DMX REFERENCE

Nuke 3 IP65

Nuke3

BeamZ Pro



Manufacturer	BeamZ Pro
GDTF file	BeamZ_Pro_Nuke_3_IP65_161544.gdtf
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1 About this manual

This document describes the Nuke3 by BeamZ Pro. It was compiled from the GDTF file BeamZ_Pro_Nuke_3_IP65_161544.gdtf from the GDTF-Share library.

File revision: “rev100 RELEASE”.

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 BeamZ Pro; 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	21 kg
Ingress protection	IP65

DMX modes

Mode	Channels	Units in one universe	First start addresses
31 Ch	31	16	1, 32, 63, 94, ...
25 Ch	25	20	1, 26, 51, 76, ...
14 Ch	14	36	1, 15, 29, 43, ...
12 Ch	12	42	1, 13, 25, 37, ...
9 Ch	9	56	1, 10, 19, 28, ...
75 Ch	75	6	1, 76, 151, 226, ...
75 Ch + Virtual Dimmer	75	6	1, 76, 151, 226, ...
98 Ch	98	5	1, 99, 197, 295, ...
98 Ch + Virtual Dimmer	98	5	1, 99, 197, 295, ...



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

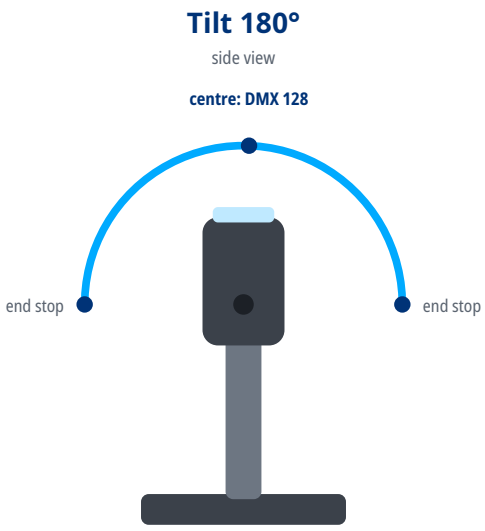
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, 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

“Motorized Hybrid Twin Strobe :: IP65 / 14 x 64 x 0.5 W RGBW / 28 x 10 W 6500K / Tilt 180 degree / Electronic Frost”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

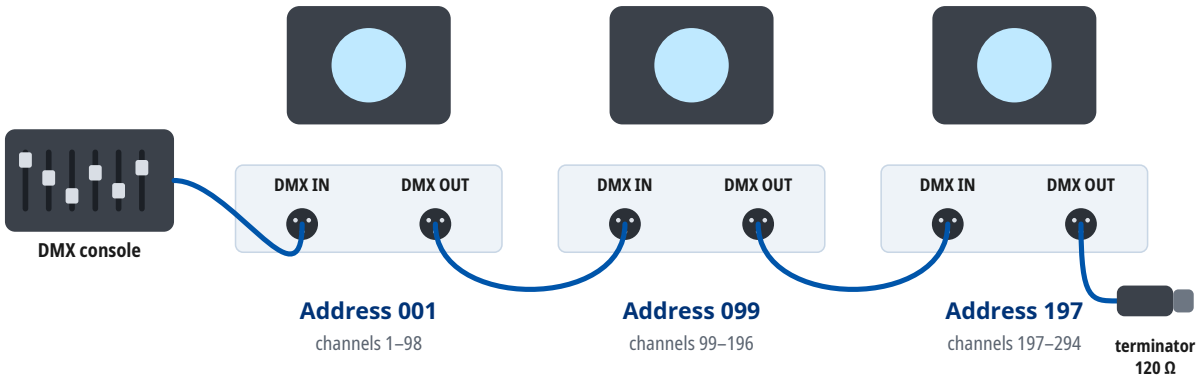
⚠ WARNING

- 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: 21 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 98 Ch: every unit occupies 98 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 “98 Ch”: 98.
- 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 “98 Ch”, you can use, for example, the start addresses 1, 99, 197, 295.
- 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

	31 Ch 31 channels	25 Ch 25 channels	14 Ch 14 channels	12 Ch 12 channels	9 Ch 9 channels	75 Ch 75 channels	75 Ch + Virtual Dimmer 75 channels	98 Ch 98 channels
Pan / Tilt	1	1	1	1	1	1	1	1
Dimmer	4–6, 16, 18	4–6, 16, 18	4, 5	4, 12	4, 9	4, 48–75	4, 48–75	33 channels (4–85)
Shutter / strobe	7–10	7–10	6–9	5–8	5	5	5	7–10
Color mixing	11–13	11–13	10–12	9–11	6–8	6–47	6–47	11–52
Frost	3	3	3	3	3	3	3	3
Effects / macros	14, 15, 17, 19–30	14, 15, 17, 19–24	13					81, 82, 84, 86–97
Pixel control	✓	✓						14 + 28 cells

Color wheel



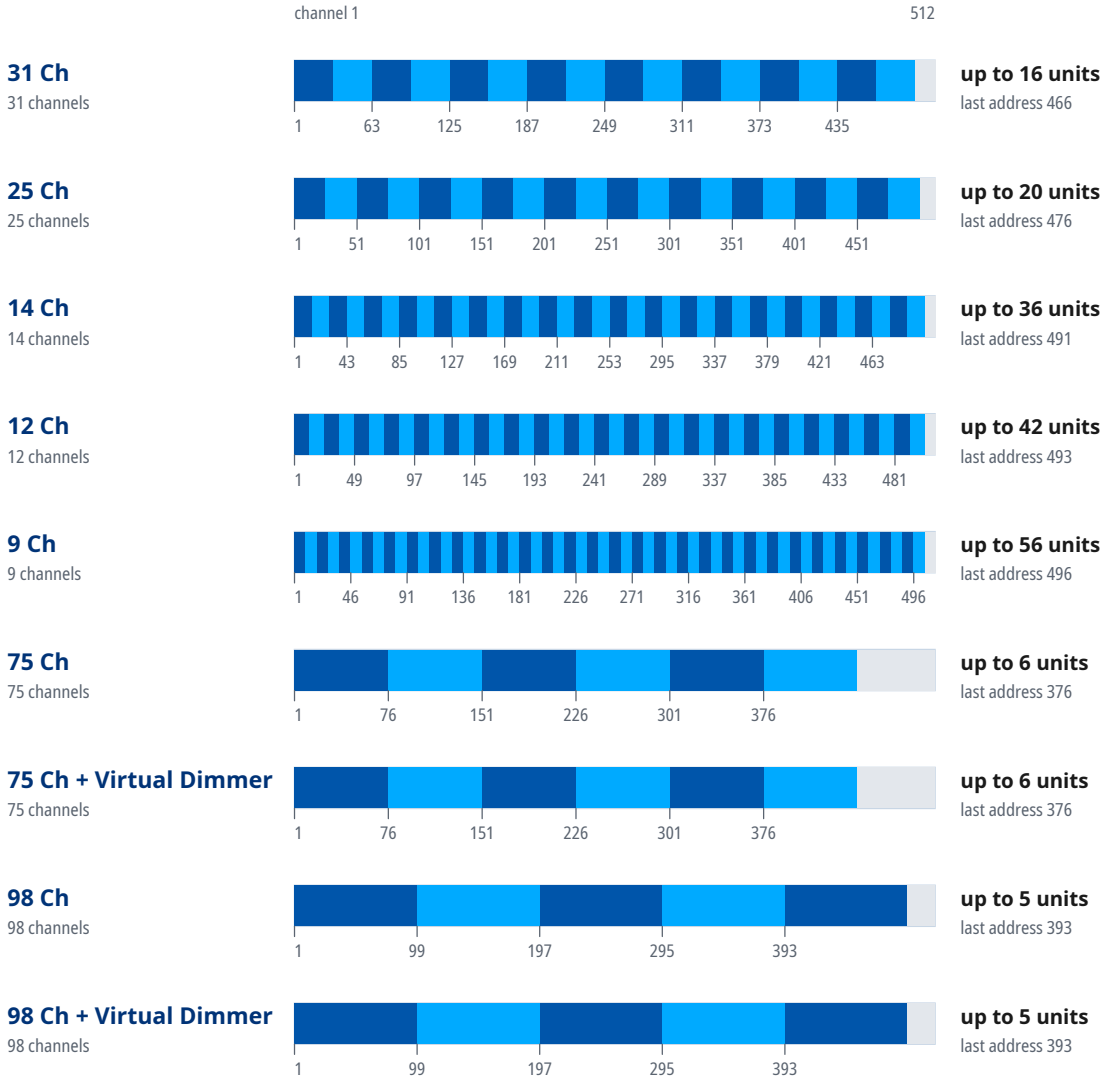
Cells (pixels)



