DMX REFERENCE

M1H420W

Event Lighting



Manufacturer	Event Lighting
GDTF file	Event_Lighting_M1H420W_94981.gdtf
GDTF revision	Rev 1 · 2025-04-29
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1 About this manual

This document describes the M1H420W by Event Lighting. It was compiled from the GDTF file Event_Lighting_M1H420W_94981.gdtf from the GDTF-Share library.

File revision: “Rev 1”.

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 Event Lighting; 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
Power consumption	276 W
Weight	23 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	29	17	1, 30, 59, 88, ...
Extended	30	17	1, 31, 61, 91, ...
Basic 1	20	25	1, 21, 41, 61, ...
Basic 2	22	23	1, 23, 45, 67, ...

No light? Check these channels

- Standard: CH 8 Dimmer above 0
- Extended: CH 9 Dimmer above 0
- Basic 1: CH 4 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”; CH 5 Dimmer above 0
- Basic 2: CH 6 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”; CH 7 Dimmer above 0


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


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

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 90–264 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ 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

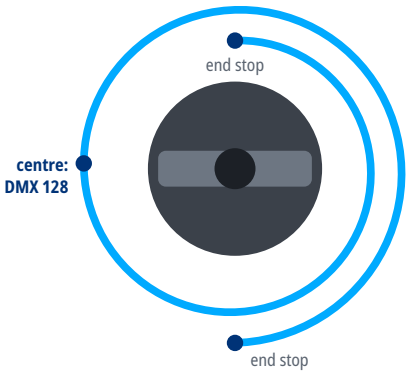
Description in the GDTF file

“The M1H420W is a punchy hybrid mover with a 3-facet prism and frost, iris, a 9-colour wheel, fixed and interchangeable rotating gobo wheels and beam angle of 5~50°.”

Range of movement

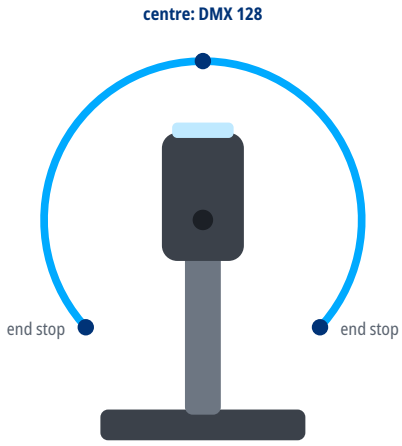
Pan 540°

top view



Tilt 265°

side view



5 Installation

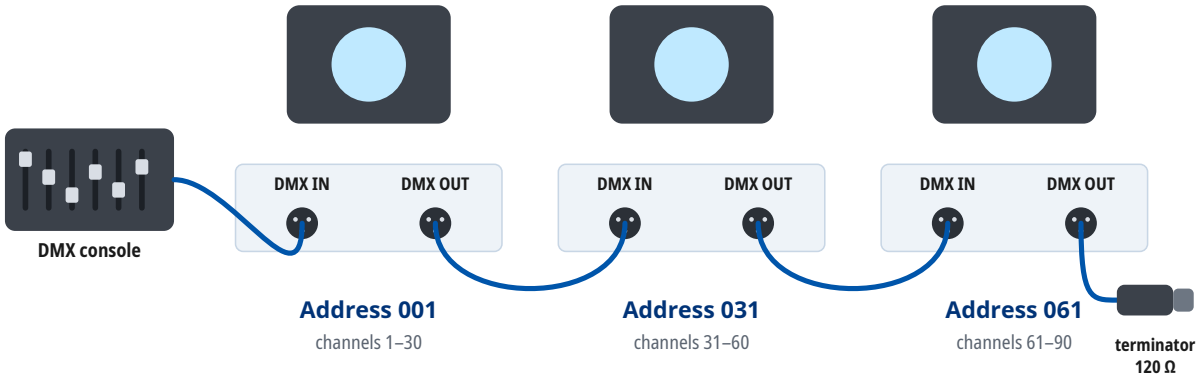
⚠ **WARNING**

- 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: 23 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: every unit occupies 30 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”: 30.
- 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”, you can use, for example, the start addresses 1, 31, 61, 91.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

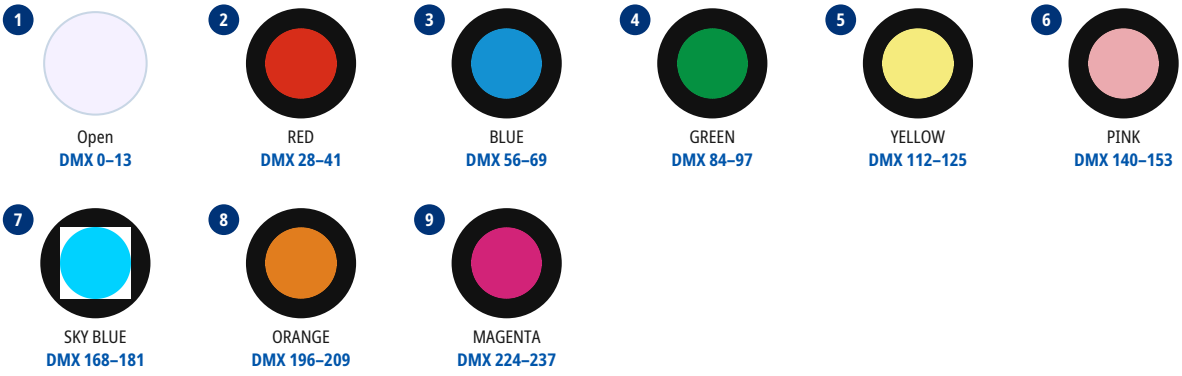
8 Functions at a glance

Functions in each DMX mode

	Standard 29 channels	Extended 30 channels	Basic 1 20 channels	Basic 2 22 channels
Pan / Tilt	1, 3	1, 3	1, 2	1, 3
Pan / Tilt resolution	16 bit	16 bit	8 bit	16 bit
Dimmer	8	9	5	7
Shutter / strobe	7 *	8 *	4	6
Color mixing	11–13	12–14	7–9	9–11
Color temperature	14	15	10	12
Color wheel	10 *	11 *	6	8
Gobo wheel	16, 19, 20	17, 20, 21	11, 13	13, 15
Gobo rotation	18 *	19 *	12, 13	14, 15
Prism	21, 22	22, 23	14, 15	16, 17
Frost	23	24	16	18
Zoom	26	27	18	20
Focus	25 *	26 *	17	19
Iris	28 *	29 *	19	21

