DMX REFERENCE

YR-550F

Yellow River YR-550F

Yellow River



Manufacturer	Yellow River
GDTF file	Yellow_River_YR-550F_148041.gdtf
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1 About this manual

This document describes the Yellow River YR-550F by Yellow River. It was compiled from the GDTF file Yellow_River_YR-550F_148041.gdtf from the GDTF-Share library.

File revision: “Yellow River YR-550F”.

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 Yellow River; 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	30.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
DMX	33	15	1, 34, 67, 100, ...

No light? Check these channels

- DMX: CH 7 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

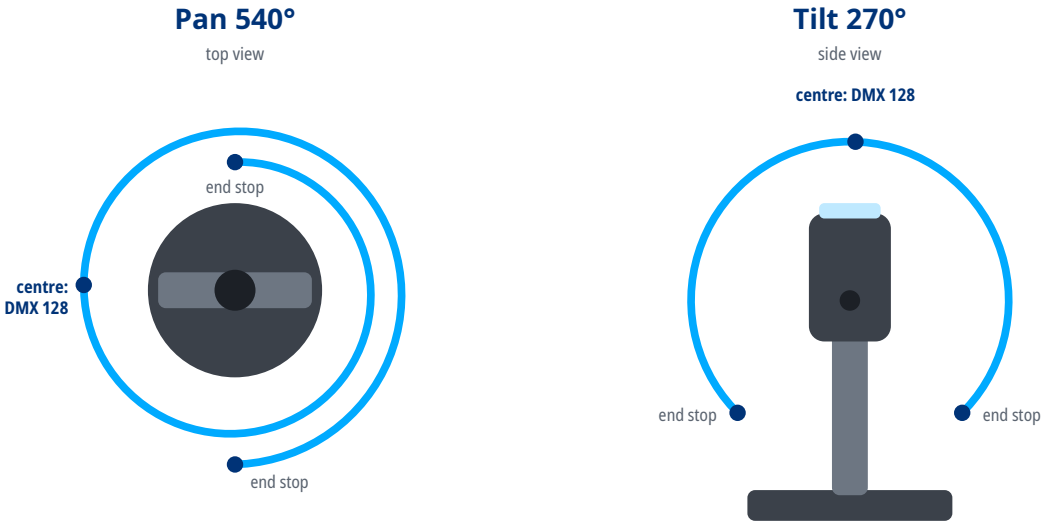
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them 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

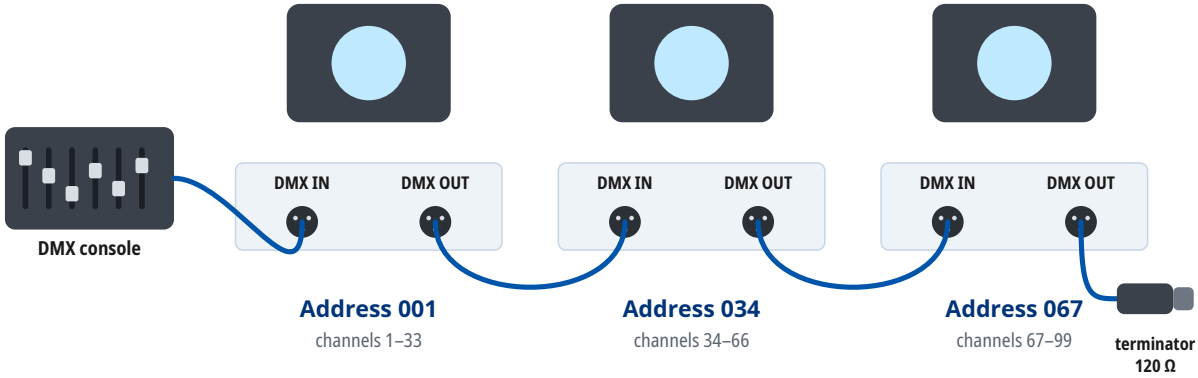
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 30.5 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 DMX: every unit occupies 33 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

