DigitalSpot 7000 DT - DMX protocol v. 1.7, April 5, 2012

DMX Channel	DMX Value	Function	Type of control
1		**Pan**	
	0-255	Pan movement by 530°	proportional
2		**Pan Fine**	
	0-255	Fine control of pan movement	proportional
3		**Tilt**	
	0-255	Tilt movement by 280°	proportional
4		**Tilt Fine**	
	0-255	Fine control of tilt movement	proportional
5		**Pan/Tilt speed,Pan/Tilt time**	
	0	Max.speed (tracking mode)	step
		P./T. speed-set Speed Mode in menu: Pan/Tilt Mode	
	1-255	Speed from max. to min.(vector mode)	step
		P./T. time-set Time Mode in menu: Pan/Tilt Mode	
	1-255	Time from 0.1s to 25.5s	step
6		**Pan/Tilt macro selection**	
	0-9	Disabled pan/tilt macro	step
	10-31	Reserved	
	32-63	Figure of circle (from small to large)	proportional
	64-95	Figure of horizontal eight (from small to large)	proportional
	96-127	Figure of vertical eight (from small to large)	proportional
	128-159	Figure of reactangle (from small to large)	proportional
	160-191	Figure of triangle (from small to large)	proportional
	192-223	Figure of star (from small to large)	proportional
	224-255	Figure of cross (from small to large)	proportional
7		**Pan/Tilt macro speed**	
	0	No macro	step
	1-127	Macro generation from fast to slow (forwards)	proportional
	128-129	No macro	step
	130-255	Macro generation from slow to fast (backwards)	proportional
8		**Power/Special functions**	
	0-39	Reserved	
		To activate following function, the LED Shutter (channel 21) must be at range 240-250 DMX.	
	40-44	Internal Hardware (PC) reset	step
	45-49	Reserved	
		To activate following functions,hold DMX value 3 sec. and digital iris must be closed at least 3 sec. (channel 38 must be at 255 DMX).Corresponding menu items are temporarily overriden	
	50-59	Pan/Tilt speed mode	step
	60-69	Pan/Tilt time mode	step
	70-79	Blackout while pan/tilt moving	step
	80-89	Disabled blackout while pan/tilt moving	step
	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
	120-129	Reserved	

DMX Channel	DMX Value	Function	Type of control
8		To activate following functions,hold DMX value 3 seconds	
	130-139	Lamp On	step
	140-149	Pan/Tilt reset	step
	150-179	Reserved	
	180-189	Zoom/Focus reset	step
	190-199	Mechanical iris reset	step
	200-209	Total reset	step
	210-215	Graphic engine reset/software update executing	step
	216-229	Reserved	
	230-239	Lamp Off	step
	240-249	Lamp Off,Fixture Off *(hold DMX value 5 seconds)*	step
	250-255	Reserved	
9		**Video input selection**	
	0-63	Internal graphic engine	step
	64-127	External VGA to projector	step
	128-191	External S-video to projector	step
	192-255	Reserved	
10		**Zoom**	
	0-255	Zoom from min. to max. (128-default)	proportional
11		**Focus**	
	0-255	Continuous adjustment from far to near (128-default)	proportional
12		**Mechanical iris**	
	0	Open	step
	1-255	Fom max. diameter to min. diameter	proportional
13		**Red LEDs 1**	
	0-255	Red LEDs saturation control 0 --> 100 %	proportional
14		**Green LEDs 1**	
	0-255	Green LEDs saturation control 0 --> 100 %	proportional
15		**Blue LEDs 1**	
	0-255	Blue LEDs saturation control 0 --> 100 %	proportional
16		**White LEDs 1**	
	0-255	White LEDs saturation control 0 --> 100 %	proportional
17		**Red LEDs 2**	
	0-255	Red LEDs saturation control 0 --> 100 %	proportional
18		**Green LEDs 2**	
	0-255	Green LEDs saturation control 0 --> 100 %	proportional
19		**Blue LEDs 2**	
	0-255	Blue LEDs saturation control 0 --> 100 %	proportional
20		**White LEDs 2**	
	0-255	White LEDs saturation control 0 --> 100 %	proportional
21		**LED shutter and strobe**	
	0-31	Shutter closed	step
	32-63	Shutter open	step
	64-95	Strobe effect, slow --> fast	proportional
	96-127	Shutter open	step
	128-143	Opening pulses in sequences, slow --> fast	proportional
	144-159	Closing pulses in sequences, fast --> slow	proportional
	160-191	Shutter open	step
	192-223	Random strobe-effects, slow --> fast	proportional

