DMX REFERENCE

HAVOCH600F

Event Lighting



Manufacturer	Event Lighting
GDTF file	Event_Lighting_HAVOCH600F_93744.gdtf
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1 About this manual

This document describes the HAVOCH600F by Event Lighting. It was compiled from the GDTF file Event_Lighting_HAVOCH600F_93744.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	35.1 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	39	13	1, 40, 79, 118, ...
Basic1	35	14	1, 36, 71, 106, ...
Basic2	33	15	1, 34, 67, 100, ...

No light? Check these channels

- Standard: CH 6 Shutter at 63–64, 126–127, 189–190 or 252–255 “Open”; CH 7 Dimmer above 0
- Basic1: CH 6 Shutter at 63–64, 126–127, 189–190 or 252–255 “Open”; CH 7 Dimmer above 0
- Basic2: CH 6 Shutter at 63–64, 126–127, 189–190 or 252–255 “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

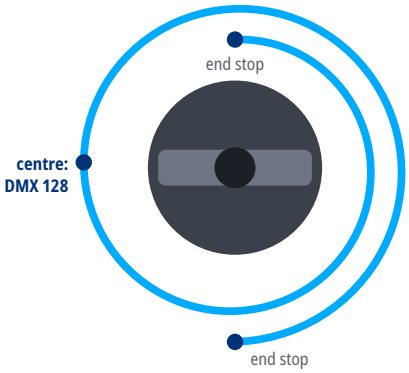
Description in the GDTF file

“The Event Lighting HAVOCH600F is a powerhouse LED Moving Head Hybrid designed for a versatile lighting experience. This single 640W white LED engine powerfully illuminates any space, delivering an engaging light show with 8 + open colours, 8 + open static gobos and 7 + open rotating gobos.”

Range of movement

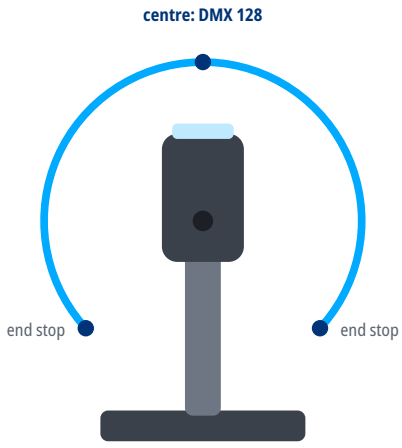
Pan 540°

top view



Tilt 265°

side view



5 Installation

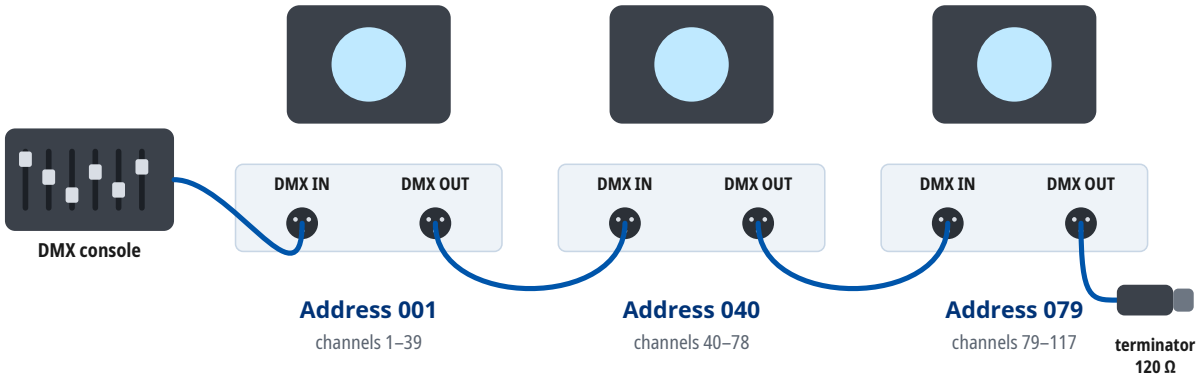
⚠ WARNING

- 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: 35.1 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 39 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

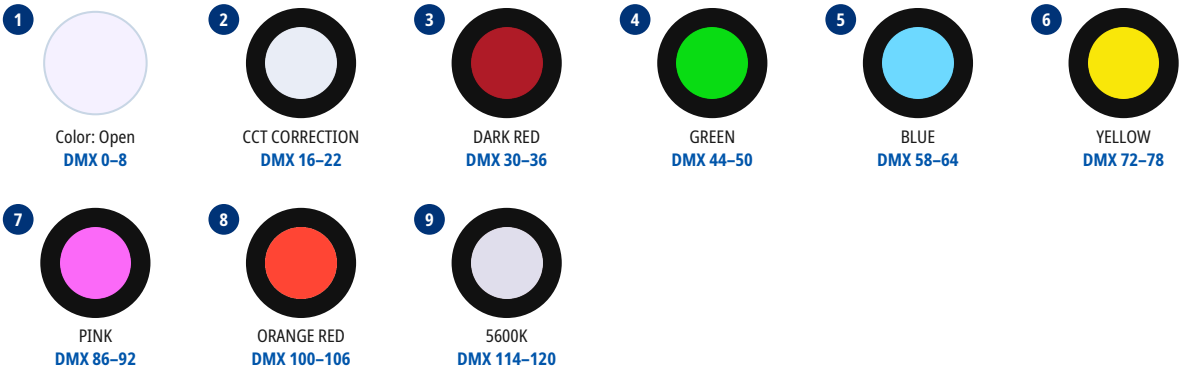
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Standard”: 39.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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, 40, 79, 118.
- 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 39 channels	Basic1 35 channels	Basic2 33 channels
Pan / Tilt	1, 3	1, 3	1, 3
Dimmer	7	7	7
Dimmer resolution	16 bit	8 bit	8 bit
Shutter / strobe	6	6	6
Color mixing	9–11	8–10	8–10
Color temperature	12	11	11
Color wheel	13	12	12
Gobo wheel	14, 17	13, 15	13, 15
Gobo rotation	15	14	14
Prism	18, 19	16, 17	16, 17
Frost	20	18	18
Zoom	21	19	19
Focus	23	20	20
Iris	27	23	23
Animation wheel	25, 26	21, 22	21, 22
Effects / macros	37	33	

