

The projector has 4 operating modes: Basic RGBW, Basic RGBW 16bit, Extended RGBW and Extended RGBW 16bit.

The Basic mode has the single control of all the LEDs, while the Extended mode has the control of the central LED in separated channels compare the circle LEDs.

## OPERATING MODE

<i>DMX Mode</i>	<i>Number of parameter</i>	<i>Color Control Mode</i>	<i>Notes</i>
Basic RGBW	17	RGBW 8bit	All LEDs in 1 layer
Basic RGBW 16bit	21	RGBW 16bit	All LEDs in 1 layer
Extended RGBW	21	RGBW 8bit	Centre and Circle LEDs in separated channels
Extended RGBW 16bit	29	RGBW 16bit	Centre and Circle LEDs in separated channels

## BASIC MODE PROTOCOL

<b>DMX Parameter number</b>	<b>Basic RGBW</b>	<b>Basic RGBW 16bit</b>	<b>Extended RGBW</b>	<b>Extended RGBW 16bit</b>
1	Red	Red	Red Circle	Red Circle
2	Green	Red fine	Green Circle	Red Circle fine
3	Blue	Green	Blue Circle	Green Circle
4	White	Green fine	White Circle	Green Circle fine
5	CTO	Blue	Red Centre	Blue Circle
6	Macro color	Blue fine	Green Centre	Blue Circle fine
7	Strobe	White	Blue Centre	White Circle
8	Dimmer	White fine	White Centre	White Circle fine
9	Dimmer fine	CTO	CTO	Red Centre
10	Pan	Macro color	Macro color	Red Centre fine
11	Pan fine	Strobe	Strobe	Green Centre
12	Tilt	Dimmer	Dimmer	Green Centre fine
13	Tilt fine	Dimmer fine	Dimmer fine	Blue Centre
14	Zoom	Pan	Pan	Blue Centre fine
15	Color crossfade	Pan fine	Pan fine	White Centre
16	Function	Tilt	Tilt	White Centre fine
17	Reset	Tilt fine	Tilt fine	CTO
18	-	Zoom	Zoom	Macro color
19	-	Color crossfade	Color crossfade	Strobe
20	-	Function	Function	Dimmer
21	-	Reset	Reset	Dimmer fine
22	-	-	-	Pan
23	-	-	-	Pan fine
24	-	-	-	Tilt
25	-	-	-	Tilt fine
26	-	-	-	Zoom
27	-	-	-	Color crossfade
28	-	-	-	Function
29	-	-	-	Reset

## BASIC MODE PROTOCOL

<i>RGBW</i>	<i>RGBW 16bit</i>	<i>DMX value</i>	<i>Function</i>
<b>1</b>	<b>1</b>	<b>000 - 255</b>	RED linear 0 - 100%
-	<b>2</b>	<b>000 - 255</b>	RED FINE (16 Bit)
<b>2</b>	<b>3</b>	<b>000 - 255</b>	GREEN linear 0 -100%
-	<b>4</b>	<b>000 - 255</b>	GREEN FINE (16 Bit)
<b>3</b>	<b>5</b>	<b>000 - 255</b>	BLUE linear 0 -100%
-	<b>6</b>	<b>000 - 255</b>	BLUE FINE (16 bit)
<b>4</b>	<b>7</b>	<b>000 - 255</b>	WHITE linear 0 -100%
-	<b>8</b>	<b>000 - 255</b>	WHITE FINE (16 bit)
<b>5</b>	<b>9</b>	<b>000 - 009</b> <b>010 - 255</b>	<b>CTO</b> Colour Temperature control 8000K to 2500K <b>Important:</b> The CTO parameter has priority on the colour functions. Unused range 8000 K – 2500K
<b>6</b>	<b>10</b>	<b>0 - 255</b>	<b>MACRO COLOR</b> See chart at page 10 for colours details. <b>Important:</b> The Macro Color parameter has priority on the colour functions.
<b>7</b>	<b>11</b>		<b>STROBE</b>
		<b>000 - 003</b>	Light OFF
		<b>004 - 103</b>	Strobe linear from low (1Hz) to fast (25Hz)
		<b>104 - 107</b>	Light ON
		<b>108 - 207</b>	Pulsation linear from slow (0.5 Hz) to fast (25 Hz)
		<b>208 - 212</b>	Light ON
		<b>213 - 225</b>	Random Slow Strobe effect
		<b>226 - 238</b>	Random Medium Strobe effect
		<b>239 - 251</b>	Random Fast Strobe effect
<b>252 - 255</b>	Light ON		

