

Robe Media Server - DMX protocol v. 1.1, April 6, 2012			
DMX Channel	DMX Value	Function	Type of control
1		Power/Special functions	
	0-39	Reserved	
		To activate following functions,hold DMX value 3 sec. and Digital Iris (channel 17) must be at range of 240-250 DMX	
	40-44	Internal Hardware (PC) reset	step
	45-49	Wake On DMX	step
	50-89	Reserved	
		To activate following functions,hold DMX value 3 sec. and Digital Iris must be closed at least 3 sec. (channel 17 must be at 255 DMX).Corresponding menu items are temporarily overridden	
	90-94	Ceiling projection On	step
	95-99	Ceiling projection Off	step
	100-104	Rear projection On	step
	105-109	Rear projection Off	step
	110-114	DMX In	step
	115-119	Artnet In	step
	120-209	Reserved	
		To activate following function,hold DMX value 3 seconds	
	210-215	Graphic engine reset/software update executing	step
	216-239	Reserved	
	240-249	Fixture Off (<i>hold DMX value 5 seconds</i>)	step
	250-255	Reserved	
Common digital effects for all gobo layers			
2		KeyStone Top Left X	
	0-255	Move top left corner X value to center (0-default)	proportional
3		KeyStone Top Left Y	
	0-255	Move top left corner Y value to center (0-default)	proportional
4		KeyStone Top Right X	
	0-255	Move top right corner X value to center (0-default)	proportional
5		KeyStone Top Right Y	
	0-255	Move top right corner Y value to center (0-default)	proportional
6		KeyStoneBottom Right X	
	0-255	Move bottom right corner X value to center (0-default)	proportional
7		KeyStone Bottom Right Y	
	0-255	Move bottom right corner Y value to center (0-default)	proportional
8		KeyStone Bottom Left X	
	0-255	Move bottom left corner X value to center (0-default)	proportional
9		KeyStone Bottom Left Y	
	0-255	Move bottom left corner Y value to center (0-default)	proportional
10		KeyStone X-ratio	
	0-127	Ratio control from left to center	proportional
	128	Center (default)	step
	129-255	Ratio control from center to right	proportional
11		KeyStone Y-ratio	
	0-127	Ratio control from bottom to center	proportional
	128	Center (default)	step
	129-255	Ratio control from center to top	proportional
12		Cyan	

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DMX Channel	DMX Value	Function	Type of control
	0-255	Cyan continuously (0-white,255-full cyan)	proportional
13		Magenta	
	0-255	Magenta continuously (0-white,255-full magenta)	proportional
14		Yellow	
	0-255	Yellow continuously (0-white,255-full yellow)	proportional
15		CTF	
	0	Without CTF	step
	1	14000 K	step
	2	13000 K	step
	3	12500 K	step
	4	12000 K	step
	5	11500 K	step
	6	11000 K	step
	7	10500 K	step
	8	10000 K	step
	9	9500 K	step
	10	9000 K	step
	11	8600 K	step
	12	8575 K	step
	13	8550 K	step
:	:	:	:
255	2500 K	step	
16		Digital Iris-type selection	
	0	Circular ,outside-->in,sharp edge	step
	1	Circular ,outside-->in,fuzzy edge 1	step
	2	Circular ,outside-->in,fuzzy edge 2	step
	3	Circular ,outside-->in,fuzzy edge 3	step
	4	Circular ,outside-->in,fuzzy edge 4 (maximum)	step
	5	Circular ,inside-->out,sharp edge	step
	6	Circular ,inside-->out,fuzzy edge 1	step
	7	Circular ,inside-->out,fuzzy edge 2	step
	8	Circular ,inside-->out,fuzzy edge 3	step
	9	Circular ,inside-->out,fuzzy edge 4 (maximum)	step
	10	Horizontal ellipse ,outside-->in,sharp edge	step
	11	Horizontal ellipse ,outside-->in,fuzzy edge 1	step
	12	Horizontal ellipse ,outside-->in,fuzzy edge 2	step
	13	Horizontal ellipse ,outside-->in,fuzzy edge 3	step
	14	Horizontal ellipse ,outside-->in,fuzzy edge 4 (maximum)	step
	15	Horizontal ellipse ,inside-->out,sharp edge	step
	16	Horizontal ellipse ,inside-->out,fuzzy edge 1	step
	17	Horizontal ellipse ,inside-->out,fuzzy edge 2	step
	18	Horizontal ellipse ,inside-->out,fuzzy edge 3	step
	19	Horizontal ellipse ,inside-->out,fuzzy edge 4 (maximum)	step
	20	Vertical ellipse ,outside-->in,sharp edge	step
	21	Vertical ellipse ,outside-->in,fuzzy edge 1	step
	22	Vertical ellipse ,outside-->in,fuzzy edge 2	step
	23	Vertical ellipse ,outside-->in,fuzzy edge 3	step
	24	Vertical ellipse ,outside-->in,fuzzy edge 4 (maximum)	step
	25	Vertical ellipse ,inside-->out,sharp edge	step
26	Vertical ellipse ,inside-->out,fuzzy edge 1	step	

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DMX Channel	DMX Value	Function	Type of control
16	27	Vertical ellipse ,inside-->out,fuzzy edge 2	step
	27	Vertical ellipse ,inside-->out,fuzzy edge 3	step
	29	Vertical ellipse ,inside-->out,fuzzy edge 4 (maximum)	step
	30	Clockwise wipe,sharp edge	step
	31	Clockwise wipe,fuzzy edge 1	step
	32	Clockwise wipe,fuzzy edge 2	step
	33	Clockwise wipe,fuzzy edge 3	step
	34	Clockwise wipe,fuzzy edge 4 (maximum)	step
	35	Anticlockwise wipe,sharp edge	step
	36	Anticlockwise wipe,fuzzy edge 1	step
	37	Anticlockwise wipe,fuzzy edge 2	step
	38	Anticlockwise wipe,fuzzy edge 3	step
	39	Anticlockwise wipe,fuzzy edge 4 (maximum)	step
	40	Wedge wipe ,top-->down, sharp edge	step
	41	Wedge wipe, top-->down, fuzzy edge 1	step
	42	Wedge wipe ,top-->down, fuzzy edge 2	step
	43	Wedge wipe, top-->down, fuzzy edge 3	step
	44	Wedge wipe ,top-->down, fuzzy edge 4 (maximum)	step
	45	Wedge wipe ,bottom-->up, sharp edge	step
	46	Wedge wipe ,bottom-->up, fuzzy edge 1	step
	47	Wedge wipe ,bottom-->up, fuzzy edge 2	step
	48	Wedge wipe,bottom-->up, fuzzy edge 3	step
	49	Wedge wipe,bottom-->up, fuzzy edge 4 (maximum)	step
	50	Radial wipe ,left -->bottom,sharp edge	step
	51	Radial wipe ,left -->bottom,fuzzy edge 1	step
	52	Radial wipe ,left -->bottom,fuzzy edge 2	step
	53	Radial wipe ,left -->bottom,fuzzy edge 3	step
	54	Radial wipe ,left -->bottom,fuzzy edge 4 (maximum)	step
	55	Radial wipe ,bottom-->left,sharp edge	step
	56	Radial wipe ,bottom-->left,fuzzy edge 1	step
	57	Radial wipe ,bottom-->left,fuzzy edge 2	step
	58	Radial wipe ,bottom-->left,fuzzy edge 3	step
	59	Radial wipe ,bottom-->left,fuzzy edge 4 (maximum)	step
	60	Radial wipe ,top-->left,sharp edge	step
	61	Radial wipe ,top-->left,fuzzy edge 1	step
	62	Radial wipe ,top-->left,fuzzy edge 2	step
	63	Radial wipe ,top-->left,fuzzy edge 3	step
	64	Radial wipe ,top-->left,fuzzy edge 4 (maximum)	step
	65	Radial wipe ,left-->top,sharp edge	step
	66	Radial wipe ,left-->top,fuzzy edge 1	step
	67	Radial wipe ,left-->top,fuzzy edge 2	step
	68	Radial wipe ,left-->top,fuzzy edge 3	step
	69	Radial wipe ,left-->top,fuzzy edge 4 (maximum)	step
	70	Vertical barn-doors,outside-->in,sharp edge	step
	71	Vertical barn-doors,outside-->in,fuzzy edge 1	step
	72	Vertical barn-doors,outside-->in,fuzzy edge 2	step
73	Vertical barn-doors,outside-->in,fuzzy edge 3	step	
74	Vertical barn-doors,outside-->in,fuzzy edge 4 (maximum)	step	
75	Vertical barn-doors,inside-->out,sharp edge	step	
76	Vertical barn-doors,inside-->out,fuzzy edge 1	step	

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DMX Channel	DMX Value	Function	Type of control
16	77	Vertical barn-doors,inside-->out,fuzzy edge 2	step
	78	Vertical barn-doors,inside-->out,fuzzy edge 3	step
	79	Vertical barn-doors,inside-->out,fuzzy edge 4 (maximum)	step
	80	Horizontal barn-doors,outside-->in,sharp edge	step
	81	Horizontal barn-doors,outside-->in,fuzzy edge 1	step
	82	Horizontal barn-doors,outside-->in,fuzzy edge 2	step
	83	Horizontal barn-doors,outside-->in,fuzzy edge 3	step
	84	Horizontal barn-doors,outside-->in,fuzzy edge 4 (maximum)	step
	85	Horizontal barn-doors,inside-->out,sharp edge	step
	86	Horizontal barn-doors,inside-->out,fuzzy edge 1	step
	87	Horizontal barn-doors,inside-->out,fuzzy edge 2	step
	88	Horizontal barn-doors,inside-->out,fuzzy edge 3	step
	89	Horizontal barn-doors,inside-->out,fuzzy edge 4 (maximum)	step
	90	Horizontal one-way band wipe,top left-->bottom right	step
	91	Horizontal one-way band wipe,bottom right-->top left	step
	92	Horizontal one-way band wipe,top right-->bottom left	step
	93	Horizontal one-way band wipe,bottom left-->top right	step
	94	Horizontal two-way band wipe,top left-->bottom right	step
	95	Horizontal two-way band wipe,bottom right-->top left	step
	96	Horizontal two-way band wipe,top right-->bottom left	step
	97	Horizontal two-way band wipe,bottom left-->top right	step
	98	Vertical one-way band wipe,top left-->bottom right	step
	99	Vertical one-way band wipe,bottom right-->top left	step
	100	Vertical one-way band wipe,bottom left-->top right	step
	101	Vertical one-way band wipe,top right-->bottom left	step
	102	Vertical two-way band wipe,top right-->bottom left	step
	103	Vertical two-way band wipe,bottom right-->top left	step
	104	Vertical two-way band wipe,bottom left-->top right	step
	105	Vertical two-way band wipe,top right-->bottom left	step
	106	Horizontal bands 4x,top-->bottom	step
	107	Horizontal bands 4x,bottom-->top	step
	108	Vertical bands 4x,left -->right	step
	109	Vertical bands 4x,right -->left	step
	110	Horizontal bands 8x,top-->bottom	step
	111	Horizontal bands 8x,bottom-->top	step
	112	Vertical bands 8x,left-->right	step
	113	Vertical bands 8x,right-->left	step
	114	Horizontal bands 16x,top-->bottom	step
	115	Horizontal bands 16x,bottom-->top	step
	116	Vertical bands 16x,left-->right	step
	117	Vertical bands 16x,right-->left	step
	118	Horizontal bands 32x,top-->bottom	step
	119	Horizontal bands 32x,bottom-->top	step
	120	Vertical bands 32x,left-->right	step
	121	Vertical bands 32x,right-->left	step
	122	Horizontal crossing 4x	step
	123	Horizontal crossing 4x,inverse	step
	124	Vertical crossing 4x	step
	125	Vertical crossing 4x,inverse	step
	126	Horizontal crossing 8x	step

