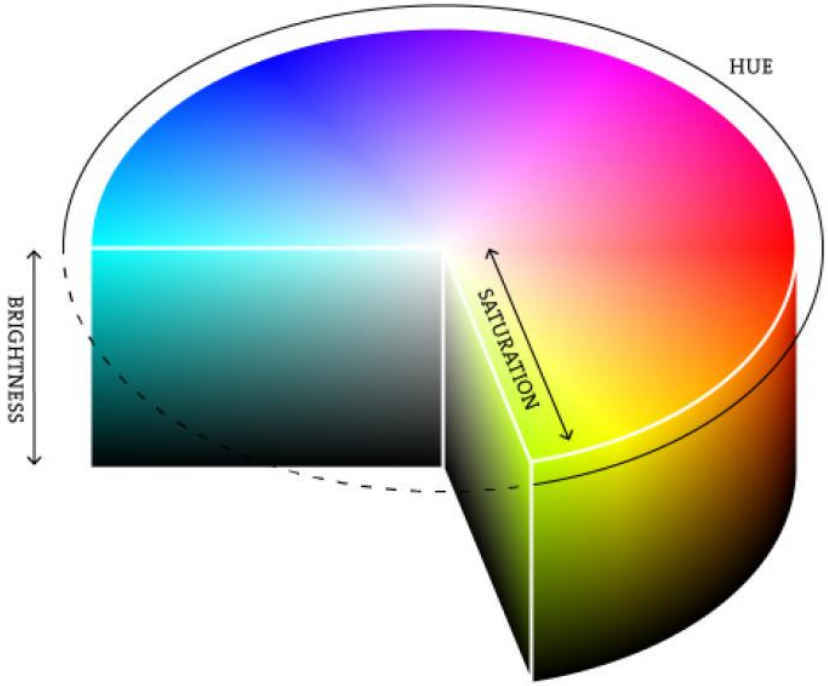
Orkis Fresnel-Pebble M
DMX Channels

11/2022

OPERATING MODES

The projector has 4 operating modes: Raw Mode, HSV, RGB emulation and CMY emulation. Raw Mode enables specific control of each color. HSV Mode is based on a complex algorithm for a new type of management of both color and white light. In this mode, the CRI is kept constantly above 97 CRI, irrespective of colour temperature. HSV mode has the following characteristics:



DMX MODES

DMX Mode	Parameter	Color Control Mode	RAW Mode
Basic RGB	15	RGB or CMY	Not available
Basic HSV	15	HSV	Not available
Extended RGB	28	RGB or CMY	CCMode RAW
Extended HSV	28	HSV	CCMode RAW

BASIC MODE

Number	**RGB** (/ CMY)	**HSV**	Note
1	Red/Cyan	Hue	Red with Color Control Mode RGB (CCMOD RGB) Cyan with Color Control Mode CMY (CCMOD CMY)
2	Green/Magenta	Hue fine	Green with Color Control Mode RGB (CCMOD RGB) Magenta with Color Control Mode CMY (CCMOD CMY)
3	Blue/Yellow	Saturation	Blue with Color Control Mode RGB (CCMOD RGB) Yellow with Color Control Mode CMY (CCMOD CMY)
4	CTO	CTO	Filter mode or White mode available
5	Macro colours	Macro colours	
6	Strobe	Strobe	
7	Dimmer	Dimmer	
8	Dimmer fine	Dimmer fine	
9	Dummy	Dummy	-
10	Dummy	Dummy	-
11	Tint	Tint	
12	Zoom	Zoom	
13	Function	Function	
14	Reset	Reset	
15	Frequency	Frequency	

Note: With Basic mode selected is not possible to control the singles LEDs colour values of fixture (RAW mode).

