SkyPanel®

DMX Protocol V4.3

LIGHTING – TECHNICAL INFORMATION

Revision history

Date	Changes	Sign
2016-10-26	FAN control corrected	mfg
2016-11-23	DMX values “Best color” (Mode 16 & 17) corrected	mfg
2017-02-16	Implemented V4.3	mfg
2017-03-20	Updated V4.3	mfg
2017-04-24	Final adjustment of 16 bit values	mfg

Content

DMX protocol version 4.3

Used in fixtures from firmware version 3.0

Sxx-RP

Overview

8 bit 1 channel per function	**16 bit** 2 channels per function	**Coarse / fine** 1-2 channels per function
DMX mode 1*	DMX mode 2	DMX mode 3

* = Factory default

Mode 1: 8 bit resolution per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
3 - 5			**Reserved for future use**

Mode 2: 16 bit resolution per function

DMX Channel		Value	Percent	Function
1	HI			**Dimmer**
2	LO	0 – 65.535	0 - 100	closed → open
3 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*				**Fan control**
		0 – 9	0 – 4	Use Fan Mode Setting of Fixture Menu
		10 – 60	5 – 23	Low Fan Mode
		61 – 120	24 – 47	Variable Fan Mode
		121 – 180	48 – 70	High Fan Mode
		181 – 250	71 – 98	Fan at Full Speed
		251 - 255	99 - 100	Fan Off
4 - 6				**Reserved for future use**

Mode 3: Coarse / fine channel per function

Each of the 256 coarse steps is divided in 256 fine steps. Use this mode when your lighting control desk does not support true 16 bit resolution.

DMX Channel	Value	Percent	Function
1			**Dimmer**
	0 – 255	0 - 100	closed → open
2	0 – 255	0 – 100	**Dimmer fine**
3 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*			**Fan control**
	0 – 9	0 – 4	Use Fan Mode Setting of Fixture Menu
	10 – 60	5 – 23	Low Fan Mode
	61 – 120	24 – 47	Variable Fan Mode
	121 – 180	48 – 70	High Fan Mode
	181 – 250	71 – 98	Fan at Full Speed
	251 - 255	99 - 100	Fan Off
4 - 6			**Reserved for future use**

Sxx-C (Color)

Overview

8 bit 1 channel per function	**16 bit** 2 channels per function	**Coarse / fine** 1-2 channels per function
DMX mode 1* CCT & RGBW	DMX mode 6 CCT & RGBW	DMX mode 11 CCT & RGBW
DMX mode 2 CCT	DMX mode 7 CCT	DMX mode 12 CCT
DMX mode 3 CCT & H S I	DMX mode 8 CCT & H S I	DMX mode 13 CCT & H S I
DMX mode 4 RGBW	DMX mode 9 RGBW	DMX mode 14 RGBW
DMX mode 5 H S I	DMX mode 10 H S I	DMX mode 15 H S I
DMX mode 16 GEL V2	DMX mode 17 GEL V2	
DMX Mode 18 x,y coordinates	DMX Mode 19 x,y coordinates	
DMX mode 20 Source Matching	DMX mode 21 Source Matching	
DMX mode 22 Effects	DMX mode 23 Effects	

*= Factory default

Green / Magenta Point – average equivalents

Setting	**Rosco #**	**Setting**	**Rosco #**
Full -Green	3308	Full +Green	3304
1/2-Green	3313	1/2 +Green	3315
1/4 -Green	3314	1/4 +Green	3316
1/8 –Green	3318	1/8 +Green	3317

Preset Channel – DMX Value Allocation

DMX Channel	Value	Percent	Function
			Preset
	0 – 11	0 – 4	No Effect
			User Defined Presets
	12 – 23	5 – 9	Preset 01
	24 – 35	10 – 14	Preset 02
	36 – 47	15 – 18	Preset 03
	48 – 59	19 – 23	Preset 04
	60 – 71	24 – 28	Preset 05
	72 – 83	29 – 33	Preset 06
	84 – 95	34 – 37	Preset 07
	96 – 107	38 – 42	Preset 08
Depending on DMX mode	108 – 119	43 – 47	Preset 09
	120 – 131	48 – 51	Preset 10
			Factory Presets
	132 – 143	52 – 56	Preset 01 (2.900 K, 0 +/- GN)
	144 – 155	57 – 61	Preset 02 (3.200 K, 0 +/- GN)
	156 – 167	62 – 65	Preset 03 (5.600 K, 0 +/- GN)
	168 – 179	66 – 70	Preset 04 (6.500 K, 0 +/- GN)
	180 – 191	71 – 75	Preset 05 (120° Hue, 100% Saturation)
	192 – 203	76 – 80	Preset 06 (240° Hue, 100% Saturation)
	204 – 215	81 – 84	Preset 07 (Rosco 3408, 5.600 K Base)
	216 – 227	85 – 89	Preset 08 (Lee 187, 3.200 K Base)
	228 – 239	90 – 94	Preset 09 (Rosco 3152, 3.200 K Base)
	240 - 255	95 - 100	Preset 10 (Lee 162, 3.200 K Base)