Gobo wheel 1



Gobo wheel 2

1. Gobo: Open — DMX 0–7
2. gobo1 — DMX 8–15
3. gobo2 — DMX 16–23
4. gobo3 — DMX 24–31
5. gobo4 — DMX 32–39
6. gobo5 — DMX 40–47
7. gobo6 — DMX 48–55
8. gobo7 — DMX 56–64

Gobo wheel 3

1. Gobo: Open — DMX 0–5
2. gobo1 — DMX 6–11
3. gobo2 — DMX 12–17
4. gobo3 — DMX 18–23
5. gobo4 — DMX 24–29
6. gobo5 — DMX 30–35
7. gobo6 — DMX 36–41
8. gobo7 — DMX 42–47
9. gobo8 — DMX 48–53

Prism

1. Open — DMX 0–127
2. 4 F Prism — DMX 128–255

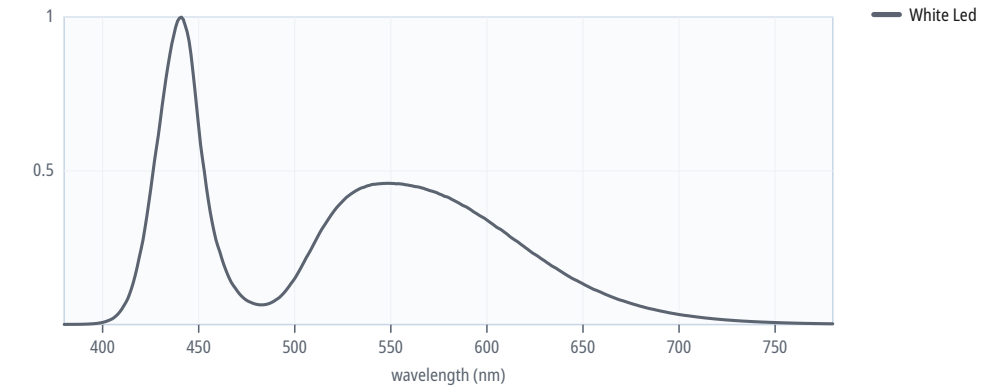
Wheel

1. Open
2. Frost 1

Animation wheel

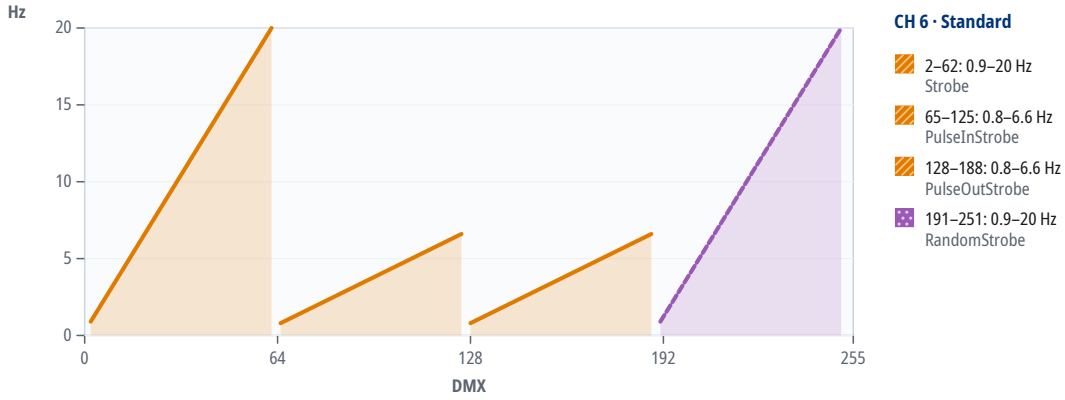
1	Animation Wheel Spin: Stop	CH 26: DMX 191–192	
2	Insertion	CH 25: DMX 0–255	

