

DMX protocol

Robin MMX Spot - DMX protocol, version 1.7						
(For fixtures produced after 25/08/2013 or updated with a software DSU_RobinMMXSpot_13081343.zip (DSU_RobinMMXSpot_13081343.tar.bz2) or latter . DSU_RobinPointe_YMMDDTT.zip -->YY=year, MM=month, DD= day.)						
Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
1	1	1	1		Pan	
				0 - 255	Pan movement by 540°	proportional
2	2	*	2		Pan Fine	
				0 - 255	Fine control of pan movement	proportional
3	3	2	3		Tilt	
				0 - 255	Tilt movement by 270°	proportional
4	4	*	4		Tilt fine	
				0 - 255	Fine control of tilt movement	proportional
5	5	3	5		Pan/Tilt speed , Pan/Tilt time	
				0	Standard mode	step
				1	Max. Speed Mode	step
					Pan/Tilt speed mode	
				2 - 255	Speed from max. to min.	proportional
					Pan/Tilt time mode	
				2 - 255	Time from 0.2 s to 25.5 sec.	proportional
6	6	4	6		Power/Special functions	
				0 - 9	Reserved	
					<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 36/30/28 must be at range: 0-31 DMX). Corresponding menu items are temporarily overridden except DMX Input.</i>	
				10-14	DMX input: Wired DMX *	step
				15-19	DMX input: Wireless DMX *	step
					* function is active only 10 seconds after switching the fixture on	
				20-39	Reserved	
				40-44	Dimmer-Compatible curve	step
				45-49	Dimmer-SYNC curve	step
				50 - 59	Pan/Tilt speed mode	step
				60 - 69	Pan/Tilt time mode	step
				70 - 79	Blackout while pan/tilt moving	step
				80 - 89	Disabled blackout while pan/tilt moving	step
				90 - 99	Blackout while colour wheel moving	step
				100 - 109	Disabled blackout while colour wheel moving	step
				110 - 119	Blackout while gobo wheel moving	step
				120-129	Disabled blackout while gobo wheel moving	step
					<i>To activate following functions, stop in DMX value for at least 3 seconds.</i>	
				130 - 139	Lamp On,reset(total reset except pan/tilt reset)	step
				140 - 149	Pan/Tilt reset	step
				150 - 159	Colour system reset	step
				160 - 169	Gobo wheels reset	step
				170 - 179	Dimmer/Shutter/Hot-spot reset	step
				180 - 189	Zoom/focus/frost/prism reset	step
				190 - 199	Iris/dual graphic wheel reset	step
				200 - 209	Total reset	step

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				210 - 229	Reserved	
				230 - 239	Lamp Off	step
				240	Disabled "Silent" mode of fans	step
					<i>To activate the "Silent mode", stop in range of 241-255 at least 3 sec.</i>	
				241-255	Silent mode of fans: Fans noise fom min. to max	proportional
7	7	5	7		Colour wheel	
					Continual positioning	
				0	Open/white	proportional
				18	Deep red	proportional
				34	Deep blue	proportional
				55	Orange	proportional
				73	Green	proportional
				91	Amber	proportional
				110	UV filter	proportional
				128-129	White	step
					Positioning	
				130-139	Deep red	step
				140-149	Deep blue	step
				150-159	Orange	step
				160-169	Green	step
				170-179	Amber	step
				180-189	UV filter	step
				190 - 215	Forwards rainbow effect from fast to slow	proportional
				216 - 217	No rotation	step
				218 - 243	Backwards rainbow effect from slow to fast	proportional
				244 - 249	Random colour selection by audio control	step
					(Set microphone sensitivity in menu „Personality“)	
				250 - 255	Auto random colour selection from fast to slow	proportional
8	*	*	8		Colour wheel - fine positioning	
				0 - 255	Fine positioning	proportional
9	8	6	9		Cyan	
				0 - 255	Cyan (0-white, 255-full cyan)	proportional
10	9	7	10		Magenta	
				0 - 255	Magenta (0-white, 255-full magenta)	proportional
11	10	8	11		Yellow	
				0 - 255	Yellow (0-white, 255-full yellow)	proportional
12	11	9	12		CTO filter	
				0 - 255	(0-6900K, 255-3200K)	proportional
13	12	10	13		CMY colour macros	
				0 - 7	No function	step
				8 - 15	Macro 1	step
				16 -23	Macro 2	step
				24-31	Macro 3	step
				32-39	Macro 4	step
				40-47	Macro 5	step
				48-55	Macro 6	step
				56-63	Macro 7	step
				64-71	Macro 8	step
				72-79	Macro 9	step

