DMX Operation

VL4000 Spot Channel Mapping

These tables assume a DMX start address of 1. When a different starting address is used, this address becomes channel 1 function and other functions follow in sequence.This section contains the DMX channel maps for the VL4000 Spot Luminaire. Users can select one of two maps as detailed in these sections:

- "Enhanced 16-Bit Channel Mapping (Default)" *(starting below)*
- "16-Bit Channel Mapping" on page 40.

Enhanced 16-Bit Channel Mapping (Default)

Table 3 provides DMX channel mapping of the DMX512 control values when the VL4000 Spot Luminaire is in Enhanced 16-Bit DMX mode (as set by the luminaire's menu system).

Table 3: VL4000 Spot Enhanced 16-Bit DMX Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
1	Intensity	0 - 255	0 - 100%	0	8-bit control of Fixture Intensity from 0 - 100%
2	Pan High Byte	0 - 65535	0 - 100%	32767	16-bit linear control of pan from 0° to 520°.
3	Pan Low Byte				
4	Tilt High Byte	0 - 65535	0 - 100%	32767	16-bit linear control of tilt from 0° to 270°.
5	Tilt Low Byte				
6	Edge High Byte	0 - 65535	0 - 100%	0	16-bit linear control of edge functions.
7	Edge Low Byte				
8	Zoom High Byte	0 - 65535	0 - 100%	0	16-bit linear control of fixture zoom range between 0 (9 degrees) to 65535 (47 Degrees).
9	Zoom Low Byte				
10	Programming Control	0 - 255	0 - 100%	0	Used as a control channel for different programmable settings. Control Set discreet value of desired effect, wait >3 seconds, then set value to 0 (Idle). 0 - 2 = Idle *3 - 10 = Reserved Values* 11 - 15 = Dimmer Snap OFF 16 - 20 = Dimmer Snap ON (Fixture Default)
11	Cyan	0 - 255	0 - 100%	0	Controls Cyan color mechanism.
12	Yellow	0 - 255	0 - 100%	0	Controls Yellow color mechanism.
13	Magenta	0 - 255	0 - 100%	0	Controls Magenta color mechanism.
14	CTO	0 - 255	0 - 100%	0	Controls CTO mechanism.
15	Fixed Color Wheel 1	0 - 255	0 - 100%	0	8-bit control of Color Wheel 1. ***See Channel 16 for options.*** 0 - 23 = OPEN 24 - 69 = RED (Center at DMX 46) 70 - 116 = DARK FUCHSIA (Center at DMX 93) 117 - 162 = ORANGE (Center at DMX 139) 163 - 209 = KELLY GREEN (Center at DMX 186) 210 - 255 = CONGO BLUE (Center at DMX 232)

