

# Color Pro<sup>®</sup> DMX Protocol

Table 2-1. DMX Construct Parameters in Standard Protocol

Channel	Construct	Description	Value (dec.)	Value (%)	Value (hex)
1	Dim	Continuous dimming (closed to open)	0-127	0-49	00-7F
		Open	128-143	50-56	80-8F
		Periodic Strobe	144-187	57-73	90-BB
		Open	188-195	74-77	BC-C3
		Random Strobe	196-239	77-94	C4-EF
		Open	240-255	94-100	F0-FF
2	Red (-Cyan)	Continuous Mode			
		Red 0%	0	0	00
		Red Full	244-255	96-100	F4-FF
3	Green (-Magenta)	Continuous Mode			
		Green 0%	0	0	00
		Green Full	244-255	96-100	F4-FF
4	Blue (-Yellow)	Continuous Mode			
		Blue 0%	0	0	00
		Blue Full	244	96	F4
		UV (Note: The Red and Green channels must be set to "0" to access UV.)	255	100	FF
5	Effects (Color Pro HX only)	Continuous Positioning (open at 0)	0-127	0-50	00-7F
		Spin Reverse (fast to slow)	128-187	50-73	80-BB
		Spin Stop	188-195	74-77	BC-C3
		Spin Forward (slow to fast)	196-255	77-100	C4-FF
	Effects (Color Pro FX only)	Continuous Positioning (open at 64)	0-127	0-50	00-7F
		Twinkle Scan (fast to slow)	128-187	50-73	80-BB
		Scan Stop	188-195	74-77	BC-C3
		Color Scan (slow to fast)	196-255	77-100	C4-FF
	Iris (Color Pro HX-i only)	Continuous Positioning (closed to open)	0-255	0-100	00-FF
6	Control (Note: The Dim channel must be set to "0" to access Control channel settings.)	Safe	0-9	0-4	00-09
		Display Off	20-28	8-11	14-1C
		Display Dim	30-38	12-15	1E-26
		Display Bright	40-48	16-19	28-30
		Home	60-68	24-27	3C-44
		Lamp On	80-88	31-35	50-58
		Lamp Off	90-98	35-38	5A-62
		Shutdown* (send this value for 2 seconds)	120-130	47-51	78-82

\*Note: Fixture shutdown allows you to remotely deactivate the fixture. When a fixture is shut down, the lamp is extinguished, power to the motors is disabled, and the LED display shows "SHUT OFF." If a fixture is in shutdown mode, you must home the fixture to bring it back into operation.

Table 2-2. DMX Construct Parameters in Enhanced Protocol

Channel	Construct	Description	Value (dec.)	Value (%)	Value (hex)
1	Dim	Continuous Positioning (closed to open)	0-255	0-100	00-FF
2	Shutter (Note: Snap instantly opens or closes at full speed. Ramp opens or closes at specified speeds.)	Close	0-31	0-12	00-1F
		Periodic Strobe (Variable)	32-63	13-25	20-3F
		Random/Rand Strobe (Variable)	64-95	25-37	40-5F
		Random/Sync (Variable)	96-127	38-50	60-7F
		Ramp Open/Ramp Shut (Variable)	128-159	50-62	80-9F
		Random Ramp/Ramp (Variable)	160-191	63-75	A0-BF
		TBD (Reserved for future use)	192-223	75-88	C0-DF
		Open	224-255	88-100	E0-FF
3	Color Function	Full Speeds			
		Continuous	0-15	0-6	00-0F
		Indexed (Divides the wheel into 8 equal sections)	16-31	6-12	10-1F
		Pure Mix (Only accesses the portion of the wheel used for color mixing)	32-47	13-18	20-2F
		Spin (Puts all the color wheels in spin mode. Wheel spin speed, direction, or fixed position can be set individually on Red, Green, and Blue channels)	48-63	19-25	30-3F
		Cycle (3 wheels use color mix portion to cycle colors. Rate set by Red channel)	64-79	25-31	40-4F
		Color Scan (Puts all the color wheels in scan mode. Scans only the continuous color portion of the wheel - not the open "white" portion. Fixed position or scanning speed can be set individually on Red, Green, and Blue channels)	80-95	31-37	50-5F
		Random (3 wheels perform pseudo-random color chase. Rate set by Red channel)	96-111	38-44	60-6F
		Blink-Indexed (Blink Mode is defined using Indexed wheel operation)	112-127	44-50	70-7F
		MSpeed Controlled (see above for function descriptions)			
		Continuous	128-143	50-56	80-8F
		Indexed	144-159	57-62	90-9F
		Pure Mix	160-175	63-69	A0-AF
		Spin	176-191	69-75	B0-BF
		Cycle	192-207	75-81	C0-CF
		Color Scan	208-223	82-88	D0-DF
		Random	224-239	88-94	E0-EF
		Blink-Indexed	240-255	94-100	F0-FF
		4	Red (-Cyan)	Continuous Mode	
Open	0			0	00
Color 1 (open "white" position)	42			17	2A
Color 2 (open "white" position)	85			33	55