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

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Color temperature CCT** 2.800 K → 10.000 K
3	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4 5 - 8 8 - 46 47 - 57 57 - 96 96 - 100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
4	0 – 255	0 - 100	**Cross Fade to Color** White → RGBW color
5	0 – 255	0 - 100	**Intensity red** 0% → 100%
6	0 – 255	0 - 100	**Intensity green** 0% → 100%
7	0 – 255	0 - 100	**Intensity blue** 0% → 100%
8	0 – 255	0 - 100	**Intensity white** 0% → 100%
9 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
10	0 – 255	0 – 100	**Preset** See table on page 7
11 - 12			**Reserved for future use**

Mode 2: CCT, 8 bit resolution per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Color temperature CCT** 2.800 K → 10.000 K
3	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4 5 - 8 8 - 46 47 - 57 57 - 96 96 - 100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
4 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
5	0 – 255	0 – 100	**Preset** See table on page 7
6 - 7			**Reserved for future use**

Mode 3: CCT & H S I, 8 bit resolution per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Color temperature CCT** 2.800 K → 10.000 K
3	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4 5 - 8 8 - 46 47 - 57 57 - 96 96 - 100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
4	0 – 255	0 - 100	**Cross Fade to Color** White → RGBW color
5	0 – 255	0 - 100	**Hue** 0° → 360°
6	0 – 255	0 - 100	**Saturation** 0 → full saturated
7 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
8	0 – 255	0 – 100	**Preset** See table on page 7
9 - 10			**Reserved for future use**

Mode 4: RGBW, 8 bit resolution per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 - 100	**Intensity red** 0% → 100%
3	0 – 255	0 - 100	**Intensity green** 0% → 100%
4	0 – 255	0 - 100	**Intensity blue** 0% → 100%
5	0 – 255	0 - 100	**Intensity white** 0% → 100%
6 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
7	0 – 255	0 – 100	**Preset** See table on page 7
8 - 9			**Reserved for future use**

Mode 5: H S I, 8 bit resolution per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 - 100	**Hue** 0° → 360°
3	0 – 255	0 - 100	**Saturation** 0 → full saturated
4 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
5	0 – 255	0 – 100	**Preset** See table on page 7
6 - 7			**Reserved for future use**

Mode 6: CCT & RGBW, 16 bit resolution per function

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Dimmer** closed → open
3	**4**	0 – 65.535	0 – 100	**Color temperature CCT** 2.800 K → 10.000 K
5	**6**	0 - 5.000 5.001 – 10.000 10.001 – 29.999 30.000 – 40.000 40.001 – 59.999 60.000 – 65.535	0-7 8-15 16-46 46-61 61-92 92-100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
7	**8**	0 – 65.535	0 - 100	**Xfade to color** White → RGBW color
9	**10**	0 – 65.535	0 - 100	**Intensity red** 0% → 100%
11	**12**	0 – 65.535	0 - 100	**Intensity green** 0% → 100%
13	**14**	0 – 65.535	0 - 100	**Intensity blue** 0% → 100%
15	**16**	0 – 65.535	0 - 100	**Intensity white** 0% → 100%
17 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
18		0 – 255	0 – 100	**Preset** See table on page 7
19 - 20				**Reserved for future use**

Mode 7: CCT, 16 bit resolution per function

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Dimmer** closed → open
3	**4**	0 – 65.535	0 – 100	**Color temperature CCT** 2.800 K → 10.000 K
5	**6**	0 - 5.000 5.001 – 10.000 10.001 – 29.999 30.000 – 40.000 40.001 – 59.999 60.000 – 65.535	0-7 8-15 16-46 46-61 61-92 92-100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
7 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
8		0 – 255	0 – 100	**Preset** See table on page 7
9 - 10				**Reserved for future use**

Mode 8: CCT & H S I, 16 bit resolution per function

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Dimmer** closed → open
3	**4**	0 – 65.535	0 – 100	**Color temperature CCT** 2.800 K → 10.000 K
5	**6**	0 - 5.000 5.001 – 10.000 10.001 – 29.999 30.000 – 40.000 40.001 – 59.999 60.000 – 65.535	0-7 8-15 16-46 46-61 61-92 92-100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
7	**8**	0 – 65.535	0 - 100	**Xfade to color** White → RGBW color
9	**10**	0 – 65.535	0 - 100	**Hue** 0° → 360°
11	**12**	0 – 65.535	0 - 100	**Saturation** White → full saturated
13 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
14		0 – 255	0 – 100	**Preset** See table on page 7
15 - 16				**Reserved for future use**

