

DMX protocol

Robin SPIKle - DMX protocol				
Version: 1.2 (version of processor m: 2.2 and higher) Mode 1 -Standard 16-bit, Mode 2 -Reduced 8-bit				
Mode/channel		DMX Value	Function	Type of control
1	2			
1	1		Pan (8 bit)	
		0 - 255	Pan movement by 540°/360° (128=default)	proportional
2	2		Pan Fine (16 bit)	
		0 - 255	Fine control of pan movement (0=default)	proportional
3	3		Tilt (8 bit)	
		0 - 255	Tilt movement by 360° (128=default)	proportional
4	4		Tilt fine (16 bit)	
		0 - 255	Fine control of tilt movement (0=default)	proportional
5	5		Pan control*	
		0	Pan range 540°, shortcut Off (0=default)	step
		1	Pan range 360°, shortcut On	step
		2-127	No function (Pan range 540°, shortcut Off)	
		128-189	Continuous rotation fast -> slow , Forwards	proportional
		190-193	Stop rotation	step
		194-255	Continuous rotation slow -> fast , Backwards	proportional
6	6		Tilt control*	
		0	Tilt range 360°, Shortcut Off (0=default)	step
		1	Tilt range 360°, Shortcut On	step
		2-127	No function (Tilt range 360°, Shortcut Off)	
		128-189	Continuous rotation fast -> slow , Forwards	proportional
		190-193	Stop rotation	step
		194-255	Continuous rotation slow -> fast , Backwards	proportional
7	7		Pan/Tilt speed , Pan/Tilt time	
		0	Max. speed -tracking mode (0=default)	step
			Pan/Tilt speed	
		1 - 255	Speed from max. to min. (vector mode)	proportional
			Pan/Tilt time	
		1 - 255	Time from 0.1 s to 25.5 sec.	proportional
8	8		Power/Special functions	
		0 -19	Reserved (0=default)	
			<i>To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 sec. („Shutter,Strobe“ channel 25/20 must be at range: 0-31 DMX). Corresponding menu items are temporarily overridden.</i>	
		20-24	Display ON	step
		25-29	Display OFF	step
		30-34	RGBW colour mixing mode	step
		35-39	CMY colour mixing mode	step
		40-44	Pan/Tilt speed mode	step
		45 - 49	Pan/Tilt time mode	step
		50 -54	Blackout while pan/tilt moving	step
		55 -59	Disabled blackout while pan/tilt moving	step
		60 - 64	Dimmer curve - square law	step
		65 - 69	Dimmer curve - linear	step
		70 - 74	Fans mode: Auto	step
		75 - 79	Fans mode: High	step
		80-84	White point 8000K ON	step
		85-89	White point 8000K OFF	step

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1	2			
		90 -129	Reserved	
			<i>To activate following functions, stop in DMX value for at least 3 seconds.</i>	
		130 - 139	Fixture reset (except pan/tilt)	
		140 - 149	Pan/Tilt reset	step
		150 - 159	Zoom reset	step
		160 - 169	Flower effect/prism reset	step
			<i>Tungsten effect simulation for whites 2700K and 3200K</i>	
		170-171	Tungsten effect simulation (750W) On	step
		172-173	Tungsten effect simulation (1000W) On	step
		174-175	Tungsten effect simulation (1200W) On	step
		176-177	Tungsten effect simulation (2000W) On	step
		178-179	Tungsten effect simulation (2500W) On	step
		180-181	Tungsten effect simulation Off	step
		182 - 199	Reserved	
		200 - 209	Total fixture reset	step
		210 - 255	Reserved	
9	9		Virtual colour wheel	
		0	No function (0=default)	step
		1-2	LEE 4 (Medium Bastard Amber)	step
		3-4	LEE 25 (Sunset Red)	step
		5-6	LEE 19 (Fire)	step
		7-8	LEE 26 (Bright Red)	step
		9-10	LEE 58 (Lavender)	step
		11-12	LEE 68 (Sky Blue)	step
		13-14	LEE 36 (Medium Pink)	step
		15-16	LEE 89 (Moss Green)	step
		17-18	LEE 88 (Lime Green)	step
		19-20	LEE 90 (Dark Yellow Green)	step
		21-22	LEE 49 (Medium Purple)	step
		23-24	LEE 52 (Light Lavender)	step
		25-26	LEE 102 (Light Amber)	step
		27-28	LEE 103 (Straw)	step
		29-30	LEE 140 (Summer Blue)	step
		31-32	LEE 124 (Dark Green)	step
		33-34	LEE 106 (Primary Red)	step
		35-36	LEE 111 (Dark Pink)	step
		37-38	LEE 115 (Peacock Blue)	step
		39-40	LEE 126 (Mauve)	step
		41-42	LEE 117 (Steel Blue)	step
		43-44	LEE 118 (Light Blue)	step
		45-46	LEE 122 (Fern Green)	step
		47-48	LEE 182 (Light Red)	step
		49-50	LEE 121 (LEE Green)	step
		51-52	LEE 128 (Bright Pink)	step
		53-54	LEE 131 (Marine Blue)	step
		55-56	LEE 132 (Medium Blue)	step
		57-58	LEE 134 (Golden Amber)	step
		59-60	LEE 135 (Deep Golden Amber)	step
		61-62	LEE 136 (Pale Lavender)	step

