Chroma-Q Color Force 3 DMX Layouts

DMX Parameter Definitions

Fixture Name **Color Force 3 – 12, 48 and 72**

Matches firmware 1.0

Personality Name	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
RGB - 8 bit	RGB+magic amber 8 bit	R	G	B													
RGB - 16 bit	RGB+magic amber 16 bit	R	r	G	g	B	b										
RGBA - 8 bit	RGBA 8 bit	R	G	B	A												
RGBA - 16 bit	RGBA 16 bit	R	r	G	g	B	b	A	a								
RGB Compact - 8 bit	Global Intensity, CCT and Tint, RGB+magic amber 8 bit	I	K	T	R	G	B										
RGB Compact - 16 bit	Global Intensity, CCT and Tint, RGB+magic amber 16 bit	I	i	K	k	T	t	R	r	G	g	B	b				
RGBA Compact - 8 bit	Global Intensity, CCT and Tint, RGBA, 8 bit	I	K	T	R	G	B	A									
RGBA Compact - 16 bit	Global Intensity, CCT and Tint, RGBA, 16 bit	I	i	K	k	T	t	R	r	G	g	B	b	A	a		
RGB Extended - 8 bit	Intensity, RGB+magic amber, Saturation, CCT, Tint 8 bit	I	R	G	B	S	K	T									
RGB Extended - 16 bit	Intensity, RGB+magic amber, Saturation, CCT, Tint 16 bit	I	i	R	r	G	g	B	b	S	s	K	k	T	t		
RGBA Extended - 8 bit	**Intensity, RGBA, Saturation, CCT, Tint 8 bit**	I	R	G	B	A	S	K	T								
RGBA Extended - 16 bit	Intensity, RGBA, Saturation, CCT, Tint 16 bit	I	i	R	r	G	g	B	b	A	a	S	s	K	k	T	t
**SparQle 8 bit	SparQle 8 bit	I	T	I	B												
**SparQle 16 bit	SparQle 16bit	I	T	i	t	I	B	i	b								
***Control channel (8 bit)																	

Notes:

In 8 bit control mode, Even when operating in 8-bit control mode, all internal dimming within the fixture is processed at 16-bit precision to ensure smooth fades and consistent performance.

* The RGBA Max mode is functionally similar to RGBA Extended, except that it bypasses color calibration.
This can be useful in specific control scenarios where raw LED output or uncalibrated behavior is preferred (for example, testing, pixel-mapping, custom color profiles).

** SparQle refers to an array of additional white LEDs positioned above and below each main color cell, providing an extra layer of creative effect.
The SparQle LEDs can be individually addressed and controlled separately from the main RGBA color section. If the SparQle DMX address is set to 0, it will automatically follow the main color section
It is recommended to use a separate fixture profile when controlling SparQle independently.

*** The Control Channel can be enabled via the fixture menu. Its DMX address can be assigned manually; if set to 0, the Control Channel will be placed after all color cells in the DMX footprint. color cells
It is recommended to use a separate fixture profile for the Control Channel, especially when controlling multiple fixtures sharing the same control address.

I Intensity
R Red
G Green
B Blue
A Amber
S Saturation
K Color Temperature
T Tint (Plus minus green)

Revision	Date	Notes
1.0	10-23-2025	First draft
1.1	4-2-2026	Additional details
1.2	4-23-2026	Added Channel Count
1.4	03-06-26	Many fixes

Chroma-Q Color Force 3 – Grouping and Orientation Options

Color Force 3 12 4 Main Cells, 8 SparQles

Color Force 3 48 16 Main Cells, 32 SparQles

Color Force 3 72 24 Main Cells, 48 SparQles

The DMX Charts in the documents shows the Color Force 3 72

Using the cell counts from above, it is possible to use it for CF3 12 and 48 as well.

The fixture supports multiple grouping configurations that define how color cells are combined and controlled over DMX.
These options affect how many DMX channels are used and how finely each section can be controlled.

Grouping Options

By 1 – Each color cell operates independently, providing the highest level of control and pixel detail.
Ideal for dynamic effects, gradients, or pixel-mapped content.
For SparQle, By 1 means the top row is one and the bottom row is another

By 4 – Cells are grouped in sets of four, sharing the same color and intensity control.
This mode reduces the channel count while maintaining good visual segmentation for most cyc and wall-wash applications.

All – All color cells are linked together as one uniform group, acting as a single powerful source.
Best suited when individual cell control is not needed or to reduce the channel cout to a minimum.

Main Color Section (Cells)

L → R (Left to Right) – Default. Maps control from the leftmost cell to the rightmost.

R → L (Right to Left) – Reverses the mapping (rightmost to leftmost).

SparQle Section (White emitters above/below cells)

L → R (Left to Right) – Leftmost SparQle to rightmost.

R → L (Right to Left) – Rightmost to leftmost.

T → B (Top to Bottom) – Top row first, then bottom row.

B → T (Bottom to Top) – Bottom row first, then top row.

Behavior & Configuration

These options are selectable from the **fixture menu** or via **RDM**.

Compact Modes – Global Control

In DMX Compact modes, the fixture operates with global control parameters for Intensity, CCT, and Tint.
These controls apply to the entire fixture rather than to individual cells or groups.

This provides a simplified channel layout, ideal when pixel-level control is not required.
In contrast, Extended modes provide per-cell or per-group control of Intensity, CCT, and Tint,
enabling detailed color and tonal adjustments across the fixture.

Chroma-Q Color Force 3 – RGB Mode (magic amber)

8 bit	Value	Function	Fade Status	Default Value
1		**Red Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		**Green Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
3		**Blue Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
…				
CF3 12: 10 CF3 48: 46 CF3 72: 70		**Red Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 11 CF3 48: 47 CF3 72: 71		**Green Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 12 CF3 48: 48 CF3 72: 72		**Blue Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0

16 bit	Value	Function		
1-2		**Red Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
3-4		**Green Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
5-6		**Blue Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
…				
CF3 12: 19-20 CF3 48: 91-92 CF3 72: 139-140		**Red Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 21-22 CF3 48: 93-94 CF3 72: 141-142		**Green Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 23-24 CF3 48: 95-96 CF3 72: 143-144		**Blue Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

Notes:
Color Mixing and White Point
When **Red, Green, and Blue** values are greater than zero, the **Amber** channel is **gradually blended into the mix**, enriching the spectrum and improving color rendering.
The **white point**—which defines the fixture's reference balance when **R, G, and B** are all set to **255**—can be configured from the **fixture menu** or via **RDM**.

Chroma-Q Color Force 3 – RGB Mode (magic amber)

Refer to the **RDM Tab** for detailed parameter descriptions and adjustment instructions.
Fixed Point Controls
Fixed Point CCT: 0–255 (default **180**, equivalent to **≈5600 K**)
Fixed Point Tint: 0–255 (default **127**, **Neutral**)
CCT adjusts the **warm-to-cool balance** of the output (from warm tungsten to cool daylight), while **Tint** fine-tunes the **green–magenta axis** to achieve precise white-point alignment or compensate for ambient light conditions.