Table 3: VL4000 Spot Enhanced 16-Bit DMX Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
16	Fixed Color Wheel 1 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options of Color Wheel 1. 0 - 5 = Linear Movement using shortest (quickest) path. 6 - 10 = Linear Movement using normal (longest) path. 11 - 15 = Wheel Spin Forward (Fast to Slow) 16 - 20 = Wheel Spin STOP 21 - 25 = Wheel Spin Reverse (Slow to Fast) 26 - 56 = Color Shake Quickest Path (Slow to Fast) 57 - 87 = Color Shake Normal Path (Slow to Fast) *88 - 255 = Reserved Values*
17	Fixed Color Wheel 2	0 - 255	0 - 100%	0	8-bit control of Color Wheel 2. ***See Channel 18 for options.*** 0 - 23 = OPEN 24 - 69 = BLUE (Center at DMX 46) 70 - 116 = GREEN (Center at DMX 93) 117 - 162 = MINUS GREEN (Center at DMX 139) 163 - 209 = LAVENDER (Center at DMX 186) 210 - 255 = AMBER (Center at DMX 232)
18	Fixed Color Wheel 2 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options of Color Wheel 2. 0 - 5 = Linear Movement using shortest (quickest) path. 6 - 10 = Linear Movement using normal (longest) path. 11 - 15 = Wheel Spin Forward (Fast to Slow) 16 - 20 = Wheel Spin STOP 21 - 25 = Wheel Spin Reverse (Slow to Fast) 26 - 56 = Color Shake Quickest Path (Slow to Fast) 57 - 87 = Color Shake Normal Path (Slow to Fast) *88 - 255 = Reserved Values*
19	Rotating Gobo Wheel 1	0 - 255	0 - 100%	0	8-bit control of Rotating Gobo Wheel 1. ***See Channel 22 for control options.*** 0 - 5 = Open - No Gobo 6 - 10 = Gobo 1 (Alpha Waves) Index 11 - 15 = Gobo 2 (Leafy Breakup) Index 16 - 20 = Gobo 3 (Neurons V2) Index 21 - 25 = Gobo 4 (Night Sky) Index 26 - 30 = Gobo 5 (Bricked Out) Index 31 - 35 = Gobo 6 (On the Rocks) Index 36 - 40 = Gobo 7 (Droplets) Index 41 - 45 = Open - No Gobo 46 - 50 = Gobo 1 (Alpha Waves) Rotate 51 - 55 = Gobo 2 (Leafy Breakup) Rotate 56 - 60 = Gobo 3 (NeuronsV2) Rotate 61 - 65 = Gobo 4 (Night Sky) Rotate 66 - 70 = Gobo 5 (Bricked Out) Rotate 71 - 75 = Gobo 6 (On the Rocks) Rotate 76 - 80 = Gobo 7 (Droplets) Rotate 81 - 85 = Open - No Gobo 86 - 90 = Gobo 1 (Alpha Waves) Rotate with Mega Stepping 91 - 95 = Gobo 2 (Leafy Breakup) Rotate with Mega Stepping 96 - 100 = Gobo 3 (Neurons V2) Rotate with Mega Stepping 101 - 105 = Gobo 4 (Night Sky) Rotate with Mega Stepping 106 - 110 = Gobo 5 (Bricked Out) Rotate with Mega Stepping 111 - 115 = Gobo 6 (On the Rocks) Rotate with Mega Stepping 116 - 120 = Gobo 7 (Droplets) Rotate with Mega Stepping *121 - 255 = Reserved Values*
20	Rotating Gobo Wheel 1 Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Rotating Gobo Wheel 1 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
21	Rotating Gobo Wheel 1 Index / Rotate - Low Byte				

