DMX REFERENCE

LU1940

Luminus Lighttech

Manufacturer	Luminus Lighttech
GDTF file	Luminus_Lighttech_LU1940_123181.gdtf
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1 About this manual

This document describes the LU1940 by Luminus Lighttech. It was compiled from the GDTF file Luminus_Lighttech_LU1940_123181.gdtf from the GDTF-Share library.

File revision: “Version 1”.

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 Luminus Lighttech; 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	16.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 1 21DMX	21	24	1, 22, 43, 64, ...
Mode 2 23DMX	23	22	1, 24, 47, 70, ...
Mode 3 35DMX	35	14	1, 36, 71, 106, ...
Mode 4 78DMX	78	6	1, 79, 157, 235, ...
Mode 5 92DMX	92	5	1, 93, 185, 277, ...
Mode 6 97DMX	97	5	1, 98, 195, 292, ...
Mode 7 99DMX	99	5	1, 100, 199, 298, ...

No light? Check these channels

- Mode 1 21DMX: CH 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0
- Mode 2 23DMX: CH 8 Dimmer above 0; CH 9 Strobe at 0–3 “Open”
- Mode 3 35DMX: CH 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0
- Mode 4 78DMX: CH 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0
- Mode 5 92DMX: CH 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0
- Mode 6 97DMX: CH 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0
- Mode 7 99DMX: CH 8 Dimmer above 0; CH 9 Strobe at 0–3 “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.

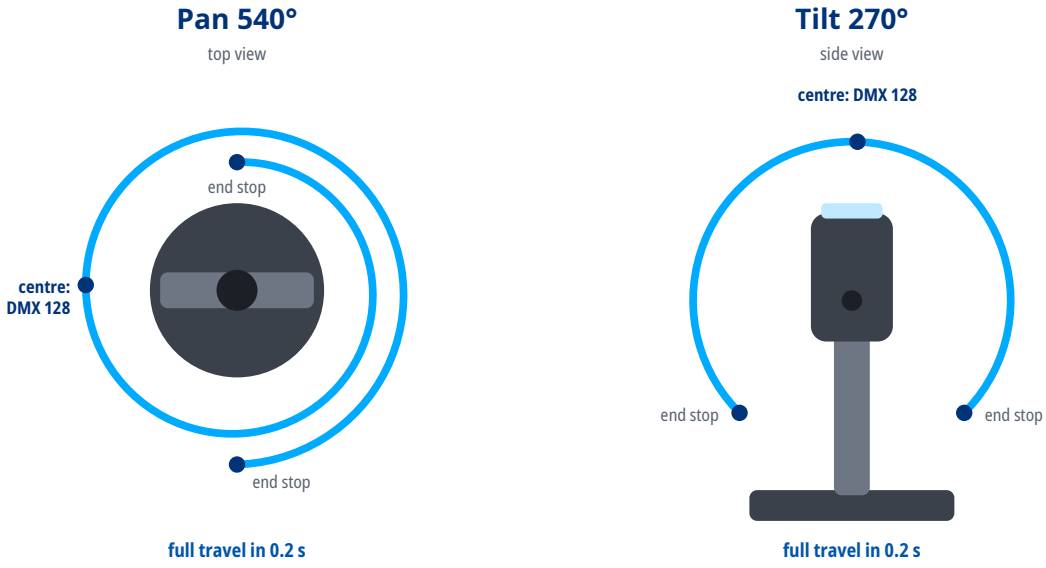
⚠ CAUTION

- 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



Full-travel times as stated in the GDTF file.

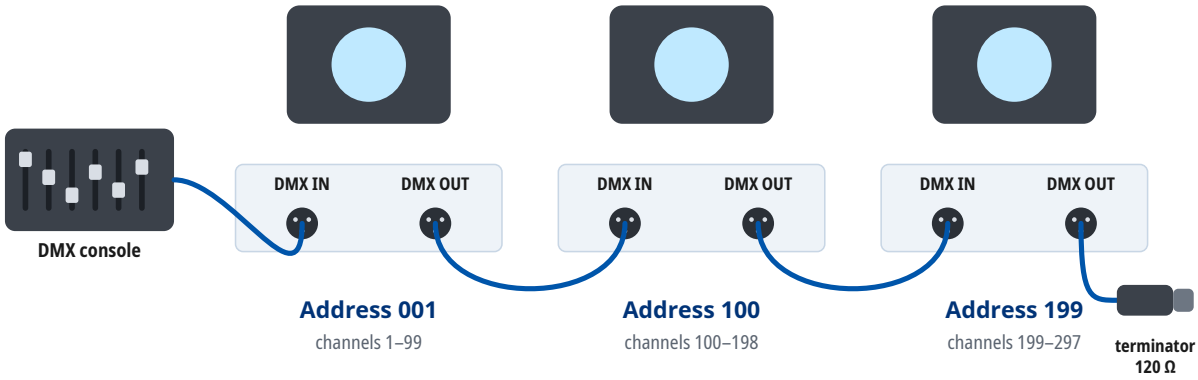
5 Installation

> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 16.5 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 7 99DMX: every unit occupies 99 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

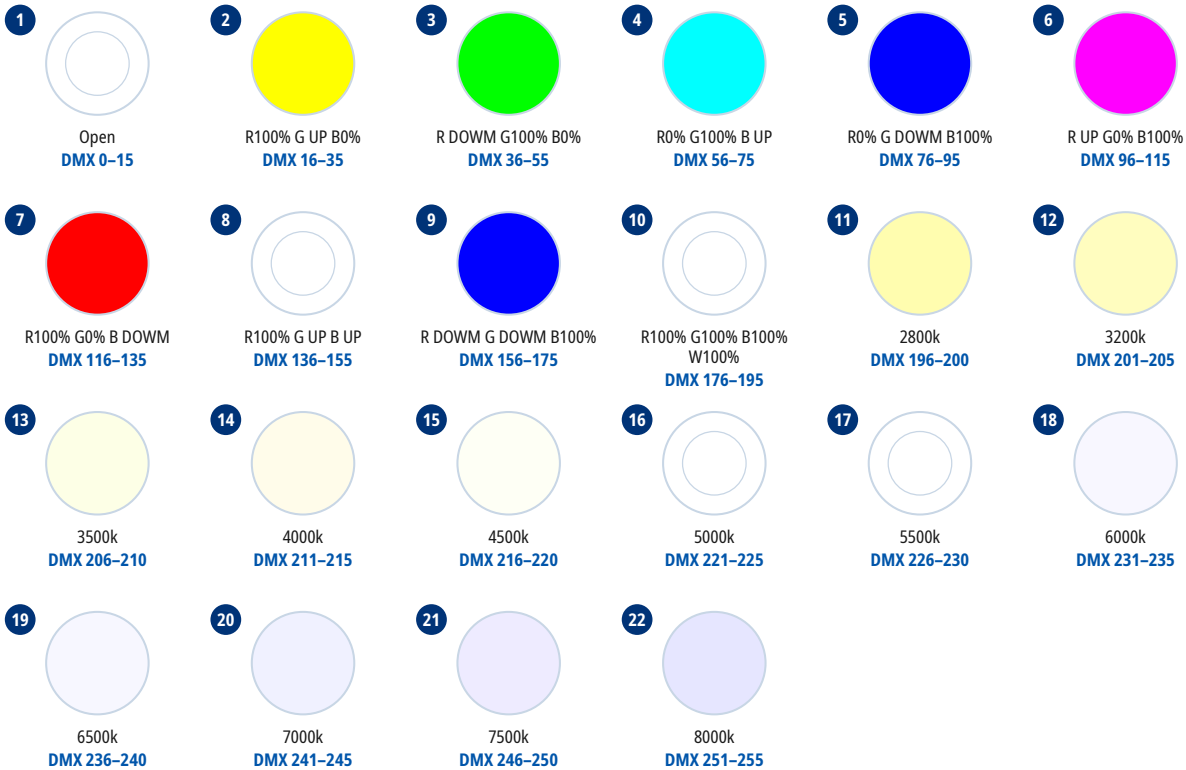
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode 7 99DMX”: 99.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “Mode 7 99DMX”, you can use, for example, the start addresses 1, 100, 199, 298.
- 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