DMX Channel	DMX Value	Function	Type of control
	224-255	Shutter open	step
22		**LED Dimmer**	
	0-255	Led module dimmer intensity 0 --> 100 %	proportional
Common digital effects for all gobo layers			
23		**KeyStone Top Left X**	
	0-255	Move top left corner X value to center (0-default)	proportional
24		**KeyStone Top Left Y**	
	0-255	Move top left corner Y value to center (0-default)	proportional
25		**KeyStone Top Right X**	
	0-255	Move top right corner X value to center (0-default)	proportional
26		**KeyStone Top Right Y**	
	0-255	Move top right corner Y value to center (0-default)	proportional
27		**KeyStoneBottom Right X**	
	0-255	Move bottom right corner X value to center (0-default)	proportional
28		**KeyStone Bottom Right Y**	
	0-255	Move bottom right corner Y value to center (0-default)	proportional
29		**KeyStone Bottom Left X**	
	0-255	Move bottom left corner X value to center (0-default)	proportional
30		**KeyStone Bottom Left Y**	
	0-255	Move bottom left corner Y value to center (0-default)	proportional
31		**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
32		**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
33		**Cyan**	
	0-255	Cyan continuously (0-white,255-full cyan**)**	proportional
34		**Magenta**	
	0-255	Magenta continuously (0-white,255-full magenta**)**	proportional
35		**Yellow**	
	0-255	Yellow continuously (0-white,255-full yellow**)**	proportional
36		**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	85550 K	step

DMX Channel	DMX Value	Function	Type of control
	:	:	:
	255	2500 K	step
37		**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
	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

DMX Channel	DMX Value	Function	Type of control
37	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
	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

DMX Channel	DMX Value	Function	Type of control
37	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
	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

DMX Channel	DMX Value	Function	Type of control
	147	2 diagonal curtains, top left-->center<-- bottom right	step
37	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	
38		**Digital Iris**	
	0	Open iris	step
	1-254	From max. diameter to min. diameter	proportional
	255	Closed iris	step
39		**Digital Iris fine**	
	0-255	Iris fine	proportional
40		**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
41		**Banner left positioning**	

DMX Channel	DMX Value	Function	Type of control
	0-255	Positioning from left to right (0-default)	proportional
42		**Banner left rotation**	
	0-255	Rotation +/- 45° (128-default)	proportional
43		**Banner right positioning**	
	0-255	Positioning from right to left (0-default)	proportional
44		**Banner right rotation**	
	0-255	Rotation +/- 45° (128-default)	proportional
45		**Banner top positioning**	
	0-255	Positioning from top to bottom (0-default)	proportional
46		**Banner top rotation**	
	0-255	Rotation +/- 45° (128-default)	proportional
47		**Banner bottom positioning**	
	0-255	Positioning from bottom to top (0-default)	proportional
48		**Banner bottom rotation**	
	0-255	Rotation +/- 45° (128-default)	proportional
49		**All Banners rotation**	
	0-255	Rotation +/- 45° (128-default)	proportional
50		**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:	
	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
		P1- field configuration, P2- segment selection, P3- segment edge	
	18-255	Reserved	
51		**Global effect 1- Parameter 1**	
	0	None	
		Image field configuration for Picture merging	
	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 verticaly mirrored configurations	step
	236-255	Reserved	
52		**Global effect 1- Parameter 2**	
	0-255	Segment selection for Pixture merging	step

