DMX REFERENCE

R2

EK Lights



Manufacturer	EK Lights
GDTF file	EK_Lights_R2_124722.gdtf
GDTF revision	V1-02 · 2026-01-14
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1 About this manual

This document describes the R2 by EK Lights. It was compiled from the GDTF file EK_Lights_R2_124722.gdtf from the GDTF-Share library.

File revision: “V1-02”.

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

DMX modes

Mode	Channels	Units in one universe	First start addresses
16CH	16	32	1, 17, 33, 49, ...
43CH	43	11	1, 44, 87, 130, ...
86CH	86	5	1, 87, 173, 259, ...
17CH	17	30	1, 18, 35, 52, ...

No light? Check these channels

- 16CH: CH 5 Dimmer above 0
- 43CH: CH 5 Dimmer above 0; CH 7 Shutter at 251–255; CH 27 BG Dimmer above 0; CH 29 BG Shutter at 251–255
- 86CH: CH 5 Dimmer above 0; CH 7 Shutter at 251–255
- 17CH: CH 5 Dimmer above 0; CH 7 Shutter at 251–255



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.

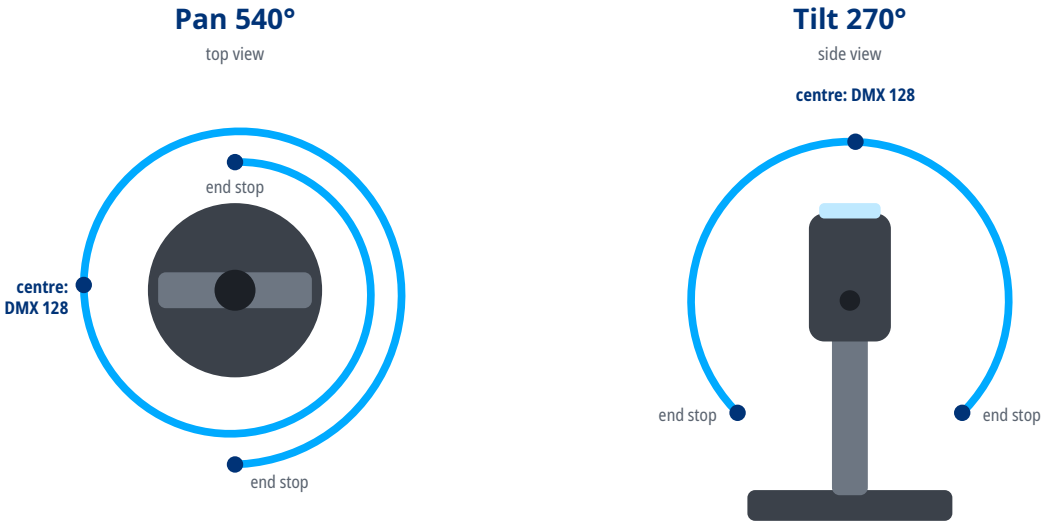
⚠ CAUTION

- 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.
> - 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.

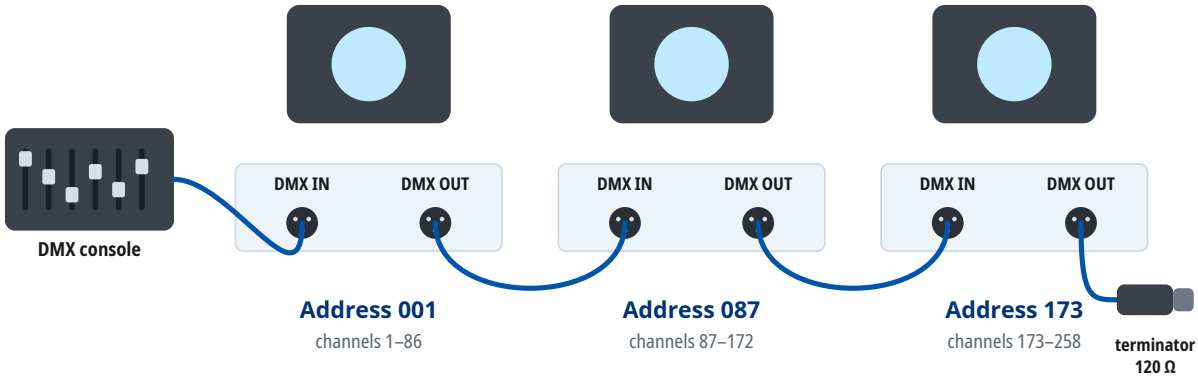
6 Connections

- 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 86CH: every unit occupies 86 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

