DMX REFERENCE

# MC6

EK Lights



| | |
|---|---|
| **Manufacturer** | EK Lights |
| **GDTF file** | EK_Lights_MC6_146458.gdtf |
| **GDTF revision** | V1_01 · 2026-06-11 |
| **Generated** | 2026-11-23 |

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# 1 About this manual

This document describes the MC6 by EK Lights. It was compiled from the GDTF file EK_Lights_MC6_146458.gdtf from the GDTF-Share library.

File revision: “V1_01”.

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 EK Lights; 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 |
|---|---|
| Weight | 47 kg |

### DMX modes

| Mode | Channels | Units in one universe | First start addresses |
|---|---|---|---|
| RGBCAM 49CH | 49 | 10 | 1, 50, 99, 148, ... |
| 43CH CMY | 43 | 11 | 1, 44, 87, 130, ... |
| 41CH XY | 41 | 12 | 1, 42, 83, 124, ... |

### No light? Check these channels

- RGBCAM 49CH: CH 5 Shutter at 83–93, 164–174 or 245–255 “Open”
- 43CH CMY: CH 5 Shutter at 83–93, 164–174 or 245–255 “Open”
- 41CH XY: CH 5 Shutter at 83–93, 164–174 or 245–255 “Open”


Read the manual before use


Do not stare into the light


Indoor use only

# 3 Safety instructions



Read the manual before use



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**

- 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**

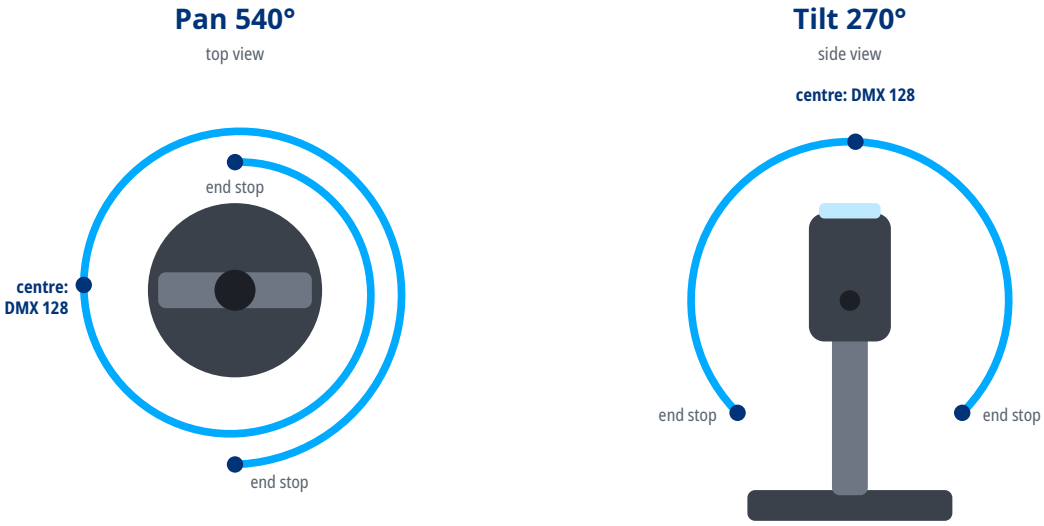
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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

**Range of movement**




# 5 Installation

**⚠ WARNING**

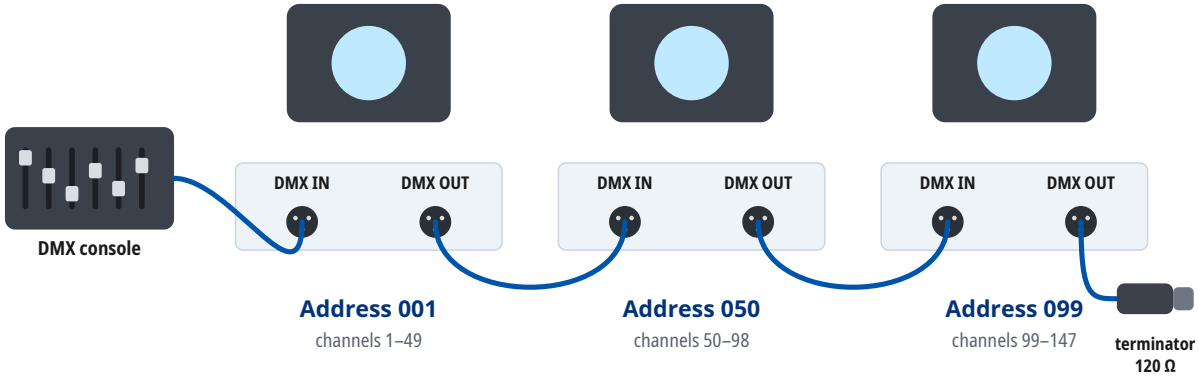
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 47 kg.
- 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 RGBCAM 49CH: every unit occupies 49 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**

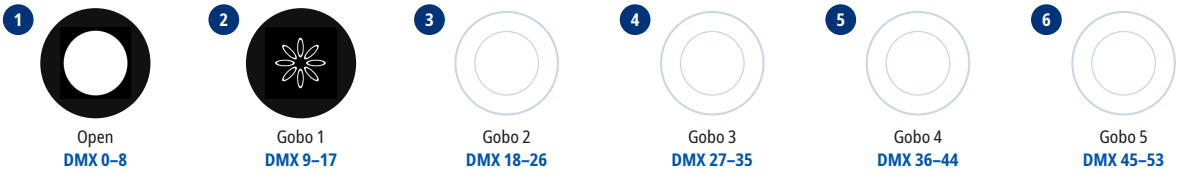
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “RGBCAM 49CH”: 49.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “RGBCAM 49CH”, you can use, for example, the start addresses 1, 50, 99, 148.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

# 8 Functions at a glance

## Functions in each DMX mode

| | RGBCAM 49CH<br>49 channels | 43CH CMY<br>43 channels | 41CH XY<br>41 channels |
|---|---|---|---|
| Pan / Tilt | 1, 3 | 1, 3 | 1, 3 |
| Dimmer | 6 | 6 | 6 |
| Shutter / strobe | 5 | 5 | 5 |
| Color mixing | 6× (11–21) | 11, 13, 15 | |
| Color temperature | 8 | 8 | 8 |
| Gobo wheel | 23, 25 | 17, 19 | 15, 17 |
| Gobo rotation | 24 | 18 | 16 |
| Prism | 26–29 | 20–23 | 18–21 |
| Frost | 30, 31 | 24, 25 | 22, 23 |
| Zoom | 37 | 31 | 29 |
| Focus | 35, 39 | 29, 33 | 27, 31 |
| Iris | 34 | 28 | 26 |
| Animation wheel | 32, 33 | 26, 27 | 24, 25 |

