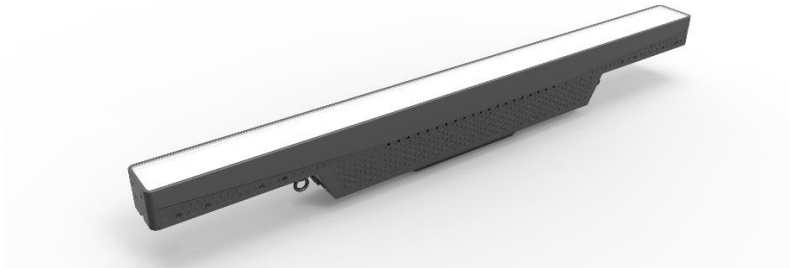


This document is valid for Tambora Linear 100 models.



DMX MODES

Tambora has five different operating modes:

- Standard RGBW 8bit
- Standard RGBW 16bit
- Shape RGBW
- Shape RGBW 16bit
- Advanced

The Standard modes allow to control the fixtures with a single colour layer.

The Shape mode allows user to select and manage countless type of graphic effects,

by enable Pixels/Strobe Engine (active in 0 seconds) the users can control RGB or Strobe of any single Led.

Advanced mode allows easy control with independent overlapping layers that can operate simultaneously

LAYER CONCEPT

Layer 1 control general fixture parameters.

Layer 2 control Shape Engine, fade colour speed transition in Dynamic or Static mode.

Layer 3 control dimmer and strobe of pixel mapping engine.

Layer 4 Strobe engine allows controls Strobe Shape Engine speed, fade, rate, duration, in Dynamic or Static mode,

Layer 2 and 3 can be set in master/slave mode

When a layer is set in master mode, it wins on the below layer even if the intensity is set at 0%

If a layer is set in master mode the pixel become black with involved layer dimmer set at 0%

If a layer is set in slave mode the layer become visible with involved dimmer set over 0%

Pixel/Strobe Mapping function ON (RGB) enable Pixel/Strobe Mapping engine. Function is activated in zero seconds.

PROTOCOL

<i>Mode</i>	<i>Number of Parameter</i>	<i>Colour Control</i>	<i>Notes</i>
Standard RGBW	9	RGBW 8bit	Colour control as single layer.
Standard RGBW 16bit	13	RGBW 16bit	Colour control as single layer.
Shape RGBW	31	RGBW 8bit	Colour control in 2 layers and strobe engine
Shape RGBW 16bit	39	RGBW 16bit	Colour control in 2 layers and strobe engine
Advanced	33	RGBW	Colour control, in 3 layers and strobe engine

IMPORTANT: The Shape RGBW is the default operating mode.

PIXELS ENGINE PROTOCOL

<i>Mode</i>	<i>Number of Parameter</i>	<i>Colour Control</i>	<i>Notes</i>
Disable	-	-	Disable the colour control for each led.
RGB	75	RGB 8bit	Colour control for each led.

STROBE ENGINE PROTOCOL

<i>Mode</i>	<i>Number of Parameter</i>	<i>Colour Control</i>	<i>Notes</i>
Disable	-	-	Disable the colour control for strobe led.
Enable	25	W 8bit	White strobe control for each led.

DMX PROTOCOL

<i>DMX Parameter</i>	<i>Standard RGBW</i>	<i>Standard RGBW 16bit</i>
1	Layer 1 Red	Layer 1 Red
2	Layer 1 Green	Layer 1 Red fine
3	Layer 1 Blue	Layer 1 Green
4	Layer 1 White	Layer 1 Green fine
5	Layer 1 CTO	Layer 1 Blue
6	Layer 1 Strobe	Layer 1 Blue fine
7	Layer 1 Dimmer	Layer 1 White
8	Layer 1 Dimmer fine	Layer 1 White fine
9	Layer 1 Function	Layer 1 CTO
10	-	Layer 1 Strobe
11	-	Layer 1 Dimmer
12	-	Layer 1 Dimmer Fine
13	-	Function

