

# G Wash - DMX protocol

Protocol rev. 3



| Mode                   |
|------------------------|
| Standard (16 channels) |

| Valid from firmware version |
|-----------------------------|
| 1.66                        |

| Channel      | Name           | DMX value |       | DMX Percentage |        | Description                             | Info                                                                       | Default DMX value | Fader type |
|--------------|----------------|-----------|-------|----------------|--------|-----------------------------------------|----------------------------------------------------------------------------|-------------------|------------|
| 1            | SHUTTER        | 0         | 7     | 0,0%           | 2,7%   | Closed                                  |                                                                            | 10 (3,9%)         | Snap       |
|              |                | 8         | 15    | 3,1%           | 5,9%   | Open 1 ('Pre-Heat' <b>Enabled</b> )     | See note ①                                                                 |                   |            |
|              |                | 16        | 116   | 6,3%           | 45,5%  | Strobe                                  |                                                                            |                   |            |
|              |                | 117       | 152   | 45,9%          | 59,6%  | Strobe - Random                         |                                                                            |                   |            |
|              |                | 153       | 173   | 60,0%          | 67,8%  | Pulse - Open                            | Slow -> Fast                                                               |                   |            |
|              |                | 174       | 194   | 68,2%          | 76,1%  | Pulse - Close                           | Slow -> Fast                                                               |                   |            |
|              |                | 195       | 220   | 76,5%          | 86,3%  | Pulse - Open Random                     | Slow -> Fast                                                               |                   |            |
|              |                | 221       | 246   | 86,7%          | 96,5%  | Pulse - Close Random                    | Slow -> Fast                                                               |                   |            |
|              |                | 247       | 255   | 96,9%          | 100,0% | Open 2 ('Pre-Heat' <b>Disabled</b> )    | See note ②                                                                 |                   |            |
| 2            | INTENSITY      | 0         | 255   | 0,0%           | 100,0% | No LIGHT -> Maximum LIGHT               |                                                                            | 0 (0%)            | Fade       |
| 3            | RED            | 0         | 255   | 0,0%           | 100,0% | No RED -> Maximum RED                   |                                                                            | 0 (0%)            | Fade       |
| 4            | GREEN          | 0         | 255   | 0,0%           | 100,0% | No GREEN -> Maximum GREEN               |                                                                            | 0 (0%)            | Fade       |
| 5            | BLUE           | 0         | 255   | 0,0%           | 100,0% | No BLUE -> Maximum BLUE                 |                                                                            | 0 (0%)            | Fade       |
| 6            | CTC            | 0         | 4     | 0,0%           | 1,6%   | ≈ 5600° K                               | Detailed information - see separate document<br><a href="#">Click Here</a> | 182 (71,3%)       | Fade       |
|              |                | 1         | 4     | 0,4%           | 1,6%   | No CTC (RAW)                            |                                                                            |                   |            |
|              |                | 5         | 5     | 2,0%           | 2,0%   | ≈ 2000° K                               |                                                                            |                   |            |
|              |                | 15        | 15    | 5,9%           | 5,9%   | ≈ 2200° K (High Pressure Sodium Lamp)   |                                                                            |                   |            |
|              |                | 40        | 40    | 15,7%          | 15,7%  | ≈ 2700° K (Incandescent Lamp)           |                                                                            |                   |            |
|              |                | 54        | 54    | 21,2%          | 21,2%  | ≈ 3000° K (Halogen / Tungsten Lamp)     |                                                                            |                   |            |
|              |                | 65        | 65    | 25,5%          | 25,5%  | ≈ 3200° K (Warm Metal Halide Lamp)      |                                                                            |                   |            |
|              |                | 105       | 105   | 41,2%          | 41,2%  | ≈ 4000° K (Clear Metal Halide Lamp)     |                                                                            |                   |            |
