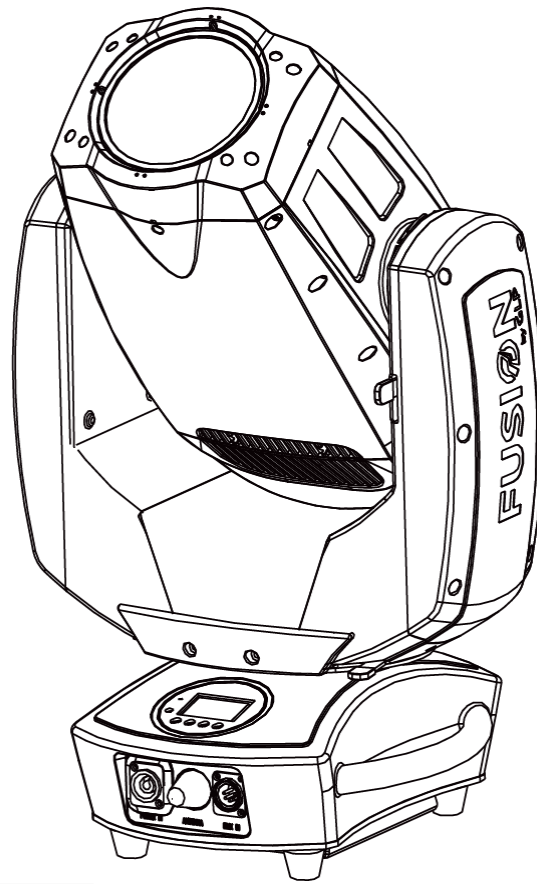


FUSION

by GLP

Fusion EXO Spot 30

DMX Channel Index



Software version V1.0.00



GLP® Fusion EXO Spot 30 DMX Channel Index – Revision B

This document covers fixture software version V1.0.00

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1. DMX control mode overview

The EXO Spot 30 has only one DMX control mode which uses the following DMX channels

DMX Mode 1: Standard

The EXO Spot 30 uses 23 DMX channels.

It provides 16-bit control of pan and tilt, 16-bit dimming and a shutter with strobe and ramp up/down effects. Control of the three color wheels, two gobo wheels, gobo rotation, zoom and the prism is provided.

You also have control of focus and a control / settings channel that lets you configure the feature and adjust settings remotely via DMX.

Mode 1 Compact

| | |
|----|-----------------------|
| 1 | Pan |
| 2 | Pan fine |
| 3 | Tilt |
| 4 | Tilt fine |
| 5 | Color wheel 1 Cyan |
| 6 | Color wheel 2 Magenta |
| 7 | Color wheel 3 Yellow |
| 8 | Cyan |
| 9 | Magenta |
| 10 | Yellow |
| 11 | Gobo 1 |
| 12 | Gobo 2 |
| 13 | Gobo 2 index/rotate |
| 14 | Shutter |
| 15 | Dimmer coarse |
| 16 | Dimmer fine |
| 17 | Frost |
| 18 | Prism |
| 19 | Prism rotation |
| 20 | Focus coarse |
| 21 | Focus fine |
| 22 | Zoom |
| 23 | Control |