Mode 9: RGBW, 16 bit resolution per function

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Dimmer** closed → open
3	**4**	0 – 65.535	0 - 100	**Intensity red** 0% → 100%
5	**6**	0 – 65.535	0 - 100	**Intensity green** 0% → 100%
7	**8**	0 – 65.535	0 - 100	**Intensity blue** 0% → 100%
9	**10**	0 – 65.535	0 - 100	**Intensity white** 0% → 100%
11 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
12		0 – 255	0 – 100	**Preset** See table on page 7
13 - 14				**Reserved for future use**

Mode 10: H S I, 16 bit resolution per function

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Dimmer** closed → open
3	**4**	0 – 65.535	0 - 100	**Hue** 0° → 360°
5	**6**	0 – 65.535	0 - 100	**Saturation** White → full saturated
7 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
8		0 – 255	0 – 100	**Preset** See table on page 7
9 - 10				**Reserved for future use**

Mode 11: CCT & RGBW, Coarse/fine per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Dimmer fine**
3	0 – 255	0 – 100	**Color temperature CCT coarse** 2.800 K → 10.000 K
4	0 – 255	0 - 100	**Color temperature CCT fine**
5	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4 5 - 8 8 - 46 47 - 57 57 - 96 96 - 100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
6	0 – 255	0 - 100	**Xfade to color** White → RGBW color
7	0 – 255	0 - 100	**Intensity red coarse** 0% → 100%
8	0 – 255	0 – 100	**Red fine**
9	0 – 255	0 - 100	**Intensity green coarse** 0% → 100%
10	0 – 255	0 – 100	**Green fine**
11	0 – 255	0 - 100	**Intensity blue coarse** 0% → 100%
12	0 – 255	0 – 100	**Blue fine**
13	0 – 255	0 - 100	**Intensity white coarse** 0% → 100%
14	0 – 255	0 – 100	**White fine**
15 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
16	0 – 255	0 – 100	**Preset** See table on page 7
17 - 18			**Reserved for future use**

Mode 12: CCT, Coarse / fine channel per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Dimmer fine**
3	0 – 255	0 – 100	**Color temperature CCT coarse** 2.800 K → 10.000 K
4	0 – 255	0 - 100	**Color temperature CCT fine**
5	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4 5 - 8 8 - 46 47 - 57 57 - 96 96 - 100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
6 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
7	0 – 255	0 – 100	**Preset** See table on page 7
8 - 9			**Reserved for future use**

Mode 13: CCT & H S I, Coarse / fine channel per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Dimmer fine**
3	0 – 255	0 – 100	**Color temperature CCT coarse** 2.800 K → 10.000 K
4	0 – 255	0 - 100	**Color temperature CCT fine**
5	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4 5 - 8 8 - 46 47 - 57 57 - 96 96 - 100	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
6	0 – 255	0 - 100	**Xfade to color** White → RGBW color
7	0 – 255	0 - 100	**Hue coarse** 0° → 360°
8	0 – 255	0 – 100	**Hue fine**
9	0 – 255	0 - 100	**Saturation coarse** 0 → full saturated
10	0 – 255	0 – 100	**Saturation fine**
11 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
12	0 – 255	0 – 100	**Preset** See table on page 7
13 - 14			**Reserved for future use**

Mode 14: RGBW, Coarse / fine channel per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Dimmer fine**
3	0 – 255	0 - 100	**Intensity red coarse** 0% → 100%
4	0 – 255	0 – 100	**Red fine**
5	0 – 255	0 - 100	**Intensity green coarse** 0% → 100%
6	0 – 255	0 – 100	**Green fine**
7	0 – 255	0 - 100	**Intensity blue coarse** 0% → 100%
8	0 – 255	0 – 100	**Blue fine**
9	0 – 255	0 - 100	**Intensity white coarse** 0% → 100%
10	0 – 255	0 – 100	**White fine**
11 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
12	0 – 255	0 – 100	**Preset** See table on page 7
13 - 14			**Reserved for future use**

Mode 15: H S I, Coarse / fine channel per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Dimmer** closed → open
2	0 – 255	0 – 100	**Dimmer fine**
3	0 – 255	0 - 100	**Hue coarse** 0° → 360°
4	0 – 255	0 – 100	**Hue fine**
5	0 – 255	0 - 100	**Saturation coarse** 0 → full saturated
6	0 – 255	0 – 100	**Saturation fine**
7 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
8	0 – 255	0 – 100	**Preset** See table on page 7
9 - 10			**Reserved for future use**

