

DMX Channel Index

FUSION
by GLP

FS 16Z



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Document revisions

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GLP® Fusion FS16Z DMX Channel Index

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1. DMX control modes overview

The following DMX control modes are available in the FS16Z.

DMX Mode 1: Standard (14 channels)

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 provides 16-bit control of overall intensity.

Zoom control is available, and the fixture offers color temperature control on a separate CTO channel. A wide range of pre-programmed static and animated patterns are available. The animated patterns have variable movement speed 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 coarse
8	Master dimmer fine
9	Zoom
10	CTO
11	Pattern select
12	Pattern speed
13	Pattern fade
14	Control/Settings

DMX Mode 2: Advanced (33 channels)

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 provides 16-bit control of overall intensity.

Zoom control is available, and the fixture offers color temperature control on a separate CTO channel. Mode 2 offers two layers of effects, each with a wide range of pre-programmed static and animated patterns, RGBW color mixing, shutter effects and variable intensity. The animated patterns in both layers also have variable movement speed 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 coarse
12	Master dimmer fine
13	Zoom
14	CTO
15	Pattern 1 select
16	Pattern 1 speed
17	Pattern 1 fade
18	Pattern 1 Red
19	Pattern 1 Green
20	Pattern 1 Blue
21	Pattern 1 White
22	Pattern 1 shutter
23	Pattern 1 dimmer
24	Pattern 2 select
25	Pattern 2 speed
26	Pattern 2 fade
27	Pattern 2 Red
28	Pattern 2 Green
29	Pattern 2 Blue
30	Pattern 2 White
31	Pattern 2 shutter
32	Pattern 2 dimmer
33	Control/Settings

DMX Mode 3: Pixel 8-bit (79 channels)

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 16-bit Master dimmer channel controls overall intensity.

Zoom control is available, and the fixture offers color temperature control on a separate CTO channel.

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

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

Mode 3 Pixel 8-bit

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 coarse
12	Master dimmer fine
13	Zoom
14	CTO
15	Pixel 1 Red
16	Pixel 1 Green
17	Pixel 1 Blue
18	Pixel 1 White
19	Pixel 2 Red
20	Pixel 2 Green
21	Pixel 2 Blue
22	Pixel 2 White
23	...
...	Pixels RGBW in sequence
74	...
75	Pixel 16 Red
76	Pixel 16 Green
77	Pixel 16 Blue
78	Pixel 16 White
79	Control / Settings

DMX Mode 4: Compressed RGBW

(6 channels) provides the main control options: RGBW color mixing, zoom control and a Control / Settings channel that lets you configure the fixture via DMX.

Mode 4 Compressed RGBW

1	Red
2	Green
3	Blue
4	White
5	Zoom
6	Control / Settings

DMX Mode 5: Compressed Pixel 8-bit (69 channels) provides individual pixel-level RGBW color mixing, with overall intensity and shutter control.

Mode 5 Compressed Pixel 8-bit	
1	Shutter
2	Master dimmer coarse
3	Master dimmer fine
4	Zoom
5	Control / Settings
6	Pixel 1 Red
7	Pixel 1 Green
8	Pixel 1 Blue
9	Pixel 1 White
10	Pixel 2 Red
11	Pixel 2 Green
12	Pixel 2 Blue
13	Pixel 2 White
14	...
...	Pixels RGBW in sequence
65	...
66	Pixel 16 Red
67	Pixel 16 Green
68	Pixel 16 Blue
69	Pixel 16 White

DMX Mode 6: Pixel 16-bit (143 channels) 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 16-bit Master dimmer channel controls overall intensity.

Zoom control is available, and the fixture offers color temperature control on a separate CTO channel.

This mode also offers individual pixel-level RGBW color mixing with 16-bit control.

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

Mode 6 Pixel 16-bit	
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 coarse
12	Master dimmer fine
13	Zoom
14	CTO
15	Pixel 1 Red coarse
16	Pixel 1 Red fine
17	Pixel 1 Green coarse
18	Pixel 1 Green fine
19	Pixel 1 Blue coarse
20	Pixel 1 Blue fine
21	Pixel 1 White coarse
22	Pixel 1 White fine
23	Pixel 2 Red coarse
24	Pixel 2 Red fine
25	Pixel 2 Green coarse
26	Pixel 2 Green fine
27	Pixel 2 Blue coarse
28	Pixel 2 Blue fine
29	Pixel 2 White coarse
30	Pixel 2 White fine
31	...
...	Pixels RGBW in sequence
134	...
135	Pixel 16 Red coarse
136	Pixel 16 Red fine
137	Pixel 16 Green coarse
138	Pixel 16 Green fine
139	Pixel 16 Blue coarse
140	Pixel 16 Blue fine
141	Pixel 16 White coarse
142	Pixel 16 White fine
143	Control / Settings