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

Gobo wheel 1



Gobo wheel 2

1
Open
DMX 0–31

2 
Gobo 1
DMX 32–63

3 
Gobo 2
DMX 64–95

4 
Gobo 3
DMX 96–127

5 
Gobo 4
DMX 128–159

6 
Gobo 5
DMX 160–191

7 
Gobo 6
DMX 192–223

8 
Gobo 7
DMX 224

Gobo wheel 3

1
Open
DMX 0–35

2 
Gobo 1
DMX 36–71

3 
Gobo 2
DMX 72–107

4 
Gobo 3
DMX 108–143

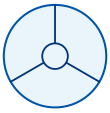
5 
Gobo 4
DMX 144–179

6 
Gobo 5
DMX 180–215

7 
Gobo 6
DMX 216

Prism

1
Open

2 
3 facets
Prism

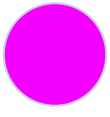
Wheel

1
Open

2
Frost 1

Color wheel

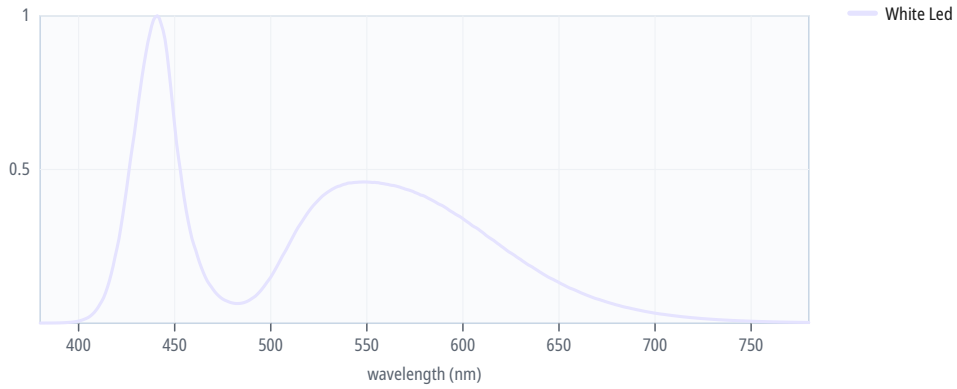
1 
Cyan

2 
Magenta

3
Yellow

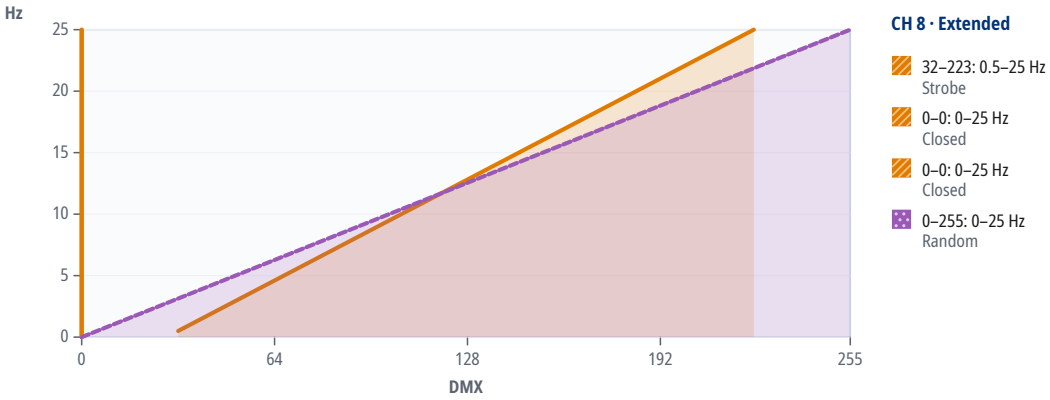
4 
CTO

Spectra of the light sources



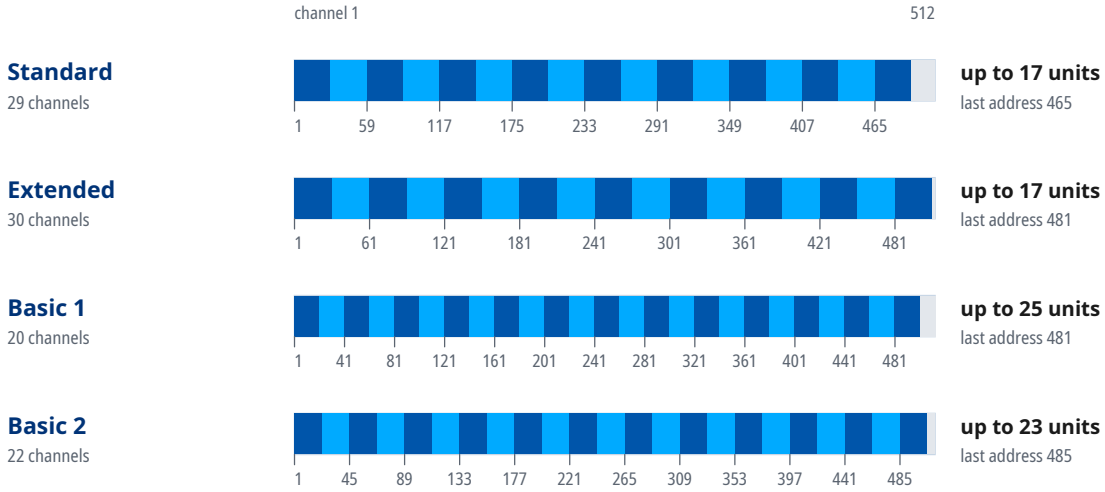
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	151	11	301	16	451
2	31	7	181	12	331	17	481
3	61	8	211	13	361	18	U2 · 1
4	91	9	241	14	391	19	U2 · 31
5	121	10	271	15	421	20	U2 · 61