<b>RGBW</b>	<b>RGBW 16bit</b>	<b>DMX value</b>	<b>Function</b>
<b>8</b>	<b>12</b>	<b>000 - 255</b>	<b>DIMMER</b>
<b>9</b>	<b>13</b>	<b>000 - 255</b>	<b>DIMMER FINE (16 bit)</b>
<b>10</b>	<b>14</b>	<b>000 - 255</b>	<b>PAN</b> Pan movement/positioning <<< CCW from 0° to 540° (invert Pan=Off; Invert Tilt=Off)
<b>11</b>	<b>15</b>	<b>000 - 255</b>	<b>PAN FINE</b>
<b>12</b>	<b>16</b>	<b>000 - 255</b>	<b>TILT</b> Tilt movement/positioning >>> CW from 0° to 270° (invert Pan=Off; Invert Tilt=Off)
<b>13</b>	<b>17</b>	<b>000 - 255</b>	<b>TILT FINE</b>
<b>14</b>	<b>18</b>	<b>000 - 255</b>	<b>ZOOM</b> Zoom linearly moves from narrow to wide beam
<b>15</b>	<b>19</b>	<b>000 - 255</b>	<b>COLOR CROSSFADE</b> Color cross fade speed control from Fast to Slow.

RGBW	RGBW 16bit	DMX value	Function	
16	20		<b>FUNCTION</b> <b>Important:</b> The setting are activated and saved holding the DMX level for 3 seconds.	
		000 - 001	Unused range	
		002 - 003	Auto (Default)	
		004 - 005	SLN	
		006 - 007	Constant	
		008 - 009	Theatre	
		010 - 011	Zoom repositioning ON ( <b>Default</b> )	
		012 - 013	Zoom repositioning OFF	
		014 - 017	Not used	
		018 - 024	Pan/Tilt speed → Fast ( <b>Default</b> )	
		025 - 037	Pan/Tilt speed → Normal	
		038 - 042	Dimmer curve 1 ( <b>Default</b> )	Details at page 9
		043 - 047	Dimmer curve 2	
		048 - 052	Dimmer curve 3	
		053 - 055	Dimmer curve 4	
		056 - 057	Dimmer curve 5	
		058 - 062	Raw color channels gamma 1	Details at page 9
		063 - 067	Raw color channels gamma 1.5	
		068 - 072	Raw color channels gamma 2.2 ( <b>Default</b> )	
		073 - 077	Colour calibration Off ( <b>Default</b> )	
		078 - 082	Colour calibration adjustment	
		083 - 167	Not used	
		168 - 188	PWM frequency=600Hz	
		189 - 199	PWM frequency=1200Hz	
		200 - 210	PWM frequency=2000Hz ( <b>Default</b> )	
		211 - 221	PWM frequency=4000Hz	
		222 - 232	PWM frequency=6000Hz	
		233 - 241	PWM frequency=25000Hz	
242 - 243	Display OFF ( <b>Default</b> )			
244 - 245	Display ON			
246 - 253	Not used			
254 - 255	Default function recall			
17	21		<b>RESET</b> <b>Important:</b> The reset sequence is activated staying in the selected reset range for 5 seconds	
		000 - 025	Unused range	
		026 - 076	Zoom Reset	
		077 - 127	Pan and Tilt Reset	
		128 - 255	Complete Reset	

