DMX REFERENCE

DLW 550BSW PRO

DLW



Manufacturer	DLW
GDTF file	DLW_DLW_550BSW_PRO_32657.gdtf
GDTF revision	Offical · 2023-01-10
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Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 4
6 Connections 5
7 Operation 5
8 Functions at a glance 6
9 DMX channels 8
Mode 26 channed 9
10 Technical specifications 14
11 Maintenance and cleaning 14
12 Troubleshooting 15
13 Disposal 15

1 About this manual

This document describes the DLW 550BSW PRO by DLW. It was compiled from the GDTF file DLW_DLW_550BSW_PRO_32657.gdtf from the GDTF-Share library.

File revision: “Offical”.

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 DLW; 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	30 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
26 channed	26	19	1, 27, 53, 79, ...

No light? Check these channels

- 26 channed: CH 5 Shutter at 20–49 “Open” or 201–210; CH 6 Dimmer above 0; CH 25 Dimmer Mode 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.

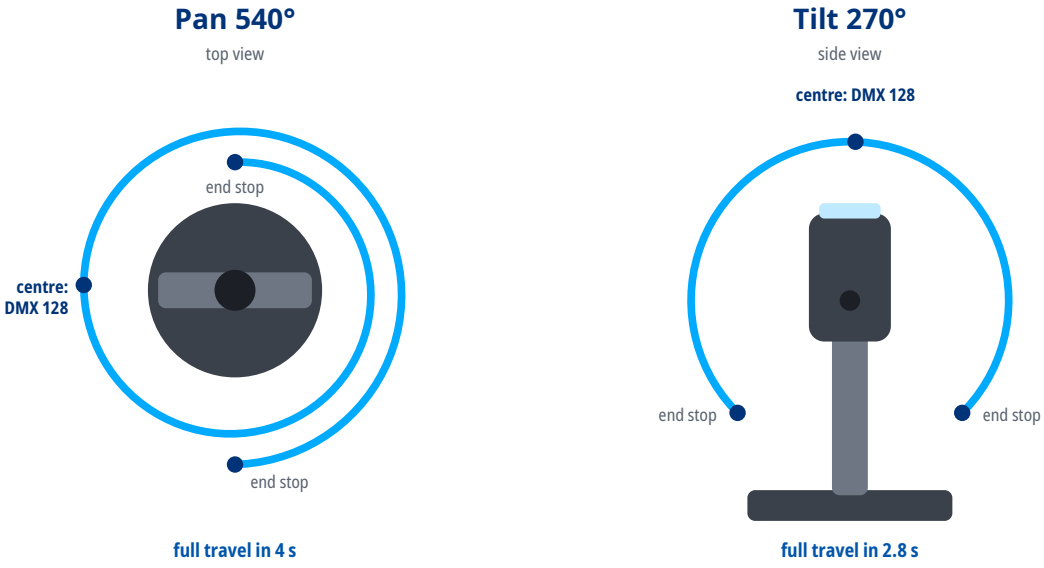
⚠ CAUTION

- 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



Full-travel times as stated in the GDTF file.

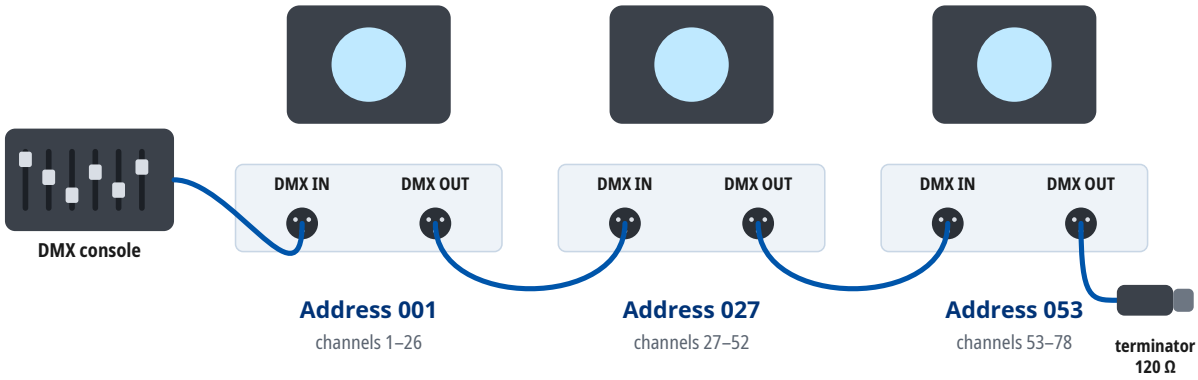
5 Installation

> ⚠ **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: 30 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 26 channed: every unit occupies 26 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 “26 channed”: 26.
- 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 “26 channed”, you can use, for example, the start addresses 1, 27, 53, 79.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