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DMX Channel	DMX Value	Function	Type of control
16	127	Horizontal crossing 8x,inverse	step
	128	Vertical crossing 8x	step
	129	Vertical crossing 8x,inverse	step
	130	Horizontal crossing 16x	step
	131	Horizontal crossing 16x,inverse	step
	132	Vertical crossing 16x	step
	133	Vertical crossing 16x,inverse	step
	134	Checker wipe 3x4, left-->right	step
	135	Checker wipe 3x4, right-->left	step
	136	Checker wipe 4x4, left-->right	step
	137	Checker wipe 4x4, right-->left	step
	138	Checker wipe 5x8, left-->right	step
	139	Checker wipe 5x8, right-->left	step
	140	Checker wipe 9x8, left-->right	step
	141	Checker wipe 9x8, right-->left	step
	142	Checker wipe 9x16, left-->right	step
	143	Checker wipe 9x16, right-->left	step
	144	Checker wipe 10x32, left-->right	step
	145	Checker wipe 10x32, right-->left	step
	146	2 diagonal curtains, bottom left-->center<-- top right	step
	147	2 diagonal curtains, top left-->center<-- bottom right	step
	148	Grid wipe 8x8,bottom right-->top left	step
	149	Grid wipe 8x8,bottom right-->top left,inverse	step
	150	Grid wipe 8x8,top right-->bottom left	step
	151	Grid wipe 8x8,top right-->bottom left,inverse	step
	152	Grid wipe 16x16,bottom right-->top left	step
	153	Grid wipe 16x16,bottom right-->top left,inverse	step
	154	Grid wipe 16x16,top right-->bottom left	step
	155	Grid wipe 16x16,top right-->bottom left,inverse	step
	156	Grid wipe 32x32,bottom right-->top left	step
	157	Grid wipe 32x32,bottom right-->top left,inverse	step
	158	Grid wipe 32x32,top right-->bottom left	step
	159	Grid wipe 32x32,top right-->bottom left,inverse	step
	160	4 sliding triangles	step
	161-169	Reserved	
	170	Rectangular ,outside-->in,sharp edge	step
	171	Rectangular ,outside-->in,fuzzy edge 1	step
	172	Rectangular ,outside-->in,fuzzy edge 2	step
	173	Rectangular ,outside-->in,fuzzy edge 3	step
174	Rectangular ,outside-->in,fuzzy edge 4 (maximum)	step	
175	Rectangular ,inside-->out,sharp edge	step	
176	Rectangular ,inside-->out,fuzzy edge 1	step	
177	Rectangular ,inside-->out,fuzzy edge 2	step	
178	Rectangular ,inside-->out,fuzzy edge 3	step	
179	Rectangular ,inside-->out,fuzzy edge 4 (maximum)	step	
180-255	Reserved		
17		Digital Iris	
	0	Open iris	step
	1-254	From max. diameter to min. diameter	proportional
	255	Closed iris	step

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DMX Channel	DMX Value	Function	Type of control
18		Digital Iris fine	
	0-255	Iris fine	proportional
19		Digital strobe	
	0 - 30	Open light output	step
	31 - 80	Digital strobe-effect from slow to fast	proportional
	81 - 110	Open light output	step
	111 - 140	Random digital strobe-effect from slow to fast	proportional
	141 - 149	Open light output	step
	150 - 154	Iris displays current gobo from gobo layer 1	step
	155 - 159	Iris displays current gobo from gobo layer 2	step
	160 - 164	Iris displays current gobo from gobo layer 3	step
	165 - 169	Iris displays current gobo from gobo layer 4	step
	170 - 189	Reserved	
	190-194	Banner displays current gobo from gobo layer 1	step
	195-199	Banner displays current gobo from gobo layer 2	step
	200 - 204	Banner displays current gobo from gobo layer 3	step
	205-209	Banner displays current gobo from gobo layer 4	step
	210-244	Reserved	
245-255	Digital strobe closed	step	
20		Banner left positioning	
	0-255	Positioning from left to right (0-default)	proportional
21		Banner left rotation	
	0-255	Rotation +/- 45° (128-default)	proportional
22		Banner right positioning	
	0-255	Positioning from right to left (0-default)	proportional
23		Banner right rotation	
	0-255	Rotation +/- 45° (128-default)	proportional
24		Banner top positioning	
	0-255	Positioning from top to bottom (0-default)	proportional
25		Banner top rotation	
	0-255	Rotation +/- 45° (128-default)	proportional
26		Banner bottom positioning	
	0-255	Positioning from bottom to top (0-default)	proportional
27		Banner bottom rotation	
	0-255	Rotation +/- 45° (128-default)	proportional
28		All Banners rotation	
	0-255	Rotation +/- 45° (128-default)	proportional
29		Global Effect 1	
	0	No effect	step
		Picture merging -selection of width of overlapping edges:	
	1	Width of overlapping edges -10 %	P1, P2, P3
	2	Width of overlapping edges - 0 %	P1, P2, P3
	3	Width of overlapping edges - 15 %	P1, P2, P3
	4	Width of overlapping edges - 20 %	P1, P2, P3
	5	Width of overlapping edges - 25 %	P1, P2, P3
	6	Width of overlapping edges - 30 %	P1, P2, P3
	7	Width of overlapping edges - 35 %	P1, P2, P3
	8-10	Reserved	
	Picture merging -selection of width of overlapping edges for pre-cut content mode:		

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DMX Channel	DMX Value	Function	Type of control	
	11	Width of overlapping edges -10 %	P1, P2, P3	
	12	Width of overlapping edges - 0 %	P1, P2, P3	
	13	Width of overlapping edges - 15 %	P1, P2, P3	
	14	Width of overlapping edges - 20 %	P1, P2, P3	
	15	Width of overlapping edges - 25 %	P1, P2, P3	
	16	Width of overlapping edges - 30 %	P1, P2, P3	
	17	Width of overlapping edges - 35 %	P1, P2, P3	
			<i>P1- field configuration, P2- segment selection, P3- segment edge</i>	
	18-255	Reserved		
30		Global effect 1- Parameter 1		
	0	None		
		<u>Image field configuration for Picture merging</u>		
	1-109	Non-mirrored configurations	step	
	110-127	Reserved		
	128-163	Horizontally mirrored configurations	step	
	164-199	Vertically mirrored configurations	step	
	200-235	Horizontally and vertically mirrored configurations	step	
	236-255	Reserved		
31		Global effect 1- Parameter 2		
	0-255	<u>Segment selection for Pixture merging</u>	step	
32		Global effect 1- Parameter 3		
	0-171	<u>Segment edge display for Pixture merging</u>	step	
	172-255	Reserved		
33		Global Effect 2		
	0	None		
	1	Vertical inside corner mapping	P1, P2,P3	
	2	Vertical outside corner mapping	P1, P2,P3	
	3	Horizontal inside corner mapping	P1, P2,P3	
	4	Horizontal outside corner mapping	P1, P2,P3	
	5	Vertical convex cylinder mapping	P1, P2,P3	
	6	Vertical concave cylinder mapping	P1, P2,P3	
	7	Horizontal convex cylinder mapping	P1, P2,P3	
	8	Horizontal concave cylinder mapping	P1, P2,P3	
	9	Orthographic sphere mapping	P1, P2,P3	
	10	Rectangle on circle (sphere) mapping*	P1, P2,P3	
	11	Square on circle (sphere) mapping*	P1, P2,P3	
	12	Rectangle on circle (sphere) mapping with picture merging	P1, P2,P3	
	13-19	Reserved		
	20	Picture merging - R/G/B gamma adjustment in blended edges	P1, P2,P3	
			<i>P 1- red, P 2 - green, P 3- blue</i>	
21-255	Reserved			
34		Global Effect 2 - Parameter 1		
	0-255	Function depends on selected Global Effect 2	depends on effect	
35		Global Effect 2 - Parameter 2		
	0-255	Function depends on selected Global Effect 2	depends on effect	
36		Global Effect 2 - Parameter 3		
	0-255	Function depends on selected Global Effect 2	depends on effect	
Gobo layer 1				
37		Dimmer		

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DMX Channel	DMX Value	Function	Type of control
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
38		Gobo Folder selection	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 39	step
	252	Streaming from remote sources	step
	253-255	Reserved	
39		Gobo selection	
	0	White	step
	1-255	255 Gobos (one by one)	step
		<i>If Live input (251 DMX) is selected on channel 38 :</i>	
	0	White screen	step
	1-20	Video composite input-PAL system	step
	21-40	SVIDEO input- PAL system	step
	21-60	Video composite input-NTSC system	step
	61-80	SVIDEO input- NTSC system	step
	81-100	Video composite input-SECAM system	step
	101-120	SVIDEO input- SECAM system	step
	121-140	Reserved	
		<i>If Grabber Card is installed in the fixture</i>	
	141-160	VGA input of DVI/VGA grabber card	step
	161-180	DVI-I input of DVI/VGA grabber card	step
	181-200	SDI input of SDI/ASI grabber card	step
201-220	ASI input of SDI/ASI grabber card	step	
221-255	Reserved		
40		In Frame High	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
41		In Frame Low	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
42		Out Frame High	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
43		Out Frame Low	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional
44		Gobo control	
		<u>Copy mode</u>	
		<i>Video stream 1:</i>	
	0	Play forward if dimmer (on layer 1) > 0, looping continuously	step
	1	Play forward if dimmer (on layer 1) > 0, hold on last frame	step
	2	Pause	step
	3	Play forward in continuous loop	step
	4	Play forward once and hold on the last frame	step
	5	No function	
	6	Scrub (Display) the selected In Frame	step
7	Scrub (Display) the selected Out Frame	step	
8-9	Reserved		

