DMX REFERENCE

Sparx12 EXT

JB-Lighting



Manufacturer	JB-Lighting
GDTF file	JB-Lighting_Sparx12_EXT_135312.gdtf
GDTF revision	V_2_01 · 2026-03-25
Generated	2026-11-24

Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Product description 5
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 7
9 DMX channels 9
Mode1 tint channel (35) 10
Mode2 tint channel (50) 29
Mode3 tint channel (24) 35
Mode1 tint channel single pixel (112) 38
Mode2 tint channel single pixel (127) 41
Mode3 tint channel single pixel (101) 44
10 Technical specifications 46
11 Maintenance and cleaning 47
12 Troubleshooting 47
13 Disposal 47

1 About this manual

This document describes the Sparx12 EXT by JB-Lighting. It was compiled from the GDTF file JB-Lighting_Sparx12_EXT_135312.gdtf from the GDTF-Share library.

File revision: “V_2_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 JB-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
Weight	15.4 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode1 tint channel (35)	35	14	1, 36, 71, 106, ...
Mode2 tint channel (50)	50	10	1, 51, 101, 151, ...
Mode3 tint channel (24)	24	21	1, 25, 49, 73, ...
Mode1 tint channel single pixel (112)	112	4	1, 113, 225, 337
Mode2 tint channel single pixel (127)	127	4	1, 128, 255, 382
Mode3 tint channel single pixel (101)	101	5	1, 102, 203, 304, ...

No light? Check these channels

- Mode1 tint channel (35): CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 15 Dimmer 2 above 0; CH 16 Dimmer 3 above 0
- Mode2 tint channel (50): CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 19 Dimmer 2 above 0; CH 21 Dimmer 3 above 0
- Mode3 tint channel (24): CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer above 0
- Mode1 tint channel single pixel (112): CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 15 Dimmer 2 above 0; CH 16 Dimmer 3 above 0
- Mode2 tint channel single pixel (127): CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 19 Dimmer 2 above 0; CH 21 Dimmer 3 above 0
- Mode3 tint channel single pixel (101): CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer above 0



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

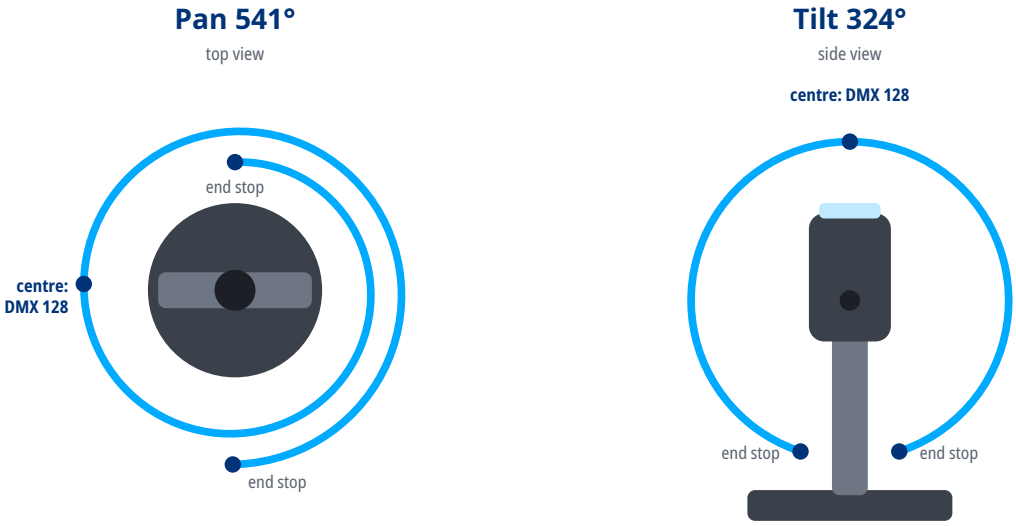
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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

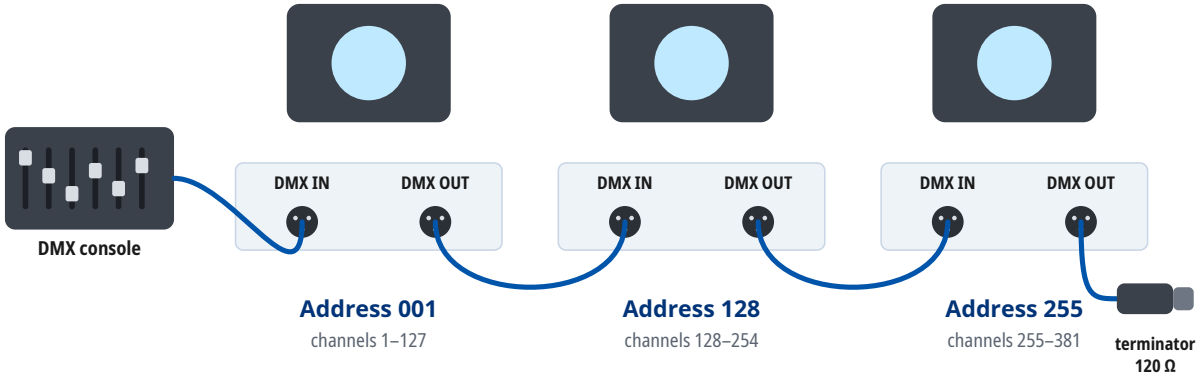
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 15.4 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



Mode2 tint channel single pixel (127): every unit occupies 127 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 “Mode2 tint channel single pixel (127)”: 127.
- 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 “Mode2 tint channel single pixel (127)”, you can use, for example, the start addresses 1, 128, 255, 382.
- 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

	Mode1 tint channel (35) 35 channels	Mode2 tint channel (50) 50 channels	Mode3 tint channel (24) 24 channels	Mode1 tint channel single pixel (112) 112 channels	Mode2 tint channel single pixel (127) 127 channels	Mode3 tint channel single pixel (101) 101 channels
Pan / Tilt	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3
Dimmer	7, 15, 16	7, 19, 21	7	7, 15, 16	7, 19, 21	7
Dimmer resolution	8 bit	16 bit	8 bit	8 bit	16 bit	8 bit
Shutter / strobe	6	6	6	6	6	6
Color mixing	18–25	8× (24–38)	14–17	18–25, 37–112	84 channels (24–127)	14–17, 26–101
Color temperature	12	14	12	12	14	12
Color wheel	17	23	13	17	23	13
Zoom	8–10	9–11	8–10	8–10	9–11	8–10
Effects / macros	14, 29, 30, 32, 33	17, 43, 44, 46, 47	21, 22	14, 29, 30, 32, 33	17, 43, 44, 46, 47	21, 22
Pixel control	✓	✓		19 cells	19 cells	19 cells

Color wheel



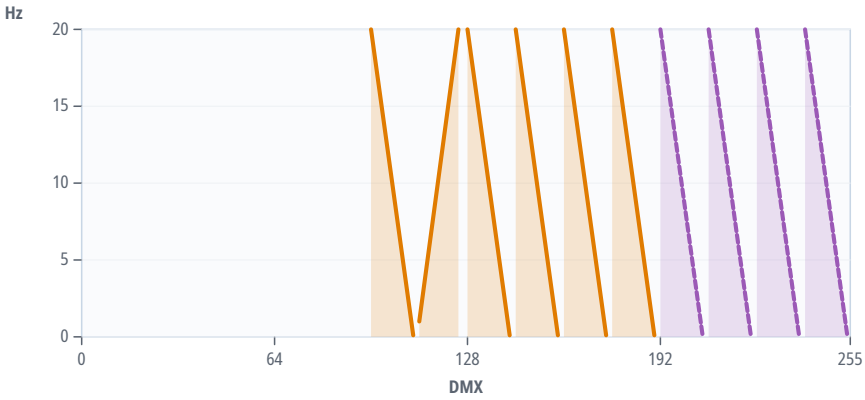
25

Blue / turquoise
DMX 52–55

26

Turquoise / white
DMX 60–63

Strobe rate

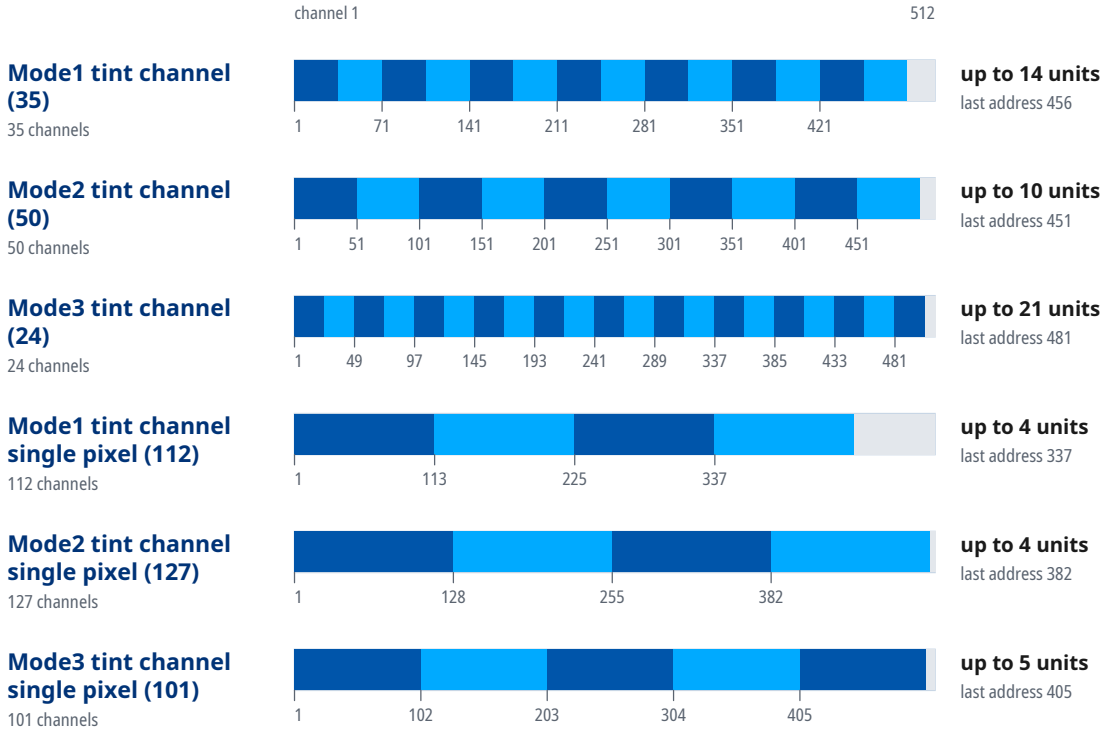


CH 6 · Mode1 tint channel single pixel (112)

