Emotion Luminaire DMX Control Protocol *

Standard Prototocol	
Channel	Construct
1	Pan Coarse
2	Pan Fine
3	Tilt Coarse
4	Tilt Fine
5	Zoom
6	Focus
7	Control
8	Intensity
9	Strobe
10	Iris
11	Cyan
12	Magenta
13	Yellow
14	color effect
15	gobo 1 control
16	gobo 1 control fine
17	gobo 1
18	content 1 control
19	content 1
20	content 1 effect
21	content 1 effect speed
22	gobo2 control
23	gobo 2 control fine
24	gobo 2
25	content 2 control
26	content 2
27	content 2 effect
28	content 2 effect speed
29	transition (t-handle)
30	transition effect
31	keystone horizontal
32	Keystone vertical

Collage/Keystone Prototocol	
Channel	Construct
1	Pan Coarse
2	Pan Fine
3	Tilt Coarse
4	Tilt Fine
5	Zoom
6	Focus
7	Control
8	Intensity
9	Strobe
10	Iris
11	Cyan
12	Magenta
13	Yellow
14	color effect
15	gobo 1 control
16	gobo 1 control fine
17	gobo 1
18	content 1 control
19	content 1
20	content 1 brightness
21	content 1 contrast
22	content 1 effect
23	content 1 effect speed
24	gobo2 control
25	gobo 2 control fine
26	gobo 2
27	content 2 control
28	content 2
29	content 2 brightness
30	content 2 contrast
31	content 2 effect
32	content 2 effect speed
33	transition (t-handle)
34	transition effect
35	collage type
36	collage configuraton
37	collage cell
38	collage blend adjust
39	collage edge control/alignment pattern
40	collage variable blend horizontal coarse
41	collage variable blend horizontal fine
42	collage variable blend vertical coarse
43	collage variable blend vertical fine
44	keystone top left x
45	keystone top left y
46	keystone top right x
47	keystone top right y
48	keystone bottom right x
49	keystone bottom right y
50	keystone bottom left x
51	keystone bottom left y
52	keystone ratio x
53	keystone ratio y
54	sync to fixture id

Emotion DMX Control Standard Protocol

16 fixtures per universe   changes in this color

Channel	Construct	Note	Description	Decimal Low	Decimal High	Percent Low	Percent High	Hex Low	Hex High	Default
1	Pan		Pan Coarse	0	255	0%	100%	00h	FFh	128
2	Pan		Pan Fine	0	255	0%	100%	00h	FFh	0
3	Tilt		Tilt Coarse	0	255	0%	100%	00h	FFh	128
4	Tilt		Tilt Fine	0	255	0%	100%	00h	FFh	0
5	Zoom		Digital zoom smallest	0		0%		00h		192
			Digital zoom largest	128		50%		80h		
			Optical zoom smallest	129		51%		81h		
			Optical zoom largest	255		100%		FFh		
6	Focus		Focus In	0		0%		00h		128
			Focus Out	255		100%		FFh		
7	Control	Indexed Note 6	The Control channel should not be crossfaded. No shutter channel requirement.							0
			Safe (normal operation)	0	3	0%	1%	00h	03h	
			(Range Reserved)	4	27	2%	11%	04h	1Bh	
			Shutter channel to 0 for access to the following commands.							
			Display Off (send 20 packets)	28	31	11%	12%	1Ch	1Fh	
			Display On (send 20 packets)	32	35	13%	14%	20h	23h	
			(Range Reserved)	36	63	14%	25%	24h	3Fh	
			Home All (send 20 packets)	64	67	25%	26%	40h	43h	
			Reserved	68	71	27%	28%	44h	47h	
			Lamp On	72	75	28%	29%	48h	4Bh	
			Lamp Off	76	79	30%	31%	4Ch	4Fh	
			Shutdown (send 80 packets)	80	83	31%	33%	50h	53h	
			Graphic System Reset	84	87	33%	34%	54h	57h	
			Lamp Brightness	88	91	35%	36%	58h	5Bh	
			Lamp Eco	92	95	36%	37%	5Ch	5Fh	
			(Range Reserved)	96	107	38%	42%	60h	6Bh	
			Projector floor orientation	108	111	42%	44%	6Ch	6Fh	
			Projector ceiling orientation	112	115	44%	45%	70h	73h	
			Projector front orientation	116	119	45%	47%	74h	77h	
			Projector rear orientation	120	123	47%	48%	78h	7Bh	
			RSVD: HES DMX Protocol V1	124	127	49%	50%	7Ch	7Fh	
			RSVD: HES DMX Protocol V2	128	131	50%	51%	80h	83h	
			(Range Reserved)	132	239	52%	94%	84h	EFh	
			Reset Network to DHCP	240		94%		F0h		
			(Range Reserved)	241	247	95%		F1h		
			DMX HUD in blue	248		97%	0%	F8h	00h	
			DMX HUD in green	249		98%	0%	F9h	00h	
			DMX HUD in red	250		98%	0%	FAh	00h	
			DMX HUD in white	251		98%	0%	FBh	00h	
			General HUD in blue	252		99%	0%	FCh	00h	
			General HUD in green	253		99%	0%	FDh	00h	
			General HUD in red	254		100%	0%	FEh	00h	
			General HUD in white	255		100%	0%	FFh	00h	
8	Intensity		Normal Dimming	0	255	0%	100%	00h	FFh	0
9	Strobe	Note 5	Open	0	0	0%	0%	00h	00h	0
			Periodic	0	84	0%	33%	00h	54h	
			Synchronous Random	85	167	33%	65%	55h	A7h	
			Random Random	168	255	66%	100%	A8h	FFh	
			Open	255	255	100%	100%	FFh	FFh	
10	Iris		Closed	0		0%		00h		255
			Open	255		100%		FFh		

