

DMX Format

Data Format Description:

16-bit HighByte first, followed by LowByte; this can be understood as the HighByte being coarse adjustment and the LowByte being fine adjustment.

Dimmer is normalized data, for 8-bit data, it is $(n/255) \times 1.0$; for 16-bit data, it is $(n/65535) \times 1.0$.

CCT is normalized data. For 8-bit data, it is $(n/255) \times \text{range} + \text{low CCT}$.

e.g. for Bi-color with a minimum of 3200K, $n=0$, CCT=3200; $n=255$, CCT=5600.

e.g. for 5-color 8-bit with a minimum of 2000K and a maximum of 14750K, $n=0$, CCT=2000; $n=255$, CCT=14750.

e.g. for 5-color 16-bit with a minimum of 2000K and a maximum of 20000K, $n=0$, CCT=2000; $n=65535$, CCT=20000.

For other data fields, please refer to the Value column.

When DMX menu "Reduce Channels" is turned On, the fan control data field and the subsequent data fields are not effective.

Bi-color Version

CCT

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	
02	03/04	CCT	3200K(2700K) -> 5600K	
03	05	Fan Control	Fan Control Param Table	0%~3% : Use Fan Mode of Fixture Menu 4%~22%: Auto 23%~41%: Off (reserved) 42%~50%: Low 61%~78%: Mid 79%~100% High

High Temp

CCT: 5600K

8b	16b	Parameter	Fuction
01	01/02	Dimmer	close -> open
02	03	Fan Control	Fan Control Param Table

Low Temp

CCT: 2700K/3200K

8b	16b	Parameter	Fuction
01	01/02	Dimmer	close -> open
02	03	Fan Control	Fan Control Param Table

5-color Version

CCT

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03/04	CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	0% ~ 100 %
03	05/06	G/M	-1.0 -> +1.0	0%~4% : no effect; 5%~8%: full -green; 9%~47%: -99%~-1%; 48%~57%: no effect; 58%~96%: 1%~ 99%; 97%~100% full +green
04	07	Fan Control	Fan Control Param Table	0%~3% : Use Fan Mode of Fixture Menu 4%~22%: Auto 23%~41%: Off (reserved) 42%~50%: Low 61%~78%: Mid 79%~100% High

HSI

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03/04	Hue	0~360	0% ~ 100%
03	05/06	Saturation	0 -> 1	0% ~ 100%
04	07/08	WP-CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
05	09/10	WP-G/M	-1.0 ~ +1.0	refer CCT
06	11	Fan Control	Fan Control Param Table	refer CCT

xy

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03/04	x	0 ~ 0.8	0% ~ 100%
03	05/06	y	0 ~ 0.8	0% ~ 100%
04	07	Fan Control	Fan Control Param Table	refer CCT

Gel

8b	16b	Parameter	Fuction	value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03/04	CCT	3200K or 5600K	0%~49% 3200K 50%~100% 5600K
03	05	Match	Color(0), no color(2)	0%~33%. Best Color; 34%~66%: N/A; 67~100% : No Color Gel

8b	16b	Parameter	Fuction	value
04	06	Brand	Rosco, Lee	10~50%:Rosco; 51~100%: LEE
05	07	Category	TBD	started from 0%, step is 20%
06	08	Gel	Number	started from 0, step is 2
07	09	Fan Control	Fan Control Param Table	refer CCT

Category depends on Brand

Rosco: Color Correction/CalColor/Storaro Selection/CineLux

LEE: Color Correction/Color Filters/600 Series/Cosmetic Filters/700 Series

Gel Number depends on Brand+Category

Source Matching

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03	Category	startedfrom0,stepis20% , Only support Incandescent/Fluorescent/Discharge/Other	
03	04	Source	Number	started from 0, step is 2
04	05	Fan Control	Fan Control Param Table	refer CCT