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RGB	HSV	DMX value	Function
1	-		**RED (RGB mode) / CYAN (CMY mode)**
		000 - 255	Red or Cyan colour linearly increases from no-light to maximum intensity
2	-		**GREEN (RGB mode) / MAGENTA (CMY mode)**
		000 - 255	Green or Magenta colour linearly increases from no-light to maximum intensity
3	-		**BLUE (RGB mode) / YELLOW (CMY mode)**
		000 - 255	Blue or Yellow colour linearly increases from no-light to maximum intensity
-	1		**HUE**
		000 - 255	Linear Hue setting, define the target point color in the HSV color representation system (range from 0° (Red) to 360°)
-	2		**HUE FINE**
		000 - 255	Fine Hue setting
-	3		**SATURATION**
		000 - 255	Linear Saturation setting, define the INTENSITY/PURITY of the color at a constant lightness level. It ranges from 100% (pure color) to 0% (white)
4	4		**CTO** The CTO parameter allows the control of Colour Temperature linearly from 8000K to 2500K
		000	OFF
		001 …	8000 K
		… 047 …	7000 K
		… 093 …	6000 K
		… 112 …	5600 K
		… 139 …	5000 K
		… 186 …	4000 K
		… 222 …	3200 K
		… 245 …	2700 K
		… 255	2500 K
5	5		**MACRO COLORS**
		000 - 255	The MACRO COLORS channels allows to select a specific colour palette from a pre-built library.
6	6		**STROBE**
		000 - 003	Light OFF
		004 - 103	Strobe at linearly variable frequency from low (1Hz) to fast (16Hz)
		104 - 107	Light ON
		108 - 207	Pulsation at linearly variable speed from slow (0.5 Hz) to fast (25 Hz)
		208 - 212	Light ON
		213 - 255	Random Slow Strobe
		226 - 238	Random Medium Strobe
		239 - 251	Random Fast Strobe
		252 - 255	Light ON

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RGB	HSV	DMX value	Function
7	7		**DIMMER**
		000 - 255	Light output linearly increases from off to maximum brightness
8	8		**DIMMER FINE**
		000 - 255	Fine Dimmer positioning
9	9		**DUMMY**
		000 - 255	-
10	10		**DUMMY**
		000 - 255	-
11	11		**TINT** The tint control is normally set by sight to create satisfactory skin tones.
		000 - 127	Linear Tint setting, define the target point correction from Magenta (0 Bit) to OFF
		128	Tint adjustment OFF (To put as default setting)
		129 - 255	Linear Tint setting, define the target point correction from OFF to Green (255 bit)
12	12	000 - 255	**ZOOM** Zoom linearly moves from narrow to wide beam

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RGB	HSV	DMX value	Function	
13	13		**FUNCTION** The function is enable passing through the unused range and then selecting the required function level. It will be activated after 5 seconds.	
		000 - 011	Unused range	
		012 - 037	Reserved	
		038 - 042	Linear (**Default**)	Details at page 13
		043 - 047	Square	
		048 - 052	Smooth Square	
		053 - 057	S Curve	
		058 - 062	Raw color channels gamma 1	Details at page 13
		063 - 067	Raw color channels gamma 1.5	
		068 - 072	Raw color channels gamma 2.2 (**Default**)	
		073 - 077	Halogen mode disabled (**Default**)	
		078 - 082	Halogen mode 1, 750W lamp emulation	
		083 - 087	Halogen mode 2, 1000W lamp emulation	
		088 - 092	Halogen mode 3, 1200W lamp emulation	
		093 - 097	Halogen mode 4, 2000W lamp emulation	
		098 - 102	Halogen mode 5, 2500W lamp emulation	
		103 - 105	Reserved	
		106 - 108	CCMOD: RAW (**Default**)	
		109 - 111	CCMOD: RGB or HSV	
		112 - 114	CCMOD: CMY	
		115 - 117	Reserved	
		118 - 122	Reserved	
		123	CTO Filter (**Default**)	
		124	CTO White	
		125	Reserved	
		126 - 127	Gamut Adaptation Relative	
		128 - 129	Gamut Adaptation Absolute	
		130 - 133	Reserved	
		134	RGB Color Space Native	
		135	RGB Color Space sRGB	
		136 - 163	Reserved	

