device. Other buttons include:

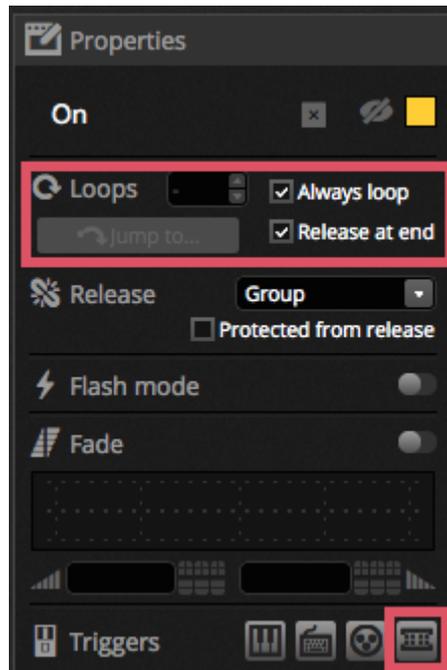
- Read : takes the show from the device and loads it into Cameo D4. Note that on devices with limited memory, only essential information is saved therefore reading the memory should only be used if the .dvc file has been lost. For example, scene names may not be recalled.
- Test : sets the DMX interface to Stand Alone mode allowing for the Stand Alone show to be tested.
- Clear Memory : erases all written scenes from the memory. Note that each time the memory is written, it is erased first and therefore it is not necessary to clear the memory before writing a new file.



## Port Triggering, Jumping and Looping

Scenes can be triggered via the DMX interface's dry contact ports. The port is set within the scene properties window of the Edit tab. See the 'Dry Contact Ports' topic for more information.

A scene can be set to loop a certain number of times and then jump to another scene. These settings can be found within the scene properties window of the Edit tab.



## Time Triggering

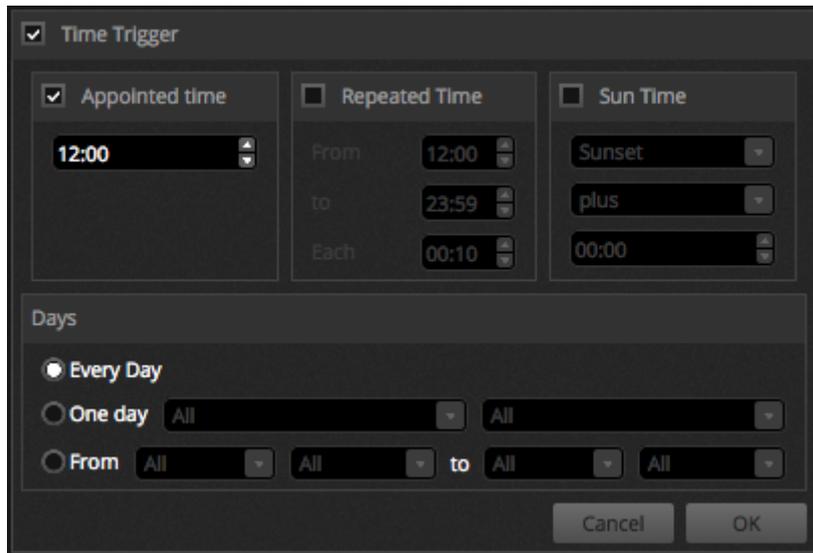
Some interfaces include a clock and calendar allowing a scene to be automatically recalled at a certain time of day or a certain day or date when the device is in Stand Alone mode. To add a time trigger to a scene, right click the scene in the Stand Alone window and select 'Time Trigger'.

There are 3 ways to trigger a scene :

- Appointed time : set a time of the day when a scene is triggered.
- Repeating time slot : Re-trigger a scene several times between a start and end time (if you have a scene set to Always Loop, this function will restart the scene).
- Sun Time : Triggers a scene at sunrise and sunset (compatible device required). Check that the location settings are correct within the Hardware Manager application.

