

DMX protocol

Applicable when running MAC Viper AirFX firmware version: 1.4.0

Basic Mode	16-bit Extended Mode	DMX Value	Percent	Function	Fade type	Default value
1	1	0 - 19	0 - 7	Strobe/shutter 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	Dimmer fade (MSB) Closed → open	Fade	0
	3			Dimmer fade, fine (LSB)	Fade	0
3	4	0 - 255	0 - 100	Cyan White → full cyan	Fade	0
4	5	0 - 255	0 - 100	Magenta White → full magenta	Fade	0
5	6	0 - 255	0 - 100	Yellow White → full yellow	Fade	0
6	7	0 - 255	0 - 100	CTO Open (6000 K) → warm (3200 K)	Fade	0
7	8			Color Wheel	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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Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function	Fade type	Default value
8	9	0 - 9	0 - 4	Aerial effects wheel (wheel 1): gobo selection, indexing, shake, rotation <i>Indexed gobo: set indexed angle on channels 9/10 (16-bit) or 10/11 (16-bit ext.)</i> Open	Snap	0
		10 - 14	4 - 5	Gobo 1		
		15 - 19	5 - 8	Gobo 2		
		20 - 24	8 - 10	Gobo 3		
		25 - 29	10 - 12	Gobo 4		
		30 - 34	12 - 13	Gobo 5		
		35 - 39	14 - 16	<i>Continuous gobo rotation: set gobo rotation speed on channels 9/10 (16-bit) or 10/11 (16-bit ext.)</i> Gobo 1		
		40 - 44	16 - 17	Gobo 2		
		45 - 49	18 - 19	Gobo 3		
		50 - 54	20 - 21	Gobo 4		
55 - 59	21 - 23	Gobo 5				
60 - 89	23 - 35	<i>Gobo shake centered on indexed position: set indexed angle on channels 9/10 (16-bit) or 10/11 (16-bit ext.). Shake angle increments in following steps: 10°, 15°, 30°, 45°, 60°, 90°, 135°, 180°, 270° and 360°</i> Gobo 1, 360° slow → 10° fast				
90 - 119	35 - 46	Gobo 2, 360° slow → 10° fast				
120 - 149	47 - 58	Gobo 3, 360° slow → 10° fast				
150 - 179	59 - 70	Gobo 4, 360° slow → 10° fast				
180 - 209	70 - 82	Gobo 5, 360° slow → 10° fast				
210 - 232	82 - 91	<i>Continuous gobo wheel scroll with continuous gobo rotation: set gobo rotation speed on channels 9/10 (16-bit) or 10/11 (16-bit extended)</i> CW gobo wheel scroll, fast → slow				
233 - 255	91 - 100	CCW gobo wheel scroll, slow → fast				
9	10	0 - 65535	0 - 100	Aerial effects wheel (wheel 1): gobo indexing, rotation (16-bit fine, MSB and LSB) <i>If indexed gobo is selected on channel 8 (16-bit) or 9 (16-bit ext.)</i> Gobo indexing, -197.5° → +197.5° (default DMX value 32768 sets gobo to 0°)	Fade	32768
10	11	0 - 600	0	<i>If continuous gobo rotation is selected on channel 8 (16-bit) or 9 (16-bit ext.)</i> Stop, gobo indexed at 0°		
		601 - 32130	1 - 49	CW, fast → slow		
		32131 - 32895	49 - 50	Stop, gobo stops at current position		
		32896 - 64515	50 - 99	CCW, slow → fast		
		64516 - 65535	100	Stop, gobo indexed at 90°		

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11	12			Static gobo wheel (wheel 2): wheel scrolling and rotation, random gobo	Snap	0
		0	0	<i>Continuous gobo wheel scrolling</i> Open		
		1 - 14	0 - 5	Open → Gobo 1		
		15	6	Gobo 1		
		16 - 29	6 - 11	Gobo 1 → Gobo 2		
		30	12	Gobo 2		
		31 - 44	12 - 17	Gobo 2 → Gobo 3		
		45	18	Gobo 3		
		46 - 59	18 - 23	Gobo 3 → Gobo 4		
		60	23	Gobo 4		
		61 - 74	24 - 29	Gobo 4 → Gobo 5		
		75	29	Gobo 5		
		76 - 89	30 - 35	Gobo 5 → Gobo 6		
		90	35	Gobo 6		
		91 - 104	36 - 41	Gobo 6 → Gobo 7		
		105	41	Gobo 7		
		106 - 119	41 - 46	Gobo 7 → Open		
		120	47	Open		
				<i>Stepped gobo wheel scrolling</i>		
				121 - 125 47 - 49 Gobo 1		
				126 - 130 49 - 51 Gobo 2		
				131 - 135 51 - 53 Gobo 3		
				136 - 140 53 - 55 Gobo 4		
				141 - 145 55 - 57 Gobo 5		
				146 - 150 57 - 59 Gobo 6		
		151 - 155 59 - 61 Gobo 7				
		156 - 160 61 - 63 Open				
		<i>Continuous gobo wheel rotation</i>				
		161 - 200 63 - 78 CW gobo wheel rotation, fast → slow				
		201 - 203 79 Stop: gobo wheel stops at current position				
		204 - 243 80 - 95 CCW gobo wheel rotation, slow → fast				
		<i>Random gobo</i>				
		244 - 247 95 - 96 Fast				
		248 - 251 97 - 98 Medium				
		252 - 255 98 - 100 Slow				
12	13	0 - 255	0 - 100	Wash effect Open → full wash effect	Fade	0
13	14	0 - 255	0 - 100	Iris Open → closed	Fade	0
14	15	0 - 65535	0 - 100	Zoom, 16-bit (MSB and LSB)	Fade	32768
	16			Flood → spot		
15	17	0 - 65535	0 - 100	Focus, 16-bit (MSB and LSB)	Fade	32768
	18			Infinity → near		
16	19	0 - 65535	0 - 100	Pan, 16-bit (MSB and LSB)	Fade	32768
17	20			Left → right (32768 = neutral)		
18	21	0 - 65535	0 - 100	Tilt, 16-bit (MSB and LSB)	Fade	32768
19	22			Up → down (32768 = neutral)		

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Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function	Fade type	Default value
20	23			Fixture control/settings <i>(hold for number of seconds indicated to activate)</i>	Snap	0
		0 - 9	0 - 4	<i>No function (disables calibration) – 5 sec.</i>		
		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, CTO and color wheel) only – 5 sec.		
		25 - 29	10 - 11	Reset beam (aerial effect gobos, static gobos, iris, wash effect, zoom, focus) only – 5 sec.		
		30 - 34	12 - 13	Reset pan and tilt only – 5 sec.		
		35 - 39	14 - 15	<i>No function</i>		
		40 - 44	16 - 17	Lamp on		
		45 - 49	18 - 19	Lamp off – 5 sec.		
		50 - 54	20 - 21	<i>No function</i>		
		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)		
		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	<i>No function</i>		
		150 - 154	59 - 60	Turn on control panel display		
		155 - 159	61 - 62	Turn off control panel display – 1 sec.		
		160 - 164	62 - 63	<i>No function</i>		
		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 - 204	78 - 80	Store aerial effect gobo wheel (wheel 1) slot index calibration – 5 sec.		
		205 - 209	80 - 82	Store beamshaper accessory calibration (if fitted) – 5 sec.		
		210 - 219	82 - 86	<i>No function</i>		
		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	<i>No function</i>				
-	24 - 28			Reserved for future use.		

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