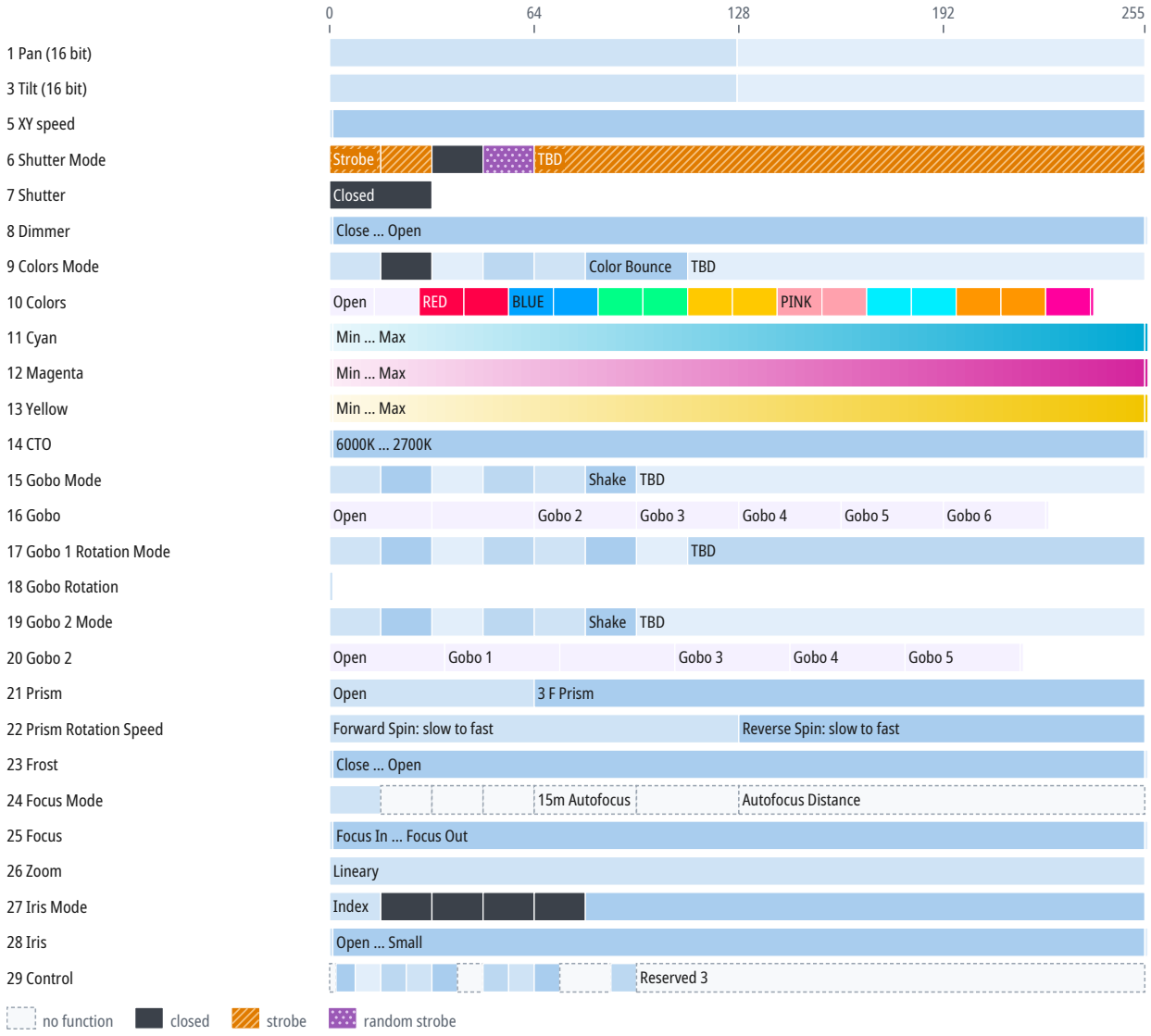
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 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 8 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Shutter 255, CH 9 Colors Mode 0, CH 11 Cyan 0, CH 12 Magenta 0, CH 13 Yellow 0, CH 14 CTO 0.

Channel functions at a glance



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

CH	Function	DMX	Description
5	XY speed	0	Fast to Slow
		1–255	XY speed
6	Shutter Mode	0–15	Strobe
		16–31	Pluse Open
		32–47	Pluse Closed
		48–63	Random
		64–255	TBD
7	Shutter		When CH 6 is 0–15:
		0–31	Closed
		32	Strobe: min
		33–222	Strobe: min ... max
		223	Strobe: max
		224–255	Open
			When CH 6 is 16–31:
		0–31	Closed
		32	Min
		33–222	Min ... max
		223	Max
		224–255	Open
			When CH 6 is 32–47:
		0–31	Closed
		32	Min
		33–222	Min ... max
		223	Max
		224–255	Open
			When CH 6 is 48–63:
		0–31	Closed
		32	Min
		33–222	Min ... max
		223	Max
		224–255	Open
8	Dimmer	0	Close
		1–254	Close ... Open
		255	Open
9	Colors Mode	0–15	Indexed
		16–31	Indexed with Blackout
		32–47	Forward Spin
		48–63	Reverse Spin
		64–79	Continuous
		80–111	Color Bounce
		112–255	TBD
10	Colors		When CH 9 is 0–31:

CH	Function	DMX	Description
10	Colors (continued)	0–13	Open
		14–27	OPEN+RED
		28–41	RED
		42–55	RED+BLUE
		56–69	BLUE
		70–83	BLUE+GREEN
		84–97	GREEN
		98–111	GREEN+YELLOW
		112–125	YELLOW
		126–139	YELLOW+PINK
		140–153	PINK
		154–167	PINK+SKY BLUE
		168–181	SKY BLUE
		182–195	SKY BLUE+ORANGE
		196–209	ORANGE
		210–223	ORANGE+MAGENTA
		224–237	MAGENTA
		238–255	MAGENTA+OPEN
			When CH 9 is 32–47:
		0–255	Stop to fastest (0–360 °/s)
			When CH 9 is 48–63:
		0–255	Stop to fastest (0–360 °/s)
			When CH 9 is 64–111:
		0–13	Open
		14–27	OPEN+RED
		28–41	RED
		42–55	RED+BLUE
		56–69	BLUE
		70–83	BLUE+GREEN
		84–97	GREEN
		98–111	GREEN+YELLOW
		112–125	YELLOW
		126–139	YELLOW+PINK
		140–153	PINK
		154–167	PINK+SKY BLUE
		168–181	SKY BLUE
		182–195	SKY BLUE+ORANGE
		196–209	ORANGE
		210–223	ORANGE+MAGENTA
		224–237	MAGENTA
		238–255	MAGENTA+OPEN
11	Cyan	0	Min

CH	Function	DMX	Description
11	Cyan (continued)	1–254	Min ... Max
		255	Max
12	Magenta	0	Min
		1–254	Min ... Max
		255	Max
13	Yellow	0	Min
		1–254	Min ... Max
		255	Max
14	CTO	0	6000K
		1–254	6000K ... 2700K
		255	2700K
15	Gobo Mode	0–15	Indexed
		16–31	Backout
		32–47	Forward Spin
		48–63	Reverse Spin
		64–79	Continuous
		80–95	Shake
		96–255	TBD
16	Gobo		When CH 15 is 0–31:
		0–31	Open
		32–63	Gobo 1
		64–95	Gobo 2
		96–127	Gobo 3
		128–159	Gobo 4
		160–191	Gobo 5
		192–223	Gobo 6
		224–255	Gobo 7
			When CH 15 is 32–47:
		0–255	Stop to fast (0–360 °/s)
			When CH 15 is 48–63:
		0–255	Stop to fast (0–360 °/s)
			When CH 15 is 64–79:
		0–31	Open
		32–63	Gobo 1
		64–95	Gobo 2
		96–127	Gobo 3
		128–159	Gobo 4
		160–191	Gobo 5
		192–223	Gobo 6
		224–255	Gobo 7
			When CH 15 is 80–95:
		0–255	Shake