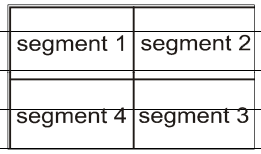
DMX Channel	DMX Value	Function	Type of control
53		**Global effect 1- Parameter 3**	
	0-170	Segment edge display for Pixture merging	step
	171-180	Showing aspect ratio of image projected on the wall	step
	181-255	Reserved	
54		**Global Effect 2**	
	0	None	
	1	Vertical inside corner mapping	P1, P2,P3
	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
		P 1- red, P 2 - green, P 3- blue	
	21-255	Reserved	
55		**Global Effect 2 - Parameter 1**	
	0-255	Function depends on selected Global Effect 2	depends on offect
56		**Global Effect 2 - Parameter 2**	
	0-255	Function depends on selected Global Effect 2	depends on offect
		Global Effect 2 - Parameter 3	
57	0-255	Function depends on selected Global Effect 2	depends on offect
Gobo layer 1			
58		**Dimmer**	
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
59		**Gobo Folder selection**	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 60	step
	252	Streaming from remote sources	step
	253-255	Reserved	
60		**Gobo selection**	
	0	White	step
	1-255	255 Gobos (one by one)	step
		If Live input (251 DMX) is selected on channel 59 :	
	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

DMX Channel	DMX Value	Function	Type of control
	121-140	Reserved	
		If Grabber Card is installed in the fixture	
	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	
61		**In Frame High**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
62		**In Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
63		**Out Frame High**	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
64		**Out Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional
65		**Gobo control**	
		Copy mode	
		Video stream 1:	
	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	
		Video stream 2 (the same functionality as for Video stream 1):	
	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	
		Addition mode	
		Video stream 1:	
	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

DMX Channel	DMX Value	Function	Type of control
	27	Scrub (Display) the selected Out Frame	step
	28-29	Reserved	
		Video stream 2:	
	30-37	*The same functionality as for Video stream 1*	step
	38-39	Reserved	
		Substraction mode	
		Video stream 1:	
65	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	
		Video stream 2:	
	50-57	*The same functionality as for Video stream 1*	step
	58-59	Reserved	
		Multiplication mode	
		Video stream 1:	
	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	
		Video stream 2:	
	70-77	*The same functionality as for Video stream 1*	step
	78-79	Reserved	
		Minimum mode	
		Video stream 1:	
	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
65	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	
		Video stream 2:	
	90-97	*The same functionality as for Video stream 1*	
	98-99	Reserved	
		Maximum mode	
		Video stream 1:	
	100	Play forward if dimmer (on layer 1) > 0, looping continuously	step

DMX Channel	DMX Value	Function	Type of control
	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	
		Video stream 2:	
	110-117	*The same functionality as for Video stream 1*	step
	118-255	Reserved	
66		**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
67		**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
68		**Gobo fine indexing (rotation)**	
	0-255	Fine indexing (rotation)	proportional
69		**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

DMX Channel	DMX Value	Function	Type of control
	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
69	47	Plane mirror XY segment 1	none
	48	Plane mirror XY segment 2	none
	49	Plane mirror XY segment 3	none
	50	Plane mirror XY segment 4	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
69	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-righ	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



DMX Channel	DMX Value	Function	Type of control
	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
		P1-character, P2-X ratio, P3-Y ratio	
	91	Iris on layer	P1, P2, P3
		P1-size, P2-iris type, P3-texture mode	
	92	Auto Iris effect on layer	P1, P2, P3
		P1-speed, P2-mask type, P3-opening/closing command	
	93-94	Reserved	
	95	Zoom In/Move XY	P1, P2, P3
		P1-zoom, P2-X-movement, P3-Y-movement	
	96	Zoom In/Auto Move XY	P1, P2, P3
		P1-zoom, P2-X-speed, P3- Y-speed	
	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 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
		Stat. mode:P1-density, P2-content (coarse), P3-content (fine)	
		Dyn. mode:P1-density, P2-size and pulsation, P3-movement	
	114-149	Reserved	
	150	Layer keystoning	P1,P2,P3
		P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y	
	151-255	Reserved	
70		**Gobo effect 1 - Parameter 1**	
	0-255	Effect control	depends on effect
71		**Gobo effect 1 - Parameter 2**	
	0-255	Effect control	depends on effect
72		**Gobo effect 1 - Parameter 3**	

