DMX REFERENCE

MHL1915 LED

MHL1915 LED Zoom Moving

BeamZ



Manufacturer	BeamZ
GDTF file	BeamZ_MHL1915_LED_116346.gdtf
GDTF revision	Corrected Values · 2025-11-05
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1 About this manual

This document describes the MHL1915 LED Zoom Moving by BeamZ. It was compiled from the GDTF file BeamZ_MHL1915_LED_116346.gdtf from the GDTF-Share library.

File revision: “Corrected Values”.

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 BeamZ; 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	8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
10 Channels Mode 4	10	51	1, 11, 21, 31, ...
15 Channels Mode 3	15	34	1, 16, 31, 46, ...
21 Channels Mode 2	21	24	1, 22, 43, 64, ...
37 Channels Mode1	37	13	1, 38, 75, 112, ...
37 Channels Mode 5	37	13	1, 38, 75, 112, ...

No light? Check these channels

- 10 Channels Mode 4: CH 9 Shutter at 96–127 “Open” or 224–255; CH 10 Dimmer above 0
- 15 Channels Mode 3: CH 14 Shutter at 96–127 “Open” or 224–255; CH 15 Dimmer above 0
- 21 Channels Mode 2: CH 19 Shutter at 96–127 “Open” or 224–255; CH 20 Dimmer above 0
- 37 Channels Mode1: CH 35 Shutter at 96–127 “Open” or 224–255; CH 36 Dimmer above 0
- 37 Channels Mode 5: CH 9 Shutter at 96–127 “Open” or 224–255; CH 10 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

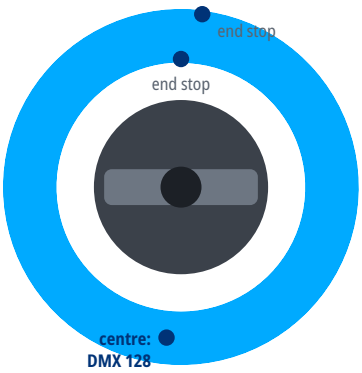
Description in the GDTF file

“A complete kit of 2 MHL1915 moving heads supplied in a solid and rugged flightcase. The MHL1915 is a wash moving head with a linear motorized zoom. The 19 bright 4-in-1 LED's are setup in 3 individually controllable rings. Each set is supplied as 2 moving heads in a built-to-fit flightcase.”

