DMX REFERENCE

PLUTO 8000 WBX PW8

SS9391XLE-ME

Silver Star



Manufacturer	Silver Star
GDTF file	Silver_Star_PLUTO_8000_WBX_PW8_80991.gdtf
GDTF revision	SS9391XLE-ME · 2024-12-16
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1 About this manual

This document describes the SS9391XLE-ME by Silver Star. It was compiled from the GDTF file Silver_Star_PLUTO_8000_WBX_PW8_80991.gdtf from the GDTF-Share library.

File revision: “SS9391XLE-ME”.

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 Silver Star; 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	14 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
HSIC	20	25	1, 21, 41, 61, ...
SSP	18	28	1, 19, 37, 55, ...
Tour	22	23	1, 23, 45, 67, ...
TR16	29	17	1, 30, 59, 88, ...
CMY	23	22	1, 24, 47, 70, ...
Zone	28	18	1, 29, 57, 85, ...

No light? Check these channels

- HSIC: CH 6 Dimmer 1 above 0; CH 11 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 19 Dimmer 2 above 0
- SSP: CH 8 Dimmer 1 above 0; CH 9 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 17 Dimmer 2 above 0
- Tour: CH 8 Dimmer 1 above 0; CH 9 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 21 Dimmer 2 above 0
- TR16: CH 14 Dimmer 1 above 0; CH 16 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 28 Dimmer 2 above 0
- CMY: CH 9 Dimmer 1 above 0; CH 10 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 22 Dimmer 2 above 0
- Zone: CH 13 Dimmer 1 above 0; CH 15 Dimmer 2 above 0; CH 16 Shutter at 0–9, 100–109 or 180–189 “Open”



Read the manual before use



Do not stare into the light



Indoor use only

3 Safety instructions



Read the manual before use



Do not stare into the light



Indoor use only

⚠ WARNING

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

⚠ WARNING

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

⚠ CAUTION

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

⚠ CAUTION

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

⚠ WARNING

- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
- Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

4 Product description

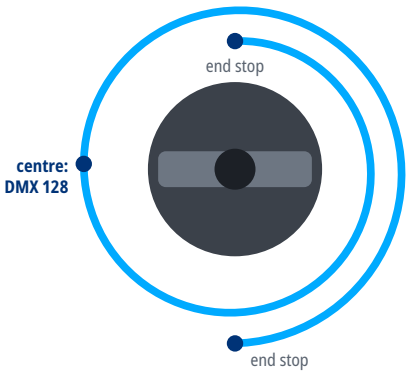
Description in the GDTF file

“LED Moving Head Wash Light, 19 x 40W LED Engine w/Ring light”

Range of movement

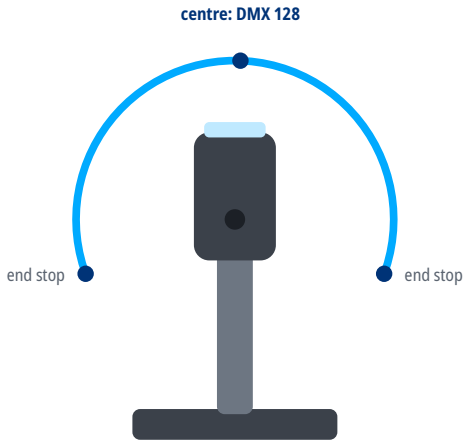
Pan 540°

top view



Tilt 220°

side view



5 Installation

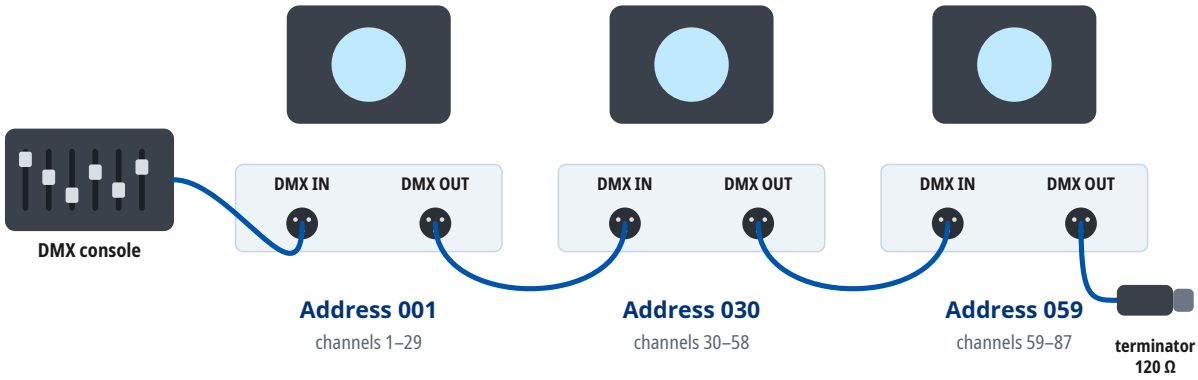
⚠ WARNING

- 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: 14 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 TR16: every unit occupies 29 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

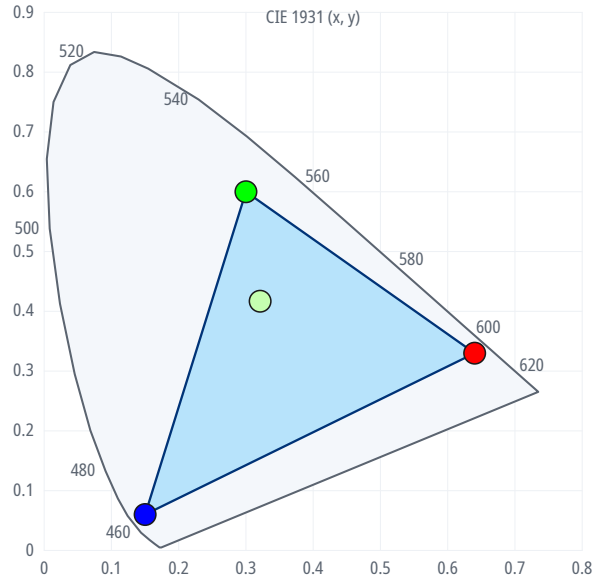
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “TR16”: 29.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “TR16”, you can use, for example, the start addresses 1, 30, 59, 88.
- 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

