DMX REFERENCE

Xtylos Aqua

Clay Paky



Manufacturer	Clay Paky
GDTF file	Clay_Paky_Xtylos_Aqua_98201.gdtf
GDTF revision	ClayPaky Ofweficial File Fw Ver 3_4_010 · 2025-05-28
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Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 7
9 DMX channels 9
Mode Standard 10
10 Technical specifications 15
11 Maintenance and cleaning 16
12 Troubleshooting 16
13 Disposal 17

1 About this manual

This document describes the Xtylos Aqua by Clay Paky. It was compiled from the GDTF file Clay_Paky_Xtylos_Aqua_98201.gdtf from the GDTF-Share library.

File revision: “ClayPaky Ofweficial File Fw Ver 3_4_010”.

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 Clay Paky; 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	30.4 kg
Ingress protection	IP66

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	31	16	1, 32, 63, 94, ...

No light? Check these channels

- Standard: CH 9 Dimmer above 0; CH 11 Shutter at 104–107, 208–212 or 252–255 “Open”



Read the manual before use



Do not stare into the light

3 Safety instructions



Read the manual before use



Do not stare into the light

⚠ 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.

⚠ CAUTION

- The device is rated IP66 and may be used outdoors within the limits of this rating.
- This protection is effective only when all connectors are mated or closed with their protective caps and all seals are intact. Use cables and connectors with the same or a higher protection rating.
- Do not open the housing; opening it breaks the seals and the protection rating can no longer be guaranteed.
- Install the device so that water cannot collect around connectors and cable glands, and inspect seals and cables regularly.

⚠ 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.

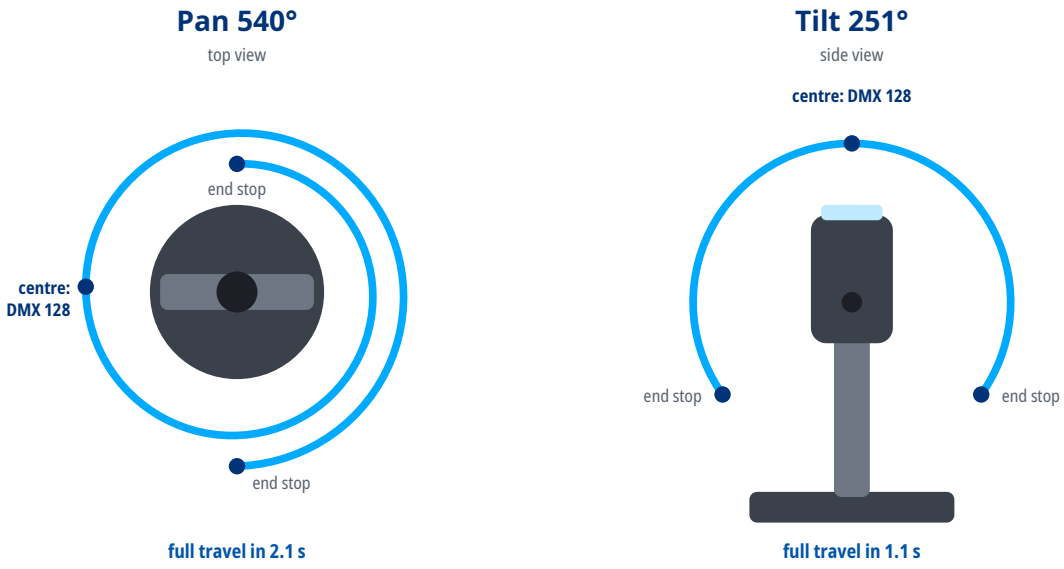
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do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

“Claypaky is proud to introduce the next in the series of laser-based fixtures, the XTYLOS AQUA. The XTYLOS AQUA is IP66 rated and comparable in features and performance of the original XTYLOS. While the initial thought of the XTYLOS AQUA as an evolutionary product growing from the XTYLOS fixture, it is revolutionary in design to withstand some of the harshest conditions offering marine-grade C5-M protection (according to Standard ISO 9227-2017) from the elements and it is fitted with a fan to eliminate condensation from the front lens for consistent output and beam performance. Featuring a wireless DMX system integrated as standard, the Xtylos Aqua is a small, form factor, IP66-rated fixture powered by its innovative and proprietary RGB laser source. It offers the same effects and features of the original XTYLOS, making it the first of its kind on the market.”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

