DMX REFERENCE

Moving Head 17R Beam IP65

FLASH



Manufacturer	FLASH
GDTF file	Flash_Moving_Head_17R_Beam_IP65_53396.gdtf
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1 About this manual

This document describes the Moving Head 17R Beam IP65 by FLASH. It was compiled from the GDTF file Flash_Moving_Head_17R_Beam_IP65_53396.gdtf from the GDTF-Share library.

File revision: “FLASH_v1”.

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 FLASH; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

DMX modes

Mode	Channels	Units in one universe	First start addresses
16ch	16	32	1, 17, 33, 49, ...
20ch	20	25	1, 21, 41, 61, ...

No light? Check these channels

- 16ch: CH 7 Shutter at 104–107 “Open” or 208–212 or 252–255; CH 8 Dimmer above 0
- 20ch: CH 7 Shutter at 104–107 “Open” or 208–212 or 252–255; CH 8 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.

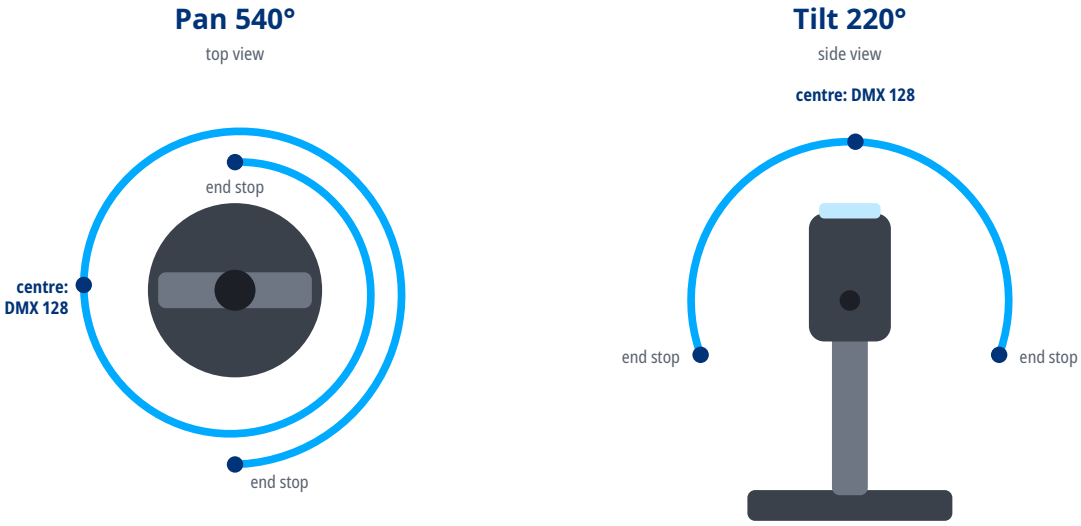
⚠ CAUTION

- 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.
> - 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.

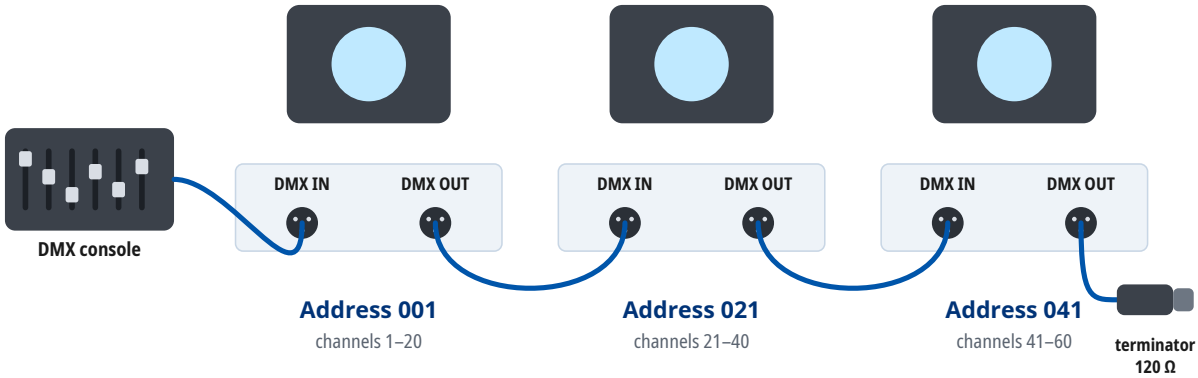
6 Connections

- 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 20ch: every unit occupies 20 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 “20ch”: 20.
- 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 “20ch”, you can use, for example, the start addresses 1, 21, 41, 61.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