Range of movement

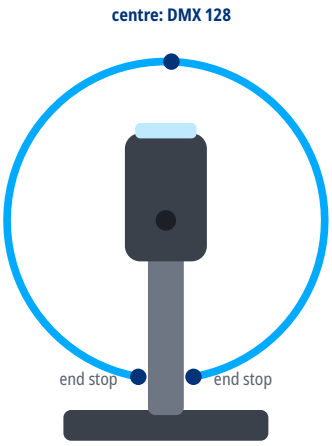
Pan 32767°

top view



Tilt 32767°

side view



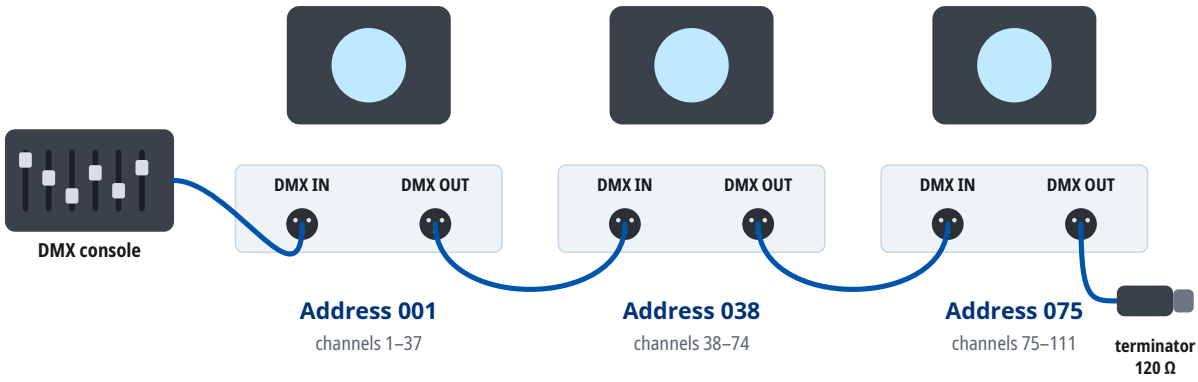
5 Installation

> ⚠ **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: 7.95 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 37 Channels Mode1: every unit occupies 37 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 “37 Channels Mode1”: 37.
- 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 “37 Channels Mode1”, you can use, for example, the start addresses 1, 38, 75, 112.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

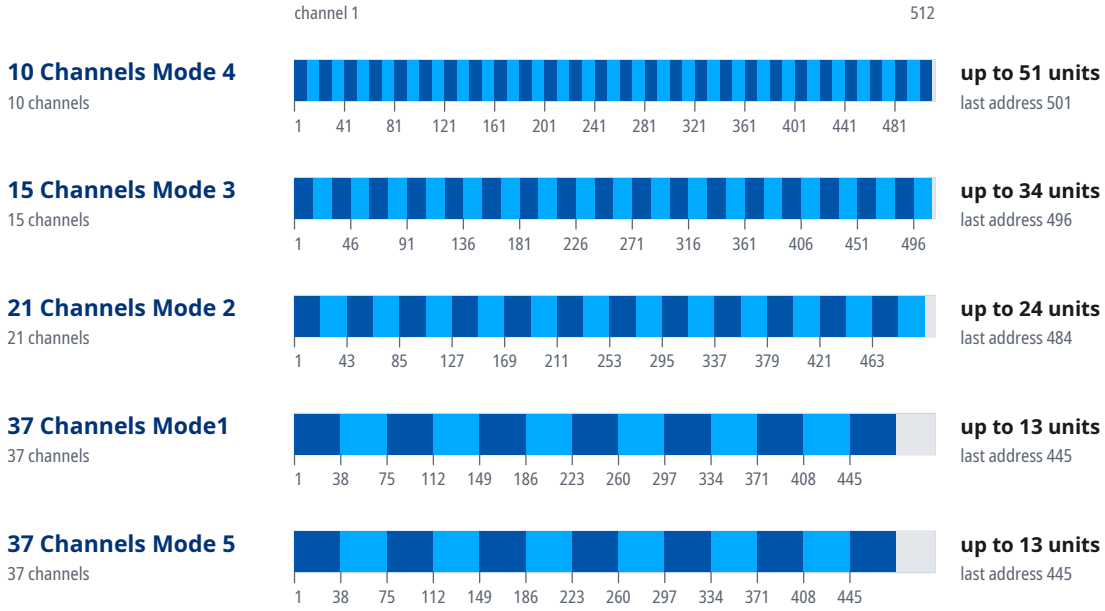
8 Functions at a glance

Functions in each DMX mode

	10 Channels Mode 4 10 channels	15 Channels Mode 3 15 channels	21 Channels Mode 2 21 channels	37 Channels Mode1 37 channels	37 Channels Mode 5 37 channels
Pan / Tilt	1, 3	1, 3	1, 3	1, 3	1, 3
Dimmer	10	15	20	36	10
Dimmer resolution	8 bit	8 bit	16 bit	16 bit	16 bit
Shutter / strobe	9	14	19	35	9
Color mixing		7–10	4× (7–13)	12× (7–29)	12× (14–36)
Color temperature		11	15	31	12
Zoom	8	13	17	33	7
Effects / macros	7	12	16	32	13
Pixel control				✓	✓

