

DMX PROTOCOL

<i>DMX Channel</i>	<i>Standard</i>	<i>Shape</i>	<i>Advanced</i>
1	LAYER 1 RED	LAYER 1 RED	RED
2	LAYER 1 GREEN	LAYER 1 RED FINE	GREEN
3	LAYER 1 BLUE	LAYER 1 GREEN	BLUE
4	LAYER 1 WHITE	LAYER 1 GREEN FINE	WHITE
5	LAYER 1 CTO	LAYER 1 BLUE	CTO
6	MACRO COLOUR	LAYER 1 BLUE FINE	L1 SHUTTER
7	MASTER SHUTTER	LAYER 1 WHITE	L1 DIMMER
8	MASTER DIMMER	LAYER 1 WHITE FINE	MASTER SHUTTER
9	MASTER DIMMER FINE	LAYER 1 CTO	MASTER DIMMER
10	TILT	MACRO COLOUR	MASTER DIMMER FINE
11	TILT FINE	LAYER 1 BACKGROUND SHUTTER	TILT
12	ZOOM1	LAYER 1 BACKGROUND DIMMER	TILT FINE
13	ZOOM2	MASTER SHUTTER	ZOOM1
14	FUNCTION	MASTER DIMMER	ZOOM2
15	RESET	MASTER DIMMER FINE	LAYER SELECTION
16	FREQ	TILT	LAYER CROSSFADE
17	-	TILT FINE	FUNCTION
18	-	ZOOM1	RESET
19	-	ZOOM2	FREQ
20	-	FUNCTION	LAYER 2 RED
21	-	RESET	LAYER 2 GREEN
22	-	FREQ	LAYER 2 BLUE
23	-	LAYER 2 SHAPE RED	LAYER 2 WHITE
24	-	LAYER 2 SHAPE GREEN	LAYER 2 CTO
25	-	LAYER 2 SHAPE BLUE	LAYER 2 SHUTTER
26	-	LAYER 2 SHAPE WHITE	LAYER 2 DIMMER
27	-	LAYER 2 SHAPE CTO	LAYER 2 PATTERN MODE
28	-	LAYER 2 FOREGROUND SHUTTER	LAYER 2 PATTERN SELECTION
29	-	LAYER 2 FREGROUND DIMMER	LAYER 2 PATTERN SPEED
30	-	LAYER 2 SHAPE MODE	LAYER 2 PATTERN FADE
31	-	LAYER 2 SHAPE SELECTION	LAYER 2 PATTERN TRANSITION
32	-	LAYER 2 SHAPE SPEED	L3 SHUTTER
33	-	LAYER 2 SHAPE FADE	L3 DIMMER
34	-	LAYER 2 SHAPE TRANSITION	-

DMX PIXEL ENGINE PROTOCOL

DMX Channel	Pixels RGB		DMX Channel	Pixels RGBW
1	Red 1		1	Red 1
2	Green 1		2	Green 1
3	Blue 1		3	Blue 1
4	Red 2		4	White 1
5	Green 2		5	Red 2
6	Blue 2		6	Green 2
7	Red 3		7	Blue 2
8	Green 3		8	White 2
9	Blue 3		9	Red 3
10	Red 4		10	Green 3
11	Green 4		11	Blue 3
12	Blue 4		12	White 3
13	Red 5		13	Red 4
14	Green 5		14	Green 4
15	Blue 5		15	Blue 4
16	Red 6		16	White 4
17	Green 6		17	Red 5
18	Blue 6		18	Green 5
19	Red 7		19	Blue 5
20	Green 7		20	White 5
21	Blue 7		21	Red 6
22	Red 8		22	Green 6
23	Green 8		23	Blue 6
24	Blue 8		24	White 6
25	Red 9		25	Red 7
26	Green 9		26	Green 7
27	Blue 9		27	Blue 7
28	Red 10		28	White 7
29	Green 10		29	Red 8
30	Blue 10		30	Green 8
-	-		31	Blue 8
-	-		32	White 8
-	-		33	Red 9
-	-		34	Green 9
-	-		35	Blue 9
-	-		36	White 9
-	-		37	Red 10
-	-		38	Green 10
-	-		39	Blue 10
-	-		40	White 10

Function details

CHANNEL			DMX VALUE	FUNCTION	
STANDARD	SHAPE	ADVANCED			
1	1	1		RED	
			000 - 255	Linear 0 – 100%	
-	2	-		RED FINE	
			000 - 255	Linear Fine Red (16 Bit)	
2	3	2		GREEN	
			000 - 255	Linear 0 – 100%	
-	4	-		GREEN FINE	
			000 - 255	Linear Fine Green (16 Bit)	
3	5	3		BLUE	
			000 - 255	Linear 0 – 100%	
-	6	-		BLUE FINE	
			000 - 255	Linear Fine Blue (16 Bit)	
4	7	4		WHITE	
			000 - 255	Linear 0 – 100%	
-	8	-		WHITE FINE	
			000 - 255	Fine White (16 Bit)	
5	9	5		CTO	
			000 - 255	8000K to 2500K	CTO Mode → Calibrated White
			000 - 009	Deactivated	
010 - 255	8000K to 2500K	CTO Mode → RAW			

