Simple DMX Controller - User Manual

SDC supports multiple DMX universes over Art-Net and USB interfaces, giving you flexible connectivity to your lighting rig. Whether you have a handful of par cans or a full setup with moving heads, RGB fixtures, and LED pixel strips, SDC has you covered.

Here is what SDC offers:

Fixture management with GDTF support, so you can work with virtually any DMX fixture on the market. Full RGB and RGBW color mixing with a visual color picker and preset colors. Pan/tilt control with 16-bit precision for smooth, accurate moving head positioning. A complete effects engine including dimmer effects, color effects, gobos, chases, and a pixel mapper. Individually addressable LED pixel strips with 1D and 2D effects, from simple chases to expanding bubbles and radar sweeps. A scene and palette system that lets you save, recall, and organize your lighting looks. Scene faders for live manual control during performances. A visual TimeLine for automating entire lighting shows with cued palettes and fade transitions. MIDI integration with controllers like the AKAI APC Mini MK2 for hands-on hardware control. BPM synchronization to keep your effects in time with the music.

This manual walks you through the features of SDC. Each section covers a specific part of the application with explanations and screenshots to help you get up and running quickly.

For the latest updates, visit simpledmx.net

Table of Contents

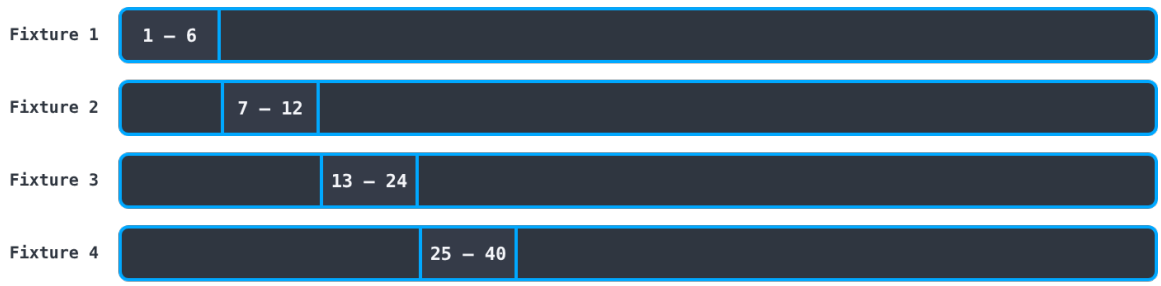
About DMX

What is DMX?

DMX stands for Digital Multiplex. It's a communication protocol used to control stage and event lighting. It was originally developed in the 1980s to create a universal system for lighting equipment to talk to each other. Before DMX, lighting control was messy - each brand had its own system, and connecting different lights often meant using adapters or custom setups.

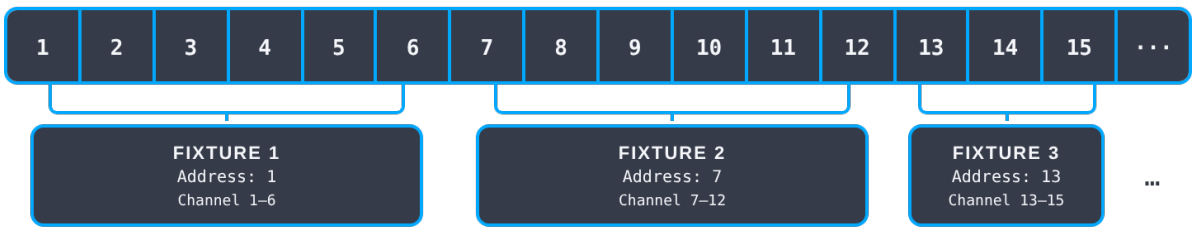
DMX solved this by creating a standard. Today, DMX512 (the most common version) is used worldwide to control lights, fog machines, lasers, moving heads, LED fixtures, and more. It allows you to send control data from a lighting console or software to your lighting devices using simple XLR cables. Even though it was designed decades ago, DMX is still the backbone of modern lighting systems.

The number 512 in DMX512 refers to the number of channels in a single DMX "universe" - each channel can control one function of a light, such as brightness, color, or pan/tilt. Whether you're working in a concert venue, a theater, a nightclub, or a backyard event, if lights need to be synchronized and controlled, DMX is the go-to solution.



How does DMX work?

DMX works by sending control signals from a controller (hardware or software) to lighting fixtures through a daisy-chained cable system. The controller acts like a "brain," sending out fast digital instructions 44 times per second to all connected devices.

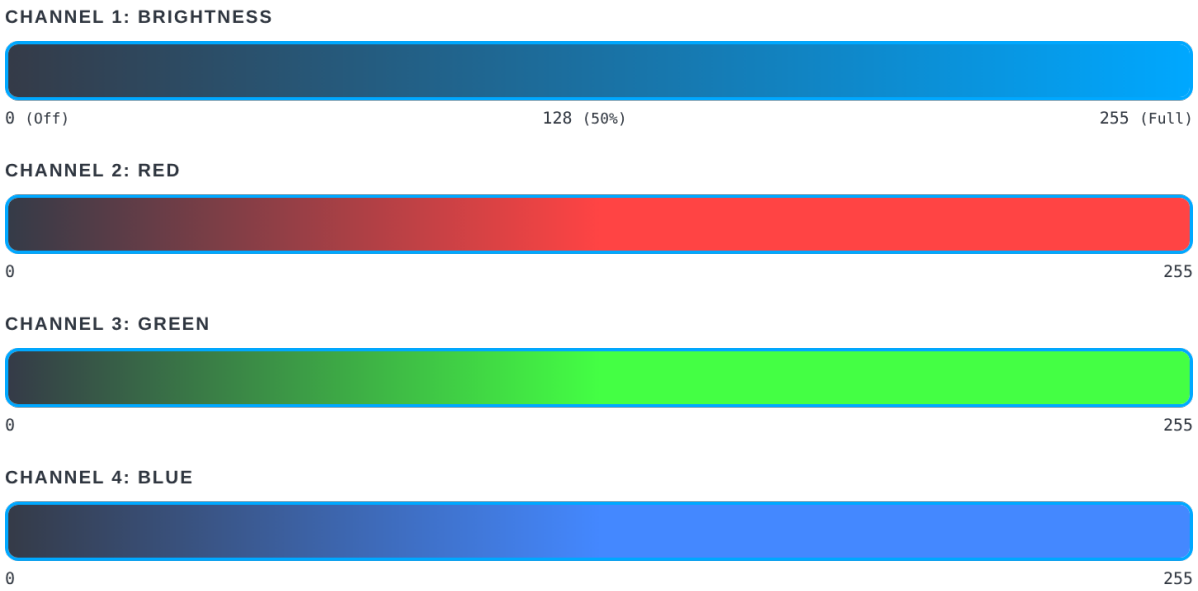


Each fixture is given a starting address - this is the DMX channel where it begins listening. For example, if a light uses 6 channels and its starting address is set to 1, it will respond to channels 1 through 6. The next light might start at channel 7, and so on. This allows one controller to manage many different lights, each doing something different at the same time.

DMX signals are sent through XLR cables, typically 3-pin or 5-pin. All devices are connected in a line - controller to light 1, then to light 2, and so on. The last device in the chain should have a DMX terminator (usually a 120-ohm resistor) to prevent signal reflections that can cause flickering or glitches.

DMX is a one-way protocol, meaning data only flows from the controller to the fixtures. It’s simple, reliable, and fast. With just one DMX universe (512 channels), you can control dozens of fixtures. For larger shows, multiple universes can be used, either with advanced hardware or software that supports Art-Net or sACN over Ethernet.

Because DMX is digital, each channel can have a value between 0 and 255. That range controls things like intensity (0 = off, 255 = full brightness), color mixing (e.g., RGB), strobe speed, or even motor movement in intelligent fixtures.



Industry-standard DMX consoles

Some of the most powerful and advanced DMX control systems are made by companies like MA Lighting (known for the grandMA series), Avolites, and Chamsys. These consoles are used in large-scale productions, concerts, and theaters around the world. They offer advanced features, touchscreen interfaces, and deep programming tools. While they are excellent for complex shows, they can also be expensive and require training. If you're looking for a Simple DMX Controller for Windows, our app offers an easy way to control your lights without the learning curve or high cost of traditional consoles.

Hardware DMX controller vs. software DMX controller

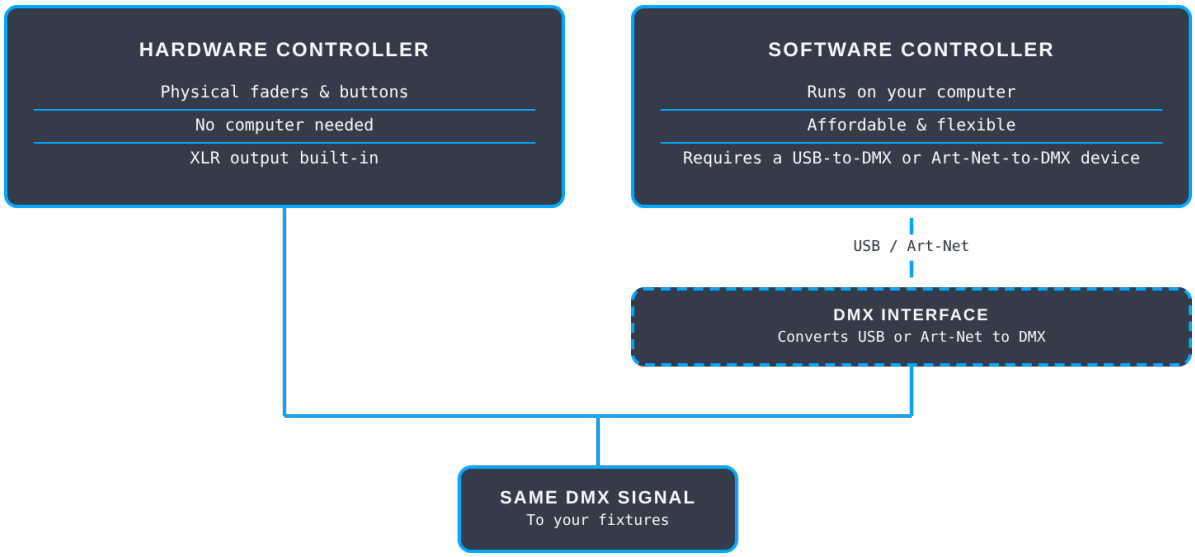
When it comes to running a lighting show, there are two main ways to control your DMX lights: using a hardware DMX controller or software-based DMX control. Both options can send the same DMX signals to your fixtures - but how they work and what they offer can be very different.

What is a Hardware DMX controller?

A hardware DMX controller is a physical device - usually with sliders, buttons, and sometimes a touchscreen - that connects directly to your lights. It sends out DMX signals through standard XLR cables, and doesn’t require a computer to run. These controllers are popular in live environments where reliability, quick access, and real-time control are key.

What is a software DMX controller?

A software DMX controller runs on your computer and connects to your lights using a USB-to-DMX interface or Art-Net device. The software gives you a visual workspace to design scenes, effects and more. Many modern lighting setups now rely on software for its flexibility, lower cost, and powerful features.



Which one should you choose?

If you’re working in a high-pressure live environment where speed and simplicity are critical, a hardware controller might be the better option. But if you're programming a show in advance, running a fixed installation, or want more creative control without the big price tag, a software DMX controller is a smart choice.

Looking for an easy and affordable way to control your lights? Our Simple DMX Controller for Windows lets you run your lighting setup from your PC - with powerful features, intuitive controls, and no steep learning curve.

Finding the channels used by your fixture

Finding the channels used by your fixture

Before you can control a moving head or other DMX fixture from SDC, you need to know which DMX channel controls each function - pan, tilt, dimmer, colors, gobos, and so on. This information is always found in the fixture's user manual, usually in a "DMX channel" or "channel assignment" table.

Step 1: Choose a DMX mode

Many fixtures support multiple DMX modes using different numbers of channels. The Varytec Hero Spot 90, for example, offers a 6-channel and a 16-channel mode.

Fewer channels = simpler control, less flexibility More channels = access to fine-tuning and additional effects (e.g. 16-bit pan/tilt, individual gobo rotation, focus, prism)

You set the mode on the fixture itself - on the Hero Spot 90 this is done via Menu # DMX Channel # DMX 6 Ch / DMX 16 Ch.

The number of channels the fixture uses determines how you add it in SDC - see the section *Add Fixture*.

Step 2: Read the channel table

Once you've chosen a mode, find the matching channel table in the manual. Here's the Hero Spot 90 in 16-channel mode as an example:

Ch 1 - Pan Ch 2 - Pan fine (16-bit) Ch 3 - Tilt Ch 4 - Tilt fine (16-bit) Ch 5 - Pan/Tilt speed Ch 6 - Dimmer Ch 7 - Shutter / Strobe Ch 8 - Color wheel Ch 9 - Static gobo wheel Ch 10 - Rotating gobo wheel Ch 11 - Gobo rotation Ch 12 - Focus Ch 13 - Prism Ch 14 - Auto programs Ch 15 - Pan/Tilt auto programs Ch 16 - Reset

In 6-channel mode, only the essential functions are available: pan (ch. 1), tilt (ch. 2), dimmer (ch. 3), strobe (ch. 4), and two auto-program channels (ch. 5–6).

When adding the fixture in SDC using an SDC fixture file, these channel numbers map directly to the channel slots you configure - see the section Add Fixture - With SDC-file. If a GDTF file is available for your fixture, SDC can set up the channel mapping automatically - see the section Add Fixture - With GDTF-file.

Step 3: Note the value ranges

Each channel uses values 0–255, and the fixture manual tells you what each value range does. This matters when using Fixture Faders or is setting a single DMX value to test your fixture.

For example, on the Hero Spot 90 shutter/strobe channel (ch. 7 in 16-channel mode):

0–4: Closed (blackout) 5–250: Strobe, increasing speed 251–255: Open (full on)

So to have the light on continuously, you need to send a value of 251 or higher on the strobe channel. Pan and tilt both use 128 as the center position, with 0 and 255 at the extremes of the movement range.

Step 4: Set the DMX start address on the fixture

The start address tells the fixture which DMX channel number corresponds to its channel 1. On the Hero Spot 90 this is set via Menu # DMX Address (values 001–512).

If you set the address to 001, channel 1 of the fixture is DMX channel 1, channel 2 is DMX channel 2, and so on. If you set it to 020, the fixture's channel 1 is DMX channel 20, channel 2 is DMX channel 21, etc.

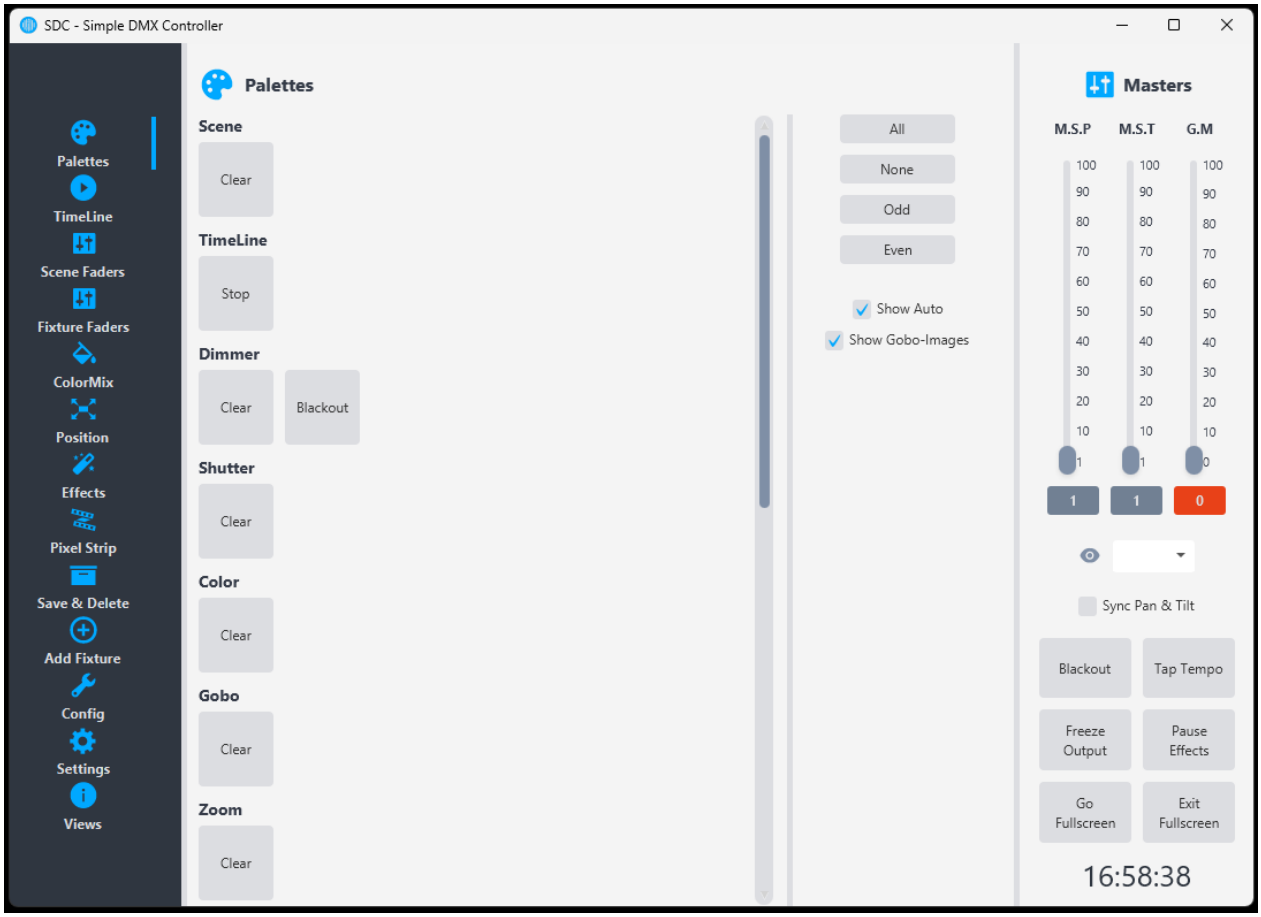
The start address you set on the fixture must match the address you configure in SDC when adding the fixture. You can verify what SDC is actually outputting on each channel using Views # Universe Levels.

About The Interface

The Interface

SDC doesn't have a standard menu bar like many other Windows apps, as it's designed for fullscreen use.

SDC's interface is divided into three sections that sit side by side. From left to right: the Menu, the Center Pages, and the Masters section. All three are connected by resizable dividers, so you can adjust each section to fit your workflow and screen size.



The image above shows the Palettes page on a fresh load — no fixtures added, no palettes saved. Even empty, it gives you a clear picture of how the three sections are laid out.

The Menu (Left Section)

The left section is the navigation menu. Each button switches the center area to a different page. The pages are listed from top to bottom:

Palettes: Where you recall and manage saved palettes (lighting presets). This is the default landing page.

TimeLine: Sequence palettes as timed cues with transitions for automated playback.

Scene Faders: Vertical faders that each trigger a saved palette, for live mixing between looks.

Fixture Faders: Individual channel-level faders for every fixture in your project.

ColorMix: RGB color mixing controls for your fixtures.

Position: Pan and tilt movement controls, static positioning, and XY grid.

Effects: Chase, dimmer, shutter, and other parametric effects for your fixtures.

Pixel Strip: Controls for individually addressable LED strips with 1D and 2D effects.

Save & Delete: Save your current control states as palettes, scene faders and chases or delete existing ones.

Add Fixture: Add new fixtures to your project using GDTF fixture definitions or simple SDC fixture definitions.

Fixture Config: Configure pan tilt invert, pixel strips and delete fixtures.

Settings: Application settings including DMX interface setup, Art-Net configuration, and MIDI.

Views: Opens a popup menu with additional information windows (see below).

The menu text labels are responsive. If you drag the left divider far enough to the left, the text disappears and only the icons remain. This gives you more room for the center pages when you need it.

On smaller screens (below 800 pixels tall), the menu switches to a compact mode automatically to fit all buttons without scrolling.

The Center Pages (Middle Section)

The center section is the main workspace. It changes based on which page you selected in the menu. Most center pages are split into two areas by a horizontal divider:

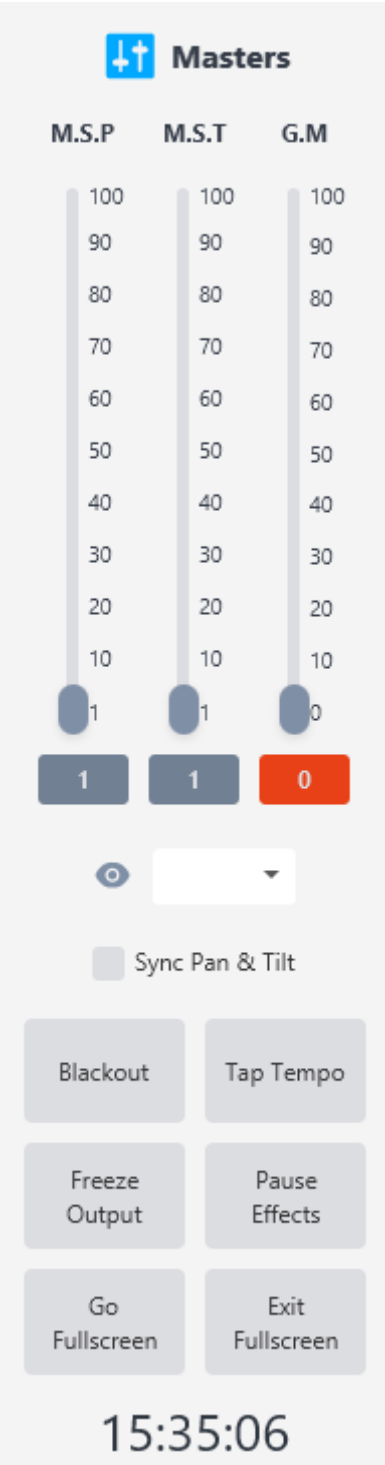
The left half contains the controls - faders, buttons, effect parameters, and whatever tools that page provides.

The right half contains the fixture selection panel. This is where you select which fixtures should be affected when you change settings. Each fixture appears with a checkbox, and you apply changes only to the checked fixtures.

This pattern is consistent across pages like Palettes, Position, Effects, Pixel Strip, and Fixture Faders. It means you can always control exactly which fixtures respond to your adjustments.

The divider between the two halves is also resizable, so you can give more space to the controls or to the fixture list depending on what you are working on.

The Masters Section (Right Section)



The far right section contains the master controls - the things you need access to at all times regardless of which page you are on.

Master Speed Pan (M.S.P): A vertical fader that overrides the pan movement speed for all fixtures that have Master Speed Control enabled in their Fixture Config. This lets you slow down or speed up all movement globally without touching each fixture's individual speed setting.

Master Speed Tilt (M.S.T): Same as above but for tilt movement.

Grand Master: The main dimmer fader. This scales the output brightness of every fixture in the project. At 100 everything outputs at full. Pulling it down dims everything proportionally.

Fixture Dropdown: A dropdown to select a specific fixture and view its master speed settings.

Sync Pan/Tilt: A checkbox that locks the Master Speed Pan and Tilt faders together so they move as one.

Blackout: A toggle button that kills all DMX dimmer output instantly. Press again to restore. This is your emergency darkness button.

Tap Tempo: Tap this button repeatedly to set the BPM for chase and effect timing. The tempo is calculated from the interval between your taps.

Freeze Output: Freezes the entire DMX output at its current state. All effects, movements, and fader changes stop having any effect on the output until you unfreeze. Useful for holding a look while you prepare the next one.

Pause Effects: Pauses all running effects without stopping them. Unlike Freeze, which locks the DMX output, Pause stops the effect engines from advancing - so when you unpause, the effects resume from where they left off.

Go Fullscreen / Exit Fullscreen: Switches SDC to fullscreen mode or back to windowed mode.

Clock: A real-time clock display at the bottom of the Masters section.

If you do not need the Masters section visible - for example, during programming when you are focused on building palettes - drag the right divider all the way to the right edge to hide it. You can always drag it back when you need it.

Views

The Views button at the bottom of the menu opens a popup with additional information windows. These windows are separate from the main interface and can be placed on a second monitor in a dual-screen setup. On a single-screen setup, they work just as well floating in front of the main window.

The available Views are:

Fixture Levels: Shows the current DMX output values for your fixtures in real time.

Fixture Status: Displays which fixtures are active and what they are doing.

Fixture RGB Color: Shows the current RGB color output of each fixture as a visual color swatch.

Set Pan & Tilt Invert: Configure pan and tilt channel inversion for your fixtures.

Set Attributes To Use In Effects: Choose which fixture attributes (gobo and color) are included when auto-effects run.

Set Single DMX Value: Manually set a specific DMX channel to a specific value. Useful for testing and troubleshooting.

Effect Status: Shows which effects are currently running.

Universe Levels: Opens a grid of numbered buttons (one per universe) that each show the live DMX channel values for that universe.

MIDI Assign: Configure MIDI mapping for buttons, faders, and controls in SDC.

The Views are designed for dual-screen setups where you keep the main interface on one screen for programming and control, and the Views on the other screen for monitoring. Having Fixture Levels or Universe Levels visible on a second monitor while you program gives you instant feedback on what your DMX output is actually doing.

Resizing

Every section boundary in SDC is a draggable divider. This includes the divider between the menu and the center pages, the divider between the center pages and the Masters section, and the divider within center pages that splits the controls from the fixture selection panel.

Drag the left divider to the left to collapse the menu down to icons only. Drag the right divider to the right to hide the Masters section entirely. Drag the center page divider to give more or less space to the fixture selection panel. SDC remembers your divider positions between sessions.

Add Fixture - With GDTF-file

Add Fixture - With GDTF-file

Intro

If you have a properly configured GDTF file, you can start playing with your fixtures in just a few seconds. GDTF files are available from https://gdtf-share.com/, which hosts a massive fixture library. If you don't have a GDTF file for your fixture, head over to the post titled "How to Generate a GDTF File for SDC". It's very simple since SDC only requires a minimal GDTF file.

Adding a Fixture with a GDTF File

Once you've downloaded the GDTF file, go to the Add Fixture page and click "Select GDTF File". A file chooser opens, filtered to .gdtf files. Select the file from your computer. SDC now reads the GDTF file and the file name appears in the read-only "Loaded File" field, and the "DMX Mode" dropdown populates with all modes found in the file. Choose the mode that matches your fixture's physical DIP switch or menu setting.

Fill out the remaining form fields:

Fixture Type ID - a short identifier for the fixture type, up to 12 characters (for example "CPS" or "Sharpy"). All fixtures of the same model should share the same Type ID. This is the label that appears on fixture type buttons throughout SDC.

Fixture ID Color - a color-only dropdown used to visually identify this fixture group. The selected color appears on fixture type labels in Fixture Faders and elsewhere. Twenty colors are available. The default is a dark gray.

Fixture Name - a descriptive name, for example "Sharpy 1 stage left". This name appears in fixture selection checkboxes.

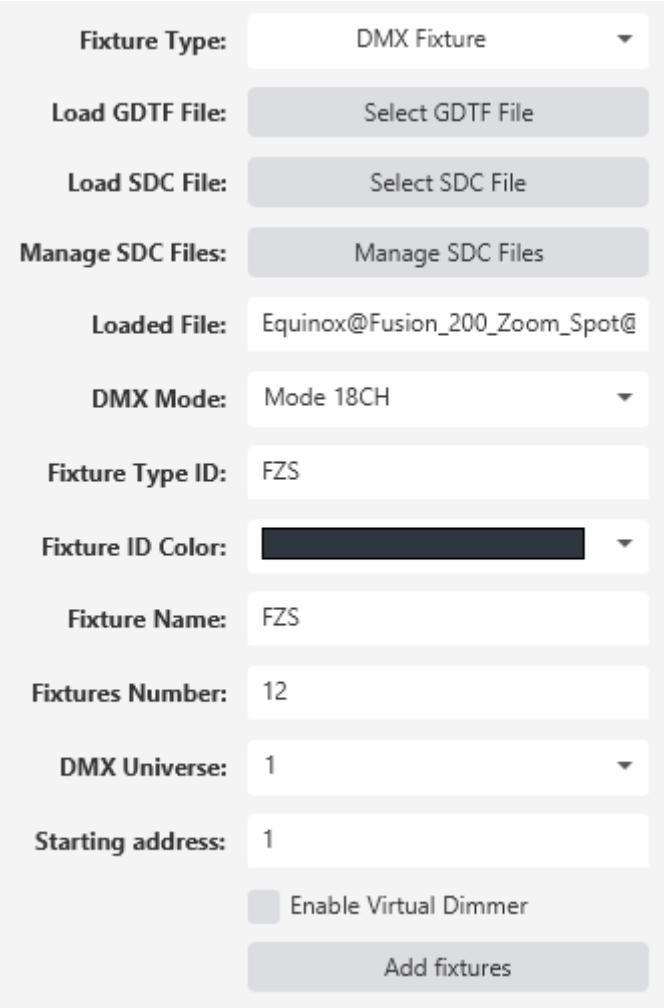
Fixtures Number - how many fixtures of this type to add. SDC creates them in sequence, each using the next available DMX addresses.

DMX Universe - which universe to assign these fixtures to. By default, USB-to-DMX devices use DMX Universe 1, and this setting cannot be changed for USB devices.

Starting address - the DMX start address for the first fixture. Must be between 1 and 512. Additional fixtures follow sequentially based on the channel count defined in the GDTF mode.

Enable Virtual Dimmer - a checkbox that enables a software-based dimmer for fixtures that lack a physical dimmer channel. When enabled, a "VDim" fader appears on the Fixture Faders page, and the Grand Master can control the fixture's brightness.

This is what it should look like when you're adding fixtures.



When you click "Add fixtures", SDC validates every field. If anything is missing or invalid, a warning message appears explaining the problem. When all validation passes, the status shows "Fixtures are being added - Please wait..." and the fixtures are being assigned. The "Add fixtures" button is temporarily disabled during this process to prevent double-clicks.

This is what it should look like once the fixtures have been added.

Lamp num...	Lamp Type...	DMX Unive...	Channel Inter...
1	RP 1	1	1-12
2	RP 2	1	13-24
3	RP 3	1	25-36
4	RP 4	1	37-48
5	RP 5	1	49-60
6	RP 6	1	61-72

The left side of the Add Fixture page shows a table of all added fixtures, with columns for Fixture Number, Fixture Name, Universe, and Channel Interval.

Auto-Generated Palettes

Once the fixtures have been added from the GDTF file, and if the file contains correct information about color and gobo attributes, the Palettes page will automatically be populated with buttons for the various attributes.

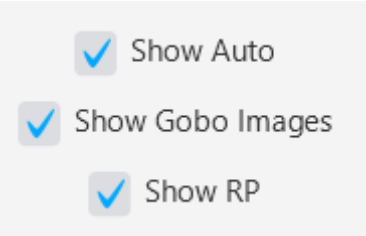
SDC reads color attributes from both Color Wheel 1 and Color Wheel 2 in the GDTF data. Each color attribute that is marked as "use in palettes" gets its own button. The buttons are styled with the fixture's Fixture ID Color, making it easy to identify which fixture type each palette belongs to.

If your GDTF file includes gobo attributes, these will also be shown in the Palettes. Gobo palettes are generated from both Gobo Wheel 1 and Gobo Wheel 2, and each gobo's name from the GDTF file is used as the button label.

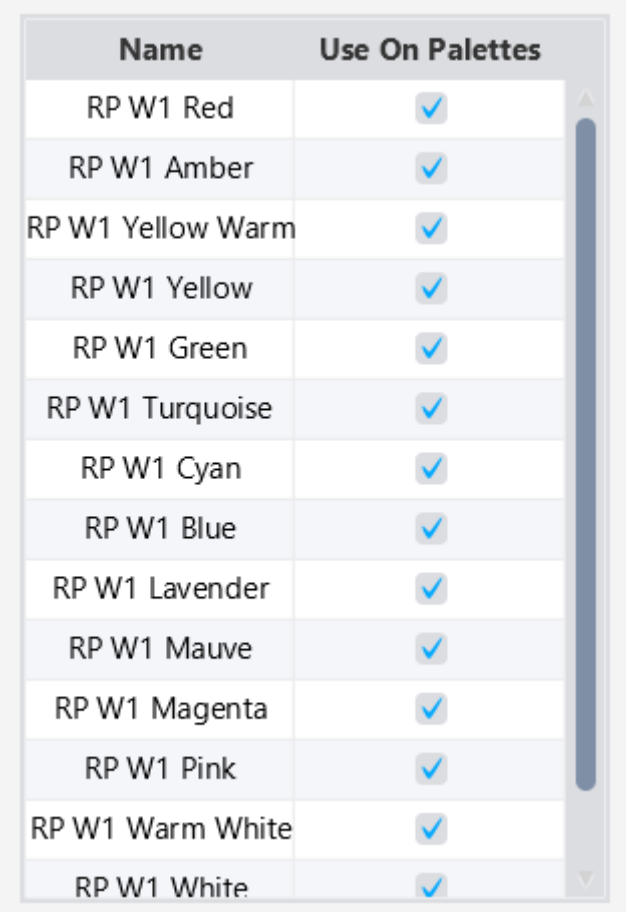
Controlling Palette Visibility

There are two ways to control which auto-generated attributes appear on the Palettes page.

The first is per fixture type. On the Palettes page, you'll find a "Show [fixture type]" checkbox for each fixture type. Unchecking it hides all auto-generated palette buttons for that fixture type. Checking it adds the fixture type back to the list and refreshes the palette display. This setting is saved per fixture type name.



The second is per individual attribute. If there are specific color or gobo attributes you don't want to appear in the Palettes, go to the Fixture Config page. There you'll find a table listing each color attribute (from Wheel 1 and Wheel 2) with a checkbox. Unchecking an attribute hides it from the Palettes page. The same applies for gobo attributes - each one has its own "use in palettes" toggle. This gives you fine-grained control over exactly which colors and gobos appear as palette buttons.

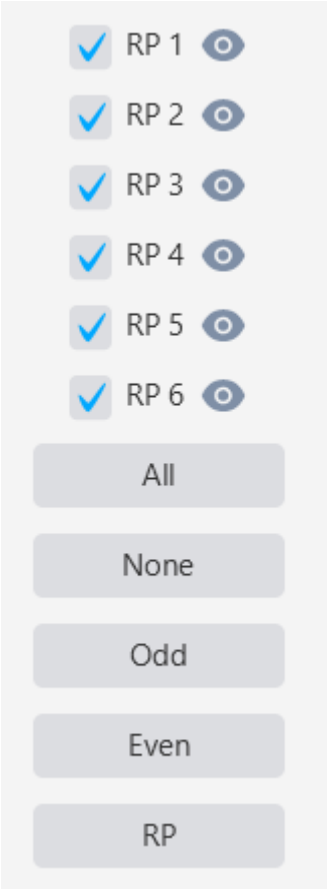


These per-attribute toggles also have a separate "use in effects" flag, which controls whether the attribute is included when auto-color or auto-gobo effects cycle through the available options.

Fixture Faders

If you head over to Fixture Faders, you'll notice that faders for the added fixtures have been automatically created. Each channel defined in the GDTF mode gets its own fader, with the channel name abbreviated to fit (for example "DimC" for Dimmer Coarse, "PanC" for Pan Coarse). Color-related faders (Red, Green, Blue, White, Amber, UV) are color-coded to match their function.

On the right side, you can select which fixtures to control using checkboxes. Click the eye icon next to a fixture's name to read the current DMX values back into the faders. This allows you to see what your fixtures are doing at any point.



Tips

When selecting a GDTF file, make sure to choose the correct DMX mode. If your fixture is set to a 12-channel mode but you select a 16-channel mode in SDC, the channels won't align and your fixture will behave unpredictably.

Use distinct Fixture ID Colors for different fixture types. This makes it much easier to identify fixture groups at a glance in Fixture Faders (especially in "All Types" view) and on the Palettes page where auto-generated buttons carry the fixture's color.

If the GDTF file from gdtf-share.com doesn't work correctly with your fixture, consider creating your own minimal GDTF file following the SDC forum guide. SDC only needs basic channel mapping and attribute definitions - you don't need to fill out every detail the GDTF standard supports.