Table 3: VL4000 Spot Enhanced 16-Bit DMX Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
22	Rotating Gobo Wheel 1 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options for Rotating Gobo Wheel 1 (Channel 19). 0 - 5 = Gobo Selection using shortest (quickest) path. 6 - 10 = Gobo Selection using normal (longest) path. *11 - 20 = Reserved Values* 21 - 50 = Wheel Spin Forward (Fast to Slow) 51 - 60 = Wheel Spin STOP 61 - 90 = Wheel Spin Reverse (Slow to Fast) 91 - 120 = Gobo Shake Quickest Path (Slow to Fast) 121 - 150 = Gobo Shake Normal Path (Slow to Fast) 151 - 180 = Gobo Twist Quickest Path (Slow to Fast) 181 - 210 = Gobo Twist Normal Path (Slow to Fast) *211 - 255 = Reserved Values*
23	Rotating Gobo Wheel 2	0 - 255	0 - 100%	0	8-bit control of Rotating Gobo Wheel 2. ***See Channel 26 for control options.*** 0 - 5 = Open - No Gobo 6 - 10 = Gobo 1 (Circle of Eights) Index 11 - 15 = Gobo 2 (Punch Card) Index 16 - 20 = Gobo 3 (Vertical Bars) Index 21 - 25 = Gobo 4 (Lattice) Index 26 - 30 = Gobo 5 (Wavy Triangle) Index 31 - 35 = Gobo 6 (Dot Buffet) Index 36 - 40 = Gobo 7 (Quadcone Red) Index 41 - 45 = Open - No Gobo 46 - 50 = Gobo 1 (Circle of Eights) Rotate 51 - 55 = Gobo 2 (Punch Card) Rotate 56 - 60 = Gobo 3 (Vertical Bars) Rotate 61 - 65 = Gobo 4 (Lattice) Rotate 66 - 70 = Gobo 5 (Wavy Triangle) Rotate 71 - 75 = Gobo 6 (Dot Buffet) Rotate 76 - 80 = Gobo 7 (Quadcone Red) Rotate 81 - 85 = Open - No Gobo 86 - 90 = Gobo 1 (Circle of Eights) Rotate with Mega Stepping 91 - 95 = Gobo 2 (Punch Card) Rotate with Mega Stepping 96 - 10 = Gobo 3 (Vertical Bars) Rotate with Mega Stepping 101 - 105 = Gobo 4 (Lattice) Rotate with Mega Stepping 106 - 110 = Gobo 5 (Wavy Triangle) Rotate with Mega Stepping 111 - 115 = Gobo 6 (Dot Buffet) Rotate with Mega Stepping 116 - 120 = Gobo 7 (Quadcone Red) Rotate with Mega Stepping *121 - 255 = Reserved Values*
24	Rotating Gobo Wheel 2 Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Rotating Gobo Wheel 2 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
25	Rotating Gobo Wheel 2 Index / Rotate - Low Byte				
26	Rotating Gobo Wheel 2 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options for Gobo Wheel 1 (Channel 23). 0 - 5 = Gobo Selection using shortest (quickest) path. 6 - 10 = Gobo Selection using normal (longest) path. *11 - 20 = Reserved Values* 21 - 50 = Wheel Spin Forward (Fast to Slow) 51 - 60 = Wheel Spin STOP 61 - 90 = Wheel Spin Reverse (Slow to Fast) 91 - 120 = Gobo Shake Quickest Path (Slow to Fast) 121 - 150 = Gobo Shake Normal Path (Slow to Fast) 151 - 180 = Gobo Twist Quickest Path (Slow to Fast) 181 - 210 = Gobo Twist Normal Path (Slow to Fast) *211 - 255 = Reserved Values*
27	Animation Wheel 1 *(Dichro*Fusion)*	0 - 255	0 - 100%	0	Controls Animation Wheel 1 linearly within the beam.

Table 3: VL4000 Spot Enhanced 16-Bit DMX Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
28	Animation Wheel 1 *(Dichro*Fusion)* Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Animation Wheel 1 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
29	Animation Wheel 1 *(Dichro*Fusion)* Index / Rotate - Low Byte				
30	Animation Wheel 1 *(Dichro*Fusion)* Control	0 - 255	0 - 100%	0	Used as a control channel for Animation Wheel 1. 0 - 5 = Index using shortest (quickest) path. 6 - 10 = Index using normal (longest) path. 11 - 15 = Rotate Normal 16 - 20 = Rotate with Mega Stepping *21 - 25 = Reserved Values* 26 - 56 = Image Shake using shortest (quickest) path slow to fast. 57 - 87 = Image Shake using normal (longest) path slow to fast. *88 - 255 = Reserved Values*
31	Animation Wheel 2 *(Wicked Waves)*	0 - 255	0 - 100%	0	Controls Animation Wheel 2 linearly within the beam.
32	Animation Wheel 2 *(Wicked Waves)* Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Animation Wheel 2 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
33	Animation Wheel 2 *(Wicked Waves)* Index / Rotate - Low Byte				
34	Animation Wheel 2 *(Wicked Waves)* Control	0 - 255	0 - 100%	0	Used as a control channel for Animation Wheel 2. 0 - 5 = Index using shortest (quickest) path. 6 - 10 = Index using normal (longest) path. 11 - 15 = Rotate Normal 16 - 20 = Rotate with Mega Stepping *21 - 25 = Reserved Values* 26 - 56 = Image Shake using shortest (quickest) path slow to fast. 57 - 87 = Image Shake using normal (longest) path slow to fast. *88 - 255 = Reserved Values*
35	Beam Iris	0 - 255	0 - 100%	0	Controls beam size iris from 0 (open) to 255 (full).
36	Shutter Frame 1A	0 - 255	0 - 100%	0	Controls Framing Shutter 1A from 0 (open) to 255 (full).
37	Shutter Frame 1B	0 - 255	0 - 100%	0	Controls Framing Shutter 1B from 0 (open) to 255 (full).
38	Shutter Frame 2A	0 - 255	0 - 100%	0	Controls Framing Shutter 2A from 0 (open) to 255 (full).
39	Shutter Frame 2B	0 - 255	0 - 100%	0	Controls Framing Shutter 2B from 0 (open) to 255 (full).
40	Shutter Frame 3A	0 - 255	0 - 100%	0	Controls Framing Shutter 3A from 0 (open) to 255 (full).
41	Shutter Frame 3B	0 - 255	0 - 100%	0	Controls Framing Shutter 3B from 0 (open) to 255 (full).
42	Shutter Frame 4A	0 - 255	0 - 100%	0	Controls Framing Shutter 4A from 0 (open) to 255 (full).
43	Shutter Frame 4B	0 - 255	0 - 100%	0	Controls Framing Shutter 4B from 0 (open) to 255 (full).
44	Shutter Frame Rotate	0 - 255	0 - 100%	128	Controls Framing Shutter mechanism from +/- 50°
45	Prism	0 - 255	0 - 100%	0	Controls prism mechanism. 0- 5 = Open 6 - 10 = Index 11 - 15 = Rotate Normal 16 - 20 = Rotate with Mega Stepping *21 - 255 = Reserved Values*
46	Prism Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of prism index or rotation and index. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
47	Prism Index / Rotate - Low Byte				