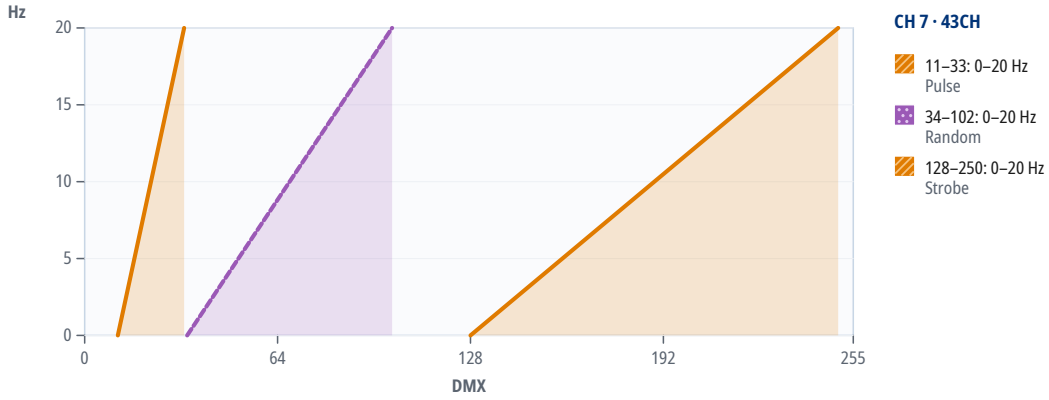
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “86CH”: 86.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “86CH”, you can use, for example, the start addresses 1, 87, 173, 259.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

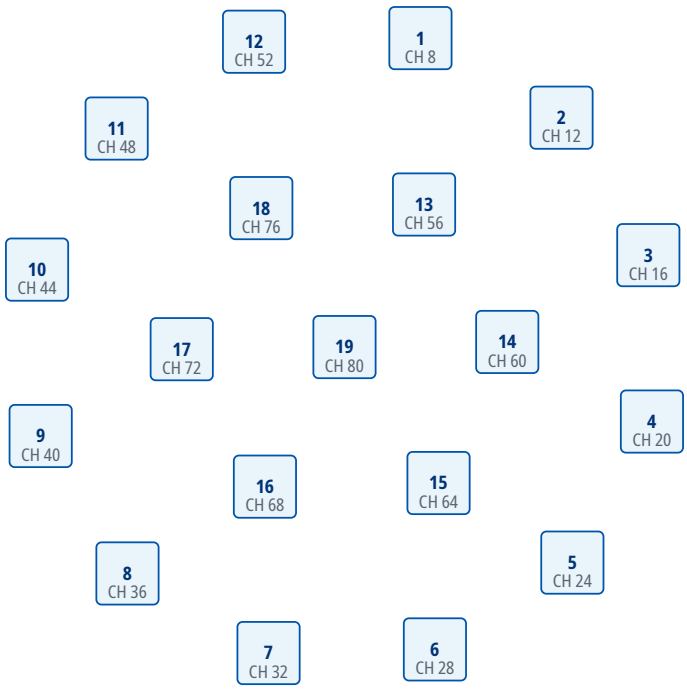
Functions in each DMX mode

	16CH 16 channels	43CH 43 channels	86CH 86 channels	17CH 17 channels
Pan / Tilt	1, 3	1, 3	1, 3	1, 3
Dimmer	5	5	5	5
Shutter / strobe		7	7	7
Color mixing	7–10	4× (8–14)	8–83	8–11
Color temperature	11	18		12
Zoom	13	20	84	14
Effects / macros		16, 17, 38, 39		

Strobe rate



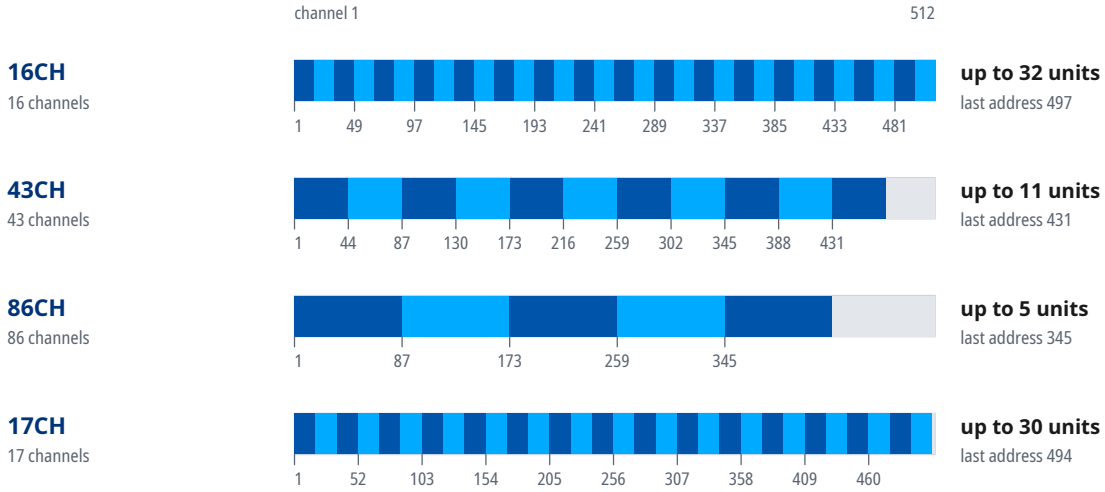
Cells (pixels)