The auto-generated palettes and the ability to hide individual attributes through Fixture Config give you a clean, focused palette layout. Remove rarely used colors or gobos to keep the Palettes page uncluttered during live shows.

Add Fixture - With SDC-file

Add Fixture - With SDC-file

Intro

We highly encourage using a GDTF file to unlock the full potential of SDC. If you don't have a GDTF file for your fixture, take a look at the post titled "How to Generate a GDTF File for SDC". It's not very difficult and won't take much time, since SDC only requires a very basic GDTF file.

If you don't have a GDTF file for your fixture and don't want to create one, SDC can create a basic fixture file for it using the built-in SDC File Manager. However, this file will not contain information about color and gobo attributes, and as a result, effects that rely on auto color and gobo attributes cannot be used.

Creating an SDC File

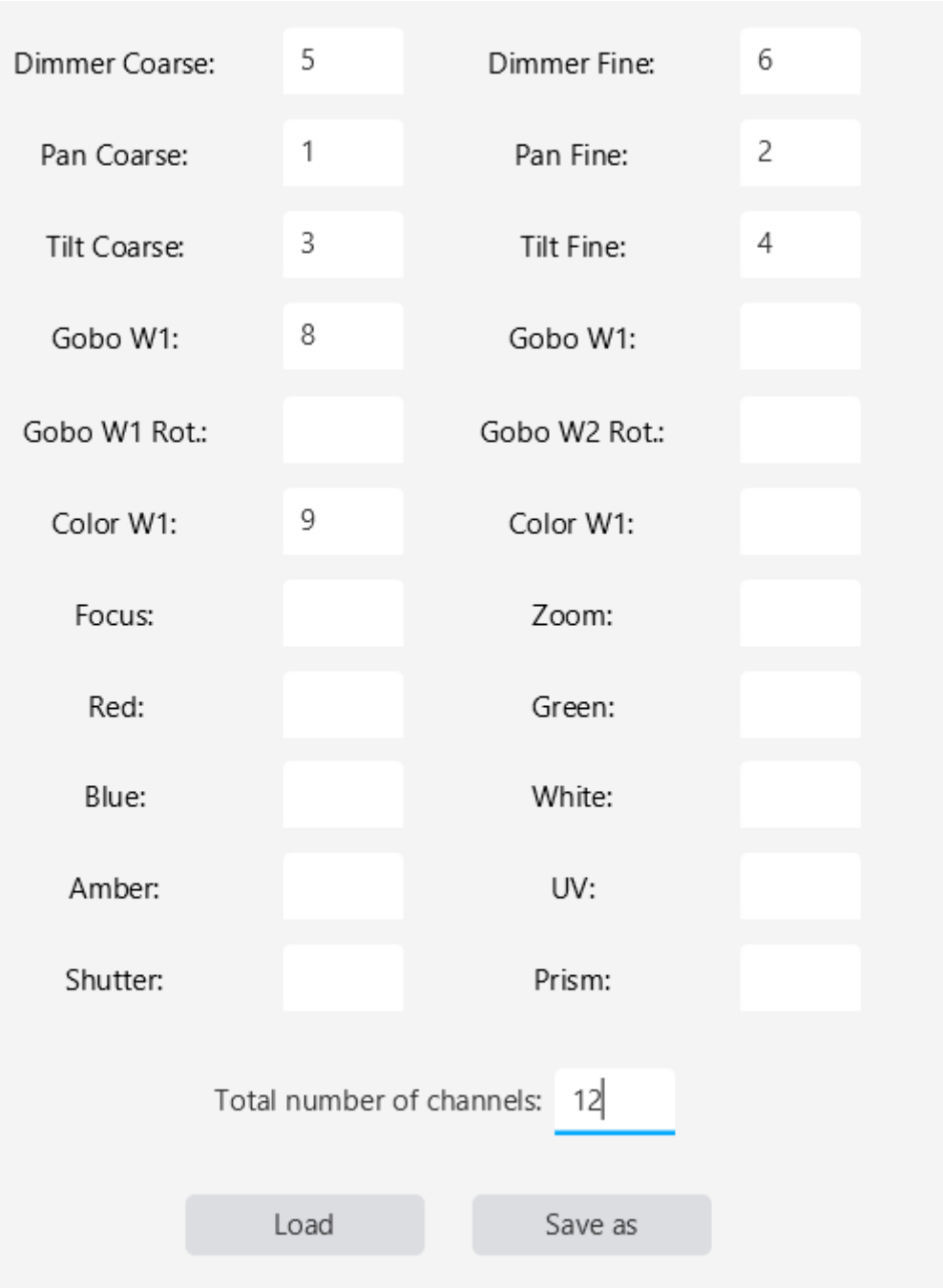
To create an SDC file, go to the Add Fixture page and click "Manage SDC Files".

A separate window opens - the SDC File Manager. This is where you map your fixture's DMX channels to SDC's known attributes. The window shows 13 rows of channel fields, arranged in pairs. For each attribute your fixture supports, enter the DMX channel number in the corresponding text field:

Row 1: Dimmer Coarse, Dimmer Fine Row 2: Pan Coarse, Pan Fine Row 3: Tilt Coarse, Tilt Fine Row 4: Pan Range, Tilt Range Row 5: Gobo W1, Gobo W2 Row 6: Gobo W1 Rot., Gobo W2 Rot. Row 7: Color W1, Color W2 Row 8: Focus, Zoom Row 9: Red, Green Row 10: Blue, White Row 11: Amber, UV Row 12: Shutter, Prism Row 13: Prism Rotation

You don't need to fill out all the channels used by the fixture - only the ones you want SDC to recognize. The "Total number of channels" field at the bottom is required.

Below is an example for a basic fixture using 12 channels.



When you're done adding the channels, click "Save as" and save the file somewhere on your computer. The file is saved in SDC's own .sdcff format.

You can also load a previously saved .sdcff file into the SDC File Manager by clicking "Load". This populates all the channel fields with the saved values, making it easy to reuse or modify an existing SDC file.

Adding Fixtures with an SDC File

Once your SDC file is saved, close the SDC File Manager, then click "Select SDC File" on the Add Fixture form. Choose the .sdcff file you just saved. The file name appears in the Loaded File" field, and the DMX Mode dropdown is automatically disabled since SDC files don't have multiple modes.

Fill out the remaining form fields:

Fixture Type ID - a short identifier for the fixture type, up to 12 characters (for example "CPS" or "Sharpy"). All fixtures of the same model should share the same Type ID.

Fixture ID Color - a color-only dropdown used to visually identify this fixture group throughout SDC. The selected color appears on fixture type labels in Fixture Faders and elsewhere. Twenty colors are available. The default is a dark gray.

Fixture Name - a descriptive name, for example "Sharpy 1 stage left". This name appears when hovering over a Fixture Type ID.

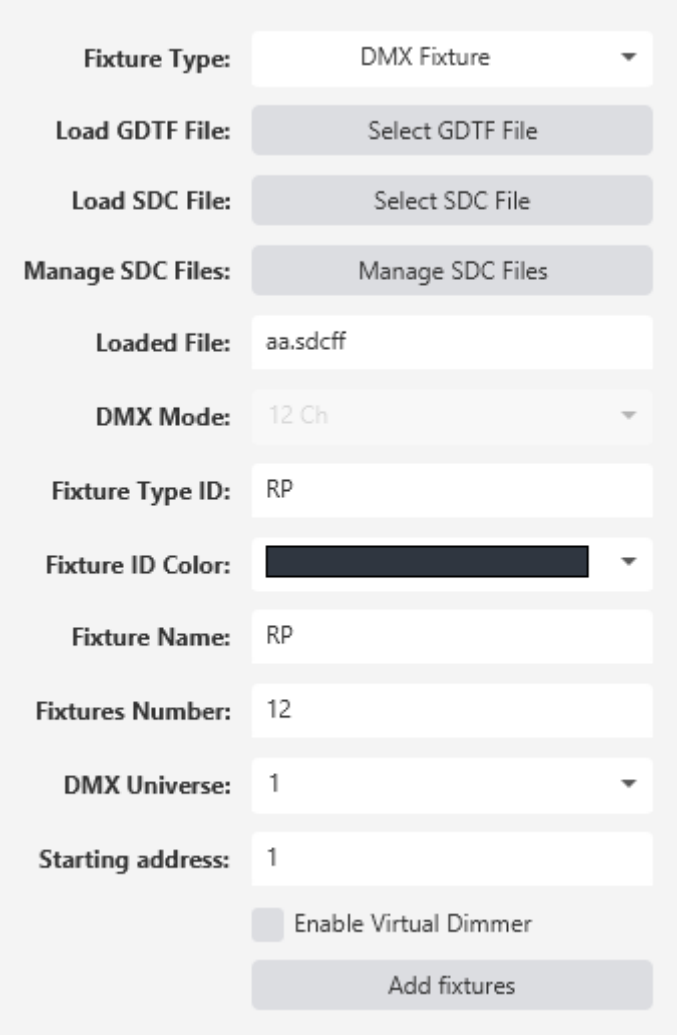
Fixtures Number - how many fixtures of this type to add. SDC creates them in sequence, each using the next available DMX addresses.

DMX Universe - which universe to assign these fixtures to.

Starting address - the DMX start address for the first fixture. Must be between 1 and 512. Additional fixtures follow sequentially based on the total channel count you specified in the SDC File Manager.

Enable Virtual Dimmer - a checkbox that enables a software-based dimmer for RGB-only fixtures that lack a physical dimmer channel. When enabled, a "VDim" fader appears on the Fixture Faders page, and the Grand Master can control the fixture's brightness.

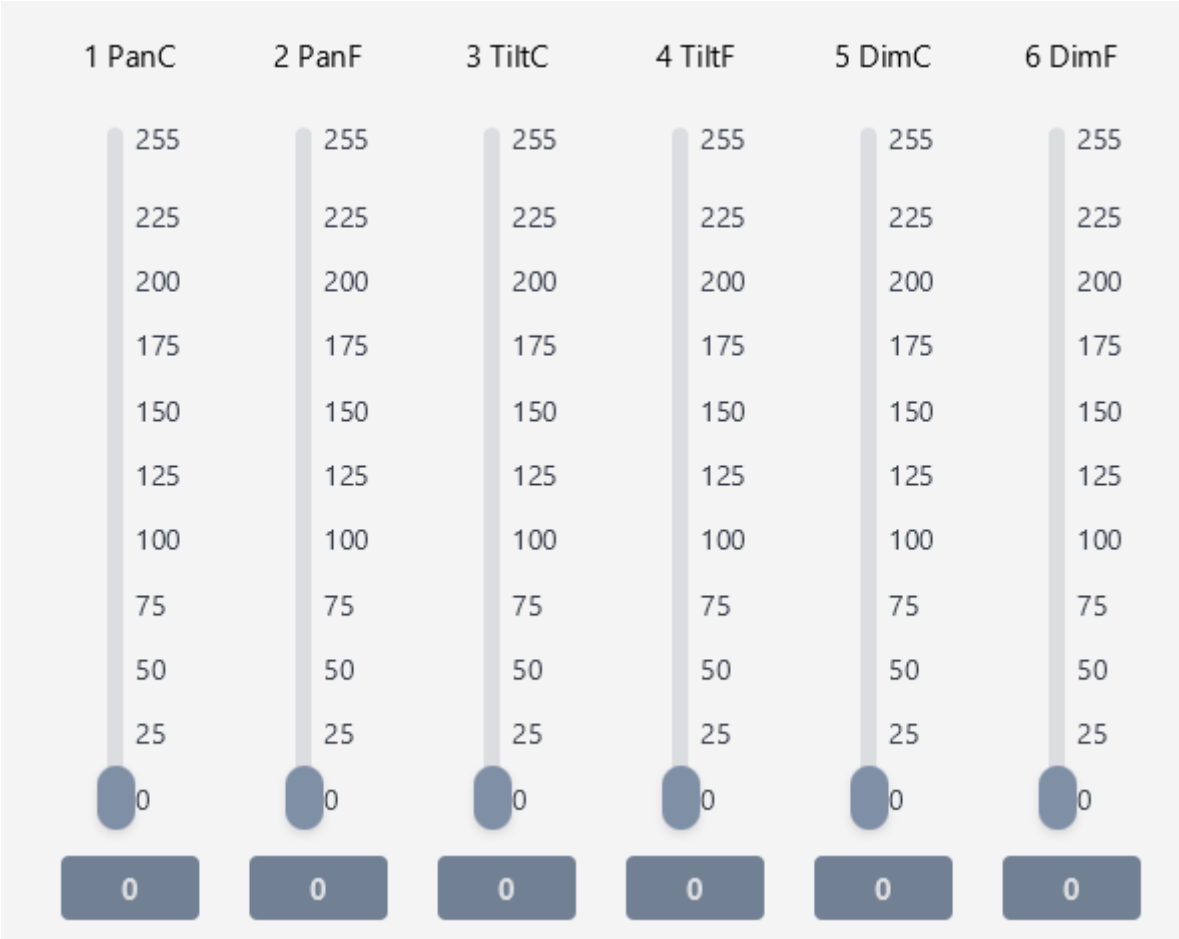
This is what it should look like when you're adding fixtures.



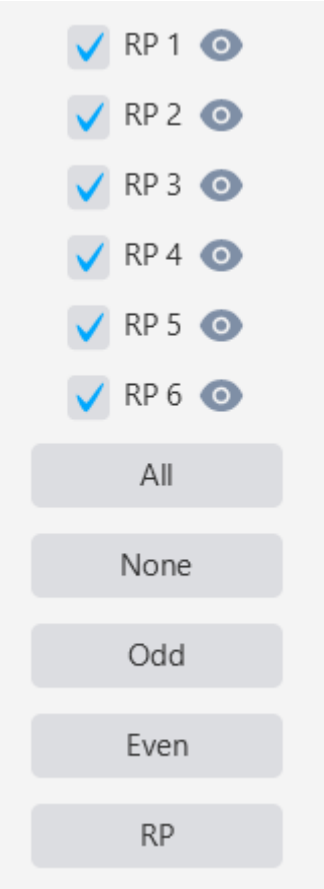
When you click "Add fixtures", SDC validates every field. If anything is missing or invalid, a warning message appears explaining the problem.

After Adding Fixtures

If you go to Fixture Faders, you'll notice that faders have been added for the newly added fixture, and the channel names correspond to those you specified when creating the SDC fixture file.



On the right side of the Fixture Faders page, you can select which fixtures to control using checkboxes. Click the eye icon next to a fixture's name to read the current DMX values back into the faders. This allows you to see what your fixtures are doing.



The left side of the Add Fixture page also shows a table of all added fixtures, with columns for Fixture Number, Fixture Name, Universe, and Channel Interval.

Tips

Use distinct Fixture ID Colors for different fixture types. This makes it much easier to identify fixture groups at a glance in Fixture Faders, especially when using the "All Types" view.

If you're adding RGB-only fixtures (like LED pars without a physical dimmer channel), enable the Virtual Dimmer checkbox. This gives you brightness control through both the VDim fader and the Grand Master.

When adding multiple fixtures of the same type, you only need to enter the starting address for the first one. SDC automatically calculates the DMX addresses for each additional fixture based on the total channel count from your SDC file.

While SDC files work well for basic fixtures, consider creating a GDTF file when you have time. The GDTF format enables auto color and gobo effects - features that are not available with SDC files.

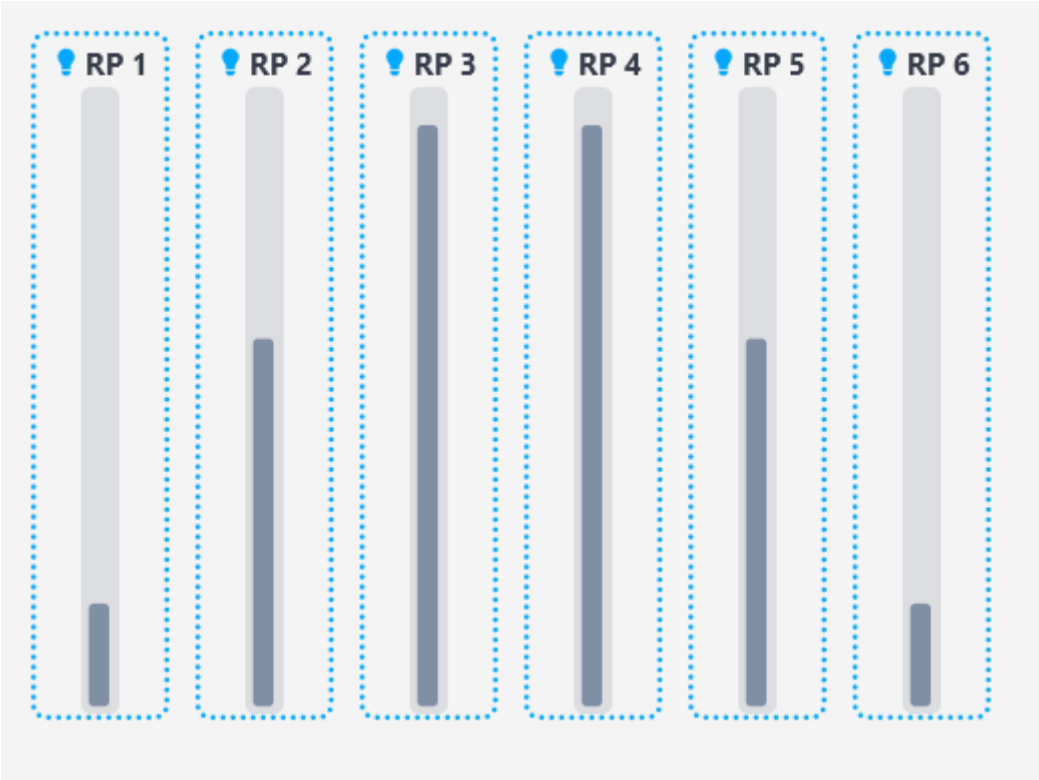
Views

Views

The Views menu gives you access to monitoring and configuration windows that open alongside the main SDC interface. Press "Views" in the left-side menu to see the available options. Each window opens as a separate, always-on-top panel - you can keep them visible while working on any page in SDC.

The Views menu contains the following items (in order): Fixture Levels, Fixture Status, Fixture RGB Color, Set Pan & Tilt Invert, Set Attributes To Use In Effects, Set Single DMX Value, Effect Status, Universe Levels, and MIDI Assign. All Views windows remember their position and size between sessions.

Fixture Levels



Displays a real-time bar graph of the dimmer output level for each fixture. Each fixture gets a vertical progress bar that rises and falls with its current intensity. This is especially useful when working with dimmer effects - you can see exactly how the effect is driving your fixtures. In the example below, six fixtures are running Dimmer Effect 1 with an offset applied.

Fixture Status

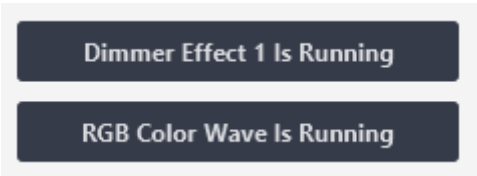
Shows a compact status card for each fixture, displaying the fixture name (color-coded by type), current dimmer level, current shutter value, and a list of which effects are currently running on that fixture. The status updates in real time. This is a quick way to get an overview of what every fixture is doing without having to check each page individually.

The per-fixture effect indicators include: Dimmer Effect 1, Dimmer Effect 2, Dimmer Effect 3, BPM Blackout, Color W1 Effect 1, Color W1 Effect 2, Color W2 Effect 1, Color W2 Effect 2, Gobo W1 Effect, Gobo W2 Effect, RGB Color Wheel, RGB Color Wave, RGB Color Pattern, RGB Color Pixel Mapper, Chase effects, and Pan & Tilt Link.

Fixture RGB Color

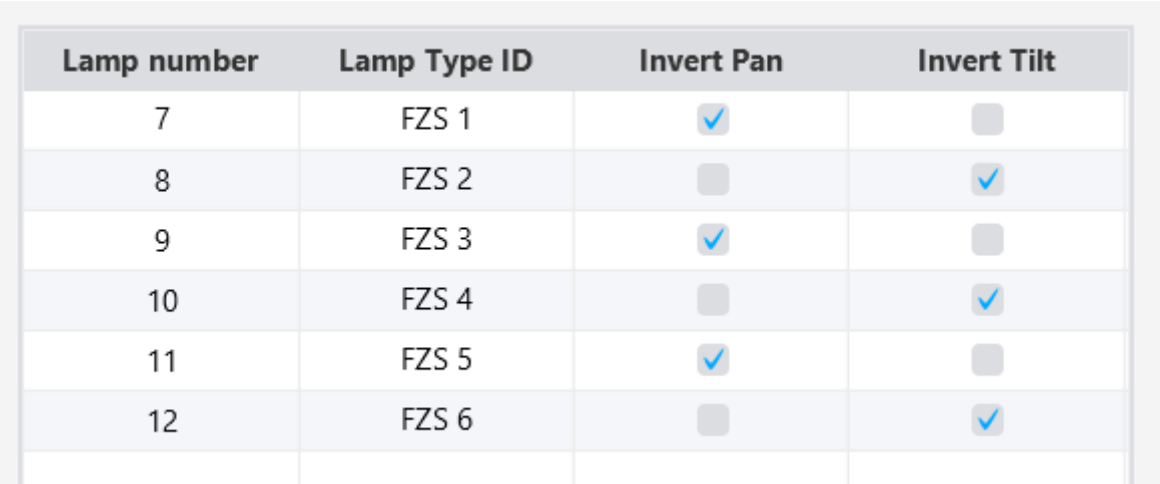
Displays the current RGB color output for fixtures having red green and blue channels. This gives you a visual representation of what color each fixture is currently outputting. This view updates in real time, making it useful for verifying that RGB effects and color palettes (RGB) are producing the colors you expect.

Effect Status



Provides a clear summary of all currently running effects across the entire project. Instead of showing per-fixture status, this view lists each effect and whether it is currently active. Effects appear in the list only while they are running and disappear when stopped. This includes all dimmer effects, color wheel effects, gobo effects, RGB effects (Color Wheel, Color Wave, Color Pattern, Pixel Mapper), chases, and the Pan & Tilt Link effect.

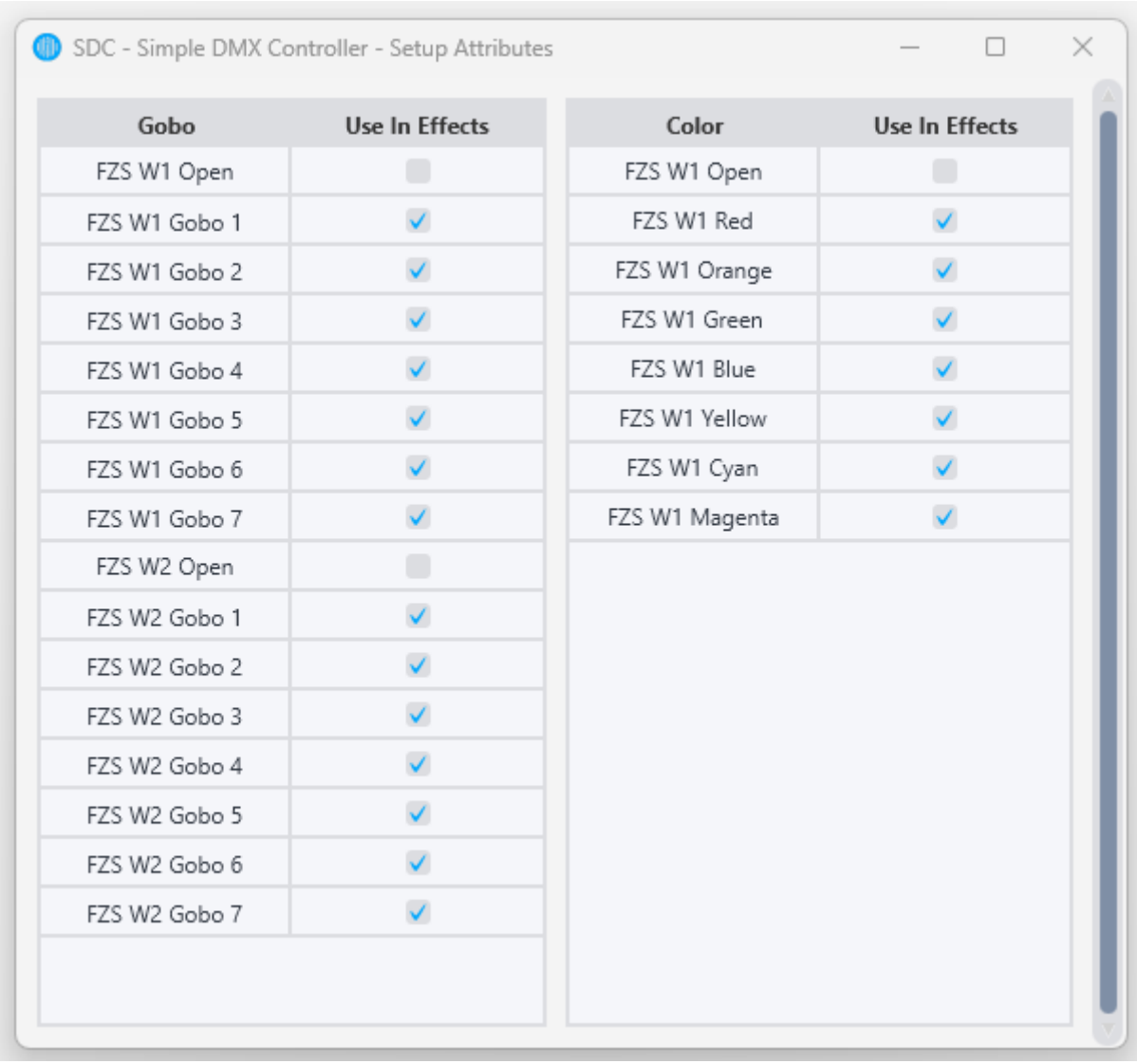
Set Pan & Tilt Invert



Lamp number	Lamp Type ID	Invert Pan	Invert Tilt
7	FZS 1	☑	☐
8	FZS 2	☐	☑
9	FZS 3	☑	☐
10	FZS 4	☐	☑
11	FZS 5	☑	☐
12	FZS 6	☐	☑

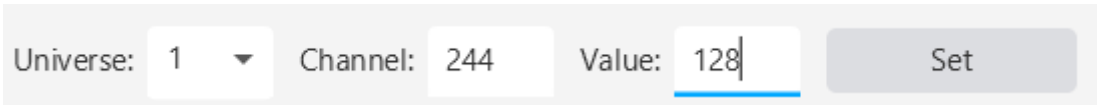
Opens a table showing the pan and tilt inversion settings for all your fixtures. You can see which fixtures have their pan or tilt channels inverted and toggle the inversion directly from this window. This is the same inversion functionality available on the Fixture Config page, but in a standalone window you can keep open while testing positions - handy when you're hanging fixtures and need to quickly check and adjust inversion without leaving the Position or Palettes page.

Set Attributes To Use In Effects



Opens a window with two side-by-side tables - one for gobo attributes and one for color attributes - loaded from your fixtures' GDTF files. Each attribute has a checkbox to include or exclude it from effects that use automatic attribute selection (Color W1/W2 Effects, Gobo W1/W2 Effects). This is the same attribute filtering available on the Fixture Config page, but in a convenient standalone window.

Set Single DMX Value



Opens a small utility window for manually setting a specific DMX channel to a specific value. You select the Universe from a dropdown, enter the Channel number, enter the Value (0-255), and click "Set". This is useful for testing individual channels on a fixture, verifying channel assignments, or quickly overriding a single channel during troubleshooting.

Universe Levels

Clicking "Universe Levels" in the Views menu opens a grid of numbered buttons - one for each universe. Click a universe number to open its level window, which displays all 512 DMX channels in that universe with their current output values. Each channel shows its channel number and live value. This is a large-scale overview of the raw DMX data being sent out, useful for verifying that the right values are reaching the right channels.

MIDI Assign

Opens the MIDI assignment window where you can map faders and buttons in SDC to physical controls on your MIDI controller. This is the same MIDI mapping interface accessible from the Settings page, provided here as a shortcut in the Views menu for quick access during programming.

Tips

Keep Fixture Levels open while programming dimmer effects. Seeing the intensity bars react in real time makes it much easier to judge timing, offset, and range settings.

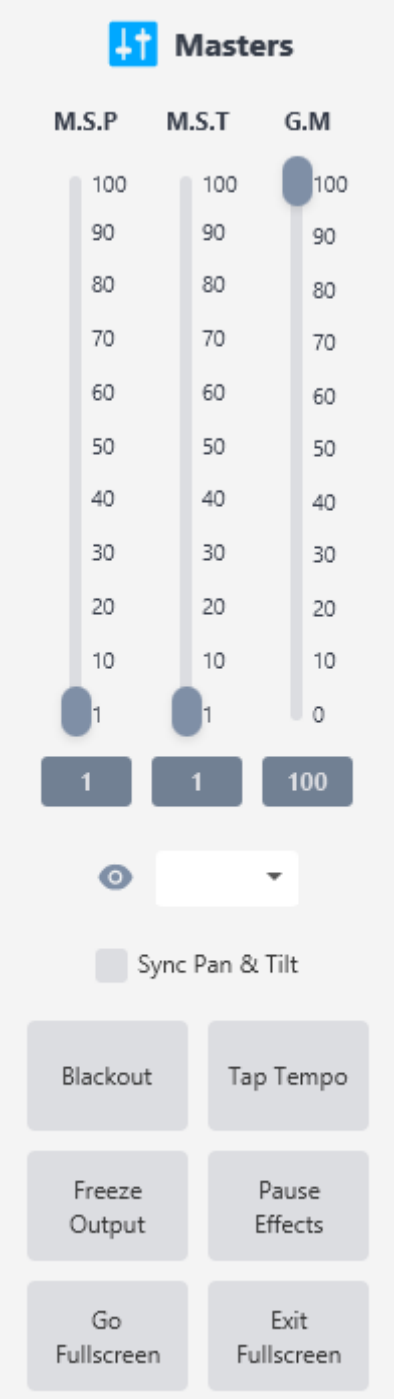
Fixture Status is your go-to for debugging. If a fixture isn't behaving as expected, the status card instantly tells you what effects are running on it, what its dimmer and shutter values are, and whether something unexpected is active.

The Set Single DMX Value window is invaluable when setting up new fixtures. You can test individual channels to verify that your GDTF file or SDC fixture definition has the right channel assignments before building your show.

The Master section

Masters

The Masters section sits on the right side of the SDC interface and is always visible regardless of which page you are on. It gives you constant access to the controls you need most during a live show: master speed faders for movement, a grand master dimmer, blackout, freeze, pause, tap tempo, and fullscreen controls.



Faders

The top of the Masters section has three vertical faders side by side:

M.S.P (Master Speed Pan): Controls the pan movement speed for all fixtures that have "M.S Control" enabled on the Fixture Config page. When you move this fader, every fixture with master speed control enabled updates its pan speed to match the fader value, overriding whatever speed was set on the Position page.

M.S.T (Master Speed Tilt): Same as M.S.P but for tilt movement speed.

G.M (Grand Master): The master dimmer for the entire output. All dimmer channels in SDC are scaled by the Grand Master value - if the Grand Master is at 50, all dimmers output at half their set level. The Grand Master value is saved and restored when you reopen SDC. When the Grand Master is at 0, the text field turns red as a visual warning that no light is getting through.

All three faders can be controlled by dragging the slider, clicking the text field and typing a value directly, or hovering over the text field and using the scroll wheel. Scrolling changes the value in steps of 1. Hold Shift while scrolling for steps of 10.

Fixture Dropdown and Eye Icon

Below the faders is a dropdown that lists all fixtures with "M.S Control" enabled. Next to it is an eye icon. Selecting a fixture from the dropdown and clicking the eye icon makes the M.S.P and M.S.T faders jump to the actual current speed values of that selected fixture. This lets you see what speed a specific fixture is running at and take over control from there.

When you select a fixture from the dropdown, the faders update to reflect that fixture's current speeds without changing the output - they only read the values. Once you move a fader after that, it resumes writing speed values to all master-speed-controlled fixtures.

Sync Pan & Tilt

Below the dropdown is a "Sync Pan & Tilt" checkbox. When checked, moving either the M.S.P or M.S.T fader automatically sets the other fader to the same value, keeping pan and tilt speeds locked together. This setting is saved between sessions.

Buttons

The lower part of the Masters section has toggle buttons and action buttons arranged in rows:

Blackout: A toggle button that instantly kills all dimmer output. When active, all dimmers go to 0 regardless of scene fader levels or the Grand Master. Press again to release. This is synced with the Blackout button on the Palettes page - toggling either one toggles both.

Tap Tempo: A button you press repeatedly to set the BPM tempo for effects that use BPM synchronization. SDC calculates the tempo from the timing between your taps.

Freeze Output: A toggle button that freezes all DMX output at its current state. While frozen, no changes are sent to your fixtures - faders, effects, and movement all pause in place. Press again to unfreeze and resume normal output.

Pause Effects: A toggle button that pauses all running effects. Effects stop where they are but remain active - when you unpause, they resume from where they left off. This is synced with the Pause Effects buttons on the Palettes page and the Effects page.

Go Fullscreen / Exit Fullscreen: Two buttons that toggle the SDC window in and out of fullscreen mode. Useful when you want to maximize screen space during a show.

Clock

At the bottom of the Masters section is a live clock displaying the current time in HH:MM:SS format.

MIDI Mapping

Every fader and button in the Masters section is MIDI-mappable. The M.S.P, M.S.T, and Grand Master faders can be assigned to physical faders on your MIDI controller, while Blackout, Freeze Output, Pause Effects, Tap Tempo, Go Fullscreen, and Exit Fullscreen can all be assigned to MIDI buttons. This makes the Masters section fully controllable from hardware without touching the screen.

Tips

Use M.S.P and M.S.T with Sync enabled for a single-fader speed control over all your moving heads. This is a fast way to dial in the energy level of your movement during a live show - slow and smooth for quiet moments, fast and energetic for high-energy sections.

Freeze Output is useful when you need a moment to reprogram something mid-show. Freeze the output, make your changes, then unfreeze - the audience sees a static state while you work.

Palettes

Palettes

Palettes are the foundation of how you work with SDC. The idea is to build a library of lighting presets - colors, gobos, positions, dimmer levels, effects, movements - that you can recall instantly with a single button press. A well-built collection of palettes lets you create rich, varied light shows quickly, either live or when building scenes and timelines.

The Palettes page is divided into two halves. The left side shows all your palette buttons organized into categories. The right side has the fixture selection panel (checkboxes, Odd/Even selection, per-type selection) along with display options at the bottom. When you press a palette button, it only applies to the fixtures currently selected on the right side.

Palette Categories

The left side displays palettes grouped under section headings. Each category can contain two types of palettes: automatic palettes generated by SDC (from GDTF fixture definitions and built-in controls) and user palettes that you have saved yourself on the Save & Delete page. The categories appear in this order from top to bottom:

Scene: User-saved scene palettes that recall a complete lighting state.

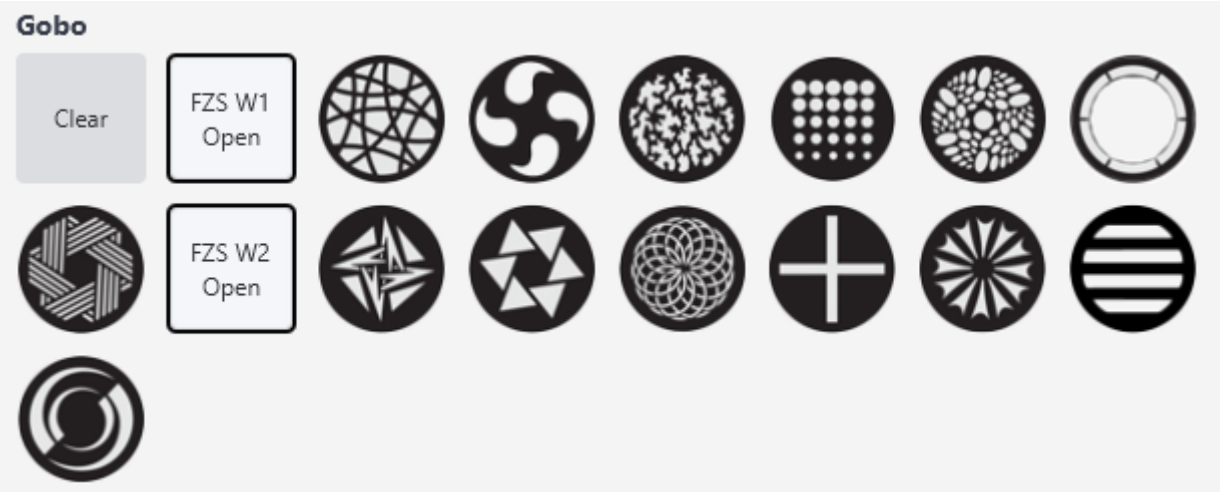
TimeLine: User-saved TimeLine palettes plus a "Stop" auto-button that stops any running timeline.

