

# COMBI

## DMX Protocol Specification

V1.0

04/2024



## Overview

<b>8 bit 1 channel per function</b>	<b>16 bit 2 channels per function</b>
DMX mode1 CCT & RGBW	DMX mode 6 CCT & RGBW
DMX mode 2 CCT	DMX mode 7 CCT
DMX mode 3 CCT&HSI	DMX mode 8 CCT & HSI
DMX mode 4 RGBW	DMX mode 9 RGBW
DMX mode 5 HSI	DMX mode 10 HSI
DMX mode 16 GEL V2	DMX mode 17 GEL V2
DMX mode 18 x.y	DMX mode 19 x.y
DMX mode 22 Effect	DMX mode 23 Effect
DMX mode 24 LE CCT&RGBW	
DMX mode 26 LE HSI	
DMX mode 30 Ultimate DMX	

**Mode 1: CCT & RGBW, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Dimmer</b> closed → open
2	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
3	0-10	0-4	<b>Green / Magenta Point</b> neutral / no effect
	11-20	5-8	full minus green
	21-119	9-47	-99% → -1%
	120-145	48-57	neutral / no effect
	146-244	58-96	1% → 99%
	245-255	97-100	full plus green
4	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
5	0-255	0-100	<b>Intensity red</b> 0%→100%
6	0-255	0-100	<b>Intensity green</b> 0%→100%
7	0-255	0-100	<b>Intensity blue</b> 0%→100%
8	0-255	0-100	<b>Intensity white</b> 0%→100%
9-11			<b>Reserved for future use</b>

**Mode 2: CCT, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Dimmer</b> closed → open
2	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
3	0-10	0-4	<b>Green / Magenta Point</b> neutral / no effect
	11-20	5-8	full minus green
	21-119	9-47	-99% → -1%
	120-145	48-57	neutral / no effect
	146-244	58-96	1% → 99%
	245-255	97-100	full plus green
4-6			<b>Reserved for future use</b>

**Mode 3: CCT&HSI, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Dimmer</b> closed → open
2	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
3	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
4	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
5	0-255	0-100	<b>Hue</b> 0°→360°
6	0-255	0-100	<b>Saturation</b> 0% →100%
7-9			<b>Reserved for future use</b>

**Mode 4: RGBW, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Dimmer</b> closed → open
2	0-255	0-100	<b>Intensity red</b> 0% → 100%
3	0-255	0-100	<b>Intensity green</b> 0%→100%
4	0-255	0-100	<b>Intensity blue</b> 0%→100%
5	0-255	0-100	<b>Intensity white</b> 0%→100%
6-8			<b>Reserved for future use</b>

**Mode 5: HSI, 8bit resolution per function**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Dimmer</b> closed → open
2	0-255	0-100	<b>Hue</b> 0°→360°
3	0-255	0-100	<b>Saturation</b> 0% →100%
4-6			<b>Reserved for future use</b>

**Mode 6: CCT&rgbw, 16bit resolution per function**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Dimmer</b> closed → open
3	4	0-65535	0-100	<b>Color temperature CCT</b> 2700K-10000K
5	6	0-5000	0-7	<b>Green / Magenta Point</b> neutral / no effect
		5001-10000	8-15	full minus green
		10001-29999	16-46	-99% → -1%
		30000-40000	47-61	neutral / no effect
		40001-59999	62-92	1% → 99%
60000-65535	93-100	full plus green		
7	8	0-65535	0-100	<b>Xfade to color</b> White → RGBW color
9	10	0-65535	0-100	<b>Intensity red</b> 0%→100%
11	12	0-65535	0-100	<b>Intensity green</b> 0%→100%
13	14	0-65535	0-100	<b>Intensity blue</b> 0%→100%
15	16	0-65535	0-100	<b>Intensity white</b> 0%→100%
17-19				<b>Reserved for future use</b>

**Mode 7: CCT, 16bit resolution per function**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Dimmer</b> closed → open
3	4	0-65535	0-100	<b>Color temperature CCT</b> 2700 K → 10000 K
5	6	0-5000	0-7	<b>Green / Magenta Point</b> neutral / no effect
		5001-10000	8-15	full minus green
		10001-29999	16-46	-99% → -1%
		30000-40000	47-61	neutral / no effect
		40001-59999	62-92	1% → 99%
		60000-65535	93-100	full plus green
7-9				<b>Reserved for future use</b>

**Mode 8: CCT & HSI, 16bit resolution per function**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Dimmer</b> closed → open
3	4	0-65535	0-100	<b>Color temperature CCT</b> 2700 K → 10.000 K
5	6	0-5000	0-7	<b>Green / Magenta Point</b> neutral / no effect
		5001-10000	8-15	full minus green
		10001-29999	16-46	-99% → -1%
		30000-40000	47-61	neutral / no effect
		40001-59999	62-92	1% → 99%
		60000-65535	93-100	full plus green
7	8	0-65535	0-100	<b>Xfade to color</b> White → RGBW color
9	10	0-65535	0-100	<b>Hue</b> 0° → 360°
11	12	0-65535	0-100	<b>Saturation</b> 0% → 100%
13-17				<b>Reserved for future use</b>

**Mode 9: RGBW, 16bit resolution per function**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Dimmer</b> closed → open
3	4	0-65535	0-100	<b>Intensity red</b> 0% → 100%
5	6	0-65535	0-100	<b>Intensity green</b> 0% → 100%
7	8	0-65535	0-100	<b>Intensity blue</b> 0% → 100%
9	10	0-65535	0-100	<b>Intensity white</b> 0% → 100%
11-13				<b>Reserved for future use</b>

**Mode 10: HSI, 16bit resolution per function**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Dimmer</b> closed → open
3	4	0-65535	0-100	<b>Hue</b> 0° → 360°
5	6	0-65535	0-100	<b>Saturation</b> 0% → 100%
7-9				<b>Reserved for future use</b>

**Mode 16: GEL V2, 8bit resolution per function, base channels**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Master Intensity</b> 0 % (closed) → 100% (open)
2	0-127 128-255	0-50 51-100	Gel 1, CCT Selection 3200 K 5600 K
3	0-84 85-170 171-255	0-33 34-66 67-100	<b>Gel 1, Color Matching Selection</b> Best Color Note: Color quality optimized Brightest Note: Color brightness optimized No Color Gel



<b>4</b>	0-127 128-255	0-50 51-100	<b>Gel 1, Brand</b> Choose category on ch. 5, gel on ch. 6 R Series L Series
<b>5</b>	0-50 51-101 102-152 153-23 204-255	0-20 21-39 40-60 61-80 81-100	<b>Gel 1, Category (Brand Dependent)</b> Choose Gel manufacturer on channel 4 Category 1 Rosco: Color correction L Series: Color correction Category 2 R Series: CalColor L Series: Color Filters Category 3 R Series: Storaro Selection L Series: 600 Series Category 4 R Series: Cinelux L Series: Cosmetic Filters Category 5 L Series: 700 Series
<b>6</b>	0-255	0-100	<b>Gel 1</b> Please see tables below
<b>7</b>	0-255	0-100	<b>Cross Fade to gel</b> Gel 1 → Gel 2
<b>8</b>	0-127 128-255	0-50 51-100	<b>Gel 2, CCT Selection</b> 3200 K 5600 K

**Mode 16: GEL V2, 8bit resolution per function, base channels, continued**

<b>DMX Channel</b>	<b>Value</b>	<b>Percent</b>	<b>Function</b>
<b>9</b>	0-84 85-170 171-255	0-33 34-66 67-100	<b>Gel 2, Color Matching Selection</b> Best Color Note: Color quality optimized Brightest Note: Color brightness optimized No Color Gel
<b>10</b>	0-128 129-255	0-50 51-100	<b>Gel 2, Brand</b> <b>Choose category on ch. 11 gel on ch. 12</b> R Series