	HSIC 20 channels	SSP 18 channels	Tour 22 channels	TR16 29 channels	CMY 23 channels	Zone 28 channels
Pan / Tilt	1, 3	1, 2	1, 2	1, 3	1, 3	1, 3
Pan / Tilt resolution	16 bit	8 bit	8 bit	16 bit	16 bit	16 bit
Dimmer	6, 19	8, 17	8, 21	14, 28	9, 22	13, 15
Dimmer resolution	8 bit	8 bit	8 bit	16 bit	8 bit	8 bit
Shutter / strobe	11	9	9	16	10	16
Color mixing	13–15	4–7, 11–13	4–7, 15–17	7 channels (6–24)	6–8, 16–18	7–9, 17–28
Color temperature	10		11	18	12	
Zoom	12	10	14	21	15	6
Effects / macros	16–18	14–16	10, 12, 13, 18–20	17, 19, 20, 25–27	11, 13, 14, 19–21	10–12
Pixel control						✓

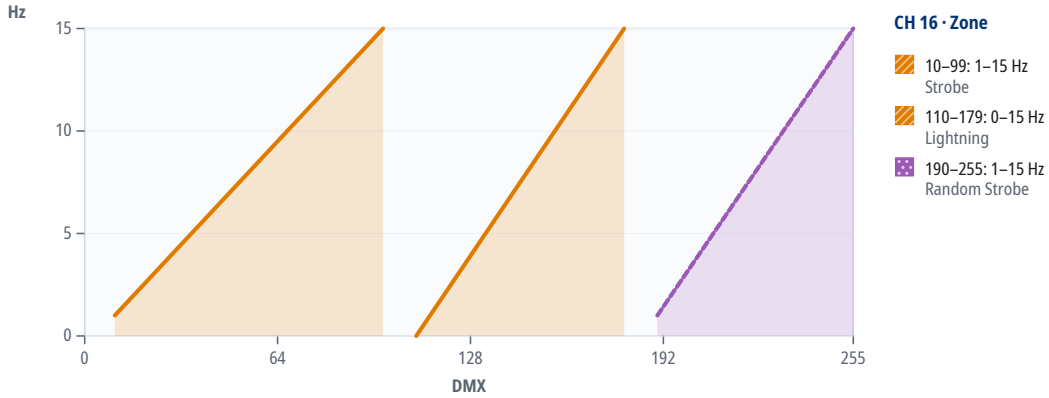
LED colors and the colors they mix



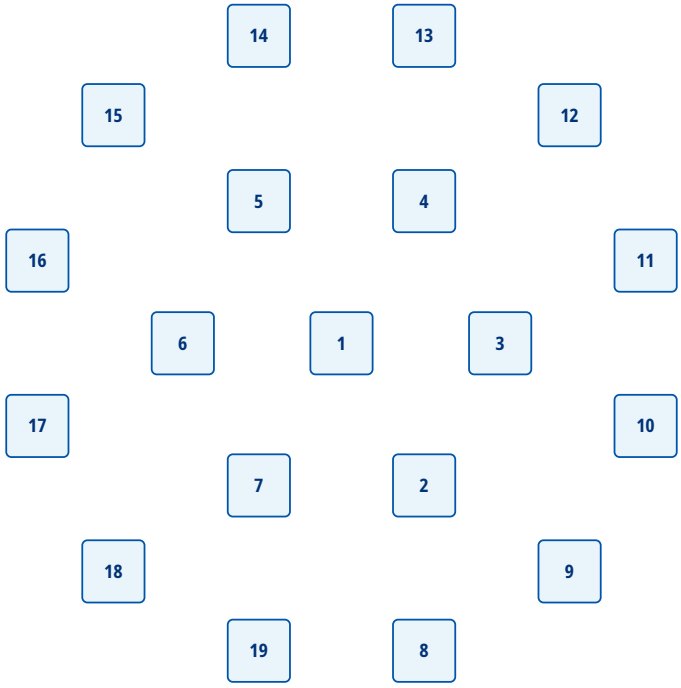
LED	x	y
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060
Lime	0.321	0.417