Functions in each DMX mode

	16ch 16 channels	20ch 20 channels
Pan / Tilt	1, 2	1, 3
Dimmer	8	8
Shutter / strobe	7	7
Color wheel	6, 9	9, 15
Gobo wheel	10	11
Prism	11–13	12–14
Frost		6
Focus	14	16
Effects / macros		18

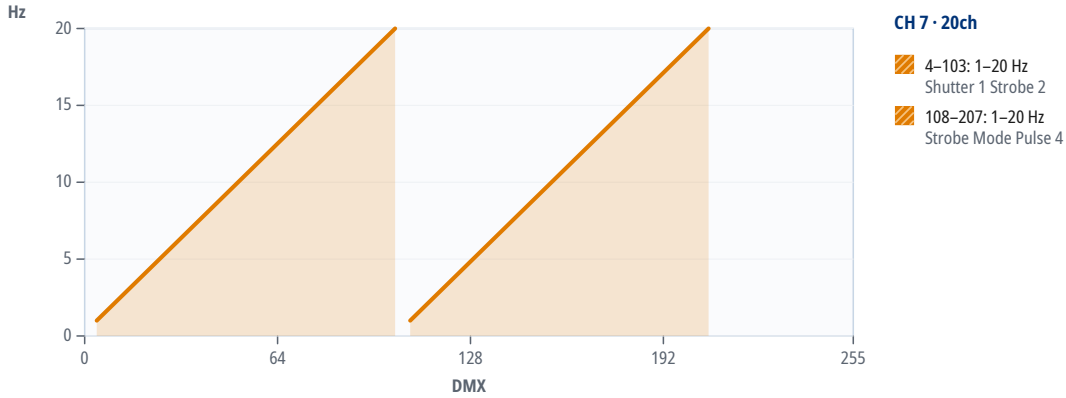
Color wheel

1. Color 2: Open — DMX 0–8
2. Red — DMX 9–18
3. Yellow — DMX 19–28
4. Cyan — DMX 29–38
5. Green — DMX 39–48
6. Lavenda — DMX 49–58
7. Pink — DMX 59–68
8. Light green — DMX 69–78
9. Orange — DMX 79–88
10. Magenta — DMX 89–98
11. Blue — DMX 99–108
12. 3200K — DMX 109–118
13. 5600K — DMX 119–128
14. CTB — DMX 129–138
15. UV — DMX 139–148

Gobo wheel

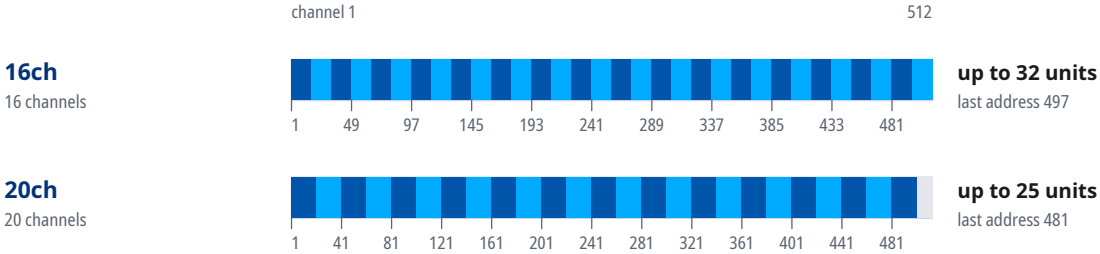
1	Gobo 1: Open	DMX 0–4	7 Gobo 6	DMX 30–34	13 Gobo 12	DMX 60–64
2	Gobo 1	DMX 5–9	8 Gobo 7	DMX 35–39	14 Gobo 13	DMX 65–69
3	Gobo 2	DMX 10–14	9 Gobo 8	DMX 40–44	15 Gobo 14	DMX 70–74
4	Gobo 3	DMX 15–19	10 Gobo 9	DMX 45–49	16 Gobo 15	DMX 75–79
5	Gobo 4	DMX 20–24	11 Gobo 10	DMX 50–54	17 Gobo 16	DMX 80–84
6	Gobo 5	DMX 25–29	12 Gobo 11	DMX 55–59	18 Gobo 17	DMX 85–90

