

# LIGHTCONVERSE

## LIGHTCONVERSE Fixture Constructor Guide

With the Fixture Constructor it is possible to edit or build a fixture driver. This could be necessary if your fixture has a new feature or mode that does not match the current fixture driver in the library or if the fixture driver is not included in the library. Fixture drivers can also be built quickly by us by submitting a request via the Fixture Profiles section of our [User Forum](#).



Figure 1

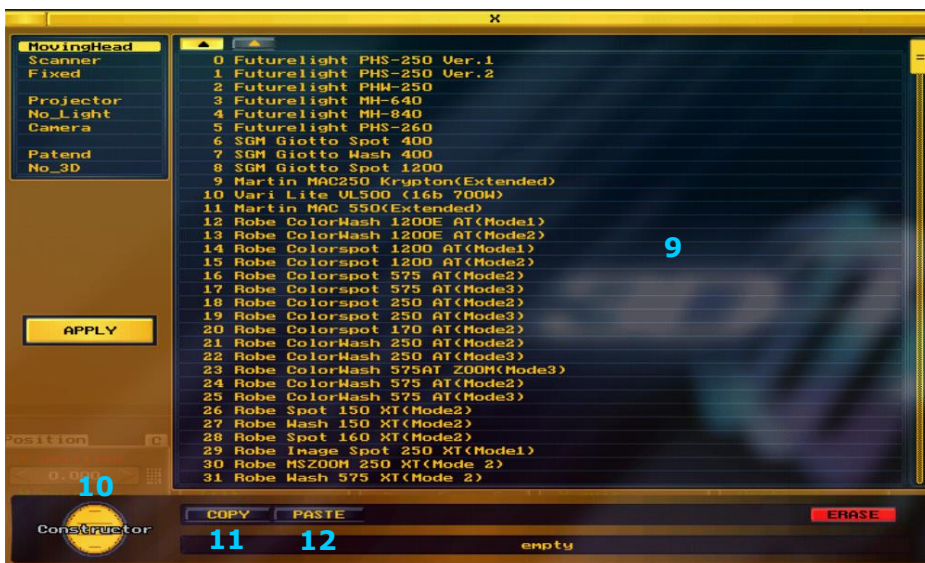


Figure 2

## Editing Fixture Drivers

1. In the **DMX Editor**, press **Browse**, then select driver from the **Fixture Driver List**, see [9] in Figure 2.
2. Press **Constructor** (see [10] in Figure 2) to open the **Fixture Constructor**.
3. Edit the fixture driver, see *Fixture Constructor Fundamentals* below.
4. Press the **Exit** button then press **Save**, see [1] in Figure 1.

It is also possible to make a new version of a Fixture Driver while keeping the old one:

1. In the **DMX Editor**, press **Browse**, then select driver from the **Fixture Driver List**, see [9] in Figure 2.
2. Press **Copy**, see [11] in Figure 2.
3. Select an empty line in the **Fixture Driver List**, then press **Paste**, see [12] in Figure 2.
4. Press **Constructor** (see [10] in Figure 2) to open the **Fixture Constructor**.
5. Press the **Rename** button (see [2] in Figure 1) to enter a new driver name.
6. Edit the fixture driver, see *Fixture Constructor Fundamentals* below.
7. Press the **Exit** button then press **Save**, see [1] in Figure 1.

## Building New Fixture Drivers

1. In the **DMX Editor**, press **Browse**, then select an empty line in the **Fixture Driver List**, see [9] in Figure 2.
2. Press **Constructor** (see [10] in Figure 2) to open the **Fixture Constructor**.
3. Press the **Rename** button (see [2] in Figure 1) to enter a new driver name.
4. Edit the fixture driver, see *Fixture Constructor Fundamentals* below.
5. Press the **Exit** button then press **Save**, see [1] in Figure 1.

## Fixture Constructor Fundamentals

This section explains some of the basic fundamentals of the Fixture Constructor and gives a few examples of its use. We recommend taking some time to gain an understanding of fixture properties within the Constructor for a further comprehension of what fixture features can be virtually replicated within the software.

