DMX REFERENCE

Coef7 MH RGBW

User Test



Manufacturer	User Test
GDTF file	User_Test_Coef7_MH_RGBW_45370.gdtf
GDTF revision	08.09.23.2 · 2023-08-09
Generated	2026-11-24

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1 About this manual

This document describes the Coef7 MH RGBW by User Test. It was compiled from the GDTF file User_Test_Coef7_MH_RGBW_45370.gdtf from the GDTF-Share library.

File revision: “08.09.23.2”.

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 User Test; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Power consumption	220 W
Weight	5.7 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 1- Reduced 8 - bit	14	36	1, 15, 29, 43, ...
Mode 2 - Pt programm 15k	15	34	1, 16, 31, 46, ...

No light? Check these channels

- Mode 1- Reduced 8 - bit: CH 1 Dimmer above 0; CH 2 Shutter at 32–255 “Shutter open”
- Mode 2 - Pt programm 15k: CH 1 Dimmer above 0; CH 2 Shutter at 32–255 “Shutter open”


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

⚠ WARNING

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

⚠ WARNING

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ WARNING

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

⚠ CAUTION

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

⚠ CAUTION

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

⚠ WARNING

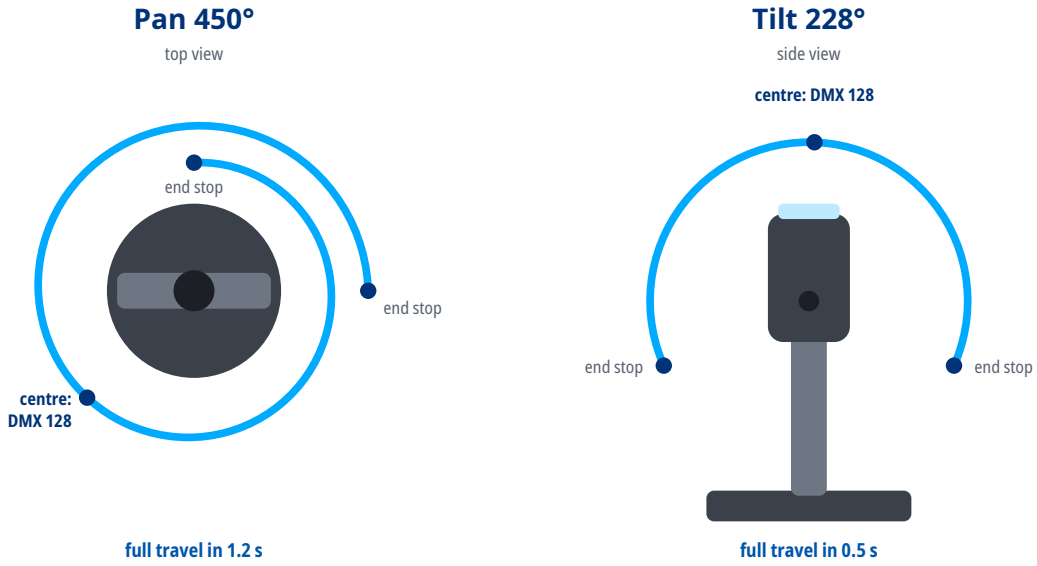
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts,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

4 Product description

Description in the GDTF file

“Fast sweeping beams and a wide far-reaching quality wash in compact housing.”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