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DMX Channel	DMX Value	Function	Type of control	
44		<i>Video stream 2 (the same functionality as for Video stream 1):</i>		
	10	Play forward if dimmer (on layer 1) > 0, looping continuously	step	
	11	Play forward if dimmer (on layer 1) > 0, hold on last frame	step	
	12	Pause	step	
	13	Play forward in continuous loop	step	
	14	Play forward once and hold on the last frame	step	
	15	No function		
	16	Scrub (Display) the selected In Frame	step	
	17	Scrub (Display) the selected Out Frame	step	
	18-19	Reserved		
		<u>Addition mode</u>		
		<i>Video stream 1:</i>		
	20	Play forward if dimmer (on layer 1) > 0, looping continuously	step	
	21	Play forward if dimmer (on layer 1) > 0, hold on last frame	step	
	22	Pause	step	
	23	Play forward in continuous loop	step	
	24	Play forward once and hold on the last frame	step	
	25	No function		
	26	Scrub (Display) the selected In Frame	step	
	27	Scrub (Display) the selected Out Frame	step	
	28-29	Reserved		
		<i>Video stream 2:</i>		
	30-37	<i>The same functionality as for Video stream 1</i>	step	
	38-39	Reserved		
		<u>Substraction mode</u>		
		<i>Video stream 1:</i>		
	40	Play forward if dimmer (on layer 1) > 0, looping continuously	step	
	41	Play forward if dimmer (on layer 1) > 0, hold on last frame	step	
	42	Pause	step	
	43	Play forward in continuous loop	step	
	44	Play forward once and hold on the last frame	step	
	45	No function		
	46	Scrub (Display) the selected In Frame	step	
	47	Scrub (Display) the selected Out Frame	step	
	48-49	Reserved		
		<i>Video stream 2:</i>		
	50-57	<i>The same functionality as for Video stream 1</i>	step	
	58-59	Reserved		
		<u>Multiplication mode</u>		
		<i>Video stream 1:</i>		
	60	Play forward if dimmer (on layer 1) > 0, looping continuously	step	
	61	Play forward if dimmer (on layer 1) > 0, hold on last frame	step	
	62	Pause	step	
	63	Play forward in continuous loop	step	
	64	Play forward once and hold on the last frame	step	
	65	No function		
	66	Scrub (Display) the selected In Frame	step	
	67	Scrub (Display) the selected Out Frame	step	
	68-69	Reserved		
		<i>Video stream 2:</i>		

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DMX Channel	DMX Value	Function	Type of control
44	70-77	<i>The same functionality as for Video stream 1</i>	step
	78-79	Reserved	
		<u>Minimum mode</u>	
		<i>Video stream 1:</i>	
	80	Play forward if dimmer (on layer 1) > 0, looping continuously	step
	81	Play forward if dimmer (on layer 1) > 0, hold on last frame	step
	82	Pause	step
	83	Play forward in continuous loop	step
	84	Play forward once and hold on the last frame	step
	85	No function	
	86	Scrub (Display) the selected In Frame	step
	87	Scrub (Display) the selected Out Frame	step
	88-89	Reserved	
		<i>Video stream 2:</i>	
	90-97	<i>The same functionality as for Video stream 1</i>	
	98-99	Reserved	
		<u>Maximum mode</u>	
		<i>Video stream 1:</i>	
	100	Play forward if dimmer (on layer 1) > 0, looping continuously	step
	101	Play forward if dimmer (on layer 1) > 0, hold on last frame	step
	102	Pause	step
	103	Play forward in continuous loop	step
	104	Play forward once and hold on the last frame	step
	105	No function	
	106	Scrub (Display) the selected In Frame	step
	107	Scrub (Display) the selected Out Frame	step
108-109	Reserved		
	<i>Video stream 2:</i>		
110-117	<i>The same functionality as for Video stream 1</i>	step	
118-255	Reserved		
45		Playback Speed	
	0	Normal Speed	step
	1-127	Slow speeds from slowest ---> normal	proportional
	128	Normal Speed	step
	129-255	Faster than Normal ---> Fastest	proportional
46		Gobo rotation and indexing	
	0-63	Clockwise rotation from fast to slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre (128-default)	step
	129-192	Indexing	proportional
193-255	Anticlockwise rotation from slow to fast	proportional	
47		Gobo fine indexing (rotation)	
	0-255	Fine indexing (rotation)	proportional
48		Gobo effect 1 Selection	
	0	No effect	
	1	Zoom sinus	P1-speed
	2	Zoom bump in fade out	P1-speed
	3	Zoom fade in bump out	P1-speed
	4	Reserved	
5	Zoom in fade	P1-speed	

DMX protocol

DMX Channel	DMX Value	Function	Type of control		
48	6	Zoom out fade	P1-speed		
	7	Scale xy sinus	P1-speed		
	8	Reserved			
	9	Reserved			
	10	Reserved			
	11	XY pos. circle counter-clockwise	P1-speed		
	12	XY pos. circle clockwise	P1-speed		
	13	XY pos. scroll up	P1-speed		
	14	XY pos. scroll down	P1-speed		
	15	XY pos. scroll left	P1-speed		
	16	XY pos. scroll right	P1-speed		
	17	Right-left diag. down scroll	P1-speed		
	18	Right-left diag. up scroll	P1-speed		
	19	Left-right diag. down scroll	P1-speed		
	20	Left-right diag. up scroll	P1-speed		
	21	X rotate	P1-speed		
	22	Y rotate	P1-speed		
	23	XY rotate	P1-speed		
	24	XY inv. rotate	P1-speed		
	25	X inv. y rotate	P1-speed		
	26	Tile xy	P1-amount		
	27	Tile xy	P1-speed		
	28	XYZ rot. cube	P1-speed		
	29	XYZ rot. sphere	P1-speed		
	30	X rot. cylinder	P1-speed		
	31	Y rot. cylinder	P1-speed		
	32	Reserved			
	33	Kaleidoscope	none		
	34	Squeeze in	none		
	35	Squeeze out	none		
	36	Bend X	none		
	37	Bend Y	none		
	38	Tile frame	none		
	39	Frame	none		
	40	Plane Flip X	none		
	41	Plane Flip Y	none		
	42	Plane Flip XY	none		
	43	Plane mirror X top	none		
	44	Plane mirror X bottom	none		
	45	Plane mirror Y left	none		
	46	Plane mirror Y right	none		
	47	Plane mirror XY segment 1		none	
	48	Plane mirror XY segment 2	segment 1	segment 2	none
	49	Plane mirror XY segment 3			none
	50	Plane mirror XY segment 4	segment 4	segment 3	none
	51	Plane tile 2x			none
	52	Plane tile 3x			none
	53	Plane tile 4x			none
	54	Plane tile 5x			none
	55	Plane cross tile 2x			none

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
48	56	Plane cross tile 2x inverse	none	
	57	Plane cross tile 3x	none	
	58	Plane cross tile 3x inverse	none	
	59	Plane cross tile 4x	none	
	60	Plane cross tile 4x inverse	none	
	61	Plane cross tile 5x	none	
	62	Plane cross tile 5x inverse	none	
	63	Plane cross tiler 5x	none	
	64	Plane cross tiler 5x inverse	none	
	65	Plane bar	none	
	66	Plane bar inverse	none	
	67	Plane bar left-right	none	
	68	Plane bar top-bottom	none	
	69	Reserved		
	70	Reserved		
	71	Gobo disc	none	
	72	Gobo disc Flip X	none	
	73	Gobo disc Flip Y	none	
	74	Gobo disc Flip XY	none	
	75	Gobo disc mirror X	none	
	76	Gobo disc mirror Y	none	
	77	Gobo disc mirror XY	none	
	78-79	Reserved		
	80	Plane mirror X top inverse	none	
	81	Plane mirror X bottom inverse	none	
	82	Plane mirror Y left inverse	none	
	83	Plane mirror Y right inverse	none	
	84	Plane mirror XY inverse	none	
	85	Plane mirror X-inverse,Y	none	
	86	Plane mirror X,Y-inverse	none	
	87-89	Reserved		
	90	Circular effect (Fish eye) <i>P1-character, P2-X ratio, P3-Y ratio</i>	P1, P2, P3	
	91	Iris on layer <i>P1-size, P2-iris type, P3-texture mode</i>	P1, P2, P3	
	92	Auto Iris effect on layer <i>P1-speed, P2-mask type, P3-opening/closing command</i>	P1, P2, P3	
	93-94	Reserved		
	95	Zoom In/Move XY <i>P1-zoom, P2-X-movement, P3-Y-movement</i>	P1, P2, P3	
	96	Zoom In/Auto Move XY <i>P1-zoom, P2-X-speed, P3- Y-speed</i>	P1, P2, P3	
	97-99	Reserved		
			<i>kaleidoscope - mode and mosaic segment selection:</i>	
		100	Square -static mode	P1, P2, P3
		101	Square -dynamic mode	P1, P2, P3
		102	Right triangular - static mode	P1, P2, P3
		103	Right triangular - dynamic mode	P1, P2, P3
		104	Isosceles triangular - static mode	P1, P2, P3
		105	Isosceles triangular - dynamic mode	P1, P2, P3

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
	106	Triangular 1 - static mode	P1, P2, P3	
	107	Triangular 1 -dynamic mode	P1, P2, P3	
	108	Triangular 2 -static mode	P1, P2, P3	
	109	Triangular 2 - dynamic mode	P1, P2, P3	
	110	Centered kaleidoscope (rough)-static mode	P1, P2, P3	
	111	Centered kaleidoscope (rough)-dynamic mode	P1, P2, P3	
	112	Centered kaleidoscope (fine)-static mode	P1, P2, P3	
	113	Centered kaleidoscope (fine)-dynamic mode	P1, P2, P3	
			<i>Stat. mode:P1-density, P2-content (coarse), P3-content (fine)</i>	
			<i>Dyn. mode:P1-density, P2-size and pulsation, P3-movement</i>	
	114-149	Reserved		
	150	Layer keystoneing		P1,P2,P3
			<i>P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y</i>	
	151-255	Reserved		
49		Gobo effect 1 - Parameter 1		
	0-255	Effect control	depends on effect	
50		Gobo effect 1 - Parameter 2		
	0-255	Effect control	depends on effect	
51		Gobo effect 1 - Parameter 3		
	0-255	Effect control	depends on effect	
52		Gobo effect 2 Selection		
	0	No effect		
	1	Colour to black and white	P1-amount	
	2	Colour to black and white inverse	P1-amount	
	3	Black and white to black and white inverse	P1-amount	
	4	Inversion	P1-amount	
	5	Black Mask	P1-amount	
	6	Black Mask inverse	P1-amount	
	7	Contrast	P1-amount	
	8	Brightness	P1-amount	
	9	RGB to GBR	P1-amount	
	10	RGB to BRG	P1-amount	
	11	RGB to RBG	P1-amount	
	12	Black and white to black and white inverse timed	P1-speed	
	13	Colour to black and white timed	P1-speed	
	14	Colour to inverse timed	P1-speed	
	15	Cycle	P1-speed	
	16	Cycle inverse	P1-speed	
	17	Reserved		
	18	Reserved		
	19	Colour Key	P1-amount	
	20	Colour Key inverse	P1-amount	
52	21	Key Black	P1-amount	
	22	Key Black inverse	P1-amount	
	23	Key White	P1-amount	
	24	Key White inverse	P1-amount	
	25	White flash	P1-amount	
	26	Black flash	P1-amount	
	27	Alpha flash	P1-amount	
	28	Invert flash	P1-amount	