19 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “43CH”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “86CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 1	11	U3 · 1	16	U4 · 1
2	87	7	U2 · 87	12	U3 · 87	17	U4 · 87
3	173	8	U2 · 173	13	U3 · 173	18	U4 · 173
4	259	9	U2 · 259	14	U3 · 259	19	U4 · 259
5	345	10	U2 · 345	15	U3 · 345	20	U4 · 345

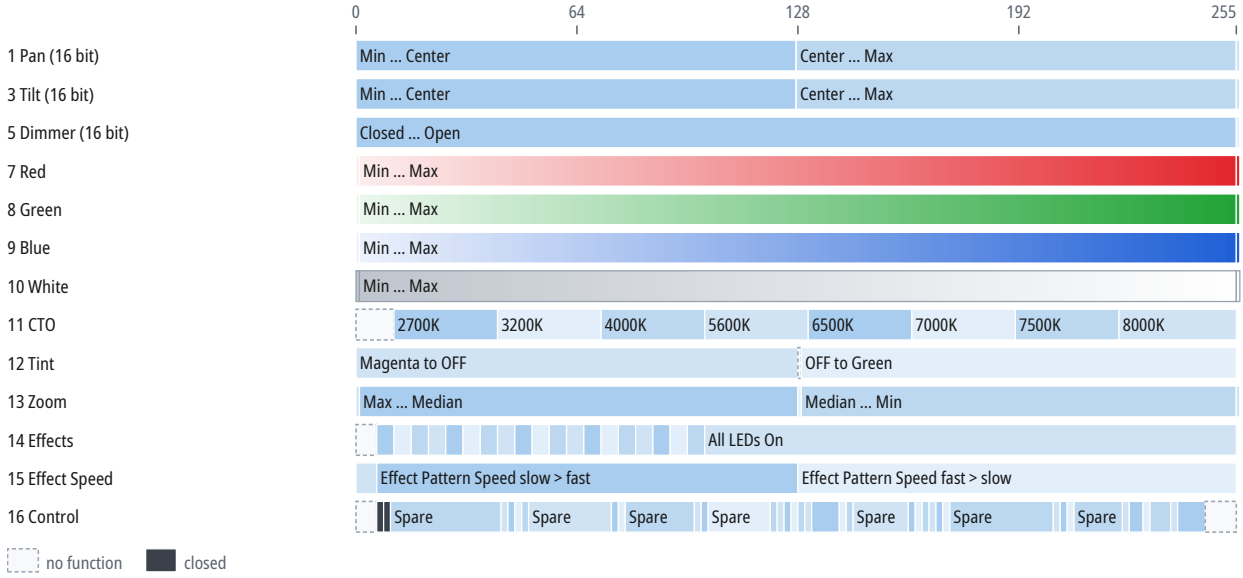
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 16CH

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 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 5 Dimmer 255, CH 10 White 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		127	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	Dimmer	0–255	Closed ... Open
		255	Open
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	Red	0	Min
		1–254	Min ... Max
		255	Max
8	Green	0	Min
		1–254	Min ... Max
		255	Max
9	Blue	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
10	White	0	Min
		1–254	Min ... Max
		255	Max
11	CTO	0–10	No Function
		11–40	2700K
		41–70	3200K
		71–100	4000K
		101–130	5600K
		131–160	6500K
		161–190	7000K
		191–220	7500K
		221–255	8000K
12	Tint	0–127	Magenta to OFF
		128	OFF
		129–255	OFF to Green
13	Zoom	0	Max
		1–127	Max ... Median
		128	Median
		129–254	Median ... Min
		255	Min
14	Effects	0–5	No Function
		6–10	Effect 1
		11–15	Effect 2
		16–20	Effect 3
		21–25	Effect 4
		26–30	Effect 5
		31–35	Effect 6
		36–40	Effect 7
		41–45	Effect 8
		46–50	Effect 9
		51–55	Effect 10
		56–60	Effect 11
		61–65	Effect 12
		66–70	Effect 13
		71–75	Effect 14
		76–80	Effect 15
		81–85	Effect 16
		86–90	Effect 17
		91–95	Effect 18
		96–100	Effect 19
		101–255	All LEDs On
15	Effect Speed	0–5	Effect Pattern Speed Stop