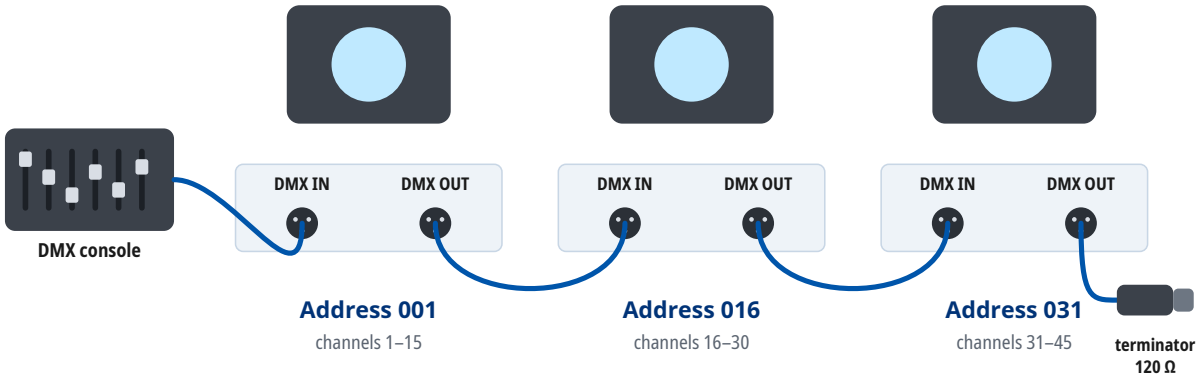
⚠ WARNING

- 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: 5.7 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 2 - Pt programm 15k: every unit occupies 15 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 “Mode 2 - Pt programm 15k”: 15.
- 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 “Mode 2 - Pt programm 15k”, you can use, for example, the start addresses 1, 16, 31, 46.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

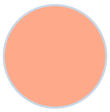
Functions in each DMX mode

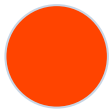
	Mode 1- Reduced 8 - bit 14 channels	Mode 2 - Pt programm 15k 15 channels
Pan / Tilt	3, 5	3, 5
Dimmer	1	1
Shutter / strobe	2	2
Color mixing	8–11	9–12
Effects / macros	12	13

