

This document is valid for Mini-B Sparky Aqua.



DMX MODE

Mini-B Sparky Aqua 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 Engine (active in 0 seconds) the users can control RGB or RGBW of any section Led's.

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

LAYER CONCEPTS

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 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

If a layer is set in slave mode the layer below win

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

DMX MODE

<i>Mode</i>	<i>Number of Parameter</i>	<i>Colour Control</i>	<i>Notes</i>
Standard RGBW	14	RGBW 8bit	Colour control as single layer.
Standard RGBW 16bit	18	RGBW 16bit	Colour control as single layer.
Shape RGBW	28	RGBW 8bit	Colour control in 2 layers with background effect.
Shape RGBW 16bit	36	RGBW 16bit	Colour control in 2 layers with background effect.
Advanced	30	RGBW	Colour control, in 3 layers with background effect.

IMPORTANT: The Shape RGBW is the default operating mode.

PIXELS ENGINE DMX MODES

<i>Mode</i>	<i>Number of Parameter</i>	<i>Colour Control</i>	<i>Notes</i>
Disable	-	-	Disable the colour control for each led.
RGB	30	RGB 8bit	Colour control for each led section.
RGBW	40	RGBW 8bit	Colour control for each led section.

DMX MODE

DMX Parameter	Standard RGBW	Standard RGBW 16bit	Shape RGBW
1	Red	Red	Red
2	Green	Red fine	Green
3	Blue	Green	Blue
4	White	Green fine	White
5	CTO	Blue	CTO
6	Strobe	Blue fine	Strobe
7	Dimmer	White	Dimmer
8	Dimmer fine	White fine	Dimmer Fine
9	Pan	CTO	Pan
10	Pan fine	Strobe	Pan Fine
11	Tilt	Dimmer	Tilt
12	Tilt fine	Dimmer Fine	Tilt Fine
13	Function	Pan	Function
14	Reset	Pan Fine	Reset
15	-	Tilt	Shape Selection
16	-	Tilt Fine	Shape Effect
17	-	Function	Indexing Speed
18	-	Reset	Shape Fade
19	-	-	Shape Strobe
20	-	-	Shape Dimmer
21	-	-	Shape Transition
22	-	-	Background Red
23	-	-	Background Green
24	-	-	Background Blue
25	-	-	Background White
26	-	-	Background CTO
27	-	-	Background Strobe
28	-	-	Background Dimmer

DMX Parameter	Shape RGBW 16bit	Advanced
1	Red	Layer 1 Red
2	Red fine	Layer 1 Green
3	Green	Layer 1 Blue
4	Green fine	Layer 1 White
5	Blue	Layer 1 CTO
6	Blue fine	Layer 1 Strobe
7	White	Layer 1 Dimmer
8	White fine	Strobe
9	CTO	Master Dimmer
10	Strobe	Master Dimmer Fine
11	Dimmer	Pan
12	Dimmer Fine	Pan Fine
13	Pan	Tilt
14	Pan Fine	Tilt Fine
15	Tilt	Function
16	Tilt Fine	Reset
17	Function	Layer 2 Selection
18	Reset	Layer 2 Effect
19	Shape Selection	Indexing/Speed
20	Shape Effect	Layer 2 Fade
21	Indexing Speed	Layer 2 Strobe
22	Shape Fade	Layer 2 Dimmer
23	Shape Strobe	Layer 2 Transition
24	Shape Dimmer	Layer 2 Red
25	Shape Transition	Layer 2 Green
26	Background Red	Layer 2 Blue
27	Background Red Fine	Layer 2 White
28	Background Green	Layer2 CTO
29	Background Green Fine	Layer 3 Strobe
30	Background Blue	Layer 3 Dimmer
31	Background Blue Fine	-
32	Background White	-
33	Background White Fine	-
34	Background CTO	-
35	Background Strobe	-
36	Background Dimmer	-

