DMX REFERENCE

LED Strobe Bar 1632IP

LED Strobe Pixel Bar 1632IP

TTE

Manufacturer	TTE
GDTF file	TTE_LED_Strobe_Bar_1632IP_97131.gdtf
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1 About this manual

This document describes the LED Strobe Pixel Bar 1632IP by TTE. It was compiled from the GDTF file TTE_LED_Strobe_Bar_1632IP_97131.gdtf from the GDTF-Share library.

File revision: “v402”.

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 TTE; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
117ch	117	4	1, 118, 235, 352
112ch	112	4	1, 113, 225, 337
70ch (Strobe Default)	70	7	1, 71, 141, 211, ...
68ch (Strobe Default)	68	7	1, 69, 137, 205, ...
65ch	65	7	1, 66, 131, 196, ...
39ch	39	13	1, 40, 79, 118, ...
33ch	33	15	1, 34, 67, 100, ...
17ch	17	30	1, 18, 35, 52, ...
21ch	21	24	1, 22, 43, 64, ...
15ch	15	34	1, 16, 31, 46, ...
7ch	7	73	1, 8, 15, 22, ...



Read the manual before use



Do not stare into the light



Indoor use only

3 Safety instructions



Read the manual before use



Do not stare into the light



Indoor use only

⚠ WARNING

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

⚠ WARNING

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

⚠ CAUTION

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

⚠ CAUTION

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

⚠ WARNING

- This device produces very intense flashes of light.
- Flash rates of about 3 to 30 flashes per second carry the highest risk for people with photosensitive epilepsy.
- Do not aim the device into the eyes of the audience or performers at close range.
- At public events, always give clear advance notice that strobe effects will be used.

4 Installation

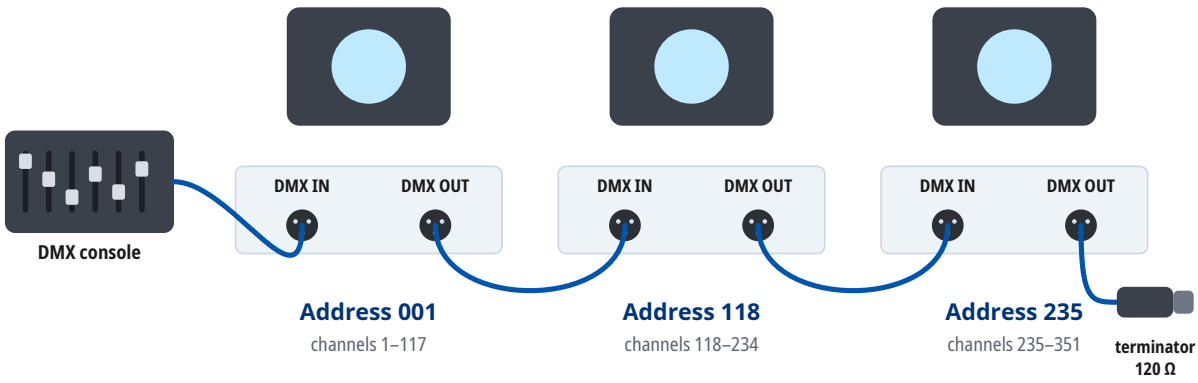
⚠ WARNING

- 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.
- 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.

5 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 117ch: every unit occupies 117 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.

6 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 “117ch”: 117.
- 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 “117ch”, you can use, for example, the start addresses 1, 118, 235, 352.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