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

Strobe rate



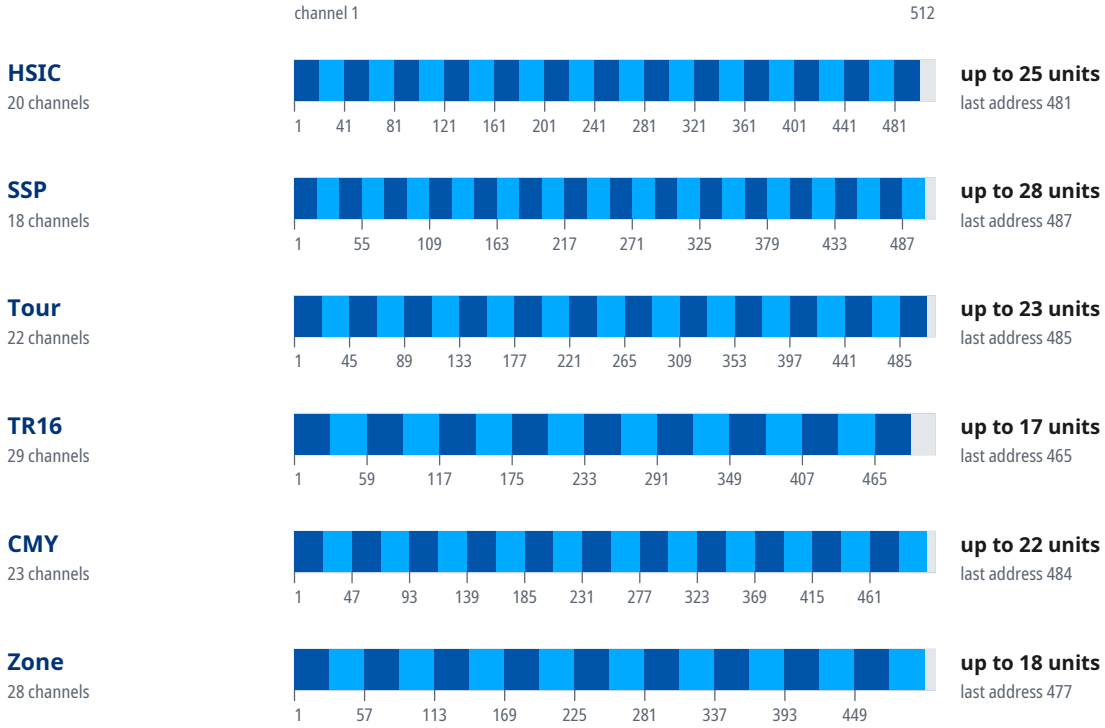
Cells (pixels)



19 cells where the GDTF file places them (seen from above), numbered in the file's order; the mode “Zone” drives them together.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “TR16”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	146	11	291	16	436
2	30	7	175	12	320	17	465
3	59	8	204	13	349	18	U2 · 1
4	88	9	233	14	378	19	U2 · 30
5	117	10	262	15	407	20	U2 · 59

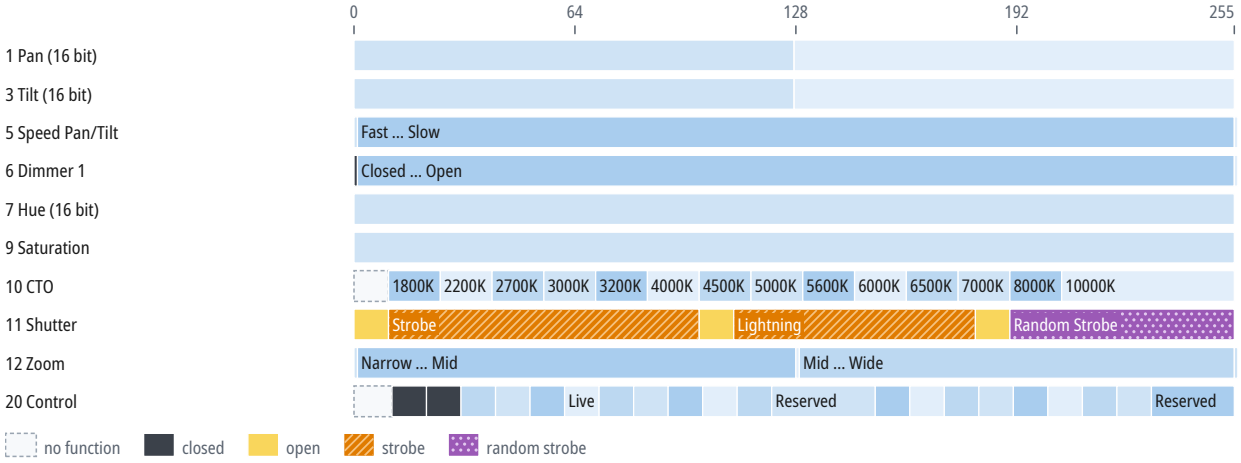
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode HSIC

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 Dimmer 1 above 0; CH 11 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 19 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 1 255, CH 10 CTO 0, CH 11 Shutter 0, CH 19 Dimmer 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Home
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt 1
		128	Home
		128–255	Tilt 1
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0	Fast
		1–254	Fast ... Slow
		255	Slow
6	Dimmer 1	0	Closed
		1–254	Closed ... Open
		255	Open
7	Hue	0–255	
8	Hue Fine	0–255	Fine adjustment of CH 7
9	Saturation	0–255	
10	CTO	0–9	No Function
		10–24	1800K
		25–39	2200K
		40–54	2700K
		55–69	3000K

CH	Function	DMX	Description
10	CTO (continued)	70–84	3200K
		85–99	4000K
		100–114	4500K
		115–129	5000K
		130–144	5600K
		145–159	6000K
		160–174	6500K
		175–189	7000K
		190–204	8000K
		205–255	10000K
11	Shutter	0–9	Shutter: Open
		10–99	Strobe (1–15 Hz)
		100–109	Shutter: Open
		110–179	Lightning (0–15 Hz)
		180–189	Shutter: Open
		190–255	Random Strobe (1–15 Hz)
12	Zoom	0	Narrow
		1–127	Narrow ... Mid
		128	Mid
		129–254	Mid ... Wide
		255	Wide
13	Red	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
14	Green	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
15	Blue	0	0%
		1–63	0% ... 25%
		64	25%