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				80-87	Macro 10	step
				88-95	Macro 11	step
				96-103	Macro 12	step
				104-111	Macro 13	step
				112-119	Macro 14	step
				120-127	Macro 15	step
				128-135	Macro 16	step
				136-143	Macro 17	step
				144-151	Macro 18	step
				152-159	Macro 19	step
				160-167	Macro 20	step
				168-175	Macro 21	step
				176-183	Macro 22	step
				184-191	Macro 23	step
				192-199	Macro 24	step
				200 - 207	Macro 25	step
				208 - 215	Macro 26	step
				216 - 223	Macro 27	step
				224 - 231	Macro 28	step
				232 - 239	Macro 29	step
				240 - 243	Macro 30	proportional
				244 - 249	Random macro selection by audio control (Set microphone sensitivity in menu "PErsonality")	step
				250 - 255	Auto random macro selection from fast to slow	proportional
14	13	11	14		Effect Speed	
					<i>Speed of CMY&CTO movement and Rot. Gobo selection</i>	
				0-255	Speed of CMY+CTO movement from max. to min.	proportional
				0-255	Speed of Rot. Gobo Selection from max. to min.	proportional
*	*	*	15		CMY+CTO+Colour wheel time	
				0	Function is off	step
				1 - 255	Time of CMY, CTO and Colour wheel movement (0.1sec-->25.5sec.)	proportional
*	*	*	16		Zoom+Focus+Iris+Frost+Prism time	
				0	Function is off	step
				1 - 255	Time of zoom, focus, iris and frost movement (0.1 sec-->25.5 sec.)**	proportional
				1-50	Time of prism movement (0.1 sec-->5 sec.)**	proportional
15	14	12	17		Dual graphic wheel positioning	
				0-19	No function	step
				20-127	Proportional indexing (73-center)	proportional
				128-170	Ramping from open to full position (max--->min. speed)	proportional
				171-213	Ramping from open to half position (max. --->min. speed)	proportional
				214-255	Ramp. from half position to full position (max. --->min. speed)	proportional
16	15	13	18		Dual graphic wheel-Graphic wheel 1 rotation	
				0	No rotation	step
				1 - 127	Forwards rotation from fast to slow	proportional
				128 - 129	No rotation	step
				130 - 255	Backwards rotation from slow to fast	proportional
17	16	14	19		Dual graphic wheel-Graphic wheel 2 rotation	
				0	No rotation	step

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				1 - 127	Forwards rotation from slow to fast	proportional
				128 - 129	No rotation	step
				130 - 255	Backwards rotation from slow to fast	proportional
18	17	15	20		Dual graphic wheel animations	
				0-7	No animation	
					Note : Set suitable DMX value at Focus channel to get desired animation. All animation were created at distance 7 m from screen with zoom=135DMX, Focus value was different for each effect (focus value is stated in parentheses for this distance)	
					Distance=7m, Zoom=135, Focus- see below	
					<u>Colour animations (standard graphic wheels)</u>	
					Note : The channels are blocked: Colour wheel, Cyan, Magenta, Yellow, CMY colour macros, Rotating gobo wheel 1 and 2, Prism, Prism rotation	
					<i>* use Rot. Gobo 1 indexing and rotation channel to index the animation</i>	
				8-9	Fire (Focus=95) *	step
				10-11	Bonfire (F=93) *	step
				12-13	Water (F=87)*	step
				14-15	Clouds (F=98)*	step
				16-17	Snowfall (F=78)	step
				18-19	Rain (F=91)*	step
				20-21	Gold fishes (F=39)	step
				22-23	Colour fishes (F=39)	step
				24-25	Fishes to shoal (F=39)	step
				26-27	Pie (F=85)	step
				28-29	Fishes from shoal (F=49)	step
				30-31	Sun (F=156)	step
				32-33	Falling leafs (F=43)	step
				34-35	Tunnel 1 (F=50)	step
				36-37	Tunel 2 (F=52)	step
				38-39	Pupil (F=81)	step
				40-41	Radial circles (F=135)	step
				42-43	Comet 1 (F=46)	step
				44-45	Comet 2 (F=39)	step
				46-47	Star cluster (F=74)	step
				48-49	Crochet ornament (F=78)	step
				50-51	Maelsrom (F=24)	step
				52-53	Sun on water (F=73)	step
				54-55	Pearly jewellery (F=95)	step
				56-57	Heap of bars (F=91)	step
				58-59	Nebula (F=20)	step
				60-61	Eccentric eye (F=67)	step
				62-63	Radial ellipses (F=102)	step
				64-65	Flying ball (F=70)	step
				66-67	Spaghetti (F=108)	step
					<u>Black and white animations (standard graphic wheels)</u>	
					Note : The channels are blocked: Rotating gobo wheel 1 and 2, Prism, Prism rotation	