7 Functions at a glance

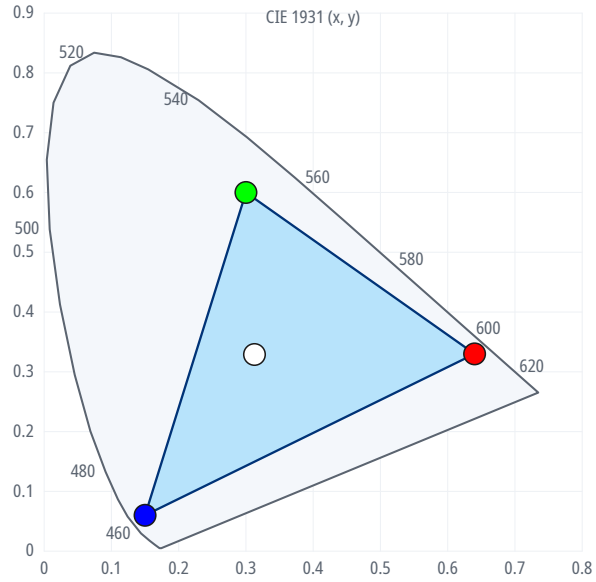
Functions in each DMX mode

		117ch 117 channels	112ch 112 channels	70ch (Strobe Default) 70 channels	68ch (Strobe Default) 68 channels	65ch 65 channels	39ch 39 channels	33ch 33 channels	17ch 17 channels
	Dimmer	1	✓	1	1	✓	25, 34	✓	✓
	Dimmer resolution	8 bit		8 bit	8 bit		16 bit		
	Shutter / strobe	2–4		2, 3	2, 3		27–29, 36–38		
	Color mixing	6–117	1–112	5–68	5–68	1–64	1–24, 30–33	1–32	1–16
	Frost	5		4	4	65	33, 39	33	17
	Effects / macros			69					
	Pixel control	32 + 16 cells	32 + 16 cells	16 + 16 cells	16 + 16 cells	16 + 16 cells	8 cells	8 + 8 cells	✓

Color wheel


1
White
2
Wheel Slot 1
3
Wheel Slot 2
4
Wheel Slot 3
5
Wheel Slot 4
6
Wheel Slot 5
7
Wheel Slot 6
8
Wheel Slot 7
9
Wheel Slot 8
10
Wheel Slot 9
11
Wheel Slot 10
12
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13
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Wheel Slot 30
32
Wheel Slot 31

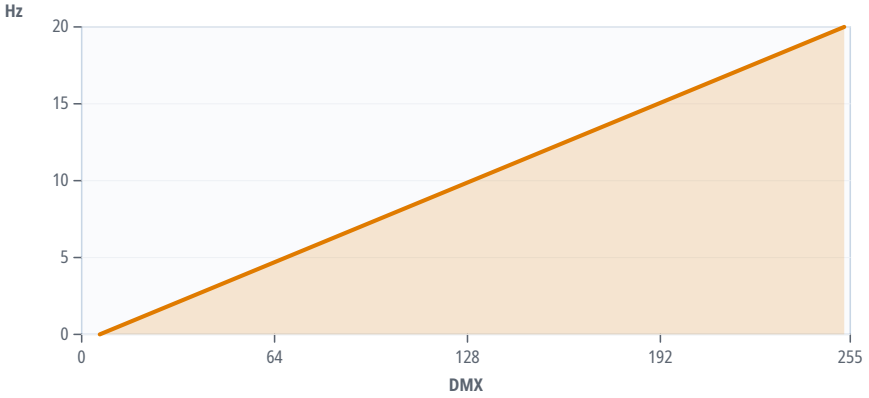
LED colors and the colors they mix



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

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

Strobe rate



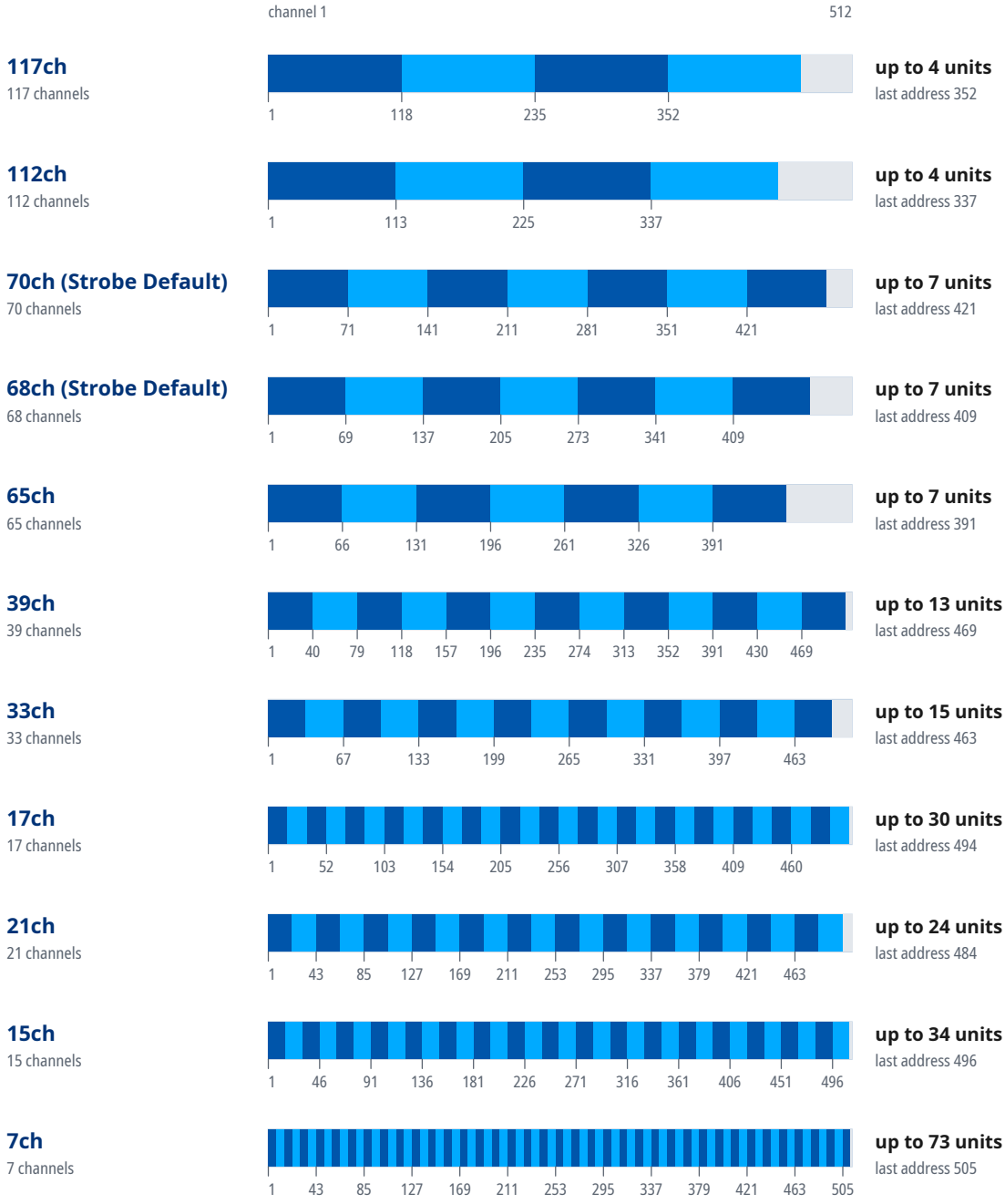
Cells (pixels)

