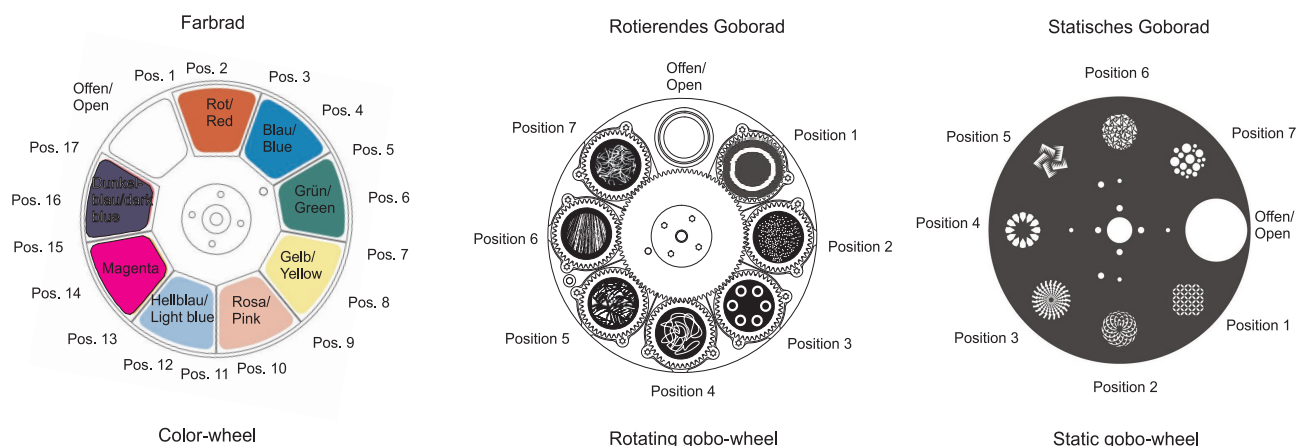


The colors, color- and gobo-wheel positions of the following DMX protocol are arranged as shown in the graphic.



DMX protocol

Mode/Channel				Value		Feature
St. 28 Ch.	Ex. 29 Ch.	Ba. 1 8bit 19 Ch.	Ba. 2 16bit 21 Ch.			
1	1	1	1			Horizontal movement (PAN)
				0	255	Push slider up in order to move the head horizontally (PAN). Gradual head adjustment from one end of the slider to the other (0-255, 128-center). The head can be stopped at any position you wish.
2	2		2			PAN-movement with 16-bit resolution
				0	255	Fine indexing
3	3	2	3			Vertical movement (TILT)
				0	255	Push slider up in order to move the head vertically (TILT). Gradual head adjustment from one end of the slider to the other (0-255, 128-center). The head can be stopped at any position you wish.
4	4		4			TILT-movement with 16-bit resolution
				0	255	Fine indexing
5	5	3	5			PAN/TILT speed
				0	255	Decreasing speed
6	6					PAN/TILT function
				0	15	Normal
				16	31	Blackout at PAN/TILT-movement
				32	255	No function
	7					Shutter, strobe function
				0	15	Normal Shutter Functions
				16	31	Opening pulse-effect
				32	47	Closing pulse-effect
				48	63	Random strobe-effect
				64	255	No function
7	8					Shutter, strobe
						<i>Normal Shutter Functions</i>
				0	31	Close

				32	223	Strobe-effect with increasing speed
				224	255	Open
				<i>Opening pulse-effect</i>		
				0	31	Close
				32	223	Strobe-effect with increasing speed
				224	255	Open
				<i>Closing pulse-effect</i>		
				0	31	Close
				32	223	Strobe-effect with increasing speed
				224	255	Open
				<i>Random strobe-effect</i>		
				0	31	Close
				32	223	Strobe-effect with increasing speed
				224	255	Open
		4	6	Shutter, strobe		
				0	31	Shutter closed
				32	63	No function (shutter open)
				64	95	Strobe-effect with increasing speed
				96	127	No function (shutter open)
				128	159	Pulse-effect in sequences
				160	191	No function (shutter open)
				192	223	Random strobe-effect with increasing speed
				224	255	No function (shutter open)
8	9	5	7	Dimmer intensity		
				0	255	Gradual adjustment of the dimmer intensity from 0 to 100 %
9	10			Color function		
				0	15	Normal color-change
				16	31	Blackout at color-change
				32	47	Forwards rainbow effect
				48	63	Backwards rainbow effect
				64	79	Color-change at every position
				80	111	Color Bounce
				112	255	No function
10	11			Color-wheel		
				<i>Normal color-change / Blackout at color-change / Color Bounce</i>		
				0	13	Open / open to position 2
				14	27	Position 1 / position 1 to position 3
				28	41	Position 2 / position 2 to position 4
				42	55	Position 3 / position 3 to position 5
				56	69	Position 4 / position 4 to position 6
				70	83	Position 5 / position 5 to position 7
				84	97	Position 6 / position 6 to position 8
				98	111	Position 7 / position 7 to position 9
				112	125	Position 8 / position 8 to position 10
				126	139	Position 9 / position 9 to position 11
				140	153	Position 10 / position 10 to position 12
				154	167	Position 11 / position 11 to position 13
				168	181	Position 12 / position 12 to position 14
				182	195	Position 13 / position 13 to position 15
				196	209	Position 14 / position 14 to position 16
				210	223	Position 15 / position 15 to position 17