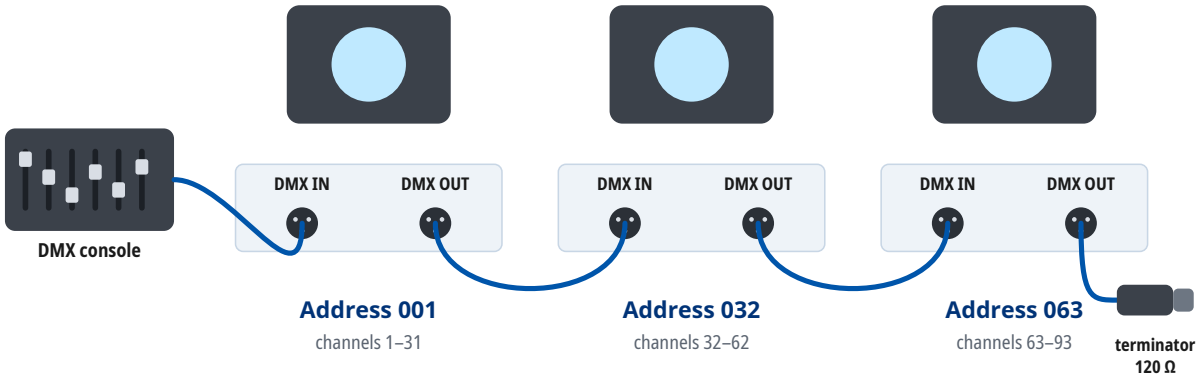
⚠ **WARNING**

- 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: 30.4 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 Standard: every unit occupies 31 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

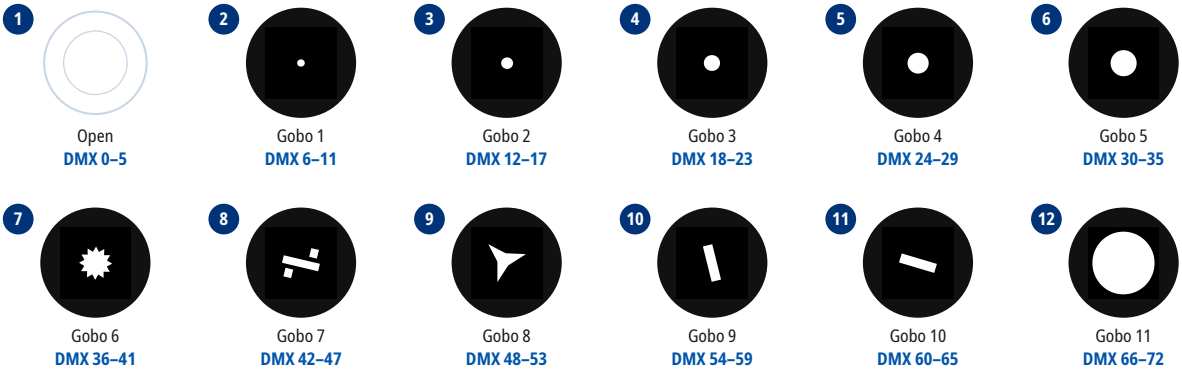
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Standard”: 31.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “Standard”, you can use, for example, the start addresses 1, 32, 63, 94.
- 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

