

# DMX protocol

Applicable when running MAC Viper Wash firmware version: 1.1.0

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function	Fade type	Default value	
1	1	0 - 19	0 - 7	<b>Strobe/shutter</b> Shutter closed (Lamp switches to 800 watt mode after shutter is closed for 10 seconds)	Snap	30	
		20 - 49	8 - 19	Shutter open			
		50 - 200	20 - 78	Strobe, slow → fast			
		201 - 210	79 - 82	Shutter open			
		211 - 255	82 - 100	Random strobe, slow → fast			
2	2	0 - 65535	0 - 100	<b>Dimmer fade (MSB)</b> Closed → open	Fade	0	
	3			<b>Dimmer fade, fine (LSB)</b>	Fade	0	
3	4	0 - 255	0 - 100	<b>Cyan</b> White → full cyan	Fade	0	
4	5	0 - 255	0 - 100	<b>Magenta</b> White → full magenta	Fade	0	
5	6	0 - 255	0 - 100	<b>Yellow</b> White → full yellow	Fade	0	
6	7	0 - 255	0 - 100	<b>CTO</b> Open (6000 K) → warm (3200 K)	Fade	0	
7	8	<b>Color Wheel – MAC Viper Wash DX only</b>				Snap	0
		<i>Continuous Scroll</i>					
		0	0	Open			
		1 - 14	1 - 5	Open!→!Slot 1			
		15	6	Slot 1			
		16 - 29	6 - 11	Slot 1!→ Slot 2			
		30	12	Slot 2			
		31 - 44	12 - 17	Slot 2!→ Slot 3			
		45	18	Slot 3			
		46 - 59	18 - 23	Slot 3!→ Slot 4			
		60	23	Slot 4			
		61 - 74	24 - 29	Slot 4!→!Slot 5			
		75	29	Slot 5			
		76 - 89	30 - 35	Slot 5!→ Slot 6			
		90	35	Slot 6			
		91 - 104	36 - 41	Slot 6!→ Slot 7			
		105	41	Slot 7			
		106 - 119	41 - 46	Slot 7!→ Open			
		120	47	Open			
		<i>Stepped Scroll (snap to full color positions)</i>					
		121 - 125	47 - 49	Slot 1			
		126 - 130	49 - 51	Slot 2			
		131 - 135	51 - 53	Slot 3			
		136 - 140	53 - 55	Slot 4			
		141 - 145	55 - 57	Slot 5			
146 - 150	57 - 59	Slot 6					
151 - 155	59 - 61	Slot 7					
156 - 160	61 - 63	Open					
<i>Continuous Rotation</i>							
161 - 200	63 - 78	CW, Fast → Slow					
201 - 203	79	Stop, color wheel stops at current position					
204 - 243	80 - 95	CCW, Slow!→!Fast					
<i>Random color</i>							
244 - 247	95 - 96	Fast					
248 - 251	97 - 98	Medium					
252 - 255	98 - 100	Slow					

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8	9	0 - 255	0 - 100	<b>Iris – MAC Viper Wash DX only</b> Open → closed	Fade	0
9	10	0 - 255	0 - 100	<b>Internal barndoor 1 – MAC Viper Wash DX only</b> Out → in	Fade	0
10	11	0 - 255	0 - 100	<b>Internal barndoor 2 – MAC Viper Wash DX only</b> Out → in	Fade	0
11	12	0 - 9 10 11 - 99 100 101 - 189 190 191 - 200 201 - 255	0 - 4 4 4 - 39 99 39 - 74 74 75 - 78 79 - 100	<b>Internal barndoors rotation – MAC Viper Wash DX only</b> -10° → -1° 0° 1° → 89° 90° 91° → +179° 180° 181° → 190° No function	Fade	100
12	13	0 - 255	0 - 100	<b>Zoom</b> Flood → spot	Fade	32768
13	14	0 - 65535	0 - 100	<b>Focus</b> Infinity → near	Fade	32768
14	15	0 - 65535	0 - 100	<b>Pan, 16-bit (MSB and LSB)</b> Left → right (32768 = neutral)	Fade	32768
15	16					
16	17	0 - 65535	0 - 100	<b>Tilt, 16-bit (MSB and LSB)</b> Up → down (32768 = neutral)	Fade	32768
17	18					

