DMX REFERENCE

# Robin MMX Blade

Robe Lighting




| | |
|---|---|
| **Manufacturer** | Robe Lighting |
| **GDTF file** | Robe_Lighting_Robin_MMX_Blade_116795.gdtf |
| **GDTF revision** | 2025-11-10 Personality RDM number revision |
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# 1 About this manual

This document describes the Robin MMX Blade™ by Robe Lighting. It was compiled from the GDTF file Robe_Lighting_Robin_MMX_Blade_116795.gdtf from the GDTF-Share library.

File revision: “2025-11-10 Personality RDM number revision”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by Robe Lighting; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

# 2 Quick reference

| Parameter | Value |
|---|---|
| Power consumption | 1,020 W |
| Weight | 26.7 kg |

### DMX modes

| Mode | Channels | Units in one universe | First start addresses |
|---|---|---|---|
| Mode 1 - Standard | 45 | 11 | 1, 46, 91, 136, ... |
| Mode 2 - Reduced | 39 | 13 | 1, 40, 79, 118, ... |
| Mode 3 - 8 bit | 37 | 13 | 1, 38, 75, 112, ... |

### No light? Check these channels

- Mode 1 - Standard: CH 43 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Mode 2 - Reduced: CH 38 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Mode 3 - 8 bit: CH 36 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

# 3 Safety instructions


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

**⚠ WARNING**

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

**⚠ WARNING**

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

**⚠ WARNING**

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

**⚠ CAUTION**

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

> ⚠ **CAUTION**
>
> - Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
> - Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them longer than necessary.

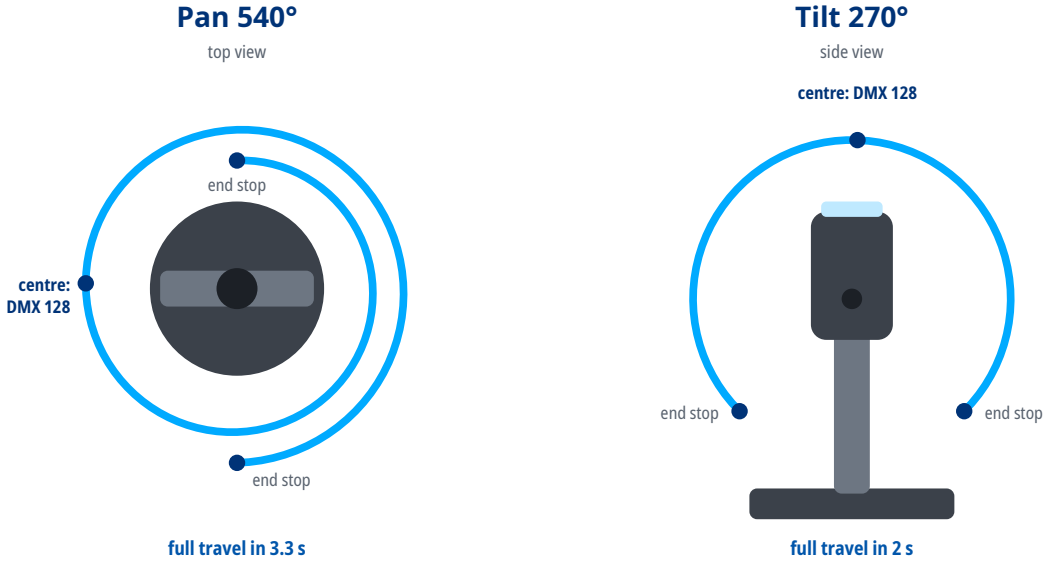
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
> - Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

# 4 Product description

### Description in the GDTF file

“Four fast, smooth moving, shutter blades are individually angled and positioned within a frame which itself can rotate through 90 degrees. As well as providing a sharp or soft, precisely repeatable, frame for the projected image, the system produces a new series of fast moving in-air effects through pre-programmed blade shape and movement sequences. The MMX Blade includes many of the innovative features of the MMX including the Robe exclusive Hot-Spot lamp control feature that allows remote adjustment of flat beam uniformity or power beam hot-spot.”

### Range of movement




Full-travel times as stated in the GDTF file.

# 5 Installation

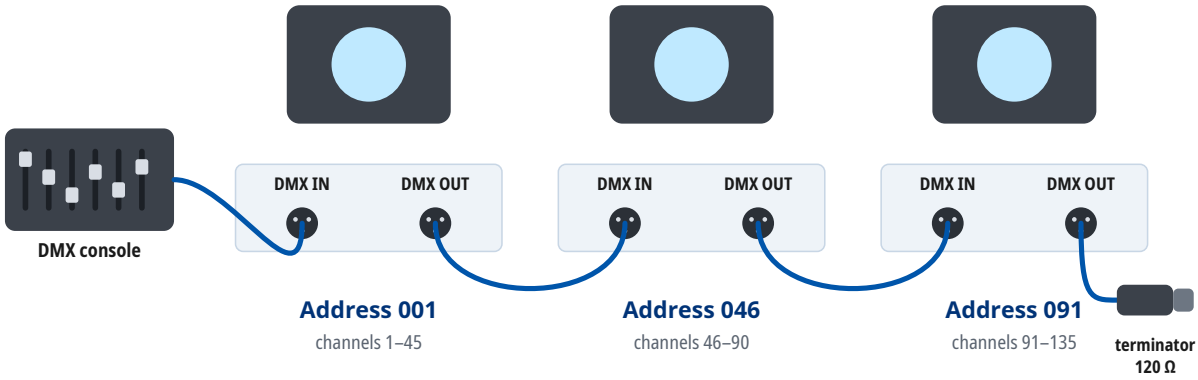
⚠ **WARNING**

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 26.7 kg.
- Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
- Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
- During installation and removal, keep people out of the area below the work position.
- Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

# 6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

### DMX line




Mode 1 - Standard: every unit occupies 45 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

## 7 Operation

### Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode 1 - Standard”: 45.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “Mode 1 - Standard”, you can use, for example, the start addresses 1, 46, 91, 136.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

# 8 Functions at a glance

## Functions in each DMX mode

| | Mode 1 - Standard<br>45 channels | Mode 2 - Reduced<br>39 channels | Mode 3 - 8 bit<br>37 channels |
|---|---|---|---|
| Pan / Tilt | 1, 3 | 1, 3 | 1, 2 |
| Pan / Tilt resolution | 16 bit | 16 bit | 8 bit |
| Dimmer | 44 | 39 | 37 |
| Dimmer resolution | 16 bit | 8 bit | 8 bit |
| Shutter / strobe | 43 | 38 | 36 |
| Color mixing | 9–11 | 8–10 | 6–8 |
| Color temperature | 12 | 11 | 9 |
| Color wheel | 7 | 7 | 5 |
| Gobo wheel | 18 | 17 | 15 |
| Gobo rotation | 19 * | 18 * | 16 * |
| Prism | 21, 22 | 19, 20 | 17, 18 |
| Frost | 23 | 21 | 19 |
| Zoom | 26 | 23 | 21 |
| Focus | 28, 30 | 24, 25 | 22, 23 |
| Iris | 24 | 22 | 20 |
| Animation wheel | 15–17 | 14–16 | 12–14 |
| Effects / macros | 4 channels (13–40) | 4 channels (12–35) | 4 channels (10–33) |

* The function works only when another channel switches it on; see the DMX table.