Chroma-Q Gen3 Color Engine
The **Color Force 3** is powered by the latest **Chroma-Q Gen3 Color Engine** software.
In this advanced engine, **color control is fully abstracted** from direct LED drive management.
Rather than directly controlling individual LED emitters, the **Red**, **Green**, and **Blue** controls define a **color point within the fixture's calibrated color space**.
Behind the scenes, the Color Force 3 algorithm intelligently determines the **optimal balance of all four LED sources — Red, Green, Blue, and Amber —** to achieve the desired color or white point.
This architecture allows users to **achieve accurate, consistent, and repeatable color and white output** simply by adjusting the RGB controls, without needing to manually balance Amber or compensate for LED spectral variations.

Chroma-Q Color Force 3 – RGBA Mode

8 bit	Value	Function	Fade Status	Default Value
1		**Red Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		**Green Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
3		**Blue Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
4		**Amber Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0

…

CF3 12: 13 CF3 48: 61 CF3 72: 93		**Red Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 14 CF3 48: 62 CF3 72: 94		**Green Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 15 CF3 48: 63 CF3 72: 95		**Blue Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 16 CF3 48: 64 CF3 72: 96		**Amber Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0

16 bit	Value	Function		
1-2		**Red Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
3-4		**Green Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
5-6		**Blue Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
7-8		**Amber Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

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CF3 12: 25-26 CF3 48: 121-122 CF3 72: 185-186		**Red Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 27-28 CF3 48: 123-124 CF3 72: 187-188		**Green Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 29-30 CF3 48: 125-126 CF3 72: 189-190		**Blue Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

Chroma-Q Color Force 3 – RGBA Mode

CF3 12: 31-32 CF3 48: 127-128 CF3 72: 191-192		**Amber Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

Notes:
Color Mixing and White Point
When **Red, Green, Blue, and Amber** values are all greater than zero, the color mix will **gradually shift toward white**, ensuring a smooth and natural transition across the full spectrum.
The **white point**—defined when **R, G, B, and A** are all set to **255**—can be configured from the **fixture menu** or via **RDM** using the following parameters.
Refer to the **RDM Tab** for more details on adjustment and calibration.
Fixed Point Controls
Fixed Point CCT: 0–255 (default **180**, equivalent to **≈5600 K**)
Fixed Point Tint: 0–255 (default **127**, **Neutral**)
CCT adjusts the **warm-to-cool balance** of the output (from warm tungsten to cool daylight), while **Tint** fine-tunes the **green–magenta axis** to achieve precise white-point alignment or compensate for ambient light conditions.

Chroma-Q Gen3 Color Engine
The **Color Force 3** is powered by the advanced **Chroma-Q Gen3 Color Engine**.
In this new generation, **color control is fully abstracted** from direct LED drive management.
Rather than controlling individual LED emitters, the **Red, Green, Blue, and Amber** parameters define a **color point within the fixture's calibrated color space**.
Behind the scenes, the Color Force 3 algorithm intelligently determines the **optimal combination of all four LED sources** to deliver the requested output with the highest possible color accuracy and stability.
This design ensures that **precise color and white points** are effortlessly achieved simply by adjusting the **Red, Green, Blue, and Amber** controls — providing smooth operation, consistent performance, and predictable results across all fixtures.

Chroma-Q Color Force 3 – RGB Compact Mode (magic amber)

8 bit	Value	Function	Fade Status	Default Value
1		**Global Intensity**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		**Global CCT**		
	0 - 255	Minimum 2000K → Maximum 7100K	Fade	127
3		**Global Tint**		
	0 - 255	Minimum Minus Green → Maximum Plus Green	Fade	127
4		**Red Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
5		**Green Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
6		**Blue Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0

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CF3 12: 13 CF3 48: 49 CF3 72: 73		**Red Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 14 CF3 48: 50 CF3 72: 74		**Green Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 15 CF3 48: 51 CF3 72: 75		**Blue Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
16 bit	**Value**	**Function**		
1-2		**Global Intensity**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
3-4		**Global CCT**		
	0 - 65535	Minimum 2000K → Maximum 7100K	Fade	32767
5-6		**Global Tint**		
	0 - 65535	Minimum Minus Green → Maximum Plus Green	Fade	32767
7-8		**Red Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
9-10		**Green Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
11-12		**Blue Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

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CF3 12: 25-26 CF3 48: 97-98 CF3 72: 145-146		**Red Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

Chroma-Q Color Force 3 – RGB Compact Mode (magic amber)

CF3 12: 27-28 CF3 48: 99-100 CF3 72: 147-148		**Green Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 29-30 CF3 48: 101-102 CF3 72: 149-150		**Blue Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

Compact Mode – Color Mixing
When **Red, Green, and Blue** values are greater than zero, the **Amber** channel is **gradually blended into the mix** to enhance color rendering and extend the white spectrum.
The **white point**, defined when **R, G, and B** are all set to **255**, is determined by the **global CCT** and **Tint** controls.
These parameters allow fine adjustment of the overall color temperature and tint balance for the entire fixture.

Chroma-Q Gen3 Color Engine
The **Color Force 3** is powered by the latest **Chroma-Q Gen3 Color Engine** software.
In this advanced engine, **color control is fully abstracted** from direct LED drive management.
Rather than directly controlling individual LED emitters, the **Red**, **Green**, and **Blue** controls define a **color point within the fixture's calibrated color space**.
Behind the scenes, the Color Force 3 algorithm intelligently determines the **optimal balance of all four LED sources — Red, Green, Blue, and Amber —** to achieve the desired color or white point.
This architecture allows users to **achieve accurate, consistent, and repeatable color and white output** simply by adjusting the RGB controls, without needing to manually balance Amber or compensate for LED spectral variations.

Chroma-Q Color Force 3 – RGBA Compact Mode

8 bit	Value	Function	Fade Status	Default Value
1		**Global Intensity**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		**Global CCT**		
	0 - 255	Minimum 2000K → Maximum 7100K	Fade	127
3		**Global Tint**		
	0 - 255	Minimum Minus Green → Maximum Plus Green	Fade	127
4		**Red Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
5		**Green Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
6		**Blue Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
7		**Amber Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0

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CF3 12: 16 CF3 48: 64 CF3 72: 96		**Red Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 17 CF3 48: 65 CF3 72: 97		**Green Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 18 CF3 48: 66 CF3 72: 98		**Blue Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 19 CF3 48: 67 CF3 72: 99		**Amber Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
16 bit	**Value**	**Function**		
1-2		**Global Intensity**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
3-4		**Global CCT**		
	0 - 65535	Minimum 2000K → Maximum 7100K	Fade	32767
5-6		**Global Tint**		
	0 - 65535	Minimum Minus Green → Maximum Plus Green	Fade	32767
7-8		**Red Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
9-10		**Green Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

Chroma-Q Color Force 3 – RGBA Compact Mode

11-12		**Blue Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
13-14		**Amber Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
…				
CF3 12: 31-32 CF3 48: 127-128 CF3 72: 191-192		**Red Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 33-34 CF3 48: 129-130 CF3 72: 193-194		**Green Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 35-36 CF3 48: 131-132 CF3 72: 195-196		**Blue Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 37-38 CF3 48: 133-134 CF3 72: 197-198		**Amber Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

RGBA Compact Mode – Color Mixing
When **Red, Green, Blue, and Amber** values are all greater than zero, the color mix will **gradually transition toward white**, ensuring smooth spectral blending and natural progression through the color space.
The **white point**, defined when **R, G, B, and A** are all set to **255**, is determined by the **global CCT** and **Tint** controls.
These parameters allow precise adjustment of the fixture's overall color temperature and tint balance.