DMX protocol

DMX Channel	DMX Value	Function	Type of control
	29	BW Flash	P1-amount
	30	Black and white to black and white inverse Flash	P1-amount
	31	Gradient Wipe X	P1-amount
	32	Gradient Wipe Y	P1-amount
	33-39	Reserved	
	40	Gaussian filter	P1-amount
	41	Mean filter	P1-amount
	42	Laplacian filter	P1-amount
	43	Emboss filter	P1-amount
	44	Sharpness filter	P1-amount
	45-49	Reserved	
52		RGB effects:	
	50	RGB subtract All Pixels	P1, P2, P3
	51	RGB add All Pixels	P1, P2, P3
	52	RGB add non-black Pixels	P1, P2, P3
	53	RGB subtract/add All Pixels	P1, P2, P3
	54	Swap RGB to RBG	P1, P2, P3
	55	Swap RGB to GRB	P1, P2, P3
	56	Swap RGB to GBR	P1, P2, P3
	57	Swap RGB to BRG	P1, P2, P3
	58	Swap RGB to BGR	P1, P2, P3
	59	RGB invert	P1, P2, P3
	60	Invert and swap RGB to BRG	P1, P2, P3
	61	Invert and swap RGB to GBR	P1, P2, P3
	62	Colour to Alpha	P1, P2, P3
	63	Colour to Alpha inverted	P1, P2, P3
	64-67	Reserved	P1, P2, P3
	68	RGB scale	P1, P2, P3
		<i>P1-red, P2-green, P3-blue</i>	
	69	Brightness scale	P1, P2
		<i>P1, P2 - inclination of conversion line</i>	
	70	Swirl effect	P1, P2, P3
		<i>P1-radius, P2-angle, P3-diagonal position</i>	
	71	Pixelation effect	P1, P2, P3
		<i>P1-num. of pixels (X), P2-num. of pixels (Y), P3-position in X-axis</i>	
	72	Cross-stitching effect	P1, P2, P3
		<i>P1-pattern density, P2-colour of stitch, P3- position in X-axis</i>	
	73	Posterization effect	P1, P2
		<i>P1-number of colours, P2-Gamma correction</i>	
	74-94	Reserved	
	95	Zoom In/Move XY	P1, P2, P3
		<i>P1-zoom, P2-X-movement, P3-Y-movement</i>	
	96	Zoom In/Auto Move XY	P1, P2, P3
		<i>P1-zoom, P2-X-speed, P3- Y-speed</i>	
	97-149	Reserved	
	150	Layer keystoneing	P1,P2,P3
	<i>P1-squeezing/stretching in X, P2/P3-compressing & expanding in X/Y</i>		
151-199	Reserved		
200	Picture merging - R/G/B gamma adjustment in blended edges	P1, P2,P3	
	<i>P 1- red, P 2 - green, P 3- blue</i>		

DMX protocol

DMX Channel	DMX Value	Function	Type of control
	201-255	<i>Reserved</i>	
53		Gobo effect 2 -Parameter 1	
	0-255	Effect control	depends on effect
54		Gobo effect 2 -Parameter 2	
	0-255	Effect control	depends on effect
55		Gobo effect 2 -Parameter 3	
	0-255	Effect control	depends on effect
56		Gobo Position X coarse	
	0-127	Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
57		Gobo position X fine	
	0-255	Position X fine	proportional
58		Gobo position Y coarse	
	0-127	Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
59		Gobo position Y fine	
	0-255	Position Y fine	proportional
60		Gobo zoom X coarse	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
61		Gobo zoom X fine	
	0-255	Zoom X fine	proportional
62		Gobo zoom Y coarse	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
63		Gobo zoom Y fine	
	0-255	Zoom Y fine	proportional
64		Synchronization to ID	
	0	No function	step
	1-255	Synchronization to fixture ID	proportional
Gobo layer 2			
65		Dimmer	
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
66		Gobo Folder selection	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 67	step
	252	Streaming from remote sources	step
	253-255	Reserved	
67		Gobo selection	
	0	White	step
	1-255	255 Gobos (one by one)	step

DMX protocol

DMX Channel	DMX Value	Function	Type of control
		<i>If Live input (251 DMX) is selected on channel 66:</i>	
	0	White screen	step
	1-20	Video composite input-PAL system	step
	21-40	SVIDEO input- PAL system	step
	21-60	Video composite input-NTSC system	step
	61-80	SVIDEO input- NTSC system	step
	81-100	Video composite input-SECAM system	step
	101-120	SVIDEO input- SECAM system	step
	121-140	Reserved	
		<i>If Grabber Card is installed in the fixture</i>	
	141-160	VGA input of grabber card	step
	161-180	DVI-I input of grabber card	step
	181-200	SDI input of SDI/ASI grabber card	step
	201-220	ASI input of SDI/ASI grabber card	step
221-255	Reserved		
68		In Frame High	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
69		In Frame Low	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
70		Out Frame High	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
71		Out Frame Low	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional
72		Gobo control	
		<u>Copy mode</u>	
		<i>Video stream 1</i>	
	0	Play forward if dimmer (on layer 2) > 0, looping continuously	step
	1	Play forward if dimmer (on layer 2) > 0, hold on last frame	step
	2	Pause	step
	3	Play forward in continuous loop	step
	4	Play forward once and hold on the last frame	step
	5	No function	
	6	Scrub (Display) the selected In Frame	step
	7	Scrub (Display) the selected Out Frame	step
	8-9	Reserved	
		<i>Video stream 2 (the same functionality as for Video stream 1):</i>	
	10	Play forward if dimmer (on layer 2) > 0, looping continuously	step
	11	Play forward if dimmer (on layer 2) > 0, hold on last frame	step
	12	Pause	step
	13	Play forward in continuous loop	step
	14	Play forward once and hold on the last frame	step
	15	No function	
	16	Scrub (Display) the selected In Frame	step
17	Scrub (Display) the selected Out Frame	step	
18-19	Reserved		
		<u>Addition mode</u>	

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
72		<i>Video Stream 1</i>		
	20	Play forward if dimmer (on layer 2) > 0, looping continuously	step	
	21	Play forward if dimmer (on layer 2) > 0, hold on last frame	step	
	22	Pause	step	
	23	Play forward in continuous loop	step	
	24	Play forward once and hold on the last frame	step	
	25	No function		
	26	Scrub (Display) the selected In Frame	step	
	27	Scrub (Display) the selected Out Frame	step	
	28-29	Reserved		
			<i>Video stream 2</i>	
	30-37	<i>the same functionality as for Video stream 1</i>	step	
	38-39	Reserved		
			<u>Substraction mode</u>	
			<i>Video Stream 1</i>	
	40	Play forward if dimmer (on layer 2) > 0, looping continuously	step	
	41	Play forward if dimmer (on layer 2) > 0, hold on last frame	step	
	42	Pause	step	
	43	Play forward in continuous loop	step	
	44	Play forward once and hold on the last frame	step	
	45	No function		
	46	Scrub (Display) the selected In Frame	step	
	47	Scrub (Display) the selected Out Frame	step	
	48-49	Reserved		
			<i>Video Stream 2</i>	
	50-57	<i>the same functionality as for Video stream 1</i>	step	
	58-59	Reserved		
			<u>Multiplication mode</u>	
			<i>Video stream 1</i>	
	60	Play forward if dimmer (on layer 2) > 0, looping continuously	step	
61	Play forward if dimmer (on layer 2) > 0, hold on last frame	step		
62	Pause	step		
63	Play forward in continuous loop	step		
64	Play forward once and hold on the last frame	step		
65	No function			
66	Scrub (Display) the selected In Frame	step		
67	Scrub (Display) the selected Out Frame	step		
68-69	Reserved			
		<i>Video Stream 2</i>		
70-77	<i>the same functionality as for Video stream 1</i>	step		
78-79	Reserved			
		<u>Minimum mode</u>		
		<i>Video stream 1</i>		
80	Play forward if dimmer (on layer 2) > 0, looping continuously	step		
81	Play forward if dimmer (on layer 2) > 0, hold on last frame	step		
82	Pause	step		
83	Play forward in continuous loop	step		
84	Play forward once and hold on the last frame	step		
85	No function			
86	Scrub (Display) the selected In Frame	step		

DMX protocol

DMX Channel	DMX Value	Function	Type of control
	87	Scrub (Display) the selected Out Frame	step
	88-89	Reserved	
		<i>Video Stream 2</i>	
	90-97	<i>the same functionality as for Video stream 1</i>	step
	98-99	Reserved	
		Maximum mode	
		<i>Video stream 1</i>	
	100	Play forward if dimmer (on layer 2) > 0, looping continuously	step
	101	Play forward if dimmer (on layer 2) > 0, hold on last frame	step
	102	Pause	step
	103	Play forward in continuous loop	step
	104	Play forward once and hold on the last frame	step
	105	No function	
	106	Scrub (Display) the selected In Frame	step
	107	Scrub (Display) the selected Out Frame	step
	108-109	Reserved	
		<i>Video Stream 2</i>	
	110-117	<i>the same functionality as for Video stream 1</i>	step
118-255	Reserved		
73		Playback Speed	
	0	Normal Speed	step
	1-127	Slow speeds from slowest ---> normal	proportional
	128	Normal Speed	step
	129-255	Faster than Normal ---> Fastest	proportional
74		Gobo rotation and indexing	
	0-63	Clockwise rotation from fast to slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre (128-default)	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation from slow to fast	proportional
75		Gobo fine indexing (rotation)	
	0-255	Fine indexing (rotation)	proportional
76		Gobo effect 1 Selection	
	0	No effect	
	1	Zoom sinus	P1-speed
	2	Zoom bump in fade out	P1-speed
	3	Zoom fade in bump out	P1-speed
	4	Reserved	
	5	Zoom in fade	P1-speed
	6	Zoom out fade	P1-speed
	7	Scale xy sinus	P1-speed
	8	Reserved	
	9	Reserved	
	10	Reserved	
	11	XY pos. circle counter-clockwise	P1-speed
	12	XY pos. circle clockwise	P1-speed
	13	XY pos. scroll up	P1-speed
	14	XY pos. scroll down	P1-speed
	15	XY pos. scroll left	P1-speed
16	XY pos. scroll right	P1-speed	