DMX Channel	DMX Value	Function	Type of control
	0-255	Effect control	depends on effect
73		**Gobo effect 2 Selection**	
	0	No effect	
	1	Colour to black and white	P1-amount
	2	Colour to black and white inverse	P1-amount
73	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
73	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 substract/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

DMX Channel	DMX Value	Function	Type of control
	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
		P1-red, P2-green, P3-blue	
	69	Brightness scale	P1, P2
		P1, P2 - inclination of conversion line	
	70	Swirl effect	P1, P2, P3
		P1-radius, P2-angle, P3-diagonal position	
	71	Pixelation effect	P1, P2, P3
		P1-num. of pixels (X), P2-num. of pixels (Y), P3-position in X-axis	
	72	Cross-stitching effect	P1, P2, P3
		P1-pattern density, P2-colour of stitch, P3- position in X-axis	
	73	Posterization effect	P1, P2
		P1-number of colours, P2-Gamma correction	
	74-94	*Reserved*	
	95	Zoom In/Move XY	P1, P2, P3
		P1-zoom, P2-X-movement, P3-Y-movement	
	96	Zoom In/Auto Move XY	P1, P2, P3
		P1-zoom, P2-X-speed, P3- Y-speed	
	97-149	*Reserved*	
	150	*Layer keystoning*	P1,P2,P3
		P1-squeezing/stretching in X, P2/P3-compressing & expanding in X/Y	
	151-199	*Reserved*	
	200	Picture merging - R/G/B gamma adjustment in blended edges	P1, P2,P3
		P 1- red, P 2 - green, P 3- blue	
	201-255	*Reserved*	
74		**Gobo effect 2 -Parameter 1**	
	0-255	Effect control	depends on effect
75		**Gobo effect 2 -Parameter 2**	
	0-255	Effect control	depends on effect
76		**Gobo effect 2 -Parameter 3**	
	0-255	Effect control	depends on effect
77		**Gobo Position X coarse**	
	0-127	Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
78		**Gobo position X fine**	
	0-255	Position X fine	proportional
79		**Gobo position Y coarse**	
	0-127	Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
80		**Gobo position Y fine**	

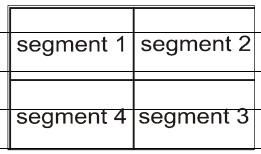
DMX Channel	DMX Value	Function	Type of control
	0-255	Position Y fine	proportional
81		**Gobo zoom X coarse**	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
82		**Gobo zoom X fine**	
	0-255	Zoom X fine	proportional
83		**Gobo zoom Y coarse**	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
84		**Gobo zoom Y fine**	
	0-255	Zoom Y fine	proportional
85		**Synchronization to ID**	
	0	No function	step
	1-255	Synchronization to fixture ID	proportional
Gobo layer 2			
86		**Dimmer**	
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
87		**Gobo Folder selection**	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 88	step
	252	Streaming from remote sources	step
	253-255	Reserved	
88		**Gobo selection**	
	0	White	step
	1-255	255 Gobos (one by one)	step
		If Live input (251 DMX) is selected on channel 87:	
	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	
89		**In Frame High**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional

DMX Channel	DMX Value	Function	Type of control
90		**In Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
91		**Out Frame High**	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
92		**Out Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional
93		**Gobo control**	
		Copy mode	
		Video stream 1	
	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	
		Video stream 2 (the same functionality as for Video stream 1):	
	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	
		Addition mode	
		Video Stream 1	
	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	
		Video stream 2	
93	30-37	*the same functionality as for Video stream 1*	step
	38-39	Reserved	
		Substraction mode	
		Video Stream 1	
	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