Channel	Construct	Note	Description	Decimal Low	Decimal High	Percent Low	Percent High	Hex Low	Hex High	Default	
11	Cyan (Mod 1)		Open	0		100%		00h		0	
			Full Saturation	255		0%		FFh			
12	Magenta (Mod 2)		Open	0		100%		00h		0	
			Full Saturation	255		0%		FFh			
13	Yellow (Mod 3)		Open	0		100%		00h		0	
			Full Saturation	255		0%		FFh			
14	Color Effect	Note 1	**Background Color Effect Select**	0	255	0%	100%	00h	FFh	0	
15	gobo 1 control		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	128	Use the litho patterns currently shipped in DL/Axon servers as gobos.
16	gobo 1 control fine		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	0	Allow litho patterns to be used as opaque & alpha maps in conjunction with selected layer content.
17	gobo 1		**Gobo Select**	0	255	0%	100%	00h	FFh	0	
18	content 1 control	Note 2	**Layer Content Mode**	0	255	0%	100%	00h	FFh	0	ganged control to select general source (stock/user) and play speed.
19	content 1	Note 7	No selection	0		0%		00h		0	0 no selection. 1-255 select content from either stock or user content. Allows 500+ selections
			select content	1	255	0%	100%	01h	FFh		
20	content 1 effect	Note 3	**Content Effect**	0	255	0%	100%	00h	FFh	0	
21	content 1 effect speed		**Content Effect Speed**	0	255	0%	100%	00h	FFh	0	
22	gobo2 control		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	128	top level gobo control provides indexing or sets coarse gobo rotation
23	gobo 2 control fine		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	0	provides fine gobo rotation values.
24	gobo 2		**Gobo Select**	0	255	0%	100%	00h	FFh	0	
25	content 2 control	Note 2	**Layer Content Mode**	0	255	0%	100%	00h	FFh	0	
26	content 2	Note 7	No selection	0		0%		00h		0	
			select content	1	255	0%	100%	01h	FFh		
27	content 2 effect	Note 3	**Content Effect**	0	255	0%	100%	00h	FFh	0	
28	content 2 effect speed		**Content Effect Speed**	0	255	0%	100%	00h	FFh	0	
29	transition (t-handle)		**Transition between layers**	0	255	0%	100%	00h	FFh	128	
30	transition effect	Note 4	**Transistion Effect**	0	255	0%	100%	00h	FFh	0	
31	keystone horizontal		**Faux Keystone Effect Horizontal**	0	255	0%	100%	00h	FFh	128	Rotate around x/y axis for rudimentary keystoning while autoscaling to prevent clipping.
32	Keystone vertical		**Faux Keystone Effect Vertical**	0	255	0%	100%	00h	FFh	128	

Notes

Indexed - indicates that channel should not be crossfaded.