8 Functions at a glance

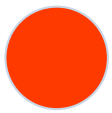
Functions in each DMX mode

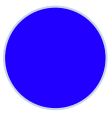
	26 channed 26 channels
Pan / Tilt	1, 3
Dimmer	6
Shutter / strobe	5
Color mixing	10–12
Color temperature	13
Color wheel	14
Gobo wheel	15
Gobo rotation	15, 16
Prism	20–23
Frost	24
Zoom	9
Focus	8
Animation wheel	18, 19

Gobo wheel 1

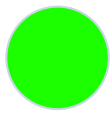
1
GTB
DMX 125

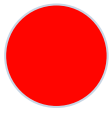
2 
Pink
DMX 130

3 
Orange
DMX 131

4 
Pruple
DMX 138

5 
Blue
DMX 143

6 
Green
DMX 148

7 
Red
DMX 153

8 
Color Index: Open2
DMX 113–120

Gobo wheel 2

1 
Gobo 1 Index: Open
DMX 0–9

2 
Gobo1

3 
Gobo2

4 
Gobo3

5 
Gobo4

6 
Gobo5

Gobo wheel 3

1 
Gobo 2 Index: Open
DMX 0–3

2 
Fg Gobo 1

3 
Fg Gobo 2

4 
Fg Gobo 3

5 
Fg Gobo 4

6 
Fg Gobo 5

7 
Fg Gobo 6

8 
Fg Gobo 7

9 
Fg Gobo 8

10 
Fg Gobo 9

Animation wheel

1 
Open

2
Animation

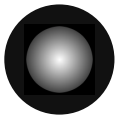
Prism

1
Open
DMX 0–11

2
Frism 1
DMX 11–139

3
Frism 2

Gobo wheel 4

1 
Frost 1
DMX 1–128

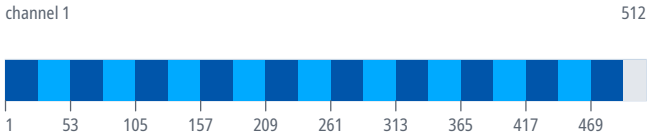
2 
Frost 1+2
DMX 128–255

3 
Open
DMX 0–1

9 DMX channels

Units in one DMX universe

26 channed
26 channels



up to 19 units
last address 469

Start addresses of 20 units in the mode “26 channed”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	131	11	261	16	391
2	27	7	157	12	287	17	417
3	53	8	183	13	313	18	443
4	79	9	209	14	339	19	469
5	105	10	235	15	365	20	U2 · 1

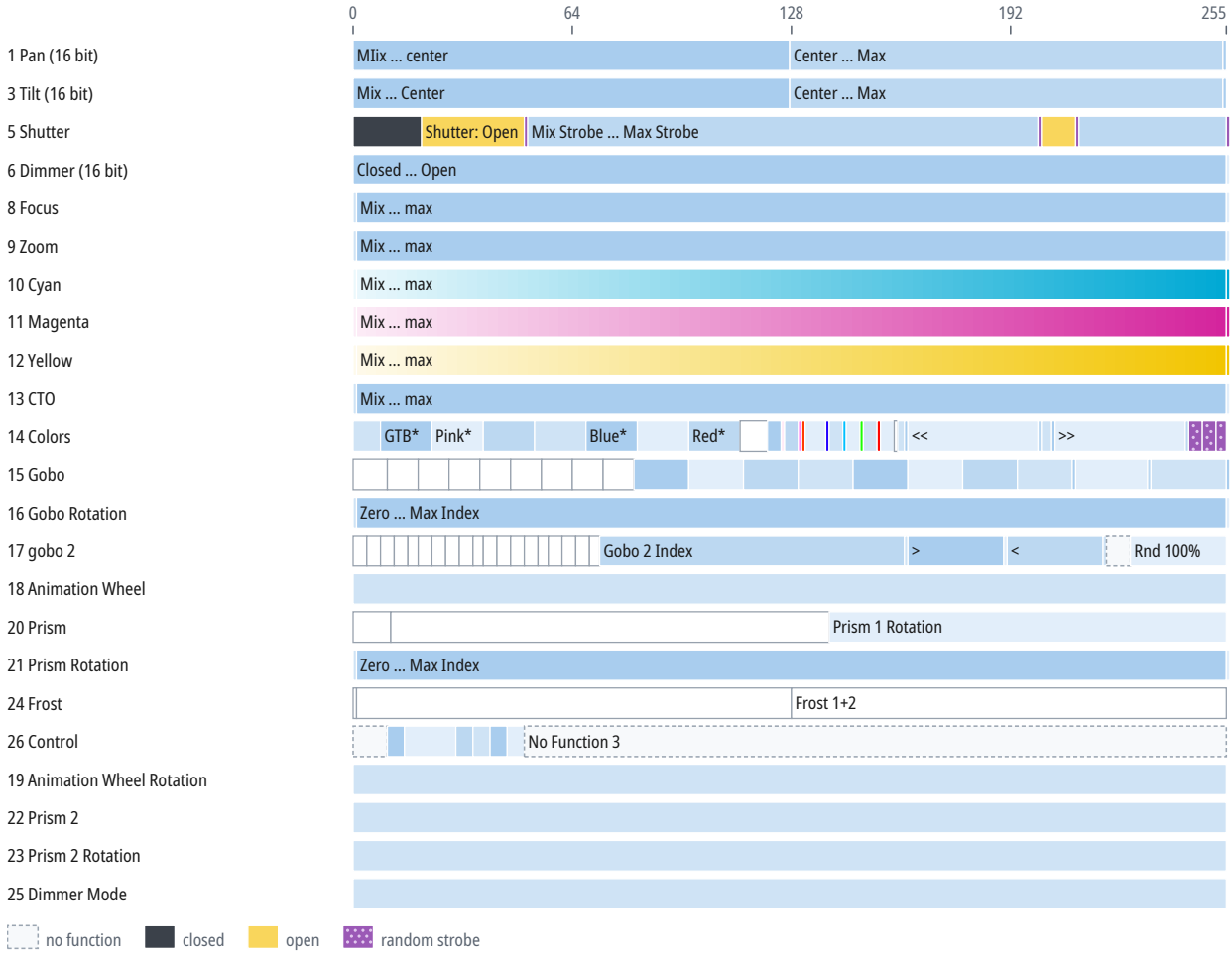
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 26 channed