DMX protocol

DMX Channel	DMX Value	Function	Type of control		
76	17	Right-left diag. down scroll	P1-speed		
	18	Right-left diag. up scroll	P1-speed		
	19	Left-right diag. down scroll	P1-speed		
	20	Left-right diag. up scroll	P1-speed		
	21	X rotate	P1-speed		
	22	Y rotate	P1-speed		
	23	XY rotate	P1-speed		
	24	XY inv. rotate	P1-speed		
	25	X inv. y rotate	P1-speed		
	26	Tile xy	P1-amount		
	27	Tile xy	P1-speed		
	28	XYZ rot. cube	P1-speed		
	29	XYZ rot. sphere	P1-speed		
	30	X rot. cylinder	P1-speed		
	31	Y rot. cylinder	P1-speed		
	32	Reserved			
	33	Kaleidoscope	none		
	34	Squeeze in	none		
	35	Squeeze out	none		
	36	Bend X	none		
	37	Bend Y	none		
	38	Tile frame	none		
	39	Frame	none		
	40	Plane Flip X	none		
	41	Plane Flip Y	none		
	42	Plane Flip XY	none		
	43	Plane mirror X top	none		
	44	Plane mirror X bottom	none		
	45	Plane mirror Y left	none		
	46	Plane mirror Y right	none		
	47	Plane mirror XY segment 1		none	
	48	Plane mirror XY segment 2	segment 1	segment 2	none
	49	Plane mirror XY segment 3			none
	50	Plane mirror XY segment 4	segment 4	segment 3	none
	51	Plane tile 2x		none	
	52	Plane tile 3x		none	
	53	Plane tile 4x		none	
	54	Plane tile 5x		none	
	55	Plane cross tile 2x		none	
	56	Plane cross tile 2x inverse		none	
	57	Plane cross tile 3x		none	
	58	Plane cross tile 3x inverse		none	
	59	Plane cross tile 4x		none	
	60	Plane cross tile 4x inverse		none	
	61	Plane cross tile 5x		none	
	62	Plane cross tile 5x inverse		none	
	63	Plane cross tiler 5x		none	
	64	Plane cross tiler 5x inverse		none	
	65	Plane bar		none	
	66	Plane bar inverse		none	

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
76	67	Plane bar left-right	none	
	68	Plane bar top-bottom	none	
	69	Reserved		
	70	Reserved		
	71	Gobo disc	none	
	72	Gobo disc Flip X	none	
	73	Gobo disc Flip Y	none	
	74	Gobo disc Flip XY	none	
	75	Gobo disc mirror X	none	
	76	Gobo disc mirror Y	none	
	77	Gobo disc mirror XY	none	
	78-79	Reserved		
	80	Plane mirror X top inverse	none	
	81	Plane mirror X bottom inverse	none	
	82	Plane mirror Y left inverse	none	
	83	Plane mirror Y right inverse	none	
	84	Plane mirror XY inverse	none	
	85	Plane mirror X-inverse,Y	none	
	86	Plane mirror X,Y-inverse	none	
	87-89	Reserved		
	90	Circular effect (Fish eye)	P1, P2, P3	
		<i>P1-character, P2-X ratio, P3-Y ratio</i>		
	91	Iris on layer	P1, P2, P3	
		<i>P1-size, P2-iris type, P3-texture mode</i>		
	92	Auto Iris effect on layer	P1, P2, P3	
		<i>P1-speed, P2-mask type, P3-opening/closing command</i>		
	93-94	Reserved		
	95	Zoom In/Move XY	P1, P2, P3	
		<i>P1-zoom, P2-X-movement, P3-Y-movement</i>		
	96	Zoom In/Auto Move XY	P1, P2, P3	
		<i>P1-zoom, P2-X-speed, P3- Y-speed</i>		
	97-99	Reserved		
		<i>kaleidoscope - mode and mosaic segment selection:</i>		
	100	Square -static mode	P1, P2, P3	
	101	Square -dynamic mode	P1, P2, P3	
	102	Right triangular - static mode	P1, P2, P3	
	103	Right triangular - dynamic mode	P1, P2, P3	
	104	Isosceles triangular - static mode	P1, P2, P3	
	105	Isosceles triangular - dynamic mode	P1, P2, P3	
	106	Triangular 1 - static mode	P1, P2, P3	
107	Triangular 1 -dynamic mode	P1, P2, P3		
108	Triangular 2 -static mode	P1, P2, P3		
109	Triangular 2 - dynamic mode	P1, P2, P3		
110	Centered kaleidoscope (rough)-static mode	P1, P2, P3		
111	Centered kaleidoscope (rough)-dynamic mode	P1, P2, P3		
112	Centered kaleidoscope (fine)-static mode	P1, P2, P3		
113	Centered kaleidoscope (fine)-dynamic mode	P1, P2, P3		
	<i>Stat. mode:P1-density, P2-content (coarse), P3-content (fine)</i>			
	<i>Dyn. mode:P1-density, P2-size and pulsation, P3-movement</i>			
114-149	Reserved			

DMX protocol

DMX Channel	DMX Value	Function	Type of control
	150	Layer keystoneing	P1,P2,P3
		<i>P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y</i>	
	151-255	Reserved	
77		Gobo effect 1 - Parameter 1	
	0-255	Effect control	depends on effect
78		Gobo effect 1 - Parameter 2	
	0-255	Effect control	depends on effect
79		Gobo effect 1 - Parameter 3	
	0-255	Effect control	depends on effect
80		Gobo effect 2 Selection	
	0	No effect	
	1	Colour to black and white	P1-amount
	2	Colour to black and white inverse	P1-amount
	3	Black and white to black and white inverse	P1-amount
	4	Inversion	P1-amount
	5	Black Mask	P1-amount
	6	Black Mask inverse	P1-amount
	7	Contrast	P1-amount
	8	Brightness	P1-amount
	9	RGB to GBR	P1-amount
	10	RGB to BRG	P1-amount
	11	RGB to RBG	P1-amount
	12	Black and white to black and white inverse timed	P1-speed
	13	Colour to black and white timed	P1-speed
	14	Colour to inverse timed	P1-speed
	15	Cycle	P1-speed
	16	Cycle inverse	P1-speed
	17	Reserved	
	18	Reserved	
	19	Colour Key	P1-amount
	20	Colour Key inverse	P1-amount
	21	Key Black	P1-amount
	22	Key Black inverse	P1-amount
	23	Key White	P1-amount
	24	Key White inverse	P1-amount
	25	White flash	P1-amount
	26	Black flash	P1-amount
	27	Alpha flash	P1-amount
	28	Invert flash	P1-amount
	29	BW Flash	P1-amount
	30	Black and white to black and white inverse Flash	P1-amount
	31	Gradient Wipe X	P1-amount
	32	Gradient Wipe Y	P1-amount
33-39	Reserved		
40	Gaussian filter	P1-amount	
41	Mean filter	P1-amount	
42	Laplacian filter	P1-amount	
43	Emboss filter	P1-amount	
44	Sharpness filter	P1-amount	
45-49	Reserved		

DMX protocol

DMX Channel	DMX Value	Function	Type of control
		RGB effects:	
	50	RGB subtract All Pixels	P1, P2, P3
	51	RGB add All Pixels	P1, P2, P3
	52	RGB add non-black Pixels	P1, P2, P3
	53	RGB subtract/add All Pixels	P1, P2, P3
	54	Swap RGB to RBG	P1, P2, P3
	55	Swap RGB to GRB	P1, P2, P3
	56	Swap RGB to GBR	P1, P2, P3
	57	Swap RGB to BRG	P1, P2, P3
	58	Swap RGB to BGR	P1, P2, P3
	59	RGB invert	P1, P2, P3
	60	Invert and swap RGB to BRG	P1, P2, P3
	61	Invert and swap RGB to GBR	P1, P2, P3
	62	Colour to Alpha	P1, P2, P3
	63	Colour to Alpha inverted	P1, P2, P3
	64-67	Reserved	
	68	RGB scale <i>P1-red, P2-green, P3-blue</i>	P1, P2, P3
	69	Brightness scale <i>P1, P2 - inclination of conversion line</i>	P1, P2
	70	Swirl effect <i>P1-radius, P2-angle, P3-diagonal position</i>	P1, P2, P3
	71	Pixelation effect <i>P1-num. of pixels (X), P2-num. of pixels (Y), P3-position in X-axis</i>	P1, P2, P3
	72	Cross-stitching effect <i>P1-pattern density, P2-colour of stitch, P3- position in X-axis</i>	P1, P2, P3
	73	Posterization effect <i>P1-number of colours, P2-Gamma correction</i>	P1, P2
	74-94	Reserved	
	95	Zoom In/Move XY <i>P1-zoom, P2-X-movement, P3-Y-movement</i>	P1, P2, P3
	96	Zoom In/Auto Move XY <i>P1-zoom, P2-X-speed, P3- Y-speed</i>	P1, P2, P3
	97-149	Reserved	
	150	Layer keystoneing <i>P1-squeezing/stretching in X, P2/P3-compressing & expanding in X/Y</i>	P1,P2,P3
	151-199	Reserved	
	200	Picture merging - R/G/B gamma adjustment in blended edges <i>P 1- red, P 2 - green, P 3- blue</i>	P1, P2,P3
	201-255	Reserved	
81		Gobo effect 2 -Parameter 1	
	0-255	Effect control	depends on effect
82		Gobo effect 2 -Parameter 2	
	0-255	Effect control	depends on effect
83		Gobo effect 2 -Parameter 3	
	0-255	Effect control	depends on effect
84		Gobo Position X coarse	
	0-127	Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional

DMX protocol

DMX Channel	DMX Value	Function	Type of control
85		Gobo position X fine	
	0-255	Position X fine	proportional
86		Gobo position Y coarse	
	0-127	Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
87		Gobo position Y fine	
	0-255	Position Y fine	proportional
88		Gobo zoom X coarse	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
90		Gobo zoom X fine	
89	0-255	Zoom X fine	proportional
90		Gobo zoom Y coarse	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
91		Gobo zoom Y fine	
	0-255	Zoom Y fine	proportional
92		Synchronization to ID	
	0	No function	step
	1-255	Synchronization to fixture ID	proportional
Gobo layer 3			
93		Dimmer	
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
94		Gobo Folder selection	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 95	step
	252	Straming from remote sources	step
	253-255	Reserved	
95		Gobo selection	
	0	White	step
	1-255	255 Gobos (one by one)	step
		<i>If Live input (251 DMX) is selected on channel 94:</i>	
	0	White screen	step
	1-20	Video composite input-PAL system	step
	21-40	SVIDEO input- PAL system	step
	21-60	Video composite input-NTSC system	step
	61-80	SVIDEO input- NTSC system	step
	81-100	Video composite input-SECAM system	step
	101-120	SVIDEO input- SECAM system	step
	121-140	Reserved	
		<i>If Grabber Card is installed in the fixture</i>	
	141-160	VGA input of grabber card	step
	161-180	DVI-I input of grabber card	step
181-200	SDI input of SDI/ASI grabber card	step	