Chroma-Q Gen3 Color Engine
The **Color Force 3** is powered by the advanced **Chroma-Q Gen3 Color Engine**.
In this new generation, **color control is fully abstracted** from direct LED drive management.
Rather than controlling individual LED emitters, the **Red, Green, Blue, and Amber** parameters define a **color point within the fixture's calibrated color space**.
Behind the scenes, the Color Force 3 algorithm intelligently determines the **optimal combination of all four LED sources** to deliver the requested output with the highest possible color accuracy and stability.
This design ensures that **precise color and white points** are effortlessly achieved simply by adjusting the **Red, Green, Blue, and Amber** controls — providing smooth operation, consistent performance, and predictable results across all fixtures.

Chroma-Q Color Force 3 – RGB Extended Mode (magic amber)

8 bit	Value	Function	Fade Status	Default Value
1		**Intensity Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		**Red Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
3		**Green Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
4		**Blue Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
5		**Saturation Cell 1**		
	0 - 255	Saturated → Desaturated	Fade	0
6		**CCT Cell 1**		
	0 - 255	Minimum 2000K → Maximum 7100K	Fade	127
7		**Tint Cell 1**		
	0 - 255	Minimum Minus Green → Maximum Plus Green	Fade	127

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CF3 12: 22 CF3 48: 106 CF3 72: 162		**Intensity Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 23 CF3 48: 107 CF3 72: 163		**Red Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 24 CF3 48: 108 CF3 72: 164		**Green Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 25 CF3 48: 109 CF3 72: 165		**Blue Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 26 CF3 48: 110 CF3 72: 166		**Saturation Cell, 4 , 16 or 24**		
	0 - 255	Saturated → Desaturated	Fade	0
CF3 12: 27 CF3 48: 111 CF3 72: 167		**CCT Cell, 4 , 16 or 24**		
	0 - 255	Minimum 2000K → Maximum 7100K	Fade	127
CF3 12: 28 CF3 48: 112 CF3 72: 168		**Tint Cell, 4 , 16 or 24**		
	0 - 255	Minimum Minus Green → Maximum Plus Green	Fade	127
16 bit	**Value**	**Function**		
1-2		**Intensity Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
3-4		**Red Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
5-6		**Green Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
7-8		**Blue Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
9-10		**Saturation Cell 1**		

Chroma-Q Color Force 3 – RGB Extended Mode (magic amber)

9-10	0 - 65535	Saturated → Desaturated	Fade	0
11-12		**CCT Cell 1**		
	0 - 65535	Minimum 2000K → Maximum 7100K	Fade	32767
13-14		**Tint Cell 1**		
	0 - 65535	Minimum Minus Green → Maximum Plus Green	Fade	32767

…

CF3 12: 43-44 CF3 48: 211-212 CF3 72: 323-324		**Intensity Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 45-46 CF3 48: 213-214 CF3 72: 325-326		**Red Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 47-48 CF3 48: 215-216 CF3 72: 327-328		**Green Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 49-50 CF3 48: 217-218 CF3 72: 329-330		**Blue Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 51-52 CF3 48: 219-220 CF3 72: 331-332		**Saturation Cell, 4 , 16 or 24**		
	0 - 65535	Saturated → Desaturated	Fade	0
CF3 12: 53-54 CF3 48: 221-222 CF3 72: 333-334		**CCT Cell, 4 , 16 or 24**		
	0 - 65535	Minimum 2000K → Maximum 7100K	Fade	32767
CF3 12: 55-56 CF3 48: 223-224 CF3 72: 335-336		**Tint Cell, 4 , 16 or 24**		
	0 - 65535	Minimum Minus Green → Maximum Plus Green	Fade	32767

RGB Extended Mode – Color Mixing
When **Red, Green, and Blue** values are greater than zero, the **Amber** channel is **gradually blended into the mix**, enhancing color rendering and extending the fixture's white spectrum.
The **white point**, defined when **R, G, and B** are all set to **255**, is determined by the **CCT** and **Tint** controls. These parameters allow precise adjustment of the output's color temperature and tint balance.
The **Saturation** channel defines the mix between full color and white:
0 = Fully saturated (maximum color intensity)
255 = Fully desaturated (pure white output)

Chroma-Q Gen3 Color Engine
The **Color Force 3** is powered by the latest **Chroma-Q Gen3 Color Engine** software.
In this advanced engine, **color control is fully abstracted** from direct LED drive management.
Rather than directly controlling individual LED emitters, the **Red**, **Green**, and **Blue** controls define a **color point within the fixture's calibrated color space**.
Behind the scenes, the Color Force 3 algorithm intelligently determines the **optimal balance of all four LED sources — Red, Green, Blue, and Amber —** to achieve the desired color or white point.
This architecture allows users to **achieve accurate, consistent, and repeatable color and white output** simply by adjusting the RGB controls, without needing to manually balance Amber or compensate for LED spectral variations.

Chroma-Q Color Force 3 – RGBA Extended Mode

8 bit	Value	Function	Fade Status	Default Value
1		**Intensity Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		**Red Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
3		**Green Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
4		**Blue Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
5		**Amber Cell 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
6		**Saturation Cell 1**		
	0 - 255	Saturated → Desaturated	Fade	0
7		**CCT Cell 1**		
	0 - 255	Minimum 2000K → Maximum 7100K	Fade	127
8		**Tint Cell 1**		
	0 - 255	Minimum Minus Green → Maximum Plus Green	Fade	127

...

CF3 12: 25 CF3 48: 121 CF3 72: 185		**Intensity Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 26 CF3 48: 122 CF3 72: 186		**Red Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 27 CF3 48: 123 CF3 72: 187		**Green Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 28 CF3 48: 124 CF3 72: 188		**Blue Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 29 CF3 48: 125 CF3 72: 189		**Amber Cell, 4 , 16 or 24**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 30 CF3 48: 126 CF3 72: 190		**Saturation Cell, 4 , 16 or 24**		
	0 - 255	Saturated → Desaturated	Fade	0
CF3 12: 31 CF3 48: 127 CF3 72: 191		**CCT Cell, 4 , 16 or 24**		
	0 - 255	Minimum 2000K → Maximum 7100K	Fade	127
CF3 12: 32 CF3 48: 128 CF3 72: 192		**Tint Cell, 4 , 16 or 24**		
	0 - 255	Minimum Minus Green → Maximum Plus Green	Fade	127
16 bit	**Value**	**Function**		
1-2		**Intensity Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
3-4		**Red Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
5-6		**Green Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
7-8		**Blue Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
9-10		**Amber Cell 1**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

11-12		**Saturation Cell 1**		
	0 - 65535	Saturated → Desaturated	Fade	0
13-14		**CCT Cell 1**		
	0 - 65535	Minimum 2000K → Maximum 7100K	Fade	32767
15-16		**Tint Cell 1**		
	0 - 65535	Minimum Minus Green → Maximum Plus Green	Fade	32767

…

CF3 12: 49-50 CF3 48: 241-242 CF3 72: 369-370		**Intensity Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 51-52 CF3 48: 243-244 CF3 72: 371-372		**Red Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 53-54 CF3 48: 245-246 CF3 72: 373-374		**Green Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 55-56 CF3 48: 247-248 CF3 72: 375-376		**Blue Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 57-58 CF3 48: 249-250 CF3 72: 377-378		**Amber Cell, 4 , 16 or 24**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 59-60 CF3 48: 251-252 CF3 72: 379-380		**Saturation Cell, 4 , 16 or 24**		
	0 - 65535	Saturated → Desaturated	Fade	0
CF3 12: 61-62 CF3 48: 253-254 CF3 72: 381-382		**CCT Cell, 4 , 16 or 24**		
	0 - 65535	Minimum 2000K → Maximum 7100K	Fade	32767
CF3 12: 63-64 CF3 48: 255-256 CF3 72: 383-384		**Tint Cell, 4 , 16 or 24**		
	0 - 65535	Minimum Minus Green → Maximum Plus Green	Fade	32767