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RGB	HSV	DMX value	Function
13	13		**FUNCTION** The function is enable passing through the unused range and then selecting the required function level. It will be activated after 5 seconds.
		164	Base frequency=1000Hz
		165	Base frequency=1500Hz (**Default**)
		166	Base frequency=2400Hz
		167	Base frequency=3700Hz
		168	Base frequency=5600Hz
		169	Base frequency=9400Hz
		170	Base frequency=15100Hz
		171	Base frequency=21400Hz
		172	Base frequency=31000Hz
		173	Base frequency=43700Hz
		174 - 199	Reserved
		200 - 201	Digital filter 1
		202 - 203	Digital filter 2
		204 - 205	Digital filter 3
		206 - 207	Digital filter 4
		208 - 209	Digital filter 5
		210 - 211	Digital filter 6
		212 – 213	Digital filter 7
		214 – 215	Digital filter 8
		216 – 217	Digital filter 9
		218 – 219	Digital filter 10
		220 – 221	Digital filter 11
		222 - 223	Digital filter 12
		224 – 225	Digital filter 13
		226 – 227	Digital filter 14
		228 – 229	Digital filter 15
		230 - 231	Digital filter 16
		232 - 250	Reserved
		251 - 255	Default function recall **Note**: all the functions are non-volatile settings. It means that the configuration remains active after power off.
14	14		**RESET**
		000 - 025	Unused range
		026 - 255	It does the complete reset sequence of fixture passing through the unused levels range and staying in this range for 5 seconds.
15	15		**FREQUENCY**
		000 - 255	It allows a fine adjusting of frequency base value selected with Function parameter (number 12) - Details of values at page 14.

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EXTENDED MODE

Number	RGB (/CMY)	HSV	Note
1	Red	Red	Active in RAW mode only
2	Red fine	Red fine	Active in RAW mode only
3	PC Amber	PC Amber	Active in RAW mode only
4	PC Amber fine	PC Amber fine	Active in RAW mode only
5	PC Green	PC Green	Active in RAW mode only
6	PC Green fine	PC Green fine	Active in RAW mode only
7	Green	Green	Active in RAW mode only
8	Green fine	Green fine	Active in RAW mode only
9	Cyan	Cyan	Active in RAW mode only
10	Cyan fine	Cyan fine	Active in RAW mode only
11	Blu	Blu	Active in RAW mode only
12	Blu fine	Blu fine	Active in RAW mode only
13	CTO	CTO	In RAW mode only the White mode is available. If Halogen mode is selected the CTO parameter is disabled.
14	Macro colors	Macro Colors	
15	Strobe	Strobe	
16	Dimmer	Dimmer	
17	Dimmer fine	Dimmer fine	
18	Red/Cyan	Hue	Red with Color Control Mode RGB (CCMOD RGB) Cyan with Color Control Mode CMY (CCMOD CMY)
19	Green/Magenta	Hue fine	Green with Color Control Mode RGB (CCMOD RGB) Magenta with Color Control Mode CMY (CCMOD CMY)
20	Blue/Yellow	Saturation	Blue with Color Control Mode RGB (CCMOD RGB) Yellow with Color Control Mode CMY (CCMOD CMY)
21	Dummy	Dummy	-
22	Dummy	Dummy	-
23	Dummy	Dummy	-
24	Tint	Tint	Not activated when used RAW mode
25	Zoom	Zoom	
26	Function	Function	
27	Reset	Reset	
28	Frequency	Frequency	

RGB	HSV	DMX value	Function
1	1	000 - 255	**RED** Red colour linearly increases from no-light to maximum intensity
2	2	000 - 255	**RED FINE** Red fine intensity
3	3	000 - 255	**AMBER** Amber colour linearly increases from no-light to maximum intensity
4	4	000 - 255	**AMBER FINE** Amber fine intensity
5	5	000 - 255	**LIME** Lime colour linearly increases from no-light to maximum intensity
6	6	000 - 255	**LIME FINE** Lime fine intensity
7	7	000 - 255	**GREEN** Green colour linearly increases from no-light to maximum intensity
8	8	000 - 255	**GREEN FINE** Green fine intensity
9	9	000 - 255	**CYAN** Cyan colour linearly increases from no-light to maximum intensity
10	10	000 - 255	**CYAN FINE** Cyan fine intensity
11	11	000 - 255	**BLUE** Blue colour linearly increases from no-light to maximum intensity
12	12	000 - 255	**BLUE FINE** Blue fine intensity
13	13		**CTO** The CTO parameter allows the control of Colour Temperature linearly from 8000K to 2500K
		000	OFF
		001 …	8000 K
		… 047 …	7000 K
		… 093 …	6000 K
		… 112 …	5600 K
		… 116 …	5500 K
		… 139 …	5000 K
		… 176 …	4200 K
		… 186 …	4000 K
		… 197 …	3750 K
		… 223 …	3200 K
		… 227 …	3100 K
		… 232 …	3000 K
		… 241 …	2800 K
		… 246 …	2700 K
		… 255	2500 K