Spectra of the light sources



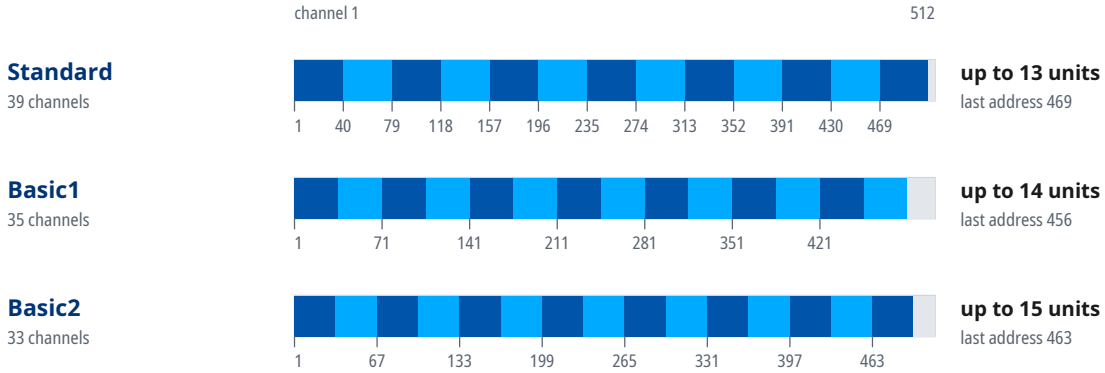
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

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	196	11	391	16	U2 · 79
2	40	7	235	12	430	17	U2 · 118
3	79	8	274	13	469	18	U2 · 157
4	118	9	313	14	U2 · 1	19	U2 · 196
5	157	10	352	15	U2 · 40	20	U2 · 235

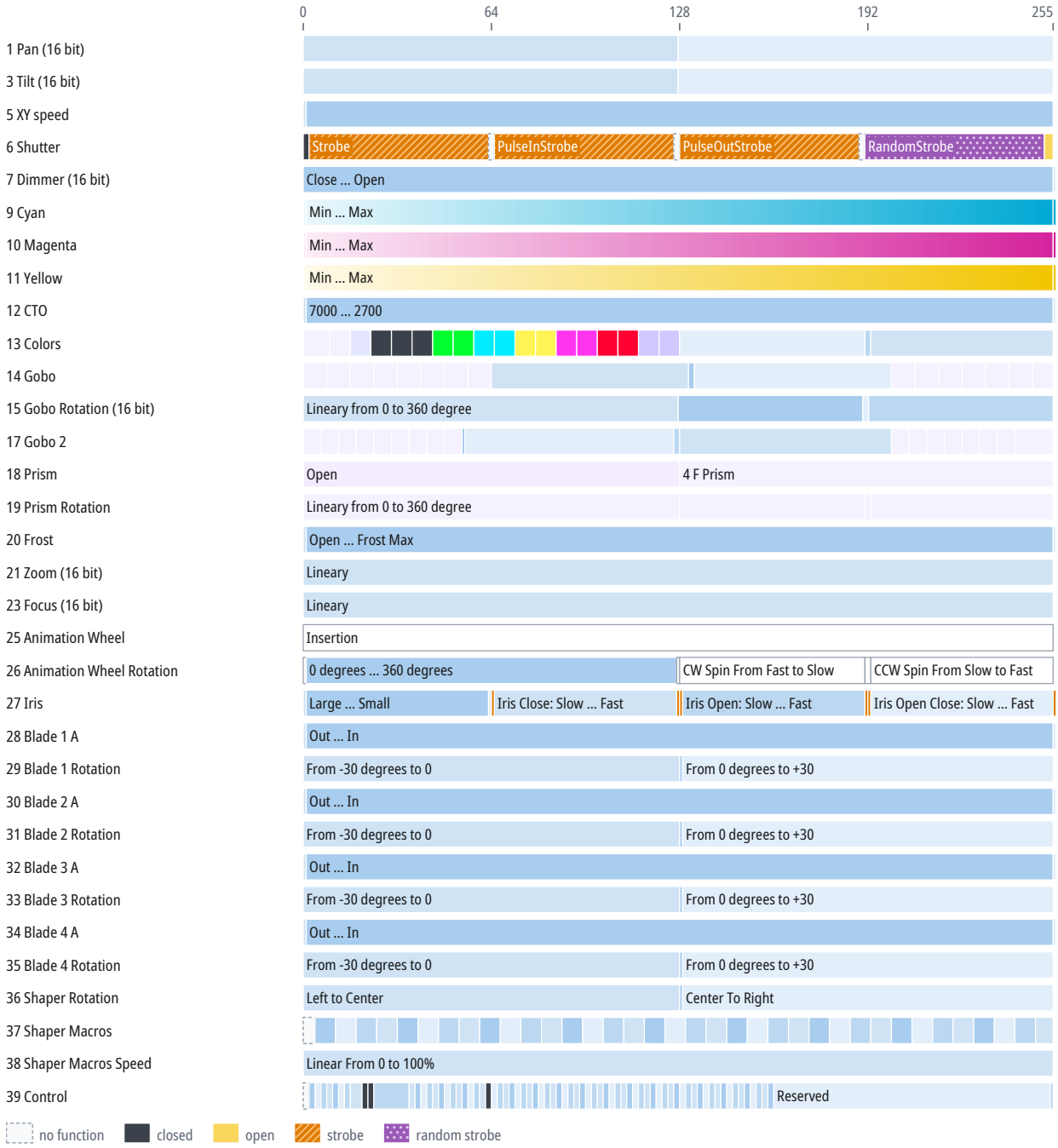
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