## Gobo wheel 1



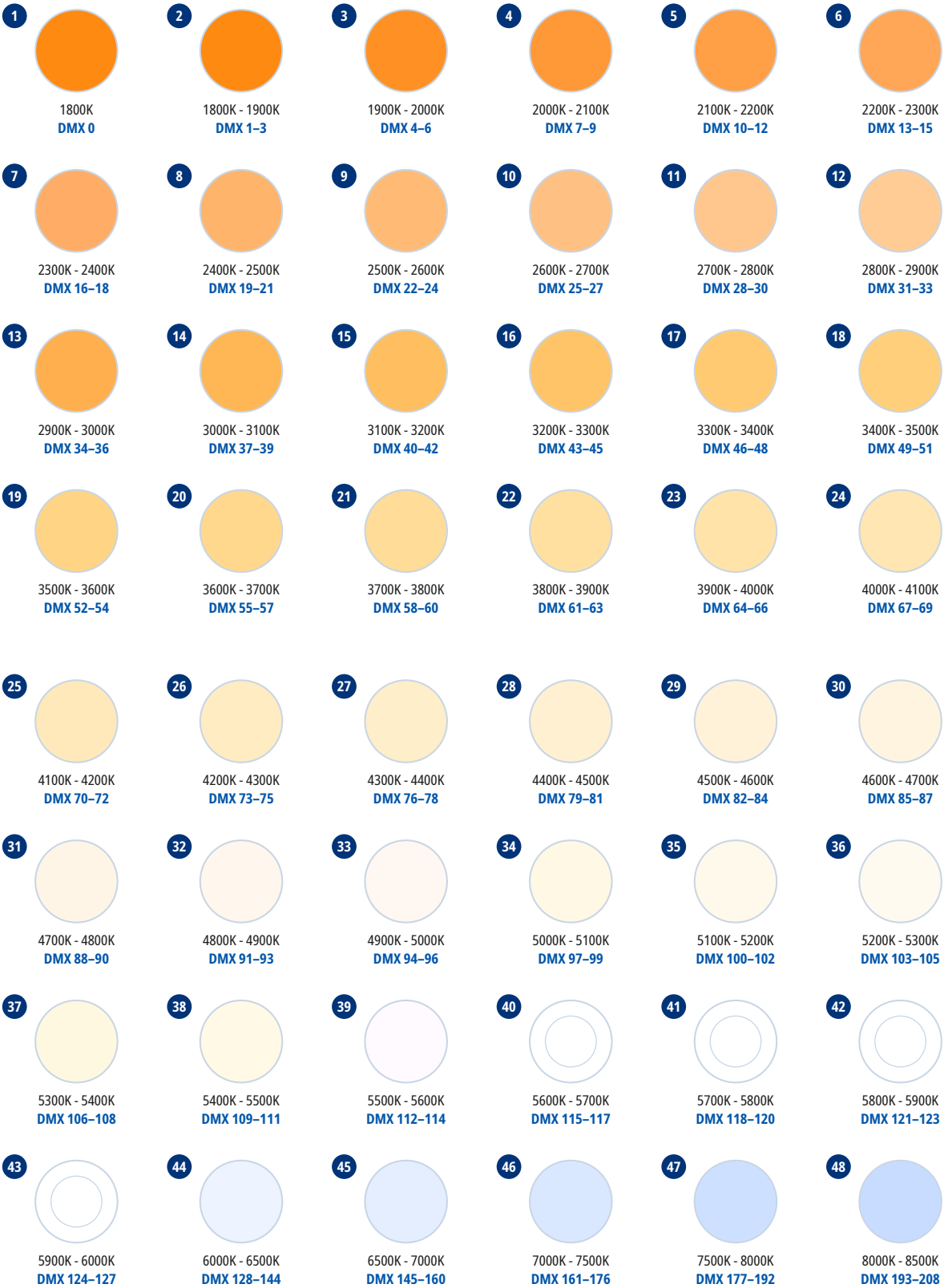
1 Open DMX 0–8
2 Gobo 1 DMX 9–17
3 Gobo 2 DMX 18–26
4 Gobo 3 DMX 27–35
5 Gobo 4 DMX 36–44
6 Gobo 5 DMX 45–53
7 Gobo 6 DMX 54–62
8 Gobo7 DMX 63–72

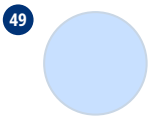
## Gobo wheel 2



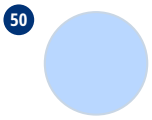
1 Open DMX 0–8
2 Gobo 1 DMX 9–17
3 Gobo 2 DMX 18–26
4 Gobo 3 DMX 27–35
5 Gobo 4 DMX 36–44
6 Gobo 5 DMX 45–53
7 Gobo 6 DMX 54–62
8 Gobo7 DMX 63–72

## Color wheel

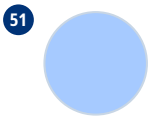

1
1800K
DMX 0
2
1800K - 1900K
DMX 1–3
3
1900K - 2000K
DMX 4–6
4
2000K - 2100K
DMX 7–9
5
2100K - 2200K
DMX 10–12
6
2200K - 2300K
DMX 13–15
7
2300K - 2400K
DMX 16–18
8
2400K - 2500K
DMX 19–21
9
2500K - 2600K
DMX 22–24
10
2600K - 2700K
DMX 25–27
11
2700K - 2800K
DMX 28–30
12
2800K - 2900K
DMX 31–33
13
2900K - 3000K
DMX 34–36
14
3000K - 3100K
DMX 37–39
15
3100K - 3200K
DMX 40–42
16
3200K - 3300K
DMX 43–45
17
3300K - 3400K
DMX 46–48
18
3400K - 3500K
DMX 49–51
19
3500K - 3600K
DMX 52–54
20
3600K - 3700K
DMX 55–57
21
3700K - 3800K
DMX 58–60
22
3800K - 3900K
DMX 61–63
23
3900K - 4000K
DMX 64–66
24
4000K - 4100K
DMX 67–69
25
4100K - 4200K
DMX 70–72
26
4200K - 4300K
DMX 73–75
27
4300K - 4400K
DMX 76–78
28
4400K - 4500K
DMX 79–81
29
4500K - 4600K
DMX 82–84
30
4600K - 4700K
DMX 85–87
31
4700K - 4800K
DMX 88–90
32
4800K - 4900K
DMX 91–93
33
4900K - 5000K
DMX 94–96
34
5000K - 5100K
DMX 97–99
35
5100K - 5200K
DMX 100–102
36
5200K - 5300K
DMX 103–105
37
5300K - 5400K
DMX 106–108
38
5400K - 5500K
DMX 109–111
39
5500K - 5600K
DMX 112–114
40
5600K - 5700K
DMX 115–117
41
5700K - 5800K
DMX 118–120
42
5800K - 5900K
DMX 121–123
43
5900K - 6000K
DMX 124–127
44
6000K - 6500K
DMX 128–144
45
6500K - 7000K
DMX 145–160
46
7000K - 7500K
DMX 161–176
47
7500K - 8000K
DMX 177–192
48
8000K - 8500K
DMX 193–208