Cells where the GDTF file places them (seen from above), 28 in all; numbered in the order of their first DMX channel in the mode “98 Ch + Virtual Dimmer”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “98 Ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 1	11	U3 · 1	16	U4 · 1
2	99	7	U2 · 99	12	U3 · 99	17	U4 · 99
3	197	8	U2 · 197	13	U3 · 197	18	U4 · 197
4	295	9	U2 · 295	14	U3 · 295	19	U4 · 295
5	393	10	U2 · 393	15	U3 · 393	20	U4 · 393

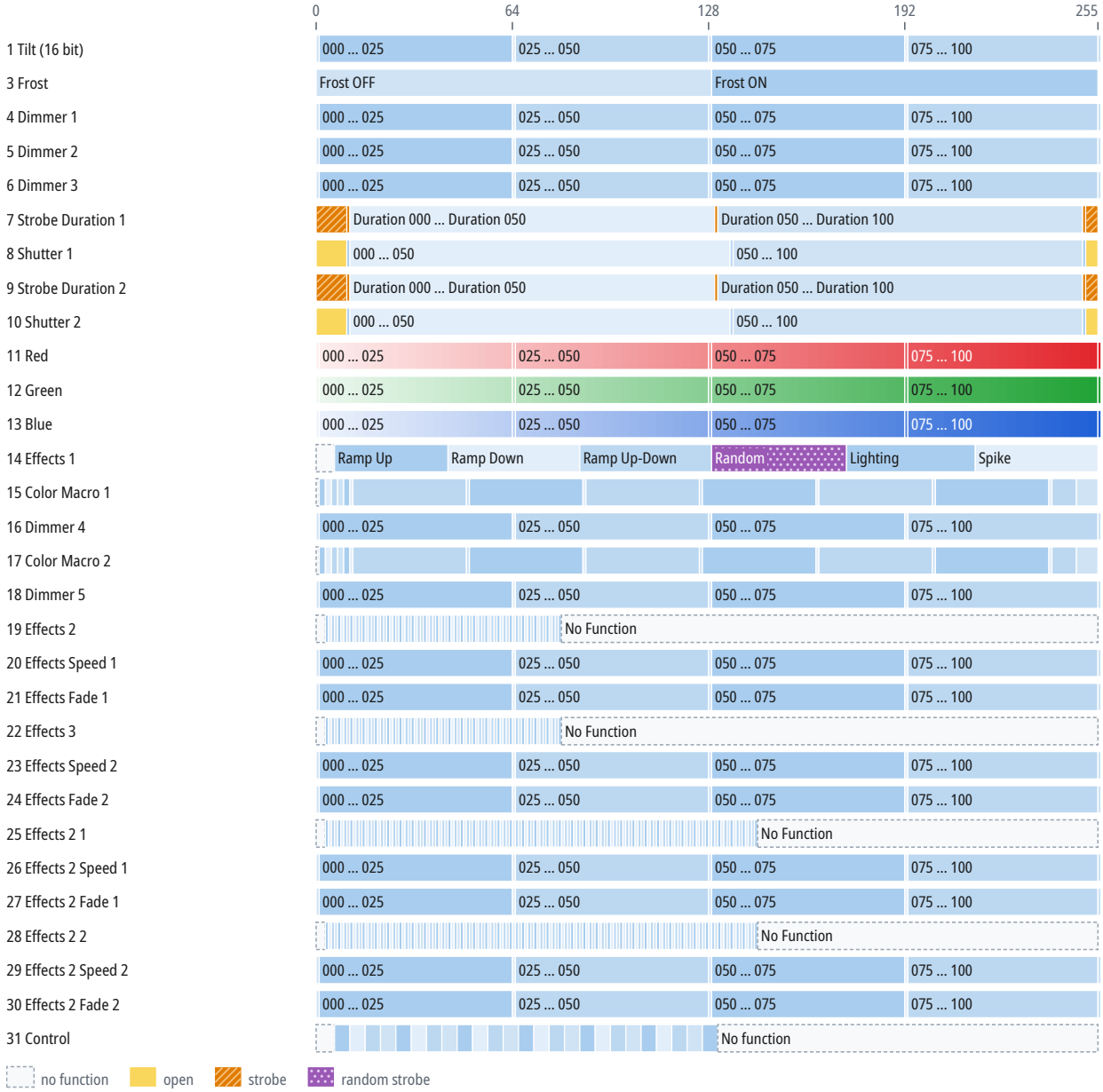
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 31 Ch

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 7 Strobe Duration 1 at 0–9 or 251–255 “No Function”; CH 8 Shutter 1 at 0–9 or 251–255 “Open”; CH 10 Shutter 2 at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Dimmer 2 255, CH 6 Dimmer 3 255, CH 7 Strobe Duration 1 0, CH 8 Shutter 1 0, CH 9 Strobe Duration 2 0, CH 10 Shutter 2 0, CH 11 Red 255, CH 12 Green 255, CH 13 Blue 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt	0–1	000
		1–64	000 … 025
		64–65	025
		65–128	025 … 050

CH	Function	DMX	Description
1	Tilt (continued)	128–129	050
		129–192	050 … 075
		192–193	075
		193–255	075 … 100
		255	100
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost	0–128	Frost OFF
		129–255	Frost ON
4	Dimmer 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
5	Dimmer 2	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
6	Dimmer 3	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
7	Strobe Duration 1	0–9	No Function
		10	Duration 000
		11–129	Duration 000 … Duration 050
		130	Duration 050
		131–249	Duration 050 … Duration 100
		250	Duration 100
		251–255	No Function