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

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Master Intensity** 0 % (closed) → 100% (open)
2	0 – 128 129 – 255	0 – 50 51 – 100	**Gel 1, CCT Selection** 3.200 K 5.600 K
3	0 – 128 129 – 170 171 - 255	0 – 50 51 – 67 68 - 100	**Gel 1, Color Matching Selection** Best Color *Note: Color quality optimized* Brightest *Note: Color brightness optimized* No Color Gel
4	0 – 128 129 - 255	0 – 50 51 - 100	**Gel 1, Brand** *Choose category on ch. 5, gel on ch. 6* Rosco LEE filters
5	0 – 50 51 – 101 102 – 152 153 – 203 204 - 255	0 – 20 21 – 39 40 – 60 61 – 80 81 - 100	**Gel 1, Category (Brand Dependent)** *Choose Gel manufacturer on channel 4* Category 1 *Rosco: Color correction* *LEE: Color correction* Category 2 *Rosco: CalColor* *LEE:Color Filters* Category 3 *Rosco: Storaro Selection* *LEE: 600 Series* Category 4 *Rosco: Cinelux* *LEE: Cosmetic Filters* Category 5 *LEE: 700 Series*
6	0 – 255	0 – 100	**Gel 1** Please see tables below
7	0 – 255	0 – 100	**Cross Fade to gel** Gel 1 → Gel 2
8	0 – 128 129 – 255	0 – 50 51 – 100	**Gel 2, CCT Selection** 3.200 K 5.600 K
9	0 – 128 129 – 170 171 - 255	0 – 50 51 – 67 68 - 100	**Gel 2, Color Matching Selection** Best Color *Note: Color quality optimized* Brightest *Note: Color brightness optimized* No Color Gel

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

10			**Gel 2, Brand** *Choose category on ch. 11 gel on ch. 12*
	0 – 128	0 – 50	Rosco
	129 - 255	51 - 100	LEE filters
11			**Gel 2, Category (Brand Dependent)** *Choose Gel manufacturer on channel 10*
	0 – 50	0 – 20	Category 1 *Rosco: Color correction* *LEE: Color correction*
	51 – 101	21 – 39	Category 2 *Rosco: CalColor* *LEE:Color Filters*
	102 – 152	40 – 60	Category 3 *Rosco: Storaro Selection* *LEE: 600 Series*
	153 – 203	61 – 80	Category 4 *Rosco: Cinelux* *LEE: Cosmetic Filters*
	204 - 255	81 - 100	Category 5 *LEE: 700 Series*
12			**Gel 2**
	0 – 255	0 – 100	Please see tables below
13			**Gel Transition Type**
	0 – 51	0 – 20	Direct
	52 – 102	21 – 40	Through White Point
	103 – 153	41 – 60	Through Black Point
	154 – 204	61 – 79	Over White Point
	205 - 255	80 - 100	Under White point
14 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*			**Fan control**
	0 – 9	0 – 4	Use Fan Mode Setting of Fixture Menu
	10 – 60	5 – 23	Low Fan Mode
	61 – 120	24 – 47	Variable Fan Mode
	121 – 180	48 – 70	High Fan Mode
	181 – 250	71 – 98	Fan at Full Speed
	251 - 255	99 - 100	Fan Off
15			**Preset**
	0 – 255	0 – 100	See table on page 7
16 - 17			**Reserved for future use**

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

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Master Intensity** 0 % (closed) → 100% (open)
3		0 – 128 129 – 255	0 – 50 51 – 100	**Gel 1, CCT Selection** 3.200 K 5.600 K
4		0 – 128 129 – 170 171 - 255	0 – 50 51 – 67 68 - 100	**Gel 1, Color Matching Selection** Best Color *Note: Color quality optimized* Brightest *Note: Color brightness optimized* No Color Gel
5		0 – 128 129 - 255	0 – 50 51 - 100	**Gel 1, Brand** *Choose category on ch. 5, gel on ch. 6* Rosco LEE filters
6		0 – 50 51 – 101 102 – 152 153 – 203 204 - 255	0 – 20 21 – 39 40 – 60 61 – 80 81 - 100	**Gel 1, Category (Brand Dependent)** *Choose Gel manufacturer on channel 4* Category 1 *Rosco: Color correction* *LEE: Color correction* Category 2 *Rosco: CalColor* *LEE:Color Filters* Category 3 *Rosco: Storaro Selection* *LEE: 600 Series* Category 4 *Rosco: Cinelux* *LEE: Cosmetic Filters* Category 5 *LEE: 700 Series*
7		0 – 255	0 – 100	**Gel 1** Please see tables below
8	**9**	0 – 65.535	0 – 100	**Cross Fade to gel** Gel 1 → Gel 2
10		0 – 128 129 – 255	0 – 50 51 – 100	**Gel 2, CCT Selection** 3.200 K 5.600 K