### DMX Channel Destination



Figure 3

A fixture driver is composed of up to 96 addressable DMX channels with each channel assigned a Destination type (parameter) such as Pan, Tilt, Dimmer, Color, Gobo, Linear Frost, etc.

To add or edit a channel in a fixture driver, select the desired DMX channel address number (see [1] in Fig. 3) then press the **Destination** button (see [2] in Fig. 3). This will open up a list from which you can select the channel's destination type, see [3] in Figure 3.

A destination type can have one attribute, such as for dimmer or zoom (see *Editing DMX Channel Faders* below), or it can have multiple attributes, such as for a color or gobo wheel where each color or gobo is assigned a specific value (0-255) within a DMX channel (see *Editing DMX Channel Tables* below).

Destination types also include options to define certain channels which set the function mode for other channels or define certain channels which set the speed or other values for other channels (see *Pointer Destination Types* below). **Note:** Channels assume the name of the destination type assigned, to change a channel name press **Rename**, see [4] in Figure 3.

## Editing DMX Channel Faders



Figure 4

Destination types with one attribute are defined using DMX Channel Faders.

Different editing options particular to each destination type will be displayed when the channel the destination type is assigned to is selected. For example, selecting a Dimmer destination type [1] will display the dimmer's functions as shown in Fig. 4.

Two functions are common to most DMX Channel faders; **Inversion** [2] and **Blackout** [3].

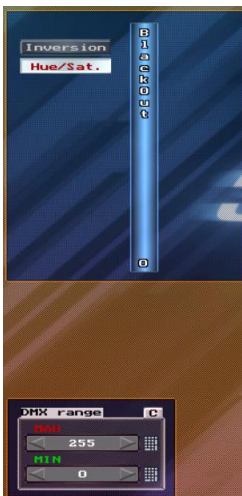
- Pressing **Inversion** will invert the DMX channel level (255-0 instead of 0-255).
- Adjusting the **Blackout** regulator will set the channel's default level (applies only in Onboard Control mode, in Visualization Only mode the default DMX values are sent from the console).

Other functions/settings available for certain Destination Types when editing faders include:



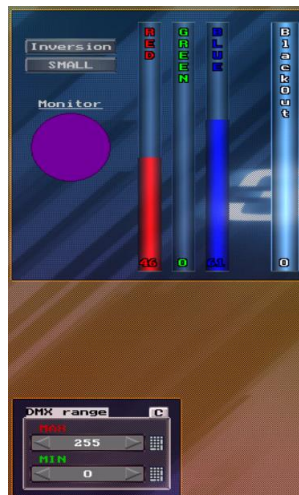
**Zoom Fader:** Minimum zoom degree, Inversion, Blackout. (For maximum zoom degree, see *Other Fixture Properties* below.)

Figure 5



**CMY Fader:** DMX range, Hue / Saturation, Inversion, Blackout.

Figure 6



**Multi-Fader:** DMX range, regulator color, fader size, Inversion, Blackout.

Figure 7



**RGB Lamp Fader:** DMX range, RGB lamp and regulator color, Pixel Number / Pixel Count, Inversion, Blackout.

(For editing pixel-based fixtures, see *Editing Pixel-based Fixtures* below.)