8500K - 9000K
**DMX 209–224**



9000K - 9500K
**DMX 225–240**

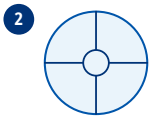


9500K - 10000K
**DMX 241–255**

## Prism 1



Open
**DMX 0–127**

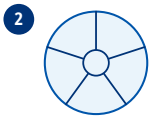


4 facets
Prism
**DMX 128–255**

## Prism 2

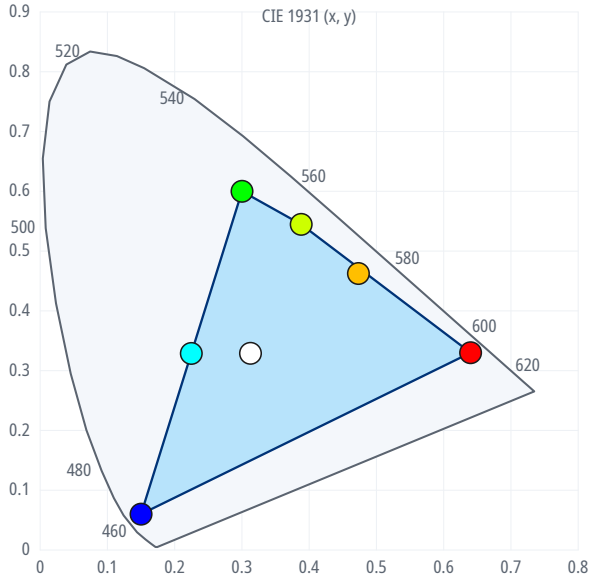


Open
**DMX 0–127**



5 facets
Prism
**DMX 128–255**

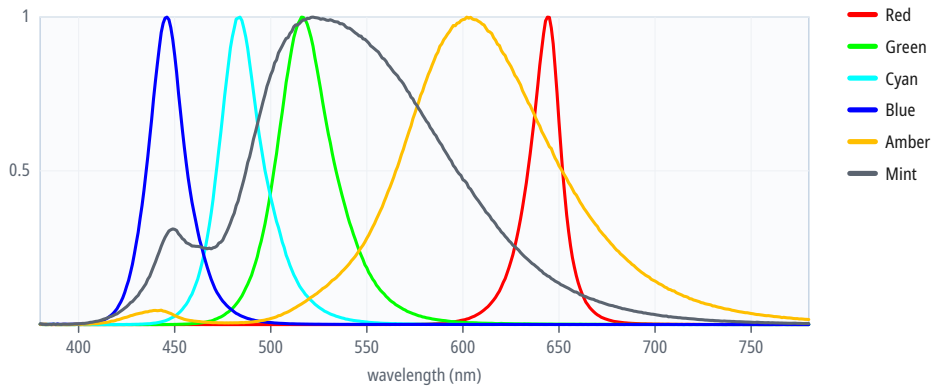
## LED colors and the colors they mix




| LED | x | y | nm |
|---|---|---|---|
| Red | 0.640 | 0.330 | 630 |
| Green | 0.300 | 0.600 | 520 |
| Cyan | 0.225 | 0.329 | 483 |
| Blue | 0.150 | 0.060 | 451 |
| Amber | 0.473 | 0.463 | 588 |
| Mint | 0.388 | 0.545 | 550 |
| Emitter 1 | 0.313 | 0.329 | |

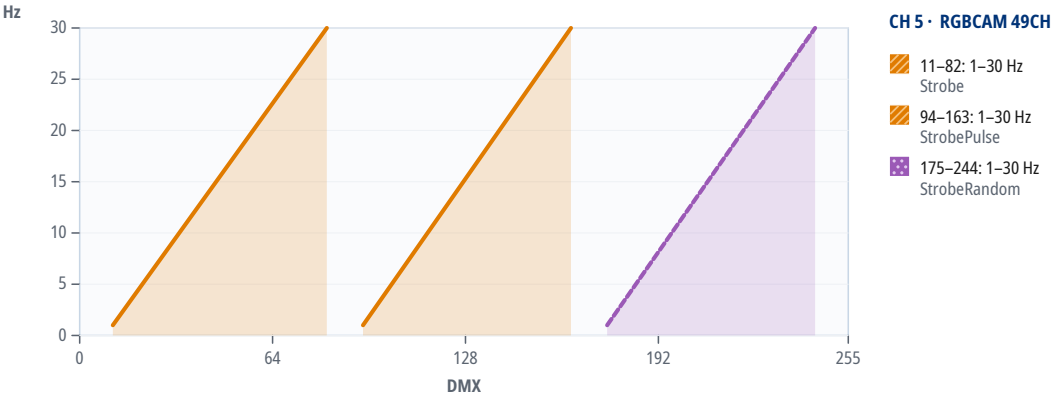
The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

## Spectra of the light sources



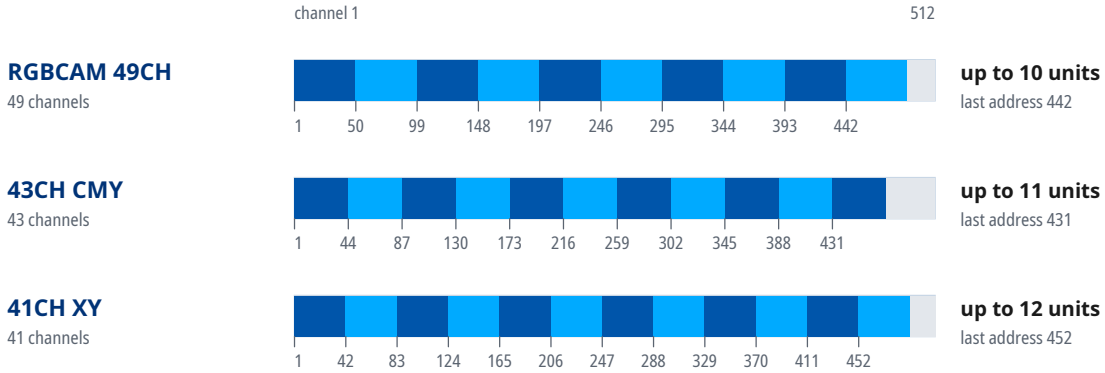

Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

## Strobe rate



# 9 DMX channels

### Units in one DMX universe




### Start addresses of 20 units in the mode “RGBCAM 49CH”

| Unit | Start address | Unit | Start address | Unit | Start address | Unit | Start address |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 6 | 246 | 11 | U2 · 1 | 16 | U2 · 246 |
| 2 | 50 | 7 | 295 | 12 | U2 · 50 | 17 | U2 · 295 |
| 3 | 99 | 8 | 344 | 13 | U2 · 99 | 18 | U2 · 344 |
| 4 | 148 | 9 | 393 | 14 | U2 · 148 | 19 | U2 · 393 |
| 5 | 197 | 10 | 442 | 15 | U2 · 197 | 20 | U2 · 442 |