DMX Channel	DMX Value	Function	Type of control
	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	
		Video Stream 2	
	50-57	*the same functionality as for Video stream 1*	step
	58-59	Reserved	
		Multiplication mode	
		Video stream 1	
	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	
		Video Stream 2	
	70-77	*the same functionality as for Video stream 1*	step
	78-79	Reserved	
		Minimum mode	
		Video stream 1	
	80	Play forward if dimmer (on layer 2) > 0, looping continuously	step
93	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
	87	Scrub (Display) the selected Out Frame	step
	88-89	Reserved	
		Video Stream 2	
	90-97	*the same functionality as for Video stream 1*	step
	98-99	Reserved	
		Maximum mode	
		Video stream 1	
	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	
		Video Stream 2	
	110-117	*the same functionality as for Video stream 1*	step

DMX Channel	DMX Value	Function	Type of control
	118-255	Reserved	
94		**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
95		**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
96		**Gobo fine indexing (rotation)**	
	0-255	Fine indexing (rotation)	proportional
97		**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

DMX Channel	DMX Value	Function	Type of control
	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	none
	49	Plane mirror XY segment 3	none
	50	Plane mirror XY segment 4	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-righ	none
97	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



DMX Channel	DMX Value	Function	Type of control
	86	Plane mirror X,Y-inverse	none
	87-89	Reserved	
	90	Circular effect (Fish eye)	P1, P2, P3
		P1-character, P2-X ratio, P3-Y ratio	
	91	Iris on layer	P1, P2, P3
		P1-size, P2-iris type, P3-texture mode	
	92	Auto Iris effect on layer	P1, P2, P3
		P1-speed, P2-mask type, P3-opening/closing command	
	93-94	Reserved	
	95	Zoom In/Move XY	P1, P2, P3
		P1-zoom, P2-X-movement, P3-Y-movement	
	96	Zoom In/Auto Move XY	P1, P2, P3
		P1-zoom, P2-X-speed, P3- Y-speed	
	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 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
		Stat. mode:P1-density, P2-content (coarse), P3-content (fine)	
		Dyn. mode:P1-density, P2-size and pulsation, P3-movement	
	114-149	Reserved	
	150	Layer keystoning	P1,P2,P3
		P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y	
	151-255	Reserved	
98		**Gobo effect 1 - Parameter 1**	
	0-255	Effect control	depends on effect
99		**Gobo effect 1 - Parameter 2**	
	0-255	Effect control	depends on effect
100		**Gobo effect 1 - Parameter 3**	
	0-255	Effect control	depends on effect
101		**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

DMX Channel	DMX Value	Function	Type of control
101	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	
		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 substract/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
		P1-red, P2-green, P3-blue	

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

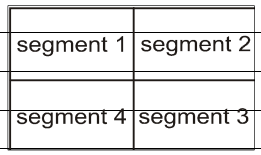
DMX Channel	DMX Value	Function	Type of control
	129-255	Widening	proportional
112		**Gobo zoom Y fine**	
	0-255	Zoom Y fine	proportional
113		**Synchronization to ID**	
	0	No function	step
	1-255	Synchronization to fixture ID	proportional
Gobo layer 3			
114		**Dimmer**	
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
115		**Gobo Folder selection**	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 116	step
	252	Straming from remote sources	step
	253-255	Reserved	
116		**Gobo selection**	
	0	White	step
	1-255	255 Gobos (one by one)	step
		If Live input (251 DMX) is selected on channel 115:	
	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	
117		**In Frame High**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
118		**In Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
119		**Out Frame High**	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
120		**Out Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional
121		**Gobo control**	
		Copy mode	
		Video stream 1	

DMX Channel	DMX Value	Function	Type of control
	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	
		Video stream 2 (the same functionality as for Video stream 1):	
	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	
		Video Stream 1	
	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	
		Video stream 2	
	30-37	*the same functionality as for Video stream 1*	step
	38-39	Reserved	
		Substraction mode	
		Video Stream 1	
	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	
		Video Stream 2	
	50-57	*the same functionality as for Video stream 1*	step
	58-59	Reserved	
		Multiplication mode	
		Video stream 1	
	60	Play forward if dimmer (on layer 3) > 0, looping continuously	step