CH	Function	DMX	Description
8	Shutter 1	0–9	Shutter 1 Open: Open
		10	000
		11–134	000 … 050
		135	050
		136–249	050 … 100
		250	100
		251–255	Shutter 1 Open: Open
9	Strobe Duration 2	0–9	Duration OFF
		10	Duration 000
		11–129	Duration 000 … Duration 050
		130	Duration 050
		131–249	Duration 050 … Duration 100
		250	Duration 100
		251–255	Duration OFF
10	Shutter 2	0–9	Shutter 1 Open: Open
		10	000
		11–134	000 … 050
		135	050
		136–249	050 … 100
		250	100
		251–255	Shutter 1 Open: Open
11	Red	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
12	Green	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
13	Blue	0	000
		1–63	000 … 025
		64	025

CH	Function	DMX	Description
13	Blue (continued)	65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
14	Effects 1	0–5	No Function
		6–42	Ramp Up
		43–85	Ramp Down
		86–128	Ramp Up-Down
		129–172	Random
		173–214	Lighting
		215–255	Spike
15	Color Macro 1	0	No Function
		1–2	White1
		3–4	White2
		5–6	White3
		7–8	White4
		9–10	White5
		11	Red:0 Green:0 Blue:255
		12–48	Red:0 Green:+ Blue:255
		49	Red:0 Green:255 Blue:255
		50–86	Red:0 Green:255 Blue:-
		87	Red:0 Green:255 Blue:0
		88–124	Red:+ Green:255 Blue:0
		125	Red:255 Green:255 Blue:0
		126–162	Red:255 Green:- Blue:0
		163	Red:255 Green:0 Blue:0
		164–200	Red:255 Green:0 Blue:+
		201	Red:255 Green:0 Blue:255
		202–238	Red:- Green:0 Blue:255
		239	Red:0 Green:0 Blue:255
		240–247	Colour index from fast to slow
		248–255	Colour snap from fast to slow
16	Dimmer 4	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100

CH	Function	DMX	Description
16	Dimmer 4 (continued)	255	100
17	Color Macro 2	0	No Function
		1–2	White1
		3–4	White2
		5–6	White3
		7–8	White4
		9–10	White5
		11	Red:0 Green:0 Blue:255
		12–48	Red:0 Green:+ Blue:255
		49	Red:0 Green:255 Blue:255
		50–86	Red:0 Green:255 Blue:-
		87	Red:0 Green:255 Blue:0
		88–124	Red:+ Green:255 Blue:0
		125	Red:255 Green:255 Blue:0
		126–162	Red:255 Green:- Blue:0
		163	Red:255 Green:0 Blue:0
		164–200	Red:255 Green:0 Blue:+
		201	Red:255 Green:0 Blue:255
		202–238	Red:- Green:0 Blue:255
		239	Red:0 Green:0 Blue:255
		240–247	Colour index from fast to slow
		248–255	Colour snap from fast to slow
18	Dimmer 5	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
19	Effects 2	0–2	No Function
		3–11	Pattern 1...9
		12–79	Pattern10...77
		80–255	No Function
20	Effects Speed 1	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075

CH	Function	DMX	Description
20	Effects Speed 1 (continued)	193–254	075 ... 100
		255	100
21	Effects Fade 1	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
22	Effects 3	0–2	No Function
		3–11	Pattern 1...9
		12–79	Pattern10...77
		80–255	No Function
23	Effects Speed 2	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
24	Effects Fade 2	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
25	Effects 2 1	0–2	No Function
		3–143	Pattern1...141
		144–255	No Function
26	Effects 2 Speed 1		Effects 1 Rate 1
		0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050

CH	Function	DMX	Description
26	Effects 2 Speed 1 (continued)	129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
27	Effects 2 Fade 1		Effects 1 Fade 1
		0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
28	Effects 2 2	0–2	No Function
		3–143	Pattern1...141
		144–255	No Function
29	Effects 2 Speed 2		Effects 1 Rate 1
		0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
30	Effects 2 Fade 2		Effects 1 Fade 1
		0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
31	Control	0–5	No function
		6–10	Dimmer speed mode off (hold 5 seconds)
		11–15	Dimmer speed mode 1 (fast) (hold 5 seconds)
		16–20	Dimmer speed mode 2 (middle speed) (hold 5 seconds)
		21–25	Dimmer speed mode 3 (low speed) (hold 5 seconds)

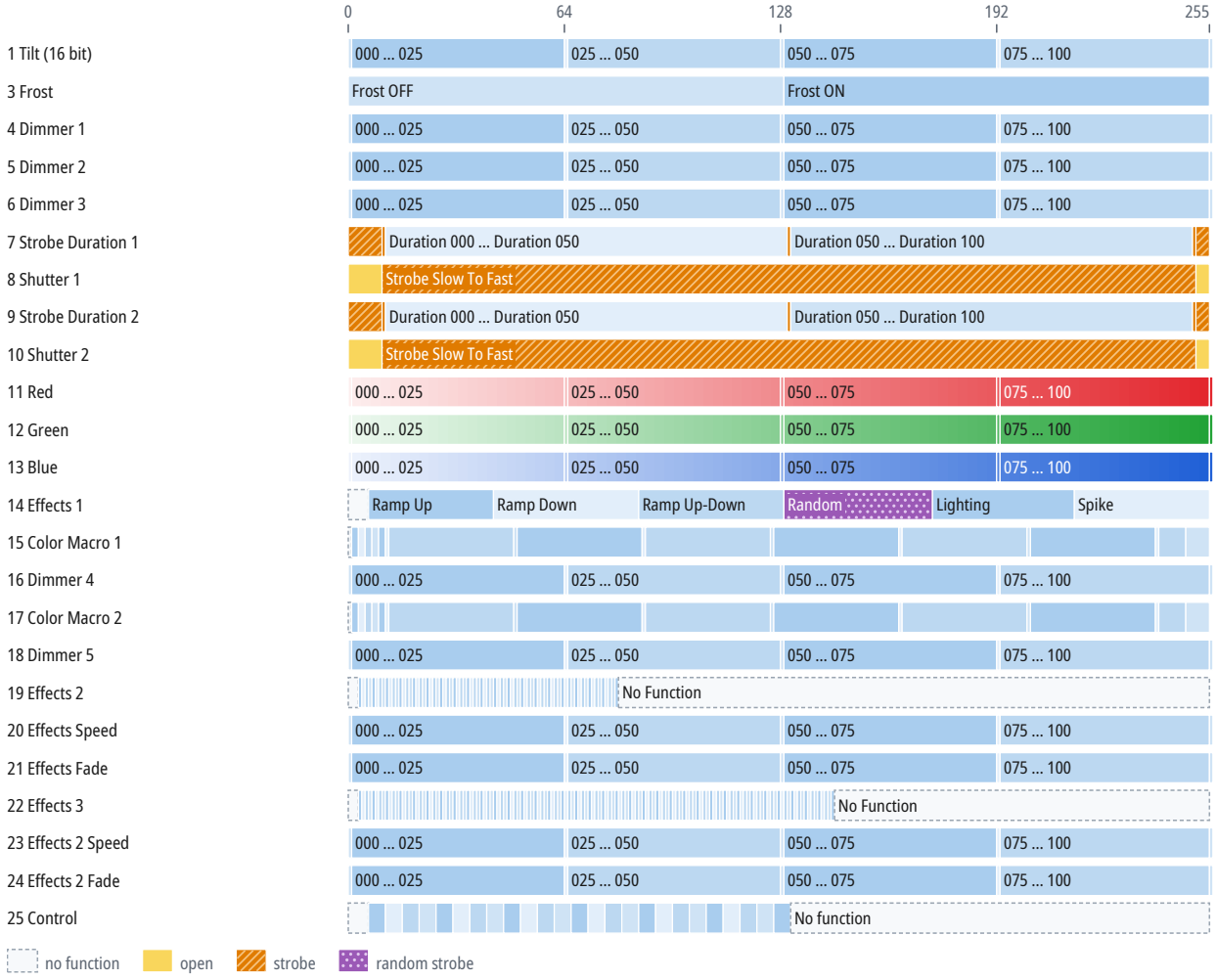
CH	Function	DMX	Description
31	Control (continued)	26–30	LED 600 Hz (hold 5 seconds)
		31–35	LED 1200 Hz (hold 5 seconds)
		36–40	LED 2000 Hz (hold 5 seconds)
		41–45	LED 4000 Hz (hold 5 seconds)
		46–50	LED 6000 Hz (hold 5 seconds)
		51–55	LED 25K Hz (hold 5 seconds)
		56–60	Automatic Fan
		61–65	Normal Fan
		66–70	Tilt Reset
		71–75	Pixel 1 invert off
		76–80	Pixel 1 invert on
		81–85	Pixel 2 invert off
		86–90	Pixel 2 invert on
		91–95	Beam 1 invert off
		96–100	Beam 1 invert on
		101–105	Beam 2 invert off
		106–110	Beam 2 invert on
		111–115	Pixel swap on
		116–120	Pixel swap off
		121–125	Beam swap on
		126–130	Beam swap off
		131–255	No function