Table 2-2. DMX Construct Parameters in Enhanced Protocol

Channel	Construct	Description	Value (dec.)	Value (%)	Value (hex)	
4 (cont.)	Red (-Cyan) (cont.)	Red 0%	127	50	7F	
		Red Full	255	100	FF	
		Indexed Mode				
		Open	0-15	0-6	00-0F	
		Color 1 (open "white" position)	16-47	6-18	10-2F	
		Color 2 (open "white" position)	48-79	19-31	30-4F	
		Red Low	80-111	31-44	50-5F	
		Red Med Low	112-143	44-56	70-8F	
		Red Medium	144-175	57-69	90-AF	
		Red Med High	176-207	69-81	B0-CF	
		Red Full	208-239	82-94	D0-EF	
		Open	240-255	94-100	F0-FF	
		Pure Mix Mode				
		Red 0%	0	0	00	
		Red Full	255	100	FF	
		Spin Mode				
		Continuous Positioning	0-127	0-50	00-7F	
		Spin Reverse (fast to slow)	128-187	50-73	80-BB	
		Spin Stop	188-195	74-77	BC-C3	
		Spin Forward (slow to fast)	196-255	77-100	C4-FF	
		Color Scan Mode				
		Continuous Positioning	0-127	0-50	00-7F	
		Scanning (slow to fast)	128-255	50-100	80-FF	
		Cycle & Random Modes				
		Slow Rate	0	0	00	
		Fast Rate	255	100	FF	
5	Green (-Magenta)	Continuous Mode				
		Open	0	0	00	
		Color 1 (open "white" position)	42	17	2A	
		Color 2 (open "white" position)	85	33	55	
		Green 0%	127	50	7F	
		Green Full	255	100	FF	
		Indexed Mode				
		Open	0-15	0-6	00-0F	
		Color 1 (open "white" position)	16-47	6-18	10-2F	
		Color 2 (open "white" position)	48-79	19-31	30-4F	
		Green Low	80-111	31-44	50-5F	
		Green Med Low	112-143	44-56	70-8F	
		Green Medium	144-175	57-69	90-AF	
		Green Med High	176-207	69-81	B0-CF	
		Green Full	208-239	82-94	D0-EF	
		Open	240-255	94-100	F0-FF	
		Pure Mix Mode				
		Green 0%	0	0	00	
		Green Full	255	100	FF	
		Spin Mode				
Continuous Positioning	0-127	0-50	00-7F			
Spin Reverse (fast to slow)	128-187	50-73	80-BB			

