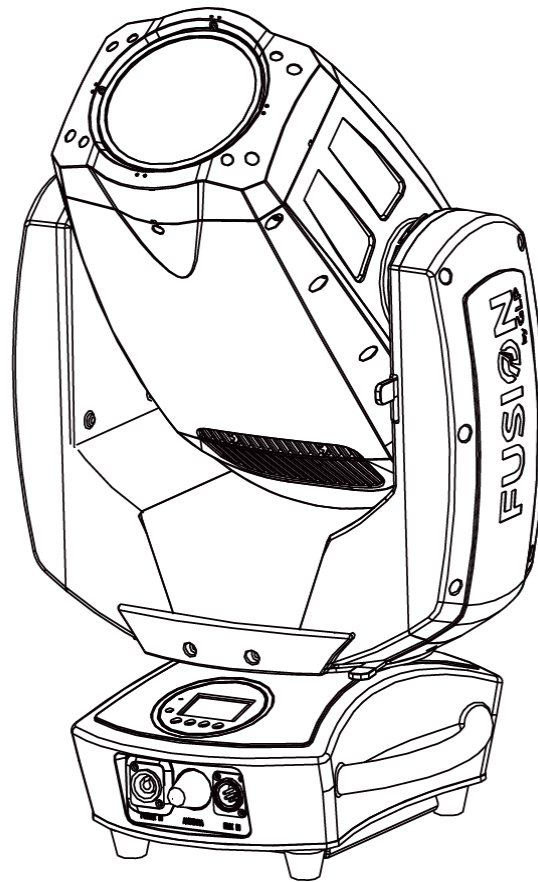


# FUSION

by GLP

## Fusion EXO Spot 30

**DMX Channel Index**



Software version V1.0.00



GLP® Fusion EXO Spot 30 DMX Channel Index – Revision D

This document covers fixture software version V1.0.00

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## 1. DMX control mode overview

The EXO Spot 30 has only one DMX control mode which uses the following DMX channels

### DMX Mode 1: Standard

The EXO Spot 30 uses 23 DMX channels.

It provides 16-bit control of pan and tilt, 16-bit dimming and a shutter with strobe and ramp up/down effects. Control of the three color wheels, two gobo wheels, gobo rotation, zoom and the prism is provided.

You also have control of focus and a control / settings channel that lets you configure the feature and adjust settings remotely via DMX.

### Mode 1 Compact

1	Pan
2	Pan fine
3	Tilt
4	Tilt fine
5	Color wheel 1 Cyan
6	Color wheel 2 Magenta
7	Color wheel 3 Yellow
8	Cyan
9	Magenta
10	Yellow
11	Gobo 1
12	Gobo 2
13	Gobo 2 index/rotate
14	Shutter
15	Dimmer coarse
16	Dimmer fine
17	Frost
18	Prism
19	Prism rotation
20	Focus coarse
21	Focus fine
22	Zoom
23	Control