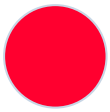
Color wheel

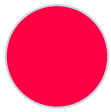
1

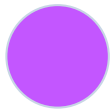
No function
DMX 0

2

Filter 4 (Medium Bastard Amber)
DMX 1–2

3

Filter 25 (Sunset Red)
DMX 3–4

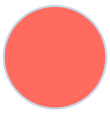
4

Filter 19 (Fire)
DMX 5–6

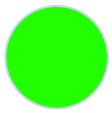
5

Filter 26 (Bright Red)
DMX 7–8

6

Filter 58 (Lavender)
DMX 9–10

7

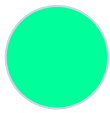
Filter 68 (Sky Blue)
DMX 11–12

8

Filter 36 (Medium Pink)
DMX 13–14

9

Filter 89 (Moss Green)
DMX 15–16

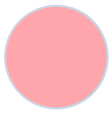
10

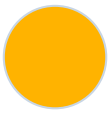
Filter 88 (Lime Green)
DMX 17–18

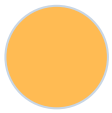
11

Filter 90 (Dark Yellow Green)
DMX 19–20

12

Filter 49 (Medium Purple)
DMX 21–22

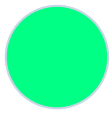
13

Filter 52 (Light Lavender)
DMX 23–24

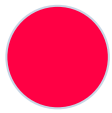
14

Filter 102 (Light Amber)
DMX 25–26

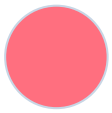
15

Filter 103 (Straw)
DMX 27–28

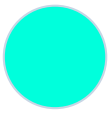
16

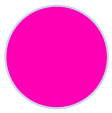
Filter 140 (Summer Blue)
DMX 29–30

17

Filter 124 (Dark Green)
DMX 31–32

18

Filter 106 (Primary Red)
DMX 33–34

19

Filter 111 (Dark Pink)
DMX 35–36

20

Filter 115 (Peacock Blue)
DMX 37–38

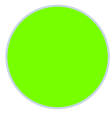
21

Filter 126 (Mauve)
DMX 39–40

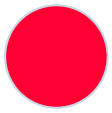
22

Filter 117 (Steel Blue)
DMX 41–42

23

Filter 118 (Light Blue)
DMX 43–44

24

Filter 122 (Fern Green)
DMX 45–46

25

Filter 182 (Light Red)
DMX 47–48

26

Filter 121 (Filter Green)
DMX 49–50

27

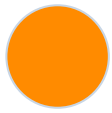
Filter 128 (Bright Pink)
DMX 51–52

28

Filter 131 (Marine Blue)
DMX 53–54

29

Filter 132 (Medium Blue)
DMX 55–56

30

Filter 134 (Golden Amber)
DMX 57–58

31

Filter 135 (Deep Golden Amber)
DMX 59–60

32

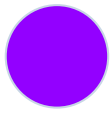
Filter 136 (Pale Lavender)
DMX 61–62

33

Filter 137 (Special Lavender)
DMX 63–64

34

Filter 138 (Pale Green)
DMX 65–66

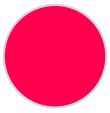
35

Filter 798 (Chrysalis Pink)
DMX 67–68

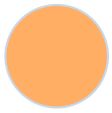
36

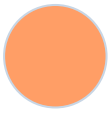
Filter 141 (Bright Blue)
DMX 69–70

37

Filter 147 (Apricot)
DMX 71–72

38

Filter 148 (Bright Rose)
DMX 73–74

39

Filter 152 (Pale Gold)
DMX 75–76

40

Filter 154 (Pale Rose)
DMX 77–78

41

Filter 157 (Pink)
DMX 79–80

42

Filter 143 (Pale Navy Blue)
DMX 81–82

43

Filter 162 (Bastard Amber)
DMX 83–84

44

Filter 164 (Flame Red)
DMX 85–86

45

Filter 165 (Daylight Blue)
DMX 87–88

46

Filter 169 (Lilac Tint)
DMX 89–90

47

Filter 170 (Deep Lavender)
DMX 91–92

48

Filter 172 (Lagoon Blue)
DMX 93–94

49 Filter 194 (Surprise Pink)
DMX 95–96

50 Filter 180 (Dark Lavender)
DMX 97–98

51 Filter 181 (Congo Blue)
DMX 99–100

52 Filter 197 (Alice Blue)
DMX 101–102

53 Filter 201 (Full CT Blue)
DMX 103–104

54 Filter 202 (Half CT Blue)
DMX 105–106

55 Filter 203 (Quarter CT Blue)
DMX 107–108

56 Filter 204 (Full CT Orange)
DMX 109–110

57 Filter 219 (Fluorescent Green)
DMX 111–112

58 Filter 206 (Quarter CT Orange)
DMX 113–114

59 Filter 247 (Filter Minus Green)
DMX 115–116

60 Filter 248 (Half Minus Green)
DMX 117–118

61 Filter 281 (Three Quarter CT Blue)
DMX 119–120

62 Filter 285 (Three Quarter CT Orange)
DMX 121–122

63 Filter 352 (Glacier Blue)
DMX 123–124

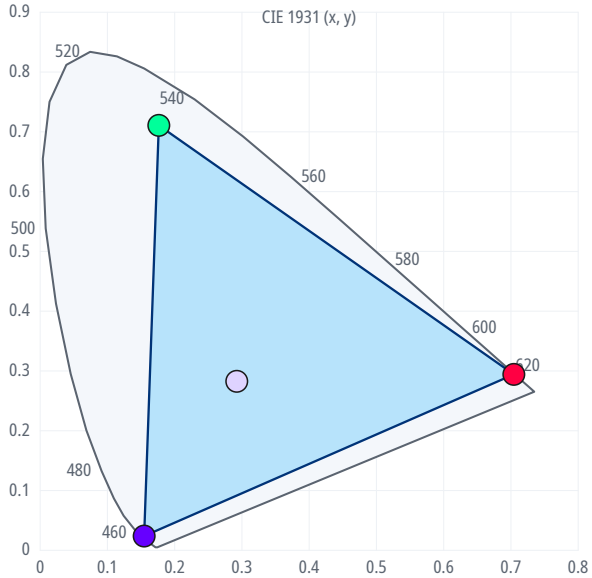
64 Filter 353 (Lighter Blue)
DMX 125–126