Strobe rate



9 DMX channels

Units in one DMX universe



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

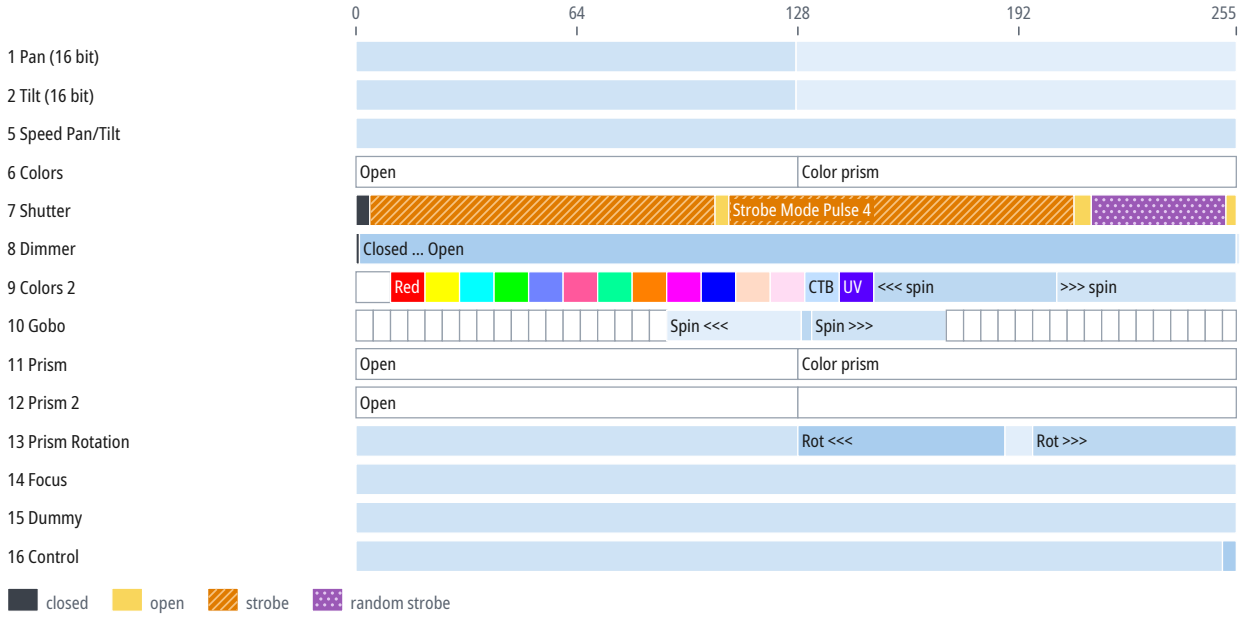
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	101	11	201	16	301
2	21	7	121	12	221	17	321
3	41	8	141	13	241	18	341
4	61	9	161	14	261	19	361
5	81	10	181	15	281	20	381

Mode 16ch

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

If the device receives DMX in this mode but gives no light, check these channels: CH 7 Shutter at 104–107 “Open” or 208–212 or 252–255; CH 8 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Colors 0, CH 7 Shutter 255, CH 8 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Home
		128–255	Pan 1
2	Tilt	0–127	Tilt 1
		128	Home
		128–255	Tilt 1
3	Pan Fine	0–255	Fine adjustment of CH 1
4	Tilt Fine	0–255	Fine adjustment of CH 2
5	Speed Pan/Tilt	0–255	
6	Colors	0–127	Open
		128–255	Color prism
7	Shutter	0–3	Closed
		4–103	Shutter 1 Strobe 2 (1–20 Hz)
		104–107	Open
		108–207	Strobe Mode Pulse 4 (1–20 Hz)
		208–212	Open 1
		213–251	Shutter 1 Strobe Random 6
		252–255	Open 2
8	Dimmer	0	Closed
		1–254	Closed ... Open

CH	Function	DMX	Description
8	Dimmer (continued)	255	Open
9	Colors 2	0–9	Color 2: Open
		10–19	Red
		20–29	Yellow
		30–39	Cyan
		40–49	Green
		50–59	Lavenda
		60–69	Pink
		70–79	Light green
		80–89	Orange
		90–99	Magenta
		100–109	Blue
		110–119	3200K
		120–129	5600K
		130–139	CTB
		140–149	UV
		150–202	<<< spin
		203–255	>>> spin
10	Gobo	0–4	Gobo 1: Open
		5–9	Gobo 1
		10–14	Gobo 2
		15–19	Gobo 3
		20–24	Gobo 4
		25–29	Gobo 5
		30–34	Gobo 6
		35–39	Gobo 7
		40–44	Gobo 8
		45–49	Gobo 9
		50–54	Gobo 10
		55–59	Gobo 11
		60–64	Gobo 12
		65–69	Gobo 13
		70–74	Gobo 14
		75–79	Gobo 15
		80–84	Gobo 16
		85–89	Gobo 17
		90–128	Spin <<<
		129–131	Spin ><
		132–170	Spin >>>
		171–175	Gobo 1 shake
		176–180	Gobo 2 shake
		181–185	Gobo 3 shake