Mode 25 Ch

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 7 Strobe Duration 1 at 0–9 or 251–255 “No Function”; CH 8 Shutter 1 at 0–9 or 251–255 “Open”; CH 10 Shutter 2 at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Dimmer 2 255, CH 6 Dimmer 3 255, CH 7 Strobe Duration 1 0, CH 8 Shutter 1 0, CH 9 Strobe Duration 2 0, CH 10 Shutter 2 0, CH 11 Red 255, CH 12 Green 255, CH 13 Blue 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)
5	Dimmer 2		Same as CH 5 in the mode “31 Ch” (p. 10)
6	Dimmer 3		Same as CH 6 in the mode “31 Ch” (p. 10)
7	Strobe Duration 1		Same as CH 7 in the mode “31 Ch” (p. 10)
8	Shutter 1	0–9	Shutter 1 Open: Open
		10–250	Strobe Slow To Fast

CH	Function	DMX	Description
8	Shutter 1 (continued)	251–255	Shutter 1 Open: Open
9	Strobe Duration 2		Same as CH 9 in the mode “31 Ch” (p. 11)
10	Shutter 2	0–9	Shutter 1 Open: Open
		10–250	Strobe Slow To Fast
		251–255	Shutter 1 Open: Open
11	Red		Same as CH 11 in the mode “31 Ch” (p. 11)
12	Green		Same as CH 12 in the mode “31 Ch” (p. 11)
13	Blue		Same as CH 13 in the mode “31 Ch” (p. 11)
14	Effects 1		Same as CH 14 in the mode “31 Ch” (p. 12)
15	Color Macro 1		Same as CH 15 in the mode “31 Ch” (p. 12)
16	Dimmer 4		Same as CH 16 in the mode “31 Ch” (p. 12)
17	Color Macro 2		Same as CH 17 in the mode “31 Ch” (p. 13)
18	Dimmer 5		Same as CH 18 in the mode “31 Ch” (p. 13)
19	Effects 2		Same as CH 19 in the mode “31 Ch” (p. 13)
20	Effects Speed	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
21	Effects Fade	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
22	Effects 3	0–2	No Function
		3–143	Pattern1…141
		144–255	No Function
23	Effects 2 Speed		Effects 1 Rate 1
		0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075

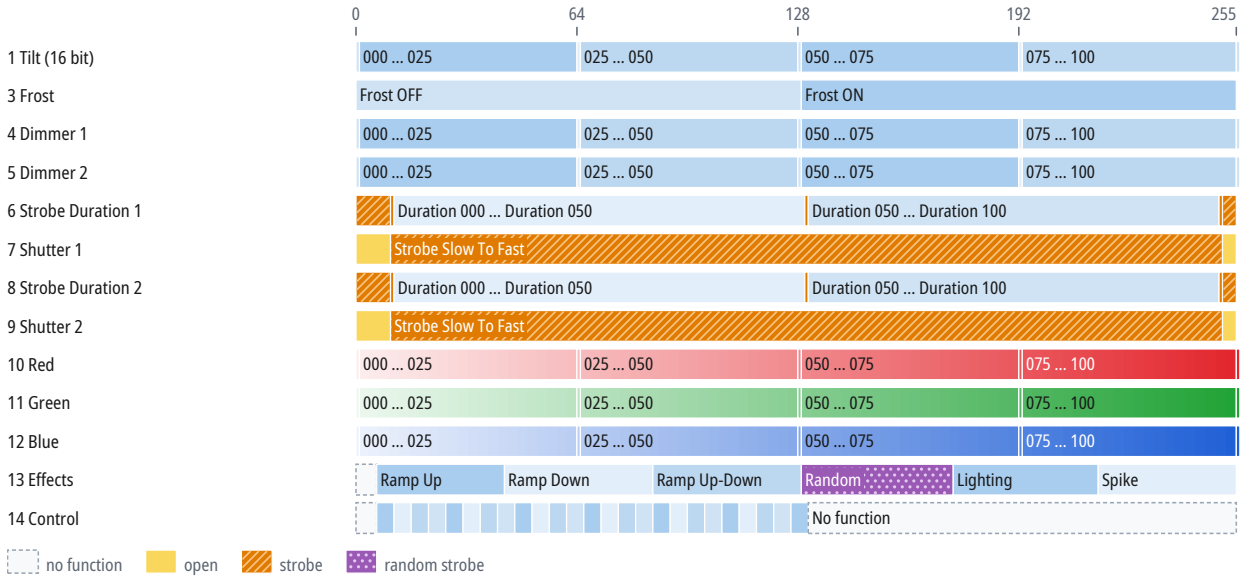
CH	Function	DMX	Description
23	Effects 2 Speed (continued)	192	075
		193–254	075 … 100
		255	100
24	Effects 2 Fade		Effects 1 Fade 1
		0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
25	Control		Same as CH 31 in the mode “31 Ch” (p. 15)

Mode 14 Ch

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

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Strobe Duration 1 at 0–9 or 251–255 “No Function”; CH 7 Shutter 1 at 0–9 or 251–255 “Open”; CH 9 Shutter 2 at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Dimmer 2 255, CH 6 Strobe Duration 1 0, CH 7 Shutter 1 0, CH 8 Strobe Duration 2 0, CH 9 Shutter 2 0, CH 10 Red 255, CH 11 Green 255, CH 12 Blue 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)