English

				224	237	Position 16 / position 16 to open
				238	255	Position 17 / position 17 to position 1
				<i>Forwards rainbow effect</i>		
				0	255	With increasing speed
				<i>Backwards rainbow effect</i>		
				0	255	With increasing speed
				<i>Color-change at every position</i>		
				0	255	Positioning from 0 - 360 degrees
		6	8	Color-wheel		
				<i>Normal color-change</i>		
				0	2	Open
				3	5	Position 1
				6	8	Position 2
				9	11	Position 3
				12	14	Position 4
				15	17	Position 5
				18	20	Position 6
				21	23	Position 7
				24	26	Position 8
				27	29	Position 9
				30	32	Position 10
				33	35	Position 11
				36	38	Position 12
				39	41	Position 13
				42	44	Position 14
				45	47	Position 15
				48	50	Position 16
				51	53	Position 17
				<i>Blackout at color-change</i>		
				54	56	Open
				57	59	Position 1
				60	62	Position 2
				63	65	Position 3
				66	68	Position 4
				69	71	Position 5
				72	74	Position 6
				75	77	Position 7
				78	80	Position 8
				81	83	Position 9
				84	86	Position 10
				87	89	Position 11
				90	92	Position 12
				93	95	Position 13
				96	98	Position 14
				99	101	Position 15
				102	104	Position 16
				105	106	Position 17

						<i>Color Bounce</i>
				107	119	Open to position 2, increasing speed
				120	132	Position 2 to position 4, increasing speed
				133	145	Position 4 to position 6, increasing speed
				146	158	Position 6 to position 8, increasing speed
				159	171	Position 8 to position 10, increasing speed
				172	184	Position 10 to position 12, increasing speed
				185	197	Position 12 to position 14, increasing speed
				198	210	Position 14 to position 16, increasing speed
				211	223	Position 16 to open, increasing speed
						<i>Forwards rainbow effect</i>
				224	224	Stop
				225	239	With increasing speed
						<i>Backwards rainbow effect</i>
				240	240	Stop
				241	255	With increasing speed
11	12	7	9			Cyan
				0	255	Cyan (0=white, 255=cyan)
12	13	8	10			Magenta
				0	255	Magenta (0=white, 255=magenta)
13	14	9	11			Yellow
				0	255	Yellow (0=white, 255=yellow)
14	15	10	12			CTO (Convert to orange)
				0	255	CTO (0=white, 255=CTO)
15	16					Rotating gobo-wheel, gobo-shake function
				0	15	Normal gobo-change
				16	31	Blackout at gobo-change
				32	47	Rotating gobo-wheel forwards
				48	63	Rotating gobo-wheel backwards
				64	79	Gobo-change at every position
				80	95	Gobo-shake
				96	255	No function
16	17					Rotating gobo-wheel, gobo-shake
						<i>Normal gobo-change / Blackout at gobo-change / gobo-shake</i>
				0	31	Open
				32	63	Position 1
				64	95	Position 2
				96	127	Position 3
				128	159	Position 4
				160	191	Position 5
				192	223	Position 6
				224	255	Position 7
						<i>Rotating gobo-wheel forwards</i>
				0	7	Stop
				8	255	With increasing speed
						<i>Rotating gobo-wheel backwards</i>
				0	7	Stop

				8	255	With increasing speed
				<i>Gobo-change at every position</i>		
				0	255	Positioning from 0 - 360 degrees
17	18	11	13	Rotating gobo-wheel, gobo-shake		
				<i>Normal gobo-change</i>		
				0	5	Open
				6	11	Position 1
				12	17	Position 2
				18	23	Position 3
				24	29	Position 4
				30	35	Position 5
				36	41	Position 6
				42	47	Position 7
				<i>Blackout at gobo-change</i>		
				48	53	Open
				54	59	Position 1
				60	65	Position 2
				66	71	Position 3
				72	77	Position 4
				78	83	Position 5
				84	89	Position 6
				90	97	Position 7
				<i>Gobo-shake</i>		
				98	115	Position 1
				116	133	Position 2
				134	151	Position 3
				152	169	Position 4
				170	187	Position 5
				188	205	Position 6
				206	223	Position 7
				<i>Rotating gobo-wheel forwards</i>		
				224	224	Stop
				225	239	With increasing speed
				<i>Rotating gobo-wheel backwards</i>		
				240	240	Stop
				241	255	With increasing speed
				Rotating gobo-wheel, gobo rotation		
				0	15	Gobo indexing
				16	31	Rotating gobo-wheel forwards
				32	47	Rotating gobo-wheel backwards
				48	63	Motion macro forwards
				64	79	Motion macro forwards with blackout
				80	95	Motion macro backwards
				96	111	Motion macro backwards with blackout
				112	255	No function
18	19			Rotating gobo-wheel, gobo speed		
				<i>Gobo indexing</i>		
				0	255	Positioning from 0 - 360 degrees

