DMX REFERENCE

Hydro Wash X7

ADJ



Manufacturer	ADJ
GDTF file	ADJ_Hydro_Wash_X7_99693.gdtf
GDTF revision	First Release 25-10-06 · 2025-06-10
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1 About this manual

This document describes the Hydro Wash X7 by ADJ. It was compiled from the GDTF file ADJ_Hydro_Wash_X7_99693.gdtf from the GDTF-Share library.

File revision: “First Release 25-10-06”.

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	16 kg
Ingress protection	IP65

DMX modes

Mode	Channels	Units in one universe	First start addresses
46 CH	46	11	1, 47, 93, 139, ...
41 CH	41	12	1, 42, 83, 124, ...
22Ch	22	23	1, 23, 45, 67, ...
17 CH	17	30	1, 18, 35, 52, ...
15 CH	15	34	1, 16, 31, 46, ...



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.

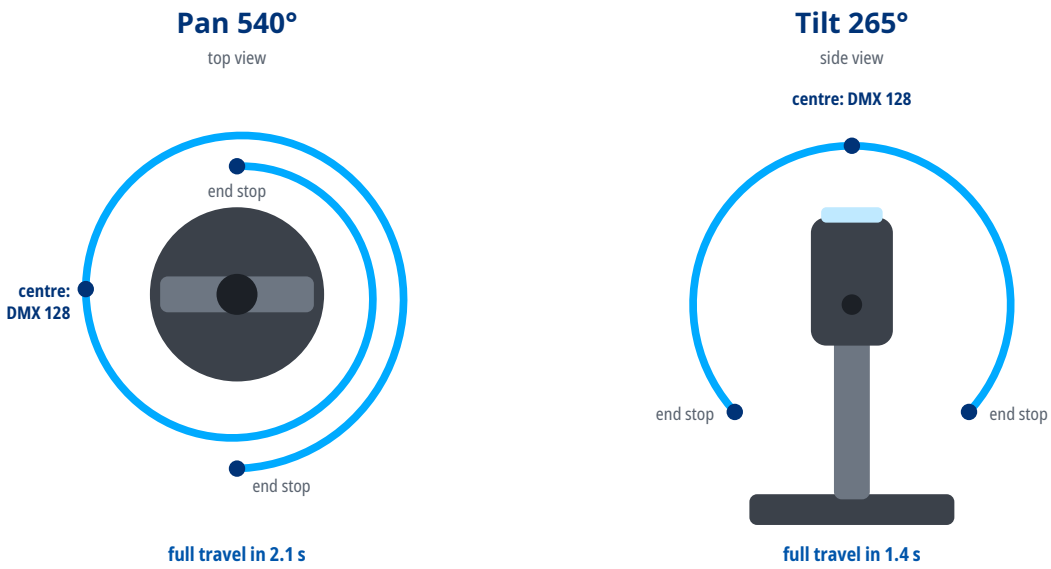
4 Product description

Description in the GDTF file

“The ADJ Hydro Wash X7 is an IP65 rated 280W professional moving head wash fixture with seven 40W RGBW (4-IN-1) LEDs.”

“With robust construction and IP65-ratings, the Hydro Wash X7 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

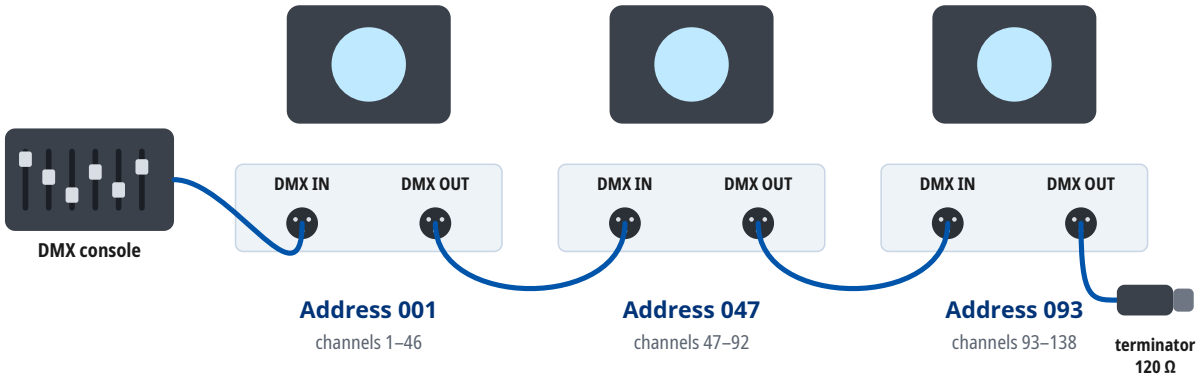
⚠ WARNING

- 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: 16 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 46 CH: every unit occupies 46 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 “46 CH”: 46.
- 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 “46 CH”, you can use, for example, the start addresses 1, 47, 93, 139.
- 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

	46 CH 46 channels	41 CH 41 channels	22Ch 22 channels	17 CH 17 channels	15 CH 15 channels
Pan / Tilt	1, 3	1, 3	1, 3	1, 3	1, 2
Pan / Tilt resolution	16 bit	16 bit	16 bit	16 bit	8 bit
Dimmer	40	36	16	12	10
Shutter / strobe	39	35	15	11	9
Color mixing	7–34	7–34	7–10	7–10	5–8
Color temperature	35		11		
Color wheel	5, 6	5, 6	5, 6	5, 6	3, 4
Zoom	42	38	18	14	12
Effects / macros	36–38		12–14		