CH	Function	DMX	Description
15	Blue (continued)	65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
16	Color Macro	0–9	Open
		10–14	Red
		15–19	Green
		20–24	Blue
		25–29	Yellow
		30–34	Magenta
		35–39	Cyan
		40–44	White
		45–49	Violet Blue
		50–54	Light Blue
		55–59	Wine Red
		60–64	May Green
		65–69	Reseda Green
		70–74	Lilac Blue
		75–79	Moss Green
		80–84	Signal Violet
		85–89	Lilac Red
		90–94	Purple Red
		95–99	Green Brown
		100–104	Pale Green
		105–109	Ruby Red
		110–114	Flame Red
		115–119	Red Orange
		120–124	Rose
		125–129	Honey Yellow
		130–134	Light Pin
		135–139	Deep Orange
		140–144	Lemon
		145–149	Golden Yellow
		150–154	Pastel Orange
		155–159	Cream
		160–164	Melon Yellow
		165–169	Luminous Orange
		170–174	Luminous Yellow
		175–179	Open
		180–248	FX

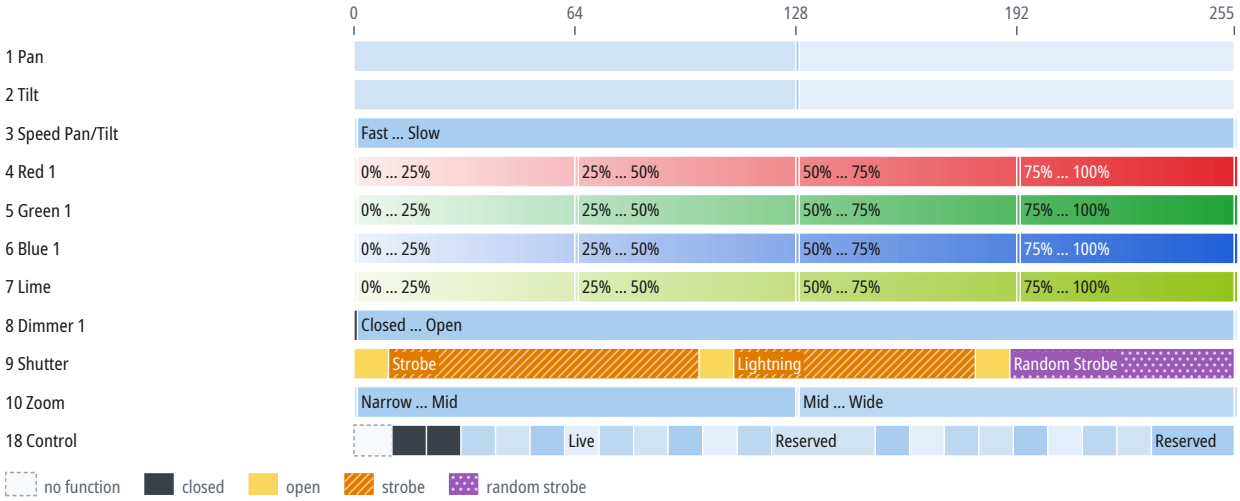
CH	Function	DMX	Description
16	Color Macro (continued)	249–255	Open
17	Color Macro 2	0–9	Open
		10–23	FX 1
		24–37	FX 2
		38–51	FX 3
		52–65	FX 4
		66–79	FX 5
		80–93	FX 6
		94–107	FX 7
		108–121	FX 8
		122–135	FX 9
		136–149	FX 10
		150–163	FX 11
		164–177	FX 12
		178–191	FX 13
		192–205	FX 14
		206–219	FX 15
		220–233	FX 16
		234–247	FX 17
		248–255	Open
18	Color Macro 2 Speed	0	Slow
		1–254	Slow ... Fast
		255	Fast
19	Dimmer 2	0	Closed
		1–254	Closed ... Open
		255	Open
20	Control	0–10	No Function
		11–20	P/T Blackout On
		21–30	P/T Blackout Off
		31–40	Pan Invert
		41–50	Tilt Invert
		51–60	P/T Invert Off
		61–70	Live
		71–80	Studio
		81–90	Power
		91–100	Reserved
		101–110	Dimmer Mode
		111–120	Dimmer Off
		121–150	Reserved
		151–160	1200Hz
		161–170	2400Hz
		171–180	4000Hz

CH	Function	DMX	Description
20	Control (continued)	181–190	6000Hz
		191–200	25000Hz
		201–210	All Reset
		211–220	P/T Reset
		221–230	Zoom Reset
		231–255	Reserved

Mode SSP

If the device receives DMX in this mode but gives no light, check these channels: CH 8 Dimmer 1 above 0; CH 9 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 17 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 4 Red 1 255, CH 5 Green 1 255, CH 6 Blue 1 255, CH 7 Lime 0, CH 8 Dimmer 1 255, CH 9 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Home
		129–255	Pan 1
2	Tilt	0–127	Tilt 1
		128	Home
		129–255	Tilt 1
3	Speed Pan/Tilt		Same as CH 5 in the mode “HSIC” (p. 10)
4	Red 1	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%