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “37 Channels Mode1”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	186	11	371	16	U2 · 75
2	38	7	223	12	408	17	U2 · 112
3	75	8	260	13	445	18	U2 · 149
4	112	9	297	14	U2 · 1	19	U2 · 186
5	149	10	334	15	U2 · 38	20	U2 · 223

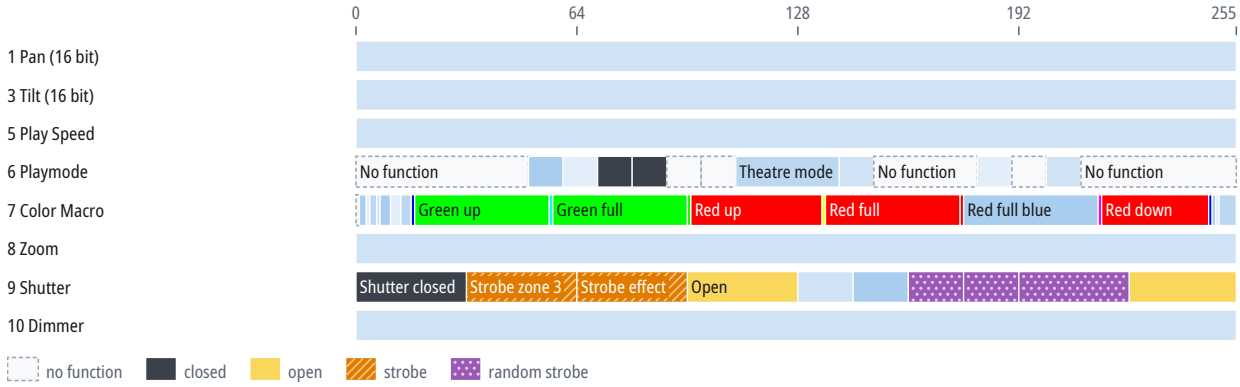
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 10 Channels Mode 4

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 9 Shutter at 96–127 “Open” or 224–255; CH 10 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Color Macro 14, CH 9 Shutter 112, CH 10 Dimmer 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	220°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Play Speed	0–255	
6	Playmode	0–49	No function
		50–59	Pan/Tilt speed
		60–69	Pan/Tilt mode
		70–79	Blackout
		80–89	Disabled blackout
		90–109	No function
		110–139	Theatre mode
		140–149	Pan/Tilt reset
		150–179	No function
		180–189	Zoom reset
		190–199	No function
		200–209	All reset
		210–255	No function
7	Color Macro	0	No function
		1–2	White 2700K
		3	White 2700K Halogen
		4–5	White 3200K
		6	White 3200K Halogen
		7–9	White 4200K
		10–12	White 5600K

CH	Function	DMX	Description
7	Color Macro (continued)	13–15	White 8000K
		16	Blue
		17–55	Green up
		56	Cyan
		57–95	Green full
		96	Green
		97–134	Red up
		135	Yellow
		136–174	Red full
		175	Red
		176–214	Red full blue
		215	Magenta
		216–246	Red down
		247	Blue
		248	Rainbow effect fade
		249	Rainbow effect
		250–255	Zone effect
8	Zoom	0–255	15–45°
9	Shutter	0–31	Shutter closed
		32–63	Strobe zone 3
		64–95	Strobe effect
		96–127	Open
		128–143	Closing pulses
		144–159	Closing pulses inside
		160–191	Random strobe
		192–223	Random strobe all
		224–255	Open with fade time
10	Dimmer	0–255	

Mode 15 Channels Mode 3

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 14 Shutter at 96–127 “Open” or 224–255; CH 15 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Red 255, CH 8 Green 255, CH 9 Blue 255, CH 10 White 255, CH 11 CTO 0, CH 14 Shutter 112, CH 15 Dimmer 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	220°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Play Speed	0–255	
6	Playmode		Same as CH 6 in the mode “10 Channels Mode 4” (p. 9)
7	Red	0–255	
8	Green	0–255	
9	Blue	0–255	
10	White	0–255	
11	CTO	0–1	No Function
		2–255	2700K To 20000K
12	Color Macro		Same as CH 7 in the mode “10 Channels Mode 4” (p. 9)
13	Zoom	0–255	15–45°
14	Shutter		Same as CH 9 in the mode “10 Channels Mode 4” (p. 10)
15	Dimmer	0–255	