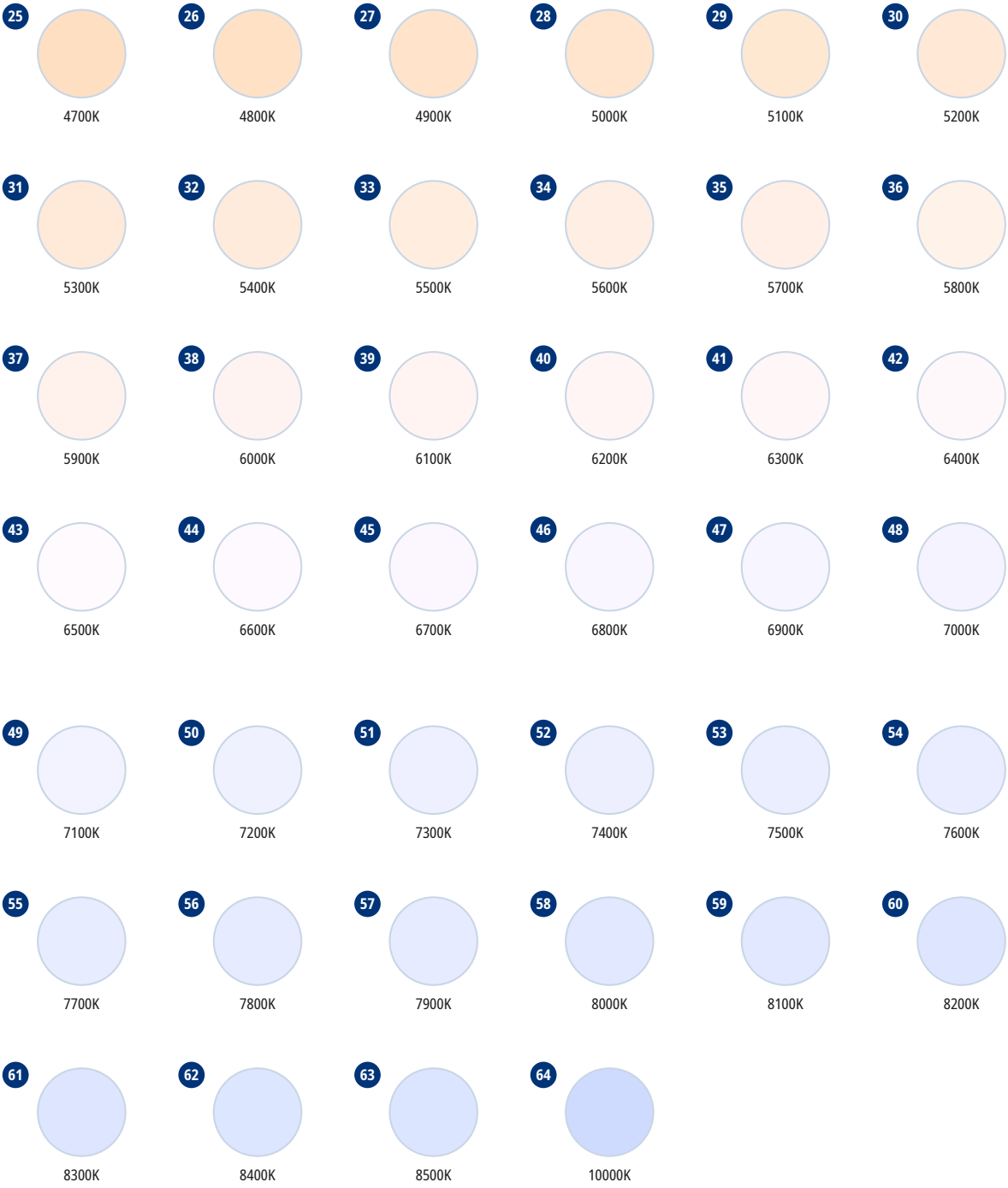
Color wheel 1

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

1 Open
2 2400K
3 2500K
4 2600K
5 2700K
6 2800K
7 2900K
8 3000K
9 3100K
10 3200K
11 3300K
12 3400K
13 3500K
14 3600K
15 3700K
16 3800K
17 3900K
18 4000K
19 4100K
20 4200K
21 4300K
22 4400K
23 4500K
24 4600K


25
4700K
26
4800K
27
4900K
28
5000K
29
5100K
30
5200K
31
5300K
32
5400K
33
5500K
34
5600K
35
5700K
36
5800K
37
5900K
38
6000K
39
6100K
40
6200K
41
6300K
42
6400K
43
6500K
44
6600K
45
6700K
46
6800K
47
6900K
48
7000K
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
34. Color Macro 33 — DMX 129–132
35. Color Macro 34 — DMX 133–136
36. Color Macro 35 — DMX 137–140
37. Color Macro 36 — 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. Color Macro 42 — 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