Source Number depends Category

RGBW

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03/04	R	0.0 ~ 1.0	0% ~ 100%
03	05/06	G	0.0 ~ 1.0	0% ~ 100%
04	07/08	B	0.0 ~ 1.0	0% ~ 100%
05	09/10	W	0.0 ~ 1.0	0% ~ 100%
06	11/12	Y	0.0 ~ 1.0	0% ~ 100%
07	13/14	WP-CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
08	15/16	WP-G/M	-1.0 ~ +1.0	refer CCT
09	17	Fan Control	Fan Control Param Table	refer CCT

CCT & RGBW

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03/04	CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT

8b	16b	Parameter	Fuction	Value
03	05/06	G/M	-1.0 ~ +1.0	refer CCT
04	07/08	Cross Fade	0.0 ~ 1.0	0% ~ 100%
05	09/10	R	0.0 ~ 1.0	0% ~ 100%
06	11/12	G	0.0 ~ 1.0	0% ~ 100%
07	13/14	B	0.0 ~ 1.0	0% ~ 100%
08	15/16	W	0.0 ~ 1.0	0% ~ 100%
09	17/18	WP-CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
10	19/20	WP-G/M	-1.0 ~ +1.0	refer CCT
11	21	Fan Control	Fan Control Param Table	refer CCT

CCT & HSI

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03/04	CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
03	05/06	G/M	-1.0 ~ +1.0	refer CCT
04	07/08	Cross Fade	0.0 ~ 1.0	0% ~ 100%
05	09/10	Hue	0~360	0% ~ 100%
06	11/12	Saturation	0.0 ~ 1.0	0% ~ 100%
07	13/14	WP-CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
08	15/16	WP-G/M	-1.0 ~ +1.0	refer CCT
09	17	Fan Control	Fan Control Param Table	refer CCT

Effect

8b	16b	Parameter	Fuction	Value
01	01/02	Dimmer	close -> open	0% ~ 100%
02	03	Effect Selection	(0~18)*10	refer Effect Selection Table
03	04/05	Effect Parameter 1		
04	06/07	Effect Parameter 2		
05	08/09	Effect Parameter 3		
06	10/11	Effect Parameter 4		
07	12/13	Effect Parameter 5		

8b	16b	Parameter	Fuction	Value
08	14/15	Effect Parameter 6		
09	16/17	Effect Parameter 7		
10	18/19	Effect Parameter 8		
11	20/21	Effect Parameter 9		
12	22/23	Effect Parameter 10		
13	23/24	Effect Parameter 11		
14	25	Fan Control	Fan Control Param Table	refer CCT

Effect Selection Table

8b	16b	Effect Selection	Toliman Support	Vega Support
0 - 4		No Effect	Y	Y
5 - 9		Candle	N	Y
10 - 14		Clouds Passing	Y	Y
15 - 19		Club Lights	N	Y
20 - 24		Cop Car	N	Y
25 - 29		Explosion	Y	Y
30 - 34		Fire	Y	Y
35 - 39		Fireworks	Y	Y
40 - 44		Fluorescent Flicker	N	Y
45 - 49		Lightning	Y	Y
50 - 54		Paparazzi	Y	Y
55 - 59		Party Effect	N	Y
60 - 64		Pulsing	Y	Y
65 - 69		Light Strobe	Y	Y
70 - 74		Television	Y	Y
75 - 79		Welding	Y	Y
80 - 84		Process Effect	Y	Y
85 - 89		Fade In/Out	Y	Y
90 - 94		Zone Random	N	Y
95 - 99		Rolling	N	Y
100 - 104		Color Chase	N	Y
105 - 109		Color Fade	N	Y

8b	16b	Effect Selection	Toliman Support	Vega Support
110 - 114		Color Cycle	N	Y
115 - 119		Color Gradient	N	Y
120 - 124		Color Rolling	N	Y
125 - 255		Reserved for future use	-	-

Effect Candle

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 85 86 - 171 172 - 255	0 - 21.015 21.016 - 43.859 43.860 - 65.535	0 - 33 34 - 68 69 - 100	CCT Range 100 1.400 → 1.700 K 1.700 → 2.000 K 2.000 → 2.300 K
2	0 - 255	0 - 65.535	0 - 100	Speed 0 → 120 changes / min