Mode 21 Channels Mode 2

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 19 Shutter at 96–127 “Open” or 224–255; CH 20 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Red 255, CH 9 Green 255, CH 11 Blue 255, CH 19 Shutter 112, CH 20 Dimmer 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	220°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Play Speed	0–255	
6	Playmode		Same as CH 6 in the mode “10 Channels Mode 4” (p. 9)
7	Red	0–255	
8	Red Fine	0–255	Fine adjustment of CH 7
9	Green	0–255	
10	Green Fine	0–255	Fine adjustment of CH 9
11	Blue	0–255	
12	Blue Fine	0–255	Fine adjustment of CH 11
13	White	0–255	
14	White Fine	0–255	Fine adjustment of CH 13
15	CTO	0–1	No Function
		2–255	2700K to 20000K
16	Color Macro		Same as CH 7 in the mode “10 Channels Mode 4” (p. 9)
17	Zoom	0–255	15–45°
18	Zoom Fine	0–255	Fine adjustment of CH 17

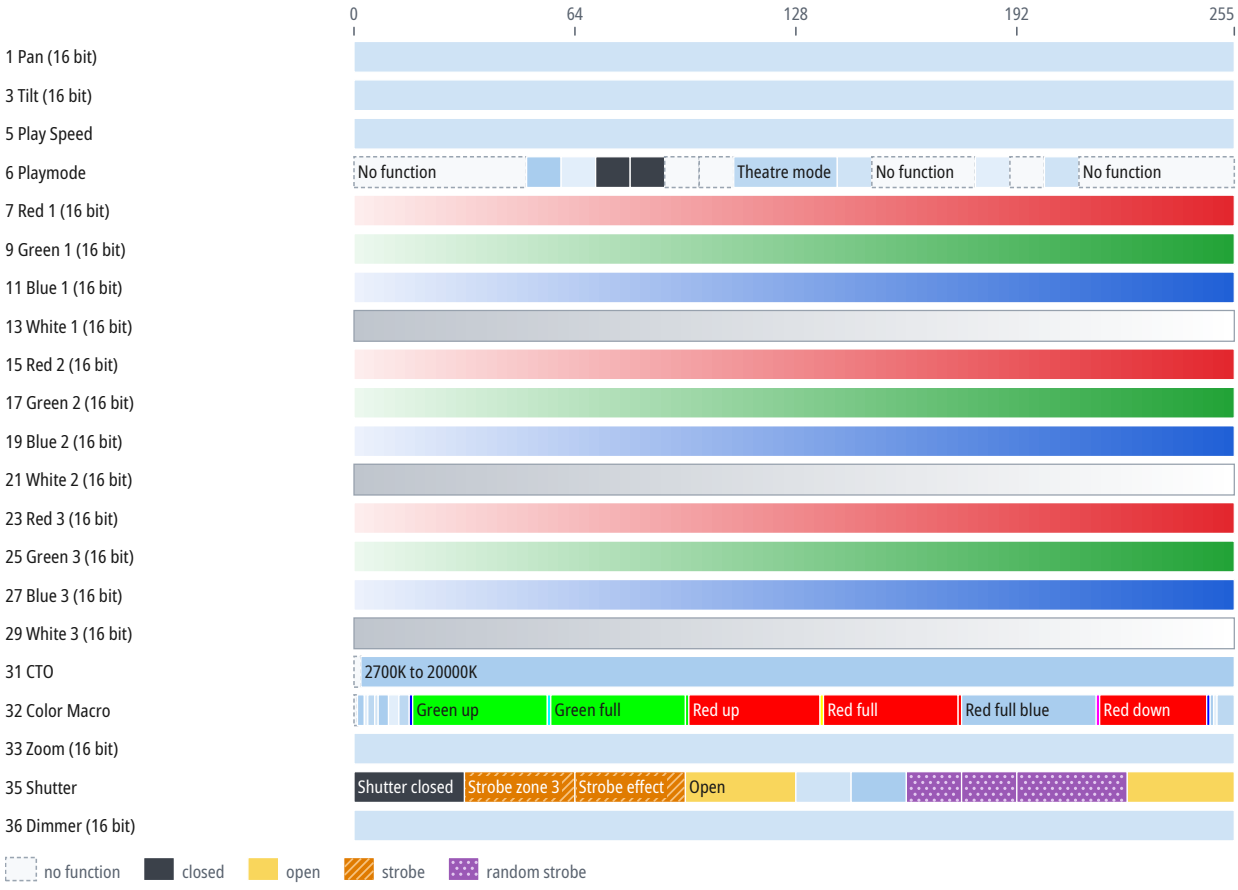
CH	Function	DMX	Description
19	Shutter		Same as CH 9 in the mode “10 Channels Mode 4” (p. 10)
20	Dimmer	0–255	
21	Dimmer Fine	0–255	Fine adjustment of CH 20