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 6 Shutter at 63–64, 126–127, 189–190 or 252–255 “Open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 255, CH 7 Dimmer 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Center
		128–255	Pan 1

CH	Function	DMX	Description
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
5	XY speed	0	Fast to Slow
		1–255	XY speed
6	Shutter	0–1	Closed
		2–62	Strobe (0.9–20 Hz)
		63–64	Open
		65–125	PulseInStrobe (0.8–6.6 Hz)
		126–127	Open
		128–188	PulseOutStrobe (0.8–6.6 Hz)
		189–190	Open
		191–251	RandomStrobe (0.9–20 Hz)
		252–255	Open
7	Dimmer	0–255	Close ... Open
		255	Open
8	Dimmer Fine	0–255	Fine adjustment of CH 7
9	Cyan	0	Min
		1–254	Min ... Max
		255	Max
10	Magenta	0	Min
		1–254	Min ... Max
		255	Max
11	Yellow	0	Min
		1–254	Min ... Max
		255	Max
12	CTO	0	7000
		1–254	7000 ... 2700
		255	2700
13	Colors	0–8	Color: Open
		9–15	Open + CCT CORRECTION
		16–22	CCT CORRECTION
		23–29	CCT CORRECTION + DARK RED
		30–36	DARK RED
		37–43	DARK RED + GREEN
		44–50	GREEN
		51–57	GREEN + BLUE
		58–64	BLUE
		65–71	BLUE + YELLOW
		72–78	YELLOW

CH	Function	DMX	Description
13	Colors (continued)	79–85	YELLOW + PINK
		86–92	PINK
		93–99	PINK + ORANGE RED
		100–106	ORANGE RED
		107–113	ORANGE RED + 5600K
		114–120	5600K
		121–127	5600K + OPEN
		128–190	Color 1 Wheel Spin: From fast to slow
		191–192	Color 1 Wheel Spin: Stop
		193–255	Color 1 Wheel Spin: From slow to fast
14	Gobo	0–7	Gobo: Open
		8–15	gobo1
		16–23	gobo2
		24–31	gobo3
		32–39	gobo4
		40–47	gobo5
		48–55	gobo6
		56–63	gobo7
		64–130	Gobo 1 Select Spin: From fast to slow (360–1 °/s)
		131–132	Gobo 1 Select Spin: Stop
		133–199	Gobo 1 Select Spin: From slow to fast (1–360 °/s)
		200–207	GOBO 1 from slow to fast
		208–215	GOBO 2 from slow to fast
		216–223	GOBO 3 from slow to fast
		224–231	GOBO 4 from slow to fast
		232–239	GOBO 5 from slow to fast
		240–247	GOBO 6 from slow to fast
		248–255	GOBO 7 from slow to fast
15	Gobo Rotation	0–127	Lineary from 0 to 360 degree (360°)
		128–190	Gobo 1 Pos Rotate: From fast to slow (360–0 °/s)
		191–192	Gobo 1 Pos Rotate: Stop
		193–255	Gobo 1 Pos Rotate: From slow to fast (0–360 °/s)
16	Gobo Rotation Fine	0–255	Fine adjustment of CH 15
17	Gobo 2	0–5	Gobo: Open
		6–11	gobo1
		12–17	gobo2
		18–23	gobo3
		24–29	gobo4
		30–35	gobo5
		36–41	gobo6
		42–47	gobo7
		48–53	gobo8

CH	Function	DMX	Description
17	Gobo 2 (continued)	54	Gobo 2
		55–125	Gobo 2 Select Spin: From fast to slow
		126–127	Gobo 2 Select Spin: Stop
		128–199	Gobo 2 Select Spin: From slow to fast
		200–205	GOBO 1 from slow to fast
		206–211	GOBO 2 from slow to fast
		212–217	GOBO 3 from slow to fast
		218–223	GOBO 4 from slow to fast
		224–229	GOBO 5 from slow to fast
		230–235	GOBO 6 from slow to fast
		236–241	GOBO 7 from slow to fast
		242–255	GOBO 8 from slow to fast
18	Prism		4 F Prism
		0–127	Open
		128–255	4 F Prism
19	Prism Rotation	0–127	Lineary from 0 to 360 degree (360°)
		128–190	Prism 1 Pos Rotate: From fast to slow
		191–192	Prism 1 Pos Rotate: Stop (7.09–177.2 °/s)
		193–255	Prism 1 Pos Rotate: From slow to fast
20	Frost	0	Open
		1–254	Open ... Frost Max
		255	Frost Max
21	Zoom	0–255	Lineary (4–50°)
22	Zoom Fine	0–255	Fine adjustment of CH 21
23	Focus	0–255	Lineary
24	Focus Fine	0–255	Fine adjustment of CH 23
25	Animation Wheel		Animation Insertion
		0–255	Insertion
26	Animation Wheel Rotation	0	0 degrees
		1–126	0 degrees ... 360 degrees
		127	360 degrees
		128–190	CW Spin From Fast to Slow
		191–192	Animation Wheel Spin: Stop
		193–255	CCW Spin From Slow to Fast
27	Iris	0	Large
		1–62	Large ... Small
		63	Small
		64	Iris Close: Slow
		65–126	Iris Close: Slow ... Fast
		127	Iris Close: Fast
		128	Iris Open: Slow
		129–190	Iris Open: Slow ... Fast