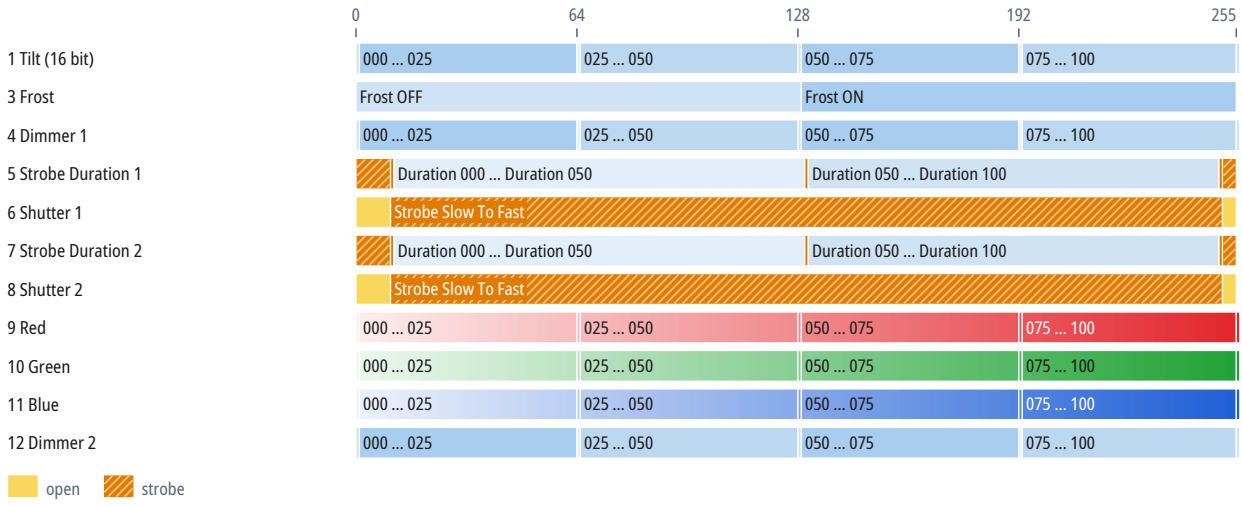
CH	Function	DMX	Description
5	Dimmer 2		Same as CH 5 in the mode “31 Ch” (p. 10)
6	Strobe Duration 1		Same as CH 7 in the mode “31 Ch” (p. 10)
7	Shutter 1		Same as CH 8 in the mode “25 Ch” (p. 17)
8	Strobe Duration 2		Same as CH 9 in the mode “31 Ch” (p. 11)
9	Shutter 2		Same as CH 10 in the mode “25 Ch” (p. 18)
10	Red		Same as CH 11 in the mode “31 Ch” (p. 11)
11	Green		Same as CH 12 in the mode “31 Ch” (p. 11)
12	Blue		Same as CH 13 in the mode “31 Ch” (p. 11)
13	Effects	0–5	No Function
		6–42	Ramp Up
		43–85	Ramp Down
		86–128	Ramp Up-Down
		129–172	Random
		173–214	Lighting
		215–255	Spike
14	Control		Same as CH 31 in the mode “31 Ch” (p. 15)

Mode 12 Ch

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 5 Strobe Duration 1 at 0–9 or 251–255 “No Function”; CH 6 Shutter 1 at 0–9 or 251–255 “Open”; CH 8 Shutter 2 at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Strobe Duration 1 0, CH 6 Shutter 1 0, CH 7 Strobe Duration 2 0, CH 8 Shutter 2 0, CH 9 Red 255, CH 10 Green 255, CH 11 Blue 255, CH 12 Dimmer 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)

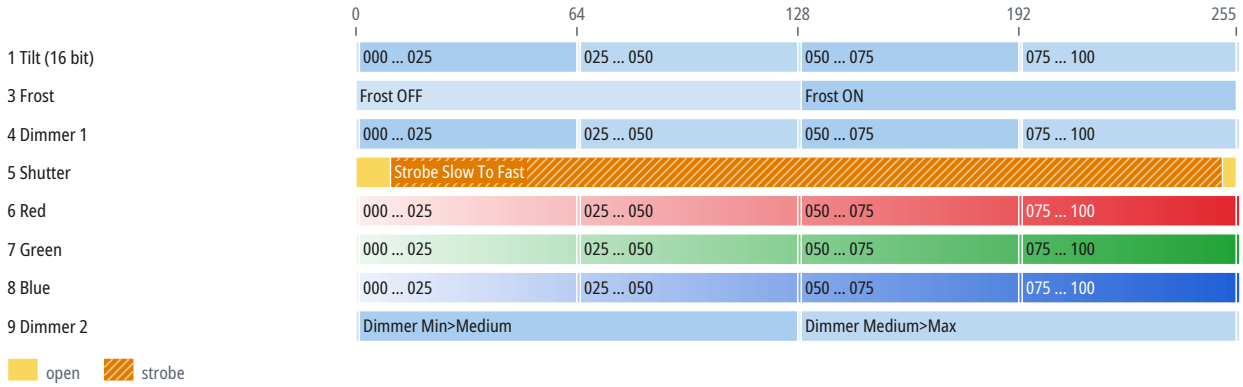
CH	Function	DMX	Description
5	Strobe Duration 1		Same as CH 7 in the mode “31 Ch” (p. 10)
6	Shutter 1		Same as CH 8 in the mode “25 Ch” (p. 17)
7	Strobe Duration 2		Same as CH 9 in the mode “31 Ch” (p. 11)
8	Shutter 2		Same as CH 10 in the mode “25 Ch” (p. 18)
9	Red		Same as CH 11 in the mode “31 Ch” (p. 11)
10	Green		Same as CH 12 in the mode “31 Ch” (p. 11)
11	Blue		Same as CH 13 in the mode “31 Ch” (p. 11)
12	Dimmer 2		Same as CH 5 in the mode “31 Ch” (p. 10)

Mode 9 Ch

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 5 Shutter at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Shutter 0, CH 6 Red 255, CH 7 Green 255, CH 8 Blue 255, CH 9 Dimmer 2 255.

Channel functions at a glance



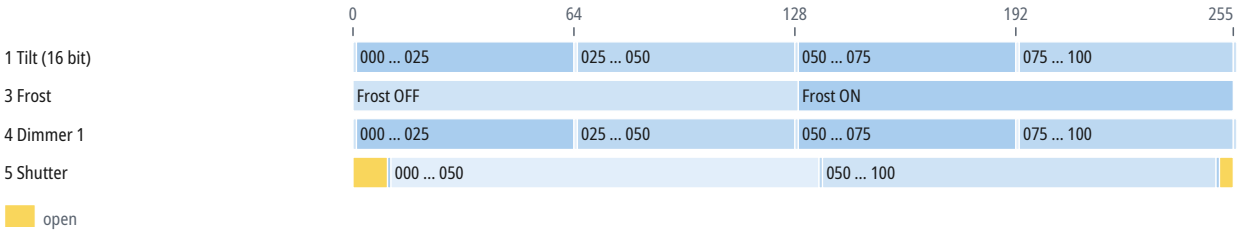
CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)
5	Shutter	0–9	Shutter 1 Open: Open
		10–250	Strobe Slow To Fast
		251–255	Shutter 1 Open: Open
6	Red		Same as CH 11 in the mode “31 Ch” (p. 11)
7	Green		Same as CH 12 in the mode “31 Ch” (p. 11)
8	Blue		Same as CH 13 in the mode “31 Ch” (p. 11)
9	Dimmer 2	0	Dimmer Min
		1–127	Dimmer Min>Medium
		128	Dimmer Medium
		129–254	Dimmer Medium>Max
		255	Dimmer Max

Mode 75 Ch

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 5 Shutter at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Shutter 0, CH 6 Red 255 (the same in each of the 14 cells), CH 7 Green 255 (the same in each of the 14 cells), CH 8 Blue 255 (the same in each of the 14 cells), CH 48 Dimmer 255 (the same in each of the 28 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)
5	Shutter	0–9	Shutter 1 Open: Open
		10	000
		11–134	000 … 050
		135	050
		136–249	050 … 100
		250	100
		251–255	Shutter 1 Open: Open
6	Red 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
7	Green 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075

CH	Function	DMX	Description
7	Green 1 (continued)	193–254	075 … 100
		255	100
8	Blue 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
48	Dimmer 2	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100

CH 6–47: 14 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 6–8); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	6	7	8	2	9	10	11	3	12	13	14
4	15	16	17	5	18	19	20	6	21	22	23
7	24	25	26	8	27	28	29	9	30	31	32
10	33	34	35	11	36	37	38	12	39	40	41
13	42	43	44	14	45	46	47				

CH 48–75: 28 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 48); the table below gives each cell's channel numbers.