Effect Clouds Passing

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Offset Offset Number 0 - 50
2	0 - 127 128 - 255	0 - 32.767 32.768 - 65.535	0 - 50 51 - 100	Speed 2 x Slower → Default
3	255	65.535	100	Sync

Effect Club Lights

Effect Parameter	8b	16b	Percent Function	Function
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Effect Parameter	8b	16b	Percent Function	Function
1	0 - 27 28 - 55 56 - 83 84 - 111 112 - 139 140 - 167 168 - 195 196 - 223 224 - 255	0 - 7.167 7.168 - 14.335 14.336 - 21.503 21.504 - 28.671 28.672 - 35.839 35.840 - 43.007 43.008 - 50.175 50.176 - 57.343 57.344 - 65.535	0 - 11 12 - 21 22 - 32 33 - 43 44 - 54 55 - 65 66 - 76 77 - 87 88 - 100	Color Variety 3 Colors 6 Colors 9 Colors 12 Colors 15 Colors 18 Colors 21 Colors 24 Colors reserved
2	0 - 255	0 - 65.535	0 - 100	Speed 0 → 120 changes / min

Effect Cop Car

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 27 28 - 55 56 - 83 84 - 111 112 - 139 140 - 167 168 - 195 196 - 223 224 - 255	0 - 7.167 7.168 - 14.335 14.336 - 21.503 21.504 - 28.671 28.672 - 35.839 35.840 - 43.007 43.008 - 50.175 50.176 - 57.343 57.344 - 65.535	0 - 11 12 - 21 22 - 32 33 - 43 44 - 54 55 - 65 66 - 76 77 - 87 88 - 100	Color Combinations 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 - 27 28 - 55 56 - 83 84 - 111 112 - 139 140 - 167 168 - 255	0 - 7.167 7.168 - 14.335 14.336 - 21.503 21.504 - 28.671 28.672 - 35.839 35.840 - 43.007 43.008 - 65.535	0 - 11 12 - 21 22 - 32 33 - 43 44 - 54 55 - 65 66 - 100	Flash Pattern Single Flash Double Flash Quint All Flash Quint Flash Quad Flash Cycle All Reserved for future use

Effect Explosion

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Decay Decay 4 → 0.5 seconds
2	250 - 255	64.224 - 65.535	98 - 100	Trigger
3	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K
4	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral</u> no effect 1% → 99% full plus green
5	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
6	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
7	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Fire

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 85 86 - 171 172 - 255	0 - 21.015 21.016 - 43.859 43.860 - 65.535	0 - 33 34 - 68 69 -100	CCT Range 1.800 → 2.200 K 2.200 → 2.600 K 2.600 → 3.000 K
2	0 - 255	0 - 65.535	0 - 100	Speed 0 → 180 changes / min

Effect Fireworks

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 49 50 - 99 100 - 149 150 - 199 200 - 255	0 - 12.749 12.750 - 25.499 25.500 - 38.249 38.250 - 50.999 51.000 - 65.535	0~19 20~39 40~59 60~79 80~100	Color Combinations Colors White Colors and White Warm Colors Cool Colors
2	0 - 255	0 - 65.535	0 - 100	Speed 10 → 0,5 s between fireworks

Effect Fluorescent Flicker

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Speed 2 → 6 seconds of still
2	0 - 255	0 - 65.535	0 - 100	Frequency 3 → 10 flickers per second
3	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K
4	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral no effect</u> 1% → 99% full plus green
5	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
6	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
7	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Lightning

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Frequency 2 → 14 lightning strikes set
2	0 - 255	0 - 65.535	0 - 100	Speed 0 → 10 flashes / second
3	0 - 255	0 - 65.535	0 - 100	Color Temperature CCT 2.000 → 20.000 K
4	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral no effect</u> 1% → 99% full plus green
5	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
6	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
7	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Paparazzi

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Frequency 6 → 120 Flashes / min
2	0 - 127 128 - 255	0 - 32.767 32.768 - 65.535	0 - 50 51 - 100	Flash Type Flash Bulb Modern Flash
3	0 - 255	0 - 65.535	0 - 100	Color Temperature CCT 2.000 → 20.000 K
4	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral</u> no effect 1% → 99% full plus green
5	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
6	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
7	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Party Effect

