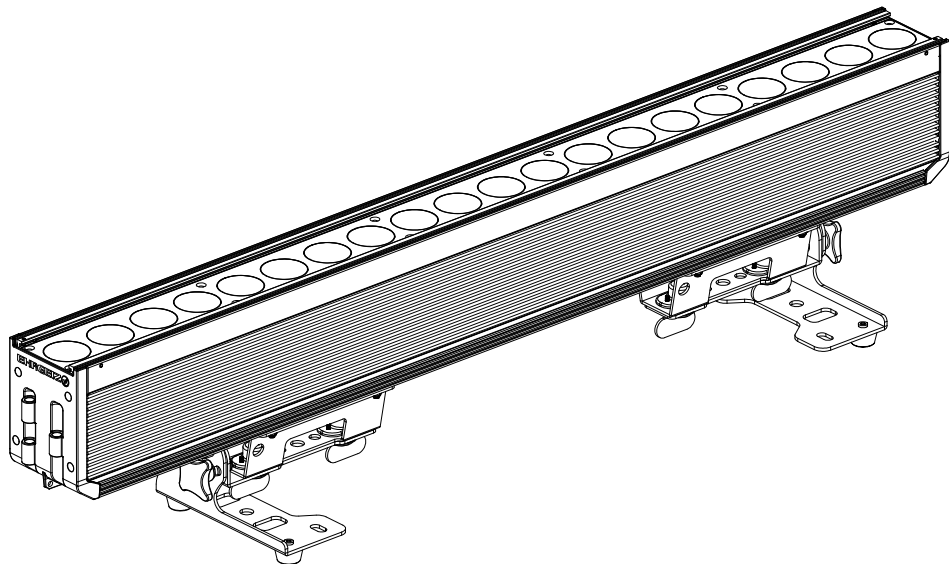


**FUSION**  
by GLP

# Fusion Stick FS20

## User Manual



Software version 1.0.1.7



GLP® Fusion Stick FS20 User Manual – Revision A

This document covers fixture software version 1.0.1.7

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## 1. Safety

### Key to symbols

The following symbols are used in the Fusion Stick FS20 lighting fixture's user documentation:



**Warning!** Safety hazard.  
Risk of severe injury or death.



**Warning!** Hazardous voltage.  
Risk of lethal or severe electric shock.



**Warning!** See user manual for important safety information.



**Warning!** Fire hazard.



**Warning!** Risk of eye injury.

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**Warning!** Read the Fusion Stick FS20 Quick Start and Safety Manual supplied with the fixture and available for download from [www.glp.de](http://www.glp.de) before installing, operating or servicing the fixture. The Quick Start and Safety Manual contains important information for the safe use of FS20 fixtures. If you fail to read that information you may create a safety hazard with a risk of injury, death or damage.

If you have any doubts or questions about how to use the GLP® Fusion Stick FS20 lighting fixture safely, contact your GLP supplier for assistance. Your GLP supplier will be happy to help.

The user documentation for Fusion Stick FS20 fixtures consists of three documents:

- The **FS20 Quick Start and Safety Manual**, supplied with FS20 fixtures and available for download from [www.glp.de](http://www.glp.de). The Quick Start and Safety Manual contains important safety information and installation instructions that the installer and user must read. It also contains dimensions drawings and technical specifications for the fixture.
- The **FS20 User Manual**, available for download from [www.glp.de](http://www.glp.de). The User Manual explains features and control of FS20 fixtures.
- The **FS20 DMX Channel Index**, available for download from [www.glp.de](http://www.glp.de). The Channel Index is a separate document containing the DMX control channel layout and DMX commands available in the fixture. This information is also included in the User Manual.

The FS20 is intended for use by experienced professionals with the knowledge and skills to set up, operate, and maintain high-powered, remotely controlled lighting equipment safely and efficiently. These operations require expertise that may not be provided in this manual.

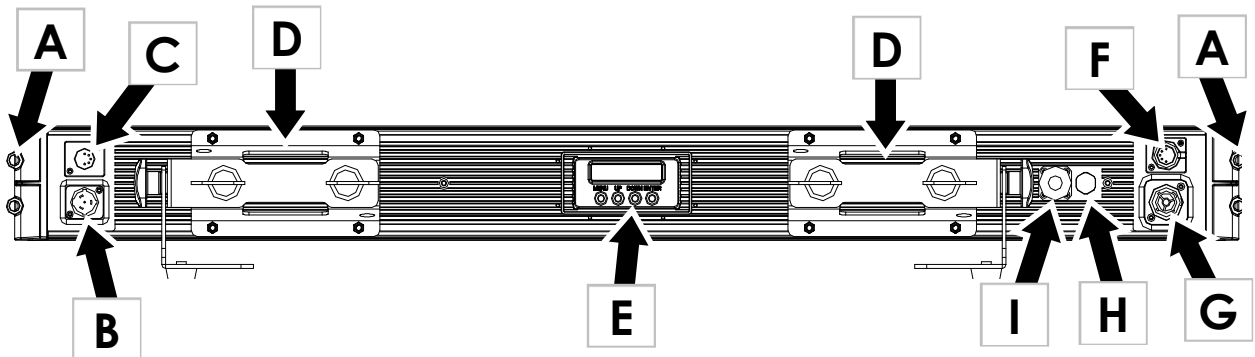
- Respect all warnings and directions given in the fixture's user documentation and on the fixture. Read the fixture's Quick Start and Safety Manual and familiarize yourself with the safety precautions it contains before installing, using or servicing the fixture. GLP and affiliated companies will take no responsibility for damage or injury resulting from disregard for the information in the user documentation.
- Check the GLP website at [www.glp.de](http://www.glp.de) and make sure that you have the latest versions of the fixture's Quick Start and Safety Manual and this user manual.
- Check the fixture software version indicated on page 2 of this user manual and then use the fixture's control panel to check the version installed in the fixture. If the versions are not the same, the user manual may still cover the fixture, because software updates do not always affect the use of the fixture. However, it is possible that this manual does not match the fixture perfectly. Software release notes can help clarify this question. You can consult software release notes and download the correct version of this user manual on the GLP website if necessary.
- Make both the Quick Start and Safety Manual and this user manual available to all persons who will install, operate or service the fixture. Save both documents for future reference.
- If you have any questions about the safe operation of the fixture, please contact an authorized GLP distributor (see list of distributors at [www.glp.de](http://www.glp.de)).

### ***GLP Service and Support***

Contact information for the nearest GLP Service and Support is available online at [www.glp.de/en/service](http://www.glp.de/en/service), by email at [info@glp.de](mailto:info@glp.de), or by telephone at the following numbers:

- GLP Germany: +49 (7248) 927 19-55
- GLP N. America: +1 818 767-8899
- GLP UK: +44 1392 690140
- GLP Asia: +852 (3151) 7730
- GLP Nordic: +46 737 57 11 40

## 2. FS20 overview



*Figure 1. FS20 overview*

- A** – End bracket / side-to-side fastening points
- B** – AC mains power IN (Neutrik powerCON TRUE1)
- C** – DMX IN (5-pin XLR)
- D** – Mounting bracket with quarter-turn fasteners
- E** – Control panel with OLED display
- F** – DMX OUT/THRU (5-pin XLR)
- G** – AC mains power OUT/THRU (Neutrik powerCON TRUE1)
- H** – Pressure equalization valve
- I** – Mounting point for optional WDMX antenna

### 3. Features

The Fusion Stick FS20 from GLP is a powerful LED-based strobe/color effect linear lighting fixture.

The fixture features a 10x2 matrix of 15 watt RGBW LEDs that produce a powerful beam with a 6° beam angle. The LEDs can be controlled together or individually depending on the DMX control mode selected.

You can run a wide range of color effects (including strobe effects running at up to 20 Hz and dynamic FX patterns) on the LEDs, or you can operate them continuously using RGBW color mixing.

A separate CTO DMX channel is available in all the fixture's DMX control modes, letting you quickly adjust the warmth of the white light output.

Fixtures can be interlocked to form lines, and power and data can be daisy-chained for ease of installation.

The FS20 can be used indoors in permanent and temporary installations. Its rugged construction and IP65 rating mean that it can also be used outdoors in temporary installations if precautions are taken to prevent immersion in water and damage from direct sunlight. It can be placed upright on a level surface or suspended from a suitable structure as described in the fixture's Quick Start and Installation Manual.

Four mounting points with M3 threaded holes are provided on the front of FS20 fixtures for mounting optical accessories from GLP.

The FS20 is not suitable for household use, for use in any location where unattended children have access to it, or for use in permanent outdoor installations.

#### ***Color wheel effect***

The FS20's virtual color wheel gives you quick access to a range of LEE-referenced color presets.

#### ***RGBW color mixing***

You can use RGBW color mixing to set a custom color or to fine-tune a color preset that you have selected on the Color wheel channel.

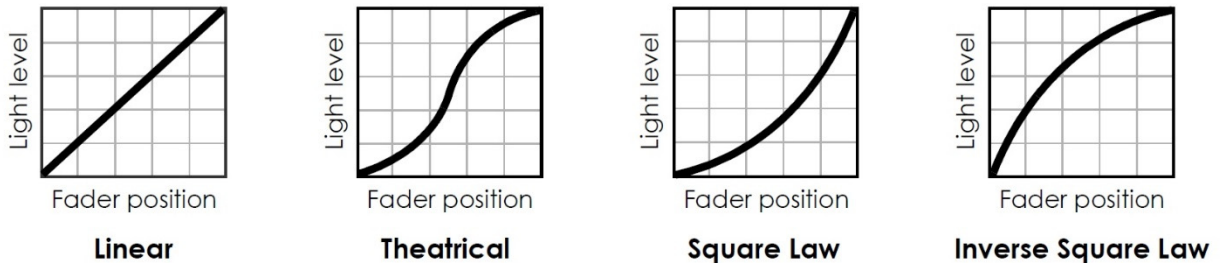
16-bit RGBW color mixing is available in Advanced DMX Mode.

#### ***Shutter effect***

The FS20's electronic shutter effect provides ramp up and down effects and a variable speed strobe as well as instant blackout.

## Dimming

See Figure 2. You can select from four dimming curves using the control panel or the *Control / Settings DMX* channel:



**Figure 2. Dimming curves**

- **Linear** sets dimming so that it appears to increase and decrease evenly throughout the dimming range.
- **Theatrical** is an S-shaped curve that gives finer control at low and at high light levels.
- **Square Law** gives finer control at low light levels and coarser control at high light levels.
- **Inverse Square Law** gives coarser control at low light levels and finer control at high light levels.

The default setting is **Linear**.

## Patterns

The FS20's pre-programmed patterns give you quick access to a wide range of static and dynamic patterns with a range of movement options.

See the section '9. Guide to patterns' on page 50 for tables showing the appearance of the patterns.

### Single-layer pattern control

The following DMX Modes provide control of one layer of patterns on three DMX channels

- Mode 1 – Standard
- Mode 2 – Advanced,
- Mode 6 – Pixel
- Mode 8 – Pixel Dim

In these modes, the DMX channels are laid out as follows:

- The first channel lets you select a pattern.
- The second channel lets you adjust movement speed if you have selected an animated pattern.



- The third channel – pattern fading – lets you soften the edges of animated patterns by setting each pixel to fade up and down as it is deployed in the pattern.

If you run a pattern, it will take priority over whatever you are displaying using the standard channels and appear to be superimposed on top of them.

### **Two-level pattern control**

DMX Mode 3, the **Pattern RGBW** channel, gives two superimposable layers of patterns. Each of the two layers has its own separate speed, crossfading, shutter and dimmer adjustment channels. Each layer also has its own RGBW color control on four channels.

If you run a Pattern 1, it will take priority over whatever you are displaying using the standard channels and appear to be superimposed on top of them.

If you run a Pattern 2, it will take priority over the background channels and Pattern 1 and appear to be superimposed on top of everything that the fixture is displaying.

### **Behavior when the fixture is not receiving a DMX signal**

You can set the fixture to react in three different ways if no DMX signal is present (if the fixture is being controlled by DMX but the DMX signal stops, or if you apply power to the fixture when no DMX signal is present):

- **Hold** sets the fixture to continue obeying the last DMX values it received. This is the default setting.

If no DMX signal was being received, the fixture will black out.