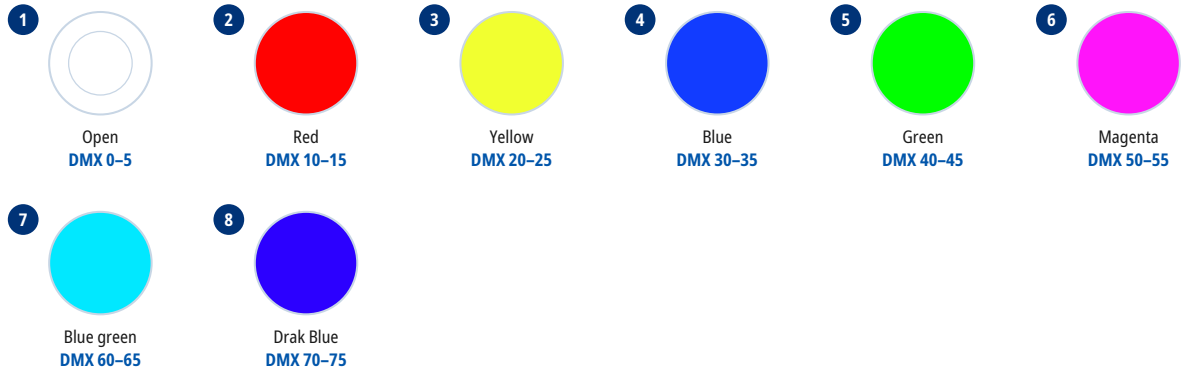
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “DMX”: 33.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “DMX”, you can use, for example, the start addresses 1, 34, 67, 100.
- 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

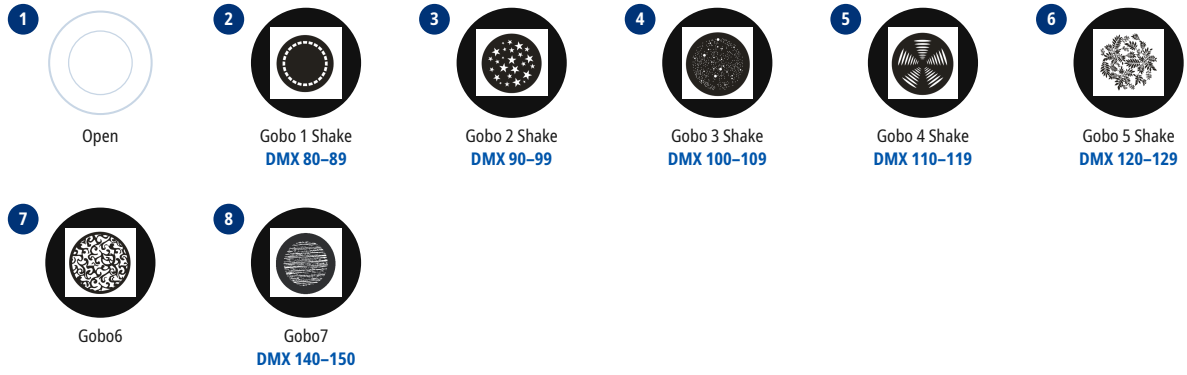
	DMX 33 channels
Pan / Tilt	1, 3
Dimmer	7
Shutter / strobe	6
Color mixing	8–10
Color temperature	11
Color wheel	12
Gobo wheel	13, 14
Gobo rotation	13–15
Prism	20, 21
Frost	22
Zoom	18
Focus	16
Iris	32

Color wheel



1. Open — DMX 0–5
2. Red — DMX 10–15
3. Yellow — DMX 20–25
4. Blue — DMX 30–35
5. Green — DMX 40–45
6. Magenta — DMX 50–55
7. Blue green — DMX 60–65
8. Drak Blue — DMX 70–75

Gobo wheel 1



1. Open
2. Gobo 1 Shake — DMX 80–89
3. Gobo 2 Shake — DMX 90–99
4. Gobo 3 Shake — DMX 100–109
5. Gobo 4 Shake — DMX 110–119
6. Gobo 5 Shake — DMX 120–129
7. Gobo6
8. Gobo7 — DMX 140–150