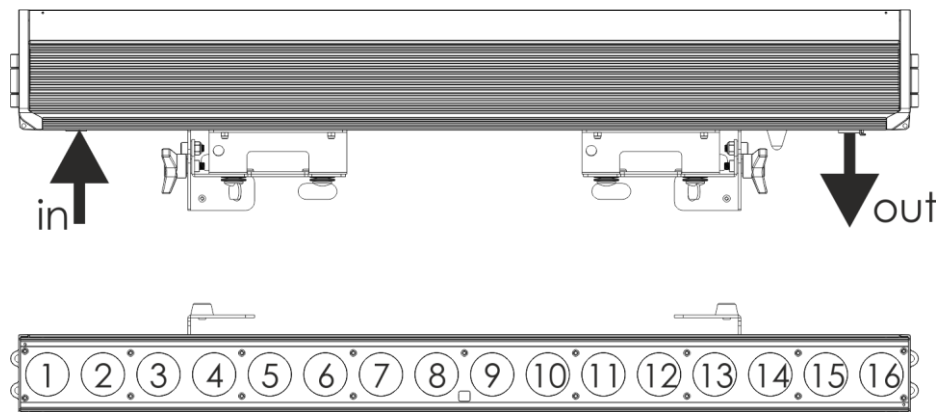
DMX Mode 7: Compressed Pixel 16-bit (133 channels) provides individual pixel-level RGBW color mixing with 16-bit control, plus overall intensity and shutter control.

Mode 7 Compressed Pixel 16-bit	
1	Shutter
2	Master dimmer coarse
3	Master dimmer fine
4	Zoom
5	Control / Settings
6	Pixel 1 Red coarse
7	Pixel 1 Red fine
8	Pixel 1 Green coarse
9	Pixel 1 Green fine
10	Pixel 1 Blue coarse
11	Pixel 1 Blue fine
12	Pixel 1 White coarse
13	Pixel 1 White fine
14	Pixel 2 Red coarse
15	Pixel 2 Red fine
16	Pixel 2 Green coarse
17	Pixel 2 Green fine
18	Pixel 2 Blue coarse
19	Pixel 2 Blue fine
20	Pixel 2 White coarse
21	Pixel 2 White fine
22	...
...	Pixels RGBW in sequence
125	...
126	Pixel 16 Red coarse
127	Pixel 16 Red fine
128	Pixel 16 Green coarse
129	Pixel 16 Green fine
130	Pixel 16 Blue coarse
131	Pixel 16 Blue fine
132	Pixel 16 White coarse
133	Pixel 16 White fine

2. 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.
- Pixel order is shown below with Pixel 1 at the end nearest the DMX/Power input and Pixel 16 at the end nearest the DMX/Power output.



DMX Mode 1: Standard

14 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%				

2	Red	Intensity 0-100%	0-255	0-100%	0	Fade
3	Green	Intensity 0-100%	0-255	0-100%	0	Fade
4	Blue	Intensity 0-100%	0-255	0-100%	0	Fade
5	White	Intensity 0-100%	0-255	0-100%	0	Fade
6	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 1 Hz – 20 Hz (slow→fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
7	Dimmer	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
8	Dimmer fine		0-255	0-100%	0	Fade
9	Zoom	Narrow – Wide	0-255	0-100%	0	Fade
10	CTO	Color temperature cool→warm	0-255	0-100%	0	Fade
11	Pattern selection See 'Guide to patterns' on page 24	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Animated Patterns	80-179	31.4-70.2%		
		No function	180-255	70.6-100%		
12	Pattern speed	Pattern speed slow→fast	0-255	0-100%	0	Fade
13	Pattern fade	Pattern intensity 0-100%	0-255	0-100%	0	Fade
14	Control / Settings	See 'Control / Settings channel' on page 23.				