## Gobo wheel

1

Gobo 1 Index: Open/hole
DMX 0–3

2

Gobo 1
DMX 4–7

3

Gobo 2
DMX 8–11

4

Gobo 3
DMX 12–15

5

Gobo 4
DMX 16–19

6

Gobo 5
DMX 20–23

7

Gobo 6
DMX 24–27

8

G07 (Dot Breakup)
DMX 28–32

## Color wheel

1 Open/white - continual
DMX 0–7

2 Deep red - continual
DMX 8–26

3 Deep blue - continual
DMX 27–45

4 Orange - continual
DMX 46–62

5 Green - continual
DMX 63–81

6 Amber - continual
DMX 82–98

7 Congo blue (UV) - continual
DMX 99–119

## Animation wheel

1 Animation Wheel Index: Open
DMX 0–19

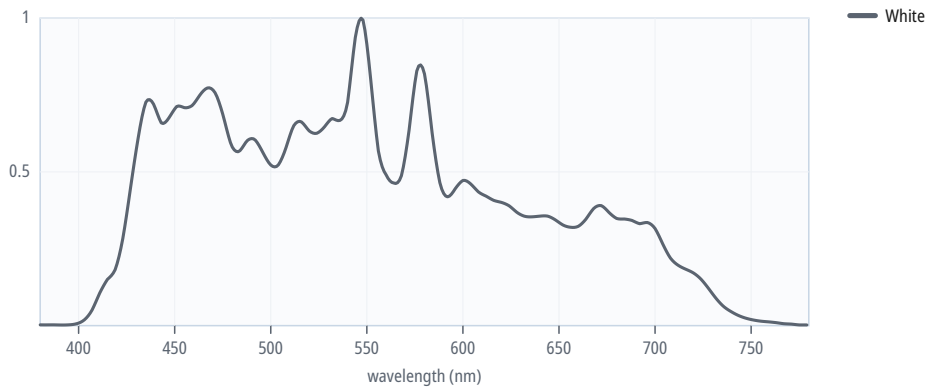
2 Proportional indexing min
DMX 20

## Prism

1 Open position/hole
DMX 0–19

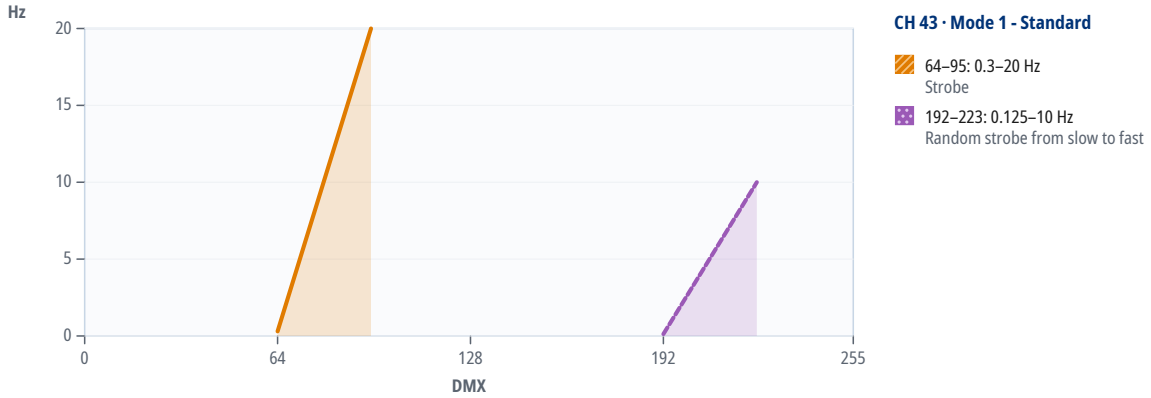
2 5 facets
P02 (5F Circular)
DMX 20–128

## Spectra of the light sources




Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

### Strobe rate




# 9 DMX channels

### Units in one DMX universe




### Start addresses of 20 units in the mode “Mode 1 - Standard”

| Unit | Start address | Unit | Start address | Unit | Start address | Unit | Start address |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 6 | 226 | 11 | 451 | 16 | U2 · 181 |
| 2 | 46 | 7 | 271 | 12 | U2 · 1 | 17 | U2 · 226 |
| 3 | 91 | 8 | 316 | 13 | U2 · 46 | 18 | U2 · 271 |
| 4 | 136 | 9 | 361 | 14 | U2 · 91 | 19 | U2 · 316 |
| 5 | 181 | 10 | 406 | 15 | U2 · 136 | 20 | U2 · 361 |

Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

### RDM personalities

| Mode | Channels | RDM personality |
|---|---|---|
| Mode 1 - Standard | 45 | 1 |
| Mode 2 - Reduced | 39 | 2 |
| Mode 3 - 8 bit | 37 | 3 |

## Mode 1 - Standard

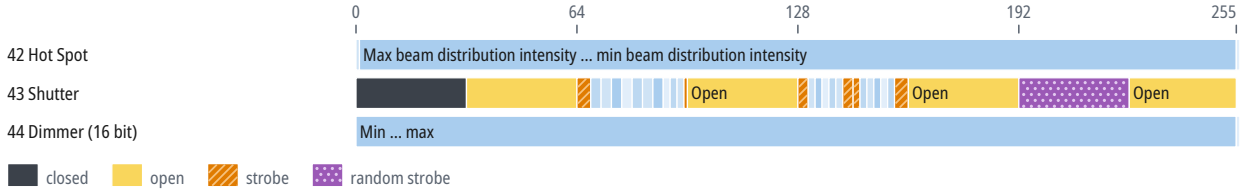
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 43 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 7 Colors 0, CH 9 Cyan 0, CH 10 Magenta 0, CH 11 Yellow 0, CH 12 CTO 0, CH 13 Color Macro 0, CH 43 Shutter 32, CH 44 Dimmer 255.

### Channel functions at a glance



## Channel functions at a glance




| CH | Function | DMX | Description |
|---|---|---|---|
| **1** | Pan | 0–127 | Pan |
| | | 128 | Center |
| | | 128–255 | Pan |
| **2** | Pan Fine | 0–255 | Fine adjustment of CH 1 |
| **3** | Tilt | 0–127 | Tilt |
| | | 128 | Center |
| | | 128–255 | Tilt |
| **4** | Tilt Fine | 0–255 | Fine adjustment of CH 3 |
| **5** | Speed Pan/Tilt | 0 | Standard mode |
| | | 1 | Max Speed Mode |
| | | 2–254 | Speed/Time max to min |
| | | 255 | Min Speed Mode |
| **6** | Control | 0–9 | No function |
| | | 10–14 | Wired DMX |
| | | 15–19 | Wireless DMX |
| | | 20–29 | No function |
| | | 30–34 | Pan/Tilt acceleration high |
| | | 35–39 | Pan/Tilt acceleration compatible |
| | | 40–44 | Dimmer - Compatible curve |
| | | 45–49 | Dimmer - SYNC curve |
| | | 50–59 | Pan/Tilt speed mode |
| | | 60–69 | Pan/Tilt time mode |
| | | 70–79 | Blackout while pan/tilt moving |
| | | 80–89 | Disabled blackout while pan/tilt moving |
| | | 90–99 | Blackout while colour wheels moving |
| | | 100–109 | Disabled blackout while colour wheels moving |
| | | 110–119 | Blackout while gobo wheel moving |
| | | 120–129 | Disabled blackout while gobo wheel moving |
| | | 130–139 | Lamp On |
| | | 140–149 | Pan/Tilt reset |
| | | 150–159 | Colour system reset |
| | | 160–169 | Gobo wheels reset |
| | | 170–179 | Dimmer/Shutter reset |
| | | 180–189 | Zoom/focus/frost/prism reset |
| | | 190–199 | Iris//farming shutters/graphic wheel reset |