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 Shutter at 20–49 “Open” or 201–210; CH 6 Dimmer above 0; CH 25 Dimmer Mode above 0. The GDTF file gives these values for a console's Highlight function: CH 5 Shutter 35, CH 6 Dimmer 255, CH 10 Cyan 0, CH 11 Magenta 0, CH 12 Yellow 0, CH 13 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	MIix ... center
		128–254	Center ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Mix ... Center
		128–254	Center ... Max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Shutter	0–19	Shutter: Closed
		20–49	Shutter: Open
		50	Mix Strobe

CH	Function	DMX	Description
5	Shutter (continued)	51–199	Mix Strobe ... Max Strobe
		200	Max Strobe
		201–210	Shutter: Open 2
		211	Slow Strober Rnd
		212–254	Slow Strober Rnd ... Fast Strober Rnd
		255	Fast Strober Rnd
6	Dimmer	0–255	Closed ... Open
		255	Open
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Focus	0	Mix
		1–254	Mix ... max
		255	Max
9	Zoom	0	Mix
		1–254	Mix ... max
		255	Max
10	Cyan	0	Mix
		1–254	Mix ... max
		255	Max
11	Magenta	0	Mix
		1–254	Mix ... max
		255	Max
12	Yellow	0	Mix
		1–254	Mix ... max
		255	Max
13	CTO	0	Mix
		1–254	Mix ... max
		255	Max
14	Colors	0–7	Color Index: Open1
		8–22	GTB*
		23–37	Pink*
		38–52	Orange*
		53–67	Pruple*
		68–82	Blue*
		83–97	Green*
		98–112	Red*
		113–120	Color Index: Open2
		121–124	Open2 ... GTB
		125	GTB
		126–129	GTB ... Pink
		130	Pink
		131	Orange
		132–137	Orange ... Pruple

CH	Function	DMX	Description
14	Colors (continued)	138	Pruple
		139–142	Pruple ... Blue
		143	Blue
		144–147	Blue ... Green
		148	Green
		149–152	Green ... Red
		153	Red
		154–157	Red ... Open 3
		158	Color Index: Open 3
		159–160	Color Index
		161	<<<
		162–199	<<
		200	<
		201–203	Color 1 Wheel Spin: stop
		204	>
		205–242	>>
		243	>>>
		244–247	Mix Rnd
		248–251	Rnd 50%
		252–255	MaxRnd
15	Gobo	0–9	Gobo 1 Index: Open
		10–18	Gobo 1
		19–27	Gobo 2
		28–36	Gobo 3
		37–45	Gobo 4
		46–54	Gobo 5
		55–63	Gobo 6
		64–72	Gobo 7
		73–81	Gobo 8
		82–97	Gobo shake 1
		98–113	Gobo shake 2
		114–129	Gobo shake 3
		130–145	Gobo shake 4
		146–161	Gobo shake 5
		162–177	Gobo shake 6
		178–193	Gobo shake 7
		194–209	Gobo shake 8
		210	>>>
		211–231	Gobo 1 Spin: >>> ... stop
		232	Gobo 1 Spin: stop
		233–254	Gobo 1 Spin: stop ... <<<
		255	<<<