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<b>18</b>	<b>19</b>			<b>Fixture control/settings</b> <i>(hold for number of seconds indicated to activate)</i>			
		0 - 9	0 - 4	No function (disables calibration) – 5 sec.			
		10 - 14	4 - 5	Reset entire fixture – 5 sec.			
		15 - 19	6 - 7	Reset dimmer and shutter only – 5 sec.			
		20 - 24	8 - 9	Reset color (CMY and CTO plus color wheel if fitted) only – 5 sec.			
		25 - 29	10 - 11	Reset beam (zoom, focus plus iris if fitted) only – 5 sec.			
		30 - 34	12 - 13	Reset pan and tilt only – 5 sec.			
		35 - 39	14 - 15	No function			
		40 - 44	16 - 17	Lamp on			
		45 - 49	18 - 19	Lamp off – 5 sec.			
		50 - 54	20 - 21	No function			
		55 - 59	21 - 23	Enable calibration – 5 sec.			
		60 - 64	23 - 25	Linear dimming curve – 1 sec. (menu override, setting unaffected by power off/on)			
		65 - 69	25 - 27	Square law dimming curve – 1 sec. (menu override, factory default setting, setting unaffected by power off/on)			
		70 - 74	28 - 29	Inverse square law dimming curve – 1 sec. (menu override, setting unaffected by power off/on)			
		75 - 79	29 - 31	S-curve dimming curve – 1 sec. (menu override, setting unaffected by power off/on)			
		80 - 84	32 - 33	Normal pan and tilt speed – 1 sec. (menu override - setting returns to MENU setting after power on/off)			
		85 - 89	34 - 35	Fast pan and tilt speed – 1 sec. (default setting, menu override - setting returns to MENU setting after power on/off)			
		90 - 94	35 - 37	Slow pan and tilt speed – 1 sec. (menu override - setting returns to MENU setting after power on/off)			
		95 - 99	37 - 39	Effect shortcuts = ON – 1 sec. (default setting, menu override, setting stays at factory default ON at power off/on)			
		100 - 104	39 - 41	Effect shortcuts = OFF – 1 sec. (menu override, setting returns to factory default ON at power off/on)		Snap	0
		105 - 109	41 - 43	Disable zoom/focus linking – 1 sec.			
		110 - 114	43 - 45	Enable zoom/focus linking, near distance – 1 sec.			
		115 - 119	45 - 46	Enable zoom/focus linking, medium distance (default setting) – 1 sec.			
		120 - 124	47 - 48	Enable zoom/focus linking, far distance – 1 sec.			
		125 - 126	49	Ballast output full, set to 100% (default setting)			
		127 - 128	50	Ballast output reduced to 90%			
		129 - 130	50 - 51	Ballast output reduced to 80%			
		131 - 132	51 - 52	Ballast output reduced to 70%			
		133 - 134	52	Ballast output reduced to 60%			
		135 - 139	53 - 54	Auto blackout = ON – 1 sec.			
		140 - 144	55 - 56	Auto blackout = OFF – 1 sec. (default setting)			
		145 - 149	57 - 58	No function			
		150 - 154	59 - 60	Turn on control panel display			
155 - 159	61 - 62	Turn off control panel display – 1 sec.					
160 - 164	62 - 63	No function					
165 - 169	64 - 66	Store pan and tilt calibration – 5 sec.					
170 - 174	66 - 68	Store dimmer calibration – 5 sec.					
175 - 179	68 - 70	Store cyan calibration – 5 sec.					
180 - 184	70 - 72	Store magenta calibration – 5 sec.					
185 - 189	72 - 74	Store yellow calibration – 5 sec.					
190 - 194	74 - 76	Store CTC calibration – 5 sec.					
195 - 199	76 - 78	Store all CMY and CTC calibration – 5 sec.					
200 - 214	78 - 84	No function					
215 - 219	84 - 86	Store internal barndoors calibration – 5 sec.					
220 - 224	86 - 88	Store iris calibration – 5 sec.					
225 - 229	88 - 89	Store focus calibration – 5 sec.					
230 - 234	90 - 91	Store zoom calibration – 5 sec.					
235 - 239	92 - 93	Store pan calibration – 5 sec.					
240 - 244	94 - 95	Store tilt calibration – 5 sec.					
245 - 249	96 - 97	Reset all calibration values to factory defaults – 5 sec.					
250 - 255	98 - 100	No function					
-	<b>20</b>			Reserved for future use			
-	<b>21</b>			Reserved for future use			
-	<b>22</b>			Reserved for future use			

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-	<b>23</b>			Reserved for future use		
-	<b>24</b>			Reserved for future use		

**Table 1: DMX Protocol**

*MSB = Most significant byte*

*LSB = Least significant byte*