- **Blackout** sets the fixture to black out.
- **Stand-alone** sets the fixture to show the scene that has been stored using *Capture scene* (see below). For safety reasons and to avoid unwanted surprises, the Stand-alone scene will always fade in slowly if it is activated.

To program the scene that the fixture will display if it is set to Stand-alone and no DMX signal is present, use the *Capture scene* command:

- **Capture scene** stores the scene that the fixture is currently displaying. Once stored, the scene is used as the fixture's *Stand-alone* scene.

All these settings are available via DMX on the *Control / Settings* channel and in the fixture's control panel.

To avoid any possibility of unexpected behavior from a powerful strobe light if the DMX signal fails, we recommend that you always set the fixture to *Blackout*.

### **Display**

The illuminated graphic OLED display lets you change fixture settings when power is applied. See Chapters 5 and 6 for more details.

Using the *Control / Settings* DMX channel or the fixture's control panel you can:

- Change the display orientation from Normal to Inverted for easier reading if the fixture is flown upside-down in a rig.
- Choose between three different display modes:

- **Auto:** The display will automatically switch off after a few seconds if the fixture is receiving a valid control signal and has not detected an error. If the fixture is not receiving a valid control signal the display will flash. If the fixture has detected an error, the display will remain constantly on and show the error.
- **On:** The display stays on constantly. This setting can be useful when you are configuring or servicing the fixture.
- **Off:** The display will automatically switch off after a few seconds even if the fixture is not receiving a valid control signal or if it has detected an error.

### **Fixture information**

The **Information** menu in the control panel gives access to items of information from the fixture's sensors and memory. You can check temperature sensor readouts, see total operating hours counters and power cycle count, and see DMX signal quality data, for example.

### **Custom settings and factory defaults**

You can customize fixture settings (DMX mode, Pixel orientation, etc.) via DMX or using the fixture's control panel. Custom settings are stored after a power off/on cycle and after a reset.

Two options are available in the fixture's control panel for deleting multiple custom settings and restoring defaults:

- **Load Setting Defaults** reloads all the fixture's factory default settings **except** DMX address, DMX mode and Control protocol. This option returns the fixture to baseline settings (default Fan mode, Output limitation, Pixel orientation, Dimmer curve, etc.) without affecting its basic configuration in an installation.
- **Load Factory Backup** reloads all the fixture's factory default settings **including** DMX address, DMX mode and Control Protocol. This option reinitializes the fixture completely and returns to its state when it left the factory.

## 4. IR Remote


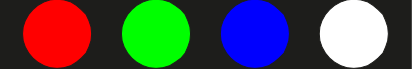









An infrared remote control is available as an optional accessory for the FS20.

By default, the fixture gives priority to commands received via DMX and will ignore commands sent by the IR remote if it is receiving a DMX signal. If you want the fixture to give priority to commands from the IR remote, set **IR Priority** in the **Personality** menu is set to **ON**.

The receiver for commands from the IR remote is located in the center of the front surface of the fixture.

The IR remote is powered by a button-cell battery. If the remote seems to have stopped working the battery may be discharged. Replace it with a new item.

The IR remote offers these functions:

	Increase color intensity
	Toggle color on 100% / off 0 %
	Reduce color intensity
	
	
	Select a color preset
	
	Increase speed / intensity
	Decrease speed / intensity
	Select an internal program from the three programs created in <b>Stand-Alone</b> → <b>Program Edit</b>
	Set a program to run a chase, pause a program, fade out or black out

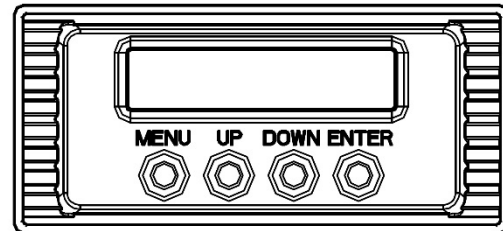
## 5. Control menus and onboard display



**Warning!** DMX control is disabled when the control menus are active. Be prepared for the fixture to emit strong light as soon as you exit the control menus.

The control panel and onboard OLED display provide access to user settings, readouts and utilities.

DMX addr. 1 - 17  
Advanced



**Figure 3. Onboard display**

The four control buttons have the following functions:

**MENU:** Activate the menus or go back one level towards the top of the menu.

**UP:** Scroll up or increase a number.

**DOWN:** Scroll down or reduce a number.

**ENTER:** Activate the control panel if it is in sleep mode. Then enter a menu, select a setting or implement a command.

When you apply power to the fixture, it boots up. After it has booted, the panel displays the default screen.

See Figure 3. The default screen displays the fixture's DMX mode and the DMX channels that the fixture occupies (in Figure 3, the fixture is in Advanced DMX mode. It has DMX address 1 and occupies DMX channels 1 – 17. DMX channel 18 is available for the next fixture on the DMX link)

DMX control is disabled when the control menus are active.

See also the Display options on the *DMX Control / Settings* channel and in the *Display* control menu in the control panel.

## 6. Control menu layout

Menus		Notes	
<b>DMX</b>			
Address	1 - 512	Enter DMX address	
Mode	Standard – 12	Select DMX control mode	
	Advanced – 17		
	Pattern – 27		
	RGBW – 4		
	Compressed – 6		
	Pixel – 92		
	Pixel RGBW – 80		
Pixel Dim - 32			
RDM	On / Off	Enable / Disable RDM functionality	
Reset via DMX	On / Off	Enable / Disable fixture resetting via DMX	
No DMX	<b>Shutter Closed</b>	Blackout when no DMX signal is received	
	Hold	Hold current scene when no DMX signal is received	
	Play Program 1	Play stored stand-alone program 1 when no DMX signal is received	
	Play Program 2	Play stored stand-alone program 2 when no DMX signal is received	
	Play Program 3	Play stored stand-alone program 3 when no DMX signal is received	
W-DMX (if optional wireless DMX accessory installed)	<b>Off</b>	Wireless DMX disabled	
	Receive	Receive wireless DMX	
	Transmit	Transmit wireless DMX	
	Link	Link / unlink transmitter and receiver	
	Unlink		
DMX Live	Refresh rate	XXX Hz	Display current DMX signal refresh rate
	Color wheel	0 - 255	Display DMX values being received for each effect
	Red	0 - 255	
	...	...	
Control	0 - 255		
<b>Personality</b>			
Dimmer Curve	<b>Linear</b>	Select dimming curve	
	Theatrical		
	Square Law		
	Inverse Square		
Dimmer Speed	<b>Fast</b>	Dimmer optimized for speed	
	Smooth	Dimmer optimized for smoothness	

Display Setting	Shutoff time	<b>Off</b>		Display sleep mode disabled: display remains on permanently
		1 minute		Display goes into sleep mode after 1 / 5 / 60 minutes
		5 minute		
	60 minute			
	No signal flash	<b>On</b>		Enable / Disable flashing display if no DMX signal is received
		Off		
Flip display	<b>Auto</b>		Display automatically inverts if fixture is inverted	
	Off		Display normal	
	On		Display inverted	
Temperature Unit	<b>Celsius</b>			Set temperature units used in display
	Fahrenheit			
Lock	<b>Off</b>			Enable / disable password requirement for access to control menus
	On			
	Set password	XXXX	XXXX	Set a custom password for access to control menus
Boot Mode	Select Mode	Auto		At power on, fixture returns to last action before power off, but any new DMX commands take priority
		DMX		At power on, fixture waits for DMX signal
		Static Program		At power on, fixture shows the scene programmed in Static Mode (see below) even if the fixture is receiving DMX commands.
	DMX High Priority	<b>On / Off</b>		If enabled, DMX signal always takes priority no matter which action is set for power on
IR Priority	<b>Off / On</b>			If enabled, IR remote takes priority over DMX signal
<b>Stand-Alone</b>				
Test Sequence	Run / <b>Cancel</b>			Run sequence that tests all colors and all LEDs
Master / Slave	<b>Alone</b>			Independent stand-alone operation (fixture does not act as Master or Slave).
	Master			Sends out all 3 internal programs to DMX link if you run any program
	Slave	<b>Slave 1</b>		Slave 1 plays Program 1 sent by a Master device, Slave 2 plays Program 2, Slave 3 plays Program 3
		Slave 2		
Slave 3				

Static Mode	Color wheel		0 - 255		Set fixture to display a static color and pattern
	Red		0 - 255		
	Green		0 - 255		
	Blue		0 - 255		
	White		0 - 255		
	Shutter		0 - <b>255</b>		
	Dimmer		0 - <b>255</b>		
	CTO		0 - 255		
	Pattern		0 - 255		
	Pattern Speed		0 - 255		
	Pattern Fade		0 - 255		
	Reset All		Yes / No		Set all <b>Static Mode</b> values to defaults (Shutter and Dimmer = 255, all other values = 0)
Program Edit	Program 1	Prog1 Steps	Select Step	01-30	Select step to program from Step 1 to Step 30
			Capture DMX	<b>Yes / Cancel</b>	Capture current DMX values as scene for current step in program 1
			Color Wheel	0 - 255	Set DMX value for each effect that you want to use in current scene
			Red	0 - 255	
			Green	0 - 255	
			Blue	0 - 255	
			White	0 - 255	
			Shutter	0 - 255	
			Dimmer	0 - 255	
			CTO	0 - 255	
			Reset All	<b>No / Yes</b>	Reset all effects values to zero
			Hold Time	000 - 99	Set time in seconds that scene is held
	Fade Time	000 - 99	Set time in seconds for scene to crossfade into next		
	Program 2	Prog 2 Steps	...		Same as Program 1 (see above)
	Program 3	Prog 3 Steps	...		Same as Program 1 (see above)
Program Play	Program 1		<b>No / Yes</b>		Play one of the Programs created in <b>Program Edit</b>
	Program 2		<b>No / Yes</b>		
	Program 3		<b>No / Yes</b>		
	Program All		<b>No / Yes</b>		Play consecutively all of the Programs created in <b>Program Edit</b>
Program Reset	Program 1		<b>No / Yes</b>		Delete one of the Programs created in <b>Program Edit</b>
	Program 2		<b>No / Yes</b>		
	Program 3		<b>No / Yes</b>		
	Program All		<b>No / Yes</b>		Delete all of the Programs created in <b>Program Edit</b>

Service				
Reset	Reset / <b>Cancel</b>		Reset fixture	
Calibration	Disabled		Set fixture to run in uncalibrated mode	
	Enabled		Set fixture to run with factory calibration settings	
	<b>Custom</b>	Red	0 - 255	Enter maximum value for each color. Values are saved as custom calibration settings that are unaffected by power off/on cycles. Custom values are deleted if Factory defaults are loaded
		Green	0 - 255	
		Blue	0 - 255	
White		0 - 255		
W-DMX Installed	<b>No</b> / Yes		Enable use of wireless DMX accessory (when installed)	
Factory default	Load	<b>No</b> / Yes	Return all settings to factory default values except W-DMX setting	
Fixture Time	Resettable	XXX hours	View resettable power-on hours counter	
	Total	XXX hours	View total (non-resettable) power-on hours counter	
	Clear Resettable	Clear / Cancel	Clear resettable power-on hours counter	
Fixture Temp.	Actual	XXX C / XXX F	View current fixture temperature	
	Max	XXX C / XXX F	View resettable maximum temperature log	
	Reset Max	Clear / Cancel	Clear resettable maximum temperature log	
Firmware Version	X.X.X.X		View currently installed firmware version	
Serial Number	XXXXXXXXXX		View fixture's serial number	
Product ID	200161 Fusion Stick FS20		View manufacturer's product ID	

### Control Menus

Default settings are written in **BOLD** type.



## 7. DMX control modes overview

The following DMX control modes are available in the FS20.

**DMX Mode 1: Standard** provides a virtual color wheel (color presets) and RGBW color mixing. A separate Shutter channel provides strobe, pulse and ramp-up/down effects and a Master dimmer channel controls overall intensity.

Color temperature control is available on a separate CTO channel, and a wide range of pre-programmed static and animated patterns are available. The animated patterns have variable movement and crossfading speed.

A Control / Settings channel lets you configure the fixture remotely via DMX.