			L Series
<b>11</b>	0-50 51-101 102-152 153-23 204-255	0-20 21-39 40-60 61-80 81-100	<b>Gel 2, Category (Brand Dependent)</b> Choose Gel manufacturer on channel 10 Category 1 Rosco: Color correction L Series: Color correction Category 2 R Series: CalColor L Series: Color Filters Category 3 R Series: Storaro Selection L Series: 600 Series Category 4 R Series: Cinelux L Series: Cosmetic Filters Category 5 L Series: 700 Series
<b>12</b>	0-255	0-100	<b>Gel 2</b> Please see tables below
<b>13</b>	0-51 52-102 103-153 154-204 205-255	0-20 21-40 41-60 61-79 81-100	<b>Gel Transition Type</b> Direct Through White Point Through Black Point Over White Point Under White point
<b>14-16</b>			<b>Reserved for future use</b>

**Mode 17: GEL V2, 16bit resolution per function, base channels**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Master Intensity</b> 0 % (closed) → 100% (open)
3		0-128 129-255	0-50 51-100	<b>Gel 1, CCT Selection</b> 3200 K 5600 K
4		0-128 129-170 171-255	0-50 51-67 68-100	<b>Gel 1, Color Matching Selection</b> Best Color Note: Color quality optimized Brightest Note: Color brightness optimized No Color Gel
5		0-128 129-255	0-50 51-100	<b>Gel 1, Brand</b> Choose category on ch. 5, gel on ch. 6 R Series L Series
6		0-50 51-101 102-152 153-23 204-255	0-20 21-39 40-60 61-80 81-100	<b>Gel 1, Category (Brand Dependent)</b> Choose Gel manufacturer on channel 4 Category 1 R Series: Color correction L Series: Color correction Category 2 R Series: CalColor L Series: Color Filters Category 3 R Series: Storaro Selection L Series: 600 Series Category 4 R Series: Cinelux L Series: Cosmetic Filters Category 5 L Series: 700 Series
7		0-255	0-100	<b>Gel 1</b> Please see tables below
8	9	0-255	0-100	<b>Cross Fade to gel</b> Gel 1 → Gel 2
10		0-127 128-255	0-50 51-100	<b>Gel 2, CCT Selection</b> 3.200 K 5.600 K

**Mode 17: GEL V2, 16bit resolution per function, base channels, continued**

DMX Channel		Value	Percent	Function
HI	LO			
11		0-128 129-170 171-255	0-50 51-67 68-100	<b>Gel 2, Color Matching Selection</b> Best Color Note: Color quality optimized Brightest Note: Color brightness optimized No Color Gel
12		0-128 129-255	0-50 51-100	<b>Gel 2, Brand</b> Choose category on ch. 11 gel on ch. 12 R Series L Series
13		0-50 51-101 102-152 153-23 204-255	0-20 21-39 40-60 61-80 81-100	<b>Gel 2, Category (Brand Dependent)</b> Choose Gel manufacturer on channel 10 Category 1 R Series: Color correction L Series: Color correction Category 2 R Series: CalColor L Series: Color Filters Category 3 R Series: Storaro Selection L Series: 600 Series Category 4 R Series: Cinelux L Series: Cosmetic Filters Category 5 L Series: 700 Series
14		0-255	0-100	<b>Gel 2</b> Please see tables below
15		0-51 52-102 103-153 154-204 205-255	0-20 21-40 41-60 61-79 81-100	<b>Gel Transition Type</b> Direct Through White Point Through Black Point Over White Point Under White point
16-18				<b>Reserved for future use</b>

**Mode 16 & Mode 17: GEL 8 bit or 16 bit resolution per function, GEL selection channel**

Category 1, R Series, Color correction

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	Full CTB	3202
	2 – 3	3/4 CTB	3203
	4 – 5	1/2 CTB	3204
	6 – 7	1/3 CTB	3206
	8 – 9	1/4 CTB	3208
	10 – 11	1/8 CTB	3216
	12 – 13	Double CTB	3220
	14 – 15	Full CTO	3407
	16 – 17	3/4 CTO	3411
	18 – 19	1/2 CTO	3408
	20 – 21	1/4 CTO	3409
	22 – 23	1/8 CTO	3410
	24 – 25	Double CTO	3420
	26 – 27	Full CTS	3441
	28 – 29	1/2 CTS	3442
	30 – 31	1/4 CTS	3443
	32 – 33	1/8 CTS	3444
	34 – 35	Full Plusgreen	3304
	36 – 37	1/2 Plusgreen	3315
	38 – 39	1/4 Plusgreen	3316
	40 – 41	1/8 Plusgreen	3317
	42 – 43	Full Minusgreen	3308
	44 – 45	3/4 Minusgreen	3309
	46 – 47	1/2 Minusgreen	3313
	48 – 49	1/4 Minusgreen	3314
	50 – 51	1/8 Minusgreen	3318
	52 – 53	Fluorofilter	3310
	54 – 55	Industrial Vapor	3150
	56 – 57	Urban Vapor	3152
	58 – 59	Tough Y-1	3107
	60 – 61	Tough MT 54	3134
	62 – 63	Tough MTY	3106
64 – 65	Tough MT2	3102	
66 – 255		Reserved for future use	

Category 2, R Series, CalColor

<b>DMX Channel</b>	<b>Value</b>	<b>Gel Name</b>	<b>Gel Number</b>
<b>6</b>	0 – 1	15 Blue	4215
	2 – 3	30 Blue	4230
	4 – 5	60 Blue	4260
	6 – 7	90 Blue	4290
	8 – 9	7 Cyan	4307
	10 – 11	15 Cyan	4315
	12 – 13	30 Cyan	4330
	14 – 15	60 Cyan	4360
	16 – 17	90 Cyan	4390
	18 – 19	15 Green	4415
	20 – 21	30 Green	4430
	22 – 23	60 Green	4460
	24 – 25	90 Green	4490
	26 – 27	15 Yellow	4515
	28 – 29	30 Yellow	4530
	30 – 31	60 Yellow	4560
	32 – 33	90 Yellow	4590
	34 – 35	15 Red	4615
	36 – 37	30 Red	4630
	38 – 39	60 Red	4660
	40 – 41	90 Red	4690
	42 – 43	15 Magenta	4715
	44 – 45	30 Magenta	4730
	46 – 47	60 Magenta	4760
	48 – 49	90 Magenta	4790
	50 – 51	15 Pink	4815
	52 – 53	30 Pink	4830
	54 – 55	60 Pink	4860
	56 – 57	90 Pink	4890
	58 – 59	15 Lavender	4915
	60 – 61	30 Lavender	4930
	62 – 63	60 Lavender	4960
64 – 65	90 Lavender	4990	
66 – 255			Reserved for future use

Category 3, R Series, Storaro Selection

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	VS Red	2001
	2 – 3	VS Orange	2002
	4 – 5	VS Yellow	2003
	6 – 7	VS Green	2004
	8 – 9	VS Cyan	2005
	10 – 11	VS Azure	2006
	12 – 13	VS Blue	2007
	14 – 15	VS Indigo	2008
	16 – 17	VS Violet	2009
	18 – 19	VS Magenta	2010
	20 – 255		Reserved for future use

Category 4, R Series, Cinelux

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	Bastard Amber	2
	2 – 3	Pale Bastard Amber	302
	4 – 5	No Color Straw	6
	6 – 7	Pale Gold	8
	8 – 9	Daffodil	310
	10 – 11	Straw	12
	12 – 13	Light Amber	16
	14 – 15	Gallo Gold	316
	16 – 17	Light Flame	17
	18 – 19	Flame	18
	20 – 21	Mayan Sun	318
	22 – 23	Golden Amber	21
	24 – 25	Soft Golden Amber	321
	26 – 27	Orange	23
	28 – 29	Henna Sky	325
	30 – 31	Light Red	26
	32 – 33	No Color Pink	33
	34 – 35	No Color Pink	333
	36 – 37	Flesh Pink	34
	38 – 39	Pale Rose Pink	37
	40 – 41	Salmon	41
42 – 43	Deep Salmon	42	
44 – 45	Deep Salmon	44	
46 – 47	Light Rose Purple	47	
48 – 49	Surprise Pink	51	