| CH | Function | DMX | Description |
|---|---|---|---|
| **6** | Control (continued) | 200–209 | Total reset |
| | | 210–218 | No function |
| | | 219–220 | RoboSpot enabled |
| | | 221–222 | RoboSpot disabled except handle faders and P/T |
| | | 223–224 | RoboSpot fully disabled |
| | | 225–229 | No function |
| | | 230–239 | Lamp Off |
| | | 240 | Disabled silent mode of fans |
| | | 241 | Fan noise min |
| | | 242–254 | Fan noise min ... Fan noise max |
| | | 255 | Fan noise max |
| **7** | Colors | 0–8 | Open/white - continual |
| | | 8–27 | Deep red - continual |
| | | 27–46 | Deep blue - continual |
| | | 46–63 | Orange - continual |
| | | 63–82 | Green - continual |
| | | 82–99 | Amber - continual |
| | | 99–120 | Congo blue (UV) - continual |
| | | 120–129 | White - continual |
| | | 130–139 | Deep red - step |
| | | 140–149 | Deep blue - step |
| | | 150–159 | Orange - step |
| | | 160–169 | Green - step |
| | | 170–179 | Amber - step |
| | | 180–189 | Congo blue - step |
| | | 190–191 | Color 1 Wheel Spin: Fast to slow - Fast (800–561.6 °/s) |
| | | 192–211 | Color 1 Wheel Spin: Fast to slow - Fast ... Fast to slow - Slow (561.6–21.8 °/s) |
| | | 212–215 | Color 1 Wheel Spin: Fast to slow - Slow (21.8–2.92 °/s) |
| | | 216–217 | No rotation middle |
| | | 218–220 | Color 1 Wheel Spin: Slow to fast - Slow (2.92–21.8 °/s) |
| | | 221–240 | Color 1 Wheel Spin: Slow to fast - Slow ... Slow to fast - Fast (21.8–561.6 °/s) |
| | | 241–243 | Color 1 Wheel Spin: Slow to fast - Fast (561.6–800 °/s) |
| | | 244–249 | Random colour selection by audio control |
| | | 250–255 | Color 1 Wheel Random: fast |
| | | 255 | Color 1 Wheel Random: slow |
| **8** | Colors Fine | 0–255 | Fine adjustment of CH 7 |
| **9** | Cyan | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |

| CH | Function | DMX | Description |
|---|---|---|---|
| **10** | Magenta | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |
| **11** | Yellow | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |
| **12** | CTO | | CTO filter |
| | | 0 | CTO 7000K |
| | | 1–254 | CTO 7000K ... CTO 3200K |
| | | 255 | CTO 3200K |
| **13** | Color Macro | 0–7 | No function |
| | | 8–15 | Colour Macro 1 |
| | | 16–23 | Colour Macro 2 |
| | | 24–31 | Colour Macro 3 |
| | | 32–39 | Colour Macro 4 |
| | | 40–47 | Colour Macro 5 |
| | | 48–55 | Colour Macro 6 |
| | | 56–63 | Colour Macro 7 |
| | | 64–71 | Colour Macro 8 |
| | | 72–79 | Colour Macro 9 |
| | | 80–87 | Colour Macro 10 |
| | | 88–95 | Colour Macro 11 |
| | | 96–103 | Colour Macro 12 |
| | | 104–111 | Colour Macro 13 |
| | | 112–119 | Colour Macro 14 |
| | | 120–127 | Colour Macro 15 |
| | | 128–135 | Colour Macro 16 |
| | | 136–143 | Colour Macro 17 |
| | | 144–151 | Colour Macro 18 |
| | | 152–159 | Colour Macro 19 |
| | | 160–167 | Colour Macro 20 |
| | | 168–175 | Colour Macro 21 |
| | | 176–183 | Colour Macro 22 |
| | | 184–191 | Colour Macro 23 |
| | | 192–199 | Colour Macro 24 |
| | | 200–207 | Colour Macro 25 |
| | | 208–215 | Colour Macro 26 |
| | | 216–223 | Colour Macro 27 |
| | | 224–231 | Colour Macro 28 |
| | | 232–239 | Colour Macro 29 |
| | | 240–243 | Colour Macro 30 |

| CH | Function | DMX | Description |
|---|---|---|---|
| **13** | Color Macro (continued) | 244–249 | Random macro selection by audio control |
| | | 250–255 | Auto random macro selection from fast to slow |
| **14** | Gobo Wheel Speed | | Speed of CMY CTO and rot Gobo |
| | | 0 | Max |
| | | 1–254 | Max ... min |
| | | 255 | Min |
| **15** | Animation Wheel | 0–19 | Animation Wheel Index: Open |
| | | 20 | Proportional indexing min |
| | | 21–72 | Proportional indexing min ... Proportional indexing center |
| | | 73 | Proportional indexing center |
| | | 74–126 | Proportional indexing center ... Proportional indexing max |
| | | 127 | Proportional indexing max |
| | | 128 | Ramping from open to full max |
| | | 129–169 | Ramping from open to full max ... Ramping from open to full min |
| | | 170 | Ramping from open to full min |
| | | 171 | Ramping from open to half max |
| | | 172–212 | Ramping from open to half max ... Ramping from open to half min |
| | | 213 | Ramping from open to half min |
| | | 214 | Ramping from half to full min |
| | | 215–254 | Ramping from half to full min ... Ramping from half to full max |
| | | 255 | Ramping from half to full max |
| **16** | Animation Wheel Rotation | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (220.5–113.9 °/s) |
| | | 25–123 | Fast to slow - Fast ... Fast to slow - Slow (113.9–0.995 °/s) |
| | | 124–127 | Fast to slow - Slow (0.995–0.426 °/s) |
| | | 128 | No rotation middle |
| | | 129–131 | Slow to fast - Slow (0.426–0.995 °/s) |
| | | 132–232 | Slow to fast - Slow ... Slow to fast - Fast (0.995–113.9 °/s) |
| | | 233–255 | Slow to fast - Fast (113.9–220.5 °/s) |
| **17** | Animation Wheel Macro | 0–7 | No animation |
| | | 8–11 | No animation ... Animation Macro 3 |
| | | 12–13 | Animation Macro 3 |
| | | 14–15 | Animation Macro 4 |
| | | 16–17 | Animation Macro 5 |
| | | 18–19 | Animation Macro 6 |
| | | 20–21 | Animation Macro 7 |
| | | 22–23 | Animation Macro 8 |
| | | 24–25 | Animation Macro 9 |
| | | 26–27 | Animation Macro 10 |
| | | 28–255 | Reserved |

| CH | Function | DMX | Description |
|---|---|---|---|
| **18** | Gobo | 0–3 | Gobo 1 Index: Open/hole |
| | | 4–7 | Gobo 1 |
| | | 8–11 | Gobo 2 |
| | | 12–15 | Gobo 3 |
| | | 16–19 | Gobo 4 |
| | | 20–23 | Gobo 5 |
| | | 24–27 | Gobo 6 |
| | | 28–31 | Gobo 7 |
| | | 32–35 | Gobo 1 - Rotation |
| | | 36–39 | Gobo 2 - Rotation |
| | | 40–43 | Gobo 3 - Rotation |
| | | 44–47 | Gobo 4 - Rotation |
| | | 48–51 | Gobo 5 - Rotation |
| | | 52–55 | Gobo 6 - Rotation |
| | | 56–59 | Gobo 7 - Rotation |
| | | 60–69 | Gobo 1 - Shaking Index (0.857–8.62 Hz) |
| | | 70–79 | Gobo 2 - Shaking Index (0.857–8.62 Hz) |
| | | 80–89 | Gobo 3 - Shaking Index (0.857–8.62 Hz) |
| | | 90–99 | Gobo 4 - Shaking Index (0.857–8.62 Hz) |
| | | 100–109 | Gobo 5 - Shaking Index (0.857–8.62 Hz) |
| | | 110–119 | Gobo 6 - Shaking Index (0.857–8.62 Hz) |
| | | 120–129 | Gobo 7 - Shaking Index |
| | | 130–139 | Gobo 1 - Shaking Rotation (0.857–8.62 Hz) |
| | | 140–149 | Gobo 2 - Shaking Rotation (0.857–8.62 Hz) |
| | | 150–159 | Gobo 3 - Shaking Rotation (0.857–8.62 Hz) |
| | | 160–169 | Gobo 4 - Shaking Rotation (0.857–8.62 Hz) |
| | | 170–179 | Gobo 5 - Shaking Rotation (0.857–8.62 Hz) |
| | | 180–189 | Gobo 6 - Shaking Rotation (0.857–8.62 Hz) |
| | | 190–199 | Gobo 7 - Shaking Rotation (0.857–8.62 Hz) |
| | | 200–201 | Gobo 1 Shake Rotation: Open/hole |
| | | 202–204 | Gobo 1 Wheel Spin: Fast to slow - Fast (521–206.8 °/s) |
| | | 205–218 | Gobo 1 Wheel Spin: Fast to slow - Fast … Fast to slow - Slow (206.8–3.39 °/s) |
| | | 219–221 | Gobo 1 Wheel Spin: Fast to slow - Slow (3.39–2.35 °/s) |
| | | 222–223 | No rotation middle |
| | | 224–226 | Gobo 1 Wheel Spin: Slow to fast - Slow (2.35–3.39 °/s) |
| | | 227–240 | Gobo 1 Wheel Spin: Slow to fast - Slow … Slow to fast - Fast (3.39–206.8 °/s) |
| | | 241–243 | Gobo 1 Wheel Spin: Slow to fast - Fast (206.8–521 °/s) |
| | | 244–249 | Random gobo selection by audio control |
| | | 250 | Auto random gobo selection fast |
| | | 251–254 | Auto random gobo selection from fast to slow |
| | | 255 | Auto random gobo selection slow |