2. DMX control channel layout tables

DMX Mode 1: Standard

24 DMX Channels

| Channel | | Command | DMX range | | Percent | | Default DMX | Fade |
|---------|--------------------------|---|-----------|-------|---------|-------|-------------|------|
| 1 | Pan | Pan left-right | 0 | 65535 | 0 | 100 | 32767 | Fade |
| 2 | Pan fine | | | | | | | |
| 3 | Tilt | Tilt up-down | 0 | 65535 | 0 | 100 | 32767 | Fade |
| 4 | Tilt fine | | | | | | | |
| 5 | Color 1 (Cyan) | Position 1 (Open) | 0 | 3 | 0.0 | 1.2 | 0 | Snap |
| | | Position 1 + 2 (Split Color) | 4 | 7 | 1.6 | 2.7 | | |
| | | Position 2 | 8 | 11 | 3.1 | 4.3 | | |
| | | Position 2 + 3 (Split Color) | 12 | 15 | 4.7 | 5.9 | | |
| | | Position 3 | 16 | 19 | 6.3 | 7.5 | | |
| | | Position 3 + 4 (Split Color) | 20 | 23 | 7.8 | 9.0 | | |
| | | Position 4 | 24 | 27 | 9.4 | 10.6 | | |
| | | Position 4 + 5 (Split Color) | 28 | 31 | 11.0 | 12.2 | | |
| | | Position 5 | 32 | 35 | 12.5 | 13.7 | | |
| | | Indexing from Open over fixed Colors to Cyan (full) | 36 | 169 | 14.1 | 66.3 | | |
| | | Color Bounce from Open over fixed Colors to Cyan (full) and back, Fast-Slow | 170 | 214 | 66.7 | 83.9 | | |
| | | Color Bounce Stop | 215 | 215 | 84.3 | 84.3 | | |
| | | Invert Color Bounce from Cyan (Full) over fixed Colors to Open and back, Slow-Fast | 216 | 255 | 84.7 | 100.0 | | |
| 6 | Color 2 (Magenta) | Position 1 (Open) | 0 | 3 | 0.0 | 1.2 | 0 | Snap |
| | | Position 1 + 2 (Split Color) | 4 | 7 | 1.6 | 2.7 | | |
| | | Position 2 | 8 | 11 | 3.1 | 4.3 | | |
| | | Position 2 + 3 (Split Color) | 12 | 15 | 4.7 | 5.9 | | |
| | | Position 3 | 16 | 19 | 6.3 | 7.5 | | |
| | | Position 3 + 4 (Split Color) | 20 | 23 | 7.8 | 9.0 | | |
| | | Position 4 | 24 | 27 | 9.4 | 10.6 | | |
| | | Position 4 + 5 (Split Color) | 28 | 31 | 11.0 | 12.2 | | |
| | | Position 5 | 32 | 35 | 12.5 | 13.7 | | |
| | | Indexing from Open over fixed Colors to Magenta (full) | 36 | 169 | 14.1 | 66.3 | | |
| | | Color Bounce from Open over fixed Colors to Magenta (full) and back, Fast-Slow | 170 | 214 | 66.7 | 83.9 | | |
| | | Color Bounce Stop | 215 | 215 | 84.3 | 84.3 | | |
| | | Invert Color Bounce from Magenta (Full) over fixed Colors to Open and back, Slow-Fast | 216 | 255 | 84.7 | 100.0 | | |
| 7 | Color 3 (Yellow) | Position 1 (Open) | 0 | 3 | 0.0 | 1.2 | 0 | Snap |
| | | Position 1 + 2 (Split Color) | 4 | 7 | 1.6 | 2.7 | | |
| | | Position 2 | 8 | 11 | 3.1 | 4.3 | | |
| | | Position 2 + 3 (Split Color) | 12 | 15 | 4.7 | 5.9 | | |
| | | Position 3 | 16 | 19 | 6.3 | 7.5 | | |
| | | Position 3 + 4 (Split Color) | 20 | 23 | 7.8 | 9.0 | | |
| | | Position 4 | 24 | 27 | 9.4 | 10.6 | | |
| | | Position 4 + 5 (Split Color) | 28 | 31 | 11.0 | 12.2 | | |
| | | Position 5 | 32 | 35 | 12.5 | 13.7 | | |
| | | Indexing from Open over fixed Colors to Yellow (full) | 36 | 169 | 14.1 | 66.3 | | |
| | | Color Bounce from Open over fixed Colors to Yellow (full) and back, Fast- | 170 | 214 | 66.7 | 83.9 | | |