CH	Function	DMX	Description
27	Iris (continued)	191	Iris Open: Fast
		192	Iris Open Close: Slow
		193–254	Iris Open Close: Slow ... Fast
		255	Iris Open Close: Fast
28	Blade 1 A	0	Out
		1–254	Out ... In
		255	In
29	Blade 1 Rotation	0–127	From -30 degrees to 0
		128	0 degrees
		129–255	From 0 degrees to +30
30	Blade 2 A	0	Out
		1–254	Out ... In
		255	In
31	Blade 2 Rotation	0–127	From -30 degrees to 0
		128	0 degrees
		129–255	From 0 degrees to +30
32	Blade 3 A	0	Out
		1–254	Out ... In
		255	In
33	Blade 3 Rotation	0–127	From -30 degrees to 0
		128	0 degrees
		129–255	From 0 degrees to +30
34	Blade 4 A	0	Out
		1–254	Out ... In
		255	In
35	Blade 4 Rotation	0–127	From -30 degrees to 0
		128	0 degrees
		129–255	From 0 degrees to +30
36	Shaper Rotation	0–127	Left to Center
		128	Center
		129–255	Center To Right
37	Shaper Macros	0–3	No Function
		4–10	Marco 1
		11–17	Marco 2
		18–24	Marco 3
		25–31	Marco 4
		32–38	Marco 5
		39–45	Marco 6
		46–52	Marco 7
		53–59	Marco 8
		60–66	Marco 9
		67–73	Marco 10

CH	Function	DMX	Description
37	Shaper Macros (continued)	74–80	Marco 11
		81–87	Marco 12
		88–94	Marco 13
		95–101	Marco 14
		102–108	Marco 15
		109–115	Marco 16
		116–122	Marco 17
		123–129	Marco 18
		130–136	Marco 19
		137–143	Marco 20
		144–150	Marco 21
		151–157	Marco 22
		158–164	Marco 23
		165–171	Marco 24
		172–178	Marco 25
		179–185	Marco 26
		186–192	Marco 27
		193–199	Marco 28
		200–206	Marco 29
		207–213	Marco 30
		214–220	Marco 31
		221–227	Marco 32
		228–234	Marco 33
		235–241	Marco 34
		242–248	Marco 35
		249–255	Marco 36
38	Shaper Macros Speed	0–255	Linear From 0 to 100%
39	Control	0–1	No function
		2–3	Pan Reverse ON
		4–5	Pan Resverse OFF
		6–7	Tilt Reverse ON
		8–9	Tilt Reverse OFF
		10–11	P/T Mode Fast
		12–13	P/T Mode Midium
		14–15	P/T Mode Slow
		16–19	Reserved
		20–21	MOVEMENT IN BLACKOUT ON
		22–23	MOVEMENT IN BLACKOUT OFF
		24–35	Reserved
		36–37	DISPLAY ON
		38–39	DISPLAY 10S
		40–41	DISPLAY 20S

CH	Function	DMX	Description
39	Control (continued)	42–43	DISPLAY 30S
		44–45	FLIP DISPLAY ON
		46–47	FLIP DISPLAY OFF
		48–49	FLIP DISPLAY AUTO
		50–51	KEY LOCK ON
		52–53	KEY LOCK OFF
		54–55	Fan Mode: AUTO
		56–57	SILENT
		58–59	Fan Mode: HIGH
		60–61	NO SIGNAL HOLD
		62–63	NO SIGNAL BLACKOUT
		64–65	STATUS LED ON
		66–67	STATUS LED OFF
		68–69	LINEAR
		70–71	S-CURVE
		72–73	SQUARE LAW
		74–75	INVERSE SQUARE LAW
		76–77	Dimmer Speed: AUTO
		78–79	Dimmer Speed: FAST
		80–81	MEDIUM
		82–83	Dimmer Speed: SLOW
		84–85	600HZ (600–50000 Hz)
		86–87	1200HZ (600–50000 Hz)
		88–89	2000HZ (600–50000 Hz)
		90–91	4000HZ (600–50000 Hz)
		92–93	6000HZ (600–50000 Hz)
		94–95	25KHZ (600–50000 Hz)
		96–97	50KHZ (600–50000 Hz)
		98–101	Reserved
		102–103	RESET ALL
		104–107	Reserved
		108–109	RESET PAN/TILT
		110–111	RESET CYAN
		112–113	RESET MAGENTA
		114–115	RESET YELLOW
		116–117	RESET CTO
		118–119	RESET COLOR WHEEL
		120–121	RESET GOBO WHEEL
		122–123	Reserved
		124–125	Fix Gobo Wheel Reset
		126–127	RESET ANIMATION WHEEL
		128–129	Reserved