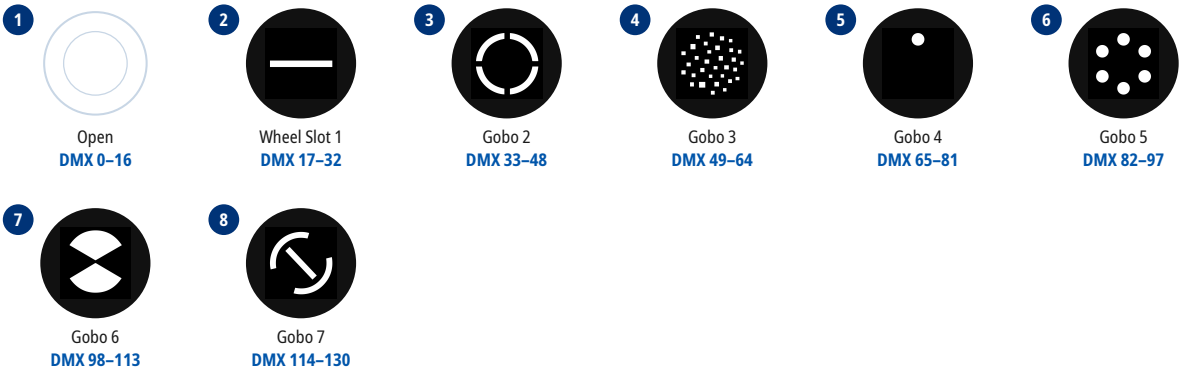
	Standard 31 channels
Pan / Tilt	23, 25
Dimmer	9
Shutter / strobe	11
Color mixing	1, 3, 5
Color temperature	7
Gobo wheel	12, 13
Gobo rotation	14
Prism	16–19
Focus	21

Gobo wheel 1



1. Open — DMX 0–5
2. Gobo 1 — DMX 6–11
3. Gobo 2 — DMX 12–17
4. Gobo 3 — DMX 18–23
5. Gobo 4 — DMX 24–29
6. Gobo 5 — DMX 30–35
7. Gobo 6 — DMX 36–41
8. Gobo 7 — DMX 42–47
9. Gobo 8 — DMX 48–53
10. Gobo 9 — DMX 54–59
11. Gobo 10 — DMX 60–65
12. Gobo 11 — DMX 66–72

Gobo wheel 2



1. Open — DMX 0–16
2. Wheel Slot 1 — DMX 17–32
3. Gobo 2 — DMX 33–48
4. Gobo 3 — DMX 49–64
5. Gobo 4 — DMX 65–81
6. Gobo 5 — DMX 82–97
7. Gobo 6 — DMX 98–113
8. Gobo 7 — DMX 114–130

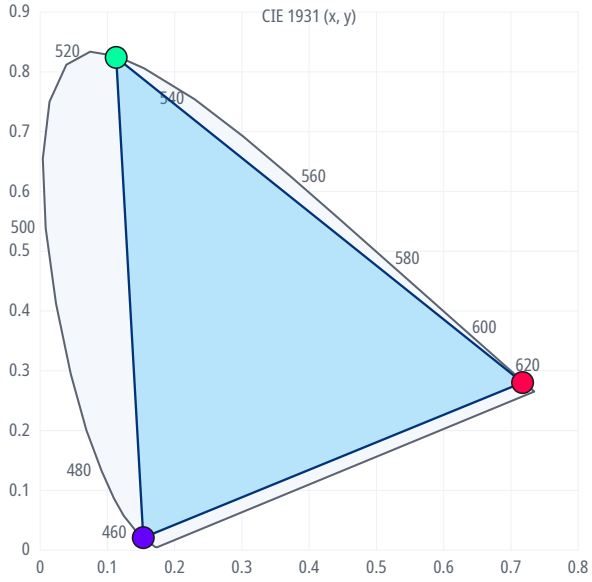
Prism 1

1.
   Wheel Slot 1
   DMX 0–25
2. 
   6 facets
   6 Facet
   DMX 26–51
3. 
   1 facet
   Elliptical
   DMX 52–77
4. 
   6 facets
   6 facet Piramydal
   DMX 78–103
5.
   Frost
   DMX 104–130