- 96–110: 20–0.1 Hz
  StrobePulseOpen
- 112–125: 1–20 Hz
  Shutter Fade Effect
- 128–142: 20–0.1 Hz
  Shutter Pulse Open
- 144–158: 20–0.1 Hz
  Shutter Pulse Close
- 160–174: 20–0.1 Hz
  Shutter Fade close
- 176–190: 20–0.1 Hz
  Shutter Fade open
- 192–206: 20–0.1 Hz
  Shutter Rnd Open
- 208–222: 20–0.1 Hz
  Shutter Rnd Close

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode2 tint channel single pixel (127)”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 128	11	U3 · 255	16	U4 · 382
2	128	7	U2 · 255	12	U3 · 382	17	U5 · 1
3	255	8	U2 · 382	13	U4 · 1	18	U5 · 128
4	382	9	U3 · 1	14	U4 · 128	19	U5 · 255
5	U2 · 1	10	U3 · 128	15	U4 · 255	20	U5 · 382

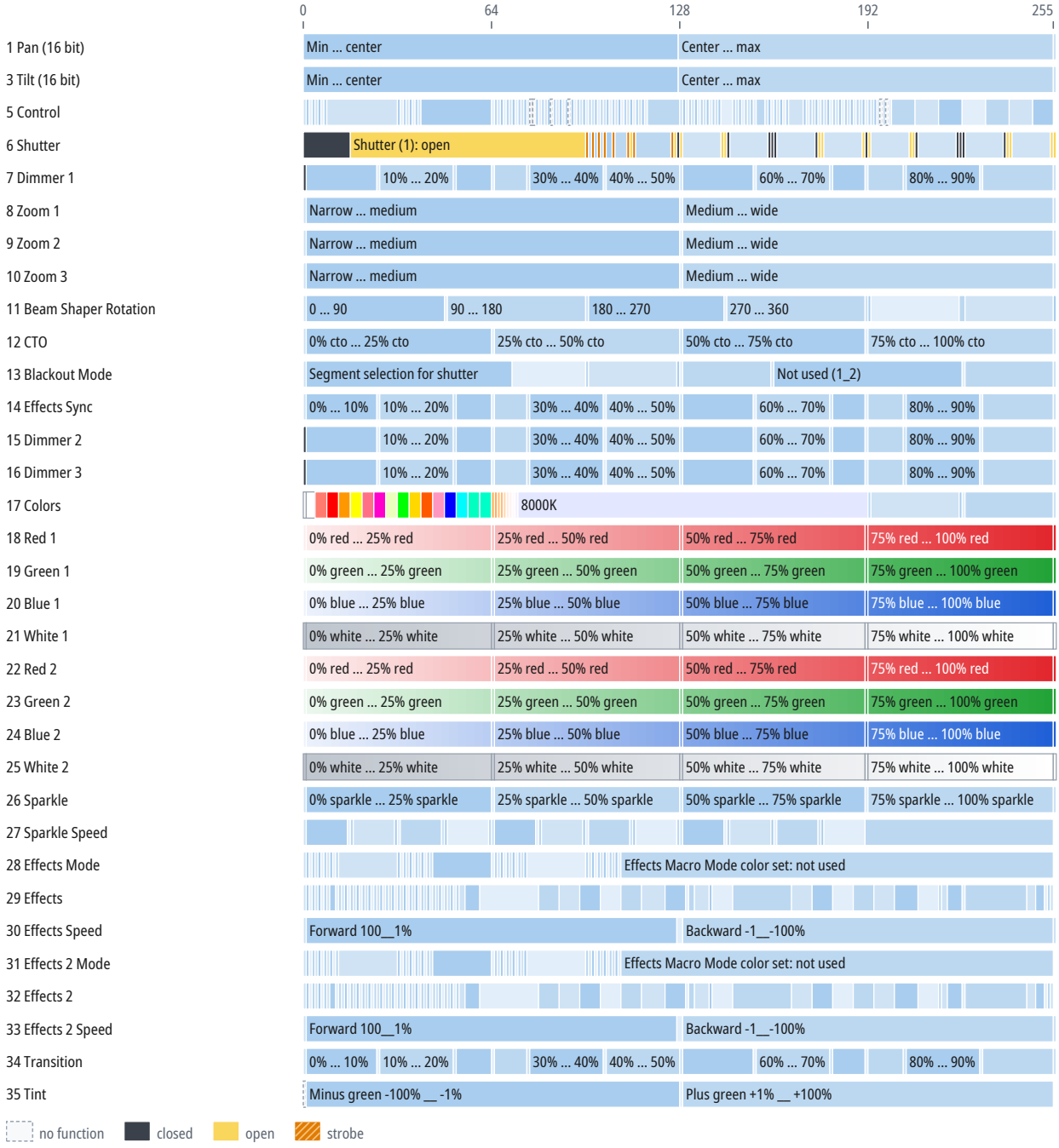
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode1 tint channel (35)

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 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 15 Dimmer 2 above 0; CH 16 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 16, CH 7 Dimmer 1 255, CH 15 Dimmer 2 255, CH 16 Dimmer 3 255, CH 18 Red 1 0, CH 19 Green 1 0, CH 20 Blue 1 0, CH 22 Red 2 0, CH 23 Green 2 0, CH 24 Blue 2 0.

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	Control	0	Fade out fast
		1–6	Fade out 1...6
		7	Fade out slow
		8–31	Not used (1_0)
		32	(2) fade out fast
		33	(2) fade out 1
		34	(2) fade out 2
		35	(2) fade out 3
		36	(2) fade out 4
		37	(2) fade out 5
		38	(2) fade out 6
		39	(2) fade out slow
		40–63	Not used (2_0)
		64	(3) fade out fast
		65	(3) fade out 1
		66	(3) fade out 2
		67	(3) fade out 3
		68	(3) fade out 4
		69	(3) fade out 5
		70	(3) fade out 6
		71	(3) fade out slow
		72	50%
		73	Color mix power limit: 60%
		74	70%
		75	Color mix power limit: 80%
		76	90%
		77	Color mix power limit: off
		78	Constant color mode: off
		79	Constant color mode: 20%
		80	Constant color mode: 40%
		81	Constant color mode: 60%
		82	Constant color mode: 80%

CH	Function	DMX	Description
5	Control (continued)	83	Constant color mode: max
		84	Constant brightness mode: off
		85	Constant brightness mode: 20%
		86	Constant brightness mode: 40%
		87	Constant brightness mode: 60%
		88	Constant brightness mode: 80%
		89	Constant brightness mode: max
		90	Constant brightness limit: off
		91	Constant brightness limit: 20%
		92	Constant brightness limit: 40%
		93	Constant brightness limit: 60%
		94	Constant brightness limit: 80%
		95	Constant brightness limit: max
		96	(4) fade out fast
		97	(4) fade out 1
		98	(4) fade out 2
		99	(4) fade out 3
		100	(4) fade out 4
		101	(4) fade out 5
		102	(4) fade out 6
		103	(4) fade out slow
		104	Backlight auto
		105	Backlight on
		106	Backlight off
		107	Display standard
		108	Display flip
		109	Not used (6_0)
		110	Main screen standard
		111	Main screen user id
		112	Not used (6_1)
		113	User id set
		114	User cie x
		115	User cie y
		116	Black body shift
		117–127	Not used (6_2)
		128	(5) fade out fast
		129	(5) fade out 1
		130	(5) fade out 2
		131	(5) fade out 3
		132	(5) fade out 4
		133	(5) fade out 5

CH	Function	DMX	Description
5	Control (continued)	134	(5) fade out 6
		135	(5) fade out slow
		136	Dimmer linear
		137	Dimmer square
		138	Dimmer square inv
		139	Not used (8_0)
		140	rgb/cmy linear
		141	rgb/cmy square
		142–145	Not used (8_1)
		146	p/t speed whisper
		147	p/t speed silent
		148	p/t speed medium
		149	p/t speed fast
		150	Effect speed whisper
		151	Effect speed silent
		152	Effect speed medium
		153	Effect speed fast
		154–156	Not used (8_2)
		157	Noise optimized
		158	Brightness optimized
		159	Not used (8_3)
		160	Theatre whisper
		161	Theatre silent
		162	Standard
		163	Boost
		164	Longterm 24/7
		165–169	Not used (9_0)
		170	2000K
		171	2700K
		172	2700K tungsten dim out
		173	3200K
		174	3200K tungsten dim oiut
		175	4200K
		176	5600K
		177	6000K
		178	6500K
		179	7000K
		180	8000K
		181	RAW RGBW
		182	User white
		183	RAW RGBW user white

CH	Function	DMX	Description
5	Control (continued)	184	Not used (10_0)
		185	mode1
		186	mode2
		187	mode3
		188	mode4
		189	mode5
		190	Fan mode: min
		191	Fan mode: 20%
		192	Fan mode: 40%
		193	Fan mode: 60%
		194	Fan mode: 80%
		195	Fan mode: max
		196	Beamshape: off
		197	Beamshape: on
		198	Black body shift DMX: off
		199	Black body shift DMX: on
		200–207	Not used (14_0)
		208–215	50Hz (100Hz)
		216–223	60Hz (120Hz)
		224–231	Flex (600Hz)
		232–239	Not used (15_0)
		240–247	Reset
		248–255	Not used (16_0)
6	Shutter	0–15	Shutter (1): closed
		16–95	Shutter (1): open
		96	20Hz
		97	20Hz ... 15Hz
		98	15Hz
		99	15Hz ... 10Hz
		100	10Hz
		101	10Hz ... 5Hz
		102	5Hz
		103–104	5Hz ... 1Hz
		105	1Hz
		106–109	1Hz ... 1/10Hz
		110	1/10Hz
		111	Shutter (2): open (2)
		112	Fade effect slow
		113–124	Fade effect slow ... fade effect fast
		125	Fade effect fast
		126	Shutter (3): open (3)