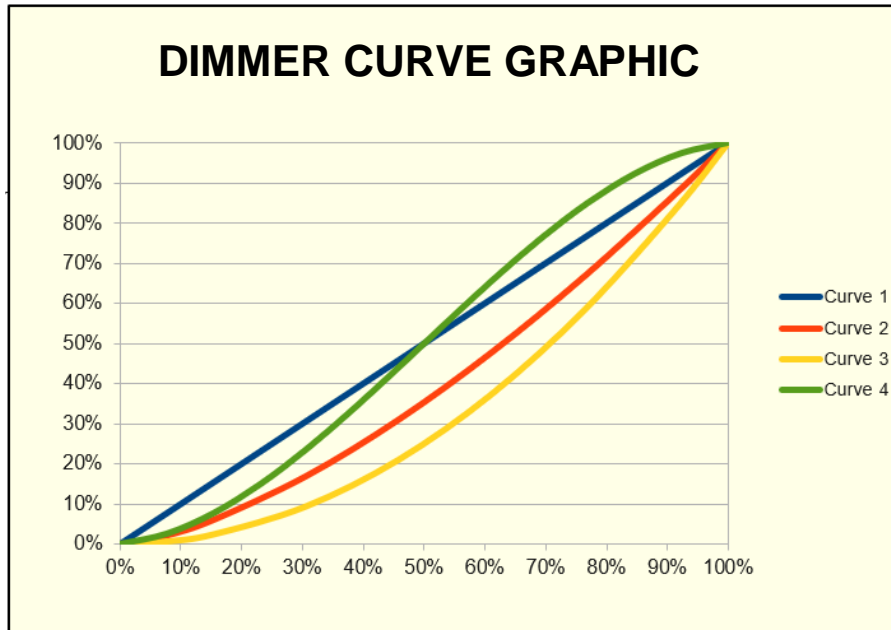
## EXTENDED MODE PROTOCOL

Extended RGBW	Extended RGBW16bit	DMX value	Function
1	1	000 - 255	RED CIRCLE linear 0 - 100%
-	2	000 - 255	RED CIRCLE FINE (16 bit)
2	3	000 - 255	GREEN CIRCLE linear 0 - 100%
-	4	000 - 255	GREEN CIRCLE FINE (16 bit)
3	5	000 - 255	BLUE CIRCLE linear 0 - 100%
-	6	000 - 255	BLUE CIRCLE FINE (16 bit)
4	7	000 - 255	WHITE CIRCLE linear 0 - 100%
-	8	000 - 255	WHITE CIRCLE FINE (16 bit)
5	9	000 - 255	RED CENTRE linear 0 - 100%
-	10	000 - 255	RED CENTRE FINE (16 bit)
6	11	000 - 255	GREEN CENTRE linear 0 - 100%
-	12	000 - 255	GREEN CENTRE FINE (16 bit)
7	13	000 - 255	BLUE CENTRE linear 0 - 100%
-	14	000 - 255	BLUE CENTRE FINE (16 bit)
8	15	000 - 255	WHITE CENTRE linear 0 - 100%
-	16	000 - 255	WHITE CENTRE FINE (16 bit)
9	17	000 - 009 010 - 255	<b>CTO</b> Colour Temperature control 8000K to 2500K <b>Important:</b> The CTO parameter has priority on the colour functions. Unused range 8000 K – 2500K
10	18	0 - 255	<b>MACRO COLOR</b> See chart at page 10 for colours details. <b>Important:</b> The Macro Color parameter has priority on the colour functions.

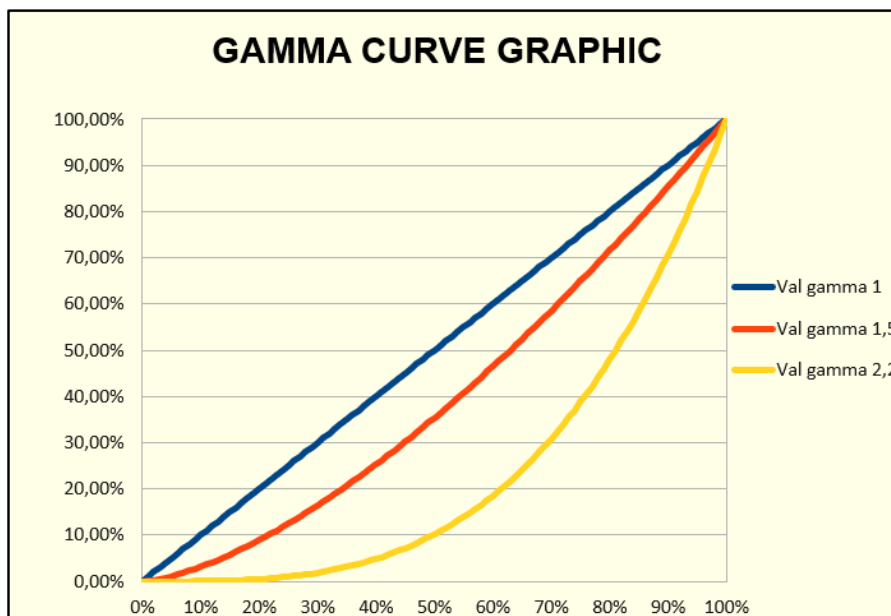
Extended RGBW	Extended RGBW16bit	DMX value	Function
11	19		<b>STROBE</b>
		000 - 003	Light OFF
		004 - 103	Strobe linear from low (1Hz) to fast (25Hz)
		104 - 107	Light ON
		108 - 207	Pulsation linear from slow (0.5 Hz) to fast (25 Hz)
		208 - 212	Light ON
		213 - 225	Random Slow Strobe effect
		226 - 238	Random Medium Strobe effect
		239 - 251	Random Fast Strobe effect
		252 - 255	Light ON
12	20	000 - 255	<b>DIMMER</b>
13	21	000 - 255	<b>DIMMER FINE (16 bit)</b>
14	22	000 - 255	<b>PAN</b> Pan positioning <<< CCW from 0° to 540° (invert Pan=Off; Invert Tilt=Off)
15	23	000 - 255	<b>PAN FINE</b>
16	24	000 - 255	<b>TILT</b> Tilt positioning >>> CW from 0° to 270° (invert Pan=Off; Invert Tilt=Off)
17	25	000 - 255	<b>TILT FINE</b>
18	26	000 - 255	<b>ZOOM</b> linear from narrow to wide beam
19	27	000 - 255	<b>COLOR CROSSFADE</b> Color cross fade from Fast to Slow.