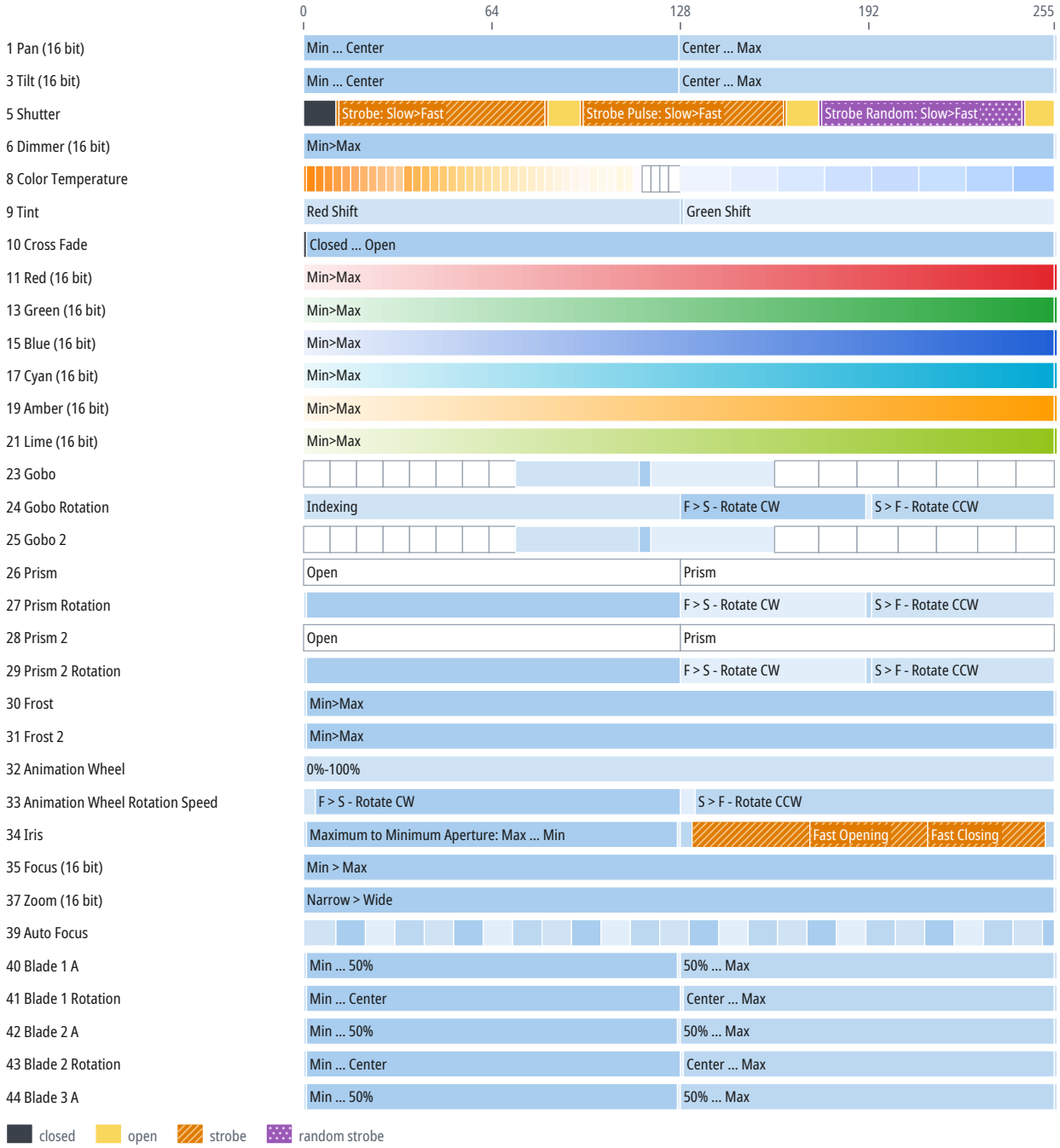
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

## Mode RGBCAM 49CH

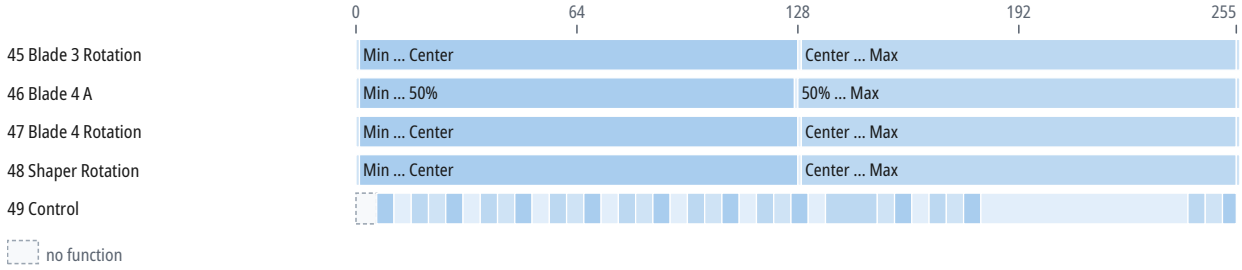
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 5 Shutter at 83–93, 164–174 or 245–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 11 Red 255, CH 13 Green 255, CH 15 Blue 255, CH 17 Cyan 255, CH 19 Amber 255, CH 21 Lime 255.