DMX Mode 2: Advanced**33 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%				

2	Red	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
3	Red fine		0-255	0-100%	0	Fade
4	Green	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
5	Green fine		0-255	0-100%	0	Fade
6	Blue	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
7	Blue fine		0-255	0-100%	0	Fade
8	White	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
9	White fine		0-255	0-100%	0	Fade
10	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 1 Hz – 20 Hz (slow→fast)	200-239	78.4-93.7%		
Shutter open	240-255	94.1-100%				
11	Dimmer	Master intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
12	Dimmer fine		0-255	0-100%	0	Fade
13	Zoom	Narrow – Wide	0-255	0-100%	0	Fade
14	CTO	Color temperature cool→warm	0-255	0-100%	0	Fade
15	Pattern 1 selection See 'Guide to patterns' on page 24	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Animated Patterns	80-179	31.4-70.2%		
		No function	180-255	70.6-100%		
16	Pattern 1 speed	Pattern 1 speed slow→fast	0-255	0-100%	0	Fade
17	Pattern 1 fade	Pattern 1 intensity 0-100%	0-255	0-100%	0	Fade
18	Pattern 1 Red	Intensity 0-100%	0-255	0-100%	0	Fade
19	Pattern 1 Green	Intensity 0-100%	0-255	0-100%	0	Fade
20	Pattern 1 Blue	Intensity 0-100%	0-255	0-100%	0	Fade
21	Pattern 1 White	Intensity 0-100%	0-255	0-100%	0	Fade
22	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 1 Hz – 20 Hz (slow→fast)	200-239	78.4-93.7%		
Shutter open	240-255	94.1-100%				
23	Pattern 1 Dimmer	Intensity 0-100%	0-255	0-100%	0	Fade
24	Pattern 2 selection See 'Guide to patterns' on page 24	No Pattern – all pixels lit	0-5	0-2.0%	0	Snap
		Static Patterns	6-79	2.4-3.1%		
		Animated Patterns	80-179	31.4-70.2%		
		No function	180-255	70.6-100%		
25	Pattern 2 speed	Pattern 2 speed slow→fast	0-255	0-100%	0	Fade
26	Pattern 2 fade	Pattern 2 intensity 0-100%	0-255	0-100%	0	Fade
27	Pattern 2 Red	Intensity 0-100%	0-255	0-100%	0	Fade
28	Pattern 2 Green	Intensity 0-100%	0-255	0-100%	0	Fade
29	Pattern 2 Blue	Intensity 0-100%	0-255	0-100%	0	Fade
30	Pattern 2 White	Intensity 0-100%	0-255	0-100%	0	Fade

31	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%		
32	Pattern 2 Dimmer	Intensity 0-100%	0-255	0-100%	0	Fade
33	Control / Settings	See 'Control / Settings channel' on page 23.				

DMX Mode 3: Pixel 8-bit
79 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%				

2	Red	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
3	Red fine		0-255	0-100%	0	Fade
4	Green	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
5	Green fine		0-255	0-100%	0	Fade
6	Blue	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
7	Blue fine		0-255	0-100%	0	Fade
8	White	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
9	White fine		0-255	0-100%	0	Fade
10	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 1 Hz – 20 Hz (slow→fast)	200-239	78.4-93.7%		
Shutter open	240-255	94.1-100%				
11	Dimmer coarse	Master intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
12	Dimmer fine		0-255	0-100%	0	Fade
13	Zoom	Narrow→wide	0-255	0-100%	0	Fade
14	CTO	Color temperature cool→warm	0-255	0-100%	0	Fade
15	Red Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
16	Green Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
17	Blue Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
18	White Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
19	Red Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
20	Green Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
21	Blue Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
22	White Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
23	Red Pixel 3	Intensity 0-100%	0-255	0-100%	0	Fade
...				
74	White Pixel 15	Intensity 0-100%				
75	Red Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade
76	Green Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade
77	Blue Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade
78	White Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade
79	Control / Settings	See 'Control / Settings channel' on page 23.				

DMX Mode 4: Compressed RGBW

6 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
1	Red	Intensity 0-100%	0-255	0-100%	0	Fade
2	Green	Intensity 0-100%	0-255	0-100%	0	Fade
3	Blue	Intensity 0-100%	0-255	0-100%	0	Fade
4	White	Intensity 0-100%	0-255	0-100%	0	Fade
5	Zoom	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 1 Hz – 20 Hz (slow→fast)	200-239	78.4-93.7%		
Shutter open	240-255	94.1-100%				
6	Control / Settings	See 'Control / Settings channel' on page 23.				