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1	2			
		63-64	LEE 137 (Special Lavender)	step
		65-66	LEE 138 (Pale Green)	step
		67-68	LEE 798 (Chrysalis Pink)	step
		69-70	LEE 141 (Bright Blue)	step
		71-72	LEE 147 (Apricot)	step
		73-74	LEE 148 (Bright Rose)	step
		75-76	LEE 152 (Pale Gold)	step
		77-78	LEE 154 (Pale Rose)	step
		79-80	LEE 157 (Pink)	step
		81-82	LEE 143 (Pale Navy Blue)	step
		83-84	LEE 162 (Bastard Amber)	step
		85-86	LEE 164 (Flame Red)	step
		87-88	LEE 165 (Daylight Blue)	step
		89-90	LEE 169 (Lilac Tint)	step
		91-92	LEE 170 (Deep Lavender)	step
		93-94	LEE 172 (Lagoon Blue)	step
		95-96	LEE 194 (Surprise Pink)	step
		97-98	LEE 180 (Dark Lavender)	step
		99-100	LEE 181 (Congo Blue)	step
		101-102	LEE 197 (Alice Blue)	step
		103-104	LEE 201 (Full C.T. Blue)	step
		105-106	LEE 202 (Half C.T. Blue)	step
		107-108	LEE 203 (Quarter C.T. Blue)	step
		109-110	LEE 204 (Full C.T. Orange)	step
		111-112	LEE 219 (Fluorescent Green)	step
		113-114	LEE 206 (Quarter C.T. Orange)	step
		115-116	LEE 247 (LEE Minus Green)	step
		117-118	LEE 248 (Half Minus Green)	step
		119-120	LEE 281 (Three Quarter C.T. Blue)	step
		121-122	LEE 285 (Three Quarter C.T. Orange)	step
		123-124	LEE 352 (Glacier Blue)	step
		125-126	LEE 353 (Lighter Blue)	step
		127-128	LEE 507 (Madge)	step
		129-130	LEE 778 (Millennium Gold)	step
		131-132	LEE 793 (Vanity Fair)	step
		133-235	Reserved	
		236-245	Rainbow effect (with fade time) from slow-> fast	proportional
		246-255	Rainbow effect (without fade time) from slow-> fast	proportional
10	10		Red/Cyan (8 bit)*	
		0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
11	*		Red/Cyan (16bit)*	
		0 - 255	Colour saturation control - fine (255=default)	proportional
12	11		Green/Magenta (8 bit) *	
		0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
13	*		Green/Magenta (16bit) *	
		0 - 255	Colour saturation control - fine (255=default)	proportional
14	12		Blue/Yellow (8 bit) *	
		0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
15	*		Blue/ Yellow (16bit) *	
		0 - 255	Colour saturation control - fine (255=default)	proportional