## 2. DMX control channel layout tables

### DMX Mode 1: Standard

#### 24 DMX Channels

Channel		Command	DMX range		Percent		Default DMX	Fade
1	<b>Pan</b>	Pan left-right	0	65535	0	100	32767	Fade
2	<b>Pan fine</b>							
3	<b>Tilt</b>	Tilt up-down	0	65535	0	100	32767	Fade
4	<b>Tilt fine</b>							
5	<b>Color 1 (Cyan)</b>	Open (Position 1)	0	3	0.0	1.2	0	Snap
		Open/Dark Blue (Position 1 + 2)	4	7	1.6	2.7		
		Dark Blue (Position 2)	8	11	3.1	4.3		
		Dark Blue/Orange (Position 2 + 3)	12	15	4.7	5.9		
		Orange (Position 3)	16	19	6.3	7.5		
		Orange/Green (Position 3 + 4)	20	23	7.8	9.0		
		Green (Position 4)	24	27	9.4	10.6		
		Green/Cyan (Position 4 + 5)	28	31	11.0	12.2		
		Cyan (Position 5)	32	35	12.5	13.7		
		Indexing from Open over fixed Colors and Cyan to Open	36	169	14.1	66.3		
		Color Bounce from Open over fixed Colors to Cyan (full) and back, Fast-Slow	170	214	66.7	83.9		
		Color Bounce Stop	215	215	84.3	84.3		
		Invert Color Bounce from Cyan (Full) over fixed Colors to Open and back, Slow-Fast	216	255	84.7	100.0		
6	<b>Color 2 (Magenta)</b>	Open (Position 1)	0	3	0.0	1.2	0	Snap
		Open/Blue (Position 1 + 2)	4	7	1.6	2.7		
		Blue (Position 2)	8	11	3.1	4.3		
		Blue/Red (Position 2 + 3)	12	15	4.7	5.9		
		Red (Position 3)	16	19	6.3	7.5		
		Red/Light Green (Position 3 + 4)	20	23	7.8	9.0		
		Light Green (Position 4)	24	27	9.4	10.6		
		Light Green/Magenta (Position 4 + 5)	28	31	11.0	12.2		
		Magenta (Position 5)	32	35	12.5	13.7		
		Indexing from Open over fixed Colors and Magenta to Open	36	169	14.1	66.3		
		Color Bounce from Open over fixed Colors to Magenta (full) and back, Fast-Slow	170	214	66.7	83.9		
		Color Bounce Stop	215	215	84.3	84.3		
		Invert Color Bounce from Magenta (Full) over fixed Colors to Open and back, Slow-Fast	216	255	84.7	100.0		
7	<b>Color 3 (Yellow)</b>	Open (Position 1)	0	3	0.0	1.2	0	Snap
		Open/CTO (Position 1 + 2)	4	7	1.6	2.7		
		CTO (Position 2)	8	11	3.1	4.3		
		CTO/Amber (Position 2 + 3)	12	15	4.7	5.9		
		Amber (Position 3)	16	19	6.3	7.5		
		Amber/Dark Red (Position 3 + 4)	20	23	7.8	9.0		
		Dark Red (Position 4)	24	27	9.4	10.6		
		Dark Red/Yellow (Position 4 + 5)	28	31	11.0	12.2		
		Yellow (Position 5)	32	35	12.5	13.7		
		Indexing from Open over fixed Colors and Yellow to Open	36	169	14.1	66.3		
		Color Bounce from Open over fixed Colors to Yellow (full) and back, Fast-	170	214	66.7	83.9		