Dimmer: Auto-generated "Clear" and "Blackout" buttons, plus any user-saved dimmer palettes.

Shutter: Auto-generated "Clear" button for resetting shutter channels, plus user-saved shutter palettes.

Color: Auto-generated color wheel palettes from your fixtures' GDTF definitions (one button per color position per fixture type), a "Clear" button, plus user-saved color palettes.

Gobo: Auto-generated gobo wheel palettes from GDTF definitions (one button per gobo per fixture type, optionally showing gobo images), a "Clear" button, plus user-saved gobo palettes.



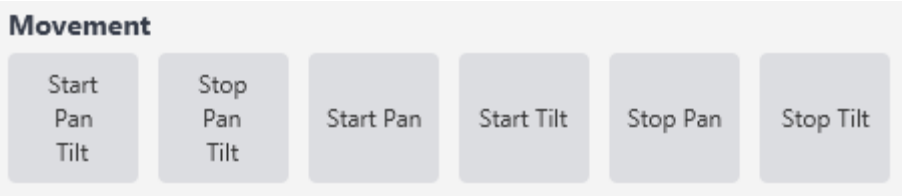
Zoom: Auto-generated "Clear" button plus user-saved zoom palettes.

Focus: Auto-generated "Clear" button plus user-saved focus palettes.

Prism: Auto-generated "Clear" button plus user-saved prism palettes.

Movement: Auto-generated movement control buttons plus user-saved movement palettes. The auto buttons give you quick access to starting and stopping pan and tilt movement without switching to the Position page:

Start Pan Tilt, Stop Pan Tilt - starts or stops both axes at once. Start Pan, Start Tilt - starts each axis individually. Stop Pan, Stop Tilt - stops each axis individually.



Position: Auto-generated "Clear" button plus user-saved static position palettes.

Effect: Auto-generated "Pause Effects" toggle and "Stop Effects" button, plus user-saved effect palettes.

Pixel Strip: Auto-generated "Pause Effects" toggle for pixel strip effects, plus user-saved pixel strip palettes.

Home & Misc: Three auto-generated utility buttons:

Clear Fixture - stops all effects running on the selected fixtures and sets all their DMX channels to 0. Clear Programmer - clears all changes made via palette buttons and fixture faders while keeping everything set by Scene Faders. This is your "undo" for palette and scene fader actions without affecting your scene fader mix. Home - sets the dimmer channel of selected fixtures to 255 (full), and for fixtures with pan and tilt, sets those channels to 128 (center position).

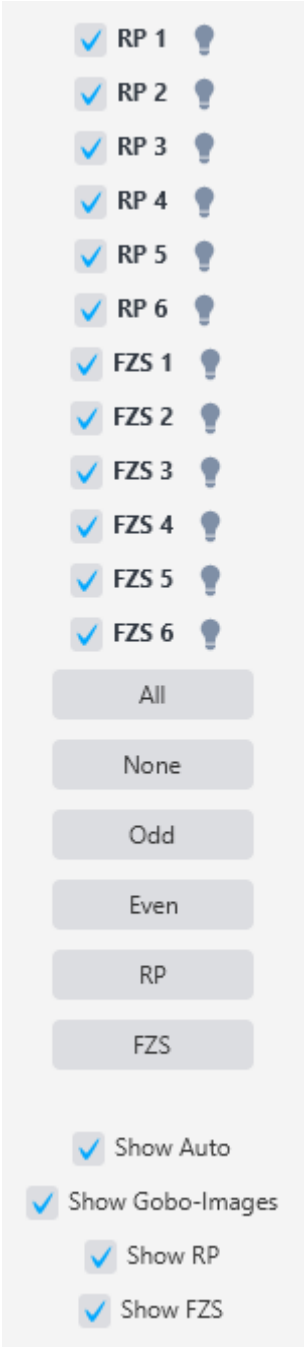
Each "Clear" button within a category resets only the channels related to that category (dimmer, color, gobo, etc.) on the selected fixtures.

Fixture Selection

The right side of the Palettes page determines which fixtures are affected when you press a palette button. It works the same as on other SDC pages - checkboxes next to each fixture name - Selections also have additional shortcuts:

Odd / Even: Quickly selects every odd-numbered or even-numbered fixture. This is a fast way to apply different colors to alternating fixtures for a split-color look.

Fixture Type buttons: Each fixture type in your project gets its own selection button (showing the fixture type ID). Pressing it selects only fixtures of that type. This is handy when you want to clear or set attributes for just one type of fixture - for example, clearing the dimmer on your moving heads without affecting your wash lights.



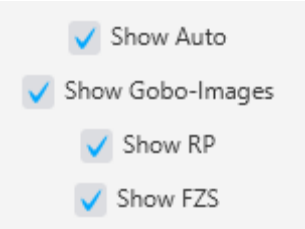
Display Options

Below the fixture selection panel are checkboxes that control what appears on the Palettes page:

Show Auto: Toggles the visibility of all auto-generated palettes. Uncheck this if you only want to see the palettes you have created yourself. When unchecked, the auto-generated GDTF color and gobo buttons, the movement start/stop buttons, the Clear/Blackout/Home buttons, and all other auto palettes are hidden.

Show Gobo-Images: Toggles whether gobo buttons display the gobo image from the GDTF file. If the images are poor quality or you prefer text-only buttons, uncheck this.

Show [Fixture Type]: When you have multiple fixture types, each type gets its own show/hide checkbox (for example, "Show RP" for a fixture type named RP). Unchecking it hides the auto-generated palettes for that specific fixture type while keeping the others visible.



GDTF Integration

When you add fixtures that use GDTF files with defined color wheel and gobo wheel attributes, those attributes are automatically loaded into the Color and Gobo categories as clickable palette buttons. Each button corresponds to a specific position on a color or gobo wheel for that fixture type.

If a GDTF file contains attributes with errors or more attributes than you need, you have two options. You can uncheck specific attributes on the Fixture Config page (under Fixture Attributes) to remove individual color or gobo entries. Or you can uncheck the per-fixture-type show checkbox on the Palettes page to hide all auto palettes from that fixture type.

MIDI Mapping

Every palette button - both auto-generated and user-saved - is MIDI-mappable. You can assign buttons on a MIDI controller to any palette, giving you physical one-touch recall of your lighting presets during a live show.

Tips

Build your palette library methodically. Start with basic colors, then add gobos, positions, dimmer levels, and effects. A solid palette library is the fastest path to a professional-looking show.

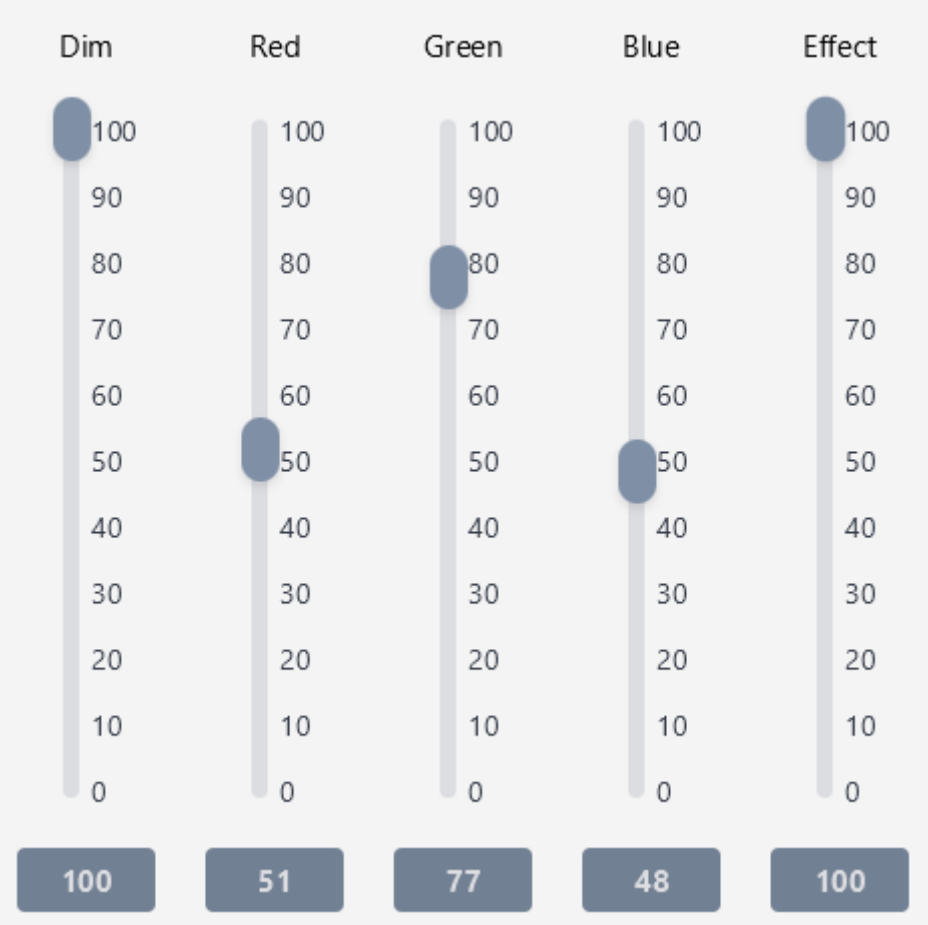
Use Odd/Even selection with color palettes to quickly create split-color looks. Select Odd, press one color, select Even, press another color - you have alternating colors across your fixtures in two clicks.

Clear Programmer is essential during programming. It lets you experiment with palettes, then undo everything back to your scene fader state without losing your mix. Think of it as a safe reset to your baseline.

The Movement auto-palettes on the Palettes page are the same controls found on the Position page. Having them here means you can start and stop movement without leaving the Palettes page during a live show.

Scene Faders

Scene Faders



Scene Faders are one of the core tools for live control in SDC. The idea is simple: you pre-program scenes during rehearsal or setup, and then during the show you use the faders to mix between them in real time. Each scene can be a complete snapshot of your lighting state - dimmer levels, colors, positions, effects, movement, pixel strip states, and even TimeLine playback - all captured in a single fader.

The fader is labeled with the scene name and goes from 0 to 100. At 0 the scene is inactive. Raise the fader and the scene comes to life.

How Scene Faders Work

The fader value controls what happens depending on the type of data stored in the scene:

Dimmer and color channels (RGB, White, Amber, UV) are mixed using HTP - Highest Takes Precedence. This means if two active scene faders both control the same dimmer channel, the higher value wins. As you raise a fader, its dimmer and color values scale proportionally from 0 to their saved values. As you lower it, they scale back down. If another fader has a higher value for that same channel, the output stays at the higher level until you bring that fader down too.

All other channels (gobos, prism, shutter, focus, and so on) snap to their saved values the moment the fader moves above 0. They do not scale with the fader position - they are either on or off.

Effects saved in the scene start when the fader moves above 0 and stop when it returns to 0. They do not scale with the fader level.

TimeLine playback starts when the fader moves above 0 and stops when it returns to 0.

Movement starts when the fader moves above 0. Returning to 0 stops the movement.

Position (static pan/tilt values) snaps to the saved position when the fader moves above 0.

Pixel Strip effects start when the fader moves above 0 and stop when it returns to 0. The fader level also controls the virtual dimmer on strip fixtures, so you can fade strip brightness up and down with the fader.

Using the Faders

Each scene fader has a vertical slider and a text field below it showing the current value. You can control the fader in three ways:

Drag the slider up or down with the mouse.

Click the text field and type a value directly, then press Enter.

Hover your mouse over the text field and use the scroll wheel to adjust the value. Scrolling changes the value in steps of 1. Hold Shift while scrolling to change in steps of 10. This also works with touchpads using two-finger scrolling.

Every scene fader is MIDI-mappable. You can assign a physical fader on your MIDI controller to any scene fader for hands-on tactile control during a live show.

Clear All

The right side of the Scene Faders page has a "Clear all" button. Pressing it sets every scene fader to 0 and resets all DMX channels that were being controlled by any active scene. This includes stopping all running effects, chases, movement, and TimeLine playback that were started by scene faders. It is a clean reset of everything the scene faders have been doing.

Saving and Restoring

Scenes are created on the Save & Delete page. The controls you have active at the time of saving - fader levels, running effects, movement states, positions, colors - can be captured into the scene. For a full explanation of how saving works, see the Save & Delete how-to.

SDC remembers which scene faders were active and at what level when you close the application. The next time you launch SDC, the faders and their levels are restored automatically so your show picks up where you left off. This behavior can be toggled on or off with the "Restore Scene Faders" checkbox in Settings.

Tips

Scene faders shine in live situations where you need to crossfade between looks. Set up one scene with a warm stage wash and another with cool blue. Raise one while lowering the other for a smooth transition - the HTP mixing handles the crossfade naturally.

Combine scene faders with the TimeLine for powerful show control. Save a TimeLine playback into a scene, then use the fader to start and stop the timeline. This gives you one-fader control over complex timed sequences.

Multiple scene faders can be active at the same time. The HTP mixing ensures that dimmer and color channels combine cleanly, while effects and movement from different scenes run simultaneously.

Fixture Faders

Fixture Faders

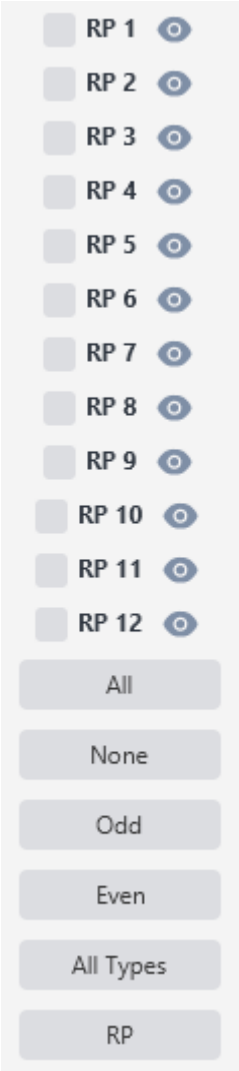
Fixture Faders is where you can control the individual DMX channels of your fixtures directly. Each channel gets its own vertical fader, labeled with the channel number and a short name derived from the fixture definition (e.g. "DimC" for Dimmer Coarse, "PanC" for Pan Coarse, "Red", "Green", "Blue", "Shut" for Shutter, and so on). Color channel faders are color-coded to match their function - the Red fader has a red accent, Green has green, Blue has blue, and so on for White, Amber, and UV.

The page is split into two halves. The left side shows the faders for the currently selected fixture type. The right side has the fixture selection panel with checkboxes, selection buttons, and fixture type buttons.

Fixture Type Selection

On the right side, below the fixture checkboxes, you will find a button for each fixture type in your project. Clicking a fixture type button switches the fader display to show only the channels for that fixture type. The fixture checkboxes update accordingly to show only the fixtures of the selected type.

An "All Types" button is also available. Clicking it displays the faders for all fixture types side by side. The channel labels above the faders are color-coded by fixture type, making it easy to tell which faders belong to which fixture type, if you selected a custom color when adding the fixture.



Fixture Selection

Using the checkboxes, you can choose which fixtures to control. When you move a fader, the change is applied to all checked fixtures of the currently displayed type. Four quick-selection buttons are provided: All (checks all fixtures of the current type), None (unchecks all), Odd (checks fixtures 1, 3, 5...), and Even (checks fixtures 2, 4, 6...).

Faders

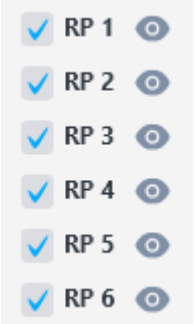
There are three ways to set a fader value: drag the fader, type a value into the text field below the fader and press Enter, or hover over the text field and use the scroll wheel. Scrolling adjusts the value in steps of 1. Holding Shift while scrolling adjusts in steps of 10.

Hovering over a channel label shows a tooltip with the full channel name and the fixture type it belongs to - useful when you have many channels or are displaying all fixture types at once.

Virtual Dimmer Fader

If any fixture of the selected type has virtual dimmer enabled (selected when the fixture was added), an extra fader labeled "VDim" appears to the left of the channel faders. This fader controls the virtual dimmer level for all checked fixtures that use virtual dimmer. The virtual dimmer scales the RGB output without requiring a physical dimmer channel on the fixture - this is especially useful for RGB-only LED fixtures that don't have a dedicated dimmer channel. If the fixture's color channels are currently being controlled by an effect (such as a chase), the VDim fader stores the value without directly changing the output, so the effect is not disrupted.

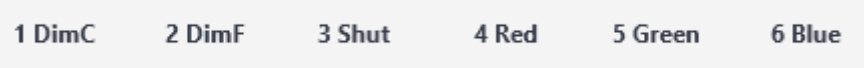
Eye Icon



If you click the small eye icon to the right of a fixture's name and number, the faders update to show the current DMX channel values of that fixture.

This is especially handy when switching between fixture types. You can click a fixture type button, then click the eye icon on a specific fixture to load its current values into the faders before making adjustments.

Channel Name Abbreviations



The fader labels use abbreviated channel names to save space. The full channel name is always available in the tooltip. The abbreviations used are:

DimC = Dimmer Coarse, DimF = Dimmer Fine, Shut = Shutter, Red = Red, Green = Green, Blue = Blue, White = White, Amber = Amber, UV = UV, PanC = Pan Coarse, PanF = Pan Fine, TiltC = Tilt Coarse, TiltF = Tilt Fine. Any other channel name is truncated to five characters.

Tips

Use the eye icon to "load" a fixture's current state into the faders before making changes. This prevents accidental jumps when you start moving a fader that was at a different value than what the fixture is currently outputting.

The Odd and Even buttons are useful for creating split looks. Check "Odd", set a color, then check "Even" and set a different color - you instantly have an alternating pattern across your fixtures.

When working with multiple fixture types, the "All Types" view gives you a complete picture of every channel. The color-coded labels make it easy to identify which faders control which fixture type without needing to switch back and forth.

ColorMix

ColorMix

ColorMix makes it easy to control fixture colors using RGB, RGBW, RGBA, or RGBAUV color mixing. It provides multiple ways to set colors - quick-access preset buttons, individual channel faders, special color manipulation faders, and two color pickers with a color spread feature.

The page is split into two halves. The left side contains five control panels arranged in a flow layout: Faders, Special Faders, Palettes (two panels of preset buttons), and Color Picker. The right side has the fixture selection panel with checkboxes, fixture type selection, and the eye icon for reading current values.

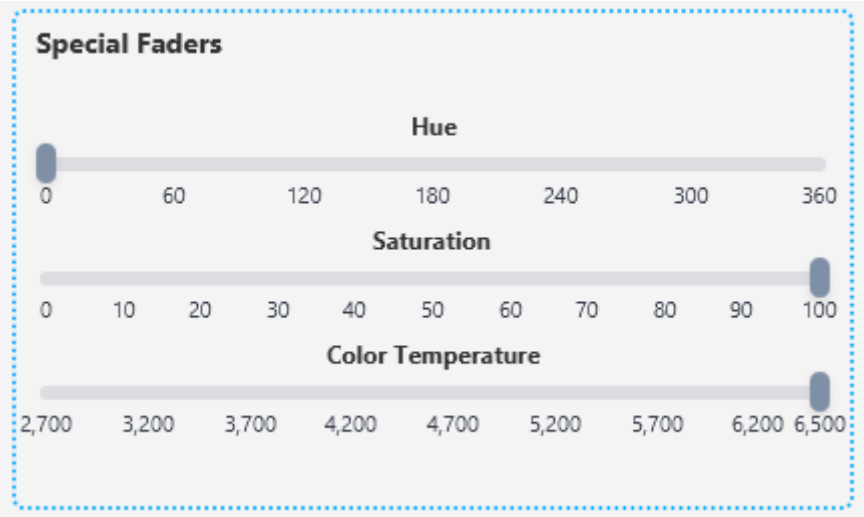
On the right side, you can see the name and number of each fixture that supports color control. If your setup includes multiple fixture types with color channels, you can select the desired fixture type at the bottom of the interface.

Faders

The Faders panel provides six vertical faders for direct DMX-level control of each color channel: Red, Green, Blue, White, Amber, and UV. Each fader ranges from 0 to 255 and has a text field below it for typing exact values. You can also hover over the text field and use the scroll wheel to adjust the value - scrolling changes the value in steps of 1, or hold Shift while scrolling for steps of 10.

Only the faders relevant to your fixtures are active. If your fixtures only have RGB channels, the White, Amber, and UV faders will have no effect. The faders write directly to the selected fixtures' color channels in real time.

Special Faders



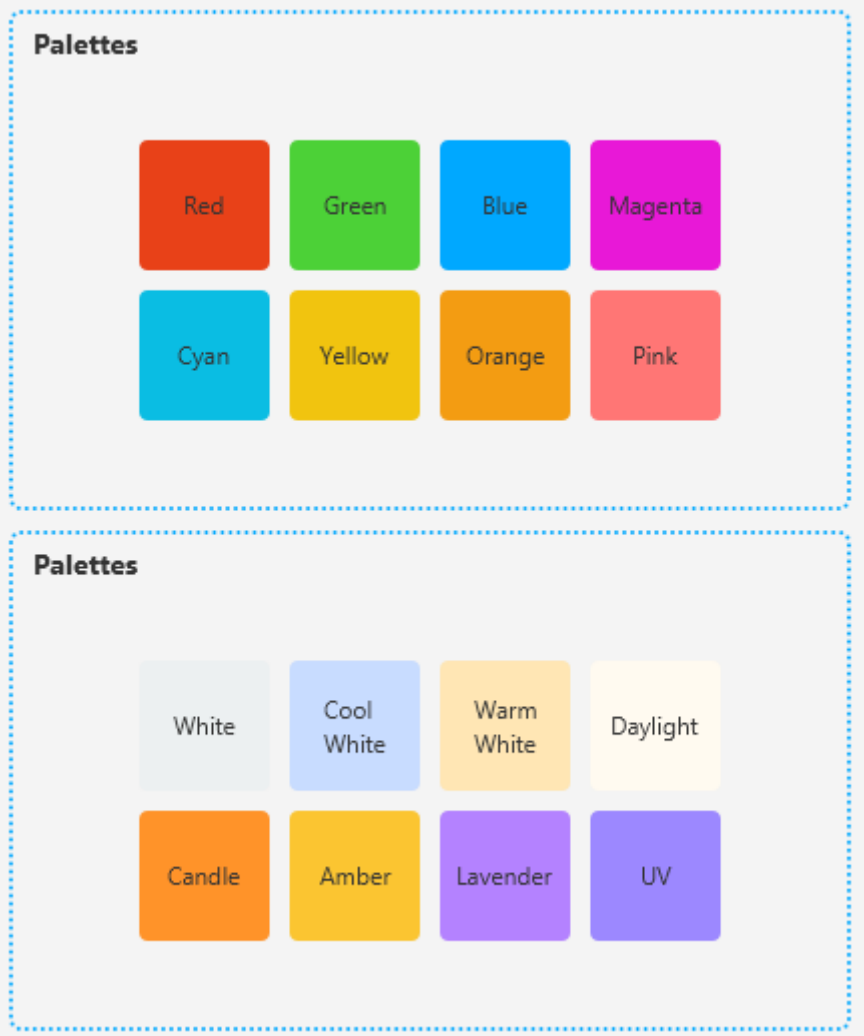
The Special Faders panel offers a different way to manipulate color using three horizontal faders:

Hue: Rotates the color around the color wheel (0-360 degrees). This shifts the hue of the currently set RGB color.

Saturation: Controls color intensity (0-100). At 0, the color is fully desaturated (gray/white). At 100, the color is fully vivid.

Color Temperature: Sets a white point between warm and cool (2700K-6500K). This is useful for dialing in specific white tones from warm tungsten to cool daylight.

Palettes

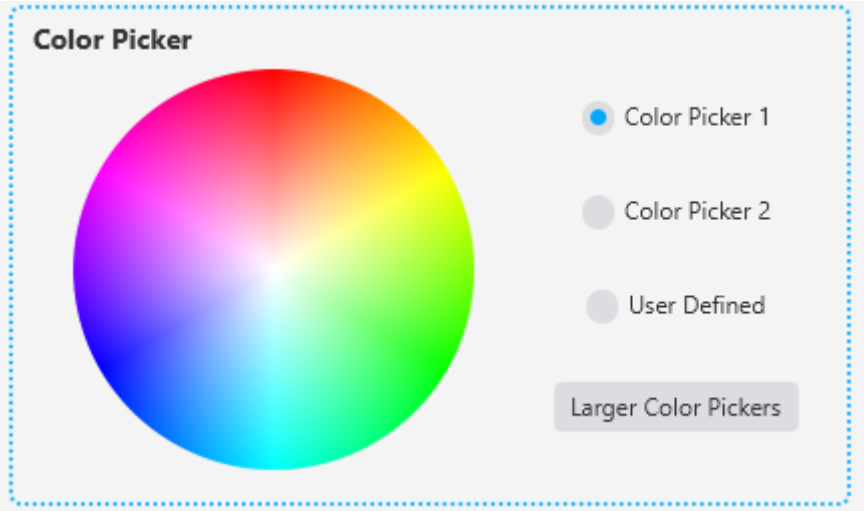


Two Palettes panels provide quick-access color preset buttons. Click any button to instantly apply that color to all selected fixtures.

The first Palettes panel contains: Red, Green, Blue, Magenta, Cyan, Yellow, Orange, and Pink.

The second Palettes panel contains: White, Cool White, Warm White, Daylight, Candle, Amber, Lavender, and UV.

Color Picker



The Color Picker panel displays an image-based color picker. Click anywhere on the color picker image to apply that color to all selected fixtures. The RGB faders update to reflect the picked color.

Three picker types are available, selectable via radio buttons to the right of the picker:

Color Picker 1: The default color picker image.

Color Picker 2: An alternative color picker layout.

User Defined: Loads a custom color picker image selected using the option in "Settings". This lets you use your own color reference image. If the image fails to load, SDC falls back to Color Picker 1.

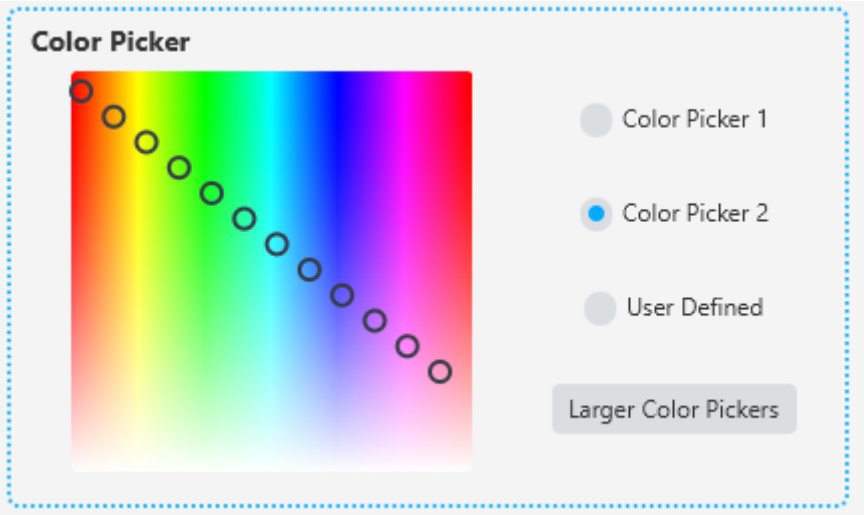
A "Larger Color Pickers" button opens the color picker in a separate, larger window for more precise color picking. This separate window also supports all three picker types.

When you pick a color from the color picker, the White, Amber, and UV faders are automatically reset to 0, since the picker works in RGB space only.

Eye Icon

If you click the small eye icon to the right of a fixture name, the RGB(WAUV) faders update to show the current DMX channel values of that fixture. This is useful for seeing what color a fixture is currently outputting and adjusting from there.

Color Spread



The color picker supports spreading a color gradient across multiple selected fixtures. This creates a smooth transition of colors across your rig.

To use color spread:

1. Select the fixtures you want to spread across (they must be checked on the right panel). 2. Hold Ctrl and click the starting point on the color picker. 3. Hold Shift and click the ending point on the color picker.

The color will be evenly distributed across all selected fixtures, interpolating between the start and end colors. You can also hold Ctrl+Shift together and drag to reposition the spread line interactively.

In the example above, a color gradient was spread across 6 fixtures, with each fixture receiving an evenly spaced color along the line between the start and end points.

Tips

The Special Faders are great for fine-tuning a color you've already set. Pick a base color using a preset button or the color picker, then use the Hue fader to shift it or the Saturation fader to soften it.

Color Temperature is especially useful for white-only looks on RGBW fixtures. Set all colors to white using a preset, then adjust the temperature fader to match the warmth of your venue's ambient lighting.

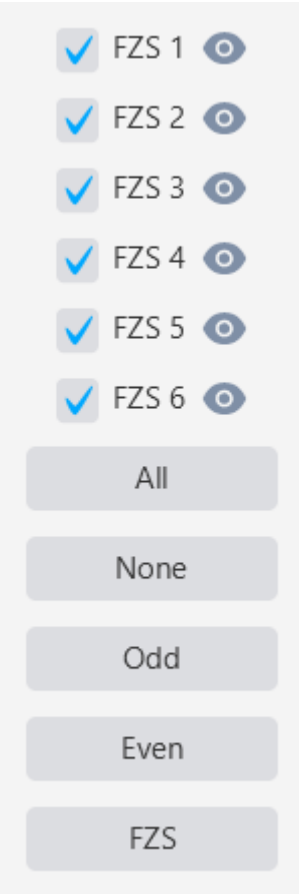
Use the Palettes buttons for speed during a live show - they give you one-click access to the most common colors. For more nuanced colors, switch to the color picker or dial in exact values with the faders.

Position

The Position

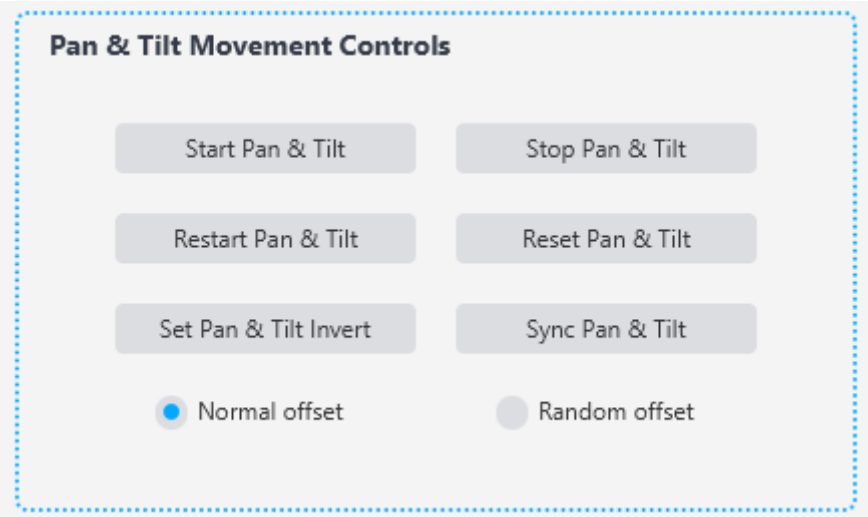
The Position page is where you control pan and tilt movement for your moving head fixtures and scanners. It handles two distinct tasks: automated movement (making fixtures sweep back and forth continuously) and static positioning (placing the beam exactly where you want it). Each fixture has its own independent movement generator, so you can have every fixture doing something different at the same time.

Like all pages in SDC, it is split into two halves. The left side has all the controls. The right side shows the fixture selection panel with checkboxes - only the fixtures you select here are affected when you change settings.



Press the eye icon next to a fixture name to load that fixture's current settings into the faders. This lets you see and adjust what each fixture is doing individually.

Pan & Tilt Movement Controls



This section has the main buttons that control the movement engines for all selected fixtures.

Start Pan & Tilt: Starts both pan and tilt movement simultaneously for all selected fixtures.

Stop Pan & Tilt: Stops both pan and tilt movement.

Restart Pan & Tilt: Restarts the movement timing. This re-syncs all selected fixtures so their movement cycles start from the same point.

Reset Pan & Tilt: Resets all movement settings (speed, range, offset, and pause) back to their defaults for the selected fixtures.

Set Pan & Tilt Invert: Opens a window where you can see and configure pan and tilt channel inversion for your fixtures.

Sync Pan & Tilt: A toggle button that locks pan and tilt controls together. When enabled, adjusting a pan setting automatically applies the same change to the corresponding tilt setting. This is convenient when you want identical movement behavior on both axes.

Normal Offset / Random Offset: Selects how the offset is distributed across your fixtures. Normal offset spaces the fixtures evenly through the movement cycle. Random offset gives each fixture a random position in the cycle for a more organic, less mechanical look.

Pan Movement

The Pan Movement section controls horizontal movement. It has its own Start, Stop, Reset, and Restart buttons so you can run pan independently from tilt. Three sliders control the movement:

Range: A dual-handle range slider (0-255) that sets the movement boundaries. Drag the low handle up or the high handle down to restrict the pan sweep to a smaller area. The text field shows the center point value.

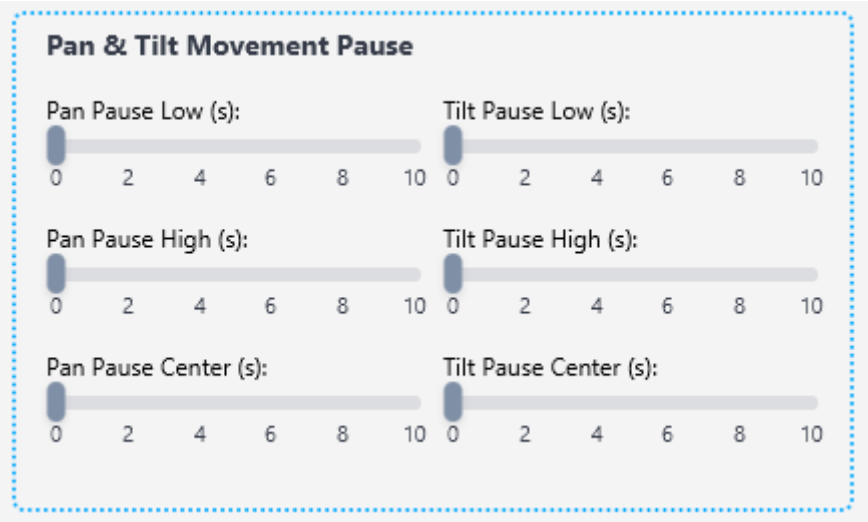
Speed (1-100): Controls how fast the pan movement sweeps back and forth. The movement is generated using sine and cosine waveforms, so it accelerates and decelerates smoothly at the ends of the range.

Offset (0-100): Creates a phase difference between fixtures so they don't all move in unison. At 0, all fixtures move together. As you increase the offset, each fixture starts at a different point in the movement cycle. This is how you create fan-out and wave patterns across multiple fixtures.

Tilt Movement

The Tilt Movement section is identical to Pan Movement but controls vertical movement. It has the same Range, Speed, and Offset sliders along with its own Start, Stop, Reset, and Restart buttons. When Sync Pan & Tilt is enabled, changing a tilt slider automatically updates the matching pan slider.

Pan & Tilt Movement Pause



Pause sliders let you insert holds at specific points in the movement cycle. This creates patterns where the beam moves, pauses, moves again, pauses, and so on - instead of sweeping continuously.

