DMX REFERENCE

Proteus Hybrid

Elation Professional Proteus_Hybrid

Elation



Manufacturer	Elation
GDTF file	Elation_Proteus_Hybrid_44146.gdtf
GDTF revision	2023-25-07 Release · 2023-07-25
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1 About this manual

This document describes the Elation Professional Proteus_Hybrid by Elation. It was compiled from the GDTF file Elation_Proteus_Hybrid_44146.gdtf from the GDTF-Share library.

File revision: “2023-25-07 Release”.

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 Elation; 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	38 kg
Ingress protection	IP65

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic 540deg	24	21	1, 25, 49, 73, ...
Standard 540deg	26	19	1, 27, 53, 79, ...
Extended 540deg	37	13	1, 38, 75, 112, ...
Extended Mode 630deg	37	13	1, 38, 75, 112, ...
Standard 630deg	26	19	1, 27, 53, 79, ...
Basic 630deg	24	21	1, 25, 49, 73, ...

No light? Check these channels

- Basic 540deg: CH 17 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Standard 540deg: CH 19 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Extended 540deg: CH 29 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Extended Mode 630deg: CH 29 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Standard 630deg: CH 19 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Basic 630deg: CH 17 Shutter at 32–63, 96–127, 160–191 or 224–255 “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 IP65 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.

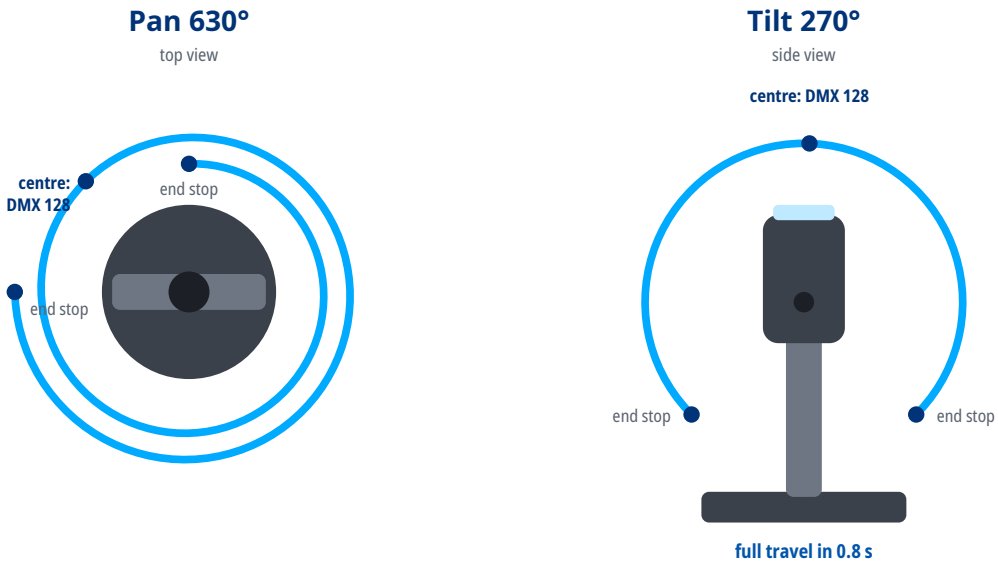
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do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

“PROTEUS HYBRID™ is an IP65 rated 3-in-1 hybrid moving head beam, spot, and wash luminaire with the Philips™ MSD Platinum 21R 470W 80 CRI 8,000K lamp producing up to14,000 lumens. Features include an advanced optical system with motorized zoom from 2° in beam mode to 38° in spot mode or 40° in wash mode, an advanced internal thermal cooling system, full CMY and linear CTO color mixing, 14 dichroic colors including CTB, CTO, and UV, 8 rotating glass interchangeable and 14 static-stamped metal gobos, full 360° bi-directional animation wheel, 8-facet and linear rotating prisms and frost filter, motorized focus and auto-focus, high speed mechanical shutter and strobe, DMX, RDM (Remote Device Management), Art-NET, and sACN protocol support, Elation’s E-FLY™ internal wireless DMX transceiver, IP rated 5pin XLR and RJ45 ethernet in/out connections, IP65 Locking Power Cable in, full color 180° reversible menu display with 6 button touch control panel, battery backup for display power, and a multi-voltage universal auto switching power supply (100-240v).”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

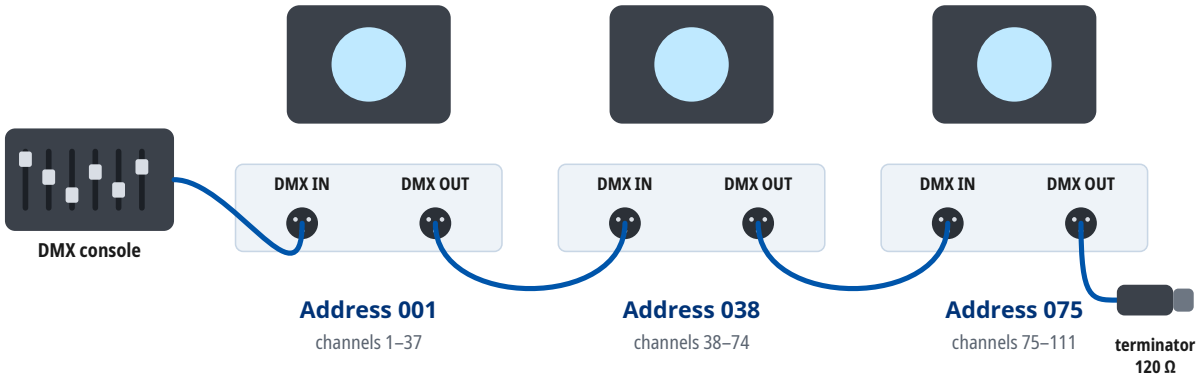
⚠ **WARNING**

- 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: 38 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 Extended 540deg: 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 “Extended 540deg”: 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 “Extended 540deg”, 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.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