Table 3: VL4000 Spot Enhanced 16-Bit DMX Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
48	Prism Diverge	0 - 255	0 - 100%	0	Controls spread of prism image from small (DMX 0) to wide (DMX 255). Note : there are some diverge positions that will not be available due to various lensing positions.
49	Frost	0 - 255	0 - 100%	0	Controls frost mechanism. Linear control from No Frost (DMX 0) to Full Frost (DMX 255).
50	Strobe Speed	0 - 255	0 - 100%	0	Controls strobe rate from slowest (DMX 0) to fastest (DMX 255)
51	Strobe Control	0 - 255	0 - 100%	0	Control Channel for strobing functions. 0 - 5 = Open 6 - 10 = Closed 11 - 15 = Normal Strobe 16 - 20 = Random Strobe 21 - 25 = Random Sync *26 - 255 = Reserved Values*
52	Focus Timing	0 - 255	0 - 100%	255	Allows for luminaire timing of pan and tilt mechanisms. Profile should default to DMX 255 for smoothest console timing.
53	Optics Timing	0 - 255	0 - 100%	255	Adjustment of fixture timing to control lensing mechanisms. Profile should default to DMX 255 for smoothest console timing.
54	Color Timing	0 - 255	0 - 100%	255	Allows for luminaire timing to control color mechanisms. Profile should default to DMX 255 for smoothest console timing.
55	Beam Timing	0 - 255	0 - 100%	255	Allows for luminaire timing to control beam shaping mechanisms. Profile should default to DMX 255 for smoothest console timing.
56	Gobo Timing	0 - 255	0 - 100%	255	Allows for luminaire timing to control gobo mechanisms. Profile should default to DMX 255 for smoothest console timing.
57	Control	0 - 255	0 - 100%	0	To execute a command, the control channel must be set to idle (DMX 0) then changed to a particular value and held for 3 seconds then restored to DMX 0. Upon completion of this routine, the desired command will be executed by the luminaire. Used to strike/douse the lamp, set lamp levels, and other various functions, as well as resetting the luminaire via the console. DMX values are: 0 - 5 = Idle (Default) 6 - 10 = Full Luminaire ReCal *(1)* *(1) This command is also used to Wake fixture up from shutdown* 11 - 15 = Lamp ON 16 - 20 = Lamp OFF 21 - 25 = Fixture Shutdown 26 - 30 = Display - Menu ON 31 - 35 = Display - Menu OFF 36 - 40 = ReCal Position 41 - 45 = ReCal Color 46 - 50 = ReCal Gobo 51 - 55 = ReCal Beam 56 - 60 = ReCal Optics 61 - 65 = ReCal Dimmer/Strobe 66 - 70 = Reset Fixture to Defaults 71 - 75 = Full Luminaire Reboot *(2)* *(2) This command will douse lamp and reset all processors in fixture, then ReCal all parameters.* 76 - 80 = Fixture Status On/Off *(3)* *(3) This command will enable the display to show fixture status for 5 min. After this time, displays will return to default configuration. Repeating this command in less than 5 minutes will behave as a toggle.* 81 - 85 = Standard Mode - Fixture operates at maximum output (Default) 86 - 90 = Studio Mode - Reduced output with lower fan settings *91 - 255 = Reserved Values*

Notes:

Default Values: *Denotes recommended console default settings.

