

DMX protocol

Robin SPIKle - DMX protocol				
Version: 1.4 (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-Standard Mode (0=default)	step
			<i>P./T. speed-set Speed Mode in menu: Pan/Tilt Mode</i>	
		1 - 255	Speed from max. to min.	proportional
			<i>P./T. time - set Time Mode in menu: Pan/Tilt Mode</i>	
		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

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Mode/channel		DMX Value	Function	Type of control
1	2			
		85-89	White point 8000K OFF	step
		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	Filter 4 (Medium Bastard Amber)	step
		3-4	Filter 25 (Sunset Red)	step
		5-6	Filter 19 (Fire)	step
		7-8	Filter 26 (Bright Red)	step
		9-10	Filter 58 (Lavender)	step
		11-12	Filter 68 (Sky Blue)	step
		13-14	Filter 36 (Medium Pink)	step
		15-16	Filter 89 (Moss Green)	step
		17-18	Filter 88 (Lime Green)	step
		19-20	Filter 90 (Dark Yellow Green)	step
		21-22	Filter 49 (Medium Purple)	step
		23-24	Filter 52 (Light Lavender)	step
		25-26	Filter 102 (Light Amber)	step
		27-28	Filter 103 (Straw)	step
		29-30	Filter 140 (Summer Blue)	step
		31-32	Filter 124 (Dark Green)	step
		33-34	Filter 106 (Primary Red)	step
		35-36	Filter 111 (Dark Pink)	step
		37-38	Filter 115 (Peacock Blue)	step
		39-40	Filter 126 (Mauve)	step
		41-42	Filter 117 (Steel Blue)	step
		43-44	Filter 118 (Light Blue)	step
		45-46	Filter 122 (Fern Green)	step
		47-48	Filter 182 (Light Red)	step
		49-50	Filter 121 (Filter Green)	step
		51-52	Filter 128 (Bright Pink)	step
		53-54	Filter 131 (Marine Blue)	step
		55-56	Filter 132 (Medium Blue)	step
		57-58	Filter 134 (Golden Amber)	step
		59-60	Filter 135 (Deep Golden Amber)	step

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Mode/channel		DMX Value	Function	Type of control
1	2			
		61-62	Filter 136 (Pale Lavender)	step
		63-64	Filter 137 (Special Lavender)	step
		65-66	Filter 138 (Pale Green)	step
		67-68	Filter 798 (Chrysalis Pink)	step
		69-70	Filter 141 (Bright Blue)	step
		71-72	Filter 147 (Apricot)	step
		73-74	Filter 148 (Bright Rose)	step
		75-76	Filter 152 (Pale Gold)	step
		77-78	Filter 154 (Pale Rose)	step
		79-80	Filter 157 (Pink)	step
		81-82	Filter 143 (Pale Navy Blue)	step
		83-84	Filter 162 (Bastard Amber)	step
		85-86	Filter 164 (Flame Red)	step
		87-88	Filter 165 (Daylight Blue)	step
		89-90	Filter 169 (Lilac Tint)	step
		91-92	Filter 170 (Deep Lavender)	step
		93-94	Filter 172 (Lagoon Blue)	step
		95-96	Filter 194 (Surprise Pink)	step
		97-98	Filter 180 (Dark Lavender)	step
		99-100	Filter 181 (Congo Blue)	step
		101-102	Filter 197 (Alice Blue)	step
		103-104	Filter 201 (Full C.T. Blue)	step
		105-106	Filter 202 (Half C.T. Blue)	step
		107-108	Filter 203 (Quarter C.T. Blue)	step
		109-110	Filter 204 (Full C.T. Orange)	step
		111-112	Filter 219 (Fluorescent Green)	step
		113-114	Filter 206 (Quarter C.T. Orange)	step
		115-116	Filter 247 (Filter Minus Green)	step
		117-118	Filter 248 (Half Minus Green)	step
		119-120	Filter 281 (Three Quarter C.T. Blue)	step
		121-122	Filter 285 (Three Quarter C.T. Orange)	step
		123-124	Filter 352 (Glacier Blue)	step
		125-126	Filter 353 (Lighter Blue)	step
		127-128	Filter 507 (Madge)	step
		129-130	Filter 778 (Millennium Gold)	step
		131-132	Filter 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

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1	2			
15	*		Blue/ Yellow (16bit) **	
		0 - 255	Colour saturation control - fine (255=default)	proportional
16	13		White (8 bit)	
		0-255	<i>If RGBW mode is selected:</i> Colour saturation control - coarse 0-100% (255=default)	proportional
		0 - 255	<i>If CMY mode is selected:</i> No function	
17	*		White (16 bit)	
		0 - 255	Colour saturation control - fine (255=default)	proportional
18	14		CTC	
		0-255	<i>If function "White Point 8000K" is ON</i> Col. temperature correction from 8000K to 2700K -for whites only (0=8000K, 64=5600K, 128=4200K, 192=3200K, 255=2700K) 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)	proportional
			<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 (Colour mix-Virtual)	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) <i>In range of 1-20 DMX, channels Rotating prism and Flower Effect are blocked</i>	step
		1-2	Macro 1	step
	3-4	Macro 2	step	