| CH | Function | DMX | Description |
|---|---|---|---|
| **19** | Gobo Rotation | | When CH 18 is 0–31: |
| | | 0–127 | Gobo indexing min ... Gobo indexing center |
| | | 128–255 | Gobo indexing center ... Gobo indexing max |
| | | 255 | Gobo indexing max |
| **20** | Gobo Rotation Fine | 0–255 | Fine adjustment of CH 19 |
| **21** | Prism | 0–19 | Open position/hole |
| | | 20–127 | Linear prism - rotating |
| | | 128–135 | Macro 1 |
| | | 136–143 | Macro 2 |
| | | 144–151 | Macro 3 |
| | | 152–159 | Macro 4 |
| | | 160–167 | Macro 5 |
| | | 168–175 | Macro 6 |
| | | 176–183 | Macro 7 |
| | | 184–191 | Macro 8 |
| | | 192–199 | Macro 9 |
| | | 200–207 | Macro 10 |
| | | 208–215 | Macro 11 |
| | | 216–223 | Macro 12 |
| | | 224–231 | Macro 13 |
| | | 232–239 | Macro 14 |
| | | 240–247 | Macro 15 |
| | | 248–255 | Macro 16 |
| **22** | Prism Rotation | | When CH 21 is 50–75: |
| | | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (751.6–358.6 °/s) |
| | | 25–124 | Fast to slow - Fast ... Fast to slow - Slow (358.6–2.4 °/s) |
| | | 125–127 | Fast to slow - Slow (2.2–0.4 °/s) |
| | | 128–129 | No rotation middle |
| | | 130–131 | Slow to fast - Slow (0.4–2.2 °/s) |
| | | 132–232 | Slow to fast - Slow ... Slow to fast - Fast (2.4–358.6 °/s) |
| | | 233–255 | Slow to fast - Fast (358.6–751.6 °/s) |
| **23** | Frost | 0 | Light Frost: Open |
| | | 1–50 | Light Frost from 0% to 100% |
| | | 51–53 | 100% Light Frost |
| | | 54–63 | Pulse closing from slow to fast - Light frost |
| | | 64–73 | Pulse opening from fast to slow - Light frost |
| | | 74–83 | Ramping from fast to slow - Light frost |
| | | 84–86 | Medium Frost: Open |
| | | 87–136 | Medium Frost from 0% to 100% |
| | | 137–139 | 100% Medium Frost |
| | | 140–149 | Pulse closing from slow to fast - Medium frost |