CH	Function	DMX	Description
6	Shutter (continued)	127	Shutter (3): closed (2)
		128	Pulse open fast
		129–141	Pulse open fast ... pulse open slow
		142	Pulse open slow
		143	Shutter (4): open (4)
		144	Pulse close fast
		145–157	Pulse close fast ... pulse close slow
		158	Pulse close slow
		159	Shutter (5): closed (3)
		160	Fade close fast
		161–173	Fade close fast ... fade close slow
		174	Fade close slow
		175	Shutter (6): open (5)
		176	Fade open fast
		177–189	Fade open fast ... fade open slow
		190	Fade open slow
		191	Shutter (7): closed (4)
		192	Rnd open fast
		193–205	Rnd open fast ... rnd open slow
		206	Rnd open slow
		207	Shutter (8): open (6)
		208	Rnd close fast
		209–221	Rnd close fast ... rnd close slow
		222	Rnd close slow
		223	Shutter (9): closed (5)
		224	Rnd pulse close fast
		225–237	Shutter Rnd Pulse Close
		238	Rnd pulse close fast
		239	Shutter (10): open (7)
		240	Rnd pulse open fast
		241–253	Shutter Rnd Pulse open
		254	Rnd pulse open fast
		255	Shutter (11): open (8)
7	Dimmer 1	0	Closed
		1–24	Closed ... 10%
		25	10%
		26–50	10% ... 20%
		51	20%
		52–63	20% ... 25%
		64	25%
		65–75	25% ... 30%
		76	30%

CH	Function	DMX	Description
7	Dimmer 1 (continued)	77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%
		153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%
		231–254	90% … open
		255	Open
8	Zoom 1	0	Narrow
		1–127	Narrow … medium
		128	Medium
		129–254	Medium … wide
		255	Wide
9	Zoom 2	0	Narrow
		1–127	Narrow … medium
		128	Medium
		129–254	Medium … wide
		255	Wide
10	Zoom 3	0	Narrow
		1–127	Narrow … medium
		128	Medium
		129–254	Medium … wide
		255	Wide
11	Beam Shaper Rotation	0	0
		1–47	0 … 90
		48	90
		49–95	90 … 180
		96	180
		97–142	180 … 270
		143	270
		144–190	270 … 360
		191	360
		192	>>>
		193–222	Rotate 100__1% (1080–1 °/s)

CH	Function	DMX	Description
11	Beam Shaper Rotation (continued)	223–224	Beamshaper pos rotate: Stop
		225–254	Rotate -1__-100% (1–1080 °/s)
		255	<<<
12	CTO	0	0% cto
		1–63	0% cto ... 25% cto
		64	25% cto
		65–127	25% cto ... 50% cto
		128	50% cto
		129–190	50% cto ... 75% cto
		191	75% cto
		192–254	75% cto ... 100% cto
		255	100% cto
13	Blackout Mode	0	Not used (1_0)
		1–70	Segment selection for shutter
		71–95	Not used (1_1)
		96	Bo at p/t slow
		97–126	Bo at p/t slow ... bo at p/t fast
		127	Bo at p/t fast
		128	Bo at co rgbw slow
		129–158	Bo at co rgbw slow ... bo at co rgbw fast
		159	Bo at co rgbw fast
		160–223	Not used (1_2)
		224	Bo at p/t co rgbw slow
		225–254	Bo at p/t co rgbw slow ... bo at p/t co rgbw fast
		255	Bo at p/t co rgbw fast
14	Effects Sync	0	0%
		1–24	0% ... 10%
		25	10%
		26–50	10% ... 20%
		51	20%
		52–63	20% ... 25%
		64	25%
		65–75	25% ... 30%
		76	30%
		77–101	30% ... 40%
		102	40%
		103–127	40% ... 50%
		128	50%
		129–152	50% ... 60%
		153	60%
		154–178	60% ... 70%
		179	70%

CH	Function	DMX	Description
14	Effects Sync (continued)	180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%
		231–254	90% … 100%
		255	100%
15	Dimmer 2	0	Closed
		1–24	Closed … 10%
		25	10%
		26–50	10% … 20%
		51	20%
		52–63	20% … 25%
		64	25%
		65–75	25% … 30%
		76	30%
		77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%
		153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%
		231–254	90% … open
		255	Open
16	Dimmer 3	0	Closed
		1–24	Closed … 10%
		25	10%
		26–50	10% … 20%
		51	20%
		52–63	20% … 25%
		64	25%
		65–75	25% … 30%
		76	30%

CH	Function	DMX	Description
16	Dimmer 3 (continued)	77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%
		153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%
		231–254	90% … open
		255	Open
17	Colors	0	Inactive colors rgb
		1–3	White
		4–7	White / red
		8–11	Red
		12–15	Red / yellow
		16–19	Yellow
		20–23	Yellow / magenta
		24–27	Magenta
		28–31	Magenta / green
		32–35	Green
		36–39	Green / orange
		40–43	Orange
		44–47	Orange / blue
		48–51	Blue
		52–55	Blue / turquoise
		56–59	Turquoise
		60–63	Turquoise / white
		64	2700K
		65	2700K tungsten dimming
		66	3200K
		67	3200K tungsten dimming
		68	4200K
		69	5600K
		70	6000K
		71	6500K
		72	7000K

CH	Function	DMX	Description
17	Colors (continued)	73–191	8000K
		192	Spin >>> fast
		193–222	Spin >>> fast ... spin >>> slow
		223	Spin >>> slow
		224	Spin <<< slow
		225–254	Spin <<< slow ... spin <<< fast
		255	Spin <<< fast
18	Red 1		Color R
		0	0% red
		1–63	0% red ... 25% red
		64	25% red
		65–127	25% red ... 50% red
		128	50% red
		129–190	50% red ... 75% red
		191	75% red
		192–254	75% red ... 100% red
		255	100% red
19	Green 1		Color G
		0	0% green
		1–63	0% green ... 25% green
		64	25% green
		65–127	25% green ... 50% green
		128	50% green
		129–190	50% green ... 75% green
		191	75% green
		192–254	75% green ... 100% green
		255	100% green
20	Blue 1		Color B
		0	0% blue
		1–63	0% blue ... 25% blue
		64	25% blue
		65–127	25% blue ... 50% blue
		128	50% blue
		129–190	50% blue ... 75% blue
		191	75% blue
		192–254	75% blue ... 100% blue
		255	100% blue
21	White 1	0	0% white
		1–63	0% white ... 25% white
		64	25% white
		65–127	25% white ... 50% white
		128	50% white

CH	Function	DMX	Description
21	White 1 (continued)	129–190	50% white … 75% white
		191	75% white
		192–254	75% white … 100% white
		255	100% white
22	Red 2		Color R
		0	0% red
		1–63	0% red … 25% red
		64	25% red
		65–127	25% red … 50% red
		128	50% red
		129–190	50% red … 75% red
		191	75% red
		192–254	75% red … 100% red
		255	100% red
23	Green 2		Color G
		0	0% green
		1–63	0% green … 25% green
		64	25% green
		65–127	25% green … 50% green
		128	50% green
		129–190	50% green … 75% green
		191	75% green
		192–254	75% green … 100% green
		255	100% green
24	Blue 2		Color B
		0	0% blue
		1–63	0% blue … 25% blue
		64	25% blue
		65–127	25% blue … 50% blue
		128	50% blue
		129–190	50% blue … 75% blue
		191	75% blue
		192–254	75% blue … 100% blue
		255	100% blue
25	White 2	0	0% white
		1–63	0% white … 25% white
		64	25% white
		65–127	25% white … 50% white
		128	50% white
		129–190	50% white … 75% white
		191	75% white
		192–254	75% white … 100% white

CH	Function	DMX	Description
25	White 2 (continued)	255	100% white
26	Sparkle	0	0% sparkle
		1–63	0% sparkle ... 25% sparkle
		64	25% sparkle
		65–127	25% sparkle ... 50% sparkle
		128	50% sparkle
		129–190	50% sparkle ... 75% sparkle
		191	75% sparkle
		192–254	75% sparkle ... 100% sparkle
		255	100% sparkle
27	Sparkle Speed	0	Sparkle complete beam: sparkle faded slow
		1–14	Sparkle complete beam: sparkle faded 1__99%
		15	Sparkle complete beam: sparkle faded fast
		16	Sparkle complete beam: sparkle switched slow
		17–30	Sparkle complete beam: sparkle switched 1__99%
		31	Sparkle complete beam: sparkle switched fast
		32	Sparkle complete beam colorfast: sparkle faded slow
		33–46	Sparkle complete beam colorfast: sparkle faded 1__99%
		47	Sparkle complete beam colorfast: sparkle faded fast
		48	Sparkle complete beam colorfast: sparkle switched slow
		49–62	Sparkle complete beam colorfast: sparkle switched 1__99%
		63	Sparkle complete beam colorfast: sparkle switched fast
		64	Sparkle inner beam: sparkle faded slow
		65–78	Sparkle inner beam: sparkle faded 1__99%
		79	Sparkle inner beam: sparkle faded fast
		80	Sparkle inner beam: sparkle switched slow
		81–94	Sparkle inner beam: sparkle switched 1__99%
		95	Sparkle inner beam: sparkle switched fast
		96	Sparkle inner beam colorfast: sparkle faded slow
		97–110	Sparkle inner beam colorfast: sparkle faded 1__99%
		111	Sparkle inner beam colorfast: sparkle faded fast
		112	Sparkle inner beam colorfast: sparkle switched slow
		113–126	Sparkle inner beam colorfast: sparkle switched 1__99%
		127	Sparkle inner beam colorfast: sparkle switched fast
		128	Sparkle outer beam: sparkle faded slow
		129–142	Sparkle outer beam: sparkle faded 1__99%
		143	Sparkle outer beam: sparkle faded fast
		144	Sparkle outer beam: sparkle switched slow
		145–158	Sparkle outer beam: sparkle switched 1__99%
		159	Sparkle outer beam: sparkle switched fast
		160	Sparkle outer beam colorfast: sparkle faded slow
		161–174	Sparkle outer beam colorfast: sparkle faded 1__99%