### Mode 1 Standard

1	Color wheel
2	Red
3	Green
4	Blue
5	White
6	Shutter
7	Master dimmer
8	CTO
9	Pattern select
10	Pattern speed
11	Pattern fade
12	Control/Settings

**DMX Mode 2: Advanced** provides a virtual color wheel (color presets) and 16-bit RGBW color mixing. A separate Shutter channel provides strobe, pulse and ramp-up/down effects and a Master dimmer channel provides 16-bit control of overall intensity.

Color temperature control is available on a separate CTO channel, and a wide range of pre-programmed static and animated patterns are available. The animated patterns have variable movement and crossfading speed.

A Control / Settings channel lets you configure the fixture remotely via DMX.

### Mode 2 Advanced

1	Color wheel
2	Red
3	Red fine
4	Green
5	Green fine
6	Blue
7	Blue fine
8	White
9	White fine
10	Shutter
11	Master dimmer
12	Master dimmer fine
13	CTO
14	Pattern select
15	Pattern speed
16	Pattern fade
17	Control/Settings

**DMX Mode 3: RGBW** provides RGBW color mixing with a minimal footprint of 4 DMX channels.

**Mode 3**  
**RGBW**

1	Red
2	Green
3	Blue
4	White

**DMX Mode 4: Compressed** provides the main control options: RGBW color mixing, shutter effects and overall dimming.

**Mode 4**  
**Compressed**

1	Red
2	Green
3	Blue
4	White
5	Shutter
6	Master dimmer

**DMX Mode 5: Pixel** provides a virtual color wheel (color presets) and RGBW color mixing. A separate Shutter channel provides strobe, pulse and ramp-up/down effects and a Master dimmer channel controls overall intensity.

Color temperature control is available on a separate CTO channel, and a wide range of pre-programmed static and animated patterns are available. The animated patterns have variable movement and crossfading speed.

A Control / Settings channel lets you configure the fixture remotely via DMX.

This mode also offers individual pixel-level RGBW color mixing.

**Mode 5**  
**Pixel**

1	Color wheel
2	Red
3	Green
4	Blue
5	White
6	Shutter
7	Master dimmer
8	CTO
9	Pattern select
10	Pattern speed
11	Pattern fade
12	Control/Settings
13	Pixel 1 Red
14	Pixel 1 Green
15	Pixel 1 Blue
16	Pixel 1 White
17	Pixel 2 Red
18	Pixel 2 Green
19	Pixel 2 Blue
20	Pixel 2 White
...	...
89	Pixel 20 Red
90	Pixel 20 Green
91	Pixel 20 Blue
92	Pixel 20 White

### DMX Mode 6: Compressed Pixel

provides individual pixel-level RGBW color mixing.

#### Mode 6 Compressed Pixel

1	Pixel 1 Red
2	Pixel 1 Green
3	Pixel 1 Blue
4	Pixel 1 White
5	Pixel 2 Red
6	Pixel 2 Green
7	Pixel 2 Blue
8	Pixel 2 White
...	...
77	Pixel 20 Red
78	Pixel 20 Green
79	Pixel 20 Blue
80	Pixel 20 White

**DMX Mode 7: Pixel Dimming** provides a virtual color wheel (color presets) and RGBW color mixing. A separate Shutter channel provides strobe, pulse and ramp-up/down effects and a Master dimmer channel controls overall intensity.

Color temperature control is available on a separate CTO channel, and a wide range of pre-programmed static and animated patterns are available. The animated patterns have variable movement and crossfading speed.

A Control / Settings channel lets you configure the fixture remotely via DMX.

This mode also offers individual pixel-level dimming.

#### Mode 7 Pixel Dimming

1	Color wheel
2	Red
3	Green
4	Blue
5	White
6	Shutter
7	Master dimmer
8	CTO
9	Pattern select
10	Pattern speed
11	Pattern fade
12	Control/Settings
13	Pixel 1 Dimming
14	Pixel 2 Dimming
...	...
32	Pixel 20 Dimming

**DMX Mode 8: Patterns** provides a virtual color wheel (color presets) and RGBW color mixing. A separate Shutter channel provides strobe, pulse and ramp-up/down effects and a Master dimmer channel controls overall intensity.

Color temperature control is available on a separate CTO channel.

A Control / Settings channel lets you configure the fixture remotely via DMX.

Patterns with variable movement and crossfading speed are available, with two layers of pattern overlays. Each pattern layer has RGBW color mixing, shutter effects and dimming.

Mode 8 Patterns	
1	Color wheel
2	Red
3	Green
4	Blue
5	White
6	Shutter
7	Master dimmer
8	CTO
9	Control/Settings
10	Pattern 1 select
11	Pattern 1 speed
12	Pattern 1 fade
13	Pattern 1 red
14	Pattern 1 green
15	Pattern 1 blue
16	Pattern 1 white
17	Pattern 1 shutter
18	Pattern 1 dimmer
19	Pattern 2 select
20	Pattern 2 speed
21	Pattern 2 fade
22	Pattern 2 red
23	Pattern 2 green
24	Pattern 2 blue
25	Pattern 2 white
26	Pattern 2 shutter
27	Pattern 2 dimmer

**DMX Mode 9: Rocket** provides individual pixel-level RGBW color mixing.

A Control / Settings channel lets you configure the fixture remotely via DMX.

Patterns with variable movement and crossfading speed are available with two layers of pattern overlays. Each pattern layer has RGBW color mixing, shutter effects and dimming.

Mode 9 Rocket	
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1	Pixel 1 Red
2	Pixel 1 Green
3	Pixel 1 Blue
4	Pixel 1 White
5	Pixel 2 Red
6	Pixel 2 Green
7	Pixel 2 Blue
8	Pixel 2 White
...	...
77	Pixel 20 Red
78	Pixel 20 Green
79	Pixel 20 Blue
80	Pixel 20 White
81	Shutter
82	Master dimmer
83	Control/Settings
84	Pattern 1 select
85	Pattern 1 speed
86	Pattern 1 fade
87	Pattern 1 red
88	Pattern 1 green
89	Pattern 1 blue
90	Pattern 1 white
91	Pattern 1 shutter
92	Pattern 1 dimmer
93	Pattern 2 select
94	Pattern 2 speed
95	Pattern 2 fade
96	Pattern 2 red
97	Pattern 2 green
98	Pattern 2 blue
99	Pattern 2 white
100	Pattern 2 shutter
101	Pattern 2 dimmer

## 8. DMX control channel layout

In the following DMX channel layout tables:

- Default settings are indicated with **bold type**.
- Where commands are marked with an asterisk \* you must send that value continuously for 3 seconds (or other duration if indicated in the table) to apply the command.
- Where LED orientation commands are marked with two asterisks \*\* the direction of FX pattern *movement* is reversed compared to the similar commands available earlier on the same channel. The FX pattern *orientation* is unchanged.

## DMX Mode 1: Standard

### 12 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Color wheel	No function: RGBW color mixing	0-5	0-2.0%	0	Snap
		LEE 790 - Moroccan Pink	6-10	2.4-3.9%		
		LEE 157 - Pink	11-15	4.3-5.9%		
		LEE 332 - Special Rose Pink	16-20	6.3-7.8%		
		LEE 328 - Follies Pink	21-25	8.2-9.8%		
		LEE 345 - Fuchsia Pink	26-30	10.2-11.8%		
		LEE 194 - Surprise Pink	31-35	12.2-13.7%		
		LEE 181 - Congo Blue	36-40	14.1-15.7%		
		LEE 071 - Tokyo Blue	41-45	16.1-17.6%		
		LEE 120 - Deep Blue	46-50	18.0-19.6%		
		LEE 079 - Just Blue	51-55	20.0-21.6%		
		LEE 132 - Medium Blue	56-60	22.0-23.5%		
		LEE 200 - Double CT Blue	61-65	23.9-25.5%		
		LEE 161 - Slate Blue	66-70	25.9-27.5%		
		LEE 201 - Full CT Blue	71-75	27.8-29.4%		
		LEE 202 - Half CT Blue	76-80	29.8-31.4%		
		LEE 117 - Steel Blue	81-85	31.8-33.3%		
		LEE 353 - Lighter Blue	86-90	33.7-35.3%		
		LEE 118 - Light Blue	91-95	35.7-37.3%		
		LEE 116 - Medium Blue Green	96-100	37.6-39.2%		
		LEE 124 - Dark Green	101-105	39.6-41.2%		
		LEE 139 - Primary Green	106-110	41.6-43.1%		
		LEE 089 - Moss Green	111-115	43.5-45.1%		
		LEE 122 - Fern Green	116-120	45.5-47.1%		
		LEE 738 - JAS Green	121-125	47.5-49.0%		
		LEE 088 - Lime Green	126-130	49.4-51.0%		
		LEE 100 - Spring Yellow	131-135	51.4-52.9%		
		LEE 104 - Deep Amber	136-140	53.3-54.9%		
		LEE 179 - Chrome Orange	141-145	55.3-56.9%		
		LEE 105 - Orange	146-150	57.3-58.8%		
		LEE 021 - Gold Amber	151-155	59.2-60.8%		
		LEE 778 - Millennium Gold	156-160	61.2-62.7%		
		LEE 135 - Deep Golden Amber	161-165	63.1-64.7%		
		LEE 164 - Flame Red	166-170	65.1-66.7%		
		Color wheel rotation forwards fast-slow	171-185	67.1-72.5%		
		Color wheel stops at current color	186-190	72.9-74.5%		
		Color wheel rotation backwards fast-slow	191-205	74.9-80.4%		
		Color wheel stops at current color	206-210	80.8-82.4%		
		Random colors fast-slow	211-225	82.7-88.2%		
		Tungsten simulation	226-230	88.6-90.2%		
Warm white - 3200K	231-235	90.6-92.2%				
Neutral white - 4200K	236-240	92.5-94.1%				
Cool white - 5600K	241-245	94.5-96.1%				
Cool white - 7200K	246-250	96.5-98.0%				
Cool white - 8000K	251-255	98.4-100%				

<b>2</b>	<b>Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>3</b>	<b>Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>4</b>	<b>Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>5</b>	<b>White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>6</b>	<b>Shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
<b>7</b>	<b>Dimmer</b>	Master intensity 0-100%	0-255	0-100%	0	Fade
<b>8</b>	<b>CTO</b>	Color temperature cool-warm	0-255	0-100%	0	Fade
<b>9</b>	<b>Pattern selection</b> <i>See also 'Guide to patterns' on page 50</i>	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
Random 5 pixels / inverted	164-165	64.3-64.7%				
Random 6 pixels / inverted	166-167	65.1-65.5%				
Random 7 pixels / inverted	168-169	65.9-66.3%				
Random 8 pixels / inverted	170-171	66.7-67.1%				
Random 9 pixels / inverted	172-173	67.5-67.8%				
No function	174-255	68.2-100%				
<b>10</b>	<b>Pattern speed</b>	Pattern speed slow-fast	0-255	0-100%	0	Fade
<b>11</b>	<b>Pattern fade</b>	Pattern intensity 0-100%	0-255	0-100%	0	Fade



<b>Control / Settings</b>						
<b>12</b>	<b>Control / Settings</b>	No function	0-55	0-21.6%	0	Snap
		Dimmer speed smooth*	56-60	22.0-23.5%		
		Dimmer speed fast*	61-65	23.9-25.5%		
		No function	66-70	25.9-27.5%		
		Dimming curve Linear*	71-75	27.8-29.4%		
		Dimming curve Theatrical*	76-80	29.8-31.4%		
		Dimming curve Square Law*	81-85	31.8-33.3%		
		Dimming curve Inverse Square Law*	86-90	33.7-35.3%		
		No Function	91-95	35.7-37.3%		
		No DMX = Hold scene*	96-100	37.6-39.2%		
		No DMX = Blackout*	101-105	39.6-41.2%		
		No DMX = Play stand-alone scene*	106-110	41.6-43.1%		
		No Function	111-115	43.5-45.1%		
		Display backlight On*	116-120	45.5-47.1%		
		Display backlight Off*	121-125	47.5-49.0%		
		No Function	126-140	49.4-54.9%		
		DMX Mode: Standard*	141-145	55.3-56.9%		
		DMX Mode: Advanced*	146-150	57.3-58.8%		
		DMX Mode: Pattern*	151-155	59.2-60.8%		
		DMX Mode: Pixel*	156-160	61.2-62.7%		
		DMX Mode: Compressed*	161-165	63.1-64.7%		
		DMX Mode: Pixel Dim*	166-170	65.1-66.7%		
		No function	171-180	67.1-70.6%		
		Fixture reset	181-185	71.0-72.5%		
		Factory default settings (except DMX address)*	186-190	72.9-74.5%		
		No function	191-230	74.9-90.2%		
		Boot Mode Auto*	231-235	90.6-92.2%		
		Boot Mode DMX*	236-240	92.5-94.1%		
		Boot Mode Play Stand-alone *	241-245	94.5-96.1%		
		Boot Mode Static*	246-250	96.5-98.0%		
No function	251-252	98.4-100%				