16-Bit Channel Mapping

Table 4 provides DMX channel mapping of the DMX512 control values when the VL4000 Spot Luminaire is in 16-Bit DMX mode (as set by the luminaire's menu system).

Table 4: VL4000 Spot 16-Bit Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
1	Intensity	0 (closed) - 255 (open)	0 - 100%	0	Linear Intensity control from 0 (closed) to 255 (open).
2	Pan High Byte	0 - 65535	0 - 100%	32767	16-bit linear control of pan from 0° to 520°.
3	Pan Low Byte				
4	Tilt High Byte	0 - 65535	0 - 100%	32767	16-bit linear control of tilt from 0° to 270°.
5	Tilt Low Byte				
6	Edge High Byte	0 - 65535	0 - 100%	0	16-bit linear control of edge functions.
7	Edge Low Byte				
8	Zoom High Byte	0 - 65535	0 - 100%	0	16-bit linear control of fixture zoom range between 0 (9 degrees) to 65535 (47 Degrees).
9	Zoom Low Byte				
10	Programming Control	0 - 255	0 - 100%	0	Used as a control channel for different programmable settings. Control Set discreet value of desired effect, wait >3 seconds, then set value to 0 (Idle). 0 - 2 = Idle *3 - 10 = Reserved Values* 11 - 15 = Dimmer Snap OFF 16 - 20 = Dimmer Snap ON (Fixture Default)
11	Cyan	0 - 255	0 - 100%	0	Controls Cyan color mechanism.
12	Yellow	0 - 255	0 - 100%	0	Controls Yellow color mechanism.
13	Magenta	0 - 255	0 - 100%	0	Controls Magenta color mechanism.
14	CTO	0 - 255	0 - 100%	0	Controls CTO mechanism.
15	Fixed Color Wheel 1	0 - 255	0 - 100%	0	8-bit control of Color Wheel 1. ***See Channel 16 for options.*** 0 - 23 = OPEN 24 - 69 = RED (Center at DMX 46) 70 - 116 = DARK FUCHSIA (Center at DMX 93) 117 - 162 = ORANGE (Center at DMX 139) 163 - 209 = KELLY GREEN (Center at DMX 186) 210 - 255 = CONGO BLUE (Center at DMX 232)
16	Fixed Color Wheel 1 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options of Color Wheel 1. 0 - 5 = Linear Movement using shortest (quickest) path. 6 - 10 = Linear Movement using normal (longest) path. 11 - 15 = Wheel Spin Forward (Fast to Slow) 16 - 20 = Wheel Spin STOP 21 - 25 = Wheel Spin Reverse (Slow to Fast) 26 - 56 = Color Shake Quickest Path (Slow to Fast) 57 - 87 = Color Shake Normal Path (Slow to Fast) *88 - 255 = Reserved Values*
17	Fixed Color Wheel 2	0 - 255	0 - 100%	0	8-bit control of Color Wheel 2. ***See Channel 18 for options.*** 0 - 23 = OPEN 24 - 69 = BLUE (Center at DMX 46) 70 - 116 = GREEN (Center at DMX 93) 117 - 162 = MINUS GREEN (Center at DMX 139) 163 - 209 = LAVENDER (Center at DMX 186) 210 - 255 = AMBER (Center at DMX 232)