CH	Function	DMX	Description
15	Effect Speed (continued)	6–127	Effect Pattern Speed slow > fast
		128–255	Effect Pattern Speed fast > slow
16	Control	0–5	No Function
		6–7	Blackout while Moving on (Hold 3s)
		8–9	Blackout while Moving off (Hold 3s)
		10–41	Spare
		42–43	Invert Pan on (Hold 3s)
		44–45	Invert Pan off (Hold 3s)
		46–47	Invert Tilt on (Hold 3s)
		48–49	Invert Tilt off (Hold 3s)
		50–73	Spare
		74–75	Dimmer Response LED (Hold 3s)
		76–77	Dimmer Response Halogen (Hold 3s)
		78–97	Spare
		98–99	Silent Fan on (Hold 3s)
		100–101	Auto Fan (Hold 3s)
		102–119	Spare
		120–121	LED Frequency 800Hz (hold 3s)
		122–123	LED Frequency 1200Hz (hold 3s)
		124–125	LED Frequency 2000Hz (hold 3s)
		126–127	LED Frequency 3600Hz (hold 3s)
		128–129	LED Frequency 12KHz (hold 3s)
		130–131	LED Frequency 25KHz (hold 3s)
		132–139	Spare
		140–141	Display On(hold 3s)
		142–143	Display Off(hold 3s)
		144–159	Spare
		160–161	LED direction normal (hold 3s) (Standard)
		162–163	LED direction mirrowed (hold 3s)
		164–165	Dimmer Curve Linear(hold 3s)
		166–167	Dimmer Curve Exponential(hold 3s)
		168–169	Dimmer Curve Logarithmic(hold 3s)
		170–171	Dimmer Curve S-Curve(hold 3s)
		172–201	Spare
		202–203	RAW-Mode (Hold 3s)
		204–205	User Calibrated-Mode (Hold 3s)
		206–207	Factory Calibrated-Mode (Hold 3s)
		208–221	Spare
		222–223	Reset Pan / Tilt (Hold 3s)
		224–227	Spare
		228–229	Reset Zoom (Hold 3s)
		230–235	Spare

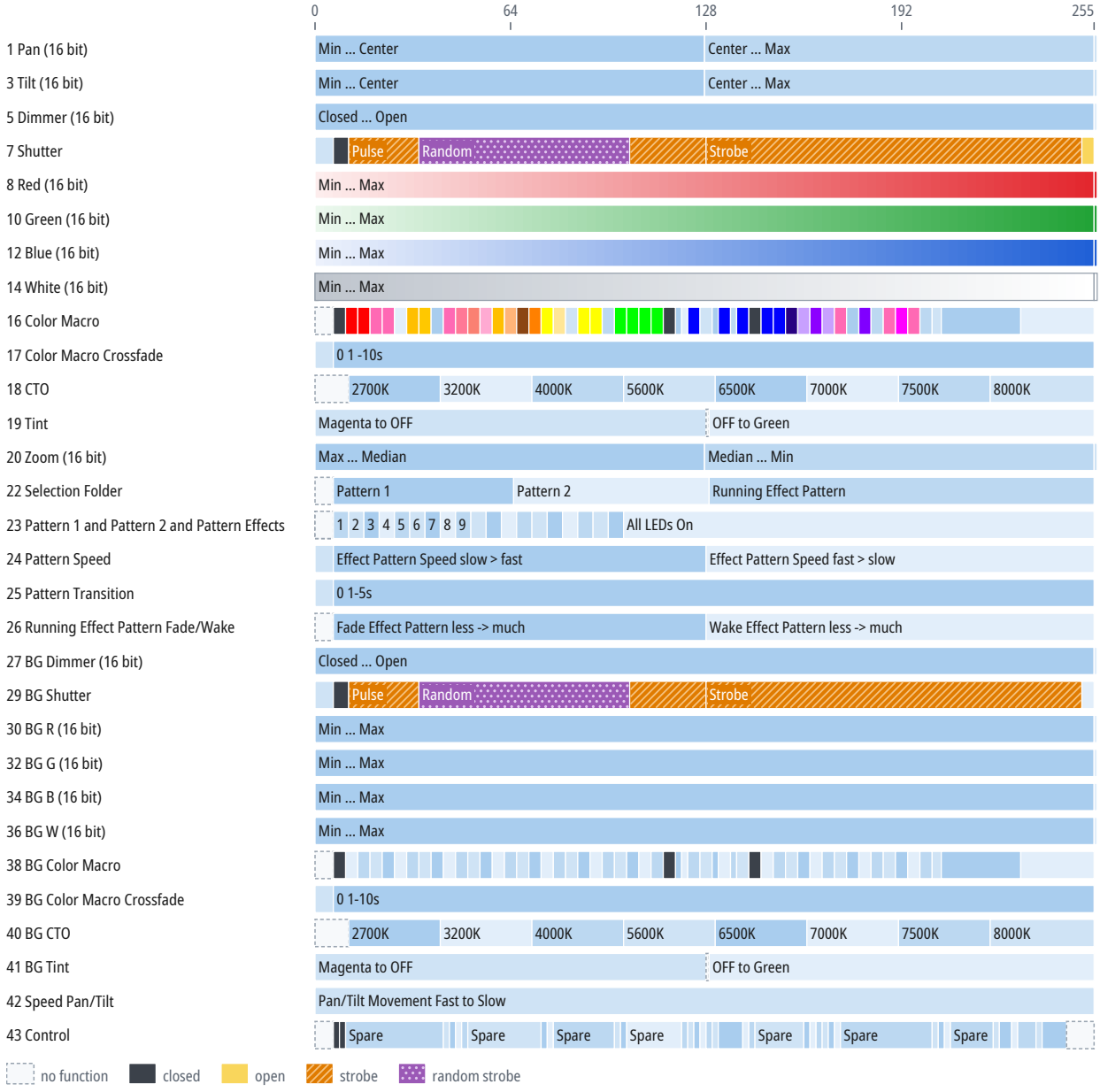
CH	Function	DMX	Description
16	Control (continued)	236–237	Reset All Functions (Hold 3s)
		238–245	Spare
		246–255	No function