Figure 8

## Editing Pixel-based Fixtures

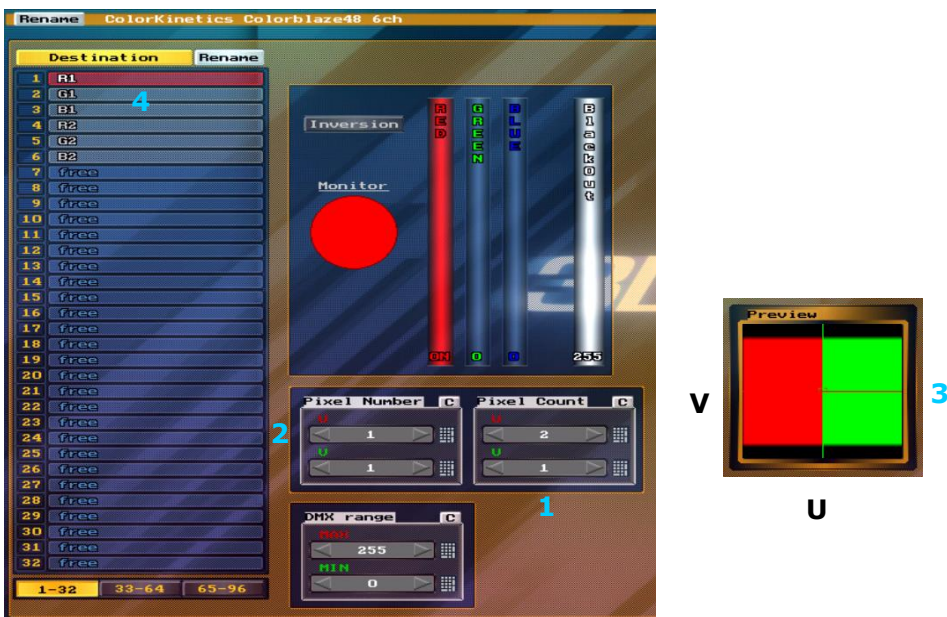
RGB Lamp destination types are used to define the **Pixel Count** and **Pixel Number** of pixel-based fixtures.

**Pixel Counts** (see [1] in Figure 9) set the amount of pixels required using **UV** coordinates.

**Pixel Numbers** (see [2] in Figure 9) set individual pixel numbers using **UV** coordinates up to the amounts set by the **Pixel Count**.

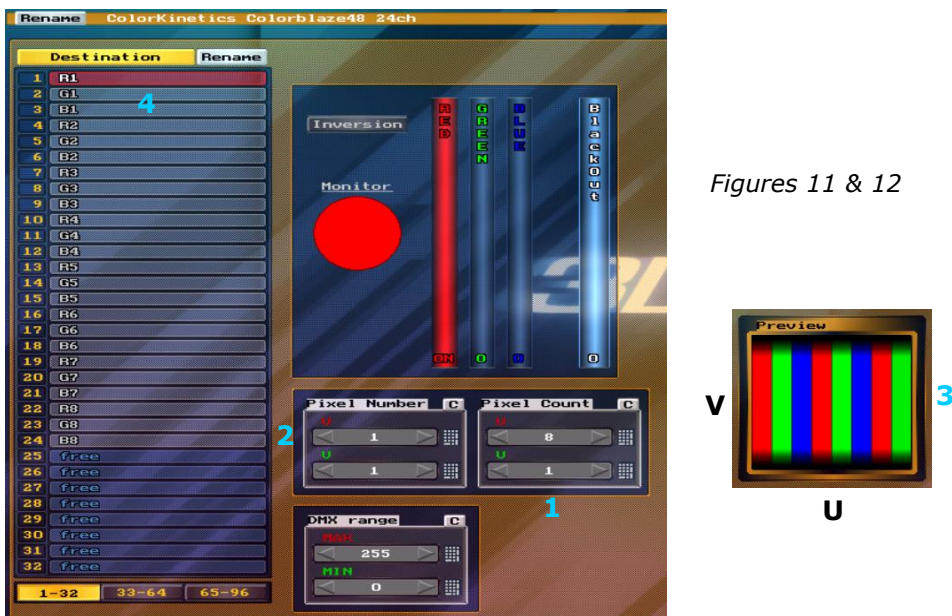
The following two examples demonstrate usage of Pixel Counts and Pixel Numbers.

In the example below of a 6 channel fixture with two 3 channel RGB sectors (R1/G1/B1, R2/G2/B2) the UV Pixel Count is set at 2 and 1, respectively, as shown in the Pixel Count settings [1] and Preview window [3]. Note that Pixel UV 1,1 (R1) has been selected as shown in the Channel Table [4] and Pixel Number settings [2].