65 Filter 507 (Madge)
DMX 127–128

66 Filter 778 (Millennium Gold)
DMX 129–130

67 Filter 793 (Vanity Fair)
DMX 131–132

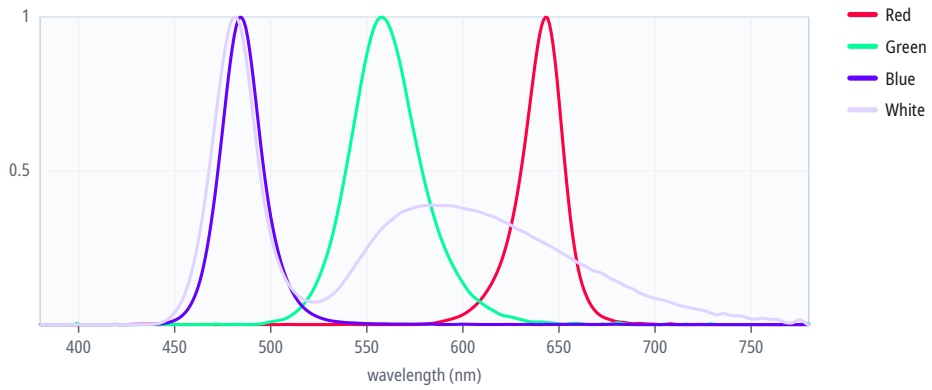
LED colors and the colors they mix



LED	x	y	nm
Red	0.704	0.294	629
Green	0.176	0.711	527
Blue	0.155	0.024	453
White	0.292	0.283	

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

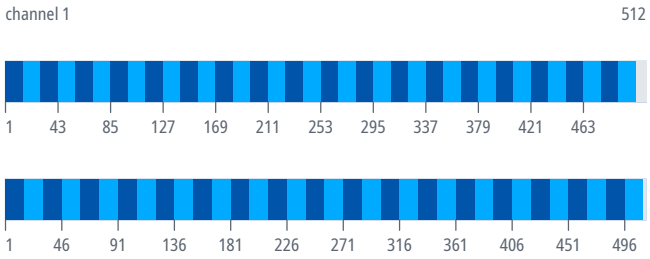
Spectra of the light sources



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

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode 2 - Pt programm 15k”

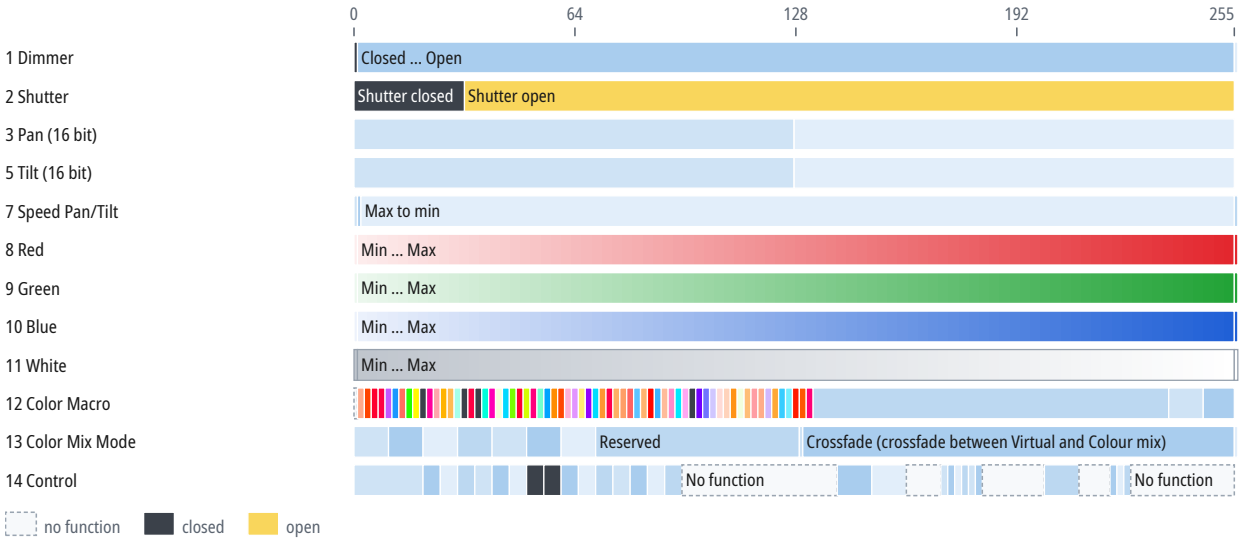
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	76	11	151	16	226
2	16	7	91	12	166	17	241
3	31	8	106	13	181	18	256
4	46	9	121	14	196	19	271
5	61	10	136	15	211	20	286