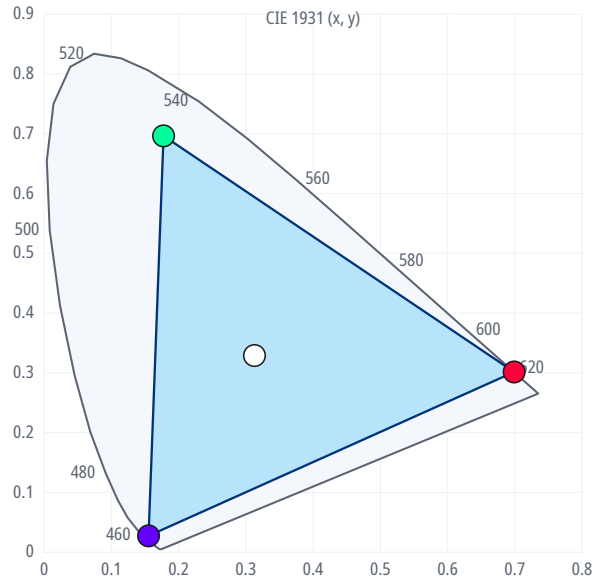
62 Color Macro 61
DMX 241–244

63 Color Macro 62
DMX 245–248

64 Color Macro 63
DMX 249–252

65 Color Macro 64
DMX 253–255

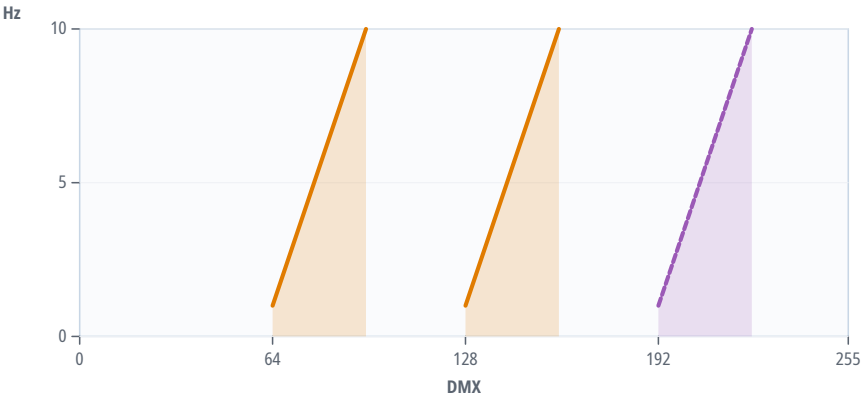
LED colors and the colors they mix



LED	x	y	nm
Red	0.699	0.301	457
Green	0.177	0.696	457
Blue	0.155	0.027	457
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



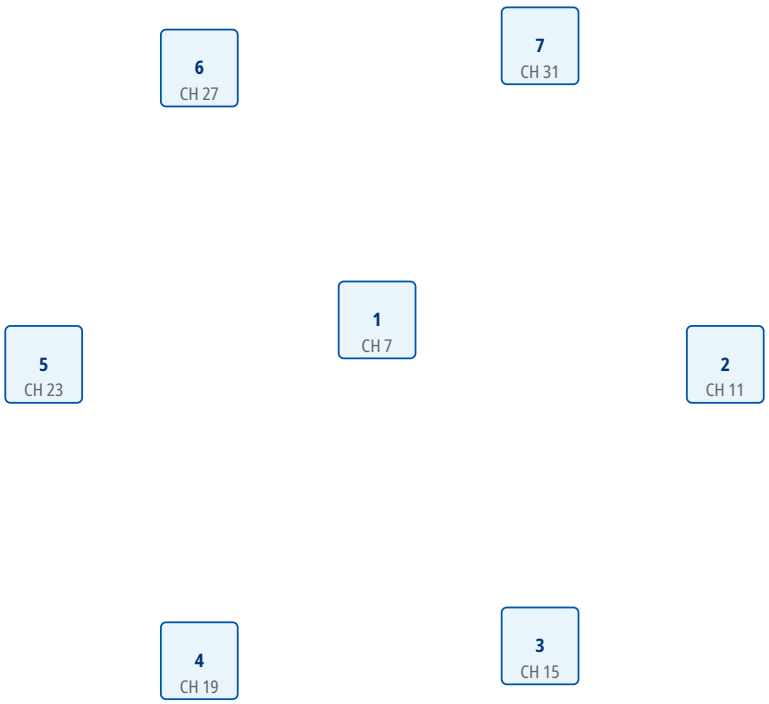
CH 39 · 46 CH

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)



7 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “46 CH”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “46 CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	231	11	461	16	U2 · 185
2	47	7	277	12	U2 · 1	17	U2 · 231
3	93	8	323	13	U2 · 47	18	U2 · 277
4	139	9	369	14	U2 · 93	19	U2 · 323
5	185	10	415	15	U2 · 139	20	U2 · 369