Gobo wheel 2

1
Open

2
Gobo1

3
Gobo2

4 
Gobo3

5 
Gobo4

6 
Gobo5

7 
Gobo6

8 
Gobo7

9 
Gobo8

10 
Gobo9

11 
Gobo10

12 
Gobo11

13 
Gobo12

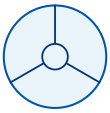
14 
Gobo13

15 
Gobo14

16 
Gobo15

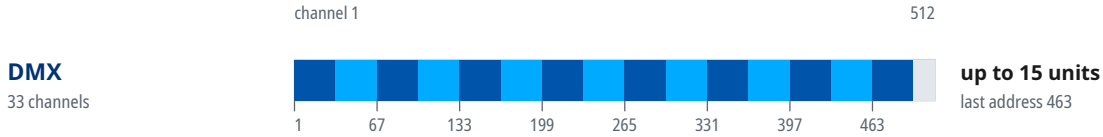
Prism

1
Open
DMX 0–128

2 
3 facets
Prism1

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “DMX”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	166	11	331	16	U2 · 1
2	34	7	199	12	364	17	U2 · 34
3	67	8	232	13	397	18	U2 · 67
4	100	9	265	14	430	19	U2 · 100
5	133	10	298	15	463	20	U2 · 133

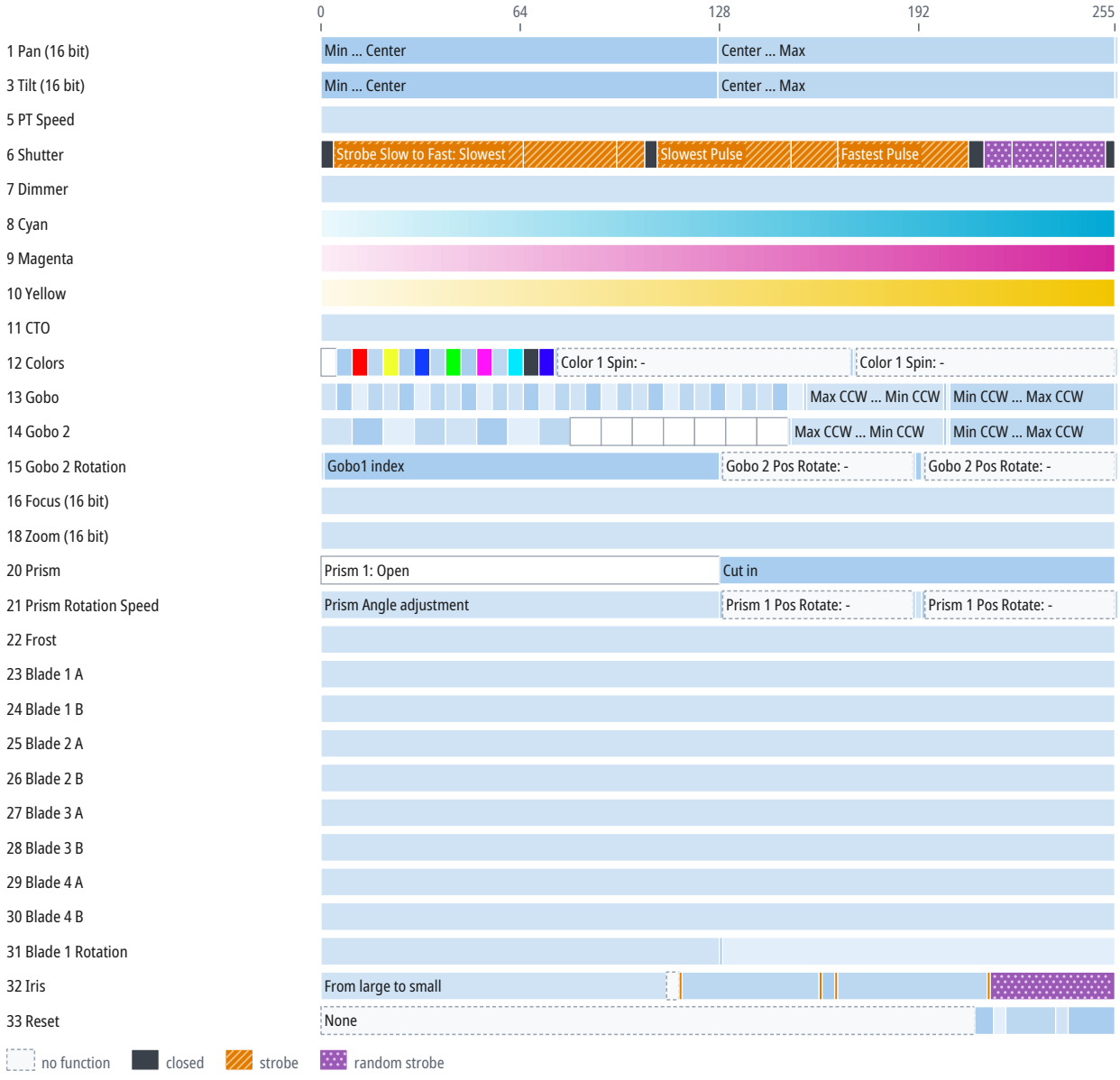
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode DMX