DMX protocol

DMX Channel	DMX Value	Function	Type of control
	201-220	ASI input of SDI/ASI grabber card	step
	221-255	Reserved	
96		In Frame High	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
97		In Frame Low	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
98		Out Frame High	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
99		Out Frame Low	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional
100		Gobo control	
		Copy mode	
		<i>Video stream 1</i>	
		0 Play forward if dimmer (on layer 3) > 0, looping continuously	step
		1 Play forward if dimmer (on layer 3) > 0, hold on last frame	step
		2 Pause	step
		3 Play forward in continuous loop	step
		4 Play forward once and hold on the last frame	step
		5 No function	
		6 Scrub (Display) the selected In Frame	step
		7 Scrub (Display) the selected Out Frame	step
		8-9 Reserved	
		<i>Video stream 2 (the same functionality as for Video stream 1):</i>	
		10 Play forward if dimmer (on layer 3) > 0, looping continuously	step
		11 Play forward if dimmer (on layer 3) > 0, hold on last frame	step
		12 Pause	step
		13 Play forward in continuous loop	step
		14 Play forward once and hold on the last frame	step
		15 No function	
		16 Scrub (Display) the selected In Frame	step
		17 Scrub (Display) the selected Out Frame	step
		18-19 Reserved	
		Addition mode	
		<i>Video Stream 1</i>	
		20 Play forward if dimmer (on layer 3) > 0, looping continuously	step
		21 Play forward if dimmer (on layer 3) > 0, hold on last frame	step
		22 Pause	step
		23 Play forward in continuous loop	step
		24 Play forward once and hold on the last frame	step
		25 No function	
		26 Scrub (Display) the selected In Frame	step
		27 Scrub (Display) the selected Out Frame	step
		28-29 Reserved	
	<i>Video stream 2</i>		
	30-37 <i>the same functionality as for Video stream 1</i>	step	
	38-39 Reserved		

DMX protocol

DMX Channel	DMX Value	Function	Type of control
100		<u>Substraction mode</u>	
		<i>Video Stream 1</i>	
	40	Play forward if dimmer (on layer 3) > 0, looping continuously	step
	41	Play forward if dimmer (on layer 3) > 0, hold on last frame	step
	42	Pause	step
	43	Play forward in continuous loop	step
	44	Play forward once and hold on the last frame	step
	45	No function	
	46	Scrub (Display) the selected In Frame	step
	47	Scrub (Display) the selected Out Frame	step
	48-49	Reserved	
		<i>Video Stream 2</i>	
	50-57	<i>the same functionality as for Video stream 1</i>	step
	58-59	Reserved	
		<u>Multiplication mode</u>	
		<i>Video stream 1</i>	
	60	Play forward if dimmer (on layer 3) > 0, looping continuously	step
	61	Play forward if dimmer (on layer 3) > 0, hold on last frame	step
	62	Pause	step
	63	Play forward in continuous loop	step
	64	Play forward once and hold on the last frame	step
	65	No function	
	66	Scrub (Display) the selected In Frame	step
	67	Scrub (Display) the selected Out Frame	step
	68-69	Reserved	
		<i>Video Stream 2</i>	
	70-77	<i>the same functionality as for Video stream 1</i>	step
	78-79	Reserved	
		<u>Minimum mode</u>	
		<i>Video stream 1</i>	
	80	Play forward if dimmer (on layer 3) > 0, looping continuously	step
	81	Play forward if dimmer (on layer 3) > 0, hold on last frame	step
	82	Pause	step
	83	Play forward in continuous loop	step
	84	Play forward once and hold on the last frame	step
	85	No function	
	86	Scrub (Display) the selected In Frame	step
	87	Scrub (Display) the selected Out Frame	step
	88-89	Reserved	
		<i>Video Stream 2</i>	
	90-97	<i>the same functionality as for Video stream 1</i>	step
	98-99	Reserved	
		<u>Maximum mode</u>	
		<i>Video stream 1</i>	
	100	Play forward if dimmer (on layer 3) > 0, looping continuously	step
	101	Play forward if dimmer (on layer 3) > 0, hold on last frame	step
	102	Pause	step
	103	Play forward in continuous loop	step
	104	Play forward once and hold on the last frame	step
105	No function		

DMX protocol

DMX Channel	DMX Value	Function	Type of control
	106	Scrub (Display) the selected In Frame	step
	107	Scrub (Display) the selected Out Frame	step
	108-109	Reserved	
		<i>Video Stream 2</i>	
	110-117	<i>the same functionality as for Video stream 1</i>	step
	118-255	Reserved	
101		Playback Speed	
	0	Normal Speed	step
	1-127	Slow speeds from slowest ---> normal	proportional
	128	Normal Speed	step
	129-255	Faster than Normal ---> Fastest	proportional
102		Gobo rotation and indexing	
	0-63	Clockwise rotation from fast to slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre (128-default)	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation from slow to fast	proportional
103		Gobo fine indexing (rotation)	
	0-255	Fine indexing (rotation)	proportional
104		Gobo effect 1 Selection	
	0	No effect	
	1	Zoom sinus	P1-speed
	2	Zoom bump in fade out	P1-speed
	3	Zoom fade in bump out	P1-speed
	4	Reserved	
	5	Zoom in fade	P1-speed
	6	Zoom out fade	P1-speed
	7	Scale xy sinus	P1-speed
	8	Reserved	
	9	Reserved	
	10	Reserved	
	11	XY pos. circle counter-clockwise	P1-speed
	12	XY pos. circle clockwise	P1-speed
	13	XY pos. scroll up	P1-speed
	14	XY pos. scroll down	P1-speed
	15	XY pos. scroll left	P1-speed
	16	XY pos. scroll right	P1-speed
	17	Right-left diag. down scroll	P1-speed
	18	Right-left diag. up scroll	P1-speed
	19	Left-right diag. down scroll	P1-speed
	20	Left-right diag. up scroll	P1-speed
	21	X rotate	P1-speed
	22	Y rotate	P1-speed
	23	XY rotate	P1-speed
	24	XY inv. rotate	P1-speed
	25	X inv. y rotate	P1-speed
	26	Tile xy	P1-amount
	27	Tile xy	P1-speed
28	XYZ rot. cube	P1-speed	
29	XYZ rot. sphere	P1-speed	

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
104	30	X rot. cylinder	P1-speed	
	31	Y rot. cylinder	P1-speed	
	32	Reserved		
	33	Kaleidoscope	P1-speed	
	34	Squeeze in	P1-speed	
	35	Squeeze out	P1-speed	
	36	Bend X	P1-speed	
	37	Bend Y	P1-speed	
	38	Tile frame	P1-speed	
	39	Frame	P1-speed	
	40	Plane Flip X	P1-speed	
	41	Plane Flip Y	P1-speed	
	42	Plane Flip XY	P1-speed	
	43	Plane mirror X top	P1-speed	
	44	Plane mirror X bottom	P1-speed	
	45	Plane mirror Y left	P1-speed	
	46	Plane mirror Y right	P1-speed	
	47	Plane mirror XY segment 1		P1-speed
	48	Plane mirror XY segment 2	segment 1 segment 2	P1-speed
	49	Plane mirror XY segment 3		P1-speed
	50	Plane mirror XY segment 4	segment 4 segment 3	P1-speed
	51	Plane tile 2x		P1-speed
	52	Plane tile 3x		P1-speed
	53	Plane tile 4x		P1-speed
	54	Plane tile 5x		P1-speed
	55	Plane cross tile 2x		P1-speed
	56	Plane cross tile 2x inverse		P1-speed
	57	Plane cross tile 3x		P1-speed
	58	Plane cross tile 3x inverse		P1-speed
	59	Plane cross tile 4x		P1-speed
	60	Plane cross tile 4x inverse		P1-speed
	61	Plane cross tile 5x		P1-speed
	62	Plane cross tile 5x inverse		P1-speed
	63	Plane cross tiler 5x		P1-speed
	64	Plane cross tiler 5x inverse		P1-speed
	65	Plane bar		P1-speed
	66	Plane bar inverse		P1-speed
	67	Plane bar left-right		P1-speed
	68	Plane bar top-bottom		P1-speed
	69	Reserved		
	70	Reserved		
	71	Gobo disc		none
	72	Gobo disc Flip X		none
	73	Gobo disc Flip Y		none
	74	Gobo disc Flip XY		none
	75	Gobo disc mirror X		none
	76	Gobo disc mirror Y		none
	77	Gobo disc mirror XY		none
	78-79	Reserved		
	80	Plane mirror X top inverse		none

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
104	81	Plane mirror X bottom inverse	none	
	82	Plane mirror Y left inverse	none	
	83	Plane mirror Y right inverse	none	
	84	Plane mirror XY inverse	none	
	85	Plane mirror X-inverse,Y	none	
	86	Plane mirror X,Y-inverse	none	
	87-89	Reserved		
	90	Circular effect (Fish eye) <i>P1-character, P2-X ratio, P3-Y ratio</i>	P1, P2, P3	
	91	Iris on layer <i>P1-size, P2-iris type, P3-texture mode</i>	P1, P2, P3	
	92	Auto Iris effect on layer <i>P1-speed, P2-mask type, P3-opening/closing command</i>	P1, P2, P3	
	93-94	Reserved		
	95	Zoom In/Move XY <i>P1-zoom, P2-X-movement, P3-Y-movement</i>	P1, P2, P3	
	96	Zoom In/Auto Move XY <i>P1-zoom, P2-X-speed, P3- Y-speed</i>	P1, P2, P3	
	97-99	Reserved		
		kaleidoscope - mode and mosaic segment selection:		
	100	Square -static mode	P1, P2, P3	
	101	Square -dynamic mode	P1, P2, P3	
	102	Right triangular - static mode	P1, P2, P3	
	103	Right triangular - dynamic mode	P1, P2, P3	
104	Isosceles triangular - static mode	P1, P2, P3		
105	Isosceles triangular - dynamic mode	P1, P2, P3		
106	Triangular 1 - static mode	P1, P2, P3		
107	Triangular 1 -dynamic mode	P1, P2, P3		
108	Triangular 2 -static mode	P1, P2, P3		
109	Triangular 2 - dynamic mode	P1, P2, P3		
110	Centered mosaic (rough)-static mode	P1, P2, P3		
111	Centered mosaic (rough)-dynamic mode	P1, P2, P3		
112	Centered mosaic (fine)-static mode	P1, P2, P3		
113	Centered mosaic (fine)-dynamic mode <i>Stat. mode:P1-density, P2-content (coarse), P3-content (fine)</i> <i>Dyn. mode:P1-density, P2-size and pulsation, P3-movement</i>	P1, P2, P3		
114-149	Reserved			
150	Layer keystoneing <i>P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y</i>	P1,P2,P3		
151-255	Reserved			
105		Gobo effect 1 - Parameter 1		
	0 - 255	Effect control	depends on effect	
106		Gobo effect 1 - Parameter 2		
	0 - 255	Effect control	depends on effect	
107		Gobo effect 1 - Parameter 3		
	0 - 255	Effect control	depends on effect	
108		Gobo effect 2 Selection		
	0	No effect		
	1	Colour to black and white	P1-amount	
	2	Colour to black and white inverse	P1-amount	