Mode 43CH

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 Dimmer above 0; CH 7 Shutter at 251–255; CH 27 BG Dimmer above 0; CH 29 BG Shutter at 251–255. The GDTF file gives these values for a console's Highlight function: CH 5 Dimmer 255, CH 7 Shutter 255, CH 14 White 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		127	Center
		128–255	Center ... Max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer		Same as CH 5 in the mode “16CH” (p. 10)
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	Shutter	0–5	Open1
		6–10	Closed
		11–33	Pulse (0–20 Hz)
		34–102	Random (0–20 Hz)
		103–127	Strobe Break Effect
		128–250	Strobe (0–20 Hz)
		251–255	Open 2
8	Red	0–255	Min ... Max
		255	Max
9	Red Fine	0–255	Fine adjustment of CH 8
10	Green	0–255	Min ... Max
		255	Max
11	Green Fine	0–255	Fine adjustment of CH 10
12	Blue	0–255	Min ... Max
		255	Max
13	Blue Fine	0–255	Fine adjustment of CH 12
14	White	0–255	Min ... Max
		255	Max
15	White Fine	0–255	Fine adjustment of CH 14
16	Color Macro	0–5	No Function
		6–9	Dark Magenta
		10–13	Plasa Red
		14–17	Bright Red
		18–21	Smokey Pink
		22–25	Medium Pink
		26–29	Fire
		30–33	Deep Golden Amber
		34–37	Millennium Gold
		38–41	Gold Amber
		42–45	Pink
		46–49	Middle Rose

CH	Function	DMX	Description
16	Color Macro (continued)	50–53	Light Salmon
		54–57	Light Pink
		58–61	Golden Amber
		62–65	Surprise Peach
		66–69	Brown
		70–73	Orange
		74–77	Egg Yolk Yellow
		78–81	Deep Straw
		82–85	Nectarine
		86–89	Yellow
		90–93	Spring Yellow
		94–97	Lime Green
		98–101	LEE Green
		102–105	Jas Green
		106–109	Moss Green
		110–113	Primary Green
		114–117	Dark Green
		118–119	Dark Green ... Jade
		120–121	Jade
		122–125	Special Steel Blue
		126–129	Medium Blue-Green
		130–131	Medium Blue-Green ... Moonlight Blue
		132–135	Moonlight Blue
		136–137	Moonlight Blue ... Medium Blue
		138–141	Medium Blue
		142–145	Dark Blue
		146–149	Mikkel Blue
		150–153	Tokyo Blue
		154–157	Congo Blue
		158–161	Special KH Lavender
		162–165	Ultimate Violet
		166–169	Special Medium Lavender
		170–173	Chrysalis Pink
		174–177	Provence
		178–181	Deep Purple
		182–185	Rose Purple
		186–189	Fuchsia Pink
		190–193	Magical Magenta
		194–197	Bright Pink
		198–201	Rose Pink
		202–204	Colour Jumping Stop