Mode 1- Reduced 8 - bit

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 1 Dimmer above 0; CH 2 Shutter at 32–255 “Shutter open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Shutter 32, CH 8 Red 255, CH 9 Green 255, CH 10 Blue 255, CH 11 White 255, CH 12 Color Macro 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
2	Shutter		Open/Closed
		0–31	Shutter closed
		32–255	Shutter open
3	Pan	0–127	Pan
		128	Center
		128–255	Pan
4	Pan Fine	0–255	Fine adjustment of CH 3
5	Tilt	0–127	Tilt
		128	Center
		128–255	Tilt
6	Tilt Fine	0–255	Fine adjustment of CH 5
7	Speed Pan/Tilt		Pan/Tilt speed + time
		0	Standard mode
		1	Max
		2–254	Max to min
		255	Min
8	Red	0	Min
		1–254	Min ... Max

CH	Function	DMX	Description
8	Red (continued)	255	Max
9	Green	0	Min
		1–254	Min ... Max
		255	Max
10	Blue	0	Min
		1–254	Min ... Max
		255	Max
11	White	0	Min
		1–254	Min ... Max
		255	Max
12	Color Macro		Virtual colour wheel
		0	No function
		1–2	Filter 4 (Medium Bastard Amber)
		3–4	Filter 25 (Sunset Red)
		5–6	Filter 19 (Fire)
		7–8	Filter 26 (Bright Red)
		9–10	Filter 58 (Lavender)
		11–12	Filter 68 (Sky Blue)
		13–14	Filter 36 (Medium Pink)
		15–16	Filter 89 (Moss Green)
		17–18	Filter 88 (Lime Green)
		19–20	Filter 90 (Dark Yellow Green)
		21–22	Filter 49 (Medium Purple)
		23–24	Filter 52 (Light Lavender)
		25–26	Filter 102 (Light Amber)
		27–28	Filter 103 (Straw)
		29–30	Filter 140 (Summer Blue)
		31–32	Filter 124 (Dark Green)
		33–34	Filter 106 (Primary Red)
		35–36	Filter 111 (Dark Pink)
		37–38	Filter 115 (Peacock Blue)
		39–40	Filter 126 (Mauve)
		41–42	Filter 117 (Steel Blue)
		43–44	Filter 118 (Light Blue)
		45–46	Filter 122 (Fern Green)
		47–48	Filter 182 (Light Red)
		49–50	Filter 121 (Filter Green)
		51–52	Filter 128 (Bright Pink)
		53–54	Filter 131 (Marine Blue)
		55–56	Filter 132 (Medium Blue)
		57–58	Filter 134 (Golden Amber)
		59–60	Filter 135 (Deep Golden Amber)

CH	Function	DMX	Description
12	Color Macro (continued)	61–62	Filter 136 (Pale Lavender)
		63–64	Filter 137 (Special Lavender)
		65–66	Filter 138 (Pale Green)
		67–68	Filter 798 (Chrysalis Pink)
		69–70	Filter 141 (Bright Blue)
		71–72	Filter 147 (Apricot)
		73–74	Filter 148 (Bright Rose)
		75–76	Filter 152 (Pale Gold)
		77–78	Filter 154 (Pale Rose)
		79–80	Filter 157 (Pink)
		81–82	Filter 143 (Pale Navy Blue)
		83–84	Filter 162 (Bastard Amber)
		85–86	Filter 164 (Flame Red)
		87–88	Filter 165 (Daylight Blue)
		89–90	Filter 169 (Lilac Tint)
		91–92	Filter 170 (Deep Lavender)
		93–94	Filter 172 (Lagoon Blue)
		95–96	Filter 194 (Surprise Pink)
		97–98	Filter 180 (Dark Lavender)
		99–100	Filter 181 (Congo Blue)
		101–102	Filter 197 (Alice Blue)
		103–104	Filter 201 (Full CT Blue)
		105–106	Filter 202 (Half CT Blue)
		107–108	Filter 203 (Quarter CT Blue)
		109–110	Filter 204 (Full CT Orange)
		111–112	Filter 219 (Fluorescent Green)
		113–114	Filter 206 (Quarter CT Orange)
		115–116	Filter 247 (Filter Minus Green)
		117–118	Filter 248 (Half Minus Green)
		119–120	Filter 281 (Three Quarter CT Blue)
		121–122	Filter 285 (Three Quarter CT Orange)
		123–124	Filter 352 (Glacier Blue)
		125–126	Filter 353 (Lighter Blue)
		127–128	Filter 507 (Madge)
		129–130	Filter 778 (Millennium Gold)
		131–132	Filter 793 (Vanity Fair)
		133–235	Raw DMX
		236–245	Rainbow effect (with fade time) from slow - > fast
		246–255	Rainbow effect (without fade time) from slow - > fast
13	Color Mix Mode		Colour Mix control
		0–9	Virtual colors (Virtual has priority)
		10–19	Maximum mode (highest values have priority)