	Background Color Effects	DMX	Description
1	Cyan Magenta Yellow	0	Cyan - set cyan; Magenta - set magenta; Yellow - set yellow
	Red Cycle	1	Mod1 - red speed. Mod2 - green level. Mod3 - blue level.
	Green Cycle	2	Mod1 - red level. Mod2 - green speed. Mod3 - blue level.
	Blue Cycle	3	Mod1 - red level. Mod2 - green level. Mod3 - blue speed.
	Red Green Cycle	4	Mod1 - red speed. Mod2 - green speed. Mod3 - blue level.
	Red Blue Cycle	5	Mod1 - red speed. Mod2 - green level. Mod3 - blue speed.
	Green Blue Cycle	6	Mod1 - red level. Mod2 - green speed. Mod3 - blue speed.
	Red Green Blue Cycle	7	Mod1 - red speed. Mod2 - green speed. Mod3 - blue speed.
	Gradient Red	8	Mod1 - red x position. Mod2 - red y position. Mod3 - green blue multiplier.
	Gradient Red 2	9	Mod1 - red x position. Mod2 - red y position. Mod3 - green blue multiplier.
	Gradient Green	10	Mod1 - green x position. Mod2 - green y position. Mod3 - red blue multiplier.
	Gradient Green 2	11	Mod1 - green x position. Mod2 - green y position. Mod3 - red blue multiplier.
	Gradient Blue	12	Mod1 - blue x position. Mod2 - blue y position. Mod3 - red green multiplier.
	Gradient Blue 2	13	Mod1 - blue x position. Mod2 - blue y position. Mod3 - red green multiplier.
	Gradient Red Green	14	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - rotation.
	Gradient Red Delta	15	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Red Delta 2	16	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Green Delta	17	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Green Delta 2	18	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Blue Delta	19	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Blue Delta 2	20	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.

Gobo/Content Control	DMX
Content is taken from Stock Content.	
Gobo	0
Gobo inverted Black to Alpha	1
Gobo Black to Alpha	2
Gobo Negative	3
Gobo Negative Inverted Black to Alpha	4
Gobo Negative Black to Alpha	5
Gobo White to Alpha	6
Content	7
Content on Gobo	8
Content on Gobo Inverted Black to Alpha	9
Content on Gobo Black to Alpha	10
Content on Negative Gobo	11
Content on Negative Gobo Inverted Black to Alpha	12
Content on Negative Gobo Black to Alpha	13
Gobo Color Distance from Black to Alpha	14
Gobo Inverted Color Distance from Black to Alpha	15
Content Fill	16
Content Fill on Gobo	17
Content Fill on Gobo Inverted Black to Alpha	18
Content Fill on Gobo Black to Alpha	19
Content Fill on Negative Gobo	20
Content Fill on Negative Gobo Inverted Black to Alpha	21
Content Fill on Negative Gobo Black to Alpha	22
Gobo Set Black Transparent	23
Content is taken from User Content.	
Gobo	128
Gobo inverted Black to Alpha	129
Gobo Black to Alpha	130
Gobo Negative	131
Gobo Negative Inverted Black to Alpha	132
Gobo Negative Black to Alpha	133
Gobo White to Alpha	134
Content	135
Content on Gobo	136
Content on Gobo Inverted Black to Alpha	137
Content on Gobo Black to Alpha	138
Content on Negative Gobo	139
Content on Negative Gobo Inverted Black to Alpha	140
Content on Negative Gobo Black to Alpha	141
Gobo Color Distance from Black to Alpha	142
Gobo Inverted Color Distance from Black to Alpha	143
Content Fill	144
Content Fill on Gobo	145
Content Fill on Gobo Inverted Black to Alpha	146
Content Fill on Gobo Black to Alpha	147
Content Fill on Negative Gobo	148
Content Fill on Negative Gobo Inverted Black to Alpha	149
Content Fill on Negative Gobo Black to Alpha	150
Gobo Set Black Transparent	151

(Row label: 2)