Prism 2

1.
   Open
   DMX 0–127
2. 
   16 facets
   16 Facet Prism
   DMX 128–255

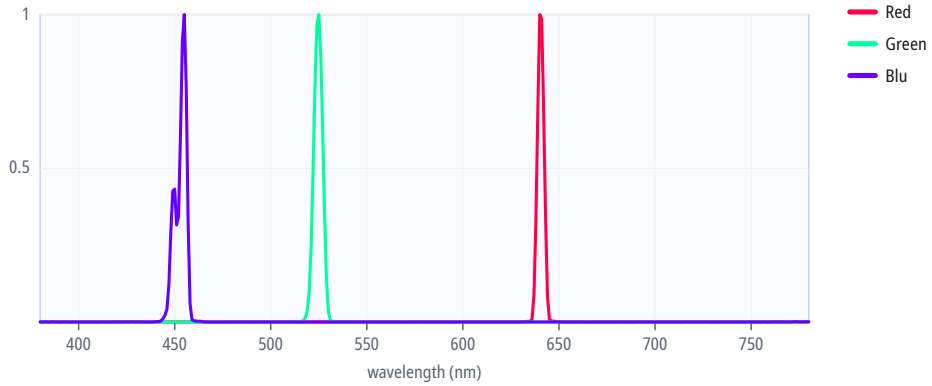
LED colors and the colors they mix



LED	x	y
Red	0.717	0.280
Green	0.113	0.824
Blu	0.153	0.021

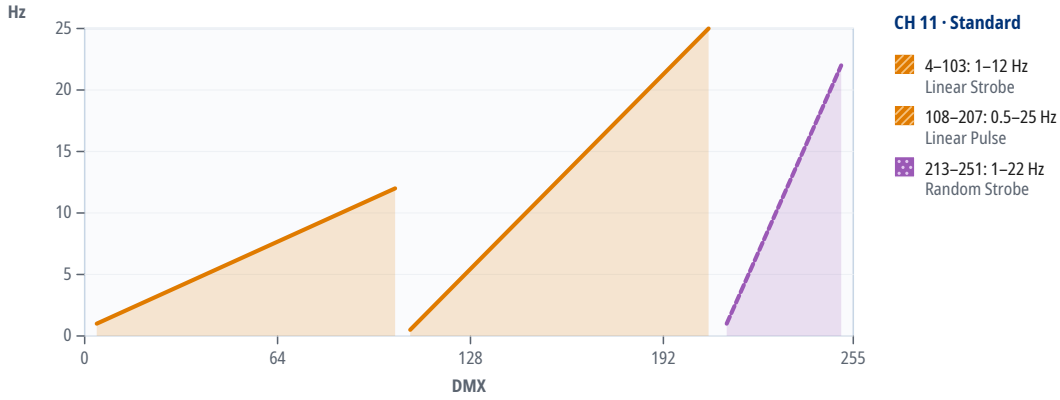
The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

Spectra of the light sources



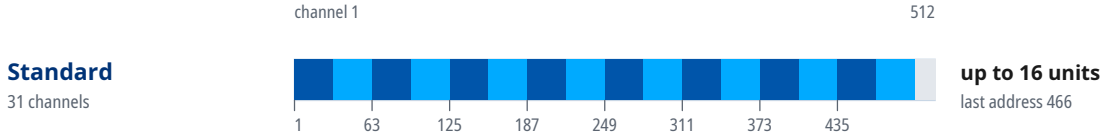
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Standard”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	156	11	311	16	466
2	32	7	187	12	342	17	U2 · 1
3	63	8	218	13	373	18	U2 · 32
4	94	9	249	14	404	19	U2 · 63
5	125	10	280	15	435	20	U2 · 94

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.