DMX Channel	DMX Value	Function	Type of control
	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	
		Video Stream 2	
	70-77	*the same functionality as for Video stream 1*	step
	78-79	Reserved	
		Minimum mode	
		Video stream 1	
	80	Play forward if dimmer (on layer 3) > 0, looping continuously	step
121	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	
		Video Stream 2	
	90-97	*the same functionality as for Video stream 1*	step
	98-99	Reserved	
		Maximum mode	
		Video stream 1	
	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	
	106	Scrub (Display) the selected In Frame	step
	107	Scrub (Display) the selected Out Frame	step
	108-109	Reserved	
		Video Stream 2	
	110-117	*the same functionality as for Video stream 1*	step
	118-255	Reserved	
122		**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
123		**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

DMX Channel	DMX Value	Function	Type of control
124		**Gobo fine indexing (rotation)**	
	0-255	Fine indexing (rotation)	proportional
125		**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	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
125	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

DMX Channel	DMX Value	Function	Type of control
	47	Plane mirror XY segment 1	P1-speed
	48	Plane mirror XY segment 2	P1-speed
	49	Plane mirror XY segment 3	P1-speed
	50	Plane mirror XY segment 4	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-righ	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
	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
		P1-character, P2-X ratio, P3-Y ratio	
	91	Iris on layer	P1, P2, P3
		P1-size, P2-iris type, P3-texture mode	
	92-94	Reserved	
	95	Zoom In/Move XY	P1, P2, P3
		P1-zoom, P2-X-movement, P3-Y-movement	
	96	Zoom In/Auto Move XY	P1, P2, P3
		P1-zoom, P2-X-speed, P3- Y-speed	
	97-99	Reserved	



DMX Channel	DMX Value	Function	Type of control
		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	P1, P2, P3
		Stat. mode:P1-density, P2-content (coarse), P3-content (fine)	
		Dyn. mode:P1-density, P2-size and pulsation, P3-movement	
	114-149	Reserved	
	150	Layer keystoning	P1,P2,P3
		P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y	
	151-255	Reserved	
126		**Gobo effect 1 - Parameter 1**	
	0 - 255	Effect control	depends on effect
127		**Gobo effect 1 - Parameter 2**	
	0 - 255	Effect control	depends on effect
128		**Gobo effect 1 - Parameter 3**	
	0 - 255	Effect control	depends on effect
129		**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

DMX Channel	DMX Value	Function	Type of control
	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 substract/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
		P1-red, P2-green, P3-blue	
	69	Brightness scale	P1, P2
		P1, P2 - inclination of conversion line	
	70	Swirl effect	P1, P2, P3
		P1-radius, P2-angle, P3-diagonal position	
	71	Pixelation effect	P1, P2, P3
		P1-num. of pixels (X), P2-num. of pixels (Y), P3-position in X-axis	
	72	Cross-stitching effect	P1, P2, P3
		P1-pattern density, P2-colour of stitch, P3- position in X-axis	
	73	Posterization effect	P1, P2
		P1-number of colours, P2-Gamma correction	
	74-94	*Reserved*	
	95	Zoom In/Move XY	P1, P2, P3
		P1-zoom, P2-X-movement, P3-Y-movement	
	96	Zoom In/Auto Move XY	P1, P2, P3