CH	Function	DMX	Description
27	Sparkle Speed (continued)	175	Sparkle outer beam colorfast: sparkle faded fast
		176	Sparkle outer beam colorfast: sparkle switched slow
		177–190	Sparkle outer beam colorfast: sparkle switched 1__99%
		191–255	Sparkle outer beam colorfast: sparkle switched fast
28	Effects Mode	0	Effects Macro Mode color set: faded
		1	Effects Macro Mode color set: switched
		2	Effects Macro Mode color set: forward crosfade
		3	Effects Macro Mode color set: backward crosfade
		4	Effects Macro Mode color set: std rnd flash fast
		5	Effects Macro Mode color set: std rnd snap open ramp close
		6	Effects Macro Mode color set: std rnd flash slow
		7	Effects Macro Mode color set: std rnd ramp open snap close
		8	Effects Macro Mode color set: rnd rnd flash fast
		9	Effects Macro Mode color set: rnd rnd snap open ramp close
		10	Effects Macro Mode color set: rnd rnd flash slow
		11	Effects Macro Mode color set: rnd rnd ramp open snap close
		12–31	Effects Macro Mode color set: not used
		32	Effects Macro Mode color set: faded
		33	Effects Macro Mode color set: switched
		34	Effects Macro Mode color set: forward crosfade
		35	Effects Macro Mode color set: backward crosfade
		36	Effects Macro Mode color set: std rnd flash fast
		37	Effects Macro Mode color set: std rnd snap open ramp close
		38	Effects Macro Mode color set: std rnd flash slow
		39	Effects Macro Mode color set: std rnd ramp open snap close
		40	Effects Macro Mode color set: rnd rnd flash fast
		41	Effects Macro Mode color set: rnd rnd snap open ramp close
		42	Effects Macro Mode color set: rnd rnd flash slow
		43	Effects Macro Mode color set: rnd rnd ramp open snap close
		44–63	Effects Macro Mode color set: not used
		64	Effects Macro Mode color set: faded
		65	Effects Macro Mode color set: switched
		66	Effects Macro Mode color set: forward crosfade
		67	Effects Macro Mode color set: backward crosfade
		68	Effects Macro Mode color set: std rnd flash fast
		69	Effects Macro Mode color set: std rnd snap open ramp close
		70	Effects Macro Mode color set: std rnd flash slow
		71	Effects Macro Mode color set: std rnd ramp open snap close
		72	Effects Macro Mode color set: rnd rnd flash fast
		73	Effects Macro Mode color set: rnd rnd snap open ramp close
		74	Effects Macro Mode color set: rnd rnd flash slow
		75	Effects Macro Mode color set: rnd rnd ramp open snap close

CH	Function	DMX	Description
28	Effects Mode (continued)	76–95	Effects Macro Mode color set: not used
		96	Effects Macro Mode color set: faded
		97	Effects Macro Mode color set: switched
		98	Effects Macro Mode color set: forward crosfade
		99	Effects Macro Mode color set: backward crosfade
		100	Effects Macro Mode color set: std rnd flash fast
		101	Effects Macro Mode color set: std rnd snap open ramp close
		102	Effects Macro Mode color set: std rnd flash slow
		103	Effects Macro Mode color set: std rnd ramp open snap close
		104	Effects Macro Mode color set: rnd rnd flash fast
		105	Effects Macro Mode color set: rnd rnd snap open ramp close
		106	Effects Macro Mode color set: rnd rnd flash slow
		107	Effects Macro Mode color set: rnd rnd ramp open snap close
		108–255	Effects Macro Mode color set: not used
29	Effects	0	No macro
		1	C1 overwrite main: 2 color complete shutter
		2	C1 overwrite main: 2 color inner shutter
		3	C1 overwrite main: 2 color outer shutter
		4	C1 overwrite main: 2 color no shutter
		5	C1 overwrite pattern: 2 color complete shutter
		6	C1 overwrite pattern: 2 color inner shutter
		7	C1 overwrite pattern: 2 color outer shutter
		8	C1 overwrite pattern: 2 color no shutter
		9–10	C1 overwrite pattern: 2 color complete shutter
		11–19	Numbers: 1...9
		20	0
		21–29	Numbers upside down: 1...9
		30	Smily small
		31	Smily big
		32	Smily small upside down
		33	Smiley big upside down
		34–52	Pattern beam 1...19
		53–54	No pattern beam
		55–59	Moving pattern complete: circles
		60–79	Moving pattern complete: cake slices
		80–86	Moving pattern complete: lines horizontal
		87–93	Moving pattern complete: lines vertical
		94–100	Moving pattern complete: lines diagonal 1
		101–107	Moving pattern complete: lines diagonal 2
		108–114	Moving pattern complete: circle lines
		115–122	Moving pattern complete: half beam
		123–129	Moving pattern complete: dots

CH	Function	DMX	Description
29	Effects (continued)	130	Moving pattern complete: color spread circles
		131–132	Moving pattern complete: color spread cake slices
		133–137	Moving pattern complete: color spread lines
		138	Moving pattern complete: color spread dots
		139–145	Moving pattern inner: circles
		146–165	Moving pattern inner: cake slices
		166–172	Moving pattern inner: lines horizontal
		173–179	Moving pattern inner: lines vertical
		180–186	Moving pattern inner: lines diagonal 1
		187–193	Moving pattern inner: lines diagonal 2
		194–200	Moving pattern inner: circle lines
		201–208	Moving pattern inner: half beam
		209–215	Moving pattern inner: dots
		216	Moving pattern inner: color spread circles
		217–218	Moving pattern inner: color spread cake slices
		219–223	Moving pattern inner: color spread lines
		224	Moving pattern inner: color spread dots
		225–245	Moving pattern outer: dots
		246–248	Double dots
		249–251	Triple dots
		252	Moving pattern outer: color spread dots
		253	Color spread double dots
		254–255	Color spread triple dots
30	Effects Speed	0	>>>
		1–126	Forward 100__1%
		127–128	Stop
		129–254	Backward -1__-100%
		255	<<<
31	Effects 2 Mode	0	Effects Macro Mode 2 color set: faded
		1	Effects Macro Mode 2 color set: switched
		2	Effects Macro Mode 2 color set: forward crosfade
		3	Effects Macro Mode 2 color set: backward crosfade
		4	Effects Macro Mode 2 color set: std rnd flash fast
		5	Effects Macro Mode 2 color set: std rnd snap open ramp close
		6	Effects Macro Mode 2 color set: std rnd flash slow
		7	Effects Macro Mode 2 color set: std rnd ramp open snap close
		8	Effects Macro Mode 2 color set: rnd rnd flash fast
		9	Effects Macro Mode 2 color set: rnd rnd snap open ramp close
		10	Effects Macro Mode 2 color set: rnd rnd flash slow
		11	Effects Macro Mode 2 color set: rnd rnd ramp open snap close
		12–31	Effects Macro Mode 2 color set: not used
		32	Effects Macro Mode 2 color set: faded

CH	Function	DMX	Description
31	Effects 2 Mode (continued)	33	Effects Macro Mode 2 color set: switched
		34	Effects Macro Mode 2 color set: forward crosfade
		35	Effects Macro Mode 2 color set: backward crosfade
		36	Effects Macro Mode 2 color set: std rnd flash fast
		37	Effects Macro Mode 2 color set: std rnd snap open ramp close
		38	Effects Macro Mode 2 color set: std rnd flash slow
		39	Effects Macro Mode 2 color set: std rnd ramp open snap close
		40	Effects Macro Mode 2 color set: rnd rnd flash fast
		41	Effects Macro Mode 2 color set: rnd rnd snap open ramp close
		42	Effects Macro Mode 2 color set: rnd rnd flash slow
		43	Effects Macro Mode 2 color set: rnd rnd ramp open snap close
		44–63	Effects Macro Mode 2 color set: not used
		64	Effects Macro Mode 2 color set: faded
		65	Effects Macro Mode 2 color set: switched
		66	Effects Macro Mode 2 color set: forward crosfade
		67	Effects Macro Mode 2 color set: backward crosfade
		68	Effects Macro Mode 2 color set: std rnd flash fast
		69	Effects Macro Mode 2 color set: std rnd snap open ramp close
		70	Effects Macro Mode 2 color set: std rnd flash slow
		71	Effects Macro Mode 2 color set: std rnd ramp open snap close
		72	Effects Macro Mode 2 color set: rnd rnd flash fast
		73	Effects Macro Mode 2 color set: rnd rnd snap open ramp close
		74	Effects Macro Mode 2 color set: rnd rnd flash slow
		75	Effects Macro Mode 2 color set: rnd rnd ramp open snap close
		76–95	Effects Macro Mode 2 color set: not used
		96	Effects Macro Mode color set: faded
		97	Effects Macro Mode color set: switched
		98	Effects Macro Mode color set: forward crosfade
		99	Effects Macro Mode color set: backward crosfade
		100	Effects Macro Mode color set: std rnd flash fast
		101	Effects Macro Mode color set: std rnd snap open ramp close
		102	Effects Macro Mode color set: std rnd flash slow
		103	Effects Macro Mode color set: std rnd ramp open snap close
		104	Effects Macro Mode color set: rnd rnd flash fast
		105	Effects Macro Mode color set: rnd rnd snap open ramp close
		106	Effects Macro Mode color set: rnd rnd flash slow
		107	Effects Macro Mode color set: rnd rnd ramp open snap close
		108–255	Effects Macro Mode color set: not used
32	Effects 2	0	No macro
		1	C1 overwrite main: 2 color complete shutter
		2	C1 overwrite main: 2 color inner shutter
		3	C1 overwrite main: 2 color outer shutter