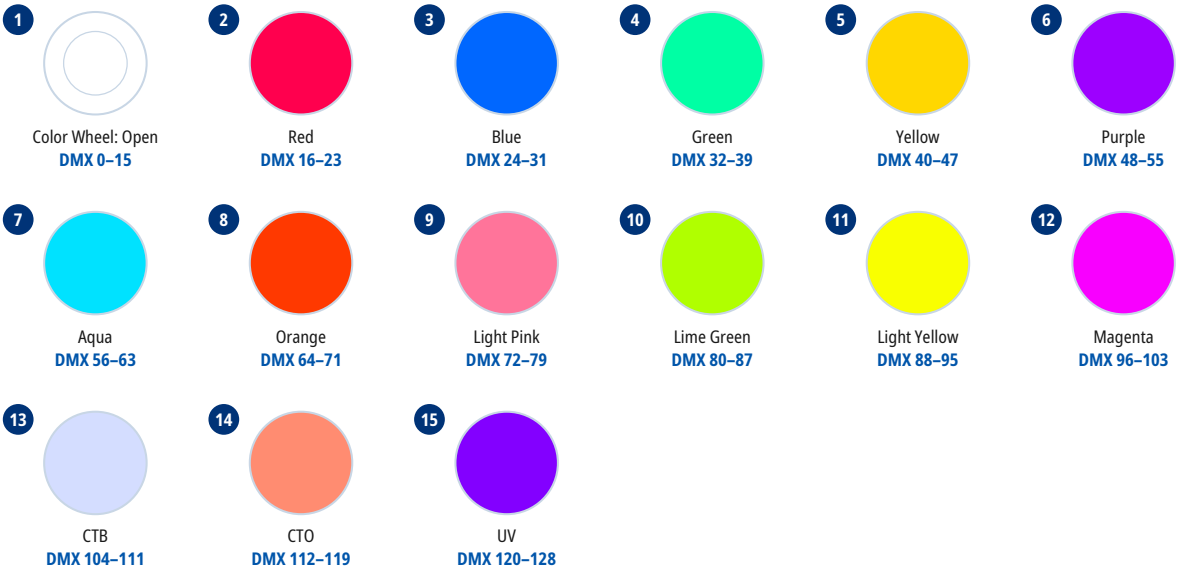
8 Functions at a glance

Functions in each DMX mode

	Basic 540deg 24 channels	Standard 540deg 26 channels	Extended 540deg 37 channels	Extended Mode 630deg 37 channels	Standard 630deg 26 channels	Basic 630deg 24 channels
Pan / Tilt	1, 2	1, 3	1, 3	1, 3	1, 3	1, 2
Pan / Tilt resolution	8 bit	16 bit	16 bit	16 bit	16 bit	8 bit
Dimmer	18	20	30	30	20	18
Dimmer resolution	8 bit	8 bit	16 bit	16 bit	8 bit	8 bit
Shutter / strobe	17	19	29	29	19	17
Color mixing	3–5	5–7	5, 7, 9	5, 7, 9	5–7	3–5
Color temperature	6	8	11	11	8	6
Color wheel	7	9	13	13	9	7
Gobo wheel	8, 10	10, 12	15, 18	15, 18	10, 12	8, 10
Gobo rotation	9	11	16	16	11	9
Prism	11	13, 14	20, 21	20, 21	13, 14	11, 12
Frost	19	21	32	32	21	19
Zoom	14 *	16 *	25 *	25 *	16 *	14 *
Focus	13, 15	15, 17	23, 27	23, 27	15, 17	13, 15
Animation wheel	20	22	33	33	22	20
Effects / macros	11, 22	13, 24	20, 35	20, 35	13, 24	11, 22

* The function works only when another channel switches it on; see the DMX table.