There are six pause sliders, three for pan and three for tilt:

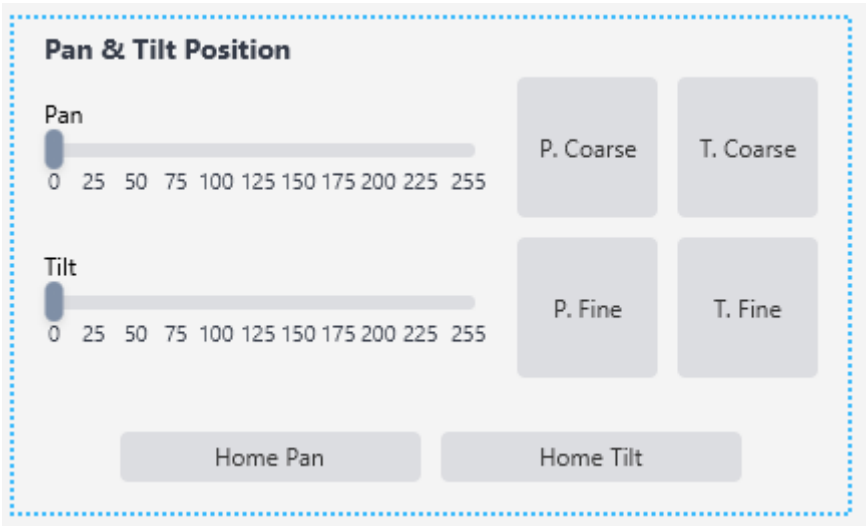
Pause Low (0-10 seconds): How long the fixture pauses at the low end of its range.

Pause High (0-10 seconds): How long the fixture pauses at the high end of its range.

Pause Center (0-10 seconds): How long the fixture pauses at the center of its range.

When Sync Pan & Tilt is enabled, changing a pan pause slider updates the corresponding tilt pause slider automatically.

Pan & Tilt Position



The Position sliders set a static beam position without any movement. This is useful for aiming your fixtures before starting movement, or when you just need a fixture pointed at a specific spot.

Pan (0-255): Sets the horizontal position.

Tilt (0-255): Sets the vertical position.

Home Pan: Centers the pan position to 127 (middle).

Home Tilt: Centers the tilt position to 127 (middle).

Pan & Tilt Scroll Buttons

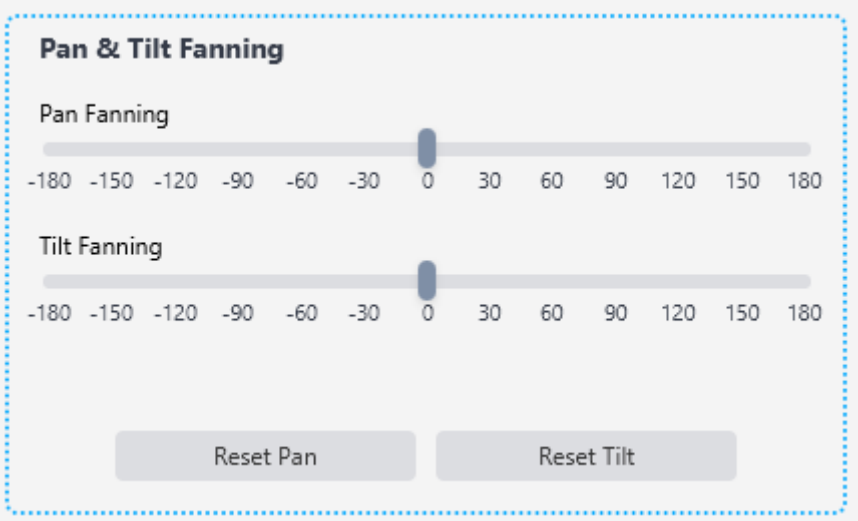
Next to the position sliders are four scroll buttons for fine-tuning beam position:

P. Coarse / T. Coarse: Hover your cursor over one of these buttons and use your mouse scroll wheel to nudge the pan or tilt position in coarse steps (the regular 8-bit channel).

P. Fine / T. Fine: Same as above but adjusts the fine channel (16-bit precision). This gives you extremely precise control over beam position - useful for hitting an exact spot on stage.

If you are using a touchpad instead of a mouse, hover over the button and use two-finger scrolling.

Pan & Tilt Fanning



Fanning spreads multiple fixtures apart from a shared center point. Instead of all fixtures pointing at the same spot, fanning angles them outward so they cover a wider area.

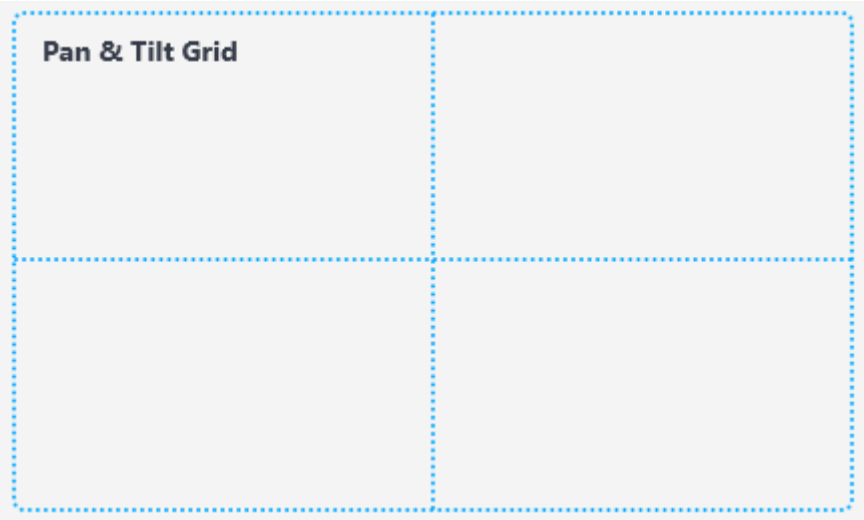
Pan Fanning (-180 to 180): Spreads fixtures horizontally. Negative values fan in one direction, positive values fan the other way. At 0 there is no fanning.

Tilt Fanning (-180 to 180): Spreads fixtures vertically.

Reset Pan / Reset Tilt: Returns the fanning slider to 0.

Fanning works based on the fixture order in the selection - the first fixture gets the least offset, the last fixture gets the most. This creates an even spread across all selected fixtures.

Pan & Tilt Grid



The Pan & Tilt Grid is a visual XY pad for positioning your beam. Click or drag anywhere on the grid to set both pan and tilt at the same time. The horizontal axis controls pan and the vertical axis controls tilt.

Per-Fixture Control

Every fixture has its own independent movement generator. This means you can configure each fixture individually by selecting just that fixture on the right side and adjusting the controls.

For example, if you want one fixture to move slowly while the others move fast, select only that fixture and lower its speed. If you want one fixture to have a narrow sweep while others have a wide sweep, select it alone and adjust its range. The possibilities multiply quickly when you combine different speeds, ranges, offsets, and pause times across your fixtures.

Saving and Loading

Position and movement settings can be saved as Palettes and Scene Faders. There are two palette types on the Position page:

Movement Palettes: Save the movement state (speed, range, offset, pause, start/stop) so you can recall an entire movement pattern instantly.

Position Palettes: Save the static pan/tilt position so you can snap fixtures to saved positions.

Tips

Start with just one fixture selected and get its movement looking right before adding more fixtures and introducing offset.

Offset is the single most important control for making multiple fixtures look professional. Even a small offset value transforms identical movement into something dynamic and layered.

Use Pause Center to create a movement pattern where the beam sweeps out, comes back to center and holds, then sweeps to the other side. This is a classic look for worship and concert lighting.

Fanning combined with movement creates spectacular effects. Set your fixtures to a slow tilt movement, then use pan fanning to spread them out - the result is a row of beams slowly breathing in and out while covering a wide area.

The fine scroll buttons are invaluable during focus. When you need a fixture aimed at a specific mark on stage, coarse scroll gets you close and fine scroll locks it in with 16-bit precision.

Effects

Effects

The effects in SDC are divided into five categories, selectable from the menu bar at the top of the Effects page:

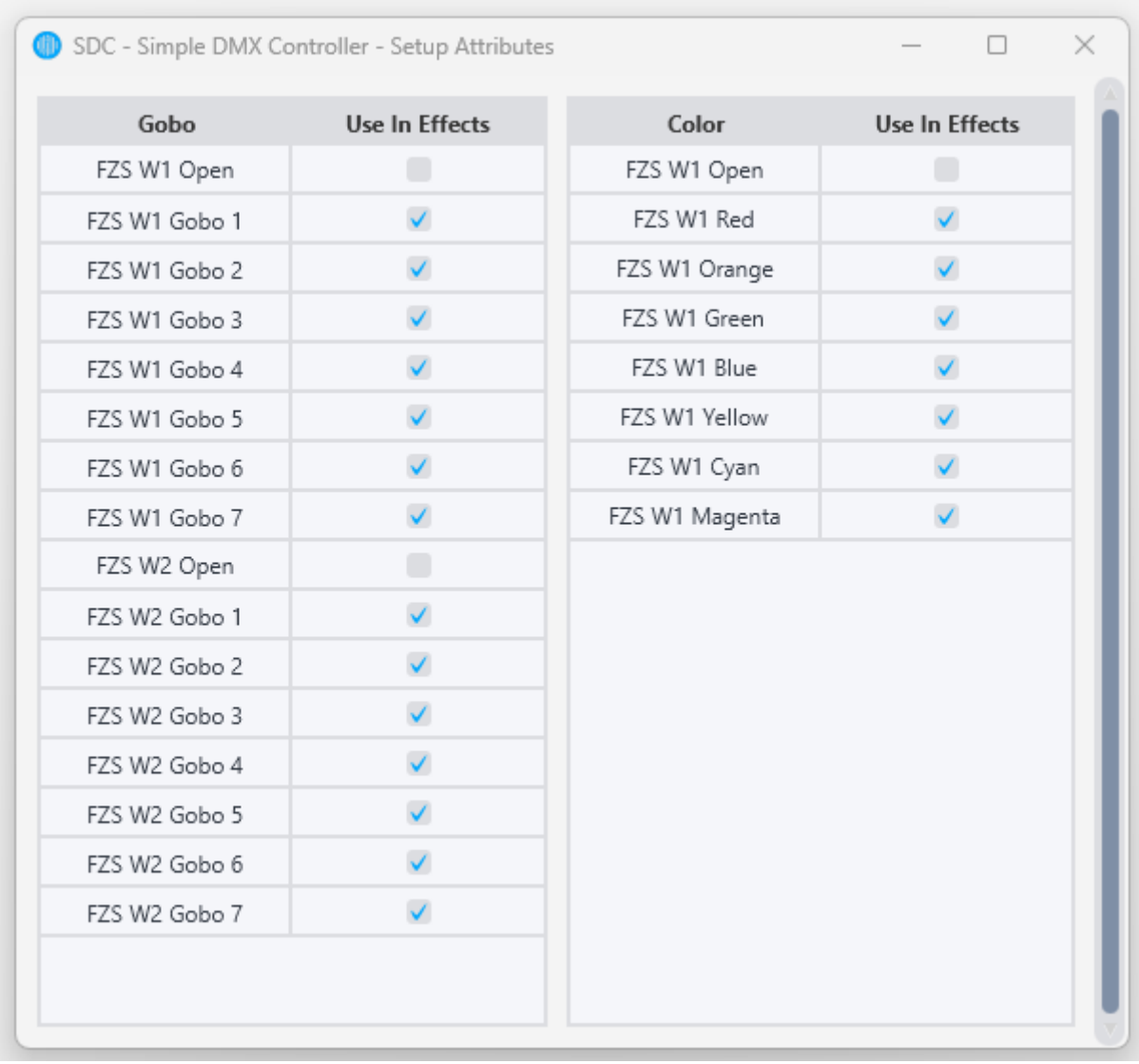
Dimmer Effects - Color Effects - Gobo Effects - Chases - Misc Effects

Before experimenting with effects, it is very important to note that some effects require fixtures loaded from a GDTF file with gobo and color attributes, as those effects use the attribute definitions from the file. The effects that depend on GDTF attributes are: Color W1 Effect 1, Color W1 Effect 2, Color W2 Effect 1, Color W2 Effect 2, Gobo W1 Effect, and Gobo W2 Effect.

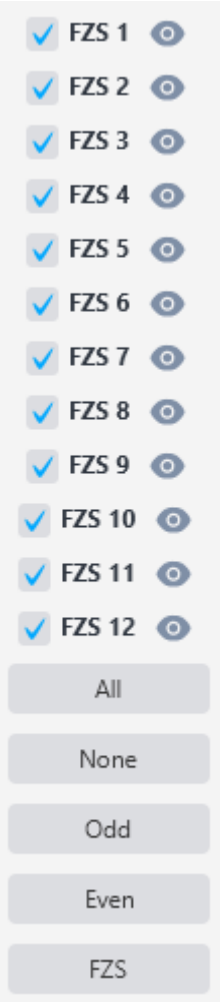
The four RGB effects (RGB Color Wheel, RGB Color Wave, RGB Color Pattern, and RGB Pixel Mapper) do not require a GDTF file - they work directly with your fixture's RGB channels. When creating SDC or GDTF files for your fixtures, you must add the Red, Green, and Blue colors; otherwise, SDC won't know which channels to apply the color effect to.

We highly encourage using a GDTF file to unlock the full potential of SDC. If you don't have a GDTF file for your fixture, take a look at the post titled "How to Generate a GDTF File for SDC". It's not very difficult and won't take much time, since SDC only requires a very basic GDTF file.

When working with fixtures imported from a GDTF file containing color and gobo attributes, you can quickly choose which attributes to use in the effects. Click on Views -> "Set attributes to use in effects", then check or uncheck the attributes you want to enable.



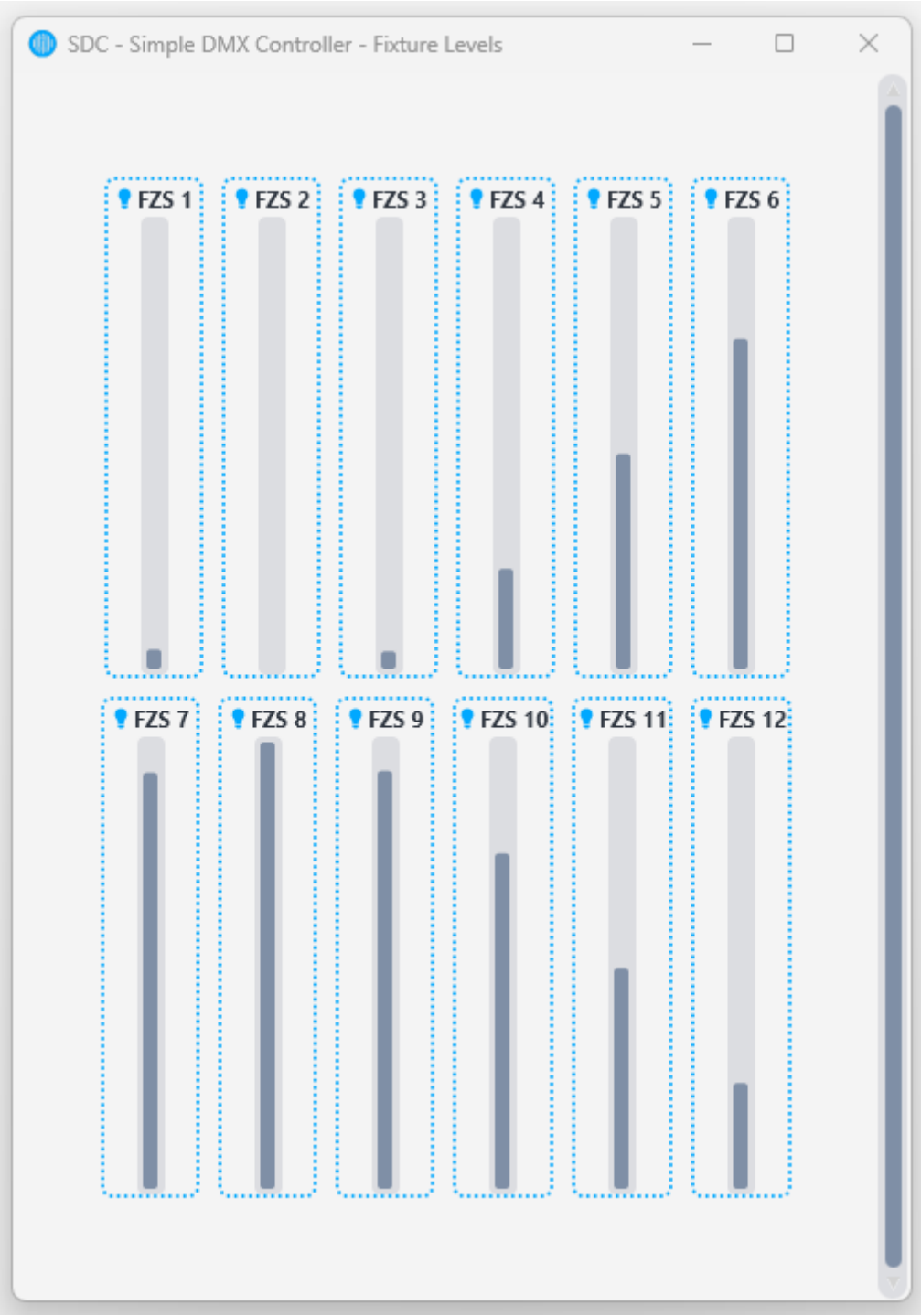
As with any other page in SDC, the fixture selection panel on the right side determines which fixtures the effects apply to:



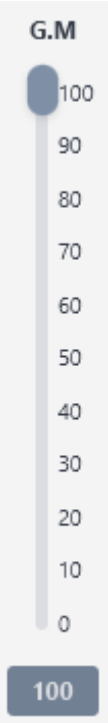
If you click the small bulb icon to the right of a fixture name, that fixture will be turned on and all other fixtures will be turned off.

The best advice when working with effects is simply to play and have fun. Start an effect, use the faders and buttons to create a look you like. The effects are meant to be easy to use, but once you start experimenting, you'll see they offer plenty of creative freedom.

For dimmer effects, select the fixtures you want to apply the effect to and hit play. A useful trick is to open Fixture Levels (Views -> "Fixture Levels") at the same time, which gives you a great overview of fixture intensity:



Remember to turn up the Grand Master (G.M):

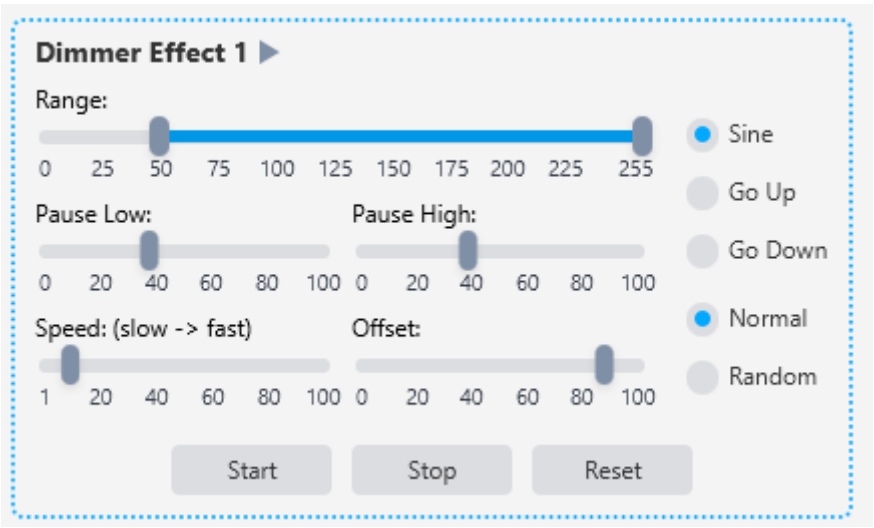


For all effects, you can always press "Reset" to return to default settings and start fresh.

Dimmer Effects

SDC has three dimmer effects plus a BPM blackout effect. Each one can bring your fixtures to life with just a few clicks.

Dimmer Effect 1



Dimmer Effect 1 is ideal for dimmer effects that need to run in sync across multiple fixtures. It uses a single engine to control all selected fixtures synchronously.

Dimmer Effect 1 offers three modes: Sine fades the fixture smoothly up and down. Go Up fades the fixture up, then immediately drops to 0 and fades up again. Go Down fades down, then jumps back to the maximum value and fades down again.

All three modes share the same controls. The Range slider sets the low and high boundaries of the effect - if you don't want your fixtures to go completely dark, drag the low thumb up from 0. The Pause High and

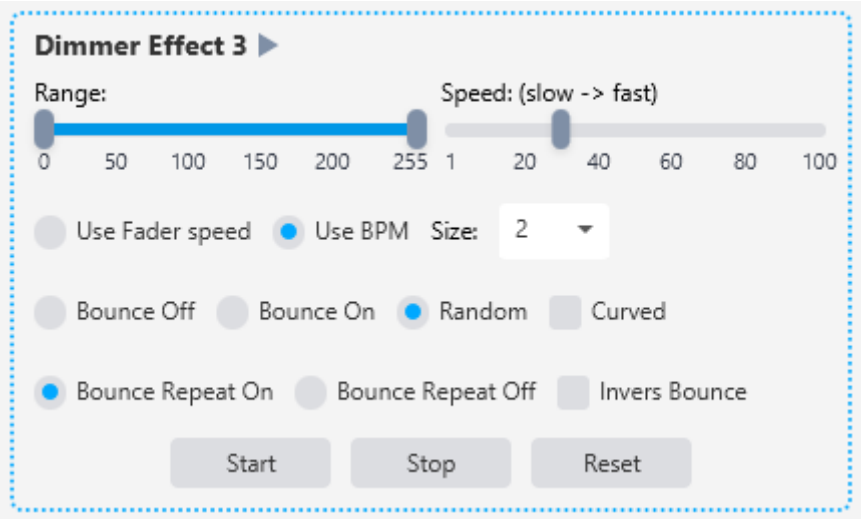
Pause Low values set how long the effect holds at the top and bottom of its cycle. The Speed fader controls how fast the effect runs.

The Offset value spreads the effect across your fixtures so they don't all pulse at the same time. Set it to "Normal" for evenly spaced offsets or "Random" for random phase across fixtures.

Dimmer Effect 2

Dimmer Effect 2 looks similar to Dimmer Effect 1, but there is a crucial difference: while Dimmer Effect 1 uses a single engine to control all fixtures synchronously, Dimmer Effect 2 gives each fixture its own independent effect engine. This means you can make the effect run faster on some fixtures and slower on others, or have odd-numbered fixtures fade up while even-numbered fixtures fade down. Dimmer Effect 2 offers the same modes (Sine, Go Up, Go Down) and the same controls for Range, Pause Low, and Pause High.

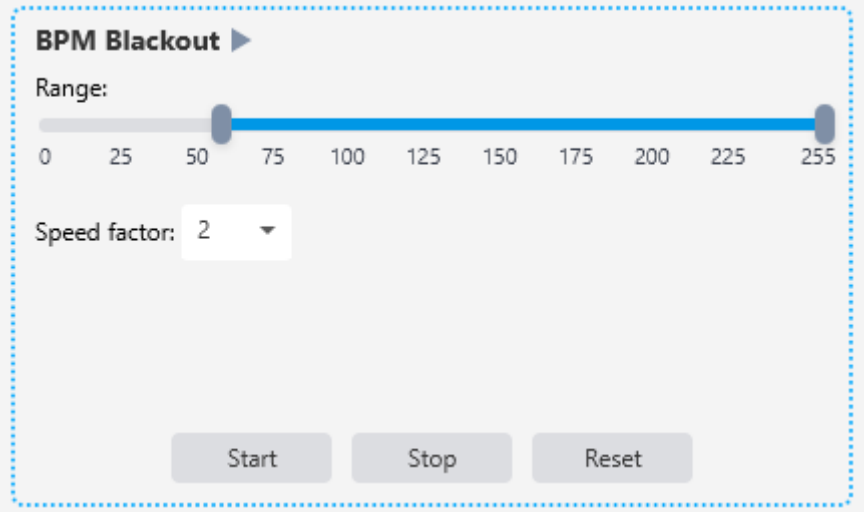
Dimmer Effect 3



Dimmer Effect 3 works differently - it does not fade the dimmer up and down. Instead, it turns fixtures on and off in sequence, similar to a classic chase effect. You can set the speed with the speed fader or sync the changes to the beat of the music with "Use BPM". The Size setting controls how many fixtures are active at once. The Bounce option determines what happens when the effect reaches the end of the

fixture sequence - it can either start over from the beginning or bounce back in the opposite direction. A strobe-like effect can be created by using "Random", setting the speed high, and adjusting the size to fit your fixture count.

BPM Blackout



BPM Blackout is a simple effect that makes your lights flash to the beat of the music. Like the other dimmer effects, it allows you to set the range, so if you don't want the fixtures to go completely dark, adjust the low thumb. The Speed Factor applies a multiplier to the BPM - useful for double-time or half-time flashing.

Color Effects

The Color Effects category contains eight effects. The first four are RGB effects that work with any fixture that has Red, Green, and Blue channels. The remaining four are color wheel effects that require GDTF attribute definitions.

The display order in the Color Effects category is: RGB Pixel Mapper, RGB Color Wave, RGB Color Wheel, RGB Color Pattern, Color W1 Effect 1, Color W1 Effect 2, Color W2 Effect 1, Color W2 Effect 2.

RGB Pixel Mapper

The RGB Pixel Mapper is SDC's most advanced RGB effect. Unlike the other RGB effects, which treat your fixtures as a simple left-to-right line, the Pixel Mapper lets you position your fixtures in 2D space - matching how they are physically arranged on your stage. The effect then paints color patterns across that 2D layout, so what you see in the preview matches what happens on your actual rig.

This makes the Pixel Mapper especially powerful if your fixtures are arranged in a grid, a circle, an arc, or any custom shape. It is also very effective with LED strips and large numbers of RGB fixtures.

Getting Started

The Pixel Mapper has two main parts: the effect controls in the main SDC window, and the Position Fixtures window where you arrange your fixtures on a canvas.

To get started:

1. Select the fixtures you want to use (make sure they are checked in the right panel). 2. Click the "Position Fixtures" button to open the fixture positioning window. 3. Click "Enable Editing" in the positioning window. 4. Click "Add" to place your selected fixtures on the canvas. New fixtures appear at the bottom of the canvas in a neutral zone. 5. Drag fixtures to match their real-world positions on your stage. 6. Choose an effect, adjust the settings, and press Start.

The Position Fixtures Window

The Position Fixtures window shows a canvas where your fixtures are displayed as colored dots. When the effect is running, the canvas shows a live preview of the effect — you can see exactly what colors your fixtures will display.

At the bottom of the window you will find several editing buttons. All editing buttons require "Enable Editing" to be toggled on before they become active.

Enable Editing: Toggles editing mode on and off. When editing is enabled, you can select and drag fixtures on the canvas. When editing is off, the canvas is locked to prevent accidental changes.

Add: Adds all currently selected fixtures (from the right panel in the main SDC window) to the canvas. Newly added fixtures appear in a row at the bottom of the canvas. Fixtures that are already on the canvas are not added again.

Remove: Removes the selected fixtures from the canvas. Select fixtures by clicking on them (hold Ctrl /Cmd to select multiple) or by drawing a selection rectangle around them.

Align Grid: Resets all fixtures on the canvas to an automatic grid layout. This is useful if you want to start fresh with positioning.

Align Vertical: Aligns all selected fixtures to the same vertical position (same X coordinate). Useful for creating straight columns.

Align Horizontal: Aligns all selected fixtures to the same horizontal position (same Y coordinate). Useful for creating straight rows.

Sort Selected: Sorts the currently selected fixtures in order. This is useful if your fixtures were added out of order and you want to make sure they follow a logical sequence.

Straighten: Straightens the selected fixtures into an even line, keeping the start and end positions but distributing the fixtures evenly between them.

Rotate Left / Rotate Right: Rotates the selected fixtures 15 degrees around their center point. Useful for creating angled arrangements or arcs.

To select fixtures on the canvas, click on a fixture dot. Hold Ctrl (or Cmd on Mac) to add more fixtures to the selection. You can also draw a selection rectangle by clicking and dragging on an empty area of the canvas. Selected fixtures are highlighted.

To move fixtures, simply drag them to their new position. If you have multiple fixtures selected, dragging one will move them all together.

Fixture positions are saved with your SDC project, so you only need to arrange them once.

Effect Controls

The main SDC window shows the effect settings for the Pixel Mapper. At the top you will find the Effect and Direction dropdowns, along with the "Position Fixtures" button. Below that are settings specific to the selected effect, and at the bottom is the Speed fader.

Effect: Selects which visual pattern to use. The available effects are Rainbow Wave, Sweep, Spiral, and Plasma. Each effect has its own set of controls that appear when the effect is selected.

Direction: Controls the direction of the effect. The available directions are: Horizontal, Horizontal (Reverse), Vertical, Vertical (Reverse), Diagonal, Diagonal (Reverse), Radial, and Radial (Reverse). Direction is disabled for the Spiral and Plasma effects, as these have their own built-in movement patterns.

Speed: Controls how fast the effect animates. This fader is shared across all effect types.

Rainbow Wave

Rainbow Wave paints a smooth, flowing rainbow gradient across your fixtures based on their 2D position. The rainbow cycles through the full color spectrum and moves continuously in the chosen direction.

Amplitude: Controls the color saturation of the rainbow. At full value, the colors are vivid and fully saturated. Lowering the amplitude reduces the saturation, making the colors appear more washed out or pastel.

Wavelength: Controls how much of the color spectrum is visible across your fixtures at any given moment. A low wavelength means only a small portion of the rainbow is visible (all fixtures are close in color), while a high wavelength stretches the full spectrum across your rig.

Rainbow Wave is a great starting point - set the Direction to Radial for a classic expanding rainbow circle, or Horizontal for a flowing wash across your rig.

Sweep

Sweep creates a moving band of color that sweeps across your fixtures. Imagine a spotlight or a bar of light moving across your stage.

Base Color: The color of the moving band. Choose from a wide palette of predefined colors including standard colors like Red, Green, Blue, Cyan, Magenta, and Yellow, as well as many variations like Scarlet, Amber, Turquoise, Indigo, and more.

Background Color: The color shown where the sweep band is not.

Width: Controls how wide the sweep band is. A low value creates a narrow beam of color, while a high value creates a wide wash.

The combination of Base Color and Background Color gives you a lot of creative flexibility. For example, a Cyan sweep over a Black background creates a striking beam effect. A warm Orange sweep over a deep Blue background can look like a sunset moving across your lights.

Spiral

Spiral creates a rotating spiral pattern that radiates from the center of the canvas. The colors spin around the center point, creating a hypnotic, dynamic effect.

Tightness: Controls how tight or loose the spiral coils are. A low value creates wide, open spirals with large color bands. A high value creates tighter spirals with more coils visible.

Arms: Sets the number of spiral arms, from 1 to 8. One arm creates a single rotating spiral. Two arms create a pattern like a pinwheel. More arms create increasingly complex patterns.

Inward Spiral: When unchecked (the default), the spiral expands outward from the center. When checked, the spiral contracts inward toward the center.

The Direction dropdown is disabled when Spiral is selected. The speed fader controls the rotation speed. Spiral works especially well when your fixtures are arranged in a circle or a grid.

Plasma

Plasma creates an organic, constantly-shifting pattern of blended colors. It looks like liquid colors flowing and mixing together, similar to a lava lamp. Of all the Pixel Mapper effects, Plasma creates the most complex and organic-looking visuals.

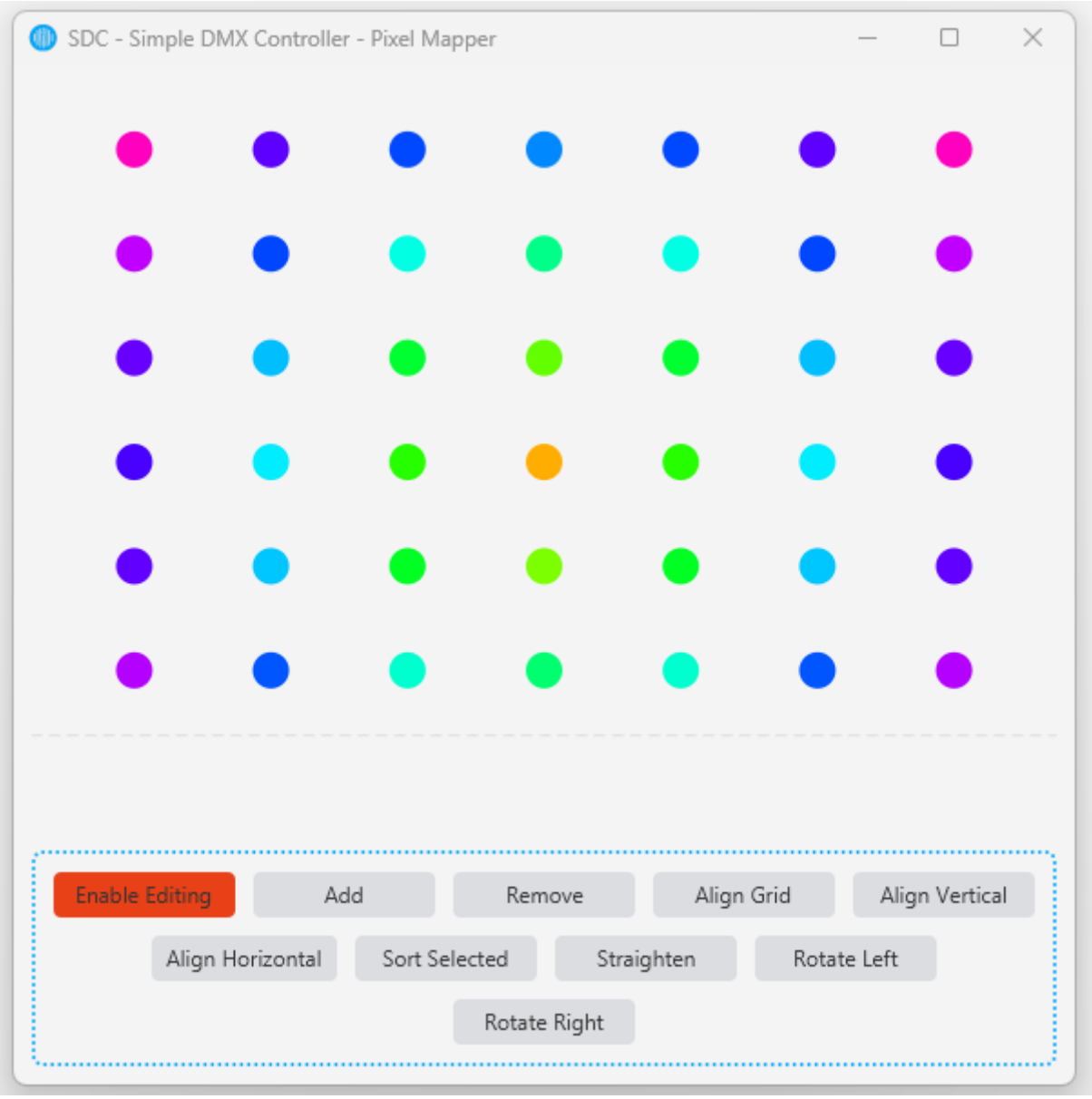
Color Palette: Selects the color theme. The available palettes are: Rainbow (full spectrum), Fire (red and yellow), Ocean (blue and cyan), Forest (green and yellow), Sunset (purple/magenta and orange), and Ice (white and cyan).

Layers: Controls the complexity of the plasma pattern, from 2 to 8 layers. More layers create a more complex, detailed pattern.

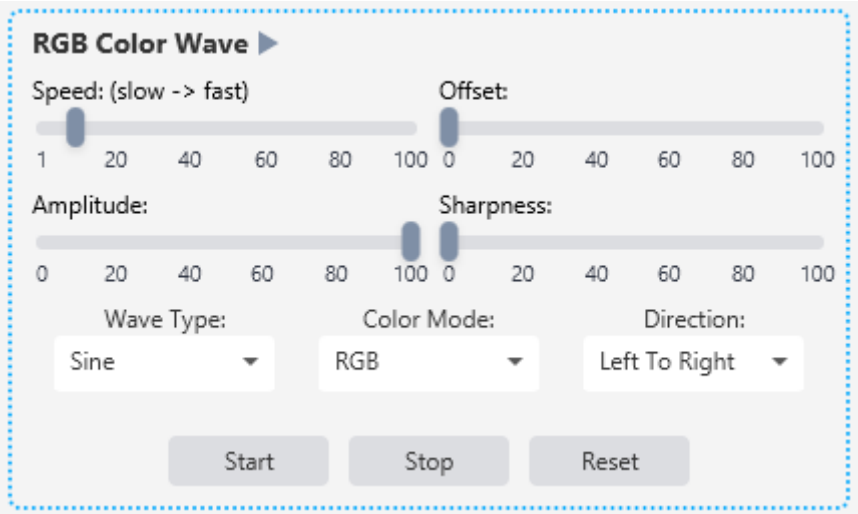
Turbulence: Controls how chaotic the plasma pattern is. A low value creates a smooth, gently flowing pattern. A high value creates a more turbulent, rapidly shifting pattern.