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation
2	0 - 255	0 - 65.535	0 - 100	Speed Loop 60 s → 1 s

Effect Pulsing

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Frequency 5 → 90 Pulses / minute
2	0 - 255	0 - 65.535	0 - 100	Pulse Duration 4 → 0.25 seconds
3	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K

Effect Parameter	8b	16b	Percent Function	Function
4	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral</u> no effect 1% → 99% full plus green
5	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
6	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
7	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Light Strobe

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Speed 1 → 25 flashes / second
2	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K
3	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral</u> no effect 1% → 99% full plus green
4	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
5	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
6	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Television

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 85 86 - 171 172 - 255	0 - 23.929 23.930 - 43.859 43.860 - 65.535	0 - 33 34 - 68 69 -100	CCT Range 2.800 → 4.700 K 4.700 → 6.500 K 6.500 → 10.000 K

Effect Parameter	8b	16b	Percent Function	Function
2	0 - 255	0 - 65.535	0 - 100	Speed 4 → 24 changes / min

Effect Welding

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Speed Slow → fast
2	0 - 255	0 - 65.535	0 - 100	Min Intensity Level 0% → 75% minimum intensity level
3	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K
4	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral no effect</u> 1% → 99% full plus green
5	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
6	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
7	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Process

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Speed 1s->10s
2	0 - 255	0 - 65.535	0 - 100	Min Intensity Level 0~100%
3	0 - 85 86 - 171 172 - 255	0 - 21.015 21.016 - 43.859 43.860 - 65.535	0 - 33 34 - 68 69 -100	Direction Dark → Bright (once) Bright → Dark (once) both direction (loop)
4	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K

Effect Parameter	8b	16b	Percent Function	Function
5	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral no effect</u> 1% → 99% full plus green
6	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
7	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
8	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation
9	0 - 127 128 - 255	0 - 32.767 32.768 - 65.535	0 - 49 50 - 100	Process Type Type0 Type1
10	0 - 255	0 - 255	0 - 100	Total Group Number

Effect Fade In/Out

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	In Intensity 0~100%
2	0 - 255	0 - 65.535	0 - 100	In Duration 0~60
3	0 - 255	0 - 65.535	0 - 100	Hold Duration 0~300
4	0 - 255	0 - 65.535	0 - 100	Out Intensity 0~100%
5	0 - 255	0 - 65.535	0 - 100	Out Duration 0~60
6	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K
7	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral no effect</u> 1% → 99% full plus green
8	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
9	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
10	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Zone Random

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Speed 1~180

Effect Rolling

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Speed 1->10
2	0 - 255	0 - 65.535	0 - 100	Min Intensity Level 0~100%
3	0 - 85 86 - 171 172 - 255	0 - 23.929 23.930 - 43.859 43.860 - 65.535	0 - 33 34 - 68 69 -100	Direction Dark → Bright (once) Bright → Dark (once) both direction (loop)
4	0 - 85 86 - 171 172 - 255	0 - 23.929 23.930 - 43.859 43.860 - 65.535	0 - 33 34 - 66 67 -100	Size 1 2 3
5	0 - 255	0 - 65.535	0 - 100	Color Temperature 8bit (2000K) -> 14750K 16bit (2000K) -> 20000K
6	0 - 10 11 - 20 21 - 119 120 - 145 146 - 244 245 - 255	0 - 4.587 4.588 - 9.830 9.831 - 30.145 30.146 - 39.976 39.977 - 60.292 60.293 - 65.535	0 - 4 5 - 8 9 - 47 48 - 57 58 - 96 97 - 100	Green-Magenta Point neutral <u>no effect</u> <u>full minus green</u> <u>-99% → -1%</u> <u>neutral no effect</u> 1% → 99% full plus green
7	0 - 255	0 - 65.535	0 - 100	Crossfade to Color White → RGBW Color
8	0 - 255	0 - 65.535	0 - 100	Hue 0 → 360°
9	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation
10	0 - 255	0 - 255	0 - 100	Total Groups