CH	Function	DMX	Description
16	Color Macro (continued)	205–230	Colour Jumping Speed slow -> fast / Colour 1 -> 49
		231–255	Colour Fading Speed slow -> fast / Colour 1 -> 49
17	Color Macro Crossfade	0–5	0s
		6–255	0 1 -10s
18	CTO		Same as CH 11 in the mode “16CH” (p. 11)
19	Tint		Same as CH 12 in the mode “16CH” (p. 11)
20	Zoom	0–127	Max ... Median
		127	Median
		128–255	Median ... Min
		255	Min
21	Zoom Fine	0–255	Fine adjustment of CH 20
22	Selection Folder	0–5	No Function
		6–64	Pattern 1
		65–128	Pattern 2
		129–255	Running Effect Pattern
23	Pattern 1 and Pattern 2 and Pattern Effects	0–5	Pattern: No Function
		6–10	1
		11–15	2
		16–20	3
		21–25	4
		26–30	5
		31–35	6
		36–40	7
		41–45	8
		46–50	9
		51–55	10
		56–60	11
		61–65	12
		66–70	13
		71–75	14
		76–80	15
		81–85	16
		86–90	17
		91–95	18
		96–100	19
		101–105	20
		106–110	21
		111–115	22
		116–120	23
		121–125	24
		126–130	25

CH	Function	DMX	Description
23	Pattern 1 and Pattern 2 and Pattern Effects (continued)	131–135	26
		136–140	27
		141–145	28
		146–150	29
		151–155	30
		156–160	31
		161–165	32
		166–170	33
		171–175	34
		176–180	35
		181–185	36
		186–190	37
		191–195	38
		196–200	39
		201–205	40
		206–210	41
		211–215	42
		216–220	43
		221–225	44
		226–230	45
		231–235	46
		236–240	47
		241–245	48
		246–250	49
		251–255	50
24	Pattern Speed	0–5	Effect Pattern Speed Stop
		6–127	Effect Pattern Speed slow > fast
		128–255	Effect Pattern Speed fast > slow
25	Pattern Transition	0–5	Stop
		6–255	0 1-5s
26	Running Effect Pattern Fade/Wake	0–5	No Function
		6–127	Fade Effect Pattern less -> much
		128–255	Wake Effect Pattern less -> much
27	BG Dimmer	0–255	Closed ... Open
		255	Open
28	BG Dimmer Fine	0–255	Fine adjustment of CH 27
29	BG Shutter	0–5	Open1
		6–10	Closed
		11–33	Pulse
		34–102	Random
		103–127	Strobe Break Effect

CH	Function	DMX	Description
29	BG Shutter (continued)	128–250	Strobe
		251–255	Open 2
30	BG R	0–255	Min ... Max
		255	Max
31	BG R Fine	0–255	Fine adjustment of CH 30
32	BG G	0–255	Min ... Max
		255	Max
33	BG G Fine	0–255	Fine adjustment of CH 32
34	BG B	0–255	Min ... Max
		255	Max
35	BG B Fine	0–255	Fine adjustment of CH 34
36	BG W	0–255	Min ... Max
		255	Max
37	BG W Fine	0–255	Fine adjustment of CH 36
38	BG Color Macro	0–5	No Function
		6–9	Dark Magenta
		10–13	Plasa Red
		14–17	Bright Red
		18–21	Smokey Pink
		22–25	Medium Pink
		26–29	Fire
		30–33	Deep Golden Amber
		34–37	Millennium Gold
		38–41	Gold Amber
		42–45	Pink
		46–49	Middle Rose
		50–53	Light Salmon
		54–57	Light Pink
		58–61	Golden Amber
		62–65	Surprise Peach
		66–69	Brown
		70–73	Orange
		74–77	Egg Yolk Yellow
		78–81	Deep Straw
		82–85	Nectarine
		86–89	Yellow
		90–93	Spring Yellow
		94–97	Lime Green
		98–101	LEE Green
		102–105	Jas Green
		106–109	Moss Green
		110–113	Primary Green

