DMX REFERENCE

Hydro Wash X19

ADJ



Manufacturer	ADJ
GDTF file	ADJ_Hydro_Wash_X19_131655.gdtf
GDTF revision	First Release 26-03-03 · 2026-03-03
Generated	2026-11-23

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1 About this manual

This document describes the Hydro Wash X19 by ADJ. It was compiled from the GDTF file ADJ_Hydro_Wash_X19_131655.gdtf from the GDTF-Share library.

File revision: “First Release 26-03-03”.

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 ADJ; 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	24 kg
Ingress protection	IP65

DMX modes

Mode	Channels	Units in one universe	First start addresses
16CH	16	32	1, 17, 33, 49, ...
20CH	20	25	1, 21, 41, 61, ...
26CH	26	19	1, 27, 53, 79, ...
30CH	30	17	1, 31, 61, 91, ...
88CH	88	5	1, 89, 177, 265, ...
90CH	90	5	1, 91, 181, 271, ...



Read the manual before use



Do not stare into the light

3 Safety instructions



Read the manual before use



Do not stare into the light

⚠ WARNING

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

⚠ CAUTION

- The device is rated IP65 and may be used outdoors within the limits of this rating.
- This protection is effective only when all connectors are mated or closed with their protective caps and all seals are intact. Use cables and connectors with the same or a higher protection rating.
- Do not open the housing; opening it breaks the seals and the protection rating can no longer be guaranteed.
- Install the device so that water cannot collect around connectors and cable glands, and inspect seals and cables regularly.

⚠ CAUTION

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

⚠ CAUTION

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

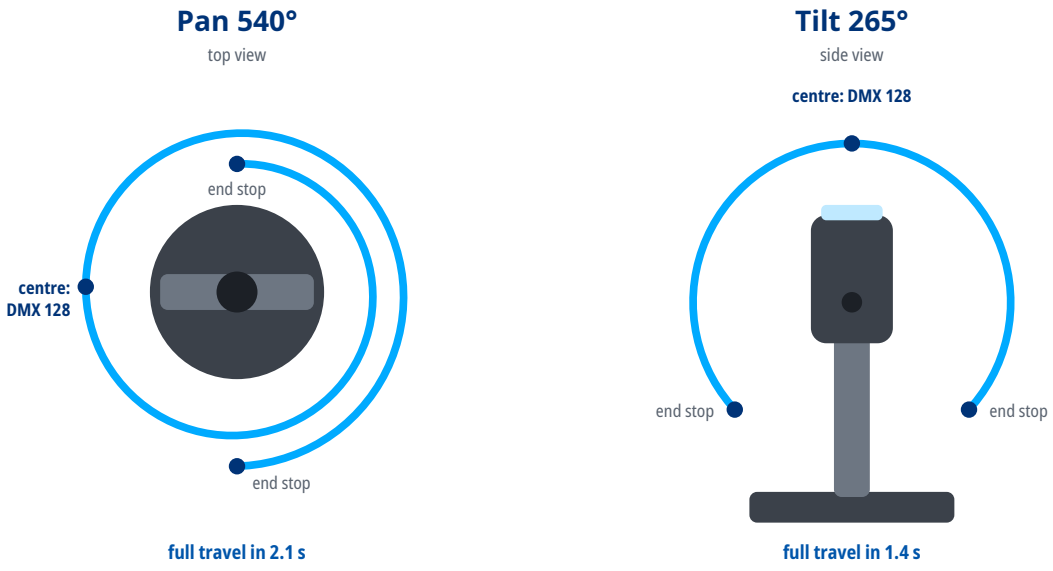
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do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

4 Product description

Description in the GDTF file

“The ADJ Hydro Wash X19 is an IP65 rated 760W professional moving head wash fixture with nineteen 40W RGBW (4-IN-1) LEDs. With robust construction and IP65-ratings, the Hydro Wash X19 is designed for both indoor or outdoor use. Its durable metal casing protects it from dust, sand, moisture and liquids, making it ideal for use in all situations from dusty deserts in California to rainy fields in England. Perfect for festivals and outdoor events, as well as installation in open-air clubs and other outside entertainment spaces where wash lighting is a must. This groundbreaking fixture offer an extended operational life and reduced maintenance requirement due to its long-life LED and sealed casing design.”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

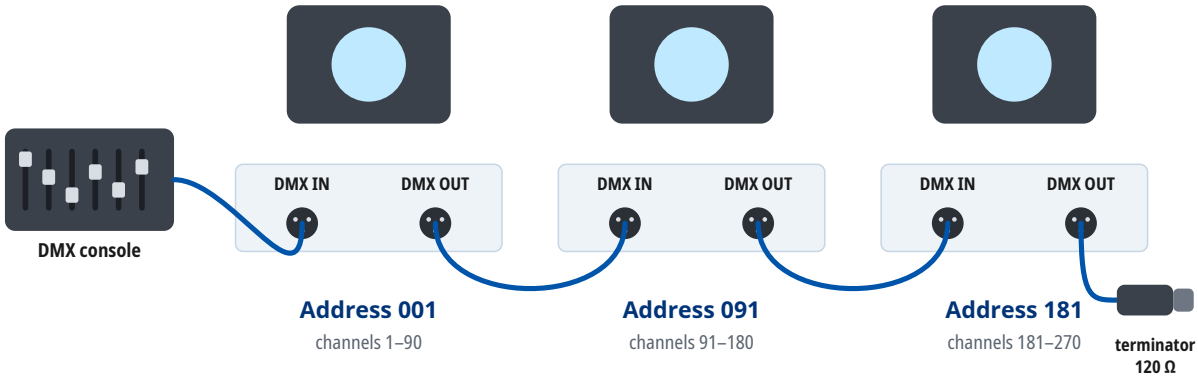
⚠ WARNING

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 24 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 90CH: every unit occupies 90 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 “90CH”: 90.
- 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 “90CH”, you can use, for example, the start addresses 1, 91, 181, 271.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

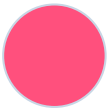
8 Functions at a glance

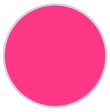
Functions in each DMX mode

	16CH 16 channels	20CH 20 channels	26CH 26 channels	30CH 30 channels	88CH 88 channels	90CH 90 channels
Pan / Tilt	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3
Dimmer	11	14	21	24	83	85
Shutter / strobe	10	13	20	23	82	84
Color mixing	5–8	5–8	8–19	8–19	5–80	8–83
Color temperature	9	9	7	7	81	7
Color wheel			5, 6	5, 6		5, 6
Zoom	13	16	23	26	85	87
Effects / macros		10–12		20–22		
Pixel control			✓	✓		

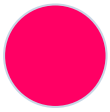
Color wheel 1

1. LEE 007 - Pale Yellow
2. LEE 103 - Straw
3. LEE 151 - Gold Tint
4. LEE 100 - Spring Yellow
5. LEE 010 - Medium Yellow
6. LEE 101 - Yellow
7. LEE 104 - Deep Amber
8. LEE 015 - Deep Straw
9. LEE 179 - Chrome Orange
10. LEE 021 - Gold Amber
11. LEE 105 - Orange
12. LEE 158 - Deep Orange
13. LEE 022 - Dark Amber
14. LEE 778 - Millenium Gold
15. LEE 135 - Deep Gold Amber
16. LEE 024 - Scarlet
17. LEE 106 - Primary Red
18. LEE 026 - Bright Red
19. LEE 027 - Medium Red
20. LEE 019 - Fire
21. LEE 157 - Pink
22. LEE 036 - Medium Pink
23. LEE 111 - Dark Pink
24. LEE 128 - Bright Pink