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.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		127	Center
		128–255	Center ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		128–255	Center ... Max

CH	Function	DMX	Description
3	Tilt (continued)	255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	PT Speed	0–255	
6	Shutter	0–3	Shutter Close
		4–64	Strobe Slow to Fast: Slowest
		65–94	Strobe Slow to Fast: -
		95–103	Strobe Slow to Fast: Fastest
		104–107	Shutter Close
		108–150	Slowest Pulse
		151–165	Pulse Effect Slow to Fast: -
		166–207	Fastest Pulse
		208–212	Shutter Close
		213–221	Slowest Strobe
		222–235	Random Strobe Slow to Fast: -
		236–251	Fastest Strobe
		252–255	Shutter Close
7	Dimmer	0–255	
8	Cyan	0–255	
9	Magenta	0–255	
10	Yellow	0–255	
11	CTO	0–255	
12	Colors	0–4	Open
		5–9	White light + Color 1 Red
		10–14	Color 1
		15–19	Color 1 Red + Color 2 Yellow
		20–24	Color 2
		25–29	Color 2 Yellow + Color 3 Blue
		30–34	Color 3
		35–39	Color 3 Blue + Color 4 Green
		40–44	Color 4
		45–49	Color 4 Green + Color 5 Magenta
		50–54	Color 5
		55–59	Color 5 Magenta + Color 6 Blue Green
		60–64	Color 6
		65–69	Color 6 Blue Green + Color 7 Dark Blue
		70–74	Color 7
		75	Max CW
		76–169	Color 1 Spin: -
		170	Min CW
		171	Min CCW
		172–254	Color 1 Spin: - (0.01–0.99 °/s)
		255	Max CCW

CH	Function	DMX	Description
13	Gobo	0–4	Gobo 1: Open
		5–9	Gobo1
		10–14	Gobo2
		15–19	Gobo3
		20–24	Gobo4
		25–29	Gobo5
		30–34	Gobo6
		35–39	Gobo7
		40–44	Gobo8
		45–49	Gobo9
		50–54	Gobo10
		55–59	Gobo11
		60–64	Gobo12
		65–69	Gobo13
		70–74	Gobo14
		75–79	Gobo15
		80–84	Gobo1Shake
		85–89	Gobo2Shake
		90–94	Gobo3Shake
		95–99	Gobo4Shake
		100–104	Gobo5Shake
		105–109	Gobo6Shake
		110–114	Gobo7Shake
		115–119	Gobo8Shake
		120–124	Gobo9Shake
		125–129	Gobo10Shake
		130–134	Gobo11Shake
		135–139	Gobo12Shake
		140–144	Gobo13Shake
		145–149	Gobo14Shake
		150–154	Gobo15Shake
		155	Gobo 1 Select Spin: Max CCW
		156–199	Max CCW ... Min CCW
		200	Min CCW
		201	Min CCW
		202–254	Min CCW ... Max CCW
		255	Gobo 1 Select Spin: Max CCW
14	Gobo 2	0–9	Gobo 2: Open
		10–19	Gobo1
		20–29	Gobo2
		30–39	Gobo3
		40–49	Gobo4