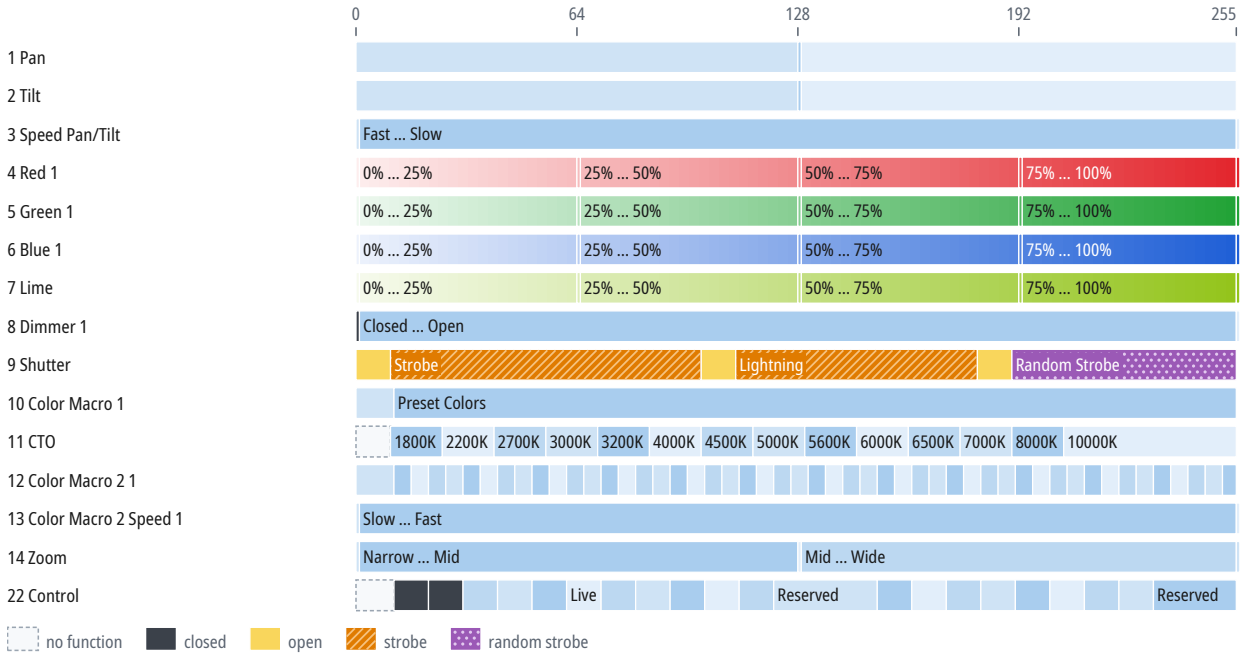
CH	Function	DMX	Description
5	Green 1	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
6	Blue 1	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
7	Lime	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
8	Dimmer 1		Same as CH 6 in the mode “HSIC” (p. 10)
9	Shutter		Same as CH 11 in the mode “HSIC” (p. 11)
10	Zoom		Same as CH 12 in the mode “HSIC” (p. 11)
11	Red 2	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
12	Green 2	0	0%
		1–63	0% … 25%
		64	25%

CH	Function	DMX	Description
12	Green 2 (continued)	65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
13	Blue 2	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
14	Color Macro		Same as CH 16 in the mode “HSIC” (p. 12)
15	Color Macro 2		Same as CH 17 in the mode “HSIC” (p. 13)
16	Color Macro 2 Speed		Same as CH 18 in the mode “HSIC” (p. 13)
17	Dimmer 2		Same as CH 19 in the mode “HSIC” (p. 13)
18	Control		Same as CH 20 in the mode “HSIC” (p. 13)

Mode Tour

If the device receives DMX in this mode but gives no light, check these channels: CH 8 Dimmer 1 above 0; CH 9 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 21 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 4 Red 1 255, CH 5 Green 1 255, CH 6 Blue 1 255, CH 7 Lime 0, CH 8 Dimmer 1 255, CH 9 Shutter 0, CH 10 Color Macro 1 0, CH 11 CTO 0, CH 12 Color Macro 2 1 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “SSP” (p. 14)
2	Tilt		Same as CH 2 in the mode “SSP” (p. 14)
3	Speed Pan/Tilt		Same as CH 5 in the mode “HSIC” (p. 10)
4	Red 1		Same as CH 4 in the mode “SSP” (p. 14)
5	Green 1		Same as CH 5 in the mode “SSP” (p. 15)
6	Blue 1		Same as CH 6 in the mode “SSP” (p. 15)
7	Lime		Same as CH 7 in the mode “SSP” (p. 15)
8	Dimmer 1		Same as CH 6 in the mode “HSIC” (p. 10)
9	Shutter		Same as CH 11 in the mode “HSIC” (p. 11)
10	Color Macro 1	0–10	Open
		11–255	Preset Colors
11	CTO		Same as CH 10 in the mode “HSIC” (p. 10)
12	Color Macro 2 1	0–10	Open
		11–15	Ring 1
		16–20	Ring 2
		21–25	Ring 3
		26–30	Rings 1+2
		31–35	Rings 1+3
		36–40	Rings 2+3

CH	Function	DMX	Description
12	Color Macro 2 1 (continued)	41–45	Ring In Cycle
		46–50	Ring Out Cycle
		51–55	Ring Bounce
		56–60	Rings 1+3 Cycle
		61–65	Rings Ramp
		66–70	Rings Reverse Ramp
		71–75	2700K Rings Out w/back
		76–80	2700K Rings In w/back
		81–85	2700K Rings Bounce w/back
		86–90	2700K Rings 1+3 w/back
		91–95	6000K Cycles w/back
		96–100	7200K Cycles w/back
		101–105	2700K Rings Out w/R back
		106–110	2700K Rings In w/R back
		111–115	2700K Rings Bounce w/R back
		116–120	2700K Rings Alt w/R back
		121–125	2700K Rings FX 1 w/R back
		126–130	2700K Rings FX 2 w/R back
		131–135	3000K Rings Out w/G back
		136–140	3000K Rings In w/G back
		141–145	3000K Rings Bounce w/G back
		146–150	3000K Rings Alt w/G back
		151–155	3000K Rings FX 1 w/G back
		156–160	3000K Rings FX 2 w/G back
		161–165	3200K Rings Out w/B back
		166–170	3200K Rings In w/B back
		171–175	3200K Rings Bounce w/B back
		176–180	3200K Rings Alt w/B back
		181–185	3200K Rings FX 1 w/B back
		186–190	3200K Rings FX 2 w/B back
		191–195	3500K Rings Out w/W back
		196–200	3500K Rings In w/W back
		201–205	3500K Rings Bounce w/W back
		206–210	3500K Rings Alt w/W back
		211–215	3500K Rings FX 1 w/W back
		216–220	3500K Rings FX 2 w/W back
		221–225	4000K Rings Out w/P back
		226–230	4000K Rings In w/P back
		231–235	4000K Rings Bounce w/P back
		236–240	4000K Rings Alt w/P back
		241–245	4000K Rings FX 1 w/P back
		246–250	4000K Rings FX 2 w/P back

