

# section 6 APPENDIXES

## DMX protocol

DMX1	DMX2	DMX3	DMX4	Value	Percent	Function
						<b>Shutter, Strobe, Reset, Lamp On/Off</b>
				0 - 19	0 - 7	Shutter closed
				20 - 49	8 - 19	Shutter open
				50 - 72	20 - 28	Strobe, fast→slow
				73 - 79	29 - 31	Shutter open
				80 - 99	31 - 39	Opening pulse, fast →slow
				100 - 119	39 - 47	Closing pulse, fast →slow
	1			120 - 127	47 - 50	Shutter open
				128 - 147	50 - 58	Random strobe, fast
				148 - 167	58 - 65	Random strobe, medium
				168 - 187	66 - 73	Random strobe, slow
				188 - 190	74 - 75	Shutter open
				191 - 193	75 - 76	Random opening pulse, fast
				194 - 196	76 - 77	Random opening pulse, slow
				197 - 199	77 - 78	Random closing pulse, fast
				200 - 202	78 - 79	Random closing pulse, slow
				203 - 207	80 - 81	Shutter open
				208 - 217	82 - 85	Reset fixture, see note 1
				218 - 227	85 - 89	Shutter open
				228 - 237	89 - 93	Lamp on
				238 - 247	93 - 97	Shutter open
				248 - 255	97 - 100	Lamp off: time > 5 seconds, see note 2
	2					<b>Dimmer</b>
				0 - 255	0 - 100	Closed → open
						<b>Color</b>
						Continuous Scroll: full color positions:
				0	0	White
				12	5	CTC
				24	9	Yellow 603
				36	14	Blue 104
				48	19	Pink 312
				60	23	Green 206
				72	28	Blue 108
				84	33	Red 301
				96	37	Magenta 507
				108	42	Blue 101
				120	47	Orange 306
				132	42	Green 202
				144	56	Purple 502
						Stepped Scroll
				156 - 159	61 - 63	Purple 502
				160 - 163	63 - 64	Green 202
			3	164 - 167	64 - 65	Orange 306
				168 - 171	66 - 67	Blue 101
				172 - 175	67 - 68	Magenta 507
				176 - 179	69 - 70	Red 301
				180 - 183	70 - 72	Blue 108
				184 - 187	72 - 73	Green 206
				188 - 191	74 - 75	Pink 312
				192 - 195	75 - 76	Blue 104
				196 - 199	77 - 78	Yellow 603
				200 - 203	78 - 79	CTC
				204 - 207	80 - 81	White
						Continuous Rotation
				208 - 226	82 - 88	CW, fast → slow
				227 - 245	89 - 96	CCW, slow → fast
						Random color
				246 - 248	96 - 97	Fast
				249 - 251	98 - 98	Medium
				252 - 255	99 - 100	Slow

DMX1	DMX2	DMX3	DMX4	Value	Percent	Function
						<b>Gobo selection and shake</b>
				0 - 9	0 - 3	Open gobo
				10 - 19	4 - 7	Gobo 1
				20 - 29	8 - 11	Gobo 2
				30 - 39	12 - 15	Gobo 3
				40 - 49	16 - 19	Gobo 4
				50 - 59	19 - 23	Gobo 5
				60 - 69	23 - 27	Gobo 6
				70 - 79	27 - 31	Gobo 7
				80 - 89	31 - 35	Gobo 8
	4					Shake
				90 - 104	35 - 41	Gobo 8 slow → fast
				105 - 119	41 - 47	Gobo 7 slow → fast
				120 - 134	47 - 52	Gobo 6 slow → fast
				135 - 149	53 - 59	Gobo 5 slow → fast
				150 - 164	59 - 64	Gobo 4 slow → fast
				165 - 179	65 - 70	Gobo 3 slow → fast
				180 - 194	70 - 76	Gobo 2 slow → fast
				195 - 209	76 - 82	Gobo 1 slow → fast
						Continuous rotation
				210 - 232	82 - 91	CW slow → fast
				233 - 255	91 - 100	CCW fast → slow
						<b>Gobo selection and shake</b>
						Indexing: set position on channel 5
				0 - 4	0 - 1	Open gobo
				5 - 9	1 - 3	Gobo 1
				10 - 14	3 - 5	Gobo 2
				15 - 19	6 - 7	Gobo 3
				20 - 24	7 - 9	Gobo 4
				25 - 29	9 - 11	Gobo 5
				30 - 34	11 - 13	Gobo 6
				35 - 39	13 - 15	Gobo 7
				40 - 44	15 - 17	Gobo 8
						Rotation: set velocity on channel 5
				45 - 49	17 - 19	Open gobo
				50 - 54	19 - 21	Gobo 1
				55 - 59	21 - 23	Gobo 2
				60 - 64	23 - 25	Gobo 3
				65 - 69	25 - 27	Gobo 4
				70 - 74	27 - 29	Gobo 5
				75 - 79	29 - 31	Gobo 6
				80 - 84	31 - 33	Gobo 7
				85 - 89	33 - 35	Gobo 8
						Rotation with shake, slow → fast: set velocity on ch. 5
				90 - 104	35 - 40	Gobo 8
				105 - 119	41 - 46	Gobo 7
				120 - 134	47 - 52	Gobo 6
				135 - 149	53 - 58	Gobo 5
				150 - 164	59 - 64	Gobo 4
				165 - 179	65 - 70	Gobo 3
				180 - 194	70 - 76	Gobo 2
				195 - 209	76 - 82	Gobo 1
						Continuous scroll: set velocity of gobo rotation on ch. 5
				210 - 232	82 - 91	CW slow → fast
				233 - 255	91 - 100	CCW fast → slow
						<b>Gobo rotation (select gobo on channel 4)</b>
						Index position
				0 - 255	0 - 100	0 - 395° (only if gobo type = indexed)
						Continuous rotation (direction and speed)
				0 - 2	0 - 1	No rotation
				3 - 127	1 - 50	CW, slow → fast
				128 - 252	50 - 98	CCW, fast → slow
				253 - 255	99 - 100	No rotation
	5					