CH	Function	DMX	Description
17	Gobo 1 Rotation Mode	0–15	Continuous
		16–31	Forward Spin
		32–47	Reverse Spin
		48–63	Animate>>>
		64–79	Animate>>>BO
		80–95	Animate<<<
		96–111	Animate<<<BO
		112–255	TBD
18	Gobo Rotation		When CH 17 is 0–15:
		0–255	0-360 DEG (360°)
			When CH 17 is 16–31:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 17 is 32–47:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 17 is 48–63:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 17 is 64–79:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 17 is 80–95:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 17 is 96–111:
		0	Min
		1–254	Min ... max
		255	Max
19	Gobo 2 Mode	0–15	Indexed
		16–31	Backout
		32–47	Forward Spin
		48–63	Reverse Spin
		64–79	Continuous
		80–95	Shake
		96–255	TBD
20	Gobo 2		When CH 15 is 0–31:

CH	Function	DMX	Description
20	Gobo 2 (continued)	0–35	Open
		36–71	Gobo 1
		72–107	Gobo 2
		108–143	Gobo 3
		144–179	Gobo 4
		180–215	Gobo 5
		216–255	Gobo 6
			When CH 15 is 32–47:
		0–255	Stop to fast (0–360 °/s)
			When CH 15 is 48–63:
		0–255	Stop to fast (0–360 °/s)
			When CH 15 is 64–79:
		0–35	Open
		36–71	Gobo 1
		72–107	Gobo 2
		108–143	Gobo 3
		144–179	Gobo 4
		180–215	Gobo 5
		216–255	Gobo 6
			When CH 15 is 80–95:
		0–255	Shake
21	Prism	0–63	Open
		64–255	3 F Prism
22	Prism Rotation Speed	0–127	Forward Spin: slow to fast (0–360 °/s)
		128–255	Reverse Spin: slow to fast (0–360 °/s)
23	Frost	0	Close
		1–254	Close ... Open
		255	Open
24	Focus Mode	0–15	Focus Continuous
		16–31	5m Autofocus
		32–47	7point5 m Autofocus
		48–63	10m Autofocus
		64–95	15m Autofocus
		96–127	Greater than 20m Autofocus
		128–255	Autofocus Distance
25	Focus		When CH 24 is 0–15:
		0	Focus In
		1–254	Focus In ... Focus Out
		255	Focus Out
			When CH 24 is 16–127:
		0–255	Focus Adjust
26	Zoom	0–255	Lineary (3.5–40°)

CH	Function	DMX	Description
27	Iris Mode	0–15	Index
		16–31	Pulse opening w CW Blackout
		32–47	Pulse opening w CCW Blackout
		48–63	Pulse closing w CW Blackout
		64–79	Pulse closing w CCW Blackout
		80–255	Iris Mode 1
28	Iris		When CH 27 is 0–15:
		0	Open
		1–254	Open ... Small
		255	Small
			When CH 27 is 16–31:
		0	Slow2Fast-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1 ... Slow2Fast-2
		127	Slow2Fast-2 (0.2–0.25 Hz)
		128–254	Slow2Fast-2 ... Slow2Fast-3
		255	Slow2Fast-3 (1–2.9 Hz)
			When CH 27 is 32–47:
		0	Slow2Fast-1-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1-1 ... Slow2Fast-1-2
		127	Slow2Fast-1-2 (0.2–0.25 Hz)
		128–254	Slow2Fast-1-2 ... Slow2Fast-1-3
		255	Slow2Fast-1-3 (1–2.9 Hz)
			When CH 27 is 48–63:
		0	Slow2Fast-1-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1-1 ... Slow2Fast-12
		127	Slow2Fast-12 (0.2–0.25 Hz)
		128–254	Slow2Fast-12 ... Slow2Fast-1-3
		255	Slow2Fast-1-3 (1–2.9 Hz)
			When CH 27 is 64–79:
		0	Slow2Fast-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1 ... Slow2Fast-2
		127	Slow2Fast-2 (0.2–0.25 Hz)
		128–254	Slow2Fast-2 ... Slow2Fast-3
		255	Slow2Fast-3 (1–2.9 Hz)
29	Control	0–1	No function
		2–7	Normal
		8–15	RESET ALL
		16–23	RESET PAN/TILT
		24–31	RESET COLOR WHEEL
		32–39	RESET ROTATING GOBO
		40–47	Reserved 1
		48–55	OTHER RESET

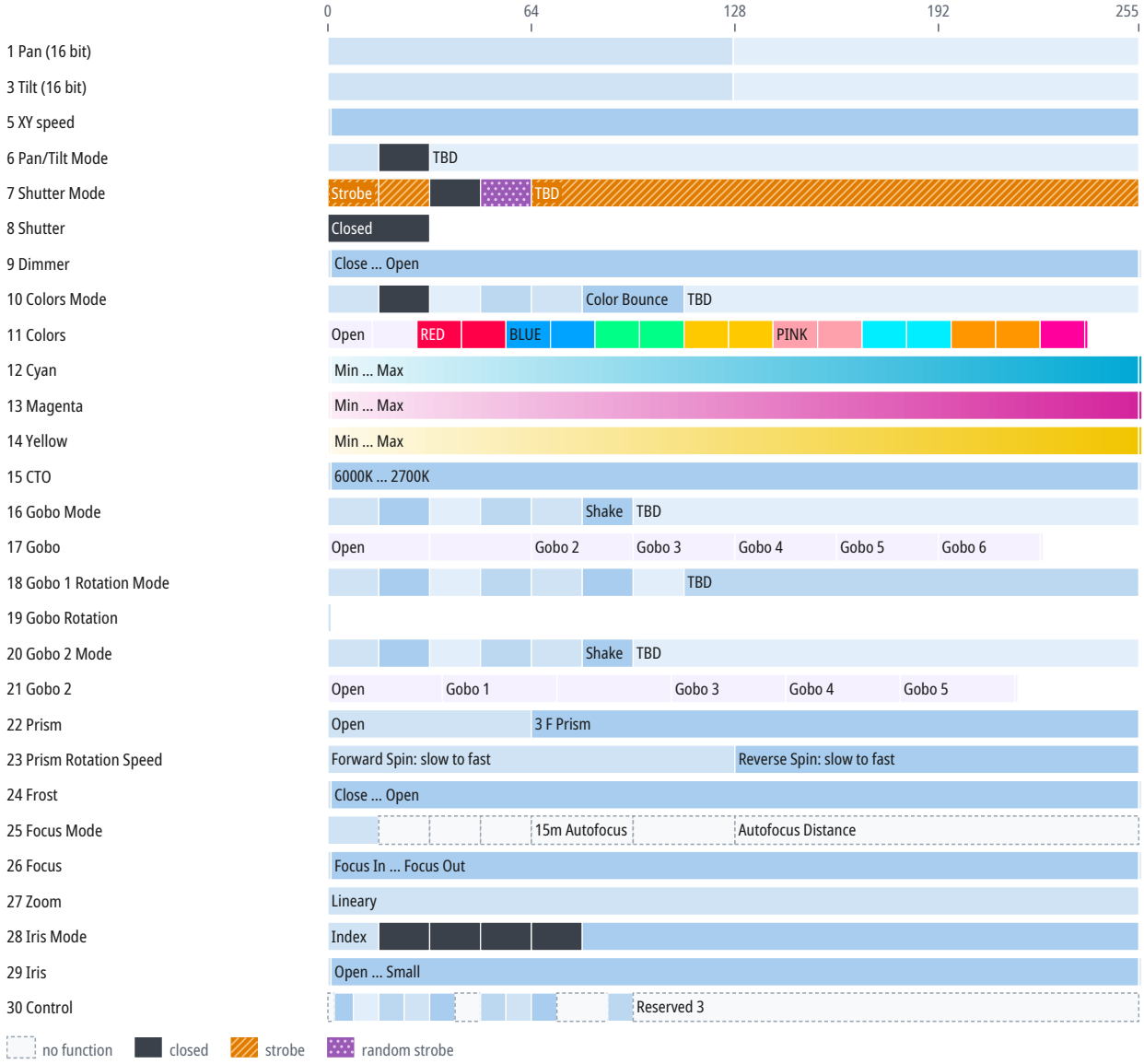
CH	Function	DMX	Description
29	Control (continued)	56–63	DISPLAY ON
		64–71	DISPLAY OFF
		72–87	Reserved 2
		88–95	Hibernation
		96–255	Reserved 3