### Channel functions at a glance



## Channel functions at a glance




| CH | Function | DMX | Description |
|---|---|---|---|
| **1** | Pan | 0–127 | Min ... Center |
| | | 128–255 | Center ... Max |
| | | 255 | Max |
| **2** | Pan Fine | 0–255 | Fine adjustment of CH 1 |
| **3** | Tilt | 0–127 | Min ... Center |
| | | 128–255 | Center ... Max |
| | | 255 | Max |
| **4** | Tilt Fine | 0–255 | Fine adjustment of CH 3 |
| **5** | Shutter | 0–10 | Closed |
| | | 11 | Strobe: Slow |
| | | 12–81 | Strobe: Slow>Fast |
| | | 82 | Strobe: Fast |
| | | 83–93 | Open |
| | | 94 | Strobe Pulse: Slow |
| | | 95–162 | Strobe Pulse: Slow>Fast |
| | | 163 | Strobe Pulse: Fast |
| | | 164–174 | Open |
| | | 175 | Strobe Random: Slow |
| | | 176–243 | Strobe Random: Slow>Fast |
| | | 244 | Strobe Random: Fast |
| | | 245–255 | Open |
| **6** | Dimmer | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **7** | Dimmer Fine | 0–255 | Fine adjustment of CH 6 |
| **8** | Color Temperature | 0 | 1800K |
| | | 1–3 | 1800K - 1900K (1800–1900 K) |
| | | 4–6 | 1900K - 2000K (1900–2000 K) |
| | | 7–9 | 2000K - 2100K (2000–2100 K) |
| | | 10–12 | 2100K - 2200K (2100–2200 K) |
| | | 13–15 | 2200K - 2300K (2200–2300 K) |
| | | 16–18 | 2300K - 2400K (2300–2400 K) |
| | | 19–21 | 2400K - 2500K (2400–2500 K) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **8** | Color Temperature (continued) | 22–24 | 2500K - 2600K (2500–2600 K) |
| | | 25–27 | 2600K - 2700K (2600–2700 K) |
| | | 28–30 | 2700K - 2800K (2700–2800 K) |
| | | 31–33 | 2800K - 2900K (2800–2900 K) |
| | | 34–36 | 2900K - 3000K (2900–3000 K) |
| | | 37–39 | 3000K - 3100K (3000–3100 K) |
| | | 40–42 | 3100K - 3200K (3100–3200 K) |
| | | 43–45 | 3200K - 3300K (3200–3300 K) |
| | | 46–48 | 3300K - 3400K (3300–3400 K) |
| | | 49–51 | 3400K - 3500K (3400–3500 K) |
| | | 52–54 | 3500K - 3600K (3500–3600 K) |
| | | 55–57 | 3600K - 3700K (3600–3700 K) |
| | | 58–60 | 3700K - 3800K (3700–3800 K) |
| | | 61–63 | 3800K - 3900K (3800–3900 K) |
| | | 64–66 | 3900K - 4000K (3900–4000 K) |
| | | 67–69 | 4000K - 4100K (4000–4100 K) |
| | | 70–72 | 4100K - 4200K (4100–4200 K) |
| | | 73–75 | 4200K - 4300K (4200–4300 K) |
| | | 76–78 | 4300K - 4400K (4300–4400 K) |
| | | 79–81 | 4400K - 4500K (4400–4500 K) |
| | | 82–84 | 4500K - 4600K (4500–4600 K) |
| | | 85–87 | 4600K - 4700K (4600–4700 K) |
| | | 88–90 | 4700K - 4800K (4700–4800 K) |
| | | 91–93 | 4800K - 4900K (4800–4900 K) |
| | | 94–96 | 4900K - 5000K (4900–5000 K) |
| | | 97–99 | 5000K - 5100K (5000–5100 K) |
| | | 100–102 | 5100K - 5200K (5100–5200 K) |
| | | 103–105 | 5200K - 5300K (5200–5300 K) |
| | | 106–108 | 5300K - 5400K (5300–5400 K) |
| | | 109–111 | 5400K - 5500K (5400–5500 K) |
| | | 112–114 | 5500K - 5600K (5500–5600 K) |
| | | 115–117 | 5600K - 5700K (5600–5700 K) |
| | | 118–120 | 5700K - 5800K (5700–5800 K) |
| | | 121–123 | 5800K - 5900K (5800–5900 K) |
| | | 124–127 | 5900K - 6000K (5900–6000 K) |
| | | 128–144 | 6000K - 6500K (6000–6500 K) |
| | | 145–160 | 6500K - 7000K (6500–7000 K) |
| | | 161–176 | 7000K - 7500K (7000–7500 K) |
| | | 177–192 | 7500K - 8000K (7500–8000 K) |
| | | 193–208 | 8000K - 8500K (8000–8500 K) |
| | | 209–224 | 8500K - 9000K (8500–9000 K) |
| | | 225–240 | 9000K - 9500K (9000–9500 K) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **8** | Color Temperature (continued) | 241–255 | 9500K - 10000K (9500–10000 K) |
| **9** | Tint | 0–127 | Red Shift |
| | | 128 | No Effect |
| | | 129–255 | Green Shift |
| **10** | Cross Fade | 0 | Closed |
| | | 1–254 | Closed ... Open |
| | | 255 | Open |
| **11** | Red | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **12** | Red Fine | 0–255 | Fine adjustment of CH 11 |
| **13** | Green | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **14** | Green Fine | 0–255 | Fine adjustment of CH 13 |
| **15** | Blue | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **16** | Blue Fine | 0–255 | Fine adjustment of CH 15 |
| **17** | Cyan | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **18** | Cyan Fine | 0–255 | Fine adjustment of CH 17 |
| **19** | Amber | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **20** | Amber Fine | 0–255 | Fine adjustment of CH 19 |
| **21** | Lime | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **22** | Lime Fine | 0–255 | Fine adjustment of CH 21 |
| **23** | Gobo | 0–8 | Gobo: Open |
| | | 9–17 | Gobo 1 |
| | | 18–26 | Gobo 2 |
| | | 27–35 | Gobo 3 |
| | | 36–44 | Gobo 4 |
| | | 45–53 | Gobo 5 |
| | | 54–62 | Gobo 6 |
| | | 63–71 | Gobo7 |
| | | 72–113 | Gobo 1 Wheel Spin: Fast to Slow(Revers Spin) (720–0.1 °/s) |
| | | 114–117 | Gobo 1 Wheel Spin: Stop (Stop Rotation) |
| | | 118–159 | Gobo 1 Wheel Spin: Slow to Fast(Forward Spin) (0.1–720 °/s) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **23** | Gobo (continued) | 160–174 | Gobo1 Shak (0.1–10 Hz) |
| | | 175–187 | Gobo2 Shak (0.1–10 Hz) |
| | | 188–201 | Gobo3 Shak (0.1–10 Hz) |
| | | 202–214 | Gobo4 Shak (0.1–10 Hz) |
| | | 215–228 | Gobo5 Shak (0.1–10 Hz) |
| | | 229–241 | Gobo6 Shak (0.1–10 Hz) |
| | | 242–255 | Gobo7 Shak (0.1–10 Hz) |
| **24** | Gobo Rotation | 0–127 | Indexing (540°) |
| | | 128–190 | F > S - Rotate CW (360–0.1 °/s) |
| | | 191–192 | Gobo 1 Pos Rotate: Stop |
| | | 193–255 | S > F - Rotate CCW (0.1–360 °/s) |
| **25** | Gobo 2 | 0–8 | Gobo: Open |
| | | 9–17 | Gobo 1 |
| | | 18–26 | Gobo 2 |
| | | 27–35 | Gobo 3 |
| | | 36–44 | Gobo 4 |
| | | 45–53 | Gobo 5 |
| | | 54–62 | Gobo 6 |
| | | 63–71 | Gobo 7 |
| | | 72–113 | Gobo 2 Wheel Spin: Fast to Slow(Revers Spin) (720–0.1 °/s) |
| | | 114–117 | Gobo 2 Wheel Spin: Stop (Stop Rotation) |
| | | 118–159 | Gobo 2 Wheel Spin: Slow to Fast(Forward Spin) (0.1–720 °/s) |
| | | 160–174 | Gobo1 Shak (0.1–10 Hz) |
| | | 175–187 | Gobo2 Shak (0.1–10 Hz) |
| | | 188–201 | Gobo3 Shak (0.1–10 Hz) |
| | | 202–214 | Gobo4 Shak (0.1–10 Hz) |
| | | 215–228 | Gobo5 Shak (0.1–10 Hz) |
| | | 229–241 | Gobo6 Shak (0.1–10 Hz) |
| | | 242–255 | Gobo7 Shak (0.1–10 Hz) |
| **26** | Prism | 0–127 | Open |
| | | 128–255 | Prism |
| **27** | Prism Rotation | 0 | Indexing |
| | | 1–127 | Prism 1 Pos |
| | | 128–190 | F > S - Rotate CW (270–0.1 °/s) |
| | | 191–192 | Prism 1 Pos Rotate: Stop |
| | | 193–255 | S > F - Rotate CCW (0.1–270 °/s) |
| **28** | Prism 2 | 0–127 | Open |
| | | 128–255 | Prism |
| **29** | Prism 2 Rotation | 0 | Indexing |
| | | 1–127 | Prism 2 Pos |
| | | 128–190 | F > S - Rotate CW (270–0.1 °/s) |
| | | 191–192 | Prism 2 Pos Rotate: Stop |