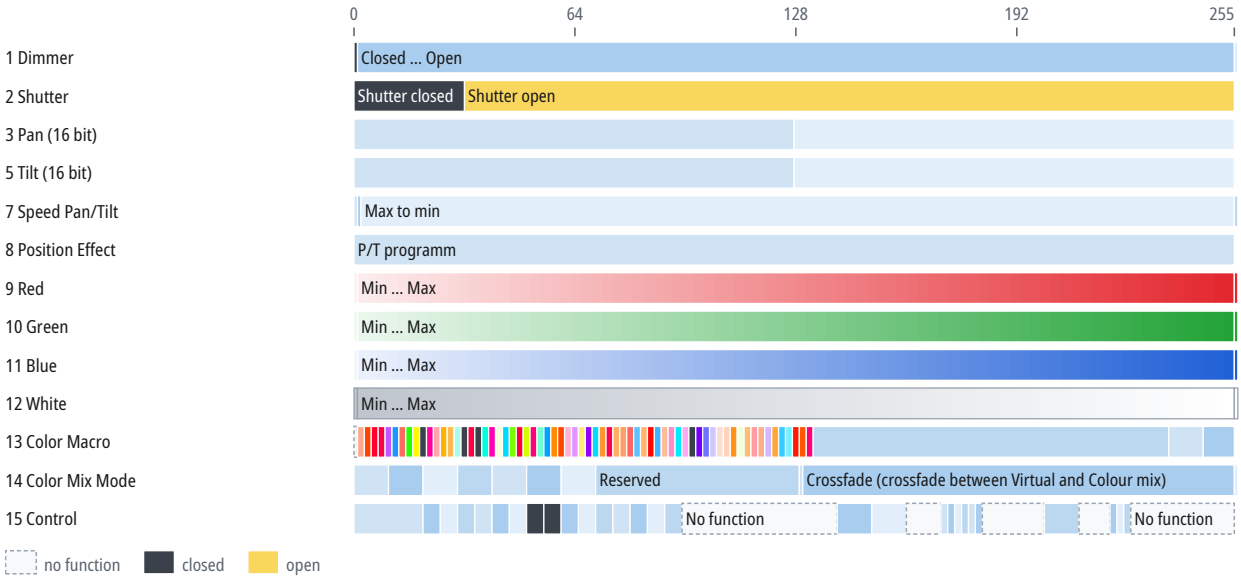
CH	Function	DMX	Description
13	Color Mix Mode (continued)	20–29	Minimum mode (lowest values have priority)
		30–39	Multiply mode (multiply Virtual and Colour Mix)
		40–49	Addition mode (Virtual + Colour mix)
		50–59	Subtraction mode (Virtual - Colour mix)
		60–69	Inverted Subtraction mode (Virtual - Colour mix)
		70–128	Reserved
		129	Virtual colors (virtual has priority)
		130–254	Crossfade (crossfade between Virtual and Colour mix)
		255	Colour channels (Colour mix has priority)
14	Control	0–19	No function
		20–24	Display ON
		25–29	Display OFF
		30–34	RGBW colour mixing mode
		35–39	CMY colour mixing mode
		40–44	Pan/Tilt speed mode
		45–49	Pan/Tilt time mode
		50–54	Blackout while pan/tilt moving
		55–59	Disabled blackout while pan/tilt moving
		60–64	Dimmer curve - square law
		65–69	Dimmer curve - linear
		70–74	Fans mode Auto
		75–79	Fans mode High
		80–84	White point 8000K ON
		85–89	White point 8000K OFF
		90–94	Fans mode: Quiet
		95–139	No function
		140–149	Pan/Tilt reset
		150–159	Zoom reset
		160–169	No function
		170–171	Tungsten effect simulation (750W) On
		172–173	Tungsten effect simulation (1000W) On
		174–175	Tungsten effect simulation (1200W) On
		176–177	Tungsten effect simulation (2000W) On
		178–179	Tungsten effect simulation (2500W) On
		180–181	Tungsten effect simulation Off
		182–199	Reserved
		200–209	Total fixture reset
		210–218	No function
		219–220	RoboSpot enabled
		221–222	RoboSpot disabled except handle faders and PT
		223–224	RoboSpot fully disabled
		225–255	No function