Color wheel



Gobo wheel 1

1
Open

2 
Gobo Wheel Select: Gobo 1
DMX 22–31

3 
Gobo Wheel Select: Gobo 2
DMX 32–41

4 
Gobo Wheel Select: Gobo 3
DMX 42–51

5 
Gobo Wheel Select: Gobo 4
DMX 52–61

6 
Gobo Wheel Select: Gobo 5
DMX 62–71

7 
Gobo Wheel Select: Gobo 6
DMX 72–81

8 
Gobo Wheel Select: Gobo 7
DMX 82–91

9 
Gobo 8
DMX 92–102

Gobo wheel 2

1
Gobo Wheel: Open
DMX 0–7

2 
Gobo Wheel: Gobo 1
DMX 8–14

3 
Gobo Wheel: Gobo 2
DMX 15–21

4 
Gobo Wheel: Gobo 3
DMX 22–28

5 
Gobo Wheel: Gobo 4
DMX 29–35

6 
Gobo Wheel: Gobo 5
DMX 36–42

7 
Gobo Wheel: Gobo 6
DMX 43–49

8 
Gobo Wheel: Gobo 7
DMX 50–56

9 
Gobo Wheel: Gobo 8
DMX 57–63

10 
Gobo Wheel: Gobo 9
DMX 64–70

11 
Gobo Wheel: Gobo 10
DMX 71–77

12 
Gobo Wheel: Gobo 11
DMX 78–84

13 
Gobo Wheel: Gobo 12
DMX 85–91

14 
Gobo Wheel: Gobo 13
DMX 92–98

15 
Gobo 14
DMX 99–106

Prism

1
Open

2 
8 facets
8 Facet

3 
4 facets
Linear

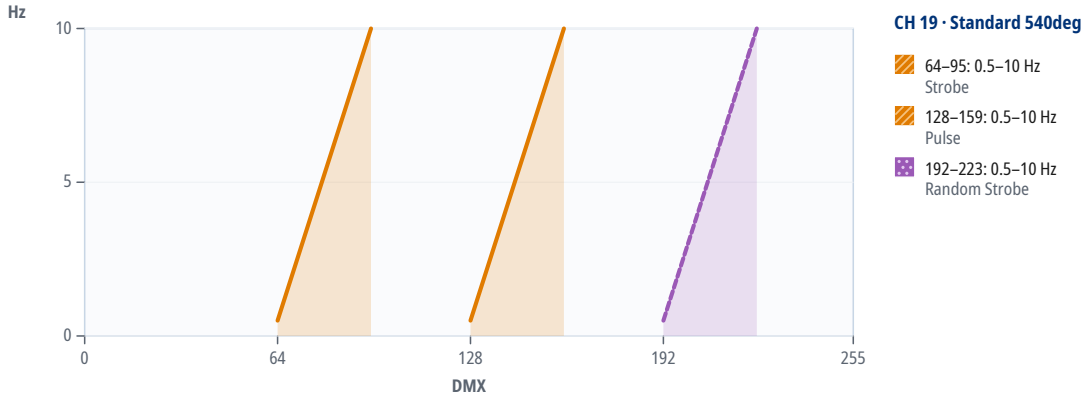
4 
32 facets
8 Facet + Linear

Animation wheel

1
Open
DMX 0–8

2 
CW Fast
DMX 8

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended 540deg”

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.

RDM personalities

Mode	Channels	RDM personality
Basic 540deg	24	1
Standard 540deg	26	2
Extended 540deg	37	3
Extended Mode 630deg	37	3
Standard 630deg	26	2
Basic 630deg	24	1

Mode Basic 540deg

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 17 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 3 Cyan 0, CH 4 Magenta 0, CH 5 Yellow 0, CH 17 Shutter 32, CH 18 Dimmer 100.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0	Min
		1–126	Min ... Center
		127	Center
		128–254	Center ... Max

CH	Function	DMX	Description
1	Pan (continued)	255	Max
2	Tilt	0	Min
		1–126	Min ... Center
		127	Center
		128–254	Center ... Max
		255	Max
3	Cyan	0	Min
		1–254	Min ... Max
		255	Max
4	Magenta	0	Min
		1–254	Min ... Max
		255	Max
5	Yellow	0	Min
		1–254	Min ... Max
		255	Max
6	CTO	0	Min
		1–254	Min ... Max
		255	Max
7	Colors	0–15	Color Wheel: Open
		16–23	Red
		24–31	Blue
		32–39	Green
		40–47	Yellow
		48–55	Purple
		56–63	Aqua
		64–71	Orange
		72–79	Light Pink
		80–87	Lime Green
		88–95	Light Yellow
		96–103	Magenta
		104–111	CTB
		112–119	CTO
		120–127	UV
		128	CW Fast
		129–158	CW Fast ... CW Med
		159	CW Med
		160–188	CW Med ... CW Slow
		189	CW Slow
		190–193	Rot Stop
		194	CCW Slow
		195–224	CCW Slow ... CCW Med
		225	CCW Med

CH	Function	DMX	Description
7	Colors (continued)	226–254	CCW Med ... CCW Fast
		255	CCW Fast
8	Gobo	0–10	BeamMode
		11–21	ZoomMode
		22–31	Gobo Wheel Select: Gobo 1
		32–41	Gobo Wheel Select: Gobo 2
		42–51	Gobo Wheel Select: Gobo 3
		52–61	Gobo Wheel Select: Gobo 4
		62–71	Gobo Wheel Select: Gobo 5
		72–81	Gobo Wheel Select: Gobo 6
		82–91	Gobo Wheel Select: Gobo 7
		92–101	Gobo Wheel Select: Gobo 8
		102–112	Gobo Wheel 1 Shake: Gobo 1
		113–123	Gobo Wheel 1 Shake: Gobo 2
		124–134	Gobo Wheel 1 Shake: Gobo 3
		135–145	Gobo Wheel 1 Shake: Gobo 4
		146–156	Gobo Wheel 1 Shake: Gobo 5
		157–167	Gobo Wheel 1 Shake: Gobo 6
		168–178	Gobo Wheel 1 Shake: Gobo 7
		179–189	Gobo Wheel 1 Shake: Gobo 8
		190	CW Fast
		191–205	CW Fast ... CW Med
		206	CW Med
		207–220	CW Med ... CW Slow
		221	CW Slow
		222–223	Rot Stop
		224	CCW Slow
		225–238	CCW Slow ... CCW Med
		239	CCW Med
		240–254	CCW Med ... CCW Fast
		255	CCW Fast
9	Gobo Rotation Speed	0	Index Min
		1–126	Index Min ... Index Max
		127	Index Max
		128	CW Fast
		129–158	CW Fast ... CW Med
		159	CW Med
		160–188	CW Med ... CW Slow
		189	CW Slow
		190–193	Rot Stop
		194	CCW Slow
		195–224	CCW Slow ... CCW Med