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					<i>* use Rot. Gobo 1 indexing and rotation channel to index the animation</i>	
				68-69	Fire (Focus=95) *	step
				70-71	Bonfire (F=93) *	step
				72-73	Water (F=87)*	step
				74-75	Clouds (F=98)*	step
				76-77	Snowfall (F=78)	step
				78-79	Rain (F=91)*	step
				80-81	Gold fishes (F=39)	step
				82-83	Colour fishes (F=39)	step
				84-85	Fishes to shoal (F=39)	step
				86-87	Pie (F=85)	step
				88-89	Fishes from shoal (F=49)	step
				90-91	Sun (F=156)	step
				92-93	Falling leafs (F=43)	step
				94-95	Tunnel 1 (F=50)	step
				96-97	Tunel 2 (F=52)	step
				98-99	Pupil (F=81)	step
				100-101	Radial circles (F=135)	step
				102-103	Comet 1 (F=46)	step
				104-105	Comet 2 (F=39)	step
				106-107	Star cluster (F=74)	step
				108-109	Crochet ornament (F=78)	step
				110-111	Maelsrom (F=24)	step
				112-113	Sun on water (F=73)	step
				114-115	Pearly jewellery (F=95)	step
				116-117	Heap of bars (F=91)	step
				118-119	Nebula (F=20)	step
				120-121	Eccentric eye (F=67)	step
				122-123	Radial ellipses (F=102)	step
				124-125	Flying ball (F=70)	step
				126-127	Spagheti (F=108)	step
				128-255	Reserved	
19	18	16	21		Rotating gobo wheel 1	
					<i>In the range of 0-59 DMX the gobo selection speed is controlled by the Effect Speed channel.</i>	
					<i>Index - set indexing on channel 20/19/17</i>	
				0-3	Open/hole	step
				4-7	Gobo 1	step
				8-11	Gobo 2	step
				12-15	Gobo 3	step
				16-19	Gobo 4	step
				20-23	Gobo 5	step
				24-27	Gobo 6	step
				28-31	Gobo 7	step
					<i>Rotation - set rotation on channel 20/19/17</i>	
				32-35	Gobo 1	step
				36-39	Gobo 2	step
				40-43	Gobo 3	step
				44-47	Gobo 4	step