Mode 2 - Pt programm 15k

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 1 Dimmer above 0; CH 2 Shutter at 32–255 “Shutter open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Shutter 32, CH 9 Red 255, CH 10 Green 255, CH 11 Blue 255, CH 12 White 255, CH 13 Color Macro 0.

Channel functions at a glance

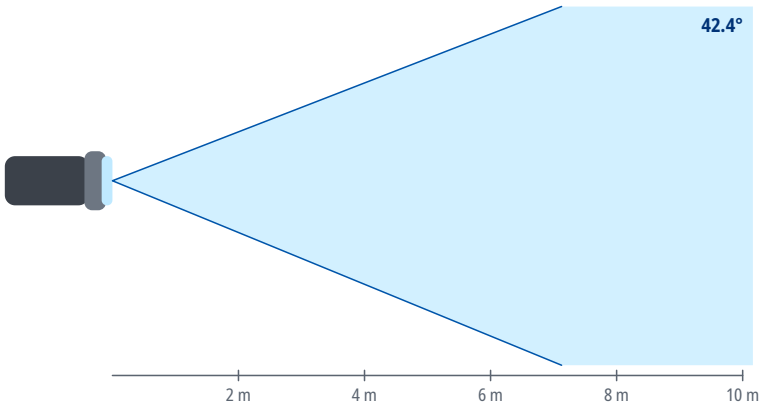


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Mode 1- Reduced 8 - bit” (p. 11)
2	Shutter		Same as CH 2 in the mode “Mode 1- Reduced 8 - bit” (p. 11)
3	Pan		Same as CH 3 in the mode “Mode 1- Reduced 8 - bit” (p. 11)
4	Pan Fine	0–255	Fine adjustment of CH 3
5	Tilt		Same as CH 5 in the mode “Mode 1- Reduced 8 - bit” (p. 11)
6	Tilt Fine	0–255	Fine adjustment of CH 5
7	Speed Pan/Tilt		Same as CH 7 in the mode “Mode 1- Reduced 8 - bit” (p. 11)
8	Position Effect		P/T programm
		0–255	P/T programm
9	Red		Same as CH 8 in the mode “Mode 1- Reduced 8 - bit” (p. 11)
10	Green		Same as CH 9 in the mode “Mode 1- Reduced 8 - bit” (p. 12)
11	Blue		Same as CH 10 in the mode “Mode 1- Reduced 8 - bit” (p. 12)
12	White		Same as CH 11 in the mode “Mode 1- Reduced 8 - bit” (p. 12)
13	Color Macro		Same as CH 12 in the mode “Mode 1- Reduced 8 - bit” (p. 12)
14	Color Mix Mode		Same as CH 13 in the mode “Mode 1- Reduced 8 - bit” (p. 13)
15	Control		Same as CH 14 in the mode “Mode 1- Reduced 8 - bit” (p. 14)

10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	220 W
Luminous flux	2,288 lm
Color temperature	8,000 K
Color rendering index (CRI)	75
Optics	
Beam angle	42.4°
Movement	
Pan	450°
Tilt	228°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	220 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	5.7 kg
Operating environment	
Operating temperature	-5 to 45 °C

Spot diameter



Distance	Ø 42.4°
2 m	1.6 m
4 m	3.1 m
6 m	4.7 m
8 m	6.2 m
10 m	7.8 m
15 m	11.6 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.