DMX Parameter	Shape RGBW	Shape RGBW 16bit
1	Layer 1 Red	Layer 1 Red
2	Layer 1 Green	Layer 1 Red fine
3	Layer 1 Blue	Layer 1 Green
4	Layer 1 White	Layer 1 Green fine
5	Layer 1 CTO	Layer 1 Blue
6	Master Strobe	Layer 1 Blue fine
7	Master Dimmer	Layer 1 White
8	Master Dimmer Fine	Layer 1 White fine
9	Function	Layer 1 CTO
10	Layer 2 Shape Selection	Master Strobe
11	Layer 2 Shape Effect	Master Dimmer
12	Layer 2 Indexing Speed	Master Dimmer Fine
13	Layer 2 Shape Fade	Function
14	Layer 2 Shape Strobe	Layer 2 Shape Selection
15	Layer 2 Shape Dimmer	Layer 2 Shape Effect
16	Layer 2 Shape Transition	Layer 2 Indexing Speed
17	Layer 2 Background Red	Layer 2 Shape Fade
18	Layer 2 Background Green	Layer 2 Shape Strobe
19	Layer 2 Background Blue	Layer 2 Shape Dimmer
20	Layer 2 Background White	Layer 2 Shape Transition
21	Layer 2 Background CTO	Layer 2 Background Red
22	Layer 2 Background Strobe	Layer 2 Background Red Fine
23	Layer 2 Background Dimmer	Layer 2 Background Green
24	Layer 4 Strobe Engine Strobe	Layer 2 Background Green Fine
25	Layer 4 Strobe Engine Dimmer	Layer 2 Background Blue
26	Layer 4 Strobe Engine Duration	Layer 2 Background Blue Fine
27	Layer 4 Strobe Engine Rate	Layer 2 Background White
28	Layer 4 Strobe Effect Selection	Layer 2 Background White Fine
29	Layer 4 Strobe Effect	Layer 2 Background CTO
30	Layer 4 Strobe Indexing/speed	Layer 2 Background Strobe
31	Layer 4 Strobe Fade	Layer 2 Background Dimmer
32		Layer 4 Strobe Engine Strobe
33		Layer 4 Strobe Engine Dimmer
34		Layer 4 Strobe Engine Duration
35		Layer 4 Strobe Engine Rate
36		Layer 4 Strobe Effect Selection
37		Layer 4 Strobe Effect
38		Layer 4 Strobe Indexing/speed
39		Layer 4 Strobe Fade

DMX Parameter	Advanced
1	Layer 1 Red
2	Layer 1 Green
3	Layer 1 Blue
4	Layer 1 White
5	Layer 1 CTO
6	Layer 1 Strobe
7	Layer 1 Dimmer
8	Master Strobe
9	Master Dimmer
10	Master Dimmer Fine
11	Function
12	Layer 2 Selection
13	Layer 2 Effect
14	Indexing/Speed
15	Layer 2 Fade
16	Layer 2 Strobe
17	Layer 2 Dimmer
18	Layer 2 Transition
19	Layer 2 Red
20	Layer 2 Green
21	Layer 2 Blue
22	Layer 2 White
23	Layer2 CTO
24	Layer 3 Strobe
25	Layer 3 Dimmer
26	Layer 4 Strobe Engine Strobe
27	Layer 4 Strobe Engine Dimmer
28	Layer 4 Strobe Engine Duration
29	Layer 4 Strobe Engine Rate
30	Layer 4 Strobe Effect Selection
31	Layer 4 Strobe Effect
32	Layer 4 Strobe Indexing/speed
33	Layer 4 Strobe Fade

