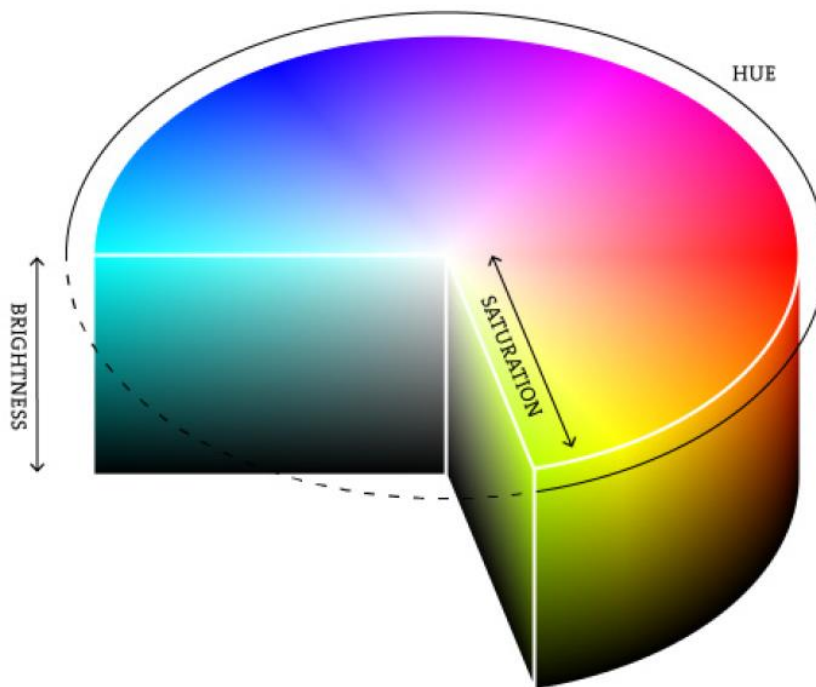


OPERATING MODES

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:

1



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	HSV	Note
1	Red/Cyan	Hue	Cyan with CCMOD CMY
2	Green/Magenta	Hue fine	Magenta with CCMOD CMY
3	Blue/Yellow	Saturation	Yellow with CCMOD CMY
4	CTO	CTO	
5	Macro color	Macro color	
6	Strobe	Strobe	
7	Dimmer	Dimmer	
8	Dimmer fine	Dimmer fine	
9	Crossfade	Crossfade	Not implemented yet
10	Fan	Fan	Not implemented yet
11	Tint	Tint	
12	Zoom	Zoom	
13	Function	Function	
14	Reset	Reset	
15	Frequency	Frequency	

RGB	HSV	DMX value	Function
1	-		RED / CYAN
		000 – 255	Red colour linearly increases from no-light to maximum intensity
2	-		GREEN / MAGENTA
		000 – 255	Green colour linearly increases from no-light to maximum intensity
3	-		BLUE / YELLOW
		000 – 255	Blue 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
			Colour Temperature linearly change 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 COLOR
		000 – 255	See chart @ page 14
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 – 225	Random Slow Strobe
		226 – 238	Random Medium Strobe
		239 – 251	Random Fast Strobe
		252 – 255	Light ON

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		CROSSFADE (Not implemented yet)
		000 – 255	Faded Transition with selectable timing between two sets of color points. In accordance with the selected PATH, during the faded transition all the intermediate color along the route will be displayed
10	10		FAN (Not implemented yet)
		000 – 255	
11	11		TINT
		000 – 127	Linear Tint setting, define the target point correction from Magenta to OFF
		128	OFF
		129 – 255	Linear Tint setting, define the target point correction from OFF to Green
12	12		ZOOM
		000 – 255	Zoom linearly moves from narrow to wide beam

RGB	HSV	DMX value	Function	
13	13		FUNCTION	
		000 – 011	None	
		012 – 037	Free	
		038 – 042	Dimmer curve 1 (Default)	Details at page 13
		043 – 047	Dimmer curve 2	
		048 – 052	Dimmer curve 3	
		053 – 057	Dimmer curve 4	
		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	Free	
		106 – 108	CCMOD: RAW (Default)	
		109 – 111	CCMOD: RGB or HSV	
		112 – 114	CCMOD: CMY	
		115 – 117	Free	
		118 – 122	Free	
		123	CTO Filt (Default)	
		124	CTO White	
		125	Free	
		126 – 127	Gamut Adapt Relative	
		128 – 129	Gamut Adapt Absolute	
		130 – 133	Free	
		134	Color Space Native	
		135	Color Space sRGB	
		136 – 163	Free	
		164 – 167	Base Frequency = 3700 Hz	
		168	Base Frequency = 5600 Hz	
		169	Base Frequency = 9400 Hz	
		170	Base Frequency = 15100 Hz	
171	Base Frequency = 21400 Hz			
172	Base Frequency = 31000 Hz			
173	Base Frequency = 33700 Hz			
174 – 250	Free			
251 – 255	Default function recall			
		Note: all the functions are non-volatile settings. Non-volatile means that the configuration still remains active after power off.		