RGBA Extended Mode – Color Mixing
When **Red, Green, Blue, and Amber** values are all greater than zero, the color mix will **gradually transition toward white**, ensuring smooth spectral blending and consistent color progression.
The **white point**, defined when **R, G, B, and A** are all set to **255**, is determined by the **CCT** and **Tint** controls.
These parameters allow precise adjustment of the fixture's overall color temperature and tint balance.
The **Saturation** channel defines the balance between full color and white output:
0 = Fully saturated (maximum color intensity)
255 = Fully desaturated (pure white output)

Chroma-Q Gen3 Color Engine
The **Color Force 3** is powered by the advanced **Chroma-Q Gen3 Color Engine**.
In this new generation, **color control is fully abstracted** from direct LED drive management.
Rather than controlling individual LED emitters, the **Red, Green, Blue, and Amber** parameters define a **color point within the fixture's calibrated color space**.
Behind the scenes, the Color Force 3 algorithm intelligently determines the **optimal combination of all four LED sources** to deliver the requested output with the highest possible color accuracy and stability.
This design ensures that **precise color and white points** are effortlessly achieved simply by adjusting the **Red, Green, Blue, and Amber** controls — providing smooth operation, consistent performance, and predictable results across all fixtures.

Chroma-Q Color Force 3 – SparQle Control

8 bit	Value	Function	Fade Status	Default Value
CF3 12: 1 to 4 CF3 48: 1 to 16 CF3 72: 1 to 24		**SparQle Top Row Left to Right**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
CF3 12: 5 to 8 CF3 48: 17 to 32 CF3 72: 25 to 48		**SparQle Bottom Row Left to Right**		
	0 - 255	Minimum → Maximum Intensity	Fade	0

16 bit	Value	Function		
CF3 12: 1-2 to 7-8 CF3 48: 1-2 to 31-32 CF3 72: 1-2 to 47-48		**SparQle Top Row Left to Right**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0
CF3 12: 9-10 to 15-16 CF3 48: 33-34 to 63-64 CF3 72: 49-50 to 95-96		**SparQle Bottom Row Left to Right**		
	0 - 65535	Minimum → Maximum Intensity	Fade	0

SparQle Control — Notes
General Description:
SparQle LEDs are **dedicated white emitters** positioned **above and below each color cell**, designed to create **sparkle, shimmer, or highlight effects**.
Depending on the addressing setup, they can either **operate independently** (with their own DMX address/universe) or **mirror the main color section** when configured in **follow mode (address = 0)**.

Address and Universe Configuration:
The **SparQle** section can be assigned to a **different DMX address and universe** from the main color section, allowing it to be controlled as a **separate fixture instance**.
This provides maximum flexibility for programming independent effects or layering visual textures over the main RGBA output.
Address = 0 Behavior:
If the **SparQle start address** is set to **0**, the SparQle channels are **automatically placed immediately after the last used channel of the main color section**, provided there is enough channel space remaining in the same universe.
In this configuration, the **SparQle LEDs follow the main color section's intensity behavior** and **share the same DMX universe**, effectively operating as part of the same fixture footprint.
Channel Mapping (8-bit):
Top Row: Channels **1–24** (left → right) — 0–255 = Minimum → Maximum Intensity **Fade** Default 0
Bottom Row: Channels **25–48** (left → right) — 0–255 = Minimum → Maximum Intensity **Fade** Default 0
Channel Mapping (16-bit):
Top Row: Channels **1–48** (24 cells × 2 channels coarse/fine) — 0–65,535 = Minimum → Maximum Intensity **Fade** Default 0
Bottom Row: Channels **49–96** (24 cells × 2 channels coarse/fine) — 0–65,535 = Minimum → Maximum Intensity **Fade** Default 0

Orientation Options:
The **SparQle output order** can be adjusted from the fixture menu or via RDM to match fixture orientation and design intent:
L → R: Left to Right
R → L: Right to Left
T → B: Top to Bottom
B → T: Bottom to Top

Chroma-Q Color Force 3
(CTRL) Control channel

Function name	Activation delay ms	Default	Range start	Range end	Description
					Values must be held for 2 sec before its function is activated **
Control channel					** Some functions require more or less time
No Function			0	2	
Dimmer Curve					
Dimmer curve Linear	2000		3	3	Linear
Dimmer curve Square Law	2000		4	4	This curve gives more resolution in the 0-20% and accelerate after
Dimmer curve Inv Square Law	2000		5	5	Faster ramp up
Dimmer curve S-curve	2000	X	6	6	This curve gives more resolution in the 0-20% and 80%-100%
Power mode					
Low Power Mode	2000		7	7	Engine in Low current
High Power Mode	2000		8	8	Engine in High current
No Function			9	10	
DMX Smoothing					
DMX Smoothing Off (hold 1 sec to change)	1000		11	12	No DMX interpolation is performed, very dynamic reaction for pixel mapping
DMX Smoothing Normal (hold 1 sec to change)	1000	X	13	14	Ensure that fades are smooth and even
DMX Smoothing Ultrasmooth (hold 1 sec	1000		15	16	Super smooth dimming for use with manual faders
No Function			17	19	
Emulation					
Tungsten Decay/Fade-to-Warm Disabled	2000	X	21	22	No Tungsten emulation
Tungsten Decay On	2000		23	24	Emulate a tungsten intensity decay when fixture jumps from/to values
Tungsten Fade-to-Warm On	2000		25	26	Emulate a tungsten warm shift when dimming down
Tungsten Decay and Fade-to-Warm On	2000		27	28	Emulate a tungsten warm shift when dimming down and the slow decay.
No Function			29	36	
Color Calibration					
RGBA Mode ColorSure Calibrated	2000	X	37	38	In this mode, the LED engine is using calibrated points for colors and CCT points
RGBA Mode Uncalibrated	2000		39	40	In this mode the LED engine is not using calibration (Only works in RGBA mode)
Cooling					
Fan Speed Minimum	2000		41	41	Fan will run at very low speed virtually silent
Fan Speed Low	2000		42	42	Slow fan speed (fixture output can be reduced or limited)
Fan Speed Medium	2000		43	43	Medium fan speed (fixture output can be reduced or limited)
Fixed fan speed = full	2000		44	44	Maximum speed on fan