PIXEL ENGINE MODE

DMX Parameter	Pixels RGB Mode		DMX Parameter	Pixels RGBW Mode
1	Red Led 1		1	Red Led 1
2	Green Led 1		2	Green Led 1
3	Blue Led 1		3	Blue Led 1
4	Red Led 2		4	White Led 1
5	Green Led 2		5	Red Led 2
6	Blue Led 2		6	Green Led 2
7	Red Led 3		7	Blue Led 2
8	Green Led 3		8	White Led 2
9	Blue Led 3		⋮	⋮
⋮	⋮		33	Red Led 9
28	Red Led 10		34	Green Led 9
29	Green Led 10		35	Blue Led 9
30	Blue Led 10		36	White Led 9
-	-		37	Red Led 10
-	-		38	Green Led 10
-	-		39	Blue Led 10
-	-		40	White Led 10

Functions details

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	DMX Default Value	Bit Value	Functions
1	1	1	1	000		RED
					000 - 255	Linear 0 – 100%
-	2	-	2	000		RED FINE
					000 - 255	Fine Red Intensity (16 Bit)
2	3	2	3	000		GREEN
					000 - 255	Linear 0 – 100%
-	4	-	4	000		GREEN FINE
					000 - 255	Fine Green Intensity (16Bit)
3	5	3	5	000		BLUE
					000 - 255	Linear 0 – 100%
-	6	-	6	000		BLUE FINE
					000 - 255	Fine Blue Intensity (16Bit)
4	7	4	7	000		WHITE
					000 - 255	Linear 0 – 100%
-	8	-	8	000		WHITE FINE
					000 - 255	Fine White Intensity (16Bit)
5	9	5	9	000		CTO
					000 - 009	Unused range/CTO OFF
					010 - 255	8000 K - 2700 K
6	10	6	10	255		STROBE
					000 - 003	Light OFF
					004 - 103	Strobe frequency from slow (1Hz) to fast (25Hz)
					104 - 107	Light ON
					108 - 207	Pulsation 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		DIMMER
					000 - 255	Dimmer from 0 to 100%
8	12	8	12	000		DIMMER FINE
					000 - 255	Fine Dimmer Intensity
9	13	9	13	128		Pan
					000 - 255	Pan positioning
10	14	10	14	128		Pan FINE
					000 - 255	Fine Pan Positioning
11	15	11	15	128		TILT
					000 - 255	Tilt positioning by 220°
12	16	12	16	128		TILT FINE
					000 - 255	Fine Tilt Positioning

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	BIT Value	Functions	
13	17	13	17		FUNCTION (DMX Default value 000 bit)	
					IMPORTANT: Settings are activated and saved holding the DMX level for three seconds.	
				000 - 001	Unused range	
				002 - 003	Auto (Default): Fans increase/decrease accordingly with LEDs temperature.	
				004 - 005	SLN: Fans spin always at minimum range, light output change accordingly with ambient temperature.	
				006 - 007	Theatre: Fans are always at a constant range, And light output is constantly reduced.	
				008 - 009	Constant: Fans power at maximum range.	
				010 - 011	Unused range	
				012 - 024	Tilt speed: Fast (Default).	
				025 - 037	Tilt speed: Standard.	
				038 - 042 043 - 047 048 - 052 053 - 055 056 - 057	Dimmer curve 1 (Default) Dimmer curve 2 Dimmer curve 3 Dimmer curve 4 Dimmer curve 5	→Details on page 17
				058 - 062 063 - 067 068 - 072	Raw colour gamma 1 Raw colour gamma 1.5 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 - 090 091 - 092	Reverse mapping OFF (Default) Reverse mapping ON	
				093 - 097	Pixel mapping Disabled (Default)	
				098 - 102	Pixel mapping ON RGB Mode (active in 0 seconds)	
				103 - 117	Pixel mapping ON RGBW Mode (active in 0 seconds)	
				118 - 167	Unused range	
				168 - 188 189 - 199 200 - 210 211 - 221 222 - 232 233 - 243	PWM frequency=600Hz PWM frequency=1200Hz PWM frequency=2000Hz (Default) PWM frequency=4000Hz PWM frequency=6000Hz 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	DMX Default Value	BIT Value	Functions
14	18	14	18	000		RESET IMPORTANT: Reset sequences are activated and saved holding the DMX level for 5 seconds.
					000 - 076 077 - 127 128 - 255	Unused range Tilt Reset Complete Reset
-	-	15	19	000	000 - 005 006 - 130 131 - 255	SHAPE SELECTION Normal Static Dynamic