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DMX Channels

RGB	HSV	DMX value	Function
14	14		**MACRO COLOR**
		000 - 255	The MACRO COLORS channels allows to select a specific colour palette from a pre-built library. See details at page 12.
15	15		**STROBE**
		000 - 003	Light OFF
		004 - 103	Strobe at linearly variable frequency from low (1Hz) to fast (16Hz)
		104 - 107	Light ON
		108 - 207	Pulsation at linearly variable speed from slow (0.5 Hz) to fast (25 Hz)
		208 - 212	Light ON
		213 - 255	Random Slow Strobe
		226 - 238	Random Medium Strobe
		239 - 251	Random Fast Strobe
		252 - 255	Light ON
16	16		**DIMMER**
		000 - 255	Light output linearly increases from off to maximum brightness
17	17		**DIMMER FINE**
		000 - 255	Fine Dimmer positioning
18	-		**RED (RGB mode) / CYAN (CMY mode)**
		000 - 255	Red or Cyan colour linearly increases from no-light to maximum intensity
19	-		**GREEN (RGB mode) / MAGENTA (CMY mode)**
		000 - 255	Green or Magenta colour linearly increases from no-light to maximum intensity
20	-		**BLUE (RGB mode) / YELLOW (CMY mode)**
		000 - 255	Blue or Yellow colour linearly increases from no-light to maximum intensity
-	18		**HUE**
		000 - 255	Linear Hue setting, define the target point color in the HSV color representation system (range from 0° (Red) to 360°)
-	19		**HUE FINE**
		000 - 255	Fine Hue setting
-	20		**SATURATION**
		000 - 255	Linear Saturation setting, define the INTENSITY/PURITY of the color at a constant lightness level. It ranges from 100% (pure color) to 0% (white)
21	21		**DUMMY**
		000 - 255	-

RGB	HSV	DMX value	Function
22	22		**DUMMY**
		000 - 255	-
23	23		**DUMMY**
		000 - 255	-
24	24		**TINT** The tint control is normally set by sight to create satisfactory skin tones.
		000 - 127	Linear Tint setting, define the target point correction from Magenta (0 Bit) to OFF
		128	Tint adjustment OFF
		129 - 255	Linear Tint setting, define the target point correction from OFF to Green (255 bit)
25	25		**ZOOM**
		000 - 255	Zoom linearly moves from narrow to wide beam

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RGB	HSV	DMX value	Function	
26	26		**FUNCTION** The function is enable passing through the unused range and then selecting the required function level. It will be activated after 5 seconds; All the functions are non-volatile settings. It means that the configuration setting still remains active after power off.	
		000 - 011	Unused range	
		012 - 037	Linear (**Default**)	
		038 - 042	S Curve	Details at page 13
		043 - 047	Square	
		048 - 052	Smooth Square	
		053 - 057	S Curve	
		058 - 062	Raw color channels gamma 1 -	Details at page 13
		063 - 067	Raw color channels gamma 1.5	
		068 - 072	Raw color channels gamma 2.2 (**Default**)	
		073 - 077	Halogen mode disabled (**Default**)	
		078 - 082	Halogen mode 1, 750W lamp emulation	
		083 - 087	Halogen mode 2, 1000W lamp emulation	
		088 - 092	Halogen mode 3, 1200W lamp emulation	
		093 - 097	Halogen mode 4, 2000W lamp emulation	
		098 - 102	Halogen mode 5, 2500W lamp emulation	
		103 - 105	Reserved	
		106 - 108	CCMOD: RAW (**Default**)	
		109 - 111	CCMOD: RGB (or HSV) mode	
		112 - 114	CCMOD: *RGB to* CMY	
		115 - 117	*Reserved*	
		118 - 122	*Reserved*	
		123	CTO Filter (**Default**)	
		124	CTO White	
		125 - 163	Reserved	
		126 - 127	Gamut Adaptation Relative	
		128 - 129	Gamut Adaptation Absolute	
		130 - 133	Reserved	
		134	RGB Color Space Native	
		135	RGB Color Space sRGB	
		136 - 163	Reserved	
		164	Base frequency=1000Hz	
		165	Base frequency=1500Hz (**Default**)	
		166	Base frequency=2400Hz	
		167	Base frequency=3700Hz	
		168	Base frequency=5600Hz	
		169	Base frequency=9400Hz	
		170	Base frequency=15100Hz	
		171	Base frequency=21400Hz	
		172	Base frequency=31000Hz	
		173	Base frequency=43700Hz	