| CH | Function | DMX | Description |
|---|---|---|---|
| **23** | Frost (continued) | 150–159 | Pulse opening from fast to slow - Medium frost |
| | | 160–169 | Ramping from fast to slow - Medium frost |
| | | 170–172 | Combined Frost: Open |
| | | 173–222 | Combined Frost from 0% to 100% |
| | | 223–225 | 100% Combined Frost |
| | | 226–235 | Combined Frost: Pulse closing from slow to fast - Medium frost |
| | | 236–245 | Combined Frost: Pulse opening from fast to slow - Medium frost |
| | | 246–255 | Combined Frost: Ramping from fast to slow - Medium frost |
| **24** | Iris | 0–180 | Iris: Open ... Closed |
| | | 180–191 | Iris: Closed |
| | | 192–194 | Iris Pulse Open: Slow to fast - Slow (0.02–0.04 Hz) |
| | | 195–216 | Iris Pulse Open: Slow to fast - Slow ... Slow to fast - Fast (0.04–1.32 Hz) |
| | | 217–219 | Iris Pulse Open: Slow to fast - Fast (1.32–3.47 Hz) |
| | | 220–221 | Iris Pulse Close: Fast to slow - Fast (3.47–1.32 Hz) |
| | | 222–243 | Iris Pulse Close: Fast to slow - Fast ... Fast to slow - Slow (1.32–0.04 Hz) |
| | | 244–247 | Iris Pulse Close: Fast to slow - Slow (0.04–0.02 Hz) |
| | | 248–249 | Random pulse opening fast |
| | | 250–251 | Random pulse opening slow |
| | | 252–253 | Random pulse closing fast |
| | | 254–255 | Random pulse closing slow |
| **25** | Iris Fine | 0–255 | Fine adjustment of CH 24 |
| **26** | Zoom | 0–255 | Zoom max ... Zoom min |
| | | 255 | Zoom min |
| **27** | Zoom Fine | 0–255 | Fine adjustment of CH 26 |
| **28** | Focus | 0–255 | Min ... max |
| | | 255 | Max |
| **29** | Focus Fine | 0–255 | Fine adjustment of CH 28 |
| **30** | Focus Adjust | 0 | Autofocus Off |
| | | 1 | 4 metres (Iris) |
| | | 2–7 | 4 metres (Iris) ... 7 metres (Iris) |
| | | 8 | 7 metres (Iris) |
| | | 9–15 | 7 metres (Iris) ... 10 metres (Iris) |
| | | 16 | 10 metres (Iris) |
| | | 17–23 | 10 metres (Iris) ... 15 metres (Iris) |
| | | 24 | 15 metres (Iris) |
| | | 25–31 | 15 metres (Iris) ... 20 metres (Iris) |
| | | 32 | 20 metres (Iris) |
| | | 33–39 | 20 metres (Iris) ... 30 metres (Iris) |
| | | 40 | 30 metres (Iris) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **30** | Focus Adjust (continued) | 41–55 | 30 metres (Iris) ... 40 metres (Iris) |
| | | 56 | 40 metres (Iris) |
| | | 57–63 | 40 metres (Iris) ... 4 metres (Gobo wheel 1) |
| | | 64 | 4 metres (Gobo wheel 1) |
| | | 65–71 | 4 metres (Gobo wheel 1) ... 7 metres (Gobo wheel 1) |
| | | 72 | 7 metres (Gobo wheel 1) |
| | | 73–79 | 7 metres (Gobo wheel 1) ... 10 metres (Gobo wheel 1) |
| | | 80 | 10 metres (Gobo wheel 1) |
| | | 81–87 | 10 metres (Gobo wheel 1) ... 15 metres (Gobo wheel 1) |
| | | 88 | 15 metres (Gobo wheel 1) |
| | | 89–95 | 15 metres (Gobo wheel 1) ... 20 metres (Gobo wheel 1) |
| | | 96 | 20 metres (Gobo wheel 1) |
| | | 97–103 | 20 metres (Gobo wheel 1) ... 30 metres (Gobo wheel 1) |
| | | 104 | 30 metres (Gobo wheel 1) |
| | | 105–111 | 30 metres (Gobo wheel 1) ... 40 metres (Gobo wheel 1) |
| | | 112 | 40 metres (Gobo wheel 1) |
| | | 113–119 | 40 metres (Gobo wheel 1) ... 50 metres (Gobo wheel 1) |
| | | 120 | 50 metres (Gobo wheel 1) |
| | | 121–127 | 50 metres (Gobo wheel 1) ... 4 metres (Gobo wheel 2) |
| | | 128 | 4 metres (Gobo wheel 2) |
| | | 129–135 | 4 metres (Gobo wheel 2) ... 7 metres (Gobo wheel 2) |
| | | 136 | 7 metres (Gobo wheel 2) |
| | | 137–143 | 7 metres (Gobo wheel 2) ... 10 metres (Gobo wheel 2) |
| | | 144 | 10 metres (Gobo wheel 2) |
| | | 145–151 | 10 metres (Gobo wheel 2) ... 15 metres (Gobo wheel 2) |
| | | 152 | 15 metres (Gobo wheel 2) |
| | | 153–159 | 15 metres (Gobo wheel 2) ... 20 metres (Gobo wheel 2) |
| | | 160 | 20 metres (Gobo wheel 2) |
| | | 161–167 | 20 metres (Gobo wheel 2) ... 30 metres (Gobo wheel 2) |
| | | 168 | 30 metres (Gobo wheel 2) |
| | | 169–175 | 30 metres (Gobo wheel 2) ... 40 metres (Gobo wheel 2) |
| | | 176 | 40 metres (Gobo wheel 2) |
| | | 177–183 | 40 metres (Gobo wheel 2) ... 50 metres (Gobo wheel 2) |
| | | 184 | 50 metres (Gobo wheel 2) |
| | | 185–191 | 50 metres (Gobo wheel 2) ... 4 metres (Graphic wheel) |
| | | 192 | 4 metres (Graphic wheel) |
| | | 193–199 | 4 metres (Graphic wheel) ... 7 metres (Graphic wheel) |
| | | 200 | 7 metres (Graphic wheel) |
| | | 201–207 | 7 metres (Graphic wheel) ... 10 metres (Graphic wheel) |
| | | 208 | 10 metres (Graphic wheel) |
| | | 209–215 | 10 metres (Graphic wheel) ... 15 metres (Graphic wheel) |
| | | 216 | 15 metres (Graphic wheel) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **30** | Focus Adjust (continued) | 217–223 | 15 metres (Graphic wheel) ... 20 metres (Graphic wheel) |
| | | 224 | 20 metres (Graphic wheel) |
| | | 225–231 | 20 metres (Graphic wheel) ... 30 metres (Graphic wheel) |
| | | 232 | 30 metres (Graphic wheel) |
| | | 233–239 | 30 metres (Graphic wheel) ... 40 metres (Graphic wheel) |
| | | 240 | 40 metres (Graphic wheel) |
| | | 241–247 | 40 metres (Graphic wheel) ... 50 metres (Graphic wheel) |
| | | 248 | 50 metres (Graphic wheel) |
| | | 249–254 | 50 metres (Graphic wheel) ... infinity |
| | | 255 | Infinity |
| **31** | Shaper Rotation | 0 | Min |
| | | 1–127 | Min ... center |
| | | 128 | Center |
| | | 129–254 | Center ... max |
| | | 255 | Max |
| **32** | Blade 1 A | | Blade 1 - movement |
| | | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |
| **33** | Blade 1 Rotation | | Blade 1 - swivelling |
| | | 0 | Min |
| | | 1–127 | Min ... center |
| | | 128 | Center |
| | | 129–254 | Center ... max |
| | | 255 | Max |
| **34** | Blade 4 A | | Blade 2 - movement |
| | | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |
| **35** | Blade 4 Rotation | | Blade 2 - swivelling |
| | | 0 | Min |
| | | 1–127 | Min ... center |
| | | 128 | Center |
| | | 129–254 | Center ... max |
| | | 255 | Max |
| **36** | Blade 3 A | | Blade 3 - movement |
| | | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |
| **37** | Blade 3 Rotation | | Blade 3 - swivelling |
| | | 0 | Min |
| | | 1–127 | Min ... center |

| CH | Function | DMX | Description |
|---|---|---|---|
| **37** | Blade 3 Rotation (continued) | 128 | Center |
| | | 129–254 | Center … max |
| | | 255 | Max |
| **38** | Blade 2 A | | Blade 4 - movement |
| | | 0 | Min |
| | | 1–254 | Min … max |
| | | 255 | Max |
| **39** | Blade 2 Rotation | | Blade 4 - swivelling |
| | | 0 | Min |
| | | 1–127 | Min … center |
| | | 128 | Center |
| | | 129–254 | Center … max |
| | | 255 | Max |
| **40** | Shaper Macros | 0–3 | No function |
| | | 4–7 | Macro 1 |
| | | 8–11 | Macro 2 |
| | | 12–15 | Macro 3 |
| | | 16–19 | Macro 4 |
| | | 20–23 | Macro 5 |
| | | 24–27 | Macro 6 |
| | | 28–31 | Macro 7 |
| | | 32–35 | Macro 8 |
| | | 36–39 | Macro 9 |
| | | 40–43 | Macro 10 |
| | | 44–47 | Macro 11 |
| | | 48–51 | Macro 12 |
| | | 52–55 | Macro 13 |
| | | 56–59 | Macro 14 |
| | | 60–63 | Macro 15 |
| | | 64–67 | Macro 16 |
| | | 68–71 | Macro 17 |
| | | 72–75 | Macro 18 |
| | | 76–79 | Macro 19 |
| | | 80–83 | Macro 20 |
| | | 84–87 | Macro 21 |
| | | 88–91 | Macro 22 |
| | | 92–95 | Macro 23 |
| | | 96–99 | Macro 24 |
| | | 100–103 | Macro 25 |
| | | 104–107 | Macro 26 |
| | | 108–111 | Macro 27 |
| | | 112–115 | Macro 28 |

| CH | Function | DMX | Description |
|---|---|---|---|
| **40** | Shaper Macros (continued) | 116–119 | Macro 29 |
| | | 120–123 | Macro 30 |
| | | 124–127 | Macro 31 |
| | | 128–131 | Macro 32 |
| | | 132–135 | Macro 33 |
| | | 136–139 | Macro 34 |
| | | 140–143 | Macro 35 |
| | | 144–147 | Macro 36 |
| | | 148–151 | Macro 37 |
| | | 152–155 | Macro 38 |
| | | 156–159 | Macro 39 |
| | | 160–163 | Macro 40 |
| | | 164–167 | Macro 41 |
| | | 168–171 | Macro 42 |
| | | 172–175 | Macro 43 |
| | | 176–179 | Macro 44 |
| | | 180–183 | Macro 45 |
| | | 184–187 | Macro 46 |
| | | 188–191 | Macro 47 |
| | | 192–195 | Macro 48 |
| | | 196–199 | Macro 49 |
| | | 200–203 | Macro 50 |
| | | 204–207 | Macro 51 |
| | | 208–211 | Macro 52 |
| | | 212–255 | No function |
| **41** | Shaper Macros Speed | 0–255 | Speed from slow to fast |
| **42** | Hot Spot | 0 | Max beam distribution intensity |
| | | 1–254 | Max beam distribution intensity ... min beam distribution intensity |
| | | 255 | Min beam distribution intensity |
| **43** | Shutter | 0–31 | Open/Closed: Closed |
| | | 32–63 | Open/Closed: Open |
| | | 64–67 | Strobe: Slow to fast - Slow (0.41–0.55 Hz) |
| | | 68–94 | Strobe: Slow to fast - Slow ... Slow to fast - Fast (0.55–11.2 Hz) |
| | | 95 | Strobe: Slow to fast - Fast |
| | | 96–127 | Open |
| | | 128–130 | Strobe Pulse Open: Slow to fast - Slow (0.042–0.091 Hz) |
| | | 131–140 | Strobe Pulse Open: Slow to fast - Slow ... Slow to fast - Fast (0.091–1.28 Hz) |
| | | 141–143 | Strobe Pulse Open: Slow to fast - Fast |
| | | 144–145 | Strobe Pulse Close: Fast to slow - Fast (1.82–1.28 Hz) |
| | | 146–155 | Strobe Pulse Close: Fast to slow - Fast ... Fast to slow - Slow (1.28–0.091 Hz) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **43** | Shutter (continued) | 156–159 | Strobe Pulse Close: Fast to slow - Slow (0.091–0.042 Hz) |
| | | 160–191 | Open |
| | | 192–223 | Random strobe from slow to fast (0.125–10 Hz) |
| | | 224–255 | Open |
| **44** | Dimmer | | Dimmer intensity |
| | | 0–255 | Min ... max |
| | | 255 | Max |
| **45** | Dimmer Fine | 0–255 | Fine adjustment of CH 44 |