CH	Function	DMX	Description
9	Gobo Rotation Speed (continued)	225	CCW Med
		226–254	CCW Med ... CCW Fast
		255	CCW Fast
10	Gobo 2	0–7	Gobo Wheel: Open
		8–14	Gobo Wheel: Gobo 1
		15–21	Gobo Wheel: Gobo 2
		22–28	Gobo Wheel: Gobo 3
		29–35	Gobo Wheel: Gobo 4
		36–42	Gobo Wheel: Gobo 5
		43–49	Gobo Wheel: Gobo 6
		50–56	Gobo Wheel: Gobo 7
		57–63	Gobo Wheel: Gobo 8
		64–70	Gobo Wheel: Gobo 9
		71–77	Gobo Wheel: Gobo 10
		78–84	Gobo Wheel: Gobo 11
		85–91	Gobo Wheel: Gobo 12
		92–98	Gobo Wheel: Gobo 13
		99–105	Gobo Wheel: Gobo 14
		106–111	Gobo Wheel 2 Shake: Gobo 1 (0.1–3 Hz)
		112–117	Gobo Wheel 2 Shake: Gobo 2 (0.1–3 Hz)
		118–123	Gobo Wheel 2 Shake: Gobo 3 (0.1–3 Hz)
		124–129	Gobo Wheel 2 Shake: Gobo 4 (0.1–3 Hz)
		130–135	Gobo Wheel 2 Shake: Gobo 5 (0.1–3 Hz)
		136–141	Gobo Wheel 2 Shake: Gobo 6 (0.1–3 Hz)
		142–147	Gobo Wheel 2 Shake: Gobo 7 (0.1–3 Hz)
		148–153	Gobo Wheel 2 Shake: Gobo 8 (0.1–3 Hz)
		154–159	Gobo Wheel 2 Shake: Gobo 9 (0.1–3 Hz)
		160–165	Gobo Wheel 2 Shake: Gobo 10 (0.1–3 Hz)
		166–171	Gobo Wheel 2 Shake: Gobo 11 (0.1–3 Hz)
		172–177	Gobo Wheel 2 Shake: Gobo 12 (0.1–3 Hz)
		178–183	Gobo Wheel 2 Shake: Gobo 13 (0.1–3 Hz)
		184–189	Gobo Wheel 2 Shake: Gobo 14 (0.1–3 Hz)
		190	CW Fast
		191–205	CW Fast ... CW Med
		206	CW Med
		207–220	CW Med ... CW Slow
		221	CW Slow
		222–223	Rot Stop
		224	CCW Slow
		225–238	CCW Slow ... CCW Med
		239	CCW Med
		240–254	CCW Med ... CCW Fast

CH	Function	DMX	Description
10	Gobo 2 (continued)	255	CCW Fast
11	Prism	0–31	Prism: Open
		32–64	8 Facet prism
		65–94	Linear Prism
		95–127	8 Facet + Linear Prism
		128–135	Prism / Gobo Macro 1
		136–143	Prism / Gobo Macro 2
		144–151	Prism / Gobo Macro 3
		152–159	Prism / Gobo Macro 4
		160–167	Prism / Gobo Macro 5
		168–175	Prism / Gobo Macro 6
		176–183	Prism / Gobo Macro 7
		184–191	Prism / Gobo Macro 8
		192–199	Prism / Gobo Macro 9
		200–207	Prism / Gobo Macro 10
		208–215	Prism / Gobo Macro 11
		216–223	Prism / Gobo Macro 12
		224–231	Prism / Gobo Macro 13
		232–239	Prism / Gobo Macro 14
		240–247	Prism / Gobo Macro 15
		248–255	Prism / Gobo Macro 16
13	Focus	0–255	Min to Max
14	Zoom		When CH 24 is 0:
		0	Narrow
		1–127	Narrow ... Normal
		128	Normal
		129–254	Normal ... Wide
		255	Wide
			When CH 24 is 1:
		0	Narrow
		1–127	Narrow ... Normal
		128	Normal
		129–254	Normal ... Wide
		255	Wide
15	Focus Adjust		Auto Focus
		0–50	Off
		50	Off ... 49 Ft / 15 M
		51–150	49 Ft / 15 M
		150	49 Ft / 15 M ... 65 Ft / 20m
		151–255	65 Ft / 20m
16	Focus Adjust Fine	0–255	Fine adjustment of CH 15
17	Shutter	0–31	Shutter: Closed

CH	Function	DMX	Description
17	Shutter (continued)	32–63	Shutter: Open
		64	Strobe Min
		65–94	Strobe Min ... Strobe Max
		95	Strobe Max
		96–127	Shutter: Open
		128	Strobe Pulse Min
		129–158	Strobe Pulse Min ... Strobe Pulse Max
		159	Strobe Pulse Max
		160–191	Shutter: Open
		192	Random Strobe Min
		193–222	Random Strobe Min ... Random Strobe Max
		223	Random Strobe Max
		224–255	Shutter: Open
18	Dimmer	0	0 percent
		1–62	0 percent ... 25 percent
		63	25 percent
		64–126	25 percent ... 50 percent
		127	50 percent
		128–190	50 percent ... 75 percent
		191	75 percent
		192–254	75 percent ... 100 percent
		255	100 percent
19	Frost	0–127	Frost Disable
		128–255	Frost Enable
20	Animation Wheel	0–7	No Animation
		8	CW Fast
		9–68	CW Fast ... CW Med
		69	CW Med
		70–126	CW Med ... CW Slow
		127	CW Slow
		128–135	Rot Stop
		136	CCW Slow
		137–193	CCW Slow ... CCW Med
		194	CCW Med
		195–254	CCW Med ... CCW Fast
		255	CCW Fast
21	Color Mix Speed	0	Max
		1–254	Max ... Min
		255	Min
22	Color Macro	0–31	Macros Off
		32–39	Macro 1
		40–47	Macro 2

CH	Function	DMX	Description
22	Color Macro (continued)	48–55	Macro 3
		56–63	Macro 4
		64–71	Macro 5
		72–79	Macro 6
		80–87	Macro 7
		88–95	Macro 8
		96–103	Macro 9
		104–111	Macro 10
		112–119	Macro 11
		120–127	Macro 12
		128–135	Macro 13
		136–143	Macro 14
		144–151	Macro 15
		152–159	Macro 16
		160–167	Macro 17
		168–175	Macro 18
		176–183	Macro 19
		184–191	Macro 20
		192–199	Macro 21
		200–207	Macro 22
		208–215	Macro 23
		216–223	Macro 24
		224–231	Macro 25
		232–239	Macro 26
		240–247	Macro 27
		248–255	Random CMY
23	Speed Pan/Tilt	0	Position MSpeed: Max
		1–224	Position MSpeed: Max ... Min
		225	Position MSpeed: Min
		226–235	Blackout By Movement
		236–245	Blackout By All Wheel Movement
		246–248	Sun Protection On
		249–251	Sun Protection Off
		252–253	Idle Position On
		254–255	Idle Position Off
24	Control	0–19	Color Change Normal
		20–29	Color Change To Any Position
		30–39	Color and Fixed Gobo Change To Any Position
		40–59	Lamp On
		60–79	Lamp Off
		80–84	All Motors Reset
		85–87	Scan Motor Reset