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RGB	HSV	DMX value	Function
26	26		**FUNCTION** The function is enable passing through the unused range and then selecting the required function level. It will be activated after 5 seconds; All the functions are non-volatile settings. It means that the configuration setting still remains active after power off.
		174 - 199	Reserved
		200 - 201	Digital filter 1
		202 - 203	Digital filter 2
		204 - 205	Digital filter 3
		206 - 207	Digital filter 4
		208 - 209	Digital filter 5
		210 - 211	Digital filter 6
		212 - 213	Digital filter 7
		214 - 215	Digital filter 8
		216 - 217	Digital filter 9
		218 - 219	Digital filter 10
		220 - 221	Digital filter 11
		222 - 223	Digital filter 12
		224 - 225	Digital filter 13
		226 - 227	Digital filter 14
		228 - 229	Digital filter 15
		230 - 231	Digital filter 16
		232 - 250	Reserved
		251 - 255	Default function recall
27	27		**RESET**
		000 - 025	Unused range
		026 - 255	It does the complete reset sequence of fixture passing through the unused levels range and staying in this range for 5 seconds.
28	28		**FREQUENCY**
		000 - 255	It allows a fine adjusting of frequency base value selected with Function parameter (number 25) - Details of values at page 14.

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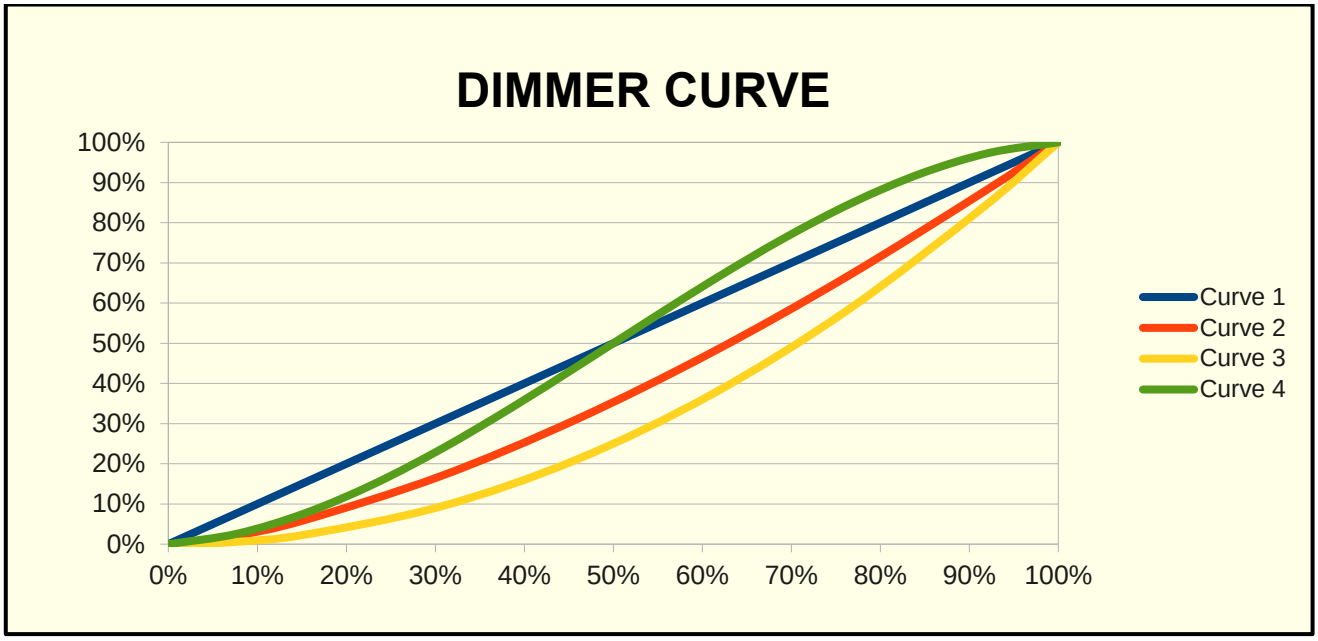
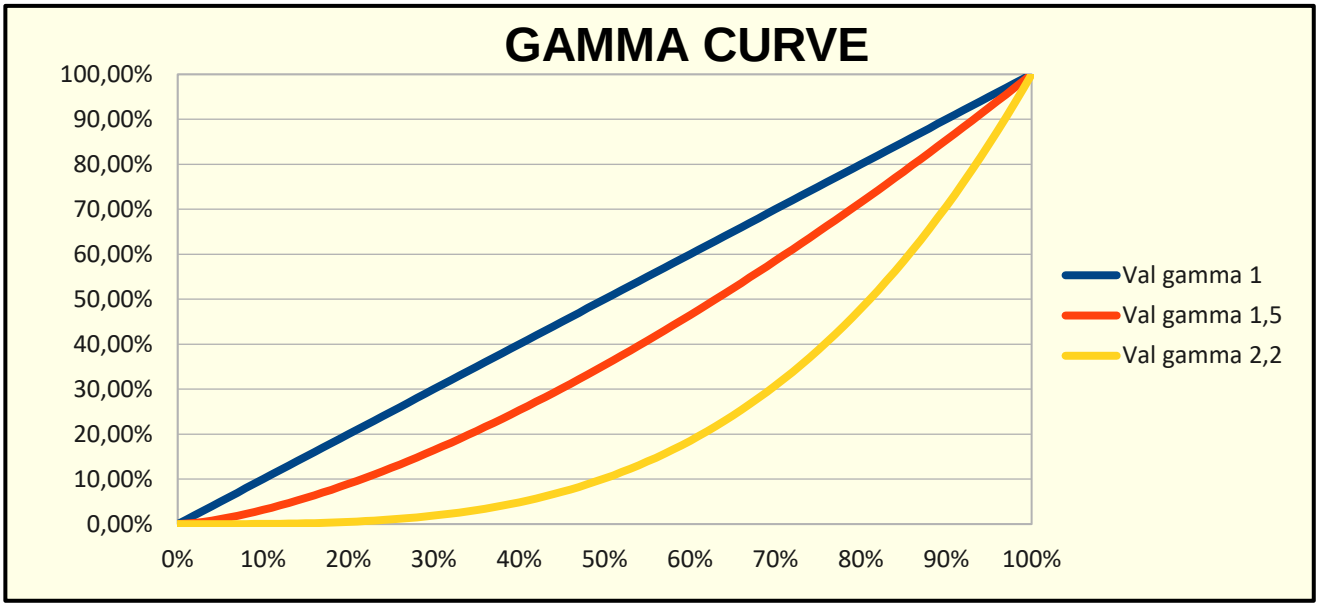

DIMMER CURVE
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Curve 1
Curve 2
Curve 3
Curve 4


GAMMA CURVE
100,00%
90,00%
80,00%
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Val gamma 1
Val gamma 1,5
Val gamma 2,2