## DMX Mode 2: Advanced

### 17 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Color wheel	No function: RGBW color mixing	0-5	0-2.0%	0	Snap
		LEE 790 - Moroccan Pink	6-10	2.4-3.9%		
		LEE 157 - Pink	11-15	4.3-5.9%		
		LEE 332 - Special Rose Pink	16-20	6.3-7.8%		
		LEE 328 - Follies Pink	21-25	8.2-9.8%		
		LEE 345 - Fuchsia Pink	26-30	10.2-11.8%		
		LEE 194 - Surprise Pink	31-35	12.2-13.7%		
		LEE 181 - Congo Blue	36-40	14.1-15.7%		
		LEE 071 - Tokyo Blue	41-45	16.1-17.6%		
		LEE 120 - Deep Blue	46-50	18.0-19.6%		
		LEE 079 - Just Blue	51-55	20.0-21.6%		
		LEE 132 - Medium Blue	56-60	22.0-23.5%		
		LEE 200 - Double CT Blue	61-65	23.9-25.5%		
		LEE 161 - Slate Blue	66-70	25.9-27.5%		
		LEE 201 - Full CT Blue	71-75	27.8-29.4%		
		LEE 202 - Half CT Blue	76-80	29.8-31.4%		
		LEE 117 - Steel Blue	81-85	31.8-33.3%		
		LEE 353 - Lighter Blue	86-90	33.7-35.3%		
		LEE 118 - Light Blue	91-95	35.7-37.3%		
		LEE 116 - Medium Blue Green	96-100	37.6-39.2%		
		LEE 124 - Dark Green	101-105	39.6-41.2%		
		LEE 139 - Primary Green	106-110	41.6-43.1%		
		LEE 089 - Moss Green	111-115	43.5-45.1%		
		LEE 122 - Fern Green	116-120	45.5-47.1%		
		LEE 738 - JAS Green	121-125	47.5-49.0%		
		LEE 088 - Lime Green	126-130	49.4-51.0%		
		LEE 100 - Spring Yellow	131-135	51.4-52.9%		
		LEE 104 - Deep Amber	136-140	53.3-54.9%		
		LEE 179 - Chrome Orange	141-145	55.3-56.9%		
		LEE 105 - Orange	146-150	57.3-58.8%		
		LEE 021 - Gold Amber	151-155	59.2-60.8%		
		LEE 778 - Millennium Gold	156-160	61.2-62.7%		
		LEE 135 - Deep Golden Amber	161-165	63.1-64.7%		
		LEE 164 - Flame Red	166-170	65.1-66.7%		
		Color wheel rotation forwards fast-slow	171-185	67.1-72.5%		
		Color wheel stops at current color	186-190	72.9-74.5%		
		Color wheel rotation backwards fast-slow	191-205	74.9-80.4%		
		Color wheel stops at current color	206-210	80.8-82.4%		
		Random colors fast-slow	211-225	82.7-88.2%		
		Tungsten simulation	226-230	88.6-90.2%		
Warm white - 3200K	231-235	90.6-92.2%				
Neutral white - 4200K	236-240	92.5-94.1%				
Cool white - 5600K	241-245	94.5-96.1%				
Cool white - 7200K	246-250	96.5-98.0%				
Cool white - 8000K	251-255	98.4-100%				

<b>2</b>	<b>Red</b>	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
<b>3</b>	<b>Red fine</b>		0-255	0-100%	0	Fade
<b>4</b>	<b>Green</b>	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
<b>5</b>	<b>Green fine</b>		0-255	0-100%	0	Fade
<b>6</b>	<b>Blue</b>	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
<b>7</b>	<b>Blue fine</b>		0-255	0-100%	0	Fade
<b>8</b>	<b>White</b>	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
<b>9</b>	<b>White fine</b>		0-255	0-100%	0	Fade
<b>10</b>	<b>Shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
<b>11</b>	<b>Dimmer</b>	Master intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
<b>12</b>	<b>Dimmer fine</b>		0-255	0-100%	0	Fade
<b>13</b>	<b>CTO</b>	Color temperature cool-warm	0-255	0-100%	0	Fade
<b>14</b>	<b>Pattern selection</b> <i>See also 'Guide to patterns' on page 50</i>	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
		Random 5 pixels / inverted	164-165	64.3-64.7%		
		Random 6 pixels / inverted	166-167	65.1-65.5%		
		Random 7 pixels / inverted	168-169	65.9-66.3%		
		Random 8 pixels / inverted	170-171	66.7-67.1%		
Random 9 pixels / inverted	172-173	67.5-67.8%				
No function	174-255	68.2-100%				
<b>15</b>	<b>Pattern speed</b>	Pattern speed slow-fast	0-255	0-100%	0	Fade
<b>16</b>	<b>Pattern fade</b>	Pattern intensity 0-100%	0-255	0-100%	0	Fade

<b>Control / Settings</b>						
<b>17</b>	<b>Control / Settings</b>	No function	0-55	0-21.6%	0	Snap
		Dimmer speed smooth*	56-60	22.0-23.5%		
		Dimmer speed fast*	61-65	23.9-25.5%		
		No function	66-70	25.9-27.5%		
		Dimming curve Linear*	71-75	27.8-29.4%		
		Dimming curve Theatrical*	76-80	29.8-31.4%		
		Dimming curve Square Law*	81-85	31.8-33.3%		
		Dimming curve Inverse Square Law*	86-90	33.7-35.3%		
		No Function	91-95	35.7-37.3%		
		No DMX = Hold scene*	96-100	37.6-39.2%		
		No DMX = Blackout*	101-105	39.6-41.2%		
		No DMX = Play stand-alone scene*	106-110	41.6-43.1%		
		No Function	111-115	43.5-45.1%		
		Display backlight On*	116-120	45.5-47.1%		
		Display backlight Off*	121-125	47.5-49.0%		
		No Function	126-140	49.4-54.9%		
		DMX Mode: Standard*	141-145	55.3-56.9%		
		DMX Mode: Advanced*	146-150	57.3-58.8%		
		DMX Mode: Pattern*	151-155	59.2-60.8%		
		DMX Mode: Pixel*	156-160	61.2-62.7%		
		DMX Mode: Compressed*	161-165	63.1-64.7%		
		DMX Mode: Pixel Dim*	166-170	65.1-66.7%		
		No function	171-180	67.1-70.6%		
		Fixture reset	181-185	71.0-72.5%		
		Factory default settings (except DMX address)*	186-190	72.9-74.5%		
		No function	191-230	74.9-90.2%		
		Boot Mode Auto*	231-235	90.6-92.2%		
		Boot Mode DMX*	236-240	92.5-94.1%		
		Boot Mode Play Stand-alone *	241-245	94.5-96.1%		
		Boot Mode Static*	246-250	96.5-98.0%		
No function	251-252	98.4-100%				

**DMX Mode 3: RGBW****4 DMX Channels**

Channel		Command	DMX range	Percent	Default DMX	Fade
<b>1</b>	<b>Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>2</b>	<b>Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>3</b>	<b>Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>4</b>	<b>White</b>	Intensity 0-100%	0-255	0-100%	0	Fade

## DMX Mode 4: Compressed

### 6 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>1</b>	<b>Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>2</b>	<b>Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>3</b>	<b>Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>4</b>	<b>White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>5</b>	<b>Shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
<b>6</b>	<b>Dimmer</b>	Master intensity 0-100%	0-255	0-100%	0	Fade

**DMX Mode 5: Pixel****92 DMX Channels**

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Color wheel	No function: RGBW color mixing	0-5	0-2.0%	0	Snap
		LEE 790 - Moroccan Pink	6-10	2.4-3.9%		
		LEE 157 - Pink	11-15	4.3-5.9%		
		LEE 332 - Special Rose Pink	16-20	6.3-7.8%		
		LEE 328 - Follies Pink	21-25	8.2-9.8%		
		LEE 345 - Fuchsia Pink	26-30	10.2-11.8%		
		LEE 194 - Surprise Pink	31-35	12.2-13.7%		
		LEE 181 - Congo Blue	36-40	14.1-15.7%		
		LEE 071 - Tokyo Blue	41-45	16.1-17.6%		
		LEE 120 - Deep Blue	46-50	18.0-19.6%		
		LEE 079 - Just Blue	51-55	20.0-21.6%		
		LEE 132 - Medium Blue	56-60	22.0-23.5%		
		LEE 200 - Double CT Blue	61-65	23.9-25.5%		
		LEE 161 - Slate Blue	66-70	25.9-27.5%		
		LEE 201 - Full CT Blue	71-75	27.8-29.4%		
		LEE 202 - Half CT Blue	76-80	29.8-31.4%		
		LEE 117 - Steel Blue	81-85	31.8-33.3%		
		LEE 353 - Lighter Blue	86-90	33.7-35.3%		
		LEE 118 - Light Blue	91-95	35.7-37.3%		
		LEE 116 - Medium Blue Green	96-100	37.6-39.2%		
		LEE 124 - Dark Green	101-105	39.6-41.2%		
		LEE 139 - Primary Green	106-110	41.6-43.1%		
		LEE 089 - Moss Green	111-115	43.5-45.1%		
		LEE 122 - Fern Green	116-120	45.5-47.1%		
		LEE 738 - JAS Green	121-125	47.5-49.0%		
		LEE 088 - Lime Green	126-130	49.4-51.0%		
		LEE 100 - Spring Yellow	131-135	51.4-52.9%		
		LEE 104 - Deep Amber	136-140	53.3-54.9%		
		LEE 179 - Chrome Orange	141-145	55.3-56.9%		
		LEE 105 - Orange	146-150	57.3-58.8%		
		LEE 021 - Gold Amber	151-155	59.2-60.8%		
		LEE 778 - Millennium Gold	156-160	61.2-62.7%		
		LEE 135 - Deep Golden Amber	161-165	63.1-64.7%		
		LEE 164 - Flame Red	166-170	65.1-66.7%		
		Color wheel rotation forwards fast-slow	171-185	67.1-72.5%		
		Color wheel stops at current color	186-190	72.9-74.5%		
		Color wheel rotation backwards fast-slow	191-205	74.9-80.4%		
		Color wheel stops at current color	206-210	80.8-82.4%		
		Random colors fast-slow	211-225	82.7-88.2%		
		Tungsten simulation	226-230	88.6-90.2%		
Warm white - 3200K	231-235	90.6-92.2%				
Neutral white - 4200K	236-240	92.5-94.1%				
Cool white - 5600K	241-245	94.5-96.1%				
Cool white - 7200K	246-250	96.5-98.0%				
Cool white - 8000K	251-255	98.4-100%				

<b>2</b>	<b>Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>3</b>	<b>Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>4</b>	<b>Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>5</b>	<b>White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>6</b>	<b>Shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
<b>7</b>	<b>Dimmer</b>	Master intensity 0-100%	0-255	0-100%	0	Fade
<b>8</b>	<b>CTO</b>	Color temperature cool-warm	0-255	0-100%	0	Fade
<b>9</b>	<b>Pattern selection</b> <i>See also 'Guide to patterns' on page 50</i>	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
Random 5 pixels / inverted	164-165	64.3-64.7%				
Random 6 pixels / inverted	166-167	65.1-65.5%				
Random 7 pixels / inverted	168-169	65.9-66.3%				
Random 8 pixels / inverted	170-171	66.7-67.1%				
Random 9 pixels / inverted	172-173	67.5-67.8%				
No function	174-255	68.2-100%				
<b>10</b>	<b>Pattern speed</b>	Pattern speed slow-fast	0-255	0-100%	0	Fade
<b>11</b>	<b>Pattern fade</b>	Pattern intensity 0-100%	0-255	0-100%	0	Fade