| | | | | | | | |
|-----------|---------------------|--|-----|-----|------|-------|--------|
| | | Slow | | | | | |
| | | Color Bounce Stop | 215 | 215 | 84.3 | 84.3 | |
| | | Invert Color Bounce from Yellow (Full) over fixed Colors to Open and back, Slow-Fast | 216 | 255 | 84.7 | 100.0 | |
| 8 | Cyan | Cyan color mixing (see note 1) | 0 | 255 | 0 | 100 | 0 Fade |
| 9 | Magenta | Magenta color mixing (see note 1) | 0 | 255 | 0 | 100 | 0 Fade |
| 10 | Yellow | Yellow color mixing (see note 1) | 0 | 255 | 0 | 100 | 0 Fade |
| 11 | Gobo wheel 1 | Open | 0 | 8 | 0.0 | 3.1 | 0 Snap |
| | | Gobo 1 | 9 | 17 | 3.5 | 6.7 | |
| | | Gobo 2 | 18 | 26 | 7.1 | 10.2 | |
| | | Gobo 3 | 27 | 35 | 10.6 | 13.7 | |
| | | Gobo 4 | 36 | 44 | 14.1 | 17.3 | |
| | | Gobo 5 | 45 | 53 | 17.6 | 20.8 | |
| | | Gobo 6 | 54 | 62 | 21.2 | 24.3 | |
| | | Gobo 7 | 63 | 71 | 24.7 | 27.8 | |
| | | Gobo 8 | 72 | 80 | 28.2 | 31.4 | |
| | | Gobo 1 shaking | 81 | 92 | 31.8 | 36.1 | |
| | | Gobo 2 shaking | 93 | 104 | 36.5 | 40.8 | |
| | | Gobo 3 shaking | 105 | 116 | 41.2 | 45.5 | |
| | | Gobo 4 shaking | 117 | 128 | 45.9 | 50.2 | |
| | | Gobo 5 shaking | 129 | 140 | 50.6 | 54.9 | |
| | | Gobo 6 shaking | 141 | 152 | 55.3 | 59.6 | |
| | | Gobo 7 shaking | 153 | 164 | 60.0 | 64.3 | |
| | | Gobo 8 shaking | 165 | 176 | 64.7 | 69.0 | |
| | | Gobo wheel spin stop | 177 | 177 | 69.4 | 69.4 | |
| | | Gobo wheel spin clockwise fast > slow | 178 | 216 | 69.8 | 84.7 | |
| | | Gobo wheel spin stop | 217 | 217 | 85.1 | 85.1 | |
| | | Gobo wheel spin counterclockwise slow > fast | 218 | 255 | 85.5 | 100 | |
| 12 | Gobo wheel 2 | Open | 0 | 4 | 0.0 | 1.6 | 0 Snap |
| | | Gobo 1 indexed | 5 | 9 | 2.0 | 3.5 | |
| | | Gobo 2 indexed | 10 | 14 | 3.9 | 5.5 | |
| | | Gobo 3 indexed | 15 | 19 | 5.9 | 7.5 | |
| | | Gobo 4 indexed | 20 | 24 | 7.8 | 9.4 | |
| | | Gobo 5 indexed | 25 | 29 | 9.8 | 11.4 | |
| | | Gobo 6 indexed | 30 | 34 | 11.8 | 13.3 | |
| | | Gobo 1 rotate | 35 | 39 | 13.7 | 15.3 | |
| | | Gobo 2 rotate | 40 | 44 | 15.7 | 17.3 | |
| | | Gobo 3 rotate | 45 | 49 | 17.6 | 19.2 | |
| | | Gobo 4 rotate | 50 | 54 | 19.6 | 21.2 | |
| | | Gobo 5 rotate | 55 | 59 | 21.6 | 23.1 | |
| | | Gobo 6 rotate | 60 | 64 | 23.5 | 25.1 | |
| | | Gobo 1 shake and index | 65 | 74 | 25.5 | 29.0 | |
| | | Gobo 2 shake and index | 75 | 84 | 29.4 | 32.9 | |
| | | Gobo 3 shake and index | 85 | 94 | 33.3 | 36.9 | |
| | | Gobo 4 shake and index | 95 | 104 | 37.3 | 40.8 | |
| | | Gobo 5 shake and index | 105 | 114 | 41.2 | 44.7 | |
| | | Gobo 6 shake and index | 115 | 124 | 45.1 | 48.6 | |
| | | Gobo 1 shake and rotate | 125 | 134 | 49.0 | 52.5 | |
| | | Gobo 2 shake and rotate | 135 | 144 | 52.9 | 56.5 | |
| | | Gobo 3 shake and rotate | 145 | 154 | 56.9 | 60.4 | |
| | | Gobo 4 shake and rotate | 155 | 164 | 60.8 | 64.3 | |
| | | Gobo 5 shake and rotate | 165 | 174 | 64.7 | 68.2 | |
| | | Gobo 6 shake and rotate | 175 | 184 | 68.6 | 72.2 | |
| | | Gobo wheel spin stop | 185 | 185 | 72.5 | 72.5 | |
| | | Gobo wheel spin clockwise fast > slow | 186 | 219 | 72.9 | 85.9 | |
| | | Gobo wheel spin stop | 220 | 220 | 86.3 | 86.3 | |
| | | Gobo wheel spin counterclockwise slow > fast | 221 | 255 | 86.7 | 100 | |