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

11			**Gel 2, Color Matching Selection**
	0 – 128	0 – 50	Best Color *Note: Color quality optimized*
	129 – 170	51 – 67	Brightest *Note: Color brightness optimized*
	171 - 255	68 - 100	No Color Gel
12			**Gel 2, Brand** *Choose category on ch. 11 gel on ch. 12*
	0 – 128	0 – 50	Rosco
	129 - 255	51 - 100	LEE filters
13			**Gel 2, Category (Brand Dependent)** *Choose Gel manufacturer on channel 10*
	0 – 50	0 – 20	Category 1 *Rosco: Color correction* *LEE: Color correction*
	51 – 101	21 – 39	Category 2 *Rosco: CalColor* *LEE:Color Filters*
	102 – 152	40 – 60	Category 3 *Rosco: Storaro Selection* *LEE: 600 Series*
	153 – 203	61 – 80	Category 4 *Rosco: Cinelux* *LEE: Cosmetic Filters*
	204 - 255	81 - 100	Category 5 *LEE: 700 Series*
14			**Gel 2**
	0 – 255	0 – 100	Please see tables below
15			**Gel Transition Type**
	0 – 51	0 – 20	Direct
	52 – 102	21 – 40	Through White Point
	103 – 153	41 – 60	Through Black Point
	154 – 204	61 – 79	Over White Point
	205 - 255	80 - 100	Under White point
16 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*			**Fan control**
	0 – 9	0 – 4	Use Fan Mode Setting of Fixture Menu
	10 – 60	5 – 23	Low Fan Mode
	61 – 120	24 – 47	Variable Fan Mode
	121 – 180	48 – 70	High Fan Mode
	181 – 250	71 – 98	Fan at Full Speed
	251 - 255	99 - 100	Fan Off
17			**Preset**
	0 – 255	0 – 100	See table on page 7
18 - 19			**Reserved for future use**

Modes 16 and 17: GEL, 8 bit or 16 bit resolution per function, GEL selection channel

Category 1, Rosco, 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, Rosco, CalColor

DMX Channel	Value	Gel Name	Gel Number
6	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, Rosco, Storaro Selection

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	VS Red	2001
	2 – 3	VS Orange	2202
	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, Rosco, 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	Blush Pink	333
	36 – 37	Flesh Pink	34
	38 – 39	Pale Rose Pink	37
	40 – 41	Salmon	41
	42 – 43	Deep Salmon	42
	44 – 45	Middle Rose	44
	46 – 47	Light Rose Purple	47
	48 – 49	Surprise Pink	51
	50 - 51	No Color Blue	60

Category 4, Rosco, Cinelux, continued

DMX Channel	Value	Gel Name	Gel Number
6 cont.	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, LEE, 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
	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	LEE 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	LEE Fluorescent 5700 Kelvin	241
	58 – 59	LEE Fluorescent 4300 Kelvin	242
	60 – 61	LEE Fluorescent 3600 Kelvin	243
	62 – 63	LEE 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	LEE 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, LEE, Color Filters

DMX Channel	Value	Gel Name	Gel Number
6	0 – 1	Rose Pink	002
	2 – 3	Lavender Tint	003
	4 – 5	Medium Bastard Amber	004
	6 – 7	Pale Yellow	007
	8 – 9	Dark Salmon	008
	10 – 11	Pale Amber Gold	009
	12 – 13	Medium Yellow	010
	14 – 15	Straw Tint	013
	16 – 17	Surprise Peach	017
	18 – 19	Fire	019
	20 – 21	Medium Amber	020
	22 – 23	Gold Amber	021
	24 – 25	Dark Amber	022
	26 – 27	Scarlet	024
	28 – 29	Sunset Red	025
	30 – 31	Bright Red	026
	32 – 33	Light Pink	035
	34 – 35	Medium Pink	036
	36 – 37	Dark Magenta	046
	38 – 39	Rose Purple	048
	40 – 41	Light Lavender	052
	42 – 43	Paler Lavender	053
	44 – 45	Lavender	058
	46 – 47	Mist Blue	061
	48 – 49	Pale Blue	063
	50 – 51	Sky Blue	068
	52 – 53	Evening Blue	075
	54 – 55	Just Blue	079
	56 – 57	Deeper Blue	085
	58 – 59	Lime Green	088
	60 – 61	Moss Green	089
	62 – 63	Dark Yellow Green	090
	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
	82 – 83	Middle Rose	110
	84 – 85	Dark Pink	111
	86 - 87	Magenta	113

