

## 4 DMX Channel Selection (DMX Protocol)

### Normal-Mode 20 DMX channels

| Channel                           | Function  | Time and Value            | DMX      | HEX                   | %         |           |
|-----------------------------------|---|---------------------------|----------|-----------------------|-----------|-----------|
| 1) PAN-coarse                     | 0 .. 660°   |                           | 0..255   | 00..FF                | 0..100    |           |
| 2) PAN-fine                       | High- Pos ... High- Pos + 2.6° (16 Bit)           |                           | 0..255   | 00..FF                | 0..100    |           |
| 3) Tilt-coarse                    | 0 .. 300°   |                           | 0..255   | 00..FF                | 0..100    |           |
| 4) Tilt-fine                      | High- Pos ... High- Pos + 1.2° (16 Bit)           |                           | 0..255   | 00..FF                | 0..100    |           |
| 5) Color (fixed)                  | Colors adjustable via RGB                         |                           | 0..7     | 00..07                | 0..2..5   |           |
|                                   | Color 01 - Red <sup>1)</sup>                      |                           | 8..15    | 08..0F                | 3..5..5   |           |
|                                   | Color 02 - Amber <sup>1)</sup>                    |                           | 16..23   | 10..17                | 6..8..5   |           |
|                                   | Color 03 - Warm Yellow <sup>1)</sup>              |                           | 24..31   | 18..1F                | 9..12..5  |           |
|                                   | Color 04 - Yellow <sup>1)</sup>                   |                           | 32..39   | 20..27                | 13..15..5 |           |
|                                   | Color 05 - Green <sup>1)</sup>                    |                           | 40..47   | 28..2F                | 16..18..5 |           |
|                                   | Color 06 - Turquoise <sup>1)</sup>                |                           | 48..55   | 30..37                | 19..21..5 |           |
|                                   | Color 07 - Cyan <sup>1)</sup>                     |                           | 56..63   | 38..3F                | 22..24..5 |           |
|                                   | Color 08 - Blue <sup>1)</sup>                     |                           | 64..71   | 40..47                | 25..27..5 |           |
|                                   | Color 09 - Lavender <sup>1)</sup>                 |                           | 72..79   | 48..4F                | 28..30..5 |           |
|                                   | Color 10 - Malve <sup>1)</sup>                    |                           | 80..87   | 50..57                | 31..34..5 |           |
|                                   | Color 11 - Magenta <sup>1)</sup>                  |                           | 88..95   | 58..5F                | 35..37..5 |           |
|                                   | Color 12 - Pink <sup>1)</sup>                     |                           | 96..103  | 60..67                | 38..40..5 |           |
|                                   | White - CTO                                       | 3200K                     |          | 104..111              | 68..6F    | 41..43..5 |
|                                   | White   | 5600K                     |          | 112..119              | 70..77    | 44..46..5 |
|                                   | White - CTB                                       | 7200K                     |          | 120..127              | 78..7F    | 47..49..5 |
| Rainbow Effect Stop <sup>2)</sup> |   |                           | 128      | 80                    | 50        |           |
| Rainbow Effect <sup>3)</sup>      | slow - fast                                       |                           | 129..223 | 81..DF                | 51..88    |           |
| Random colors                     | slow - fast                                       |                           | 224..255 | E0..FF                | 89..100   |           |
| 6) Red                            | Color mixing system - Red                         | 0 - 100%                  | 0..255   | 00..FF                | 0..100    |           |
| 7) Green                          | Color mixing system - Green                       | 0 - 100%                  | 0..255   | 00..FF                | 0..100    |           |
| 8) Blue                           | Color mixing system - Blue                        | 0 - 100%                  | 0..255   | 00..FF                | 0..100    |           |
| 9) White                          | Color mixing system - White                       | 0 - 100%                  | 0..255   | 00..FF                | 0..100    |           |
| 10) Shutter                       | Shutter closed                                    |                           | 0..15    | 00..0F                | 0..5..5   |           |
|                                   | Shutter pulse random                              | slow – fast               | 16..47   | 10..2F                | 6..18..5  |           |
|                                   | Up-dimming then Shutter closing (random patterns) | slow – fast               | 48..79   | 30..4F                | 19..31    |           |
|                                   | Shutter open then down-dimming (random patterns)  | slow – fast               | 80..111  | 50..6F                | 32..43    |           |
|                                   | Up-dimming then down-dimming (random patterns)    | slow – fast               | 112..143 | 70..8F                | 44..56    |           |
|                                   | Strobe effect pause                               | 5s - 0.1s                 |          | 160..199              | A0..C7    | 63..77    |
|                                   | Strobe effect slow - fast                         | 1 Hz - 10 Hz              |          | 200..239              | C8..EF    | 78..94    |
|                                   | Shutter open                                      |                           |          | 240..255              | F0..FF    | 95..100   |
| 11) Dimmer                        | Dimmer  | 0 - 100%                  | 0..255   | 0..FF                 | 0..100    |           |
| 12) CTO                           | No CTO  |                           | 0..7     | 0..07                 | 0..2..5   |           |
|                                   | Continuous color temperature correction           | Applicable for ALL colors | 8..255   | 08..FF                | 3..100    |           |
| 13) Special                       | Pattern Block 1 → channel 17                      |                           | 0..3     | 00..03                | 0..1      |           |
|                                   | Pattern Block 2 → channel 17                      |                           | 4..7     | 04..07                | 1.5..2.5  |           |
|                                   | Change PWM frequency                              |                           | 100..200 | 64..C8                | 40..78    |           |
|                                   | RESET   |                           | 250..255 | FA..FF                | 98..100   |           |
| 14) Movement                      | No macros   |                           | 0        | 00                    | 0         |           |
|                                   | Movement  | Size                      | Phase    | Use "Speed" to adjust |           |           |