									<i>Rotating gobo-wheel forwards</i>
				0	7				Stop
				8	255				With increasing speed
									<i>Rotating gobo-wheel backwards</i>
				0	7				Stop
				8	255				With increasing speed
									<i>Motion macro forwards & motion macro forwards with blackout</i>
				0	255				With increasing speed
									<i>Motion macro backwards & motion macro backwards with blackout</i>
				0	255				With increasing speed
		12	14						Rotating gobo-wheel, gobo speed
									<i>Gobo indexing</i>
				0	191				Positioning from 0 - 360 degrees
									<i>Motion macro forwards</i>
				192	207				With increasing speed
									<i>Motion macro forwards</i>
				208	223				With increasing speed
									<i>Rotating gobo forwards</i>
				224	224				Stop
				225	239				With increasing speed
									<i>Rotating gobo backwards</i>
				240	240				Stop
				241	255				With increasing speed
19	20								Static gobo-wheel, gobo-shake function
				0	15				Normal gobo-change
				16	31				Blackout at gobo-change
				32	47				Gobo-wheel rotation forwards
				48	63				Gobo-wheel rotation backwards
				64	79				Gobo-change at every position
				80	95				Gobo-shake
				96	255				No function
20	21								Static gobo-wheel, gobo-shake
									<i>Normal gobo-change / Blackout at gobo-change / gobo-shake</i>
				0	31				Open
				32	63				Position 1
				64	95				Position 2
				96	127				Position 3
				128	159				Position 4
				160	191				Position 5
				192	223				Position 6
				224	255				Position 7
									<i>Gobo-wheel rotation forwards</i>
				0	255				With increasing speed
									<i>Gobo-wheel rotation backwards</i>
				0	255				With increasing speed
									<i>Gobo-change at every position</i>
				0	255				Positioning from 0 - 360 degrees

		13	15	Static gobo-wheel, gobo-shake		
				<i>Normal gobo-change</i>		
				0	5	Open
				6	11	Position 1
				12	17	Position 2
				18	23	Position 3
				24	29	Position 4
				30	35	Position 5
				36	41	Position 6
				42	47	Position 7
				<i>Blackout at gobo-change</i>		
				48	53	Open
				54	59	Position 1
				60	65	Position 2
				66	71	Position 3
				72	77	Position 4
				78	83	Position 5
				84	89	Position 6
				90	97	Position 7
				<i>Gobo-shake</i>		
				98	115	Position 1
				116	133	Position 2
				134	151	Position 3
				152	169	Position 4
				170	187	Position 5
				188	205	Position 6
				134	223	Position 7
				<i>Gobo-wheel rotation forwards</i>		
				224	239	With increasing speed
				<i>Gobo-wheel rotation backwards</i>		
				240	255	With increasing speed
21	22	14	16	Prism & Frost		
				0	63	Open
				64	127	3-facet prism
				128	255	Frost from 0 bis 100 %
22	23	15	17	3 facet prism, prism rotation		
				0	3	Stop
				<i>Rotating prism forwards</i>		
				4	127	With increasing speed
				<i>Rotating prism backwards</i>		
				128	131	Stop
23	24			132	255	With increasing speed
				Focus function		
				0	15	Continuous adjustment from near to far
				16	31	5 m Auto Focus (focus on gobos and iris)
				32	47	7.5 m Auto Focus (focus on gobos and iris)
				48	63	10 m Auto Focus (focus on gobos and iris)

English

				64	79	15 m Auto Focus (focus on gobos and iris)
				80	95	> 20 m Auto Focus (focus on gobos and iris)
				96	255	No function
24	25	16	18	Focus		
				<i>Continuous adjustment from near to far</i>		
				0	255	Near to far
				<i>Auto Focus</i>		
				0	255	Near to far fine
25	26	17	19	Zoom		
				<i>Continuous adjustment from near to far</i>		
				0	255	Gradual adjustment from 8 - 44°
26	27			Iris function		
				0	15	Iris indexing
				16	31	Pulse opening short
				32	47	Pulse opening long
				48	63	Pulse closing short
				64	79	Pulse closing long
				80	255	No function
27	28			Iris		
				<i>Iris indexing</i>		
				0	255	Max. diameter to min. diameter
				<i>Pulse opening / pulse closing</i>		
				0	255	<i>Pulse with increasing speed</i>
		18	20	Iris function		
				0	191	Iris indexing
				192	207	Pulse opening with increasing speed short
				208	223	Pulse opening with increasing speed long
				224	239	Pulse closing with increasing speed long
				240	255	Pulse closing with increasing speed short
28	29	19	21	Reset, display control		
				0	7	No function
				8	15	Reset all motors
				16	23	Reset only Pan/Tilt
				24	31	Reset only colors
				32	39	Reset only gobo
				40	47	No function
				48	55	Reset other motors
				56	63	Display Off
				64	71	Display On
				72	79	No function
				80	87	No function
				88	95	Hibernation
				96	255	No function