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	DMX Default Value	BIT Value	Functions	
-	-	16	20	000		SHAPE EFFECT	
					000 - 007	Effect 1	
					008 - 015	Effect 2	
					016 - 023	Effect 3	
					024 - 031	Effect 4	
					032 - 038	Effect 5	
					039 - 046	Effect 6	
					047 - 054	Effect 7	
					055 - 062	Effect 8	
					063 - 069	Effect 9	
					070 - 077	Effect 10	
					078 - 085	Effect 11	
					086 - 093	Effect 12	
					094 - 100	Effect 13	
					101 - 108	Effect 14	
					109 - 116	Effect 15	
					117 - 124	Effect 16	
					125 - 131	Effect 17	
					132 - 139	Effect 18	
					140 - 147	Effect 19	
					148 - 155	Effect 20	
					156 - 162	Effect 21	
					163 - 170	Effect 22	
					171 - 178	Effect 23	
					179 - 186	Effect 24	
					187 - 193	Effect 25	
					194 - 201	Effect 26	
					202 - 209	Effect 27	
					210 - 217	Effect 28	
					218 - 224	Effect 29	
					225 - 232	Effect 30	
					233 - 240	Effect 31	
					241 - 248	Effect 32	
249 - 255	Effect 33						
-	-	17	21	000		INDEXING SPEED	
					000 - 255	Indexing	Available only If shape selection is static is set
					000 - 124	Speed from fast to slow, forward	Available only if shape selection Dynamic is set
					125 - 130	STOP	
131 - 255	Speed from slow to fast, backward						

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	DMX Default Value	BIT Value	Functions
-	-	18	22	000		SHAPE FADE
					000 - 005	OFF
					006 - 130	Fade change from fast to slow
					131 - 255	Wake change from fast to slow
-	-	19	23	105		SHAPE STROBE
					000 - 003	Light OFF
					004 - 103	Strobe from slow to fast
					104 - 107	Light ON
					108 - 207	Pulsation from slow to fast
					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)					
-	-	20	24	000		SHAPE DIMMER
					000 - 255	Linear 0 – 100%
-	-	21	25	000		SHAPE TRANSITION
					000 - 255	Crossfade between macro shapes

Standard RGBW	Standard RGBW 16bit	Shape RGBW	Shape RGBW 16bit	DMX Default Value	BIT Value	Functions
-	-	22	26	000		BACKGROUND RED
					000 - 255	Linear 0 – 100%
-	-	-	27	000		BACKGROUND RED FINE
					000 - 255	Fine Red intensity
-	-	23	28	000		BACKGROUND GREEN
					000 - 255	Linear 0 – 100%
-	-	-	29	000		BACKGROUND GREEN FINE
					000 - 255	Fine Green Intensity
-	-	24	30	000		BACKGROUND BLUE
					000 - 255	Linear 0 – 100%
-	-	-	31	000		BACKGROUND BLUE FINE
					000 - 255	Fine Blue Intensity
-	-	25	32	000		BACKGROUND WHITE
					000 - 255	Linear 0 – 100%
-	-	-	33	000		BACKGROUND WHITE FINE
					000 - 255	Fine White Intensity
-	-	26	34	000		BACKGROUND CTO
					000 - 009	OFF
					010 - 255	8000K – 2500K
-	-	27	35	105		BACKGROUND STROBE
					000 - 003	Light OFF
					004 - 103	Strobe frequency from slow to fast (1Hz) to fast (25Hz)
					104 - 107	Light ON
					108 - 207	Pulsation frequency from slow to fast (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
-	-	28	36	000		BACKGROUND DIMMER
					000 - 255	Linear 0 – 100%