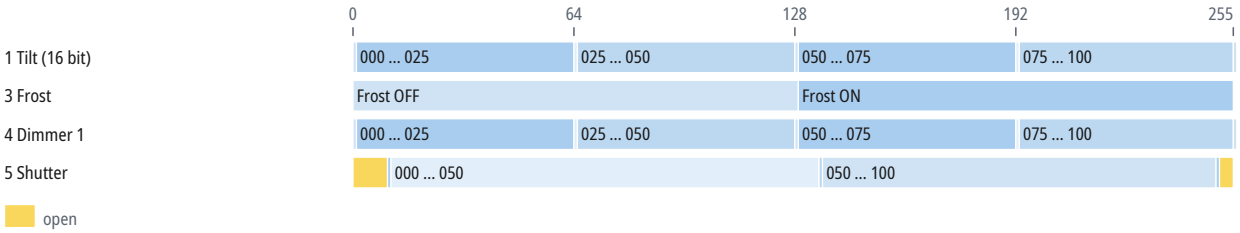
Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	48	2	49	3	50	4	51	5	52	6	53
7	54	8	55	9	56	10	57	11	58	12	59
13	60	14	61	15	62	16	63	17	64	18	65
19	66	20	67	21	68	22	69	23	70	24	71
25	72	26	73	27	74	28	75				

Mode 75 Ch + Virtual Dimmer

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 5 Shutter at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Shutter 0, CH 6 Red 255 (the same in each of the 14 cells), CH 7 Green 255 (the same in each of the 14 cells), CH 8 Blue 255 (the same in each of the 14 cells), CH 48 Dimmer 255 (the same in each of the 28 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)
5	Shutter		Same as CH 5 in the mode “75 Ch” (p. 22)
6	Red 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
7	Green 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
8	Blue 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050

CH	Function	DMX	Description
8	Blue 1 (continued)	128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
48	Dimmer 2	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100

CH 6–47: 14 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 6–8); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	6	7	8	2	9	10	11	3	12	13	14
4	15	16	17	5	18	19	20	6	21	22	23
7	24	25	26	8	27	28	29	9	30	31	32
10	33	34	35	11	36	37	38	12	39	40	41
13	42	43	44	14	45	46	47				

CH 48–75: 28 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 48); the table below gives each cell's channel numbers.

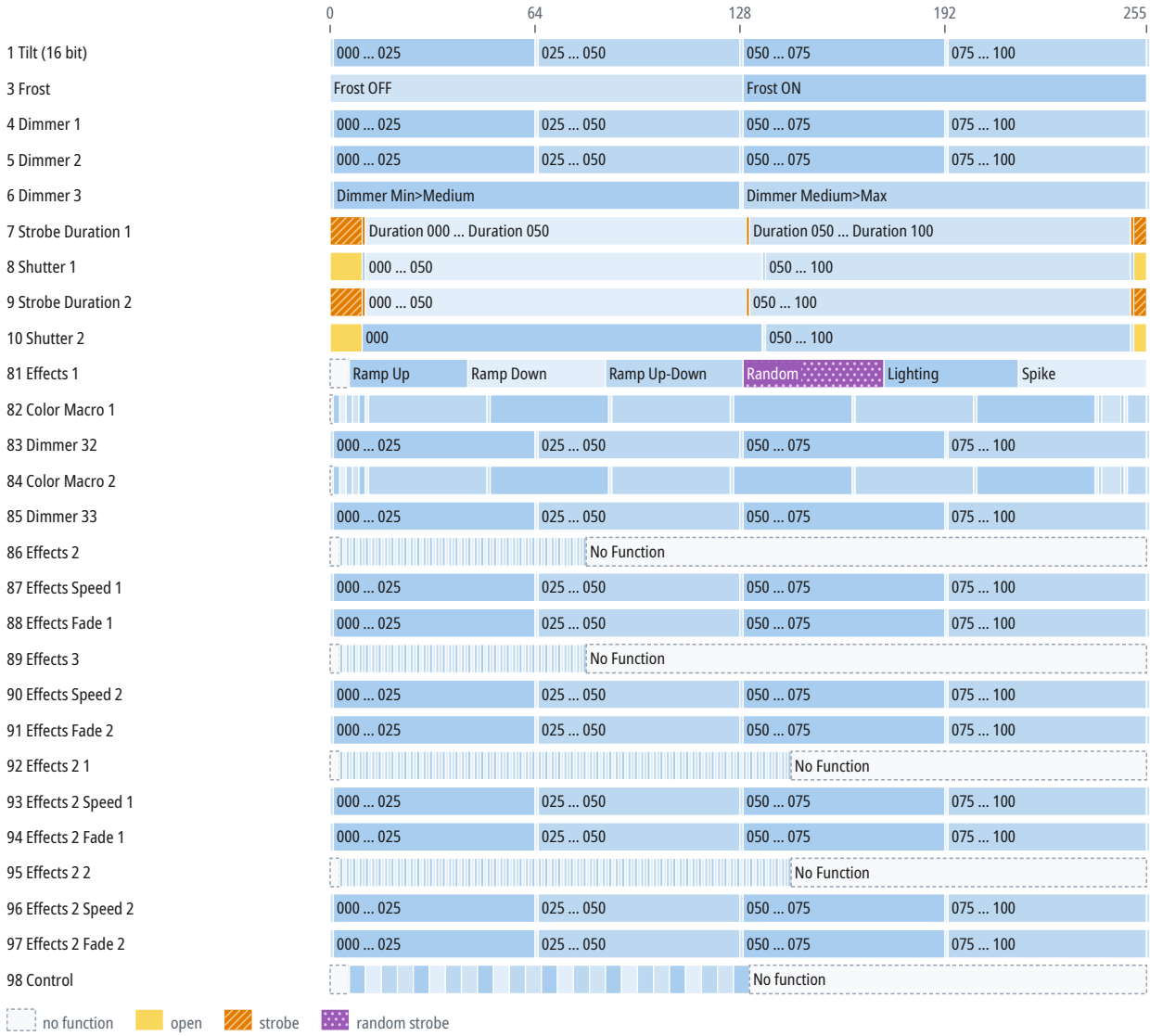
Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	48	2	49	3	50	4	51	5	52	6	53
7	54	8	55	9	56	10	57	11	58	12	59
13	60	14	61	15	62	16	63	17	64	18	65
19	66	20	67	21	68	22	69	23	70	24	71
25	72	26	73	27	74	28	75				