Mode Extended

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. The GDTF file gives these values for a console's Highlight function: CH 8 Shutter 255, CH 10 Colors Mode 0, CH 12 Cyan 0, CH 13 Magenta 0, CH 14 Yellow 0, CH 15 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Standard” (p. 12)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Standard” (p. 12)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	XY speed		Same as CH 5 in the mode “Standard” (p. 13)
6	Pan/Tilt Mode	0–15	Normal
		16–31	Movement with Blackout
		32–255	TBD
7	Shutter Mode		Same as CH 6 in the mode “Standard” (p. 13)
8	Shutter		When CH 7 is 0–15:
		0–31	Closed
		32	Strobe: min
		33–222	Strobe: min ... max
		223	Strobe: max
		224–255	Open
			When CH 7 is 16–31:
		0–31	Closed
		32	Min
		33–222	Min ... max
		223	Max
		224–255	Open
			When CH 7 is 32–47:
		0–31	Closed
		32	Min
		33–222	Min ... max
		223	Max
		224–255	Open
			When CH 7 is 48–63:
		0–31	Closed
		32	Min
		33–222	Min ... max
		223	Max
		224–255	Open
9	Dimmer		Same as CH 8 in the mode “Standard” (p. 13)
10	Colors Mode		Same as CH 9 in the mode “Standard” (p. 13)
11	Colors		When CH 10 is 0–31:
		0–13	Open
		14–27	OPEN+RED
		28–41	RED
		42–55	RED+BLUE

CH	Function	DMX	Description
11	Colors (continued)	56–69	BLUE
		70–83	BLUE+GREEN
		84–97	GREEN
		98–111	GREEN+YELLOW
		112–125	YELLOW
		126–139	YELLOW+PINK
		140–153	PINK
		154–167	PINK+SKY BLUE
		168–181	SKY BLUE
		182–195	SKY BLUE+ORANGE
		196–209	ORANGE
		210–223	ORANGE+MAGENTA
		224–237	MAGENTA
		238–255	MAGENTA+OPEN
			When CH 10 is 32–47:
		0–255	Stop to fastest (0–362 °/s)
			When CH 10 is 48–63:
		0–255	Stop to fastest (0–360 °/s)
			When CH 10 is 64–111:
		0–13	Open
		14–27	OPEN+RED
		28–41	RED
		42–55	RED+BLUE
		56–69	BLUE
		70–83	BLUE+GREEN
		84–97	GREEN
		98–111	GREEN+YELLOW
		112–125	YELLOW
		126–139	YELLOW+PINK
		140–153	PINK
		154–167	PINK+SKY BLUE
		168–181	SKY BLUE
		182–195	SKY BLUE+ORANGE
		196–209	ORANGE
		210–223	ORANGE+MAGENTA
		224–237	MAGENTA
		238–255	MAGENTA+OPEN
12	Cyan		Same as CH 11 in the mode “Standard” (p. 14)
13	Magenta		Same as CH 12 in the mode “Standard” (p. 15)
14	Yellow		Same as CH 13 in the mode “Standard” (p. 15)
15	CTO		Same as CH 14 in the mode “Standard” (p. 15)

CH	Function	DMX	Description
16	Gobo Mode		Same as CH 15 in the mode “Standard” (p. 15)
17	Gobo		When CH 16 is 0–31:
		0–31	Open
		32–63	Gobo 1
		64–95	Gobo 2
		96–127	Gobo 3
		128–159	Gobo 4
		160–191	Gobo 5
		192–223	Gobo 6
		224–255	Gobo 7
			When CH 16 is 32–47:
		0–255	Stop to fast (0–360 °/s)
			When CH 16 is 48–63:
		0–255	Stop to fast (0–360 °/s)
			When CH 16 is 64–79:
		0–31	Open
		32–63	Gobo 1
		64–95	Gobo 2
		96–127	Gobo 3
		128–159	Gobo 4
		160–191	Gobo 5
		192–223	Gobo 6
		224–255	Gobo 7
			When CH 16 is 80–95:
		0–255	Shake
18	Gobo 1 Rotation Mode		Same as CH 17 in the mode “Standard” (p. 16)
19	Gobo Rotation		When CH 18 is 0–15:
		0–255	0-360 DEG (361°)
			When CH 18 is 16–31:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 32–47:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 48–63:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 64–79:

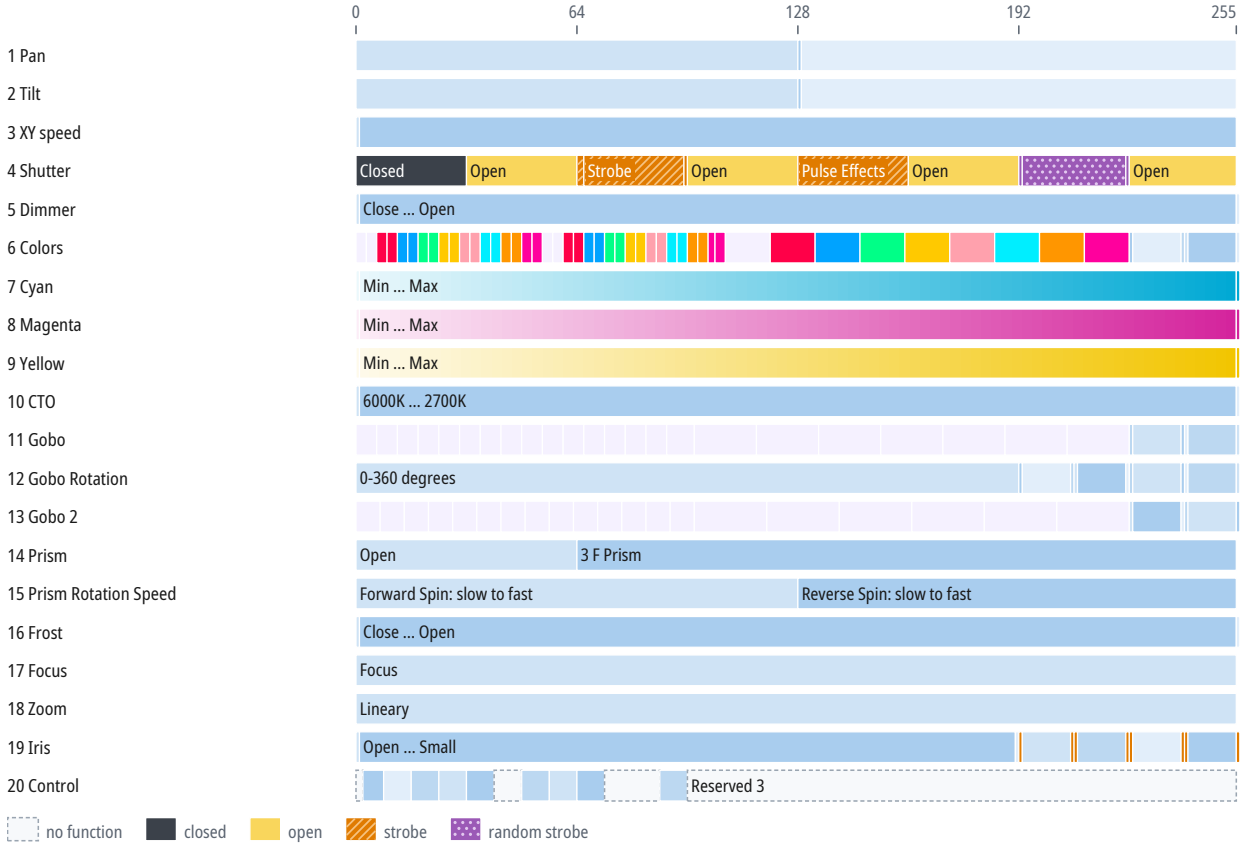
CH	Function	DMX	Description
19	Gobo Rotation (continued)	0	Min
		1–254	Min … max
		255	Max
			When CH 18 is 80–95:
		0	Min
		1–254	Min … max
		255	Max
			When CH 18 is 96–111:
		0	Min
		1–254	Min … max
		255	Max
20	Gobo 2 Mode		Same as CH 19 in the mode “Standard” (p. 16)
21	Gobo 2		When CH 16 is 0–31:
		0–35	Open
		36–71	Gobo 1
		72–107	Gobo 2
		108–143	Gobo 3
		144–179	Gobo 4
		180–215	Gobo 5
		216–255	Gobo 6
			When CH 16 is 32–47:
		0–255	Stop to fast (0–360 °/s)
			When CH 16 is 48–63:
		0–255	Stop to fast (0–360 °/s)
			When CH 16 is 64–79:
		0–35	Open
		36–71	Gobo 1
		72–107	Gobo 2
		108–143	Gobo 3
		144–179	Gobo 4
		180–215	Gobo 5
		216–255	Gobo 6
			When CH 16 is 80–95:
		0–255	Shake
22	Prism		Same as CH 21 in the mode “Standard” (p. 17)
23	Prism Rotation Speed		Same as CH 22 in the mode “Standard” (p. 17)
24	Frost		Same as CH 23 in the mode “Standard” (p. 17)
25	Focus Mode		Same as CH 24 in the mode “Standard” (p. 17)
26	Focus		When CH 25 is 0–15:
		0	Focus In
		1–254	Focus In … Focus Out

CH	Function	DMX	Description
26	Focus (continued)	255	Focus Out
			When CH 25 is 16–127:
		0–255	Focus Adjust
27	Zoom	0–255	Lineary (3.5–40°)
28	Iris Mode		Same as CH 27 in the mode “Standard” (p. 18)
29	Iris		When CH 28 is 0–15:
		0	Open
		1–254	Open ... Small
		255	Small
			When CH 28 is 16–31:
		0	Slow2Fast-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1 ... Slow2Fast-2
		127	Slow2Fast-2 (0.2–0.25 Hz)
		128–254	Slow2Fast-2 ... Slow2Fast-3
		255	Slow2Fast-3 (1–2.9 Hz)
			When CH 28 is 32–47:
		0	Slow2Fast-1-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1-1 ... Slow2Fast-1-2
		127	Slow2Fast-1-2 (0.2–0.25 Hz)
		128–254	Slow2Fast-1-2 ... Slow2Fast-1-3
		255	Slow2Fast-1-3 (1–2.9 Hz)
			When CH 28 is 48–63:
		0	Slow2Fast-1-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1-1 ... Slow2Fast-12
		127	Slow2Fast-12 (0.2–0.25 Hz)
		128–254	Slow2Fast-12 ... Slow2Fast-1-3
		255	Slow2Fast-1-3 (1–2.9 Hz)
			When CH 28 is 64–79:
		0	Slow2Fast-1 (0.01–0.02 Hz)
		1–126	Slow2Fast-1 ... Slow2Fast-2
		127	Slow2Fast-2 (0.2–0.25 Hz)
		128–254	Slow2Fast-2 ... Slow2Fast-3
		255	Slow2Fast-3 (1–2.9 Hz)
30	Control		Same as CH 29 in the mode “Standard” (p. 18)

Mode Basic 1

If the device receives DMX in this mode but gives no light, check these channels: CH 4 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”; CH 5 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Cyan 0, CH 8 Magenta 0, CH 9 Yellow 0, CH 10 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Center
		129–255	Pan 1
2	Tilt	0–127	Tilt 1
		128	Center
		129–255	Tilt 1
3	XY speed		Same as CH 5 in the mode “Standard” (p. 13)
4	Shutter	0–31	Closed
		32–63	Open
		64–65	Slow Strobe
		66–94	Strobe
		95	Fast Strobe
		96–127	Open
		128–159	Pulse Effects (0.9–20 Hz)
		160–191	Open