By default, the time set will be triggered every day. This can be changed to just 1 day each year (for example, maybe you would like to have your lights green on St Patricks day) or every day between 2 dates. You can also select a scene to trigger on a certain day of the week, or a certain day of the week between 2 dates. The days of the week can be found at the bottom of the date selection box.

NOTE: It is not possible to set a time to turn a scene off from the calendar. The scene will be activated until another is triggered.

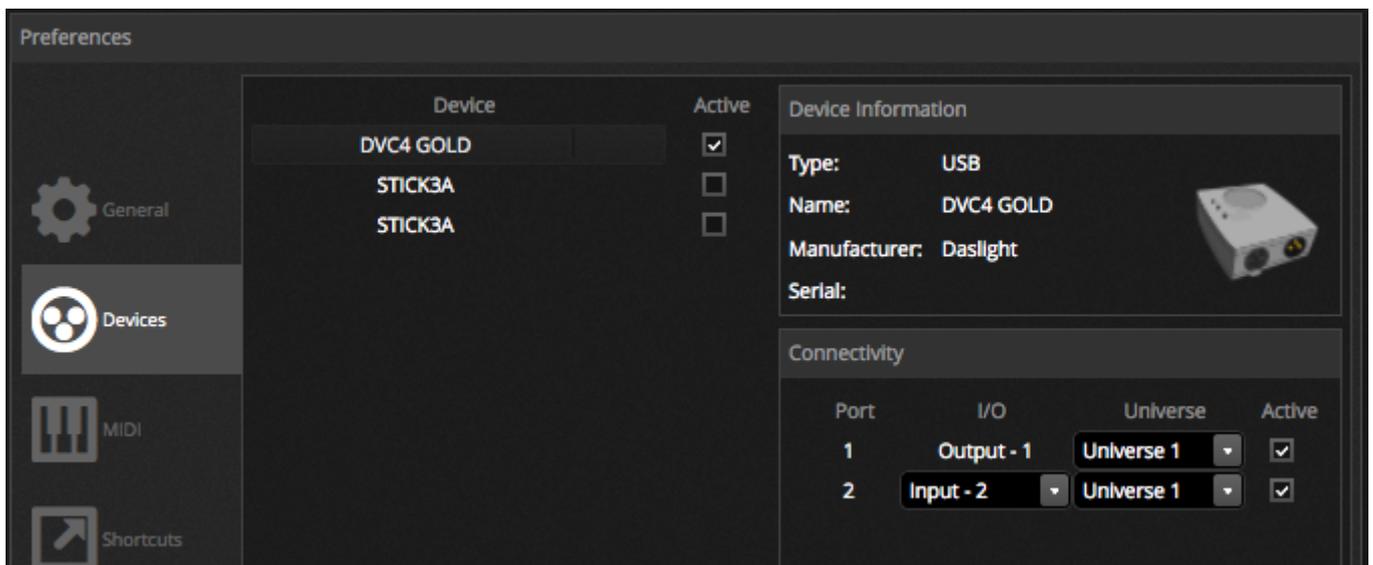


## 7.3.DMX & Art-Net Devices

Cameo D4 is capable of sending and receiving DMX from several different devices simultaneously. These can be configured within the Preferences window. Compatible interfaces include :

- Cameo D4 devices over USB
- Cameo D4 devices over Ethernet
- Art-Net devices (a compatible Cameo D4 device must be connected to enable the Art-Net output)

Available devices are listed on the left, along with the 'Active' checkbox showing which devices are currently being used by Cameo D4. Further information on the selected device is displayed on the right including connection type, serial number, assigned DMX universe and whether the universe is set as an input or an output.