The Direction dropdown is disabled when Plasma is selected. For a subtle, ambient look, try a low Turbulence with 2-3 Layers. For a more dramatic, active pattern, increase both. The Fire and Ocean palettes are especially effective for themed events.

The Pixel Mapper preview in the Position Fixtures window runs in real time, so you can see the effect as you adjust settings. Use this to fine-tune your look before going live. Remember that the position of your fixtures on the canvas matters - take the time to arrange them to match your real stage layout for the best results.



RGB Color Wave



RGB Color Wave creates smooth, flowing color animations across your fixtures. Think of it as waves of color washing over your lights - each fixture shows a slightly different color at any given moment, creating a sense of motion and depth.

RGB Color Wave has four faders and three dropdown menus:

Speed controls how fast the color wave moves across your fixtures. The wave animation is always smooth - changing the speed won't cause any jumps or glitches.

Offset controls how much color separation there is between each fixture. At 0, all fixtures show nearly the same color at the same time. As you increase the offset, each fixture shows a different part of the color wave, creating more visual spread across your rig. This is one of the most important faders for this effect - even a small amount of offset can make a big difference.

Amplitude controls the intensity range of the color variation. At 100 (the default), colors go through their full range. Lowering the amplitude reduces the variation, making the colors more subtle and washed out.

Sharpness controls how crisp the color transitions are. At 0 (the default), colors blend softly into each other. As you increase sharpness, the transitions between colors become more defined and harder.

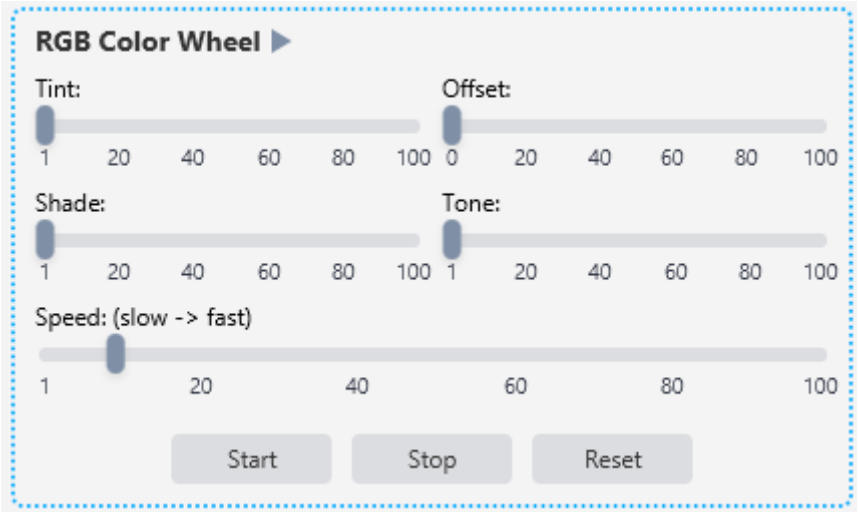
Wave Type determines the shape of the color animation: Sine (default) gives smooth, organic transitions. Square creates sharp, instant changes between colors. Sawtooth creates a sharp rise followed by a gradual fade - with RGB color mode, this creates beautiful clean color bands that overlap and blend. Triangle gives linear transitions up and down, similar to Sine but with straight-line fades.

Color Mode lets you choose which colors are included in the wave: RGB (default) gives you the full rainbow. RG creates warm tones from red through yellow to green. RB creates tones from red through magenta to blue. GB creates cool tones from green through cyan to blue. Warm cycles through red, orange, and yellow. Cool cycles through cyan, blue, and purple. Pastel gives the full rainbow range but with soft, low-saturation colors.

Direction controls which way the wave flows: Left To Right or Right To Left.

A quick tip: set the Wave Type to Sine, Color Mode to RGB, increase the Offset to around 30-50, and press Start. From there, experiment with the speed and try different Color Modes. If you want more defined color bands, increase the Sharpness. If you want a more subtle look, lower the Amplitude.

RGB Color Wheel



RGB Color Wheel creates a continuously rotating rainbow effect across your fixtures. Imagine a color wheel spinning - all your fixtures cycle through the full spectrum of colors together. This is the simplest of the RGB color effects, and it's a great starting point for adding color movement to your show.

RGB Color Wheel has five faders:

Tint adds white to the colors. At 0, the colors are fully saturated. As you increase the tint, the colors become lighter and more pastel.

Offset controls how much color separation there is between each fixture. At 0, all fixtures show the same color and rotate together. As you increase the offset, the colors spread out - each fixture shows a different position on the color wheel, creating a rainbow across your rig.

Shade adds black to the colors. At 0, the colors are at full brightness. As you increase the shade, the colors become darker.

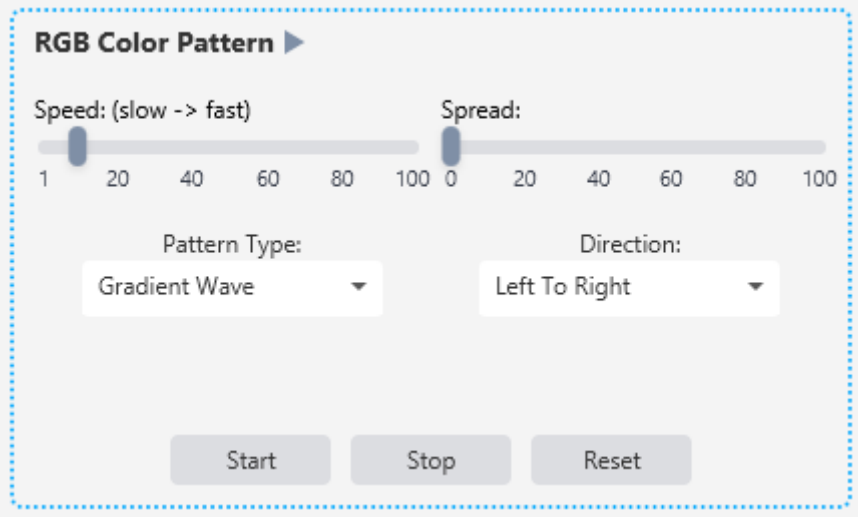
Tone adds gray to the colors. At 0, the colors are fully saturated. As you increase the tone, the colors become more muted and grayish. The difference between Tone and Tint is that Tone desaturates toward gray, while Tint desaturates toward white.

Speed controls how fast the color wheel rotates.

Understanding the difference between Tint, Shade, and Tone: Tint is pure color + white = lighter, pastel color. Shade is pure color + black = darker color. Tone is pure color + gray = muted, desaturated color. These three controls give you a lot of flexibility in shaping the feel of the color effect without changing the speed or the color rotation itself.

A quick tip: increase the Offset to spread the rainbow across your fixtures, adjust the Speed, and press Start. If the colors are too intense, use the Tint fader to soften them. If you want darker, moodier colors, increase the Shade.

RGB Color Pattern



RGB Color Pattern offers structured, pattern-based color effects that go beyond simple color cycling. While RGB Color Wave and RGB Color Wheel focus on smooth, continuous color movement, RGB Color Pattern creates distinct visual patterns across your fixtures.

RGB Color Pattern has two faders and two dropdown menus:

Speed controls how fast the pattern animates.

Spread controls how spread out the pattern is across your fixtures. At 0, the pattern is compressed and the colors are close together. As you increase the spread, the pattern stretches out. The effect of the Spread fader depends on which Pattern Type is selected.

Pattern Type determines the kind of pattern:

Gradient Wave: A smooth color gradient that flows across your fixtures. The Spread fader controls how much of the color spectrum is visible - a low spread means all fixtures are close in color, while a high spread creates a wide rainbow.

Alternating: Fixtures alternate between two complementary colors that slowly rotate over time, so the pair is always changing.

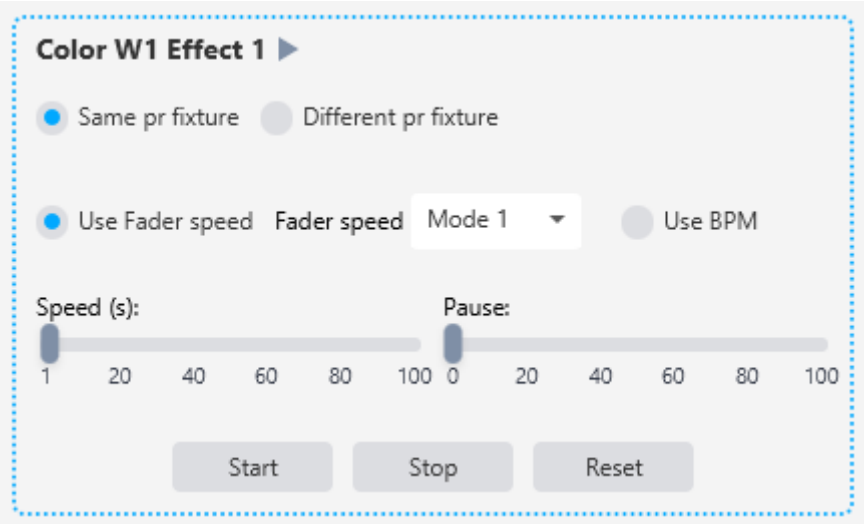
Mirror: The color pattern mirrors from the center outward, so the left half mirrors the right half. This creates a symmetrical look especially effective when fixtures are in a line or arc. When Mirror is selected, the Direction dropdown changes to offer Inside Out and Outside In instead of Left To Right and Right To Left.

Rainbow Spread: The full rainbow spectrum is spread evenly across all fixtures and rotates over time. A subtle brightness wave adds extra dimension. The Spread fader controls the intensity of the brightness wave.

Direction controls the direction of the animation: Left To Right or Right To Left. When the Pattern Type is set to Mirror, the options change to Inside Out and Outside In.

A quick tip: start with Gradient Wave, increase the Spread to around 30-50, and press Start. Then try Alternating for a structured two-color look, or Mirror for a symmetrical effect. Rainbow Spread is great when you want a simple, always-moving rainbow across your entire rig.

Color W1 (Wheel 1) Effect 1

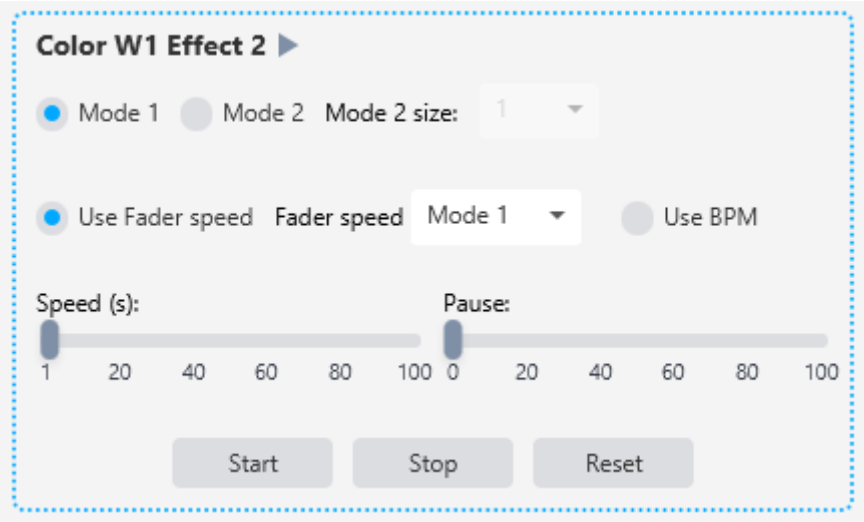


Color W1 Effect 1 is a step chase that changes color wheel attributes (from the GDTF file) at the speed you set. The speed fader has two modes: Mode 1 controls the time in seconds between each color change, Mode 2 controls speed from slow to very fast. For RGB fixtures loaded from a GDTF file, the color attributes are not traditional color wheel positions but color presets - these allow for very fast changes, and Mode 2 works well here.

You can sync the effect to the beat of the music with "Use BPM". If you don't want the same color on all selected fixtures, enable "Different per fixture". The Pause fader sets a pause duration when the effect has cycled through all colors.

Color W2 (Wheel 2) Effect 1 functions exactly like Color W1 Effect 1, except it changes colors on Wheel 2.

Color W1 (Wheel 1) Effect 2



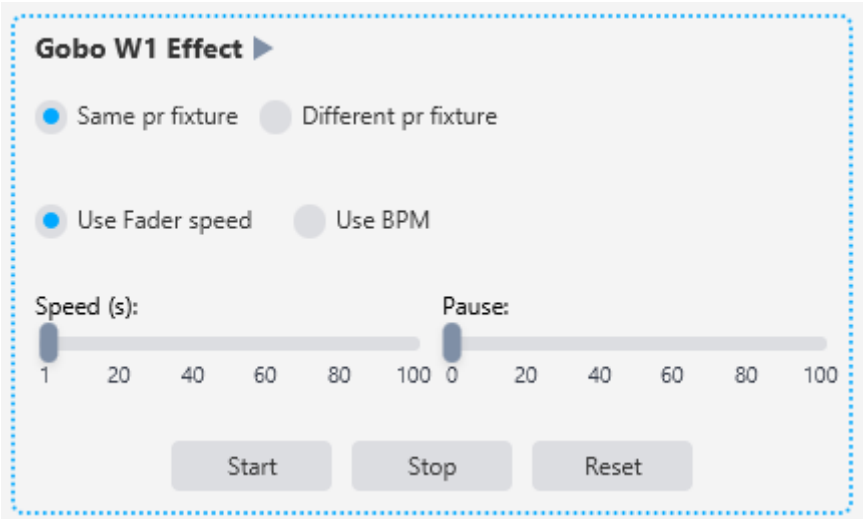
Color W1 Effect 2 works like a chase where the color changes one fixture at a time in ascending order. You can set the Size to change multiple fixtures at once. The same speed modes apply - Mode 1 for time in seconds, Mode 2 for speed control. For RGB fixtures loaded from a GDTF file, the color presets allow for very fast changes, and Mode 2 is beneficial here. The Pause fader adds a pause after all fixtures have been cycled. The effect can also sync to music via "Use BPM".

Color W2 (Wheel 2) Effect 2 functions exactly like Color W1 Effect 2, except it changes colors on Wheel 2.

Gobo Effects

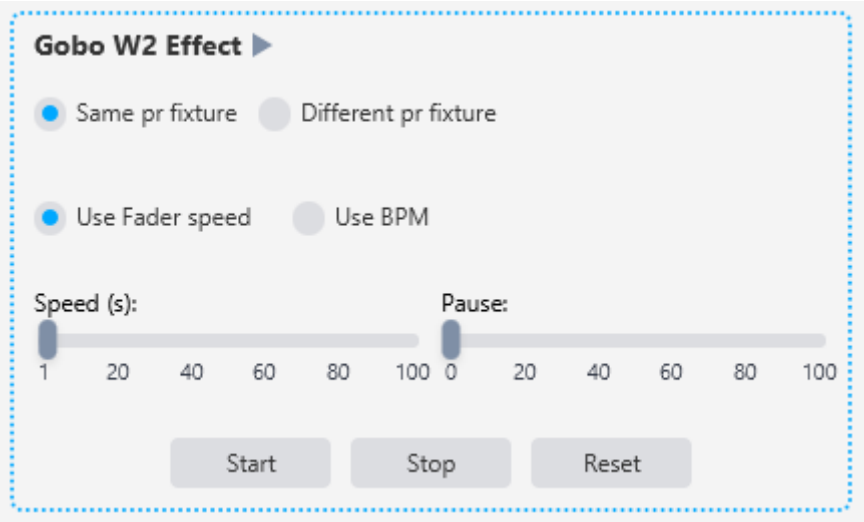
The Gobo Effects category contains two effects, both requiring GDTF gobo wheel attributes.

Gobo W1 Effect



Gobo W1 Effect is a step chase for Gobo Wheel 1 that cycles through the gobo positions defined in your GDTF file. It works similarly to the color wheel effects, with speed and BPM controls.

Gobo W2 Effect



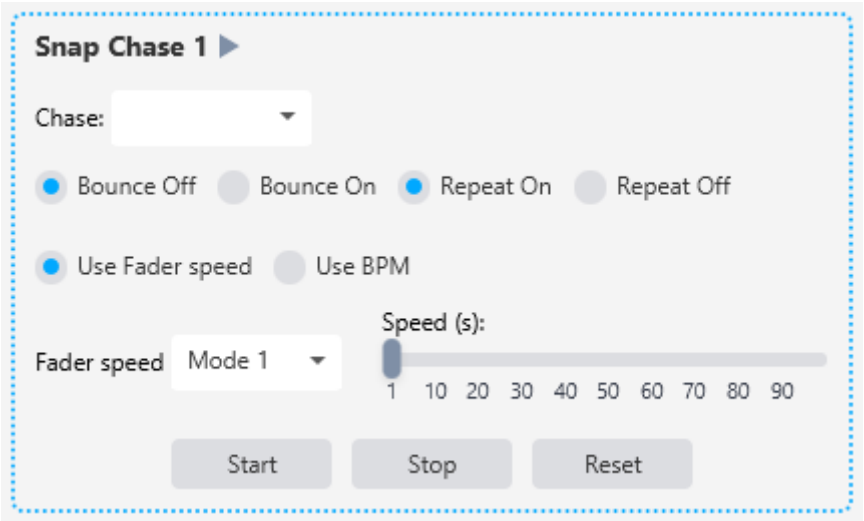
Gobo W2 Effect is the same as Gobo W1 Effect but for Gobo Wheel 2.

Chases

The Chases category contains three types of chase engines: Snap Chases, Fade Chases, and Manual Snaps. The number of snap and fade chases available is configurable in Settings. Before using chases, see the Save & Delete how-to to learn how to prepare chase steps.

Snap Chases

Snap chases switch between pre-saved steps instantly with no fading. Each snap chase can be loaded with a chase sequence you have saved on the Save & Delete page. The speed fader and BPM sync control the timing between steps.

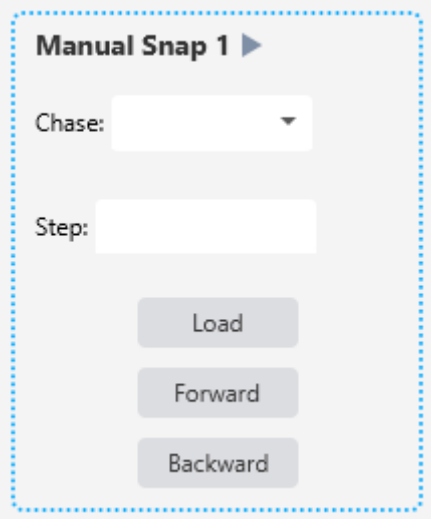


Fade Chases

Fade chases transition smoothly between pre-saved steps with a crossfade. Like snap chases, they are loaded with saved chase sequences and offer speed and BPM controls.

Manual Snap 1 & 2

Two manual snap chases that let you step through chase sequences manually rather than automatically. These give you direct control over when each step fires and is usefull when editing chases.

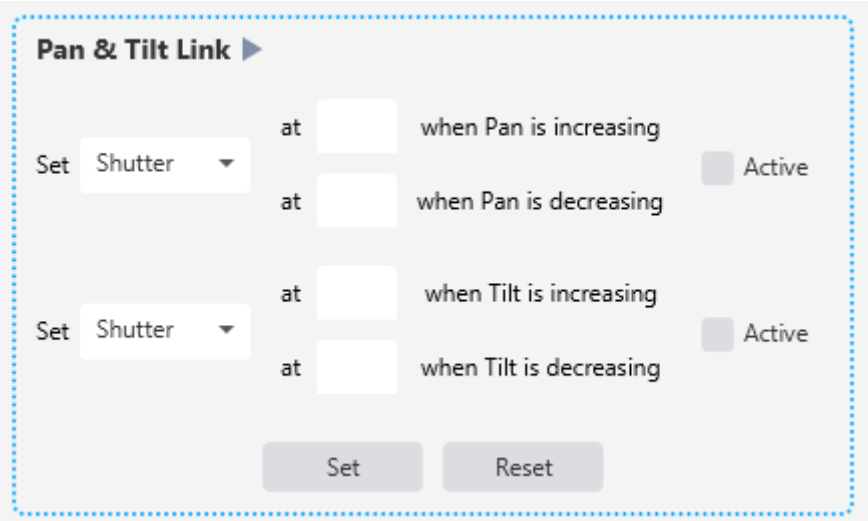


Misc Effects

The Misc Effects category contains one effect.

Pan & Tilt Link

Pan & Tilt Link lets you link fixture attributes to the pan and tilt movement. You select an attribute to control (Shutter, Dimmer, Color 1, Gobo 1, or Gobo 2), then set what value that attribute should be at when pan or tilt is increasing and when it is decreasing. This creates dynamic looks where, for example, the gobo changes depending on the direction the fixture is moving, or the shutter opens when panning left and closes when panning right. Each link has a checkbox to enable or disable it, and the effect has Set and Reset buttons to apply or clear the configuration.



Saving Effects

All effect settings can be saved as Palettes or Scene Faders for instant recall during a show. Set up the effects you like, then go to Save & Delete and save them. This is the intended workflow in SDC - experiment with effects during programming, save the looks you want, then use Palettes and Scene Faders to recall them live.

Tips

Open Fixture Levels (Views -> "Fixture Levels") while working with dimmer effects. It gives you a real-time visual overview of intensity across all your fixtures, making it much easier to see what the effect is doing.

The Offset control in Dimmer Effect 1 is one of the quickest ways to make a group of fixtures look dynamic. Even a simple sine wave becomes much more interesting when the fixtures are offset from each other.

Dimmer Effect 2's per-fixture independence is powerful for creating asymmetric looks. Try setting different speeds on odd and even fixtures, or have some going up while others go down.

The RGB effects (Pixel Mapper, Color Wave, Color Wheel, Color Pattern) work with any fixture that has RGB channels - no GDTF file needed for these. The Color W1/W2 and Gobo effects are the ones that need GDTF attributes.

For chases, preparation is key. Set up and save your chase steps on the Save & Delete page first, then load them into the chase engines on the Effects page.

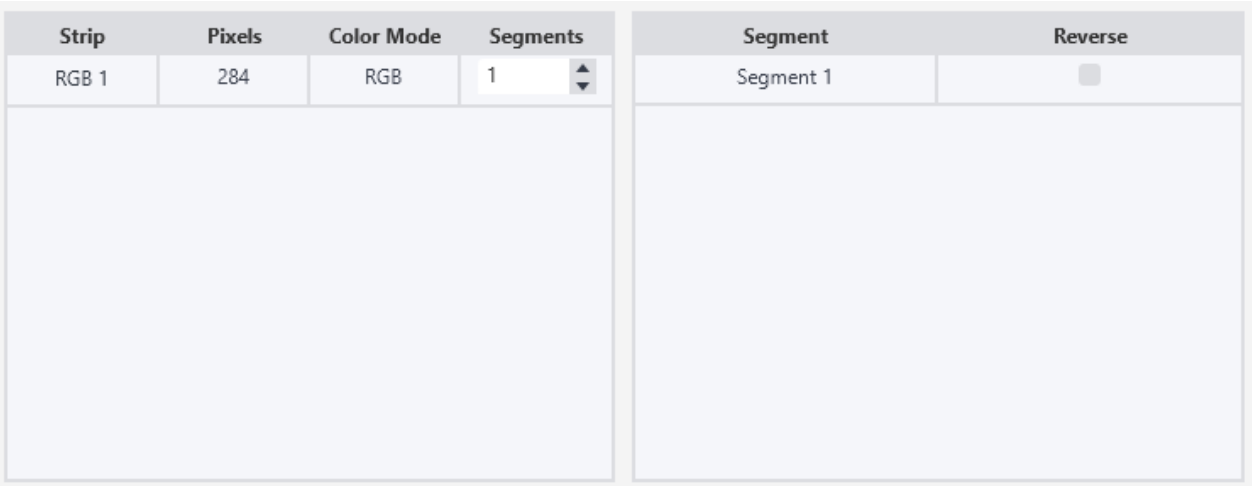
Pixel Strip

The Pixel Strip

The Pixel Strip page is where you control individually addressable LED strips (also called pixel strips or WS28XX-style strips). Unlike traditional RGB fixtures where all LEDs share the same color, pixel strips let you control each LED independently, creating chasing lights, rainbow effects, scanning beams, and more.

Pixel Strip works alongside the rest of SDC - your strips respond to the Grand Master fader, Blackout, and you can save strip states as Scene Fader Palettes for use in the TimeLine.

Strip Configuration



Strips are configured through the Fixture Config, just like any other fixture in SDC. When you add a strip fixture, its pixel count and color mode (RGB or RGBW) must be selected.

Each strip can be divided into segments. Segments split a strip into independent sections that each run their own effect. You can set the number of segments per strip in the strip configuration table. Each segment gets its own checkbox in the Strip Selection panel and can run a different effect type, color, and speed.

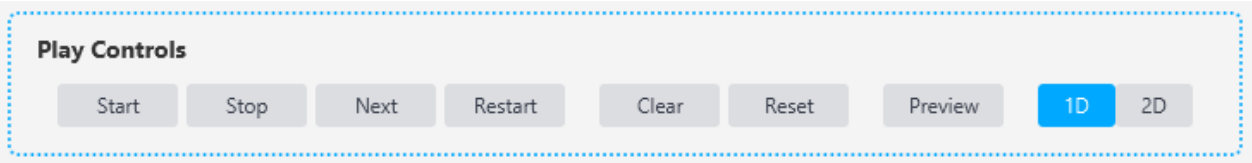
Within each segment, you can also reverse the pixel order. This is useful when a physical strip is mounted in the opposite direction from what the software expects.

Overview

The Pixel Strip page is split into two halves. The left side contains all the controls: Play Controls at the top, then Effect Controls, General Controls, Color Controls, and Dimmer Effect. The right side shows the Strip Selection panel, which lists your strips and segments with checkboxes. This panel controls which strips are affected when you change settings.

There are two modes: 1D mode and 2D mode. In 1D mode, each strip (or segment) runs its own independent effect. In 2D mode, all strips are treated as a canvas and effects span across them in two dimensions. 2D effects can also be used with a single pixel strip to create more random effects. You switch between modes using the 1D / 2D toggle in the Play Controls section.

Play Controls



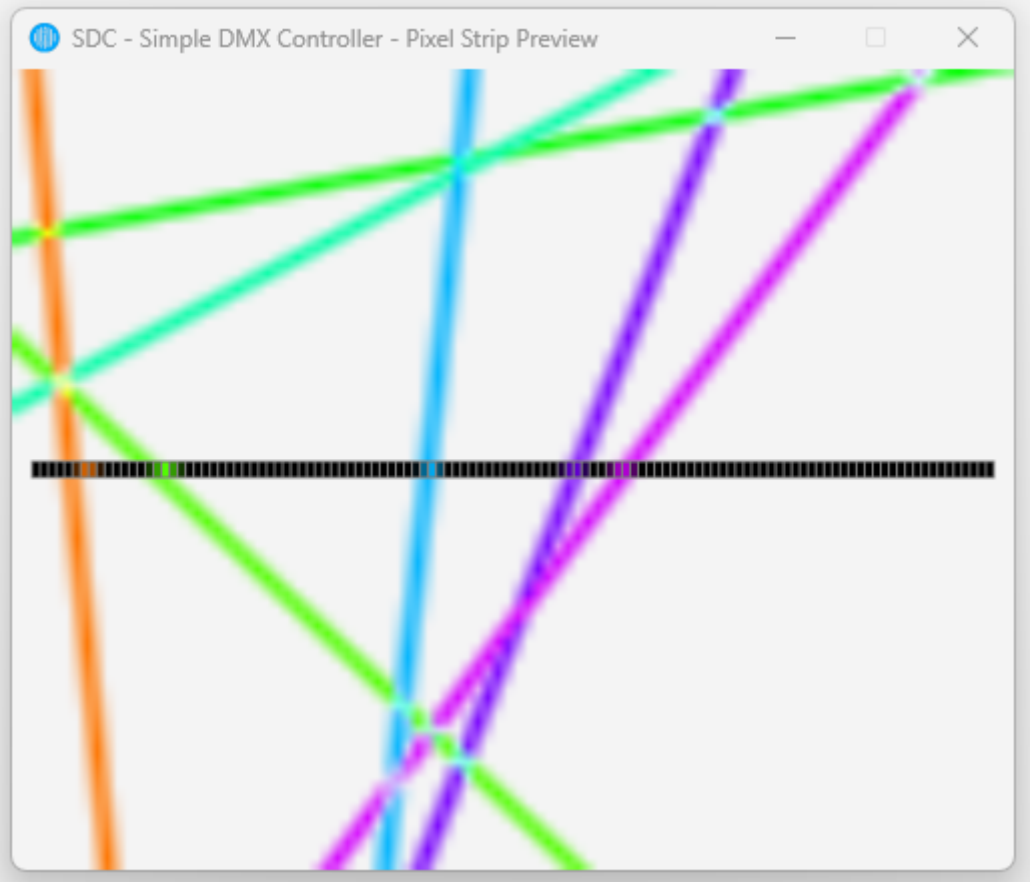
Start: Starts the animation. Any active Color Controls pixel painting is cleared when you press Start, and the strips return to their selected effects.

Stop: Stops the animation. The strip outputs freeze at their current state.

Restart: Resets all effect timing back to zero. Useful for syncing strips.

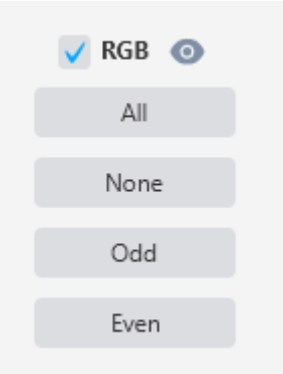
Reset: Returns all settings to their default values.

Preview: Opens a separate Preview window that shows a live visualization of your strips. In both 1D and 2D mode this shows each strip/segment as a horizontal bar. You can draw an area on the preview around the pixels you want the Color Controls (sliders and color picker) to apply to. Click without dragging to clear the selection. When no selection is made, the Color Controls apply to the full strip.



1D / 2D: Toggles between 1D mode (independent per-strip effects) and 2D mode (effects that span across all strips as a 2D canvas).

Strip Selection

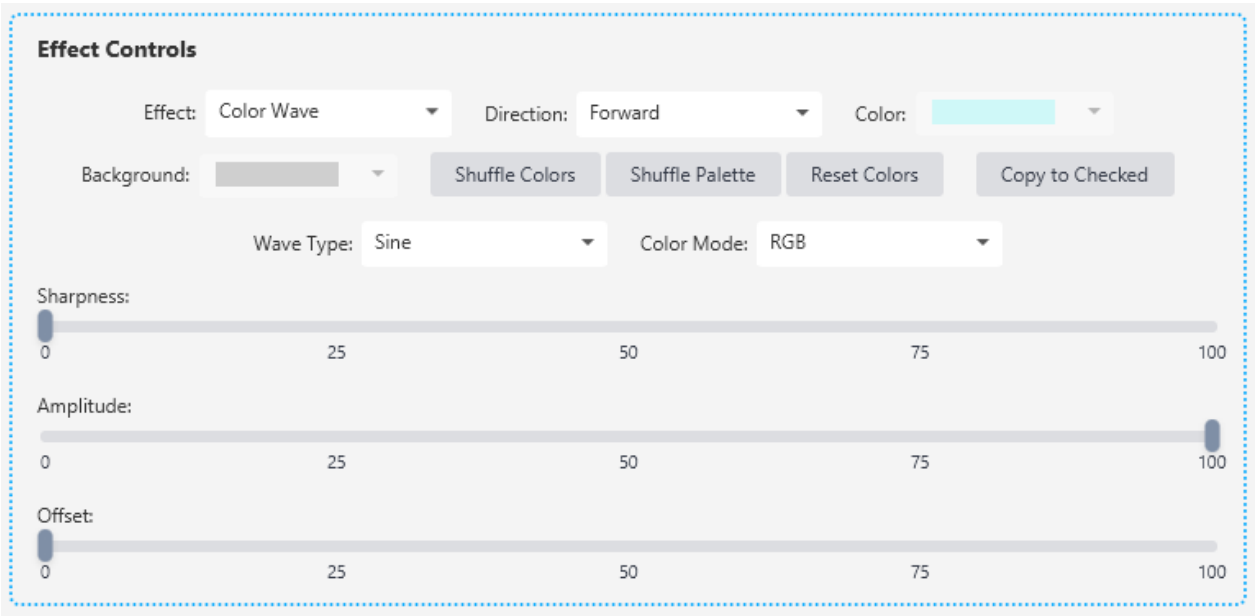


The right panel lists your strips with checkboxes. When you have segments configured, each segment appears as its own entry. The checkboxes control which strips or segments are affected when you change effect type, colors, speed, or any other setting.

This is the key to making strips do different things. For example, you can check only Strip 1, set it to Chase, then check only Strip 2 and set it to Color Wheel - each strip runs its own effect independently.

Quick tip: Use the "Copy to Checked" button (in Effect Controls) to copy the currently selected strip's full effect settings to all checked strips. This is faster than setting each one manually.

1D Effect Types



These are the effects available in 1D mode. Select an effect from the Effect dropdown in the Effect Controls section. Each effect has its own set of controls that appear below when selected.

Breathing: The entire strip pulses smoothly between the primary color and black. A slow, organic glow effect. Speed controls how fast it breathes.

Fire: Simulates a realistic fire effect on the strip. You can control Sparking (how often new flames ignite), Cooling (how quickly heat dissipates - lower values produce taller, lazier flames), and Speed (how fast the fire flickers). Direction controls where the fire burns from: Forward and Reverse set the fire base at

one end of the strip with flames rising toward the other end, while Bounce creates a full-strip fireplace glow with embers flickering randomly across every pixel. Fire ignores the Color Controls sliders and color picker since it generates its own colors.

Color Pattern: Animated color patterns using the full color spectrum. Choose a Pattern Type: Gradient Wave (smooth flowing color gradient), Alternating (complementary colors), Mirror (symmetrical pattern from center), or Rainbow Spread (full spectrum with a brightness wave). Spread adjusts how stretched or compressed the pattern is. Direction is Forward or Reverse.

Color Sections: Divides the strip into colored sections. Each section gets a different color (from the disco colors palette or a gradient between primary and secondary). Controls include Sections (number of color blocks), Section Size, Size Spread (progressive size variation), Gap Size, Gap Spread, and Pyramid (brightness falloff). Direction is Forward, Reverse, Center Out and Outside In.

Color Wave: Mathematical color waveforms flowing along the strip. Choose a Wave Type (Sine, Square, Sawtooth, or Triangle) and a Color Mode (RGB, RG, RB, GB, Warm, Cool, or Pastel). Additional controls: Sharpness (how sharp the wave peaks are), Amplitude (intensity variation), and Offset (spacing between pixels in the wave). Direction is Forward or Reverse.

Color Wheel: A smoothly rotating color spectrum across the strip. Controls are Tint (adds white), Shade (adds black), Tone (adds gray), and Offset (how much the colors spread across pixels). Direction is Forward or Reverse.

Color Wipe: One color sweeps across the strip, replacing another. The "Color" dropdown becomes "Color 1" and a second "Background" dropdown selects the color being wiped away. Direction is Forward, Reverse, Center Out and Outside In.

Comet: A bright head followed by a fading tail, like a comet. Controls include Sections (number of comets), Size (comet head size), Trail Length, Gap Size, Gap Spread, and Pyramid. Direction is Forward, Reverse, Center Out and Outside In.