DMX Mode 5: Compressed Pixel 8-bit

69 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
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%			
2	Dimmer	Master intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
3	Dimmer fine		0-255	0-100%	0	Fade
4	Zoom	Narrow → wide	0-255	0-100%	0	Fade
5	Control / Settings	See 'Control / Settings channel' on page 23.				
6	Red Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
7	Green Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
8	Blue Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
9	White Pixel 1	Intensity 0-100%	0-255	0-100%	0	Fade
10	Red Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
11	Green Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
12	Blue Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
13	White Pixel 2	Intensity 0-100%	0-255	0-100%	0	Fade
14	Red Pixel 3	Intensity 0-100%	0-255	0-100%	0	Fade
...				
65	White Pixel 15	Intensity 0-100%				
66	Red Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade
67	Green Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade
68	Blue Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade
69	White Pixel 16	Intensity 0-100%	0-255	0-100%	0	Fade

DMX Mode 6: Pixel 16-bit
143 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade
1	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%		
2	Red	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
3	Red fine		0-255	0-100%	0	Fade
4	Green	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
5	Green fine		0-255	0-100%	0	Fade
6	Blue	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
7	Blue fine		0-255	0-100%	0	Fade
8	White	Intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
9	White fine		0-255	0-100%	0	Fade
10	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 1 Hz – 20 Hz (slow→fast)	200-239	78.4-93.7%		
		Shutter open	240-255	94.1-100%		
11	Dimmer coarse	Master intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
12	Dimmer fine		0-255	0-100%	0	Fade
13	Zoom	Narrow→wide	0-255	0-100%	0	Fade
14	CTO	Color temperature cool→warm	0-255	0-100%	0	Fade
15	Pixel 1 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
16	Pixel 1 Red Fine	Intensity 0-100%	0-255	0-100%	0	Fade
17	Pixel 1 Green coarse	Intensity 0-100%	0-255	0-100%	0	Fade
18	Pixel 1 Green fine	Intensity 0-100%	0-255	0-100%	0	Fade
19	Pixel 1 Blue coarse	Intensity 0-100%	0-255	0-100%	0	Fade
20	Pixel 1 Blue fine	Intensity 0-100%	0-255	0-100%	0	Fade
21	Pixel 1 White coarse	Intensity 0-100%	0-255	0-100%	0	Fade
22	Pixel 1 White fine	Intensity 0-100%	0-255	0-100%	0	Fade
23	Pixel 2 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
24	Pixel 2 Red Fine	Intensity 0-100%	0-255	0-100%	0	Fade
25	Pixel 2 Green coarse	Intensity 0-100%	0-255	0-100%	0	Fade
26	Pixel 2 Green fine	Intensity 0-100%	0-255	0-100%	0	Fade
27	Pixel 2 Blue coarse	Intensity 0-100%	0-255	0-100%	0	Fade
28	Pixel 2 Blue fine	Intensity 0-100%	0-255	0-100%	0	Fade
29	Pixel 2 White coarse	Intensity 0-100%	0-255	0-100%	0	Fade
30	Pixel 2 White fine	Intensity 0-100%	0-255	0-100%	0	Fade
31	Pixel 3 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
...				
134	Pixel 15 White fine	Intensity 0-100%				
135	Pixel 16 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
136	Pixel 16 Red Fine	Intensity 0-100%	0-255	0-100%	0	Fade
137	Pixel 16 Green coarse	Intensity 0-100%	0-255	0-100%	0	Fade
138	Pixel 16 Green fine	Intensity 0-100%	0-255	0-100%	0	Fade
139	Pixel 16 Blue coarse	Intensity 0-100%	0-255	0-100%	0	Fade
140	Pixel 16 Blue fine	Intensity 0-100%	0-255	0-100%	0	Fade
141	Pixel 16 White coarse	Intensity 0-100%	0-255	0-100%	0	Fade
142	Pixel 16 White fine	Intensity 0-100%	0-255	0-100%	0	Fade
143	Control / Settings	See 'Control / Settings channel' on page 23.				