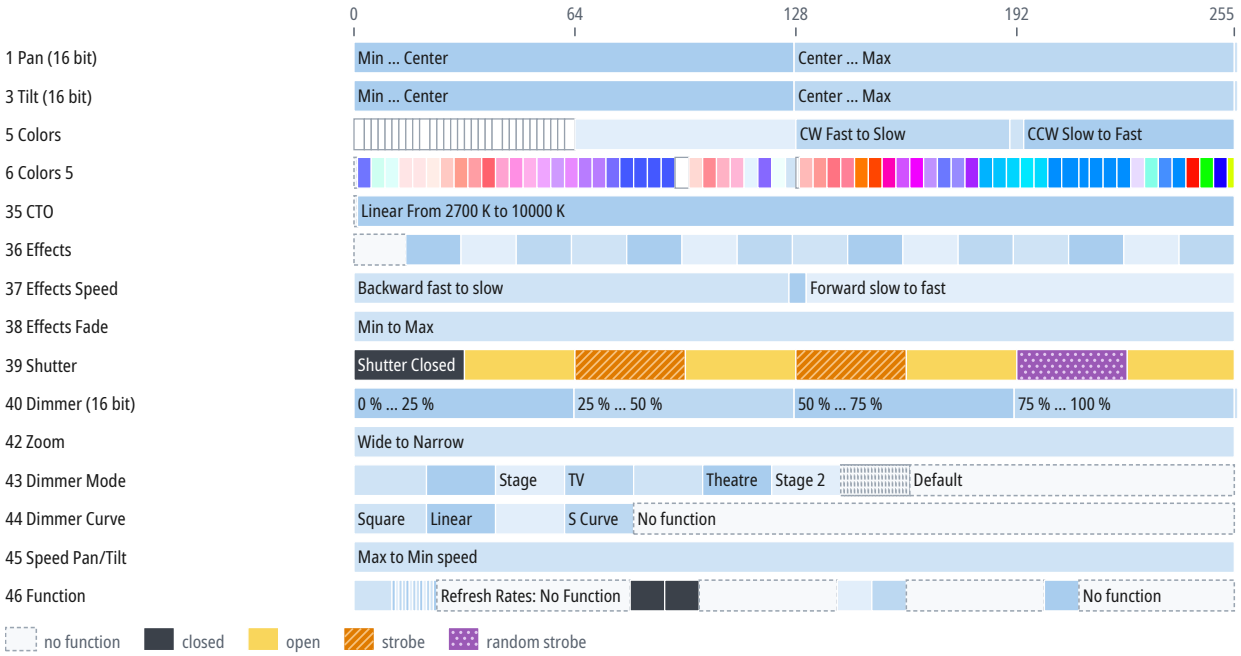
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 46 CH

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 7 Red 1 255, CH 8 Green 1 255, CH 9 Blue 1 255, CH 10 White 1 255, CH 11 Red 2 255, CH 12 Green 2 255, CH 13 Blue 2 255, CH 14 White 2 255, CH 15 Red 3 255, CH 16 Green 3 255, CH 17 Blue 3 255, CH 18 White 3 255, CH 19 Red 4 255, CH 20 Green 4 255, CH 21 Blue 4 255, CH 22 White 4 255, CH 23 Red 5 255, CH 24 Green 5 255, CH 25 Blue 5 255, CH 26 White 5 255, CH 27 Red 6 255, CH 28 Green 6 255, CH 29 Blue 6 255, CH 30 White 6 255, CH 31 Red 7 255, CH 32 Green 7 255, CH 33 Blue 7 255, CH 34 White 7 255, CH 39 Shutter 47, CH 40 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	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

CH	Function	DMX	Description
5	Colors (continued)	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
		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

CH	Function	DMX	Description
6	Colors 5 (continued)	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
		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

CH	Function	DMX	Description
6	Colors 5 (continued)	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	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 %
8	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 %
9	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 %
10	White 1	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %

CH	Function	DMX	Description
10	White 1 (continued)	191	75 %
		192–254	75 % … 100 %
		255	100 %
11	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 %
12	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 %
13	Blue 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	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 %
15	Red 3	0	0 %
		1–62	0 % … 25 %
		63	25 %

CH	Function	DMX	Description
15	Red 3 (continued)	64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
16	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 %
17	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 %
18	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 %
19	Red 4	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
20	Green 4	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 %
21	Blue 4	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 %
22	White 4	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 %
23	Red 5	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 %
24	Green 5	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %

CH	Function	DMX	Description
24	Green 5 (continued)	191	75 %
		192–254	75 % … 100 %
		255	100 %
25	Blue 5	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 %
26	White 5	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 %
27	Red 6	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 %
28	Green 6	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 %
29	Blue 6	0	0 %
		1–62	0 % … 25 %
		63	25 %

CH	Function	DMX	Description
29	Blue 6 (continued)	64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
30	White 6	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 %
31	Red 7	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 %
32	Green 7	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 %
33	Blue 7	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
34	White 7	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 %
35	CTO		Linear From 2700 K to 10000 K
		0	Off
		1–255	Linear From 2700 K to 10000 K (2700–10000 K)
36	Effects		Internal Programs
		0–14	No Function
		15–30	Program 1
		31–46	Program 2
		47–62	Program 3
		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
37	Effects Speed		Program Speed
		0–125	Backward fast to slow
		126–130	Stop
		131–255	Forward slow to fast (1–5 Hz)
38	Effects Fade		Program Fade
		0–255	Min to Max
39	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)