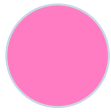
25 
LEE 148 - Bright Rose

26 
LEE 332 - Special Rose Pink

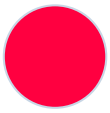
27 
LEE 793 - Vanity Fair

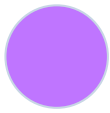
28 
LEE 113 - Magenta

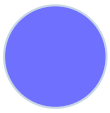
29 
LEE 046 - Dark Magenta

30 
LEE 048 - Rose Purple

31 
LEE 126 - Mauve

32 
LEE 049 - Medium Purple

33 
LEE 058 - Lavender

34 
LEE 197 - Alice Blue

35 
LEE 119 - Dark Blue

36 
LEE 132 - Medium Blue

37 
LEE 120 - Deep Blue

38 
LEE 165 - Daylight Blue

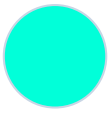
39 
LEE 161 - Slate Blue

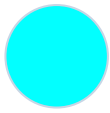
40 
LEE 118 - Light Blue

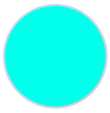
41 
LEE 068 - Sky Blue

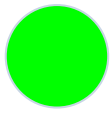
42
LEE 143 - Pale Navy Blue

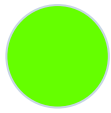
43
LEE 131 - Marine Blue

44 
LEE 115 - Peacock Blue

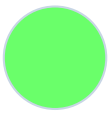
45 
LEE 172 - Lagoon Blue

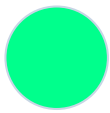
46 
LEE 116 - Medium Blue Green

47 
LEE 090 - Dark Yellow Green

48 
LEE 139 - Primary Green

49 
LEE 122 - Fern Green

50 
LEE 089 - Moss Green

51 
LEE 124 - Dark Green

52
LEE 088 - Lime Green

53
LEE 138 - Pale Green

54
LEE 203 - Quarter C T Blue

55
LEE 202 - Half C T Blue

56
LEE 201 - Full C T Blue

57 
LEE 200 - Double C T Blue

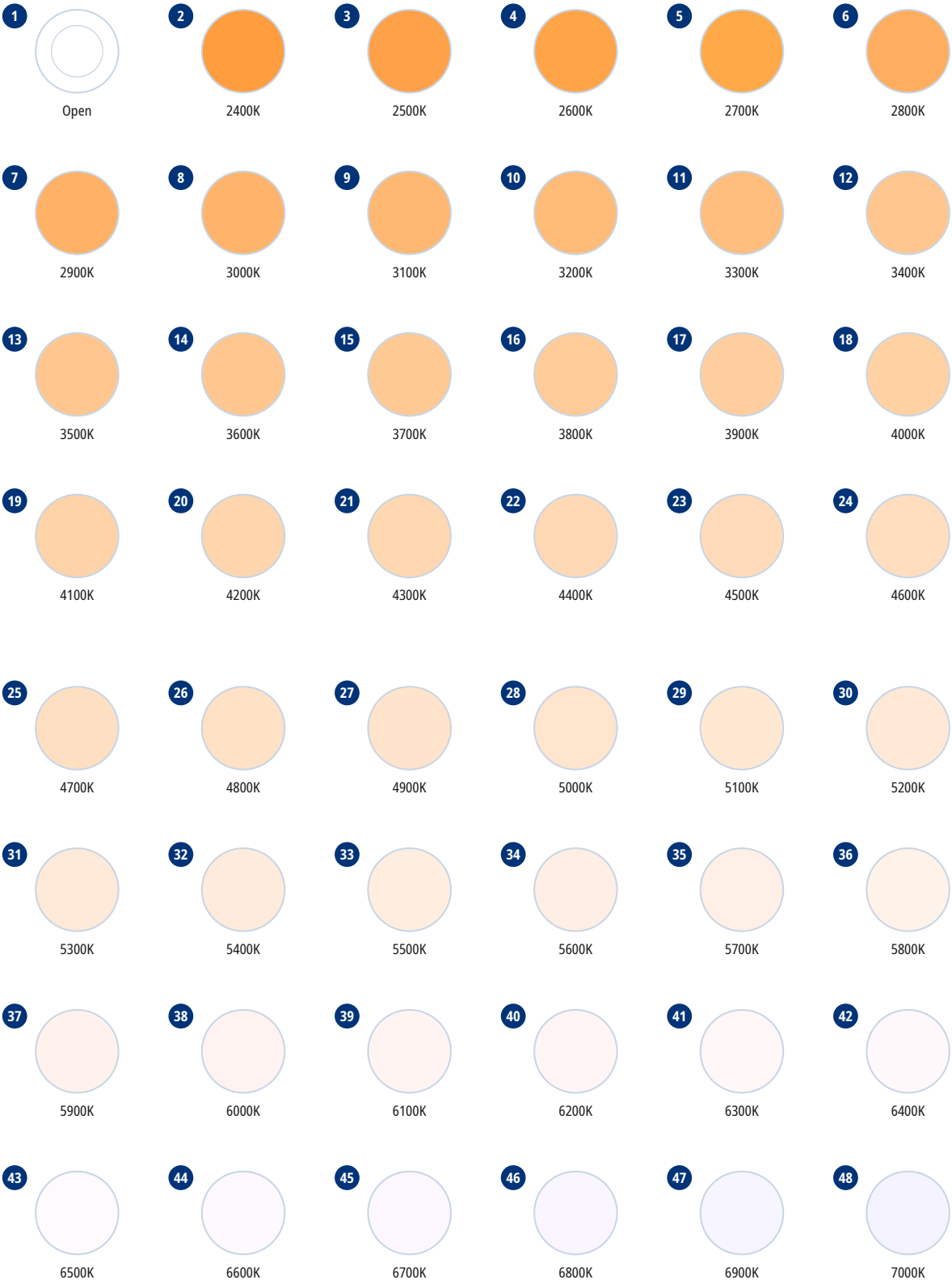
58
LEE 206 - Quarter C T Orange

59
LEE 205 - Half C T Orange

60
LEE 204 - Full C T Orange

61
Open

Color wheel 2



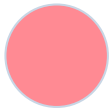
49 7100K
50 7200K
51 7300K
52 7400K
53 7500K
54 7600K
55 7700K
56 7800K
57 7900K
58 8000K
59 8100K
60 8200K
61 8300K
62 8400K
63 8500K
64 10000K

Color wheel 3

1 Off **DMX 0**
2 Color Macro 1 **DMX 1–4**
3 Color Macro 2 **DMX 5–8**
4 Color Macro 3 **DMX 9–12**
5 Color Macro 4 **DMX 13–16**
6 Color Macro 5 **DMX 17–20**
7 Color Macro 6 **DMX 21–24**
8 Color Macro 7 **DMX 25–28**
9 Color Macro 8 **DMX 29–32**
10 Color Macro 9 **DMX 33–36**
11 Color Macro 10 **DMX 37–40**
12 Color Macro 11 **DMX 41–44**
13 Color Macro 12 **DMX 45–48**
14 Color Macro 13 **DMX 49–52**
15 Color Macro 14 **DMX 53–56**
16 Color Macro 15 **DMX 57–60**
17 Color Macro 16 **DMX 61–64**
18 Color Macro 17 **DMX 65–68**
19 Color Macro 18 **DMX 69–72**
20 Color Macro 19 **DMX 73–76**
21 Color Macro 20 **DMX 77–80**
22 Color Macro 21 **DMX 81–84**
23 Color Macro 22 **DMX 85–88**
24 Color Macro 23 **DMX 89–92**