|              |                | 115       | 115   | 45,1%          | 45,1%  | ≈ 4200° K (Cool White Fluorescent Lamp) |                                                                            |                   |            |
|              |                | 177       | 177   | 69,4%          | 69,4%  | ≈ 5500° K (Daylight Metal Halide Lamp)  |                                                                            |                   |            |
|              |                | 216       | 216   | 84,7%          | 84,7%  | ≈ 6300° K                               |                                                                            |                   |            |
|              |                | 238       | 238   | 93,3%          | 93,3%  | ≈ 8000° K                               |                                                                            |                   |            |
|              |                | 255       | 255   | 100,0%         | 100,0% | ≈ 10000° K                              |                                                                            |                   |            |
| 7<br>8       | PAN            | 0         | 65535 | 0,0%           | 100,0% | -270° to 270°                           | -270° = Front lens @ Mains power input (Tilt = 0)                          | 32767 (50%)       | Fade       |
| 9<br>10      | TILT           | 0         | 65535 | 0,0%           | 100,0% | -120° to 120°                           | -120° = Front lens @ Base front (Pan = 32767)                              | 32767 (50%)       | Fade       |
| 11<br><br>12 | BEAM SHAPER    | 0         | 511   | 0,0%           | 0,8%   | Open                                    |                                                                            | 0 (0%)            | Fade       |
|              |                | 512       | 32768 | 0,8%           | 50,0%  | Index                                   |                                                                            |                   |            |
|              |                | 32769     | 49151 | 50,0%          | 75,0%  | continuous rotation CW                  | Fast -> Slow                                                               |                   |            |
|              |                | 49152     | 49152 | 75,0%          | 75,0%  | No rotation                             |                                                                            |                   |            |
| 13           | ZOOM           | 0         | 255   | 0,0%           | 100,0% | Wide -> Narrow                          |                                                                            | 0 (0%)            | Fade       |
| 14           | EFFECT CHANNEL | 0         | 4     | 0,0%           | 1,6%   | No Effect                               |                                                                            | 0 (0%)            | Snap       |
|              |                | 5         | 15    | 2,0%           | 5,9%   | Reserved (No function)                  |                                                                            |                   |            |
|              |                | 16        | 26    | 6,3%           | 10,2%  | Reserved (No function)                  |                                                                            |                   |            |
|              |                | 27        | 32    | 10,6%          | 12,5%  | Shutter Black = RED                     |                                                                            |                   |            |
|              |                | 33        | 38    | 12,9%          | 14,9%  | Shutter Black = GREEN                   |                                                                            |                   |            |
|              |                | 39        | 44    | 15,3%          | 17,3%  | Shutter Black = BLUE                    |                                                                            |                   |            |
|              |                | 45        | 50    | 17,6%          | 19,6%  | Shutter Black = WHITE                   |                                                                            |                   |            |
|              |                | 51        | 56    | 20,0%          | 22,0%  | Shutter Black = Magenta                 |                                                                            |                   |            |
|              |                | 57        | 62    | 22,4%          | 24,3%  | Shutter Black = Yellow                  |                                                                            |                   |            |
|              |                | 63        | 68    | 24,7%          | 26,7%  | Shutter Black = Cyan                    |                                                                            |                   |            |
|              |                | 69        | 255   | 27,1%          | 100,0% | Reserved (No function)                  |                                                                            |                   |            |