		Slow					
		Color Bounce Stop	215	215	84.3	84.3	
		Invert Color Bounce from Yellow (Full) over fixed Colors to Open and back, Slow-Fast	216	255	84.7	100.0	
<b>8</b>	<b>Cyan</b>	Cyan color mixing (see note 1)	0	255	0	100	0 Fade
<b>9</b>	<b>Magenta</b>	Magenta color mixing (see note 1)	0	255	0	100	0 Fade
<b>10</b>	<b>Yellow</b>	Yellow color mixing (see note 1)	0	255	0	100	0 Fade
<b>11</b>	<b>Gobo wheel 1</b>	Open	0	7	0.0	2.7	0 Snap
		Gobo 1	8	15	3.1	5.9	
		Gobo 2	16	23	6.3	9.0	
		Gobo 3	24	31	9.4	12.2	
		Gobo 4	32	39	12.5	15.3	
		Gobo 5	40	47	15.7	18.4	
		Gobo 6	48	55	18.8	21.6	
		Gobo 7	56	63	22.0	24.7	
		Gobo 8	64	71	25.1	27.8	
		Gobo 1 shaking	72	78	28.2	30.6	
		Gobo 2 shaking	79	85	31.0	33.3	
		Gobo 3 shaking	86	92	33.7	36.1	
		Gobo 4 shaking	93	99	36.5	38.8	
		Gobo 5 shaking	100	106	39.2	41.6	
		Gobo 6 shaking	107	113	42.0	44.3	
		Gobo 7 shaking	114	120	44.7	47.1	
		Gobo 8 shaking	121	127	47.5	49.8	
		Gobo wheel spin stop	128	128	50.2	50.2	
		Gobo wheel spin clockwise fast > slow	129	191	50.6	74.9	
		Gobo wheel spin stop	192	192	75.3	75.3	
		Gobo wheel spin counterclockwise slow > fast	193	255	75.7	100	
<b>12</b>	<b>Gobo wheel 2</b>	Open	0	4	0.0	1.6	0 Snap
		Gobo 1 indexed	5	9	2.0	3.5	
		Gobo 2 indexed	10	14	3.9	5.5	
		Gobo 3 indexed	15	19	5.9	7.5	
		Gobo 4 indexed	20	24	7.8	9.4	
		Gobo 5 indexed	25	29	9.8	11.4	
		Gobo 6 indexed	30	34	11.8	13.3	
		Gobo 1 rotate	35	39	13.7	15.3	
		Gobo 2 rotate	40	44	15.7	17.3	
		Gobo 3 rotate	45	49	17.6	19.2	
		Gobo 4 rotate	50	54	19.6	21.2	
		Gobo 5 rotate	55	59	21.6	23.1	
		Gobo 6 rotate	60	64	23.5	25.1	
		Gobo 1 shake and index	65	74	25.5	29.0	
		Gobo 2 shake and index	75	84	29.4	32.9	
		Gobo 3 shake and index	85	94	33.3	36.9	
		Gobo 4 shake and index	95	104	37.3	40.8	
		Gobo 5 shake and index	105	114	41.2	44.7	
		Gobo 6 shake and index	115	124	45.1	48.6	
		Gobo 1 shake and rotate	125	134	49.0	52.5	
		Gobo 2 shake and rotate	135	144	52.9	56.5	
		Gobo 3 shake and rotate	145	154	56.9	60.4	
		Gobo 4 shake and rotate	155	164	60.8	64.3	
		Gobo 5 shake and rotate	165	174	64.7	68.2	
		Gobo 6 shake and rotate	175	184	68.6	72.2	
		Gobo wheel spin stop	185	185	72.5	72.5	
		Gobo wheel spin clockwise fast > slow	186	219	72.9	85.9	
		Gobo wheel spin stop	220	220	86.3	86.3	
		Gobo wheel spin counterclockwise slow > fast	221	255	86.7	100	