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				48-51	Gobo 5	step
				52-55	Gobo 6	step
				56-59	Gobo 7	step
					<u>Shaking gobos from slow to fast</u>	
					<u>Index - set indexing on channel 20/19/17</u>	
				60 - 69	Gobo 1	proportional
				70 - 79	Gobo 2	proportional
				80 - 89	Gobo 3	proportional
				90 - 99	Gobo 4	proportional
				100 - 109	Gobo 5	proportional
				110 - 119	Gobo 6	proportional
				120 - 129	Gobo 7	proportional
					<u>Shaking gobos from slow to fast</u>	
					<u>Rotation - set rotation on channel 20/19/17</u>	
				130 - 139	Gobo 1	proportional
				140 - 149	Gobo 2	proportional
				150 - 159	Gobo 3	proportional
				160 - 169	Gobo 4	proportional
				170 - 179	Gobo 5	proportional
				180 - 189	Gobo 6	proportional
				190 - 199	Gobo 7	proportional
				200 - 201	Open/hole	step
				202 - 221	Forwards gobo wheel rotation from fast to slow	proportional
				222 - 223	No rotation	step
				224 - 243	Backwards gobo wheel rotation from slow to fast	proportional
				244 - 249	Random gobo selection by audio control	step
					(Set microphone sensitivity in menu „Personality“)	
				250 - 255	Auto random gobo selection from fast to slow	proportional
20	19	17	22		Rot. Gobo 1 indexing and rotation	
					<u>Gobo indexing - set position on channel 19/18/16</u>	
				0 - 255	Gobo indexing	proportional
					<u>Gobo rotation - set position on channel 19/18/16</u>	
				0	No rotation	step
				1 - 127	Forwards gobo rotation from fast to slow	proportional
				128 - 129	No rotation	step
				130 - 255	Backwards gobo rotation from slow to fast	proportional
21	*	*	23		Rot. Gobo 1 indexing/rotation - fine	
				0-255	Fine indexing (rotation)	proportional
22	20	18	24		Rotating gobo wheel 2	
					<i>In the range of 0-59 DMX the gobo selection speed is controlled by the Effect Speed channel.</i>	
					<u>Index - set indexing on channel 23/21/19</u>	
				0-3	Open/hole	step
				4-7	Gobo 1	step
				8-11	Gobo 2	step
				12-15	Gobo 3	step
				16-19	Gobo 4	step
				20-23	Gobo 5	step
				24-27	Gobo 6	step

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				28-31	Gobo 7	step
					<i>Rotation - set rotation on channel 23/21/19</i>	
				32-35	Gobo 1	step
				36-39	Gobo 2	step
				40-43	Gobo 3	step
				44-47	Gobo 4	step
				48-51	Gobo 5	step
				52-55	Gobo 6	step
				56-59	Gobo 7	step
					<i>Shaking gobos from slow to fast</i>	
					<i>Index - set indexing on channel 23/21/19</i>	
				60 - 69	Gobo 1	proportional
				70 - 79	Gobo 2	proportional
				80 - 89	Gobo 3	proportional
				90 - 99	Gobo 4	proportional
				100 - 109	Gobo 5	proportional
				110 - 119	Gobo 6	proportional
				120 - 129	Gobo 7	proportional
					<i>Shaking gobos from slow to fast</i>	
					<i>Rotation - set rotation on channel 23/21/19</i>	
				130 - 139	Gobo 1	proportional
				140 - 149	Gobo 2	proportional
				150 - 159	Gobo 3	proportional
				160 - 169	Gobo 4	proportional
				170 - 179	Gobo 5	proportional
				180 - 189	Gobo 6	proportional
				190 - 199	Gobo 7	proportional
				200 - 201	Open/hole	step
				202 - 221	Forwards gobo wheel rotation from fast to slow	proportional
				222 - 223	No rotation	step
				224 - 243	Backwards gobo wheel rotation from slow to fast	proportional
				244 - 249	Random gobo selection by audio control (Set microphone sensitivity in menu „Personality”)	step
				250 - 255	Auto random gobo selection from fast to slow	proportional
23	21	19	25		Rot. Gobo 2 indexing and rotation	
					<i>Gobo indexing - set position on channel 22/20/18</i>	
				0 - 255	Gobo indexing	proportional
					<i>Gobo rotation - set position on channel 22/20/18</i>	
				0	No rotation	step
				1 - 127	Forwards gobo rotation from fast to slow	proportional
				128 - 129	No rotation	step
				130 - 255	Backwards gobo rotation from slow to fast	proportional
24	*	*	26		Rot. Gobo 2 indexing/rotation - fine	
				0-255	Fine indexing (rotation)	proportional
25	22	20	27		Prism	
				0 - 19	Open position (hole)	step
				20 - 127	3-facet rotating prism	step
				128 - 255	Prism/gobo macros	
				128 - 135	Macro 1	step