Chroma-Q Color Force 3
(CTRL) Control channel

Function name	Activation delay ms	Default	Range start	Range end	Description
Fixed fan speed = low, regulated light output intensity	2000		45	45	Low speed on fan but only when needed (max output can be reduced if too hot)
Fixed fan speed = medium, regulated light output intensity	2000	X	46	46	Medium speed on fan but only when needed
Fixed fan speed = full, regulated light output intensity	2000		47	47	Maximum speed on fan but only when needed
No Function			48	60	
Display					
Turn on control panel display	2000		61	62	Turn On display on fixture
Auto control panel display	2000	X	63	64	Display only turn on when it is being used or when errors happen
Turn off control panel display	2000		65	66	Turn Off display on fixture, no errors are displayed
No Function			67	70	
PWM Frequency					
Main Cells PWM 24,000 Hz	2000	X	71	72	Set PWM rate at 24,000 Hz
Main Cells PWM 96,000 Hz	2000		73	74	Set PWM rate 96,000 Hz
No Function			75	89	
SparQle PWM 6000 Hz	2000	X	90	90	SparQle PWM 6000 Hz
SparQle PWM 12,000 Hz	2000		91	91	SparQle PWM 12,000 Hz
SparQle PWM 24,000 Hz	2000		92	92	SparQle PWM 24,000 Hz
No Function			93	130	
Orientation					
Main Cells Orientation L>R	2000	X	131	131	Set the direction of the Main cells from left to Right
Main Cells Orientation R>L	2000		132	132	Set the direction of the Main cells from Right to Left
SparQle Orientation L>R	2000	X	135	135	Set the direction of the SparQle from left to Right
SparQle Orientation R>L	2000		136	136	Set the direction of the SparQle from Right to Left
SparQle Orientation T>B	2000	X	137	137	Set the direction of the SparQle from Top to Bottom
SparQle Orientation B>T	2000		138	138	Set the direction of the SparQle from Bottom to Top
No Function			139	144	
Wireless					
Wirless LINK	2000		145	146	Enable Link to WIRELESS
Wireless UNLINK	2000		147	148	Unlink WIRELESS
No Function			149	150	
DMX Lost					
DMX Lost default Fixture stay to the last state	2000	X	151	152	
DMX Lost default Fixture goes black (after delay)	2000		153	154	Default delay is 5 seconds, can be changed in menu

Chroma-Q Color Force 3
(CTRL) Control channel

Function name	Activation delay ms	Default	Range start	Range end	Description
DMX Lost default Fixture goes to full (after delay)	2000		155	156	Default delay is 5 seconds, can be changed in menu, full means a white output according to the DMX mode
DMX Lost default fixture to save look (after delay)	2000		157	158	Default delay is 5 seconds, can be changed in menu
No Function			159	160	
Default white point					For mode where there are no CCT control
Fixture programmed point	2000		161	161	Uses the set fixed point from menu/RDM
CCT 2800, Tint Neutral	2000		162	162	Override the set point with a white at 2800K, and tint is neutral at 127
CCT 3200, Tint Neutral	2000		163	163	Override the set point with a white at 3200K, and tint is neutral at 127
CCT 4400, Tint Neutral	2000		164	164	Override the set point with a white at 4400K, and tint is neutral at 127
CCT 5600, Tint Neutral	2000		165	165	Override the set point with a white at 5600K, and tint is neutral at 127
CCT 6500, Tint Neutral	2000		166	166	Override the set point with a white at 6500K, and tint is neutral at 127
No Function			167	232	
RDM					
Enable RDM	2000	X	233	233	Enable RDM transmission
Disable RDM	2000		234	234	Disable RDM transmission
No Function			235	235	
Store Looks	2000		236	237	Uses the FX parameter to select the look to store, then leave CTRL channel on this value for 3 second
No Function			238	238	
Reset	5000		239	240	Force a fixture reboot
No Function			241	243	
Default					
Save as User Defaults	5000		244	245	Take the current settings and make it the new default (except DMX address and DMX mode)
Restore User Defaults	5000		246	247	Restore setting to user default (except DMX address and DMX mode)
Restore Factory Defaults	5000		248	249	Restore setting to factory default (except DMX address and DMX mode)
No Function			250	255	This range will never have functions for safety reason

Chroma-Q Color Force 3 – Effect Controls

8 bit	Value	Function	Fade Status	Default Value
1		**Intensity 1**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		**Effect Selection 1**		
	0 - 255	0: OFF, 1 to 255, 254 effects	Snap	0
3		**Speed 1**		
	0 - 255	0 Stop, 1 to 127 Slow to fast CCW, 128 to 254 Fast to Slow CW, 255 Stop	Fade	0
4		**Modifier 1**		
	0 - 255	0 to 255 affect2 the behavior of each effect	Fade	0
5		**Sync 1**		
	0 - 255	0 to 255 Delay the start of the effect across the fixture cells or SparQle	Fade	0
6		**Intensity 2**		
	0 - 255	Minimum → Maximum Intensity	Fade	0
7		**Effect Selection 2**		
	0 - 255	0: OFF, 1 to 255, 254 effects	Snap	0
8		**Speed 2**		
	0 - 255	0 Stop, 1 to 127 Slow to fast CCW, 128 to 254 Fast to Slow CW, 255 Stop	Fade	0
9		**Modifier 2**		
	0 - 255	0 to 255 affect2 the behavior of each effect	Fade	0
10		**Sync 2**		
	0 - 255	0 to 255 Delay the start of the effect across the fixture cells or SparQle	Fade	0

Effect Control Notes

Effect Control must be enabled in the fixture's settings or via RDM before the DMX channels become active. When enabled, the **Effect Control channels** are positioned **immediately after the last cell control channels**, and **before the Control Channel** (if it is enabled).

The fixture supports **two simultaneous effects**.

- **Effect 1** runs as the base layer.
- **Effect 2** can operate concurrently and **takes precedence** over Effect 1 where both target the same parameter (e.g., color, intensity, or tint).

This structure allows independent or layered effect programming without altering the core color or intensity data.

Color Force 3 — Main Footprint Only (SparQle NOT in Auto-Follow)

Assumptions

This table excludes SparQle from the Main fixture footprint.
Use this version when SparQle is assigned to a separate DMX address and/or universe.
Effects Control adds 10 channels when enabled.
Control Channel adds 1 channel when enabled.