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Mode/channel		DMX Value	Function	Type of control
1	2			
		5-6	Macro 3	step
		7-8	Macro 4	step
		9-10	Macro 5	step
		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
* 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				
**Select RGB or CMY mixing mode on channel "Power/Special functions" .				
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Robin Spikie - colours on Virtual Colour Wheel				
Colour name	Red (DMX)	Green (DMX)	Blue (DMX)	White (DMX)
Filter 4 (Medium Bastard Amber)	255	104	0	39
Filter 25 (Sunset Red)	255	50	0	3
Filter 19 (Fire)	255	33	0	0
Filter 26 (Bright Red)	255	0	0	0
Filter 58 (Lavender)	117	0	39	110
Filter 68 (Sky Blue)	42	255	83	6
Filter 36 (Medium Pink)	255	74	8	24
Filter 89 (Moss Green)	97	255	0	3
Filter 88 (Lime Green)	255	226	0	0
Filter 90 (Dark Yellow Green)	16	255	1	0
Filter 49 (Medium Purple)	255	0	27	0
Filter 52 (Light Lavender)	254	86	9	110
Filter 102 (Light Amber)	255	140	0	0
Filter 103 (Straw)	255	137	0	29
Filter 140 (Summer Blue)	0	199	0	218
Filter 124 (Dark Green)	28	255	0	14
Filter 106 (Primary Red)	255	12	0	0
Filter 111 (Dark Pink)	255	67	11	18
Filter 115 (Peacock Blue)	13	255	24	41
Filter 126 (Mauve)	255	0	32	0
Filter 117 (Steel Blue)	217	255	0	161
Filter 118 (Light Blue)	0	255	42	34
Filter 122 (Fern Green)	115	255	0	7
Filter 182 (Light Green)	255	16	2	0
Filter 121 (Filter Green)	204	255	0	0
Filter 128 (Bright Pink)	255	0	13	32
Filter 131 (Marine Blue)	83	245	23	30
Filter 132 (Medium Blue)	0	255	89	0
Filter 134 (Golden Amber)	255	89	0	3
Filter 135 (Deep Golden Amber)	255	43	0	0
Filter 136 (Pale Lavender)	171	96	13	36
Filter 137 (Special Lavender)	145	58	21	158
Filter 138 (Pale Green)	255	208	0	25
Filter 798 (Chrysalis Pink)	57	0	32	23
Filter 141 (Bright Blue)	0	255	55	0
Filter 147 (Apricot)	255	99	0	12
Filter 148 (Bright Rose)	255	3	0	27
Filter 152 (Pale Gold)	244	109	0	30
Filter 154 (Pale Rose)	236	104	0	35
Filter 157 (Pink)	255	56	5	21
Filter 143 (Pale Navy Blue)	0	255	52	156
Filter 162 (Bastard Amber)	223	111	0	35
Filter 164 (Flame Red)	255	30	0	0
Filter 165 (Daylight Blue)	35	255	59	81
Filter 169 (Lilac Tint)	255	123	0	72
Filter 170 (Deep Lavender)	255	123	25	9
Filter 172 (Lagoon Blue)	0	255	40	0

Colour name	Red (DMX)	Green (DMX)	Blue (DMX)	White (DMX)
Filter 194 (Surprise Pink)	135	0	0	208
Filter 180 (Dark Lavender)	180	72	94	55
Filter 181 (Congo Blue)	57	0	255	0
Filter 197 (Alice Blue)	134	228	75	0
Filter 201 (Full C.T. Blue)	230	228	35	51
Filter 202 (Half C.T. Blue)	255	199	20	38
Filter 203 (Quarter C.T. Blue)	255	163	0	80
Filter 204 (Full C.T. Orange)	223	104	0	9
Filter 219 (Fluorescent Green)	139	255	0	132
Filter 206 (Quarter C.T. Orange)	255	140	0	33
Filter 247 (Filter Minus Green)	255	81	0	74
Filter 248 (Half Minus Green)	255	119	0	59
Filter 281 (Three Quarter C.T. Blue)	255	216	20	143
Filter 285 (Three Quarter C.T. Orange)	255	122	0	15
Filter 352 (Glacier Blue)	0	216	44	92
Filter 353 (Lighter Blue)	0	120	12	82
Filter 507 (Madge)	255	31	0	0
Filter 778 (Millennium Gold)	255	58	0	0
Filter 793 (Vanity Fair)	255	0	12	15