

# Chroma-Q Studio Force II DMX Layouts

## DMX Parameter Definitions

### Fixture Name

### Studio Force II

*Matches firmware Addr 2.0 and Engine 3.0*

DMX Mode	Description	Number of DMX channels
RGBW	Red,Green,Blue,White	4 to 96
RGBW Extended	Red,Green,Blue,White with Extended control	5 to 97
RGB	Red,Green,Blue and White is automatically added	3 to 72
RGB Extended	Red,Green,Blue and White is automatically added with Extended control	4 to 73
HSi	Hue, Saturation, Intensity	3 to 72
HSi Extended	Hue, Saturation, Intensity with Extended control	4 to 73
KHi	Kelvin,Hue,Intensity	3 to 72
KHi Extended	Kelvin,Hue,Intensity with Extended control	4 to 73
Cine-Q i-KH-RGBW 8bit	Kelvin,Hue,Intensity + Red,Green,Blue,White /Q-fade 8 bit	8 to 192
Cine-Q i-KH-RGBW 8bit Extended	Kelvin,Hue,Intensity + Red,Green,Blue,White /Q-fade 8 bit with Extended control	9 to 193
Cine-Q i-KH-RGBW 16bit	Kelvin,Hue,Intensity + Red,Green,Blue,White /Q-fade 16 bit	9 to 216
Cine-Q i-KH-RGBW 16bit Extended	Kelvin,Hue,Intensity + Red,Green,Blue,White /Q-fade 16 bit with Extended control	10 to 217

Default mode is KHi

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Revision	Date	Notes
a	15-03-2018	First draft
b	16-03-2018	Control channel limited to feature implemented on initial release
c	10/5/2018	First Public Review
d	24/01/2021	For firmware Addr 2.0 and Engine 3.0, control channel modified

# Chroma-Q Studio Force II - RGBW Mode

RGBW	Value	Function	Fade Status	Default Value
1		<b>Red</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		<b>Green</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
3		<b>Blue</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
4		<b>White</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
5**		<b>Extended Controls</b>		
	0 - 255	See Control channel table for details	Snap	0

Note: Channel 1 through 4 will repeat for each cell control according to the selected grouping mode  
 \*\* Control parameter is only present when Extended mode is enabled  
 Control parameter is always last, its position will change according the grouping mode.  
 For example, in odd/even grouping mode, the control parameter would be on 9

# Chroma-Q Studio Force II - RGB Mode

RGB	Value	Function	Fade Status	Default Value
1		<b>Red</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		<b>Green</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
3		<b>Blue</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
4**		<b>Extended Controls</b>		
	0 - 255	See Control channel table for details	Snap	0

Note: Channel 1 through 3 will repeat for each cell control according to the selected grouping mode

\*\* Control parameter is only present when Extended mode is enabled

Control parameter is always last, its position will change according the grouping mode.

For example, in odd/even grouping mode, the control parameter would be on 7

# Chroma-Q Studio Force II - HSI Mode

HSi	Value	Function	Fade Status	Default Value
1		<b>Hue*</b>		
	0 - 255	Color Spectrum 0 → 360, Red → Red	Fade	0
2		<b>Saturation</b>		
	0 - 255	Desaturated → Saturated	Fade	0
3		<b>Intensity</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
4**		<b>Extended Controls</b>		
	0 - 255	See Control channel table for details	Snap	0

Note: Channel 1 through 3 will repeat for each cell control according to the selected grouping mode

\* With Legacy hue mode enabled, the Hue channel is from Blue to Blue

\*\* Control parameter is only present when Extended mode is enabled

Control parameter is always last, its position will change according the grouping mode.

For example, in odd/even grouping mode, the control parameter would be on 7

# Chroma-Q Studio Force II - KHI Mode

KHi	Value	Function	Fade Status	Default Value
1		<b>Kelvin</b>		
	0 - 255	Warm → Cold	Fade	128
	0	2800K		
	64	3200K		
	128	4400K		
	192	5600K		
255	6500K			
2		<b>Hue</b>		
	0 - 255	Minus Green → Plus Green	Fade	128
3		<b>Intensity</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
4**		<b>Extended Controls</b>		
	0 - 255	* See Control channel table for details	Snap	0

Note: Channel 1 through 3 will repeat for each cell control according to the selected grouping mode

\*\* Control parameter is only present when Extended mode is enabled

Control parameter is always last, its position will change according the grouping mode.

For example, in odd/even grouping mode, the control parameter would be on 7

# Chroma-Q Studio Force II - CineQ 8 bit

Cine-Q i- KH-RGBW	Value	Function	Fade Status	Default Value
1		<b>Intensity</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		<b>Kelvin</b>		
	0 - 255	Warm → Cold	Fade	128
	0	2800K		
	64	3200K		
	128	4400K		
	192	5600K		
255	6500K			
3		<b>Hue (Tint)</b>		
	0 - 255	Minus Green → Plus Green	Fade	128
4		<b>Red</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
5		<b>Green</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
6		<b>Blue</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
7***		<b>White</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
8		<b>Q-Fade</b>		
	0 - 255	KH → RGBW	Fade	0
9**		<b>Extended Controls</b>		
	0 - 255	* See Control channel table for details	Snap	0