25
Color Macro 24
DMX 93–96

26
Color Macro 25
DMX 97–100

27 
Color Macro 26
DMX 101–104

28
Color Macro 27
DMX 105–108

29
Color Macro 28
DMX 109–112

30
Color Macro 29
DMX 113–116

31 
Color Macro 30
DMX 117–120

32
Color Macro 31
DMX 121–124

33
Color Macro 32
DMX 128

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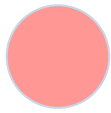
Color Macro 33
DMX 129–132

35 
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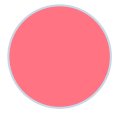
DMX 133–136

36 
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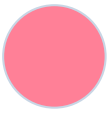
DMX 137–140

37 
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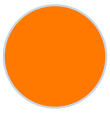
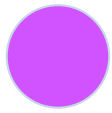
DMX 141–144

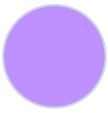
38 
Color Macro 37
DMX 145–148

39 
Color Macro 38
DMX 149–152

40 
Color Macro 39
DMX 153–156

41 
Color Macro 40
DMX 157–160

42 
Color Macro 41
DMX 161–164

43 
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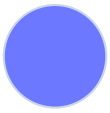
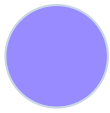
DMX 165–168

44 
Color Macro 43
DMX 169–172

45 
Color Macro 44
DMX 173–176

46 
Color Macro 45
DMX 177–180

47 
Color Macro 46
DMX 181–184

48 
Color Macro 47
DMX 185–188

49 
Color Macro 48
DMX 189–192

50 
Color Macro 49
DMX 193–196

51 
Color Macro 50
DMX 197–200

52 
Color Macro 51
DMX 201–204

53 
Color Macro 52
DMX 205–209

54 
Color Macro 53
DMX 210–212

55 
Color Macro 54
DMX 213–216

56 
Color Macro 55
DMX 217–220

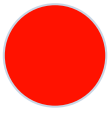
57 
Color Macro 56
DMX 221–224

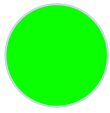
58
Color Macro 57
DMX 225–228

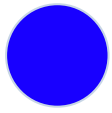
59
Color Macro 58
DMX 229–232

60 
Color Macro 59
DMX 233–236

61 
Color Macro 60
DMX 237–240

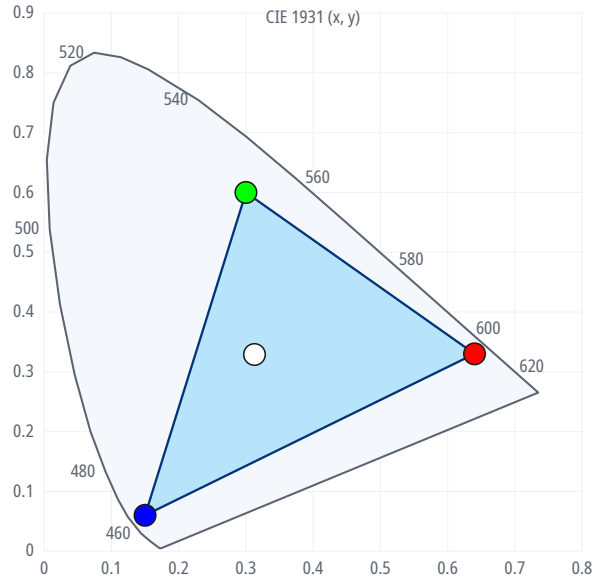
62 
Color Macro 61
DMX 241–244

63 
Color Macro 62
DMX 245–248

64 
Color Macro 63
DMX 249–252

65
Color Macro 64
DMX 253–255

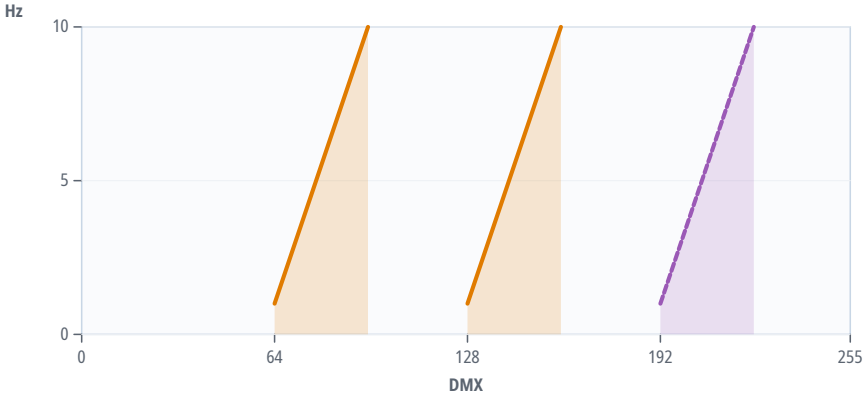
LED colors and the colors they mix



LED	x	y
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060
White	0.313	0.329

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

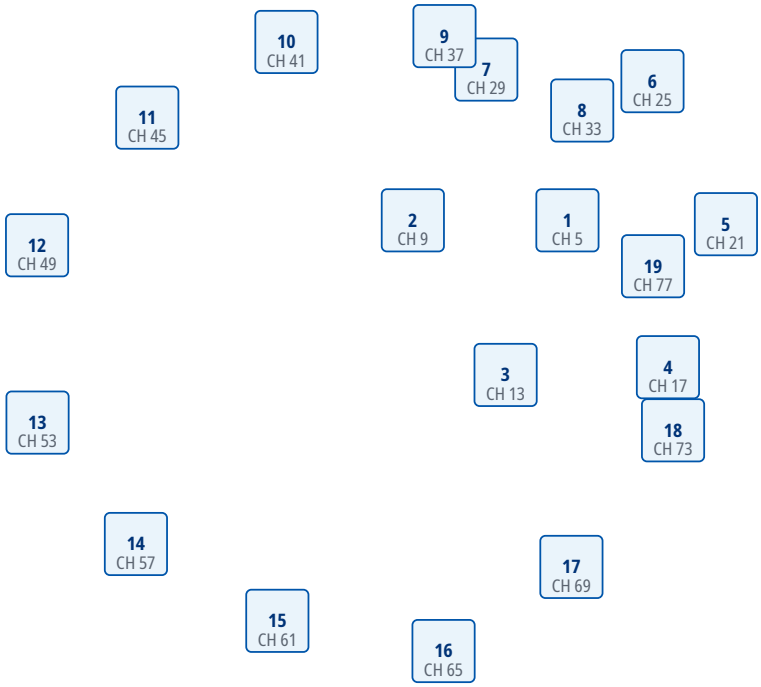
Strobe rate



CH 23 · 30CH

- 64–95: 1–10 Hz
  Strobe Effect Slow to Fast
- 128–159: 1–10 Hz
  Pulse-Effect in Sequences
- 192–223: 1–10 Hz
  Random Strobe Effect Slow to Fast