	Mode 1 21DMX 21 channels	Mode 2 23DMX 23 channels	Mode 3 35DMX 35 channels	Mode 4 78DMX 78 channels	Mode 5 92DMX 92 channels	Mode 6 97DMX 97 channels	Mode 7 99DMX 99 channels
Pan / Tilt	**14, 16**	**1, 3**	**14, 16**	**14, 16**	**14, 16**	**14, 16**	**1, 3**
Dimmer	**12**	**8**	**12**	**12**	**12**	**12**	**8**
Dimmer resolution	16 bit	8 bit	16 bit	16 bit	16 bit	16 bit	8 bit
Shutter / strobe	**11**	**9**	**11, 33, 34**	**11**	**11, 33, 34**	**11**	**9**
Color mixing	**4× (1–7)**	**10–13**	**4× (1–7)**	75 channels (1–96)	75 channels (1–110)	80 channels (1–97)	**10–13, 24–99**
Color wheel	**9**	**14**	**9**	**9**	**9**	**9**	**14**
Gobo wheel		**16, 17**	**22, 31, 35**		**22, 31, 35**		**16, 17**
Zoom	**20, 21**	**6, 7**	**20, 21**	**20, 21**	**20, 21**	**20, 21**	**6, 7**
Effects / macros	**10**	**15**	**10**	**10**	**10**	**10**	**15**

Color wheel



Gobo wheel 1

1	Open

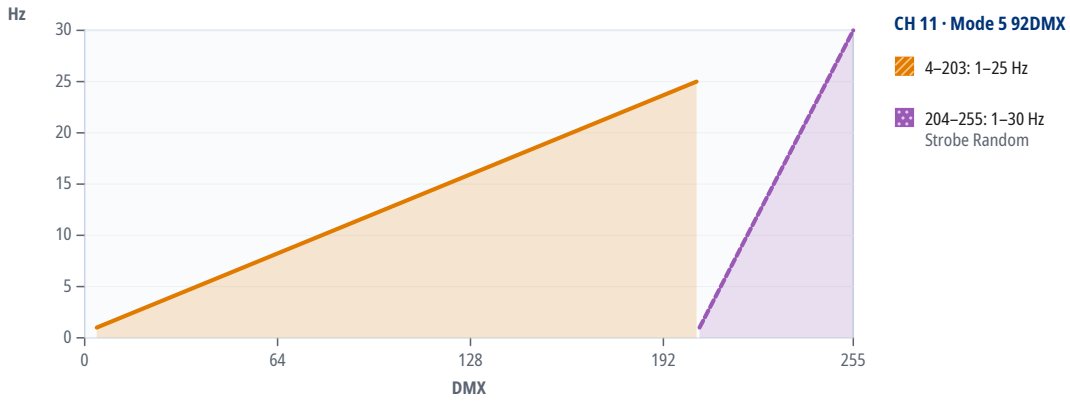
Gobo wheel 2

1	Open

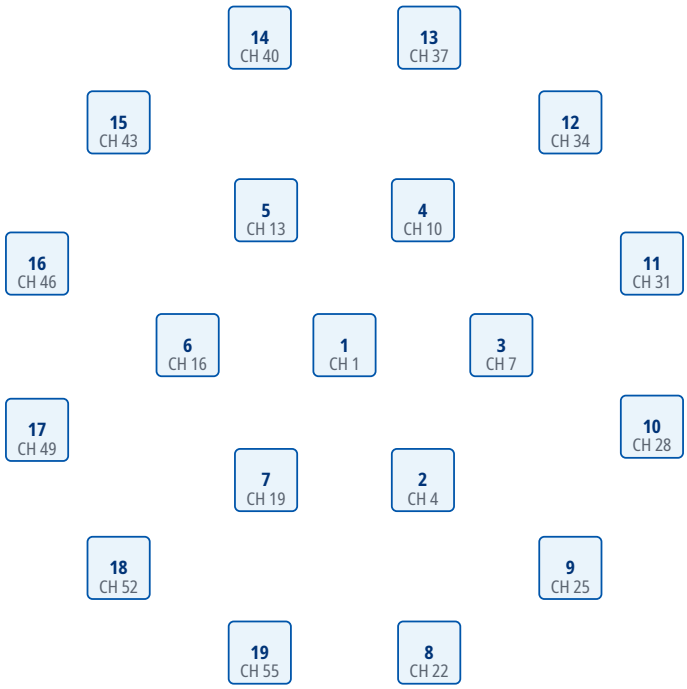
Gobo wheel 3

1	Open

Strobe rate



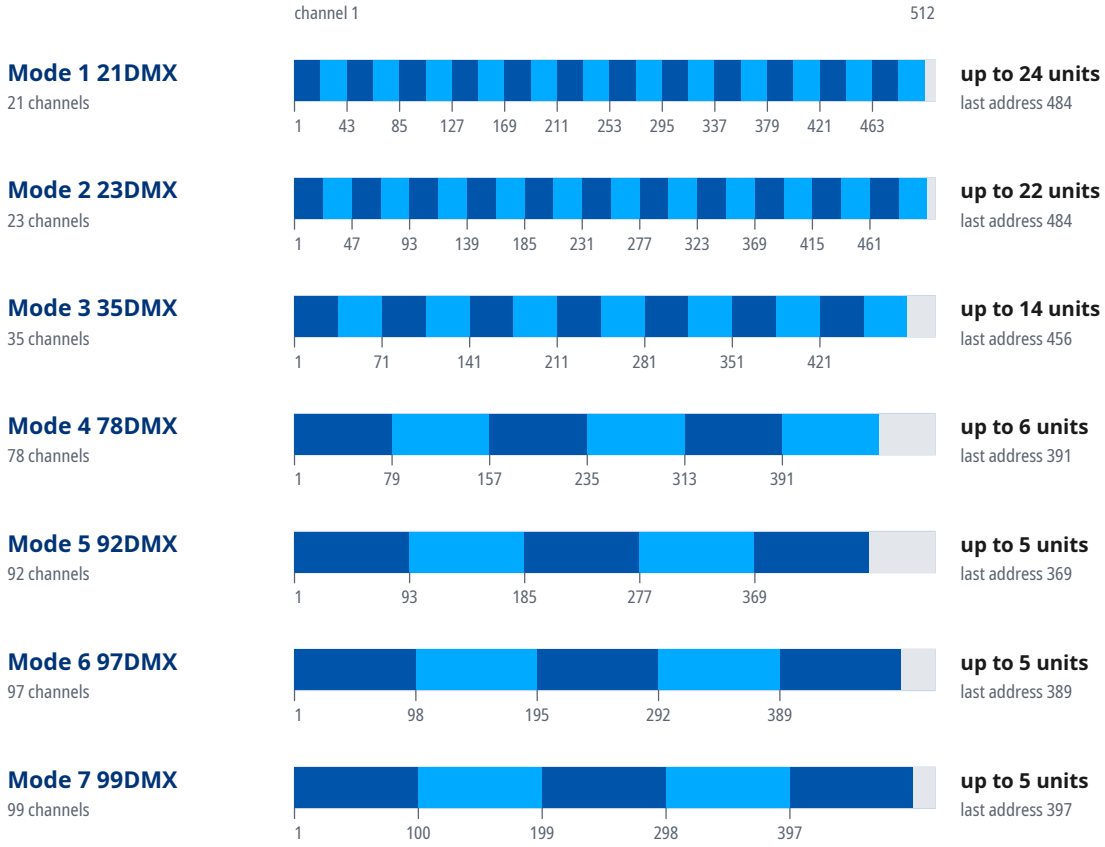
Cells (pixels)