Personality	Grouping	Effects	Control	CF3 12 8-bit	CF3 12 16-bit	CF3 48 8-bit	CF3 48 16-bit	CF3 72 8-bit	CF3 72 16-bit
RGB	All	Off	Off	3	6	3	6	3	6
RGB + Control	All	Off	On	4	7	4	7	4	7
RGB + Effect	All	On	Off	13	16	13	16	13	16
RGB + Effect + Control	All	On	On	14	17	14	17	14	17
RGB	By 4	Off	Off	3	6	12	24	18	36
RGB + Control	By 4	Off	On	4	7	13	25	19	37
RGB + Effect	By 4	On	Off	13	16	22	34	28	46
RGB + Effect + Control	By 4	On	On	14	17	23	35	29	47
RGB	By 1	Off	Off	12	24	48	96	72	144
RGB + Control	By 1	Off	On	13	25	49	97	73	145
RGB + Effect	By 1	On	Off	22	34	58	106	82	154
RGB + Effect + Control	By 1	On	On	23	35	59	107	83	155
RGBA	All	Off	Off	4	8	4	8	4	8
RGBA + Control	All	Off	On	5	9	5	9	5	9
RGBA + Effect	All	On	Off	14	18	14	18	14	18
RGBA + Effect + Control	All	On	On	15	19	15	19	15	19
RGBA	By 4	Off	Off	4	8	16	32	24	48
RGBA + Control	By 4	Off	On	5	9	17	33	25	49
RGBA + Effect	By 4	On	Off	14	18	26	42	34	58
RGBA + Effect + Control	By 4	On	On	15	19	27	43	35	59
RGBA	By 1	Off	Off	16	32	64	128	96	192
RGBA + Control	By 1	Off	On	17	33	65	129	97	193
RGBA + Effect	By 1	On	Off	26	42	74	138	106	202
RGBA + Effect + Control	By 1	On	On	27	43	75	139	107	203
RGB Compact	All	Off	Off	6	12	6	12	6	12
RGB Compact + Control	All	Off	On	7	13	7	13	7	13
RGB Compact + Effect	All	On	Off	16	22	16	22	16	22
RGB Compact + Effect + Control	All	On	On	17	23	17	23	17	23
RGB Compact	By 4	Off	Off	6	12	15	30	21	42
RGB Compact + Control	By 4	Off	On	7	13	16	31	22	43
RGB Compact + Effect	By 4	On	Off	16	22	25	40	31	52
RGB Compact + Effect + Control	By 4	On	On	17	23	26	41	32	53
RGB Compact	By 1	Off	Off	15	30	51	102	75	150
RGB Compact + Control	By 1	Off	On	16	31	52	103	76	151
RGB Compact + Effect	By 1	On	Off	25	40	61	112	85	160
RGB Compact + Effect + Control	By 1	On	On	26	41	62	113	86	161
RGBA Compact	All	Off	Off	7	14	7	14	7	14
RGBA Compact + Control	All	Off	On	8	15	8	15	8	15
RGBA Compact + Effect	All	On	Off	17	24	17	24	17	24
RGBA Compact + Effect + Control	All	On	On	18	25	18	25	18	25
RGBA Compact	By 4	Off	Off	7	14	19	38	27	54
RGBA Compact + Control	By 4	Off	On	8	15	20	39	28	55
RGBA Compact + Effect	By 4	On	Off	17	24	29	48	37	64
RGBA Compact + Effect + Control	By 4	On	On	18	25	30	49	38	65
RGBA Compact	By 1	Off	Off	19	38	67	134	99	198
RGBA Compact + Control	By 1	Off	On	20	39	68	135	100	199
RGBA Compact + Effect	By 1	On	Off	29	48	77	144	109	208
RGBA Compact + Effect + Control	By 1	On	On	30	49	78	145	110	209
RGB Extended	All	Off	Off	7	14	7	14	7	14
RGB Extended + Control	All	Off	On	8	15	8	15	8	15
RGB Extended + Effect	All	On	Off	17	24	17	24	17	24
RGB Extended + Effect + Control	All	On	On	18	25	18	25	18	25
RGB Extended	By 4	Off	Off	7	14	28	56	42	84
RGB Extended + Control	By 4	Off	On	8	15	29	57	43	85
RGB Extended + Effect	By 4	On	Off	17	24	38	66	52	94
RGB Extended + Effect + Control	By 4	On	On	18	25	39	67	53	95
RGB Extended	By 1	Off	Off	28	56	112	224	168	336
RGB Extended + Control	By 1	Off	On	29	57	113	225	169	337
RGB Extended + Effect	By 1	On	Off	38	66	122	234	178	346
RGB Extended + Effect + Control	By 1	On	On	39	67	123	235	179	347
RGBA Extended	All	Off	Off	8	16	8	16	8	16
RGBA Extended + Control	All	Off	On	9	17	9	17	9	17
RGBA Extended + Effect	All	On	Off	18	26	18	26	18	26
RGBA Extended + Effect + Control	All	On	On	19	27	19	27	19	27
RGBA Extended	By 4	Off	Off	8	16	32	64	48	96

Color Force 3 — Main Footprint Only (SparQle NOT in Auto-Follow)

Assumptions

This table excludes SparQle from the Main fixture footprint.
Use this version when SparQle is assigned to a separate DMX address and/or universe.
Effects Control adds 10 channels when enabled.
Control Channel adds 1 channel when enabled.

Personality	Grouping	Effects	Control	CF3 12 8-bit	CF3 12 16-bit	CF3 48 8-bit	CF3 48 16-bit	CF3 72 8-bit	CF3 72 16-bit
RGBA Extended + Control	By 4	Off	On	9	17	33	65	49	97
RGBA Extended + Effect	By 4	On	Off	18	26	42	74	58	106
RGBA Extended + Effect + Control	By 4	On	On	19	27	43	75	59	107
RGBA Extended	By 1	Off	Off	32	64	128	256	192	384
RGBA Extended + Control	By 1	Off	On	33	65	129	257	193	385
RGBA Extended + Effect	By 1	On	Off	42	74	138	266	202	394
RGBA Extended + Effect + Control	By 1	On	On	43	75	139	267	203	395

Color Force 3 – Total DMX Channel Count (Main + SparQle Auto-Follow)

Assumptions

SparQle is enabled in Auto-Follow and uses the same grouping mode as Main Cells.
8-bit columns assume SparQle 8-bit; 16-bit columns assume SparQle 16-bit.
Effects Control adds 10 channels when enabled.
Control Channel adds 1 channel when enabled.