Category 4, R Serise, Cinelux, continued

DMX Channel	Value	Gel Name	Gel Number
6	50 – 51	No Color Blue	60
	52 – 53	Clearwater	360
	54 – 55	Booster Blue	62
	56 – 57	Tipton Blue	362
	58 – 59	Blue Bell	364
	60 – 61	Daylight Blue	65
	62 – 63	Tharon Delft Blue	365
	64 – 65	Cerulean Blue	375
	66 – 67	Bermuda Blue	376
	68 – 69	Green Blue	77
	70 – 71	Alice Blue	378
	72 – 73	Primary Blue	80
	74 – 75	Baldassari Blue	381
	76 – 77	Medium Blue	83
	78 – 79	Pale Yellow Green	87
	80 – 81	Light Green	88
	82 – 83	Moss Green	89
	84 – 85	Primary Green	91
	86 – 87	Turquoise	92
88 – 89	Blue Green	93	
90 – 91	Chocolate	99	
92 – 255		Reserved for future use	

Category 1, L Series, Color correction

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	Double CTB	200
	2 – 3	Full CTB	201
	4 – 5	3/4 CTB	281
	6 – 7	1/2 CTB	202
	8 – 9	1/4 CTB	203
	10 – 11	1/8 CTB	218
	12 – 13	Double CTO	287
	14 – 15	Full CTO	204
	16 – 17	3/4 CTO	285
	18 – 19	1/2 CTO	205
	20 – 21	1/4 CTO	206
	22 – 23	1/8 CTO	223



Category 1, L Series, Color correctionx, continued

<b>DMX Channel</b>	<b>Value</b>	<b>Gel Name</b>	<b>Gel Number</b>
<b>6</b>	24 – 25	1 1/2 CTB	283
	26 – 27	1 1/2 CTO	286
	28 – 29	Full CTS	441
	30 – 31	1/2 CTS	442
	32 – 33	1/4 CTS	443
	34 – 35	1/8 CTS	444
	36 – 37	Full CTO + .3 ND	207
	38 – 39	Full CTO + .6 ND	208
	40 – 41	L.C.T. Yellow (Y1)	212
	42 – 43	White Flame Green	213
	44 – 45	Fluorescent Green	219
	46 – 47	Super Correction L.C.T. Yellow	230
	48 – 49	Super Correction W.F. Green	232
	50 – 51	H.M.I. (to Tungsten)	236
	52 – 53	C.I.D. (to Tungsten)	237
	54 – 55	C.S.I. (to Tungsten)	238
	56 – 57	Fluorescent 5700 Kelvin	241
	58 – 59	Fluorescent 4300 Kelvin	242
	60 – 61	Fluorescent 3600 Kelvin	243
	62 – 63	Plus Green	244
	64 – 65	1/2 Plus Green	245
	66 – 67	1/4 Plus Green	246
	68 – 69	1/8 Plus Green	278
	70 – 71	Minus Green	247
	72 – 73	1/2 Minus Green	248
	74 – 75	1/4 Minus Green	249
76 – 77	1/8 Minus Green	279	
78 – 255		Reserved for future use	

Category 2, L Series, Color Filters

<b>DMX Channel</b>	<b>Value</b>	<b>Gel Name</b>	<b>Gel Number</b>
6	0 – 1	Rose Pink	2
	2 – 3	Lavender Tint	3
	4 – 5	Medium Bastard Amber	4
	6 – 7	Pale Yellow	7
	8 – 9	Dark Salmon	8
	10 – 11	Pale Amber Gold	9
	12 – 13	Medium Yellow	10
	14 – 15	Straw Tint	13
	16 – 17	Surprise Peach	17
	18 – 19	Fire	19
	20 – 21	Medium Amber	20
	22 – 23	Gold Amber	21
	24 – 25	Dark Amber	22
	26 – 27	Scarlet	24
	28 – 29	Sunset Red	25
	30 – 31	Bright Red	26
	32 – 33	Light Pink	35
	34 – 35	Medium Pink	36
	36 – 37	Dark Magenta	46
	38 – 39	Rose Purple	48
	40 – 41	Light Lavender	52
	42 – 43	Paler Lavender	53
	44 – 45	Lavender	58
	46 – 47	Mist Blue	61
	48 – 49	Pale Blue	63
	50 – 51	Sky Blue	68
	52 – 53	Evening Blue	75
	54 – 55	Just Blue	79
	56 – 57	Deeper Blue	85
	58 – 59	Lime Green	88
	60 – 61	Moss Green	89
	62 – 63	Dark Yellow Green	90
	64 – 65	Spring Yellow	100
	66 – 67	Yellow	101
68 – 69	Light Amber	102	
70 – 71	Straw	103	
72 – 73	Deep Amber	104	
74 – 75	Primary Red	106	
76 – 77	Light Rose	107	
78 – 79	English Rose	108	
80 – 81	Light Salmon	109	

Category 2, L Series, Color Filters, continued

<b>DMX Channel</b>	<b>Value</b>	<b>Gel Name</b>	<b>Gel Number</b>
6	82 – 83	Middle Rose	110
	84 – 85	Dark Pink	111
	86 – 87	Magenta	113
	88 – 89	Peacock Blue	115
	90 – 91	Steel Blue	117
	92 – 93	Light Blue	118
	94 – 95	Deep Blue	120
	96 – 97	L Green	121
	98 – 99	Fern Green	122
	100 – 101	Dark Green	124
	102 – 103	Smokey Pink	127
	104 – 105	Bright Pink	128
	106 – 107	Marine Blue	131
	108 – 109	Golden Amber	134
	110 – 111	Deep Golden Amber	135
	112 – 113	Pale Lavender	136
	114 – 115	Special Lavender	137
	116 – 117	Pale Green	138
	118 – 119	Summer Blue	140
	120 – 121	Pale Violet	142
	122 – 123	Pale Navy Blue	143
	124 – 125	No Color Blue	144
	126 – 127	Apricot	147
	128 – 129	Bright Rose	148
	130 – 131	Gold Tint	151
	132 – 133	Pale Gold	152
	134 – 135	Pale Salmon	153
	136 – 137	Pale Rose	154
	138 – 139	Chocolate	156
	140 – 141	Pink	157
	142 – 143	No Color Straw	159
	144 – 145	Slate Blue	161
	146 – 147	Bastard Amber	162
	148 – 149	Flame Red	164
150 – 151	Daylight Blue	165	
152 – 153	Lilac Tint	169	
154 – 155	Deep Lavender	170	
156 – 157	Dark Steel Blue	174	
158 – 159	Loving Amber	176	
160 – 161	Dark Lavender	180	
162 – 163	Light Red	182	
164 – 165	Flesh Pink	192	

Category 2, L Series, Color Filters, continued

DMX Channel	Value	Gel Name	Gel Number
6	166 – 167	Surprise Pink	194
	168 – 169	Zenith Blue	195
	170 – 171	True Blue	196
	172 – 173	Alice Blue	197
	174 – 175	Palace Blue	198
	176 – 177	Regal Blue	199
	178 – 255		Reserved for future use

Category 3, L Series, 600 Series

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	Arctic White	600
	2 – 3	Silver	601
	4 – 5	Platinum	602
	6 – 7	Moonlight White	603
	8 – 9	Full CT 85	604
	10 – 11	Industry Sodium	650
	12 – 13	HI Sodium	651
	14 – 15	Urban Sodium	652
	16 – 17	LO Sodium	653
	18 – 255		Reserved for future use