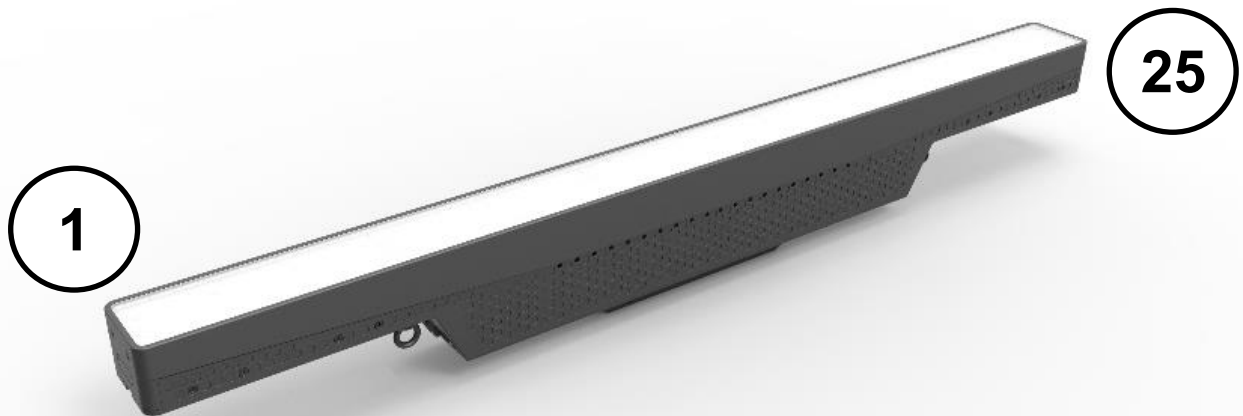
Pixels Engine DMX list

<i>DMX Parameter</i>	<i>Pixels RGB Mode</i>
1	Red Led 1
2	Green Led 1
3	Blue Led 1
4	Red Led 2
5	Green Led 2
6	Blue Led 2
7	Red Led 3
8	Green Led 3
9	Blue Led 3
⋮	⋮
73	Red Led 25
74	Green Led 25
75	Blue Led 25

<i>DMX Parameter</i>	<i>Pixels STROBE Mode</i>
1	White Led 1
2	White Led 2
3	White Led 3
4	White Led 4
⋮	⋮
23	White Led 23
24	White Led 24
25	White Led 25

Led reference number

IMPORTANT: The image refer to the fixture with the option Reverse Mapping OFF



Function details

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	Bit Value	Function
1	1	1	1	000 - 255	LAYER 1 RED Linear 0 – 100%
-	2	-	2	000 - 255	LAYER 1 RED FINE (16 Bit)
2	3	2	3	000 - 255	LAYER 1 GREEN Linear 0 – 100%
-	4	-	4	000 - 255	LAYER 1 GREEN FINE (16 Bit)
3	5	3	5	000 - 255	LAYER 1 BLUE Linear 0 – 100%
-	6	-	6	000 - 255	LAYER 1 BLUE FINE (16 bit)
4	7	4	7	000 - 255	LAYER 1 WHITE Linear 0 – 100%
-	8	-	8	000 - 255	LAYER 1 WHITE FINE (16 bit)
5	9	5	9		LAYER 1 CTO
				000 - 009	Unused range
				010 - 255	Col. temperature correction from 8000K to 2700K
6	10	6	10		MASTER STROBE
				000 - 003	Light OFF
				004 - 103	Strobe linear from slow (1Hz) to fast (25Hz)
				104 - 107	Light ON
				108 - 207	Pulse linear. from slow (0.5 Hz) to fast (25 Hz)
				208 - 212	Light ON
				213 - 225	Random Slow Strobe effect
				226 - 238	Random Medium Strobe effect
				239 - 251	Random Fast Strobe effect
				252 - 255	Light ON
7	11	7	11	000 - 255	MASTER DIMMER
8	12	8	12	000 - 255	MASTER DIMMER FINE (16 bit)