Crossing Scanner: Two scanner beams moving in opposite directions, creating a crossing point. This effect has three color controls: "Color 1" (the scanner beam color), "Color 2" (the color at the crossing point), and "Background" (the color behind the scanners). Has Trail Length and Sections. Direction is automatic (the scanners bounce).

Meteor Rain: Bright meteors with sparkly fading tails falling along the strip. Controls include Sections (number of meteors), Trail Length, Gap Size, Gap Spread, and Pyramid. Direction is Forward, Reverse, Center Out and Outside In.

Plasma: Organic, flowing colors based on mathematical plasma functions. The Complexity slider controls how intricate the pattern is. Colors are generated automatically. No direction control.

Scanner: A single beam that bounces back and forth along the strip, like a Cylon eye. Has Trail Length and Sections. Direction is automatic (the scanner bounces).

Sparkle: Random pixels flash on and off against a background. The Sparkle slider controls how many pixels sparkle at once. No direction control.

Theater Chase: A classic theater marquee effect where lit pixels march along the strip in groups. The Spacing slider controls how far apart the lit groups are. Direction is Forward, Reverse, Center Out and Outside In.

Twinkle: LEDs glow and fade independently at random rates, creating a twinkling starfield. When "Use Disco Colors" is active, each LED twinkles in a random color from the disco palette. The Randomness slider controls how varied the twinkling timing is. No direction control.

Direction

Most 1D effects support a Direction control:

Forward: The effect moves from the first LED to the last. Reverse: The effect moves from the last LED to the first. Bounce: The effect alternates between forward and reverse. Center Out: The effect starts at the center and moves outward to both ends. Outside In: The effect starts at both ends and moves inward to the center.

Some effects (Color Wave, Color Wheel, Color Pattern) only support Forward and Reverse. Others (Sparkle, Twinkle, Plasma, Breathing, Scanner, Crossing Scanner) have no direction control because they are either stationary, random, or inherently bidirectional.

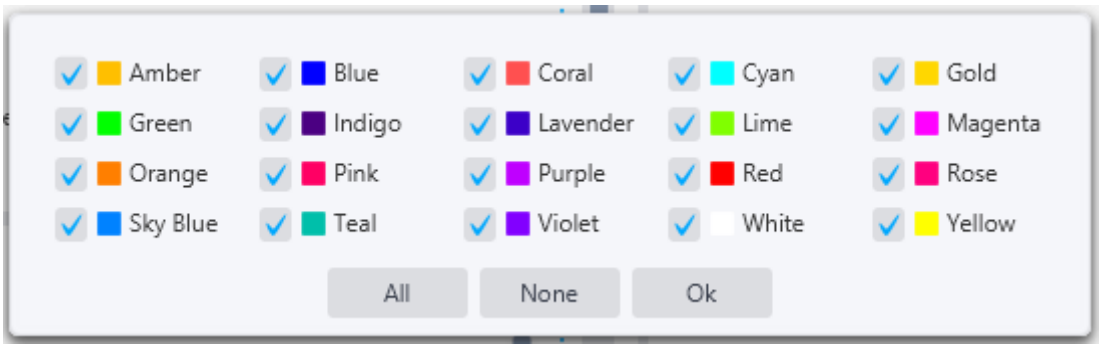
Colors

Color: The primary color used by the effect. Choose from 10 predefined colors: White, Red, Green, Blue, Cyan, Magenta, Yellow, Orange, Purple, and Pink. Not available for Color Wheel, Color Wave, Color Pattern, Plasma, and Fire effects (these generate their own colors).

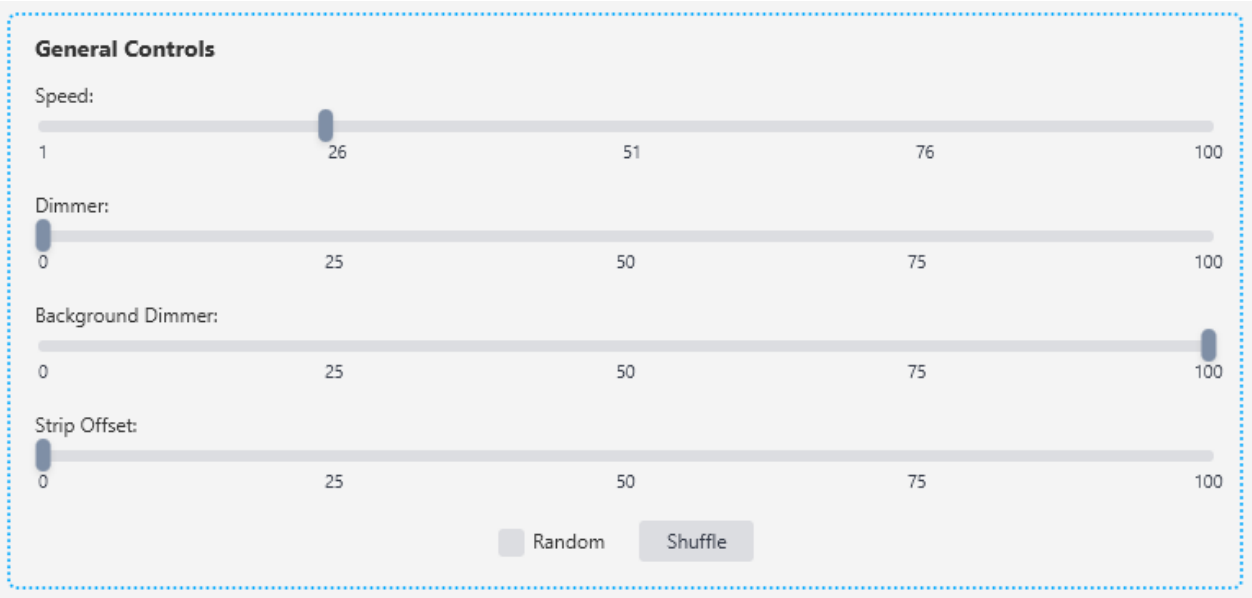
Background: The color shown where the effect is not active. The default is "Off" (black). Not available for Breathing, and the self-coloring effects listed above.

Shuffle Colors: When pressed each section of the effect gets a random color from a palette of classic disco colors. Press the button again to re-shuffle and get a new random arrangement.

Shuffle Palette: The Shuffle Palette lets you customize which colors are included when using the "Shuffle Colors" function on pixel strip effects. By default, all 20 colors in the palette are enabled, but you can disable any colors you don't want to appear in your shuffled results. Click the "Shuffle Palette" button (next to the "Shuffle Colors" button) to open a popup with checkboxes for each available color. Uncheck any colors you want to exclude from the shuffle - for example, if you only want warm tones, disable the blues and greens. When you then press "Shuffle Colors" only the enabled colors will be used. Your Shuffle Palette selection is automatically saved and persists across application restarts.



General Controls



Speed: Controls how fast the effect animates. Different effects use different speed curves internally, so speed 50 on Chase feels different from speed 50 on Color Wave, but the slider range is consistent.

Dimmer: Controls the overall brightness of the strip by setting the virtual dimmer value. This works together with the Grand Master fader.

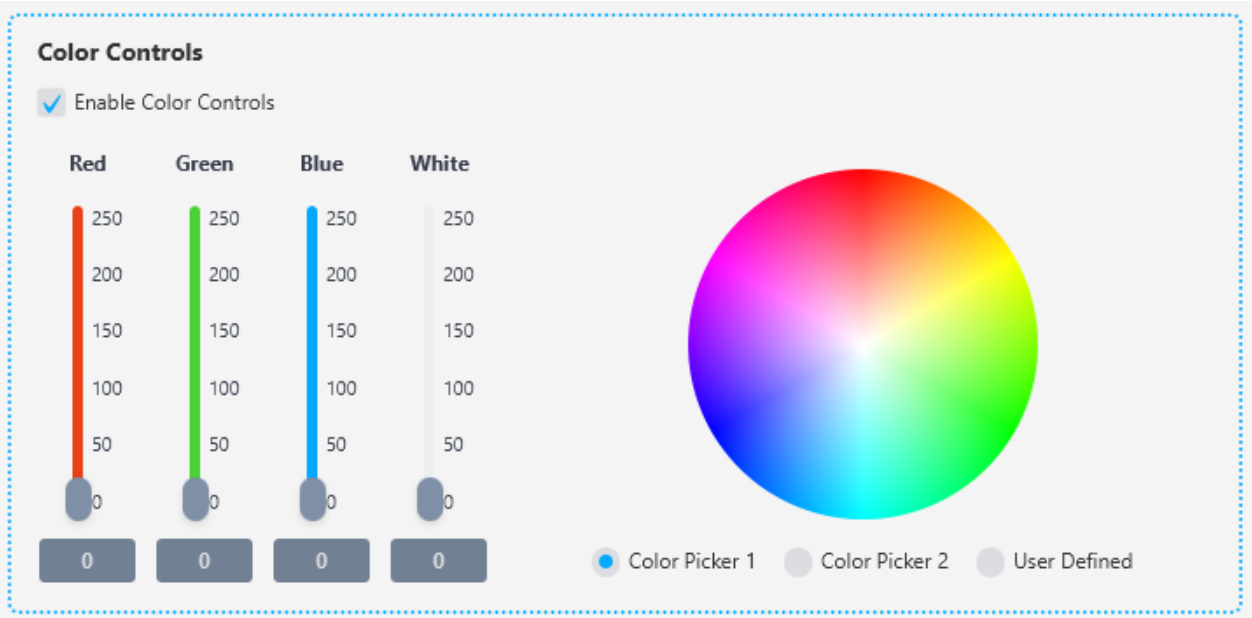
Background Dimmer: Controls the brightness of the secondary/background color. At 100 the background color is at full brightness. Reducing it dims only the background while leaving the primary effect colors untouched.

Strip Offset: Adds a phase offset between strips so they don't all run in sync. At 0 all strips are perfectly synchronized. Higher values create more separation between strips, making them look like a cascading or staggered version of the same effect.

Random checkbox: When checked, each strip gets a random offset instead of a linear progression.

Shuffle button: Generates new random offset values when Random mode is active.

Color Controls



Color Controls lets you modify colors on your pixel strips in two ways, depending on whether an effect is running or stopped. The behavior changes automatically based on the current state.

When the effect is stopped (Replace mode)

When no effect is running, the Color Controls work in Replace mode. Moving the RGBW faders or picking a color replaces the pixel output directly, painting static colors onto the strip. This is useful for setting up fixed color looks - for example, painting the first half of a strip red and the second half blue, then saving it as a palette.

To apply colors to specific pixels, draw an area on the Preview window around the pixels you want to affect, then use the faders or color picker. If no area is drawn, the color is applied to the full strip. Click on the Preview without dragging to clear the selection.

Pressing Start clears all painted pixels and returns the strips to their animated effects.

When the effect is running (Live color adjustment)

When an effect is running, the RGBW faders and color picker modify the running effect's colors in real time without stopping it. What they control depends on the effect type:

For effects that have a background color (Color Sections, Scanner, Crossing Scanner, Comet, Meteor Rain, Theater Chase, Color Wipe, Breathing, Sparkle, Twinkle): the sliders set the background color. Moving the Red fader to 255 turns the background red while the effect keeps animating on top.

For effects that generate their own colors (Color Wave, Color Wheel, Color Pattern, Plasma): the sliders add an additive color tint on top of the generated colors. This lets you warm up or shift the color palette of these effects without replacing their built-in color generation.

Fire ignores the Color Controls entirely since it generates its own fire colors.

The White fader controls the white channel output for RGBW strips, regardless of which mode is active.

Moving a slider while an effect is running clears any gradient that was previously drawn on that strip (see Gradient Line below), replacing it with the uniform slider color.

RGBW Faders

Four vertical sliders - Red, Green, Blue, and White (White only appears if your strips are in RGBW mode). You can type exact values (0-255) in the text fields below each slider.

Color Picker

A visual color picking tool. Use the radio buttons to choose between picking from a gradient image or from a radial palette. When you pick a color, it is applied to the selected pixels (or the full strip), and the RGBW faders update to match.

Gradient Line

The gradient line lets you draw a smooth color transition across your pixels:

Ctrl+click on the color picker image to set the gradient start point. Shift+click to set the gradient end point. Ctrl+Shift+drag to reposition an existing gradient line.

When both points are set, a gradient is applied across the selected pixels (or the full strip). Each pixel gets a color sampled from the line between start and end.

When an effect is running, the gradient writes per-pixel colors into both the background and additive color layers so it works with any effect type and persists if you switch between effects. Gradient colors are saved and restored with palettes.

Dimmer Effect

The Dimmer Effect is a brightness overlay that runs on top of your color effect. It modulates the brightness of each pixel over time, creating effects like fading waves, chasing brightness patterns, and pulsating sections. The dimmer and color effects run independently and combine in real time.

Both dimmer effects are always visible and available. Each has its own Start, Stop, and Reset buttons, so you can run them independently of each other and independently of the underlying color effect.

Dimmer Effect 1

A waveform-based dimmer that sweeps brightness patterns across each pixel.

Range: A dual-handle slider controlling the minimum and maximum brightness. For example, setting range to 50-200 means pixels will oscillate between those DMX values instead of going fully off or fully on.

Waveform: Choose Sine (smooth wave), Go Up (ramp up only), or Go Down (ramp down only).

Speed: Controls how fast the dimmer wave moves.

Offset: Controls the phase difference between each pixel in the wave. Higher values create a more visible wave pattern traveling along the strip.

Offset Type: Normal Offset creates a smooth linear wave. Random Offset randomizes the phase per pixel for a more chaotic look.

Pause Low: How long the dimmer stays at its minimum value before rising again.

Pause High: How long the dimmer stays at its maximum value before falling again.

Dimmer Effect 3

A chase-based dimmer that moves a brightness block along the strip.

Range: A dual-handle slider (0-255) for min/max brightness.

Speed: How fast the brightness block moves.

Size: How large the brightness block is (selectable from a dropdown).

Shape: Three shape modes (Mode 1, Mode 2, Mode 3) that change the profile of the brightness block.

Bounce Off: The brightness block disappears at the end and reappears at the start.

Bounce On: The brightness block bounces back and forth.

Random: The brightness block appears at random positions.

Bounce Repeat On/Off: When bounce repeat is on, the block keeps bouncing continuously.

Inverse: Inverts the brightness - the block becomes dark and everything else is lit.

Palette Player

The Palette Player lets you automatically cycle through your saved Pixel Strip palettes. All Pixel Strip palettes you have saved appear as buttons in the Palette Player. You can trigger any palette manually by clicking its button, or let the Palette Player cycle through them automatically.

Start Auto: Starts automatic playback. Palettes play one after another, each running for the configured duration before advancing to the next.

Stop: Stops automatic playback.

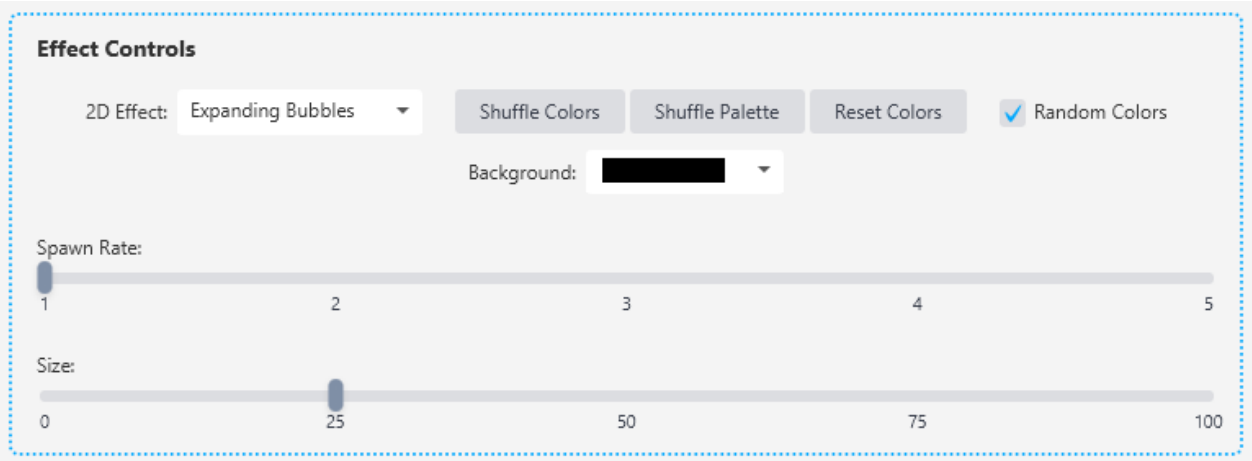
Duration spinner: Sets how long each palette plays before advancing, in seconds. The value is saved and persists across restarts.

Shuffle: When active, the next palette is chosen randomly instead of in order. The same palette is never played twice in a row.

The progress bar shows how much time remains before the current palette advances to the next.

Clicking a palette button while auto-play is running stops auto-play and triggers that palette immediately.

2D Mode



When you switch to 2D mode, all your strips are mapped onto a virtual 2D canvas. Effects then calculate colors based on each pixel's position on this canvas, creating effects that span across all strips.

2D effects are configured with their own set of controls:

2D Effect: Select from the available 2D effects (described below).

Use Disco Colors: When checked, effects use random colors from the disco palette. When unchecked, a Color dropdown appears for choosing a single color.

Background: Same as in 1D mode - the color shown where no effect element is present.

Spawn Rate / Count / Frequency: This slider adapts its label based on the selected effect. For bubble and ripple effects it controls how often new elements appear. For line effects it controls how many lines are visible. For wave effects it controls the wave frequency.

Size: Controls the size of the 2D effect elements (bubbles, ripples, lines, etc.).

The 2D effect types are:

Expanding Bubbles: Colored circles appear at random positions and expand outward before fading. Creates an organic, lava lamp-like feel.

Ripples: Similar to bubbles but rendered as ring outlines instead of filled circles, like raindrops on water.

Sweeping Lines: Colored lines sweep horizontally or vertically across the canvas.

Rotating Radar: A radar-style sweeping beam rotates around the center of the canvas.

Crossing Lines: Multiple lines move across the canvas in crossing patterns.

Wave Front: A repeating wave pattern that sweeps across the canvas.

Note that in 2D mode, the Speed and Dimmer sliders from General Controls still apply. The 1D Effect Controls are hidden when in 2D mode.

Saving and Loading

Like everything else in SDC, your strip effect states can be saved as Palettes. This means you can set up a look on your strips - say, a blue Chase on Strip 1 and a red Color Wheel on Strip 2 - then save it as a Pixel Strip Palette. From there you can:

Recall it instantly from the Palette tiles Place it on the TimeLine as a cue Trigger it from a Scene Fader Trigger it from MIDI

The TimeLine also has a dedicated Pixel Strip track with a "Stop Pixel Strip" auto-palette for stopping the strip animation at a specific point in the timeline.

When saving a palette with the "Pixel Strip Effect & Dimmer" checkbox selected, the full state is saved including effect types, colors, per-pixel gradient colors, additive colors, white channel values, and virtual dimmer values. All of these are restored when the palette is loaded.

Tips

Start with a single effect on all strips to get familiar with the controls, then use the Strip Selection checkboxes to give each strip its own personality.

The Dimmer Effect is powerful when layered on top of a color effect. Try running Color Sections with a slow Dimmer Effect 1 sine wave - it creates a breathing, living wall of color.

Use segments to create mirrored effects. Split a strip into 2 segments, reverse one of them (using Fixture Config), and run the same Chase effect on both - the dots will run toward each other and meet in the middle.

The Preview window is essential for designing effects when you are not in front of your physical LED strips. Open it with the Preview button and keep it visible while you tweak settings.

Strip Offset is one of the most visually impactful controls. Even a simple Chase effect looks dramatically better with some offset between strips, because each strip starts the pattern at a slightly different point.

In 2D mode, the strips are mapped based on their physical order. The first strip is at the top of the canvas, the last strip at the bottom. Segments are placed side by side within each strip's row.

Try the gradient line on a running effect. Set a Color Sections effect running, then draw a gradient from blue to red across the color picker - the background behind the sections becomes a smooth gradient across the strip. This is saved with palettes, so you can build complex layered looks.

Use the Color Controls faders while an effect is running to add subtle color washes. For example, with a Color Wheel running, push the Red fader up slightly to add a warm tint to the entire generated color spectrum.

TimeLine

The TimeLine

The TimeLine lets you automate your lighting show by sequencing your saved Palettes on a visual timeline. Instead of manually pressing Palette buttons during a performance, you can pre-program when each Palette triggers, how long it lasts, and how it transitions - then press Start and let SDC run the show for you.

The TimeLine works with all your existing Palettes. Any Scene, Dimmer, Color, Position, Movement, Shutter, Gobo, Zoom, Focus, Prism, Effect, or Pixel Strip Palette you have saved in SDC can be placed on the timeline as a cue. This means you build your looks the same way you always do - using the palette system - and then arrange them in time using the TimeLine.

Overview

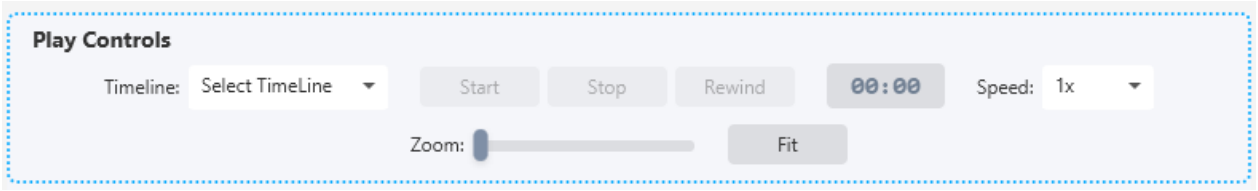
The TimeLine is divided into three main areas:

At the top are the Play Controls, where you select a timeline, control playback, adjust speed and zoom, and see the current time position.

In the middle are the Palettes Tracks, which is the visual timeline itself. This is where you see your cues arranged across 12 tracks (one for each palette type), with a ruler showing time and a horizontal scrollbar for navigation.

At the bottom are the editing sections: Enable Editing, General Options, Add TimeLine, Edit TimeLine, Add Cue, and Edit Cue. These let you create and manage timelines and add, edit, or delete individual cues.

Play Controls



The Play Controls bar at the top contains everything you need for playback:

Timeline: A dropdown to select which saved timeline to load. You must select a timeline before you can use the playback buttons.

Start / Pause: Starts playback from the current position. While playing, the button changes to "Pause". Pressing Pause freezes the timeline at its current position - any active fades are paused too. Pressing Start again resumes from where you paused.

Stop: Stops playback completely and resets the playhead to the beginning. All active fades are cancelled, all running effects that were triggered by the timeline are stopped, and all cues are reset so they will trigger again on the next playback.

Rewind: Jumps the playhead back to the beginning (time 0).

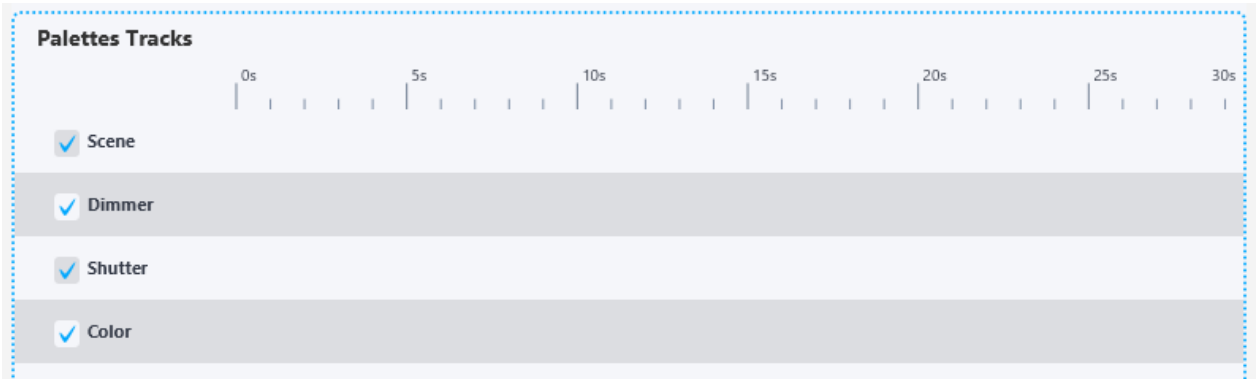
Time Display: Shows the current playback position in minutes and seconds (for example, "01:30" means 1 minute and 30 seconds).

Speed: Lets you change the playback speed. Options are 0.25x (quarter speed), 0.5x (half speed), 1x (normal), 2x (double speed), and 4x (four times speed). This is useful for previewing long timelines quickly, or for slowing down to check that cues are triggering at the right time.

Zoom: A slider that controls how zoomed in the timeline view is. Zooming in lets you see more detail and make more precise edits. Zooming out gives you an overview of the entire timeline.

Fit: A button that automatically zooms the timeline so the entire duration fits within the visible area.

Palettes Tracks



The Palettes Tracks area is the heart of the TimeLine. It consists of a time ruler across the top and 12 horizontal tracks stacked vertically, one for each palette type:

Scene, Dimmer, Shutter, Color, Gobo, Zoom, Focus, Prism, Movement, Position, Effect, Pixel Strip

Each track has a name label on the left side and a checkbox. The checkbox enables or disables that track during playback - a disabled track's cues will be skipped. This is useful for muting certain tracks while testing, for example disabling the Movement track while you work on color timing.

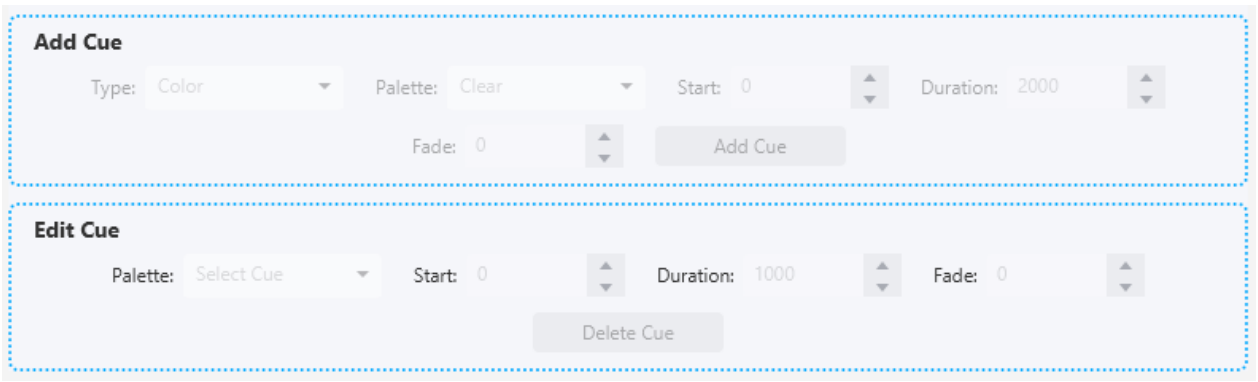
Cues appear as colored blocks on their respective tracks. Each cue type has its own color, making it easy to visually distinguish between different types of cues at a glance.

You can click on the time ruler to jump the playhead to any position. You can also click and drag on the ruler to scrub through the timeline.

During playback, a progress fill shows how far through the timeline you are. The playhead can be shown or hidden using the "Show playhead" option in General Options.

The horizontal scrollbar below the tracks lets you scroll through the timeline when you are zoomed in.

Working with Cues



Cues are the building blocks of a timeline. Each cue represents a single Palette being triggered at a specific time.

A cue has the following properties:

Type: Which palette track it belongs to (Scene, Dimmer, Color, etc.). Palette: Which specific saved Palette to trigger. Start: When the cue begins, in milliseconds from the start of the timeline. Duration: How long the cue lasts, in milliseconds. Fade: An optional fade time in milliseconds. When a cue has a fade time, the palette values fade in gradually instead of snapping on instantly. Fade is available for Scene, Dimmer, Color, and Position cues.

Every track also includes a special "auto" palette. For most tracks this is "Clear", which resets the values for that palette type. For Movement the auto palette is "Stop Movement" which stops any active pan/tilt movement. For Effect it is "Stop Effects" which stops all effects that were triggered by the timeline. For Pixel Strip it is "Stop Pixel Strip". These auto palettes are useful for cleaning up at the end of a timeline or resetting between sections.

Adding a Cue

To add a cue to the timeline:

1. Make sure "Enable editing of TimeLines & Cues" is checked. 2. In the "Add Cue" section, select a Type (which track the cue will go on). 3. Select a Palette from the dropdown. The available palettes are filtered based on the selected Type - for example, selecting "Scene" shows only your saved Scene palettes. 4. Set the Start time in milliseconds (for example, 5000 means the cue starts 5 seconds into the timeline). 5. Set the Duration in milliseconds (for example, 3000 means the cue lasts 3 seconds). 6. Optionally set a Fade time if supported for that cue type. 7. Click "Add Cue".

The cue appears on the corresponding track in the timeline view.

Editing a Cue

To edit an existing cue, click on it in the timeline view. The selected cue is highlighted, and its properties appear in the "Edit Cue" section at the bottom.

From the Edit Cue section you can change the Palette, Start time, Duration, and Fade time. Changes are applied immediately and you can see the cue update in the timeline view as you adjust the values.

You can also interact with cues directly on the timeline canvas when editing is enabled:

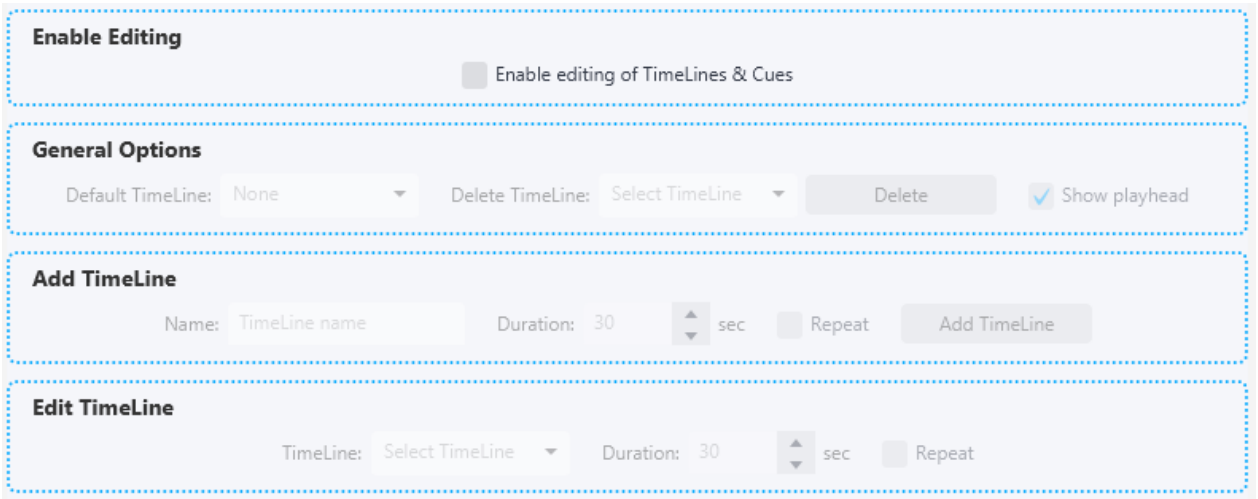
Dragging a cue moves it to a different start time. Click and hold the center of a cue block and drag it left or right.

Resizing a cue changes its duration. Hover near the left or right edge of a cue block - when the cursor changes, click and drag to extend or shorten the cue.

Double-clicking a cue selects it and opens it for editing.

To delete a cue, select it and click the "Delete Cue" button in the Edit Cue section.

Creating and Managing TimeLines



You can create multiple timelines and switch between them. Each timeline has its own set of cues, duration, and repeat setting.

Add TimeLine: To create a new timeline, go to the "Add TimeLine" section, enter a name, set the duration in seconds (5 to 600 seconds, default 30), choose whether it should repeat, and click "Add TimeLine". The new timeline is created and automatically selected.

Edit TimeLine: To change the duration or repeat setting of an existing timeline, select it in the "Edit TimeLine" section. You can adjust the duration with the spinner and toggle the Repeat checkbox. Changes are applied immediately.

Delete TimeLine: To delete a timeline, select it in the "Delete TimeLine" dropdown under General Options and click "Delete". A confirmation dialog will appear before the timeline is removed.

Default TimeLine: You can set a default timeline under General Options. The default timeline is automatically loaded when you open SDC. This is useful if you always start with the same timeline.

Repeat: When Repeat is enabled on a timeline, playback loops back to the beginning when it reaches the end. All cues reset and trigger again. Active fades are cancelled at the loop point. If Repeat is off, playback simply stops at the end.

Triggering TimeLines from Scene Faders

TimeLines can also be triggered from Scene Faders and the Palette tiles, just like any other Palette. This means you can start a timeline during a live show by pressing a button or moving a fader, combining manual control with automated sequences.

When a timeline is triggered from a Scene Fader, pressing Stop or triggering the auto "Stop" tile will stop the timeline playback.

Fade Transitions

Fade is one of the most powerful features of the TimeLine. When a cue has a fade time set, the palette values are gradually transitioned over the specified duration instead of snapping on instantly. This creates smooth, professional-looking transitions between lighting states.

Fade is supported for Scene, Dimmer, Color, and Position cues. Other cue types (Shutter, Gobo, Zoom, Focus, Prism, Movement, Effect, Pixel Strip) do not support fade - they trigger instantly when their start time is reached.

The fade time cannot exceed the cue's duration. If you set a fade time equal to the duration, the palette will spend the entire cue duration fading in.

For example, if you have a Scene cue with a duration of 5000ms and a fade time of 2000ms, the scene will fade in over the first 2 seconds and remain at full values for the remaining 3 seconds.

Tips

Start by creating your Palettes first. Build all the looks you want - scenes, dimmer levels, color states, positions - and save them as Palettes. Then use the TimeLine to arrange them in order and time.

Use the Speed control to preview your timeline faster. Set speed to 2x or 4x to quickly check if cues are in the right order and at the right times, then switch back to 1x for a real-time preview.

Use track checkboxes to isolate specific aspects of your show while editing. For example, uncheck everything except the Color track to focus on getting your color timing right, then enable the other tracks once you are happy.

The Fade feature works especially well for creating smooth scene transitions. Place two Scene cues back to back on the Scene track, and give the second cue a fade time to smoothly blend from one look to the next.

Remember that each cue triggers the palette just like pressing the palette button yourself. This means the same fixture selection rules apply - the cues affect whatever fixtures the palette was saved for.

Save & Delete

Save & Delete

Intro

Scenes, along with palettes, are essential functions when using SDC. The core idea behind the controller is that you pre-program palettes and scenes, which you can then use in various combinations when you go live. Therefore, it's crucial to fully understand how to save palettes and scenes.

As the name suggests, SDC is designed to be simple to use, but no corners have been cut when it comes to the ability to save custom scenes and palettes.

The Save & Delete page is divided into three major areas: Save, Update, and Delete. Save is where you tag channels and create new scene faders, palettes, and chases. Update is where you modify existing ones. Delete is where you remove them. The page scrolls vertically through all three areas.

Tagging - Choosing What to Save

Before saving anything, you need to "tag" which DMX channels should be included. Tagging tells SDC which attributes to record. By default, nothing is tagged - if you save a scene fader without tagging anything, it won't do anything when activated.

The tagging checkboxes are organized into six groups:

Beam Options: Dimmer, Shutter.