DMX Mode 7: Compressed Pixel 16-bit

133 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
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%		
2	Dimmer	Master intensity 0-100% (16-bit)	0-255	0-100%	0	Fade
3	Dimmer fine		0-255	0-100%	0	Fade
4	Zoom	Narrow → wide	0-255	0-100%	0	Fade
5	Control / Settings	See 'Control / Settings channel' on page 23.				
6	Pixel 1 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
7	Pixel 1 Red Fine	Intensity 0-100%	0-255	0-100%	0	Fade
8	Pixel 1 Green coarse	Intensity 0-100%	0-255	0-100%	0	Fade
9	Pixel 1 Green fine	Intensity 0-100%	0-255	0-100%	0	Fade
10	Pixel 1 Blue coarse	Intensity 0-100%	0-255	0-100%	0	Fade
20	Pixel 1 Blue fine	Intensity 0-100%	0-255	0-100%	0	Fade
21	Pixel 1 White coarse	Intensity 0-100%	0-255	0-100%	0	Fade
22	Pixel 1 White fine	Intensity 0-100%	0-255	0-100%	0	Fade
23	Pixel 2 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
24	Pixel 2 Red Fine	Intensity 0-100%	0-255	0-100%	0	Fade
25	Pixel 2 Green coarse	Intensity 0-100%	0-255	0-100%	0	Fade
26	Pixel 2 Green fine	Intensity 0-100%	0-255	0-100%	0	Fade
27	Pixel 2 Blue coarse	Intensity 0-100%	0-255	0-100%	0	Fade
28	Pixel 2 Blue fine	Intensity 0-100%	0-255	0-100%	0	Fade
29	Pixel 2 White coarse	Intensity 0-100%	0-255	0-100%	0	Fade
30	Pixel 2 White fine	Intensity 0-100%	0-255	0-100%	0	Fade
31	Pixel 3 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
...				
125	Pixel 15 White fine	Intensity 0-100%				
126	Pixel 16 Red coarse	Intensity 0-100%	0-255	0-100%	0	Fade
127	Pixel 16 Red Fine	Intensity 0-100%	0-255	0-100%	0	Fade
128	Pixel 16 Green coarse	Intensity 0-100%	0-255	0-100%	0	Fade
129	Pixel 16 Green fine	Intensity 0-100%	0-255	0-100%	0	Fade
130	Pixel 16 Blue coarse	Intensity 0-100%	0-255	0-100%	0	Fade
131	Pixel 16 Blue fine	Intensity 0-100%	0-255	0-100%	0	Fade
132	Pixel 16 White coarse	Intensity 0-100%	0-255	0-100%	0	Fade
133	Pixel 16 White fine	Intensity 0-100%	0-255	0-100%	0	Fade

Control / Settings channel

Control / Settings					
Control / Settings	Idle	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 Program 1*	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	126-135	49.4-52.9%		
	DMX Mode: Standard*	136-140	53.3-54.9%		
	DMX Mode: Advanced*	141-145	55.3-56.9%		
	DMX Mode: Pixel*	146-150	57.3-58.8%		
	DMX Mode: Compressed RGBW*	151-155	59.2-60.8%		
	No function	156-175	61.2-68.6%		
	Zoom reset	176-180	69.0-70.6%		
	Fixture reset	181-185	71.0-72.5%		
	Factory default settings (except DMX address and DMX Mode)*	186-190	72.9-74.5%		
	No function	191-200	74.9-78.4%		
	PWM Rate: 600 Hz	201-205	78.8-80.4%		
	PWM Rate: 1200 Hz	206-210	80.8-82.4%		
	PWM Rate: 2000 Hz	211-215	82.7-84.3%		
	PWM Rate: 2400 Hz	216-220	84.7-86.3%		
	PWM Rate: 6000 Hz	221-225	86.7-88.2%		
	No function	226-230	88.6-90.2%		
	Boot mode: Auto	231-235	90.6-92.2%		
Boot mode: DMX	236-240	92.5-94.1%			
Boot mode: Program play	241-245	94.5-96.1%			
Boot mode: Static	246-250	96.5-98.0%			
No function	251-255	98.4-100%			

Default settings are shown in **bold type**.

3. Guide to patterns

The pixel patterns are shown below (when using suitable DMX mode). DMX input on the left.

Static patterns

Value	Pattern	Value	Pattern
000 – 005		036	
006		037	
007		038	
008		039	
009		040	
010		041	
011		042	
012		043	
013		044	
014		045	
015		046	
016		046	
017		048	
018		049	
019		050	
020		051	
021		052	
022		053	
023		054	
024		055	
025		056	
026		057	
027		058	
028		059	
029		060	
030		061	
031		062	
032		063	
033		064	
034		065	
035			

Static patterns(continued)

Value	Pattern
066	
067	
068	
069	
070	
071	
072	
073	
074	
075	
076	
077	
078-079	