Table 4: VL4000 Spot 16-Bit Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
18	Fixed Color Wheel 2 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options of Color Wheel 2. 0 - 5 = Linear Movement using shortest (quickest) path. 6 - 10 = Linear Movement using normal (longest) path. 11 - 15 = Wheel Spin Forward (Fast to Slow) 16 - 20 = Wheel Spin STOP 21 - 25 = Wheel Spin Reverse (Slow to Fast) 26 - 56 = Color Shake Quickest Path (Slow to Fast) 57 - 87 = Color Shake Normal Path (Slow to Fast) *88 - 255 = Reserved Values*
19	Rotating Gobo Wheel 1	0 - 255	0 - 100%	0	8-bit control of Rotating Gobo Wheel 1. ***See Channel 22 for control options.*** 0 - 5 = Open - No Gobo 6 - 10 = Gobo 1 (Alpha Waves) Index 11 - 15 = Gobo 2 (Leafy Breakup) Index 16 - 20 = Gobo 3 (Neurons V2) Index 21 - 25 = Gobo 4 (Night Sky) Index 26 - 30 = Gobo 5 (Bricked Out) Index 31 - 35 = Gobo 6 (On the Rocks) Index 36 - 40 = Gobo 7 (Droplets) Index 41 - 45 = Open - No Gobo 46 - 50 = Gobo 1 (Alpha Waves) Rotate 51 - 55 = Gobo 2 (Leafy Breakup) Rotate 56 - 60 = Gobo 3 (Neurons V2) Rotate 61 - 65 = Gobo 4 (Night Sky) Rotate 66 - 70 = Gobo 5 (Bricked Out) Rotate 71 - 75 = Gobo 6 (On the Rocks) Rotate 76 - 80 = Gobo 7 (Droplets) Rotate 81 - 85 = Open - No Gobo 86 - 90 = Gobo 1 (Alpha Waves) Rotate with Mega Stepping 91 - 95 = Gobo 2 (Leafy Breakup) Rotate with Mega Stepping 96 - 10 = Gobo 3 (Neurons V2) Rotate with Mega Stepping 101 - 105 = Gobo 4 (Night Sky) Rotate with Mega Stepping 106 - 110 = Gobo 5 (Bricked Out) Rotate with Mega Stepping 111 - 115 = Gobo 6 (On the Rocks) Rotate with Mega Stepping 116 - 120 = Gobo 7 (Droplets) Rotate with Mega Stepping *121 - 255 = Reserved Values*
20	Rotating Gobo Wheel 1 Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Rotating Gobo Wheel 1 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
21	Rotating Gobo Wheel 1 Index / Rotate - Low Byte				
22	Rotating Gobo Wheel 1 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options for Rotating Gobo Wheel 1 (Channel 19). 0 - 5 = Gobo Selection using shortest (quickest) path. 6 - 10 = Gobo Selection using normal (longest) path. *11 - 20 = Reserved Values* 21 - 50 = Wheel Spin Forward (Fast to Slow) 51 - 60 = Wheel Spin STOP 61 - 90 = Wheel Spin Reverse (Slow to Fast) 91 - 120 = Gobo Shake Quickest Path (Slow to Fast) 121 - 150 = Gobo Shake Normal Path (Slow to Fast) 151 - 180 = Gobo Twist Quickest Path (Slow to Fast) 181 - 210 = Gobo Twist Normal Path (Slow to Fast) *211 - 255 = Reserved Values*