Category 4, L Series, Cosmetic Filters

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	Cosmetic Peach	184
	2 – 3	Cosmetic Silver Rose	186
	4 – 5	Cosmetic Rouge	187
	6 – 7	Cosmetic Highlight	188
	8 – 9	Cosmetic Silver Moss	189
	10 – 11	Cosmetic Aqua Blue	191
	12 – 13	Lily Frost	705
	14 – 15	Shanklin Frost	717
	16 – 17	Half Shanklin Frost	718
	18 – 19	Durham Daylight Frost	720
	20 – 21	Hampshire Rose	749
	22 – 23	Durham Frost	750
	24 – 25	Soft Amber Key 1	774
	26 – 27	Soft Amber Key 2	775
	28 – 29	Moroccan Frost	791
	30 – 31	Blue Diffusion	217
	32 – 33	Blue Frost	221
	34 – 35	Daylight Blue frost	224
36 – 255		Reserved for future use	

Category 5, L Series, 700 series

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	Perfect Lavender	700
	2 – 3	Provence	701
	4 – 5	Special Pale Lavender	702
	6 – 7	Cold Lavender	703
	8 – 9	Lily	704
	10 – 11	King Fals Lavender	706
	12 – 13	Cool Lavender	708
	14 – 15	Electric Lilac	709
	16 – 17	Spir Special Blue	710
	18 – 19	Cold Blue	711
	20 – 21	Bedford Blue	712
	22 – 23	Elysian Blue	714
	24 – 25	Cabana Blue	715
	26 – 27	Mikkel Blue	716
	28 – 29	Colour Wash Blue	719
	30 – 31	Berry Blue	721
	32 – 33	Virgin Blue	723
	34 – 35	Ocean Blue	724
	36 – 37	Old Steel Blue	725
	38 – 39	Steel Green	728
	40 – 41	Liberty Green	730
	42 – 43	Dirty Ice	731
	44 – 45	Damp Squib	733
	46 – 47	JAS Green	738
	48 – 49	Bram Brown	742
	50 – 51	Dirty White	744
	52 – 53	Brown	746
	54 – 55	Easy White	747
	56 – 57	Seedy Pink	748
	58 – 59	Wheat	763
	60 – 61	Sun Colour Straw	764
	62 – 63	LYellow	765
	64 – 65	Cardbox Amber	773
	66 – 67	Nectarine	776
68 – 69	Millenium Gold	778	
70 – 71	Bastard Pink	779	
72 – 73	Terry Red	781	
74 – 75	Blood Red	789	
76 – 77	Moroccan Pink	790	
78 – 79	Pretty n'Pink	794	
80 – 81	Magical Magenta	795	
82 – 255		Reserved for future use	

**Mode 18: x,y Coordinates, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Master Intensity</b> 0 % (closed) → 100% (open)
2	0-255	0-100	<b>X1 Coordinate</b> 0.0-0.8
3	0-255	0-100	<b>Y1 Coordinate</b> 0.0-0.8
4	0-255	0-100	<b>Cross Fade</b> X1,Y1→X2,Y2
5	0-255	0-100	<b>X2 Coordinate</b> 0.0-0.8
6	0-255	0-100	<b>Y2 Coordinate</b> 0.0-0.8
7	0-51 52-102 103-153 154-204 205-255	0-20 21-40 41-60 61-79 80-100	<b>Transition Type</b> Direct Through White Point Through Black Point Over White Point Under White point
8 <b>Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.</b>	0-9 10-60 61-120 121-180 181-250 251-255	0-4 5-23 24-47 48-70 71-98 99-100	<b>Fan control</b> Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
9-11			<b>Reserved for future use</b>

**Mode 19: x,y Coordinates 16 bit resolution per function**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Master Intensity</b> 0 % (closed) → 100% (open)
3	4	0-65535	0-100	<b>X1 Coordinate</b> 0.0-0.8
5	6	0-65535	0-100	<b>Y1 Coordinate</b> 0.0-0.8
7	8	0-65535	0-100	<b>Cross Fade</b> X1,Y1→X2,Y2
9	10	0-65535	0-100	<b>X2 Coordinate</b> 0.0-0.8
11	12	0-65535	0-100	<b>Y2 Coordinate</b> 0.0-0.8
13		0-51 52-102 103-153 154-204 205-255	0-20 21-40 41-60 61-79 80-100	<b>Transition Type</b> Direct Through White Point Through Black Point Over White Point Under White point
14 <b>Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.</b>		0-9 10-60 61-120 121-180 181-250 251-255	0-4 5-23 24-47 48-70 71-98 99-100	<b>Fan control</b> Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
15-17				<b>Reserved for future use</b>

**Mode 22: Effects, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Master Intensity</b> 0 % (closed) → 100% (open)
2	0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 100-109 110-119 120-129 130-139 140-149 150-159 160-169 170-179 180-255	0-4 5-7 8-11 12-15 16-19 20-23 24-27 28-31 32-35 36-39 40-43 44-47 48-51 52-55 56-58 59-62 63-66 67-70 71-100	<b>Effect Selection</b> No Effect Party Effect Candle Clouds Passing Club Lights Color Chase Cop Car Fire Fireworks Light Strobe Lightning Paparazzi Pulsing Television Explosion Fluorescent Flicker Process Welding Reserved for future use
3	0-255	0-100	<b>Effect Parameter 1</b> See table below
4	0-255	0-100	<b>Effect Parameter 2</b> See table below
5	0-255	0-100	<b>Effect Parameter 3</b> See table below
6	0-255	0-100	<b>Effect Parameter 4</b> See table below
7	0-255	0-100	<b>Effect Parameter 5</b> See table below
8	0-255	0-100	<b>Effect Parameter 6</b> See table below
9	0-255	0-100	<b>Effect Parameter 7</b> See table below
10-12			<b>Reserved for future use</b>



**Mode 23: Effects, 16 bit resolution per function**

DMX Channel		Value	Percent	Function
HI	LO			
1	2	0-65535	0-100	<b>Master Intensity</b> 0 % (closed) → 100% (open)
	3	0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 100-109 110-119 120-129 130-139 140-149 150-159 160-169 170-179 180-255	0-4 5-7 8-11 12-15 16-19 20-23 24-27 28-31 32-35 36-39 40-43 44-47 48-51 52-55 56-58 59-62 63-66 67-70 71-100	<b>Effect Selection</b> No Effect Party Effect Candle Clouds Passing Club Lights Color Chase Cop Car Fire Fireworks Light Strobe Lightning Paparazzi Pulsing Television Explosion Fluorescent Flicker Process Welding Reserved for future use
4	5	0-65535	0-100	<b>Effect Parameter 1</b> See table below
6	7	0-65535	0-100	<b>Effect Parameter 2</b> See table below
8	9	0-65535	0-100	<b>Effect Parameter 3</b> See table below
10	11	0-65535	0-100	<b>Effect Parameter 4</b> See table below
12	13	0-65535	0-100	<b>Effect Parameter 5</b> See table below
14	15	0-65535	0-100	<b>Effect Parameter 6</b> See table below
16	17	0-65535	0-100	<b>Effect Parameter 7</b> See table below

**Mode 23: Effects, 16 bit resolution per function, continued**

DMX Channel		Value	Percent	Function
HI	LO			
18		0-9	0-4	<b>Fan control</b> Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
		10-60	5-23	
		61-120	24-47	
		121-180	48-70	
		181-250	71-98	
		251-255	99-100	
19-21				<b>Reserved for future use</b>

Party Effect

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0	0	0	<b>Saturation</b> CCT 2700 → 10000 K 0 → 1.0 Saturation
	0-255	1-65535	0-100	
2	0-255	0-65535	0-100	<b>Speed</b> Loop 60 s → 1 s

Candle

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0-84	0-21626	0-33	<b>CCT Range</b> Not continuous, set range for random generation 1400 → 1700 K 1700 → 2000 K 2000 → 2300 K
	85-170	21627-43253	34-66	
	171-255	43254-65535	67-100	
2	0-255	0-65535	0-100	<b>Speed</b> 0 → 120 changes / min