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	BIT Value	Function	
9	13	9	13		FUNCTION	
					IMPORTANT: Setting are activated and saved holding the DMX level for three seconds.	
				000 - 001	Unused range	
				002 - 003	Auto (Default): Speed Fans increase/decrease according to the LEDs temperature.	
				004 - 005	SLN: Speed Fans always at minimum range, light output change accordingly with ambient temperature.	
				006 - 007	Theatre: Speed Fans always at a constant range, light output constantly reduced.	
				008 - 009	Constant: Speed Fans at maximum range.	
				010 - 037	Unused range	
				038 - 042	Dimmer curve 1 (Default)	→Details at page 16
				043 - 047	Dimmer curve 2	
				048 - 052	Dimmer curve 3	
				053 - 055	Dimmer curve 4	
				056 - 057	Dimmer curve 5	
				058 - 062	Raw colour gamma 1	→Details at page 16
				063 - 067	Raw colour gamma 1.5	
				068 - 072	Raw colour gamma 2.2 (Default)	
				073 - 074	Colour calibration OFF (Default)	
				075 - 076	Colour calibration Factory	
				077 - 078	Colour calibration Customized	
				079 - 080	Set customized calibration at full white	
				081 - 082	Set customized calibration at 3200K	
				083 - 084	Set customized calibration at 5600K	
				085 - 086	Record customized calibration	
				087 - 088	Unused range	
				089 - 090	Reverse mapping OFF (Default)	
				091 - 092	Reverse mapping ON	
				093 - 097	Pixel mapping Disabled (Default)	
				098 - 102	Pixel mapping ON RGB Mode (active in 0 seconds)	
				103 - 107	Strobe Engine Disable (Default)	
				108 - 112	Strobe Engine Enable	
				113 - 167	Unused range	
				168 - 188	PWM frequency=600Hz	
				189 - 199	PWM frequency=1200Hz	
				200 - 210	PWM frequency=2000Hz (Default)	
				211 - 221	PWM frequency=4000Hz	
				222 - 232	PWM frequency=6000Hz	
				233 - 243	PWM frequency=25000Hz	
				244 - 248	Display OFF (Default)	
				249 - 253	Display ON	
				254 - 255	Default function recall	

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	BIT Value	Function	
-	-	10	14		LAYER 2 SHAPE SELECTION	
				000 - 005	Normal	
				006 - 130	Static	
				131 - 255	Dynamic	
-	-	11	15		LAYER 2 SHAPE EFFECT	
				000 - 007	Effect 1	
				008 - 015	Effect 2	
				016 - 023	Effect 3	
				024 - 248	
				249 - 255	Effect 33	
-	-	12	16		LAYER 2 INDEXING SPEED	
				000 - 255	Indexing	→ Static mode
				000 - 124	Speed from fast to slow, forward	→ Dynamic mode
				125 - 130	STOP	
				131 - 255	Speed from slow to fast, backward	
-	-	13	17		LAYER 2 SHAPE FADE	
				000 - 005	OFF	
				006 - 130	Fade change from fast to slow	
				131 - 255	Wake change from fast to slow	
-	-	14	18		LAYER 2 SHAPE STROBE	
				000 - 003	Light OFF	
				004 - 103	Strobe linear from slow (1Hz) to fast (25Hz)	
				104 - 107	Light ON	
				108 - 207	Pulse linear from slow (0.5 Hz) to fast (25 Hz)	
				208 - 212	Light ON (Shape Slave)	
				213 - 225	Random Slow Strobe effect	
				226 - 238	Random Medium Strobe effect	
				239 - 251	Random Fast Strobe effect	
252 - 255	Light ON (Shape Master)					
-	-	15	19	000 - 255	LAYER 2 SHAPE DIMMER	
-	-	16	20	000 - 255	LAYER 2 SHAPE TRANSITION Crossfade between macro shape	
-	-	17	21	000 - 255	LAYER 2 BACKGROUND RED Linear 0 – 100%	
-	-	-	22	000 - 255	LAYER 2 BACKGROUND RED FINE	
-	-	18	23	000 - 255	LAYER 2 BACKGROUND GREEN Linear 0 – 100%	
-	-	-	24	000 - 255	LAYER 2 BACKGROUND GREEN FINE	
-	-	19	25	000 - 255	LAYER 2 BACKGROUND BLUE Linear 0 – 100%	
-	-	-	26	000 - 255	LAYER 2 BACKGROUND BLUE FINE	
-	-	20	27	000 - 255	LAYER 2 BACKGROUND WHITE Linear 0 – 100%	
-	-	-	28	000 - 255	LAYER 2 BACKGROUND WHITE FINE	