Macro Colors Library

DMX Value	LEE Filter references	Description
000 – 009	None	None
010 – 011	004	4 Med Bast Amber
012 – 013	009	Pale Amber Gold
014 – 015	-	*Reserved*
016 – 017	017	Surprise Peach
018 – 019	019	Fire
020 – 021	021	Gold Amber
022 – 023	026	Bright red
024 – 025	029	Plasa Red
026 – 027	035	Light Pink
028 – 029	058	Lavender
030 – 031	068	Sky Blue
032 – 033	071	Tokyo Blue
034 – 035	075	Evening Blue
036 – 037	079	Just Blue
038 – 039	088	Lime Green
040 – 041	090	Dark Yellow/Green
042 – 043	-	*Reserved*
044 – 045	-	*Reserved*
046 – 047	-	*Reserved*
048 – 049	103	Straw
050 – 051	-	*Reserved*
052 – 053	-	*Reserved*
054 – 055	106	Primary Red
056 – 057	108	English Rose
058 – 059	111	Dark Pink
060 – 061	113	Magenta
062 – 063	115	Peacock Blue
064 – 065	116	Med Blue-Green
066 – 067	117	Steel Blue
068 – 069	118	Light Blue
070 – 071	119	Dark Blue
072 – 073	-	*Reserved*
074 – 075	121	Lee Green
076 – 077	122	Fern Green
078 – 079	124	Dark Green
080 – 081	127	Smokey Pink
082 – 083	128	Bright Pink
084 – 085	131	Marine Blue
086 – 087	132	Med Blue
088 – 089	134	Golden Amber
090 – 091	135	Dip Golden Amber
092 – 093	136	Pale Lavender
094 – 095	137	Spec Lavender
096 – 097	138	Pale Green
098 – 099	139	Primary Green
100 – 101	141	Bright Blue
102 – 103	143	Pale Navy Blue
104 – 105	147	Apricot

DMX Value	LEE Filter references	Description
106 – 107	152	Pale Gold
108 – 109	154	Pale Rose
110 – 111	157	Pink
112 – 113	158	Deep Orange
114 – 115	161	Slate Blue
116 – 117	162	Bastard Amber
118 – 119	-	*Reserved*
120 – 121	165	Daylight Blue
122 – 123	169	Lilac Tint
124 – 125	170	Deep Lavender
126 – 127	172	Lagoon Blue
128 – 129	174	Dk Steel Blue
130 – 131	-	*Reserved*
132 – 133	180	Dark Lavendar
134 – 135	-	*Reserved*
136 – 137	182	Light Red
138 – 139	197	Alice Blue
140 – 141	200	Double C.T. Blue
142 – 143	201	Full C.T. Blue
144 – 145	202	1/2 C.T. Blue
146 – 147	203	1/4 C.T. Blue
148 – 149	204	Full C.T. Orange
150 – 151	205	1/2 C.T. Orange
152 – 153	206	1/4 C.T. Orange
154 – 155	241	Lee Fluor 5700K
156 – 157	242	Lee Fluor 4300K
158 – 159	247	Lee Minus Green
160 – 161	248	1/2 Minus Green
162 – 163	281	3/4 C.T. Blue
164 – 165	285	3/4 C.T. Orange
166 – 167	328	Follies Pink
168 – 169	352	Glacier Blue
170 – 171	353	Lighter Blue
172 – 173	363	Special Medium Blue
174 – 175	706	King Fals Lavender
176 – 177	711	Cold Blue
178 – 179	724	Ocean Blue
180 – 181	728	Steel Green
182 – 183	747	Easy White
184 – 185	778	Millenium Gold
186 – 187	793	Vanity Fair
188 – 189	R05	Rose Tint (ROSCO)
190 – 255	-	Reserved

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Frequency parameter levels

Base Frequency setting	Value at 128 bit	Min value at 0 bit	Max value at 255 bit
1000 Hz	**1000 Hz**	744 Hz	1254 Hz
1500 Hz (**Default**)	**1500 Hz**	1244 Hz	1754 Hz
2400 Hz	**2400 Hz**	1760 Hz	3035 Hz
3700 Hz	**3700 Hz**	3060 Hz	4335 Hz
5600 Hz	**5600 Hz**	4320 Hz	6870 Hz
9400 Hz	**9400 Hz**	6840 Hz	11940 Hz
15100 Hz	**15100 Hz**	11900 Hz	18275 Hz
21400 Hz	**21400 Hz**	18200 Hz	24575 Hz
31000 Hz	**31000 Hz**	24600 Hz	37350 Hz
43700 Hz	**43700 Hz**	37300 Hz	50050 Hz

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