Mode 98 Ch

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 7 Strobe Duration 1 at 0–9 or 251–255 “No Function”; CH 8 Shutter 1 at 0–9 or 251–255 “Open”; CH 10 Shutter 2 at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Dimmer 2 255, CH 7 Strobe Duration 1 0, CH 8 Shutter 1 0, CH 9 Strobe Duration 2 0, CH 10 Shutter 2 0, CH 11 Red 255 (the same in each of the 14 cells), CH 12 Green 255 (the same in each of the 14 cells), CH 13 Blue 255 (the same in each of the 14 cells), CH 53 Dimmer 255 (the same in each of the 28 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)
5	Dimmer 2		Same as CH 5 in the mode “31 Ch” (p. 10)
6	Dimmer 3	0	Dimmer Min

CH	Function	DMX	Description
6	Dimmer 3 (continued)	1–127	Dimmer Min>Medium
		128	Dimmer Medium
		129–254	Dimmer Medium>Max
		255	Dimmer Max
7	Strobe Duration 1		Same as CH 7 in the mode “31 Ch” (p. 10)
8	Shutter 1		Same as CH 8 in the mode “31 Ch” (p. 11)
9	Strobe Duration 2	0–9	Duration OFF
		10	000
		11–129	000 ... 050
		130	050
		131–249	050 ... 100
		250	100
		251–255	Duration OFF
10	Shutter 2	0–9	Shutter 1 Open: Open
		10–134	000
		135	050
		136–249	050 ... 100
		250	100
		251–255	Shutter 1 Open: Open
11	Red 1	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
12	Green 1	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050
		129–191	050 ... 075
		192	075
		193–254	075 ... 100
		255	100
13	Blue 1	0	000
		1–63	000 ... 025
		64	025
		65–127	025 ... 050
		128	050

CH	Function	DMX	Description
13	Blue 1 (continued)	129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
53	Dimmer 4	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
81	Effects 1		Same as CH 14 in the mode “31 Ch” (p. 12)
82	Color Macro 1	0	No Function
		1–2	White1
		3–4	White2
		5–6	White3
		7–8	White4
		9–10	White5
		11	Red:0 Green:0 Blue:255
		12–48	Red:0 Green:+ Blue:255
		49	Red:0 Green:255 Blue:255
		50–86	Red:0 Green:255 Blue:-
		87	Red:0 Green:255 Blue:0
		88–124	Red:+ Green:255 Blue:0
		125	Red:255 Green:255 Blue:0
		126–162	Red:255 Green:- Blue:0
		163	Red:255 Green:0 Blue:0
		164–200	Red:255 Green:0 Blue:+
		201	Red:255 Green:0 Blue:255
		202–238	Red:- Green:0 Blue:255
		239	Red:0 Green:0 Blue:255
		240	Color Macro 1 Fade: 000
		241–246	Color Macro 1 Fade: 000 … 100
		247	Color Macro 1 Fade: 100
		248	Color Macro 1 Snap: 000
		249–254	Color Macro 1 Snap: 000 … 100
		255	Color Macro 1 Snap: 100
83	Dimmer 32	0	000
		1–63	000 … 025
		64	025

CH	Function	DMX	Description
83	Dimmer 32 (continued)	65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
84	Color Macro 2	0	No Function
		1–2	White1
		3–4	White2
		5–6	White3
		7–8	White4
		9–10	White5
		11	Red:0 Green:0 Blue:255
		12–48	Red:0 Green:+ Blue:255
		49	Red:0 Green:255 Blue:255
		50–86	Red:0 Green:255 Blue:-
		87	Red:0 Green:255 Blue:0
		88–124	Red:+ Green:255 Blue:0
		125	Red:255 Green:255 Blue:0
		126–162	Red:255 Green:- Blue:0
		163	Red:255 Green:0 Blue:0
		164–200	Red:255 Green:0 Blue:+
		201	Red:255 Green:0 Blue:255
		202–238	Red:- Green:0 Blue:255
		239	Red:0 Green:0 Blue:255
		240	Color Macro 1 Fade: 000
		241–246	Color Macro 1 Fade: 000 … 100
		247	Color Macro 1 Fade: 100
		248	Color Macro 1 Snap: 000
		249–254	Color Macro 1 Snap: 000 … 100
		255	Color Macro 1 Snap: 100
85	Dimmer 33	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
86	Effects 2		Same as CH 19 in the mode “31 Ch” (p. 13)
87	Effects Speed 1		Same as CH 20 in the mode “31 Ch” (p. 13)

CH	Function	DMX	Description
88	Effects Fade 1		Same as CH 21 in the mode “31 Ch” (p. 14)
89	Effects 3		Same as CH 22 in the mode “31 Ch” (p. 14)
90	Effects Speed 2		Same as CH 23 in the mode “31 Ch” (p. 14)
91	Effects Fade 2		Same as CH 24 in the mode “31 Ch” (p. 14)
92	Effects 2 1		Same as CH 25 in the mode “31 Ch” (p. 14)
93	Effects 2 Speed 1		Same as CH 26 in the mode “31 Ch” (p. 14)
94	Effects 2 Fade 1		Same as CH 27 in the mode “31 Ch” (p. 15)
95	Effects 2 2		Same as CH 28 in the mode “31 Ch” (p. 15)
96	Effects 2 Speed 2		Same as CH 29 in the mode “31 Ch” (p. 15)
97	Effects 2 Fade 2		Same as CH 30 in the mode “31 Ch” (p. 15)
98	Control		Same as CH 31 in the mode “31 Ch” (p. 15)

CH 11–52: 14 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 11–13); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	11	12	13	2	14	15	16	3	17	18	19
4	20	21	22	5	23	24	25	6	26	27	28
7	29	30	31	8	32	33	34	9	35	36	37
10	38	39	40	11	41	42	43	12	44	45	46
13	47	48	49	14	50	51	52				

CH 53–80: 28 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 53); the table below gives each cell's channel numbers.