CH	Function	DMX	Description
38	BG Color Macro (continued)	114–117	Dark Green
		118–119	Dark Green ... Jade
		120–121	Jade
		122–125	Special Steel Blue
		126–129	Medium Blue-Green
		130–131	Medium Blue-Green ... Moonlight Blue
		132–135	Moonlight Blue
		136–137	Moonlight Blue ... Medium Blue
		138–141	Medium Blue
		142–145	Dark Blue
		146–149	Mikkel Blue
		150–153	Tokyo Blue
		154–157	Congo Blue
		158–161	Special KH Lavender
		162–165	Ultimate Violet
		166–169	Special Medium Lavender
		170–173	Chrysalis Pink
		174–177	Provence
		178–181	Deep Purple
		182–185	Rose Purple
		186–189	Fuchsia Pink
		190–193	Magical Magenta
		194–197	Bright Pink
		198–201	Rose Pink
		202–204	Colour Jumping Stop
		205–230	Colour Jumping Speed slow -> fast / Colour 1 -> 49
		231–255	Colour Fading Speed slow -> fast / Colour 1 -> 49
39	BG Color Macro Crossfade	0–5	0s
		6–255	0 1-10s
40	BG CTO	0–10	No Function
		11–40	2700K
		41–70	3200K
		71–100	4000K
		101–130	5600K
		131–160	6500K
		161–190	7000K
		191–220	7500K
		221–255	8000K

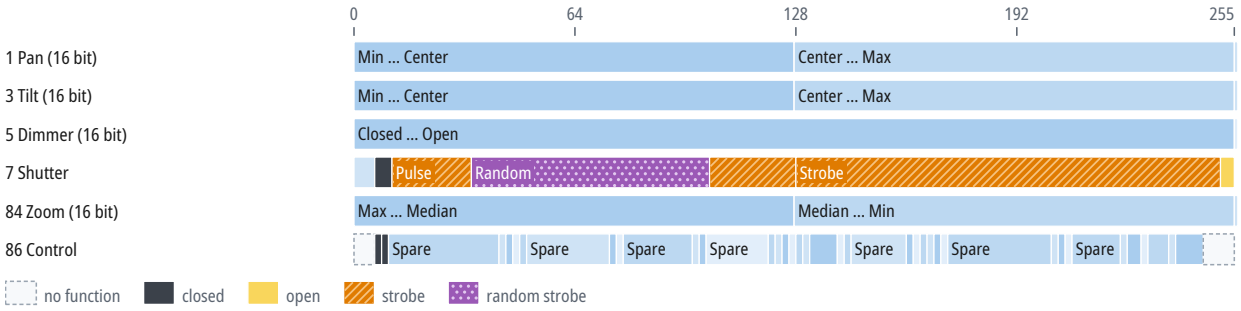
CH	Function	DMX	Description
41	BG Tint	0–127	Magenta to OFF
		128	OFF
		129–255	OFF to Green
42	Speed Pan/Tilt	0–255	Pan/Tilt Movement Fast to Slow
43	Control		Same as CH 16 in the mode “16CH” (p. 12)

Mode 86CH

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 Dimmer above 0; CH 7 Shutter at 251–255. The GDTF file gives these values for a console's Highlight function: CH 5 Dimmer 255, CH 7 Shutter 255, CH 11 White 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “43CH” (p. 14)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer		Same as CH 5 in the mode “16CH” (p. 10)
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	Shutter		Same as CH 7 in the mode “43CH” (p. 14)
8	Red 1	0	Min
		1–254	Min ... Max
		255	Max
9	Green 1	0	Min
		1–254	Min ... Max
		255	Max
10	Blue 1	0	Min
		1–254	Min ... Max
		255	Max
11	White 1	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
84	Zoom		Same as CH 20 in the mode “43CH” (p. 16)
85	Zoom Fine	0–255	Fine adjustment of CH 84
86	Control		Same as CH 16 in the mode “16CH” (p. 12)

CH 8–83: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 8–11); the table below gives each cell's channel numbers.