19 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “Mode 5 92DMX”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode 7 99DMX”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 1	11	U3 · 1	16	U4 · 1
2	100	7	U2 · 100	12	U3 · 100	17	U4 · 100
3	199	8	U2 · 199	13	U3 · 199	18	U4 · 199
4	298	9	U2 · 298	14	U3 · 298	19	U4 · 298
5	397	10	U2 · 397	15	U3 · 397	20	U4 · 397

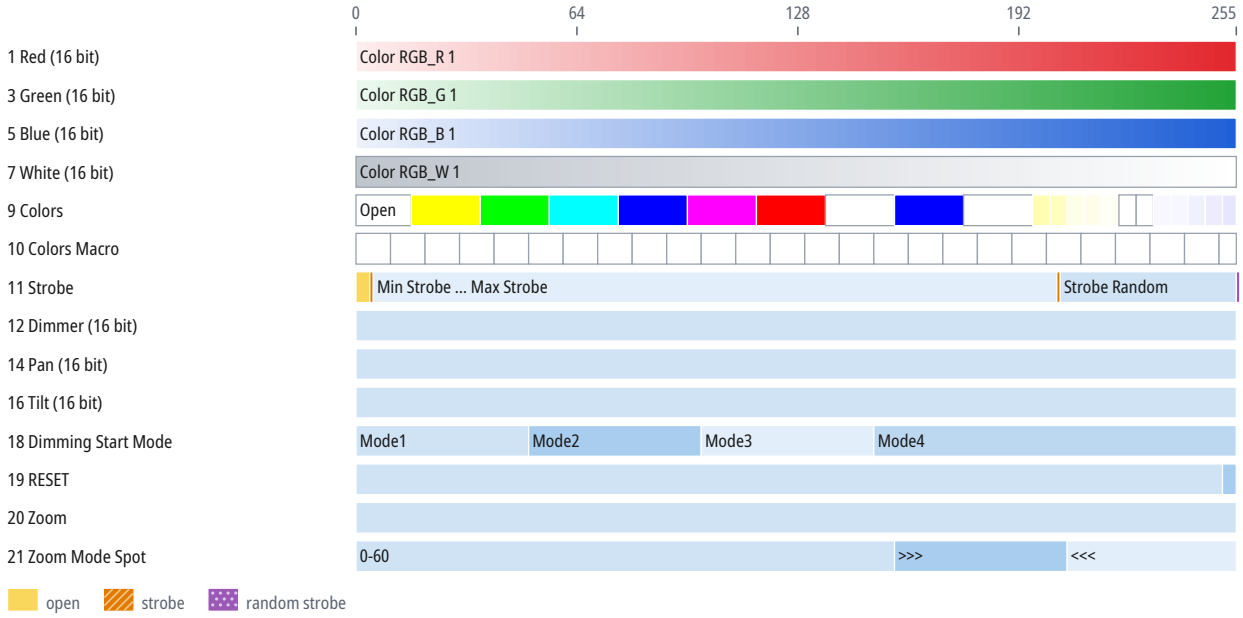
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 1 21DMX

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 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 3 Green 255, CH 5 Blue 255, CH 7 White 255, CH 12 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red		Color RGB_R 1
		0–255	Color RGB_R 1
2	Red Fine	0–255	Fine adjustment of CH 1
3	Green		Color RGB_G 1
		0–255	Color RGB_G 1
4	Green Fine	0–255	Fine adjustment of CH 3
5	Blue		Color RGB_B 1
		0–255	Color RGB_B 1
6	Blue Fine	0–255	Fine adjustment of CH 5
7	White		Color RGB_W 1
		0–255	Color RGB_W 1
8	White Fine	0–255	Fine adjustment of CH 7
9	Colors	0–15	Open
		16–35	R100% G UP B0%
		36–55	R DOWM G100% B0%
		56–75	R0% G100% B UP
		76–95	R0% G DOWM B100%
		96–115	R UP G0% B100%
		116–135	R100% G0% B DOWM
		136–155	R100% G UP B UP

CH	Function	DMX	Description
9	Colors (continued)	156–175	R DOWM G DOWM B100%
		176–195	R100% G100% B100% W100%
		196–200	2800k
		201–205	3200k
		206–210	3500k
		211–215	4000k
		216–220	4500k
		221–225	5000k
		226–230	5500k
		231–235	6000k
		236–240	6500k
		241–245	7000k
		246–250	7500k
		251–255	8000k
10	Colors Macro		Gobo 1 1
		0–9	Open
		10–19	Color 1
		20–29	Color 2
		30–39	Color 3
		40–49	Color 4
		50–59	Color 5
		60–69	Color 6
		70–79	Color 7
		80–89	Color 8
		90–99	Color 9
		100–109	Color 10
		110–119	Color 11
		120–129	Color 12
		130–139	Color 13
		140–149	Color 14
		150–159	Color 15
		160–169	Color 16
		170–179	Color 17
		180–189	Color 18
		190–199	Color 19
		200–209	Color 20
		210–219	Color 21
		220–229	Color 22
		230–239	Color 23
		240–249	Color 24
		250–255	Color 25
11	Strobe	0–3	No Feature: Open

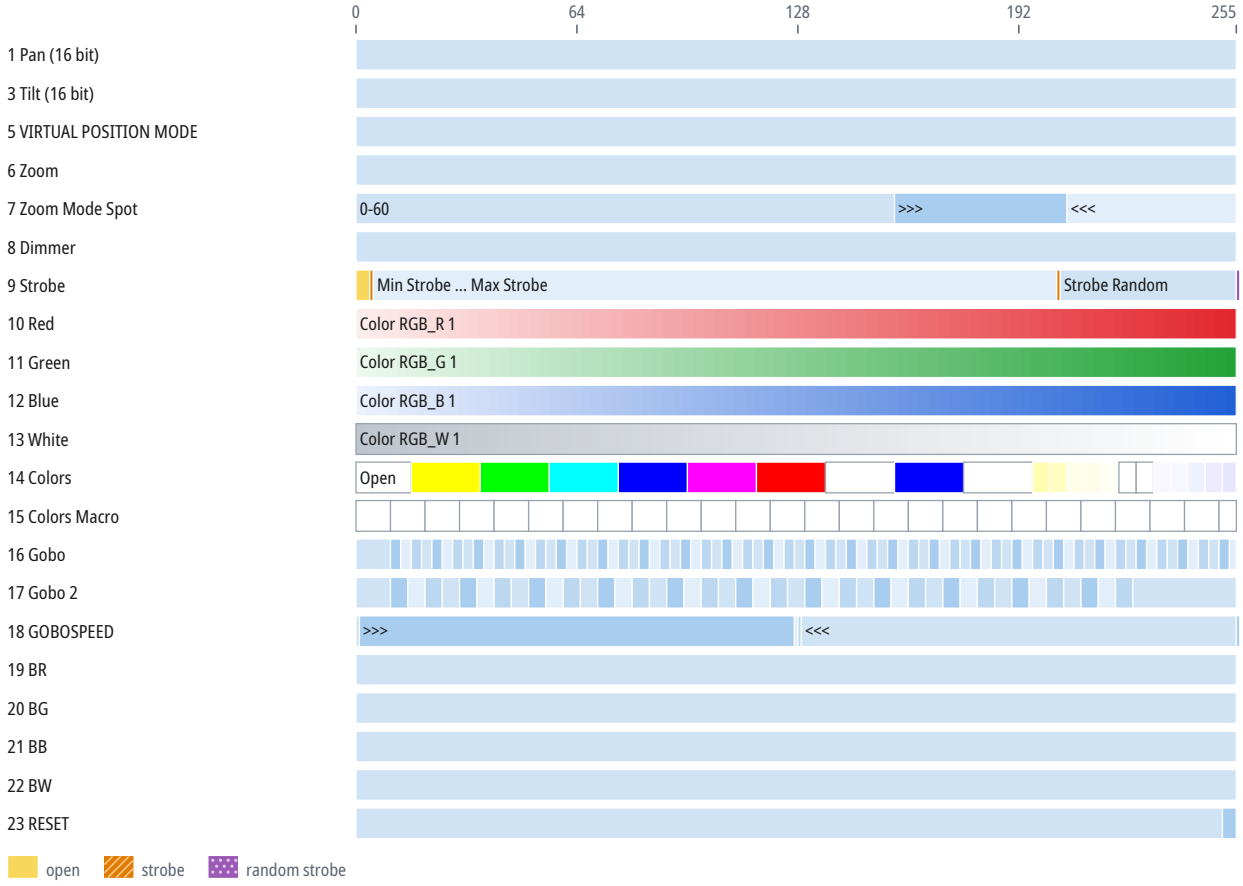
CH	Function	DMX	Description
11	Strobe (continued)	4	Min Strobe
		5–202	Min Strobe ... Max Strobe
		203	Max Strobe
		204–255	Strobe Random (1–30 Hz)
12	Dimmer	0–255	
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan	0–255	540°
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–255	270°
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Dimming Start Mode	0–49	Mode1
		50–99	Mode2
		100–149	Mode3
		150–255	Mode4
19	RESET	0–250	RESET 1
		251–255	Reset
20	Zoom	0–255	3–45°
21	Zoom Mode Spot	0–155	0-60
		156–205	>>>
		206–255	<<<