| Channel                   | Function  | Time and Value       | DMX                  | HEX      | %       |        |
|---------------------------|---|----------------------|----------------------|----------|---------|--------|
| <b>macros</b>             | PAN   | 1                    | 0°                   | 01..01   | 01..01  | 0.5    |
|                           |   | 1                    | 90°                  | 02..03   | 02..03  | 1.0    |
|                           |   | 1                    | 180°                 | 04..05   | 04..05  | 1.7    |
|                           |   | 1                    | 270°                 | 06..07   | 06..07  | 2.5    |
|                           | PAN   | 2                    | 0°                   | 08..09   | 08..09  | 3.3    |
|                           |   | 2                    | 90°                  | 10..11   | 0A..0B  | 4.1    |
|                           |   | 2                    | 180°                 | 12..13   | 0C..0D  | 4.9    |
|                           |   | 2                    | 270°                 | 14..15   | 0E..0F  | 5.7    |
|                           | PAN   | 3                    | 0°                   | 16..17   | 11..11  | 6.5    |
|                           |   | 3                    | 90°                  | 18..19   | 12..13  | 7.3    |
|                           |   | 3                    | 180°                 | 20..21   | 14..15  | 8.0    |
|                           |   | 3                    | 270°                 | 22..23   | 16..17  | 8.8    |
|                           | PAN   | 4                    | 0°                   | 24..25   | 18..19  | 9.6    |
|                           |   | 4                    | 90°                  | 26..27   | 1A..1B  | 10.4   |
|                           |   | 4                    | 180°                 | 28..29   | 1C..1D  | 11.2   |
|                           |   | 4                    | 270°                 | 30..31   | 1E..1F  | 12     |
|                           |   | TILT                 | size / phase see PAN | 32..63   | 20..3F  | 13..25 |
|                           |   | PAN / TILT           | size / phase see PAN | 64..95   | 40..5F  | 26..37 |
|                           |   | PAN / TILT (inverse) | size / phase see PAN | 96..127  | 60..7F  | 38..50 |
|                           |   | Circle               | size / phase see PAN | 128..159 | 80..9F  | 51..62 |
|                           | Circle (inverse)  | size / phase see PAN | 160..191             | A0..BF   | 63..75  |        |
|                           | Lying eight   | size / phase see PAN | 192..223             | C0..DF   | 76..87  |        |
|                           | Random movement   | size / phase see PAN | 224..255             | E0..FF   | 88..100 |        |
| <b>15) Speed</b>          | Pan/Tilt movement speed from controller   |                      | 0..1                 | 00..01   | 0..0.5  |        |
| <b>Pan/Tilt</b>           | Pan/Tilt, slow – fast<br>Use this channel also for the speed of the movements (channel 14). |                      | 02..255              | 02..FF   | 1..100  |        |
| <b>16) Zoom</b>           | Wide - narrow (spot)  |                      | 0...255              | 00...FF  | 0...100 |        |
| <b>17) Pattern</b>        | No pattern  |                      | 0..2                 | 00..02   | 0..1    |        |
|                           | 250 pre-defined patterns (see appendix A)   |                      | 03..253              | 03..FD   | 2..99   |        |
|                           | Activates direct access to LED Pattern  | See channels 18-20   | 254..255             | FE..FF   | 100     |        |
| <b>18) Pattern Byte 1</b> | Direct access to Pattern of LED 1..8  |                      | 0...255              | 00...FF  | 0...100 |        |
| <b>19) Pattern Byte 2</b> | Direct access to Pattern of LED 9..16   |                      | 0...255              | 00...FF  | 0...100 |        |
| <b>20) Pattern Byte 3</b> | Direct access to Pattern of LED 17..19  |                      | 0..07                | 00...07  | 0..2.5  |        |

