DMX REFERENCE

DOTLINE 12

CLXSQUAD





Manufacturer	CLXSQUAD
GDTF file	CLXSQUAD_DOTLINE_12_129689.gdtf
GDTF revision	DOTLINE 12 · 2026-02-20
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1 About this manual

This document describes the DOTLINE 12 by CLXSQUAD. It was compiled from the GDTF file CLXSQUAD_DOTLINE_12_129689.gdtf from the GDTF-Share library.

File revision: “DOTLINE 12”.

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 CLXSQUAD; 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	14.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
57ch	57	8	1, 58, 115, 172, ...
14CH	14	36	1, 15, 29, 43, ...
20CH	20	25	1, 21, 41, 61, ...
52CH	52	9	1, 53, 105, 157, ...
64ch	64	8	1, 65, 129, 193, ...

No light? Check these channels

- 57ch: CH 6 Dimmer above 0; CH 8 Shutter at 0–9 “Shutter open”
- 14CH: CH 4 Dimmer above 0
- 20CH: CH 7 Dimmer above 0
- 64ch: CH 5 Dimmer above 254; CH 6 Shutter at 0–9 “Shutter 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.

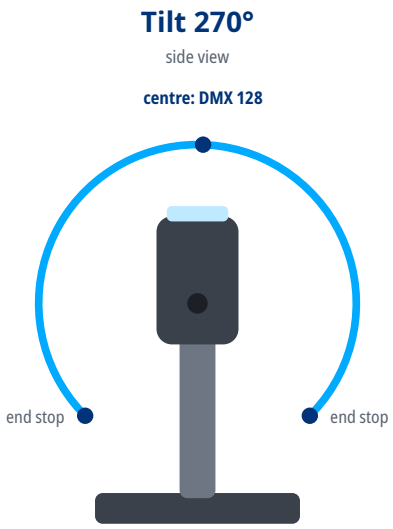
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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

Description in the GDTF file

“LED MOVING HEAD BAR 12x40W RGBW 2 SECTIONS ZOOM 3,5°-55° 10 SECTIONS COLOR F7200203 https://flash-butrym.pl/pl/p/LED-MOVING-HEAD-BAR-10x40W-RGBW-2-SECTIONS-ZOOM-3%2C5-55-10-SECTIONS-COLOR/664”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

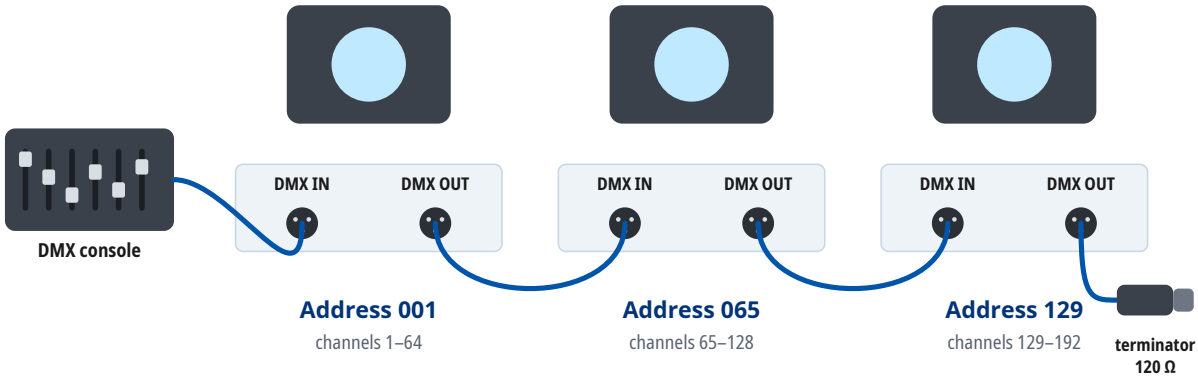
⚠ **WARNING**

- 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: 14.8 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 64ch: every unit occupies 64 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 “64ch”: 64.
- 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 “64ch”, you can use, for example, the start addresses 1, 65, 129, 193.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