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
	3	Black and white to black and white inverse	P1-amount	
	4	Inversion	P1-amount	
	5	Black Mask	P1-amount	
	6	Black Mask inverse	P1-amount	
	7	Contrast	P1-amount	
	8	Brightness	P1-amount	
	9	RGB to GBR	P1-amount	
	10	RGB to BRG	P1-amount	
	11	RGB to RBG	P1-amount	
	12	Black and white to black and white inverse timed	P1-speed	
	13	Colour to black and white timed	P1-speed	
	14	Colour to inverse timed	P1-speed	
	15	Cycle	P1-speed	
	16	Cycle inverse	P1-speed	
	17	Reserved		
	18	Reserved		
	19	Colour Key	P1-amount	
	20	Colour Key inverse	P1-amount	
	21	Key Black	P1-amount	
	22	Key Black inverse	P1-amount	
	23	Key White	P1-amount	
	24	Key White inverse	P1-amount	
	25	White flash	P1-amount	
	26	Black flash	P1-amount	
	27	Alpha flash	P1-amount	
	28	Invert flash	P1-amount	
	29	BW Flash	P1-amount	
	30	Black and white to black and white inverse Flash	P1-amount	
	31	Gradient Wipe X	P1-amount	
	32	Gradient Wipe Y	P1-amount	
	33-39	Reserved		
	40	Gaussian filter	P1-amount	
	41	Mean filter	P1-amount	
	42	Laplacian filter	P1-amount	
	43	Emboss filter	P1-amount	
	44	Sharpness filter	P1-amount	
	45-49	Reserved		
	108		RGB effects:	
		50	RGB subtract All Pixels	P1, P2, P3
		51	RGB add All Pixels	P1, P2, P3
		52	RGB add non-black Pixels	P1, P2, P3
		53	RGB subtract/add All Pixels	P1, P2, P3
		54	Swap RGB to RBG	P1, P2, P3
		55	Swap RGB to GRB	P1, P2, P3
		56	Swap RGB to GBR	P1, P2, P3
		57	Swap RGB to BRG	P1, P2, P3
		58	Swap RGB to BGR	P1, P2, P3
		59	RGB invert	P1, P2, P3
		60	Invert and swap RGB to BRG	P1, P2, P3
61		Invert and swap RGB to GBR	P1, P2, P3	

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
	62	Colour to Alpha	P1, P2, P3	
	63	Colour to Alpha inverted	P1, P2, P3	
	64-67	Reserved		
	68	RGB scale <i>P1-red, P2-green, P3-blue</i>	P1, P2, P3	
	69	Brightness scale <i>P1, P2 - inclination of conversion line</i>	P1, P2	
	70	Swirl effect <i>P1-radius, P2-angle, P3-diagonal position</i>	P1, P2, P3	
	71	Pixelation effect <i>P1-num. of pixels (X), P2-num. of pixels (Y), P3-position in X-axis</i>	P1, P2, P3	
	72	Cross-stitching effect <i>P1-pattern density, P2-colour of stitch, P3- position in X-axis</i>	P1, P2, P3	
	73	Posterization effect <i>P1-number of colours, P2-Gamma correction</i>	P1, P2	
	74-94	Reserved		
	95	Zoom In/Move XY <i>P1-zoom, P2-X-movement, P3-Y-movement</i>	P1, P2, P3	
	96	Zoom In/Auto Move XY <i>P1-zoom, P2-X-speed, P3- Y-speed</i>	P1, P2, P3	
	97-149	Reserved		
	150	Layer keystoneing <i>P1-squeezing/stretching in X, P2/P3-compressing & expanding in X/Y</i>	P1,P2,P3	
	151-199	Reserved		
	200	Picture merging - R/G/B gamma adjustment in blended edges <i>P 1- red, P 2 - green, P 3- blue</i>	P1, P2,P3	
	201-255	Reserved		
	109		Gobo effect 2 -Parameter 1	
		0-255	Effect control	depends on effect
	110		Gobo effect 2 -Parameter 2	
	0-255	Effect control	depends on effect	
111		Gobo effect 2 -Parameter 3		
	0-255	Effect control	depends on effect	
112		Gobo Position X coarse		
	0-127	Movement forward	proportional	
	128	Centre (128-default)	step	
	129-255	Movement backward	proportional	
113		Gobo position X fine		
	0-255	Position X fine	proportional	
114		Gobo position Y coarse		
	0-127	Movement down	proportional	
	128	Centre (128-default)	step	
	129-255	Movement up	proportional	
115		Gobo position Y fine		
	0-255	Position Y fine	proportional	
116		Gobo zoom X coarse		
	0-127	Narrowing	proportional	
	128	Centre (128-default)	step	
	129-255	Widening	proportional	

DMX protocol

DMX Channel	DMX Value	Function	Type of control
117		Gobo zoom X fine	
	0-255	Zoom X fine	proportional
118		Gobo zoom Y coarse	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
119		Gobo zoom Y fine	
	0-255	Zoom Y fine	proportional
120		Synchronization to ID	
	0	No function	step
	1-255	Synchronization to fixture ID	proportional
Gobo layer 4			
121		Dimmer	
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
122		Gobo Folder selection	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 123	step
	252	Straming from remote sources	step
	253-255	Reserved	
123		Gobo selection	
	0	White	step
	1-255	255 Gobos (one by one)	step
		If Live input (251 DMX) is selected on channel 122:	
	0	White screen	step
	1-20	Video composite input-PAL system	step
	21-40	SVIDEO input- PAL system	step
	21-60	Video composite input-NTSC system	step
	61-80	SVIDEO input- NTSC system	step
	81-100	Video composite input-SECAM system	step
	101-120	SVIDEO input- SECAM system	step
	121-140	Reserved	
		If Grabber Card is installed in the fixture	
	141-160	VGA input of grabber card	step
	161-180	DVI-I input of grabber card	step
	181-200	SDI input of SDI/ASI grabber card	step
	201-220	ASI input of SDI/ASI grabber card	step
221-255	Reserved		
124		In Frame High	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
125		In Frame Low	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
126		Out Frame High	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
127		Out Frame Low	

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional	
128		Gobo control		
		<u>Copy mode</u>		
		<i>Video stream 1</i>		
	0	Play forward if dimmer (on layer 4) > 0, looping continuously	step	
	1	Play forward if dimmer (on layer 4) > 0, hold on last frame	step	
	2	Pause	step	
	3	Play forward in continuous loop	step	
	4	Play forward once and hold on the last frame	step	
	5	No function		
	6	Scrub (Display) the selected In Frame	step	
	7	Scrub (Display) the selected Out Frame	step	
	8-9	Reserved		
		<i>Video stream 2 (the same functionality as for Video stream 1):</i>		
	10	Play forward if dimmer (on layer 3) > 0, looping continuously	step	
	11	Play forward if dimmer (on layer 3) > 0, hold on last frame	step	
	12	Pause	step	
	13	Play forward in continuous loop	step	
	14	Play forward once and hold on the last frame	step	
	15	No function		
	16	Scrub (Display) the selected In Frame	step	
	17	Scrub (Display) the selected Out Frame	step	
	18-19	Reserved		
		<u>Addition mode</u>		
		<i>Video Stream 1</i>		
	20	Play forward if dimmer (on layer 4) > 0, looping continuously	step	
	21	Play forward if dimmer (on layer 4) > 0, hold on last frame	step	
	22	Pause	step	
	23	Play forward in continuous loop	step	
	24	Play forward once and hold on the last frame	step	
	25	No function		
	26	Scrub (Display) the selected In Frame	step	
	27	Scrub (Display) the selected Out Frame	step	
	28-29	Reserved		
		<i>Video stream 2</i>		
	30-37	<i>the same functionality as for Video stream 1</i>	step	
	38-39	Reserved		
	128		<u>Substraction mode</u>	
			<i>Video Stream 1</i>	
		40	Play forward if dimmer (on layer 4) > 0, looping continuously	step
		41	Play forward if dimmer (on layer 4) > 0, hold on last frame	step
		42	Pause	step
		43	Play forward in continuous loop	step
		44	Play forward once and hold on the last frame	step
		45	No function	
		46	Scrub (Display) the selected In Frame	step
		47	Scrub (Display) the selected Out Frame	step
	48-49	Reserved		
		<i>Video Stream 2</i>		

DMX protocol

DMX Channel	DMX Value	Function	Type of control
128	50-57	<i>the same functionality as for Video stream 1</i>	step
	58-59	Reserved	
		<u>Multiplication mode</u>	
		<i>Video stream 1</i>	
	60	Play forward if dimmer (on layer 4) > 0, looping continuously	step
	61	Play forward if dimmer (on layer 4) > 0, hold on last frame	step
	62	Pause	step
	63	Play forward in continuous loop	step
	64	Play forward once and hold on the last frame	step
	65	No function	
	66	Scrub (Display) the selected In Frame	step
	67	Scrub (Display) the selected Out Frame	step
	68-69	Reserved	
		<i>Video Stream 2</i>	
	70-77	<i>the same functionality as for Video stream 1</i>	step
	78-79	Reserved	
		<u>Minimum mode</u>	
		<i>Video stream 1</i>	
	80	Play forward if dimmer (on layer 4) > 0, looping continuously	step
	81	Play forward if dimmer (on layer 4) > 0, hold on last frame	step
	82	Pause	step
	83	Play forward in continuous loop	step
	84	Play forward once and hold on the last frame	step
	85	No function	
	86	Scrub (Display) the selected In Frame	step
	87	Scrub (Display) the selected Out Frame	step
	88-89	Reserved	
		<i>Video Stream 2</i>	
	90-97	<i>the same functionality as for Video stream 1</i>	step
	98-99	Reserved	
		<u>Maximum mode</u>	
		<i>Video stream 1</i>	
	100	Play forward if dimmer (on layer 4) > 0, looping continuously	step
	101	Play forward if dimmer (on layer 4) > 0, hold on last frame	step
	102	Pause	step
	103	Play forward in continuous loop	step
	104	Play forward once and hold on the last frame	step
	105	No function	
	106	Scrub (Display) the selected In Frame	step
	107	Scrub (Display) the selected Out Frame	step
	108-109	Reserved	
		<i>Video Stream 2</i>	
110-117	<i>the same functionality as for Video stream 1</i>	step	
118-255	Reserved		
129		Playback Speed	
	0	Normal Speed	step
	1-127	Slow speeds from slowest ---> normal	proportional
	128	Normal Speed	step
	129-255	Faster than Normal ---> Fastest	proportional
130		Gobo rotation and indexing	