Effect Color Chase

Effect Parameter	8b	16b	Percent Function	Function
1	0 - 255	0 - 65.535	0 - 100	Saturation 0 → 1.0 Saturation

Effect Parameter	8b	16b	Percent Function	Function
2	0 - 255	0 - 65.535	0 - 100	Speed Loop 60 s → 1 s

Effect Color Fade | Effect Color Cycle | Effect Color Gradient

Effect Parameter	8b	16b	Percent Function	Function	Value
1	0 - 255	0 - 65.535	0 - 100	Speed 0 → 100	
2	0 - 85 86 - 255	0 - 22.015 22.016 - 65.535	0-33 34 - 100	Direction + -	
2	0 - 85 86 - 171 172 - 255	0 - 22.015 22.016 - 44.031 44.032 - 65.535	0-33 34 - 66 67 - 100	Binning 1 2 3	
4	0 - 255	0 - 65.535	0 - 100	Color 1	refer EffectColor
5	0 - 255	0 - 65.535	0 - 100	Color 2	refer EffectColor
6	0 - 255	0 - 65.535	0 - 100	Color 3	refer EffectColor
7	0 - 255	0 - 65.535	0 - 100	Color 4	refer EffectColor
8	0 - 255	0 - 65.535	0 - 100	Color 5	refer EffectColor
9	0 - 255	0 - 65.535	0 - 100	Color 6	refer EffectColor
10	0 - 255	0 - 65.535	0 - 100	Color 7	refer EffectColor
11	0 - 255	0 - 65.535	0 - 100	Color 8	refer EffectColor

Effect Color Rolling (Zebra Rolling)

Effect Parameter	8b	16b	Percent Function	Function	Value
1	0 - 255	0 - 65.535	0 - 100	Speed 0 → 30	
2	0 - 85 86 - 255	0 - 22.015 22.016 - 65.535	0-33 34 - 100	Direction + -	
3	0 - 250	0 - 64.000	0 - 100	Size	1~250
4	0 - 255	0 - 65.535	0 - 100	Color 1	refer EffectColor
5	0 - 255	0 - 65.535	0 - 100	Color 2	refer EffectColor
6	0 - 250	0 - 64.000	0 - 100	Group Total	1~250

EffectColor

Effect Color Name	8b	16b
EFFECT_COLOR_HUE_0	0~ 9	0~ 999
EFFECT_COLOR_HUE_30	10~ 19	1000~ 1999
EFFECT_COLOR_HUE_60	20~ 29	2000~ 2999
EFFECT_COLOR_HUE_90	30~ 39	3000~ 3999
EFFECT_COLOR_HUE_120	40~ 49	4000~ 4999
EFFECT_COLOR_HUE_150	50~ 59	5000~ 5999
EFFECT_COLOR_HUE_180	60~ 69	6000~ 6999
EFFECT_COLOR_HUE_210	70~ 79	7000~ 7999
EFFECT_COLOR_HUE_240	80~ 89	8000~ 8999
EFFECT_COLOR_HUE_270	90~ 99	9000~ 9999
EFFECT_COLOR_HUE_300	100~109	10000~10999
EFFECT_COLOR_HUE_330	110~119	11000~11999
EFFECT_COLOR_CCT_2000	120~129	12000~12999
EFFECT_COLOR_CCT_3200	130~139	13000~13999
EFFECT_COLOR_CCT_4000	140~149	14000~14999
EFFECT_COLOR_CCT_5600	150~159	15000~15999
EFFECT_COLOR_CCT_6500	160~169	16000~16999
EFFECT_COLOR_CCT_7500	170~179	17000~17999
EFFECT_COLOR_CCT_BLACK	180~189	18000~18999

Light Engine Ultimate

8b	16b	Parameter	Fuction
01	01/02	Dimmer	Master Dimmer
02	03/04	Mode	Color Mode Selection
03	05/06	Num	Light Engine Num
04	07/08	Param	Color Paramter #1
05	09/10	Param	Color Paramter #2
06	11/12	Param	Color Paramter #3
07	13/14	Param	Color Paramter #4
08	15/16	Param	Color Paramter #5
09	17/18	Param	Color Paramter #6