### Compress-Mode 14 DMX channels

| Channel               | Function                                | Time and Value | DMX    | HEX    | %      |
|-----------------------|---|----------------|--------|--------|--------|
| <b>1) PAN-coarse</b>  | 0 .. 660°                               |                | 0..255 | 00..FF | 0..100 |
| <b>2) PAN-fine</b>    | High- Pos ... High- Pos + 2.6° (16 Bit) |                | 0..255 | 00..FF | 0..100 |
| <b>3) Tilt-coarse</b> | 0 .. 300°                               |                | 0..255 | 00..FF | 0..100 |
| <b>4) Tilt-fine</b>   | High- Pos ... High- Pos + 1.2° (16 Bit) |                | 0..255 | 00..FF | 0..100 |
| <b>5) Color</b>       | Colors adjustable via RGB               |                | 0..7   | 00..07 | 0..2.5 |

| Channel                           | Function   | Time and Value             | DMX      | HEX      | %        |          |
|-----------------------------------|--|----------------------------|----------|----------|----------|----------|
| <b>(fixed)</b>                    | Color 01 - Red <sup>1)</sup>                         |                            | 8..15    | 08..0F   | 3..5.5   |          |
|                                   | Color 02 - Amber <sup>1)</sup>                       |                            | 16..23   | 10..17   | 6..8.5   |          |
|                                   | Color 03 - Warm Yellow <sup>1)</sup>                 |                            | 24..31   | 18..1F   | 9..12.5  |          |
|                                   | Color 04 - Yellow <sup>1)</sup>                      |                            | 32..39   | 20..27   | 13..15.5 |          |
|                                   | Color 05 - Green <sup>1)</sup>                       |                            | 40..47   | 28..2F   | 16..18.5 |          |
|                                   | Color 06 - Turquoise <sup>1)</sup>                   |                            | 48..55   | 30..37   | 19..21.5 |          |
|                                   | Color 07 - Cyan <sup>1)</sup>                        |                            | 56..63   | 38..3F   | 22..24.5 |          |
|                                   | Color 08 - Blue <sup>1)</sup>                        |                            | 64..71   | 40..47   | 25..27.5 |          |
|                                   | Color 09 - Lavender <sup>1)</sup>                    |                            | 72..79   | 48..4F   | 28..30.5 |          |
|                                   | Color 10 - Mauve <sup>1)</sup>                       |                            | 80..87   | 50..57   | 31..34.5 |          |
|                                   | Color 11 - Magenta <sup>1)</sup>                     |                            | 88..95   | 58..5F   | 35..37.5 |          |
|                                   | Color 12 - Pink <sup>1)</sup>                        |                            | 96..103  | 60..67   | 38..40.5 |          |
|                                   | White - CTO  | Color temperature<br>3200K |          | 104..111 | 68..6F   | 41..43.5 |
|                                   | White  | Color temperature<br>5600K |          | 112..119 | 70..77   | 44..46.5 |
|                                   | White - CTB  | Color temperature<br>7200K |          | 120..127 | 78..7F   | 47..49.5 |
| Rainbow Effect Stop <sup>2)</sup> |  |                            | 128      | 80       | 50       |          |