| Channel | Name            | DMX value |     | DMX Percentage |        | Description                        | Info           | Default DMX value | Fader type |
|---------|-----------------|-----------|-----|----------------|--------|------------------------------------|----------------|-------------------|------------|
| 15      | APERTURE        | 0         | 7   | 0,0%           | 2,7%   | Intensity Optimized                | See note ⑥     | 0 (0%)            | Snap       |
|         |                 | 8         | 15  | 3,1%           | 5,9%   | Projection Optimized               |                |                   |            |
|         |                 | 16        | 255 | 6,3%           | 100,0% | Reserved (No function)             |                |                   |            |
| 16      | CONTROL CHANNEL | 0         | 4   | 0,0%           | 1,6%   | No Function                        |                | 0 (0%)            | Snap       |
|         |                 | 5         | 9   | 2,0%           | 3,5%   | Full Reset                         | Hold 3 seconds |                   |            |
|         |                 | 10        | 14  | 3,9%           | 5,5%   | Pan Reset                          | Hold 3 seconds |                   |            |
|         |                 | 15        | 19  | 5,9%           | 7,5%   | Tilt Reset                         | Hold 3 seconds |                   |            |
|         |                 | 20        | 24  | 7,8%           | 9,4%   | Gobo Reset                         | Hold 3 seconds |                   |            |
|         |                 | 25        | 29  | 9,8%           | 11,4%  | Zoom Reset                         | Hold 3 seconds |                   |            |
|         |                 | 30        | 34  | 11,8%          | 13,3%  | Sleep mode                         | See note ③     |                   |            |
|         |                 | 35        | 39  | 13,7%          | 15,3%  | Display Off                        | Hold 3 seconds |                   |            |
|         |                 | 40        | 44  | 15,7%          | 17,3%  | Display On                         | Hold 3 seconds |                   |            |
|         |                 | 45        | 115 | 17,6%          | 45,1%  | LED Frequency (100 kHz - 1,41 kHz) | See note ④     |                   |            |
|         |                 | 116       | 119 | 45,5%          | 46,7%  | Capture Scene 1                    | See note ⑤     |                   |            |
|         |                 | 120       | 123 | 47,1%          | 48,2%  | Capture Scene 2                    |                |                   |            |
|         |                 | 124       | 127 | 48,6%          | 49,8%  | Capture Scene 3                    |                |                   |            |
|         |                 | 128       | 131 | 50,2%          | 51,4%  | Capture Scene 4                    |                |                   |            |
|         |                 | 132       | 135 | 51,8%          | 52,9%  | Capture Scene 5                    |                |                   |            |
|         |                 | 136       | 139 | 53,3%          | 54,5%  | Capture Scene 6                    |                |                   |            |
|         |                 | 140       | 143 | 54,9%          | 56,1%  | Capture Scene 7                    |                |                   |            |
|         |                 | 144       | 147 | 56,5%          | 57,6%  | Capture Scene 8                    |                |                   |            |
|         |                 | 148       | 151 | 58,0%          | 59,2%  | Capture Scene 9                    |                |                   |            |
|         |                 | 152       | 155 | 59,6%          | 60,8%  | Capture Scene 10                   |                |                   |            |
|         |                 | 156       | 159 | 61,2%          | 62,4%  | Capture Scene 11                   |                |                   |            |
|         |                 | 160       | 163 | 62,7%          | 63,9%  | Capture Scene 12                   |                |                   |            |
|         |                 | 164       | 167 | 64,3%          | 65,5%  | Capture Scene 13                   |                |                   |            |
|         |                 | 168       | 171 | 65,9%          | 67,1%  | Capture Scene 14                   |                |                   |            |
|         |                 | 172       | 175 | 67,5%          | 68,6%  | Capture Scene 15                   |                |                   |            |
|         |                 | 176       | 179 | 69,0%          | 70,2%  | Capture Scene 16                   |                |                   |            |
|         |                 | 180       | 183 | 70,6%          | 71,8%  | Capture Scene 17                   |                |                   |            |
|         |                 | 184       | 187 | 72,2%          | 73,3%  | Capture Scene 18                   |                |                   |            |
|         |                 | 188       | 191 | 73,7%          | 74,9%  | Capture Scene 19                   |                |                   |            |
|         |                 | 192       | 195 | 75,3%          | 76,5%  | Capture Scene 20                   |                |                   |            |
|         |                 | 196       | 199 | 76,9%          | 78,0%  | Capture Scene 21                   |                |                   |            |
|         |                 | 200       | 203 | 78,4%          | 79,6%  | Capture Scene 22                   |                |                   |            |
|         |                 | 204       | 207 | 80,0%          | 81,2%  | Capture Scene 23                   |                |                   |            |
|         |                 | 208       | 211 | 81,6%          | 82,7%  | Capture Scene 24                   |                |                   |            |
|         |                 | 212       | 255 | 83,1%          | 100,0% | Reserved (No function)             |                |                   |            |