CH	Function	DMX	Description
39	Shutter (continued)	224–255	No Function (Shutter Open)
40	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 %
41	Dimmer Fine	0–255	Fine adjustment of CH 40
42	Zoom	0–255	Wide to Narrow (40–6°)
43	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
44	Dimmer Curve		Dimmer Curves
		0–20	Square
		21–40	Linear
		41–60	Inverted Square
		61–80	S Curve
		81–255	No function
45	Speed Pan/Tilt	0–255	Max to Min speed
46	Function	0–10	Default refresh rates (1200)
		11	900 Hz
		12	1000 Hz
		13	1110 Hz

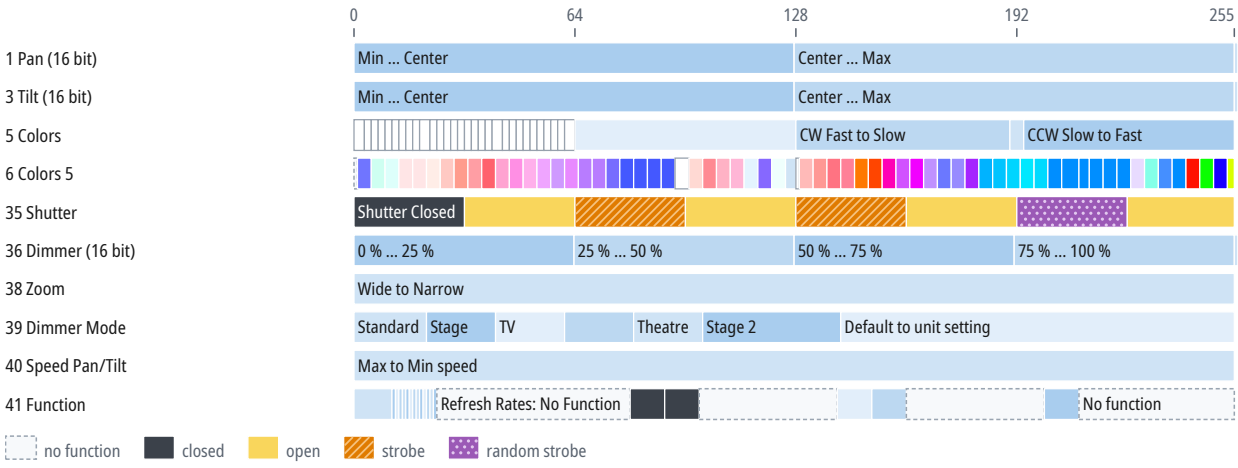
CH	Function	DMX	Description
46	Function (continued)	14	1300 Hz
		15	1400 Hz
		16	1500 Hz
		17	2500 Hz
		18	4000 Hz
		19	5000 Hz
		20	6000 Hz
		21	10000 Hz
		22	15000 Hz
		23	Disable LED refresh Rates
		24–79	Refresh Rates: No Function
		80–89	Enable blackout while pan/tilt moving
		90–99	Disable blackout while pan/tilt moving
		100–139	Special Functions: No Function
		140–149	Reset Pan/Tilt
		150–159	Reset Zoom
		160–199	Special Functions: No Function
		200–209	Reset All
		210–255	No function

Mode 41 CH

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 7 Red 1 255, CH 8 Green 1 255, CH 9 Blue 1 255, CH 10 White 1 255, CH 11 Red 2 255, CH 12 Green 2 255, CH 13 Blue 2 255, CH 14 White 2 255, CH 15 Red 3 255, CH 16 Green 3 255, CH 17 Blue 3 255, CH 18 White 3 255, CH 19 Red 4 255, CH 20 Green 4 255, CH 21 Blue 4 255, CH 22 White 4 255, CH 23 Red 5 255, CH 24 Green 5 255, CH 25 Blue 5 255, CH 26 White 5 255, CH 27 Red 6 255, CH 28 Green 6 255, CH 29 Blue 6 255, CH 30 White 6 255, CH 31 Red 7 255, CH 32 Green 7 255, CH 33 Blue 7 255, CH 34 White 7 255, CH 35 Shutter 47, CH 36 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “46 CH” (p. 15)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “46 CH” (p. 15)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Colors		Same as CH 5 in the mode “46 CH” (p. 15)
6	Colors 5		Same as CH 6 in the mode “46 CH” (p. 16)
7	Red 1		Same as CH 7 in the mode “46 CH” (p. 18)
8	Green 1		Same as CH 8 in the mode “46 CH” (p. 18)
9	Blue 1		Same as CH 9 in the mode “46 CH” (p. 18)
10	White 1		Same as CH 10 in the mode “46 CH” (p. 18)
11	Red 2		Same as CH 11 in the mode “46 CH” (p. 19)
12	Green 2		Same as CH 12 in the mode “46 CH” (p. 19)
13	Blue 2		Same as CH 13 in the mode “46 CH” (p. 19)
14	White 2		Same as CH 14 in the mode “46 CH” (p. 19)
15	Red 3		Same as CH 15 in the mode “46 CH” (p. 19)
16	Green 3		Same as CH 16 in the mode “46 CH” (p. 20)
17	Blue 3		Same as CH 17 in the mode “46 CH” (p. 20)
18	White 3		Same as CH 18 in the mode “46 CH” (p. 20)
19	Red 4		Same as CH 19 in the mode “46 CH” (p. 20)
20	Green 4		Same as CH 20 in the mode “46 CH” (p. 21)
21	Blue 4		Same as CH 21 in the mode “46 CH” (p. 21)
22	White 4		Same as CH 22 in the mode “46 CH” (p. 21)
23	Red 5		Same as CH 23 in the mode “46 CH” (p. 21)
24	Green 5		Same as CH 24 in the mode “46 CH” (p. 21)
25	Blue 5		Same as CH 25 in the mode “46 CH” (p. 22)
26	White 5		Same as CH 26 in the mode “46 CH” (p. 22)
27	Red 6		Same as CH 27 in the mode “46 CH” (p. 22)
28	Green 6		Same as CH 28 in the mode “46 CH” (p. 22)
29	Blue 6		Same as CH 29 in the mode “46 CH” (p. 22)
30	White 6		Same as CH 30 in the mode “46 CH” (p. 23)
31	Red 7		Same as CH 31 in the mode “46 CH” (p. 23)
32	Green 7		Same as CH 32 in the mode “46 CH” (p. 23)
33	Blue 7		Same as CH 33 in the mode “46 CH” (p. 23)
34	White 7		Same as CH 34 in the mode “46 CH” (p. 24)
35	Shutter		Same as CH 39 in the mode “46 CH” (p. 24)
36	Dimmer		Same as CH 40 in the mode “46 CH” (p. 25)
37	Dimmer Fine	0–255	Fine adjustment of CH 36
38	Zoom	0–255	Wide to Narrow (40–6°)
39	Dimmer Mode	0–20	Standard
		21–40	Stage