8b	16b	Parameter	Fuction
10	19/20	Param	Color Paramter #7
11	21/22	Param	Color Paramter #8
12	23/24	Param	Color Paramter #9
.
27	53/54	Param	Color Paramter #24
28	55	Fan Control	Fan Control Param Table

Color Mode Selection Mapping (Light Engine Ultimate)

8b	16b	Mode Selection
0 - 9	0 - 9	CCT Mode
10 - 19	10 - 19	HSI Mode
20 - 29	20 - 29	xyY Mode
30 - 39	30 - 39	Source Matching
40 - 255	40 - 255	Reserved

Light Engine Num Mapping (Light Engine Ultimate)

8b	16b	Engine Num
0 - 29	0 - 29	2 Engines
30 - 39	30 - 39	Reserved
40 - 49	40 - 49	4 Engines
50 - 79	50 - 79	Reserved
80 - 89	80 - 89	8 Engines
90 - 255	90 - 255	Reserved

Color Paramter #1~#24 for CCT Mode (Light Engine Ultimate)

Color Paramter	8b	16b	Parameter	Fuction	Value
#01	01	01/02	Engine 1th Dimmer	close -> open	0 ~ 100%
#02	02	03/04	Engine 1th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#03	03	05/06	Engine 1th G/M	-1.0 ~ 1.0	refer CCT
#04	04	07/08	Engine 2th Dimmer	close -> open	0 ~ 100%

Color Paramter	8b	16b	Parameter	Fuction	Value
#05	05	09/10	Engine 2th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#06	06	11/12	Engine 2th G/M	-1.0 ~ 1.0	refer CCT
#07	07	13/14	Engine 3th Dimmer	close -> open	0 ~ 100%
#08	08	15/16	Engine 3th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#09	09	17/18	Engine 3th G/M	-1.0 ~ 1.0	refer CCT
#10	10	19/20	Engine 4th Dimmer	close -> open	0 ~ 100%
#11	11	21/22	Engine 4th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#12	12	23/24	Engine 4th G/M	-1.0 ~ 1.0	refer CCT
#13	13	25/26	Engine 5th Dimmer	close -> open	0 ~ 100%
#14	14	27/28	Engine 5th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#15	15	29/30	Engine 5th G/M	-1.0 ~ 1.0	refer CCT
#16	16	31/32	Engine 6th Dimmer	close -> open	0 ~ 100%
#17	17	33/34	Engine 6th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#18	18	35/36	Engine 6th G/M	-1.0 ~ 1.0	refer CCT
#19	19	37/38	Engine 7th Dimmer	close -> open	0 ~ 100%
#20	20	39/40	Engine 7th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#21	21	41/42	Engine 7th G/M	-1.0 ~ 1.0	refer CCT
#22	22	43/44	Engine 8th Dimmer	close -> open	0 ~ 100%
#23	23	45/46	Engine 8th CCT	8bit (2000K) -> 14750K 16bit (2000K) -> 20000K	refer CCT
#24	24	47/48	Engine 8th G/M	-1.0 ~ 1.0	refer CCT

When Light Engine Num == 2, Color Paramter #1~#6 is Valid; #7~#24 is Ignored

Color Paramter #1~#24 for HSI Mode (Light Engine Ultimate)

Color Paramter	8b	16b	Parameter	Fuction	Value
#01	01	01/02	Engine 1th Dimmer	close -> open	0 ~ 100%
#02	02	03/04	Engine 1th Hue	0 ~ 360°	0 ~ 100%
#03	03	05/06	Engine 1th Saturation	0 ~ 100%	0 ~ 100%
#04	04	07/08	Engine 2th Dimmer	close -> open	0 ~ 100%
#05	05	09/10	Engine 2th Hue	0 ~ 360°	0 ~ 100%
#06	06	11/12	Engine 2th Saturation	0 ~ 100%	0 ~ 100%