	Content Effects	DMX
	None	0
	Swap RGB to GBR	1
	Swap RGB to BRG	2
	Swap RGB to BGR	3
	Swap RGB to RBG	4
	Swap RGB to GRB	5
	Color Invert	6
	Color Invert GBR	7
	Color Invert BRG	8
	Solarize	9
	Solarize 2	10
	Solarize 3	11
	Solarize 4	12
	Edge Detect	13
	Edge Detect BW	14
	Edge Detect 2	15
	Edge Detect 2 Color	16
	Lens Grid	17
	Rain Drop	18
	Faux LED	19
3	Faux Tile	20
	Pixelate	21
	Gauss Blur	22
	Sharpen	23
	Cartoon	24
	Color Deconverge	25
	Fuzzifier	26
	Prism	27
	Gaussian Halo	28
	Sepia	29
	Red Tones	30
	Fire Gradient	31
	Gray Maker	32
	Gray Maker 2	33
	Posterize	34
	Black White	35
	Negative Art	36
	Dot P	37
	Horizontal Mirror	38
	Tiles	39
	RainbowCycle	40

	Transition Effects	DMX
	Crossfade	0
	Push Right	1
	Push Left	2
	Push Down	3
	Push Up	4
	Reveal Left	5
	Reveal Right	6
	Reveal Down	7
	Reveal Up	8
	Reveal Left Down	9
	Reveal Right Down	10
	Reveal Left Up	11
	Reveal Right Up	12
	Reveal Circle Out	13
4	Reveal Circle In	14
	Reveal Rectangle Out	15
	Reveal Rectangle In	16
	Reveal Cross Out	17
	Reveal Cross In	18
	Pixelate Coarse	19
	Pixelate Medium	20
	Pixelate Fine	21
	Vertical Slats Coarse	22
	Vertical Slats Medium	23
	Vertical Slats Fine	24
	Horizontal Slats Coarse	25
	Horizontal Slats Medium	26
	Horizontal Slats Fine	27
	Swirl	28

	Strobe Modes
5	Periodic - equal on and off times. Synchronous Random - unequal on and off times. All fixtures started at the same time with the same DMX value should strobe at the same time. Random Random - unequal on and off times. All fixtures will strobe differently.

	HES Reserved Control Values
6	Reserved control values are for HES development and test purposes. These values are not for use in typical control systems.

	Video Capture
7	Content value 255 selects video capture if a capture source is available. This selection is the same regardless of the Content Control value.

Emotion DMX Control Collage & Keystone Protocol

9 fixtures per universe — changes in this color

Channel	Construct	Note	Description	Decimal Low	Decimal High	Percent Low	Percent High	Hex Low	Hex High	Default
1	Pan		Pan Coarse	0	255	0%	100%	00h	FFh	128
2	Pan		Pan Fine	0	255	0%	100%	00h	FFh	0
3	Tilt		Tilt Coarse	0	255	0%	100%	00h	FFh	128
4	Tilt		Tilt Fine	0	255	0%	100%	00h	FFh	0
5	Zoom		Digital zoom smallest	0		0%		00h		192
			Digital zoom largest	128		50%		80h		
			Optical zoom smallest	129		51%		81h		
			Optical zoom largest	255		100%		FFh		
6	Focus		Focus In	0		0%		00h		128
			Focus Out	255		100%		FFh		
7	Control	Indexed Note 6	The Control channel should not be crossfaded. No shutter channel requirement.							0
			Safe (normal operation)	0	3	0%	1%	00h	03h	
			(Range Reserved)	4	27	2%	11%	04h	1Bh	
			Shutter channel to 0 for access to the following commands.							
			Display Off (send 20 packets)	28	31	11%	12%	1Ch	1Fh	
			Display On (send 20 packets)	32	35	13%	14%	20h	23h	
			(Range Reserved)	36	63	14%	25%	24h	3Fh	
			Home All (send 20 packets)	64	67	25%	26%	40h	43h	
			Reserved	68	71	27%	28%	44h	47h	
			Lamp On	72	75	28%	29%	48h	4Bh	
			Lamp Off	76	79	30%	31%	4Ch	4Fh	
			Shutdown (send 80 packets)	80	83	31%	33%	50h	53h	
			Graphic System Reset	84	87	33%	34%	54h	57h	
			Lamp Bright	88	91	35%	36%	58h	5Bh	
			Lamp Eco	92	95	36%	37%	5Ch	5Fh	
			(Range Reserved)	96	107	38%	42%	60h	6Bh	
			Projector floor orientation	108	111	42%	44%	6Ch	6Fh	
			Projector ceiling orientation	112	115	44%	45%	70h	73h	
			Projector front orientation	116	119	45%	47%	74h	77h	
			Projector rear orientation	120	123	47%	48%	78h	7Bh	
			RSVD: HES DMX Protocol V1	124	127	49%	50%	7Ch	7Fh	
			RSVD: HES DMX Protocol V2	128	131	50%	51%	80h	83h	
			(Range Reserved)	132	239	52%	94%	84h	EFh	
			Reset Network to DHCP	240		94%		F0h		
			(Range Reserved)	241	247	95%		F1h		
			DMX HUD in blue	248		97%	0%	F8h	00h	
			DMX HUD in green	249		98%	0%	F9h	00h	
			DMX HUD in red	250		98%	0%	FAh	00h	
			DMX HUD in white	251		98%	0%	FBh	00h	
			General HUD in blue	252		99%	0%	FCh	00h	
			General HUD in green	253		99%	0%	FDh	00h	
			General HUD in red	254		100%	0%	FEh	00h	
			General HUD in white	255		100%	0%	FFh	00h	
8	Intensity		Normal Dimming	0	255	0%	100%	00h	FFh	0
9	Strobe	Note 5	Open	0	0	0%	0%	00h	00h	0
			Periodic	1	84	0%	33%	01h	54h	
			Synchronous Random	85	167	33%	65%	55h	A7h	
			Random Random	168	255	66%	100%	A8h	FFh	
			Random Random	255	255	100%	100%	FFh	FFh	