Mode 2 23DMX

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 8 Dimmer above 0; CH 9 Strobe at 0–3 “Open”. The GDTF file gives these values for a console's Highlight function: CH 8 Dimmer 255, CH 13 White 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–255	540°
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–255	204°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	VIRTUAL POSITION MODE	0–255	
6	Zoom	0–255	3–45°
7	Zoom Mode Spot		Same as CH 21 in the mode “Mode 1 21DMX” (p. 12)
8	Dimmer	0–255	
9	Strobe		Same as CH 11 in the mode “Mode 1 21DMX” (p. 11)
10	Red		Same as CH 1 in the mode “Mode 1 21DMX” (p. 10)
11	Green		Same as CH 3 in the mode “Mode 1 21DMX” (p. 10)
12	Blue		Same as CH 5 in the mode “Mode 1 21DMX” (p. 10)
13	White		Same as CH 7 in the mode “Mode 1 21DMX” (p. 10)

CH	Function	DMX	Description
14	Colors		Same as CH 9 in the mode “Mode 1 21DMX” (p. 10)
15	Colors Macro		Same as CH 10 in the mode “Mode 1 21DMX” (p. 11)
16	Gobo	0–9	Open
		10–12	Single Color G1
		13–15	Single Color G2
		16–18	Single Color G3
		19–21	Single Color G4
		22–24	Single Color G5
		25–27	Single Color G6
		28–30	Single Color G7
		31–33	Single Color G8
		34–36	Single Color G9
		37–39	Single Color G10
		40–42	Single Color G11
		43–45	Single Color G12
		46–48	Single Color G13
		49–51	Single Color G14
		52–54	Single Color G15
		55–57	Single Color G16
		58–60	Single Color G17
		61–63	Single Color G18
		64–66	Single Color G19
		67–69	Single Color G20
		70–72	Single Color G21
		73–75	Single Color G22
		76–78	Single Color G23
		79–81	Single Color G24
		82–84	Single Color G25
		85–87	Single Color G26
		88–90	Single Color G27
		91–93	Single Color G28
		94–96	Single Color G29
		97–99	Single Color G30
		100–102	Single Color G31
		103–105	Single Color G32
		106–108	Single Color G33
		109–111	Single Color G34
		112–114	Single Color G35
		115–117	Single Color G36
		118–120	Single Color G37
		121–123	Single Color G38
		124–126	Single Color G39

CH	Function	DMX	Description
16	Gobo (continued)	127–129	Single Color G40
		130–132	Single Color G41
		133–135	Single Color G42
		136–138	Single Color G43
		139–141	Single Color G44
		142–144	Single Color G45
		145–147	Single Color G46
		148–150	Single Color G47
		151–153	Single Color G48
		154–156	Single Color G49
		157–159	Single Color G50
		160–162	Single Color G51
		163–165	Single Color G52
		166–168	Single Color G53
		169–171	Single Color G54
		172–174	Single Color G55
		175–177	Single Color G56
		178–180	Single Color G57
		181–183	Single Color G58
		184–186	Single Color G59
		187–189	Single Color G60
		190–192	Single Color G61
		193–195	Single Color G62
		196–198	Single Color G63
		199–201	Single Color G64
		202–204	Single Color G65
		205–207	Single Color G66
		208–210	Single Color G67
		211–213	Color Min G1
		214–216	Color Min G2
		217–219	Color Min G3
		220–222	Color Min G4
		223–225	Color Min G5
		226–228	Color Min G6
		229–231	Color Min G7
		232–234	Color Min G8
		235–237	Color Min G9
		238–240	Color Min G10
		241–243	Color Min G11
		244–246	Color Min G12
		247–249	Color Min G13
		250–252	Color Min G14

CH	Function	DMX	Description
16	Gobo (continued)	253–255	Color Min G15
17	Gobo 2	0–9	Open
		10–14	Single Color G1
		15–19	Single Color G2
		20–24	Single Color G3
		25–29	Single Color G4
		30–34	Single Color G5
		35–39	Single Color G6
		40–44	Single Color G7
		45–49	Single Color G8
		50–54	Single Color G9
		55–59	Single Color G10
		60–64	Single Color G11
		65–69	Single Color G12
		70–74	Single Color G13
		75–79	Single Color G14
		80–84	Single Color G15
		85–89	Single Color G16
		90–94	Single Color G17
		95–99	Single Color G18
		100–104	Single Color G19
		105–109	Single Color G20
		110–114	Single Color G21
		115–119	Single Color G22
		120–124	Single Color G23
		125–129	Single Color G24
		130–134	Single Color G25
		135–139	Single Color G26
		140–144	Single Color G27
		145–149	Single Color G28
		150–154	Single Color G29
		155–159	Single Color G30
		160–164	Color Min G1
		165–169	Color Min G2
		170–174	Color Min G3
		175–179	Color Min G4
		180–184	Color Min G5
		185–189	Color Min G6
		190–194	Color Min G7
		195–199	Color Min G8
		200–204	Color Min G9
		205–209	Color Min G10