RDM personalities

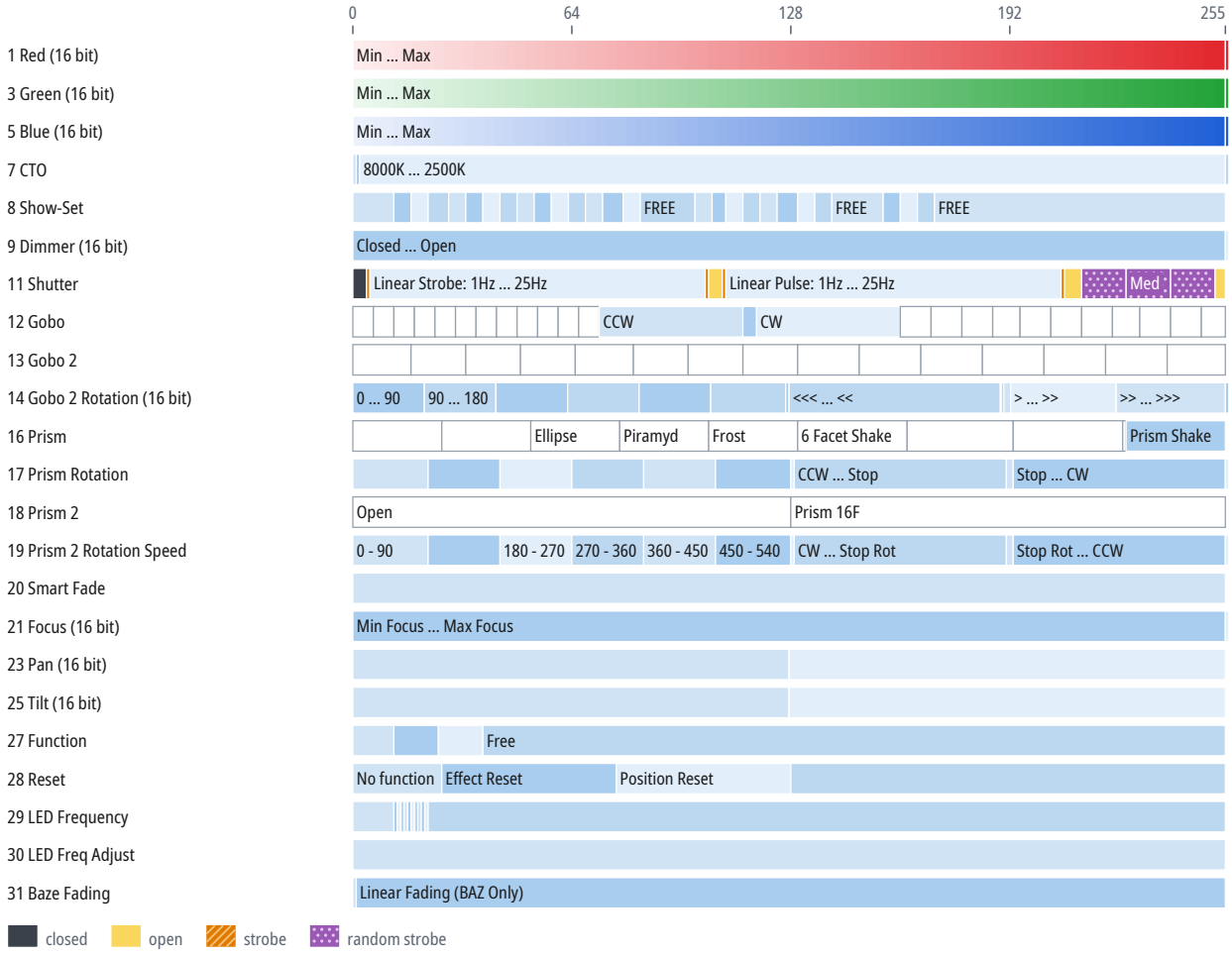
Mode	Channels	RDM personality
Standard	31	1

Mode Standard

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 Dimmer above 0; CH 11 Shutter at 104–107, 208–212 or 252–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 3 Green 255, CH 5 Blue 255, CH 7 CTO 0, CH 9 Dimmer 255, CH 11 Shutter 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	Min ... Max
		255	Max
2	Red Fine	0–255	Fine adjustment of CH 1
3	Green	0–255	Min ... Max
		255	Max
4	Green Fine	0–255	Fine adjustment of CH 3
5	Blue	0–255	Min ... Max
		255	Max
6	Blue Fine	0–255	Fine adjustment of CH 5
7	CTO	0	Raw Mode
		1	8000K