| CH | Function | DMX | Description |
|---|---|---|---|
| **29** | Prism 2 Rotation (continued) | 193–255 | S > F - Rotate CCW (0.1–270 °/s) |
| **30** | Frost | 0 | Min |
| | | 1–254 | Min>Max |
| | | 255 | Max |
| **31** | Frost 2 | 0 | Min |
| | | 1–254 | Min>Max |
| | | 255 | Max |
| **32** | Animation Wheel | 0–255 | 0%-100% |
| **33** | Animation Wheel Rotation Speed | | Animation Wheel Pos |
| | | 0–3 | Open |
| | | 4–127 | F > S - Rotate CW |
| | | 128–132 | Stop |
| | | 133–255 | S > F - Rotate CCW |
| **34** | Iris | 0 | Maximum to Minimum Aperture: Max |
| | | 1–126 | Maximum to Minimum Aperture: Max ... Min |
| | | 127 | Maximum to Minimum Aperture: Min |
| | | 128–131 | Maximum Aperture |
| | | 132–171 | Slow to Fast Pulsation |
| | | 172–211 | Fast Opening |
| | | 212–251 | Fast Closing |
| | | 252–255 | Maximum Aperture |
| **35** | Focus | 0 | Min |
| | | 0–255 | Min > Max |
| | | 255 | Max |
| **36** | Focus Fine | 0–255 | Fine adjustment of CH 35 |
| **37** | Zoom | 0 | Narrow |
| | | 0–255 | Narrow > Wide |
| | | 255 | Wide |
| **38** | Zoom Fine | 0–255 | Fine adjustment of CH 37 |
| **39** | Auto Focus | 0–10 | Auto Focus OFF |
| | | 11–20 | Hole: 4 metres |
| | | 21–30 | Hole: 6 metres |
| | | 31–40 | Hole: 8 metres |
| | | 41–50 | Hole: 10 metres |
| | | 51–60 | Hole: 12 metres |
| | | 61–70 | Hole: 14 metres |
| | | 71–80 | Hole: 16 metres |
| | | 81–90 | Hole: 18 metres |
| | | 91–100 | RGobo: 4 metres |
| | | 101–110 | RGobo: 6 metres |
| | | 111–120 | RGobo: 8 metres |
| | | 121–130 | RGobo: 10 metres |

| CH | Function | DMX | Description |
|---|---|---|---|
| **39** | Auto Focus (continued) | 131–140 | RGobo: 12 metres |
| | | 141–150 | RGobo: 14 metres |
| | | 151–160 | RGobo: 16 metres |
| | | 161–170 | RGobo: 18 metres |
| | | 171–180 | RGobo: 4 metres |
| | | 181–190 | RGobo: 6 metres |
| | | 191–200 | RGobo: 8 metres |
| | | 201–210 | RGobo: 10 metres |
| | | 211–220 | RGobo: 12 metres |
| | | 221–230 | RGobo: 14 metres |
| | | 231–240 | RGobo: 16 metres |
| | | 241–250 | RGobo: 18 metres |
| | | 251–255 | Auto Focus OFF |
| **40** | Blade 1 A | 0 | Min |
| | | 1–126 | Min … 50% |
| | | 127 | 50% |
| | | 128–254 | 50% … Max |
| | | 255 | Max |
| **41** | Blade 1 Rotation | 0 | Min |
| | | 1–127 | Min … Center |
| | | 128 | Center |
| | | 129–254 | Center … Max |
| | | 255 | Max |
| **42** | Blade 2 A | 0 | Min |
| | | 1–126 | Min … 50% |
| | | 127 | 50% |
| | | 128–254 | 50% … Max |
| | | 255 | Max |
| **43** | Blade 2 Rotation | 0 | Min |
| | | 1–127 | Min … Center |
| | | 128 | Center |
| | | 129–254 | Center … Max |
| | | 255 | Max |
| **44** | Blade 3 A | 0 | Min |
| | | 1–126 | Min … 50% |
| | | 127 | 50% |
| | | 128–254 | 50% … Max |
| | | 255 | Max |
| **45** | Blade 3 Rotation | 0 | Min |
| | | 1–127 | Min … Center |
| | | 128 | Center |
| | | 129–254 | Center … Max |

| CH | Function | DMX | Description |
|---|---|---|---|
| **45** | Blade 3 Rotation (continued) | 255 | Max |
| **46** | Blade 4 A | 0 | Min |
| | | 1–126 | Min ... 50% |
| | | 127 | 50% |
| | | 128–254 | 50% ... Max |
| | | 255 | Max |
| **47** | Blade 4 Rotation | 0 | Min |
| | | 1–127 | Min ... Center |
| | | 128 | Center |
| | | 129–254 | Center ... Max |
| | | 255 | Max |
| **48** | Shaper Rotation | 0 | Min |
| | | 1–127 | Min ... Center |
| | | 128 | Center |
| | | 129–254 | Center ... Max |
| | | 255 | Max |
| **49** | Control | 0–5 | No Function |
| | | 6–10 | Dimmer Mode Off |
| | | 11–15 | Dimmer Mode 1 |
| | | 16–20 | Dimmer Mode 2 |
| | | 21–25 | Dimmer Mode 3 |
| | | 26–30 | Linear |
| | | 31–35 | Square |
| | | 36–40 | Inverse Square |
| | | 41–45 | S Curve |
| | | 46–50 | LEDFrequency: Reserve |
| | | 51–55 | 1200 Hz |
| | | 56–70 | LEDFrequency: Reserve |
| | | 71–75 | 25000Hz |
| | | 76–80 | Pan Inverse Off |
| | | 81–85 | Pan Inverse On |
| | | 86–90 | Tilt Inverse Off |
| | | 91–95 | Tilt Inverse On |
| | | 96–100 | Swap Pan Tilt Off |
| | | 101–105 | Swap Pan Tilt On |
| | | 106–110 | Fan Auto |
| | | 111–115 | Fan On |
| | | 116–120 | Fan Off |
| | | 121–125 | Fan Silent |
| | | 126–130 | Color Calibration Off |
| | | 131–135 | Factory Calibration |
| | | 136–150 | Reserve |

| CH | Function | DMX | Description |
|---|---|---|---|
| **49** | Control (continued) | 151–155 | Red Shift Off |
| | | 156–160 | Red Shift On |
| | | 161–165 | Framing Shutter Independent Mode |
| | | 166–170 | Framing Shutter Mixed Mode |
| | | 171–175 | Independent Mode |
| | | 176–180 | Mixed Mode |
| | | 181–240 | Reserve |
| | | 241–245 | Head Reset |
| | | 246–250 | Pan/Tilt Reset |
| | | 251–255 | Complete Reset |