Color Paramter	8b	16b	Parameter	Fuction	Value
#07	07	13/14	Engine 3th Dimmer	close -> open	0 ~ 100%
#08	08	15/16	Engine 3th Hue	0 ~ 360°	0 ~ 100%
#09	09	17/18	Engine 3th Saturation	0 ~ 100%	0 ~ 100%
#10	10	19/20	Engine 4th Dimmer	close -> open	0 ~ 100%
#11	11	21/22	Engine 4th Hue	0 ~ 360°	0 ~ 100%
#12	12	23/24	Engine 4th Saturation	0 ~ 100%	0 ~ 100%
#13	13	25/26	Engine 5th Dimmer	close -> open	0 ~ 100%
#14	14	27/28	Engine 5th Hue	0 ~ 360°	0 ~ 100%
#15	15	29/30	Engine 5th Saturation	0 ~ 100%	0 ~ 100%
#16	16	31/32	Engine 6th Dimmer	close -> open	0 ~ 100%
#17	17	33/34	Engine 6th Hue	0 ~ 360°	0 ~ 100%
#18	18	35/36	Engine 6th Saturation	0 ~ 100%	0 ~ 100%
#19	19	37/38	Engine 7th Dimmer	close -> open	0 ~ 100%
#20	20	39/40	Engine 7th Hue	0 ~ 360°	0 ~ 100%
#21	21	41/42	Engine 7th Saturation	0 ~ 100%	0 ~ 100%
#22	22	43/44	Engine 8th Dimmer	close -> open	0 ~ 100%
#23	23	45/46	Engine 8th Hue	0 ~ 360°	0 ~ 100%
#24	24	47/48	Engine 8th Saturation	0 ~ 100%	0 ~ 100%

When Light Engine Num == 2, Color Paramter #1~#6 is Valid; #7~#24 is Ignored

Color Paramter #1~#24 for xyY Mode (Light Engine Ultimate)

Color Paramter	8b	16b	Parameter	Fuction	Value
#01	01	01/02	Engine 1th Dimmer	close -> open	0 ~ 100%
#02	02	03/04	Engine 1th x coordinate	0 ~ 0.8	0 ~ 100%
#03	03	05/06	Engine 1th y coordinate	0 ~ 0.8	0 ~ 100%
#04	04	07/08	Engine 2th Dimmer	close -> open	0 ~ 100%
#05	05	09/10	Engine 2th x coordinate	0 ~ 0.8	0 ~ 100%
#06	06	11/12	Engine 2th y coordinate	0 ~ 0.8	0 ~ 100%
#07	07	13/14	Engine 3th Dimmer	close -> open	0 ~ 100%

Color Paramter	8b	16b	Parameter	Fuction	Value
#08	08	15/16	Engine 3th x coordinate	0 ~ 0.8	0 ~ 100%
#09	09	17/18	Engine 3th y coordinate	0 ~ 0.8	0 ~ 100%
#10	10	19/20	Engine 4th Dimmer	close -> open	0 ~ 100%
#11	11	21/22	Engine 4th x coordinate	0 ~ 0.8	0 ~ 100%
#12	12	23/24	Engine 4th y coordinate	0 ~ 0.8	0 ~ 100%
#13	13	25/26	Engine 5th Dimmer	close -> open	0 ~ 100%
#14	14	27/28	Engine 5th x coordinate	0 ~ 0.8	0 ~ 100%
#15	15	29/30	Engine 5th y coordinate	0 ~ 0.8	0 ~ 100%
#16	16	31/32	Engine 6th Dimmer	close -> open	0 ~ 100%
#17	17	33/34	Engine 6th x coordinate	0 ~ 0.8	0 ~ 100%
#18	18	35/36	Engine 6th y coordinate	0 ~ 0.8	0 ~ 100%
#19	19	37/38	Engine 7th Dimmer	close -> open	0 ~ 100%
#20	20	39/40	Engine 7th x coordinate	0 ~ 0.8	0 ~ 100%
#21	21	41/42	Engine 7th y coordinate	0 ~ 0.8	0 ~ 100%
#22	22	43/44	Engine 8th Dimmer	close -> open	0 ~ 100%
#23	23	45/46	Engine 8th x coordinate	0 ~ 0.8	0 ~ 100%
#24	24	47/48	Engine 8th y coordinate	0 ~ 0.8	0 ~ 100%