CH	Function	DMX	Description
16	Gobo Rotation		When CH 15 is 0–34:
		0	Zero
		1–254	Zero ... Max Index
		255	Max Index
			When CH 15 is 35–59:
		0–2	No Function
		3	<<<
		4–126	<
		127–129	Stop
		130–251	>
		252	>>>
		253–255	No Function 2
17	gobo 2	0–3	Gobo 2 Index: Open
		4–7	Fg Gobo 1*
		8–11	Fg Gobo 2*
		12–15	Fg Gobo 3*
		16–18	Fg Gobo 4*
		19–22	Fg Gobo 5*
		23–26	Fg Gobo 6*
		27–30	Fg Gobo 7*
		31–34	Fg Gobo 8*
		35–37	Fg Gobo 9*
		38–41	Fg Gobo 10*
		42–45	Fg Gobo 11*
		46–49	Fg Gobo 12*
		50–53	Fg Gobo 13*
		54–56	Fg Gobo 14*
		57–60	Fg Gobo 15*
		61–64	Fg Gobo 16*
		65–68	Fg Gobo 17*
		69–71	Fg Gobo 18*
		72–160	Gobo 2 Index
		161	>>>
		162–189	>
		190	Gobo 2 Spin: stop
		191–218	<
		219	<<<
		220–226	NO Function
		227–255	Rnd 100%
18	Animation Wheel	0–255	
19	Animation Wheel Rotation	0–255	
20	Prism	0–10	Open

CH	Function	DMX	Description
20	Prism (continued)	11–138	Prism1
		139–255	Prism 1 Rotation
21	Prism Rotation		When CH 20 is 11–138:
		0	Zero
		1–254	Zero ... Max Index
		255	Max Index
			When CH 20 is 139–255:
		0–2	No Function
		3	<<<
		4–126	<
		127–129	Stop
		130	>
		131–253	>>>
		254–255	No Function 2
22	Prism 2	0–255	
23	Prism 2 Rotation	0–255	
24	Frost	0	Frost 1: Open
		1–127	Frost 1
		128–255	Frost 1+2
25	Dimmer Mode	0–255	
26	Control	0–9	No Function
		10–14	Fixture Reset
		15–29	Beam Reset
		30–34	Position Reset
		35–39	No Function 2
		40–44	Lamp On
		45–49	Lamp Off
		50–255	No Function 3

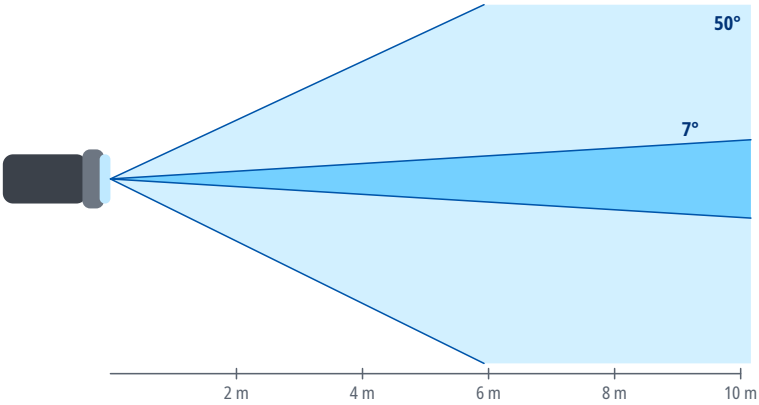
10 Technical specifications

Parameter	Value
Light	
Light source	halogen lamp
Lamp power	1,400 W
Luminous flux	35,000 lm
Color temperature	5,999 K
Color rendering index (CRI)	95
Optics	
Zoom	7–50°
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	3-pin XLR IN
RDM	yes (manufacturer ID 0x01DF, device model ID 0x01DF)
Dimensions and construction	
Weight	30 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color wheel 1 rotation	up to 30 °/s (5 rpm)
Gobo 2 rotation	up to 30 °/s (5 rpm)
Prism rotation	up to 30 °/s (5 rpm)

Spot diameter



Distance	Ø 7°	Ø 50°
2 m	0.24 m	1.9 m
4 m	0.49 m	3.7 m
6 m	0.73 m	5.6 m
8 m	0.98 m	7.5 m
10 m	1.2 m	9.3 m
15 m	1.8 m	14 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.