Function details **ADVANCED MODE**

<i>Advanced</i>	<i>DMX Default</i>	<i>Bit Value</i>	<i>Functions</i>
1	000		LAYER 1 RED
		000 - 255	Linear 0 – 100%
2	000		LAYER 1 GREEN
		000 - 255	Linear 0 – 100%
3	000		LAYER 1 BLUE
		000 - 255	Linear 0 – 100%
4	000		LAYER 1 WHITE
		000 - 255	Linear 0 – 100%
5	000		LAYER 1 CTO
		000 - 009	OFF
		010 - 255	8000K to 2500K
6	105		LAYER 1 STROBE
		000 - 003	Light OFF
		004 - 103	Layer 1 Strobe from slow to fast (1Hz) to fast (25Hz)
		104 - 107	Light ON
		108 - 207	Layer 1 Pulsation from slow to fast (0.5 Hz) to fast (25 Hz)
		208 - 212	Light ON
		213 - 225	Random Slow Strobe effect
226 - 238	Random Medium Strobe effect		
7	000		LAYER 1 DIMMER
		000 - 255	Linear 0 – 100%
8	105		STROBE
		000 - 003	Light OFF
		004 - 103	Strobe frequency from slow (1Hz) to fast (25Hz)
		104 - 107	Light ON
		108 - 207	Pulsation frequency 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		MASTER DIMMER.
		000 - 255	Linear 0 – 100%
10	000		MASTER DIMMER FINE (16 bit)
		000 - 255	Fine Dimmer intensity (16bit)
11	128		Pan
		000 - 255	Pan positioning
12	128		Pan FINE
		000 - 255	Fine Pan Positioning
13	128		TILT
		000 - 255	Tilt positioning by 220°
14	128		TILT FINE
		000 - 255	Fine Tilt Positioning

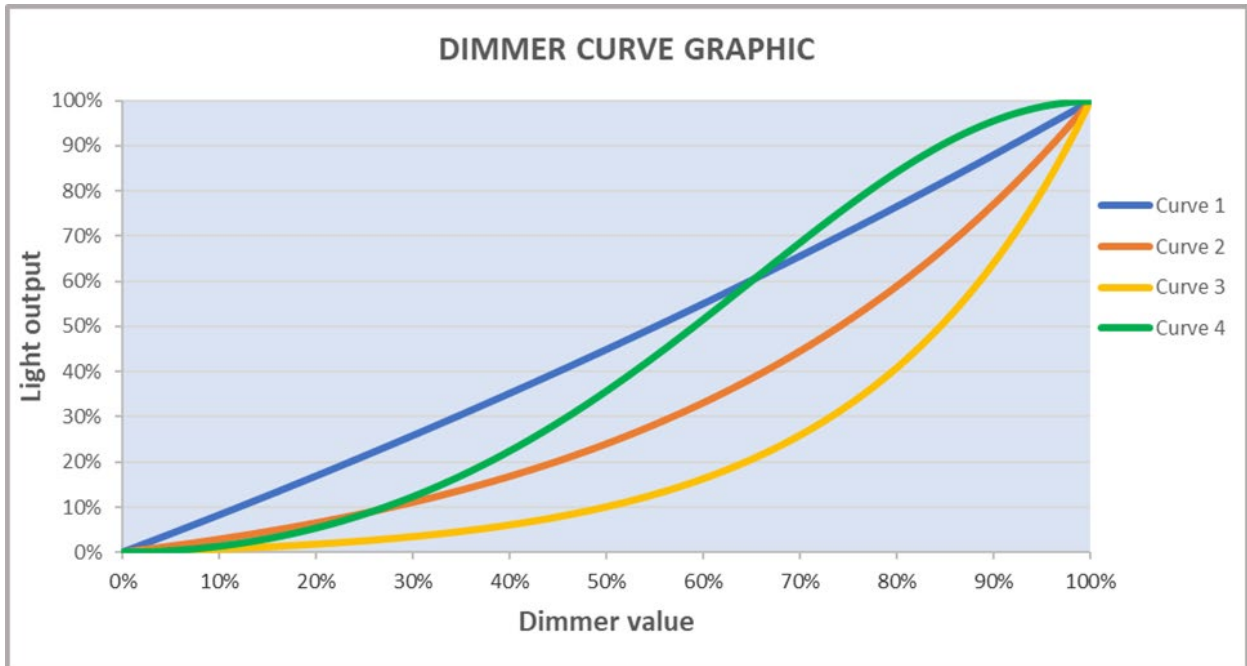
Advanced	DMX Default Value	Bit Value	Functions
15			Same as the FUNCTION parameter of the other DMX modes.
16	000		RESET
		000 - 025	Unused range
		026 - 076	Zoom reset
		077 - 127	Tilt reset
		128 - 255	Complete reset
17	000		LAYER 2 SELECTION
		000 - 005	Normal
		006 - 130	Static
		131 - 255	Dynamic
18	000		LAYER 2 EFFECT
		000 - 007	Effect 1
		008 - 015	Effect 2
		016 - 023	Effect 3
		024 - 031	Effect 4
		032 - 038	Effect 5
		039 - 046	Effect 6
		047 - 054	Effect 7
		055 - 062	Effect 8
		063 - 069	Effect 9
		070 - 077	Effect 10
		078 - 085	Effect 11
		086 - 093	Effect 12
		094 - 100	Effect 13
		101 - 108	Effect 14
		109 - 116	Effect 15
		117 - 124	Effect 16
		125 - 131	Effect 17
		132 - 139	Effect 18
		140 - 147	Effect 19
		148 - 155	Effect 20
		156 - 162	Effect 21
		163 - 170	Effect 22
		171 - 178	Effect 23
		179 - 186	Effect 24
		187 - 193	Effect 25
		194 - 201	Effect 26
		202 - 209	Effect 27
		210 - 217	Effect 28
		218 - 224	Effect 29
		225 - 232	Effect 30
		233 - 240	Effect 31
		241 - 248	Effect 32
249 - 255	Effect 33		