Clouds Passing

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0-255	0-65535	0-100	<b>Offset</b> Offset Number 0 – 50 Every 5 DMX values is a new offset
2	0-127 128- 255	0-32767 32768-65535	0-50 51-100	<b>Speed</b> 2 x Slower → Default Speed Default Speed → 2 x Faster
3	255	65535	100	<b>Sync</b> If bumped to 100%, the loop will start at zero (or depending on the offset value)

Club Lights

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0-31 32-63 64-95 96-127 128-159 160-191 192-223 224-255	0-7864 7865-16384 16385-24248 24249-32266 32267-40631 40632-49151 49152-57015 57016-65535	0-12 13-25 26-37 38-49 50-62 63-75 76-87 88-100	<b>Color Variety</b> 3 Colors 6 Colors 9 Colors 12 Colors 15 Colors 18 Colors 21 Colors 24 Colors
2	0 - 255	0 - 65535	0 - 100	<b>Speed</b> 0 → 120 changes / min

Color Chase

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0-255	0-65535	0-100	<b>Offset</b> Offset Number 0 – 50 Every 5 DMX values is a new offset
2	0-255	0 - 65535	0-100	<b>Speed</b> Loop 60 s → 1 s
3	0 0-255	0 1-65535	0 0-100	<b>Saturation</b> CCT 2700 → 10000 K 0% → 100% Saturation
4	255	65535	100	<b>Sync</b> If bumped to 100%, the loop will start at zero (or depending on the offset value)

Cop Car

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0-27 28-55 56-83 84-111 112-139 140-167 168-195 196-223 224-255	0-6912 6913-14080 14081-21248 21249-28416 28417-35584 35585-42752 42753-49920 49921-57088 57089-65535	0-11 12-21 22-32 33-43 44-54 55-65 66-76 77-87 88-100	<b>Color Combinations</b> Just Blue Blue and Red Blue and White Blue, Red and White Blue and Amber Blue, Red and Amber Red and Amber Amber Red
2	0-31 32-63 64-95 96-127 128-159 160-191 192-255	0- 7936 7937-16128 16129-24320 24321-32767 32768-40704 40705-48896 48897-65535	0-12 13-25 26-37 38-49 50-62 63-75 76-100	<b>Flash Pattern</b> Single Flash Double Flash Quint All Flash Quint Flash Quad Flash Cycle All Reserved for future use

Fire

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0-84 85-170 171-255	0-21627 21628-43253 43254-65535	0-33 34-66 67-100	<b>CCT Range</b> Not continuous, set range for random generation 1800 → 2200 K 2200 → 2600 K 2600 → 3000 K
2	0 - 255	0 - 65535	0-100	<b>Speed</b> 0 → 180 changes / min

Fireworks

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0-63 64-127 128-191 192-255	0-16384 16385-32767 32768-49151 49152-65535	0-25 26-50 51-75 76-100	<b>Color Combinations</b> Colors White Colors and White Reserved for future use
2	0-255	0-65535	0-100	<b>Speed</b> 10 → 0,5 s between fireworks

Strobe

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0-255	0 - 65535	0-100	<b>Speed</b> 1 → 25 flashes / second
2	0-255	0-65535	0-100	<b>Color Temperature</b> CCT 2700K-10000K
3	0-10 11-20 21-119 120-145 146-244 245-255	0-2621 2622-5243 5244-30146 30147-37355 37356-62914 62915-65535	0-4 5-8 8-46 47-57 57-96 97-100	<b>Green - Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
4	0-255	0-65535	0-100	<b>Crossfade to Color</b> White → RGBW Color
5	0-255	0-65535	0-100	<b>Hue</b> 0 → 360°
6	0-255	0-65535	0-100	<b>Saturation</b> 0% → 100%

Lightning

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0-254 255	0-64880 64881-65535	0-99 255	<b>Frequency</b> 2 → 14 lightning strikes set Random
2	0-254 255	0-64880 64881-65535	0-99 100	<b>Speed</b> 0 → 10 flashes / second Random
3	0-255	0-65535	0-100	<b>Color Temperature</b> CCT 2700 → 10000 K
4	0-10 11-20 21-119 120-145 146-244 245-255	0-2621 2622-5243 5244-30146 30147-37355 37356-62914 62915-65535	0-4 5-8 8-46 47-57 57-96 97-100	<b>Green-Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
5	0-255	0-65535	0-100	<b>Sync</b> If bumped to 100%, the loop will start at zero (or depending on the offset value)

Paparazzi

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0-255	0-65535	0-100	<b>Frequency</b> 6 → 120 Flashes / min
2	0-127 128-255	0-32767 32768-65535	0-50 51-100	<b>Flash Type</b> Flash Bulb Modern Flash
3	0-255	0-65535	0-100	<b>Color Temperature</b> CCT 2700 → 10000 K
4	0-10 11-20 21-119 120-145 146-244 245-255	0-2621 2622-5243 5244-30146 30147-37355 37356-62914 62915-65535	0-4 5-8 8-46 47-57 57-96 97-100	<b>Green-Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green

Pulsing

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0-255	0-65535	0-100	<b>Frequency</b> 5 → 90 Pulses / minute
2	0-255	0-65535	0-100	<b>Pulse Duration</b> 4 → 0.25 seconds
3	0-255	0-65535	0-100	<b>Color Temperature</b> CCT 2700 → 10000 K
4	0-10 11-20 21-119 120-145 146-244 245-255	0-2621 2622-5243 5244-30146 30147-37355 37356-62914 62915-65535	0-4 5-8 8-46 47-57 57-96 97-100	<b>Green-Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
5	0-255	0-65535	0-100	<b>Crossfade to Color</b> White → RGBW Color
6	0-255	0-65535	0-100	<b>Hue</b> 0 → 360°
7	0-255	0-65535	0-100	<b>Saturation</b> 0% → 100%

Television

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0-84 85-170 171-255	0-21627 21628-43253 43254-65535	0-33 34-66 67-100	<b>CCT Range</b> Not continuous, set range for random generation 2700 → 4700 K 4700 → 6500 K 6500 → 10000 K
2	0-255	0-65535	0-100	<b>Speed</b> 4 → 24 changes / min

## Explosion

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0-255	0-65535	0-100	<b>Decay</b> Decay 4 → 0.5 seconds
2	250-255	64224-65535	0-100	<b>Trigger</b> Manual (bump intensity to explode))
3	0-255	0-65535	0-100	<b>Color Temperature</b> CCT 2700 → 10000 K
4	0-10 11-20 21-119 120-145 146-244 245-255	0-2621 2622-5243 5244-30146 30147-37355 37356-62914 62915-65535	0-4 5-8 8-46 47-57 57-96 97-100	<b>Green-Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
5	0 - 255	0-65535	0-100	<b>Crossfade to Color</b> White → RGBW Color
6	0 - 255	0-65535	0-100	<b>Hue</b> 0 → 360°
7	0 - 255	0-65535	0-100	<b>Saturation</b> 0% → 100%



Fluorescent Flicker

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0 – 255	0 – 65535	0 – 100	<b>Speed</b> 2 → 6 seconds of still
2	0 – 255	0 – 65535	0 – 100	<b>Frequency</b> 3 → 10 flickers per second
3	0 – 255	0 – 65535	0 – 100	<b>Color Temperature</b> CCT 2700 → 10000 K
4	0 – 10 11 – 20 21 – 119 120 – 145 146 – 244 245 – 255	0 – 2621 2622 – 5243 5244 – 30146 30147 – 37355 37356 – 62914 62915 – 65535	0 – 4 5 – 8 8 – 46 47 – 57 57 – 96 97 – 100	<b>Green-Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
5	0 – 255	0 – 65535	0 – 100	<b>Crossfade to Color</b> White → RGBW Color
6	0 – 255	0 – 65535	0 – 100	<b>Hue</b> 0 → 360°
7	0 – 255	0 – 65535	0 – 100	<b>Saturation</b> 0% → 100%