Personality	Groupings	Effects	Control	CF3 12 8-bit	CF3 12 16-bit	CF3 48 8-bit	CF3 48 16-bit	CF3 72 8-bit	CF3 72 16-bit
RGB + SparQle	All	Off	Off	5	10	5	10	5	10
RGB + Control + SparQle	All	Off	On	6	11	6	11	6	11
RGB + Effect + SparQle	All	On	Off	15	20	15	20	15	20
RGB + Effect + Control + SparQle	All	On	On	16	21	16	21	16	21
RGB + SparQle	By 4	Off	Off	5	10	20	40	30	60
RGB + Control + SparQle	By 4	Off	On	6	11	21	41	31	61
RGB + Effect + SparQle	By 4	On	Off	15	20	30	50	40	70
RGB + Effect + Control + SparQle	By 4	On	On	16	21	31	51	41	71
RGB + SparQle	By 1	Off	Off	20	40	80	160	120	240
RGB + Control + SparQle	By 1	Off	On	21	41	81	161	121	241
RGB + Effect + SparQle	By 1	On	Off	30	50	90	170	130	250
RGB + Effect + Control + SparQle	By 1	On	On	31	51	91	171	131	251
RGBA + SparQle	All	Off	Off	6	12	6	12	6	12
RGBA + Control + SparQle	All	Off	On	7	13	7	13	7	13
RGBA + Effect + SparQle	All	On	Off	16	22	16	22	16	22
RGBA + Effect + Control + SparQle	All	On	On	17	23	17	23	17	23
RGBA + SparQle	By 4	Off	Off	6	12	24	48	36	72
RGBA + Control + SparQle	By 4	Off	On	7	13	25	49	37	73
RGBA + Effect + SparQle	By 4	On	Off	16	22	34	58	46	82
RGBA + Effect + Control + SparQle	By 4	On	On	17	23	35	59	47	83
RGBA + SparQle	By 1	Off	Off	24	48	96	192	144	288
RGBA + Control + SparQle	By 1	Off	On	25	49	97	193	145	289
RGBA + Effect + SparQle	By 1	On	Off	34	58	106	202	154	298
RGBA + Effect + Control + SparQle	By 1	On	On	35	59	107	203	155	299
RGB Compact + SparQle	All	Off	Off	8	16	8	16	8	16
RGB Compact + Control + SparQle	All	Off	On	9	17	9	17	9	17
RGB Compact + Effect + SparQle	All	On	Off	18	26	18	26	18	26
RGB Compact + Effect + Control + SparQle	All	On	On	19	27	19	27	19	27
RGB Compact + SparQle	By 4	Off	Off	8	16	23	46	33	66
RGB Compact + Control + SparQle	By 4	Off	On	9	17	24	47	34	67
RGB Compact + Effect + SparQle	By 4	On	Off	18	26	33	56	43	76
RGB Compact + Effect + Control + SparQle	By 4	On	On	19	27	34	57	44	77
RGB Compact + SparQle	By 1	Off	Off	23	46	83	166	123	246
RGB Compact + Control + SparQle	By 1	Off	On	24	47	84	167	124	247
RGB Compact + Effect + SparQle	By 1	On	Off	33	56	93	176	133	256
RGB Compact + Effect + Control + SparQle	By 1	On	On	34	57	94	177	134	257
RGBA Compact + SparQle	All	Off	Off	9	18	9	18	9	18
RGBA Compact + Control + SparQle	All	Off	On	10	19	10	19	10	19
RGBA Compact + Effect + SparQle	All	On	Off	19	28	19	28	19	28
RGBA Compact + Effect + Control + SparQle	All	On	On	20	29	20	29	20	29
RGBA Compact + SparQle	By 4	Off	Off	9	18	27	54	39	78
RGBA Compact + Control + SparQle	By 4	Off	On	10	19	28	55	40	79
RGBA Compact + Effect + SparQle	By 4	On	Off	19	28	37	64	49	88
RGBA Compact + Effect + Control + SparQle	By 4	On	On	20	29	38	65	50	89
RGBA Compact + SparQle	By 1	Off	Off	27	54	99	198	147	294
RGBA Compact + Control + SparQle	By 1	Off	On	28	55	100	199	148	295
RGBA Compact + Effect + SparQle	By 1	On	Off	37	64	109	208	157	304
RGBA Compact + Effect + Control + SparQle	By 1	On	On	38	65	110	209	158	305
RGB Extended + SparQle	All	Off	Off	9	18	9	18	9	18
RGB Extended + Control + SparQle	All	Off	On	10	19	10	19	10	19
RGB Extended + Effect + SparQle	All	On	Off	19	28	19	28	19	28
RGB Extended + Effect + Control + SparQle	All	On	On	20	29	20	29	20	29
RGB Extended + SparQle	By 4	Off	Off	9	18	36	72	54	108
RGB Extended + Control + SparQle	By 4	Off	On	10	19	37	73	55	109
RGB Extended + Effect + SparQle	By 4	On	Off	19	28	46	82	64	118
RGB Extended + Effect + Control + SparQle	By 4	On	On	20	29	47	83	65	119
RGB Extended + SparQle	By 1	Off	Off	36	72	144	288	216	432
RGB Extended + Control + SparQle	By 1	Off	On	37	73	145	289	217	433
RGB Extended + Effect + SparQle	By 1	On	Off	46	82	154	298	226	442
RGB Extended + Effect + Control + SparQle	By 1	On	On	47	83	155	299	227	443
RGBA Extended + SparQle	All	Off	Off	10	20	10	20	10	20
RGBA Extended + Control + SparQle	All	Off	On	11	21	11	21	11	21
RGBA Extended + Effect + SparQle	All	On	Off	20	30	20	30	20	30
RGBA Extended + Effect + Control + SparQle	All	On	On	21	31	21	31	21	31
RGBA Extended + SparQle	By 4	Off	Off	10	20	40	80	60	120
RGBA Extended + Control + SparQle	By 4	Off	On	11	21	41	81	61	121
RGBA Extended + Effect + SparQle	By 4	On	Off	20	30	50	90	70	130
RGBA Extended + Effect + Control + SparQle	By 4	On	On	21	31	51	91	71	131

Color Force 3 – Total DMX Channel Count (Main + SparQle Auto-Follow)

Assumptions

SparQle is enabled in Auto-Follow and uses the same grouping mode as Main Cells.
8-bit columns assume SparQle 8-bit; 16-bit columns assume SparQle 16-bit.
Effects Control adds 10 channels when enabled.
Control Channel adds 1 channel when enabled.

Personality	Groupings	Effects	Control	CF3 12 8-bit	CF3 12 16-bit	CF3 48 8-bit	CF3 48 16-bit	CF3 72 8-bit	CF3 72 16-bit
RGBA Extended + SparQle	By 1	Off	Off	40	80	160	320	240	480
RGBA Extended + Control + SparQle	By 1	Off	On	41	81	161	321	241	481
RGBA Extended + Effect + SparQle	By 1	On	Off	50	90	170	330	250	490
RGBA Extended + Effect + Control + SparQle	By 1	On	On	51	91	171	331	251	491

Color Force 3 — SparQle Footprint Table

Assumptions

This table shows SparQle only, patched on its own separate address and/or universe.
Grouping here is applied to the SparQle channels themselves.
No Effects Control or Control Channel is included in this table.
For CF3 12, Group by All and Group By 4 is the same.

Personality	Grouping	CF3 12 8-bit	CF3 12 16-bit	CF3 48 8-bit	CF3 48 16-bit	CF3 72 8-bit	CF3 72 16-bit
SparQle 8-bit	All	2		2		2	
SparQle 8-bit	By 4	2		8		12	
SparQle 8-bit	By 1	8		32		48	
SparQle 16-bit	All		4		4		4
SparQle 16-bit	By 4		4		16		24
SparQle 16-bit	By 1		16		64		96

Chroma-Q Color Force 3 – RDM Settings

Supported RDM parameters:	Definitions
DEVICE_INFO	
IDENTIFY_DEVICE	When Enabled the fixture will blink
DMX_START_ADDRESS	Display the current DMX address
SOFTWARE_VERSION_LABEL	Display the current firmware version
DEVICE_LABEL	User definable label
SENSOR_DEFINITION	
PARAMETER_DESCRIPTION	
DMX_PERSONALITY	
DMX_PERSONALITY_DESCRIPTION	
DEVICE_MODEL_DESCRIPTION	Color Force 3 12, 48 or 72
MANUFACTURER_LABEL	Chroma-Q
DEVICE_LABEL	
SENSOR_DEFINITION	
SENSOR_VALUE	
RESET_DEVICE	
IP Address	Display current fixture IP address
MAC Address	Display current fixture MAC address
UID	Display ArtNet UID
Software version	Display the current firmware version
Start address	Display Current Start
Identify device: Off	
Footprint	Display the current footprint of the fixture
Personality: X of 17	
	RGB - 8 bit
	RGB - 16 bit
	RGBA - 8 bit
	RGBA - 16 bit
	RGB Compact - 8 bit
	RGB Compact - 16 bit
Default	RGBA Compact - 8 bit
	RGBA Compact - 16 bit
	RGB Extended - 8 bit
	RGB Extended - 16 bit
	RGBA Extended - 8 bit
	RGBA Extended - 16 bit
	SparQle 8 bit
	SparQle 16bit

Device model description:	Color Force 3 XXX
Manufacturer label:	Chroma-Q
Main Cells Grouping	0- All, 1=by 1, 2=By 4
Engine PWM Frequency	0=24000, 1=96000 Hz internal 20 bit dimming at 24,000 Hz, 14 bit at 96,000 Hz
Dimmer Curve	0=Linear, 1=Soft Rise ,2=Fast Rise, 3=S Curve (default=1) Select the desired dimmer curve
Fan Speed	0=Minimum, 1=Low, 2= Medium, 3= Full, 4=Low regulated, 5=Medium regulated, 6, full regulated
Reboot device	
Device hours	Display how many hours the fixture was powered up
Control Channel	0=Off, 1=Enabled When enabled, an extra DMX channel is added at the end. See DMX Extended Control