RGB	HSV	DMX value	Function
14	14		RESET
		000 – 025	Unused range
		026 – 255	All-effects Reset sequence passing through the unused levels range and staying in this range for 5 seconds.
15	15		FREQUENCY
		000 – 255	Fine adjusting of frequency Base selected from the Function parameter (13) - Details at page 13

EXTENDED MODE

Number	RGB	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	Only with CTO White option in RAW mode
14	Macro color	Macro color	
15	Strobe	Strobe	
16	Dimmer	Dimmer	
17	Dimmer fine	Dimmer fine	
18	Red/Cyan	Hue	Cyan with CCMOD CMY
19	Green/Magenta	Hue fine	Magenta with CCMOD CMY
20	Blue/Yellow	Saturation	Yellow with CCMOD CMY
21	Crossfade	Crossfade	Not enabled yet
22	Path	Path	Not enabled yet
23	Fan	Fan	Not enabled yet
24	Tint	Tint	Not activated in RAW mode
25	Zoom	Zoom	
26	Function	Function	
27	Reset	Reset	
28	Frequency	Frequency	

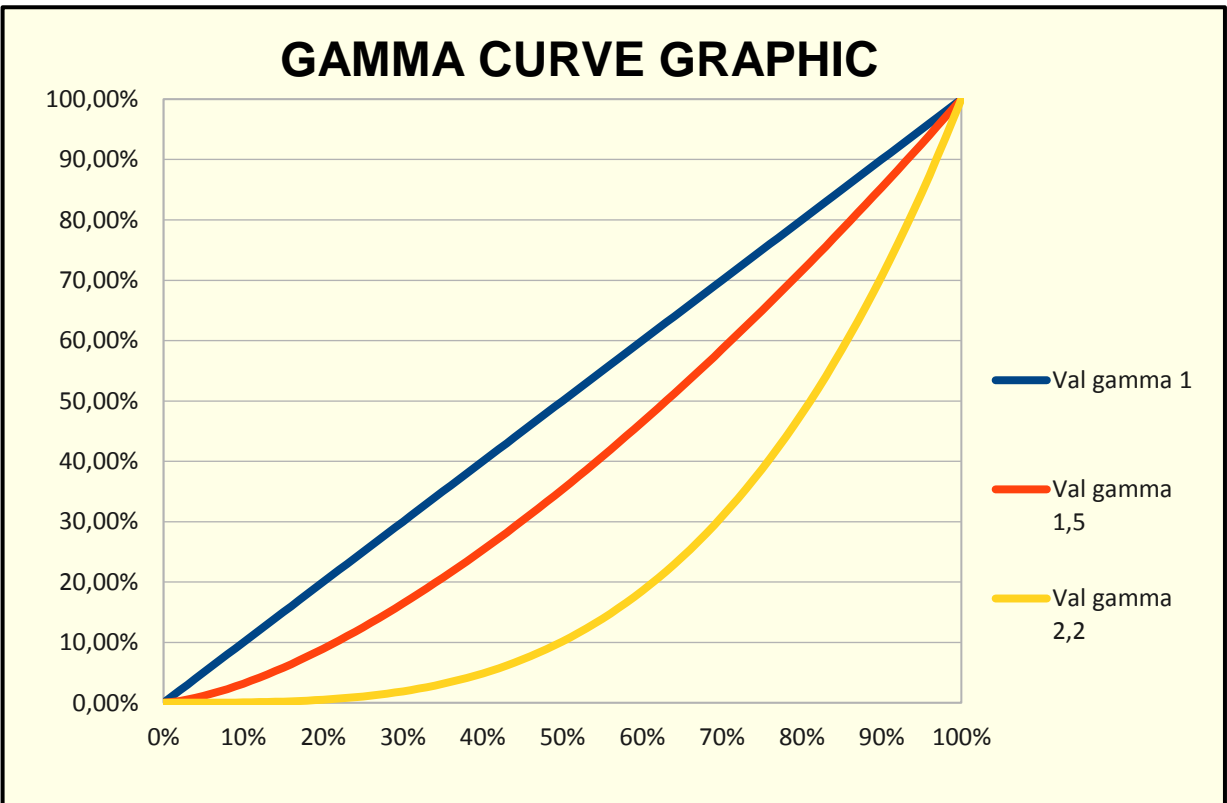
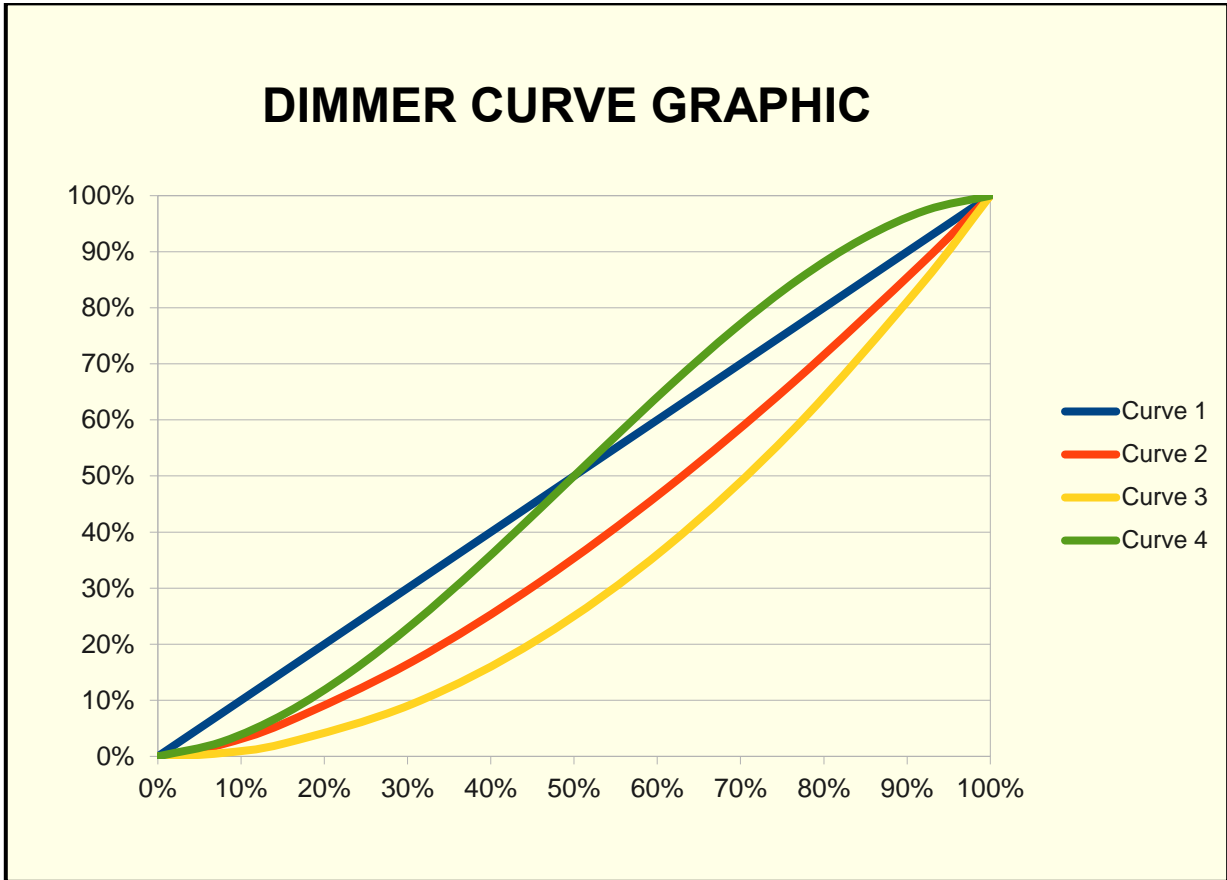
RGB	HSV	DMX value	Function
1	1		RED
		000 – 255	Red colour linearly increases from no-light to maximum intensity
2	2		RED FINE
		000 – 255	Red fine intensity
3	3		AMBER
		000 – 255	Amber colour linearly increases from no-light to maximum intensity
4	4		AMBER FINE
		000 – 255	Amber fine intensity
5	5		LIME
		000 – 255	Lime colour linearly increases from no-light to maximum intensity
6	6		LIME FINE
		000 – 255	Lime fine intensity
7	7		GREEN
		000 – 255	Green colour linearly increases from no-light to maximum intensity
8	8		GREEN FINE
		000 – 255	Green fine intensity
9	9		CYAN
		000 – 255	Cyan colour linearly increases from no-light to maximum intensity
10	10		CYAN FINE
		000 – 255	Cyan fine intensity
11	11		BLUE
		000 – 255	Blue colour linearly increases from no-light to maximum intensity
12	12		BLUE FINE
		000 – 255	Blue fine intensity
13	13		CTO
			Colour Temperature linearly change from 8000K to 2500K
		000	OFF
		001 ...	8000 K
		... 047 ...	7000 K
		... 093 ...	6000 K
		... 112 ...	5600 K
		... 139 ...	5000 K
		... 185 ...	4000 K
		... 222 ...	3200 K
		... 245 ...	2700 K
... 255	2500 K		