## Mode 2 - Reduced

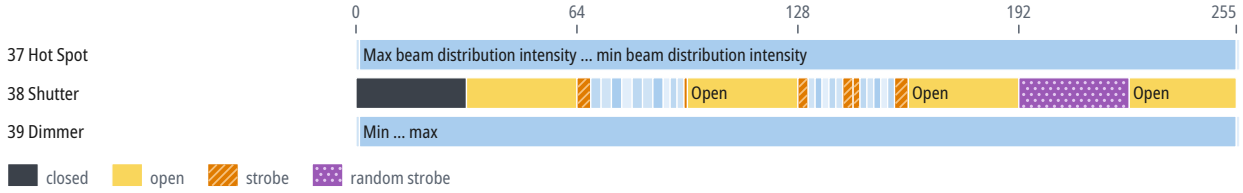
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 38 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 7 Colors 0, CH 8 Cyan 0, CH 9 Magenta 0, CH 10 Yellow 0, CH 11 CTO 0, CH 12 Color Macro 0, CH 38 Shutter 32, CH 39 Dimmer 255.

### Channel functions at a glance



## Channel functions at a glance




| CH | Function | DMX | Description |
|---|---|---|---|
| **1** | Pan | | Same as CH 1 in the mode “Mode 1 - Standard” (p. 12) |
| **2** | Pan Fine | 0–255 | Fine adjustment of CH 1 |
| **3** | Tilt | | Same as CH 3 in the mode “Mode 1 - Standard” (p. 12) |
| **4** | Tilt Fine | 0–255 | Fine adjustment of CH 3 |
| **5** | Speed Pan/Tilt | | Same as CH 5 in the mode “Mode 1 - Standard” (p. 12) |
| **6** | Control | | Same as CH 6 in the mode “Mode 1 - Standard” (p. 12) |
| **7** | Colors | 0–8 | Open/white - continual |
| | | 9–27 | Deep red - continual |
| | | 28–46 | Deep blue - continual |
| | | 47–63 | Orange - continual |
| | | 64–82 | Green - continual |
| | | 83–99 | Amber - continual |
| | | 100 | Amber - continual ... Congo blue (UV) - continual |
| | | 101–119 | Congo blue (UV) - continual |
| | | 120–129 | White - continual |
| | | 130–139 | Deep red - step |
| | | 140–149 | Deep blue - step |
| | | 150–159 | Orange - step |
| | | 160–169 | Green - step |
| | | 170–179 | Amber - step |
| | | 180–189 | Congo blue - step |
| | | 190–191 | Color 1 Wheel Spin: Fast to slow - Fast (800–561.6 °/s) |
| | | 192–211 | Color 1 Wheel Spin: Fast to slow - Fast ... Fast to slow - Slow (561.6–21.8 °/s) |
| | | 212–215 | Color 1 Wheel Spin: Fast to slow - Slow (21.8–2.92 °/s) |
| | | 216–217 | No rotation middle |
| | | 218–220 | Color 1 Wheel Spin: Slow to fast - Slow (2.92–21.8 °/s) |
| | | 221–240 | Color 1 Wheel Spin: Slow to fast - Slow ... Slow to fast - Fast (21.8–561.6 °/s) |
| | | 241–243 | Color 1 Wheel Spin: Slow to fast - Fast (561.6–800 °/s) |
| | | 244–249 | Random colour selection by audio control |
| | | 250 | Color 1 Wheel Random: Fast |
| | | 251–254 | Color 1 Wheel Random: Fast ... Slow |
| | | 255 | Color 1 Wheel Random: Slow |
| **8** | Cyan | | Same as CH 9 in the mode “Mode 1 - Standard” (p. 13) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **9** | Magenta | | Same as CH 10 in the mode “Mode 1 - Standard” (p. 14) |
| **10** | Yellow | | Same as CH 11 in the mode “Mode 1 - Standard” (p. 14) |
| **11** | CTO | | Same as CH 12 in the mode “Mode 1 - Standard” (p. 14) |
| **12** | Color Macro | | Same as CH 13 in the mode “Mode 1 - Standard” (p. 14) |
| **13** | Gobo Wheel Speed | | Same as CH 14 in the mode “Mode 1 - Standard” (p. 15) |
| **14** | Animation Wheel | | Same as CH 15 in the mode “Mode 1 - Standard” (p. 15) |
| **15** | Animation Wheel Rotation | | Same as CH 16 in the mode “Mode 1 - Standard” (p. 15) |
| **16** | Animation Wheel 2 Macro | 0–7 | No animation |
| | | 8–9 | Animation Macro 1 |
| | | 10–11 | Animation Macro 2 |
| | | 12–13 | Animation Macro 3 |
| | | 14–15 | Animation Macro 4 |
| | | 16–17 | Animation Macro 5 |
| | | 18–19 | Animation Macro 6 |
| | | 20–21 | Animation Macro 7 |
| | | 22–23 | Animation Macro 8 |
| | | 24–25 | Animation Macro 9 |
| | | 26–27 | Animation Macro 10 |
| | | 28–255 | Reserved |
| **17** | Gobo | | Same as CH 18 in the mode “Mode 1 - Standard” (p. 16) |
| **18** | Gobo Rotation | | When CH 17 is 0–31: |
| | | 0 | Gobo indexing min |
| | | 1–127 | Gobo indexing min ... Gobo indexing center |
| | | 128 | Gobo indexing center |
| | | 129–254 | Gobo indexing center ... Gobo indexing max |
| | | 255 | Gobo indexing max |
| | | | When CH 17 is 32–59: |
| | | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (1200–496.6 °/s) |
| | | 25–123 | Fast to slow - Fast ... Fast to slow - Slow (496.6–0.865 °/s) |
| | | 124–127 | Fast to slow - Slow (0.865–0.29 °/s) |
| | | 128 | No rotation middle |
| | | 129–132 | Slow to fast - Slow (0.29–0.865 °/s) |
| | | 133–231 | Slow to fast - Slow ... Slow to fast - Fast (0.865–496.6 °/s) |
| | | 232–255 | Slow to fast - Fast (496.6–1200 °/s) |
| | | | When CH 17 is 60–129: |
| | | 0 | Gobo indexing min |
| | | 1–127 | Gobo indexing min ... Gobo indexing center |
| | | 128 | Gobo indexing center |
| | | 129–254 | Gobo indexing center ... Gobo indexing max |
| | | 255 | Gobo indexing max |
| | | | When CH 17 is 130–201: |