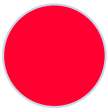
8 Functions at a glance

Functions in each DMX mode

	57ch 57 channels	14CH 14 channels	20CH 20 channels	52CH 52 channels	64ch 64 channels
Pan / Tilt	1	12× (1–45)	12× (1–45)	1	1
Pan / Tilt resolution	16 bit	16 bit	16 bit	8 bit	16 bit
Dimmer	6	12× (4–48)	12× (7–51)	✓	5
Dimmer resolution	16 bit	16 bit	16 bit		8 bit
Shutter / strobe	8	12× (6–50)	12× (9–53)		6
Color mixing	9–56	10–57	10–57	5–52	7–10, 17–64
Gobo wheel		12× (8–52)	14, 16–61, 63		
Gobo rotation			24 channels (15–62)		
Zoom	4, 5	12× (3–47)	12× (4–48)	3, 4	3, 4
Animation wheel		12× (9–53)			
Effects / macros		12× (7–51)			11

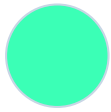
Color wheel

1. No function
2. Filter 4 (Medium Bastard Amber)
3. Filter 25 (Sunset red)
4. Filter 19 (Fire)
5. Filter 26 (Bright Red)
6. Filter 58 (Lavender)
7. Filter 68 (Sky Blue)
8. Fliter 36 (Medium Pink)
9. Filter 89 (Moss Green)
10. Filter 88 (Lime Green)
11. Filter 90 (Dark Yellow Green)
12. Filter 49 (Medium Purple)
13. Filter 52 (Light Lavender)
14. Filter 102 (Light Amber)
15. Filter 103 (Straw)
16. Filter 140 (Summer Blue)
17. Fliter 124 (Dark Green)
18. Filter 106 (Primary Red)
19. Filter 111 (Dark Pink)
20. Filter 115 (Peacock Blue)
21. Filter 126 (Mauve)
22. Filter 117 (Steel Blue)
23. Filter 118 (Light Blue)
24. Filter 122 (Fern Green)

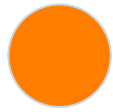
25 
Filter 182 (Light Red)

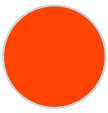
26
Filter 121 (Filter Green)

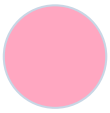
27 
Filter 128 (Bright Pink)

28 
Filter 131 (Marine Blue)

29 
Filter 132 (Medium Blue)

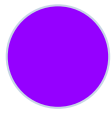
30 
Filter 134 (Golden Amber)

31 
Filter 135 (Deep Golden Amber)

32 
Filter 136 (Pale Lavender)

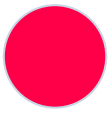
33 
Filter 137 (Special Lavender)

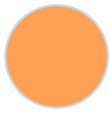
34
Filter 138 (Pale Green)

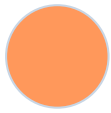
35 
Filter 798 (Chrysalis Pink)

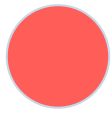
36 
Filter 141 (Bright Blue)

37 
Filter 147 (Apricot)

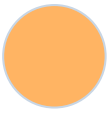
38 
Filter 148 (Bright Rose)

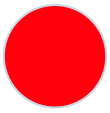
39 
Filter 152 (Pale Gold)

40 
Filter 154 (Pale Rose)

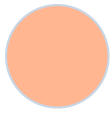
41 
Filter 157 (Pink)

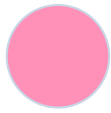
42 
Filter 143 (Pale Navy Blue)

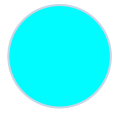
43 
Filter 162 (Bastard Amber)

44 
Filter 164 (Flame Red)

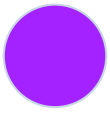
45 
Filter 165 (Daylight Blue)

46 
Filter 169 (Lilac Tint)

47 
Filter 170 (Deep Lavender)

48 
Filter 172 (Lagoon Blue)

49
Filter 194 (Surprise Pink)

50 
Filter 180 (Dark Lavender)

51 
Filter 181 (Congo Blue)

52 
Filter 197 (Alice Blue)

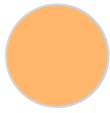
53
Filter 201 (Full CT Blue)

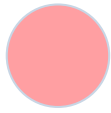
54
Filter 202 (Half CT Blue)