Extended RGBW	Extended RGBW16bit	DMX value	Function	
20	28		<b>FUNCTION</b> <b>Important:</b> The setting are activated and saved holding the DMX level for 3 seconds.	
		000 - 001	Unused range	
		002 - 003	Auto fan mode (Default)	
		004 - 005	SLN fan mode	
		006 - 007	Constant fan mode	
		008 - 009	Theatre fan mode	
		010 - 011	Zoom repositioning ON (Default)	
		012 - 013	Zoom repositioning OFF	
		014 - 017	Not used	
		018 - 024	Pan/Tilt speed → Fast (Default)	
		025 - 037	Pan/Tilt speed → Standard	
		038 - 042	Dimmer curve 1 (Default)	Details at page 9
		043 - 047	Dimmer curve 2	
		048 - 052	Dimmer curve 3	
		053 - 055	Dimmer curve 4	
		056 - 057	Dimmer curve 5	
		058 - 062	Raw color channels gamma 1	Details at page 9
		063 - 067	Raw color channels gamma 1.5	
		068 - 072	Raw color channels gamma 2.2 (Default)	
		073 - 077	Colour calibration Off (Default)	
		078 - 082	Colour calibration adjustment	
		083 - 167	Not used	
		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 - 241	PWM frequency=25000Hz	
		242 - 243	Display OFF (Default)	
		244 - 245	Display ON	
246 - 253	Not used			
254 - 255	Default function recall			
21	29		<b>RESET</b> <b>Important:</b> The reset sequence is activated staying in the selected reset range for 5 seconds	
		000 - 025	Unused range	
		026 - 076	Zoom Reset	
		077 - 127	Pan and Tilt Reset	
		128 - 255	Complete Reset	





**Note: The Dimmer Curve 5 has all the Leds synchronized, for balanced behavior in white.**



## MACRO COLOR

DMX Value	LEE Filter	Description
0-9	--	Macro Color OFF
10	--	Red
11	--	Green
12	--	Blue
13	--	Cyan
14	--	Yellow
15	--	Magenta
16	--	White 7000K
17	--	White 3700K
18	--	White 5000K
19	--	Black
20-22	10	Medium Yellow
23-26	13	Straw Tint
27-28	17	Surprise Peach
29	19	Fire
30	20	Medium Amber
31	21	Gold Amber
32-34	22	Dark Amber
35-44	25	Sunrise Red
45	35	Light Pink
46-48	36	Medium Pink
49-61	39	Pink Carnation
62-67	52	Light Lavender
68-77	58	Lavender
78-88	68	Sky Blue
89-99	79	Just Blue
100-109	90	Dark Yellow Green
110-111	100	Spring Yellow
112	102	Light Amber
113	103	Straw
114	104	Deep amber
115-116	105	Orange
117	107	Light Rose
118	108	English Rose
119	109	Light Salmon
120	110	Middle Rose
121-122	111	Dark Pink
123-124	113	Magenta
125	115	Peacock Blue

DMX Value	LEE Filter	Description
126	116	Med Blu Green
127	117	Steel Blue
128	118	Light Blue
129-130	119	Dark Blue
131-133	121	Leaf Green
134-135	124	Dark Green
136-137	126	Mauve
138-141	128	Bright Pink
142-144	132	Medium Blue
145	135	Deep Golden Amber
146	136	Pale Lavender
147-148	137	Special Lavender
149-150	139	Primary Green
151-156	141	Bright Blue
157-161	147	Apricot
162-167	152	Pale Gold
168-171	158	Deep Orange
172-173	162	Bastard Amber
174	164	Flame Red
175-178	165	Daylight Blue
179	169	Lilac Tint
180-183	170	Deep Lavender
184-190	174	Dark Steel Blue
191-206	181	Congo Blue
207	197	Alice Blue
208	--	Dirty White
209-255	--	White