CH	Function	DMX	Description
32	Effects 2 (continued)	4	C1 overwrite main: 2 color no shutter
		5	C1 overwrite pattern: 2 color complete shutter
		6	C1 overwrite pattern: 2 color inner shutter
		7	C1 overwrite pattern: 2 color outer shutter
		8	C1 overwrite pattern: 2 color no shutter
		9–10	C1 overwrite pattern: 2 color complete shutter
		11–19	Numbers: 1...9
		20	0
		21–29	Numbers upside down: 1...9
		30	Smily small
		31	Smily big
		32	Smily small upside down
		33	Smiley big upside down
		34–42	Pattern beam 1...9
		43–52	Pattern beam 10
		53–54	No pattern beam
		55–59	Moving pattern complete: circles
		60–79	Moving pattern complete: cake slices
		80–86	Moving pattern complete: lines horizontal
		87–93	Moving pattern complete: lines vertical
		94–100	Moving pattern complete: lines diagonal 1
		101–107	Moving pattern complete: lines diagonal 2
		108–114	Moving pattern complete: circle lines
		115–122	Moving pattern complete: half beam
		123–129	Moving pattern complete: dots
		130	Moving pattern complete: color spread circles
		131–132	Moving pattern complete: color spread cake slices
		133–137	Moving pattern complete: color spread lines
		138	Moving pattern complete: dots
		139–145	Moving pattern inner: circles
		146–165	Moving pattern inner: cake slices
		166–172	Moving pattern inner: lines horizontal
		173–179	Moving pattern inner: lines vertical
		180–186	Moving pattern inner: lines diagonal 1
		187–193	Moving pattern inner: lines diagonal 2
		194–200	Moving pattern inner: circle lines
		201–208	Moving pattern inner: half beam
		209–215	Moving pattern inner: dots
		216	Moving pattern inner: color spread circles
		217–218	Moving pattern inner: color spread cake slices
		219–223	Moving pattern inner: color spread lines
		224	Moving pattern inner: dots

CH	Function	DMX	Description
32	Effects 2 (continued)	225–245	Moving pattern outer: dots
		246–248	Double dots
		249–251	Triple dots
		252	Color spread dots
		253	Color spread double dots
		254–255	Color spread triple dots
33	Effects 2 Speed	0	>>>
		1–126	Forward 100__1%
		127–128	Stop
		129–254	Backward -1__-100%
		255	<<<
34	Transition	0	0%
		1–24	0% ... 10%
		25	10%
		26–50	10% ... 20%
		51	20%
		52–63	20% ... 25%
		64	25%
		65–75	25% ... 30%
		76	30%
		77–101	30% ... 40%
		102	40%
		103–127	40% ... 50%
		128	50%
		129–152	50% ... 60%
		153	60%
		154–178	60% ... 70%
		179	70%
		180–190	70% ... 75%
		191	75%
		192–203	75% ... 80%
		204	80%
		205–229	80% ... 90%
		230	90%
		231–254	90% ... 100%
		255	100%
35	Tint	0	Off
		1–127	Minus green -100% __ -1%
		128	No shift
		129–255	Plus green +1% __ +100%

Mode2 tint channel (50)

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 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 19 Dimmer 2 above 0; CH 21 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 16, CH 7 Dimmer 1 255, CH 19 Dimmer 2 255, CH 21 Dimmer 3 255, CH 24 Red 1 0, CH 26 Green 1 0, CH 28 Blue 1 0, CH 32 Red 2 0, CH 34 Green 2 0, CH 36 Blue 2 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Mode1 tint channel (35)” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Mode1 tint channel (35)” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Control		Same as CH 5 in the mode “Mode1 tint channel (35)” (p. 11)
6	Shutter		Same as CH 6 in the mode “Mode1 tint channel (35)” (p. 14)
7	Dimmer 1	0–24	Closed ... 10%
		25	10%
		26–50	10% ... 20%
		51	20%
		52–63	20% ... 25%
		64	25%
		65–75	25% ... 30%
		76	30%
		77–101	30% ... 40%
		102	40%
		103–127	40% ... 50%
		128	50%
		129–152	50% ... 60%
		153	60%
		154–178	60% ... 70%
		179	70%
		180–190	70% ... 75%
		191	75%
		192–203	75% ... 80%
		204	80%
		205–229	80% ... 90%
		230	90%
		231–254	90% ... open
		255	Open
8	Dimmer 1 Fine	0–255	Fine adjustment of CH 7
9	Zoom 1		Same as CH 8 in the mode “Mode1 tint channel (35)” (p. 16)
10	Zoom 2		Same as CH 9 in the mode “Mode1 tint channel (35)” (p. 16)
11	Zoom 3		Same as CH 10 in the mode “Mode1 tint channel (35)” (p. 16)
12	Beam Shaper Rotation	0	0
		1–47	0 ... 90
		48	90
		49–94	90 ... 180
		95	180
		96–142	180 ... 270

CH	Function	DMX	Description
12	Beam Shaper Rotation (continued)	143	270
		144–190	270 … 360
		191	360
		192	>>>
		193–222	Rotate 100__1% (1080–1 °/s)
		223–224	Beamshaper pos rotate: Stop
		225–254	Rotate -1__-100% (1–1080 °/s)
		255	<<<
13	Beam Shaper Rotation Fine	0–255	Fine adjustment of CH 12
14	CTO	0–63	0% cto … 25% cto
		64–127	25% cto … 50% cto
		128–191	50% cto … 75% cto
		191	75% cto
		192–255	75% cto … 100% cto
		255	100% cto
15	CTO Fine	0–255	Fine adjustment of CH 14
16	Blackout Mode		Same as CH 13 in the mode “Mode1 tint channel (35)” (p. 17)
17	Effects Sync		Same as CH 14 in the mode “Mode1 tint channel (35)” (p. 17)
18	Effects Sync Fine	0–255	Fine adjustment of CH 17
19	Dimmer 2	0–24	Closed … 10%
		25	10%
		26–50	10% … 20%
		51	20%
		52–63	20% … 25%
		64	25%
		65–75	25% … 30%
		76	30%
		77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%
		153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%

CH	Function	DMX	Description
19	Dimmer 2 (continued)	231–254	90% … open
		255	Open
20	Dimmer 2 Fine	0–255	Fine adjustment of CH 19
21	Dimmer 3	0–24	Closed … 10%
		25	10%
		26–50	10% … 20%
		51	20%
		52–63	20% … 25%
		64	25%
		65–75	25% … 30%
		76	30%
		77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%
		153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%
		231–254	90% … open
		255	Open
22	Dimmer 3 Fine	0–255	Fine adjustment of CH 21
23	Colors		Same as CH 17 in the mode “Mode1 tint channel (35)” (p. 19)
24	Red 1		Color R
		0	0% red
		1–63	0% red … 25% red
		64	25% red
		65–127	25% red … 50% red
		128	50% red
		129–191	50% red … 75% red
		192	75% red
		193–254	75% red … 100% red
		255	100% red
25	Red 1 Fine	0–255	Fine adjustment of CH 24
26	Green 1		Color G

CH	Function	DMX	Description
26	Green 1 (continued)	0	0% green
		1–63	0% green … 25% green
		64	25% green
		65–127	25% green … 50% green
		128	50% green
		129–191	50% green … 75% green
		192	75% green
		193–254	75% green … 100% green
		255	100% green
27	Green 1 Fine	0–255	Fine adjustment of CH 26
28	Blue 1		Color B
		0	0% blue
		1–63	0% blue … 25% blue
		64	25% blue
		65–127	25% blue … 50% blue
		128	50% blue
		129–191	50% blue … 75% blue
		192	75% blue
		193–254	75% blue … 100% blue
		255	100% blue
29	Blue 1 Fine	0–255	Fine adjustment of CH 28
30	White 1	0	0% white
		1–63	0% white … 25% white
		64	25% white
		65–127	25% white … 50% white
		128	50% white
		129–191	50% white … 75% white
		192	75% white
		193–254	75% white … 100% white
		255	100% white
31	White 1 Fine	0–255	Fine adjustment of CH 30
32	Red 2		Color R
		0	0% red
		1–63	0% red … 25% red
		64	25% red
		65–127	25% red … 50% red
		128	50% red
		129–191	50% red … 75% red
		192	75% red
		193–254	75% red … 100% red
		255	100% red

CH	Function	DMX	Description
33	Red 2 Fine	0–255	Fine adjustment of CH 32
34	Green 2		Color G
		0	0% green
		1–63	0% green ... 25% green
		64	25% green
		65–127	25% green ... 50% green
		128	50% green
		129–191	50% green ... 75% green
		192	75% green
		193–254	75% green ... 100% green
		255	100% green
35	Green 2 Fine	0–255	Fine adjustment of CH 34
36	Blue 2		Color B
		0	0% blue
		1–63	0% blue ... 25% blue
		64	25% blue
		65–127	25% blue ... 50% blue
		128	50% blue
		129–191	50% blue ... 75% blue
		192	75% blue
		193–254	75% blue ... 100% blue
		255	100% blue
37	Blue 2 Fine	0–255	Fine adjustment of CH 36
38	White 2	0	0% white
		1–63	0% white ... 25% white
		64	25% white
		65–127	25% white ... 50% white
		128	50% white
		129–191	50% white ... 75% white
		192	75% white
		193–254	75% white ... 100% white
		255	100% white
39	White 2 Fine	0–255	Fine adjustment of CH 38
40	Sparkle		Same as CH 26 in the mode “Mode1 tint channel (35)” (p. 22)
41	Sparkle Speed		Same as CH 27 in the mode “Mode1 tint channel (35)” (p. 22)
42	Effects Mode		Same as CH 28 in the mode “Mode1 tint channel (35)” (p. 23)
43	Effects		Same as CH 29 in the mode “Mode1 tint channel (35)” (p. 24)
44	Effects Speed		Same as CH 30 in the mode “Mode1 tint channel (35)” (p. 25)
45	Effects 2 Mode		Same as CH 31 in the mode “Mode1 tint channel (35)” (p. 25)
46	Effects 2		Same as CH 32 in the mode “Mode1 tint channel (35)” (p. 26)
47	Effects 2 Speed		Same as CH 33 in the mode “Mode1 tint channel (35)” (p. 28)