CH	Function	DMX	Description
12	Color Macro 2 1 (continued)	251–255	Open
13	Color Macro 2 Speed 1	0	Slow
		1–254	Slow ... Fast
		255	Fast
14	Zoom		Same as CH 12 in the mode “HSIC” (p. 11)
15	Red 2		Same as CH 11 in the mode “SSP” (p. 15)
16	Green 2		Same as CH 12 in the mode “SSP” (p. 15)
17	Blue 2		Same as CH 13 in the mode “SSP” (p. 16)
18	Color Macro 2	0–9	Open
		10–14	Red
		15–19	Green
		20–24	Blue
		25–29	Yellow
		30–34	Magenta
		35–39	Cyan
		40–44	White
		45–49	Violet Blue
		50–54	Light Blue
		55–59	Wine Red
		60–64	May Green
		65–69	Reseda Green
		70–74	Lilac Blue
		75–79	Moss Green
		80–84	Signal Violet
		85–89	Lilac Red
		90–94	Purple Red
		95–99	Green Brown
		100–104	Pale Green
		105–109	Ruby Red
		110–114	Flame Red
		115–119	Red Orange
		120–124	Rose
		125–129	Honey Yellow
		130–134	Light Pin
		135–139	Deep Orange
		140–144	Lemon
		145–149	Golden Yellow
		150–154	Pastel Orange
		155–159	Cream
		160–164	Melon Yellow
		165–169	Luminous Orange
		170–174	Luminous Yellow

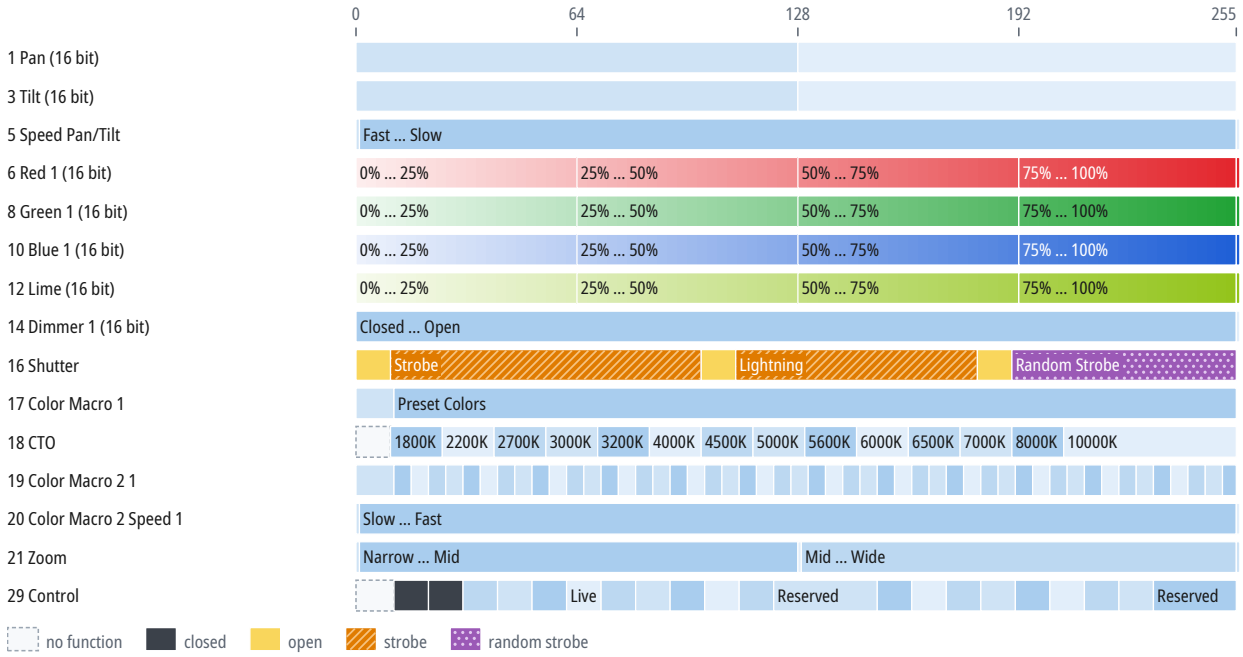
CH	Function	DMX	Description
18	Color Macro 2 (continued)	175–179	Open
		180–248	FX
		249–255	Open
19	Color Macro 2 2	0–9	Open
		10–23	FX 1
		24–37	FX 2
		38–51	FX 3
		52–65	FX 4
		66–79	FX 5
		80–93	FX 6
		94–107	FX 7
		108–121	FX 8
		122–135	FX 9
		136–149	FX 10
		150–163	FX 11
		164–177	FX 12
		178–191	FX 13
		192–205	FX 14
		206–219	FX 15
		220–233	FX 16
		234–247	FX 17
		248–255	Open
20	Color Macro 2 Speed 2	0	Slow
		1–254	Slow ... Fast
		255	Fast
21	Dimmer 2		Same as CH 19 in the mode “HSIC” (p. 13)
22	Control		Same as CH 20 in the mode “HSIC” (p. 13)

