appendix a

DMX 512 PROTOCOL

The RoboScan Pro 518 supports tracking and vector mode and 8 and 16 bit pan/tilt resolution. The 3 DMX modes and the channel requirements for each are shown below. The correct mode will depend on your programming preferences and your controller's abilities.

In tracking mode, movement speed is determined directly by the controller's fade time.

In vector mode, speed is determined by a value programmed on a separate DMX channel. *For smooth movement in vector mode, the controller's fade time must be set to 0, i.e., the position must bump from the current value to the next.* If the RoboScan Pro 518 is set to run vector mode, tracking mode can be enabled by programming the speed channels to 0.

With 8-bit pan/tilt resolution, pan and tilt are divided into 256 positions. Finer position control is possible with 16-bit pan/tilt resolution, which divides each position into smaller increments.

DMX Mode	Channels	PL432 Jumper
Mode 1 - 8 bit Pan/Tilt, Tracking	7	No jumper
Mode 2 - 8 bit Pan/Tilt, Vector	9	Jumper on pin 5 and 6
Mode 3 (default) - 16 bit Pan/Tilt, Tracking	9	Jumper on pin 4 and 5

Channel			DMX		
Mode 1	Mode 2	Mode 3	Values	Percent	Effect
1 * Set color to UV Pass and effects wheel to 5500 → 3400K CTC filter. Hold 5 seconds.					**Strobe/Stand-Alone/Reset/Lamp On/Off**
			0 - 5	0 - 2	Default
			6 - 10	2 - 4	Fan low (Fan high at all other values.)
			11 - 138	4 - 54	Strobe, fast → slow
			139 - 170	55 - 67	Remote stand-alone, auto trigger
			171 - 202	67 - 79	Remote stand alone, music trigger
			203 - 235	80 - 92	Reset fixture
			236 - 252	93 - 98	Lamp power ON
			253 - 255	99 - 100	Lamp power OFF*
2					**Dimmer**
			0 - 14	0 - 5	Full dimming
			15 - 239	6 - 94	Dimming, 100 → 0%
			240 - 255	94 - 100	No dimming

Channel			DMX		
Mode 1	Mode 2	Mode 3	Values	Percent	**Effect**
					Color
			0 - 3	0 - 1	White
			4 - 7	2 - 3	White / Pink split
			8 - 11	3 - 4	Pink
			12 - 15	5 - 6	Pink / Magenta split
			16 - 19	6 - 7	Magenta
			20 - 23	8 - 9	Magenta / Primary Red split
			24 - 27	9 - 11	Primary Red
			28 - 31	11 - 12	Primary Red / Flame Red split
			32 - 35	13 - 14	Flame Red
			36 - 39	14 - 15	Flame Red / Dark Orange split
			40 - 43	16 - 17	Dark Orange
			44 - 47	17 - 18	Dark Orange / Orange split
			48 - 51	19 - 20	Orange
			52 - 55	20 - 22	Orange / Yellow split
			56 - 59	22 - 23	Yellow
			60 - 63	24 - 25	Yellow / Light Green split
			64 - 67	25 - 26	Light Green
			68 - 71	27 - 28	Light Green / Fern Green split
		3	72 - 75	28 - 29	Fern Green
			76 - 79	30 - 31	Fern Green / Turquoise split
			80 - 83	31 - 33	Turquoise
			84 - 87	33 - 34	Turquoise / Cyan split
			88 - 91	35 - 36	Cyan
			92 - 95	36 - 37	Cyan / Light Blue split
			96 - 99	38 - 39	Light Blue
			100 - 103	39 - 40	Light Blue / Dark Lavender Split
			104 - 107	41 - 42	Dark Lavender
			108 - 111	42 - 44	Dark Lavender / Dark Blue split
			112 - 115	44 - 45	Dark Blue
			116 - 119	45 - 47	Dark Blue / UV Pass split
			120 - 123	47 - 48	UV Pass
			124 - 127	49 - 50	UV Pass / Multi Color 1 split
			128 - 131	50 - 51	Multi Color 1
			132 - 135	52 - 53	Multi Color 1 / Multi Color 2 split
			136 - 139	53 - 55	Multi Color 2
			140 - 197	58 - 77	CW rotation, fast → slow
			198 - 255	78 - 100	CCW rotation, slow → fast

Channel			DMX		
Mode 1	Mode 2	Mode 3	Values	Percent	**Effect**
4					**Rotating Gobo Wheel**
			0	0	Open
			1 - 24	0 - 9	Gobo 1, CCW, fast → slow
			25 - 27	10 - 11	Gobo 1, static
			28 - 51	11 - 20	Gobo 1, CW, slow → fast
			52 - 75	20 - 29	Gobo 2, CCW, fast → slow
			76 - 78	30 - 31	Gobo 2, static
			79 - 102	31 - 40	Gobo 2, CW, slow → fast
			103 - 126	40 - 49	Gobo 3, CCW, fast → slow
			127 - 129	50 - 51	Gobo 3, static
			130 - 153	51 - 60	Gobo 3, CW, slow → fast
			154 - 177	60 - 69	Gobo 4, CCW, fast → slow
			178 - 180	70 - 71	Gobo 4, static
			181 - 204	71 - 80	Gobo 4, CW, slow → fast
			205 - 228	80 - 89	Gobo 5, CCW, fast → slow
			229 - 231	90 - 91	Gobo 5, static
			232 - 255	91 - 100	Gobo 5, CW, slow → fast
5					**Effects Wheel**
			0 - 63	0 - 25	Open
			64 - 127	25 - 50	5500 → 3400K CTC filter
			128 - 191	50 - 75	Frost
			192 - 255	75 - 100	3-facet prism
6					**Pan**
			0 - 255	0 - 100	Left → Right (127 = neutral)
-	-	7			**Pan Fine (LSB)**
			0 - 255	0 - 100	Left → Right (127 = neutral)
7	7	8			**Tilt**
			0 - 255	0 - 100	Up → Down (127 = neutral)
-	-	9			**Tilt Fine (LSB)**
			0 - 255	0 - 100	Up → Down (127 = neutral)
-	8	-			**Pan/Tilt Speed**
			0	0	Tracking
			1 - 251	0 - 98	Fast → Slow
			252 - 255	99 - 100	Blackout while moving
-	9	-			**Color Speed**
			0	0	Tracking
			1 - 251	0 - 98	Fast → Slow
			252 - 255	99 - 100	Blackout while moving
					Dimmer Speed
			0 - 251	0 - 98	Fast → Slow
			252 - 255	99 - 100	Fast