Mode 37 Channels Mode1

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 35 Shutter at 96–127 “Open” or 224–255; CH 36 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Red 1 255, CH 9 Green 1 255, CH 11 Blue 1 255, CH 13 White 1 0, CH 15 Red 2 255, CH 17 Green 2 255, CH 19 Blue 2 255, CH 23 Red 3 0, CH 25 Green 3 255, CH 27 Blue 3 255, CH 35 Shutter 112, CH 36 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–255	
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–255	32767°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Play Speed	0–255	
6	Playmode		Same as CH 6 in the mode “10 Channels Mode 4” (p. 9)

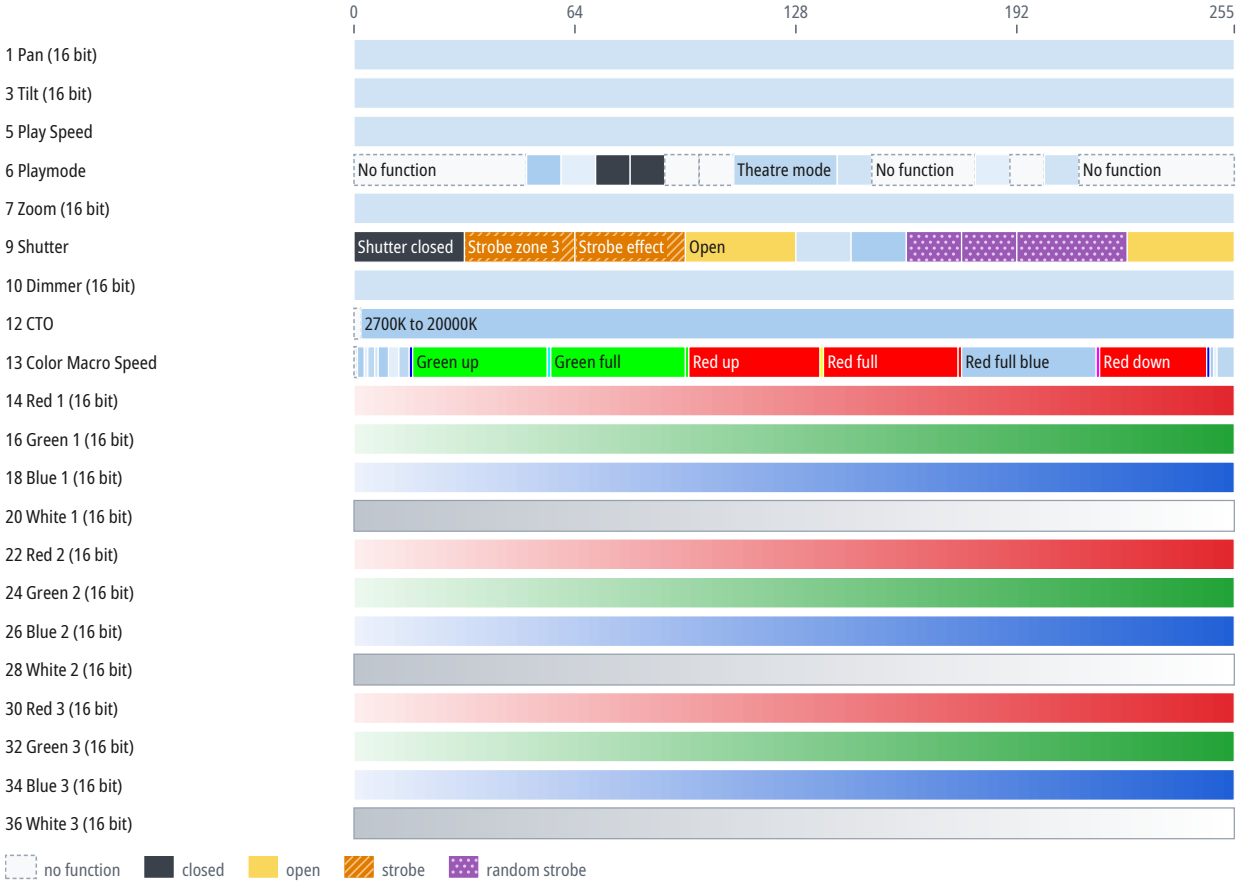
CH	Function	DMX	Description
7	Red 1	0–255	
8	Red 1 Fine	0–255	Fine adjustment of CH 7
9	Green 1	0–255	
10	Green 1 Fine	0–255	Fine adjustment of CH 9
11	Blue 1	0–255	
12	Blue 1 Fine	0–255	Fine adjustment of CH 11
13	White 1	0–255	
14	White 1 Fine	0–255	Fine adjustment of CH 13
15	Red 2	0–255	
16	Red 2 Fine	0–255	Fine adjustment of CH 15
17	Green 2	0–255	
18	Green 2 Fine	0–255	Fine adjustment of CH 17
19	Blue 2	0–255	
20	Blue 2 Fine	0–255	Fine adjustment of CH 19
21	White 2	0–255	
22	White 2 Fine	0–255	Fine adjustment of CH 21
23	Red 3	0–255	
24	Red 3 Fine	0–255	Fine adjustment of CH 23
25	Green 3	0–255	
26	Green 3 Fine	0–255	Fine adjustment of CH 25
27	Blue 3	0–255	