Channel	Construct	Note	Description	Decimal Low	Decimal High	Percent Low	Percent High	Hex Low	Hex High	Default
10	Iris		Closed	0		0%		00h		255
			Open	255		100%		FFh		
11	Cyan (Mod 1)		Open	0		100%		00h		0
			Full Saturation	255		0%		FFh		
12	Magenta (Mod 2)		Open	0		100%		00h		0
			Full Saturation	255		0%		FFh		
13	Yellow (Mod 3)		Open	0		100%		00h		0
			Full Saturation	255		0%		FFh		
14	Color Effect	Note 1	**Background Color Effect Select**	0	255	0%	100%	00h	FFh	0
15	gobo 1 control		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	128
16	gobo 1 control fine		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	0
17	gobo 1		**Gobo Select**	0	255	0%	100%	00h	FFh	0
18	content 1 control	Note 2	**Layer Content Mode**	0	255	0%	100%	00h	FFh	0
19	content 1	Note 7	No selection	0		0%		00h		0
			select content	1	255	0%	100%	01h	FFh	
20	content 1 brightness			0	255	0%	100%	00h	FFh	128
21	content 1 contrast			0	255	0%	100%	00h	FFh	128
22	content 1 effect	Note 3	**Content Effect**	0	255	0%	100%	00h	FFh	0
23	content 1 effect speed		**Content Effect Speed**	0	255	0%	100%	00h	FFh	0
24	gobo2 control		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	128
25	gobo 2 control fine		**Gobo Rotation (16bit)**	0	255	0%	100%	00h	FFh	0
26	gobo 2		**Gobo Select**	0	255	0%	100%	00h	FFh	0
27	content 2 control	Note 2	**Layer Content Mode**	0	255	0%	100%	00h	FFh	0
28	content 2	Note 7	No selection	0		0%		00h		0
			select content	1	255	0%	100%	01h	FFh	
29	content 2 brightness			0	255	0%	100%	00h	FFh	128
30	content 2 contrast			0	255	0%	100%	00h	FFh	128
31	content 2 effect	Note 3	**Content Effect**	0	255	0%	100%	00h	FFh	0
32	content 2 effect speed		**Content Effect Speed**	0	255	0%	100%	00h	FFh	0
33	transition (t-handle)		Transition between layers	0	255	0%	100%	00h	FFh	128
34	transition effect	Note 4	**Transistion Effect**	0	255	0%	100%	00h	FFh	0
35	collage type	Indexed	collage type selection	0	255	0%	100%	00h	FFh	0
36	collage configuraton	Indexed	collage grid size selection	0	255	0%	100%	00h	FFh	0
37	collage cell	Indexed	collage cell selection	0	255	0%	100%	00h	FFh	0
38	collage blend adjust	Indexed	collage blend region adjust	0	255	0%	100%	00h	FFh	0
39	collage edge control/alignment pattern	Indexed	blend on/off, alignment pattern	0	255	0%	100%	00h	FFh	0
40	collage variable blend horizontal coarse		horizontal variable blend region size control	0	255	0%	100%	00h	FFh	128
41	collage variable blend horizontal fine			0	255	0%	100%	00h	FFh	0
42	collage variable blend vertical coarse		vertical variable blend region size control	0	255	0%	100%	00h	FFh	128
43	collage variable blend vertical fine			0	255	0%	100%	00h	FFh	0
44	keystone top left x		position keystone upper left x	0	255	0%	100%	00h	FFh	0
45	keystone top left y		position keystone upper left y	0	255	0%	100%	00h	FFh	0
46	keystone top right x		position keystone upper right x	0	255	0%	100%	00h	FFh	0
47	keystone top right y		position keystone upper right y	0	255	0%	100%	00h	FFh	0
48	keystone bottom right x		position keystone lower right x	0	255	0%	100%	00h	FFh	0
49	keystone bottom right y		position keystone lower right y	0	255	0%	100%	00h	FFh	0
50	keystone bottom left x		position keystone lower left x	0	255	0%	100%	00h	FFh	0
51	keystone bottom left y		position keystone lower left y	0	255	0%	100%	00h	FFh	0
52	keystone ratio x		horizontal keystone distribution	0	255	0%	100%	00h	FFh	128
53	keystone ratio y		vertical keystone dixtribution	0	255	0%	100%	00h	FFh	128
54	sync to fixture id	Note 8		0	255	0%	100%	00h	FFh	0