| Rainbow Effect <sup>3)</sup>      | slow - fast  |                            | 129..223 | 81..DF   | 51..88   |          |
| Rainbow Effect, random colors     | slow - fast  |                            | 224..255 | E0..FF   | 89..100  |          |
| <b>6) Red</b>                     | Color mixing system - Red                            | 0 - 100%                   | 0..255   | 00..FF   | 0..100   |          |
| <b>7) Green</b>                   | Color mixing system - Green                          | 0 - 100%                   | 0..255   | 00..FF   | 0..100   |          |
| <b>8) Blue</b>                    | Color mixing system - Blue                           | 0 - 100%                   | 0..255   | 00..FF   | 0..100   |          |
| <b>9) White</b>                   | Color mixing system - White                          | 0 - 100%                   | 0..255   | 00..FF   | 0..100   |          |
| <b>10) Shutter</b>                | Shutter closed                                       |                            | 0..15    | 00..0F   | 0..5.5   |          |
|                                   | Random Pulse effect                                  | slow - fast                | 16..47   | 10..2F   | 6..18.5  |          |
|                                   | Up-dimming then Shutter closing<br>(random patterns) | slow - fast                | 48..79   | 30..4F   | 19..31.5 |          |
|                                   | Shutter open then down-dimming<br>(random patterns)  | slow - fast                | 80..111  | 50..6F   | 32..43   |          |
|                                   | Up-dimming then down-dimming<br>(random patterns)    | slow - fast                | 112..143 | 70..8F   | 44..56   |          |
|                                   | Strobe effect pause                                  | 5s .. 1s                   | 144..199 | A0..C7   | 57..77   |          |
|                                   | Strobe effect, slow - fast                           | 1 Hz .. 10 Hz              | 200..239 | C8..EF   | 78..94   |          |
|                                   | Shutter open   |                            | 240..249 | F0..F9   | 95..97.5 |          |
|                                   | Shutter open   |                            | 251..255 | FB..FF   | 99..100  |          |
| <b>11) Dimmer</b>                 | Dimmer   | 0 - 100%                   | 0..255   | 0..FF    | 0..100   |          |
| <b>12) Zoom</b>                   | Wide - narrow (spot)                                 |                            | 0...255  | 00...FF  | 0...100  |          |
| <b>13) Special</b>                | Pattern Block 1 → channel 14                         |                            | 0..3     | 00..03   | 0..1     |          |
|                                   | Pattern Block 2 → channel 14                         |                            | 4..7     | 04..07   | 1.5..2.5 |          |
|                                   | Change PWM frequency                                 |                            | 100..200 | 64..C8   | 40..78   |          |
|                                   | <b>RESET</b>   |                            | 250..255 | FA..FF   | 98..100  |          |
| <b>14) Pattern</b>                | No pattern   |                            | 0..2     | 00..02   | 0..1     |          |
|                                   | 250 pre-defined patterns<br>(see appendix A)         |                            | 03..253  | 03..FD   | 2..99    |          |