Category 2, LEE, Color Filters, continued

DMX Channel	Value	Gel Name	Gel Number
6 cont.	88 – 89	Peacock Blue	115
	90 – 91	Steel Blue	117
	92 – 93	Light Blue	118
	94 – 95	Deep Blue	120
	96 – 97	LEE 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
	166 – 167	Surprise Pink	194
	168 – 169	Zenith Blue	195
	170 – 171	True Blue	196
	172 – 173	Alice Blue	197

Category 2, LEE, Color Filters, continued

DMX Channel	Value	Gel Name	Gel Number
6 cont.	174 – 175	Palace Blue	198
	176 – 177	Regal Blue	199
	178 - 255		**Reserved for future use**

Category 3, LEE, 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, LEE, 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, LEE, 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	LEE Yellow	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	**Master Intensity** 0 % (closed) → 100% (open)
2	0 – 255	0 – 100	**X1 Coordinate** 0.0 – 0.8
3	0 – 255	0 – 100	**Y1 Coordinate** 0.0 – 0,8
4	0 – 255	0 – 100	**Cross Fade** X1, Y1 → X2, Y2
5	0 – 255	0 – 100	**X2 Coordinate** 0.0 – 0.8
6	0 – 255	0 – 100	**Y2 Coordinate** 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	**Transition Type** Direct Through White Point Through Black Point Over White Point Under White point
8 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
9	0 – 255	0 – 100	**Preset** See table on page 7
10 - 11			**Reserved for future use**

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

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Master Intensity** 0 % (closed) → 100% (open)
3	**4**	0 – 65.535	0 - 100	**X1 Coordinate** 0.0 – 0.8
5	**6**	0 – 65.535	0 - 100	**Y1 Coordinate** 0.0 – 0.8
7	**8**	0 – 65.535	0 – 100	**Cross Fade** X1, Y1 → X2, Y2
9	**10**	0 – 65.535	0 - 100	**X2 Coordinate** 0.0 – 0.8
11	**12**	0 – 65.535	0 - 100	**Y2 Coordinate** 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	**Transition Type** Direct Through White Point Through Black Point Over White Point Under White point
14 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
15		0 – 255	0 – 100	**Preset** See table on page 7
16 - 17				**Reserved for future use**

Mode 20: Source Matching, 8 bit resolution per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Master Intensity** 0 % (closed) → 100% (open)
2	0 – 50 51 – 101 102 – 152 153 – 203 204 – 255	0 – 20 21 – 39 40 – 59 60 – 79 80 - 100	**Category 1** Incandescent Fluorescent Discharge Other Reserved for future use
3	0 – 255	0 – 100	**Source 1** Please see table below
4	0 – 255	0 – 100	**Cross Fade** Cat 1, Source 1 → Cat 2, Source 2
5	0 – 50 51 – 101 102 – 152 153 – 203 204 – 255	0 – 20 21 – 39 40 – 59 60 – 79 80 - 100	**Category 2** Incandescent Fluorescent Discharge Other Reserved for future use
6	0 – 255	0 – 100	**Source 2** Please see table below
7 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*	0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
8	0 – 255	0 – 100	**Preset** See table on page 7
9 - 10			**Reserved for future use**

Mode 21: Source Matching, 16 bit resolution per function

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65.535	0 - 100	**Master Intensity** 0 % (closed) → 100% (open)
3		0 – 50 51 – 101 102 – 152 153 – 203 204 – 255	0 – 20 21 – 39 40 – 59 60 – 79 80 - 100	**Category 1** Incandescent Fluorescent Discharge Other Reserved for future use
4		0 – 255	0 – 100	**Source 1** Please see table below
5	**6**	0 – 65.535	0 – 100	**Cross Fade** Cat 1, Source 1 → Cat 2, Source 2
7		0 – 50 51 – 101 102 – 152 153 – 203 204 – 255	0 – 20 21 – 39 40 – 59 60 – 79 80 - 100	**Category 2** Incandescent Fluorescent Discharge Other Reserved for future use
8		0 – 255	0 – 100	**Source 2** Please see table below
9 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
10		0 – 255	0 – 100	**Preset** See table on page 7
11 - 12				**Reserved for future use**

Source Matching, Sources

Category	Value	Name
Incandescent	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
Flourescent	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
Discharge	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