CH	Function	DMX	Description
4	Shutter (continued)	192	Random Strobe min
		193–222	Random Strobe
		223	Random Strobe max
		224–255	Open
5	Dimmer		Same as CH 8 in the mode “Standard” (p. 13)
6	Colors	0–2	Indexed: Open
		3–5	Indexed: OPEN+RED
		6–8	Indexed: RED
		9–11	Indexed: RED+BLUE
		12–14	Indexed: BLUE
		15–17	Indexed: BLUE+GREEN
		18–20	Indexed: GREEN
		21–23	Indexed: GREEN+YELLOW
		24–26	Indexed: YELLOW
		27–29	Indexed: YELLOW+PINK
		30–32	Indexed: PINK
		33–35	Indexed: PINK+SKY BLUE
		36–38	Indexed: SKY BLUE
		39–41	Indexed: SKY BLUE+ORANGE
		42–44	Indexed: ORANGE
		45–47	Indexed: ORANGE+MAGENTA
		48–50	Indexed: MAGENTA
		51–53	Indexed: MAGENTA+OPEN
		54–56	Indexed w Black Out: Open
		57–59	Indexed w Black Out: OPEN+RED
		60–62	Indexed w Black Out: RED
		63–65	Indexed w Black Out: RED+BLUE
		66–68	Indexed w Black Out: BLUE
		69–71	Indexed w Black Out: BLUE+GREEN
		72–74	Indexed w Black Out: GREEN
		75–77	Indexed w Black Out: GREEN+YELLOW
		78–80	Indexed w Black Out: YELLOW
		81–83	Indexed w Black Out: YELLOW+PINK
		84–86	Indexed w Black Out: PINK
		87–89	Indexed w Black Out: PINK+SKY BLUE
		90–92	Indexed w Black Out: SKY BLUE
		93–95	Indexed w Black Out: SKY BLUE+ORANGE
		96–98	Indexed w Black Out: ORANGE
		99–101	Indexed w Black Out: ORANGE+MAGENTA
		102–103	Indexed w Black Out: MAGENTA
		104–106	Indexed w Black Out: MAGENTA+OPEN
		107–119	Indexed w Bounce: Open

CH	Function	DMX	Description
6	Colors (continued)	120–132	Indexed w Bounce: RED
		133–145	Indexed w Bounce: BLUE
		146–158	Indexed w Bounce: GREEN
		159–171	Indexed w Bounce: YELLOW
		172–184	Indexed w Bounce: PINK
		185–197	Indexed w Bounce: SKY BLUE
		198–210	Indexed w Bounce: ORANGE
		211–223	Indexed w Bounce: MAGENTA
		224	CW Spin Stop
		225–238	CW Spin (1–360 °/s)
		239	CW Spin Fast
		240	CCW Stop
		241–254	CCW Spin (1–360 °/s)
		255	CCW Spin Fast
7	Cyan		Same as CH 11 in the mode “Standard” (p. 14)
8	Magenta		Same as CH 12 in the mode “Standard” (p. 15)
9	Yellow		Same as CH 13 in the mode “Standard” (p. 15)
10	CTO		Same as CH 14 in the mode “Standard” (p. 15)
11	Gobo	0–5	Rotating Gobo Indexed: Open
		6–11	Rotating Gobo Indexed: Gobo 1
		12–17	Rotating Gobo Indexed: Gobo 2
		18–23	Rotating Gobo Indexed: Gobo 3
		24–29	Rotating Gobo Indexed: Gobo 4
		30–35	Rotating Gobo Indexed: Gobo 5
		36–41	Rotating Gobo Indexed: Gobo 6
		42–47	Rotating Gobo Indexed: Gobo 7
		48–53	Rotating Gobo Indexed w Black Out: Open
		54–59	Rotating Gobo Indexed w Black Out: Gobo 1
		60–65	Rotating Gobo Indexed w Black Out: Gobo 2
		66–71	Rotating Gobo Indexed w Black Out: Gobo 3
		72–77	Rotating Gobo Indexed w Black Out: Gobo 4
		78–83	Rotating Gobo Indexed w Black Out: Gobo 5
		84–89	Rotating Gobo Indexed w Black Out: Gobo 6
		90–97	Rotating Gobo Indexed w Black Out: Gobo 7
		98–115	Rotating Gobo Indexed w Shake: Gobo 1
		116–133	Rotating Gobo Indexed w Shake: Gobo 2
		134–151	Rotating Gobo Indexed w Shake: Gobo 3
		152–169	Rotating Gobo Indexed w Shake: Gobo 4
		170–187	Rotating Gobo Indexed w Shake: Gobo 5
		188–205	Rotating Gobo Indexed w Shake: Gobo 6
		206–223	Rotating Gobo Indexed w Shake: Gobo 7
		224	CW Spin Stop

CH	Function	DMX	Description
11	Gobo (continued)	225–238	CW Spin (1–360 °/s)
		239	CW Spin Fast
		240	CCW Spin Stop
		241–254	CCW Spin (1–360 °/s)
		255	CCW Spin Fast
12	Gobo Rotation	0–191	0-360 degrees (360°)
		192	CW Animate Stop
		193–206	CW Animate
		207	CW Animate Fast
		208	CCW Animate Stop
		209–222	CCW Animate
		223	CCW Animate Fast
		224	CW Spin Stop
		225–238	CW Spin
		239	CW Spin Fast
		240	CCW Spin Stop
		241–254	CCW Spin
		255	CCW Spin Fast
13	Gobo 2	0–6	Rotating Gobo Indexed: Open
		7–13	Rotating Gobo Indexed: Gobo 1
		14–20	Rotating Gobo Indexed: Gobo 2
		21–27	Rotating Gobo Indexed: Gobo 3
		28–34	Rotating Gobo Indexed: Gobo 4
		35–41	Rotating Gobo Indexed: Gobo 5
		42–48	Rotating Gobo Indexed: Gobo 6
		49–55	Rotating Gobo Indexed w Black Out: Open
		56–62	Rotating Gobo Indexed w Black Out: Gobo 1
		63–69	Rotating Gobo Indexed w Black Out: Gobo 2
		70–76	Rotating Gobo Indexed w Black Out: Gobo 3
		77–83	Rotating Gobo Indexed w Black Out: Gobo 4
		84–90	Rotating Gobo Indexed w Black Out: Gobo 5
		91–97	Rotating Gobo Indexed w Black Out: Gobo 6
		98–118	Rotating Gobo Indexed w Shake: Gobo 1
		119–139	Rotating Gobo Indexed w Shake: Gobo 2
		140–160	Rotating Gobo Indexed w Shake: Gobo 3
		161–181	Rotating Gobo Indexed w Shake: Gobo 4
		182–202	Rotating Gobo Indexed w Shake: Gobo 5
		203–223	Rotating Gobo Indexed w Shake: Gobo 6
		224	CW Spin Stop
		225–238	CW Spin (1–360 °/s)
		239	CW Spin Fast
		240	CCW Spin Stop