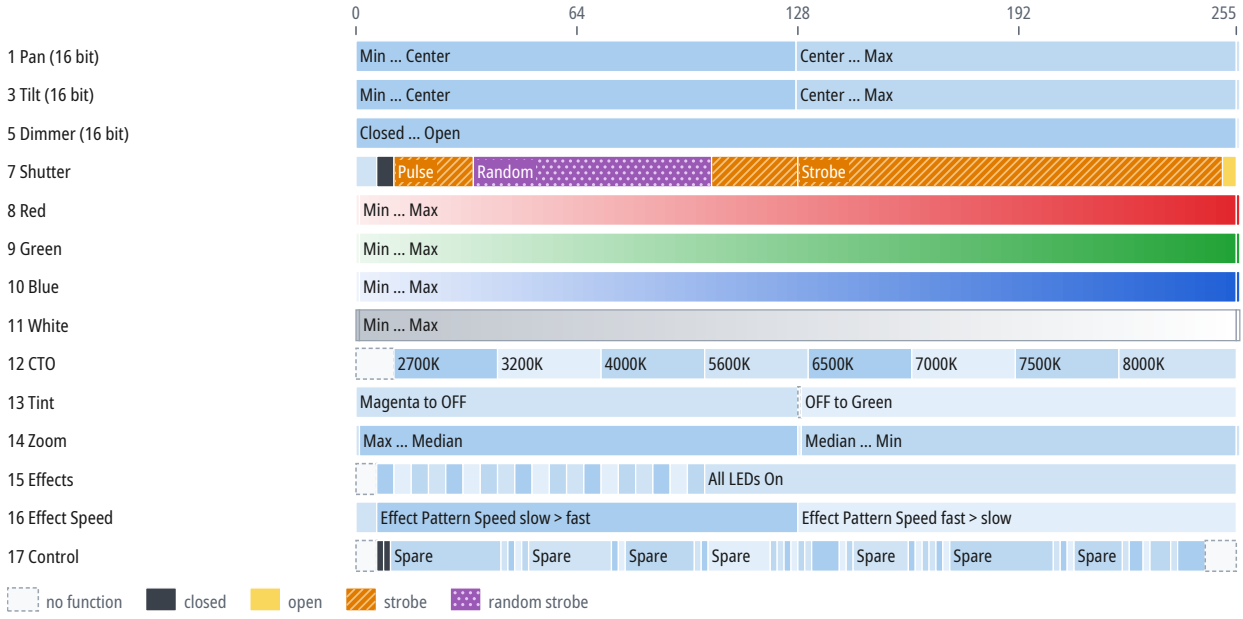
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	8	9	10	11	2	12	13	14	15
3	16	17	18	19	4	20	21	22	23
5	24	25	26	27	6	28	29	30	31
7	32	33	34	35	8	36	37	38	39
9	40	41	42	43	10	44	45	46	47
11	48	49	50	51	12	52	53	54	55
13	56	57	58	59	14	60	61	62	63
15	64	65	66	67	16	68	69	70	71
17	72	73	74	75	18	76	77	78	79
19	80	81	82	83					

Mode 17CH

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 Dimmer above 0; CH 7 Shutter at 251–255. The GDTF file gives these values for a console's Highlight function: CH 5 Dimmer 255, CH 7 Shutter 255, CH 11 White 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “16CH” (p. 10)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer		Same as CH 5 in the mode “16CH” (p. 10)
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	Shutter		Same as CH 7 in the mode “43CH” (p. 14)
8	Red		Same as CH 7 in the mode “16CH” (p. 10)
9	Green		Same as CH 8 in the mode “16CH” (p. 10)
10	Blue		Same as CH 9 in the mode “16CH” (p. 10)
11	White		Same as CH 10 in the mode “16CH” (p. 11)
12	CTO		Same as CH 11 in the mode “16CH” (p. 11)
13	Tint		Same as CH 12 in the mode “16CH” (p. 11)
14	Zoom		Same as CH 13 in the mode “16CH” (p. 11)
15	Effects		Same as CH 14 in the mode “16CH” (p. 11)
16	Effect Speed		Same as CH 15 in the mode “16CH” (p. 11)
17	Control		Same as CH 16 in the mode “16CH” (p. 12)

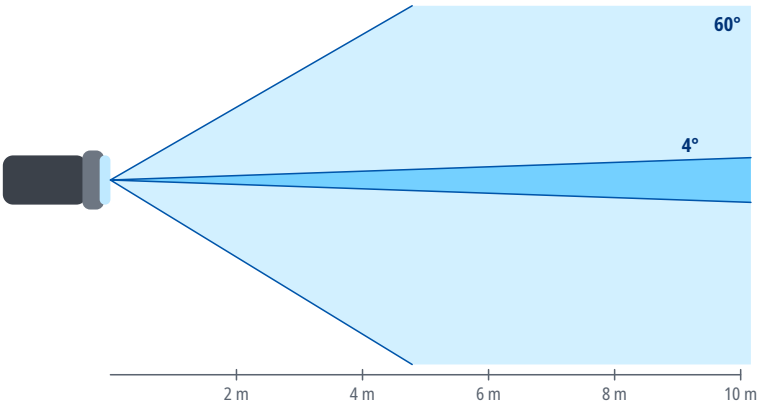
10 Technical specifications

Parameter	Value
Light source	LED
Zoom	4–60°
Pan	540°
Tilt	270°
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2700–8000 K
Strobe frequency	0–20 Hz

Spot diameter



Distance	Ø 4°	Ø 60°
2 m	0.14 m	2.3 m
4 m	0.28 m	4.6 m
6 m	0.42 m	6.9 m
8 m	0.56 m	9.2 m
10 m	0.7 m	11.5 m
15 m	1 m	17.3 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.