CHANNEL			DMX VALUE	FUNCTION
STANDARD	SHAPE	ADVANCED		
6	10	-		MACRO COLOUR
			000 - 009	No macro colour
			010	Red
			011	Green
			012	Blue
			013	Cyan
			014	Yellow
			015	Magenta
			016	White 7000K
			017	White 3700K
			018	White 5000K
			019	Black
			020 - 022	Medium Yellow
			023 - 026	Straw Tint
			027 - 028	Surprise Peach
			029	Fire
			030	Medium Amber
			031	Gold Amber
			032 - 34	Dark Amber
			035 - 44	Sunrise Red
			045	Light Pink
			046 - 048	Medium Pink
			049 - 061	Pink Carnation
			062 - 067	Light Lavender
			068 - 077	Lavender
			078 - 088	Sky Blue
			089 - 099	Just Blue
			100 - 109	Dark Yellow green
			110 - 111	Spring Yellow
			112	Light Amber
			113	Straw
			114	Deep Amber
			115 - 116	Orange
			117	Light Rose
			118	English Rose
			119	Light Salmon
			120	Middle Rose
			121 - 122	Dark Pink
			123 - 124	Magenta
			125	Peacock Blue
			126	Med Blue Green
			127	Steel Blue
			128	Light Blue
			129 - 130	Dark Blue
			131 - 133	Leaf Green
			134 - 135	Dark Green
			136 - 137	Mauve
138 - 141	Bright Pink			
142 - 144	Medium Blue			
145	Deep Golden Amber			
146	Pale Lavender			
147 - 148	Special lavender			
149 - 150	Primary Green			
151 - 156	Bright Blue			
157 - 161	Apricot			
162 - 167	Pale Gold			
168 - 171	Deep Orange			
172 - 173	Bastard Amber			
174	Flame Red			
175 - 178	Daylight Blue			
179	Lilac Tint			
180 - 183	Deep Lavender			
184 - 190	Dark Steel Blue			
191 - 206	Congo Blue			
207	Alice Blue			
208	Dirty White			
209 - 255	White			

DMX chart

CHANNEL			DMX VALUE	FUNCTION
STANDARD	SHAPE	ADVANCED		
-	11	6		BACKGROUND LAYER 1 SHUTTER
			000 - 003	Light OFF
			004 - 103	Strobe frequency from Slow (1 flash/sec) to Fast (25 flash/sec)
			104 - 107	Light ON
			108 - 207	Pulsation frequency from slow (1 flash/sec) to Fast (25 flash/sec)
			208 - 212	Light ON
			213 - 225	Random Strobe at low frequency
			226 - 238	Random Strobe at medium frequency
			239 - 251	Random Strobe at high frequency
			252 - 255	Light ON
-	12	7		BACKGROUND LAYER 1 DIMMER
			000 - 255	Linear 0 – 100%
7	13	8		MASTER SHUTTER
			000 - 003	Light OFF
			004 - 103	Strobe frequency from Slow (1 flash/sec) to Fast (25 flash/sec)
			104 - 107	Light ON
			108 - 207	Pulsation frequency from slow (1 flash/sec) to Fast (25 flash/sec)
			208 - 212	Light ON
			213 - 225	Random Strobe at slow frequency
			226 - 238	Random Strobe at medium frequency
			239 - 251	Random Strobe at fast frequency
252 - 255	Light ON			
8	14	9		MASTER DIMMER
			000 - 255	Linear 0 – 100%
9	15	10		MASTER DIMMER FINE
			000 - 255	Linear Fine Dimmer
10	16	11		TILT
			000 - 255	Fixture positioning
11	17	12		TILT FINE
			000 - 255	Fine Fixture positioning
12	18	13		ZOOM1
			000 - 255	Zoom 1 lenses positioning
13	19	14		ZOOM2
			000 - 255	Zoom 2 lenses positioning
-	-	15		LAYER PRIORITY
			000 - 255	TBD