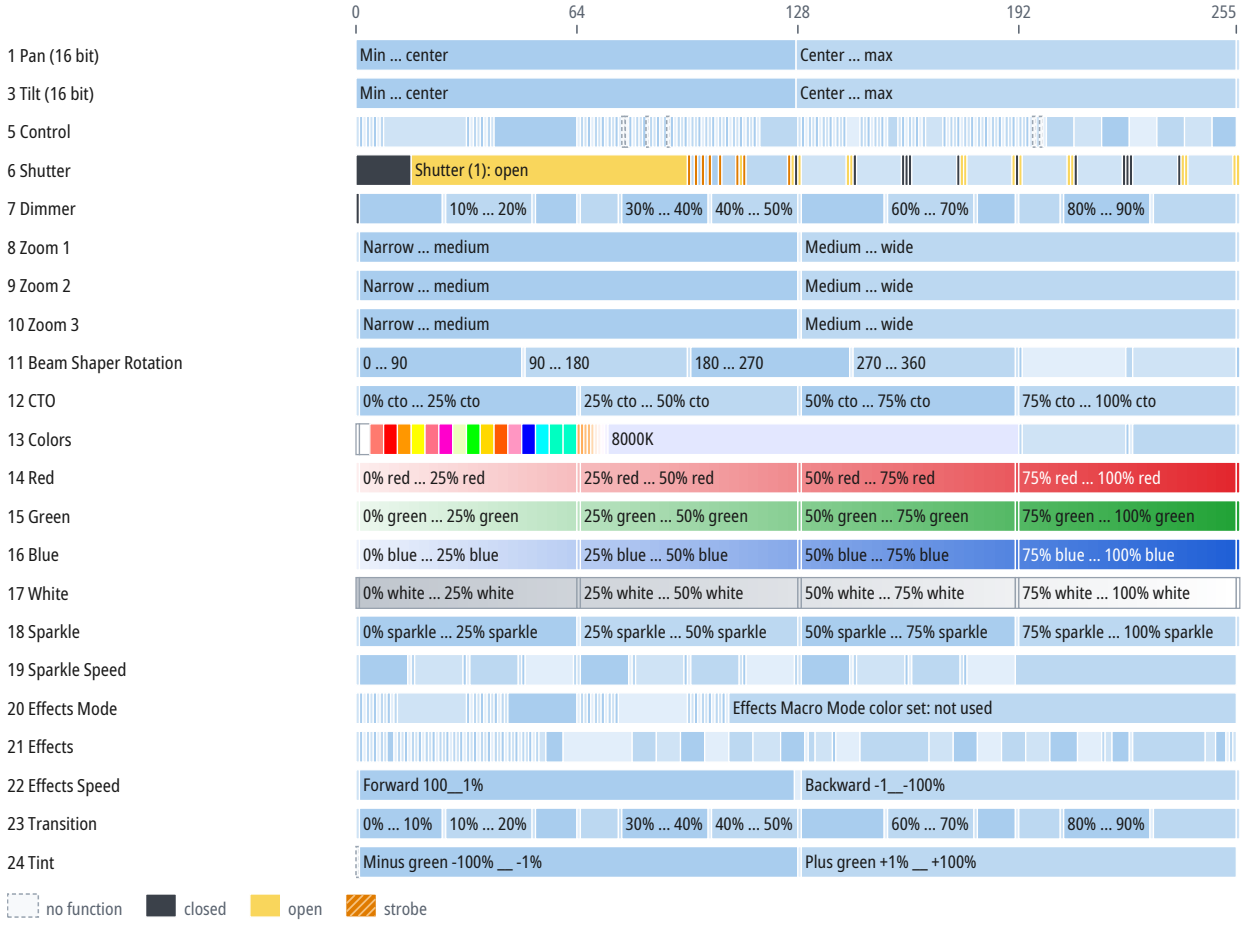
CH	Function	DMX	Description
48	Transition		Same as CH 34 in the mode “Mode1 tint channel (35)” (p. 28)
49	Transition Fine	0–255	Fine adjustment of CH 48
50	Tint		Same as CH 35 in the mode “Mode1 tint channel (35)” (p. 28)

Mode3 tint channel (24)

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 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 16, CH 7 Dimmer 255, CH 14 Red 0, CH 15 Green 0, CH 16 Blue 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Mode1 tint channel (35)” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Mode1 tint channel (35)” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Control		Same as CH 5 in the mode “Mode1 tint channel (35)” (p. 11)
6	Shutter		Same as CH 6 in the mode “Mode1 tint channel (35)” (p. 14)

CH	Function	DMX	Description
7	Dimmer	0	Closed
		1–24	Closed … 10%
		25	10%
		26–50	10% … 20%
		51	20%
		52–63	20% … 25%
		64	25%
		65–75	25% … 30%
		76	30%
		77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%
		153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%
		231–254	90% … open
		255	Open
8	Zoom 1		Same as CH 8 in the mode “Mode1 tint channel (35)” (p. 16)
9	Zoom 2		Same as CH 9 in the mode “Mode1 tint channel (35)” (p. 16)
10	Zoom 3		Same as CH 10 in the mode “Mode1 tint channel (35)” (p. 16)
11	Beam Shaper Rotation		Same as CH 11 in the mode “Mode1 tint channel (35)” (p. 16)
12	CTO		Same as CH 12 in the mode “Mode1 tint channel (35)” (p. 17)
13	Colors		Same as CH 17 in the mode “Mode1 tint channel (35)” (p. 19)
14	Red		Color R
		0	0% red
		1–63	0% red … 25% red
		64	25% red
		65–127	25% red … 50% red
		128	50% red
		129–190	50% red … 75% red
		191	75% red
		192–254	75% red … 100% red
		255	100% red

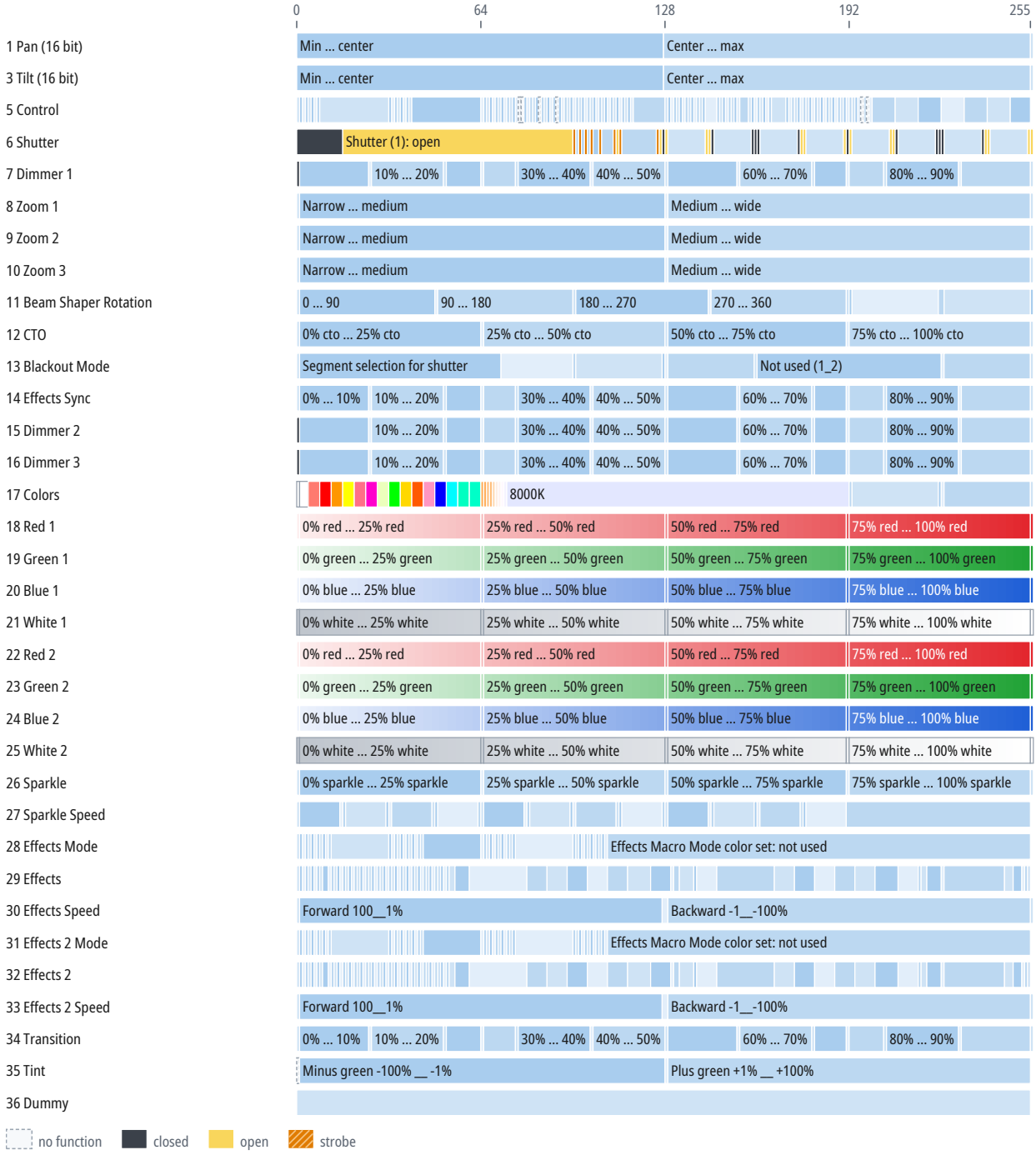
CH	Function	DMX	Description
15	Green		Color G
		0	0% green
		1–63	0% green … 25% green
		64	25% green
		65–127	25% green … 50% green
		128	50% green
		129–190	50% green … 75% green
		191	75% green
		192–254	75% green … 100% green
		255	100% green
16	Blue		Color B
		0	0% blue
		1–63	0% blue … 25% blue
		64	25% blue
		65–127	25% blue … 50% blue
		128	50% blue
		129–190	50% blue … 75% blue
		191	75% blue
		192–254	75% blue … 100% blue
		255	100% blue
17	White	0	0% white
		1–63	0% white … 25% white
		64	25% white
		65–127	25% white … 50% white
		128	50% white
		129–190	50% white … 75% white
		191	75% white
		192–254	75% white … 100% white
		255	100% white
18	Sparkle		Same as CH 26 in the mode “Mode1 tint channel (35)” (p. 22)
19	Sparkle Speed		Same as CH 27 in the mode “Mode1 tint channel (35)” (p. 22)
20	Effects Mode		Same as CH 28 in the mode “Mode1 tint channel (35)” (p. 23)
21	Effects		Same as CH 29 in the mode “Mode1 tint channel (35)” (p. 24)
22	Effects Speed		Same as CH 30 in the mode “Mode1 tint channel (35)” (p. 25)
23	Transition		Same as CH 34 in the mode “Mode1 tint channel (35)” (p. 28)
24	Tint		Same as CH 35 in the mode “Mode1 tint channel (35)” (p. 28)