**High Resolution (Extended) -Mode 21 DMX Channels**

| Channel            | Function  | Time and Value     | DMX       | HEX     | %        |
|--------------------|---|--------------------|-----------|---------|----------|
| 1) PAN-coarse      | 0 .. 660°   |                    | 0..255    | 00..FF  | 0..100   |
| 2) PAN-fine        | High- Pos ... High- Pos + 2.6° (16 Bit)           |                    | 0..255    | 00..FF  | 0..100   |
| 3) Tilt-coarse     | 0 .. 300°   |                    | 0..255    | 00..FF  | 0..100   |
| 4) Tilt-fine       | High- Pos ... High- Pos + 1.2° (16 Bit)           |                    | 0..255    | 00..FF  | 0..100   |
| 5) Red-coarse      | Color mixing system – Red                         | 0 - 100%           | 0..255    | 00..FF  | 0..100   |
| 6) Red-fine        | Color mixing system – Red-Low                     |                    | 0..255    | 00..FF  | 0..100   |
| 7) Green-coarse    | Color mixing system – Green                       | 0 - 100%           | 0..255    | 00..FF  | 0..100   |
| 8) Green-fine      | Color mixing system – Green-Low                   |                    | 0..255    | 00..FF  | 0..100   |
| 9) Blue-coarse     | Color mixing system – Blue                        | 0 - 100%           | 0..255    | 00..FF  | 0..100   |
| 10) Blue-fine      | Color mixing system – Blue-Low                    |                    | 0..255    | 00..FF  | 0..100   |
| 11) White-coarse   | Color mixing system – White                       | 0 - 100%           | 0..255    | 00..FF  | 0..100   |
| 12) White-fine     | Color mixing system – White-Low                   |                    | 0..255    | 00..FF  | 0..100   |
| 13) Shutter        | Shutter closed                                    |                    | 0..15     | 00..0F  | 0..5.5   |
|                    | Random Pulse effect                               | slow - fast        | 16..47    | 10..2F  | 6..18.5  |
|                    | Up-dimming then Shutter closing (random patterns) | slow - fast        | 48..79    | 30..4F  | 19..31.5 |
|                    | Shutter open then down-dimming (random patterns)  | slow - fast        | 80..111   | 50..6F  | 32..43   |
|                    | Up-dimming then down-dimming (random patterns)    | slow - fast        | 112..143  | 70..8F  | 44..56   |
|                    | Strobe effect pause                               | 5s - 1s            | 144..199  | A0..C7  | 57..77   |
|                    | Strobe effect, slow - fast                        | 1 Hz - 10 Hz       | 200..239  | C8..EF  | 78..94   |
|                    | Shutter open                                      |                    | 240...249 | F0..F9  | 95..97.5 |
|                    | Shutter open                                      |                    | 251..255  | FB..FF  | 99..100  |
| 14) Dimmer-coarse  | Dimmer  | 0 - 100%           | 0..255    | 0..FF   | 0..100   |
| 15) Dimmer-fine    | Dimmer - Low                                      |                    | 0..255    | 0..FF   | 0..100   |
| 16) Zoom           | Spot - Flood                                      |                    | 0...255   | 00...FF | 0...100  |
| 17) Special        | Pattern Block 1 → channel 18                      |                    | 0..3      | 00..03  | 0..1     |
|                    | Pattern Block 2 → channel 18                      |                    | 4..7      | 04..07  | 1.5..2.5 |
|                    | Change PWM frequency                              |                    | 100..200  | 64..C8  | 40..78   |
|                    | <b>RESET</b>                                      |                    | 250..255  | FA..FF  | 98..100  |
| 18) Pattern        | No pattern  |                    | 0..2      | 00..02  | 0..1     |
|                    | 250 pre-defined patterns (see appendix A)         |                    | 03..253   | 03..FD  | 2..99    |
|                    | Activates direct access to LED Pattern            | See channels 18-20 | 254..255  | FE..FF  | 100      |
| 19) Pattern Byte 1 | Direct access to Pattern of LED 1..8              |                    | 0...255   | 00...FF | 0...100  |
| 20) Pattern Byte 2 | Direct access to Pattern of LED 9..16             |                    | 0...255   | 00...FF | 0...100  |

| Channel            | Function                               | Time and Value | DMX   | HEX     | %      |
|--------------------|--|----------------|-------|---------|--------|
| 21) Pattern Byte 3 | Direct access to Pattern of LED 17..19 |                | 0..07 | 00...07 | 0..2.5 |

<sup>1)</sup> The predefined colors can be used as start-colors for the Rainbow effect. Please select first a desired start-color before you activate the rainbow effect. All **IMPRESSION X4** will then start from that color and will execute the rainbow effect synchronously. Different **IMPRESSION X4** can have different start-colors but will still execute the rainbow effect synchronously. If you choose a color different from the ones marked with <sup>1)</sup> in the tables above the rainbow start-color will be red.

<sup>2)</sup> Rainbow-effect Stop will pause this function. After resuming the rainbow-effect will be continued from the current color.

<sup>3)</sup> The Rainbow-effect will run synchronously only if started from one of the predefined colors (see also <sup>1)</sup> before).

### Locking and unlocking the Control Panel

Please lock and unlock the control panel by pressing the menu keys **MODE & ENTER & UP** at the same time.

### Additional Display Indications

As a default you'll find the following additional information in the first row of the LCD display:

Vxx/xx/xx/xx/x

