

## 10. DMX PROTOCOL

DMX channel's functions and their values (58 DMX channels):			
Mode/Channel		Value	Function
St	Ex		
1	1		<b><u>PAN Movement 8bit :</u></b>
		0-255	Pan Movement
2	2		<b><u>Pan Fine 16bit</u></b>
		0-255	Fine control of Pan movement
3	3		<b><u>TILT Movement 8bit :</u></b>
		0-255	Tilt Movement
4	4		<b><u>Tilt Fine 16bit</u></b>
		0-255	Fine control of Tilt movement
5	5		<b><u>Color Wheel and color change to any position:</u></b>
		0-127	Cooler change to any position
		15-17	Color 1 (center)
		31-33	Color 2 (center)
		47-49	Color 3 (center)
		63-65	Color 4 (center)
		79-81	Color 5 (center)
		95-97	Color 6 (center)
		111-113	Color 7 (center)
		128-189	Forwards rainbow effect from fast to slow
		190-193	No rotation
		194-255	Backwards rainbow effect from slow to fast
	6		<b><u>Color Wheel Fine :</u></b>
		0-255	Color Wheel color change to any position Fine
6	7		<b><u>Cyan Color :</u></b>
		0-255	Cyan (0-white, 255-100% Cyan)
	8		<b><u>Cyan Color Fine :</u></b>
		0-255	Cyan Fine
7	9		<b><u>Magenta Color :</u></b>
		0-255	Magenta (0-white, 255-100% magenta)
	10		<b><u>Magenta Color Fine :</u></b>
		0-255	Magenta Fine
8	11		<b><u>Yellow Color :</u></b>
		0-255	Yellow (0-white, 255-100% Yellow)
	12		<b><u>Yellow Color Fine :</u></b>
		0-255	Yellow Fine
9	13		<b><u>CTO Color :</u></b>
		0-255	CTO (0-white, 255-100% CTO)
	14		<b><u>CTO Color Fine :</u></b>

		0-255	CTO Fine
10	15		<b><u>Rotating gobos, cont. rotation :</u></b>
			<b>Gobo wheel index</b>
			<i>(Gobo Scroll ON in the menu or Control channel)</i>
		0-5	Open
		6~189	gobo change to any position
		29	gobo 1 (center reference value)
		52	gobo 2 (center reference value)
		75	gobo 3 (center reference value)
		98	gobo 4 (center reference value)
		121	gobo 5 (center reference value)
		144	gobo 6 (center reference value)
		167	gobo 7 (center reference value)
			<i>(Gobo Scroll OFF in the menu or Control channel)</i>
		0-7	Open
		8-17	Rot. gobo 1
		18-27	Rot. gobo 2
		28-37	Rot. gobo 3
		38-47	Rot. gobo 4
		48-57	Rot. gobo 5
		58-67	Rot. gobo 6
		68-77	Rot. gobo 7
		78-93	Gobo 1 shake slow to fast
		94-109	Gobo 2 shake slow to fast
		110-125	Gobo 3 shake slow to fast
		126-141	Gobo 4 shake slow to fast
		142-157	Gobo 5 shake slow to fast
		158-173	Gobo 6 shake slow to fast
		174-189	Gobo 7 shake slow to fast
			<b>Gobo wheel rotation</b>
		190-221	Gobo wheel rotation forwards from fast to slow
		222-223	Reserved
		224-255	Gobo wheel rotation f backwards from slow to fast
11	16		<b><u>Rotating gobo index, rotating gobo rotation :</u></b>
		0-127	Gobo indexing
		128-189	Clock-wise rotation from fast to slow
		190-193	No rotation
		194-255	Counter clock-wise rotation from slow to fast
	17		<b><u>Rotating gobo indexing Fine</u></b>
		0-255	Fine indexing
12	18		<b><u>Fixed Gobos :</u></b>
			<i>(Gobo Scroll ON in the menu or Control channel)</i>
		0-9	Open

		10~189	gobo change to any position
		30	gobo 1 (center reference value)
		50	gobo 2 (center reference value)
		70	gobo 3 (center reference value)
		90	gobo 4 (center reference value)
		110	gobo 5 (center reference value)
		130	gobo 6 (center reference value)
		150	gobo 7 (center reference value)
		170	gobo 8 (center reference value)
			<i>(Gobo Scroll OFF in the menu or Control channel)</i>
		0-29	Open
		30-39	Gobo 1
		40-49	Gobo 2
		50-59	Gobo 3
		60-69	Gobo 4
		70-79	Gobo 5
		80-89	Gobo 6
		90-99	Gobo 7
		100-109	Gobo 8
		110-119	Gobo 1 shake slow to fast
		120-129	Gobo 2 shake slow to fast
		130-139	Gobo 3 shake slow to fast
		140-149	Gobo 4 shake slow to fast
		150-159	Gobo 5 shake slow to fast
		160-169	Gobo 6 shake slow to fast
		170-179	Gobo 7 shake slow to fast
		180-189	Gobo 8 shake slow to fast
			<b>Gobo wheel rotation</b>
		190-221	Gobo wheel rotation forwards from fast to slow
		222-223	No rotation
		224-255	Gobo wheel rotation f backwards from slow to fast
13	19		<b><u>Wheel Animation :</u></b>
		0-7	Close
		8-127	Animation indexing
		128-187	Clock-wise scroll from fast to slow
		188-195	No rotation
		196-255	Counter clock-wise scroll from slow to fast
14	20		<b><u>Iris:</u></b>
		0-255	Max. diameter to Min. diameter
	21		<b><u>Iris Fine:</u></b>
		0-255	Iris Fine
15	22		<b><u>Prism:</u></b>
		0-63	Open position (hole)
		64-127	Prism