Source Matching, Sources, continued

Category	Value	Name
Other	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

Mode 22: Effects, 8 bit resolution per function

DMX Channel	Value	Percent	Function
1	0 – 255	0 - 100	**Master Intensity** 0 % (closed) → 100% (open)
2			**Effect Selection**
	0 – 9	0 – 4	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 – 255	56 - 100	Reserved for future use
3	0 – 255	0 – 100	**Effect Parameter 1** See table below
4	0 – 255	0 – 100	**Effect Parameter 2** See table below
5	0 – 255	0 – 100	**Effect Parameter 3** See table below
6	0 – 255	0 – 100	**Effect Parameter 4** See table below
7	0 – 255	0 – 100	**Effect Parameter 5** See table below
8	0 – 255	0 – 100	**Effect Parameter 6** See table below
9	0 – 255	0 – 100	**Effect Parameter 7** See table below
10 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*			**Fan control**
	0 – 9	0 – 4	Use Fan Mode Setting of Fixture Menu
	10 – 60	5 – 23	Low Fan Mode
	61 – 120	24 – 47	Variable Fan Mode
	121 – 180	48 – 70	High Fan Mode
	181 – 250	71 – 98	Fan at Full Speed
	251 - 255	99 - 100	Fan Off
11	0 – 255	0 – 100	**Preset** See table on page 7
12 - 13			**Reserved for future use**

Mode 23: Effects, 16 bit resolution per function

DMX Channel		Value	Percent	Function
HI	**LO**			
1	**2**	0 – 65535	0 - 100	**Master Intensity** 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 – 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 - 100	**Effect Selection** No Effect Party Effect Candle Clouds Passing Club Lights Color Chase Cop Car Fire Fireworks Light Strobe Lightning Paparazzi Pulsing Television Reserved for future use
4	**5**	0 – 65535	0 – 100	**Effect Parameter 1** See table below
6	**7**	0 – 65535	0 – 100	**Effect Parameter 2** See table below
8	**9**	0 – 65535	0 – 100	**Effect Parameter 3** See table below
10	**11**	0 – 65535	0 – 100	**Effect Parameter 4** See table below
12	**13**	0 – 65535	0 – 100	**Effect Parameter 5** See table below
14	**15**	0 – 65535	0 – 100	**Effect Parameter 6** See table below
16	**17**	0 – 65535	0 – 100	**Effect Parameter 7** See table below
18 *Note: Fan Mode reverts to fixture menu setting, when DMX signal is lost.*		0 – 9 10 – 60 61 – 120 121 – 180 181 – 250 251 - 255	0 – 4 5 – 23 24 – 47 48 – 70 71 – 98 99 - 100	**Fan control** Use Fan Mode Setting of Fixture Menu Low Fan Mode Variable Fan Mode High Fan Mode Fan at Full Speed Fan Off
19		0 – 255	0 – 100	**Preset** See table on page 7
20 - 21				**Reserved for future use**

Party Effect

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 0 - 255	0 1 – 65535	0 0 - 100	**Saturation** CCT 2.800 → 10.000 K 0 → 1.0 Saturation
2	0 – 255	0 – 65535	0 – 100	**Speed** Loop 60 s → 1 s

Candle

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 – 84 85 – 170 171 - 255	0 – 21844 21845 - 43690 43691 - 65535	0 – 33 34 – 66 67 - 100	**CCT Range** *Not continuous, set range for random generation* 1.400 → 1.700 K 1.700 → 2.000 K 2.000 → 2.300 K
2	0 – 255	0 - 65535	0 – 100	**Speed** 0 → 120 changes / min

Clouds Passing

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 – 255	0 - 65535	0 – 100	**Offset** 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	**Speed** 2 x Slower → Default Speed Default Speed → 2 x Faster
3				**Sync** *If bumped to 255 (100%), the loop will start at zero (or depending on the offset value)*

Club Lights

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1				**Color Variety**
	0 – 31	0 – 8191	0 – 12	3 Colors
	32 – 63	8192 – 16383	13 – 25	6 Colors
	64 – 95	16384 – 24575	26 – 37	9 Colors
	96 – 127	24576 – 32767	38 – 49	12 Colors
	128 – 159	32768 – 40959	50 – 62	15 Colors
	160 – 191	40960 – 49151	63 – 75	18 Colors
	192 – 223	49152 – 57343	76 – 87	21 Colors
	224 – 255	57344 – 65535	88 – 100	24 Colors
2				**Speed**
	0 – 255	0 – 65535	0 – 100	0 → 120 changes / min

Color Chase

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 - 255	0 - 65535	0 - 100	**Offset** Offset Number 0 – 50 *Every 5 DMX values is a new offset*
2	0 – 255	0 - 65535	0 – 100	**Speed** Loop 60 s → 1 s
3	0 1 – 255	0 1 – 65535	0 1 – 100	**Saturation** CCT 2.800 → 10.000 K 0 → 1.0 Saturation
4				**Sync** *If bumped to 255 (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
				Color Combinations
	0 – 63	0 – 16383	0 – 25	Just Blue
1	64 – 127	16384 – 32767	26 – 50	Blue and Red
	128 – 191	32768 – 49151	51 – 75	Blue and White
	192 – 255	49152 - 65535	76 – 100	Blue, Red and White
				Flash Pattern
	0 – 31	0 – 8191	0 – 12	Single Flash
	32 – 63	8192 – 16383	13 – 25	Double Flash
	64 – 95	16384 – 24575	26 – 37	Quint All Flash
2	96 – 127	24576 – 32767	38 – 49	Quint Flash
	128 – 159	32768 – 40959	50 – 62	Quad Flash
	160 – 191	40960 – 49151	63 – 75	Cycle All
	192 – 223	49152 – 57343	76 – 87	Reserved for future use
	224 – 255	57344 - 65535	88 – 100	Reserved for future use