CH	Function	DMX	Description
24	Control (continued)	88–90	Color Motors Reset
		91–93	Gobo Motors Reset
		94–96	Shutter and Dimmer Motor Reset
		97–99	Other Motors Reset
		100–119	Internal Program 1
		120–139	Internal Program 2
		140–159	Internal Program 3
		160–179	Internal Program 4
		180–199	Internal Program 5
		200–219	Internal program 6
		220–239	Internal Program 7
		240–241	Dimming Standard
		242–243	Dimming Linear
		244–245	Dimming Square
		246–247	Dimming Inverse Square
		248–249	Dimming S-Curve
		250–251	Displa OFF
		252–253	Display ON
		254	Hibernate Off
		255	Hibernate On

Mode Standard 540deg

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 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 6 Magenta 0, CH 7 Yellow 0, CH 19 Shutter 32, CH 20 Dimmer 100.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Empty Channel Set
		127	Empty Channel Set
		128–255	Empty Channel Set ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		127	Center
		128–255	Center ... Max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan		Same as CH 3 in the mode “Basic 540deg” (p. 12)
6	Magenta		Same as CH 4 in the mode “Basic 540deg” (p. 12)

CH	Function	DMX	Description
7	Yellow		Same as CH 5 in the mode “Basic 540deg” (p. 12)
8	CTO		Same as CH 6 in the mode “Basic 540deg” (p. 12)
9	Colors		Same as CH 7 in the mode “Basic 540deg” (p. 12)
10	Gobo		Same as CH 8 in the mode “Basic 540deg” (p. 13)
11	Gobo Rotation Speed		Same as CH 9 in the mode “Basic 540deg” (p. 13)
12	Gobo 2		Same as CH 10 in the mode “Basic 540deg” (p. 14)
13	Prism	0–31	Prism: Open
		32–64	8 Facet prism
		65–94	Linear Prism
		95–127	8 Facet + Linear Prism
		128	Prism
		129–135	Prism / Gobo Macro 1
		136–143	Prism / Gobo Macro 2
		144–151	Prism / Gobo Macro 3
		152–159	Prism / Gobo Macro 4
		160–167	Prism / Gobo Macro 5
		168–175	Prism / Gobo Macro 6
		176–183	Prism / Gobo Macro 7
		184–191	Prism / Gobo Macro 8
		192–199	Prism / Gobo Macro 9
		200–207	Prism / Gobo Macro 10
		208–215	Prism / Gobo Macro 11
		216–223	Prism / Gobo Macro 12
		224–231	Prism / Gobo Macro 13
		232–239	Prism / Gobo Macro 14
		240–247	Prism / Gobo Macro 15
		248–255	Prism / Gobo Macro 16
14	Prism Rotation Speed	0	Min Index
		1–126	Min Index ... Max Index
		127	Max Index
		128	CW Fast
		129–159	CW Fast ... CW Med
		160	CW Med
		161–188	CW Med ... CW Slow
		189	CW Slow
		190–193	Rot Stop
		194	CCW Slow
		195–222	CCW Slow ... CCW Med
		223	CCW Med
		224–254	CCW Med ... CCW Fast
		255	CCW Fast

CH	Function	DMX	Description
15	Focus	0–255	Min to Max
16	Zoom		When CH 26 is 0:
		0	Narrow
		1–127	Narrow ... Normal
		128	Normal
		129–254	Normal ... Wide
		255	Wide
			When CH 26 is 1:
		0	Narrow
		1–127	Narrow ... Normal
		128	Normal
		129–254	Normal ... Wide
		255	Wide
17	Focus Adjust		Auto Focus
		0–50	Off
		51–150	49 Ft / 15 M
		151–255	65 Ft / 20m
18	Focus Adjust Fine	0–255	Fine adjustment of CH 17
19	Shutter		Same as CH 17 in the mode “Basic 540deg” (p. 15)
20	Dimmer		Same as CH 18 in the mode “Basic 540deg” (p. 16)
21	Frost		Same as CH 19 in the mode “Basic 540deg” (p. 16)
22	Animation Wheel		Same as CH 20 in the mode “Basic 540deg” (p. 16)
23	Color Mix Speed		Same as CH 21 in the mode “Basic 540deg” (p. 16)
24	Color Macro		Same as CH 22 in the mode “Basic 540deg” (p. 16)
25	Speed Pan/Tilt		Same as CH 23 in the mode “Basic 540deg” (p. 17)
26	Control		Same as CH 24 in the mode “Basic 540deg” (p. 17)

Mode Extended 540deg

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 29 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 7 Magenta 0, CH 9 Yellow 0, CH 29 Shutter 32, CH 30 Dimmer 100.