When Light Engine Num == 2, Color Paramter #1~#6 is Valid; #7~#24 is Ignored

Color Paramter #1~#24 for Source Matching Mode (Light Engine Ultimate)

Color Paramter	8b	16b	Parameter	Fuction	Value
#01	01	01/02	Engine 1th Dimmer	close -> open	0 ~ 100%
#02	02	03/04	Engine 1th Category	Number	0 ~ 255, step:51
#03	03	05/06	Engine 1th Source Num	Number	0 ~ 255, step:3
#04	04	07/08	Engine 2th Dimmer	close -> open	0 ~ 100%
#05	05	09/10	Engine 2th Category	Number	0 ~ 255, step:51
#06	06	11/12	Engine 2th Source Num	Number	0 ~ 255, step:3
#07	07	13/14	Engine 3th Dimmer	close -> open	0 ~ 100%
#08	08	15/16	Engine 3th Category	Number	0 ~ 255, step:51

Color Paramter	8b	16b	Parameter	Fuction	Value
#09	09	17/18	Engine 3th Source Num	Number	0 ~ 255, step:3
#10	10	19/20	Engine 4th Dimmer	close -> open	0 ~ 100%
#11	11	21/22	Engine 4th Category	Number	0 ~ 255, step:51
#12	12	23/24	Engine 4th Source Num	Number	0 ~ 255, step:3
#13	13	25/26	Engine 5th Dimmer	close -> open	0 ~ 100%
#14	14	27/28	Engine 5th Category	Number	0 ~ 255, step:51
#15	15	29/30	Engine 5th Source Num	Number	0 ~ 255, step:3
#16	16	31/32	Engine 6th Dimmer	close -> open	0 ~ 100%
#17	17	33/34	Engine 6th Category	Number	0 ~ 255, step:51
#18	18	35/36	Engine 6th Source Num	Number	0 ~ 255, step:3
#19	19	37/38	Engine 7th Dimmer	close -> open	0 ~ 100%
#20	20	39/40	Engine 7th Category	Number	0 ~ 255, step:51
#21	21	41/42	Engine 7th Source Num	Number	0 ~ 255, step:3
#22	22	43/44	Engine 8th Dimmer	close -> open	0 ~ 100%
#23	23	45/46	Engine 8th Category	Number	0 ~ 255, step:51
#24	24	47/48	Engine 8th Source Num	Number	0 ~ 255, step:3

When Light Engine Num == 2, Color Paramter #1~#6 is Valid; #7~#24 is Ignored

RDM Support Command

Command	Hex	Description
DEVICE_INFO	0x0060	Device information
SOFTWARE_VERSION_LABEL	0x00c0	Software Label
IDENTIFY_DEVICE	0x1000	
COMM_STATUS	0x0015	
QUEUED_MESSAGE	0x0020	
STATUS_MESSAGES	0x0030	
SUPPORTED_PARAMETERS	0x0050	
PRODUCT_DETAIL_ID_LIST	0x0070	
DEVICE_MODEL_DESCRIPTION	0x0080	
MANUFACTURER_LABEL	0x0081	

Command	Hex	Description
DEVICE_LABEL	0x0082	
FACTORY_DEFAULTS	0x0090	
DMX_PERSONALITY	0x00e0	
DMX_PERSONALITY_DESC	0x00e1	
DMX_START_ADDRESS	0x00f0	
DMX_SLOT_INFO	0x0120	
DMX_SLOT_DESC	0x0121	
DMX_SLOT_DEFAULT_VALUE	0x0122	
SESNOR_DEFINITION	0x0200	
SENSOR_VALUE	0x0201	
DEVICE_HOURS	0x0400	
LAMP_HOURS	0x0401	
LAMP_STRIKES	0x0402	
LAMP_STATE	0x0403	
LAMP_ON_MODE	0x0404	
DEVICE_POWER_CYCLES	0x0405	
DIMMER_CURVE	0x0343	
DIMMER_CURVE_DESC	0x344	
DISPLAY_INVERT	0x0500	
DISPLAY_LEVEL	0x0501	