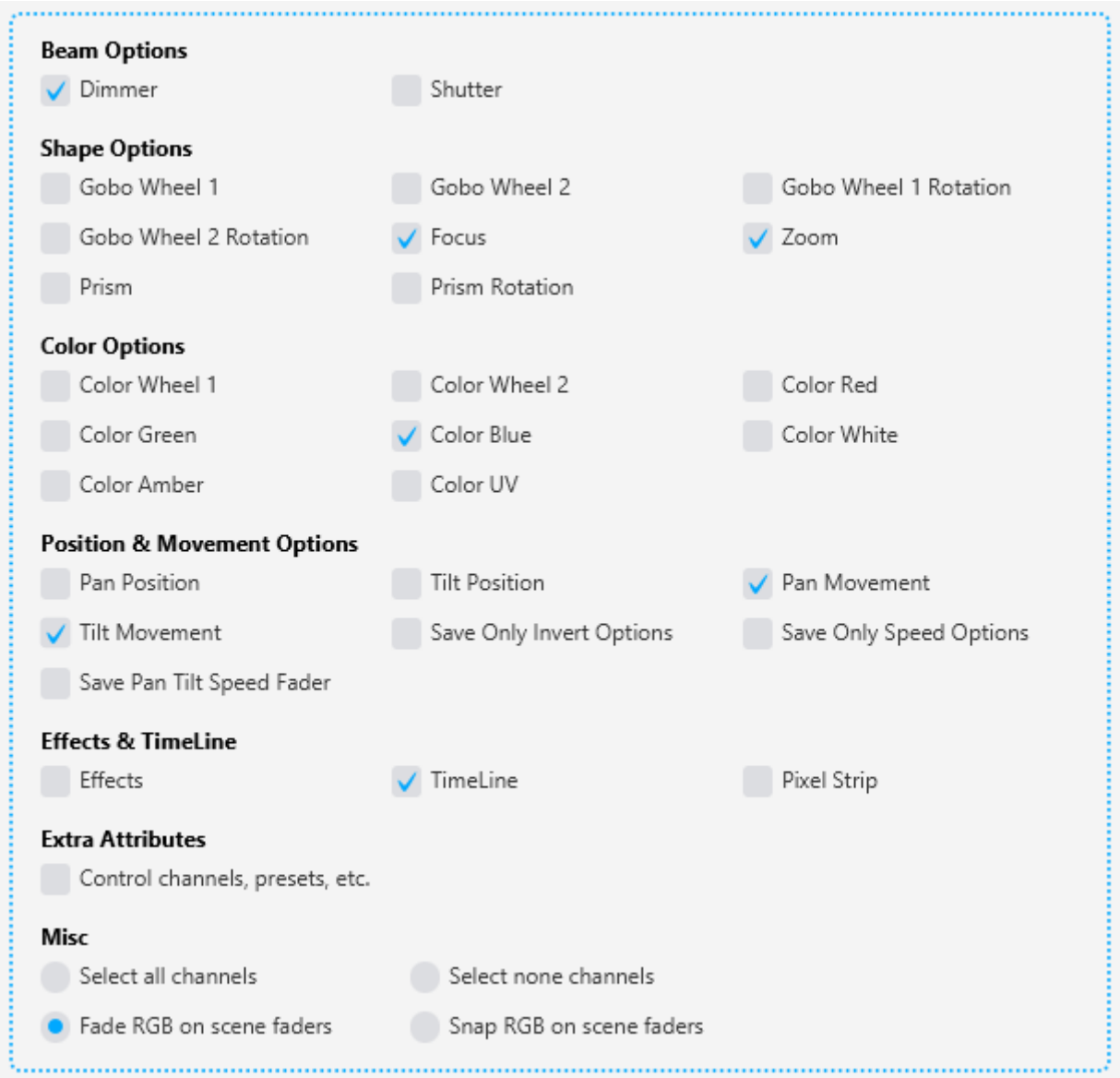
Shape Options: Gobo Wheel 1, Gobo Wheel 2, Gobo Wheel 1 Rotation, Gobo Wheel 2 Rotation, Focus, Zoom, Prism, Prism Rotation.

Color Options: Color Wheel 1, Color Wheel 2, Color Red, Color Green, Color Blue, Color White, Color Amber, Color UV.

Position & Movement Options: Pan Position, Tilt Position, Pan Movement, Tilt Movement, Save Only Invert Options, Save Only Speed Options, Save Pan Tilt Speed Fader.

Effects & TimeLine: Effects, TimeLine, Pixel Strip.

Extra Attributes: Control channels, presets, etc.



When you check a checkbox, SDC marks ("tags") every changed DMX channel of that type across all fixtures. You can verify which channels are tagged by opening Views > Universe Levels - tagged channels show an asterisk (*) in the upper-right corner of their value.

Two radio buttons below the checkboxes let you quickly tag or untag everything: "Select all channels" checks all attribute checkboxes and tags all changed channels, while "Select none channels" unchecks everything and removes all tags.

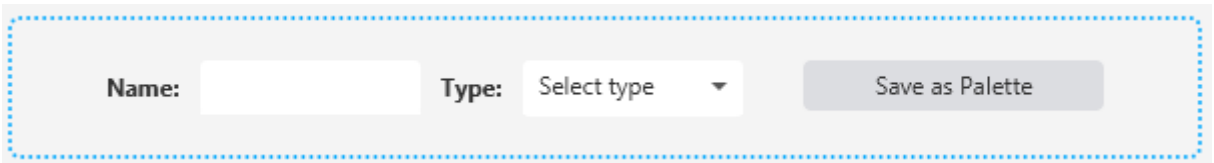
A second pair of radio buttons controls how RGB color values behave on scene faders: "Fade RGB on scene faders" (selected by default) makes RGB colors crossfade smoothly when a scene fader is raised or lowered, while "Snap RGB on scene faders" makes RGB colors jump instantly to their saved values.

Position & Movement - Mutual Exclusivity

The seven checkboxes under Position & Movement Options are mutually exclusive in groups. Checking any one of them automatically unchecks the others. This prevents conflicting save behavior - you cannot save both a static pan position and a pan movement pattern in the same preset. The groups are: Pan Position and Pan Movement are exclusive of each other. Tilt Position and Tilt Movement are exclusive of each other. Save Only Invert Options, Save Only Speed Options, and Save Pan Tilt Speed Fader are each exclusive of all other position checkboxes.

For example, checking "Pan Movement" automatically unchecks "Pan Position", "Save Only Invert Options", "Save Only Speed Options", and "Save Pan Tilt Speed Fader". This ensures each saved preset has a clear, unambiguous purpose.

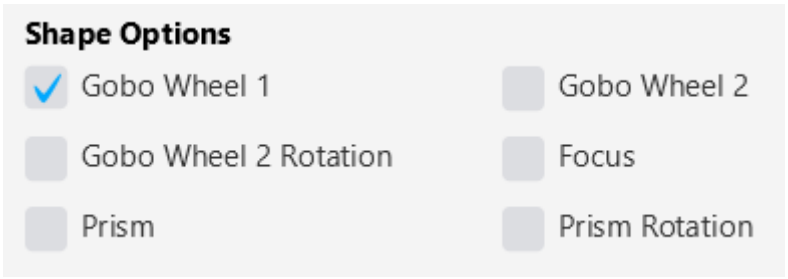
Saving Palettes

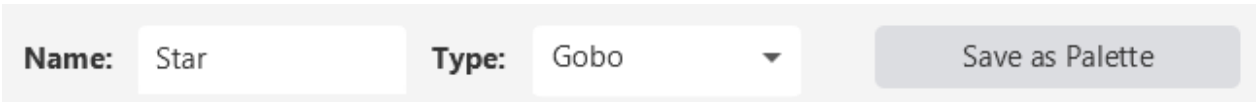


To save a palette, enter a name in the "Name" field, select a type from the "Type" dropdown, and click "Save as Palette". The palette type determines where it appears on the Palettes page.

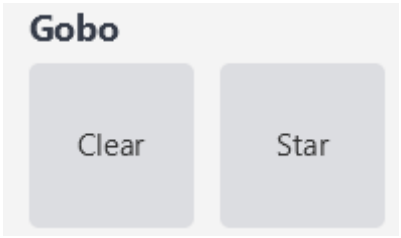
The available palette types are: Color, Dimmer, Effect, Focus, Gobo, Movement, Pixel Strip, Position, Prism, Scene, Shutter, TimeLine, and Zoom.

Remember to tag the appropriate attributes before saving. For example, if you want to save a gobo palette, make sure "Gobo Wheel 1" (or Wheel 2) is checked.

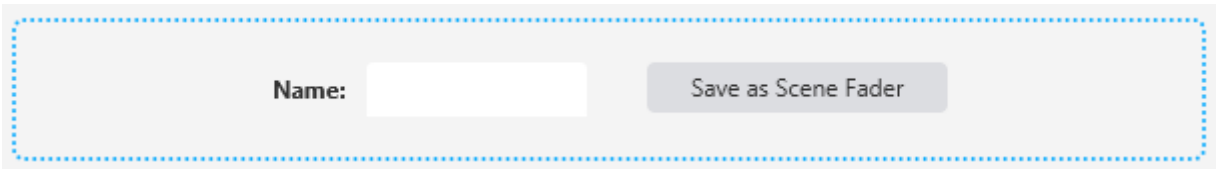




The gobo palette can now be found on the Palettes page under "Gobo".



Saving Scene Faders

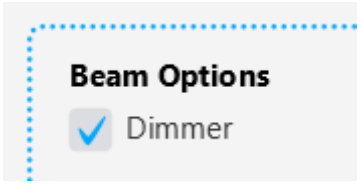


Saving a scene fader is simpler than saving a palette because there is no type to choose - just a name. Enter a name in the "Name" field and click "Save as Scene Fader".

Let's walk through a simple example where you want to create a scene fader that controls the dimmer for a few fixtures:

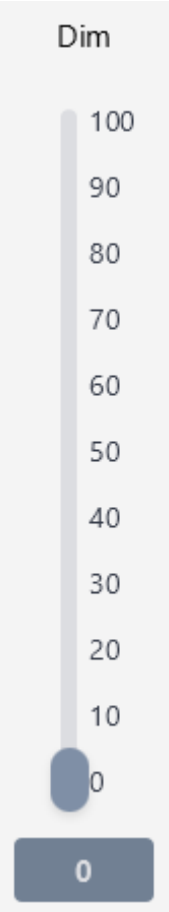
Go to the Fixture Faders page, select the fixtures on the right, and raise the dimmer fader. If the G.M fader in the Masters section is up and your hardware is correctly set up in Settings, you should see output from your fixture (some fixtures may also require the shutter value to be set or opened).

Now return to the Save & Delete page and check the "Dimmer" box. This means that the dimmer values you just adjusted for the selected fixtures will be saved to the scene fader.



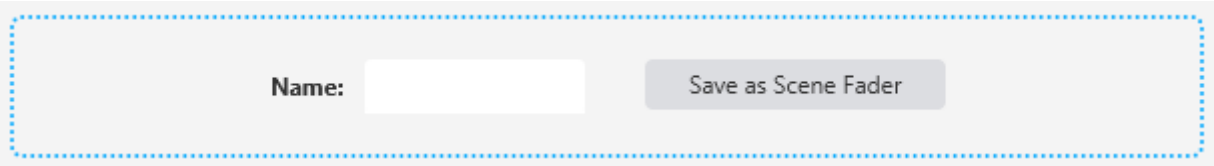
Scroll down to the scene fader section, enter a name, and hit "Save as Scene Fader".

The scene fader is now added to the Scene Faders page and you can begin using it.



When you use the scene fader, only the channels that were tagged will change. This means you can create scene faders that control exactly what you want. For example, you might create scene faders to control the dimmer for different groups of fixtures, or create one that only loads Gobo Wheel 1 values. The flexibility comes from combining multiple single-purpose scene faders during a live show.

Saving Chases



Saving a chase is a two-step process: first create the chase, then add steps to it.

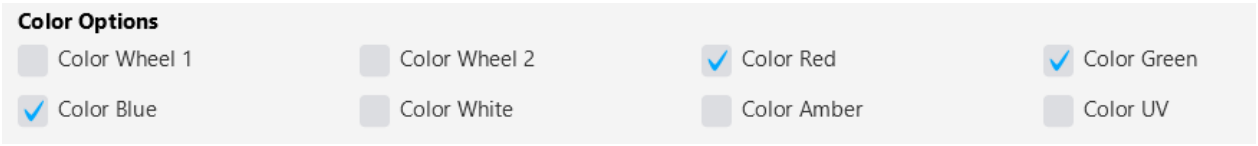
To create a new chase, enter a name in the "Name" field and click "Create new Chase".

Once the chase exists, you can add steps. Select the chase from the "Chase" dropdown and click "Save as step in Chase". Each click adds the current tagged channel values as a new step. To add a second step, adjust your fixtures to the desired values, ensure the correct channels are still tagged, and click "Save as step in Chase" again.

Here's a quick walkthrough for creating an RGB chase:

Go to Fixture Faders. Set Red to 255, Green to 0, and Blue to 0. It's important to move every fader you want recorded, even if you want a channel at 0, because only channels that have been changed will be tagged.

Return to Save & Delete and check "Color Red", "Color Green", and "Color Blue".

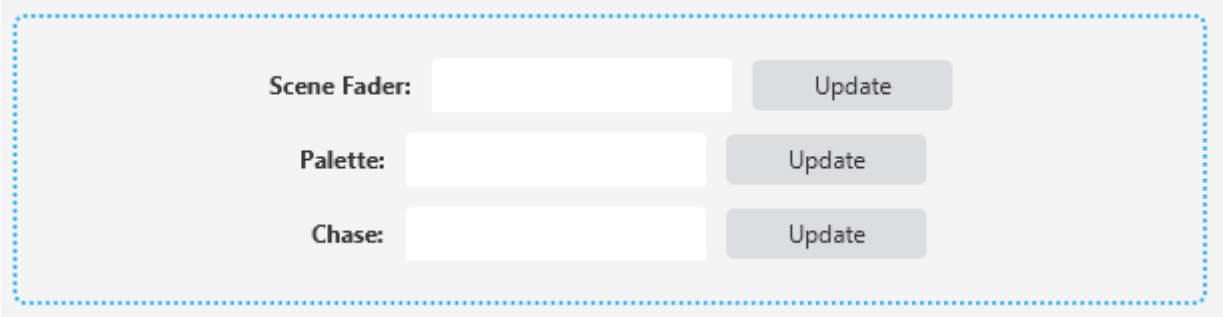


You can verify the correct channels are tagged by checking the DMX universe - Red, Green, and Blue channels should have an asterisk next to their values.

Create a new chase, then save the first step. Go back to Fixture Faders and set Red to 0, Green to 255, Blue to 0 - save as the second step. Then set Red to 0, Green to 0, Blue to 255 - save as the third step.

You can now go to Effects > Chases and select the created chase as input for different chase effects.

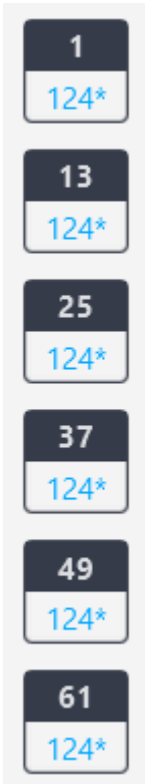
Updating Scene Faders, Palettes & Chases

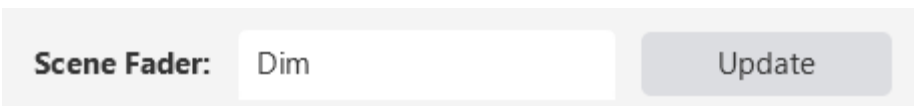


The Update section lets you modify existing scene faders, palettes, and chase steps without creating them from scratch. There are three update rows, one for each type: Scene Fader, Palette, and Chase.

Each row has a read-only text field that automatically displays the name of the most recently loaded item of that type. When you raise a scene fader, its name appears in the Scene Fader field. When you activate a palette, its name appears in the Palette field. When you load a chase step, the Chase field shows the chase name and step number.

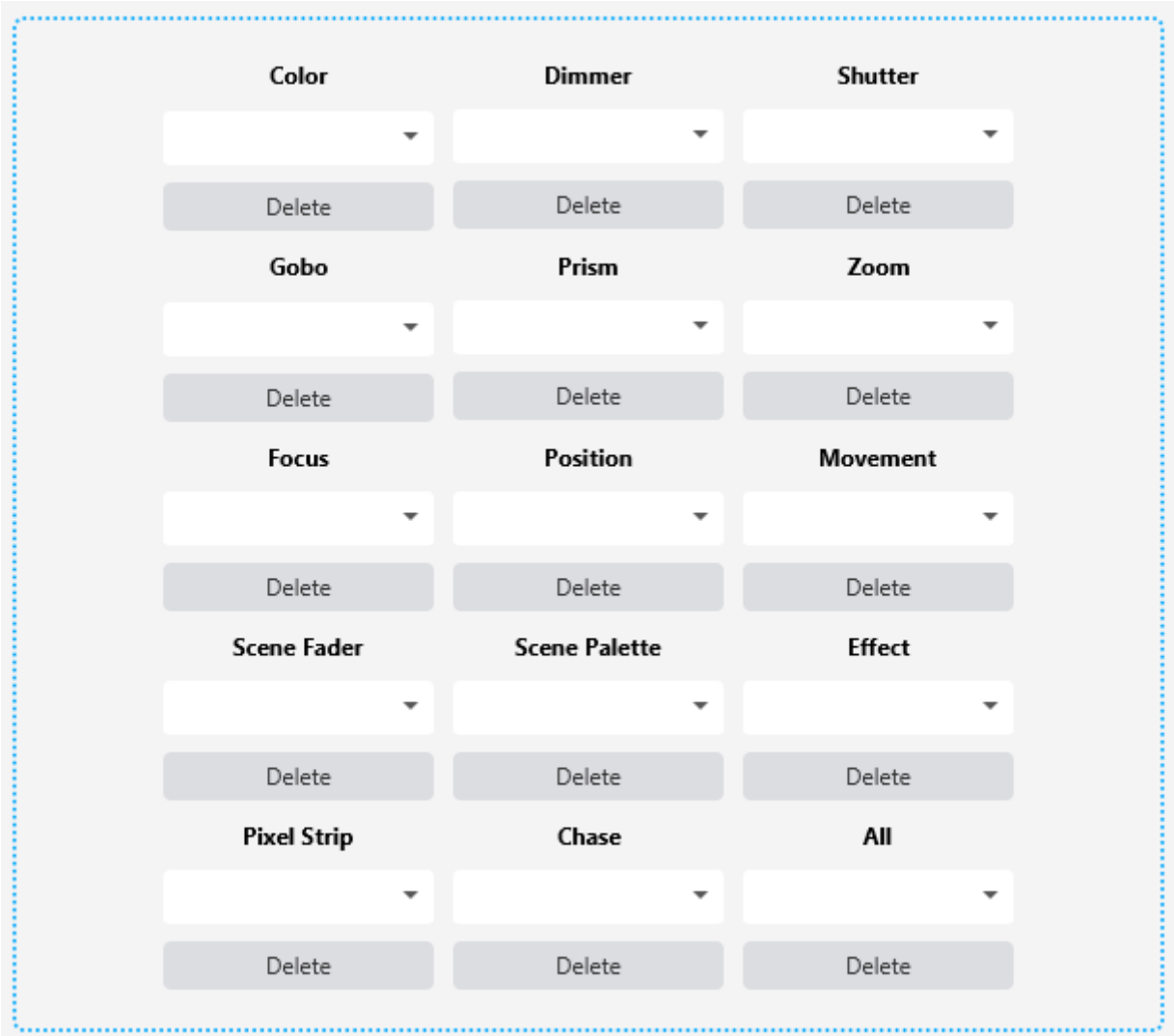
To update, load the item you want to edit, adjust your fixtures to the desired values, *make sure the correct attributes are tagged*, and click the "Update" button next to the corresponding field.





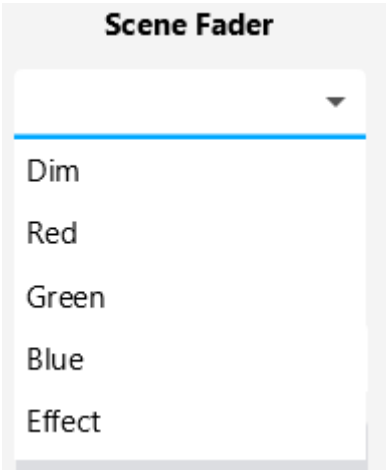
Only one update field is active at a time. Loading a scene fader, palette, or chase step clears the other two fields, so there's no ambiguity about what you're updating.

Deleting Scene Faders, Palettes & Chases

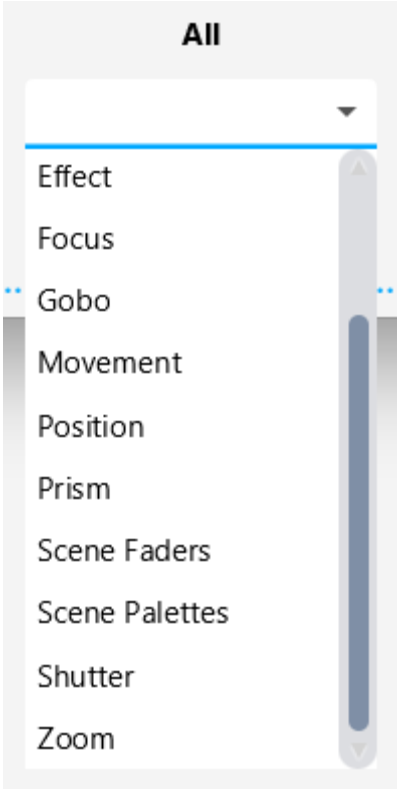


The Delete section provides individual dropdowns for each palette and preset type, plus a bulk delete option. Each dropdown lists all saved items of that type, and clicking "Delete" removes the selected one.

The individual delete categories are (in order): Color, Dimmer, Shutter, Gobo, Prism, Zoom, Focus, Position, Movement, Scene Fader, Scene Palette, Effect, Pixel Strip, and Chase.



The "All" dropdown at the end lets you delete every item of a chosen type at once. The available bulk delete types are: Chase, Color, Dimmer, Effect, Focus, Gobo, Movement, Pixel Strip, Position, Prism, Scene Faders, Scene Palettes, Shutter, and Zoom.



Tips

The best way to learn how saving works is to experiment with the options while monitoring the DMX values in Views > Universe Levels. The asterisk (*) next to channel values gives you instant confirmation of what will be included when you save.

When saving a scene fader that starts pan and tilt movement, an asterisk will not appear on the channels - the movement parameters are stored differently from static channel values.

Create single-purpose scene faders (one for dimmer, one for color, one for gobo) rather than combining everything into one. This gives you maximum flexibility during a live show to mix and match different looks.

To create a scene fader that controls pan and tilt movement speed, activate movement for the fixtures you want, then check "Save Pan Tilt Speed Fader" and save it as a scene fader. This also makes it possible to use a fader on the AKAI APC Mini MK2 as a general pan and tilt speed control for all your fixtures - or just for a specific group of them.

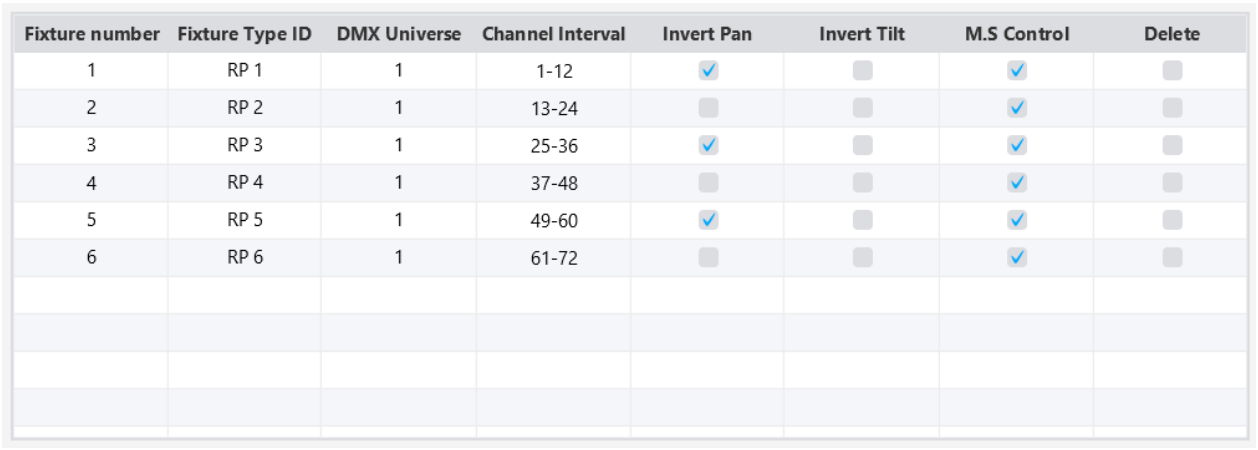
The Fade/Snap RGB radio buttons are easy to overlook but make a significant difference. "Fade" gives you smooth color transitions as you move a scene fader, while "Snap" gives you instant color changes. Choose "Fade" for gentle crossfades between looks and "Snap" for punchy effects.

Config

Config

The Config page is where you manage the fixtures in your project after they have been added. It has three sections stacked vertically: the main fixture configuration table at the top, the fixture attributes tables in the middle, and the strip configuration tables at the bottom. The right side has the delete controls.

DMX Fixture Configuration Table



Fixture number	Fixture Type ID	DMX Universe	Channel Interval	Invert Pan	Invert Tilt	M.S Control	Delete
1	RP 1	1	1-12	☑	☐	☑	☐
2	RP 2	1	13-24	☐	☐	☑	☐
3	RP 3	1	25-36	☑	☐	☑	☐
4	RP 4	1	37-48	☐	☐	☑	☐
5	RP 5	1	49-60	☑	☐	☑	☐
6	RP 6	1	61-72	☐	☐	☑	☐

The main table lists every fixture in your project. Each row shows the fixture's number, name (Type ID), DMX universe, and channel interval (the range of DMX channels it occupies). The table also has four checkbox columns that you toggle per fixture:

Invert Pan: Reverses the pan direction for that fixture. When multiple fixtures are mounted facing different directions, inverting the pan on some of them means they all move the same way visually when you use the Position controls. This is one of the quickest ways to create a more sophisticated look from your moving heads.

Invert Tilt: Same as Invert Pan but for the tilt axis.

M.S Control (Master Speed Control): When checked, this fixture's movement speed is controlled by the M.S.P (Master Speed Pan) and M.S.T (Master Speed Tilt) faders in the Masters section. This lets you override individual fixture speeds from the master faders for global speed control during a live show.

Delete: Marks the fixture for deletion. Check the fixtures you want to remove, then press the "Delete selected fixtures" button on the right side.

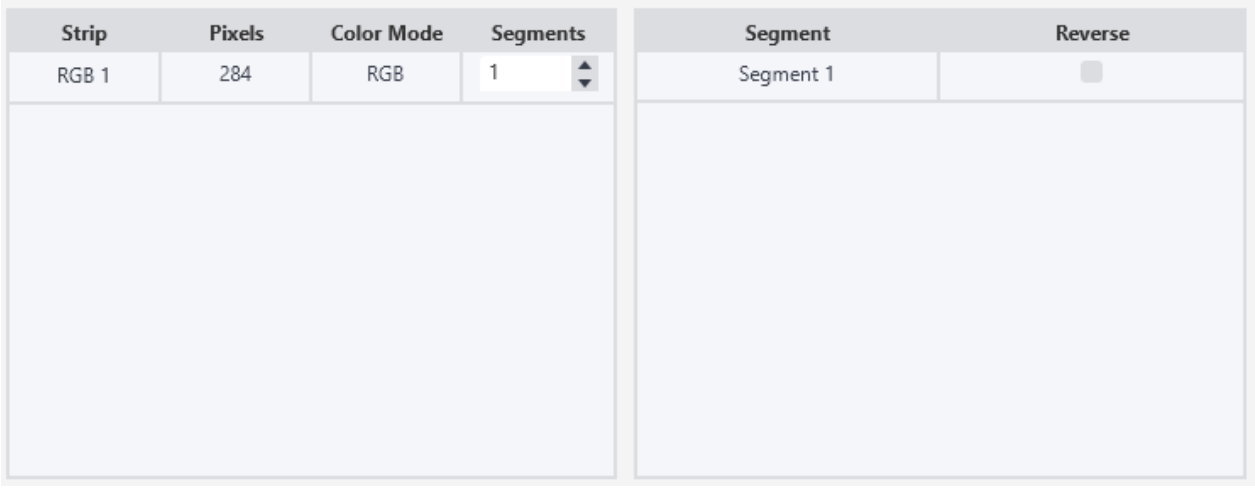
DMX Fixture Attributes

Below the fixture table are two side-by-side attribute tables - one for gobo attributes and one for color attributes. These tables list every gobo wheel and color wheel attribute that SDC found in your fixtures' GDTF definitions.

Each attribute has a "Use On Palettes" checkbox. When checked, that attribute appears as a controllable option on the Palettes page. When unchecked, it is hidden from the Palettes page.

This is useful in two situations. First, some GDTF files define more attributes than you actually want to use - extra gobo wheels, secondary color wheels, or attributes that are not relevant to your show. Unchecking them keeps the Palettes page clean and focused. Second, if a GDTF file has attribute definitions with errors (wrong channel mappings or incorrect value ranges), unchecking the broken attribute hides it so it does not interfere with your workflow.

Pixel Strip Configuration



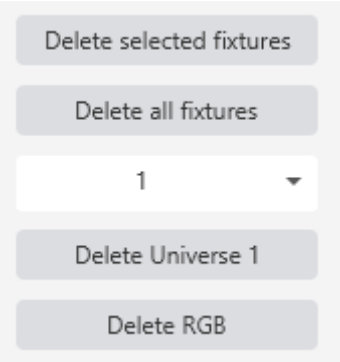
If your project includes pixel strip fixtures, a Strip Configuration section appears at the bottom with two side-by-side tables.

The left table lists your strip fixtures with their pixel count and color mode (RGB or RGBW). Each strip has an editable Segments column where you set how many segments the strip should be divided into (1 to 20). Segments split a single physical strip into independently controllable sections on the Pixel Strip page.

The right table shows the segments for whichever strip is selected in the left table. Each segment has a "Reverse" checkbox. Checking it reverses the pixel order for that segment. This is useful when a strip is physically mounted in the opposite direction from the default - reversing the segment makes the effects flow in the correct visual direction. Click the strip in the table to the left for showing the options in the table to the right.

Changing the segment count or reversing a segment immediately updates the Pixel Strip page.

Delete Controls



The right side of the Config page has the tools for removing fixtures from your project:

Delete selected fixtures: Deletes all fixtures that have their Delete checkbox checked in the table. A confirmation dialog appears before anything is removed.

Delete all fixtures: Removes every fixture in the project. Also shows a confirmation dialog.

Universe dropdown + Delete Universe button: Select a universe number from the dropdown, then press the button to delete all fixtures assigned to that universe. This is a fast way to clear an entire universe at once.

All delete operations show a confirmation dialog and cannot be undone.

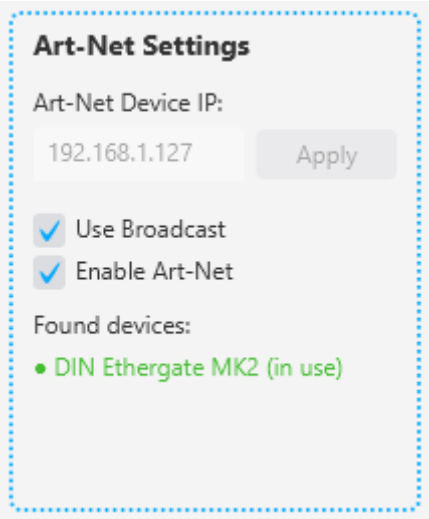
Settings

Settings

The Settings page is where you configure your DMX connections, MIDI controller, chase engines, GUI appearance, and project files. The page is split into two halves. The left side contains all settings panels arranged in a flow layout. The right side has the "Activate App" button.

All settings are applied immediately when changed.

Art-Net Settings



If you're using Art-Net, enter the IP address of your Art-Net device into the "Art-Net Device IP" field and click "Apply" to save it. If you don't know the IP address, use the "Found devices" list below to discover devices automatically - simply click a device to fill in the IP address and save it instantly.

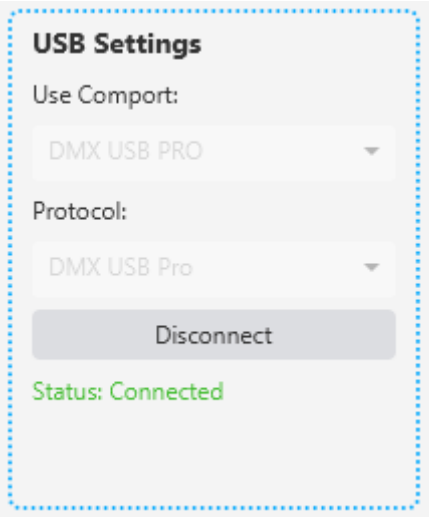
Apply: Saves the manually entered IP address. The Apply button is disabled when "Use Broadcast" is checked, since the IP is managed automatically in that case.

Use Broadcast: When checked, SDC automatically fills in your network's broadcast address and disables the IP field. This sends Art-Net packets to all devices on the network instead of a single IP. All discovered devices will show (in use) when broadcast is enabled. Checking "Use Broadcast" disables the Apply button.

Enable Art-Net: Check this box to enable Art-Net output. Takes effect immediately.

Found devices: Lists all Art-Net devices discovered on your network in real time. Each device shows its name with green text when online. Click a device to select it as the DMX target - this fills in the IP field, saves the address, and switches to unicast mode automatically. If a device goes offline it will first turn red and then be removed from the list. If no devices are found, "No devices found" is shown.

USB Settings



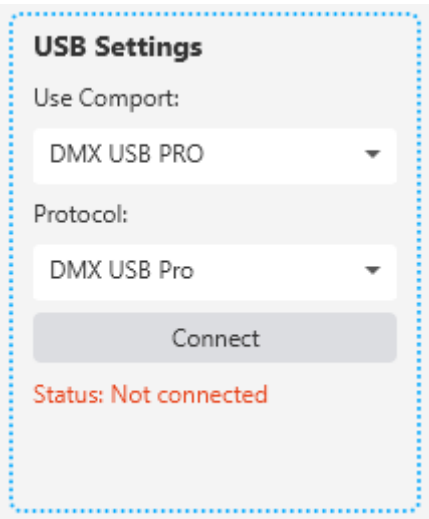
If you're using a USB-to-DMX device, select your device from the "Use Comport" dropdown and choose the correct protocol under "Protocol". Two protocols are supported:

DMX USB Pro: For Enttec DMX USB Pro and compatible interfaces. Open DMX: For Enttec Open DMX and compatible interfaces.

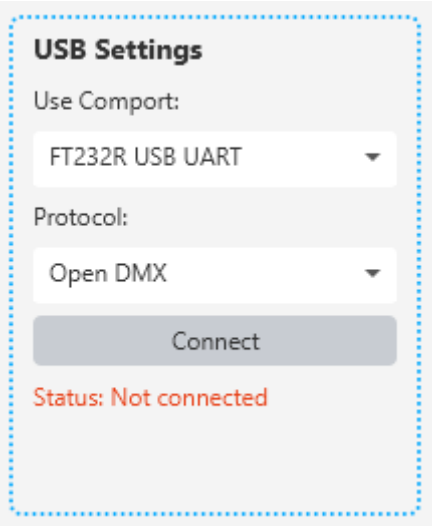
Click "Connect" to connect to the selected device. The button changes to "Disconnect" when connected, and the comport and protocol dropdowns are disabled while connected. Click "Disconnect" to release the device.

The status text shows "Status: Connected" or "Status: Not connected" in real time.

In SDC, for USB to DMX devices with a built-in processor, like the Enttec DMX USB Pro, the name in the dropdown will be "DMX USB Pro", but other devices with a built-in processor may be listed as "FT232R USB UART". Select "DMX USB Pro" as the protocol under Settings # USB Settings # Protocol..

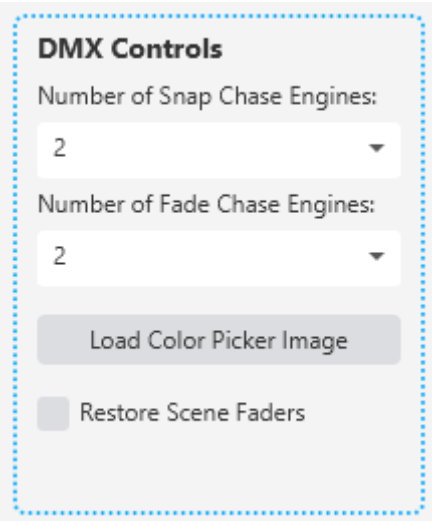


In SDC, for USB to DMX devices with no built-in processor, like the Enttec Open DMX USB, the name in the dropdown will often be "FT232R USB UART". Select "Open DMX" as the protocol under Settings # USB Settings # Protocol.