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Mode/channel		DMX Value	Function	Type of control
1	2			
16	13		White (8 bit)	
			<i>If RGBW mode is selected:</i>	
		0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
			<i>If CMY mode is selected:</i>	
		0 - 255	No function	
17	*		White (16 bit)	
		0 - 255	Colour saturation control - fine (255=default)	proportional
18	14		CTC	
			<i>If function "White Point 8000K" is ON</i>	
		0-255	Col. temperature correction from 8000K to 2700K -for whites only (0=8000K, 64=5600K, 128=4200K, 192=3200K, 255=2700K)	proportional
			To get colour temperatures stated above, RGBW channels have to be set at the same value e.g. 255DMX (0=default)	
			(To activate Tungsten effect at 2700K and 3200K , set DMX value at "Power/Special functions" channel)	
			<i>If function "White Point 8000K" is OFF</i>	
		0-255	Colour temperature correction for from cool white to 2700K	proportional
19	15		Colour Mix control	
			<i>Defines relation between colour channels</i>	
			"Virtual" = Virtual Colours (Virtual Colour Wheel)	
			"Colour mix" = Colour channels (RGBW/CMY)	
		0-9	Virtual colors ("Virtual" has priority)	step
		10-19	Maximum mode (highest values have priority)	step
		20-29	Minimum mode (lowest values have priority)	step
		30-39	Multiply mode (multiply Virtual and Colour Mix)	step
		40-49	Addition mode (Virtual + Colour mix) /45=default/	step
		50-59	Subtraction mode (Virtual – Colour mix)	step
		60-69	Inverted Subtraction mode (Virtual – Colour mix)	step
		70-128	Reserved	
		129	Virtual colors (virtual has priority)	step
		130-254	Crossfade (crossfade between Virtual and Colour mix)	proportional
		255	Colour channels ("Colour mix" has priority)	step
20	16		Rotating Prism	
		0	Open position-without prism (0=default)	step
		1 - 127	Prism inserted, forwards rotation from fast to slow	proportional
		128	No rotation-prism inserted	step
		129-255	Prism inserted, backwards rotation from slow to fast	proportional
21	17		Flower Effect	
		0	Open position-without Flower Effect (0=default)	step
		1 - 127	Flower effect on, forwards rotation from fast to slow	proportional
		128	Flower effect on, no rotation	step
		129-255	Flower effect on, backwards rotation from slow to fast	proportional
22	18		Flower Effect & Rotating prism macros	
		0	Open position - without macros (0=default)	step
			<i>In range of 1-20 DMX, channels Rotating prism and Flower Effect are blocked</i>	
		1-2	Macro 1	step
		3-4	Macro 2	step
		5-6	Macro 3	step
		7-8	Macro 4	step
		9-10	Macro 5	step

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Mode/channel		DMX Value	Function	Type of control
1	2			
		11-12	Macro 6	step
		13-14	Macro 7	step
		15-16	Macro 8	step
		17-18	Macro 9	step
		19-20	Macro 10	step
		21-255	Reserved	
23	19		Zoom	
		0-255	Zoom from max. to min.beam angle (128=default)	proportional
24	*		Zoom - fine	
		0-255	Fine zooming (0=default)	proportional
25	20		Shutter/ strobe	
		0 - 31	Shutter closed	step
		32 - 63	Shutter open (32=default)	step
		64 - 95	Strobe-effect from slow to fast	proportional
		96 - 127	Shutter open	step
		128 - 143	Opening pulse in sequences from slow to fast	proportional
		144 - 159	Closing pulse in sequences from fast to slow	proportional
		160 - 191	Shutter open	step
		192 - 223	Random strobe-effect from slow to fast	proportional
		224 - 255	Shutter open	step
26	21		Dimmer intensity (8 bit)	
		0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
27	*		Dimmer intensity - fine (16 bit)	
		0 - 255	Fine dimming (0=default)	proportional
* Select RGB or CMY mixing mode on channel "Power/Special functions"				
** Max. Speed of continual Tilt rotation depends on max. speed of continual Pan rotation and vice versa.				
E.g. Max. Tilt speed is reduced with increasing Pan speed, and vice versa, Max. Pan speed is reduced with increasing Tilt speed				
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