28	Blue 3 Fine	0–255	Fine adjustment of CH 27
29	White 3	0–255	
30	White 3 Fine	0–255	Fine adjustment of CH 29
31	CTO		Same as CH 15 in the mode “21 Channels Mode 2” (p. 12)
32	Color Macro		Same as CH 7 in the mode “10 Channels Mode 4” (p. 9)
33	Zoom	0–255	15–45°
34	Zoom Fine	0–255	Fine adjustment of CH 33
35	Shutter		Same as CH 9 in the mode “10 Channels Mode 4” (p. 10)
36	Dimmer	0–255	
37	Dimmer Fine	0–255	Fine adjustment of CH 36

Mode 37 Channels Mode 5

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 9 Shutter at 96–127 “Open” or 224–255; CH 10 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 9 Shutter 112, CH 10 Dimmer 255, CH 14 Red 1 255, CH 16 Green 1 255, CH 18 Blue 1 255, CH 20 White 1 0, CH 22 Red 2 255, CH 24 Green 2 255, CH 26 Blue 2 255, CH 28 White 2 0, CH 30 Red 3 255, CH 32 Green 3 255, CH 34 Blue 3 255, CH 36 White 3 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–255	32767°
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–255	32767°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Play Speed	0–255	
6	Playmode		Same as CH 6 in the mode “10 Channels Mode 4” (p. 9)
7	Zoom	0–255	15–45°
8	Zoom Fine	0–255	Fine adjustment of CH 7
9	Shutter		Same as CH 9 in the mode “10 Channels Mode 4” (p. 10)
10	Dimmer	0–255	
11	Dimmer Fine	0–255	Fine adjustment of CH 10
12	CTO		Same as CH 15 in the mode “21 Channels Mode 2” (p. 12)