① 'Pre-Heat' Enabled = Ready for instant operation. ② 'Pre-Heat' Disabled = To perform a complete blackout, use "Open 2". This will take 400 millsec to exit.

③ All other channels must be zero and this has to be held for 30 seconds (fixture will wake up on a full reset).

④ Set LED frequency refresh rate, see separate documentation for frequencies, see manual for details, value must be hold to keep setting (default value 1,41 kHz).

⑤ Hold for 3 sec to capture scenes for internal program (stand-alone operation) see user manual for details.

⑥ Aperture settings can be set for two scenarios, optimized for maximum output and optimized for highest projection quality.

# G Wash - DMX protocol

Protocol rev. 3



| Mode                   |
|------------------------|
| Extended (21 channels) |

| Valid from firmware version |
|-----------------------------|
| 1.66                        |

| Channel      | Name           | DMX value   | DMX Percentage | Description                             | Info                                                                       | Default DMX value | Fader type |
|--------------|----------------|-------------|----------------|-----------------------------------------|----------------------------------------------------------------------------|-------------------|------------|
| 1            | SHUTTER        | 0 7         | 0,0% 2,7%      | Closed                                  |                                                                            | 10 (3,9%)         | Snap       |
|              |                | 8 15        | 3,1% 5,9%      | Open 1 ('Pre-Heat' <b>Enabled</b> )     | See note ①                                                                 |                   |            |
|              |                | 16 116      | 6,3% 45,5%     | Strobe                                  |                                                                            |                   |            |
|              |                | 117 152     | 45,9% 59,6%    | Strobe - Random                         |                                                                            |                   |            |
|              |                | 153 173     | 60,0% 67,8%    | Pulse - Open                            | Slow -> Fast                                                               |                   |            |
|              |                | 174 194     | 68,2% 76,1%    | Pulse - Close                           | Slow -> Fast                                                               |                   |            |
|              |                | 195 220     | 76,5% 86,3%    | Pulse - Open Random                     | Slow -> Fast                                                               |                   |            |
|              |                | 221 246     | 86,7% 96,5%    | Pulse - Close Random                    | Slow -> Fast                                                               |                   |            |
|              |                | 247 255     | 96,9% 100,0%   | Open 2 ('Pre-Heat' <b>Disabled</b> )    | See note ②                                                                 |                   |            |
| 2<br>3       | INTENSITY      | 0 65535     | 0,0% 100,0%    | No LIGHT -> Maximum LIGHT               |                                                                            | 0 (0%)            | Fade       |
| 4<br>5       | RED            | 0 65535     | 0,0% 100,0%    | No RED -> Maximum RED                   |                                                                            | 0 (0%)            | Fade       |
| 6<br>7       | GREEN          | 0 65535     | 0,0% 100,0%    | No GREEN -> Maximum GREEN               |                                                                            | 0 (0%)            | Fade       |
| 8<br>9       | BLUE           | 0 65535     | 0,0% 100,0%    | No BLUE -> Maximum BLUE                 |                                                                            | 0 (0%)            | Fade       |
| 10           | CTC            | 0 0         | 0,0% 0,0%      | ≈ 5600° K                               | Detailed information - see separate document<br><a href="#">Click Here</a> | 182 (71,3%)       | Fade       |
|              |                | 1 4         | 0,4% 1,6%      | No CTC (RAW)                            |                                                                            |                   |            |
|              |                | 5 5         | 2,0% 2,0%      | ≈ 2000° K                               |                                                                            |                   |            |
|              |                | 15 15       | 5,9% 5,9%      | ≈ 2200° K (High Pressure Sodium Lamp)   |                                                                            |                   |            |
|              |                | 40 40       | 15,7% 15,7%    | ≈ 2700° K (Incandescent Lamp)           |                                                                            |                   |            |
|              |                | 54 54       | 21,2% 21,2%    | ≈ 3000° K (Halogen / Tungsten Lamp)     |                                                                            |                   |            |