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	BIT Value	Function
-	-	21	29		LAYER 2 BACKGROUND CTO
-	-	21	29	000 - 009	OFF
-	-	21	29	010 - 255	Col. temperature correction from 8000K to 2700K
-	-	22	30		LAYER 2 BACKGROUND STROBE
-	-	22	30	000 - 003	Light OFF
-	-	22	30	004 - 103	Strobe linear from slow (1Hz) to fast (25Hz)
-	-	22	30	104 - 107	Light ON
-	-	22	30	108 - 207	Pulse linear from slow (0.5 Hz) to fast (25 Hz)
-	-	22	30	208 - 212	Light ON
-	-	22	30	213 - 225	Random Slow Strobe effect
-	-	22	30	226 - 238	Random Medium Strobe effect
-	-	22	30	239 - 251	Random Fast Strobe effect
-	-	22	30	252 - 255	Light ON
-	-	23	31	000 - 255	LAYER 2 BACKGROUND DIMMER
-	-	24	32		LAYER 4 STROBE ENGINE STROBE
-	-	24	32	000 - 005	Light OFF
-	-	24	32	006 - 042	Ramp UP
-	-	24	32	043 - 085	Ramp Down
-	-	24	32	086 - 128	Ramp Up – Ramp Down
-	-	24	32	129 - 171	Random.
-	-	24	32	172 - 214	Lightning
-	-	24	32	215 - 225	Spikes (Flash over low light)
-	-	25	33	000 - 255	LAYER 4 STROBE ENGINE DIMMER

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	BIT Value	Function
-	-	26	34	000 - 255	LAYER 4 STROBE ENGINE DURATION
-	-	27	35	000 - 003	Light OFF
-	-	27	35	004 - 103	Strobe from slow (0.3Hz) to fast (25Hz).
-	-	28	36	000 - 005	Normal
-	-	28	36	006 - 130	Static
-	-	28	36	131 - 255	Dynamic
-	-	29	37	000 - 007	Effect 1
-	-	29	37	008 - 015	Effect 2
-	-	29	37	016 - 023	Effect 3
-	-	29	37	024 - 232
-	-	29	37	233 - 240	Effect 31
-	-	29	37	241 - 248	Effect 32
-	-	29	37	249 - 255	Effect 33
-	-	30	38	000 - 255	Indexing
-	-	30	38	000 - 124	Speed from Fast to Slow, forward
-	-	30	38	125 - 130	Stop
-	-	30	38	131 - 255	Speed from slow to Fast, backward
-	-	31	39	000 - 005	Unused range
-	-	31	39	006 - 130	Fade speed from fast to slow
-	-	31	39	131 - 255	Wake speed from fast to slow

Function details

<i>Advanced</i>	<i>Bit Value</i>	<i>Function</i>
1	000 - 255	LAYER 1 RED Linear 0 – 100%
2	000 - 255	LAYER 1 GREEN Linear 0 – 100%
3	000 - 255	LAYER 1 BLUE Linear 0 – 100%
4	000 - 255	LAYER 1 WHITE Linear 0 – 100%
5		LAYER 1 CTO
	000 - 009	OFF
	010 - 255	Col. temperature correction from 8000K to 2700K
6		LAYER 1 STROBE
	000 - 003	Light OFF
	004 - 103	Layer 1 Strobe linear from slow (1Hz) to fast (25Hz)
	104 - 107	Light ON
	108 - 207	Layer 1 Strobe Pulse linear. from slow (0.5 Hz) to fast (25 Hz)
	208 - 212	Light ON
	213 - 225	Random Slow Strobe effect
	226 - 238	Random Medium Strobe effect
	239 - 251	Random Fast Strobe effect
	252 - 255	Light ON
7	000 - 255	LAYER 1 DIMMER Linear 0 – 100%
8		MASTER STROBE
	000 - 003	Light OFF
	004 - 103	Strobe linear from slow (1Hz) to fast (25Hz)
	104 - 107	Light ON
	108 - 207	Strobe Pulse linear from slow (0.5 Hz) to fast (25 Hz)
	208 - 212	Light ON
	213 - 225	Random Slow Strobe effect
	226 - 238	Random Medium Strobe effect
	239 - 251	Random Fast Strobe effect
	252 - 255	Light ON
9	000 - 255	MASTER DIMMER. Linear 0 – 100%
10	000 - 255	MASTER DIMMER FINE (16 bit)
11		Same as the FUNCTION parameter of the other DMX modes.
12		LAYER 2 SELECTION
	000 - 005	Normal
	006 - 130	Static
	131 - 255	Dynamic
13		LAYER 2 EFFECT
	000 - 007	Effect 1
	008 - 015	Effect 2