CH	Function	DMX	Description
10	Gobo (continued)	186–190	Gobo 4 shake
		191–195	Gobo 5 shake
		196–200	Gobo 6 shake
		201–205	Gobo 7 shake
		206–210	Gobo 8 shake
		211–215	Gobo 9 shake
		216–220	Gobo 10 shake
		221–225	Gobo 11 shake
		226–230	Gobo 12 shake
		231–235	Gobo 13 shake
		236–240	Gobo 14 shake
		241–245	Gobo 15 shake
		246–250	Gobo 16 shake
		251–255	Gobo 17 shake
11	Prism	0–127	Open
		128–255	Color prism
12	Prism 2	0–127	Open
		128–255	Prism 2
13	Prism Rotation	0–127	Prism 1 Pos 1
		128–187	Rot <<<
		188–195	Rot ><
		196–255	Rot >>>
14	Focus	0–255	
15	Dummy	0–255	
16	Control	0–250	Control 1 1
		251–255	Total reset

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 Shutter at 104–107 “Open” or 208–212 or 252–255; CH 8 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Shutter 255, CH 8 Dimmer 255, CH 15 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16ch” (p. 8)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 2 in the mode “16ch” (p. 8)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Frost	0–255	
7	Shutter		Same as CH 7 in the mode “16ch” (p. 8)
8	Dimmer		Same as CH 8 in the mode “16ch” (p. 8)
9	Colors 2	0–9	Color 2: Open
		9–19	Red
		19–29	Yellow
		29–39	Cyan
		39–49	Green
		49–59	Lavenda
		59–69	Pink
		69–79	Light green
		79–89	Orange
		89–99	Magenta

CH	Function	DMX	Description
9	Colors 2 (continued)	99–109	Blue
		109–119	3200K
		119–129	5600K
		129–139	CTB
		139–149	UV
		150–202	<<< spin
		203–255	>>> spin
10	Colors 2 Fine	0–255	Fine adjustment of CH 9
11	Gobo		Same as CH 10 in the mode “16ch” (p. 9)
12	Prism		Same as CH 11 in the mode “16ch” (p. 10)
13	Prism 2		Same as CH 12 in the mode “16ch” (p. 10)
14	Prism Rotation		Same as CH 13 in the mode “16ch” (p. 10)
15	Colors		Same as CH 6 in the mode “16ch” (p. 8)
16	Focus	0–255	
17	Focus Fine	0–255	Fine adjustment of CH 16
18	Color Macro	0–255	
19	Control		Same as CH 16 in the mode “16ch” (p. 10)
20	Lamp Control	0–25	Lamp Control 1
		26–100	Lamp Off
		101–255	Lamp On

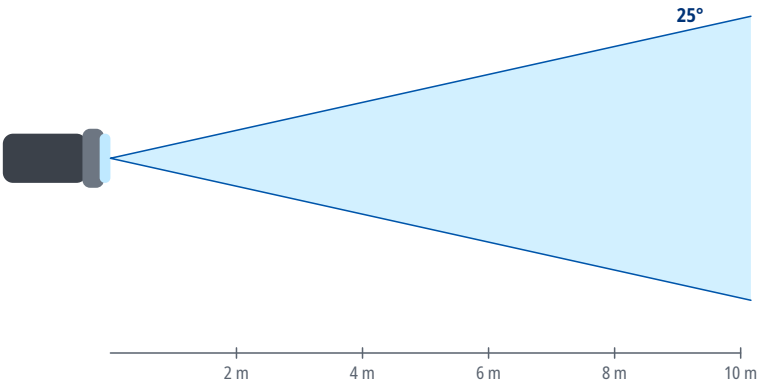
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	1,000 W
Luminous flux	1,000 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Beam angle	25°
Movement	
Pan	540°
Tilt	220°
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–20 Hz

Spot diameter



Distance	Ø 25°
2 m	0.89 m
4 m	1.8 m
6 m	2.7 m
8 m	3.5 m
10 m	4.4 m
15 m	6.7 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.