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		Same as CH 3 in the mode “Standard 540deg” (p. 19)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan	0–255	Min ... Max
		255	Max
6	Cyan Fine	0–255	Fine adjustment of CH 5
7	Magenta	0–255	Min ... Max
		255	Max

CH	Function	DMX	Description
8	Magenta Fine	0–255	Fine adjustment of CH 7
9	Yellow	0–255	Min ... Max
		255	Max
10	Yellow Fine	0–255	Fine adjustment of CH 9
11	CTO	0–255	Min ... Max
		255	Max
12	CTO Fine	0–255	Fine adjustment of CH 11
13	Colors	0–15	Color Wheel: Open
		16–23	Red
		24–31	Blue
		32–39	Green
		40–47	Yellow
		48–55	Purple
		56–63	Aqua
		64–71	Orange
		72–79	Light Pink
		80–87	Lime Green
		88–95	Light Yellow
		96–103	Magenta
		104–111	CTB
		112–119	CTO
		120–127	UV
		128–159	CW Fast ... CW Med
		159–189	CW Med ... CW Slow
		189–190	CW Slow ... Rot Stop
		190–193	Rot Stop
		193–194	Rot Stop ... CCW Slow
		194–225	CCW Slow ... CCW Med
		225–255	CCW Med ... CCW Fast
		255	CCW Fast
14	Colors Fine	0–255	Fine adjustment of CH 13
15	Gobo		Same as CH 8 in the mode “Basic 540deg” (p. 13)
16	Gobo Rotation Speed	0–127	Index Min ... Index Max
		127	Index Max
		127–128	Gobo Wheel 1 Index
		128–159	CW Fast ... CW Med
		159–189	CW Med ... CW Slow
		189–190	CW Slow ... Rot Stop
		190–193	Rot Stop
		193–194	Rot Stop ... CCW Slow
		194–225	CCW Slow ... CCW Med
		225–255	CCW Med ... CCW Fast

CH	Function	DMX	Description
16	Gobo Rotation Speed (continued)	255	CCW Fast
17	Gobo Rotation Speed Fine	0–255	Fine adjustment of CH 16
18	Gobo 2	0–7	Gobo Wheel: Open
		8–14	Gobo Wheel: Gobo 1
		15–21	Gobo Wheel: Gobo 2
		22–28	Gobo Wheel: Gobo 3
		29–35	Gobo Wheel: Gobo 4
		36–42	Gobo Wheel: Gobo 5
		43–49	Gobo Wheel: Gobo 6
		50–56	Gobo Wheel: Gobo 7
		57–63	Gobo Wheel: Gobo 8
		64–70	Gobo Wheel: Gobo 9
		71–77	Gobo Wheel: Gobo 10
		78–84	Gobo Wheel: Gobo 11
		85–91	Gobo Wheel: Gobo 12
		92–98	Gobo Wheel: Gobo 13
		99–105	Gobo Wheel: Gobo 14
		106–111	Gobo Wheel 2 Shake: Gobo 1 (0.1–3 Hz)
		112–117	Gobo Wheel 2 Shake: Gobo 2 (0.1–3 Hz)
		118–123	Gobo Wheel 2 Shake: Gobo 3 (0.1–3 Hz)
		124–129	Gobo Wheel 2 Shake: Gobo 4 (0.1–3 Hz)
		130–135	Gobo Wheel 2 Shake: Gobo 5 (0.1–3 Hz)
		136–141	Gobo Wheel 2 Shake: Gobo 6 (0.1–3 Hz)
		142–147	Gobo Wheel 2 Shake: Gobo 7 (0.1–3 Hz)
		148–153	Gobo Wheel 2 Shake: Gobo 8 (0.1–3 Hz)
		154–159	Gobo Wheel 2 Shake: Gobo 9 (0.1–3 Hz)
		160–165	Gobo Wheel 2 Shake: Gobo 10 (0.1–3 Hz)
		166–171	Gobo Wheel 2 Shake: Gobo 11 (0.1–3 Hz)
		172–177	Gobo Wheel 2 Shake: Gobo 12 (0.1–3 Hz)
		178–183	Gobo Wheel 2 Shake: Gobo 13 (0.1–3 Hz)
		184–189	Gobo Wheel 2 Shake: Gobo 14 (0.1–3 Hz)
		190–206	CW Fast ... CW Med
		206–221	CW Med ... CW Slow
		221–222	CW Slow ... Rot Stop
		222–223	Rot Stop
		223–224	Rot Stop ... CCW Slow
		224–239	CCW Slow ... CCW Med
		239–255	CCW Med ... CCW Fast
		255	CCW Fast
19	Gobo 2 Fine	0–255	Fine adjustment of CH 18
20	Prism	0–31	Prism: Open
		32–64	8 Facet prism

CH	Function	DMX	Description
20	Prism (continued)	65–94	0
		95–127	8 Facet + Linear Prism
		128–135	Prism / Gobo Macro 1
		136–143	Prism / Gobo Macro 2
		144–151	Prism / Gobo Macro 3
		152–159	Prism / Gobo Macro 4
		160–167	Prism / Gobo Macro 5
		168–175	Prism / Gobo Macro 6
		176–183	Prism / Gobo Macro 7
		184–191	Prism / Gobo Macro 8
		192–199	Prism / Gobo Macro 9
		200–207	Prism / Gobo Macro 10
		208–215	Prism / Gobo Macro 11
		216–223	Prism / Gobo Macro 12
		224–231	Prism / Gobo Macro 13
		232–239	Prism / Gobo Macro 14
		240–247	Prism / Gobo Macro 15
		248–255	Prism / Gobo Macro 16
21	Prism Rotation Speed	0–127	Min Index ... Max Index
		127	Max Index
		127–128	Prism Index
		128–160	CW Fast ... CW Med
		160–189	CW Med ... CW Slow
		189–190	CW Slow ... Rot Stop
		190–193	Rot Stop
		193–194	Rot Stop ... CCW Slow
		194–223	CCW Slow ... CCW Med
		223–255	CCW Med ... CCW Fast
		255	CCW Fast
22	Prism Rotation Speed Fine	0–255	Fine adjustment of CH 21
23	Focus	0	Min to Max
		1–255	Focus
24	Focus Fine	0–255	Fine adjustment of CH 23
25	Zoom		When CH 37 is 0:
		0–128	Narrow ... Normal
		128–255	Normal ... Wide
		255	Wide
			When CH 37 is 1:
		0–128	Narrow ... Normal
		128–255	Normal ... Wide
		255	Wide
26	Zoom Fine	0–255	Fine adjustment of CH 25