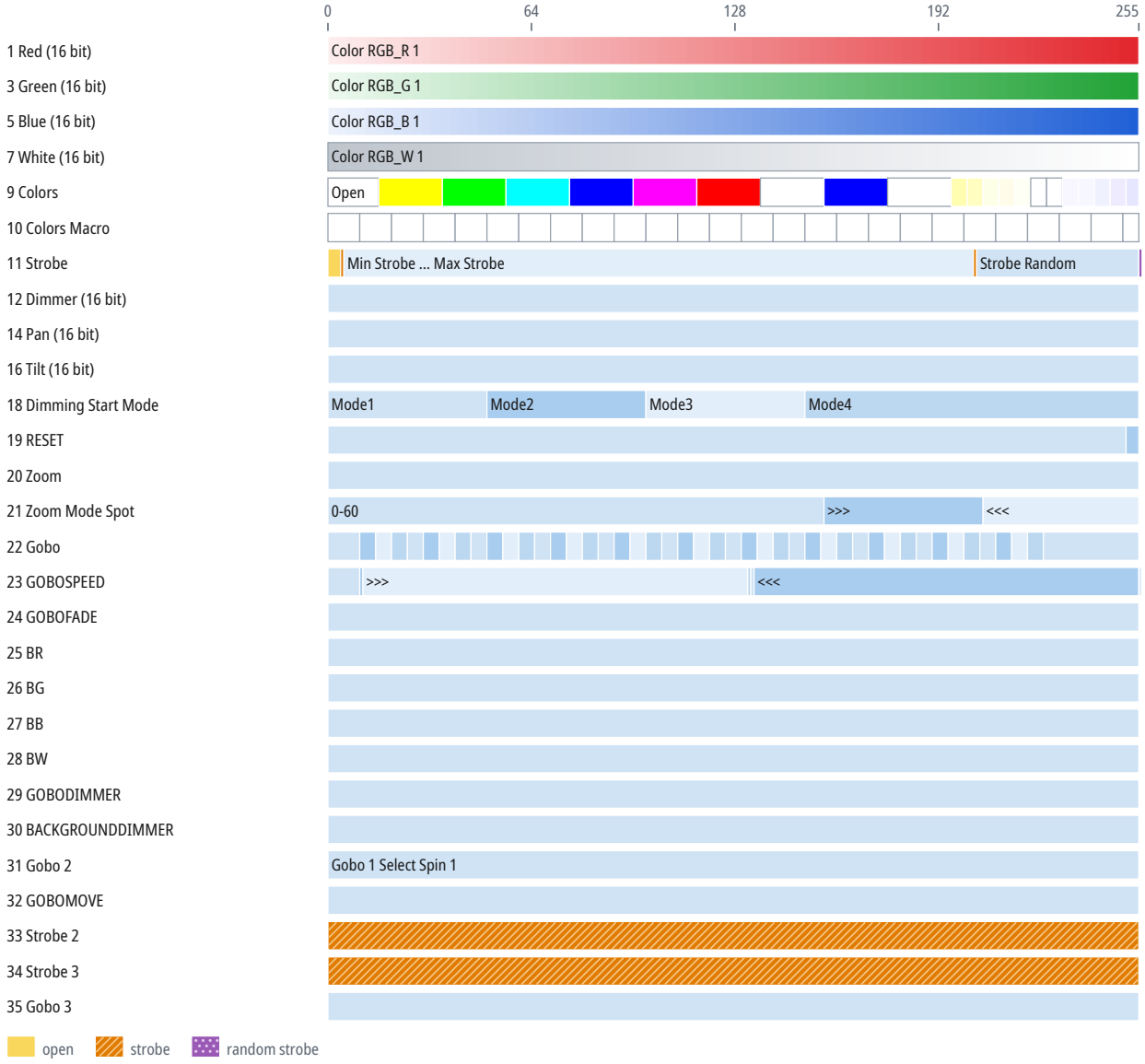
CH	Function	DMX	Description
17	Gobo 2 (continued)	210–214	Color Min G11
		215–219	Color Min G12
		220–224	Color Min G13
		225–255	Color Min G14
18	GOBOSPEED	0	>>>Max
		1–126	>>>
		127	>>>Min
		128	<<<Min
		129–254	<<<
		255	<<<Max
19	BR	0–255	
20	BG	0–255	
21	BB	0–255	
22	BW	0–255	
23	RESET		Same as CH 19 in the mode “Mode 1 21DMX” (p. 12)

Mode 3 35DMX

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 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 White 255, CH 12 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red		Same as CH 1 in the mode “Mode 1 21DMX” (p. 10)
2	Red Fine	0–255	Fine adjustment of CH 1
3	Green		Same as CH 3 in the mode “Mode 1 21DMX” (p. 10)
4	Green Fine	0–255	Fine adjustment of CH 3
5	Blue		Same as CH 5 in the mode “Mode 1 21DMX” (p. 10)
6	Blue Fine	0–255	Fine adjustment of CH 5
7	White		Same as CH 7 in the mode “Mode 1 21DMX” (p. 10)

CH	Function	DMX	Description
8	White Fine	0–255	Fine adjustment of CH 7
9	Colors		Same as CH 9 in the mode “Mode 1 21DMX” (p. 10)
10	Colors Macro		Same as CH 10 in the mode “Mode 1 21DMX” (p. 11)
11	Strobe		Same as CH 11 in the mode “Mode 1 21DMX” (p. 11)
12	Dimmer	0–255	
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan	0–255	540°
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–255	270°
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Dimming Start Mode		Same as CH 18 in the mode “Mode 1 21DMX” (p. 12)
19	RESET		Same as CH 19 in the mode “Mode 1 21DMX” (p. 12)
20	Zoom	0–255	3–45°
21	Zoom Mode Spot		Same as CH 21 in the mode “Mode 1 21DMX” (p. 12)
22	Gobo	0–9	Open
		10–14	Single Color G1
		15–19	Single Color G2
		20–24	Single Color G3
		25–29	Single Color G4
		30–34	Single Color G5
		35–39	Single Color G6
		40–44	Single Color G7
		45–49	Single Color G8
		50–54	Single Color G9
		55–59	Single Color G10
		60–64	Single Color G11
		65–69	Single Color G12
		70–74	Single Color G13
		75–79	Single Color G14
		80–84	Single Color G15
		85–89	Single Color G16
		90–94	Single Color G17
		95–99	Single Color G18
		100–104	Single Color G19
		105–109	Single Color G20
		110–114	Single Color G21
		115–119	Single Color G22
		120–124	Single Color G23
		125–129	Single Color G24
		130–134	Single Color G25
		135–139	Single Color G26
		140–144	Single Color G27

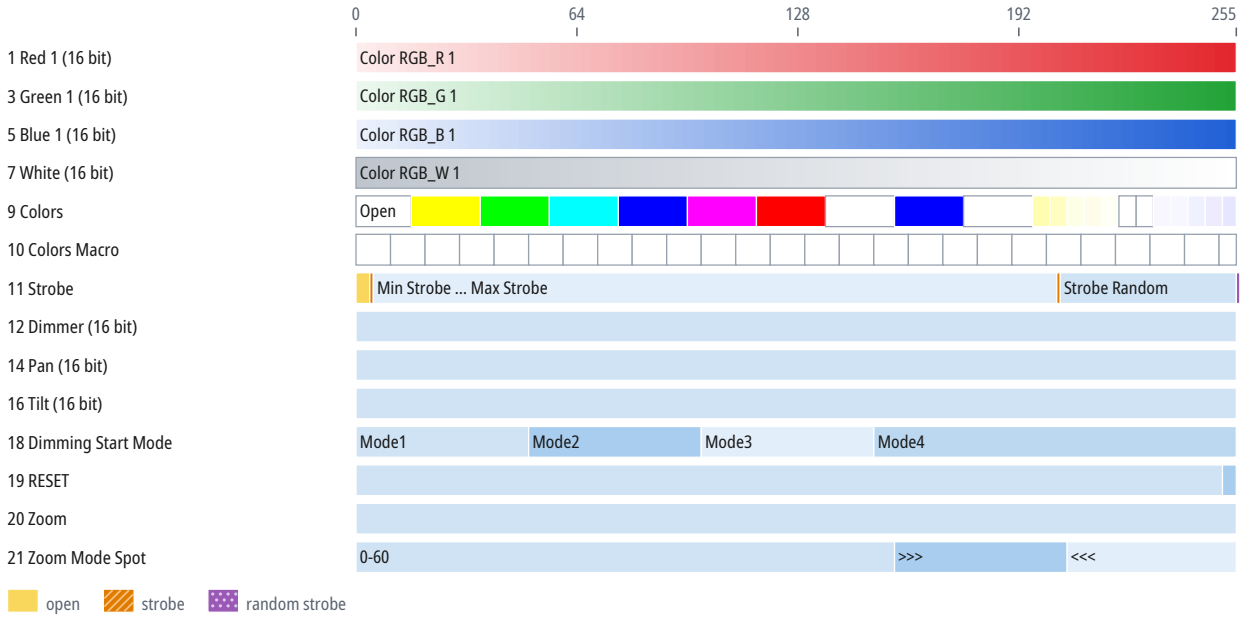
CH	Function	DMX	Description
22	Gobo (continued)	145–149	Single Color G28
		150–154	Single Color G29
		155–159	Single Color G30
		160–164	Color Min G1
		165–169	Color Min G2
		170–174	Color Min G3
		175–179	Color Min G4
		180–184	Color Min G5
		185–189	Color Min G6
		190–194	Color Min G7
		195–199	Color Min G8
		200–204	Color Min G9
		205–209	Color Min G10
		210–214	Color Min G11
		215–219	Color Min G12
		220–224	Color Min G13
		225–255	Color Min G14
23	GOBOSPEED	0–9	GOBOSPEED 1
		10	>>>Max
		11–131	>>>
		132	>>>Min
		133	<<<Min
		134–254	<<<
		255	<<<Max
24	GOBOFADE	0–255	
25	BR	0–255	
26	BG	0–255	
27	BB	0–255	
28	BW	0–255	
29	GOBODIMMER	0–255	
30	BACKGROUNDDIMMER	0–255	
31	Gobo 2		Gobo 1 Select Spin 1
		0–255	Gobo 1 Select Spin 1
32	GOBOMOVE	0–255	
33	Strobe 2	0–255	
34	Strobe 3	0–255	
35	Gobo 3	0–255	