	241 - 248	Effect 32
	249 - 255	Effect 33

Advanced	Bit Value	Function	
14		INDEXING/SPEED	
	000 - 255	Indexing	→ Static mode
	000 - 124	Speed from fast to slow, forward	→ Dynamic mode
	125 - 130	Stop	
131 - 255	Speed from slow to fast, backward		
15		LAYER 2 FADE	
	000 - 005	OFF	
	006 - 130	Fade speed shape from fast to slow.	
	131 - 255	Wake increase pixel back and front on the selected shape from fast to slow	
16		LAYER 2 STROBE	
	000 - 003	Light OFF	
	004 - 103	Layer 2 Strobe linear from slow (1Hz) to fast (25Hz)	
	104 - 107	Light ON	
	108 - 207	Layer 2 Strobe Pulse linear from slow (0.5 Hz) to fast (25 Hz)	
	208 - 212	Light ON (Layer 2 Slave)	
	213 - 225	Random Slow Strobe effect	
	226 - 238	Random Medium Strobe effect	
	239 - 251	Random Fast Strobe effect	
252 - 255	Light ON (Layer 2 Master)		
17	000 - 255	LAYER 2 DIMMER Linear 0 – 100%	
18	000 - 255	LAYER 2 TRANSITION Crossfade between shape.	
19	000 - 255	LAYER 2 RED Linear 0 – 100%	
20	000 - 255	LAYER 2 GREEN Linear 0 – 100%	
21	000 - 255	LAYER 2 BLUE Linear 0 – 100%	
22	000 - 255	LAYER 2 WHITE Linear 0 – 100%	
23		LAYER 2 CTO	
	000 - 009	CTO OFF	
	010 - 255	Col. temperature correction from 8000K to 2700K	
24		LAYER 3 STROBE	
	000 - 003	Light OFF	
	004 - 103	Layer 3 Strobe linear from slow (1Hz) to fast (25Hz)	
	104 - 107	Light ON	
	108 - 207	Layer 2 Strobe Pulse linear from slow (0.5 Hz) to fast (25 Hz)	
	208 - 212	Light ON (Layer 3 Slave)	
	213 - 225	Random Slow Strobe effect	
	226 - 238	Random Medium Strobe effect	
	239 - 251	Random Fast Strobe effect	
252 - 255	Light ON (Layer 3 Master)		
25	000 - 255	LAYER 3 DIMMER Linear 0 – 100%.	