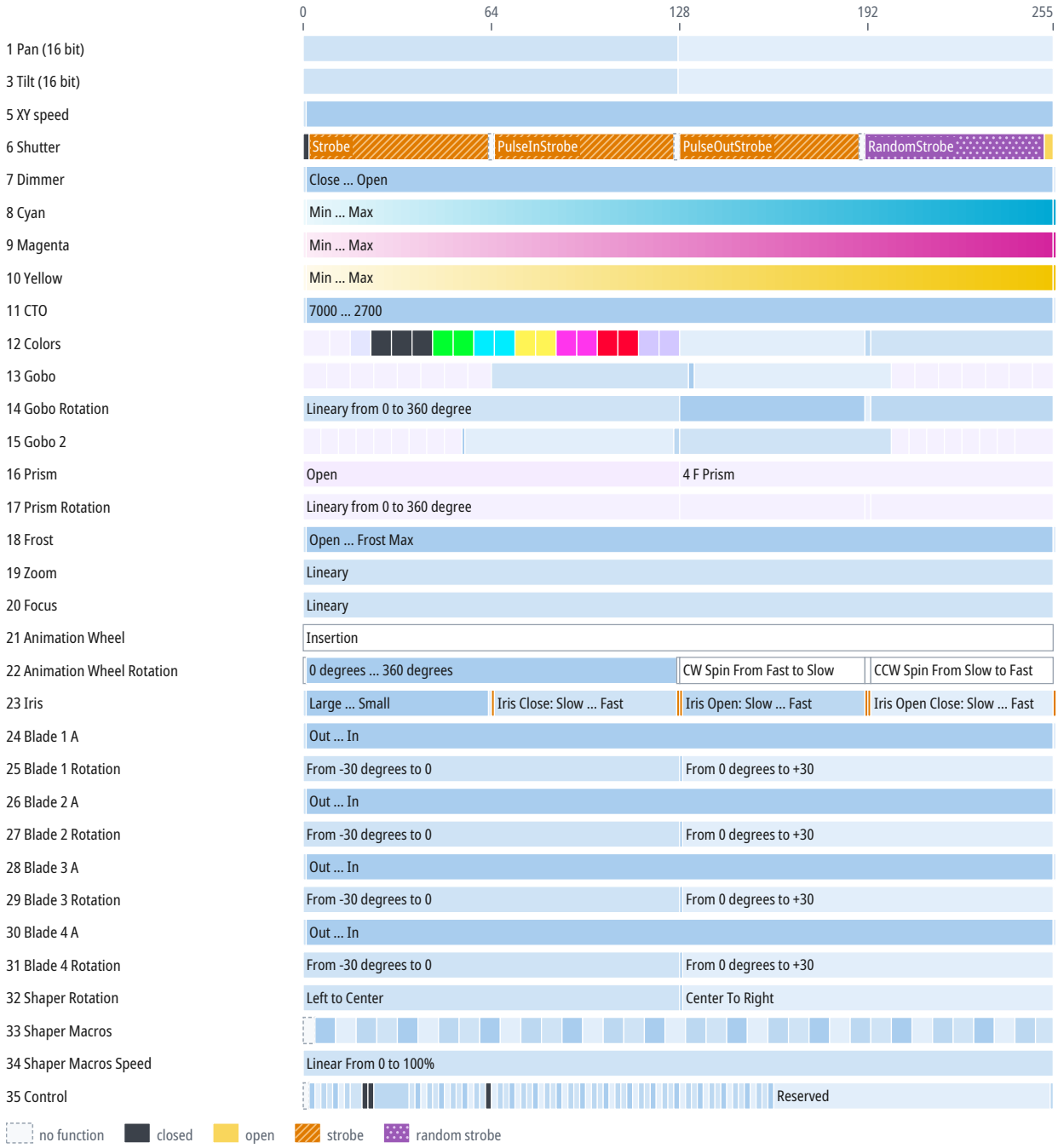
CH	Function	DMX	Description
39	Control (continued)	130–131	RESET PRISM
		132–133	Reserved
		134–135	RESET FROST
		136–137	RESET IRIS
		138–139	RESET ZOOM
		140–141	RESET FOCUS
		142–143	RESET FRAME ROT
		144–145	RESET BLADE 1 POSITION
		146–147	RESET BLADE 1 ROT
		148–149	RESET BLADE 2 POSITION
		150–151	RESET BLADE 2 ROT
		152–153	RESET BLADE 3 POSITION
		154–155	RESET BLADE 3 ROT
		156–157	RESET BLADE 4 POSITION
		158–159	RESET BLADE 4 ROT
		160–253	Reserved
		254–255	FACTORY DEFAULT OF CONTROL FUNCTIONS

Mode Basic1

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 63–64, 126–127, 189–190 or 252–255 “Open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 255.