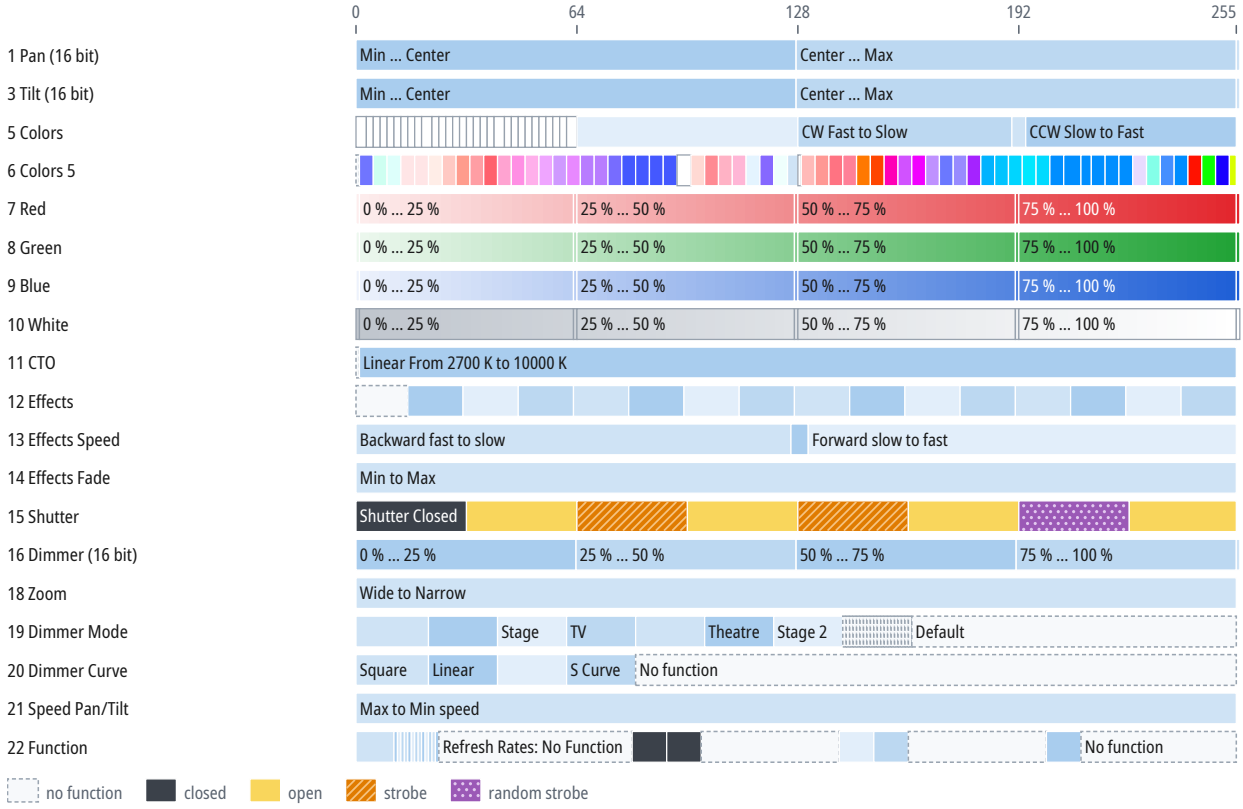
CH	Function	DMX	Description
39	Dimmer Mode (continued)	41–60	TV
		61–80	Architectural
		81–100	Theatre
		101–140	Stage 2
		141–255	Default to unit setting
40	Speed Pan/Tilt	0–255	Max to Min speed
41	Function		Same as CH 46 in the mode “46 CH” (p. 25)