CHANNEL			DMX VALUE	FUNCTION
STANDARD	SHAPE	ADVANCED		
-	-	16		LAYER BLENDING
			000 - 255	TBD
				FUNCTION
			000 - 001	Free
			002 - 003	Fan AUTO mode
			004 - 007	Fan THEATRE mode
			008 - 009	Fan CONSTANT mode
			010 - 011	Free
			012 - 024	Free
			025 - 037	Free
			038 - 042	Total Zoom ON
			043 - 047	Total Zoom OFF
			048 - 052	Free
			053 - 057	Zoom Swap OFF
			058 - 062	Zoom Swap ON
			063 - 065	Display ON
			066 - 067	Display OFF
			068 - 072	Reverse mapping OFF
			073 - 077	Reverse mapping ON
			078 - 080	Setting LED calibration by RGBW pixels mapping channels
			081 - 083	Save actual LED calibration as "custom calibration"
			084 - 086	Set "custom calibration" preset
14	20	17	087 - 089	Set "full calibration" preset (all LEDs are calibrated at 255 DMX value)
			090 - 092	Set "factory calibration" preset
			093 - 097	Pixels Mapping Disable
			098 - 102	RGB (Pixels Mapping Enable)
			103 - 105	RGBW (Pixels Mapping Enable)
			106 - 120	Free
			121 - 130	Freq. 0 (36.5 – 73.5 kHz)
			131 - 140	Freq. 1 (18.2 – 36.5 kHz)
			141 - 150	Freq. 2 (9.19 – 18.2 kHz)
			151 - 160	Freq. 3 (4.55 – 9.19 kHz)
			161 - 170	Freq. 4 (2.27 – 4.55 kHz)
			171 - 180	Freq. 5 (1.14 – 2.27 kHz)
			181 - 183	Dimmer curve 1
			184 - 187	Dimmer curve 2
			188 - 190	Dimmer curve 3
			191 - 193	Dimmer curve 4
			194 - 197	Dimmer curve 5
			198 - 200	Dimmer curve 6
			198 - 255	Free
				The ranges function of fans mode and frequency ranges are activated after 5 seconds in required levels

DMX chart

CHANNEL			DMX VALUE	FUNCTION
STANDARD	SHAPE			
15	21	18		RESET
			000 - 025	Unused Range
			128 - 255	Complete Reset
			Each reset is activated passing through the unused range and staying 5 seconds in required levels	
16	22	19		FREQUENCY
			000 - 255	Light PWM frequency
-	23	20		LAYER 2 RED
			000 - 255	Linear 0 – 100%
-	24	21		LAYER 2 GREEN
			000 - 255	Linear 0 – 100%
-	25	22		LAYER 2 BLUE
			000 - 255	Linear 0 – 100%
-	26	23		LAYER 2 WHITE
			000 - 255	Linear 0 – 100%
-	27	24		SHAPE LAYER 2 CTO
			000 - 255	8000K to 2500K
			000 - 009	Deactivated
			010 - 255	8000K to 2500K
-	28	25		BACKGROUND LAYER 2 SHUTTER
			000 - 003	Light OFF
			004 - 103	Strobe frequency from Slow (1 flash/sec) to Fast (25 flash/sec)
			104 - 107	Light ON
			108 - 207	Pulsation frequency from slow (1 flash/sec) to Fast (25 flash/sec))
			208 - 212	Light ON (L2 slave)
			213 - 225	Random Strobe at low frequency
			226 - 238	Random Strobe at medium frequency
			239 - 251	Random Strobe at high frequency
			252 - 255	Light ON (L2 Master)
the shutter effect in this case refers only to the background				
-	29	26		BACKGROUND LAYER 2 DIMMER
			000 - 255	Linear 0 – 100%
-	30	27		LAYER 2 SHAPE/PATTERN MODE
			000 - 006	Normal Mode
			007 - 130	Static Mode
			131 - 255	Dynamic Mode

DMX chart

CHANNEL			DMX VALUE	FUNCTION
STANDARD	SHAPE	ADVANCED		
-	31	28	000 - 255	LAYER 2 SHAPE/PATTERN SELECTION Change shape pattern
-	32	29	000 - 255	LAYER 2 SHAPE/PATTERN SPEED Indexing (in Static mode)
-	32	29	000 - 124	Speed control fast to slow, forward (in Dynamic mode)
-	32	29	125 - 130	Stop (in Dynamic mode)
-	32	29	131 - 255	Speed control slow to fast, Backward (in Dynamic mode)
-	33	30	000 - 127	LAYER 2 SHAPE/PATTERN FADE Fade In/Out
-	33	30	128 - 255	Fade Out
-	34	31	000 - 255	LAYER 2 SHAPE/PATTERN TRANSITION Crossfade between layers/pattern (0: instant transition - 255: 3 seconds transition) ONLY ON LAYER MODE
-	-	32	000 - 003	L3 SHUTTER Light OFF
-	-	32	004 - 103	Strobe frequency from Slow (1 flash/sec) to Fast (25 flash/sec)
-	-	32	104 - 107	Light ON
-	-	32	108 - 207	Pulsation frequency from slow (1 flash/sec) to Fast (25 flash/sec)
-	-	32	208 - 212	Light ON (L3 Slave)
-	-	32	213 - 225	Random Strobe at low frequency
-	-	32	226 - 238	Random Strobe at medium frequency
-	-	32	239 - 251	Random Strobe at high frequency
-	-	32	252 - 255	Light ON (L3 Master)
				the shutter effect in this case refers only to the LAYER 3
-	-	33	000 - 255	L3 DIMMER Linear 0 – 100%