|              |                | 65 65       | 25,5% 25,5%    | ≈ 3200° K (Warm Metal Halide Lamp)      |                                                                            |                   |            |
|              |                | 105 105     | 41,2% 41,2%    | ≈ 4000° K (Clear Metal Halide Lamp)     |                                                                            |                   |            |
|              |                | 115 115     | 45,1% 45,1%    | ≈ 4200° K (Cool White Fluorescent Lamp) |                                                                            |                   |            |
|              |                | 177 177     | 69,4% 69,4%    | ≈ 5500° K (Daylight Metal Halide Lamp)  |                                                                            |                   |            |
|              |                | 216 216     | 84,7% 84,7%    | ≈ 6300° K                               |                                                                            |                   |            |
|              |                | 238 238     | 93,3% 93,3%    | ≈ 8000° K                               |                                                                            |                   |            |
|              |                | 255 255     | 100,0% 100,0%  | ≈ 10000° K                              |                                                                            |                   |            |
| 11<br>12     | PAN            | 0 65535     | 0,0% 100,0%    | -270° to 270°                           | -270° = Front lens @ Mains power input (Tilt = 0)                          | 32767 (50%)       | Fade       |
| 13<br>14     | TILT           | 0 65535     | 0,0% 100,0%    | -120° to 120°                           | -120° = Front lens @ Base front (Pan = 32767)                              | 32767 (50%)       | Fade       |
| 15<br><br>16 | BEAM SHAPER    | 0 511       | 0,0% 0,8%      | Open                                    |                                                                            | 0 (0%)            | Fade       |
|              |                | 512 32768   | 0,8% 50,0%     | Index                                   |                                                                            |                   |            |
|              |                | 32769 49151 | 50,0% 75,0%    | continuous rotation CW                  | Fast -> Slow                                                               |                   |            |
|              |                | 49152 49152 | 75,0% 75,0%    | No rotation                             |                                                                            |                   |            |
| 17<br>18     | ZOOM           | 0 65535     | 0,0% 100,0%    | Wide -> Narrow                          | Slow -> Fast                                                               | 0 (0%)            | Fade       |
| 19           | EFFECT CHANNEL | 0 4         | 0,0% 1,6%      | No Effect                               |                                                                            | 0 (0%)            | Snap       |
|              |                | 5 15        | 2,0% 5,9%      | Reserved (No function)                  |                                                                            |                   |            |
|              |                | 16 26       | 6,3% 10,2%     | Reserved (No function)                  |                                                                            |                   |            |
|              |                | 27 32       | 10,6% 12,5%    | Shutter Black = RED                     |                                                                            |                   |            |
|              |                | 33 38       | 12,9% 14,9%    | Shutter Black = GREEN                   |                                                                            |                   |            |
|              |                | 39 44       | 15,3% 17,3%    | Shutter Black = BLUE                    |                                                                            |                   |            |
|              |                | 45 50       | 17,6% 19,6%    | Shutter Black = WHITE                   |                                                                            |                   |            |
|              |                | 51 56       | 20,0% 22,0%    | Shutter Black = Magenta                 |                                                                            |                   |            |
|              |                | 57 62       | 22,4% 24,3%    | Shutter Black = Yellow                  |                                                                            |                   |            |
|              |                | 63 68       | 24,7% 26,7%    | Shutter Black = Cyan                    |                                                                            |                   |            |
|              |                | 69 255      | 27,1% 100,0%   | Reserved (No function)                  |                                                                            |                   |            |