<b>Control / Settings</b>						
<b>12</b>	<b>Control / Settings</b>	No function	0-55	0-21.6%	0	Snap
		Dimmer speed smooth*	56-60	22.0-23.5%		
		Dimmer speed fast*	61-65	23.9-25.5%		
		No function	66-70	25.9-27.5%		
		Dimming curve Linear*	71-75	27.8-29.4%		
		Dimming curve Theatrical*	76-80	29.8-31.4%		
		Dimming curve Square Law*	81-85	31.8-33.3%		
		Dimming curve Inverse Square Law*	86-90	33.7-35.3%		
		No Function	91-95	35.7-37.3%		
		No DMX = Hold scene*	96-100	37.6-39.2%		
		No DMX = Blackout*	101-105	39.6-41.2%		
		No DMX = Play stand-alone scene*	106-110	41.6-43.1%		
		No Function	111-115	43.5-45.1%		
		Display backlight On*	116-120	45.5-47.1%		
		Display backlight Off*	121-125	47.5-49.0%		
		No Function	126-140	49.4-54.9%		
		DMX Mode: Standard*	141-145	55.3-56.9%		
		DMX Mode: Advanced*	146-150	57.3-58.8%		
		DMX Mode: Pattern*	151-155	59.2-60.8%		
		DMX Mode: Pixel*	156-160	61.2-62.7%		
		DMX Mode: Compressed*	161-165	63.1-64.7%		
		DMX Mode: Pixel Dim*	166-170	65.1-66.7%		
		No function	171-180	67.1-70.6%		
		Fixture reset	181-185	71.0-72.5%		
		Factory default settings (except DMX address)*	186-190	72.9-74.5%		
		No function	191-230	74.9-90.2%		
		Boot Mode Auto*	231-235	90.6-92.2%		
		Boot Mode DMX*	236-240	92.5-94.1%		
Boot Mode Play Stand-alone *	241-245	94.5-96.1%				
Boot Mode Static*	246-250	96.5-98.0%				
No function	251-252	98.4-100%				
<b>Individual pixel RGBW</b>						
<b>13</b>	<b>Pixel 1 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>14</b>	<b>Pixel 1 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>15</b>	<b>Pixel 1 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>16</b>	<b>Pixel 1 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>17</b>	<b>Pixel 2 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>18</b>	<b>Pixel 2 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>19</b>	<b>Pixel 2 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>20</b>	<b>Pixel 2 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>21</b>	<b>Pixel 3 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>22</b>	<b>Pixel 3 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>23</b>	<b>Pixel 3 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>24</b>	<b>Pixel 3 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>25</b>	<b>Pixel 4 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>26</b>	<b>Pixel 4 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>27</b>	<b>Pixel 4 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>28</b>	<b>Pixel 4 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>29</b>	<b>Pixel 5 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>30</b>	<b>Pixel 5 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>31</b>	<b>Pixel 5 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>32</b>	<b>Pixel 5 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade

33	Pixel 6 red	Intensity 0-100%	0-255	0-100%	0	Fade
34	Pixel 6 green	Intensity 0-100%	0-255	0-100%	0	Fade
35	Pixel 6 blue	Intensity 0-100%	0-255	0-100%	0	Fade
36	Pixel 6 white	Intensity 0-100%	0-255	0-100%	0	Fade
37	Pixel 7 red	Intensity 0-100%	0-255	0-100%	0	Fade
38	Pixel 7 green	Intensity 0-100%	0-255	0-100%	0	Fade
39	Pixel 7 blue	Intensity 0-100%	0-255	0-100%	0	Fade
40	Pixel 7 white	Intensity 0-100%	0-255	0-100%	0	Fade
41	Pixel 8 red	Intensity 0-100%	0-255	0-100%	0	Fade
42	Pixel 8 green	Intensity 0-100%	0-255	0-100%	0	Fade
43	Pixel 8 blue	Intensity 0-100%	0-255	0-100%	0	Fade
44	Pixel 8 white	Intensity 0-100%	0-255	0-100%	0	Fade
45	Pixel 9 red	Intensity 0-100%	0-255	0-100%	0	Fade
46	Pixel 9 green	Intensity 0-100%	0-255	0-100%	0	Fade
47	Pixel 9 blue	Intensity 0-100%	0-255	0-100%	0	Fade
48	Pixel 9 white	Intensity 0-100%	0-255	0-100%	0	Fade
49	Pixel 10 red	Intensity 0-100%	0-255	0-100%	0	Fade
50	Pixel 10 green	Intensity 0-100%	0-255	0-100%	0	Fade
51	Pixel 10 blue	Intensity 0-100%	0-255	0-100%	0	Fade
52	Pixel 10 white	Intensity 0-100%	0-255	0-100%	0	Fade
53	Pixel 11 red	Intensity 0-100%	0-255	0-100%	0	Fade
54	Pixel 11 green	Intensity 0-100%	0-255	0-100%	0	Fade
55	Pixel 11 blue	Intensity 0-100%	0-255	0-100%	0	Fade
56	Pixel 11 white	Intensity 0-100%	0-255	0-100%	0	Fade
57	Pixel 12 red	Intensity 0-100%	0-255	0-100%	0	Fade
58	Pixel 12 green	Intensity 0-100%	0-255	0-100%	0	Fade
59	Pixel 12 blue	Intensity 0-100%	0-255	0-100%	0	Fade
60	Pixel 12 white	Intensity 0-100%	0-255	0-100%	0	Fade
61	Pixel 13 red	Intensity 0-100%	0-255	0-100%	0	Fade
66	Pixel 13 green	Intensity 0-100%	0-255	0-100%	0	Fade
63	Pixel 13 blue	Intensity 0-100%	0-255	0-100%	0	Fade
64	Pixel 13 white	Intensity 0-100%	0-255	0-100%	0	Fade
65	Pixel 14 red	Intensity 0-100%	0-255	0-100%	0	Fade
66	Pixel 14 green	Intensity 0-100%	0-255	0-100%	0	Fade
67	Pixel 14 blue	Intensity 0-100%	0-255	0-100%	0	Fade
68	Pixel 14 white	Intensity 0-100%	0-255	0-100%	0	Fade
69	Pixel 15 red	Intensity 0-100%	0-255	0-100%	0	Fade
70	Pixel 15 green	Intensity 0-100%	0-255	0-100%	0	Fade
71	Pixel 15 blue	Intensity 0-100%	0-255	0-100%	0	Fade
72	Pixel 15 white	Intensity 0-100%	0-255	0-100%	0	Fade
73	Pixel 16 red	Intensity 0-100%	0-255	0-100%	0	Fade
74	Pixel 16 green	Intensity 0-100%	0-255	0-100%	0	Fade
75	Pixel 16 blue	Intensity 0-100%	0-255	0-100%	0	Fade
76	Pixel 16 white	Intensity 0-100%	0-255	0-100%	0	Fade
77	Pixel 17 red	Intensity 0-100%	0-255	0-100%	0	Fade
78	Pixel 17 green	Intensity 0-100%	0-255	0-100%	0	Fade
79	Pixel 17 blue	Intensity 0-100%	0-255	0-100%	0	Fade
80	Pixel 17 white	Intensity 0-100%	0-255	0-100%	0	Fade
81	Pixel 18 red	Intensity 0-100%	0-255	0-100%	0	Fade
82	Pixel 18 green	Intensity 0-100%	0-255	0-100%	0	Fade
83	Pixel 18 blue	Intensity 0-100%	0-255	0-100%	0	Fade
88	Pixel 18 white	Intensity 0-100%	0-255	0-100%	0	Fade

<b>85</b>	<b>Pixel 19 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>86</b>	<b>Pixel 19 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>87</b>	<b>Pixel 19 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>88</b>	<b>Pixel 19 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>89</b>	<b>Pixel 20 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>90</b>	<b>Pixel 20 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>91</b>	<b>Pixel 20 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>92</b>	<b>Pixel 20 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade

## DMX Mode 6: Compressed pixel

### 80 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Pixel 1 red	Intensity 0-100%	0-255	0-100%	0	Fade
2	Pixel 1 green	Intensity 0-100%	0-255	0-100%	0	Fade
3	Pixel 1 blue	Intensity 0-100%	0-255	0-100%	0	Fade
4	Pixel 1 white	Intensity 0-100%	0-255	0-100%	0	Fade
5	Pixel 2 red	Intensity 0-100%	0-255	0-100%	0	Fade
6	Pixel 2 green	Intensity 0-100%	0-255	0-100%	0	Fade
7	Pixel 2 blue	Intensity 0-100%	0-255	0-100%	0	Fade
8	Pixel 2 white	Intensity 0-100%	0-255	0-100%	0	Fade
9	Pixel 3 red	Intensity 0-100%	0-255	0-100%	0	Fade
10	Pixel 3 green	Intensity 0-100%	0-255	0-100%	0	Fade
11	Pixel 3 blue	Intensity 0-100%	0-255	0-100%	0	Fade
12	Pixel 3 white	Intensity 0-100%	0-255	0-100%	0	Fade
13	Pixel 4 red	Intensity 0-100%	0-255	0-100%	0	Fade
14	Pixel 4 green	Intensity 0-100%	0-255	0-100%	0	Fade
15	Pixel 4 blue	Intensity 0-100%	0-255	0-100%	0	Fade
16	Pixel 4 white	Intensity 0-100%	0-255	0-100%	0	Fade
17	Pixel 5 red	Intensity 0-100%	0-255	0-100%	0	Fade
18	Pixel 5 green	Intensity 0-100%	0-255	0-100%	0	Fade
19	Pixel 5 blue	Intensity 0-100%	0-255	0-100%	0	Fade
20	Pixel 5 white	Intensity 0-100%	0-255	0-100%	0	Fade
21	Pixel 6 red	Intensity 0-100%	0-255	0-100%	0	Fade
22	Pixel 6 green	Intensity 0-100%	0-255	0-100%	0	Fade
23	Pixel 6 blue	Intensity 0-100%	0-255	0-100%	0	Fade
24	Pixel 6 white	Intensity 0-100%	0-255	0-100%	0	Fade
25	Pixel 7 red	Intensity 0-100%	0-255	0-100%	0	Fade
26	Pixel 7 green	Intensity 0-100%	0-255	0-100%	0	Fade
27	Pixel 7 blue	Intensity 0-100%	0-255	0-100%	0	Fade
28	Pixel 7 white	Intensity 0-100%	0-255	0-100%	0	Fade
29	Pixel 8 red	Intensity 0-100%	0-255	0-100%	0	Fade
30	Pixel 8 green	Intensity 0-100%	0-255	0-100%	0	Fade
31	Pixel 8 blue	Intensity 0-100%	0-255	0-100%	0	Fade
32	Pixel 8 white	Intensity 0-100%	0-255	0-100%	0	Fade
33	Pixel 9 red	Intensity 0-100%	0-255	0-100%	0	Fade
34	Pixel 9 green	Intensity 0-100%	0-255	0-100%	0	Fade
35	Pixel 9 blue	Intensity 0-100%	0-255	0-100%	0	Fade
36	Pixel 9 white	Intensity 0-100%	0-255	0-100%	0	Fade
37	Pixel 10 red	Intensity 0-100%	0-255	0-100%	0	Fade
38	Pixel 10 green	Intensity 0-100%	0-255	0-100%	0	Fade
39	Pixel 10 blue	Intensity 0-100%	0-255	0-100%	0	Fade
40	Pixel 10 white	Intensity 0-100%	0-255	0-100%	0	Fade
41	Pixel 11 red	Intensity 0-100%	0-255	0-100%	0	Fade
42	Pixel 11 green	Intensity 0-100%	0-255	0-100%	0	Fade
43	Pixel 11 blue	Intensity 0-100%	0-255	0-100%	0	Fade
44	Pixel 11 white	Intensity 0-100%	0-255	0-100%	0	Fade
45	Pixel 12 red	Intensity 0-100%	0-255	0-100%	0	Fade
46	Pixel 12 green	Intensity 0-100%	0-255	0-100%	0	Fade
47	Pixel 12 blue	Intensity 0-100%	0-255	0-100%	0	Fade
48	Pixel 12 white	Intensity 0-100%	0-255	0-100%	0	Fade
49	Pixel 13 red	Intensity 0-100%	0-255	0-100%	0	Fade
50	Pixel 13 green	Intensity 0-100%	0-255	0-100%	0	Fade
51	Pixel 13 blue	Intensity 0-100%	0-255	0-100%	0	Fade