| | | | | | | | | |
|---------------------------------------|------------------------|--|------|-------|------|------|-------|------|
| 13 | Gobo 2 Index/Rotate | When Ch. 12 = "indexed" | | | | 0 | Fade | |
| | | Gobo index 0-360° | 0 | 255 | 0 | | | 100 |
| | | When Ch. 12= "rotate" | | | | 0 | Fade | |
| | | Gobo rotation stop | 0 | 0 | 0 | | | 0 |
| | | Gobo rotation clockwise fast > slow | 1 | 127 | 0.4 | | | 49.8 |
| | | Gobo rotation stop | 128 | 128 | 50.2 | | | 50.2 |
| | | Gobo rotation counterclockwise slow > fast | 129 | 255 | 50.6 | | | 100 |
| 14 | Shutter | Shutter closed | 0 | 4 | 0 | 1.6 | 0 | Snap |
| | | Single flash when change on dimmer channel | 5 | 9 | 2.0 | 3.5 | | |
| | | Sync ramp up slow-fast | 10 | 39 | 3.9 | 15.3 | | |
| | | Sync ramp down slow-fast | 40 | 69 | 15.7 | 27.1 | | |
| | | Sync ramp up-down slow-fast | 70 | 99 | 27.5 | 38.8 | | |
| | | Sync double flash (slow-fast) | 100 | 129 | 39.2 | 50.6 | | |
| | | Random strobe pixel (slow-fast) | 130 | 159 | 51.0 | 62.4 | | |
| | | Random strobe all (slow-fast) | 160 | 199 | 62.7 | 78.0 | | |
| | | Sync strobe (1 Hz-10 Hz) | 200 | 250 | 78.4 | 98.0 | | |
| | | Shutter open | 251 | 255 | 98.4 | 100 | | |
| 15 | Dimmer | Intensity 0-100% | 0 | 65535 | 0 | 100 | 0 | Fade |
| 16 | Dimmer fine | | | | | | | |
| 17 | Frost | Frost 0 – 100% | 0 | 255 | 0 | 100 | 0 | Fade |
| 18 | Prism | No prism | 0 | 3 | 0 | 1.2 | 0 | Snap |
| | | Prism inserted | 4 | 255 | 1.6 | 100 | | |
| 19 | Prism rotation | No prism | 0 | 3 | 0 | 1.2 | | Fade |
| | | Variable position from 0-360° | 4 | 127 | 1.6 | 49.8 | | |
| | | Rotation stop | 128 | 128 | 50.2 | 50.2 | | |
| | | Rotation clockwise fast > slow | 129 | 191 | 50.6 | 74.9 | | |
| | | Rotation stop | 192 | 192 | 75.3 | 75.3 | | |
| Rotation counterclockwise slow > fast | 193 | 255 | 75.7 | 100 | | | | |
| 20 | Focus | Focus 0 > 100% | 0 | 65535 | 0 | 100 | 32767 | Fade |
| 21 | Focus fine | | | | | | | |
| 22 | Zoom | Zoom 0 > 100% | 0 | 255 | 0 | 100 | 128 | Fade |
| 23 | Control / Settings | No function | 0 | 9 | 0.0 | 3.5 | 0 | Snap |
| | | Dimmer curve: Extra-soft (3s hold) | 10 | 15 | 3.9 | 5.9 | | |
| | | Dimmer curve: Linear (3s hold) | 16 | 21 | 6.3 | 8.2 | | |
| | | Display mode: Auto (3s hold) | 22 | 27 | 8.6 | 10.6 | | |
| | | Display mode: On (3s hold) | 28 | 33 | 11.0 | 12.9 | | |
| | | Display mode: Off (3s hold) | 34 | 39 | 13.3 | 15.3 | | |
| | | Display orientation: Normal (3s hold) | 40 | 45 | 15.7 | 17.6 | | |
| | | Display orientation: Inverted (3s hold) | 46 | 51 | 18.0 | 20.0 | | |
| | | No DMX: Blackout (3s hold) | 52 | 57 | 20.4 | 22.4 | | |
| | | No DMX: Hold (3s hold) | 58 | 63 | 22.7 | 24.7 | | |
| | | No DMX: Stand-alone (3s hold) | 64 | 69 | 25.1 | 27.1 | | |
| | | Fan mode: Regulated (3s hold) | 70 | 75 | 27.5 | 29.4 | | |
| | | Fan mode: High (3s hold) | 76 | 81 | 29.8 | 31.8 | | |
| | | Fan mode: Medium (3s hold) | 82 | 87 | 32.2 | 34.1 | | |
| | | Fan mode: Low (3s hold) | 88 | 93 | 34.5 | 36.5 | | |
| | | Position feedback: Off (3s hold) | 94 | 99 | 36.9 | 38.8 | | |
| | | Position feedback: On (3s hold) | 100 | 105 | 39.2 | 41.2 | | |
| | | No function | 106 | 117 | 41.6 | 45.9 | | |
| | | Tilt inversion: Off (3s hold) | 118 | 123 | 46.3 | 48.2 | | |
| | | Tilt inversion: On (3s hold) | 124 | 129 | 48.6 | 50.6 | | |
| | | Pan inversion: Off (3s hold) | 130 | 135 | 51.0 | 52.9 | | |
| | | Pan inversion: On (3s hold) | 136 | 141 | 53.3 | 55.3 | | |
| | | Zoom inversion: Off (3s hold) | 142 | 147 | 55.7 | 57.6 | | |
| Zoom inversion: On (3s hold) | 148 | 153 | 58.0 | 60.0 | | | | |