Mode1 tint channel single pixel (112)

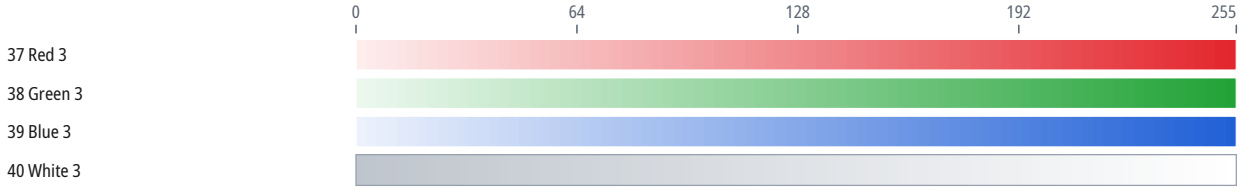
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 15 Dimmer 2 above 0; CH 16 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 16, CH 7 Dimmer 1 255, CH 15 Dimmer 2 255, CH 16 Dimmer 3 255, CH 18 Red 1 0, CH 19 Green 1 0, CH 20 Blue 1 0, CH 22 Red 2 0, CH 23 Green 2 0, CH 24 Blue 2 0.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Mode1 tint channel (35)” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Mode1 tint channel (35)” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Control		Same as CH 5 in the mode “Mode1 tint channel (35)” (p. 11)
6	Shutter		Same as CH 6 in the mode “Mode1 tint channel (35)” (p. 14)
7	Dimmer 1		Same as CH 7 in the mode “Mode1 tint channel (35)” (p. 15)
8	Zoom 1		Same as CH 8 in the mode “Mode1 tint channel (35)” (p. 16)
9	Zoom 2		Same as CH 9 in the mode “Mode1 tint channel (35)” (p. 16)
10	Zoom 3		Same as CH 10 in the mode “Mode1 tint channel (35)” (p. 16)
11	Beam Shaper Rotation		Same as CH 11 in the mode “Mode1 tint channel (35)” (p. 16)
12	CTO		Same as CH 12 in the mode “Mode1 tint channel (35)” (p. 17)
13	Blackout Mode		Same as CH 13 in the mode “Mode1 tint channel (35)” (p. 17)
14	Effects Sync		Same as CH 14 in the mode “Mode1 tint channel (35)” (p. 17)
15	Dimmer 2		Same as CH 15 in the mode “Mode1 tint channel (35)” (p. 18)
16	Dimmer 3		Same as CH 16 in the mode “Mode1 tint channel (35)” (p. 18)
17	Colors		Same as CH 17 in the mode “Mode1 tint channel (35)” (p. 19)
18	Red 1		Same as CH 18 in the mode “Mode1 tint channel (35)” (p. 20)
19	Green 1		Same as CH 19 in the mode “Mode1 tint channel (35)” (p. 20)
20	Blue 1		Same as CH 20 in the mode “Mode1 tint channel (35)” (p. 20)
21	White 1		Same as CH 21 in the mode “Mode1 tint channel (35)” (p. 20)
22	Red 2		Same as CH 22 in the mode “Mode1 tint channel (35)” (p. 21)
23	Green 2		Same as CH 23 in the mode “Mode1 tint channel (35)” (p. 21)
24	Blue 2		Same as CH 24 in the mode “Mode1 tint channel (35)” (p. 21)
25	White 2		Same as CH 25 in the mode “Mode1 tint channel (35)” (p. 21)
26	Sparkle		Same as CH 26 in the mode “Mode1 tint channel (35)” (p. 22)
27	Sparkle Speed		Same as CH 27 in the mode “Mode1 tint channel (35)” (p. 22)
28	Effects Mode		Same as CH 28 in the mode “Mode1 tint channel (35)” (p. 23)
29	Effects		Same as CH 29 in the mode “Mode1 tint channel (35)” (p. 24)
30	Effects Speed		Same as CH 30 in the mode “Mode1 tint channel (35)” (p. 25)
31	Effects 2 Mode		Same as CH 31 in the mode “Mode1 tint channel (35)” (p. 25)
32	Effects 2		Same as CH 32 in the mode “Mode1 tint channel (35)” (p. 26)
33	Effects 2 Speed		Same as CH 33 in the mode “Mode1 tint channel (35)” (p. 28)
34	Transition		Same as CH 34 in the mode “Mode1 tint channel (35)” (p. 28)
35	Tint		Same as CH 35 in the mode “Mode1 tint channel (35)” (p. 28)

CH	Function	DMX	Description
36	Dummy	0–255	
37	Red 3	0–255	
38	Green 3	0–255	
39	Blue 3	0–255	
40	White 3	0–255	

CH 37–112: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 37–40); the table below gives each cell's channel numbers.

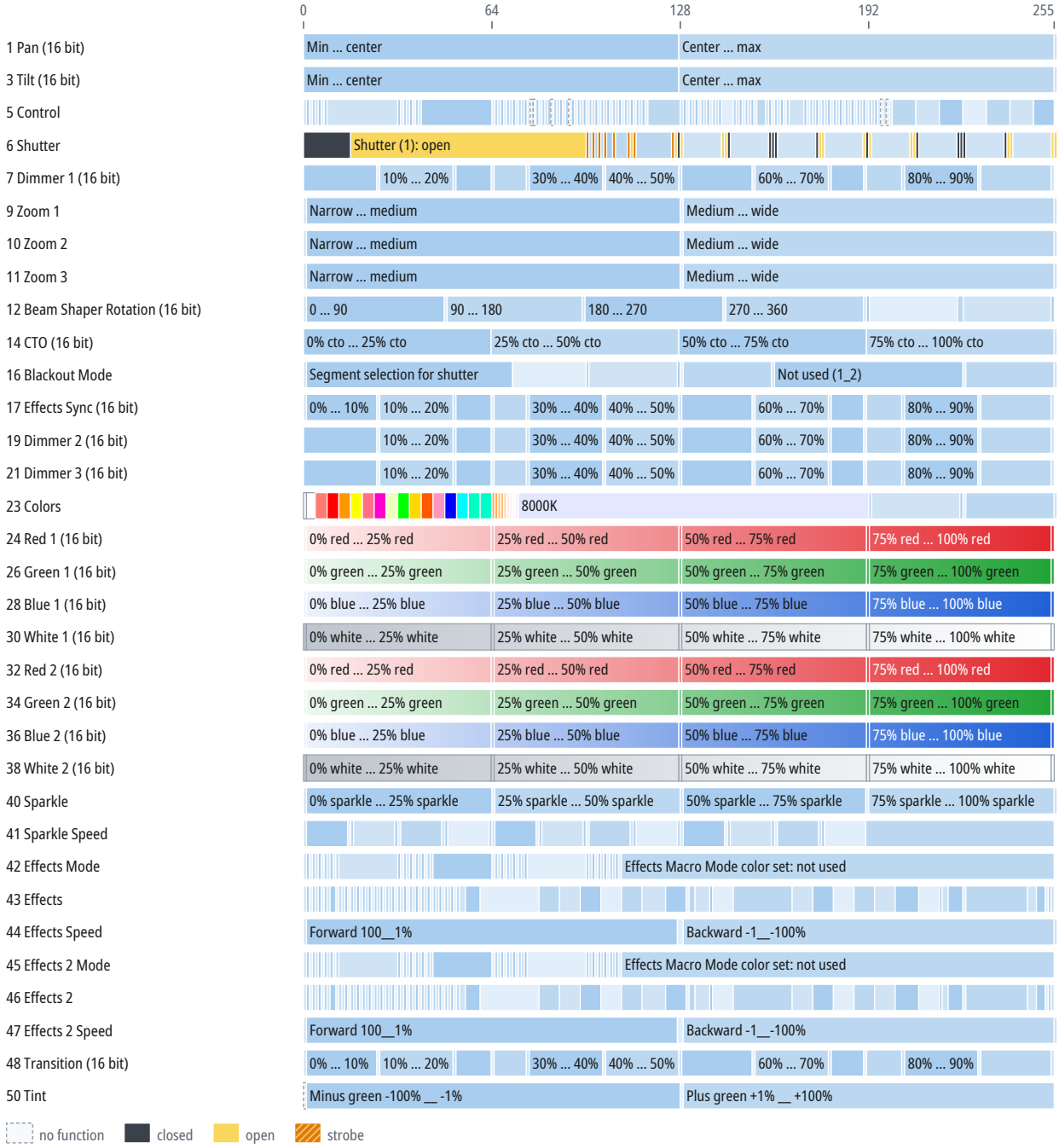
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	37	38	39	40	2	41	42	43	44
3	45	46	47	48	4	49	50	51	52
5	53	54	55	56	6	57	58	59	60
7	61	62	63	64	8	65	66	67	68
9	69	70	71	72	10	73	74	75	76
11	77	78	79	80	12	81	82	83	84
13	85	86	87	88	14	89	90	91	92
15	93	94	95	96	16	97	98	99	100
17	101	102	103	104	18	105	106	107	108
19	109	110	111	112					

Mode2 tint channel single pixel (127)