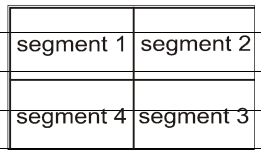
DMX Channel	DMX Value	Function	Type of control
		P1-zoom, P2-X-speed, P3- Y-speed	
	97-149	*Reserved*	
	150	*Layer keystoning*	P1,P2,P3
		P1-squeezing/stretching in X, P2/P3-compressing & expanding in X/Y	
	151-199	*Reserved*	
	200	Picture merging - R/G/B gamma adjustment in blended edges	P1, P2,P3
		P 1- red, P 2 - green, P 3- blue	
	201-255	*Reserved*	
130		**Gobo effect 2 -Parameter 1**	
	0-255	Effect control	depends on effect
131		**Gobo effect 2 -Parameter 2**	
	0-255	Effect control	depends on effect
132		**Gobo effect 2 -Parameter 3**	
	0-255	Effect control	depends on effect
133		**Gobo Position X coarse**	
	0-127	Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
134		**Gobo position X fine**	
	0-255	Position X fine	proportional
135		**Gobo position Y coarse**	
	0-127	Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
136		**Gobo position Y fine**	
	0-255	Position Y fine	proportional
137		**Gobo zoom X coarse**	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
138		**Gobo zoom X fine**	
	0-255	Zoom X fine	proportional
139		**Gobo zoom Y coarse**	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
140		**Gobo zoom Y fine**	
	0-255	Zoom Y fine	proportional
141		**Synchronization to ID**	
	0	No function	step
	1-255	Synchronization to fixture ID	proportional
Gobo layer 4			
142		**Dimmer**	
	0-255	Dimmer intensity from 0% to 100% (255-default)	proportional
143		**Gobo Folder selection**	
	0-20	Factory folders	step
	21-240	User folders	step
	241-250	Reserved	
	251	Live input (grab. card)-see channel 144	step

DMX Channel	DMX Value	Function	Type of control
	252	Straming from remote sources	step
	253-255	Reserved	
144		**Gobo selection**	
	0	White	step
	1-255	255 Gobos (one by one)	step
		If Live input (251 DMX) is selected on channel 143:	
	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	
145		**In Frame High**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
146		**In Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
147		**Out Frame High**	
	0-255	Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
148		**Out Frame Low**	
	0-255	Defines the beginning of a media file segment as a percentage of the movie length (255-default)	proportional
149		**Gobo control**	
		Copy mode	
		Video stream 1	
	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	
		Video stream 2 (the same functionality as for Video stream 1):	
	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

DMX Channel	DMX Value	Function	Type of control
	15	No function	
	16	Scrub (Display) the selected In Frame	step
	17	Scrub (Display) the selected Out Frame	step
	18-19	Reserved	
		Addition mode	
		Video Stream 1	
	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	
		Video stream 2	
	30-37	*the same functionality as for Video stream 1*	step
	38-39	Reserved	
		Substraction mode	
		Video Stream 1	
	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	
		Video Stream 2	
	50-57	*the same functionality as for Video stream 1*	step
	58-59	Reserved	
		Multiplication mode	
		Video stream 1	
	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	
		Video Stream 2	
	70-77	*the same functionality as for Video stream 1*	step
	78-79	Reserved	
		Minimum mode	
		Video stream 1	
	80	Play forward if dimmer (on layer 4) > 0, looping continuously	step
149	81	Play forward if dimmer (on layer 4) > 0, hold on last frame	step

DMX Channel	DMX Value	Function	Type of control
	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	
		Video Stream 2	
	90-97	*the same functionality as for Video stream 1*	step
	98-99	Reserved	
		Maximum mode	
		Video stream 1	
	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
149	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	
		Video Stream 2	
	110-117	*the same functionality as for Video stream 1*	step
	118-255	Reserved	
150		**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
151		**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
152		**Gobo fine indexing (rotation)**	
	0-255	Fine indexing (rotation)	proportional
153		**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

DMX Channel	DMX Value	Function	Type of control
153	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	none
	49	Plane mirror XY segment 3	none
	50	Plane mirror XY segment 4	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