Table 2-2. DMX Construct Parameters in Enhanced Protocol

Channel	Construct	Description	Value (dec.)	Value (%)	Value (hex)
5 (cont.)	Green (-Magenta) (cont.)	Spin Stop	188-195	74-77	BC-C3
		Spin Forward (slow to fast)	196-255	77-100	C4-FF
		Color Scan Mode			
		Continuous Positioning	0-127	0-50	00-7F
		Scanning (slow to fast)	128-255	50-100	80-FF
6	Blue (-Yellow)	Continuous Mode			
		Open	0	0	00
		UV	42	17	2A
		Color 2 (open "white" position)	85	33	55
		Blue 0%	127	50	7F
		Blue Full	255	100	FF
		Indexed Mode			
		Open	0-15	0-6	00-0F
		UV	16-47	6-18	10-2F
		Color 2 (open "white" position)	48-79	19-31	30-4F
		Blue Low	80-111	31-44	50-5F
		Blue Med Low	112-143	44-56	70-8F
		Blue Medium	144-175	57-69	90-AF
		Blue Med High	176-207	69-81	B0-CF
		Blue Full	208-239	82-94	D0-EF
		Open	240-255	94-100	F0-FF
		Pure Mix Mode			
		Blue 0%	0	0	00
		Blue Full	255	100	FF
		Spin Mode			
		Continuous Positioning	0-127	0-50	00-7F
		Spin Reverse (fast to slow)	128-187	50-73	80-BB
		Spin Stop	188-195	74-77	BC-C3
		Spin Forward (slow to fast)	196-255	77-100	C4-FF
		Color Scan Mode			
		Continuous Positioning	0-127	0-50	00-7F
		Scanning (slow to fast)	128-255	50-100	80-FF
7	Effects (HX Model)	Continuous Positioning	0-127	0-50	00-7F
		Spin Reverse (fast to slow)	128-187	50-73	80-BB
		Spin Stop	188-195	74-77	BC-C3
		Spin Forward (slow to fast)	196-255	77-100	C4-FF
	Effects (FX Model)	Continuous Positioning	0-127	0-50	00-7F
		Twinkle Scan (fast to slow)	128-187	50-73	80-BB
		Scan Stop	188-195	74-77	BC-C3
		Color Scan (slow to fast)	196-255	77-100	C4-FF

Table 2-2. DMX Construct Parameters in Enhanced Protocol

Channel	Construct	Description	Value (dec.)	Value (%)	Value (hex)
7 (cont.)	Iris (HX-i Model) (Note: Snap instantly opens or closes at full speed. Ramp opens or closes at specified speeds.)	Close	0	0	00
		Variable Iris	1-127	1-50	01-7F
		Open	128-135	50-53	80-87
		Periodic Strobe (Variable)	136-151	53-60	88-97
		Random Strobe (Variable)	152-167	60-66	98-A7
		Ramp Open/Snap Shut (Variable)	168-183	66-72	A8-B7
		Snap Open/Ramp Shut (Variable)	184-199	72-78	B8-C7
		Ramp Open/Ramp Shut (Variable)	200-215	78-84	C8-D7
		Random Ramp Open/Snap Shut (Variable)	216-231	85-91	D8-E7
		Random Snap Open/Ramp Shut (Variable)	232-247	91-97	E8-F7
8	MSpeed (see Table Table A-2 on page A-2)	Open	248-255	97-100	F8-FF
		Disable	0-3	0-1	00
		Longest (252.7 sec.)	4	2	04
		Shortest (0.15 sec.)	255	100	FF
9	Control (Note: The Shutter channel must be set to "0" to access Control channel settings.)	Safe (disables all Control settings)	0-9	0-4	00-09
		Display Off	20-28	8-11	14-1C
		Display Dim	30-38	12-15	1E-26
		Display Bright	40-48	16-19	28-30
		Home	60-68	24-27	3C-44
		Lamp On	80-88	31-35	50-58
		Lamp Off	90-98	35-38	5A-62
		Shutdown*	120-130	47-51	78-82

\*Note: Fixture shutdown allows you to remotely deactivate the fixture. When a fixture is shut down, the lamp is extinguished, power to the motors is disabled, and the LED display shows "SHUT OFF." If a fixture is in shutdown mode, you must home the fixture to bring it back into operation.