CH	Function	DMX	Description
13	Gobo 2 (continued)	241–254	CCW Spin (1–360 °/s)
		255	CCW Spin Fast
14	Prism		Same as CH 21 in the mode “Standard” (p. 17)
15	Prism Rotation Speed		Same as CH 22 in the mode “Standard” (p. 17)
16	Frost		Same as CH 23 in the mode “Standard” (p. 17)
17	Focus	0–255	Focus
18	Zoom	0–255	Lineary (3.5–40°)
19	Iris	0	Indexed: Open
		1–190	Open ... Small
		191	Small
		192	Pulse opening w CW Blackout: slow
		193–206	Pulse opening w CW Blackout: slow ... fast
		207	Pulse opening w CW Blackout: fast
		208	Pulse opening w CCW Blackout: slow
		209–222	Pulse opening w CCW Blackout: slow ... fast
		223	Pulse opening w CCW Blackout: fast
		224	Pulse closing w CW Blackout: slow
		225–238	Pulse closing w CW Blackout: slow ... fast
		239	Pulse closing w CW Blackout: fast
		240	Pulse closing w CCW Blackout: slow
		241–254	Pulse closing w CCW Blackout: slow ... fast
		255	Pulse closing w CCW Blackout: fast
20	Control		Same as CH 29 in the mode “Standard” (p. 18)

Mode Basic 2

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 6 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 9 Cyan 0, CH 10 Magenta 0, CH 11 Yellow 0, CH 12 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Standard” (p. 12)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Standard” (p. 12)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	XY speed		Same as CH 5 in the mode “Standard” (p. 13)
6	Shutter		Same as CH 4 in the mode “Basic 1” (p. 25)
7	Dimmer		Same as CH 8 in the mode “Standard” (p. 13)
8	Colors		Same as CH 6 in the mode “Basic 1” (p. 26)
9	Cyan		Same as CH 11 in the mode “Standard” (p. 14)
10	Magenta		Same as CH 12 in the mode “Standard” (p. 15)
11	Yellow		Same as CH 13 in the mode “Standard” (p. 15)
12	CTO		Same as CH 14 in the mode “Standard” (p. 15)
13	Gobo		Same as CH 11 in the mode “Basic 1” (p. 27)
14	Gobo Rotation	0–191	0-360 degrees (360°)

CH	Function	DMX	Description
14	Gobo Rotation (continued)	192	CW Animate Stop
		193–206	CW Animate (0–360 °/s)
		207	CW Animate Fast
		208	CCW Animate Stop
		209–222	CCW Animate (0–360 °/s)
		223	CCW Animate Fast
		224	CW Spin Stop
		225–238	CW Spin (0–360 °/s)
		239	CW Spin Fast
		240	CCW Spin Stop
		241–254	CCW Spin (0–360 °/s)
		255	CCW Spin Fast
15	Gobo 2	0–6	Rotating Gobo Indexed: Open
		7–13	Rotating Gobo Indexed: Gobo 1
		14–20	Rotating Gobo Indexed: Gobo 2
		21–27	Rotating Gobo Indexed: Gobo 3
		28–34	Rotating Gobo Indexed: Gobo 4
		35–41	Rotating Gobo Indexed: Gobo 5
		42–48	Rotating Gobo Indexed: Gobo 6
		49–55	Rotating Gobo Indexed w Black Out: Open
		56–62	Rotating Gobo Indexed w Black Out: Gobo 1
		63–69	Rotating Gobo Indexed w Black Out: Gobo 2
		70–76	Rotating Gobo Indexed w Black Out: Gobo 3
		77–83	Rotating Gobo Indexed w Black Out: Gobo 4
		84–90	Rotating Gobo Indexed w Black Out: Gobo 5
		91–97	Rotating Gobo Indexed w Black Out: Gobo 6
		98–118	Rotating Gobo Indexed w Shake: Gobo 1
		119–139	Rotating Gobo Indexed w Shake: Gobo 2
		140–160	Rotating Gobo Indexed w Shake: Gobo 3
		161–181	Rotating Gobo Indexed w Shake: Gobo 4
		182–202	Rotating Gobo Indexed w Shake: Gobo 5
		203–223	Rotating Gobo Indexed w Shake: Gobo 6
		224	CW Spin Stop
		225–238	CW Spin
		239	CW Spin Fast
		240	CCW Spin Stop
		241–254	CCW Spin
		255	CCW Spin Fast
16	Prism		Same as CH 21 in the mode “Standard” (p. 17)
17	Prism Rotation Speed		Same as CH 22 in the mode “Standard” (p. 17)
18	Frost		Same as CH 23 in the mode “Standard” (p. 17)
19	Focus	0–255	Focus

CH	Function	DMX	Description
20	Zoom	0–255	Lineary (3.5–40°)
21	Iris		Same as CH 19 in the mode “Basic 1” (p. 29)
22	Control		Same as CH 29 in the mode “Standard” (p. 18)

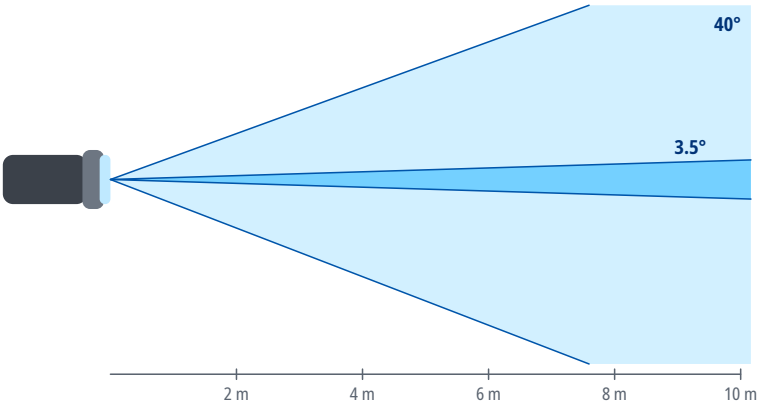
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	250 W
Luminous flux	8,658 lm
Color temperature	8,000 K
Color rendering index (CRI)	70
Optics	
Zoom	3.5–40°
Movement	
Pan	540°
Tilt	265°
Control	
DMX connection	5-pin XLR IN/OUT
Electrical	
Power supply	90–264 V, 50/60 Hz
Power consumption	276 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	23 kg
Operating environment	
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2700–6000 K
Strobe frequency	0.5–25 Hz
Color wheel 1 rotation	up to 362 °/s (60 rpm)
Gobo wheel 2 rotation	up to 360 °/s (60 rpm)
Gobo wheel 3 rotation	up to 360 °/s (60 rpm)
Gobo 2 rotation	up to 360 °/s (60 rpm)
Prism rotation	up to 360 °/s (60 rpm)

Spot diameter



Distance	Ø 3.5°	Ø 40°
2 m	0.12 m	1.5 m
4 m	0.24 m	2.9 m
6 m	0.37 m	4.4 m
8 m	0.49 m	5.8 m
10 m	0.61 m	7.3 m
15 m	0.92 m	10.9 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.