

appendix a

DMX-512 PROTOCOL

The RoboScan Pro 218 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 218 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 Setup	Channels	PL432 Jumper Location
Mode 1 - 8 bit Pan/Tilt Tracking	6	no jumper
Mode 2 - 8 bit Pan/Tilt Tracking/Vector	8	pin 5 and 6
Mode 3 - 16 bit Pan/Tilt Tracking	8	pin 4 and 5

DMX Protocol, All Modes

Channel	DMX Values	Effect
1	0 - 5	Shutter / Strobe / SA / Reset fixture Shutter Closed (Light off) Shutter Open (Light on) Strobe on (Fast → Slow) Remote Stand-alone auto trig Remote Stand-alone music trig Reset fixture
	6 - 80	
	81 - 208	
	209 - 230	
	231 - 252	
	253 - 255	
2	0 - 255	Dimmer Dimmer full ON (no light) → full OFF (Light)

DMX Protocol, All Modes

Channel	DMX Values	Effect
		Color
	0 - 11	White → Flame Red
	11 - 22	Flame Red → Light Blue
	22 - 33	Light Blue → Frn. Green
	33 - 44	Frn. Green → Yellow
	44 - 55	Yellow → Primary Green
	55 - 66	Primary Green → Mauve
	66 - 77	Mauve → Dark Blue
	77 - 88	Dark Blue → Cyan Blue
	88 - 99	Cyan Blue → Primary Red
	99 - 110	Primary Red → Light Orange
	110 - 121	Light Orange → Light Green
	121 - 132	Light Green → Amber
	132 - 143	Amber → Pink
	143 - 154	Pink → D. Lavender
	154 - 165	D. Lavender → Dark Orange
	165 - 176	Dark Orange → Multicolor 1
	176 - 187	Multicolor 1 → Multicolor 2
3	187 - 190	Multicolor 2
	191 - 193	Multicolor 1
	194 - 196	Dark Orange
	197 - 199	Dark Lavender
	200 - 202	Pink
	203 - 205	Amber
	206 - 208	Light Green
	209 - 211	Light Orange
	212 - 214	Primary Red
	215 - 217	Cyan Blue
	218 - 220	Dark Blue
	221 - 223	Mauve
	224 - 226	Primary Green
	227 - 229	Yellow
	230 - 232	Frn. Green
	233 - 235	Light Blue
	236 - 238	Flame Red
	239 - 255	White

DMX Protocol, All Modes

Channel	DMX Values	Effect
4	0 - 11	Gobo Open → Half
	11 - 22	Half → Dot
	22 - 33	Dot → Pin
	33 - 44	Pin → Vertical Bar
	44 - 55	Vertical Bar → Horizontal Bar
	55 - 66	Horizontal Bar → Cross
	66 - 77	Cross → Arrow
	77 - 88	Arrow → Triangles
	88 - 99	Triangles → Star
	99 - 110	Star → Holes
	110 - 121	Holes → Bells
	121 - 132	Bells → Cone
	132 - 143	Cone → Cones
	143 - 154	Cones → Phone
	154 - 165	Phone → Thin Bars
	165 - 176	Thin Bars → Window
	176 - 187	Window → Turbine
	187 - 190	Turbine
	191 - 193	Window
	194 - 196	Thin Bars
	197 - 199	Phone
	200 - 202	Cones
	203 - 205	Cone
	206 - 208	Bells
	209 - 211	Holes
	212 - 214	Star
	215 - 217	Triangles
	218 - 220	Arrow
	221 - 223	Cross
	224 - 226	Horizontal Bar
	227 - 229	Vertical Bar
	230 - 232	Pin
	233 - 235	Dot
	236 - 238	Half
239 - 255	Open	

DMX Protocol, MODES 1 and 2 ONLY

Channel	DMX Values	Effect
5	0 - 255	Pan Left → right (127 = neutral)
6	0 - 255	Tilt Up → down (127 = neutral)

DMX Protocol, MODE 2 ONLY

Channel	DMX Values	Effect
7	0 1 - 251 252 - 255	Speed: Pan / Tilt / Movement Tracking Speed, fast → slow Blackout while changing
8	0 - 251 252 - 255 0 - 251 252 - 255	Color / Gobo Speed Speed, fast → slow Black-out while changing Dimmer Speed Speed, fast → slow Speed, fast

DMX Protocol, MODE 3 ONLY

Channel	DMX Values	Effect
5	0 - 255	Pan Coarse (MSB) Left → right (127 = neutral)
6	0 - 255	Pan Fine (LSB) Left → right (127 = neutral)
7	0 - 255	Tilt Coarse (MSB) Up → down (127 = neutral)
8	0 - 255	Tilt Fine (LSB) Up → down (127 = neutral)