52	Pixel 13 white	Intensity 0-100%	0-255	0-100%	0	Fade
53	Pixel 14 red	Intensity 0-100%	0-255	0-100%	0	Fade
54	Pixel 14 green	Intensity 0-100%	0-255	0-100%	0	Fade
55	Pixel 14 blue	Intensity 0-100%	0-255	0-100%	0	Fade
56	Pixel 14 white	Intensity 0-100%	0-255	0-100%	0	Fade
57	Pixel 15 red	Intensity 0-100%	0-255	0-100%	0	Fade
58	Pixel 15 green	Intensity 0-100%	0-255	0-100%	0	Fade
59	Pixel 15 blue	Intensity 0-100%	0-255	0-100%	0	Fade
60	Pixel 15 white	Intensity 0-100%	0-255	0-100%	0	Fade
61	Pixel 16 red	Intensity 0-100%	0-255	0-100%	0	Fade
62	Pixel 16 green	Intensity 0-100%	0-255	0-100%	0	Fade
63	Pixel 16 blue	Intensity 0-100%	0-255	0-100%	0	Fade
64	Pixel 16 white	Intensity 0-100%	0-255	0-100%	0	Fade
65	Pixel 17 red	Intensity 0-100%	0-255	0-100%	0	Fade
66	Pixel 17 green	Intensity 0-100%	0-255	0-100%	0	Fade
67	Pixel 17 blue	Intensity 0-100%	0-255	0-100%	0	Fade
68	Pixel 17 white	Intensity 0-100%	0-255	0-100%	0	Fade
69	Pixel 18 red	Intensity 0-100%	0-255	0-100%	0	Fade
70	Pixel 18 green	Intensity 0-100%	0-255	0-100%	0	Fade
71	Pixel 18 blue	Intensity 0-100%	0-255	0-100%	0	Fade
72	Pixel 18 white	Intensity 0-100%	0-255	0-100%	0	Fade
73	Pixel 19 red	Intensity 0-100%	0-255	0-100%	0	Fade
74	Pixel 19 green	Intensity 0-100%	0-255	0-100%	0	Fade
75	Pixel 19 blue	Intensity 0-100%	0-255	0-100%	0	Fade
76	Pixel 19 white	Intensity 0-100%	0-255	0-100%	0	Fade
77	Pixel 20 red	Intensity 0-100%	0-255	0-100%	0	Fade
78	Pixel 20 green	Intensity 0-100%	0-255	0-100%	0	Fade
79	Pixel 20 blue	Intensity 0-100%	0-255	0-100%	0	Fade
80	Pixel 20 white	Intensity 0-100%	0-255	0-100%	0	Fade

## DMX Mode 7: Pixel Dimming

### 32 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Color wheel	No function: RGBW color mixing	0-5	0-2.0%	0	Snap
		LEE 790 - Moroccan Pink	6-10	2.4-3.9%		
		LEE 157 - Pink	11-15	4.3-5.9%		
		LEE 332 - Special Rose Pink	16-20	6.3-7.8%		
		LEE 328 - Follies Pink	21-25	8.2-9.8%		
		LEE 345 - Fuchsia Pink	26-30	10.2-11.8%		
		LEE 194 - Surprise Pink	31-35	12.2-13.7%		
		LEE 181 - Congo Blue	36-40	14.1-15.7%		
		LEE 071 - Tokyo Blue	41-45	16.1-17.6%		
		LEE 120 - Deep Blue	46-50	18.0-19.6%		
		LEE 079 - Just Blue	51-55	20.0-21.6%		
		LEE 132 - Medium Blue	56-60	22.0-23.5%		
		LEE 200 - Double CT Blue	61-65	23.9-25.5%		
		LEE 161 - Slate Blue	66-70	25.9-27.5%		
		LEE 201 - Full CT Blue	71-75	27.8-29.4%		
		LEE 202 - Half CT Blue	76-80	29.8-31.4%		
		LEE 117 - Steel Blue	81-85	31.8-33.3%		
		LEE 353 - Lighter Blue	86-90	33.7-35.3%		
		LEE 118 - Light Blue	91-95	35.7-37.3%		
		LEE 116 - Medium Blue Green	96-100	37.6-39.2%		
		LEE 124 - Dark Green	101-105	39.6-41.2%		
		LEE 139 - Primary Green	106-110	41.6-43.1%		
		LEE 089 - Moss Green	111-115	43.5-45.1%		
		LEE 122 - Fern Green	116-120	45.5-47.1%		
		LEE 738 - JAS Green	121-125	47.5-49.0%		
		LEE 088 - Lime Green	126-130	49.4-51.0%		
		LEE 100 - Spring Yellow	131-135	51.4-52.9%		
		LEE 104 - Deep Amber	136-140	53.3-54.9%		
		LEE 179 - Chrome Orange	141-145	55.3-56.9%		
		LEE 105 - Orange	146-150	57.3-58.8%		
		LEE 021 - Gold Amber	151-155	59.2-60.8%		
		LEE 778 - Millennium Gold	156-160	61.2-62.7%		
LEE 135 - Deep Golden Amber	161-165	63.1-64.7%				
LEE 164 - Flame Red	166-170	65.1-66.7%				
Color wheel rotation forwards fast-slow	171-185	67.1-72.5%				
Color wheel stops at current color	186-190	72.9-74.5%				
Color wheel rotation backwards fast-slow	191-205	74.9-80.4%				
Color wheel stops at current color	206-210	80.8-82.4%				
Random colors fast-slow	211-225	82.7-88.2%				
Tungsten simulation	226-230	88.6-90.2%				
Warm white - 3200K	231-235	90.6-92.2%				
Neutral white - 4200K	236-240	92.5-94.1%				
Cool white - 5600K	241-245	94.5-96.1%				
Cool white - 7200K	246-250	96.5-98.0%				
Cool white - 8000K	251-255	98.4-100%				

<b>2</b>	<b>Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>3</b>	<b>Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>4</b>	<b>Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>5</b>	<b>White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>6</b>	<b>Shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
<b>7</b>	<b>Dimmer</b>	Master intensity 0-100%	0-255	0-100%	0	Fade
<b>8</b>	<b>CTO</b>	Color temperature cool-warm	0-255	0-100%	0	Fade
<b>9</b>	<b>Pattern selection</b> <i>See also 'Guide to patterns' on page 50</i>	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
Random 5 pixels / inverted	164-165	64.3-64.7%				
Random 6 pixels / inverted	166-167	65.1-65.5%				
Random 7 pixels / inverted	168-169	65.9-66.3%				
Random 8 pixels / inverted	170-171	66.7-67.1%				
Random 9 pixels / inverted	172-173	67.5-67.8%				
No function	174-255	68.2-100%				
<b>10</b>	<b>Pattern speed</b>	Pattern speed slow-fast	0-255	0-100%	0	Fade
<b>11</b>	<b>Pattern fade</b>	Pattern intensity 0-100%	0-255	0-100%	0	Fade

<b>Control / Settings</b>						
<b>12</b>	<b>Control / Settings</b>	No function	0-55	0-21.6%	0	Snap
		Dimmer speed smooth*	56-60	22.0-23.5%		
		Dimmer speed fast*	61-65	23.9-25.5%		
		No function	66-70	25.9-27.5%		
		Dimming curve Linear*	71-75	27.8-29.4%		
		Dimming curve Theatrical*	76-80	29.8-31.4%		
		Dimming curve Square Law*	81-85	31.8-33.3%		
		Dimming curve Inverse Square Law*	86-90	33.7-35.3%		
		No Function	91-95	35.7-37.3%		
		No DMX = Hold scene*	96-100	37.6-39.2%		
		No DMX = Blackout*	101-105	39.6-41.2%		
		No DMX = Play stand-alone scene*	106-110	41.6-43.1%		
		No Function	111-115	43.5-45.1%		
		Display backlight On*	116-120	45.5-47.1%		
		Display backlight Off*	121-125	47.5-49.0%		
		No Function	126-140	49.4-54.9%		
		DMX Mode: Standard*	141-145	55.3-56.9%		
		DMX Mode: Advanced*	146-150	57.3-58.8%		
		DMX Mode: Pattern*	151-155	59.2-60.8%		
		DMX Mode: Pixel*	156-160	61.2-62.7%		
		DMX Mode: Compressed*	161-165	63.1-64.7%		
		DMX Mode: Pixel Dim*	166-170	65.1-66.7%		
		No function	171-180	67.1-70.6%		
		Fixture reset	181-185	71.0-72.5%		
		Factory default settings (except DMX address)*	186-190	72.9-74.5%		
		No function	191-230	74.9-90.2%		
		Boot Mode Auto*	231-235	90.6-92.2%		
		Boot Mode DMX*	236-240	92.5-94.1%		
Boot Mode Play Stand-alone*	241-245	94.5-96.1%				
Boot Mode Static*	246-250	96.5-98.0%				
No function	251-252	98.4-100%				
<b>Individual pixel dimming</b>						
<b>13</b>	<b>Pixel 1</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>14</b>	<b>Pixel 2</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>15</b>	<b>Pixel 3</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>16</b>	<b>Pixel 4</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>17</b>	<b>Pixel 5</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>18</b>	<b>Pixel 6</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>19</b>	<b>Pixel 7</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>20</b>	<b>Pixel 8</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>21</b>	<b>Pixel 9</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>22</b>	<b>Pixel 10</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>23</b>	<b>Pixel 11</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>24</b>	<b>Pixel 12</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>25</b>	<b>Pixel 13</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>26</b>	<b>Pixel 14</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>27</b>	<b>Pixel 15</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>28</b>	<b>Pixel 16</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>29</b>	<b>Pixel 17</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>30</b>	<b>Pixel 18</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>31</b>	<b>Pixel 19</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>32</b>	<b>Pixel 20</b>	Intensity 0-100%	0-255	0-100%	0	Fade



**DMX Mode 8: Patterns****27 DMX Channels**

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Color wheel	No function: RGBW color mixing	0-5	0-2.0%	0	Snap
		LEE 790 - Moroccan Pink	6-10	2.4-3.9%		
		LEE 157 - Pink	11-15	4.3-5.9%		
		LEE 332 - Special Rose Pink	16-20	6.3-7.8%		
		LEE 328 - Follies Pink	21-25	8.2-9.8%		
		LEE 345 - Fuchsia Pink	26-30	10.2-11.8%		
		LEE 194 - Surprise Pink	31-35	12.2-13.7%		
		LEE 181 - Congo Blue	36-40	14.1-15.7%		
		LEE 071 - Tokyo Blue	41-45	16.1-17.6%		
		LEE 120 - Deep Blue	46-50	18.0-19.6%		
		LEE 079 - Just Blue	51-55	20.0-21.6%		
		LEE 132 - Medium Blue	56-60	22.0-23.5%		
		LEE 200 - Double CT Blue	61-65	23.9-25.5%		
		LEE 161 - Slate Blue	66-70	25.9-27.5%		
		LEE 201 - Full CT Blue	71-75	27.8-29.4%		
		LEE 202 - Half CT Blue	76-80	29.8-31.4%		
		LEE 117 - Steel Blue	81-85	31.8-33.3%		
		LEE 353 - Lighter Blue	86-90	33.7-35.3%		
		LEE 118 - Light Blue	91-95	35.7-37.3%		
		LEE 116 - Medium Blue Green	96-100	37.6-39.2%		
		LEE 124 - Dark Green	101-105	39.6-41.2%		
		LEE 139 - Primary Green	106-110	41.6-43.1%		
		LEE 089 - Moss Green	111-115	43.5-45.1%		
		LEE 122 - Fern Green	116-120	45.5-47.1%		
		LEE 738 - JAS Green	121-125	47.5-49.0%		
		LEE 088 - Lime Green	126-130	49.4-51.0%		
		LEE 100 - Spring Yellow	131-135	51.4-52.9%		
LEE 104 - Deep Amber	136-140	53.3-54.9%				
LEE 179 - Chrome Orange	141-145	55.3-56.9%				
LEE 105 - Orange	146-150	57.3-58.8%				
LEE 021 - Gold Amber	151-155	59.2-60.8%				
LEE 778 - Millennium Gold	156-160	61.2-62.7%				
LEE 135 - Deep Golden Amber	161-165	63.1-64.7%				
LEE 164 - Flame Red	166-170	65.1-66.7%				
Color wheel rotation forwards fast-slow	171-185	67.1-72.5%				
Color wheel stops at current color	186-190	72.9-74.5%				
Color wheel rotation backwards fast-slow	191-205	74.9-80.4%				
Color wheel stops at current color	206-210	80.8-82.4%				
Random colors fast-slow	211-225	82.7-88.2%				
Tungsten simulation	226-230	88.6-90.2%				
Warm white - 3200K	231-235	90.6-92.2%				
Neutral white - 4200K	236-240	92.5-94.1%				
Cool white - 5600K	241-245	94.5-96.1%				
Cool white - 7200K	246-250	96.5-98.0%				
Cool white - 8000K	251-255	98.4-100%				