Mode 4 78DMX

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 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 White 255, CH 12 Dimmer 255, CH 22 Red 255 (the same in each of the 19 cells), CH 23 Green 255 (the same in each of the 19 cells), CH 24 Blue 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Red 1 Fine	0–255	Fine adjustment of CH 1
3	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
4	Green 1 Fine	0–255	Fine adjustment of CH 3
5	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
6	Blue 1 Fine	0–255	Fine adjustment of CH 5
7	White		Same as CH 7 in the mode “Mode 1 21DMX” (p. 10)
8	White Fine	0–255	Fine adjustment of CH 7
9	Colors		Same as CH 9 in the mode “Mode 1 21DMX” (p. 10)
10	Colors Macro		Same as CH 10 in the mode “Mode 1 21DMX” (p. 11)
11	Strobe		Same as CH 11 in the mode “Mode 1 21DMX” (p. 11)
12	Dimmer	0–255	
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan	0–255	540°
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–255	270°

CH	Function	DMX	Description
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Dimming Start Mode		Same as CH 18 in the mode “Mode 1 21DMX” (p. 12)
19	RESET		Same as CH 19 in the mode “Mode 1 21DMX” (p. 12)
20	Zoom	0–255	3–45°
21	Zoom Mode Spot		Same as CH 21 in the mode “Mode 1 21DMX” (p. 12)
22	Red 2		Color RGB_R 1
		0–255	Color RGB_R 1
23	Green 2		Color RGB_G 1
		0–255	Color RGB_G 1
24	Blue 2		Color RGB_B 1
		0–255	Color RGB_B 1

CH 22–78: 19 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 22–24); the table below gives each cell's channel numbers.

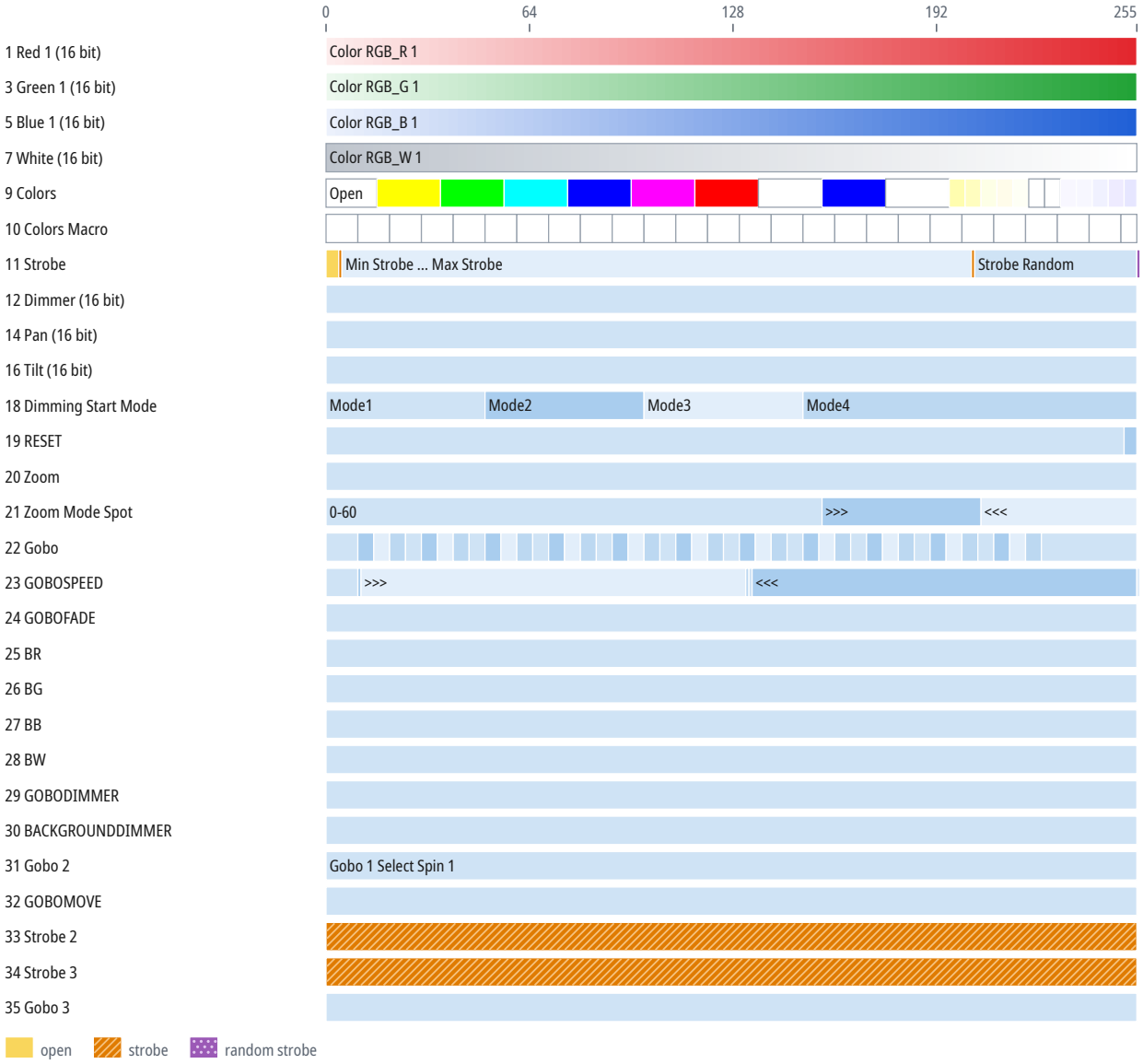
Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	22	23	24	2	25	26	27	3	28	29	30
4	31	32	33	5	34	35	36	6	37	38	39
7	40	41	42	8	43	44	45	9	46	47	48
10	49	50	51	11	52	53	54	12	55	56	57
13	58	59	60	14	61	62	63	15	64	65	66
16	67	68	69	17	70	71	72	18	73	74	75
19	76	77	78								

Mode 5 92DMX

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 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 White 255, CH 12 Dimmer 255, CH 36 Red 255 (the same in each of the 19 cells), CH 37 Green 255 (the same in each of the 19 cells), CH 38 Blue 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1		Same as CH 1 in the mode “Mode 4 78DMX” (p. 21)
2	Red 1 Fine	0–255	Fine adjustment of CH 1
3	Green 1		Same as CH 3 in the mode “Mode 4 78DMX” (p. 21)
4	Green 1 Fine	0–255	Fine adjustment of CH 3
5	Blue 1		Same as CH 5 in the mode “Mode 4 78DMX” (p. 21)
6	Blue 1 Fine	0–255	Fine adjustment of CH 5