| CH | Function | DMX | Description |
|---|---|---|---|
| **18** | Gobo Rotation (continued) | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (1200–496.6 °/s) |
| | | 25–123 | Fast to slow - Fast ... Fast to slow - Slow (496.6–0.865 °/s) |
| | | 124–127 | Fast to slow - Slow (0.865–0.29 °/s) |
| | | 128 | No rotation middle |
| | | 129–132 | Slow to fast - Slow (0.29–0.865 °/s) |
| | | 133–231 | Slow to fast - Slow ... Slow to fast - Fast (0.865–496.6 °/s) |
| | | 232–255 | Slow to fast - Fast (496.6–1200 °/s) |
| **19** | Prism | | Same as CH 21 in the mode “Mode 1 - Standard” (p. 17) |
| **20** | Prism Rotation | | When CH 19 is 50–75: |
| | | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (751.6–358.6 °/s) |
| | | 25–124 | Fast to slow - Fast ... Fast to slow - Slow (358.6–2.4 °/s) |
| | | 125–127 | Fast to slow - Slow (2.2–0.4 °/s) |
| | | 128–129 | No rotation middle |
| | | 130–131 | Slow to fast - Slow (0.4–2.2 °/s) |
| | | 132–232 | Slow to fast - Slow ... Slow to fast - Fast (2.4–358.6 °/s) |
| | | 233–255 | Slow to fast - Fast (358.6–751.6 °/s) |
| **21** | Frost | | Same as CH 23 in the mode “Mode 1 - Standard” (p. 17) |
| **22** | Iris | 0 | Iris: Open |
| | | 1–179 | Iris: Open ... Closed |
| | | 180–191 | Iris: Closed |
| | | 192–194 | Iris Pulse Open: Slow to fast - Slow (0.02–0.04 Hz) |
| | | 195–216 | Iris Pulse Open: Slow to fast - Slow ... Slow to fast - Fast (0.04–1.32 Hz) |
| | | 217–219 | Iris Pulse Open: Slow to fast - Fast (1.32–3.47 Hz) |
| | | 220–221 | Iris Pulse Close: Fast to slow - Fast (3.47–1.32 Hz) |
| | | 222–243 | Iris Pulse Close: Fast to slow - Fast ... Fast to slow - Slow (1.32–0.04 Hz) |
| | | 244–247 | Iris Pulse Close: Fast to slow - Slow (0.04–0.02 Hz) |
| | | 248–249 | Random pulse opening fast |
| | | 250–251 | Random pulse opening slow |
| | | 252–253 | Random pulse closing fast |
| | | 254–255 | Random pulse closing slow |
| **23** | Zoom | 0 | Zoom max |
| | | 1–254 | Zoom max ... Zoom min |
| | | 255 | Zoom min |
| **24** | Focus | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |
| **25** | Focus Adjust | | Same as CH 30 in the mode “Mode 1 - Standard” (p. 18) |
| **26** | Shaper Rotation | | Same as CH 31 in the mode “Mode 1 - Standard” (p. 20) |
| **27** | Blade 1 A | | Same as CH 32 in the mode “Mode 1 - Standard” (p. 20) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **28** | Blade 1 Rotation | | Same as CH 33 in the mode “Mode 1 - Standard” (p. 20) |
| **29** | Blade 4 A | | Same as CH 34 in the mode “Mode 1 - Standard” (p. 20) |
| **30** | Blade 4 Rotation | | Same as CH 35 in the mode “Mode 1 - Standard” (p. 20) |
| **31** | Blade 3 A | | Same as CH 36 in the mode “Mode 1 - Standard” (p. 20) |
| **32** | Blade 3 Rotation | | Same as CH 37 in the mode “Mode 1 - Standard” (p. 20) |
| **33** | Blade 2 A | | Same as CH 38 in the mode “Mode 1 - Standard” (p. 21) |
| **34** | Blade 2 Rotation | | Same as CH 39 in the mode “Mode 1 - Standard” (p. 21) |
| **35** | Shaper Macros | | Same as CH 40 in the mode “Mode 1 - Standard” (p. 21) |
| **36** | Shaper Macros Speed | 0–255 | Speed from slow to fast |
| **37** | Hot Spot | | Same as CH 42 in the mode “Mode 1 - Standard” (p. 22) |
| **38** | Shutter | | Same as CH 43 in the mode “Mode 1 - Standard” (p. 22) |
| **39** | Dimmer | | Dimmer intensity |
| | | 0 | Min |
| | | 1–254 | Min ... max |
| | | 255 | Max |

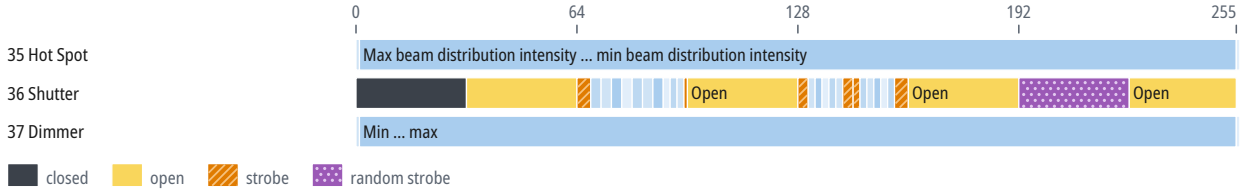
## Mode 3 - 8 bit

If the device receives DMX in this mode but gives no light, check these channels: CH 36 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Colors 0, CH 6 Cyan 0, CH 7 Magenta 0, CH 8 Yellow 0, CH 9 CTO 0, CH 10 Color Macro 0, CH 36 Shutter 32, CH 37 Dimmer 255.

### Channel functions at a glance



## Channel functions at a glance




| CH | Function | DMX | Description |
|---|---|---|---|
| **1** | Pan | 0–127 | Pan |
| | | 128 | Center |
| | | 129–255 | Pan |
| **2** | Tilt | 0–127 | Tilt |
| | | 128 | Center |
| | | 129–255 | Tilt |
| **3** | Speed Pan/Tilt | | Same as CH 5 in the mode “Mode 1 - Standard” (p. 12) |
| **4** | Control | | Same as CH 6 in the mode “Mode 1 - Standard” (p. 12) |
| **5** | Colors | | Same as CH 7 in the mode “Mode 2 - Reduced” (p. 25) |
| **6** | Cyan | | Same as CH 9 in the mode “Mode 1 - Standard” (p. 13) |
| **7** | Magenta | | Same as CH 10 in the mode “Mode 1 - Standard” (p. 14) |
| **8** | Yellow | | Same as CH 11 in the mode “Mode 1 - Standard” (p. 14) |
| **9** | CTO | | Same as CH 12 in the mode “Mode 1 - Standard” (p. 14) |
| **10** | Color Macro | | Same as CH 13 in the mode “Mode 1 - Standard” (p. 14) |
| **11** | Gobo Wheel Speed | | Same as CH 14 in the mode “Mode 1 - Standard” (p. 15) |
| **12** | Animation Wheel | | Same as CH 15 in the mode “Mode 1 - Standard” (p. 15) |
| **13** | Animation Wheel Rotation | | Same as CH 16 in the mode “Mode 1 - Standard” (p. 15) |
| **14** | Animation Wheel 2 Macro | | Same as CH 16 in the mode “Mode 2 - Reduced” (p. 26) |
| **15** | Gobo | | Same as CH 18 in the mode “Mode 1 - Standard” (p. 16) |
| **16** | Gobo Rotation | | When CH 15 is 0–31: |
| | | 0 | Gobo indexing min |
| | | 1–127 | Gobo indexing min ... Gobo indexing center |
| | | 128 | Gobo indexing center |
| | | 129–254 | Gobo indexing center ... Gobo indexing max |
| | | 255 | Gobo indexing max |
| | | | When CH 15 is 32–59: |
| | | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (1200–496.6 °/s) |
| | | 25–123 | Fast to slow - Fast ... Fast to slow - Slow (496.6–0.865 °/s) |
| | | 124–127 | Fast to slow - Slow (0.865–0.29 °/s) |
| | | 128 | No rotation middle |
| | | 129–132 | Slow to fast - Slow (0.29–0.865 °/s) |
| | | 133–231 | Slow to fast - Slow ... Slow to fast - Fast (0.865–496.6 °/s) |
| | | 232–255 | Slow to fast - Fast (496.6–1200 °/s) |
| | | | When CH 15 is 60–129: |