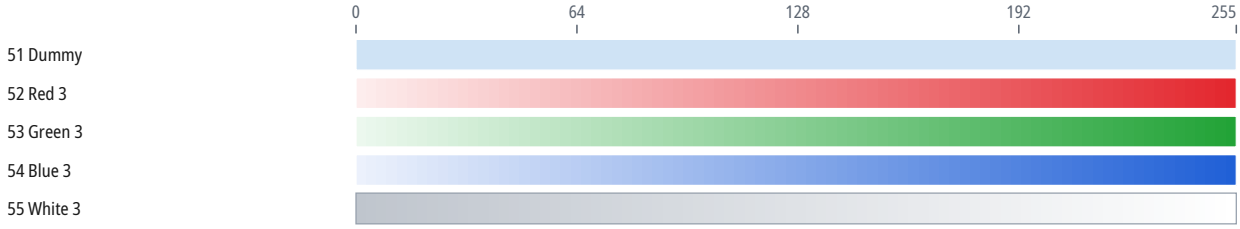
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer 1 above 0; CH 19 Dimmer 2 above 0; CH 21 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 16, CH 7 Dimmer 1 255, CH 19 Dimmer 2 255, CH 21 Dimmer 3 255, CH 24 Red 1 0, CH 26 Green 1 0, CH 28 Blue 1 0, CH 32 Red 2 0, CH 34 Green 2 0, CH 36 Blue 2 0.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Mode1 tint channel (35)” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Mode1 tint channel (35)” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Control		Same as CH 5 in the mode “Mode1 tint channel (35)” (p. 11)
6	Shutter		Same as CH 6 in the mode “Mode1 tint channel (35)” (p. 14)
7	Dimmer 1		Same as CH 7 in the mode “Mode2 tint channel (50)” (p. 30)
8	Dimmer 1 Fine	0–255	Fine adjustment of CH 7
9	Zoom 1		Same as CH 8 in the mode “Mode1 tint channel (35)” (p. 16)
10	Zoom 2		Same as CH 9 in the mode “Mode1 tint channel (35)” (p. 16)
11	Zoom 3		Same as CH 10 in the mode “Mode1 tint channel (35)” (p. 16)
12	Beam Shaper Rotation		Same as CH 12 in the mode “Mode2 tint channel (50)” (p. 30)
13	Beam Shaper Rotation Fine	0–255	Fine adjustment of CH 12
14	CTO		Same as CH 14 in the mode “Mode2 tint channel (50)” (p. 31)
15	CTO Fine	0–255	Fine adjustment of CH 14
16	Blackout Mode		Same as CH 13 in the mode “Mode1 tint channel (35)” (p. 17)
17	Effects Sync		Same as CH 14 in the mode “Mode1 tint channel (35)” (p. 17)
18	Effects Sync Fine	0–255	Fine adjustment of CH 17
19	Dimmer 2		Same as CH 19 in the mode “Mode2 tint channel (50)” (p. 31)
20	Dimmer 2 Fine	0–255	Fine adjustment of CH 19
21	Dimmer 3		Same as CH 21 in the mode “Mode2 tint channel (50)” (p. 32)
22	Dimmer 3 Fine	0–255	Fine adjustment of CH 21
23	Colors		Same as CH 17 in the mode “Mode1 tint channel (35)” (p. 19)
24	Red 1		Same as CH 24 in the mode “Mode2 tint channel (50)” (p. 32)
25	Red 1 Fine	0–255	Fine adjustment of CH 24
26	Green 1		Same as CH 26 in the mode “Mode2 tint channel (50)” (p. 32)
27	Green 1 Fine	0–255	Fine adjustment of CH 26
28	Blue 1		Same as CH 28 in the mode “Mode2 tint channel (50)” (p. 33)
29	Blue 1 Fine	0–255	Fine adjustment of CH 28
30	White 1		Same as CH 30 in the mode “Mode2 tint channel (50)” (p. 33)
31	White 1 Fine	0–255	Fine adjustment of CH 30
32	Red 2		Same as CH 32 in the mode “Mode2 tint channel (50)” (p. 33)
33	Red 2 Fine	0–255	Fine adjustment of CH 32
34	Green 2		Same as CH 34 in the mode “Mode2 tint channel (50)” (p. 34)

CH	Function	DMX	Description
35	Green 2 Fine	0–255	Fine adjustment of CH 34
36	Blue 2		Same as CH 36 in the mode “Mode2 tint channel (50)” (p. 34)
37	Blue 2 Fine	0–255	Fine adjustment of CH 36
38	White 2		Same as CH 38 in the mode “Mode2 tint channel (50)” (p. 34)
39	White 2 Fine	0–255	Fine adjustment of CH 38
40	Sparkle		Same as CH 26 in the mode “Mode1 tint channel (35)” (p. 22)
41	Sparkle Speed		Same as CH 27 in the mode “Mode1 tint channel (35)” (p. 22)
42	Effects Mode		Same as CH 28 in the mode “Mode1 tint channel (35)” (p. 23)
43	Effects		Same as CH 29 in the mode “Mode1 tint channel (35)” (p. 24)
44	Effects Speed		Same as CH 30 in the mode “Mode1 tint channel (35)” (p. 25)
45	Effects 2 Mode		Same as CH 31 in the mode “Mode1 tint channel (35)” (p. 25)
46	Effects 2		Same as CH 32 in the mode “Mode1 tint channel (35)” (p. 26)
47	Effects 2 Speed		Same as CH 33 in the mode “Mode1 tint channel (35)” (p. 28)
48	Transition		Same as CH 34 in the mode “Mode1 tint channel (35)” (p. 28)
49	Transition Fine	0–255	Fine adjustment of CH 48
50	Tint		Same as CH 35 in the mode “Mode1 tint channel (35)” (p. 28)
51	Dummy	0–255	
52	Red 3	0–255	
53	Green 3	0–255	
54	Blue 3	0–255	
55	White 3	0–255	

CH 52–127: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 52–55); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	52	53	54	55	2	56	57	58	59
3	60	61	62	63	4	64	65	66	67
5	68	69	70	71	6	72	73	74	75
7	76	77	78	79	8	80	81	82	83
9	84	85	86	87	10	88	89	90	91
11	92	93	94	95	12	96	97	98	99
13	100	101	102	103	14	104	105	106	107
15	108	109	110	111	16	112	113	114	115
17	116	117	118	119	18	120	121	122	123
19	124	125	126	127					

Mode3 tint channel single pixel (101)

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 6 Shutter at 16–95 “open” or 111 or 126 or 143 or 175 or 207 or 239 or 255; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 16, CH 7 Dimmer 255, CH 14 Red 1 0, CH 15 Green 1 0, CH 16 Blue 1 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Mode1 tint channel (35)” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Mode1 tint channel (35)” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Control		Same as CH 5 in the mode “Mode1 tint channel (35)” (p. 11)
6	Shutter		Same as CH 6 in the mode “Mode1 tint channel (35)” (p. 14)
7	Dimmer		Same as CH 7 in the mode “Mode3 tint channel (24)” (p. 36)

CH	Function	DMX	Description
8	Zoom 1		Same as CH 8 in the mode “Mode1 tint channel (35)” (p. 16)
9	Zoom 2		Same as CH 9 in the mode “Mode1 tint channel (35)” (p. 16)
10	Zoom 3		Same as CH 10 in the mode “Mode1 tint channel (35)” (p. 16)
11	Beam Shaper Rotation		Same as CH 11 in the mode “Mode1 tint channel (35)” (p. 16)
12	CTO		Same as CH 12 in the mode “Mode1 tint channel (35)” (p. 17)
13	Colors		Same as CH 17 in the mode “Mode1 tint channel (35)” (p. 19)
14	Red 1		Same as CH 18 in the mode “Mode1 tint channel (35)” (p. 20)
15	Green 1		Same as CH 19 in the mode “Mode1 tint channel (35)” (p. 20)
16	Blue 1		Same as CH 20 in the mode “Mode1 tint channel (35)” (p. 20)
17	White 1		Same as CH 21 in the mode “Mode1 tint channel (35)” (p. 20)
18	Sparkle		Same as CH 26 in the mode “Mode1 tint channel (35)” (p. 22)
19	Sparkle Speed		Same as CH 27 in the mode “Mode1 tint channel (35)” (p. 22)
20	Effects Mode		Same as CH 28 in the mode “Mode1 tint channel (35)” (p. 23)
21	Effects		Same as CH 29 in the mode “Mode1 tint channel (35)” (p. 24)
22	Effects Speed		Same as CH 30 in the mode “Mode1 tint channel (35)” (p. 25)
23	Transition		Same as CH 34 in the mode “Mode1 tint channel (35)” (p. 28)
24	Tint		Same as CH 35 in the mode “Mode1 tint channel (35)” (p. 28)
25	Dummy	0–255	
26	Red 2	0–255	
27	Green 2	0–255	
28	Blue 2	0–255	
29	White 2	0–255	

CH 26–101: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 26–29); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	26	27	28	29	2	30	31	32	33
3	34	35	36	37	4	38	39	40	41
5	42	43	44	45	6	46	47	48	49
7	50	51	52	53	8	54	55	56	57
9	58	59	60	61	10	62	63	64	65
11	66	67	68	69	12	70	71	72	73
13	74	75	76	77	14	78	79	80	81
15	82	83	84	85	16	86	87	88	89
17	90	91	92	93	18	94	95	96	97
19	98	99	100	101					

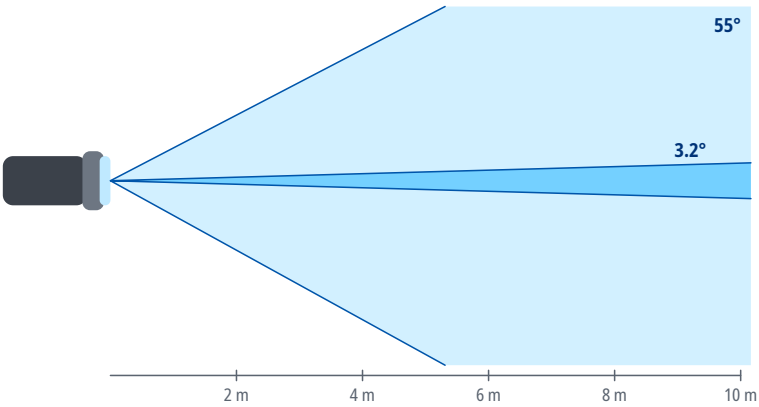
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	3.2–55°
Movement	
Pan	540.7°
Tilt	323.8°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45
RDM	yes (manufacturer ID 0x4A42, device model ID 0x5500)
Electrical	
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	15.4 kg
Operating environment	
Operating temperature	0 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2700–6500 K
Strobe frequency	0.1–20 Hz
Color wheel rotation	up to 360 °/s (60 rpm)
Beam shaper rotation	up to 1080 °/s (180 rpm)

Spot diameter



Distance	Ø 3.2°	Ø 55°
2 m	0.11 m	2.1 m
4 m	0.22 m	4.2 m
6 m	0.34 m	6.2 m
8 m	0.45 m	8.3 m
10 m	0.56 m	10.4 m
15 m	0.84 m	15.6 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.