CH	Function	DMX	Description
13	Color Macro Speed	0	No function
		1–2	White 2700K
		3	White 2700K Halogen
		4–5	White 3200K
		6	White 3200K Halogen
		7–9	White 4200K
		10–12	White 5600K
		13–15	White 8000K
		16	Blue
		17–55	Green up
		56	Cyan
		57–95	Green full
		96	Green
		97–134	Red up
		135	Yellow
		136–174	Red full
		175	Red
		176–214	Red full blue
		215	Magenta
		216–246	Red down
		247	Blue
		248	Rainbow effect fade
		249	Rainbow effect
		250–255	Zone effect
14	Red 1	0–255	
15	Red 1 Fine	0–255	Fine adjustment of CH 14
16	Green 1	0–255	
17	Green 1 Fine	0–255	Fine adjustment of CH 16
18	Blue 1	0–255	
19	Blue 1 Fine	0–255	Fine adjustment of CH 18
20	White 1	0–255	
21	White 1 Fine	0–255	Fine adjustment of CH 20
22	Red 2	0–255	
23	Red 2 Fine	0–255	Fine adjustment of CH 22
24	Green 2	0–255	
25	Green 2 Fine	0–255	Fine adjustment of CH 24
26	Blue 2	0–255	
27	Blue 2 Fine	0–255	Fine adjustment of CH 26
28	White 2	0–255	
29	White 2 Fine	0–255	Fine adjustment of CH 28
30	Red 3	0–255	

CH	Function	DMX	Description
31	Red 3 Fine	0–255	Fine adjustment of CH 30
32	Green 3	0–255	
33	Green 3 Fine	0–255	Fine adjustment of CH 32
34	Blue 3	0–255	
35	Blue 3 Fine	0–255	Fine adjustment of CH 34
36	White 3	0–255	
37	White 3 Fine	0–255	Fine adjustment of CH 36

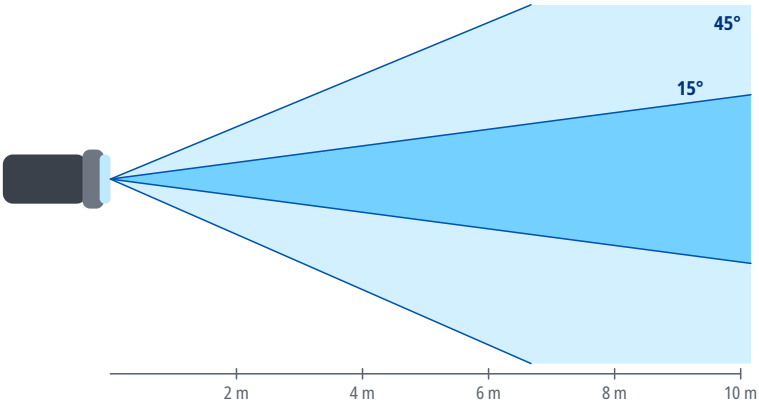
10 Technical specifications

Parameter	Value
Zoom	15–45°
Pan	32,767°
Tilt	32,767°
Weight	8 kg
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2700–20000 K

Spot diameter



Distance	Ø 15°	Ø 45°
2 m	0.53 m	1.7 m
4 m	1.1 m	3.3 m
6 m	1.6 m	5 m
8 m	2.1 m	6.6 m
10 m	2.6 m	8.3 m
15 m	3.9 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.