Process

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0 – 255	0 – 65535	0 – 100	<b>Speed</b> Slow → fast
2	0 – 127 128 – 255	0 – 32764 32765 – 65535	0 – 50 51 – 100	<b>Direction</b> Left → right Right → left
3	0 – 255	0 – 65535	0 – 100	<b>Color Temperature</b> CCT 2700 → 10000 K
4	0 – 10 11 – 20 21 – 119 120 – 145 146 – 244 245 – 255	0 – 2621 2622 – 5243 5244 – 30146 30147 – 37355 37356 – 62914 62915 – 65535	0 – 4 5 – 8 8 – 46 47 – 57 57 – 96 97 – 100	<b>Green–Magenta Point</b> neutral / no effect full minus green –99% → –1% neutral / no effect 1% → 99% full plus green
5	0 – 255	0 – 65535	0 – 100	<b>Crossfade to Color</b> White → RGBW Color
6	0 – 255	0 – 65535	0 – 100	<b>Hue</b> 0 → 360°
7	0 – 255	0 – 65535	0 – 100	<b>Saturation</b> 0% → 100%

Welding

<b>Effect Parameter</b>	<b>Value 8 bit</b>	<b>Value 16 bit</b>	<b>Percent</b>	<b>Function</b>
1	0 – 255	0 – 65535	0 – 100	<b>Speed</b> Slow → fast
2	0 – 255	0 – 65535	0 – 100	<b>Min Intensity Level</b> 0% → 75% minimum intensity level
3	0 – 255	0 – 65535	0 – 100	<b>Color Temperature</b> CCT 2700 → 10000 K
4	0 – 10 11 – 20 21 – 119 120 – 145 146 – 244 245 – 255	0 – 2621 2622 – 5243 5244 – 30146 30147 – 37355 37356 – 62914 62915 – 65535	0 – 4 5 – 8 8 – 46 47 – 57 57 – 96 97 – 100	<b>Green–Magenta Point</b> neutral / no effect full minus green –99% → –1% neutral / no effect 1% → 99% full plus green
5	0 – 255	0 – 65535	0 – 100	<b>Crossfade to Color</b> White → RGBW Color
6	0 – 255	0 – 65535	0 – 100	<b>Hue</b> 0 → 360°
7	0 – 255	0 – 65535	0 – 100	<b>Saturation</b> 0% → 100%

### Individual Light Engine Control

These DMX modes support the individual control of each light engine of a COMBI.

Individual light engine control supports the control of

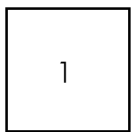
- One (1) light engine of the LC-01,
- Two (2) light engines of the LC-02,
- Four (4) light engines of the LC-04,
- Nine (9) light engines of the LC-09,
- Twelve (12) light engines of the LC-12V,
- Twelve (12) light engines of the LC-12H.

Each DMX protocol supports the DMX modes CCT & RGBW, HSI and x, y coordinates for each light engine.

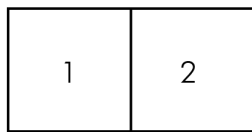
### Light Engine Numbering

For individual light engine control via DMX each light engine is identified by a specific number.

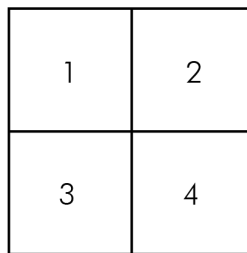
The following definition will be used (Light engine positions seen from the front):



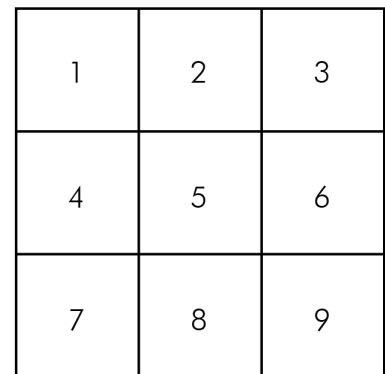
**LC-01**



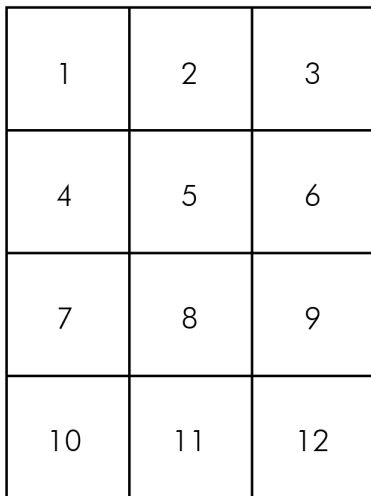
**LC-02**



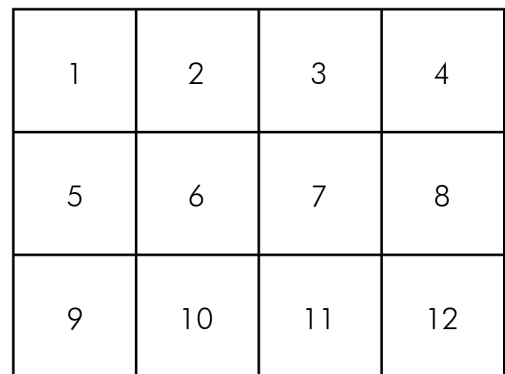
**LC-04**



**LC-09**



**LC-12V**



**LC-12H**

**Mode 24: LE CCT & RGBW, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
<b>Light Engine 1</b>			
1	0-255	0-100	<b>Dimmer</b> closed → open
2	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
3	0-10	0-4	<b>Green / Magenta Point</b> neutral / no effect
	11-20	5-8	full minus green
	21-119	9-47	-99% → -1%
	120-145	48-57	neutral / no effect
	146-244	58-96	1% → 99%
	245-255	97-100	full plus green
4	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
5	0-255	0-100	<b>Intensity red</b> 0%→100%
6	0-255	0-100	<b>Intensity green</b> 0%→100%
7	0-255	0-100	<b>Intensity blue</b> 0%→100%
8	0-255	0-100	<b>Intensity white</b> 0%→100%

DMX Channel	Value	Percent	Function
<b>Light Engine 2(only LC-02,LC-04,LC-09,LC-12H,LC-12V)</b>			
9	0-255	0-100	<b>Dimmer</b> closed → open
10	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
11	0-10	0-4	<b>Green / Magenta Point</b> neutral / no effect
	11-20	5-8	full minus green
	21-119	9-47	-99% → -1%
	120-145	48-57	neutral / no effect
	146-244	58-96	1% → 99%
	245-255	97-100	full plus green
12	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
13	0-255	0-100	<b>Intensity red</b> 0%→100%

<b>14</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>15</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>16</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

<b>DMX Channel</b>	<b>Value</b>	<b>Percent</b>	<b>Function</b>
<b>Light Engine 3 (only LC-04,LC-09,LC-12H,LC-12V)</b>			
<b>17</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>18</b>	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
<b>19</b>	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
<b>20</b>	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
<b>21</b>	0-255	0-100	<b>Intensity red</b> 0%→100%
<b>22</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>23</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>24</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

DMX Channel	Value	Percent	Function
<b>Light Engine4 (only LC-04,LC-09,LC-12H,LC-12V)</b>			
25	0-255	0-100	<b>Dimmer</b> closed → open
26	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
27	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
28	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
29	0-255	0-100	<b>Intensity red</b> 0%→100%
30	0-255	0-100	<b>Intensity green</b> 0%→100%
31	0-255	0-100	<b>Intensity blue</b> 0%→100%
32	0-255	0-100	<b>Intensity white</b> 0%→100%

DMX Channel	Value	Percent	Function
<b>Light Engine 5 (only LC-09,LC-12H,LC-12V)</b>			
33	0-255	0-100	<b>Dimmer</b> closed → open
34	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
35	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
36	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
37	0-255	0-100	<b>Intensity red</b> 0%→100%