Mode TR16

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 14 Dimmer 1 above 0; CH 16 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 28 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Red 1 255, CH 8 Green 1 255, CH 10 Blue 1 255, CH 12 Lime 0, CH 14 Dimmer 1 255, CH 16 Shutter 0, CH 17 Color Macro 1 0, CH 18 CTO 0, CH 19 Color Macro 2 1 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–128	Pan 1
		128	Home
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–128	Tilt 1
		128	Home
		128–255	Tilt 1
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “HSIC” (p. 10)
6	Red 1	0–64	0% ... 25%
		64–128	25% ... 50%
		128–192	50% ... 75%
		192–255	75% ... 100%
		255	100%
7	Red 1 Fine	0–255	Fine adjustment of CH 6
8	Green 1	0–64	0% ... 25%
		64–128	25% ... 50%

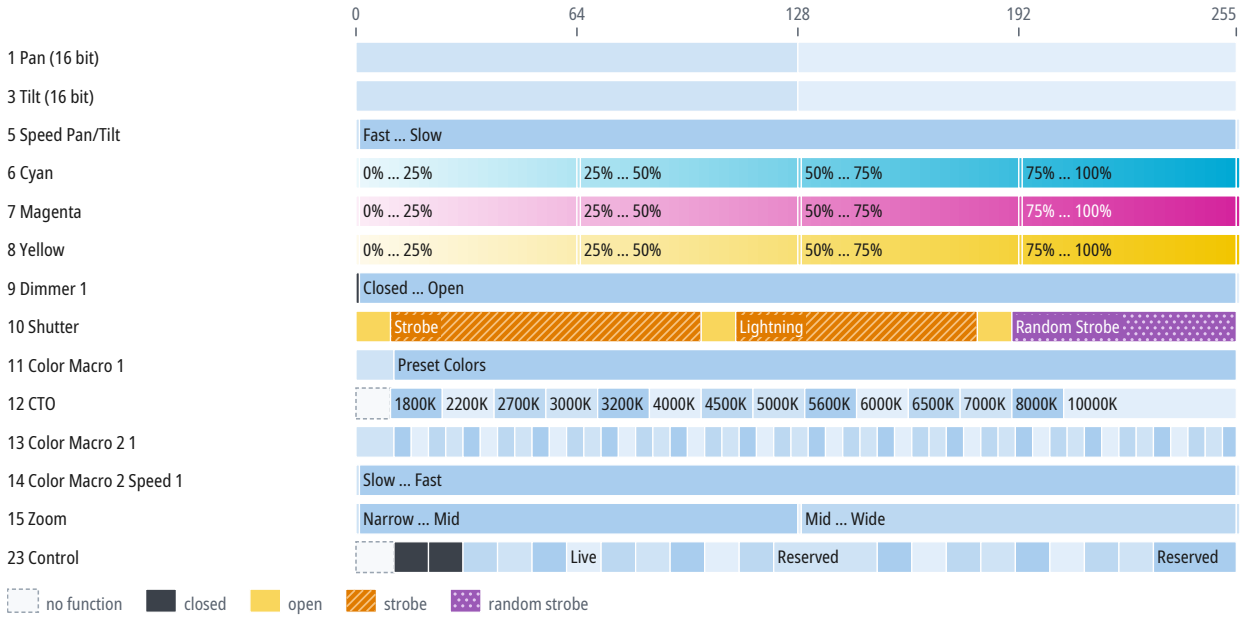
CH	Function	DMX	Description
8	Green 1 (continued)	128–192	50% … 75%
		192–255	75% … 100%
		255	100%
9	Green 1 Fine	0–255	Fine adjustment of CH 8
10	Blue 1	0–64	0% … 25%
		64–128	25% … 50%
		128–192	50% … 75%
		192–255	75% … 100%
		255	100%
11	Blue 1 Fine	0–255	Fine adjustment of CH 10
12	Lime	0–64	0% … 25%
		64–128	25% … 50%
		128–192	50% … 75%
		192–255	75% … 100%
		255	100%
13	Lime Fine	0–255	Fine adjustment of CH 12
14	Dimmer 1	0–255	Closed … Open
		255	Open
15	Dimmer 1 Fine	0–255	Fine adjustment of CH 14
16	Shutter		Same as CH 11 in the mode “HSIC” (p. 11)
17	Color Macro 1		Same as CH 10 in the mode “Tour” (p. 17)
18	CTO		Same as CH 10 in the mode “HSIC” (p. 10)
19	Color Macro 2 1		Same as CH 12 in the mode “Tour” (p. 17)
20	Color Macro 2 Speed 1		Same as CH 13 in the mode “Tour” (p. 19)
21	Zoom		Same as CH 12 in the mode “HSIC” (p. 11)
22	Red 2		Same as CH 11 in the mode “SSP” (p. 15)
23	Green 2		Same as CH 12 in the mode “SSP” (p. 15)
24	Blue 2		Same as CH 13 in the mode “SSP” (p. 16)
25	Color Macro 2		Same as CH 18 in the mode “Tour” (p. 19)
26	Color Macro 2 2		Same as CH 19 in the mode “Tour” (p. 20)
27	Color Macro 2 Speed 2		Same as CH 20 in the mode “Tour” (p. 20)
28	Dimmer 2		Same as CH 19 in the mode “HSIC” (p. 13)
29	Control		Same as CH 20 in the mode “HSIC” (p. 13)