Table 4: VL4000 Spot 16-Bit Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
23	Rotating Gobo Wheel 2	0 - 255	0 - 100%	0	8-bit control of Rotating Gobo Wheel 2. ***See Channel 26 for control options.*** 0 - 5 = Open - No Gobo 6 - 10 = Gobo 1 (Circle of Eights) Index 11 - 15 = Gobo 2 (Punch Card) Index 16 - 20 = Gobo 3 (Vertical Bars) Index 21 - 25 = Gobo 4 (Lattice) Index 26 - 30 = Gobo 5 (Wavy Triangle) Index 31 - 35 = Gobo 6 (Dot Buffet) Index 36 - 40 = Gobo 7 (Quadcone Red) Index 41 - 45 = Open - No Gobo 46 - 50 = Gobo 1 (Circle of Eights) Rotate 51 - 55 = Gobo 2 (Punch Card) Rotate 56 - 60 = Gobo 3 (Vertical Bars) Rotate 61 - 65 = Gobo 4 (Lattice) Rotate 66 - 70 = Gobo 5 (Wavy Triangle) Rotate 71 - 75 = Gobo 6 (Dot Buffet) Rotate 76 - 80 = Gobo 7 (Quadcone Red) Rotate 81 - 85 = Open - No Gobo 86 - 90 = Gobo 1 (Circle of Eights) Rotate with Mega Stepping 91 - 95 = Gobo 2 (Punch Card) Rotate with Mega Stepping 96 - 10 = Gobo 3 (Vertical Bars) Rotate with Mega Stepping 101 - 105 = Gobo 4 (Lattice) Rotate with Mega Stepping 106 - 110 = Gobo 5 (Wavy Triangle) Rotate with Mega Stepping 111 - 115 = Gobo 6 (Dot Buffet) Rotate with Mega Stepping 116 - 120 = Gobo 7 (Quadcone Red) Rotate with Mega Stepping *121 - 255 = Reserved Values*
24	Rotating Gobo Wheel 2 Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Rotating Gobo Wheel 2 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
25	Rotating Gobo Wheel 2 Index / Rotate - Low Byte				
26	Rotating Gobo Wheel 2 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options for Rotating Gobo Wheel 2 (Channel 24). 0 - 5 = Gobo Selection using shortest (quickest) path. 6 - 10 = Gobo Selection using normal (longest) path. *11 - 20 = Reserved Values* 21 - 50 = Wheel Spin Forward (Fast to Slow) 51 - 60 = Wheel Spin STOP 61 - 90 = Wheel Spin Reverse (Slow to Fast) 91 - 120 = Gobo Shake Quickest Path (Slow to Fast) 121 - 150 = Gobo Shake Normal Path (Slow to Fast) 151 - 180 = Gobo Twist Quickest Path (Slow to Fast) 181 - 210 = Gobo Twist Normal Path (Slow to Fast) *211 - 255 = Reserved Values*
27	Animation Wheel 1 *(Dichro*Fusion)*	0 - 255	0 - 100%	0	Controls Animation Wheel 1 linearly within the beam.
28	Animation Wheel 1 *(Dichro*Fusion)* Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Animation Wheel 1 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
29	Animation Wheel 1 *(Dichro*Fusion)* Index / Rotate - Low Byte				