<b>38</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>39</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>40</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

<b>DMX Channel</b>	<b>Value</b>	<b>Percent</b>	<b>Function</b>
<b>Light Engine 6 (only LC-09,LC-12H,LC-12V)</b>			
<b>41</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>42</b>	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
<b>43</b>	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
<b>44</b>	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
<b>45</b>	0-255	0-100	<b>Intensity red</b> 0%→100%
<b>46</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>47</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>48</b>	0-255	0-100	<b>Intensity white</b> 0%→100%



DMX Channel	Value	Percent	Function
<b>Light Engine 7 (only LC-09,LC-12H,LC-12V)</b>			
49	0-255	0-100	<b>Dimmer</b> closed → open
50	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
51	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
52	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
53	0-255	0-100	<b>Intensity red</b> 0%→100%
54	0-255	0-100	<b>Intensity green</b> 0%→100%
55	0-255	0-100	<b>Intensity blue</b> 0%→100%
56	0-255	0-100	<b>Intensity white</b> 0%→100%

DMX Channel	Value	Percent	Function
<b>Light Engine 8 (only LC-09,LC-12H,LC-12V)</b>			
57	0-255	0-100	<b>Dimmer</b> closed → open
58	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
59	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
60	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
61	0-255	0-100	<b>Intensity red</b> 0%→100%
62	0-255	0-100	<b>Intensity green</b> 0%→100%

<b>63</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>64</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

DMX Channel	Value	Percent	Function
<b>Light Engine 9 (only LC-09,LC-12H,LC-12V)</b>			
<b>65</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>66</b>	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
<b>67</b>	0-10	0-4	<b>Green / Magenta Point</b> neutral / no effect
	11-20	5-8	full minus green
	21-119	9-47	-99% → -1%
	120-145	48-57	neutral / no effect
	146-244	58-96	1% → 99%
	245-255	97-100	full plus green
<b>68</b>	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
<b>69</b>	0-255	0-100	<b>Intensity red</b> 0%→100%
<b>70</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>71</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>72</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

DMX Channel	Value	Percent	Function
<b>Light Engine 10 (only LC-12H,LC-12V)</b>			
<b>73</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>74</b>	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
<b>75</b>	0-10	0-4	<b>Green / Magenta Point</b> neutral / no effect
	11-20	5-8	full minus green
	21-119	9-47	-99% → -1%
	120-145	48-57	neutral / no effect
	146-244	58-96	1% → 99%
	245-255	97-100	full plus green

<b>76</b>	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
<b>77</b>	0-255	0-100	<b>Intensity red</b> 0%→100%
<b>78</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>79</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>80</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

<b>DMX Channel</b>	<b>Value</b>	<b>Percent</b>	<b>Function</b>
<b>Light Engine 11 (only LC-12H,LC-12V)</b>			
<b>81</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>82</b>	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
<b>83</b>	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
<b>84</b>	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
<b>85</b>	0-255	0-100	<b>Intensity red</b> 0%→100%
<b>86</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>87</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>88</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

DMX Channel	Value	Percent	Function
<b>Light Engine 12 (only LC-12H,LC-12V)</b>			
<b>89</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>90</b>	0-255	0-100	<b>Color temperature CCT</b> 2700K-10000K
<b>91</b>	0-10 11-20 21-119 120-145 146-244 245-255	0-4 5-8 9-47 48-57 58-96 97-100	<b>Green / Magenta Point</b> neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
<b>92</b>	0-255	0-100	<b>Cross Fade to Color</b> White → RGBW color
<b>93</b>	0-255	0-100	<b>Intensity red</b> 0%→100%
<b>94</b>	0-255	0-100	<b>Intensity green</b> 0%→100%
<b>95</b>	0-255	0-100	<b>Intensity blue</b> 0%→100%
<b>96</b>	0-255	0-100	<b>Intensity white</b> 0%→100%

**Mode 26: LE HSI, 8 bit resolution per function**

DMX Channel	Value	Percent	Function
<b>Light Engine 1</b>			
1	0-255	0-100	<b>Dimmer</b> closed → open
2	0-255	0-100	<b>Hue</b> 0° → 360°
3	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 2 (only LC-02,LC-04,LC-09,LC-12H,LC-12V)</b>			
4	0-255	0-100	<b>Dimmer</b> closed → open
5	0-255	0-100	<b>Hue</b> 0° → 360°
6	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 3 (only LC-04,LC-09,LC-12H,LC-12V)</b>			
7	0-255	0-100	<b>Dimmer</b> closed → open
8	0-255	0-100	<b>Hue</b> 0° → 360°
9	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 4 (only LC-04,LC-09,LC-12H,LC-12V)</b>			
10	0-255	0-100	<b>Dimmer</b> closed → open
11	0-255	0-100	<b>Hue</b> 0° → 360°
12	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 5 (only LC-09,LC-12H,LC-12V)</b>			
13	0-255	0-100	<b>Dimmer</b> closed → open
14	0-255	0-100	<b>Hue</b> 0° → 360°
15	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 6 (only LC-09,LC-12H,LC-12V)</b>			
16	0-255	0-100	<b>Dimmer</b> closed → open
17	0-255	0-100	<b>Hue</b> 0° → 360°
18	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 7 (only LC-09,LC-12H,LC-12V)</b>			
19	0-255	0-100	<b>Dimmer</b> closed → open
20	0-255	0-100	<b>Hue</b> 0° → 360°
21	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 8 (only LC-09,LC-12H,LC-12V)</b>			
22	0-255	0-100	<b>Dimmer</b> closed → open
23	0-255	0-100	<b>Hue</b> 0° → 360°
24	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 9 (only LC-09,LC-12H,LC-12V)</b>			
25	0-255	0-100	<b>Dimmer</b> closed → open
26	0-255	0-100	<b>Hue</b> 0° → 360°
27	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 10 (only LC-12H,LC-12V)</b>			
<b>28</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>29</b>	0-255	0-100	<b>Hue</b> 0° → 360°
<b>30</b>	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 11 (only LC-12H,LC-12V)</b>			
<b>31</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>32</b>	0-255	0-100	<b>Hue</b> 0° → 360°
<b>33</b>	0-255	0-100	<b>Saturation</b> 0 → full saturated

DMX Channel	Value	Percent	Function
<b>Light Engine 12 (only LC-12H,LC-12V)</b>			
<b>34</b>	0-255	0-100	<b>Dimmer</b> closed → open
<b>35</b>	0-255	0-100	<b>Hue</b> 0° → 360°
<b>36</b>	0-255	0-100	<b>Saturation</b> 0 → full saturated

**Mode 30: Ultimate DMX Protocol, 8 bit**

DMX Channel	Value	Percent	Function
1	0-255	0-100	<b>Master Intensity</b> 0 % (closed) → 100% (open)
2	0 – 9	0 – 4	<b>Color Mode Selection 1</b> CCT & Green-Magenta Point
	10 – 19	5 – 7	H S I
	20 – 29	8 – 11	RGBW
	30 – 39	12 – 16	Gel Selection
	40 – 49	17 – 19	Source Matching
	50 – 59	20 – 23	X,y Coordinate
	60 – 69	24 – 27	Effects
	70 – 255	28 – 100	Reserved
3	See tables below		<b>Color Paramter #1</b>
4			<b>Color Paramter #2</b>
5			<b>Color Paramter #3</b>
6			<b>Color Paramter #4</b>
7			<b>Color Paramter #5</b>
8			<b>Color Paramter #6</b>
9			<b>Color Paramter #7</b>
10			<b>Color Paramter #8</b>
11	0-255	0-100	<b>Crossfade to Color</b> Color Mode Selection 1 → Color Mode Selection 2
12	0 – 9	0 – 4	<b>Color Mode Selection 2</b> CCT & Green-Magenta Point
	10 – 19	5 – 7	H S I
	20 – 29	8 – 11	RGBW
	30 – 39	12 – 16	Gel Selection
	40 – 49	17 – 19	Source Matching
	50 – 59	20 – 23	X,y Coordinate
	60 – 69	24 – 27	Effects
	70 – 255	28 – 100	Reserved
13	See tables below		<b>Color Paramter #1</b>
14			<b>Color Paramter #2</b>
15			<b>Color Paramter #3</b>
16			<b>Color Paramter #4</b>
17			<b>Color Paramter #5</b>
18			<b>Color Paramter #6</b>
19			<b>Color Paramter #7</b>
20			<b>Color Paramter #8</b>
21	0-19	0-7	<b>Light Strobe</b> No effect
	20-255	8-100	1 flash / s → 25 flashes / s
22			<b>Reserved for future use</b>