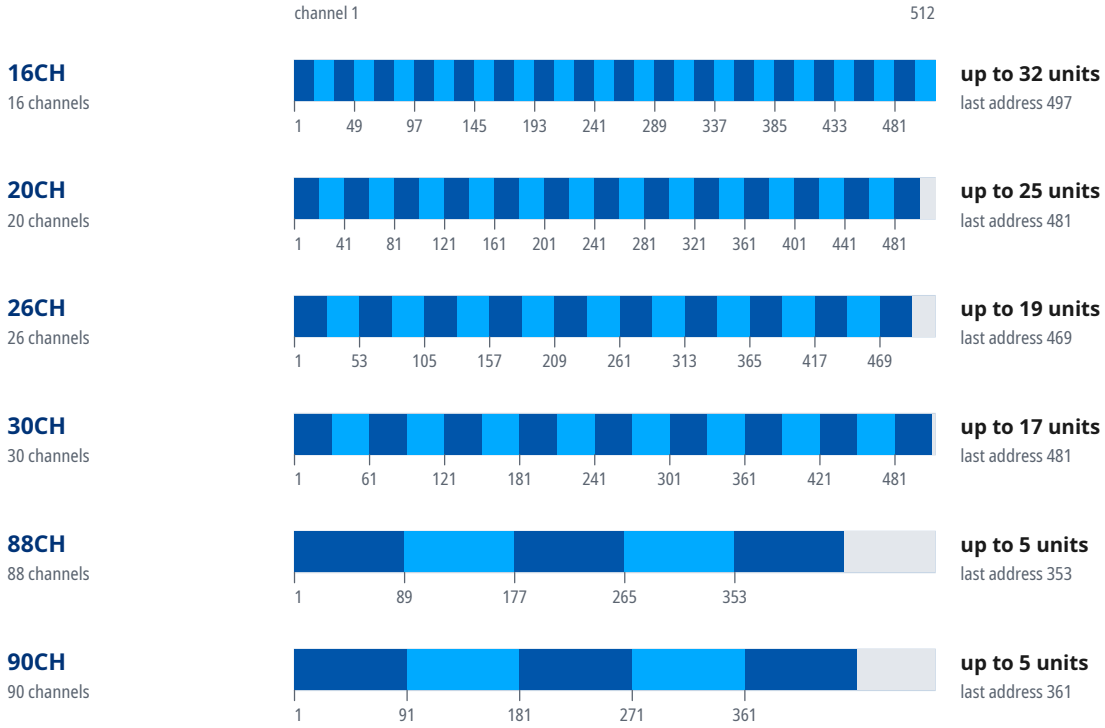
Cells (pixels)



19 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “30CH”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “90CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 1	11	U3 · 1	16	U4 · 1
2	91	7	U2 · 91	12	U3 · 91	17	U4 · 91
3	181	8	U2 · 181	13	U3 · 181	18	U4 · 181
4	271	9	U2 · 271	14	U3 · 271	19	U4 · 271
5	361	10	U2 · 361	15	U3 · 361	20	U4 · 361

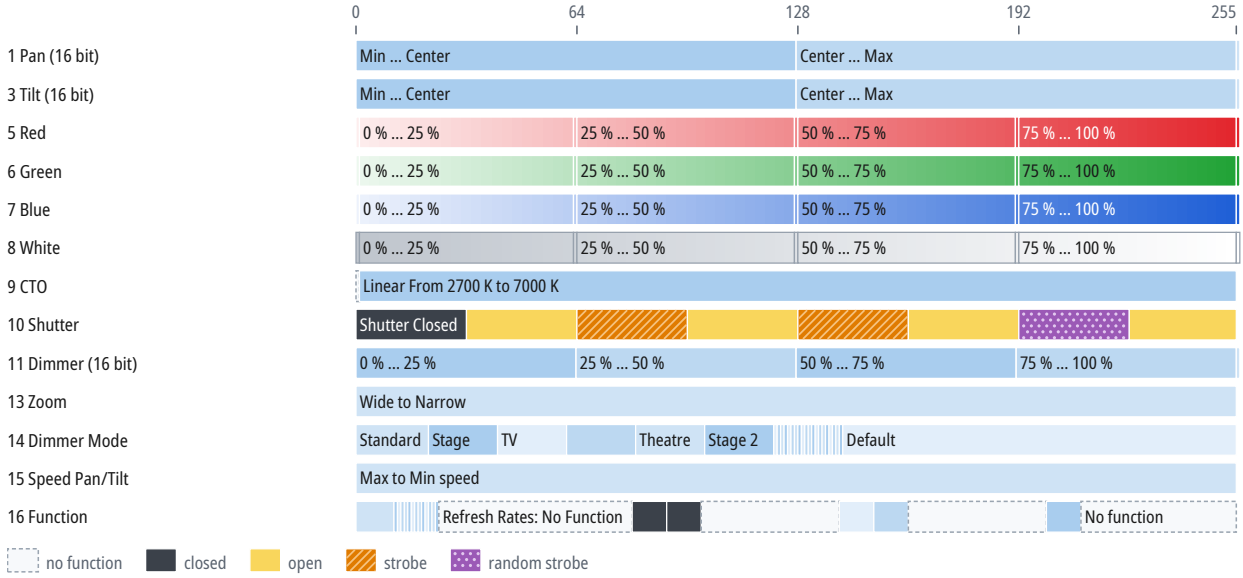
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 16CH

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

The GDTF file gives these values for a console's Highlight function: CH 5 Red 255, CH 6 Green 255, CH 7 Blue 255, CH 8 White 255, CH 10 Shutter 47, CH 11 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Red	0	0 %
		1–62	0 % ... 25 %
		63	25 %
		64–126	25 % ... 50 %
		127	50 %
		128–190	50 % ... 75 %
		191	75 %
		192–254	75 % ... 100 %
		255	100 %
6	Green	0	0 %
		1–62	0 % ... 25 %
		63	25 %
		64–126	25 % ... 50 %

CH	Function	DMX	Description
6	Green (continued)	127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
7	Blue	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
8	White	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
9	CTO		Linear From 2700 K to 7000 K
		0	Off
		1–255	Linear From 2700 K to 7000 K (2700–7000 K)
10	Shutter	0–31	Shutter Closed
		32–63	No Function (Shutter Open)
		64–95	Strobe Effect Slow to Fast (1–10 Hz)
		96–127	No Function (Shutter Open)
		128–159	Pulse-Effect in Sequences (1–10 Hz)
		160–191	No Function (Shutter Open)
		192–223	Random Strobe Effect Slow to Fast (1–10 Hz)
		224–255	No Function (Shutter Open)
11	Dimmer	0–63	0 % … 25 %
		63	25 %
		64–127	25 % … 50 %
		127	50 %
		128–191	50 % … 75 %
		191	75 %
		192–255	75 % … 100 %
		255	100 %

CH	Function	DMX	Description
12	Dimmer Fine	0–255	Fine adjustment of CH 11
13	Zoom	0–255	Wide to Narrow (40–6°)
14	Dimmer Mode	0–20	Standard
		21–40	Stage
		41–60	TV
		61–80	Architectural
		81–100	Theatre
		101–120	Stage 2
		121	0/1s Delay
		122	0/2s Delay
		123	0/3s Delay
		124	0/4s Delay
		125	0/5s Delay
		126	0/6s Delay
		127	0/7s Delay
		128	0/8s Delay
		129	0/9s Delay
		130	1s Delay
		131	1/5s Delay
		132–140	2...10s Delay
		141–255	Default
15	Speed Pan/Tilt	0–255	Max to Min speed
16	Function	0–10	Default refresh rates (1200)
		11	900 Hz
		12	1000 Hz
		13	1110 Hz
		14	1300 Hz
		15	1400 Hz
		16	1500 Hz
		17	2500 Hz
		18	4000 Hz
		19	5000 Hz
		20	6000 Hz
		21	10000 Hz
		22	15000 Hz
		23	Disable LED refresh Rates
		24–79	Refresh Rates: No Function
		80–89	Enable blackout while pan/tilt moving
		90–99	Disable blackout while pan/tilt moving
		100–139	Special Functions: No Function
		140–149	Reset Pan/Tilt
		150–159	Reset Zoom