		128- 255	No function
16	23		<b><u>Rotating prism index, rotating prism rotation</u></b>
		0-127	Prism indexing
		128-189	Clock-wise rotation from fast to slow
		190-193	No rotation
		194-255	Counter clock-wise rotation from slow to fast
	24		<b><u>Rotating prism indexing Fine</u></b>
0-255		Fine indexing	
17	25		<b><u>Zoom :</u></b>
		0-255	Zoom adjustment from small to big
	26		<b><u>Zoom Fine:</u></b>
0-255		Zoom adjustment Fine	
18	27		<b><u>Focus :</u></b>
		0-255	Continuous adjustment from near to far
	28		<b><u>Focus Fine:</u></b>
0-255		Continuous adjustment Fine	
19	29		<b><u>Auto Focus:</u></b>
		0-50	Auto Focus Off
		51-100	5m
		101-150	7.5m
		151-200	10m
		201-255	15m
20	30		<b><u>Auto Focus adjustment:</u></b>
		0-255	Continuous adjustment
21	31		<b><u>Shutter, strobe:</u></b>
		0-31	Shutter closed
		32-63	No function (shutter open)
		64-95	Strobe effect slow to fast
		96-127	No function (shutter open)
		128-159	Pulse-effect in sequences
		160-191	No function (shutter open)
		192-223	Random strobe effect slow to fast
224-255	No function (shutter open)		
22	32		<b><u>Dimmer intensity:</u></b>
		0-255	Intensity 0 to 100%
	33		<b><u>Fine Dimmer intensity:</u></b>
0-255		Dimmer intensity fine	
23	34		<b><u>Dim Modes</u></b>
		0-20	Standard
		21-40	Stage
		41-60	TV
		61-80	Architectural

		81-100	Theatre
		101-255	Default to Unit Setting
24	35	<u>    </u>	<b>Frost:</b>
		0-50	Open
		51-100	100% Frost2
		101-150	100% Frost1
		151-255	100%Frost1& Frost2
25	36		<b><u>Blade 1 A</u></b>
		0-255	Open to Close
	37		<b><u>Blade 1 A Fine</u></b> :
		0-255	Open to Close Fine
26	38		<b><u>Blade 1 B</u></b> :
		0-255	Blade 1 Rotation
	39		<b><u>Blade 1 B Fine</u></b> :
		0-255	Blade 1 Rotation Fine
27	40		<b><u>Blade 2 A</u></b> :
		0-255	Open to Close
	41		<b><u>Blade 2 A Fine</u></b> :
		0-255	Open to Close Fine
28	42		<b><u>Blade 2 B</u></b> :
		0-255	Blade 2 Rotation
	43		<b><u>Blade 2 B Fine</u></b> :
		0-255	Blade 2 Rotation Fine
29	44		<b><u>Blade 3 A</u></b> :
		0-255	Open to Close
	45		<b><u>Blade 3 A Fine</u></b> :
		0-255	Open to Close Fine
30	46		<b><u>Blade 3 B</u></b> :
		0-255	Blade 3 Rotation
	47		<b><u>Blade 3 B Fine</u></b> :
		0-255	Blade 3 Rotation Fine
31	48		<b><u>Blade 4 A</u></b> :
		0-255	Open to Close
	49		<b><u>Blade 4 A Fine</u></b> :
		0-255	Open to Close Fine
32	50		<b><u>Blade 4 B</u></b> :
		0-255	Right Blade Rotation
	51		<b><u>Blade 4 B Fine</u></b> :
		0-255	Right Blade Rotation Fine
33	52		<b><u>All Blade Rotation</u></b> :
		0-255	All Blade Rotation
	53		<b><u>All Blade Rotation Fine</u></b> :
		0-255	All Blade Rotation Fine
			<b><u>Focus Timing</u></b>

	54	0-255	Adjustment of fixture timing to control Pan/Tilt mechanisms.
			<b><u>Color Timing</u></b>
	55	0-255	Adjustment of fixture timing to control color mechanisms.
			<b><u>Beam Timing</u></b>
	56	0-255	Adjustment of fixture timing to control beam mechanisms.
			<b><u>Gobo Timing</u></b>
	57	0-255	Adjustment of fixture timing to control gobo mechanisms.
34	58		<b><u>Control:</u></b>
			The settings is effective after remaining the value unchanged at least 3 seconds
		0-39	No function
		40~59	Gobo Scroll ON
		60~79	Gobo Scroll OFF
		80~99	All motor reset
		100~119	Pan/TILT reset
		120-139	other motor reset
			Refresh Rate (LED) (default 1.2KHz)
		140~200	900Hz~1500Hz (+10Hz/+1 value )
		201	2.5KHz
		202	4KHz
		203	5KHz
		204	10KHz
		205	15KHz
		206	20KHz
		207	25KHz
	208-255	No function	