Mode 22Ch

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 7 Red 255, CH 8 Green 255, CH 9 Blue 255, CH 10 White 255, CH 15 Shutter 47, CH 16 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “46 CH” (p. 15)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “46 CH” (p. 15)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Colors		Same as CH 5 in the mode “46 CH” (p. 15)
6	Colors 5		Same as CH 6 in the mode “46 CH” (p. 16)
7	Red	0	0 %

CH	Function	DMX	Description
7	Red (continued)	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	Green	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	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 %
10	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 %
11	CTO		Same as CH 35 in the mode “46 CH” (p. 24)
12	Effects		Same as CH 36 in the mode “46 CH” (p. 24)
13	Effects Speed		Same as CH 37 in the mode “46 CH” (p. 24)
14	Effects Fade		Same as CH 38 in the mode “46 CH” (p. 24)
15	Shutter		Same as CH 39 in the mode “46 CH” (p. 24)
16	Dimmer		Same as CH 40 in the mode “46 CH” (p. 25)

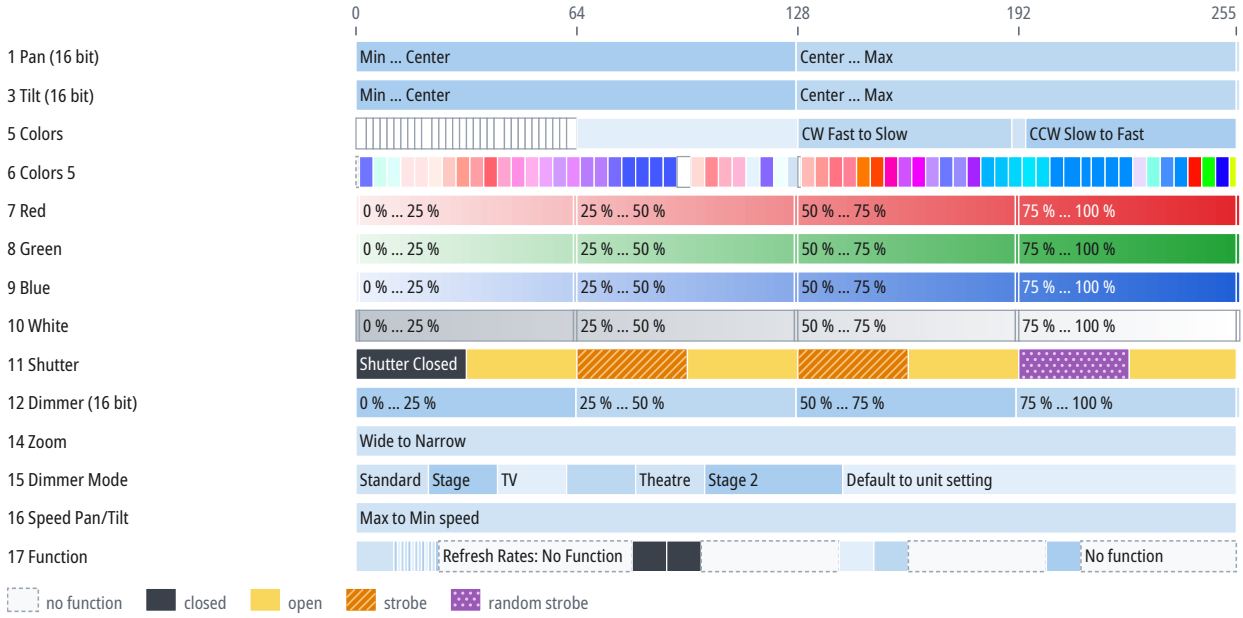
CH	Function	DMX	Description
17	Dimmer Fine	0–255	Fine adjustment of CH 16
18	Zoom	0–255	Wide to Narrow (40–6°)
19	Dimmer Mode		Same as CH 43 in the mode “46 CH” (p. 25)
20	Dimmer Curve		Same as CH 44 in the mode “46 CH” (p. 25)
21	Speed Pan/Tilt	0–255	Max to Min speed
22	Function		Same as CH 46 in the mode “46 CH” (p. 25)

Mode 17 CH

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 7 Red 255, CH 8 Green 255, CH 9 Blue 255, CH 10 White 255, CH 11 Shutter 47, CH 12 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “46 CH” (p. 15)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “46 CH” (p. 15)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Colors		Same as CH 5 in the mode “46 CH” (p. 15)
6	Colors 5		Same as CH 6 in the mode “46 CH” (p. 16)
7	Red		Same as CH 7 in the mode “22Ch” (p. 28)
8	Green		Same as CH 8 in the mode “22Ch” (p. 29)
9	Blue		Same as CH 9 in the mode “22Ch” (p. 29)
10	White		Same as CH 10 in the mode “22Ch” (p. 29)
11	Shutter		Same as CH 39 in the mode “46 CH” (p. 24)
12	Dimmer		Same as CH 40 in the mode “46 CH” (p. 25)
13	Dimmer Fine	0–255	Fine adjustment of CH 12