| CH | Function | DMX | Description |
|---|---|---|---|
| **16** | Gobo Rotation (continued) | 0 | Gobo indexing min |
| | | 1–127 | Gobo indexing min … Gobo indexing center |
| | | 128 | Gobo indexing center |
| | | 129–254 | Gobo indexing center … Gobo indexing max |
| | | 255 | Gobo indexing max |
| | | | When CH 15 is 130–201: |
| | | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (1200–496.6 °/s) |
| | | 25–123 | Fast to slow - Fast … Fast to slow - Slow (496.6–0.865 °/s) |
| | | 124–127 | Fast to slow - Slow (0.865–0.29 °/s) |
| | | 128 | No rotation middle |
| | | 129–132 | Slow to fast - Slow (0.29–0.865 °/s) |
| | | 133–231 | Slow to fast - Slow … Slow to fast - Fast (0.865–496.6 °/s) |
| | | 232–255 | Slow to fast - Fast (496.6–1200 °/s) |
| **17** | Prism | | Same as CH 21 in the mode “Mode 1 - Standard” (p. 17) |
| **18** | Prism Rotation | | When CH 17 is 50–75: |
| | | 0 | No rotation |
| | | 1–24 | Fast to slow - Fast (751.6–358.6 °/s) |
| | | 25–124 | Fast to slow - Fast … Fast to slow - Slow (358.6–2.4 °/s) |
| | | 125–127 | Fast to slow - Slow (2.2–0.4 °/s) |
| | | 128–129 | No rotation middle |
| | | 130–131 | Slow to fast - Slow (0.4–2.2 °/s) |
| | | 132–232 | Slow to fast - Slow … Slow to fast - Fast (2.4–358.6 °/s) |
| | | 233–255 | Slow to fast - Fast (358.6–751.6 °/s) |
| **19** | Frost | | Same as CH 23 in the mode “Mode 1 - Standard” (p. 17) |
| **20** | Iris | | Same as CH 22 in the mode “Mode 2 - Reduced” (p. 27) |
| **21** | Zoom | | Same as CH 23 in the mode “Mode 2 - Reduced” (p. 27) |
| **22** | Focus | | Same as CH 24 in the mode “Mode 2 - Reduced” (p. 27) |
| **23** | Focus Adjust | | Same as CH 30 in the mode “Mode 1 - Standard” (p. 18) |
| **24** | Shaper Rotation | | Same as CH 31 in the mode “Mode 1 - Standard” (p. 20) |
| **25** | Blade 1 A | | Same as CH 32 in the mode “Mode 1 - Standard” (p. 20) |
| **26** | Blade 1 Rotation | | Same as CH 33 in the mode “Mode 1 - Standard” (p. 20) |
| **27** | Blade 4 A | | Same as CH 34 in the mode “Mode 1 - Standard” (p. 20) |
| **28** | Blade 4 Rotation | | Same as CH 35 in the mode “Mode 1 - Standard” (p. 20) |
| **29** | Blade 3 A | | Same as CH 36 in the mode “Mode 1 - Standard” (p. 20) |
| **30** | Blade 3 Rotation | | Same as CH 37 in the mode “Mode 1 - Standard” (p. 20) |
| **31** | Blade 2 A | | Same as CH 38 in the mode “Mode 1 - Standard” (p. 21) |
| **32** | Blade 2 Rotation | | Same as CH 39 in the mode “Mode 1 - Standard” (p. 21) |
| **33** | Shaper Macros | | Same as CH 40 in the mode “Mode 1 - Standard” (p. 21) |
| **34** | Shaper Macros Speed | 0–255 | Speed from slow to fast |

| CH | Function | DMX | Description |
|---|---|---|---|
| **35** | Hot Spot | | Same as CH 42 in the mode “Mode 1 - Standard” (p. 22) |
| **36** | Shutter | | Same as CH 43 in the mode “Mode 1 - Standard” (p. 22) |
| **37** | Dimmer | | Same as CH 39 in the mode “Mode 2 - Reduced” (p. 28) |

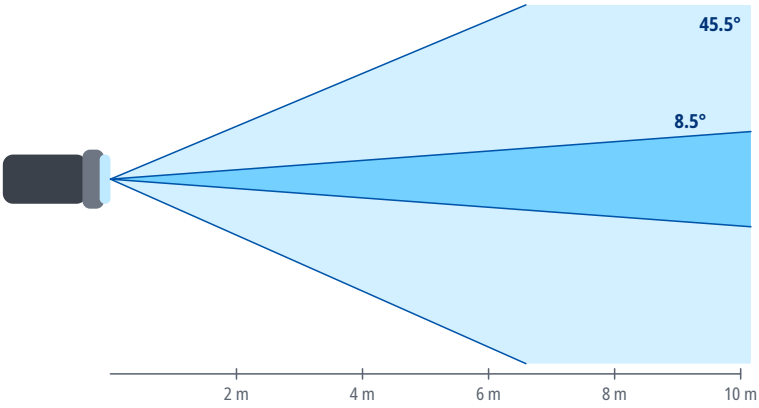
# 10 Technical specifications

| Parameter | Value |
|---|---|
| **Light** | |
| Light source | discharge lamp |
| Lamp power | 800 W |
| Luminous flux | 18,619 lm |
| Color temperature | 6,000 K |
| Color rendering index (CRI) | 92 |
| **Optics** | |
| Zoom | 8.5–45.5° |
| **Movement** | |
| Pan | 540° |
| Tilt | 270° |
| **Control** | |
| DMX connection | 5-pin XLR IN/OUT, 3-pin XLR IN/OUT |
| RJ45 connectors | RJ45 |
| RDM | yes (manufacturer ID 0x5253, device model ID 0x007D) |
| **Electrical** | |
| Power supply | 100–240 V, 50/60 Hz |
| Power consumption | 1,020 W |
| Power connectors | NAC3MPA IN |
| **Dimensions and construction** | |
| Weight | 26.7 kg |
| **Operating environment** | |
| Operating temperature | -5 to 45 °C |

### Speeds and ranges

| Parameter | Value |
|---|---|
| Color temperature range | 3200–7000 K |
| Strobe frequency | 0.3–20 Hz |
| Color wheel rotation | up to 30 °/s (5 rpm) |
| Gobo wheel rotation | up to 558 °/s (93 rpm) |
| Gobo rotation | up to 1212 °/s (202 rpm) |
| Prism rotation | up to 751.6 °/s (125 rpm) |
| Animation wheel rotation | up to 30 °/s (5 rpm) |

### Spot diameter




| Distance | Ø 8.5° | Ø 45.5° |
|---|---|---|
| 2 m | 0.3 m | 1.7 m |
| 4 m | 0.59 m | 3.4 m |
| 6 m | 0.89 m | 5 m |
| 8 m | 1.2 m | 6.7 m |
| 10 m | 1.5 m | 8.4 m |
| 15 m | 2.2 m | 12.6 m |

Spot diameter square to the beam axis, calculated from the beam angle.

# 11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

# 12 Troubleshooting

| Problem | Remedy |
|---|---|
| The device does not switch on | Check the supply voltage, the cables and the fuse, if the device has one. |
| The device does not respond to DMX | Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe). |
| The device behaves erratically or flickers | Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter. |
| Only some devices on the line respond | Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on. |
| Devices respond to the wrong channels or affect each other | Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller. |
| The device or the connected load does not light up although it receives DMX | Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open. |
| Movement is reversed | Check whether Pan/Tilt inversion is enabled in the device menu or in the controller. |
| Moving parts do not reach the correct position after power-on or transport | Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center. |
| Movement is jerky | Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal. |

# 13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.