1 CH 6	17 CH 54	2 CH 9	18 CH 57	3 CH 12	19 CH 60	4 CH 15	20 CH 63	5 CH 18	21 CH 66	6 CH 21	22 CH 69	7 CH 24	23 CH 72	8 CH 27	24 CH 75
9 CH 30	25 CH 78	10 CH 33	26 CH 81	11 CH 36	27 CH 84	12 CH 39	28 CH 87	13 CH 42	29 CH 90	14 CH 45	30 CH 93	15 CH 48	31 CH 96	16 CH 51	32 CH 99

32 cells in one row, left to right as the GDTF file places them (seen from above), wrapped after 16; numbered by their first DMX channel (CH) in the mode “117ch”.

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “117ch”

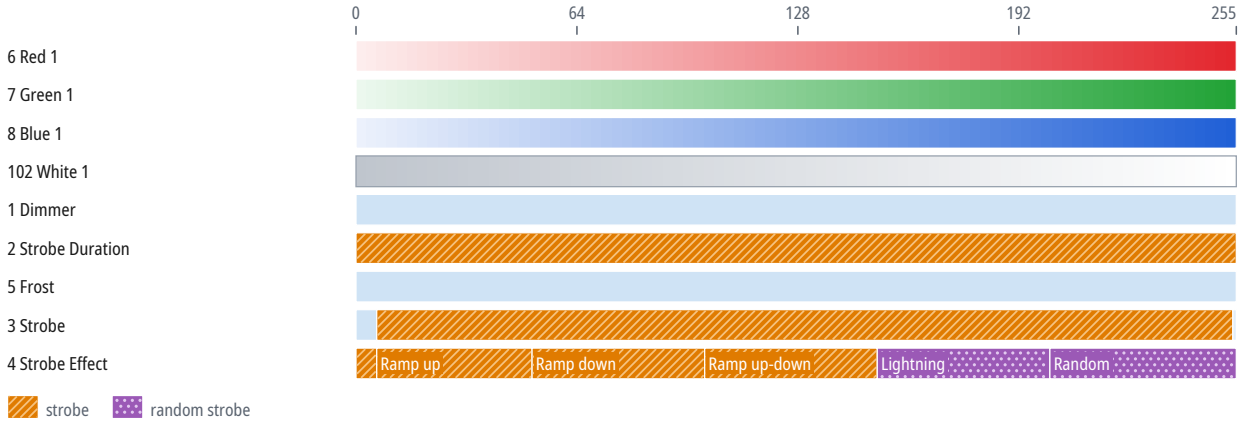
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 118	11	U3 · 235	16	U4 · 352
2	118	7	U2 · 235	12	U3 · 352	17	U5 · 1
3	235	8	U2 · 352	13	U4 · 1	18	U5 · 118
4	352	9	U3 · 1	14	U4 · 118	19	U5 · 235
5	U2 · 1	10	U3 · 118	15	U4 · 235	20	U5 · 352