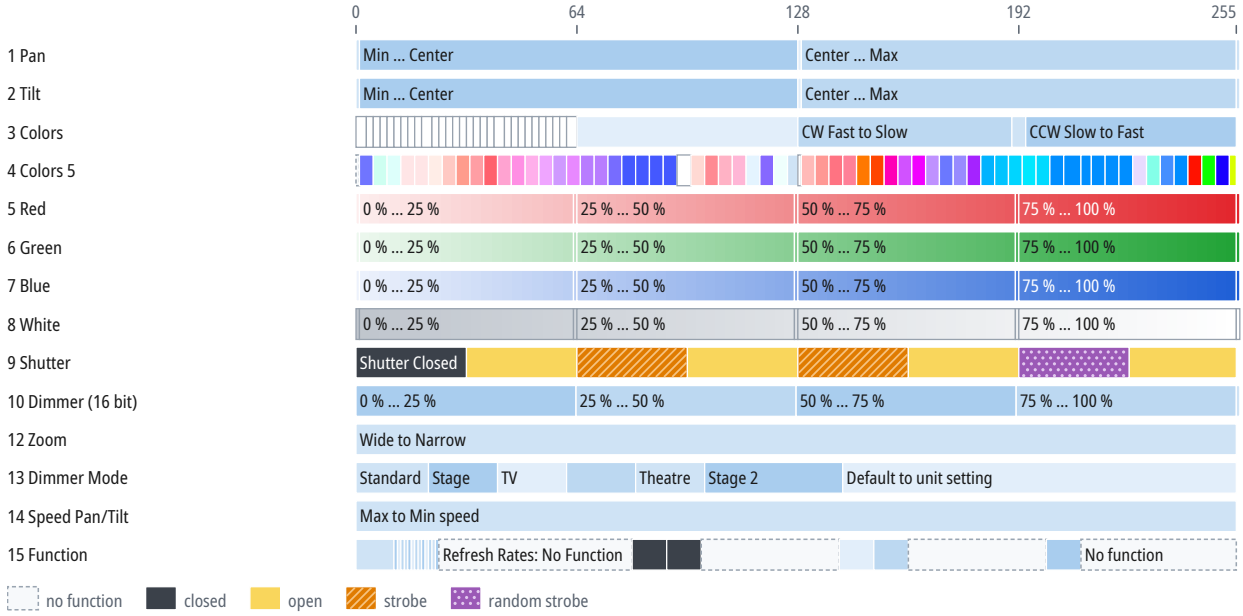
CH	Function	DMX	Description
14	Zoom	0–255	Wide to Narrow (40–6°)
15	Dimmer Mode		Same as CH 39 in the mode “41 CH” (p. 27)
16	Speed Pan/Tilt	0–255	Max to Min speed
17	Function		Same as CH 46 in the mode “46 CH” (p. 25)

Mode 15 CH

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 9 Shutter 47, CH 10 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0	Min
		1–127	Min ... Center
		128	Center
		129–254	Center ... Max
		255	Max
2	Tilt	0	Min
		1–127	Min ... Center
		128	Center
		129–254	Center ... Max
		255	Max
3	Colors		Same as CH 5 in the mode “46 CH” (p. 15)
4	Colors 5		Same as CH 6 in the mode “46 CH” (p. 16)
5	Red		Same as CH 7 in the mode “22Ch” (p. 28)
6	Green		Same as CH 8 in the mode “22Ch” (p. 29)
7	Blue		Same as CH 9 in the mode “22Ch” (p. 29)

CH	Function	DMX	Description
8	White		Same as CH 10 in the mode “22Ch” (p. 29)
9	Shutter		Same as CH 39 in the mode “46 CH” (p. 24)
10	Dimmer		Same as CH 40 in the mode “46 CH” (p. 25)
11	Dimmer Fine	0–255	Fine adjustment of CH 10
12	Zoom	0–255	Wide to Narrow (40–6°)
13	Dimmer Mode		Same as CH 39 in the mode “41 CH” (p. 27)
14	Speed Pan/Tilt	0–255	Max to Min speed
15	Function		Same as CH 46 in the mode “46 CH” (p. 25)

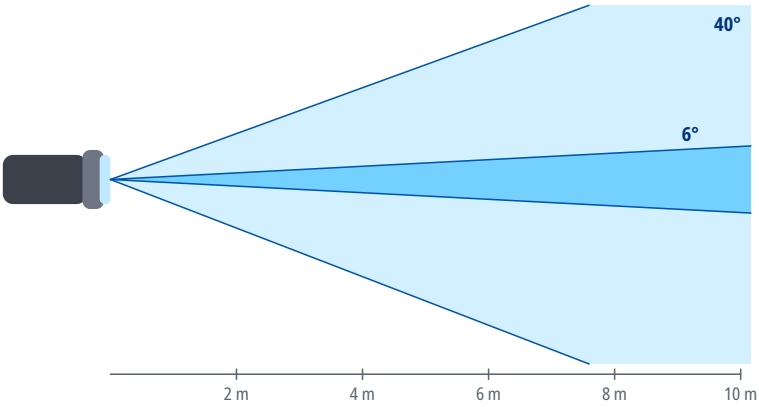
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	6–40°
Movement	
Pan	540°
Tilt	265°
Dimensions and construction	
Weight	16 kg
Operating environment	
Ingress protection	IP65
Meaning of the IP code (IEC 60529)	Dust-tight; protected against water jets
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
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.