<b>2</b>	<b>Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>3</b>	<b>Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>4</b>	<b>Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>5</b>	<b>White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>6</b>	<b>Shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
<b>7</b>	<b>Dimmer</b>	Master intensity 0-100%	0-255	0-100%	0	Fade
<b>8</b>	<b>CTO</b>	Color temperature cool-warm	0-255	0-100%	0	Fade
<b>Control / Settings</b>						
<b>9</b>	<b>Control / Settings</b>	No function	0-55	0-21.6%	0	Snap
		Dimmer speed smooth*	56-60	22.0-23.5%		
		Dimmer speed fast*	61-65	23.9-25.5%		
		No function	66-70	25.9-27.5%		
		Dimming curve Linear*	71-75	27.8-29.4%		
		Dimming curve Theatrical*	76-80	29.8-31.4%		
		Dimming curve Square Law*	81-85	31.8-33.3%		
		Dimming curve Inverse Square Law*	86-90	33.7-35.3%		
		No Function	91-95	35.7-37.3%		
		No DMX = Hold scene*	96-100	37.6-39.2%		
		No DMX = Blackout*	101-105	39.6-41.2%		
		No DMX = Play stand-alone scene*	106-110	41.6-43.1%		
		No Function	111-115	43.5-45.1%		
		Display backlight On*	116-120	45.5-47.1%		
		Display backlight Off*	121-125	47.5-49.0%		
		No Function	126-140	49.4-54.9%		
		DMX Mode: Standard*	141-145	55.3-56.9%		
		DMX Mode: Advanced*	146-150	57.3-58.8%		
		DMX Mode: Pattern*	151-155	59.2-60.8%		
		DMX Mode: Pixel*	156-160	61.2-62.7%		
		DMX Mode: Compressed*	161-165	63.1-64.7%		
		DMX Mode: Pixel Dim*	166-170	65.1-66.7%		
		No function	171-180	67.1-70.6%		
		Fixture reset	181-185	71.0-72.5%		
		Factory default settings (except DMX address)*	186-190	72.9-74.5%		
		No function	191-230	74.9-90.2%		
		Boot Mode Auto*	231-235	90.6-92.2%		
Boot Mode DMX*	236-240	92.5-94.1%				
Boot Mode Play Stand-alone *	241-245	94.5-96.1%				
Boot Mode Static*	246-250	96.5-98.0%				
No function	251-252	98.4-100%				

Patterns						
10	<b>Pattern 1 selection</b> See also 'Guide to patterns' on page 50	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
		Random 5 pixels / inverted	164-165	64.3-64.7%		
		Random 6 pixels / inverted	166-167	65.1-65.5%		
Random 7 pixels / inverted	168-169	65.9-66.3%				
Random 8 pixels / inverted	170-171	66.7-67.1%				
Random 9 pixels / inverted	172-173	67.5-67.8%				
No function	174-255	68.2-100%				
11	<b>Pattern 1 speed</b>	Pattern 1 speed slow-fast	0-255	0-100%	0	Fade
12	<b>Pattern 1 fade</b>	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade
13	<b>Pattern 1 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
14	<b>Pattern 1 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
15	<b>Pattern 1 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
16	<b>Pattern 1 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade
17	<b>Pattern 1 shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
Shutter open	240-255	94.1-100%				
18	<b>Pattern 1 dimmer</b>	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade

19	<b>Pattern 2 selection</b> <i>See also 'Guide to patterns' on page 50</i>	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
Random 5 pixels / inverted	164-165	64.3-64.7%				
Random 6 pixels / inverted	166-167	65.1-65.5%				
Random 7 pixels / inverted	168-169	65.9-66.3%				
Random 8 pixels / inverted	170-171	66.7-67.1%				
Random 9 pixels / inverted	172-173	67.5-67.8%				
No function	174-255	68.2-100%				
<b>20</b>	<b>Pattern 2 speed</b>	Pattern 1 speed slow-fast	0-255	0-100%	0	Fade
<b>21</b>	<b>Pattern 2 fade</b>	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade
<b>22</b>	<b>Pattern 2 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>23</b>	<b>Pattern 2 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>24</b>	<b>Pattern 2 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>25</b>	<b>Pattern 2 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade
26	<b>Pattern 2 shutter</b>	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
<b>27</b>	<b>Pattern 2 dimmer</b>	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade

## DMX Mode 9: Rocket

### 101 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Pixel 1 red	Intensity 0-100%	0-255	0-100%	0	Fade
2	Pixel 1 green	Intensity 0-100%	0-255	0-100%	0	Fade
3	Pixel 1 blue	Intensity 0-100%	0-255	0-100%	0	Fade
4	Pixel 1 white	Intensity 0-100%	0-255	0-100%	0	Fade
5	Pixel 2 red	Intensity 0-100%	0-255	0-100%	0	Fade
6	Pixel 2 green	Intensity 0-100%	0-255	0-100%	0	Fade
7	Pixel 2 blue	Intensity 0-100%	0-255	0-100%	0	Fade
8	Pixel 2 white	Intensity 0-100%	0-255	0-100%	0	Fade
9	Pixel 3 red	Intensity 0-100%	0-255	0-100%	0	Fade
10	Pixel 3 green	Intensity 0-100%	0-255	0-100%	0	Fade
11	Pixel 3 blue	Intensity 0-100%	0-255	0-100%	0	Fade
12	Pixel 3 white	Intensity 0-100%	0-255	0-100%	0	Fade
13	Pixel 4 red	Intensity 0-100%	0-255	0-100%	0	Fade
14	Pixel 4 green	Intensity 0-100%	0-255	0-100%	0	Fade
15	Pixel 4 blue	Intensity 0-100%	0-255	0-100%	0	Fade
16	Pixel 4 white	Intensity 0-100%	0-255	0-100%	0	Fade
17	Pixel 5 red	Intensity 0-100%	0-255	0-100%	0	Fade
18	Pixel 5 green	Intensity 0-100%	0-255	0-100%	0	Fade
19	Pixel 5 blue	Intensity 0-100%	0-255	0-100%	0	Fade
20	Pixel 5 white	Intensity 0-100%	0-255	0-100%	0	Fade
21	Pixel 6 red	Intensity 0-100%	0-255	0-100%	0	Fade
22	Pixel 6 green	Intensity 0-100%	0-255	0-100%	0	Fade
23	Pixel 6 blue	Intensity 0-100%	0-255	0-100%	0	Fade
24	Pixel 6 white	Intensity 0-100%	0-255	0-100%	0	Fade
25	Pixel 7 red	Intensity 0-100%	0-255	0-100%	0	Fade
26	Pixel 7 green	Intensity 0-100%	0-255	0-100%	0	Fade
27	Pixel 7 blue	Intensity 0-100%	0-255	0-100%	0	Fade
28	Pixel 7 white	Intensity 0-100%	0-255	0-100%	0	Fade
29	Pixel 8 red	Intensity 0-100%	0-255	0-100%	0	Fade
30	Pixel 8 green	Intensity 0-100%	0-255	0-100%	0	Fade
31	Pixel 8 blue	Intensity 0-100%	0-255	0-100%	0	Fade
32	Pixel 8 white	Intensity 0-100%	0-255	0-100%	0	Fade
33	Pixel 9 red	Intensity 0-100%	0-255	0-100%	0	Fade
34	Pixel 9 green	Intensity 0-100%	0-255	0-100%	0	Fade
35	Pixel 9 blue	Intensity 0-100%	0-255	0-100%	0	Fade
36	Pixel 9 white	Intensity 0-100%	0-255	0-100%	0	Fade
37	Pixel 10 red	Intensity 0-100%	0-255	0-100%	0	Fade
38	Pixel 10 green	Intensity 0-100%	0-255	0-100%	0	Fade
39	Pixel 10 blue	Intensity 0-100%	0-255	0-100%	0	Fade
40	Pixel 10 white	Intensity 0-100%	0-255	0-100%	0	Fade
41	Pixel 11 red	Intensity 0-100%	0-255	0-100%	0	Fade
42	Pixel 11 green	Intensity 0-100%	0-255	0-100%	0	Fade
43	Pixel 11 blue	Intensity 0-100%	0-255	0-100%	0	Fade
44	Pixel 11 white	Intensity 0-100%	0-255	0-100%	0	Fade
45	Pixel 12 red	Intensity 0-100%	0-255	0-100%	0	Fade
46	Pixel 12 green	Intensity 0-100%	0-255	0-100%	0	Fade
47	Pixel 12 blue	Intensity 0-100%	0-255	0-100%	0	Fade
48	Pixel 12 white	Intensity 0-100%	0-255	0-100%	0	Fade
49	Pixel 13 red	Intensity 0-100%	0-255	0-100%	0	Fade
50	Pixel 13 green	Intensity 0-100%	0-255	0-100%	0	Fade
51	Pixel 13 blue	Intensity 0-100%	0-255	0-100%	0	Fade

52	Pixel 13 white	Intensity 0-100%	0-255	0-100%	0	Fade
53	Pixel 14 red	Intensity 0-100%	0-255	0-100%	0	Fade
54	Pixel 14 green	Intensity 0-100%	0-255	0-100%	0	Fade
55	Pixel 14 blue	Intensity 0-100%	0-255	0-100%	0	Fade
56	Pixel 14 white	Intensity 0-100%	0-255	0-100%	0	Fade
57	Pixel 15 red	Intensity 0-100%	0-255	0-100%	0	Fade
58	Pixel 15 green	Intensity 0-100%	0-255	0-100%	0	Fade
59	Pixel 15 blue	Intensity 0-100%	0-255	0-100%	0	Fade
60	Pixel 15 white	Intensity 0-100%	0-255	0-100%	0	Fade
61	Pixel 16 red	Intensity 0-100%	0-255	0-100%	0	Fade
62	Pixel 16 green	Intensity 0-100%	0-255	0-100%	0	Fade
63	Pixel 16 blue	Intensity 0-100%	0-255	0-100%	0	Fade
64	Pixel 16 white	Intensity 0-100%	0-255	0-100%	0	Fade
65	Pixel 17 red	Intensity 0-100%	0-255	0-100%	0	Fade
66	Pixel 17 green	Intensity 0-100%	0-255	0-100%	0	Fade
67	Pixel 17 blue	Intensity 0-100%	0-255	0-100%	0	Fade
68	Pixel 17 white	Intensity 0-100%	0-255	0-100%	0	Fade
69	Pixel 18 red	Intensity 0-100%	0-255	0-100%	0	Fade
70	Pixel 18 green	Intensity 0-100%	0-255	0-100%	0	Fade
71	Pixel 18 blue	Intensity 0-100%	0-255	0-100%	0	Fade
72	Pixel 18 white	Intensity 0-100%	0-255	0-100%	0	Fade
73	Pixel 19 red	Intensity 0-100%	0-255	0-100%	0	Fade
74	Pixel 19 green	Intensity 0-100%	0-255	0-100%	0	Fade
75	Pixel 19 blue	Intensity 0-100%	0-255	0-100%	0	Fade
76	Pixel 19 white	Intensity 0-100%	0-255	0-100%	0	Fade
77	Pixel 20 red	Intensity 0-100%	0-255	0-100%	0	Fade
78	Pixel 20 green	Intensity 0-100%	0-255	0-100%	0	Fade
79	Pixel 20 blue	Intensity 0-100%	0-255	0-100%	0	Fade
80	Pixel 20 white	Intensity 0-100%	0-255	0-100%	0	Fade
81	Shutter (master)	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
Shutter open	240-255	94.1-100%				
82	Dimmer (master)	Master intensity 0-100%	0-255	0-100%	0	Fade
<b>Control / Settings</b>						
83	Control / Settings	No function	0-55	0-21.6%	0	Snap
		Dimmer speed smooth*	56-60	22.0-23.5%		
		Dimmer speed fast*	61-65	23.9-25.5%		
		No function	66-70	25.9-27.5%		
		Dimming curve Linear*	71-75	27.8-29.4%		
		Dimming curve Theatrical*	76-80	29.8-31.4%		
		Dimming curve Square Law*	81-85	31.8-33.3%		
		Dimming curve Inverse Square Law*	86-90	33.7-35.3%		
		No Function	91-95	35.7-37.3%		
		No DMX = Hold scene*	96-100	37.6-39.2%		
		No DMX = Blackout*	101-105	39.6-41.2%		
		No DMX = Play stand-alone scene*	106-110	41.6-43.1%		
		No Function	111-115	43.5-45.1%		
		Display backlight On*	116-120	45.5-47.1%		
		Display backlight Off*	121-125	47.5-49.0%		
No Function	126-140	49.4-54.9%				