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				136 - 143	Macro 2	step
				144 - 151	Macro 3	step
				152 - 159	Macro 4	step
				160 - 167	Macro 5	step
				168 - 175	Macro 6	step
				176 - 183	Macro 7	step
				184 - 191	Macro 8	step
				192 - 199	Macro 9	step
				200 - 207	Macro 10	step
				208 - 215	Macro 11	step
				216 - 223	Macro 12	step
				224 - 231	Macro 13	step
				232 - 239	Macro 14	step
				240 - 247	Macro 15	step
				248 - 255	Macro 16	step
26	23	21	28		Prism rotation	
				0	No rotation	step
				1 - 127	Forwards rotation from fast to slow	proportional
				128 - 129	No rotation	step
				130 - 255	Backwards rotation from slow to fast	proportional
27	24	22	29		Frost	
				0	Open	step
				1 - 179	Frost from 0% to 100%	proportional
				180 - 189	100% frost	step
				190 - 211	Pulse closing from slow to fast	proportional
				212 - 233	Pulse opening from fast to slow	proportional
				234 - 255	Ramping from fast to slow	proportional
28	25	23	30		Iris	
				0	Open	step
				1 - 179	From max.diameter to min.diameter	proportional
				180 - 191	Closed	step
					Pulse effects with Iris blackout:	
				192 - 219	Pulse opening from slow to fast	proportional
				220 - 247	Pulse closing from fast to slow	proportional
				248 - 249	Random pulse opening (fast)	step
				250 - 251	Random pulse opening (slow)	step
				252 - 253	Random pulse closing (fast)	step
				254 - 255	Random pulse closing (slow)	step
29	*	*	31		Iris - fine	
				0 - 255	Fine iris movement	proportional
30	26	24	32		Zoom	
				0 - 255	Zoom from max. to min.beam angle	proportional
31	*	*	33		Zoom - fine	
				0-255	Fine zooming	proportional
32	27	25	34		Focus	
				0 - 255	Continuous adjustment from far to near	proportional
33	*	*	35		Focus - fine	
				0- 255	Fine focusing	proportional
34	28	26	36		Autofocus (priority & distance selection)	

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					Select desired distance and effect on which you need to focus and use "Focus" channel (32/27/25) to focus the image.	
				0	Autofocus Off	step
					Iris (hole)	
				1	4 metres	proportional
				8	7 metres	proportional
				16	10 metres	proportional
				24	15 metres	proportional
				32	20 metres	proportional
				40	30 metres	proportional
				48	40 metres	proportional
				56	50 metres	proportional
					Gobo wheel 1	
				64	4 metres	proportional
				72	7 metres	proportional
				80	10 metres	proportional
				88	15 metres	proportional
				96	20 metres	proportional
				104	30 metres	proportional
				112	40 metres	proportional
				120	50 metres	proportional
					Gobo wheel 2	
				128	4 metres	proportional
				136	7 metres	proportional
				144	10 metres	proportional
				152	15 metres	proportional
				160	20 metres	proportional
				168	30 metres	proportional
				176	40 metres	proportional
				184	50 metres	proportional
					Graphic wheel	
				192	4 metres	proportional
				200	7 metres	proportional
				208	10 metres	proportional
				216	15 metres	proportional
				224	20 metres	proportional
				232	30 metres	proportional
				240	40 metres	proportional
				248	50 metres	proportional
				255	Infinity	proportional
35	29	27	37		Hot-spot	
				0-255	Beam distribution control from max. intensity to min. intensity	proportional
36	30	28	38		Shutter/ strobe	
				0 - 31	Shutter closed, Lamp power reduced to 500 W	step
				32 - 63	Shutter open, Full lamp power	step
				64 - 95	Strobe-effect from slow to fast	proportional
				96 - 127	Shutter open, Lamp power reduced to 500 W	step
				128 - 143	Opening pulse in sequences from slow to fast	proportional
				144 - 159	Closing pulse in sequences from fast to slow	proportional

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				160 - 191	Shutter open, Electronic strobing „ZAP” from slow to fast	proportional
				192 - 223	Random strobe-effect from slow to fast	proportional
				224 - 255	Shutter open, Full lamp power	step
37	31	29	39		Dimmer intensity	
				0 - 255	Dimmer intensity from 0% to 100%	proportional
38	*	*	40		Dimmer intensity - fine	
				0 - 255	Fine dimming	proportional
<p>** If some optic module (zoom, focus) has to move into anti-collision position before inserting frost or gobo, set time will be applied to both movements. E.g. Time = 5 sec. and the frost effect is to be inserted, but the zoom module has to move into anti-collision position before, this movement will take 5 sec. and after that movement of the frost module will také next 5 sec. To avoid this time delay, move the zoom module to anti-collision position before inserting the frost module.</p>						