DMX protocol

DMX Channel	DMX Value	Function	Type of control
	0-63	Clockwise rotation from fast to slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre (128-default)	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation from slow to fast	proportional
131		Gobo fine indexing (rotation)	
	0-255	Fine indexing (rotation)	proportional
132		Gobo effect 1 Selection	
	0	No effect	
	1	Zoom sinus	P1-speed
	2	Zoom bump in fade out	P1-speed
	3	Zoom fade in bump out	P1-speed
	4	Reserved	
	5	Zoom in fade	P1-speed
	6	Zoom out fade	P1-speed
	7	Scale xy sinus	P1-speed
	8	Reserved	
	9	Reserved	
	10	Reserved	
	11	XY pos. circle counter-clockwise	P1-speed
	12	XY pos. circle clockwise	P1-speed
	13	XY pos. scroll up	P1-speed
	14	XY pos. scroll down	P1-speed
	15	XY pos. scroll left	P1-speed
	16	XY pos. scroll right	P1-speed
	17	Right-left diag. down scroll	P1-speed
	18	Right-left diag. up scroll	P1-speed
	19	Left-right diag. down scroll	P1-speed
	20	Left-right diag. up scroll	P1-speed
	21	X rotate	P1-speed
	22	Y rotate	P1-speed
	23	XY rotate	P1-speed
	24	XY inv. rotate	P1-speed
	25	X inv. y rotate	P1-speed
	26	Tile xy	P1-amount
	27	Tile xy	P1-speed
	28	XYZ rot. cube	P1-speed
	29	XYZ rot. sphere	P1-speed
	30	X rot. cylinder	P1-speed
	31	Y rot. cylinder	P1-speed
	32	Reserved	
	33	Kaleidoscope	none
	34	Squeeze in	none
	35	Squeeze out	none
	36	Bend X	none
	37	Bend Y	none
132	38	Tile frame	none
	39	Frame	none
	40	Plane Flip X	none
	41	Plane Flip Y	none

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
132	42	Plane Flip XY	none	
	43	Plane mirror X top	none	
	44	Plane mirror X bottom	none	
	45	Plane mirror Y left	none	
	46	Plane mirror Y right	none	
	47	Plane mirror XY segment 1		none
	48	Plane mirror XY segment 2	segment 1 segment 2	none
	49	Plane mirror XY segment 3		none
	50	Plane mirror XY segment 4	segment 4 segment 3	none
	51	Plane tile 2x		none
	52	Plane tile 3x		none
	53	Plane tile 4x		none
	54	Plane tile 5x		none
	55	Plane cross tile 2x		none
	56	Plane cross tile 2x inverse		none
	57	Plane cross tile 3x		none
	58	Plane cross tile 3x inverse		none
	59	Plane cross tile 4x		none
	60	Plane cross tile 4x inverse		none
	61	Plane cross tile 5x		none
	62	Plane cross tile 5x inverse		none
	63	Plane cross tiler 5x		none
	64	Plane cross tiler 5x inverse		none
	65	Plane bar		none
	66	Plane bar inverse		none
	67	Plane bar left-right		none
	68	Plane bar top-bottom		none
	69	Reserved		
	70	Reserved		
	71	Gobo disc		none
	72	Gobo disc Flip X		none
	73	Gobo disc Flip Y		none
	74	Gobo disc Flip XY		none
	75	Gobo disc mirror X		none
	76	Gobo disc mirror Y		none
	77	Gobo disc mirror XY		none
	78-79	Reserved		
	80	Plane mirror X top inverse		none
	81	Plane mirror X bottom inverse		none
	82	Plane mirror Y left inverse		none
	83	Plane mirror Y right inverse		none
	84	Plane mirror XY inverse		none
85	Plane mirror X-inverse,Y		none	
86	Plane mirror X,Y-inverse		none	
87-89	Reserved			
90	Circular effect (Fish eye)		P1, P2, P3	
		<i>P1-character, P2-X ratio, P3-Y ratio</i>		
91	Iris on layer		P1, P2, P3	
		<i>P1-size, P2-iris type, P3-texture mode</i>		
92	Auto Iris effect on layer		P1, P2, P3	

DMX protocol

DMX Channel	DMX Value	Function	Type of control
		<i>P1-speed, P2-mask type, P3-opening/closing command</i>	
	93-94	Reserved	
	95	Zoom In/Move XY	P1, P2, P3
		<i>P1-zoom, P2-X-movement, P3-Y-movement</i>	
	96	Zoom In/Auto Move XY	P1, P2, P3
		<i>P1-zoom, P2-X-speed, P3- Y-speed</i>	
	97-99	Reserved	
		<i>kaleidoscope - mode and mosaic segment selection:</i>	
	100	Square -static mode	P1, P2, P3
	101	Square -dynamic mode	P1, P2, P3
	102	Right triangular - static mode	P1, P2, P3
	103	Right triangular - dynamic mode	P1, P2, P3
	104	Isosceles triangular - static mode	P1, P2, P3
	105	Isosceles triangular - dynamic mode	P1, P2, P3
	106	Triangular 1 - static mode	P1, P2, P3
	107	Triangular 1 -dynamic mode	P1, P2, P3
	108	Triangular 2 -static mode	P1, P2, P3
	109	Triangular 2 - dynamic mode	P1, P2, P3
	110	Centered kaleidoscope (rough)-static mode	P1, P2, P3
	111	Centered kaleidoscope (rough)-dynamic mode	P1, P2, P3
	112	Centered kaleidoscope (fine)-static mode	P1, P2, P3
	113	Centered kaleidoscope (fine)-dynamic mode	P1, P2, P3
		<i>Stat. mode:P1-density, P2-content (coarse), P3-content (fine)</i>	
		<i>Dyn. mode:P1-density, P2-size and pulsation, P3-movement</i>	
	114-149	Reserved	
	150	Layer keystoneing	P1,P2,P3
		<i>P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y</i>	
	151-255	Reserved	
133		Gobo effect 1 - Parameter 1	
	0 - 255	Effect control	depends on effect
134		Gobo effect 1 - Parameter 2	
	0 - 255	Effect control	depends on effect
135		Gobo effect 1 - Parameter 3	
	0 - 255	Effect control	depends on effect
136		Gobo effect 2 Selection	
	0	No effect	
	1	Colour to black and white	P1-amount
	2	Colour to black and white inverse	P1-amount
	3	Black and white to black and white inverse	P1-amount
	4	Inversion	P1-amount
	5	Black Mask	P1-amount
	6	Black Mask inverse	P1-amount
	7	Contrast	P1-amount
	8	Brightness	P1-amount
	9	RGB to GBR	P1-amount
	10	RGB to BRG	P1-amount
	11	RGB to RBG	P1-amount
	12	Black and white to black and white inverse timed	P1-speed
	13	Colour to black and white timed	P1-speed
	14	Colour to inverse timed	P1-speed

DMX protocol

DMX Channel	DMX Value	Function	Type of control	
136	15	Cycle	P1-speed	
	16	Cycle inverse	P1-speed	
	17	Reserved		
	18	Reserved		
	19	Colour Key	P1-amount	
	20	Colour Key inverse	P1-amount	
	21	Key Black	P1-amount	
	22	Key Black inverse	P1-amount	
	23	Key White	P1-amount	
	24	Key White inverse	P1-amount	
	25	White flash	P1-amount	
	26	Black flash	P1-amount	
	27	Alpha flash	P1-amount	
	28	Invert flash	P1-amount	
	29	BW Flash	P1-amount	
	30	Black and white to black and white inverse Flash	P1-amount	
	31	Gradient Wipe X	P1-amount	
	32	Gradient Wipe Y	P1-amount	
	33-39	Reserved		
	40	Gaussian filter	P1-amount	
	41	Mean filter	P1-amount	
	42	Laplacian filter	P1-amount	
	43	Emboss filter	P1-amount	
	44	Sharpness filter	P1-amount	
	45-49	Reserved		
			RGB effects:	
		50	RGB subtract All Pixels	P1, P2, P3
	51	RGB add All Pixels	P1, P2, P3	
	52	RGB add non-black Pixels	P1, P2, P3	
	53	RGB subtract/add All Pixels	P1, P2, P3	
	54	Swap RGB to RBG	P1, P2, P3	
	55	Swap RGB to GRB	P1, P2, P3	
	56	Swap RGB to GBR	P1, P2, P3	
	57	Swap RGB to BRG	P1, P2, P3	
	58	Swap RGB to BGR	P1, P2, P3	
	59	RGB invert	P1, P2, P3	
	60	Invert and swap RGB to BRG	P1, P2, P3	
	61	Invert and swap RGB to GBR	P1, P2, P3	
	62	Colour to Alpha	P1, P2, P3	
	63	Colour to Alpha inverted	P1, P2, P3	
	64-67	Reserved		
	68	RGB scale	P1, P2, P3	
		<i>P1-red, P2-green, P3-blue</i>		
	69	Brightness scale	P1, P2	
		<i>P1, P2 - inclination of conversion line</i>		
	70	Swirl effect	P1, P2, P3	
		<i>P1-radius, P2-angle, P3-diagonal position</i>		
	71	Pixelation effect	P1, P2, P3	
		<i>P1-num. of pixels (X), P2-num. of pixels (Y), P3-position in X-axis</i>		
	72	Cross-stitching effect	P1, P2, P3	

DMX protocol

DMX Channel	DMX Value	Function	Type of control
		<i>P1-pattern density, P2-colour of stitch, P3- position in X-axis</i>	
	73	Posterization effect	P1, P2
		<i>P1-number of colours, P2-Gamma correction</i>	
	74-94	<i>Reserved</i>	
	95	Zoom In/Move XY	P1, P2, P3
		<i>P1-zoom, P2-X-movement, P3-Y-movement</i>	
	96	Zoom In/Auto Move XY	P1, P2, P3
		<i>P1-zoom, P2-X-speed, P3- Y-speed</i>	
	97-149	<i>Reserved</i>	
	150	Layer keystoneing	P1,P2,P3
		<i>P1-squeezing/stretching in X, P2/P3-compressing & expanding in X/Y</i>	
	151-199	<i>Reserved</i>	
200	Picture merging - R/G/B gamma adjustment in blended edges	P1, P2,P3	
	<i>P 1- red, P 2 - green, P 3- blue</i>		
201-255	<i>Reserved</i>		
137		Gobo effect 2 -Parameter 1	
	0-255	Effect control	depends on effect
138		Gobo effect 2 -Parameter 2	
	0-255	Effect control	depends on effect
139		Gobo effect 2 -Parameter 3	
	0-255	Effect control	depends on effect
140		Gobo Position X coarse	
	0-127	Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
141		Gobo position X fine	
	0-255	Position X fine	proportional
142		Gobo position Y coarse	
	0-127	Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
143		Gobo position Y fine	
	0-255	Position Y fine	proportional
144		Gobo zoom X coarse	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
145		Gobo zoom X fine	
	0-255	Zoom X fine	proportional
146		Gobo zoom Y coarse	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
147		Gobo zoom Y fine	
	0-255	Zoom Y fine	proportional
148		Synchronization to ID	
	0	No function	step
	1-255	Synchronization to fixture ID	proportional

* DMX value 10 and 11 changes meaning of channels 2-9.

DMX protocol

DMX Channel	DMX Value	Function	Type of control
See chapter "Projection onto angular, cylindric or spheric surfaces" in the User manual.			