If you're having trouble connecting your USB-to-DMX device, make sure the correct drivers are installed. Then try clicking "Disconnect" followed by "Connect". If the status shows "Connected" but your lights do not respond, ensure the correct protocol is selected. As a last resort, close SDC, unplug and reconnect your USB-to-DMX device, and restart SDC. Also have a look at the section "SDC & Hardware".

DMX Controls



Number of Snap Chase Engines: Sets how many snap chase engines are available on the Effects page (2 to 10). Takes effect immediately.

Number of Fade Chase Engines: Sets how many fade chase engines are available on the Effects page (2 to 10). Takes effect immediately.

Load Color Picker Image: Opens a file picker to load a custom image (PNG, JPG, JPEG, BMP, or GIF) as the "User Defined" color picker on the ColorMix page. The image is saved automatically and selected as the active color picker.

Restore Scene Faders: When checked, SDC restores the scene fader positions from the last session when you start the application. This means your show picks up where you left off. Takes effect immediately.

MIDI Control

SDC supports the AKAI APC Mini MK2 MIDI controller. Simply plug in the controller - no driver installation is needed - and SDC will automatically detect it.

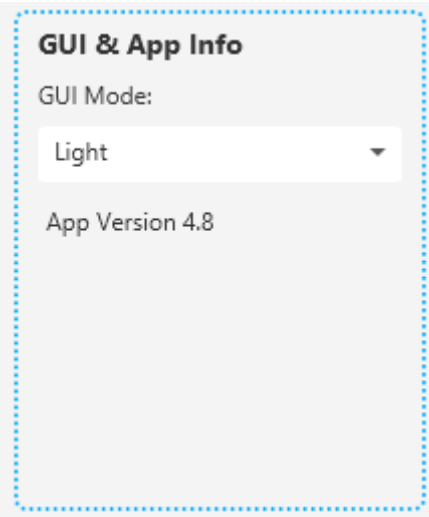
Connected devices: Shows the connection state of your MIDI device(s) in real time.

Test MIDI: A toggle button that tests the MIDI connection. When activated, "SDC" scrolls across the APC Mini's button grid, the lower buttons light up in red, and the right-side buttons light up in green. Press again to stop the test and restore normal button colors.

MIDI Assign: Opens the MIDI assignment window where you can map SDC controls to physical faders and buttons on your MIDI controller.

The MIDI assignment window contains two toggle buttons: "Assign" and "Unassign." When a button in SDC is selected or fader is moved and "Assign" is pressed, pressing a button or moving a fader in SDC afterward will create the mapping. When a button is pressed or a fader is moved and "Unassign" is active, pressing a control on the APC will remove its mapping.

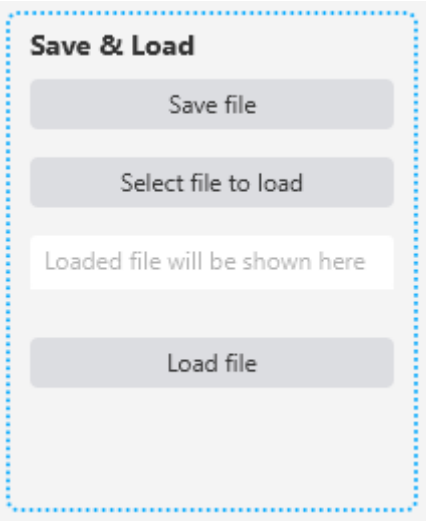
GUI & App Info



GUI Mode: Switch between Light and Dark mode. The change is applied immediately.

The current app version number is displayed below the GUI mode selector.

Save & Load



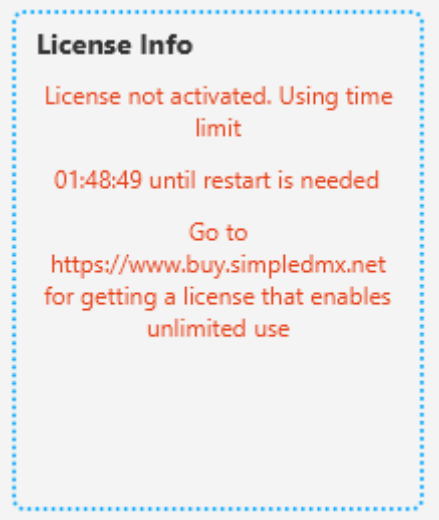
Save file: Saves your entire SDC project (all fixtures, effects, palettes, scene faders, settings, and presets) to an SDC file.

Select file to load: Opens a file picker to select an SDC project file.

Load file: Loads the selected file. SDC will ask for confirmation before loading, because loading a file replaces all existing options and presets.

The text field shows the currently selected file path.

License Info



Displays your current license status. The "Activate App" button on the right side opens the activation dialog where you enter your username and password. The button is disabled when the app is already activated with a valid license.

Tips

After connecting your DMX device, verify the connection by checking the status indicator on the Settings page. A green "Status: Connected" confirms that SDC is communicating with your hardware.

SDC automatically discovers all Art-Net devices on your network. If you want to send DMX to all devices at once, enable "Use Broadcast". If you want to target a specific device, simply click it in the "Found devices" list.

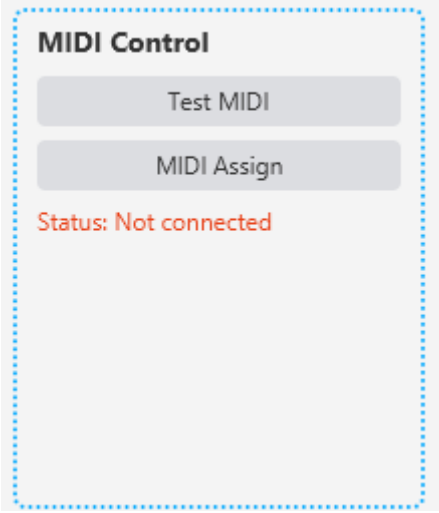
The Restore Scene Faders option is useful for live venues where you want the lights to return to the same state after a restart.

Using MIDI control

MIDI Control (AKAI APC Mini MK2)

SDC supports the AKAI APC Mini MK2 MIDI controller for hands-on control of scene faders, palettes, and master controls. The APC Mini gives you physical faders and backlit buttons that map directly to SDC functions, so you can run a show without touching the computer.

Connecting the APC Mini



Simply plug in the APC Mini MK2 - no driver installation is needed. SDC automatically scans for a device named "APC Mini MK2" and opens both the input (receiving button presses and fader moves) and output (sending LED colors back to the controller) connections. The status on the Settings page should show "Status: Connected".

SDC continuously monitors the connection in the background. If you unplug the APC Mini, the status changes to "Status: Not connected". When you plug it back in, SDC automatically reconnects and restores all button colors - no restart needed.

Testing the Connection

You can test the device by pressing "Test MIDI" on the Settings page. "SDC" will scroll across the 8×8 button grid, and the bottom row buttons will light up in red while the right-side column buttons light up in green. Press "Test MIDI" again to stop the test and restore normal button colors.

Assigning Buttons

To assign an APC button to an SDC control:

1. Open the MIDI Assign window (found on the Settings page or through Views > MIDI Assign). 2. Press the button (palette, clear button, etc.) you want to control in SDC. 3. Press the "Assign" toggle button. 4. Press the button on the APC Mini you want to map it to.

The mapping is saved immediately and the APC button lights up in a color that matches the type of control assigned to it. The "Assign" toggle automatically deactivates after a successful assignment.

Assigning Faders

To assign an APC fader to an SDC slider:

1. Move the fader in SDC that you want to control (a scene fader or a master fader). 2. Open the MIDI Assign window and press "Assign". 3. Move the fader on the APC Mini you want to map it to.

Unassigning

To remove a mapping, press "Unassign" in the MIDI Assign window, then press the button or move the fader on the APC that you want to unassign. The button's LED turns off and the mapping is removed. The "Unassign" toggle automatically deactivates afterward.

APC Button Colors

The APC buttons light up in different colors based on the type of SDC control assigned to them. The colors are set automatically and cannot be changed manually. The color scheme is:

Scene palettes: magenta. Dimmer palettes: red. Color palettes: green. Gobo palettes: orange. Zoom palettes: yellow-green. Focus palettes: teal. Prism palettes: cyan. Movement palettes: blue-green. Position palettes: lime. Shutter palettes: white. Effect/TimeLine/Pixel Strip palettes: purple. Freeze: bright pink. Screen: violet.

The right-side column buttons and bottom row buttons on the APC use a different color channel and always light up in the same color regardless of the control type.

When a toggle button (such as Blackout, Freeze, or Pause All Effects) is activated, the APC button switches flashes to indicate the active state. When deactivated, it returns to the normal solid color

What Can Be Assigned

The following SDC controls can be mapped to APC buttons and faders:

Buttons (palette buttons): All palette types - Color, Dimmer, Shutter, Gobo, Zoom, Focus, Prism, Movement, Position, Scene, Effect, TimeLine, and Pixel Strip. This includes both user-created palette buttons and the auto-generated "Clear" buttons for each palette type.

Toggle buttons (on/off controls): Blackout, Freeze, and Pause All Effects from the Masters section. Pause Pixel Strip from the auto tile.

Faders (sliders): All scene faders on the Scene Faders page. The Grand Master (G.M.) dimmer fader, Grand Master Pan Speed fader, and Grand Master Tilt Speed fader from the Masters section.

Button Press Behavior

When you press an APC button, SDC briefly highlights the corresponding on-screen button to give visual feedback, then fires the button action. The highlight style differs between light and dark mode. When you

release the APC button, the highlight is removed. For toggle buttons (Blackout, Freeze, Pause All Effects), pressing the APC button toggles the state and the APC LED updates to reflect whether the control is active or inactive.

Persistence

All MIDI mappings are saved automatically. When you restart the app all button and fader assignments are restored.

Tips

Use the APC's 8×8 grid to create a logical layout - for example, dedicate one row to color palettes, another to gobo palettes, and another to dimmer presets. The automatic color-coding makes it easy to identify button types at a glance even in a dark venue.

The APC's nine faders are ideal for scene fader control. Assign your most-used scenes to the first eight faders and the Grand Master to the ninth. This gives you a traditional lighting console feel with physical fader control.

You can also assign the "Save Pan Tilt Speed Fader" scene fader (created on the Save & Delete page) to an APC fader, giving you a physical speed control for pan and tilt movement across all your fixtures - or for a specific group.

How to generate GDTF-file for SDC

How to Generate a GDTF File for SDC

Intro

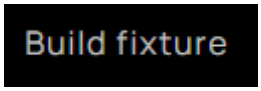
Using a GDTF file enables automatic effects and also loads the Palettes page with predefined colors and gobos. SDC only requires a very basic GDTF file, so the process is straightforward and won't take much time.

Creating an Account

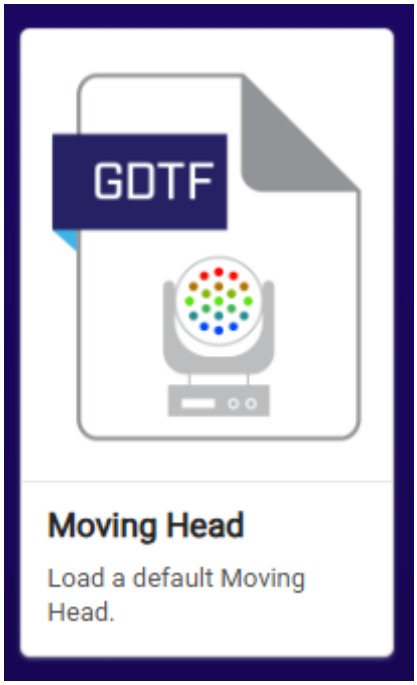
First, create a free user account at https://gdtf-share.com/ - click "Sign up for free" in the upper right corner. Once your account is created, log in.

Starting a New Fixture

On the first page after logging in, choose "Build fixture".

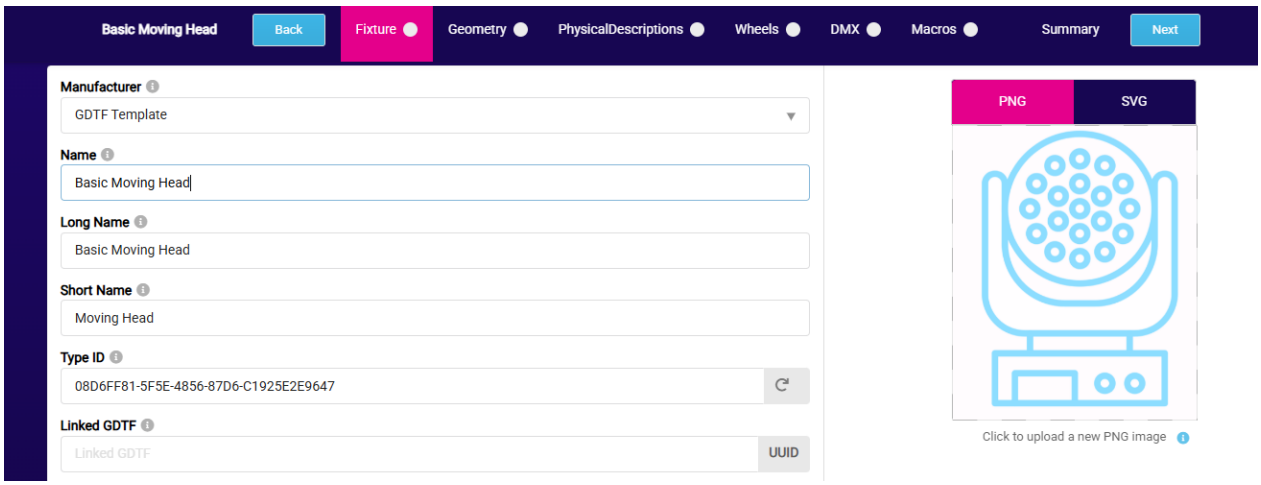


On the first build page, choose "Moving Head".



Fixture Page

Give the profile a "Name", "Long Name", and a "Short Name". Also type in the "Manufacturer". Since we are creating a very basic file, you don't need to fill out anything else on this page.



Press next.

Geometry and Physical Descriptions Pages

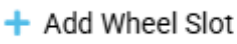
The next two pages are "Geometry" and "Physical Descriptions". Since we are building a very basic file, you can skip both of these and press next on each.

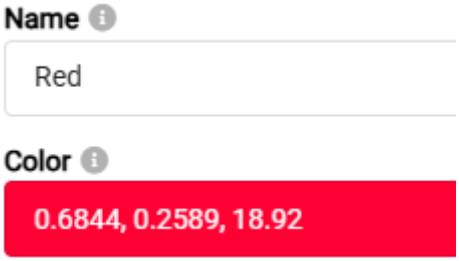
Wheels Page

The "Wheels" page is where you define the color wheels and gobo wheels your fixture has. When first loaded, the section is empty.

If your fixture has one or more gobo or color wheels, you need to add them now. Hit "Add Wheel" and give the wheel a name.

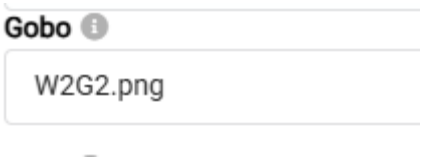
Now add the individual colors the wheel has (if adding a color wheel). These are called "Wheel Slots". Hit "Add Wheel Slot" to add the first slot. Give the slot a name and select a color. The color you set here will be the border color on the palette button displayed in SDC.



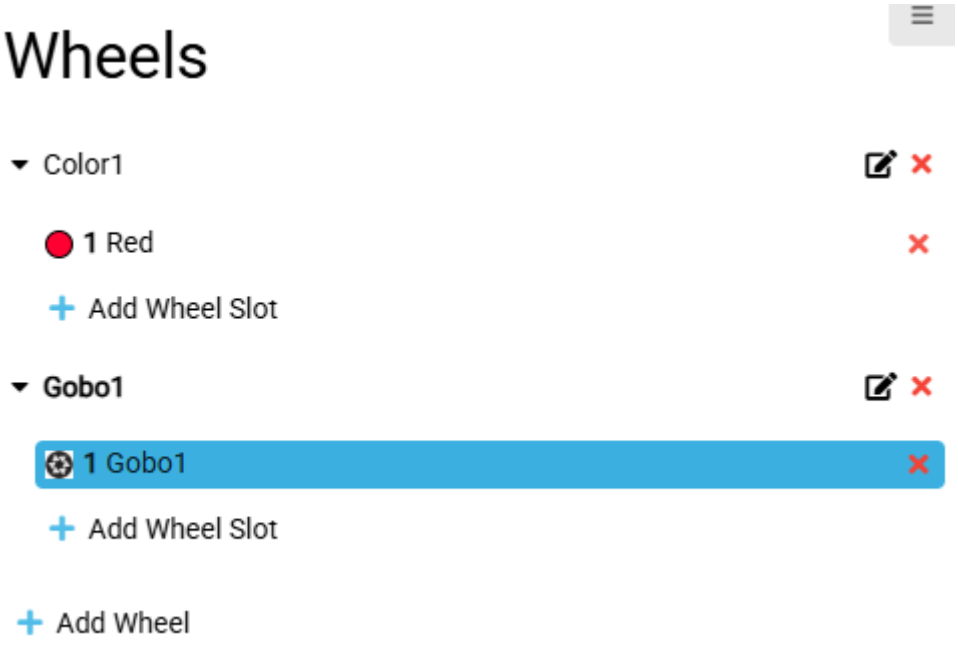


Repeat the above for all colors on your fixture's color wheel.

Do the same for any gobo wheels. You can optionally add an image for each gobo - if you skip this, you'll just see the gobo names in the Palettes.



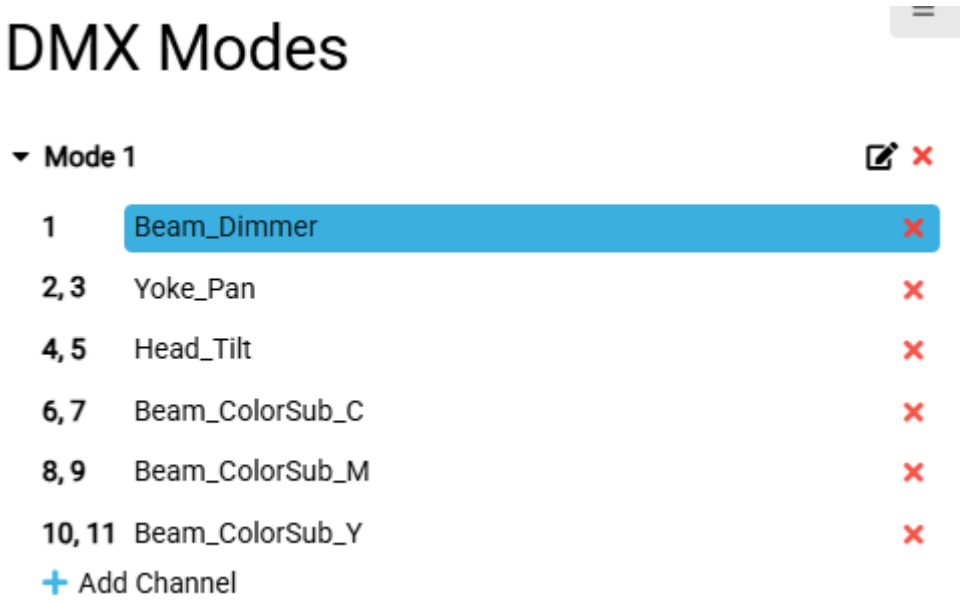
The image below shows how the Wheels section looks when a single color wheel with one red color and a single gobo wheel with one gobo have been added.



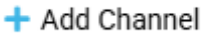
When you have added all color and gobo wheels and their respective slots, press next.

DMX Page

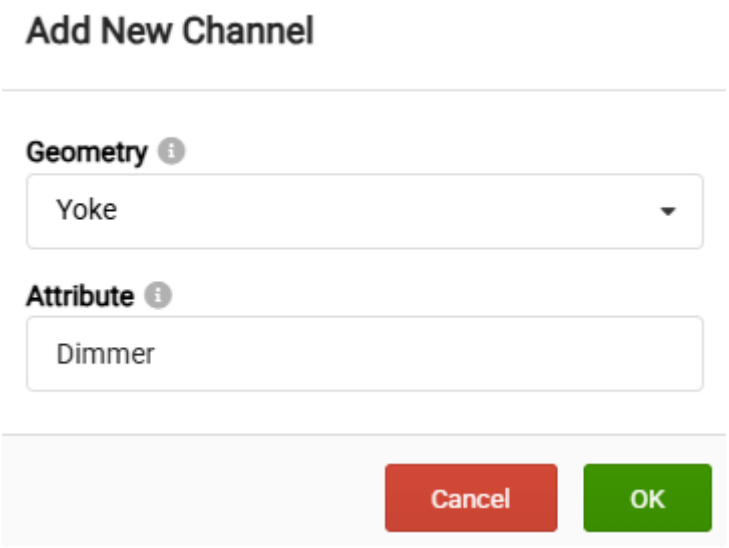
The "DMX" page is where you set up the DMX channels used by your fixture. By default, mode 1 is added with 11 default channels. If the default channels are not suitable, hit the red cross to delete them and start fresh.



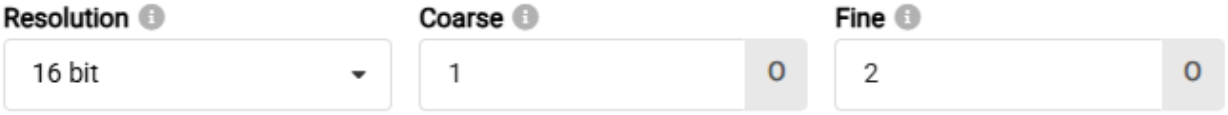
With an empty channel map, hit "Add Channel" to add the first channel.



For pan channels, select "Yoke" as Geometry and "Pan" as Attribute.

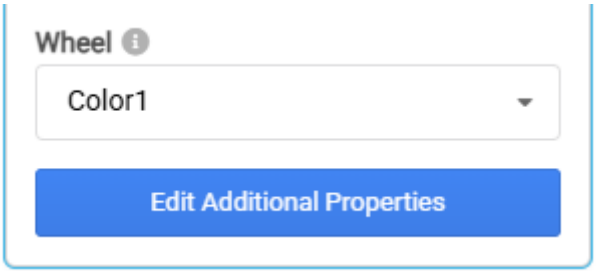


Set the resolution and assign the coarse and fine channel numbers.

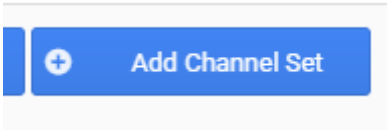


Continue hitting "Add Channel" until all channels your fixture uses have been added.

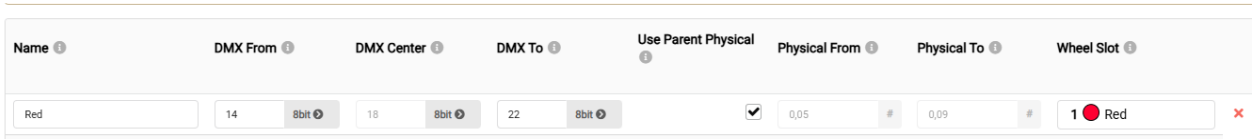
The next step on the DMX page is to set up the DMX values for color and gobo attributes - for example, which DMX value activates the red color on color wheel 1. Go to "Channel Function" and set "Wheel" to the correct wheel (for example, Color1 for Color Wheel 1).



Find "Add Channel Set" and press that button.



Add each color on the wheel to the channel set, making sure to assign the correct "Wheel Slot" using the dropdown on the far right. In the example below, the red color has been added.



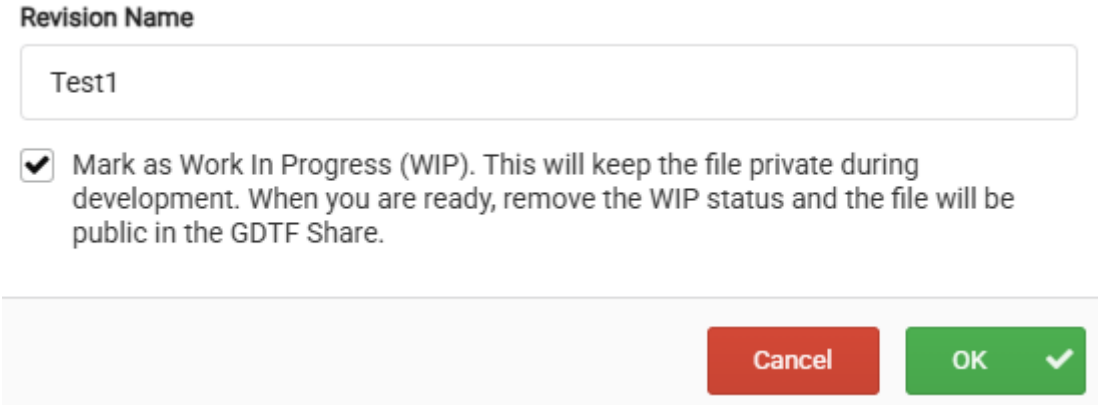
When all channels have been added and colors and gobos have been assigned to their respective channel sets, press next.

Macros and Summary Pages

The next two pages are "Macros" and "Summary". Since we are building a very basic file, you can skip both and press next on each.

Downloading the File

Give your file a "Revision Name" and click OK. The file will then be ready to download.

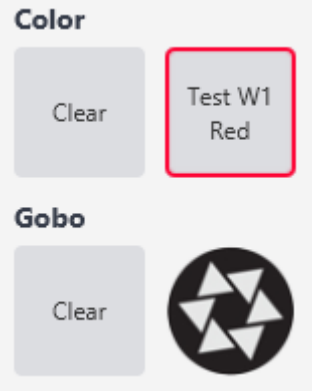


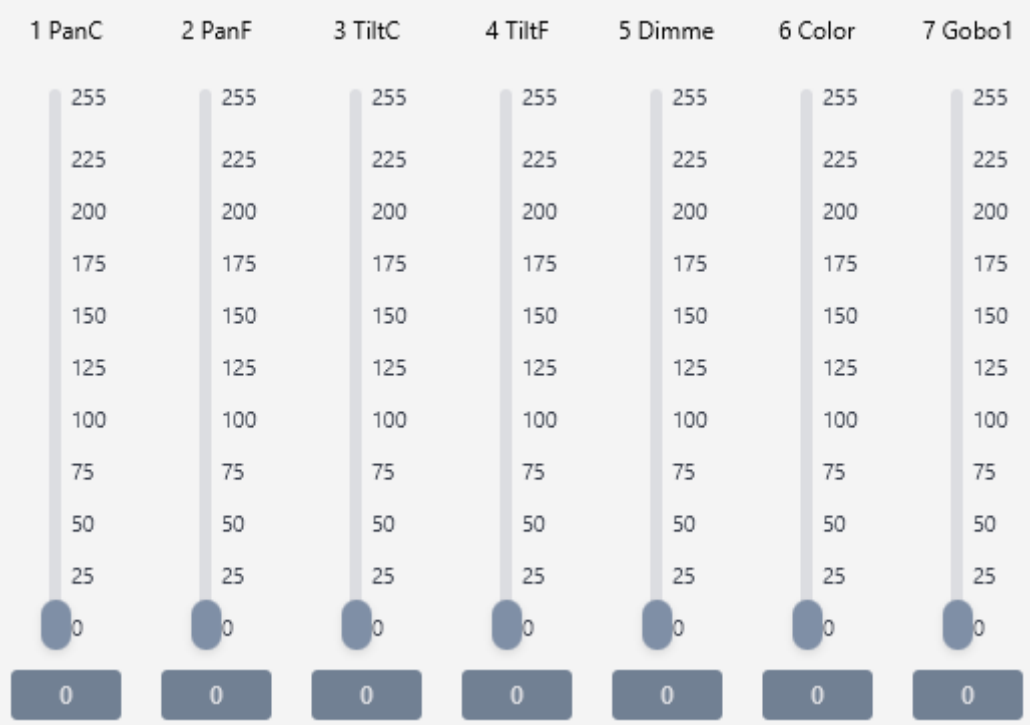
If you want to make any corrections later, head back to GDTF Share, edit your fixture, press "Next" through each page until you can add a new "Revision Name", and then download the updated file.

Using the File in SDC

When the GDTF file is downloaded, head over to the Add Fixture page in SDC and follow the post titled "Add Fixture - With GDTF File".

Below is what the very basic GDTF file looks like when loaded in SDC - auto-generated palettes with color and gobo buttons, and fixture faders with properly named channels.





SDC & Hardware

SDC & Hardware - USB devices, Art-Net and MIDI

This post covers everything you need to know about using hardware with Simple DMX Controller. For a full list of tested and confirmed devices, see the Hardware page on simpledmx.net: https://simpledmx.net /dmx-software-hardware/

Art-Net (Ethernet/Wi-Fi)

Art-Net devices connect over your local network and work out of the box with SDC - no driver installation needed. This includes Art-Net nodes like the Enttec DIN Ethergate Mk2 and pixel controllers like the Enttec OCTO MK2.

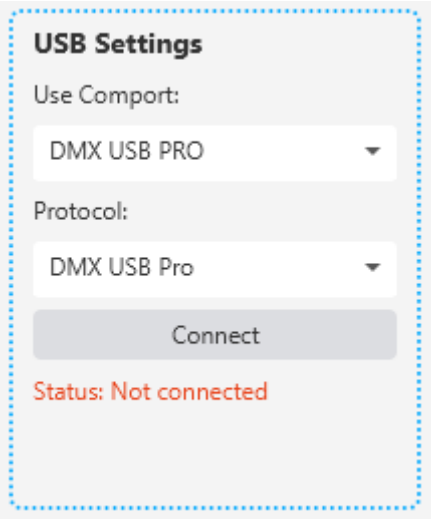
When you launch SDC for the first time, Windows Firewall may show a prompt asking whether to allow SDC to communicate on the network. Click Allow to ensure full Art-Net functionality. If you missed the prompt or clicked Cancel, you can manually allow SDC through Windows Firewall via:

Control Panel # Windows Defender Firewall # Allow an app or feature through Windows Defender Firewall

DMX USB Pro devices (with built-in processor)

DMX USB Pro devices such as the Enttec DMX USB Pro, EUROLITE USB-DMX PRO, and EUROLITE USB-DMX PRO MK2 have a built-in processor that handles the DMX signal. These devices are recognised by Windows automatically as a virtual COM port - no manual driver installation is required in most cases.

In SDC, for USB to DMX devices with a built-in processor, like the Enttec DMX USB Pro, the name in the dropdown will be "DMX USB Pro", but other devices with a built-in processor may be listed as "FT232R USB UART". Select "DMX USB Pro" as the protocol under Settings # USB Settings # Protocol..



Device shows in SDC but DMX is not working?

If your Pro device appears in the device list but DMX output is not working, install the FTDI CDM driver package - this is also listed as an official resource by Enttec for the DMX USB Pro:

1. Go to https://ftdichip.com/drivers/d2xx-drivers/ 2. Click "here" to download the Windows 10, Windows 11 and Windows Server driver installer (setup executable) 3. Run the downloaded .exe and follow the installation steps 4. Unplug your device, plug it back in 5. Start SDC

Open DMX devices (no built-in processor)

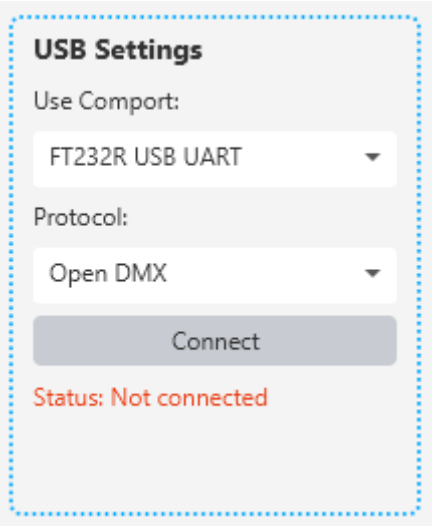
Open DMX devices - including unbranded dongles and the Enttec Open DMX USB - have no built-in processor. SDC communicates with these devices using the FTDI D2XX interface, which requires the FTDI CDM driver to be installed manually.

Windows may automatically install a basic serial (VCP) driver when you plug one of these devices in, which makes it appear in Device Manager - but this is not sufficient for SDC. The full FTDI CDM driver must be installed separately.

Installing the driver:

1. Go to https://ftdichip.com/drivers/d2xx-drivers/ 2. Click "here" to download the Windows 10, Windows 11 and Windows Server driver installer (setup executable) 3. Run the downloaded .exe and follow the installation steps 4. Unplug your device, plug it back in 5. Start SDC

In SDC, for USB to DMX devices with no built-in processor, like the Enttec Open DMX USB, the name in the dropdown will often be "FT232R USB UART". Select "Open DMX" as the protocol under Settings # USB Settings # Protocol.



Still not working after installing the driver?

Windows sometimes caches an older driver version that interferes. To resolve this:

1. Open Device Manager (right-click Start # Device Manager) 2. Find your dongle under Ports (COM & LPT) or Universal Serial Bus controllers 3. Right-click # Uninstall device, and check "Delete the driver software for this device" 4. Unplug the dongle 5. Run the FTDI installer again 6. Plug the dongle back in and restart SDC

Note: if you have other software installed that also uses FTDI devices (e.g. Arduino IDE), it may have installed its own FTDI driver version. The steps above will update it to the latest.

MIDI – Akai APC Mini MK2

The APC Mini MK2 is supported as a MIDI controller in SDC for button and fader mapping. It is recognised automatically by Windows - no driver installation required. Simply plug it in and it will appear in SDC's MIDI settings.

Hardware

Hardware

SDC works with most USB or Art-Net DMX hardware – you're not locked into any specific brand or device. You can use SDC for free in 2-hour sessions, so you can test compatibility with your own hardware before purchasing a license. Below you'll find devices we have personally tested and confirmed working.

Enttec DIN Ethergate Mk2

Art-Net and sACN node that converts ethernet to up to 2 DMX universes.

Enttec DMX USB Pro

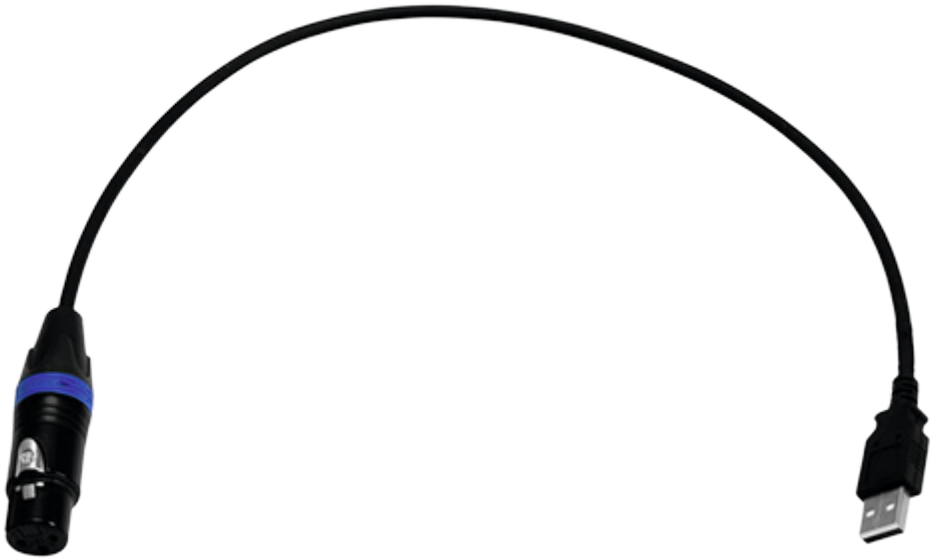
USB-to-DMX interface with a built-in processor for a stable, reliable signal.

UROLITE USB-DMX PRO MK2

USB-to-DMX interface with a built-in processor for a stable, reliable signal.

EUROLITE USB-DMX PRO

USB-to-DMX cable with a built-in processor for a stable, reliable signal.



Enttec Open DMX USB

Low-cost USB-to-DMX interface with no built-in processor.

EUROLITE USB-DMX

Low-cost USB-to-DMX cable with no built-in processor.

Enttec OCTO MK2

Art-Net and sACN to SPI pixel controller with 2 outputs and up to 8 universes.

Akai APC Mini MK2

Compact USB MIDI controller with 64 RGB pads & 9 faders – supported for palette and scene fader controls.