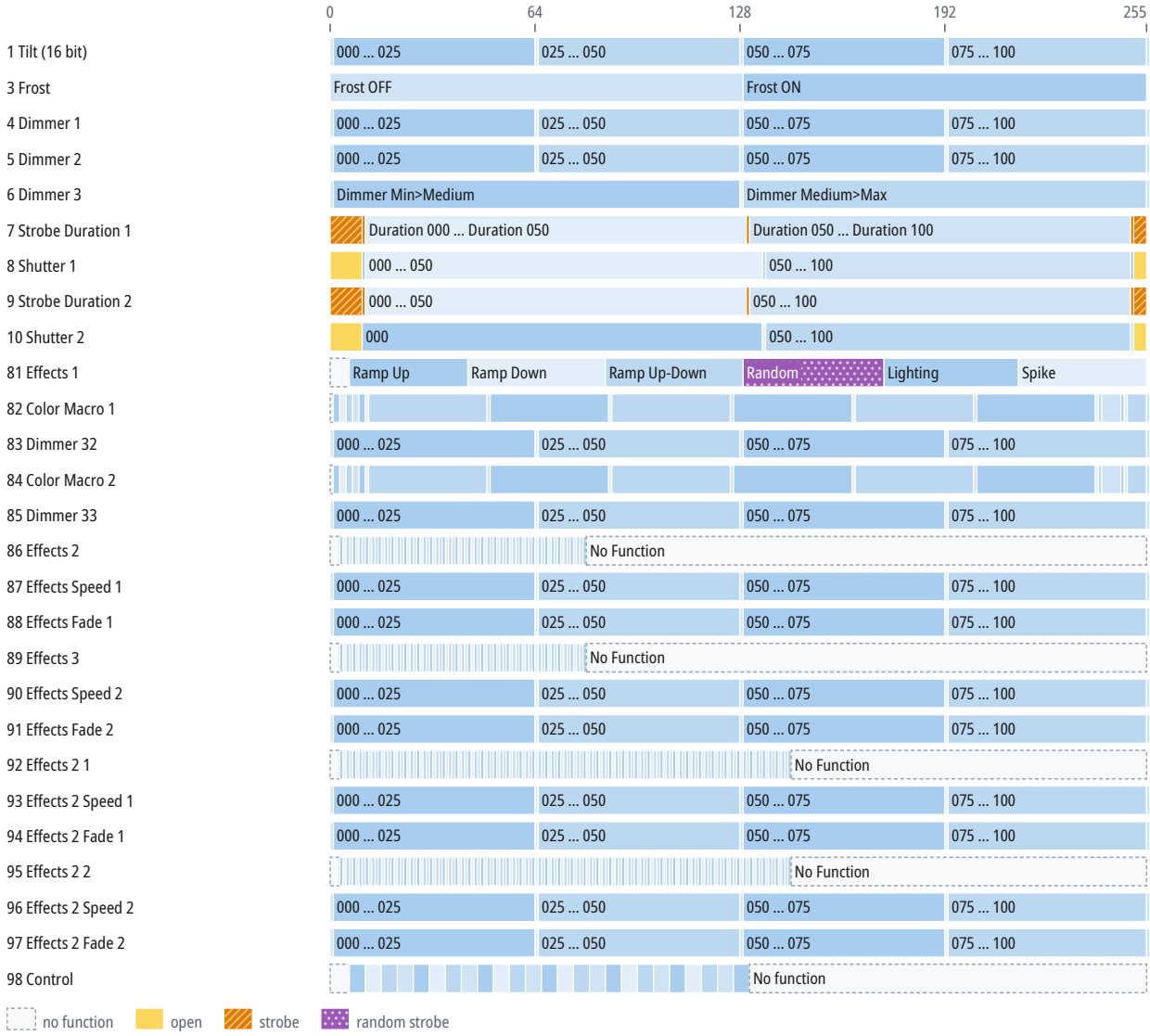
Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	53	2	54	3	55	4	56	5	57	6	58
7	59	8	60	9	61	10	62	11	63	12	64
13	65	14	66	15	67	16	68	17	69	18	70
19	71	20	72	21	73	22	74	23	75	24	76
25	77	26	78	27	79	28	80				

Mode 98 Ch + Virtual Dimmer

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 7 Strobe Duration 1 at 0–9 or 251–255 “No Function”; CH 8 Shutter 1 at 0–9 or 251–255 “Open”; CH 10 Shutter 2 at 0–9 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 1 255, CH 5 Dimmer 2 255, CH 6 Dimmer 3 255, CH 7 Strobe Duration 1 0, CH 8 Shutter 1 0, CH 9 Strobe Duration 2 0, CH 10 Shutter 2 0, CH 11 Red 255 (the same in each of the 14 cells), CH 12 Green 255 (the same in each of the 14 cells), CH 13 Blue 255 (the same in each of the 14 cells), CH 53 Dimmer 255 (the same in each of the 28 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “31 Ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Frost		Same as CH 3 in the mode “31 Ch” (p. 10)
4	Dimmer 1		Same as CH 4 in the mode “31 Ch” (p. 10)
5	Dimmer 2		Same as CH 5 in the mode “31 Ch” (p. 10)

CH	Function	DMX	Description
6	Dimmer 3		Same as CH 6 in the mode “98 Ch” (p. 26)
7	Strobe Duration 1		Same as CH 7 in the mode “31 Ch” (p. 10)
8	Shutter 1		Same as CH 8 in the mode “31 Ch” (p. 11)
9	Strobe Duration 2		Same as CH 9 in the mode “98 Ch” (p. 27)
10	Shutter 2		Same as CH 10 in the mode “98 Ch” (p. 27)
11	Red 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
12	Green 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
13	Blue 1	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
53	Dimmer 4	0	000
		1–63	000 … 025
		64	025
		65–127	025 … 050
		128	050
		129–191	050 … 075
		192	075
		193–254	075 … 100
		255	100
81	Effects 1		Same as CH 14 in the mode “31 Ch” (p. 12)

CH	Function	DMX	Description
82	Color Macro 1		Same as CH 82 in the mode “98 Ch” (p. 28)
83	Dimmer 32		Same as CH 83 in the mode “98 Ch” (p. 28)
84	Color Macro 2		Same as CH 84 in the mode “98 Ch” (p. 29)
85	Dimmer 33		Same as CH 85 in the mode “98 Ch” (p. 29)
86	Effects 2		Same as CH 19 in the mode “31 Ch” (p. 13)
87	Effects Speed 1		Same as CH 20 in the mode “31 Ch” (p. 13)
88	Effects Fade 1		Same as CH 21 in the mode “31 Ch” (p. 14)
89	Effects 3		Same as CH 22 in the mode “31 Ch” (p. 14)
90	Effects Speed 2		Same as CH 23 in the mode “31 Ch” (p. 14)
91	Effects Fade 2		Same as CH 24 in the mode “31 Ch” (p. 14)
92	Effects 2 1		Same as CH 25 in the mode “31 Ch” (p. 14)
93	Effects 2 Speed 1		Same as CH 26 in the mode “31 Ch” (p. 14)
94	Effects 2 Fade 1		Same as CH 27 in the mode “31 Ch” (p. 15)
95	Effects 2 2		Same as CH 28 in the mode “31 Ch” (p. 15)
96	Effects 2 Speed 2		Same as CH 29 in the mode “31 Ch” (p. 15)
97	Effects 2 Fade 2		Same as CH 30 in the mode “31 Ch” (p. 15)
98	Control		Same as CH 31 in the mode “31 Ch” (p. 15)

CH 11–52: 14 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 11–13); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	11	12	13	2	14	15	16	3	17	18	19
4	20	21	22	5	23	24	25	6	26	27	28
7	29	30	31	8	32	33	34	9	35	36	37
10	38	39	40	11	41	42	43	12	44	45	46
13	47	48	49	14	50	51	52				

CH 53–80: 28 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 53); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	53	2	54	3	55	4	56	5	57	6	58
7	59	8	60	9	61	10	62	11	63	12	64
13	65	14	66	15	67	16	68	17	69	18	70
19	71	20	72	21	73	22	74	23	75	24	76
25	77	26	78	27	79	28	80				

10 Technical specifications

Parameter	Value
Light source	LED
Tilt	180°
Weight	21 kg
Ingress protection	IP65
Meaning of the IP code (IEC 60529)	Dust-tight; protected against water jets
Operating temperature	-5 to 45 °C

Speeds and ranges

Parameter	Value
Strobe flash duration	0–100 s

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.

Problem	Remedy
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.