## Color Mode Parameters

Color Mode	Parameter	Value 8 bit	Percent	Function
<b>CCT &amp; Green / Magenta Point</b>	<b>1</b>	0 – 255	0 – 100	<b>CCT Range</b> 2700 → 10000 K
	<b>2</b>	0 – 10 11 – 20 21 – 119 120 – 145 146 – 244 245 – 255	0 – 4 5 – 8 16 – 46 47 – 57 58 – 95 96 – 100	<b>Green–Magenta Point</b> neutral / no effect full minus green –99% → –1% neutral / no effect 1% → 99% full plus green
<b>HSI</b>	<b>1</b>	0 – 255	0 – 100	<b>Hue</b> 0° → 360°
	<b>2</b>	0 – 255	0 – 100	<b>Saturation</b> 0 → full saturated
<b>RGBW</b>	<b>1</b>	0 – 255	0 – 100	<b>Intensity red</b> 0% → 100%
	<b>2</b>	0 – 255	0 – 100	<b>Intensity green</b> 0% → 100%
	<b>3</b>	0 – 255	0 – 100	<b>Intensity blue</b> 0% → 100%
	<b>4</b>	0 – 255	0 – 100	<b>Intensity white</b> 0% → 100%
	<b>5</b>	0 – 255	0 – 100	<b>White Point CCT</b> 2700 K → 10000 K
	<b>6</b>	0 – 10 11 – 20 21 – 119 120 – 145 146 – 244 245 – 255	n/a	<b>White Point – Green–Magenta Point</b> neutral / no effect full minus green –99% → –1% neutral / no effect 1% → 99% full plus green

Color Mode	Parameter	Value 8 bit	Percent	Function
<b>Gel Selection</b>	<b>1</b>	0 – 127	0 – 50	<b>Gel, CCT Selection</b> 3200 K 5600 K
		128 – 255	51 – 100	
	<b>2</b>	0 – 84	0 – 33	<b>Gel, Color Matching Selection</b> Best Color Note: Color quality optimized Brightest Note: Color brightness optimized No Color Gel
		85 – 170	34 – 67	
		171 – 255	68 – 100	
	<b>3</b>	0 – 127	0 – 50	<b>Gel, Brand</b> R Series L Series filters
		128 – 255	51 – 100	
	<b>4</b>	0 – 50	0 – 20	<b>Gel, Category</b> Choose Gel manufacturer on parameter 3 Category 1 R Series: Color correction L Series: Color correction Category 2 R Series: CalColor L Series: Color Filters Category 3 Rosco: Storaro Selection L Series: 600 Series Category 4 R Series: Cinelux L Series: Cosmetic Filters Category 5 L Series: 700 Series
		51 – 101	21 – 39	
		102 – 152	40 – 60	
		153 – 203	61 – 80	
		204 – 255	81 – 100	
	<b>5</b>	0 – 255	0 – 100	<b>Gel</b> See tables on page 17
<b>Source Matching</b>	<b>1</b>	0 – 50	0 – 20	<b>Category</b> Incandescent Fluorescent Discharge Other Reserved for future use
		51 – 101	21 – 39	
	<b>1</b>	102 – 152	40 – 59	Reserved for future use
		153 – 203	60 – 79	
		204 – 255	80 – 100	
	<b>2</b>	0 – 255	0 – 100	Source Please see table on page 59

Color Mode	Parameter	Value 8 bit	Percent	Function
<b>x,y Coordinates</b>	<b>1</b>	0 – 255	0 – 100	<b>X Coordinate</b> 0.0 – 0.8
	<b>2</b>	0 – 255	0 – 100	<b>Y Coordinate</b> 0.0 – 0.8
<b>Effects</b>	<b>1</b>	0 – 9	0 – 4	<b>Effect Selection</b> No Effect
		10 – 19	5 – 7	Party Effect
		20 – 29	8 – 11	Candle
		30 – 39	12 – 15	Clouds Passing
		40 – 49	16 – 19	Club Lights
		50 – 59	20 – 23	Color Chase
		60 – 69	24 – 27	Cop Car
		70 – 79	28 – 31	Fire
		80 – 89	32 – 35	Fireworks
		90 – 99	36 – 39	Light Strobe
		100 – 109	40 – 43	Lightning
		110 – 119	44 – 47	Paparazzi
		120 – 129	48 – 51	Pulsing
		130 – 139	52 – 55	Television
		140 – 149	56 – 58	Explosion
		150 – 159	59 – 62	Fluorescent Flicker
		160 – 169	63 – 66	Process Effect
		170 – 179	67 – 70	Welding
180 – 255	71 – 100	Reserved for future use		
	<b>2</b>	See tables from page 31	<b>Effect Parameter 1</b>	
	<b>3</b>		<b>Effect Parameter 2</b>	
	<b>4</b>		<b>Effect Parameter 3</b>	
	<b>5</b>		<b>Effect Parameter 4</b>	
	<b>6</b>		<b>Effect Parameter 5</b>	
	<b>7</b>		<b>Effect Parameter 6</b>	
	<b>8</b>		<b>Effect Parameter 7</b>	

**Source Matching, Sources**

<b>Category</b>	<b>Value</b>	<b>Value</b>
<b>Incandescent</b>	0 – 2	Tungsten Bulb
	3 – 5	Incandescent
	6 – 8	Halogen
	9 – 11	Antique Bulb
	12 – 14	Warm Antique Bulb
	15 – 17	Christmas Lights
	18 – 20	Night Light
	21 – 23	Infrared Heat Lamp
	24 – 26	Grow light
	27 – 255	Reserved for future use
<b>Flourescent</b>	0 – 2	CFL Soft White
	3 – 5	CFL Bright White
	6 – 8	CFL Cool White
	9 – 11	CFL Daylight
	12 – 14	Cool White 1
	15 – 17	Cool White 2
	18 – 20	Cool White 3
	21 – 23	Warm White
	24 – 26	CFL Blacklight
	27 – 255	Reserved for future use
<b>Discharge</b>	0 – 2	HMI
	3 – 5	High Pressure Sodium
	6 – 8	Low Pressure Sodium
	9 – 11	Mercury Vapor
	12 – 14	Metal Halide
	15 – 17	Ceramic
	18 – 20	Carbon Arc
	21 – 23	Xenon
24 – 255	Reserved for future use	

<b>Category</b>	<b>Value</b>	<b>Value</b>
<b>Other</b>	0 – 2	Candle
	3 – 5	Gas Fire
	6 – 8	Sun Direct
	9 – 11	Sun Overcast
	12 – 14	Sun Blue Hour
	15 – 17	Mobile Phone
	18 – 20	Computer Monitor
	21 – 23	Electroluminescence
	24 – 26	Blow Torch
	27 – 29	Road Flare
	30 – 32	Amber Caution
	33 – 35	Green Traffic Light
	36 – 38	Yellow Traffic Light
	39 – 41	Red Traffic Light
	42 – 44	Blue Glow Stick
	45 – 47	Green Glow Stick
	48 – 50	Red Glow Stick
	51 – 53	Yellow Glow Stick
	54 – 56	Pink Glow Stick
	57 – 59	Violet Glow Stick
60 – 255	Reserved for future use	