CH	Function	DMX	Description
7	White		Same as CH 7 in the mode “Mode 1 21DMX” (p. 10)
8	White Fine	0–255	Fine adjustment of CH 7
9	Colors		Same as CH 9 in the mode “Mode 1 21DMX” (p. 10)
10	Colors Macro		Same as CH 10 in the mode “Mode 1 21DMX” (p. 11)
11	Strobe		Same as CH 11 in the mode “Mode 1 21DMX” (p. 11)
12	Dimmer	0–255	
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan	0–255	540°
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–255	270°
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Dimming Start Mode		Same as CH 18 in the mode “Mode 1 21DMX” (p. 12)
19	RESET		Same as CH 19 in the mode “Mode 1 21DMX” (p. 12)
20	Zoom	0–255	3–45°
21	Zoom Mode Spot		Same as CH 21 in the mode “Mode 1 21DMX” (p. 12)
22	Gobo		Same as CH 22 in the mode “Mode 3 35DMX” (p. 19)
23	GOBOSPEED		Same as CH 23 in the mode “Mode 3 35DMX” (p. 20)
24	GOBOFADE	0–255	
25	BR	0–255	
26	BG	0–255	
27	BB	0–255	
28	BW	0–255	
29	GOBODIMMER	0–255	
30	BACKGROUNDDIMMER	0–255	
31	Gobo 2		Same as CH 31 in the mode “Mode 3 35DMX” (p. 20)
32	GOBOMOVE	0–255	
33	Strobe 2	0–255	
34	Strobe 3	0–255	
35	Gobo 3	0–255	
36	Red 2		Color RGB_R 1
		0–255	Color RGB_R 1
37	Green 2		Color RGB_G 1
		0–255	Color RGB_G 1
38	Blue 2		Color RGB_B 1
		0–255	Color RGB_B 1

CH 36–92: 19 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 36–38); the table below gives each cell's channel numbers.

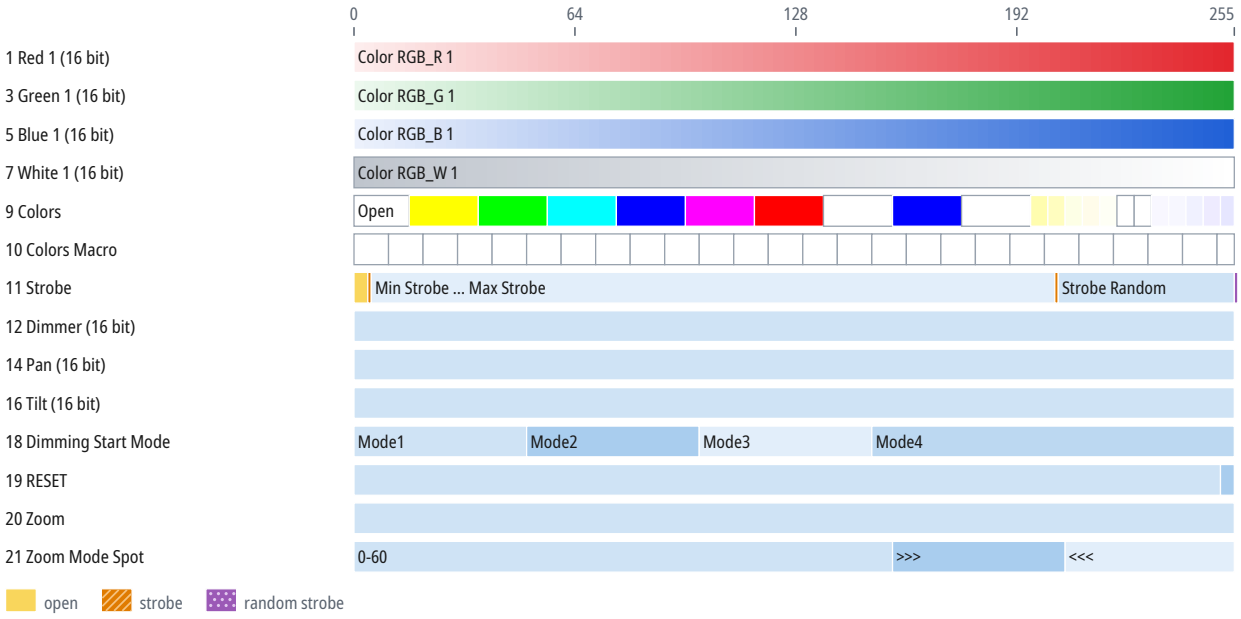
Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	36	37	38	2	39	40	41	3	42	43	44
4	45	46	47	5	48	49	50	6	51	52	53
7	54	55	56	8	57	58	59	9	60	61	62
10	63	64	65	11	66	67	68	12	69	70	71
13	72	73	74	14	75	76	77	15	78	79	80
16	81	82	83	17	84	85	86	18	87	88	89
19	90	91	92								

Mode 6 97DMX

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 11 Strobe at 0–3 “Open”; CH 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 White 1 255, CH 12 Dimmer 255, CH 22 Red 255 (the same in each of the 19 cells), CH 23 Green 255 (the same in each of the 19 cells), CH 24 Blue 255 (the same in each of the 19 cells), CH 25 White 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1		Same as CH 1 in the mode “Mode 4 78DMX” (p. 21)
2	Red 1 Fine	0–255	Fine adjustment of CH 1
3	Green 1		Same as CH 3 in the mode “Mode 4 78DMX” (p. 21)
4	Green 1 Fine	0–255	Fine adjustment of CH 3
5	Blue 1		Same as CH 5 in the mode “Mode 4 78DMX” (p. 21)
6	Blue 1 Fine	0–255	Fine adjustment of CH 5

CH	Function	DMX	Description
7	White 1		Color RGB_W 1
		0–255	Color RGB_W 1
8	White 1 Fine	0–255	Fine adjustment of CH 7
9	Colors		Same as CH 9 in the mode “Mode 1 21DMX” (p. 10)
10	Colors Macro		Same as CH 10 in the mode “Mode 1 21DMX” (p. 11)
11	Strobe		Same as CH 11 in the mode “Mode 1 21DMX” (p. 11)
12	Dimmer	0–255	
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan	0–255	540°
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–255	270°
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Dimming Start Mode		Same as CH 18 in the mode “Mode 1 21DMX” (p. 12)
19	RESET		Same as CH 19 in the mode “Mode 1 21DMX” (p. 12)
20	Zoom	0–255	3–45°
21	Zoom Mode Spot		Same as CH 21 in the mode “Mode 1 21DMX” (p. 12)
22	Red 2		Color RGB_R 1
		0–255	Color RGB_R 1
23	Green 2		Color RGB_G 1
		0–255	Color RGB_G 1
24	Blue 2		Color RGB_B 1
		0–255	Color RGB_B 1
25	White 2		Color RGB_W 1
		0–255	Color RGB_W 1

CH 22–97: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 22–25); the table below gives each cell's channel numbers.