13	Gobo 2 Index/Rotate	When Ch. 12 = "indexed"					0	Fade
		Gobo index 0-360°	0	255	0	100		
		When Ch. 12= "rotate"					0	Fade
		Gobo rotation stop	0	0	0	0		
		Gobo rotation clockwise fast > slow	1	127	0.4	49.8		
		Gobo rotation stop	128	128	50.2	50.2		
		Gobo rotation counterclockwise slow > fast	129	255	50.6	100		
14	Shutter	Shutter closed	0	4	0	1.6	0	Snap
		Single flash when change on dimmer channel	5	9	2.0	3.5		
		Sync ramp up slow-fast	10	39	3.9	15.3		
		Sync ramp down slow-fast	40	69	15.7	27.1		
		Sync ramp up-down slow-fast	70	99	27.5	38.8		
		Sync double flash (slow-fast)	100	129	39.2	50.6		
		Random strobe pixel (slow-fast)	130	159	51.0	62.4		
		Random strobe all (slow-fast)	160	199	62.7	78.0		
		Sync strobe (1 Hz-10 Hz)	200	250	78.4	98.0		
		Shutter open	251	255	98.4	100		
15	Dimmer	Intensity 0-100%	0	65535	0	100	0	Fade
16	Dimmer fine							
17	Frost	Frost 0 – 100%	0	255	0	100	0	Fade
18	Prism	No prism	0	3	0	1.2	0	Snap
		Prism inserted	4	255	1.6	100		
19	Prism rotation	Variable position from 0-360°	0	191	0	74.9	0	Fade
		Rotation stop	192	192	75.3	75.3		
		Rotation clockwise fast > slow	193	223	75.6	87.5		
		Rotation stop	224	224	87.8	87.8		
		Rotation counterclockwise slow > fast	225	255	88.2	100		
20	Focus	Focus 0 > 100%	0	65535	0	100	32767	Fade
21	Focus fine							
22	Zoom	Zoom 0 > 100%	0	255	0	100	128	Fade
23	Control / Settings	No function	0	9	0.0	3.5	0	Snap
		<b>Dimmer curve: Extra-soft (3s hold)</b>	10	15	3.9	5.9		
		Dimmer curve: Linear (3s hold)	16	21	6.3	8.2		
		<b>Display mode: Auto (3s hold)</b>	22	27	8.6	10.6		
		Display mode: On (3s hold)	28	33	11.0	12.9		
		Display mode: Off (3s hold)	34	39	13.3	15.3		
		<b>Display orientation: Normal (3s hold)</b>	40	45	15.7	17.6		
		Display orientation: Inverted (3s hold)	46	51	18.0	20.0		
		No DMX: Blackout (3s hold)	52	57	20.4	22.4		
		<b>No DMX: Hold (3s hold)</b>	58	63	22.7	24.7		
		No DMX: Stand-alone (3s hold)	64	69	25.1	27.1		
		<b>Fan mode: Regulated (3s hold)</b>	70	75	27.5	29.4		
		Fan mode: High (3s hold)	76	81	29.8	31.8		
		Fan mode: Medium (3s hold)	82	87	32.2	34.1		
		Fan mode: Low (3s hold)	88	93	34.5	36.5		
		Position feedback: Off (3s hold)	94	99	36.9	38.8		
		<b>Position feedback: On (3s hold)</b>	100	105	39.2	41.2		
		No function	106	117	41.6	45.9		
		<b>Tilt inversion: Off (3s hold)</b>	118	123	46.3	48.2		
		Tilt inversion: On (3s hold)	124	129	48.6	50.6		
		<b>Pan inversion: Off (3s hold)</b>	130	135	51.0	52.9		
		Pan inversion: On (3s hold)	136	141	53.3	55.3		
<b>Zoom inversion: Off (3s hold)</b>	142	147	55.7	57.6				
Zoom inversion: On (3s hold)	148	153	58.0	60.0				

	<b>Defog: Off</b>	154	159	60.4	62.4		
	Defog: On	160	165	62.7	64.7		
	Defog: Quick	166	171	65.1	67.1		
	Load Settings Preset1	172	177	67.5	69.4		
	Load Settings Preset2	178	183	69.8	71.8		
	Load Settings Preset3	184	189	72.2	74.1		
	PWM 600 Hz (5s hold)	190	195	74.5	76.5		
	PWM: 2200 Hz (5s hold)	196	201	76.9	78.8		
	<b>PWM: 3000 Hz (5s hold)</b>	202	207	79.2	81.2		
	PWM: 4800 Hz (5s hold)	208	213	81.6	83.5		
	PWM: 9600 Hz (5s hold)	214	219	83.9	85.9		
	PWM: 25 kHz (5s hold)	220	225	86.3	88.2		
	No function	226	231	88.6	90.6		
	Return to default settings	232	237	91.0	92.9		
	Reset Pan/Tilt (3s hold)	238	243	93.3	95.3		
	Reset Head (3s hold)	244	249	95.7	97.6		
	Reset All (3s hold)	250	255	98.0	100		

Note 1: When CMY channels 8-10 are above zero, they take precedence over the static color wheel CMY controls on channels 5-7





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