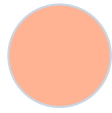
55
Filter 203 (Quarter CT Blue)

56 
Filter 204 (Full CT Orange)

57
Filter 219 (Fluorescent Green)

58 
Filter 206 (Quarter CT Orange)

59 
Filter 247 (Filter Minus Green)

60 
Filter 248 (Half Minus Green)

61
Filter 281 (Three Quarter CT Blue)

62 
Filter 285 (Three Quarter CT Orange)

63 
Filter 352 (Glacier Blue)

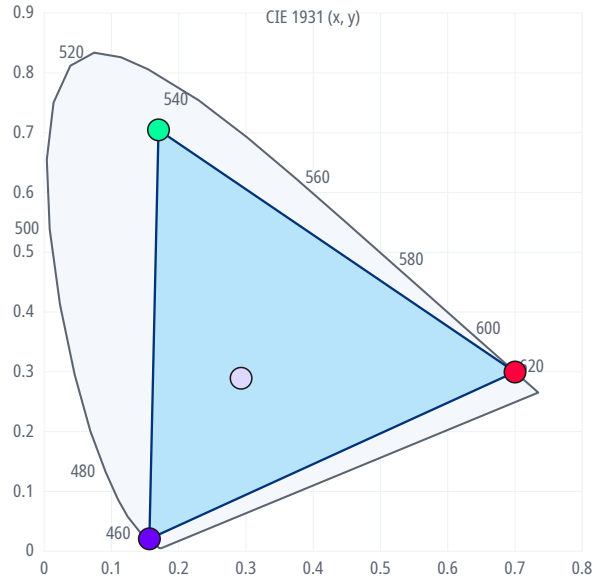
64 
Filter 353 (Lighter Blue)

65
Filter 507 (Madge)

66
Filter 778 (Millennium Gold)

67
Filter 793 (Vanity Fair)

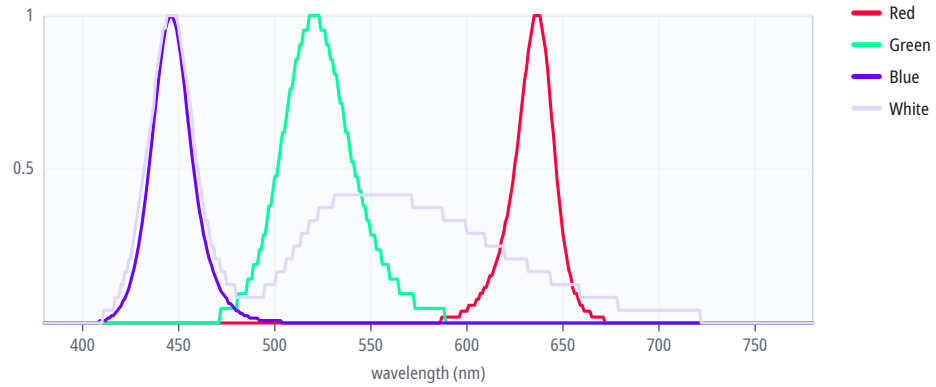
LED colors and the colors they mix



LED	x	y	nm
Red	0.700	0.300	625
Green	0.170	0.705	525
Blue	0.156	0.021	451
White	0.293	0.289	

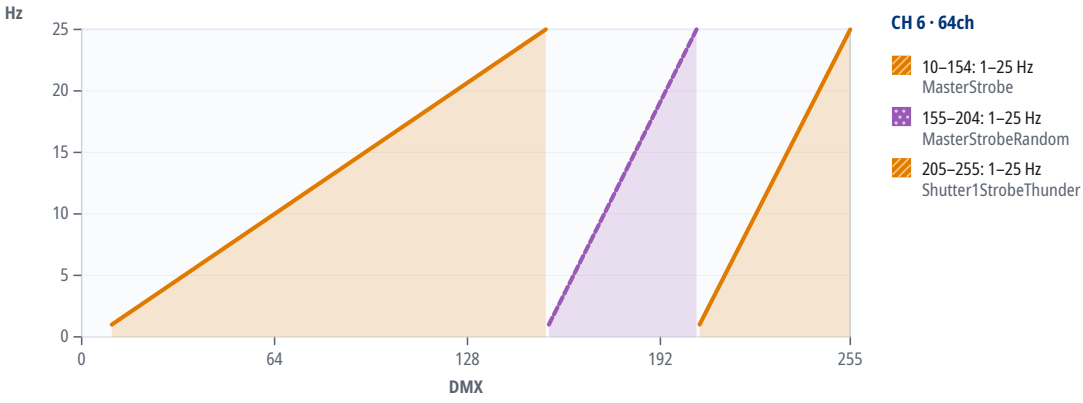
The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