## Mode 43CH CMY

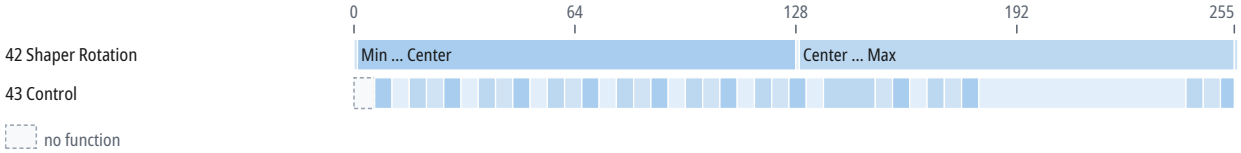
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 5 Shutter at 83–93, 164–174 or 245–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 11 Cyan 0, CH 13 Magenta 0, CH 15 Yellow 0.

### Channel functions at a glance



## Channel functions at a glance




| CH | Function | DMX | Description |
|---|---|---|---|
| **1** | Pan | | Same as CH 1 in the mode “RGBCAM 49CH” (p. 13) |
| **2** | Pan Fine | 0–255 | Fine adjustment of CH 1 |
| **3** | Tilt | | Same as CH 3 in the mode “RGBCAM 49CH” (p. 13) |
| **4** | Tilt Fine | 0–255 | Fine adjustment of CH 3 |
| **5** | Shutter | | Same as CH 5 in the mode “RGBCAM 49CH” (p. 13) |
| **6** | Dimmer | | Same as CH 6 in the mode “RGBCAM 49CH” (p. 13) |
| **7** | Dimmer Fine | 0–255 | Fine adjustment of CH 6 |
| **8** | Color Temperature | | Same as CH 8 in the mode “RGBCAM 49CH” (p. 13) |
| **9** | Tint | | Same as CH 9 in the mode “RGBCAM 49CH” (p. 15) |
| **10** | Cross Fade | | Same as CH 10 in the mode “RGBCAM 49CH” (p. 15) |
| **11** | Cyan | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **12** | Cyan Fine | 0–255 | Fine adjustment of CH 11 |
| **13** | Magenta | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **14** | Magenta Fine | 0–255 | Fine adjustment of CH 13 |
| **15** | Yellow | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **16** | Yellow Fine | 0–255 | Fine adjustment of CH 15 |
| **17** | Gobo | | Same as CH 23 in the mode “RGBCAM 49CH” (p. 15) |
| **18** | Gobo Rotation | | Same as CH 24 in the mode “RGBCAM 49CH” (p. 16) |
| **19** | Gobo 2 | | Same as CH 25 in the mode “RGBCAM 49CH” (p. 16) |
| **20** | Prism | | Same as CH 26 in the mode “RGBCAM 49CH” (p. 16) |
| **21** | Prism Rotation | | Same as CH 27 in the mode “RGBCAM 49CH” (p. 16) |
| **22** | Prism 2 | | Same as CH 28 in the mode “RGBCAM 49CH” (p. 16) |
| **23** | Prism 2 Rotation | | Same as CH 29 in the mode “RGBCAM 49CH” (p. 16) |
| **24** | Frost | | Same as CH 30 in the mode “RGBCAM 49CH” (p. 17) |
| **25** | Frost 2 | | Same as CH 31 in the mode “RGBCAM 49CH” (p. 17) |
| **26** | Animation Wheel | 0–255 | 0%-100% |
| **27** | Animation Wheel Rotation Speed | | Same as CH 33 in the mode “RGBCAM 49CH” (p. 17) |
| **28** | Iris | | Same as CH 34 in the mode “RGBCAM 49CH” (p. 17) |
| **29** | Focus | | Same as CH 35 in the mode “RGBCAM 49CH” (p. 17) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **30** | Focus Fine | 0–255 | Fine adjustment of CH 29 |
| **31** | Zoom | | Same as CH 37 in the mode “RGBCAM 49CH” (p. 17) |
| **32** | Zoom Fine | 0–255 | Fine adjustment of CH 31 |
| **33** | Auto Focus | | Same as CH 39 in the mode “RGBCAM 49CH” (p. 17) |
| **34** | Blade 1 A | | Same as CH 40 in the mode “RGBCAM 49CH” (p. 18) |
| **35** | Blade 1 Rotation | | Same as CH 41 in the mode “RGBCAM 49CH” (p. 18) |
| **36** | Blade 2 A | | Same as CH 42 in the mode “RGBCAM 49CH” (p. 18) |
| **37** | Blade 2 Rotation | | Same as CH 43 in the mode “RGBCAM 49CH” (p. 18) |
| **38** | Blade 3 A | | Same as CH 44 in the mode “RGBCAM 49CH” (p. 18) |
| **39** | Blade 3 Rotation | | Same as CH 45 in the mode “RGBCAM 49CH” (p. 18) |
| **40** | Blade 4 A | | Same as CH 46 in the mode “RGBCAM 49CH” (p. 19) |
| **41** | Blade 4 Rotation | | Same as CH 47 in the mode “RGBCAM 49CH” (p. 19) |
| **42** | Shaper Rotation | | Same as CH 48 in the mode “RGBCAM 49CH” (p. 19) |
| **43** | Control | | Same as CH 49 in the mode “RGBCAM 49CH” (p. 19) |