Animated patterns

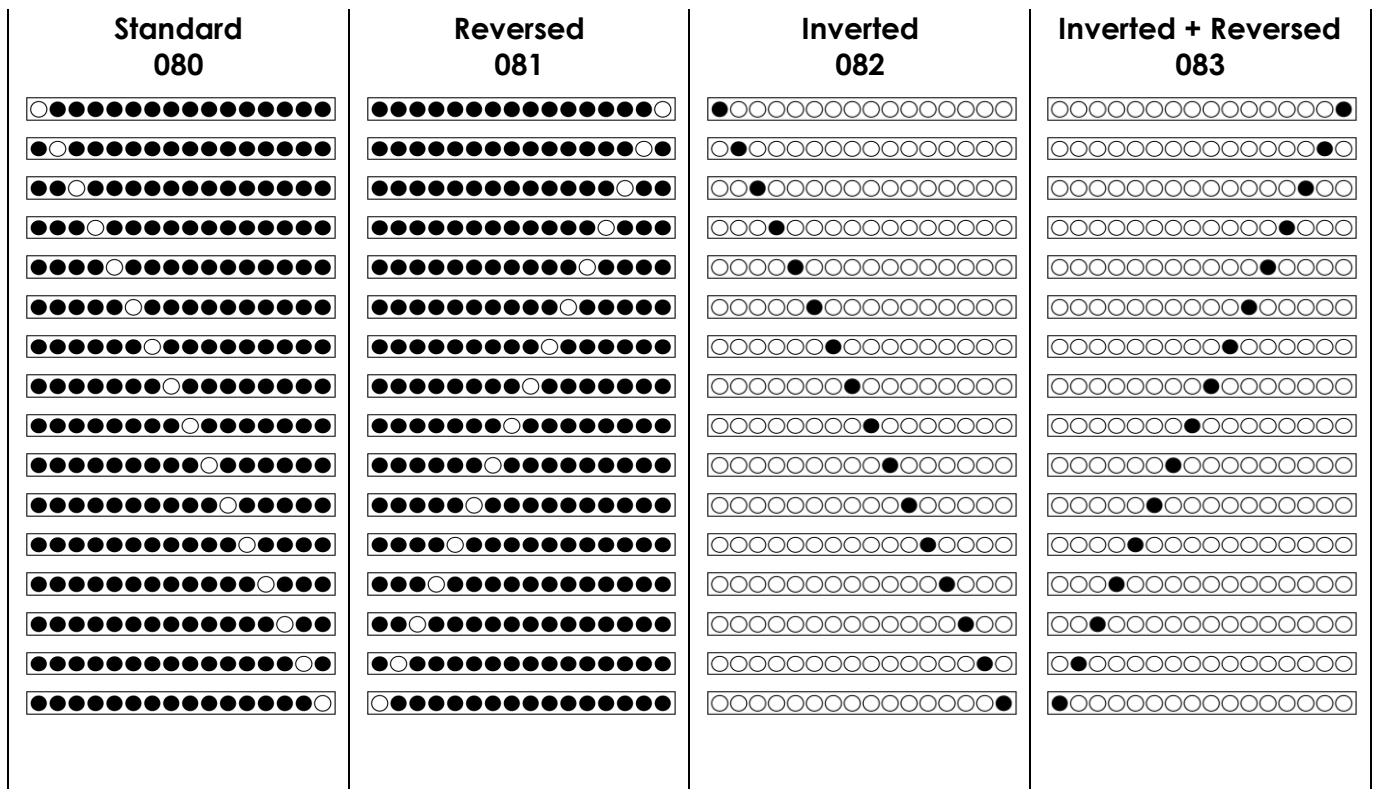
All animated patterns are available in four configurations using the 4 DMX values given for each pattern.

Value 1=Standard

Value 2=Reversed

Value 3=Inverted

Value 4=Inverted + Reversed



For Random Pixel patterns, the two values give Normal and Inverted versions of the pattern.

Value	Pattern	Value	Pattern	Value	Pattern
				148	
136		140		149	
137		141		150	
138		142		151	
139		143		152	
				153	
				154	
				155	
				156	
				158	
				158	
				159	
				160	Random 1 Pixel
				161	Random 1 Pixel
				162	Random 2 Pixel
				163	Random 2 Pixel
				164	Random 3 Pixel
				165	Random 3 Pixel
				166	Random 4 Pixel
				167	Random 4 Pixel
				168	Random 5 Pixel
				169	Random 5 Pixel
				170	Random 6 Pixel
				171	Random 6 Pixel
				172	Random 7 Pixel
				173	Random 7 Pixel
				174	Random 8 Pixel
				175	Random 8 Pixel
				176	Random 9 Pixel
				177	Random 9 Pixel
				178	Random 10 Pixel
				179	Random 10 Pixel
				180-255	Reserved

-GLP-