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. 13)

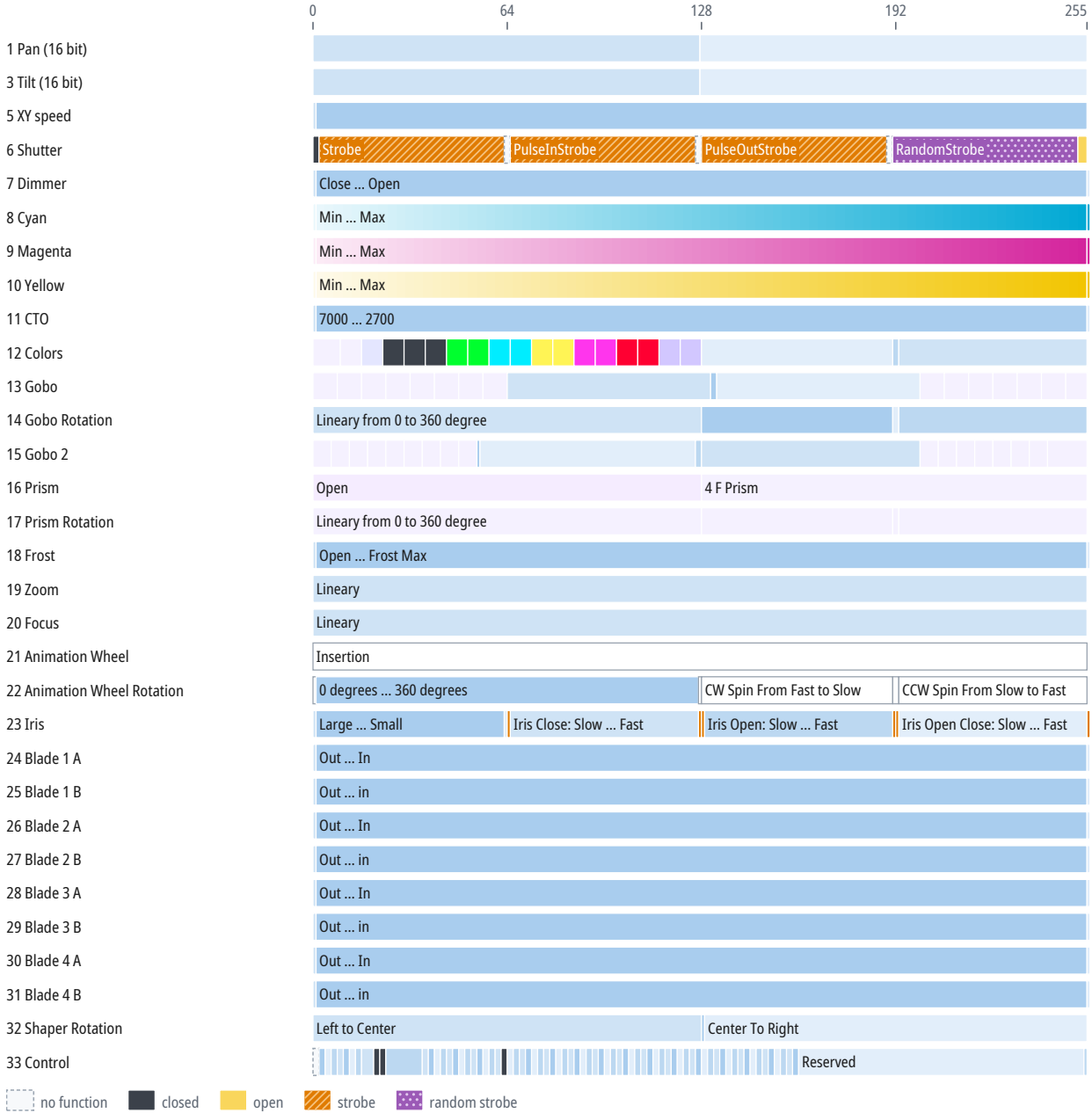
CH	Function	DMX	Description
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	XY speed		Same as CH 5 in the mode “Standard” (p. 13)
6	Shutter		Same as CH 6 in the mode “Standard” (p. 13)
7	Dimmer	0	Close
		1–254	Close ... Open
		255	Open
8	Cyan		Same as CH 9 in the mode “Standard” (p. 13)
9	Magenta		Same as CH 10 in the mode “Standard” (p. 13)
10	Yellow		Same as CH 11 in the mode “Standard” (p. 13)
11	CTO		Same as CH 12 in the mode “Standard” (p. 13)
12	Colors		Same as CH 13 in the mode “Standard” (p. 13)
13	Gobo		Same as CH 14 in the mode “Standard” (p. 14)
14	Gobo Rotation		Same as CH 15 in the mode “Standard” (p. 14)
15	Gobo 2		Same as CH 17 in the mode “Standard” (p. 14)
16	Prism		Same as CH 18 in the mode “Standard” (p. 15)
17	Prism Rotation		Same as CH 19 in the mode “Standard” (p. 15)
18	Frost		Same as CH 20 in the mode “Standard” (p. 15)
19	Zoom	0–255	Lineary (4–50°)
20	Focus	0–255	Lineary
21	Animation Wheel		Same as CH 25 in the mode “Standard” (p. 15)
22	Animation Wheel Rotation		Same as CH 26 in the mode “Standard” (p. 15)
23	Iris		Same as CH 27 in the mode “Standard” (p. 15)
24	Blade 1 A		Same as CH 28 in the mode “Standard” (p. 16)
25	Blade 1 Rotation		Same as CH 29 in the mode “Standard” (p. 16)
26	Blade 2 A		Same as CH 30 in the mode “Standard” (p. 16)
27	Blade 2 Rotation		Same as CH 31 in the mode “Standard” (p. 16)
28	Blade 3 A		Same as CH 32 in the mode “Standard” (p. 16)
29	Blade 3 Rotation		Same as CH 33 in the mode “Standard” (p. 16)
30	Blade 4 A		Same as CH 34 in the mode “Standard” (p. 16)
31	Blade 4 Rotation		Same as CH 35 in the mode “Standard” (p. 16)
32	Shaper Rotation		Same as CH 36 in the mode “Standard” (p. 16)
33	Shaper Macros		Same as CH 37 in the mode “Standard” (p. 16)
34	Shaper Macros Speed	0–255	Linear From 0 to 100%
35	Control		Same as CH 39 in the mode “Standard” (p. 17)