Use the litho patterns currently shipped in DL/Axon servers as gobos.
Allow litho patterns to be used as opaque & alpha maps in conjunction with selected layer content.

ganged control to select general source (stock/user) and play speed.
0 no selection. 1-255 select content from either stock or user content. Allows 500+ selections

top level gobo control provides indexing or sets coarse gobo rotation
provides fine gobo rotation values.

Indexed - indicates that channel should not be crossfaded.

	Background Color Effects	DMX	Description
1	Cyan Magenta Yellow	0	Cyan - set cyan; Magenta - set magenta; Yellow - set yellow
	Red Cycle	1	Mod1 - red speed. Mod2 - green level. Mod3 - blue level.
	Green Cycle	2	Mod1 - red level. Mod2 - green speed. Mod3 - blue level.
	Blue Cycle	3	Mod1 - red level. Mod2 - green level. Mod3 - blue speed.
	Red Green Cycle	4	Mod1 - red speed. Mod2 - green speed. Mod3 - blue level.
	Red Blue Cycle	5	Mod1 - red speed. Mod2 - green level. Mod3 - blue speed.
	Green Blue Cycle	6	Mod1 - red level. Mod2 - green speed. Mod3 - blue speed.
	Red Green Blue Cycle	7	Mod1 - red speed. Mod2 - green speed. Mod3 - blue speed.
	Gradient Red	8	Mod1 - red x position. Mod2 - red y position. Mod3 - green blue multiplier.
	Gradient Red 2	9	Mod1 - red x position. Mod2 - red y position. Mod3 - green blue multiplier.
	Gradient Green	10	Mod1 - green x position. Mod2 - green y position. Mod3 - red blue multiplier.
	Gradient Green 2	11	Mod1 - green x position. Mod2 - green y position. Mod3 - red blue multiplier.
	Gradient Blue	12	Mod1 - blue x position. Mod2 - blue y position. Mod3 - red green multiplier.
	Gradient Blue 2	13	Mod1 - blue x position. Mod2 - blue y position. Mod3 - red green multiplier.
	Gradient Red Green	14	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - rotation.
	Gradient Red Delta	15	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Red Delta 2	16	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Green Delta	17	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Green Delta 2	18	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Blue Delta	19	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.
	Gradient Blue Delta 2	20	Mod1 - red multiplier. Mod2 - green multiplier. Mod3 - blue multiplier.