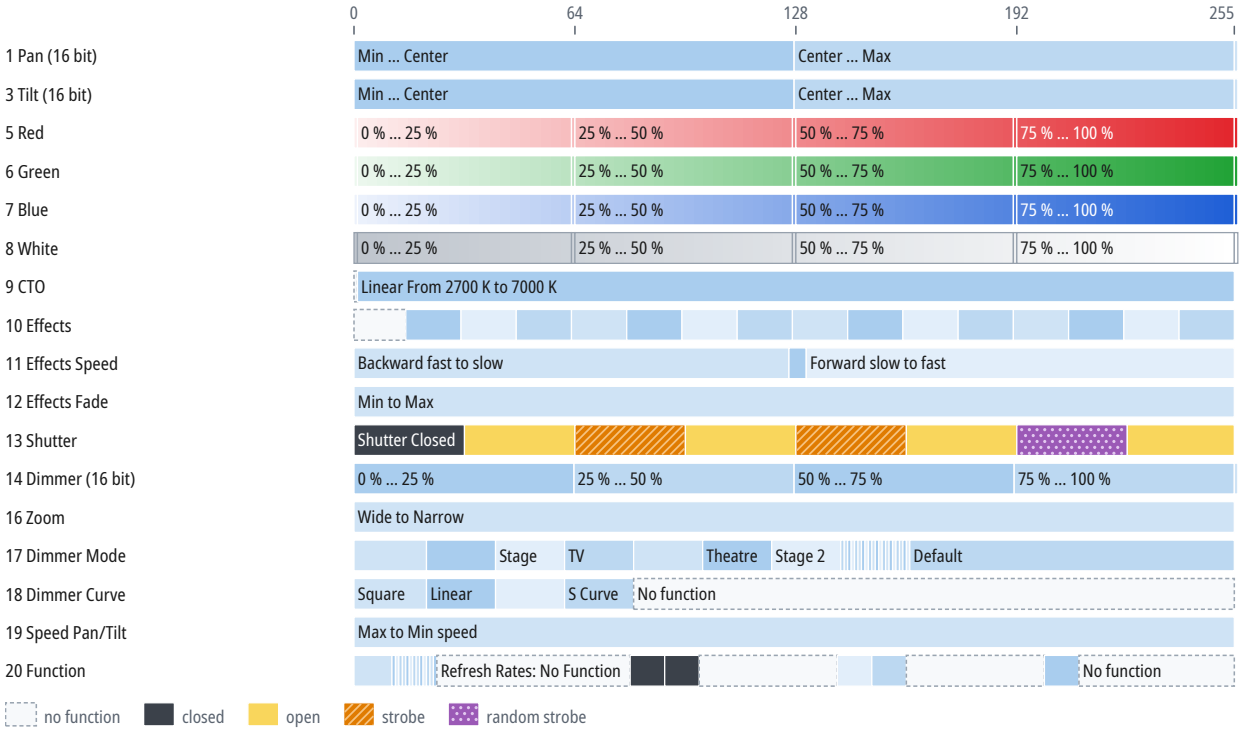
CH	Function	DMX	Description
16	Function (continued)	160–199	Special Functions: No Function
		200–209	Reset All
		210–255	No function

Mode 20CH

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

The GDTF file gives these values for a console's Highlight function: CH 5 Red 255, CH 6 Green 255, CH 7 Blue 255, CH 8 White 255, CH 13 Shutter 47, CH 14 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 16)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “16CH” (p. 16)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Red		Same as CH 5 in the mode “16CH” (p. 16)
6	Green		Same as CH 6 in the mode “16CH” (p. 16)
7	Blue		Same as CH 7 in the mode “16CH” (p. 17)
8	White		Same as CH 8 in the mode “16CH” (p. 17)
9	CTO		Same as CH 9 in the mode “16CH” (p. 17)
10	Effects		Internal Programs
		0–14	No Function
		15–30	Program 1
		31–46	Program 2
		47–62	Program 3

CH	Function	DMX	Description
10	Effects (continued)	63–78	Program 4
		79–94	Program 5
		95–110	Program 6
		111–126	Program 7
		127–142	Program 8
		143–158	Program 9
		159–174	Program 10
		175–190	Program 11
		191–206	Program 12
		207–222	Program 13
		223–238	Program 14
		239–255	Program 15
11	Effects Speed		Program Speed
		0–125	Backward fast to slow
		126–130	Stop
		131–255	Forward slow to fast (1–5 Hz)
12	Effects Fade		Program Fade
		0–255	Min to Max
13	Shutter		Same as CH 10 in the mode “16CH” (p. 17)
14	Dimmer		Same as CH 11 in the mode “16CH” (p. 17)
15	Dimmer Fine	0–255	Fine adjustment of CH 14
16	Zoom	0–255	Wide to Narrow (40–6°)
17	Dimmer Mode	0–20	Default to unit setting
		21–40	Standard
		41–60	Stage
		61–80	TV
		81–100	Architectural
		101–120	Theatre
		121–140	Stage 2
		141	0/1s Delay
		142	0/2s Delay
		143	0/3s Delay
		144	0/4s Delay
		145	0/5s Delay
		146	0/6s Delay
		147	0/7s Delay
		148	0/8s Delay
		149	0/9s Delay
		150	1s Delay
		151	1/5s Delay
		152–160	2...10s Delay
		161–255	Default

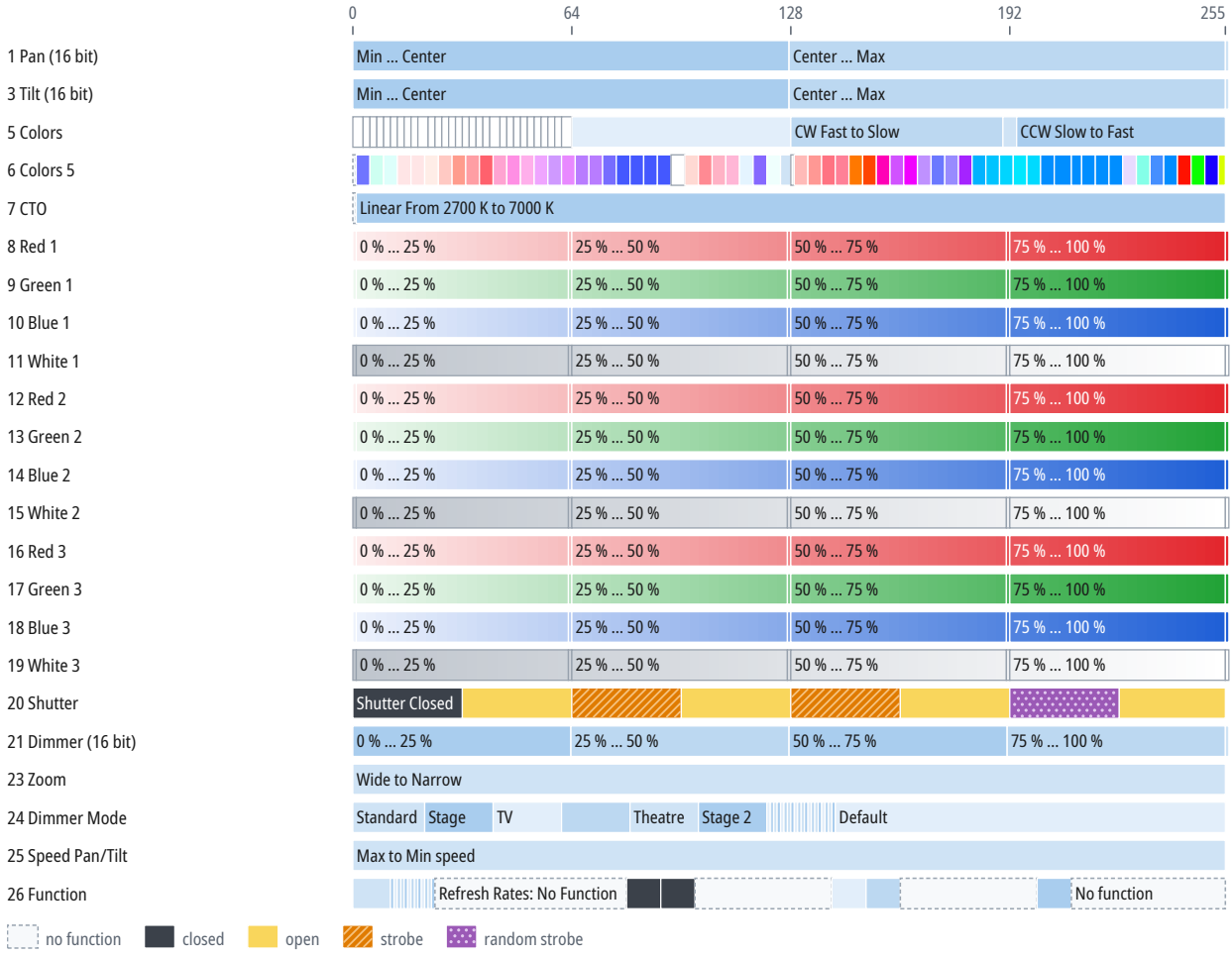
CH	Function	DMX	Description
18	Dimmer Curve		Dimmer Curves
		0–20	Square
		21–40	Linear
		41–60	Inverted Square
		61–80	S Curve
		81–255	No function
19	Speed Pan/Tilt	0–255	Max to Min speed
20	Function		Same as CH 16 in the mode “16CH” (p. 18)