CH	Function	DMX	Description
14	Gobo 2 (continued)	50–59	Gobo5
		60–69	Gobo6
		70–79	Gobo7
		80–89	Gobo 1 Shake
		90–99	Gobo 2 Shake
		100–109	Gobo 3 Shake
		110–119	Gobo 4 Shake
		120–129	Gobo 5 Shake
		130–139	Gobo 6 Shake
		140–149	Gobo 7 Shake
		150	Gobo 2 Select Spin: Max CCW
		151–199	Max CCW ... Min CCW
		200–201	Gobo 2 Select Spin: Min CCW
		202–254	Min CCW ... Max CCW
		255	Gobo 2 Select Spin: Max CCW
15	Gobo 2 Rotation	0	Gobo 2 Pos: Open
		1–127	Gobo1 index
		128	Max CW
		129–189	Gobo 2 Pos Rotate: -
		190	Min CW
		191–192	Gobo 1 Pos Rotate: Stop
		193	Min CCW
		194–254	Gobo 2 Pos Rotate: -
		255	Max CCW
16	Focus	0–255	
17	Focus Fine	0–255	Fine adjustment of CH 16
18	Zoom	0–255	4–45°
19	Zoom Fine	0–255	Fine adjustment of CH 18
20	Prism	0–127	Prism 1: Open
		128–255	Cut in
21	Prism Rotation Speed	0–127	Prism Angle adjustment
		128	Max CW
		129–189	Prism 1 Pos Rotate: -
		190	Min CW
		191–192	Prism 1 Pos Rotate: Stop
		193	Min CCW
		194–254	Prism 1 Pos Rotate: - (0.02–0.98 °/s)
		255	Max CCW
22	Frost	0–255	
23	Blade 1 A	0–255	
24	Blade 1 B	0–255	
25	Blade 2 A	0–255	

CH	Function	DMX	Description
26	Blade 2 B	0–255	
27	Blade 3 A	0–255	
28	Blade 3 B	0–255	
29	Blade 4 A	0–255	
30	Blade 4 B	0–255	
31	Blade 1 Rotation	0–127	Blade 1 Rot 1
		128	Blade 1 Rot 2
		129–255	Blade 1 Rot 3
32	Iris	0–110	From large to small
		111–114	None
		115	Iris Pulse Open: Slow
		116–159	Iris Pulse Open: Slow ... Fast
		160	Iris Pulse Open: Fast
		161–164	None 1
		165	Iris Pulse Close: Fast
		166–213	Iris Pulse Close: Fast ... Slow
		214	Iris Pulse Close: Slow
		215–255	Iris Strobe Random
33	Reset	0–209	None
		210–215	PT Reset
		216–219	None 1
		220–235	Reset the small motor
		236–239	None 1
		240–255	Fixture Global Reset

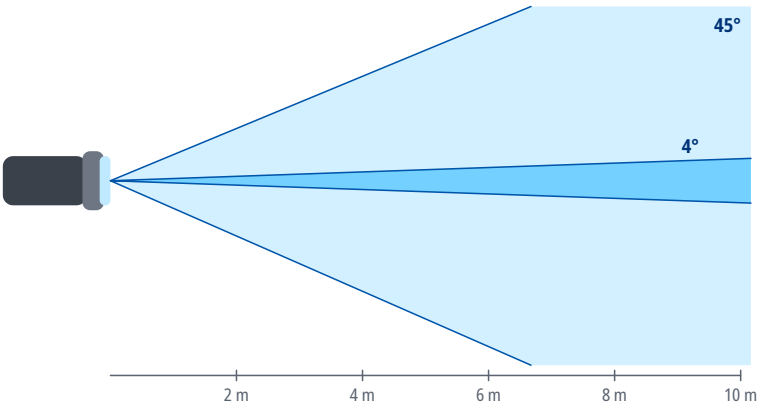
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	550 W
Luminous flux	35,000 lm
Color temperature	8,000 K
Color rendering index (CRI)	70
Optics	
Zoom	4–45°
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	3-pin XLR IN/OUT
Electrical	
Power connectors	PowerConBlue IN, NAC3FCB IN
Dimensions and construction	
Weight	30.5 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color wheel rotation	up to 0.99 °/s (0.2 rpm)
Prism rotation	up to 0.98 °/s (0.2 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.