	Gobo/Content Control	DMX
	Content is taken from Stock Content.	
	Gobo	0
	Gobo Inverted Black to Alpha	1
	Gobo Black to Alpha	2
	Gobo Negative	3
	Gobo Negative Inverted Black to Alpha	4
	Gobo Negative Black to Alpha	5
	Gobo White to Alpha	6
	Content	7
	Content on Gobo	8
	Content on Gobo Inverted Black to Alpha	9
	Content on Gobo Black to Alpha	10
	Content on Negative Gobo	11
	Content on Negative Gobo Inverted Black to Alpha	12
	Content on Negative Gobo Black to Alpha	13
	Gobo Color Distance from Black to Alpha	14
	Gobo Inverted Color Distance from Black to Alpha	15
	Content Fill	16
	Content Fill on Gobo	17
	Content Fill on Gobo Inverted Black to Alpha	18
	Content Fill on Gobo Black to Alpha	19
	Content Fill on Negative Gobo	20
	Content Fill on Negative Gobo Inverted Black to Alpha	21
	Content Fill on Negative Gobo Black to Alpha	22
2	Gobo Set Transparent Black	23
	Content is taken from User Content.	
	Gobo	128
	Gobo inverted Black to Alpha	129
	Gobo Black to Alpha	130
	Gobo Negative	131
	Gobo Negative Inverted Black to Alpha	132
	Gobo Negative Black to Alpha	133
	Gobo White to Alpha	134
	Content	135
	Content on Gobo	136
	Content on Gobo Inverted Black to Alpha	137
	Content on Gobo Black to Alpha	138
	Content on Negative Gobo	139
	Content on Negative Gobo Inverted Black to Alpha	140
	Content on Negative Gobo Black to Alpha	141
	Gobo Color Distance from Black to Alpha	142
	Gobo Inverted Color Distance from Black to Alpha	143
	Content Fill	144
	Content Fill on Gobo	145
	Content Fill on Gobo Inverted Black to Alpha	146
	Content Fill on Gobo Black to Alpha	147
	Content Fill on Negative Gobo	148
	Content Fill on Negative Gobo Inverted Black to Alpha	149
	Content Fill on Negative Gobo Black to Alpha	150
	Gobo Set Transparent Black	151

	Content Effects	DMX
	None	0
	Swap RGB to GBR	1
	Swap RGB to BRG	2
	Swap RGB to BGR	3
	Swap RGB to RBG	4
	Swap RGB to GRB	5
	Color Invert	6
	Color Invert GBR	7
	Color Invert BRG	8
	Solarize	9
	Solarize 2	10
	Solarize 3	11
	Solarize 4	12
	Edge Detect	13
	Edge Detect BW	14
	Edge Detect 2	15
	Edge Detect 2 Color	16
	Lens Grid	17
	Rain Drop	18
3	Faux LED	19
	Faux Tile	20
	Pixelate	21
	Gauss Blur	22
	Sharpen	23
	Cartoon	24
	Color Deconverge	25
	Fuzzifier	26
	Prism	27
	Gaussian Halo	28
	Sepia	29
	Red Tones	30
	Fire Gradient	31
	Gray Maker	32
	Gray Maker 2	33
	Posterize	34
	Black White	35
	Negative Art	36
	Dot P	37
	Horizontal Mirror	38
	Tiles	39
	RainbowCycle	40

	Transition Effects	DMX
	Crossfade	0
	Push Right	1
	Push Left	2
	Push Down	3
	Push Up	4
	Reveal Left	5
	Reveal Right	6
	Reveal Down	7
	Reveal Up	8
	Reveal Left Down	9
	Reveal Right Down	10
	Reveal Left Up	11
	Reveal Right Up	12
	Reveal Circle Out	13
4	Reveal Circle In	14
	Reveal Rectangle Out	15
	Reveal Rectangle In	16
	Reveal Cross Out	17
	Reveal Cross In	18
	Pixelate Coarse	19
	Pixelate Medium	20
	Pixelate Fine	21
	Vertical Slats Coarse	22
	Vertical Slats Medium	23
	Vertical Slats Fine	24
	Horizontal Slats Coarse	25
	Horizontal Slats Medium	26
	Horizontal Slats Fine	27
	Swirl	28

5	**Strobe Modes**
	Periodic - equal on and off times.
	Synchronous Random - unequal on and off times. All fixtures started at the same time with the same DMX value should strobe at the same time.
	Random Random - unequal on and off times. All fixtures will strobe differently.

6	**HES Reserved Control Values**
	Reserved control values are for HES development and test purposes. These values are not for use in typical control systems.

7	**Video Capture**
	Content value 255 selects video capture if a capture source is available. This selection is the same regardless of the Content Control value.

8	**Sync to Fixture ID**
	Selects the fixture ID to which the content on both layers 1 & 2 will be synchronized during playback. Synchronization requires network connection of all the fixtures utilizing synchronization. Fixture ID's must be unique, i.e. cannot be duplicated. Fixture ID's are set by using the CMA application.