RGB	HUE	DMX value	Function
14	14		MACRO COLOR
		000 – 255	See chart @ page 14
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 – 225	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 / CYAN
		000 – 255	Red colour linearly increases from no-light to maximum intensity
19	-		GREEN / MAGENTA
		000 – 255	Green colour linearly increases from no-light to maximum intensity
20	-		BLUE / YELLOW
		000 – 255	Blue 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		CROSSFADE (Not implemented yet)
		000 – 255	Faded Transition with selectable timing between two sets of color points. In accordance with the selected PATH, during the faded transition all the intermediate color along the route will be displayed

RGB	HSV	DMX value	Function
22	22		PATH (Not implemented yet)
		000 – 255	Selection of the different types of route for the functionality “Crossfade” (example: along a straight line connecting directly the two points, clockwise or anticlockwise along the saturated color on the gamut border connecting the two points)
23	23		FAN (Not implemented yet)
		000 – 255	Not activated yet
24	24		TINT
		000 – 127	Linear Tint setting, define the target point correction from Magenta to OFF
		128	OFF
		129 – 255	Linear Tint setting, define the target point correction from OFF to Green
25	25		ZOOM
		000 – 255	Zoom linearly moves from narrow to wide beam

RGB	HSV	DMX value	Function	
26	26		FUNCTION	
		000 – 011	None	
		012 – 037	Free	
		038 – 042	Dimmer curve 1 (Default)	Details at page 13
		043 – 047	Dimmer curve 2	
		048 – 052	Dimmer curve 3	
		053 – 057	Dimmer curve 4	
		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	Free	
		106 – 108	CCMOD: RAW (Default)	
		109 – 111	CCMOD: RGB or HSV	
		112 – 114	CCMOD: CMY	
		115 – 117	Free	
		118 – 122	Free	
		123	CTO Filt (Default)	
		124	CTO White	
		125	Free	
		126 – 127	Gamut Adapt Relative	
		128 – 129	Gamut Adapt Absolute	
		130 – 133	Free	
		134	Color Space Native	
		135	Color Space sRGB	
		136 – 163	Free	
		164 – 167	Base Frequency = 3700 Hz	
		168	Base Frequency = 5600 Hz	
169	Base Frequency = 9400 Hz			
170	Base Frequency = 15100 Hz			
171	Base Frequency = 21400 Hz			
172	Base Frequency = 31000 Hz			
173	Base Frequency = 33700 Hz			
174 – 250	Free			
251 – 255	Default function recall			
		Note: all the functions are non-volatile settings. Non-volatile means that the configuration still remains active after power off.		

RGB	HSV	DMX value	Function
27	27		RESET
		000 – 025	Unused range
		026 – 255	All-effects Reset sequence passing through the unused levels range and staying in this range for 5 seconds.
28	28		FREQUENCY
		000 – 255	Fine adjusting of frequency Base selected from the Function parameter (26) - Details at page 13



Macro Color

DMX Value	LEE Filter	Description
000 – 009	None	None
010 – 011	4	4 Med Bast Amber
012 – 013	9	Pale Amber Gold
014 – 015	10	<i>Reserved</i>
016 – 017	17	Surprise Peach
018 – 019	19	Fire
020 – 021	21	Gold Amber
022 – 023	26	Bright red
024 – 025	29	Plasa Red
026 – 027	35	Light Pink
028 – 029	58	Lavender
030 – 031	68	Sky Blue
032 – 033	71	Tokyo Blue
034 – 035	75	Evening Blue
036 – 037	79	Just Blue
038 – 039	88	Lime Green
040 – 041	90	Dark Yellow/Green
042 – 043	100	Spring Yellow
044 – 045	101	Yellow
046 – 047	102	Lt Amber
048 – 049	103	Straw
050 – 051	104	Deep Amber
052 – 053	105	Orange
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	120	Deep Blue
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

DMX Value	LEE Filter	Description
100 – 101	141	Bright Blue
102 – 103	143	Pale Navy Blue
104 – 105	147	Apricot
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	164	Flame Red
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	179	Chrome Orange
132 – 133	180	Dark Lavendar
134 – 135	181	Congo Blue
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	9999	Rose Tint (ROSCO)
190 – 255	None	Reserved

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