Mode CMY

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 1 above 0; CH 10 Shutter at 0–9, 100–109 or 180–189 “Open”; CH 22 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Cyan 0, CH 7 Magenta 0, CH 8 Yellow 0, CH 9 Dimmer 1 255, CH 10 Shutter 0, CH 11 Color Macro 1 0, CH 12 CTO 0, CH 13 Color Macro 2 1 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “TR16” (p. 21)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “TR16” (p. 21)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “HSIC” (p. 10)
6	Cyan	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
7	Magenta	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%

CH	Function	DMX	Description
7	Magenta (continued)	129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
8	Yellow	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
9	Dimmer 1		Same as CH 6 in the mode “HSIC” (p. 10)
10	Shutter		Same as CH 11 in the mode “HSIC” (p. 11)
11	Color Macro 1		Same as CH 10 in the mode “Tour” (p. 17)
12	CTO		Same as CH 10 in the mode “HSIC” (p. 10)
13	Color Macro 2 1		Same as CH 12 in the mode “Tour” (p. 17)
14	Color Macro 2 Speed 1		Same as CH 13 in the mode “Tour” (p. 19)
15	Zoom		Same as CH 12 in the mode “HSIC” (p. 11)
16	Red		Same as CH 13 in the mode “HSIC” (p. 11)
17	Green		Same as CH 14 in the mode “HSIC” (p. 11)
18	Blue		Same as CH 15 in the mode “HSIC” (p. 11)
19	Color Macro 2		Same as CH 18 in the mode “Tour” (p. 19)
20	Color Macro 2 2		Same as CH 19 in the mode “Tour” (p. 20)
21	Color Macro 2 Speed 2		Same as CH 20 in the mode “Tour” (p. 20)
22	Dimmer 2		Same as CH 19 in the mode “HSIC” (p. 13)
23	Control		Same as CH 20 in the mode “HSIC” (p. 13)

Mode Zone

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 13 Dimmer 1 above 0; CH 15 Dimmer 2 above 0; CH 16 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 15 Dimmer 2 255, CH 16 Shutter 0, CH 17 Red 2 255, CH 18 Green 2 255, CH 19 Blue 2 255, CH 20 Lime 1 0, CH 21 Red 3 255, CH 22 Green 3 255, CH 23 Blue 3 255, CH 24 Lime 2 0, CH 25 Red 4 255, CH 26 Green 4 255, CH 27 Blue 4 255, CH 28 Lime 3 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “TR16” (p. 21)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “TR16” (p. 21)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “HSIC” (p. 10)
6	Zoom		Same as CH 12 in the mode “HSIC” (p. 11)
7	Red 1		Same as CH 4 in the mode “SSP” (p. 14)
8	Green 1		Same as CH 5 in the mode “SSP” (p. 15)
9	Blue 1		Same as CH 6 in the mode “SSP” (p. 15)
10	Color Macro		Same as CH 16 in the mode “HSIC” (p. 12)
11	Color Macro 2		Same as CH 17 in the mode “HSIC” (p. 13)
12	Color Macro 2 Speed		Same as CH 18 in the mode “HSIC” (p. 13)
13	Dimmer 1		Same as CH 6 in the mode “HSIC” (p. 10)
14	Control		Same as CH 20 in the mode “HSIC” (p. 13)

CH	Function	DMX	Description
15	Dimmer 2		Same as CH 19 in the mode “HSIC” (p. 13)
16	Shutter		Same as CH 11 in the mode “HSIC” (p. 11)
17	Red 2		Same as CH 11 in the mode “SSP” (p. 15)
18	Green 2		Same as CH 12 in the mode “SSP” (p. 15)
19	Blue 2		Same as CH 13 in the mode “SSP” (p. 16)
20	Lime 1	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
21	Red 3	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
22	Green 3	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
23	Blue 3	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
24	Lime 2	0	0%

CH	Function	DMX	Description
24	Lime 2 (continued)	1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
25	Red 4	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
26	Green 4	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%
27	Blue 4	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%

CH	Function	DMX	Description
28	Lime 3	0	0%
		1–63	0% … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%

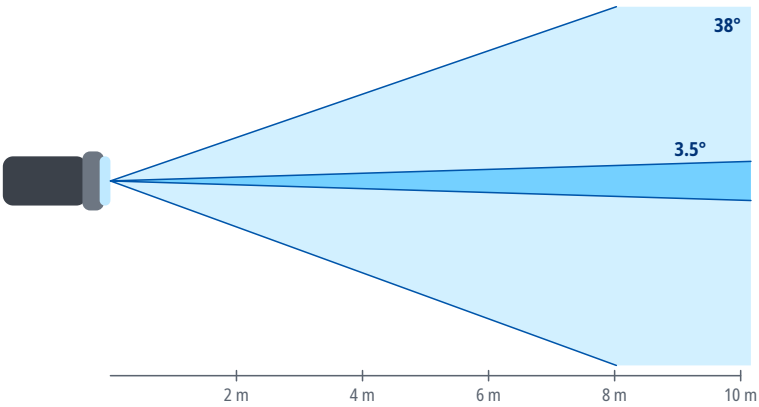
10 Technical specifications

Parameter	Value
Light source	LED
Zoom	3.5–38°
Pan	540°
Tilt	220°
Weight	14 kg
Operating temperature	0 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–15 Hz

Spot diameter



Distance	Ø 3.5°	Ø 38°
2 m	0.12 m	1.4 m
4 m	0.24 m	2.8 m
6 m	0.37 m	4.1 m
8 m	0.49 m	5.5 m
10 m	0.61 m	6.9 m
15 m	0.92 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.