Figures 9 & 10

In the example below of a 24 channel fixture with eight 3 channel RGB sectors (R1/G1/B1, R2/G2/B2, R3/G3/B3, etc.), the UV Pixel Count is set at 8 and 1, respectively, as shown in the Pixel Count settings [1] and Preview window [3]. Note that Pixel UV 1,1 (R1) has been selected as shown in the Channel Table [4] and Pixel Number settings [2].



Figures 11 & 12

## Editing DMX Channel Tables



Figure 13

Destination types with multiple attributes are defined using DMX Channel Tables.

Different editing options particular to each destination type will be displayed when the channel the destination type is assigned to is selected, i.e., selecting a Shutter destination type will provide shutter speed options, selecting Prism will provide prism rotation options, etc.

For example, selecting a Color destination type [1] will display its options as shown in Figure 13.

To add or edit an attribute in a DMX Channel Table, select its line [2] then browse its relevant categories [3] to select a **Table Line Icon**. In this example, Color #123 has been chosen.

To set an attribute's DMX value and give it a name, double-click its line or press the **DMX** [4] and **Rename** [5] buttons.

To set an attribute as a default, select its line then press the **B/O** button [6].



Figure 14

In the above example, a Multi-Table destination type may be used for Color also. Multi-Table destination types additionally provide various other categories as shown in Figure 14.

**Note:** Frost available in a Multi-Table destination type is of a fixed variety, for linear frost use a single Frost destination type, see *DMX Channel Destination* above.

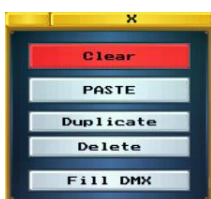


Figure 15

Pressing **Menu** (see [7] in Figure 13) will display options for editing lines in the DMX Channel Table:

**Clear, Paste, Duplicate, and Delete** are self-explanatory.

**Fill DMX** is used to automatically fill the DMX Channel Table from the default (**B/O**) line to the selected line.

## Pointer Destination Types

As mentioned in *DMX Channel Destination* above, destination types also include options to define certain channels which set the speed or other values for other channels or define certain channels which set the function mode for other channels.

- Pointer destination type **“.Rotate/Index >”** is used set the rotation speed or index value of a companion destination type, for example, a rotating gobo.
- Pointer destination type **“.Saturate >”** is used set the saturation value of a companion destination type, for example, a CMY fader.
- Pointer destination type **“.Fade (Speed) >”** is used set the fade time or speed of a companion destination type. For example, in [Figure 16](#) below, **“.Fade (Speed) >”** [1] is initially assigned to **“MSpeed”** (Ch.25) [2] which then is further assigned to (points to) its companion destination types **“Pan”** (Ch.1), **“Pan fine”** (Ch.2), **“Tilt”** (Ch.3) and **“Tilt fine”** (Ch.4) [3].



Figure 16

- Pointer destination type **“.Function >”** is used set the operating mode of a companion destination type. For example, in [Figure 17](#) below, **“.Function >”** [1] is initially assigned to **“COL Func”** (Ch.9) [2] which then is further assigned to (points to) its companion destination type **“COLOR”** (Ch.10) [3].



Figure 17

## Pointer Destination Types (Con't)

When “.Function >” is used, there is a co-relation between the **Function 1-4** buttons in a function mode select type channel and the **F1-4** buttons in the companion channel whose mode is set. (This applies to “.Function >” only. Function 1-4 buttons and F1-4 buttons are not used for “.Rotate/Index >”, “.Saturate >” and “.Fade (Speed) >” Pointer destination types.)

The following two examples demonstrate how modes selected within a color function channel (using “.Function >”) determine how its companion color wheel moves, in this case, in a continuous fashion.

In the below example for “COL Func” (Ch.9) [1], a continuous mode (Cont) for attribute 4 [2] in the DMX table has been defined as **Function-4** [3]. **Function-4** is then matched with **F-4** [4] in its companion channel 10 (color wheel) as shown in the second example, [Figure 19](#).