| | | | | | | | |
|--|-------------------------------|-----|-----|------|------|--|--|
| | Defog: Off | 154 | 159 | 60.4 | 62.4 | | |
| | Defog: On | 160 | 165 | 62.7 | 64.7 | | |
| | Defog: Quick | 166 | 171 | 65.1 | 67.1 | | |
| | Load Settings Preset1 | 172 | 177 | 67.5 | 69.4 | | |
| | Load Settings Preset2 | 178 | 183 | 69.8 | 71.8 | | |
| | Load Settings Preset3 | 184 | 189 | 72.2 | 74.1 | | |
| | PWM 600 Hz (5s hold) | 190 | 195 | 74.5 | 76.5 | | |
| | PWM: 2200 Hz (5s hold) | 196 | 201 | 76.9 | 78.8 | | |
| | PWM: 3000 Hz (5s hold) | 202 | 207 | 79.2 | 81.2 | | |
| | PWM: 4800 Hz (5s hold) | 208 | 213 | 81.6 | 83.5 | | |
| | PWM: 9600 Hz (5s hold) | 214 | 219 | 83.9 | 85.9 | | |
| | PWM: 25 kHz (5s hold) | 220 | 225 | 86.3 | 88.2 | | |
| | No function | 226 | 231 | 88.6 | 90.6 | | |
| | Return to default settings | 232 | 237 | 91.0 | 92.9 | | |
| | Reset Pan/Tilt (3s hold) | 238 | 243 | 93.3 | 95.3 | | |
| | Reset Head (3s hold) | 244 | 249 | 95.7 | 97.6 | | |
| | Reset All (3s hold) | 250 | 255 | 98.0 | 100 | | |

Note 1: When CMY channels 8-10 are above zero, they take precedence over the static color wheel CMY controls on channels 5-7