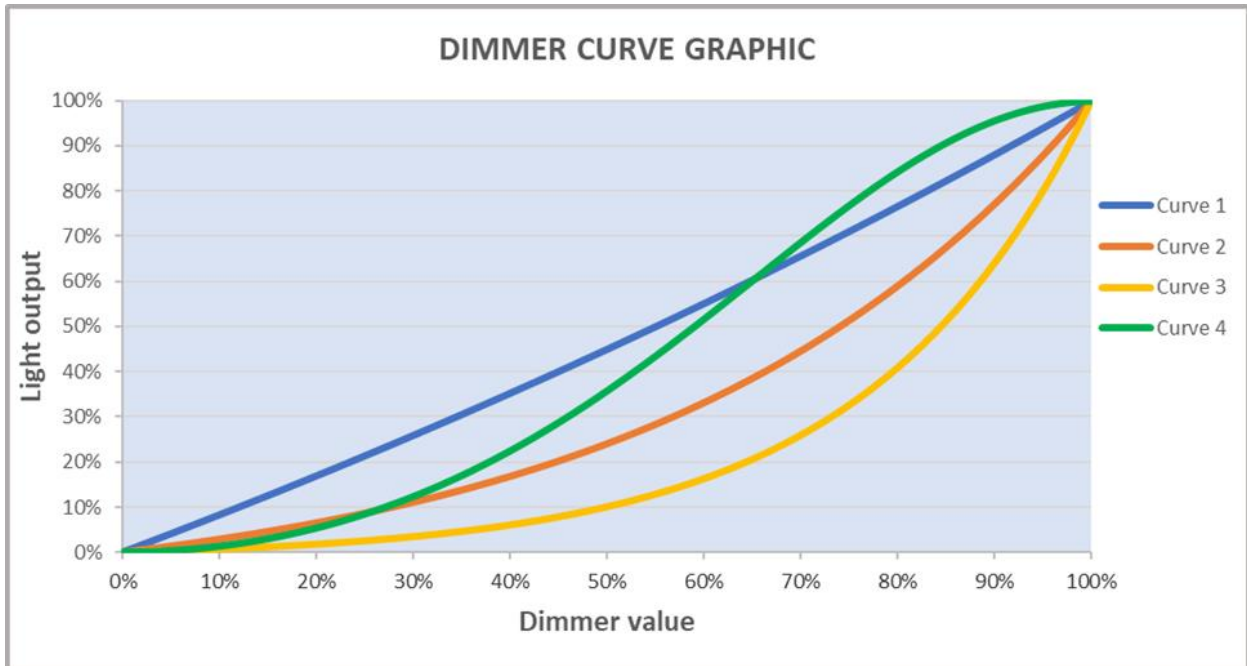
<i>Advanced</i>	<i>Bit Value</i>	<i>Function</i>	
26		LAYER 4 STROBE ENGINE STROBE	
	000 - 005	Unused Range	
	006 - 042	Ramp UP	
	043 - 085	Ramp DOWN	
	086 - 128	Ramp UP, DOWN	
	129 - 171	Random	
	172 - 214	Lightning	
	215 - 255	Spike flash over low light	
27	000 - 255	LAYER 4 STROBE ENGINE DIMMER Linear 0 – 100%.	
28	000 - 255	LAYER 4 STROBE ENGINE DURATION	
29		LAYER 4 STROBE ENGINE RATE	
	000 - 005	Light OFF	
	006 - 255	Strobe speed from slow (0,3Hz) to fast (25Hz).	
30		LAYER 4 STROBE EFFECT SELECTION	
	000 - 005	Normal	
	006 - 130	Static	
	131 - 255	Dynamic	
31		LAYER 4 STROBE ENGINE EFFECT	
	000 - 007	Effect 1	
	008 - 015	Effect 2	
	016 - 023	Effect 3	
	024 - 232	
	233 - 240	Effect 31	
	241 - 248	Effect 32	
	249 - 255	Effect 33	
32		LAYER 4 STROBE INDEXING/SPEED	
	000 - 255	Indexing	
	000 - 124	Speed from fast to slow, forward	→ Static mode
	125 - 130	Stop	
	131 - 255	Speed from slow to fast, backward	
		→ Dynamic mode	
33		LAYER 4 STROBE FADE	
	000 - 005	Unused range	
	006 - 130	Fade speed shape from fast to slow	
	131 - 255	Wake increase pixel back and front on the selected shape from fast to slow	

Function details – Pixels

<i>RGB</i>	<i>Bit Value</i>	<i>Function</i>
1	000 - 255	RED LED 1 Linear 0 – 100%.
2	000 - 255	GREEN LED 1 Linear 0 – 100%.
3	000 - 255	BLUE LED 1 Linear 0 – 100%.
4	000 - 255	RED LED 2 Linear 0 – 100%.
5	000 - 255	GREEN LED 2 Linear 0 – 100%.
6	000 - 255	BLUE LED 2 Linear 0 – 100%.
⋮	⋮	Functionality are the same for all the Led's
73	000 - 255	RED LED 25 Linear 0 – 100%.
74	000 - 255	GREEN LED 25 Linear 0 – 100%.
75	000 - 255	BLUE LED 25 Linear 0 – 100%.

Function details – Strobe

<i>Advanced</i>	<i>Bit Value</i>	<i>Function</i>
1	000 - 255	WHITE LED 1 Linear 0 – 100%
2	000 - 255	WHITE LED 2 Linear 0 – 100%
3	000 - 255	WHITE LED 3 Linear 0 – 100%
⋮	⋮	Functionality are the same for all the Led's
23	000 - 255	WHITE LED 23 Linear 0 – 100%
24	000 - 255	WHITE LED 24 Linear 0 – 100%
25	000 - 255	WHITE LED 25 Linear 0 – 100%



IMPORTANT NOTE: Dimmer Curve 5 has all the Leds synchronized, for balanced behavior in white.