Table 4: VL4000 Spot 16-Bit Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
30	Animation Wheel 1 *(Dichro*Fusion)* Control	0 - 255	0 - 100%	0	Used as a control channel for Animation Wheel 1. 0 - 5 = Index using shortest (quickest) path. 6 - 10 = Index using normal (longest) path. 11 - 15 = Rotate Normal 16 - 20 = Rotate with Mega Stepping *21 - 25 = Reserved Values* 26 - 56 = Image Shake using shortest (quickest) path slow to fast. 57 - 87 = Image Shake using normal (longest) path slow to fast. *88 - 255 = Reserved Values*
31	Animation Wheel 2 *(Wicked Waves)*	0 - 255	0 - 100%	0	Controls Animation Wheel 2 linearly within the beam.
32	Animation Wheel 2 *(Wicked Waves)* Index / Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of the Animation Wheel 2 index and rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
33	Animation Wheel 2 *(Wicked Waves)* Index / Rotate - Low Byte				
34	Animation Wheel 2 *(Wicked Waves)* Control	0 - 255	0 - 100%	0	Used as a control channel for Animation Wheel 2. 0 - 5 = Index using shortest (quickest) path. 6 - 10 = Index using normal (longest) path. 11 - 15 = Rotate Normal 16 - 20 = Rotate with Mega Stepping *21 - 25 = Reserved Values* 26 - 56 = Image Shake using shortest (quickest) path slow to fast. 57 - 87 = Image Shake using normal (longest) path slow to fast. *88 - 255 = Reserved Values*
35	Beam Iris	0 - 255	0 - 100%	0	Controls beam size iris from 0 (open) to 255 (full).
36	Shutter Frame 1A	0 - 255	0 - 100%	0	Controls Framing Shutter 1A from 0 (open) to 255 (full).
37	Shutter Frame 1B	0 - 255	0 - 100%	0	Controls Framing Shutter 1B from 0 (open) to 255 (full).
38	Shutter Frame 2A	0 - 255	0 - 100%	0	Controls Framing Shutter 2A from 0 (open) to 255 (full).
39	Shutter Frame 2B	0 - 255	0 - 100%	0	Controls Framing Shutter 2B from 0 (open) to 255 (full).
40	Shutter Frame 3A	0 - 255	0 - 100%	0	Controls Framing Shutter 3A from 0 (open) to 255 (full).
41	Shutter Frame 3B	0 - 255	0 - 100%	0	Controls Framing Shutter 3B from 0 (open) to 255 (full).
42	Shutter Frame 4A	0 - 255	0 - 100%	0	Controls Framing Shutter 4A from 0 (open) to 255 (full).
43	Shutter Frame 4B	0 - 255	0 - 100%	0	Controls Framing Shutter 4B from 0 (open) to 255 (full).
44	Shutter Frame Rotate	0 - 255	0 - 100%	128	Controls Framing Shutter mechanism from +/- 50°
45	Prism	0 - 255	0 - 100%	0	Controls prism mechanism. 0- 5 = Open 6 - 10 = Index 11 - 15 = Rotate Normal 16 - 20 = Rotate with Mega Stepping *21 - 255 = Reserved Values*
46	Prism Index/Rotate - High Byte	0 - 65535	0 - 100%	32767	16 bit control of prism index or rotation. Rotate Fast to Slow <<< = DMX 0 - 32756 Rotate STOP = DMX 32757 - 32780 Rotate Slow to Fast >>> = DMX 32781 - 65535
47	Prism Index/Rotate - Low Byte				
48	Prism Diverge	0 - 255	0 - 100%	0	Controls spread of prism image from small (DMX 0) to wide (DMX 255). Note : there are some diverge positions that will not be available due to various lensing positions.
49	Frost	0 - 255	0 - 100%	0	Controls frost mechanism. Linear control from No Frost (DMX 0) to Full Frost (DMX 255).
50	Strobe Speed	0 - 255	0 - 100%	0	Controls strobe rate from slowest (DMX 0) to fastest (DMX 255)

Table 4: VL4000 Spot 16-Bit Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
51	Strobe Control	0 - 255	0 - 100%	0	Control Channel for strobing functions. 0 - 5 = Open 6 - 10 = Closed 11 - 15 = Normal Strobe 16 - 20 = Random Strobe 21 - 25 = Random Sync *26 - 255 = Reserved Values*
52	Control	0 - 255	0 - 100%	0	To execute a command, the control channel must be set to idle (DMX 0) then changed to a particular value and held for 3 seconds then restored to DMX 0. Upon completion of this routine, the desired command will be executed by the luminaire. Used to strike/douse the lamp, set lamp levels, and other various functions, as well as resetting the luminaire via the console. DMX values are: 0 - 5 = Idle (Default) 6 - 10 = Full Luminaire ReCal *(1)* *(1) This command is also used to Wake fixture up from shutdown* 11 - 15 = Lamp ON 16 - 20 = Lamp OFF 21 - 25 = Fixture Shutdown 26 - 30 = Display - Menu ON 31 - 35 = Display - Menu OFF 36 - 40 = ReCal Position 41 - 45 = ReCal Color 46 - 50 = ReCal Gobo 51 - 55 = ReCal Beam 56 - 60 = ReCal Optics 61 - 65 = ReCal Dimmer/Strobe 66 - 70 = Reset Fixture to Defaults 71 - 75 = Full Luminaire Reboot *(2)* *(2) This command will douse lamp and reset all processors in fixture, then ReCal all parameters.* 76 - 80 = Fixture Status On/Off *(3)* *(3) This command will enable the display to show fixture status for 5 min. After this time, displays will return to default configuration. Repeating this command in less than 5 minutes will behave as a toggle.* 81 - 85 = Standard Mode - Fixture operates at maximum output (Default) 86 - 90 = Studio Mode - Reduced output with lower fan settings *91 - 255 = Reserved Values*

Notes:

Default Values: *Denotes recommended console default settings.