Chroma-Q Color Force 3 – RDM Settings

Supported RDM parameters:	Definitions
Effects controls* *To be implemented in future firmware	0=Off, 1=Enabled When enabled, When enabled, 10 Effect Control channels are added immediately after the Main Cells and before the Control Channel and SparQle channels when those are set to Auto-Follow. See DMX Effects Control
Fixed Point Tint	0-255 (default 127) Set the tint value for personalities that don't have a Tint control
SparQle Start Address	0 to 512 (When set to 0, the first SparQle will be placed according to the current DMX stack order
SparQle Footprint	Show how many channels the SparQle will occupy (read only)
SparQle Personality	0=8bit, 1 = 16 bit
SparQle Grouping	0- All, 1=by 1, 2=By 4
SparQle PWM Frequency	0=6000, 1=12000, 2= 24000Hz
Load Defaults settings	0 = factory, 1= User
Store User Default Settings	1= User 1
Sensors:	
Sensor 1: Engine Temp. = 28 Degrees Centigrade	
	Valid range: 0 to 100 Degrees Centigrade
	Normal operation range: 0 to 85 Degrees Centigrade
Sensor 2: Output De-Rating % = 100	
	Valid range: 0 to 100
	Normal operation range: 0 to 100
	Normal operation range: 0 to 600 milliAmps DC
Sensor 6: Processor Temp. = 36 Degrees Centigrade	
	Valid range: 0 to 100 Degrees Centigrade
	Normal operation range: 0 to 85 Degrees Centigrade
Sensor 7: Relative Humidity = 26	
	Valid range: 0 to 100
	Normal operation range: 0 to 100

Chroma-Q Color Force 3 CCT control
For Compact and Extended Modes

DMX 8bit	16 bit	Kelvin	DMX 8bit	16 bit	Kelvin	DMX 8bit	16 bit	Kelvin	DMX 8bit	16 bit	Kelvin
0	0	2000	64	16384	3280	128	32768	4560	192	49152	5840
1	256	2020	65	16640	3300	129	33024	4580	193	49408	5860
2	512	2040	66	16896	3320	130	33280	4600	194	49664	5880
3	768	2060	67	17152	3340	131	33536	4620	195	49920	5900
4	1024	2080	68	17408	3360	132	33792	4640	196	50176	5920
5	1280	2100	69	17664	3380	133	34048	4660	197	50432	5940
6	1536	2120	70	17920	3400	134	34304	4680	198	50688	5960
7	1792	2140	71	18176	3420	135	34560	4700	199	50944	5980
8	2048	2160	72	18432	3440	136	34816	4720	200	51200	6000
9	2304	2180	73	18688	3460	137	35072	4740	201	51456	6020
10	2560	2200	74	18944	3480	138	35328	4760	202	51712	6040
11	2816	2220	75	19200	3500	139	35584	4780	203	51968	6060
12	3072	2240	76	19456	3520	140	35840	4800	204	52224	6080
13	3328	2260	77	19712	3540	141	36096	4820	205	52480	6100
14	3584	2280	78	19968	3560	142	36352	4840	206	52736	6120
15	3840	2300	79	20224	3580	143	36608	4860	207	52992	6140
16	4096	2320	80	20480	3600	144	36864	4880	208	53248	6160
17	4352	2340	81	20736	3620	145	37120	4900	209	53504	6180
18	4608	2360	82	20992	3640	146	37376	4920	210	53760	6200
19	4864	2380	83	21248	3660	147	37632	4940	211	54016	6220
20	5120	2400	84	21504	3680	148	37888	4960	212	54272	6240
21	5376	2420	85	21760	3700	149	38144	4980	213	54528	6260
22	5632	2440	86	22016	3720	150	38400	5000	214	54784	6280
23	5888	2460	87	22272	3740	151	38656	5020	215	55040	6300
24	6144	2480	88	22528	3760	152	38912	5040	216	55296	6320
25	6400	2500	89	22784	3780	153	39168	5060	217	55552	6340
26	6656	2520	90	23040	3800	154	39424	5080	218	55808	6360
27	6912	2540	91	23296	3820	155	39680	5100	219	56064	6380
28	7168	2560	92	23552	3840	156	39936	5120	220	56320	6400
29	7424	2580	93	23808	3860	157	40192	5140	221	56576	6420
30	7680	2600	94	24064	3880	158	40448	5160	222	56832	6440
31	7936	2620	95	24320	3900	159	40704	5180	223	57088	6460
32	8192	2640	96	24576	3920	160	40960	5200	224	57344	6480
33	8448	2660	97	24832	3940	161	41216	5220	225	57600	6500
34	8704	2680	98	25088	3960	162	41472	5240	226	57856	6520
35	8960	2700	99	25344	3980	163	41728	5260	227	58112	6540
36	9216	2720	100	25600	4000	164	41984	5280	228	58368	6560
37	9472	2740	101	25856	4020	165	42240	5300	229	58624	6580
38	9728	2760	102	26112	4040	166	42496	5320	230	58880	6600
39	9984	2780	103	26368	4060	167	42752	5340	231	59136	6620
40	10240	2800	104	26624	4080	168	43008	5360	232	59392	6640
41	10496	2820	105	26880	4100	169	43264	5380	233	59648	6660
42	10752	2840	106	27136	4120	170	43520	5400	234	59904	6680
43	11008	2860	107	27392	4140	171	43776	5420	235	60160	6700
44	11264	2880	108	27648	4160	172	44032	5440	236	60416	6720
45	11520	2900	109	27904	4180	173	44288	5460	237	60672	6740
46	11776	2920	110	28160	4200	174	44544	5480	238	60928	6760
47	12032	2940	111	28416	4220	175	44800	5500	239	61184	6780
48	12288	2960	112	28672	4240	176	45056	5520	240	61440	6800
49	12544	2980	113	28928	4260	177	45312	5540	241	61696	6820
50	12800	3000	114	29184	4280	178	45568	5560	242	61952	6840
51	13056	3020	115	29440	4300	179	45824	5580	243	62208	6860
52	13312	3040	116	29696	4320	180	46080	5600	244	62464	6880
53	13568	3060	117	29952	4340	181	46336	5620	245	62720	6900
54	13824	3080	118	30208	4360	182	46592	5640	246	62976	6920
55	14080	3100	119	30464	4380	183	46848	5660	247	63232	6940
56	14336	3120	120	30720	4400	184	47104	5680	248	63488	6960
57	14592	3140	121	30976	4420	185	47360	5700	249	63744	6980
58	14848	3160	122	31232	4440	186	47616	5720	250	64000	7000
59	15104	3180	123	31488	4460	187	47872	5740	251	64256	7020
60	15360	3200	124	31744	4480	188	48128	5760	252	64512	7040
61	15616	3220	125	32000	4500	189	48384	5780	253	64768	7060
62	15872	3240	126	32256	4520	190	48640	5800	254	65024	7080
63	16128	3260	127	32512	4540	191	48896	5820	255	65280	7100