CH	Function	DMX	Description
7	CTO (continued)	2–254	8000K … 2500K
		255	2500K
8	Show-Set	0–11	Unused Range
		12–16	Limited Output ON
		17–21	Limited Output OFF
		22–27	SOZ-HD=82ft (sm)
		28–32	SOZ-HD=70ft (sm)
		33–37	SOZ-HD=60ft (sm)
		38–42	SOZ-H=50ft (sm)
		43–47	CHECK START
		48–52	CHECK STOP
		53–57	BAZ-SIM
		58–62	BAZ-PAN_180
		63–67	BAZ-CUST_TILT_1
		68–72	BAZ-CUST-PAN_1
		73–78	BAZ-CUST_PAN_2
		79–83	BAZ-CUST_TILT_2
		84–99	FREE
		100–104	BAZ-INVERT
		105–108	BAZ-RESET
		109–113	SOZ-SYM (sm)
		114–118	SOZ-PAN_180 (sm)
		119–123	SOZ-CUST_TILT_1 (sm)
		124–129	SOZ-CUST_PAN_1 (sm)
		130–134	SOZ-CUST_PAN_2 (sm)
		135–139	SOZ-CUST_TILT_2 (sm)
		140–154	FREE
		155–159	SOZ-INVERT (sm)
		160–164	SOZ-RESET (sm)
		165–169	TOTreset
		170–255	FREE
9	Dimmer	0–255	Closed … Open
		255	Open
10	Dimmer Fine	0–255	Fine adjustment of CH 9
11	Shutter	0–3	Close
		4	Linear Strobe: 1Hz
		5–102	Linear Strobe: 1Hz … 25Hz
		103	Linear Strobe: 25Hz
		104–107	Open
		108	Linear Pulse: 1Hz
		109–206	Linear Pulse: 1Hz … 25Hz
		207	Linear Pulse: 25Hz

CH	Function	DMX	Description
11	Shutter (continued)	208–212	Open
		213–225	Random Strobe: Slow (2–9.26 Hz)
		226–238	Med
		239–251	Random Strobe: Fast
		252–255	Open
12	Gobo	0–5	Static (G1): Open
		6–11	Gobo 1
		12–17	Gobo 2
		18–23	Gobo 3
		24–29	Gobo 4
		30–35	Gobo 5
		36–41	Gobo 6
		42–47	Gobo 7
		48–53	Gobo 8
		54–59	Gobo 9
		60–65	Gobo 10
		66–71	Gobo 11
		72–113	CCW (360–20.7 °/s)
		114–117	Static (G1) Spin: STOP (up to 12.4 °/s (2.1 rpm))
		118–159	CW (20.7–360 °/s)
		160–168	GB1 Shake (1–10 Hz)
		169–177	GB2 Shake (1–10 Hz)
		178–186	GB3 Shake (1–10 Hz)
		187–194	GB4 Shake (1–10 Hz)
		195–203	GB5 Shake (1–10 Hz)
		204–212	GB6 Shake (1–10 Hz)
		213–221	GB7 Shake (1–10 Hz)
		222–229	GB8 Shake (1–10 Hz)
		230–238	GB9 Shake (1–10 Hz)
		239–247	GB10 Shake (1–10 Hz)
		248–255	GB11 Shake (1–10 Hz)
13	Gobo 2	0–16	Rotating (G2): Open
		17–32	Gobo 2-1
		33–48	Gobo 2-2
		49–64	Gobo 2-3
		65–81	Gobo 2-4
		82–97	Gobo 2-5
		98–113	Gobo 2-6
		114–129	Gobo 2-7
		130–147	GB 2-1 Shake (1–10 Hz)
		148–165	GB 2-2 Shake (1–10 Hz)
		166–183	GB 2-3 Shake (1–10 Hz)

CH	Function	DMX	Description
13	Gobo 2 (continued)	184–201	GB 2-4 Shake (1–10 Hz)
		202–219	GB 2-5 Shake (1–10 Hz)
		220–237	GB 2-6 Shake (1–10 Hz)
		238–255	GB 2-7 Shake (1–10 Hz)
14	Gobo 2 Rotation	0	Index (G2): 0
		0–20	0 ... 90
		21–41	90 ... 180
		42–62	180 ... 270
		63–83	270 ... 360
		84–104	360 ... 450
		105–126	450 ... 540
		127	540
		128–189	<<< ... <<
		190	<< ... <
		190	< ... 0
		191–192	Rotate (G2): 0 (up to 16.8 °/s (2.8 rpm))
		193–223	> ... >>
		224–255	>> ... >>>
		255	>>>
15	Gobo 2 Rotation Fine	0–255	Fine adjustment of CH 14
16	Prism	0–25	Prism: Open
		26–51	Wheel Slot 1
		52–77	Ellipse
		78–103	Piramyd
		104–129	Frost
		130–161	6 Facet Shake
		162–192	Elliptical Shake
		193–224	6 facet Piramydal Shake
		225	Frost Shake
		226–255	Prism Shake
17	Prism Rotation	0–21	Index: 0 to 90
		22–42	Index: 90 to 180
		43–63	Index: 180 to 270
		64–84	Index: 270 to 360
		85–105	Index: 360 to 450
		106–127	Index: 450 to 540
		128	CCW
		129–190	CCW ... Stop
		191–192	Rot: Stop
		193–254	Stop ... CW
		255	CW
18	Prism 2		Prism 16 Facet