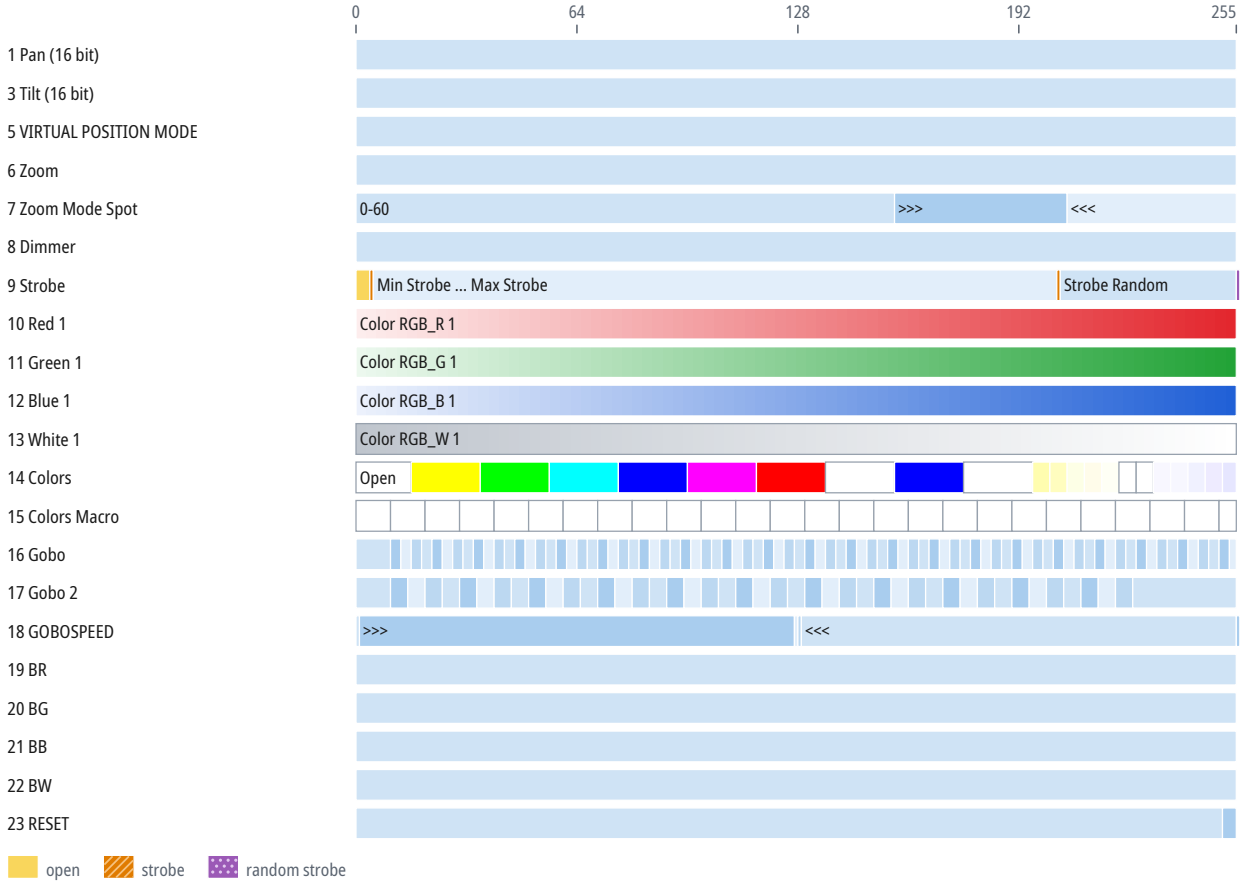
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	22	23	24	25	2	26	27	28	29
3	30	31	32	33	4	34	35	36	37
5	38	39	40	41	6	42	43	44	45
7	46	47	48	49	8	50	51	52	53
9	54	55	56	57	10	58	59	60	61
11	62	63	64	65	12	66	67	68	69
13	70	71	72	73	14	74	75	76	77
15	78	79	80	81	16	82	83	84	85
17	86	87	88	89	18	90	91	92	93
19	94	95	96	97					

Mode 7 99DMX

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 8 Dimmer above 0; CH 9 Strobe at 0–3 “Open”. The GDTF file gives these values for a console's Highlight function: CH 8 Dimmer 255, CH 10 Red 1 255, CH 11 Green 1 255, CH 12 Blue 1 255, CH 13 White 1 255, CH 24 Red 255 (the same in each of the 19 cells), CH 25 Green 255 (the same in each of the 19 cells), CH 26 Blue 255 (the same in each of the 19 cells), CH 27 White 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–255	540°
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–255	204°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	VIRTUAL POSITION MODE	0–255	
6	Zoom	0–255	3–45°
7	Zoom Mode Spot		Same as CH 21 in the mode “Mode 1 21DMX” (p. 12)
8	Dimmer	0–255	
9	Strobe		Same as CH 11 in the mode “Mode 1 21DMX” (p. 11)
10	Red 1		Same as CH 1 in the mode “Mode 4 78DMX” (p. 21)
11	Green 1		Same as CH 3 in the mode “Mode 4 78DMX” (p. 21)
12	Blue 1		Same as CH 5 in the mode “Mode 4 78DMX” (p. 21)

CH	Function	DMX	Description
13	White 1		Same as CH 7 in the mode “Mode 6 97DMX” (p. 26)
14	Colors		Same as CH 9 in the mode “Mode 1 21DMX” (p. 10)
15	Colors Macro		Same as CH 10 in the mode “Mode 1 21DMX” (p. 11)
16	Gobo		Same as CH 16 in the mode “Mode 2 23DMX” (p. 14)
17	Gobo 2		Same as CH 17 in the mode “Mode 2 23DMX” (p. 16)
18	GOBOSPEED		Same as CH 18 in the mode “Mode 2 23DMX” (p. 17)
19	BR	0–255	
20	BG	0–255	
21	BB	0–255	
22	BW	0–255	
23	RESET		Same as CH 19 in the mode “Mode 1 21DMX” (p. 12)
24	Red 2		Color RGB_R 1
		0–255	Color RGB_R 1
25	Green 2		Color RGB_G 1
		0–255	Color RGB_G 1
26	Blue 2		Color RGB_B 1
		0–255	Color RGB_B 1
27	White 2		Color RGB_W 1
		0–255	Color RGB_W 1

CH 24–99: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 24–27); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	24	25	26	27	2	28	29	30	31
3	32	33	34	35	4	36	37	38	39
5	40	41	42	43	6	44	45	46	47
7	48	49	50	51	8	52	53	54	55
9	56	57	58	59	10	60	61	62	63
11	64	65	66	67	12	68	69	70	71
13	72	73	74	75	14	76	77	78	79
15	80	81	82	83	16	84	85	86	87
17	88	89	90	91	18	92	93	94	95
19	96	97	98	99					

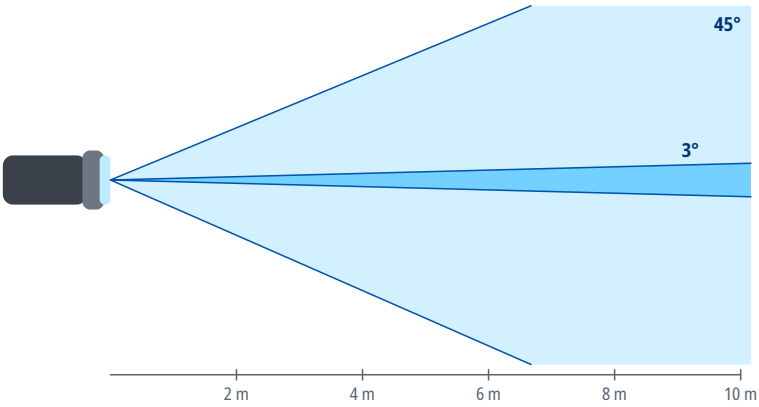
10 Technical specifications

Parameter	Value
Light source	discharge lamp
Zoom	3–45°
Pan	540°
Tilt	270°
Weight	16.5 kg
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–25 Hz

Spot diameter



Distance	Ø 3°	Ø 45°
2 m	0.1 m	1.7 m
4 m	0.21 m	3.3 m
6 m	0.31 m	5 m
8 m	0.42 m	6.6 m
10 m	0.52 m	8.3 m
15 m	0.79 m	12.4 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.