CH	Function	DMX	Description
27	Focus Adjust		Same as CH 15 in the mode “Basic 540deg” (p. 15)
28	Focus Adjust Fine	0–255	Fine adjustment of CH 27
29	Shutter		Same as CH 17 in the mode “Basic 540deg” (p. 15)
30	Dimmer	0–63	0 percent … 25 percent
		63	25 percent
		64–127	25 percent … 50 percent
		127	50 percent
		128–191	50 percent … 75 percent
		191	75 percent
		192–255	75 percent … 100 percent
		255	100 percent
31	Dimmer Fine	0–255	Fine adjustment of CH 30
32	Frost		Same as CH 19 in the mode “Basic 540deg” (p. 16)
33	Animation Wheel		Same as CH 20 in the mode “Basic 540deg” (p. 16)
34	Color Mix Speed		Same as CH 21 in the mode “Basic 540deg” (p. 16)
35	Color Macro		Same as CH 22 in the mode “Basic 540deg” (p. 16)
36	Speed Pan/Tilt		Same as CH 23 in the mode “Basic 540deg” (p. 17)
37	Control		Same as CH 24 in the mode “Basic 540deg” (p. 17)

Mode Extended Mode 630deg

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 29 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 7 Magenta 0, CH 9 Yellow 0, CH 29 Shutter 32, CH 30 Dimmer 100.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–109	Min ... Center
		109–255	Center ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Standard 540deg” (p. 19)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan		Same as CH 5 in the mode “Extended 540deg” (p. 22)
6	Cyan Fine	0–255	Fine adjustment of CH 5
7	Magenta		Same as CH 7 in the mode “Extended 540deg” (p. 22)
8	Magenta Fine	0–255	Fine adjustment of CH 7
9	Yellow		Same as CH 9 in the mode “Extended 540deg” (p. 23)
10	Yellow Fine	0–255	Fine adjustment of CH 9

CH	Function	DMX	Description
11	CTO		Same as CH 11 in the mode “Extended 540deg” (p. 23)
12	CTO Fine	0–255	Fine adjustment of CH 11
13	Colors		Same as CH 13 in the mode “Extended 540deg” (p. 23)
14	Colors Fine	0–255	Fine adjustment of CH 13
15	Gobo		Same as CH 8 in the mode “Basic 540deg” (p. 13)
16	Gobo Rotation	0–127	Index Min ... Index Max
		127	Index Max
		127–128	Gobo Wheel 1 Index
		128–159	CW Fast ... CW Med
		159–189	CW Med ... CW Slow
		189–190	CW Slow ... Rot Stop
		190–193	Rot Stop
		193–194	Rot Stop ... CCW Slow
		194–225	CCW Slow ... CCW Med
		225–255	CCW Med ... CCW Fast
		255	CCW Fast
17	Gobo Rotation Fine	0–255	Fine adjustment of CH 16
18	Gobo 2		Same as CH 18 in the mode “Extended 540deg” (p. 24)
19	Gobo 2 Fine	0–255	Fine adjustment of CH 18
20	Prism		Same as CH 11 in the mode “Basic 540deg” (p. 15)
21	Prism Rotation Speed		Same as CH 21 in the mode “Extended 540deg” (p. 25)
22	Prism Rotation Speed Fine	0–255	Fine adjustment of CH 21
23	Focus		Same as CH 23 in the mode “Extended 540deg” (p. 25)
24	Focus Fine	0–255	Fine adjustment of CH 23
25	Zoom		Same as CH 25 in the mode “Extended 540deg” (p. 25)
26	Zoom Fine	0–255	Fine adjustment of CH 25
27	Focus Adjust		Same as CH 15 in the mode “Basic 540deg” (p. 15)
28	Focus Adjust Fine	0–255	Fine adjustment of CH 27
29	Shutter		Same as CH 17 in the mode “Basic 540deg” (p. 15)
30	Dimmer		Same as CH 30 in the mode “Extended 540deg” (p. 26)
31	Dimmer Fine	0–255	Fine adjustment of CH 30
32	Frost		Same as CH 19 in the mode “Basic 540deg” (p. 16)
33	Animation Wheel		Same as CH 20 in the mode “Basic 540deg” (p. 16)
34	Color Mix Speed		Same as CH 21 in the mode “Basic 540deg” (p. 16)
35	Color Macro		Same as CH 22 in the mode “Basic 540deg” (p. 16)
36	Speed Pan/Tilt		Same as CH 23 in the mode “Basic 540deg” (p. 17)
37	Control		Same as CH 24 in the mode “Basic 540deg” (p. 17)

Mode Standard 630deg

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 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 6 Magenta 0, CH 7 Yellow 0, CH 19 Shutter 32, CH 20 Dimmer 100.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended Mode 630deg” (p. 27)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Standard 540deg” (p. 19)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan		Same as CH 3 in the mode “Basic 540deg” (p. 12)
6	Magenta		Same as CH 4 in the mode “Basic 540deg” (p. 12)
7	Yellow		Same as CH 5 in the mode “Basic 540deg” (p. 12)
8	CTO		Same as CH 6 in the mode “Basic 540deg” (p. 12)
9	Colors		Same as CH 7 in the mode “Basic 540deg” (p. 12)
10	Gobo		Same as CH 8 in the mode “Basic 540deg” (p. 13)
11	Gobo Rotation Speed		Same as CH 9 in the mode “Basic 540deg” (p. 13)
12	Gobo 2		Same as CH 10 in the mode “Basic 540deg” (p. 14)