Spectra of the light sources



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

Strobe rate



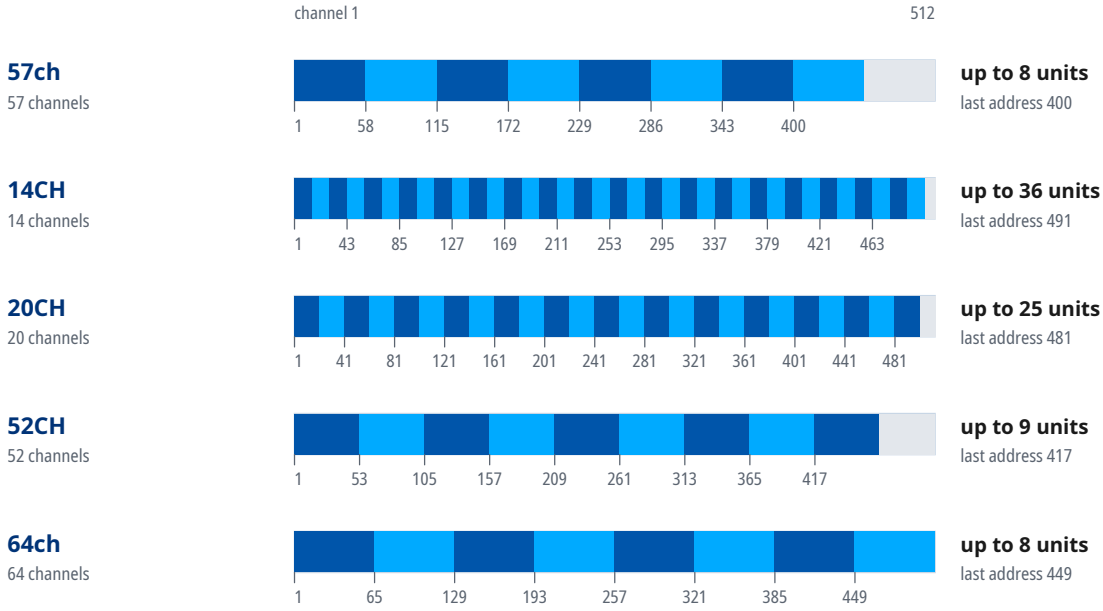
Cells (pixels)



23 cells in one row, left to right as the GDTF file places them (seen from above), wrapped after 12; numbered by their first DMX channel (CH) in the mode “64ch”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “64ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	321	11	U2 · 129	16	U2 · 449
2	65	7	385	12	U2 · 193	17	U3 · 1
3	129	8	449	13	U2 · 257	18	U3 · 65
4	193	9	U2 · 1	14	U2 · 321	19	U3 · 129
5	257	10	U2 · 65	15	U2 · 385	20	U3 · 193

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 57ch

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 Dimmer above 0; CH 8 Shutter at 0–9 “Shutter open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 8 Shutter 0, CH 9 Red 255 (the same in each of the 12 cells), CH 10 Green 255 (the same in each of the 12 cells), CH 11 Blue 255 (the same in each of the 12 cells), CH 12 White 255 (the same in each of the 12 cells).