DMX1	DMX2	DMX3	DMX4	Value	Percent	Function
6				0 - 255	0 - 100	<b>Focus</b> Infinity → 2 meters
7				0 - 19 20 - 79 80 - 89 90 - 149 150 - 215	0 - 7 8 - 31 31 - 35 35 - 58 59 - 84	<b>Prism</b> Prism off Rotating prism, CCW fast → slow No rotation Rotating prism, CW slow → fast Prism off
7				216 - 220 221 - 225 226 - 230 231 - 235 236 - 240 241 - 245 246 - 250 251 - 255	84 - 86 87 - 88 89 - 90 91 - 92 93 - 94 95 - 96 96 - 98 98 - 100	Prism/Gobo Macros Macro 1 Macro 2 Macro 3 Macro 4 Macro 5 Macro 6 Macro 7 Macro 8
8				0 - 255	0 - 100	<b>Pan</b> Left → right (128 = neutral)
-	9	-	9	0 - 255	0 - 100	<b>Pan Fine (LSB)</b> Left → right
9	10	9	10	0 - 255	0 - 100	<b>Tilt</b> Up → down (128 = neutral)
-	11	-	11	0 - 255	0 - 100	<b>Tilt Fine (LSB)</b> Up → down
-	-	10	12	0 - 2 3 - 245 246 - 248 249 - 251 252 - 255	0 - 1 1 - 96 96 - 97 98 - 98 99 - 100	<b>Pan/Tilt Speed</b> Tracking Fast → slow Tracking, PTSP NORM (menu override) Tracking, PTSP FAST (menu override) Blackout while moving
-	-	11	13	0 - 2 3 - 245 246 - 251 252 - 255	0 - 1 1 - 96 96 - 98 99 - 100	<b>Effects Speed</b> Dimmer, focus Tracking mode Fast → slow Tracking Maximum speed
-	-	11	13	0 - 2 3 - 245 246 - 248 249 - 251 252 - 255	0 - 1 1 - 96 96 - 97 98 - 98 99 - 100	Color Tracking mode Speed, fast → slow Tracking, SCUT OFF (menu override) Tracking, SCUT ON (menu override) Blackout while moving
-	-	11	13	0 - 245 246 - 248 249 - 251 252 - 255	0 - 96 96 - 97 98 - 98 99 - 100	Gobo selection Normal (no blackout) Normal, SCUT OFF (menu override) Normal, SCUT ON (menu override) Blackout while moving
-	-	11	13	0 - 2 3 - 245 246 - 251 252 - 255	0 - 1 1 - 96 96 - 98 99 - 100	Indexed gobo rotation (only if gobo type = indexed) Tracking mode Fast → slow Tracking Blackout while moving
-	-	11	13	0 - 251 252 - 255	0 - 98 99 - 100	Prism Normal (no blackout) Blackout while moving