Mode 26CH

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

The GDTF file gives these values for a console's Highlight function: CH 8 Red 1 255, CH 9 Green 1 255, CH 10 Blue 1 255, CH 11 White 1 255, CH 12 Red 2 255, CH 13 Green 2 255, CH 14 Blue 2 255, CH 15 White 2 255, CH 16 Red 3 255, CH 17 Green 3 255, CH 18 Blue 3 255, CH 19 White 3 255, CH 20 Shutter 47, CH 21 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 16)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “16CH” (p. 16)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Colors	0–2	Color: Open
		3–4	Color 1
		5–6	Color 2
		7–8	Color 3
		9–10	Color 4
		11–12	Color 5
		13–14	Color 6
		15–16	Color 7
		17–18	Color 8
		19–21	Color 9
		22–23	Color 10
		24–25	Color 11
		26–27	Color 12
		28–29	Color 13
		30–31	Color 14
		32–33	Color 15
		34–35	Color 16
		36–37	Color 17
		38–39	Color 18
		40–42	Color 19
		43–44	Color 20
		45–46	Color 21
		47–48	Color 22
		49–50	Color 23
		51–52	Color 24
		53–54	Color 25
		55–56	Color 26
		57–58	Color 27
		59–60	Color 28
		61–63	Color 29
		64–127	Color 1 Wheel Spin 2
		128–189	CW Fast to Slow (360–10 °/s)
		190–193	Color 1 Wheel Spin: Stop
		194–255	CCW Slow to Fast (10–360 °/s)
6	Colors 5		Color Macro
		0	Off

CH	Function	DMX	Description
6	Colors 5 (continued)	1–4	Color Macro 1
		5–8	Color Macro 2
		9–12	Color Macro 3
		13–16	Color Macro 4
		17–20	Color Macro 5
		21–24	Color Macro 6
		25–28	Color Macro 7
		29–32	Color Macro 8
		33–36	Color Macro 9
		37–40	Color Macro 10
		41–44	Color Macro 11
		45–48	Color Macro 12
		49–52	Color Macro 13
		53–56	Color Macro 14
		57–60	Color Macro 15
		61–64	Color Macro 16
		65–68	Color Macro 17
		69–72	Color Macro 18
		73–76	Color Macro 19
		77–80	Color Macro 20
		81–84	Color Macro 21
		85–88	Color Macro 22
		89–92	Color Macro 23
		93–96	Color Macro 24
		97–100	Color Macro 25
		101–104	Color Macro 26
		105–108	Color Macro 27
		109–112	Color Macro 28
		113–116	Color Macro 29
		117–120	Color Macro 30
		121–124	Color Macro 31
		125–127	Color Macro 31 … Color Macro 32
		128	Color Macro 32
		129–132	Color Macro 33
		133–136	Color Macro 34
		137–140	Color Macro 35
		141–144	Color Macro 36
		145–148	Color Macro 37
		149–152	Color Macro 38
		153–156	Color Macro 39
		157–160	Color Macro 40

CH	Function	DMX	Description
6	Colors 5 (continued)	161–164	Color Macro 41
		165–168	Color Macro 42
		169–172	Color Macro 43
		173–176	Color Macro 44
		177–180	Color Macro 45
		181–184	Color Macro 46
		185–188	Color Macro 47
		189–192	Color Macro 48
		193–196	Color Macro 49
		197–200	Color Macro 50
		201–204	Color Macro 51
		205–209	Color Macro 52
		210–212	Color Macro 53
		213–216	Color Macro 54
		217–220	Color Macro 55
		221–224	Color Macro 56
		225–228	Color Macro 57
		229–232	Color Macro 58
		233–236	Color Macro 59
		237–240	Color Macro 60
		241–244	Color Macro 61
		245–248	Color Macro 62
		249–252	Color Macro 63
		253–255	Color Macro 64
7	CTO		Same as CH 9 in the mode “16CH” (p. 17)
8	Red 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
9	Green 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %

CH	Function	DMX	Description
9	Green 1 (continued)	192–254	75 % … 100 %
		255	100 %
10	Blue 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
11	White 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
12	Red 2	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
13	Green 2	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
14	Blue 2	0	0 %
		1–62	0 % … 25 %
		63	25 %

CH	Function	DMX	Description
14	Blue 2 (continued)	64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
15	White 2	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
16	Red 3	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
17	Green 3	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
18	Blue 3	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %

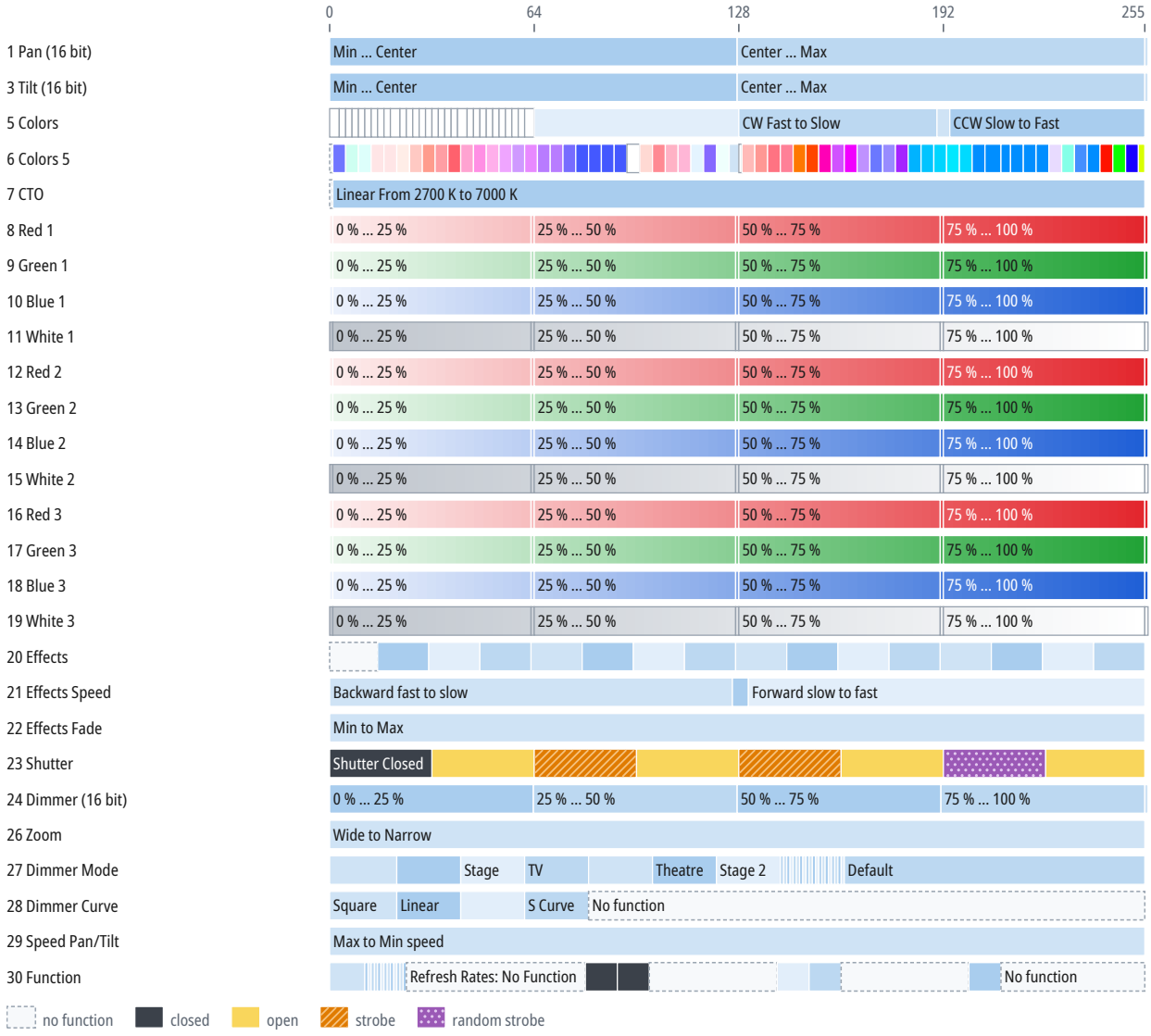
CH	Function	DMX	Description
19	White 3	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
20	Shutter		Same as CH 10 in the mode “16CH” (p. 17)
21	Dimmer		Same as CH 11 in the mode “16CH” (p. 17)
22	Dimmer Fine	0–255	Fine adjustment of CH 21
23	Zoom	0–255	Wide to Narrow (40–6°)
24	Dimmer Mode		Same as CH 14 in the mode “16CH” (p. 18)
25	Speed Pan/Tilt	0–255	Max to Min speed
26	Function		Same as CH 16 in the mode “16CH” (p. 18)

Mode 30CH

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

The GDTF file gives these values for a console's Highlight function: CH 8 Red 1 255, CH 9 Green 1 255, CH 10 Blue 1 255, CH 11 White 1 255, CH 12 Red 2 255, CH 13 Green 2 255, CH 14 Blue 2 255, CH 15 White 2 255, CH 16 Red 3 255, CH 17 Green 3 255, CH 18 Blue 3 255, CH 19 White 3 255, CH 23 Shutter 47, CH 24 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 16)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “16CH” (p. 16)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Colors		Same as CH 5 in the mode “26CH” (p. 22)
6	Colors 5		Same as CH 6 in the mode “26CH” (p. 22)
7	CTO		Same as CH 9 in the mode “16CH” (p. 17)

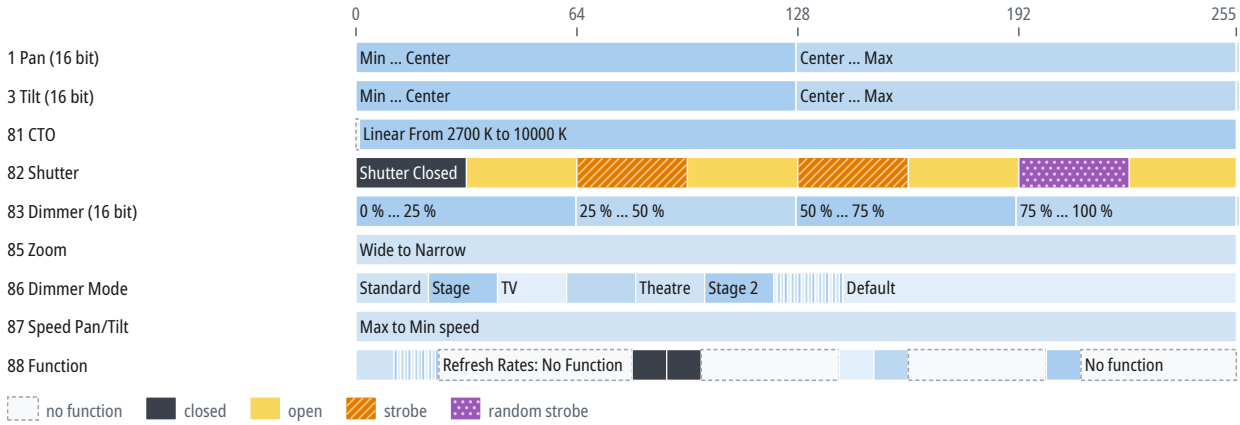
CH	Function	DMX	Description
8	Red 1		Same as CH 8 in the mode “26CH” (p. 24)
9	Green 1		Same as CH 9 in the mode “26CH” (p. 24)
10	Blue 1		Same as CH 10 in the mode “26CH” (p. 25)
11	White 1		Same as CH 11 in the mode “26CH” (p. 25)
12	Red 2		Same as CH 12 in the mode “26CH” (p. 25)
13	Green 2		Same as CH 13 in the mode “26CH” (p. 25)
14	Blue 2		Same as CH 14 in the mode “26CH” (p. 25)
15	White 2		Same as CH 15 in the mode “26CH” (p. 26)
16	Red 3		Same as CH 16 in the mode “26CH” (p. 26)
17	Green 3		Same as CH 17 in the mode “26CH” (p. 26)
18	Blue 3		Same as CH 18 in the mode “26CH” (p. 26)
19	White 3		Same as CH 19 in the mode “26CH” (p. 27)
20	Effects		Same as CH 10 in the mode “20CH” (p. 19)
21	Effects Speed		Same as CH 11 in the mode “20CH” (p. 20)
22	Effects Fade		Same as CH 12 in the mode “20CH” (p. 20)
23	Shutter		Same as CH 10 in the mode “16CH” (p. 17)
24	Dimmer		Same as CH 11 in the mode “16CH” (p. 17)
25	Dimmer Fine	0–255	Fine adjustment of CH 24
26	Zoom	0–255	Wide to Narrow (40–6°)
27	Dimmer Mode		Same as CH 17 in the mode “20CH” (p. 20)
28	Dimmer Curve		Same as CH 18 in the mode “20CH” (p. 21)
29	Speed Pan/Tilt	0–255	Max to Min speed
30	Function		Same as CH 16 in the mode “16CH” (p. 18)

Mode 88CH

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

The GDTF file gives these values for a console's Highlight function: CH 5 Red 255 (the same in each of the 19 cells), CH 6 Green 255 (the same in each of the 19 cells), CH 7 Blue 255 (the same in each of the 19 cells), CH 8 White 255 (the same in each of the 19 cells), CH 82 Shutter 47, CH 83 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 16)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “16CH” (p. 16)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Red 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
6	Green 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
7	Blue 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
8	White 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %

CH	Function	DMX	Description
81	CTO		Linear From 2700 K to 10000 K
		0	Off
		1–255	Linear From 2700 K to 10000 K (2700–10000 K)
82	Shutter		Same as CH 10 in the mode “16CH” (p. 17)
83	Dimmer		Same as CH 11 in the mode “16CH” (p. 17)
84	Dimmer Fine	0–255	Fine adjustment of CH 83
85	Zoom	0–255	Wide to Narrow (40–6°)
86	Dimmer Mode		Same as CH 14 in the mode “16CH” (p. 18)
87	Speed Pan/Tilt	0–255	Max to Min speed
88	Function		Same as CH 16 in the mode “16CH” (p. 18)

CH 5–80: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 5–8); the table below gives each cell's channel numbers.