CH	Function	DMX	Description
1	Tilt	0–127	Tilt
		128	Center
		128–255	Tilt
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Speed Pan/Tilt	0	Fast
		1–254	Fast ... Slow
		255	Slow
4	Zoom 1	0	Narrow
		1–254	Narrow ... Wide
		255	Wide
5	Zoom 2	0	Narrow
		1–254	Narrow ... Wide
		255	Wide
6	Dimmer		Master Dimmer
		0–255	Closed ... Open
		255	Open
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter	0–9	Shutter open
		10	Strobe min
		11–153	Strobe min ... Strobe max
		154	Strobe max
		155	Random slow
		156–203	Random slow ... Random fast
		204	Random fast
		205	Thunder slow
		206–254	Thunder slow ... Thunder fast
		255	Thunder fast
9	Red 1		Pixel Red
		0	Min
		1–254	Min ... Max
		255	Max
10	Green 1		Pixel Green
		0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
11	Blue 1		Pixel Blue
		0	Min
		1–254	Min ... Max
		255	Max
12	White 1		Pixel White
		0	Min
		1–254	Min ... Max
		255	Max
57	Reset	0–100	NO FUNGSI
		101–120	FIXTURE RESET
		121–255	NO FUNGSI 1

CH 9–56: 12 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 9–12); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	9	10	11	12	2	13	14	15	16
3	17	18	19	20	4	21	22	23	24
5	25	26	27	28	6	29	30	31	32
7	33	34	35	36	8	37	38	39	40
9	41	42	43	44	10	45	46	47	48
11	49	50	51	52	12	53	54	55	56

Mode 14CH

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 4 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 255.

CH	Function	DMX	Description
1	Tilt	0–255	
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Zoom	0–255	
4	Dimmer	0–255	
5	Dimmer Fine	0–255	Fine adjustment of CH 4
6	Shutter	0–255	
7	Color Macro	0–255	Color Macro
8	Colors Mode	0–255	
9	Colors	0–255	
10	Red	0–255	
11	Green	0–255	
12	Blue	0–255	
13	White	0–255	
14	Control	0–60	NO FUNGSI 1
		61–80	LED ON
		81–100	LED OFF

CH	Function	DMX	Description
14	Control (continued)	101–120	Fixture Global Reset 4
		121–140	Tilt Reset
		141–160	Zoom Reset
		161–180	Dimmer Smoot
		181–200	Dimmerfast
		201–255	NO FUNGSI

Mode 20CH

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 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Dimmer 255.

CH	Function	DMX	Description
1	Tilt	0–255	
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Position Effect	0–255	
4	Zoom	0–255	
5	zoom 1	0–255	
6	zoom 2	0–255	
7	Dimmer	0–255	
8	Dimmer Fine	0–255	Fine adjustment of CH 7
9	Shutter	0–255	
10	Red	0–255	
11	Green	0–255	
12	Blue	0–255	
13	White	0–255	
14	Gobo	0–255	Color Macro
15	Gobo Spin		Gobo 1 Select Effects 1
		0–255	Gobo 1 Select Effects 1 (0–3839 °/s)
16	Gobo Shake		Animation Wheel 1 1
		0–255	Animation Wheel 1 1
17	Gobo 2		front color 1
		0–255	Front color 1
18	Gobo 2 Spin		HSB_Saturation 1
		0–255	HSB_Saturation 1 (0–57.3 °/s)
19	Gobo 2 Shake		HSB_Brightness 1
		0–255	HSB_Brightness 1
20	Control		Same as CH 14 in the mode “14CH” (p. 13)

Mode 52CH

The GDTF file gives these values for a console's Highlight function: CH 5 Red 255 (the same in each of the 12 cells), CH 6 Green 255 (the same in each of the 12 cells), CH 7 Blue 255 (the same in each of the 12 cells).

CH	Function	DMX	Description
1	Tilt	0–127	Tilt
		128–255	Center
2	Speed Pan/Tilt		Same as CH 3 in the mode “57ch” (p. 12)
3	Zoom 1		Same as CH 4 in the mode “57ch” (p. 12)
4	Zoom 2		Same as CH 5 in the mode “57ch” (p. 12)
5	Red 1		Pixel Red
		0	Min
		1–254	Min ... Max
		255	Max
6	Green 1		Pixel Green
		0	Min
		1–254	Min ... Max
		255	Max
7	Blue 1		Pixel Blue
		0	Min
		1–254	Min ... Max
		255	Max
8	White 1		Pixel White
		0	Min
		1–254	Min ... Max
		255	Max