Advanced	DMX Default Value	Bit Value	Functions	
19	000		INDEXING/SPEED	
		000 - 255	Indexing	Available only if shape selection is static is set
		000 - 124	Speed from fast to slow, forward	Available only if shape selection Dynamic is set
		125 - 130	Stop	
		131 - 255	Speed from slow to fast, backward	
20	000		LAYER 2 FADE	
		000 - 005	OFF	
		006 - 130	Fade control on shape from fast to slow.	
		131 - 255	Wake linearly increase of pixel back and forth on the selected shape	
21	000		LAYER 2 STROBE	
		000 - 003	Light OFF	
		004 - 103	Layer 2 Strobe from slow to fast.	
		104 - 107	Light ON	
		108 - 207	Layer 2 pulsation from slow to fast.	
		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)	
22	000		LAYER 2 DIMMER	
		000 - 255	Linear 0 – 100%	
23	000		LAYER 2 TRANSITION	
		000 - 255	Crossfade between shape.	
24	000		LAYER 2 RED	
		000 - 255	Linear 0 – 100%	
25	000		LAYER 2 GREEN	
		000 - 255	Linear 0 – 100%	
26	000		LAYER 2 BLUE	
		000 - 255	Linear 0 – 100%	
27	000		LAYER 2 WHITE	
		000 - 255	Linear 0 – 100%	
28	000		LAYER 2 CTO	
		000 - 009	CTO OFF	
		010 - 255	Layer 2 8000K to 2700K	

<i>Advanced</i>	<i>DMX Default Value</i>	<i>Bit Value</i>	<i>Functions</i>
29	105		LAYER 3 STROBE
		000 - 003	Light OFF
		004 - 103	Layer 3 Strobe effect from slow to fast.
		104 - 107	Light ON
		108 - 207	Layer 3 pulsation from slow to fast.
		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)	
30	000		LAYER 3 DIMMER
		000 - 255	Linear 0 – 100%.

Functions details – Pixels Engine

<i>RGB</i>	<i>RGBW</i>	<i>DMX Default Value</i>	<i>Bit Value</i>	<i>Functions</i>
1	1	000		RED LED 1
			000 - 255	Linear 0 – 100%.
2	2	000		GREEN LED 1
			000 - 255	Linear 0 – 100%.
3	3	000		BLUE LED 1
			000 - 255	Linear 0 – 100%.
-	4	000		WHITE LED 1
			000 - 255	Linear 0 – 100%.
4	5	000		RED LED 2
			000 - 255	Linear 0 – 100%.
5	6	000		GREEN LED 2
			000 - 255	Linear 0 – 100%.
6	7	000		BLUE LED 2 Linear
			000 - 255	Linear 0 – 100%.
-	8	000		WHITE LED 2
			000 - 255	Linear 0 – 100%.
⋮	⋮		⋮	Functionalities are the same for all the Leds
28	37	000		RED LED 10
			000 - 255	Linear 0 – 100%.
29	38	000		GREEN LED 10
			000 - 255	Linear 0 – 100%.
30	39	000		BLUE LED 10
			000 - 255	Linear 0 – 100%.
-	40	000		WHITE LED 10 .
			000 - 255	Linear 0 – 100%.



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