Mode Basic2

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 63–64, 126–127, 189–190 or 252–255 “Open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 255.

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. 13)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	XY speed		Same as CH 5 in the mode “Standard” (p. 13)

CH	Function	DMX	Description
6	Shutter		Same as CH 6 in the mode “Standard” (p. 13)
7	Dimmer		Same as CH 7 in the mode “Basic1” (p. 21)
8	Cyan		Same as CH 9 in the mode “Standard” (p. 13)
9	Magenta		Same as CH 10 in the mode “Standard” (p. 13)
10	Yellow		Same as CH 11 in the mode “Standard” (p. 13)
11	CTO		Same as CH 12 in the mode “Standard” (p. 13)
12	Colors		Same as CH 13 in the mode “Standard” (p. 13)
13	Gobo		Same as CH 14 in the mode “Standard” (p. 14)
14	Gobo Rotation		Same as CH 15 in the mode “Standard” (p. 14)
15	Gobo 2		Same as CH 17 in the mode “Standard” (p. 14)
16	Prism		Same as CH 18 in the mode “Standard” (p. 15)
17	Prism Rotation		Same as CH 19 in the mode “Standard” (p. 15)
18	Frost		Same as CH 20 in the mode “Standard” (p. 15)
19	Zoom	0–255	Lineary (4–50°)
20	Focus	0–255	Lineary
21	Animation Wheel		Same as CH 25 in the mode “Standard” (p. 15)
22	Animation Wheel Rotation		Same as CH 26 in the mode “Standard” (p. 15)
23	Iris		Same as CH 27 in the mode “Standard” (p. 15)
24	Blade 1 A		Same as CH 28 in the mode “Standard” (p. 16)
25	Blade 1 B	0	Out
		1–254	Out … in
		255	In
26	Blade 2 A		Same as CH 30 in the mode “Standard” (p. 16)
27	Blade 2 B	0	Out
		1–254	Out … in
		255	In
28	Blade 3 A		Same as CH 32 in the mode “Standard” (p. 16)
29	Blade 3 B	0	Out
		1–254	Out … in
		255	In
30	Blade 4 A		Same as CH 34 in the mode “Standard” (p. 16)
31	Blade 4 B	0	Out
		1–254	Out … in
		255	In
32	Shaper Rotation		Same as CH 36 in the mode “Standard” (p. 16)
33	Control		Same as CH 39 in the mode “Standard” (p. 17)

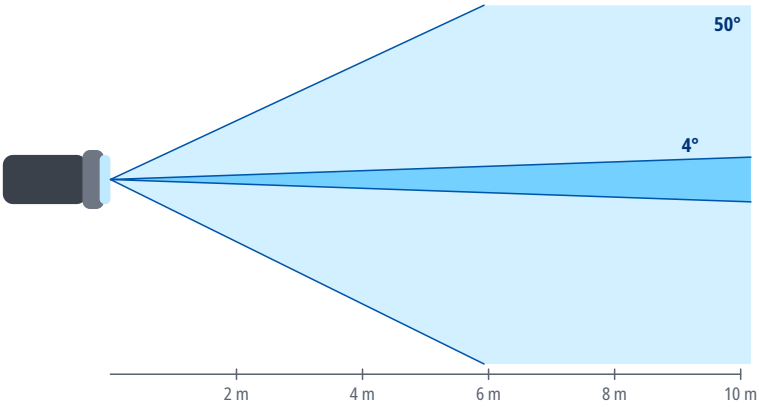
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	640 W
Luminous flux	83,800 lm
Color temperature	7,500 K
Color rendering index (CRI)	70
Optics	
Zoom	4–50°
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	35.1 kg
Operating environment	
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2700–7000 K
Strobe frequency	0.9–20 Hz
LED frequency	600–50000 Hz
Color wheel 1 rotation	up to 360 °/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 180 °/s (30 rpm)

Spot diameter



Distance	Ø 4°	Ø 50°
2 m	0.14 m	1.9 m
4 m	0.28 m	3.7 m
6 m	0.42 m	5.6 m
8 m	0.56 m	7.5 m
10 m	0.7 m	9.3 m
15 m	1 m	14 m

Spot diameter square to the beam axis, calculated from the beam angle.

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.
Movement is reversed	Check whether Pan/Tilt inversion is enabled in the device menu or in the controller.
Moving parts do not reach the correct position after power-on or transport	Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center.
Movement is jerky	Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.