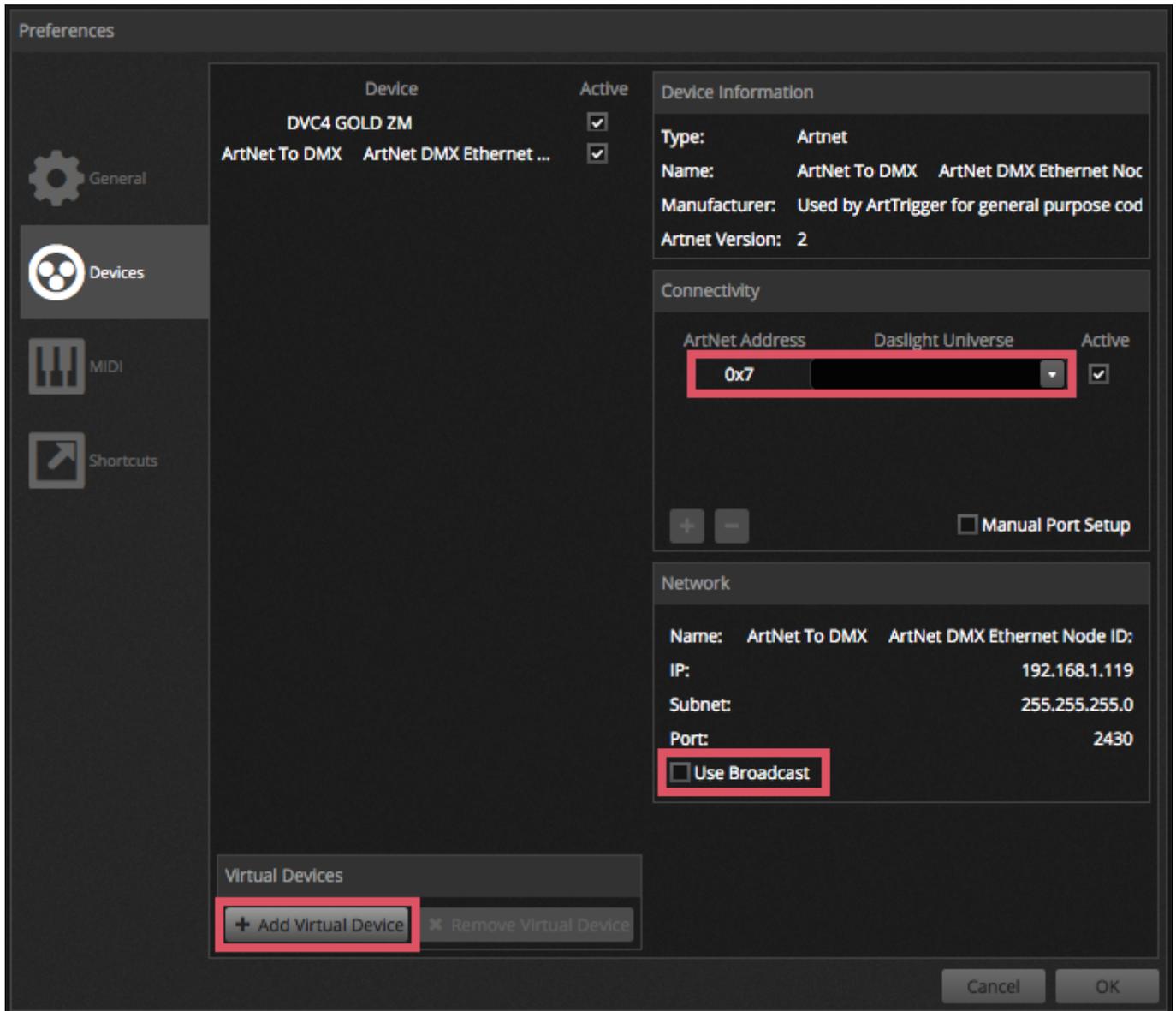


### Art-Net

Cameo D4 can send DMX over Art-Net provided a compatible Cameo D4 device is connected to unlock the Art-Net functionality. Art-Net devices are detected automatically on the left as with USB and Ethernet devices. The software universe can be mapped to the corresponding Art-Net universe on the right.

By default, Cameo D4 will send the Art-Net data to the IP address of the Art-Net device. Messages can also be broadcast across the entire network by clicking on the 'Broadcast' checkbox.

Art-Net devices can also be added manually by clicking 'Add Virtual Device' and entering the name, IP Address and Mask.



## 7.4. Hardware Manager

Further information on the hardware, including the Hardware Manager can be found within the [online hardware manual](#).