Note: Channel 1 through 8 will repeat for each cell control according to the selected grouping mode  
 \*\* Control parameter is only present when Extended mode is enabled  
 Control parameter is always last, its position will change according the grouping mode.  
 For example, in odd/even grouping mode, the control parameter would be on 17

# Chroma-Q Studio Force II - CineQ 16 bit

Cine-Q i-KH-RGBW 16bit mode	Value	Function	Fade Status	Default Value
1		<b>Intensity</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
2		<b>Kelvin</b>		
	0 - 255	Warm → Cold	Fade	128
	0	2800K		
	64	3200K		
	128	4400K		
	192	5600K		
255	6500K			
3		<b>Hue (Tint)</b>		
	0 - 255	Minus Green → Plus Green	Fade	128
4		<b>Red</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
5		<b>Green</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
6		<b>Blue</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
7***		<b>White</b>		
	0 - 255	Minimum → Maximum Intensity	Fade	0
8	0 - 65535	<b>Q-Fade (msb)</b>	Fade	0
		KH → RGBW		
9		<b>Q-Fade (lsb)</b>		
		KH → RGBW		
10**		<b>Extended Controls</b>		
	0 - 255	* See Control channel table for details	Snap	0

Note: Channel 1 through 9 will repeat for each cell control according to the selected grouping mode

\*\* Control parameter is only present when Extended mode is enabled

Control parameter is always last, its position will change according the grouping mode.

For example, in odd/even grouping mode, the control parameter would be on 19

# Chroma-Q Studio Force II - Grouping

Grouping mode	Description	Number of individual cells control		
		Studio Force II 12	Studio Force II 48	Studio Force II 72
<b>All</b>	Entire fixture as one	1	1	1
<b>X4</b>	Group by 4 cells	1	4	6
<b>Odd/Even</b>	Fixture is alternating cells	2	2	2
<b>Single</b>	Individual cell control	4	16	24



# Chroma-Q Studio Force II - Control Channel

Chroma-Q Studio Force II, Addr 2.0 and Engine 3.0				Control channel is enabled using the Extended option in the fixture Mode menu, it will be added at the end of all
Function name	Default	From	To	Description
				<i>All settings are toggle, values must be held for 2 sec before its function is activated</i>
<b>Control channel</b>				
No Function		0	2	
Reserved for future use		3	10	
DMX Smoothing Off		11	12	No DMX interpolations perform, very dynamic reaction for pixel mapping
DMX Smoothing Normal	X	13	14	Insure that fade are nice and even
Reserved for future use		15	40	
Fan Speed Off (if possible)		41	42	Fan will never start, fixture output can be reduced or limited
Fan Speed Low		43	44	Slow fan speed (fixture output can be reduced or limited)
Fixed fan speed = full		45	46	Maximum speed on fan
Fixed fan speed = full, regulated light output intensity	X	47	48	Maximum speed on fan but only when needed
No Function		49	54	
RGBW White control works as normal	X	55	56	This is the normal operation where white channel control the white LED's
RGBW Autowhite White control act as inhibitives		57	58	When active, RGB uses magic White and the White channel act as an inhibitive of the white LED in the mix.
No Function		59	70	
PWM 750		71	72	Set PMW rate
PWM 1500		73	74	Set PMW rate
PWM 3000	X	75	76	Set PMW rate
PWM 6000		77	78	Set PMW rate
PWM 12000		79	80	Set PMW rate
PWM 24000		81	82	Set PMW rate
No Function		83	150	
DMX Lost default Fixture stay to the last state	X	151	152	When the fixture loses DMX it will stay in its last state
DMX Lost default Fixture goes black		153	154	When the fixture loses DMX it will blackout a few seconds after
Reserved for future use		155	156	
DMX Lost default fixture to save look		157	158	When the fixture loses DMX it will enable the select look a few seconds after
Reserved for future use		159	248	
No Function		249	255	

# Chroma-Q Studio Force II - DMX to CCT mapping

for KHI and CineQ modes

DMX	Kelvin
0	2800
16	2900
32	3000
48	3100
64	3200
69	3300
75	3400
80	3500
85	3600
91	3700
96	3800
101	3900
107	4000
112	4100
117	4200
123	4300
128	4400
133	4500
139	4600
144	4700
150	4800
155	4900
160	5000
165	5100
171	5200
176	5300
181	5400
187	5500
192	5600
199	5700
206	5800
213	5900
220	6000
227	6100
234	6200
241	6300
248	6400
255	6500

## Chroma-Q Studio Force II - RGBW to CCT Equivalent

		R	G	B	W
<b>2800K</b>	<b>Neutral</b>	255	190	0	185
	<b>+G</b>	255	80	80	237
	<b>-G</b>	255	200	0	160
<b>3200K</b>	<b>Neutral</b>	212	165	0	255
	<b>+G</b>	180	0	100	255
	<b>-G</b>	255	225	0	210
<b>4400K</b>	<b>Neutral</b>	180	207	160	255
	<b>+G</b>	30	0	135	255
	<b>-G</b>	107	209	107	255
<b>5600K</b>	<b>Neutral</b>	0	205	162	255
	<b>+G</b>	0	120	172	255
	<b>-G</b>	0	255	150	255
<b>6500K</b>	<b>Neutral</b>	0	225	190	255
	<b>+G</b>	0	120	198	255
	<b>-G</b>	0	255	155	210