		DMX Mode: Standard*	141-145	55.3-56.9%		
		DMX Mode: Advanced*	146-150	57.3-58.8%		
		DMX Mode: Pattern*	151-155	59.2-60.8%		
		DMX Mode: Pixel*	156-160	61.2-62.7%		
		DMX Mode: Compressed*	161-165	63.1-64.7%		
		DMX Mode: Pixel Dim*	166-170	65.1-66.7%		
		No function	171-180	67.1-70.6%		
		Fixture reset	181-185	71.0-72.5%		
		Factory default settings (except DMX address)*	186-190	72.9-74.5%		
		No function	191-230	74.9-90.2%		
		Boot Mode Auto*	231-235	90.6-92.2%		
		Boot Mode DMX*	236-240	92.5-94.1%		
		Boot Mode Play Stand-alone*	241-245	94.5-96.1%		
		Boot Mode Static*	246-250	96.5-98.0%		
		No function	251-252	98.4-100%		
<b>Patterns</b>						
		No Pattern – all pixels lit	0-5	0-2.0%		
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
		Random 5 pixels / inverted	164-165	64.3-64.7%		
		Random 6 pixels / inverted	166-167	65.1-65.5%		
		Random 7 pixels / inverted	168-169	65.9-66.3%		
		Random 8 pixels / inverted	170-171	66.7-67.1%		
		Random 9 pixels / inverted	172-173	67.5-67.8%		
		No function	174-255	68.2-100%		
<b>84</b>	<b>Pattern 1 selection</b> See also 'Guide to patterns' on page 50				0	Snap
<b>85</b>	<b>Pattern 1 speed</b>	Pattern 1 speed slow-fast	0-255	0-100%	0	Fade
<b>86</b>	<b>Pattern 1 fade</b>	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade
<b>87</b>	<b>Pattern 1 red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>88</b>	<b>Pattern 1 green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>89</b>	<b>Pattern 1 blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>90</b>	<b>Pattern 1 white</b>	Intensity 0-100%	0-255	0-100%	0	Fade

91	Pattern 1 shutter	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
92	Pattern 1 dimmer	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade
93	Pattern 2 selection See also 'Guide to patterns' on page 50	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Single pixel chase	80-83	31.4-32.5%		
		Single pixel chase and return	84-87	32.9-34.1%		
		2-pixel block chase	88-91	34.5-35.7%		
		2-pixel block bounce	92-95	36.1-37.3%		
		4-pixel block chase	96-99	37.6-38.8%		
		4-pixel block bounce	100-103	39.2-40.4%		
		5-pixel block chase	104-107	40.8-42.0%		
		5-pixel block bounce	108-111	42.4-43.5%		
		5 pixels chase	112-115	43.9-45.1%		
		5 pixels bounce	116-119	45.5-46.7%		
		4 pixels chase	120-123	47.1-48.2%		
		4 pixels bounce	124-127	48.6-49.8%		
		2 pixels to center chase	128-131	50.2-51.4%		
		2 pixels to center bounce	132-135	51.8-52.9%		
		3-pixel block chase	136-139	53.3-54.5%		
		3-pixel block bounce	140-143	54.9-56.1%		
		Fill from left	144-147	56.5-57.6%		
		20-pixel block chase	148-151	58.0-59.2%		
		Alternating single pixels chase	152-153	59.6-60.0%		
		Alternating 4-pixel block chase	154-155	60.4-60.8%		
		Random single pixel / inverted	156-157	61.2-61.6%		
		Random 2 pixels / inverted	158-159	62.0-62.4%		
		Random 3 pixels / inverted	160-161	62.7-63.1%		
		Random 4 pixels / inverted	162-163	63.5-63.9%		
		Random 5 pixels / inverted	164-165	64.3-64.7%		
		Random 6 pixels / inverted	166-167	65.1-65.5%		
Random 7 pixels / inverted	168-169	65.9-66.3%				
Random 8 pixels / inverted	170-171	66.7-67.1%				
Random 9 pixels / inverted	172-173	67.5-67.8%				
No function	174-255	68.2-100%				
94	Pattern 2 speed	Pattern 1 speed slow-fast	0-255	0-100%	0	Fade
95	Pattern 2 fade	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade
96	Pattern 2 red	Intensity 0-100%	0-255	0-100%	0	Fade
97	Pattern 2 green	Intensity 0-100%	0-255	0-100%	0	Fade
99	Pattern 2 blue	Intensity 0-100%	0-255	0-100%	0	Fade
99	Pattern 2 white	Intensity 0-100%	0-255	0-100%	0	Fade
100	Pattern 2 shutter	Shutter closed	0-15	0-5.9%	0	Snap
		Random strobe	16-47	6.3-18.4%		
		Ramp up slow-fast	48-79	18.8-31.0%		
		Ramp down slow-fast	80-111	31.4-43.5%		
		Ramp up-down slow-fast	112-143	43.9-56.1%		
		Strobe pause 5s – 1s (slow – fast)	144-199	56.5-78.0%		
		Strobe 1Hz – 20 Hz (slow – fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
101	Pattern 2 dimmer	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade





## 9. Guide to patterns

The following tables show the patterns that are available in the DMX modes that have them.

### Static patterns

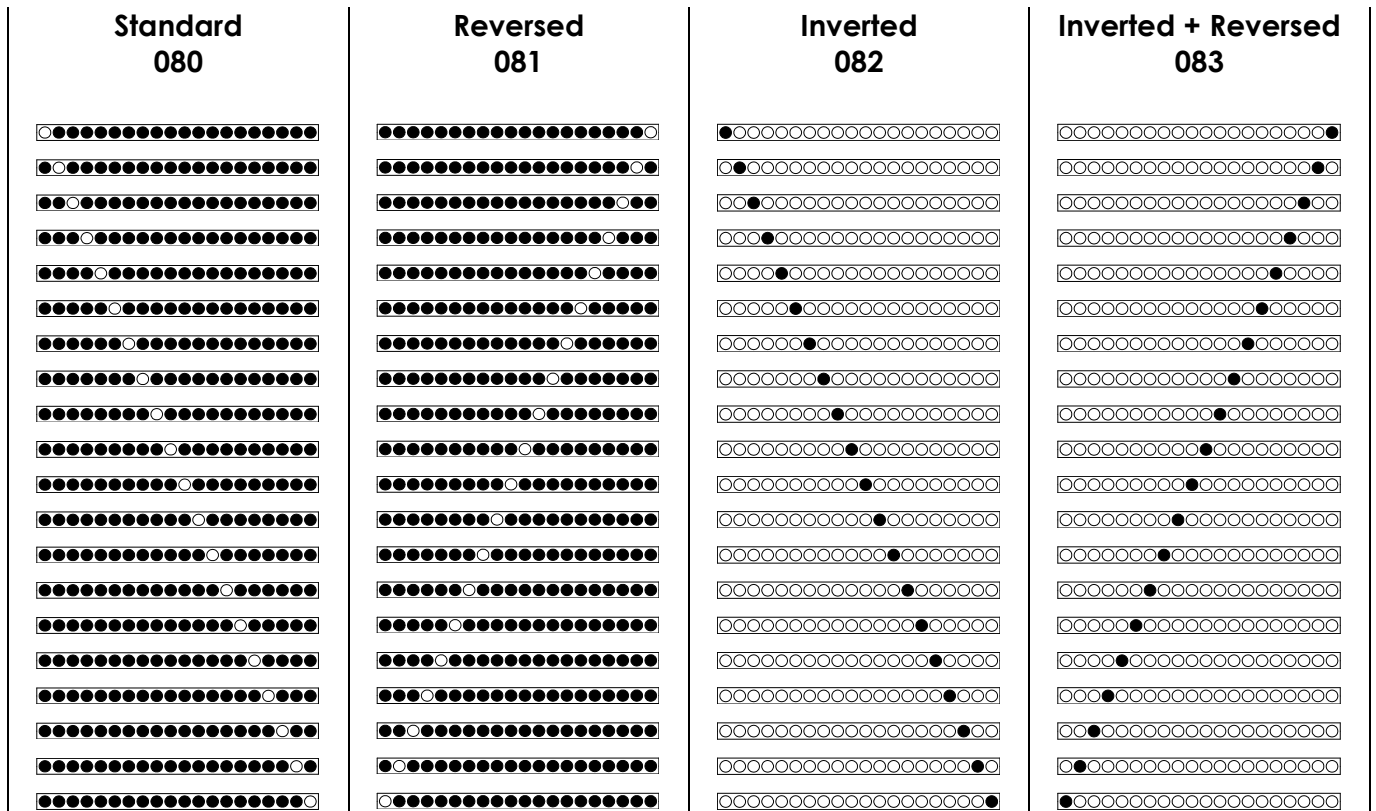
Value	Pattern	Value	Pattern
000 – 005		027	
006		028	
007		029	
008		030	
009		031	
010		032	
011		033	
012		034	
013		035	
014		036	
015		037	
016		038	
017		039	
018		040	
019		041	
020		042	
021		043	
022		044	
023		045	
024			
025			
026			

### ***Animated patterns***

<b>Value</b>	<b>Pattern</b>
046	
047	
048	
049	
050	
051	
052	
053	
054	
055	
056	
057	
058	
059	
060	
061	
062	
063	
064	
065	
066	

<b>Value</b>	<b>Pattern</b>
067	
068	
069	
070	
071	
072	
073	
074	
075	
076	
077	
078	
079	

All animated patterns are available in four configurations, Standard, Reversed, Inverted and Inverted + Reversed:



The values indicated provide these 4 alignments.

Value	Pattern	Value	Pattern	Value	Pattern
080 /		092 /		120 /	
081 /		093 /		121 /	
082 /		094 /		122 /	
083		095		123	
084 /		096 /		124 /	
085 /		097 /		125 /	
086 /		098 /		126 /	
087		099		127	
088 /		100 /		128 /	
089 /		101 /		129 /	
090 /		102 /		130 /	
091		103		131	
		104 /		132 /	
		105 /		133 /	
		106 /		134 /	
		107		135	
		108 /			
		109 /			
		110 /			
		111			
		112 /		136 /	
		113 /		137 /	
		114 /		138 /	
		115		139	
		116 /			
		117 /			
		118 /			
		119			

Value	Pattern
140 /	
141 /	
142 /	
143	
144 /	
145 /	
146 /	
147	

Value	Pattern
148 /	
149 /	
150 /	
151	
152 /	
153	
154 /	
155	

**Random Animations**  
(Second value inverts animation)

Value	Pattern
156 /	Random 1 Pixel
157	
158 /	Random 2 Pixels
159	
160 /	Random 3 Pixels
161	
162 /	Random 4 Pixels
163	
164 /	Random 5 Pixels
165	
166 /	Random 6 Pixels
167	
168 /	Random 7 Pixels
169	
170 /	Random 8 Pixels
171	
172 /	Random 9 Pixels
173	