## Mode 41CH XY

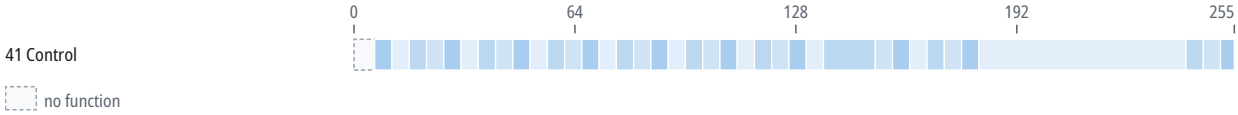
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 5 Shutter at 83–93, 164–174 or 245–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 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 “RGBCAM 49CH” (p. 13) |
| **2** | Pan Fine | 0–255 | Fine adjustment of CH 1 |
| **3** | Tilt | | Same as CH 3 in the mode “RGBCAM 49CH” (p. 13) |
| **4** | Tilt Fine | 0–255 | Fine adjustment of CH 3 |
| **5** | Shutter | | Same as CH 5 in the mode “RGBCAM 49CH” (p. 13) |
| **6** | Dimmer | | Same as CH 6 in the mode “RGBCAM 49CH” (p. 13) |
| **7** | Dimmer Fine | 0–255 | Fine adjustment of CH 6 |
| **8** | Color Temperature | | Same as CH 8 in the mode “RGBCAM 49CH” (p. 13) |
| **9** | Tint | | Same as CH 9 in the mode “RGBCAM 49CH” (p. 15) |
| **10** | Cross Fade | | Same as CH 10 in the mode “RGBCAM 49CH” (p. 15) |
| **11** | CIE X | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **12** | CIE X Fine | 0–255 | Fine adjustment of CH 11 |
| **13** | CIE Y | 0 | Min |
| | | 0–255 | Min>Max |
| | | 255 | Max |
| **14** | CIE Y Fine | 0–255 | Fine adjustment of CH 13 |
| **15** | Gobo | | Same as CH 23 in the mode “RGBCAM 49CH” (p. 15) |
| **16** | Gobo Rotation | | Same as CH 24 in the mode “RGBCAM 49CH” (p. 16) |
| **17** | Gobo 2 | | Same as CH 25 in the mode “RGBCAM 49CH” (p. 16) |
| **18** | Prism | | Same as CH 26 in the mode “RGBCAM 49CH” (p. 16) |
| **19** | Prism Rotation | | Same as CH 27 in the mode “RGBCAM 49CH” (p. 16) |
| **20** | Prism 2 | | Same as CH 28 in the mode “RGBCAM 49CH” (p. 16) |
| **21** | Prism 2 Rotation | | Same as CH 29 in the mode “RGBCAM 49CH” (p. 16) |
| **22** | Frost | | Same as CH 30 in the mode “RGBCAM 49CH” (p. 17) |
| **23** | Frost 2 | | Same as CH 31 in the mode “RGBCAM 49CH” (p. 17) |
| **24** | Animation Wheel | 0–255 | 0%-100% |
| **25** | Animation Wheel Rotation Speed | | Same as CH 33 in the mode “RGBCAM 49CH” (p. 17) |
| **26** | Iris | | Same as CH 34 in the mode “RGBCAM 49CH” (p. 17) |
| **27** | Focus | | Same as CH 35 in the mode “RGBCAM 49CH” (p. 17) |
| **28** | Focus Fine | 0–255 | Fine adjustment of CH 27 |
| **29** | Zoom | | Same as CH 37 in the mode “RGBCAM 49CH” (p. 17) |
| **30** | Zoom Fine | 0–255 | Fine adjustment of CH 29 |
| **31** | Auto Focus | | Same as CH 39 in the mode “RGBCAM 49CH” (p. 17) |
| **32** | Blade 1 A | | Same as CH 40 in the mode “RGBCAM 49CH” (p. 18) |

| CH | Function | DMX | Description |
|---|---|---|---|
| **33** | Blade 1 Rotation | | Same as CH 41 in the mode “RGBCAM 49CH” (p. 18) |
| **34** | Blade 2 A | | Same as CH 42 in the mode “RGBCAM 49CH” (p. 18) |
| **35** | Blade 2 Rotation | | Same as CH 43 in the mode “RGBCAM 49CH” (p. 18) |
| **36** | Blade 3 A | | Same as CH 44 in the mode “RGBCAM 49CH” (p. 18) |
| **37** | Blade 3 Rotation | | Same as CH 45 in the mode “RGBCAM 49CH” (p. 18) |
| **38** | Blade 4 A | | Same as CH 46 in the mode “RGBCAM 49CH” (p. 19) |
| **39** | Blade 4 Rotation | | Same as CH 47 in the mode “RGBCAM 49CH” (p. 19) |
| **40** | Shaper Rotation | | Same as CH 48 in the mode “RGBCAM 49CH” (p. 19) |
| **41** | Control | | Same as CH 49 in the mode “RGBCAM 49CH” (p. 19) |

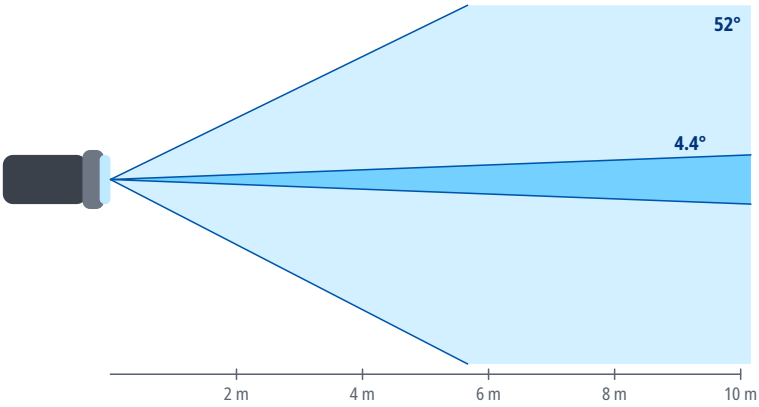
# 10 Technical specifications

| Parameter | Value |
|---|---|
| **Light** | |
| Light source | LED |
| LED power | 1,000 W |
| Luminous flux | 10,000 lm |
| Color temperature | 6,000 K |
| Color rendering index (CRI) | 100 |
| **Optics** | |
| Zoom | 4.4–52° |
| **Movement** | |
| Pan | 540° |
| Tilt | 270° |
| **Dimensions and construction** | |
| Weight | 47 kg |
| **Operating environment** | |
| Operating temperature | -10 to 45 °C |

### Speeds and ranges

| Parameter | Value |
|---|---|
| Color temperature range | 1800–10000 K |
| Strobe frequency | 1–30 Hz |
| Gobo wheel 1 rotation | up to 720 °/s (120 rpm) |
| Gobo wheel 2 rotation | up to 720 °/s (120 rpm) |
| Gobo 1 rotation | up to 360 °/s (60 rpm) |
| Prism 1 rotation | up to 270 °/s (45 rpm) |
| Prism 2 rotation | up to 270 °/s (45 rpm) |
| Animation wheel rotation | up to 80 °/s (13 rpm) |

### Spot diameter




| Distance | Ø 4.4° | Ø 52° |
|---|---|---|
| 2 m | 0.15 m | 2 m |
| 4 m | 0.31 m | 3.9 m |
| 6 m | 0.46 m | 5.9 m |
| 8 m | 0.61 m | 7.8 m |
| 10 m | 0.77 m | 9.8 m |
| 15 m | 1.2 m | 14.6 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.