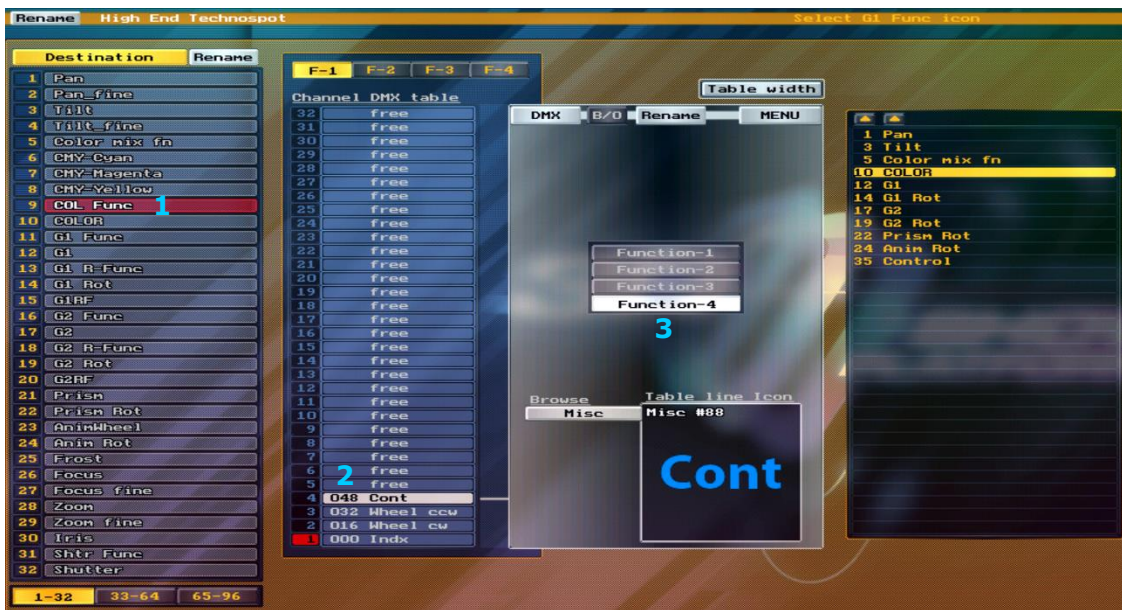


Figure 18

In the below example for “COLOR (Ch.10)” [5], **F-4** [4] contains color wheel attributes 1-9 [6] in its DMX table.

As **F-4** is matched to **Function-4** in “COL Func (ch.9)” ([1] [Figure 18](#)), the color wheel (Ch.10) will scroll in a continuous fashion when attribute “Cont” is selected in channel 9.



Figure 19

## Other Fixture Properties



Figure 20

On certain destination types the channel **Fade Time** (see [3] in [Figure 1](#)) can be set, for example, for Pan or Zoom. Pressing **Calibrate** will turn on auto channel calibration (note selected destination type's timing in the **Fixture Functions window**, see [8] in [Figure 1](#)).



Figure 21

Besides parameters, various other properties of the fixture driver may be edited also, including its **2D Icon** and **FootPrint** type, see [4] in [Figure 1](#).

**Note:** After selecting a 2D icon, a 3D representation will be automatically generated by the software.

Adjusting photometric data (**Lux at 5 meters**) and **Max degree** angle (field or maximum Zoom) will give the fixture's **Lumen** output, see [5] in [Figure 1](#).

**Note:** For minimum zoom degree setting, see *Zoom Fader* in *Editing DMX Channel Faders* above.



Figure 22

The **3D Preview** (see [6] in [Figure 1](#)) shows the result of adjusting parameters in the **Fixture Functions window**, see [8] in [Figure 1](#).



Figure 23

The **XY Coordinate panel** (see [7] in [Figure 1](#)) is used to place parameter icons in the **Fixture Functions window**, see [8] in [Figure 1](#).

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Please join the LIGHTCONVERSE Forum at [www.lightconverse.net/lc/lc\\_forum.htm](http://www.lightconverse.net/lc/lc_forum.htm) for any further questions you may have. Questions are answered quickly and there is a wealth of information available via the Search function.

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