CH 5–52: 12 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 5–8); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	5	6	7	8	2	9	10	11	12
3	13	14	15	16	4	17	18	19	20
5	21	22	23	24	6	25	26	27	28
7	29	30	31	32	8	33	34	35	36
9	37	38	39	40	10	41	42	43	44
11	45	46	47	48	12	49	50	51	52

Mode 64ch

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

If the device receives DMX in this mode but gives no light, check these channels: CH 5 Dimmer above 254; CH 6 Shutter at 0–9 “Shutter open”. The GDTF file gives these values for a console's Highlight function: CH 5 Dimmer 255, CH 6 Shutter 0, CH 7 Red 1 255, CH 8 Green 1 255, CH 9 Blue 1 255, CH 10 White 1 255.

CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “57ch” (p. 12)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Zoom 1		Same as CH 4 in the mode “57ch” (p. 12)
4	Zoom 2		Same as CH 5 in the mode “57ch” (p. 12)
5	Dimmer		Master Dimmer
		0–254	Closed
		255	Open
6	Shutter		Same as CH 8 in the mode “57ch” (p. 12)
7	Red 1		Pixel Red
		0	Min
		1–254	Min ... Max
		255	Max
8	Green 1		Pixel Green
		0	Min
		1–254	Min ... Max
		255	Max
9	Blue 1		Pixel Blue
		0	Min
		1–254	Min ... Max
		255	Max
10	White 1		Pixel White
		0	Min
		1–254	Min ... Max
		255	Max
11	Colors Macro	0–255	
12	Dummy 1	0–255	
13	Dummy 2	0–255	
14	Dummy 3	0–255	
15	Dummy 4	0–255	
16	Reset		Same as CH 57 in the mode “57ch” (p. 13)
17	Red 2		Color RGB_R 1
		0–255	Color RGB_R 1
18	Green 2		Color RGB_G 1
		0–255	Color RGB_G 1
19	Blue 2		Color RGB_B 1

CH	Function	DMX	Description
19	Blue 2 (continued)	0–255	Color RGB_B 1
20	White 2		Color RGB_W 1
		0–255	Color RGB_W 1

CH 17–64: 12 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 17–20); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	17	18	19	20	2	21	22	23	24
3	25	26	27	28	4	29	30	31	32
5	33	34	35	36	6	37	38	39	40
7	41	42	43	44	8	45	46	47	48
9	49	50	51	52	10	53	54	55	56
11	57	58	59	60	12	61	62	63	64

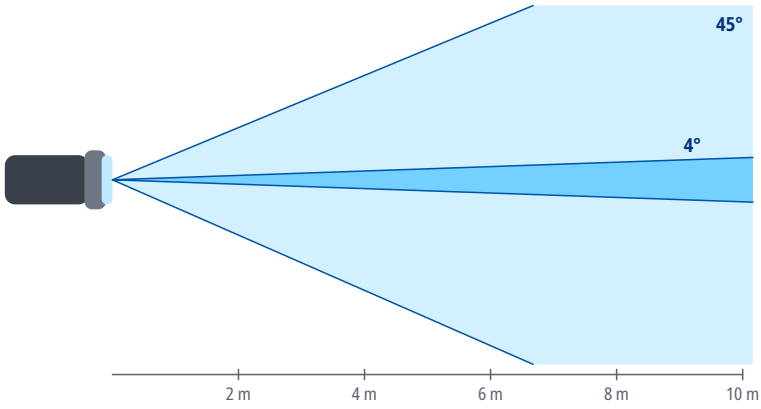
10 Technical specifications

Parameter	Value
Light source	LED
Zoom	4–45°
Tilt	270°
Weight	14.8 kg
Operating temperature	-5 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–25 Hz
Gobo wheel rotation	up to 3839 °/s (640 rpm)
Gobo wheel rotation	up to 57.3 °/s (9.5 rpm)

Spot diameter



Distance	Ø 4°	Ø 45°
2 m	0.14 m	1.7 m
4 m	0.28 m	3.3 m
6 m	0.42 m	5 m
8 m	0.56 m	6.6 m
10 m	0.7 m	8.3 m
15 m	1 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.