DMX Channel	DMX Value	Function	Type of control
	62	Plane cross tile 5x inverse	none
153	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-righ	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
153	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
		P1-character, P2-X ratio, P3-Y ratio	
	91	Iris on layer	P1, P2, P3
		P1-size, P2-iris type, P3-texture mode	
	92	Auto Iris effect on layer	P1, P2, P3
		P1-speed, P2-mask type, P3-opening/closing command	
	93-94	Reserved	
	95	Zoom In/Move XY	P1, P2, P3
		P1-zoom, P2-X-movement, P3-Y-movement	
	96	Zoom In/Auto Move XY	P1, P2, P3
		P1-zoom, P2-X-speed, P3- Y-speed	
	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 kaleidoscope (rough)-static mode	P1, P2, P3
	111	Centered kaleidoscope (rough)-dynamic mode	P1, P2, P3

DMX Channel	DMX Value	Function	Type of control
	112	Centered kaleidoscope (fine)-static mode	P1, P2, P3
	113	Centered kaleidoscope (fine)-dynamic mode	P1, P2, P3
		Stat. mode:P1-density, P2-content (coarse), P3-content (fine)	
		Dyn. mode:P1-density, P2-size and pulsation, P3-movement	
	114-149	Reserved	
	150	Layer keystoning	P1,P2,P3
		P1-skewing in X, P2-skewing in Y, P3-squeezing/stretching in Y	
	151-255	Reserved	
154		**Gobo effect 1 - Parameter 1**	
	0 - 255	Effect control	depends on effect
155		**Gobo effect 1 - Parameter 2**	
	0 - 255	Effect control	depends on effect
156		**Gobo effect 1 - Parameter 3**	
	0 - 255	Effect control	depends on effect
157		**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	
157	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
157	32	Gradient Wipe Y	P1-amount
	33-39	Reserved	
	40	Gaussian filter	P1-amount

DMX Channel	DMX Value	Function	Type of control
	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 substract/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
		P1-red, P2-green, P3-blue	
	69	Brightness scale	P1, P2
		P1, P2 - inclination of conversion line	
	70	Swirl effect	P1, P2, P3
		P1-radius, P2-angle, P3-diagonal position	
	71	Pixelation effect	P1, P2, P3
		P1-num. of pixels (X), P2-num. of pixels (Y), P3-position in X-axis	
	72	Cross-stitching effect	P1, P2, P3
		P1-pattern density, P2-colour of stitch, P3- position in X-axis	
	73	Posterization effect	P1, P2
		P1-number of colours, P2-Gamma correction	
	74-94	*Reserved*	
	95	Zoom In/Move XY	P1, P2, P3
		P1-zoom, P2-X-movement, P3-Y-movement	
	96	Zoom In/Auto Move XY	P1, P2, P3
		P1-zoom, P2-X-speed, P3- Y-speed	
	97-149	*Reserved*	
	150	*Layer keystoning*	P1,P2,P3
		P1-squeezing/stretching in X, P2/P3-compressing & expanding in X/Y	
	151-199	*Reserved*	
	200	Picture merging - R/G/B gamma adjustment in blended edges	P1, P2,P3
		P 1- red, P 2 - green, P 3- blue	
	201-255	*Reserved*	
158		**Gobo effect 2 -Parameter 1**	
	0-255	Effect control	depends on effect
159		**Gobo effect 2 -Parameter 2**	
	0-255	Effect control	depends on effect

DMX Channel	DMX Value	Function	Type of control
160		**Gobo effect 2 -Parameter 3**	
	0-255	Effect control	depends on effect
161		**Gobo Position X coarse**	
	0-127	Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
162		**Gobo position X fine**	
	0-255	Position X fine	proportional
163		**Gobo position Y coarse**	
	0-127	Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
164		**Gobo position Y fine**	
	0-255	Position Y fine	proportional
165		**Gobo zoom X coarse**	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
166		**Gobo zoom X fine**	
	0-255	Zoom X fine	proportional
167		**Gobo zoom Y coarse**	
	0-127	Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
168		**Gobo zoom Y fine**	
	0-255	Zoom Y fine	proportional
169		**Synchronization to ID**	
	0	No function	step
169	1-255	Synchronization to fixture ID	proportional
* DMX value 10 and 11 changes meaning of channels 23-30.			
See chapter "Projection onto angular, cylindric or spheric surfaces" in the User manual.			