Fire

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
				CCT Range
				Not continuous, set range for random generation
1	0 – 84	0 – 21844	0 – 33	1.800 → 2.200 K
	85 – 170	21845 – 43690	34 – 66	2.200 → 2.600 K
	171 - 255	43691 - 65535	67 - 100	2.600 → 3.000 K
2				**Speed**
	0 – 255	0 - 65535	0 – 100	0 → 180 changes / min

Fireworks

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
				Color Combinations
	0 – 63	0 – 16383	0 – 25	Colors
1	64 – 127	16384 – 32767	26 – 50	White
	128 – 191	32768 – 49151	51 – 75	Colors and White
	192 – 255	49152 - 65535	76 – 100	Reserved for future use
2				**Speed**
	0 – 255	0 - 65535	0 – 100	10 → 0,5 s between fireworks

Strobe

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 – 255	0 - 65535	0 – 100	**Speed** 1 → 25 flashes / second
2	0 – 255	0 - 65535	0 – 100	**Color Temperature** CCT 2.800 → 10.000 K
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	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
4	**0 – 255**	0 - 65535	**0 – 100**	**Cross Fade**
5	0 – 255	0 - 65535	0 – 100	**Hue** 0 → 360°
6	0 – 255	0 - 65535	0 – 100	**Saturation** 0 → 1.0 Saturation

Lightning

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 – 254 255	0 – 65534 65535	0 – 99 100	**Frequency** 2 → 14 lightning strikes set Random
2	0 – 254 255	0 – 65534 65535	0 – 99 100	**Speed** 0 → 10 flashes / second Random
3	0 – 255	0 - 65535	0 – 100	**Color Temperature** CCT 2.800 → 10.000 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	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
5	0 – 255	0 - 65535	0 – 100	**Sync** *If bumped to 255 (100%), the loop will start at zero (or depending on the offset value)*

Paparazzi

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 – 255	0 - 65535	0 – 100	**Frequency** 6 → 120 Flashes / min
2	0 – 127 128 – 255	0 - 32767 32768 - 65535	0 – 50 51 – 100	**Flash Type** Flash Bulb Modern Flash
3	0 – 255	0 - 65535	0 – 100	**Color Temperature** CCT 2.800 → 10.000 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	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green

Pulsing

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1	0 – 255	0 - 65535	0 – 100	**Frequency** 5 → 90 Pulses / minute
2	0 – 255	0 - 65535	0 – 100	**Pulse Duration** 4 → 0.25 seconds
3	0 – 255	0 - 65535	0 – 100	**Color Temperature** CCT 2.800 → 10.000 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	**Green / Magenta Point** neutral / no effect full minus green -99% → -1% neutral / no effect 1% → 99% full plus green
5	0 – 255	0 - 65535	0 – 100	**Cross Fade**
6	0 – 255	0 - 65535	0 – 100	**Hue** 0 → 360°
7	0 – 255	0 - 65535	0 – 100	**Saturation** 0 → 1.0 Saturation

Television

Effect Parameter	Value 8 bit	Value 16 bit	Percent	Function
1				**CCT Range** *Not continuous, set range for random generation*
	0 – 84	0 – 21844	0 – 32	2.800 → 4.700 K
	85 – 170	21845 – 43690	33 – 66	4.700 → 6.500 K
	171 - 255	43691 - 65535	67 - 100	6.500 → 10.000 K
2				**Speed**
	0 – 255	0 - 65535	0 – 100	4 → 24 changes / min

Equations for conversion

CCT conversion

8 bit

$$DMX\ Value = \frac{Desired\ CCT - 2800}{28.235}$$

$$CCT = (DMX\ Value * 28.235) + 2800$$

16 bit

$$DMX\ Value = \frac{Desired\ CCT - 2800}{0.109865}$$

$$CCT = (DMX\ Value * 0.109865) + 2800$$

x,y Coordinate to DMX Value Conversion

8 bit

$$DMX_x = \frac{x_{value} * 255}{0.8}$$

$$DMX_y = \frac{y_{value} * 255}{0.8}$$

16 bit

$$DMX_x = \frac{x_{value} * 65535}{0.8}$$

$$DMX_y = \frac{y_{value} * 65535}{0.8}$$