CH	Function	DMX	Description
13	Prism		Same as CH 13 in the mode “Standard 540deg” (p. 20)
14	Prism Rotation Speed		Same as CH 14 in the mode “Standard 540deg” (p. 20)
15	Focus	0–255	Min to Max
16	Zoom		Same as CH 16 in the mode “Standard 540deg” (p. 21)
17	Focus Adjust		Same as CH 17 in the mode “Standard 540deg” (p. 21)
18	Focus Adjust Fine	0–255	Fine adjustment of CH 17
19	Shutter		Same as CH 17 in the mode “Basic 540deg” (p. 15)
20	Dimmer		Same as CH 18 in the mode “Basic 540deg” (p. 16)
21	Frost		Same as CH 19 in the mode “Basic 540deg” (p. 16)
22	Animation Wheel		Same as CH 20 in the mode “Basic 540deg” (p. 16)
23	Color Mix Speed		Same as CH 21 in the mode “Basic 540deg” (p. 16)
24	Color Macro		Same as CH 22 in the mode “Basic 540deg” (p. 16)
25	Speed Pan/Tilt		Same as CH 23 in the mode “Basic 540deg” (p. 17)
26	Control		Same as CH 24 in the mode “Basic 540deg” (p. 17)

Mode Basic 630deg

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 17 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 3 Cyan 0, CH 4 Magenta 0, CH 5 Yellow 0, CH 17 Shutter 32, CH 18 Dimmer 100.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0	Min
		1–108	Min ... Center
		109	Center
		110–254	Center ... Max
		255	Max
2	Tilt		Same as CH 2 in the mode “Basic 540deg” (p. 12)
3	Cyan		Same as CH 3 in the mode “Basic 540deg” (p. 12)
4	Magenta		Same as CH 4 in the mode “Basic 540deg” (p. 12)
5	Yellow		Same as CH 5 in the mode “Basic 540deg” (p. 12)
6	CTO		Same as CH 6 in the mode “Basic 540deg” (p. 12)
7	Colors		Same as CH 7 in the mode “Basic 540deg” (p. 12)
8	Gobo		Same as CH 8 in the mode “Basic 540deg” (p. 13)

CH	Function	DMX	Description
9	Gobo Rotation Speed		Same as CH 9 in the mode “Basic 540deg” (p. 13)
10	Gobo 2		Same as CH 10 in the mode “Basic 540deg” (p. 14)
11	Prism		Same as CH 11 in the mode “Basic 540deg” (p. 15)
12	Prism Rotation Speed		Same as CH 14 in the mode “Standard 540deg” (p. 20)
13	Focus	0–255	Min to Max
14	Zoom		Same as CH 14 in the mode “Basic 540deg” (p. 15)
15	Focus Adjust		Same as CH 15 in the mode “Basic 540deg” (p. 15)
16	Focus Adjust Fine	0–255	Fine adjustment of CH 15
17	Shutter		Same as CH 17 in the mode “Basic 540deg” (p. 15)
18	Dimmer		Same as CH 18 in the mode “Basic 540deg” (p. 16)
19	Frost		Same as CH 19 in the mode “Basic 540deg” (p. 16)
20	Animation Wheel		Same as CH 20 in the mode “Basic 540deg” (p. 16)
21	Color Mix Speed		Same as CH 21 in the mode “Basic 540deg” (p. 16)
22	Color Macro		Same as CH 22 in the mode “Basic 540deg” (p. 16)
23	Speed Pan/Tilt		Same as CH 23 in the mode “Basic 540deg” (p. 17)
24	Control		Same as CH 24 in the mode “Basic 540deg” (p. 17)

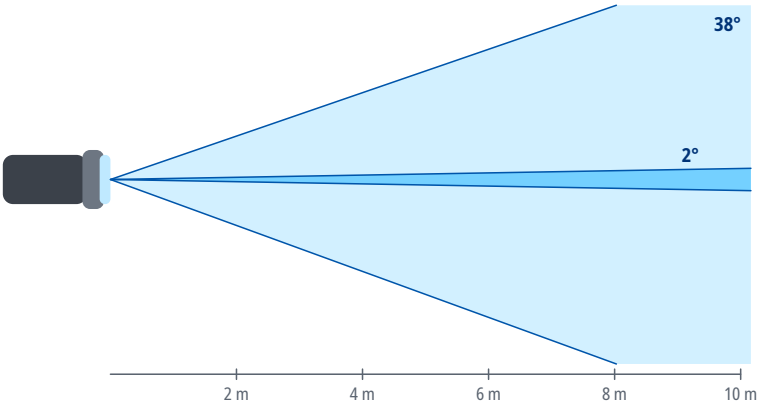
10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	470 W
Luminous flux	13,138 lm
Color temperature	7,800 K
Color rendering index (CRI)	77
Optics	
Zoom	2–38°
Movement	
Pan	630°
Tilt	270°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
RJ45 connectors	RJ45 IN/OUT
RDM	yes (manufacturer ID 0x22A6, device model ID 0x2400)
Electrical	
Power connectors	powerCON TRUE1
Dimensions and construction	
Weight	38 kg
Operating environment	
Ingress protection	IP65
Meaning of the IP code (IEC 60529)	Dust-tight; protected against water jets
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.5–10 Hz
Color wheel rotation	up to 1440 °/s (240 rpm)
Gobo wheel 1 rotation	up to 1440 °/s (240 rpm)
Gobo wheel 2 rotation	up to 1440 °/s (240 rpm)
Gobo 1 rotation	up to 1800 °/s (300 rpm)
Prism rotation	up to 246 °/s (41 rpm)

Spot diameter



Distance	Ø 2°	Ø 38°
2 m	0.07 m	1.4 m
4 m	0.14 m	2.8 m
6 m	0.21 m	4.1 m
8 m	0.28 m	5.5 m
10 m	0.35 m	6.9 m
15 m	0.52 m	10.3 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.