| Channel | Name            | DMX value |     | DMX Percentage |        | Description                        | Info           | Default DMX value | Fader type |
|---------|-----------------|-----------|-----|----------------|--------|------------------------------------|----------------|-------------------|------------|
| 20      | APERTURE        | 0         | 7   | 0,0%           | 2,7%   | Intensity Optimized                | See note ⑥     | 0 (0%)            | Snap       |
|         |                 | 8         | 15  | 3,1%           | 5,9%   | Projection Optimized               |                |                   |            |
|         |                 | 16        | 255 | 6,3%           | 100,0% | Reserved (No function)             |                |                   |            |
| 21      | CONTROL CHANNEL | 0         | 4   | 0,0%           | 1,6%   | No Function                        |                | 0 (0%)            | Snap       |
|         |                 | 5         | 9   | 2,0%           | 3,5%   | Full Reset                         | Hold 3 seconds |                   |            |
|         |                 | 10        | 14  | 3,9%           | 5,5%   | Pan Reset                          | Hold 3 seconds |                   |            |
|         |                 | 15        | 19  | 5,9%           | 7,5%   | Tilt Reset                         | Hold 3 seconds |                   |            |
|         |                 | 20        | 24  | 7,8%           | 9,4%   | Gobo Reset                         | Hold 3 seconds |                   |            |
|         |                 | 25        | 29  | 9,8%           | 11,4%  | Zoom Reset                         | Hold 3 seconds |                   |            |
|         |                 | 30        | 34  | 11,8%          | 13,3%  | Sleep                              | See note ③     |                   |            |
|         |                 | 35        | 39  | 13,7%          | 15,3%  | Display Off                        | Hold 3 seconds |                   |            |
|         |                 | 40        | 44  | 15,7%          | 17,3%  | Display On                         | Hold 3 seconds |                   |            |
|         |                 | 45        | 115 | 17,6%          | 45,1%  | LED Frequency (100 kHz - 1,41 kHz) | See note ④     |                   |            |
|         |                 | 116       | 119 | 45,5%          | 46,7%  | Capture Scene 1                    | See note ⑤     |                   |            |
|         |                 | 120       | 123 | 47,1%          | 48,2%  | Capture Scene 2                    |                |                   |            |
|         |                 | 124       | 127 | 48,6%          | 49,8%  | Capture Scene 3                    |                |                   |            |
|         |                 | 128       | 131 | 50,2%          | 51,4%  | Capture Scene 4                    |                |                   |            |
|         |                 | 132       | 135 | 51,8%          | 52,9%  | Capture Scene 5                    |                |                   |            |
|         |                 | 136       | 139 | 53,3%          | 54,5%  | Capture Scene 6                    |                |                   |            |
|         |                 | 140       | 143 | 54,9%          | 56,1%  | Capture Scene 7                    |                |                   |            |
|         |                 | 144       | 147 | 56,5%          | 57,6%  | Capture Scene 8                    |                |                   |            |
|         |                 | 148       | 151 | 58,0%          | 59,2%  | Capture Scene 9                    |                |                   |            |
|         |                 | 152       | 155 | 59,6%          | 60,8%  | Capture Scene 10                   |                |                   |            |
|         |                 | 156       | 159 | 61,2%          | 62,4%  | Capture Scene 11                   |                |                   |            |
|         |                 | 160       | 163 | 62,7%          | 63,9%  | Capture Scene 12                   |                |                   |            |
|         |                 | 164       | 167 | 64,3%          | 65,5%  | Capture Scene 13                   |                |                   |            |
|         |                 | 168       | 171 | 65,9%          | 67,1%  | Capture Scene 14                   |                |                   |            |
|         |                 | 172       | 175 | 67,5%          | 68,6%  | Capture Scene 15                   |                |                   |            |
|         |                 | 176       | 179 | 69,0%          | 70,2%  | Capture Scene 16                   |                |                   |            |
|         |                 | 180       | 183 | 70,6%          | 71,8%  | Capture Scene 17                   |                |                   |            |
|         |                 | 184       | 187 | 72,2%          | 73,3%  | Capture Scene 18                   |                |                   |            |
|         |                 | 188       | 191 | 73,7%          | 74,9%  | Capture Scene 19                   |                |                   |            |
|         |                 | 192       | 195 | 75,3%          | 76,5%  | Capture Scene 20                   |                |                   |            |
|         |                 | 196       | 199 | 76,9%          | 78,0%  | Capture Scene 21                   |                |                   |            |
|         |                 | 200       | 203 | 78,4%          | 79,6%  | Capture Scene 22                   |                |                   |            |
|         |                 | 204       | 207 | 80,0%          | 81,2%  | Capture Scene 23                   |                |                   |            |
|         |                 | 208       | 211 | 81,6%          | 82,7%  | Capture Scene 24                   |                |                   |            |
|         |                 | 212       | 255 | 83,1%          | 100,0% | Reserved (No function)             |                |                   |            |

① 'Pre-Heat' Enabled = Ready for instant operation. ② 'Pre-Heat' Disabled = To perform a complete blackout, use "Open 2". This will take 400 millsec to exit.

③ All other channels must be zero and this has to be held for 30 seconds (fixture will wake up on a full reset).

④ Set LED frequency refresh rate, see separate documentation for frequencies, see manual for details, value must be hold to keep setting (default value 1,41 kHz).

⑤ Hold for 3 sec to capture scenes for internal program (stand-alone operation) see user manual for details.

⑥ Aperture settings can be set for two scenarios, optimized for maximum output and optimized for highest projection quality.