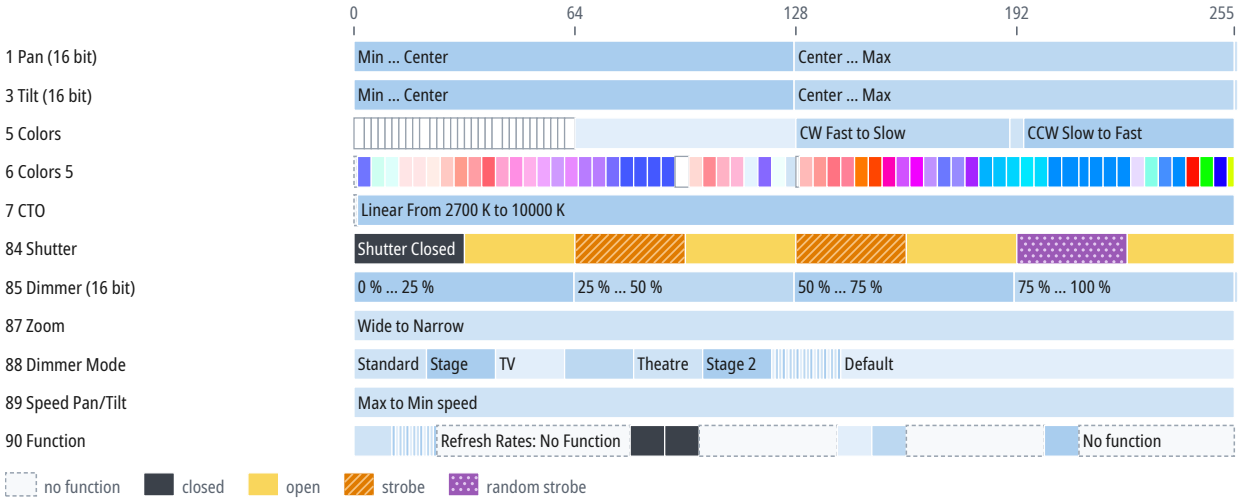
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	5	6	7	8	2	9	10	11	12
3	13	14	15	16	4	17	18	19	20
5	21	22	23	24	6	25	26	27	28
7	29	30	31	32	8	33	34	35	36
9	37	38	39	40	10	41	42	43	44
11	45	46	47	48	12	49	50	51	52
13	53	54	55	56	14	57	58	59	60
15	61	62	63	64	16	65	66	67	68
17	69	70	71	72	18	73	74	75	76
19	77	78	79	80					

Mode 90CH

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

The GDTF file gives these values for a console's Highlight function: CH 8 Red 255 (the same in each of the 19 cells), CH 9 Green 255 (the same in each of the 19 cells), CH 10 Blue 255 (the same in each of the 19 cells), CH 11 White 255 (the same in each of the 19 cells), CH 84 Shutter 47, CH 85 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16CH” (p. 16)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “16CH” (p. 16)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Colors		Same as CH 5 in the mode “26CH” (p. 22)
6	Colors 5		Same as CH 6 in the mode “26CH” (p. 22)
7	CTO		Same as CH 81 in the mode “88CH” (p. 31)
8	Red 1	0	0 %
		1–62	0 % ... 25 %
		63	25 %
		64–126	25 % ... 50 %
		127	50 %
		128–190	50 % ... 75 %
		191	75 %
		192–254	75 % ... 100 %
		255	100 %
9	Green 1	0	0 %
		1–62	0 % ... 25 %
		63	25 %
		64–126	25 % ... 50 %
		127	50 %
		128–190	50 % ... 75 %

CH	Function	DMX	Description
9	Green 1 (continued)	191	75 %
		192–254	75 % … 100 %
		255	100 %
10	Blue 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
11	White 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
84	Shutter		Same as CH 10 in the mode “16CH” (p. 17)
85	Dimmer		Same as CH 11 in the mode “16CH” (p. 17)
86	Dimmer Fine	0–255	Fine adjustment of CH 85
87	Zoom	0–255	Wide to Narrow (40–6°)
88	Dimmer Mode		Same as CH 14 in the mode “16CH” (p. 18)
89	Speed Pan/Tilt	0–255	Max to Min speed
90	Function		Same as CH 16 in the mode “16CH” (p. 18)

CH 8–83: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 8–11); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	8	9	10	11	2	12	13	14	15
3	16	17	18	19	4	20	21	22	23
5	24	25	26	27	6	28	29	30	31
7	32	33	34	35	8	36	37	38	39
9	40	41	42	43	10	44	45	46	47
11	48	49	50	51	12	52	53	54	55
13	56	57	58	59	14	60	61	62	63
15	64	65	66	67	16	68	69	70	71
17	72	73	74	75	18	76	77	78	79
19	80	81	82	83					

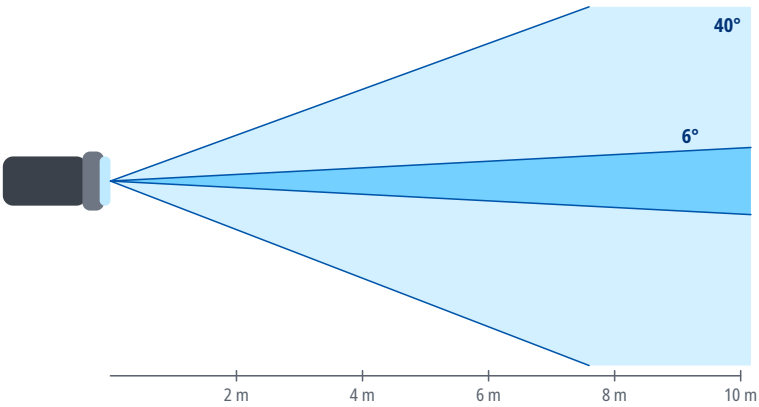
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	6–40°
Movement	
Pan	540°
Tilt	265°
Control	
RDM	yes (manufacturer ID 0x1900, device model ID 0x04A0)
Dimensions and construction	
Weight	24 kg
Operating environment	
Ingress protection	IP65
Meaning of the IP code (IEC 60529)	Dust-tight; protected against water jets
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2700–10000 K
Strobe frequency	1–10 Hz
Color wheel rotation	up to 360 °/s (60 rpm)

Spot diameter



Distance	Ø 6°	Ø 40°
2 m	0.21 m	1.5 m
4 m	0.42 m	2.9 m
6 m	0.63 m	4.4 m
8 m	0.84 m	5.8 m
10 m	1 m	7.3 m
15 m	1.6 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.