CH	Function	DMX	Description
18	Prism 2 (continued)	0–127	Open
		128–255	Prism 16F
19	Prism 2 Rotation Speed	0–21	0 - 90
		22–42	Index: 90 to 180
		43–63	180 - 270
		64–84	270 - 360
		85–105	360 - 450
		106–127	450 - 540
		128	CW
		129–190	CW ... Stop Rot
		191–192	Stop Rot
		193–254	Stop Rot ... CCW
		255	CCW
20	Smart Fade	0–255	
21	Focus	0–255	Min Focus ... Max Focus
		255	Max Focus
22	Focus Fine	0–255	Fine adjustment of CH 21
23	Pan	0–127	Pan 1
		128	Home
		128–255	Pan 1
24	Pan Fine	0–255	Fine adjustment of CH 23
25	Tilt	0–127	Tilt 1
		128	Home
		128–255	Tilt 1
26	Tilt Fine	0–255	Fine adjustment of CH 25
27	Function	0–11	No function
		12–24	Fast P/T
		25–37	Norm P/T
		38–255	Free
28	Reset	0–25	No function
		26–76	Effect Reset
		77–127	Position Reset
		128–255	Fixture Global Reset
29	LED Frequency	0–11	No function
		12	4700Hz
		13	6000Hz
		14	7300Hz
		15	8600Hz
		16	10000Hz
		17	12000Hz
		18	15000Hz
		19	17578Hz

CH	Function	DMX	Description
29	LED Frequency (continued)	20	20000Hz
		21	22000Hz
		22–255	LEDFrequency
30	LED Freq Adjust	0–255	
31	Baze Fading	0	No Fade
		1–255	Linear Fading (BAZ Only)

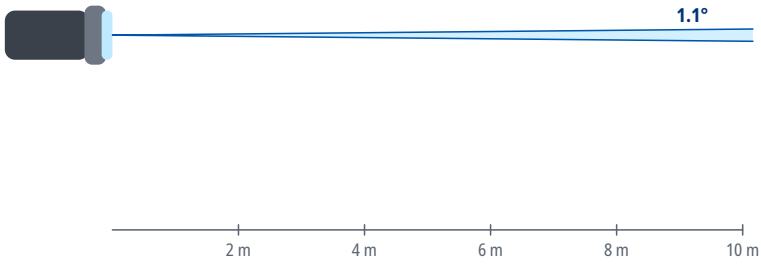
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	400 W
Luminous flux	2,900 lm
Color rendering index (CRI)	70
Optics	
Beam angle	1.1°
Movement	
Pan	540°
Tilt	251°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45
RDM	yes (manufacturer ID 0x4350, device model ID 0x06C5)
Electrical	
Power connectors	powerCON TRUE1 IN
Dimensions and construction	
Weight	30.4 kg
Operating environment	
Ingress protection	IP66
Meaning of the IP code (IEC 60529)	Dust-tight; protected against powerful water jets
Operating temperature	-20 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2500–8000 K
Strobe frequency	1–12 Hz
Gobo wheel 1 rotation	up to 360 °/s (60 rpm)
Gobo 2 rotation	up to 1080 °/s (180 rpm)
Prism 1 rotation	up to 1080 °/s (180 rpm)
Prism 2 rotation	up to 1080 °/s (180 rpm)

Spot diameter



Distance	Ø 1.1°
2 m	0.04 m
4 m	0.08 m
6 m	0.12 m
8 m	0.15 m
10 m	0.19 m
15 m	0.29 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.