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 117ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Strobe Duration 255, CH 3 Strobe 255, CH 6 Red 255 (the same in each of the 32 cells), CH 7 Green 255 (the same in each of the 32 cells), CH 8 Blue 255 (the same in each of the 32 cells), CH 102 White 100 (the same in each of the 16 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0–255	
2	Strobe Duration	0–255	
3	Strobe	0–5	Shutter 1 1
		6–253	Shutter 1 Strobe 1 (0–20 Hz)
		254–255	Shutter 2 3
4	Strobe Effect	0–5	Strobe
		6–50	Ramp up (1–20 Hz)
		51–100	Ramp down (1–20 Hz)
		101–150	Ramp up-down (1–20 Hz)
		151–200	Lightning (1–20 Hz)
		201–255	Random (1–20 Hz)
5	Frost	0–255	
6	Red 1	0–255	
7	Green 1	0–255	
8	Blue 1	0–255	
102	White 1	0–255	

CH 6–101: 32 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

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
10	33	34	35	11	36	37	38	12	39	40	41
13	42	43	44	14	45	46	47	15	48	49	50
16	51	52	53	17	54	55	56	18	57	58	59
19	60	61	62	20	63	64	65	21	66	67	68
22	69	70	71	23	72	73	74	24	75	76	77
25	78	79	80	26	81	82	83	27	84	85	86
28	87	88	89	29	90	91	92	30	93	94	95
31	96	97	98	32	99	100	101				

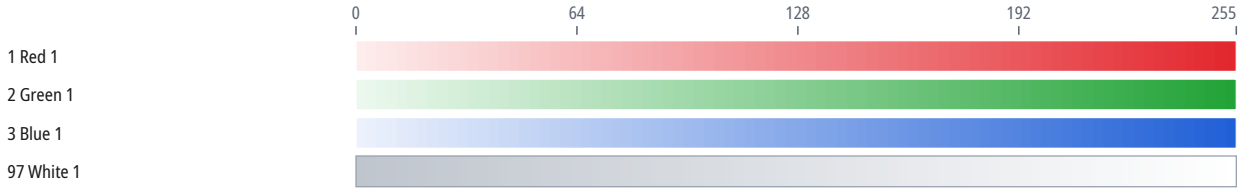
CH 102–117: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 102); the table below gives each cell's channel numbers.

Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
1	102	2	103	3	104	4	105	5	106	6	107
7	108	8	109	9	110	10	111	11	112	12	113
13	114	14	115	15	116	16	117				

Mode 112ch

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 32 cells), CH 2 Green 255 (the same in each of the 32 cells), CH 3 Blue 255 (the same in each of the 32 cells), CH 97 White 100 (the same in each of the 16 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
97	White 1	0–255	

CH 1–96: 32 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

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

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
25	73	74	75	26	76	77	78	27	79	80	81
28	82	83	84	29	85	86	87	30	88	89	90
31	91	92	93	32	94	95	96				

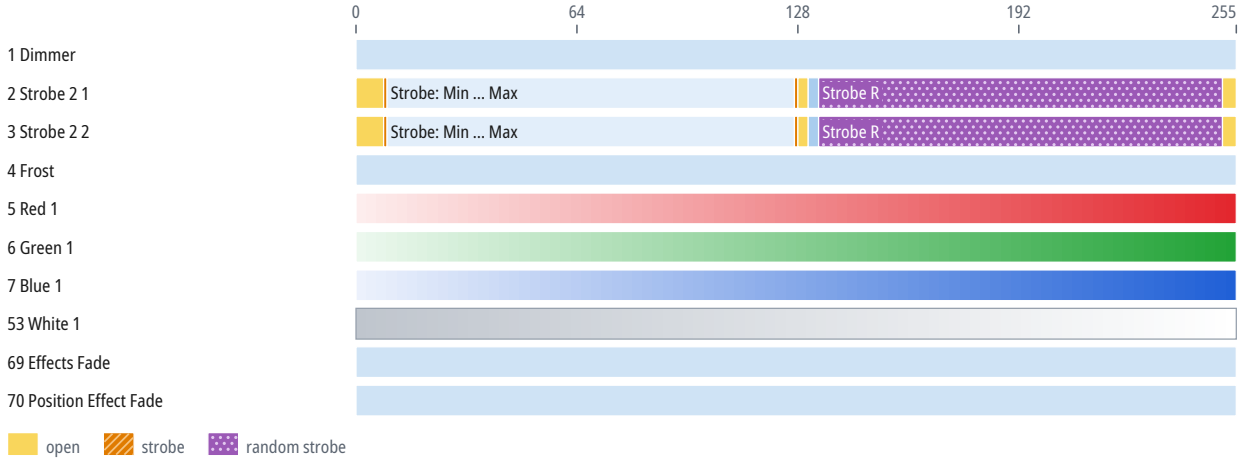
CH 97–112: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 97); the table below gives each cell's channel numbers.

Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
1	97	2	98	3	99	4	100	5	101	6	102
7	103	8	104	9	105	10	106	11	107	12	108
13	109	14	110	15	111	16	112				

Mode 70ch (Strobe Default)

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 2 Strobe 2 1 at 0–7, 128–130 or 251–255 “Open”; CH 3 Strobe 2 2 at 0–7, 128–130 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Strobe 2 1 255, CH 3 Strobe 2 2 255, CH 5 Red 255 (the same in each of the 16 cells), CH 6 Green 255 (the same in each of the 16 cells), CH 7 Blue 255 (the same in each of the 16 cells), CH 53 White 255 (the same in each of the 16 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0–255	
2	Strobe 2 1	0–7	Open
		8	Strobe: Min
		9–126	Strobe: Min ... Max
		127	Strobe: Max
		128–130	Open
		131–133	Shutter 1 Strobe Random 4
		134–250	Strobe R
		251–255	Open
3	Strobe 2 2	0–7	Open
		8	Strobe: Min

CH	Function	DMX	Description
3	Strobe 2 2 (continued)	9–126	Strobe: Min ... Max
		127	Strobe: Max
		128–130	Open
		131–133	Shutter 1 Strobe Random 4
		134–250	Strobe R
		251–255	Open
4	Frost	0–255	
5	Red 1	0–255	
6	Green 1	0–255	
7	Blue 1	0–255	
53	White 1	0–255	
69	Effects Fade	0–255	
70	Position Effect Fade	0–255	

CH 5–52: 16 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 5–7); the table below gives each cell's channel numbers.

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

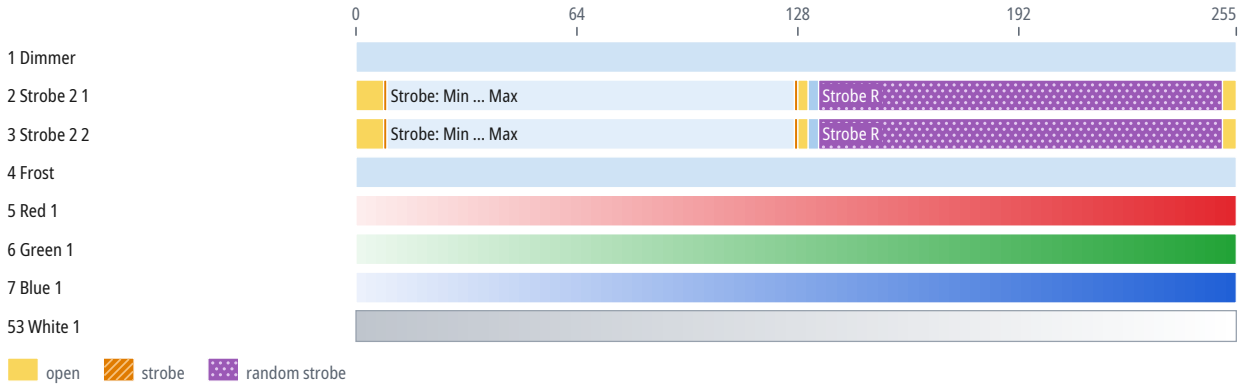
CH 53–68: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 53); the table below gives each cell's channel numbers.

Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
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				

Mode 68ch (Strobe Default)

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 2 Strobe 2 1 at 0–7, 128–130 or 251–255 “Open”; CH 3 Strobe 2 2 at 0–7, 128–130 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Strobe 2 1 255, CH 3 Strobe 2 2 255, CH 5 Red 255 (the same in each of the 16 cells), CH 6 Green 255 (the same in each of the 16 cells), CH 7 Blue 255 (the same in each of the 16 cells), CH 53 White 255 (the same in each of the 16 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0–255	
2	Strobe 2 1		Same as CH 2 in the mode “70ch (Strobe Default)” (p. 12)
3	Strobe 2 2		Same as CH 3 in the mode “70ch (Strobe Default)” (p. 12)
4	Frost	0–255	
5	Red 1	0–255	
6	Green 1	0–255	
7	Blue 1	0–255	
53	White 1	0–255	

CH 5–52: 16 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 5–7); the table below gives each cell's channel numbers.

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

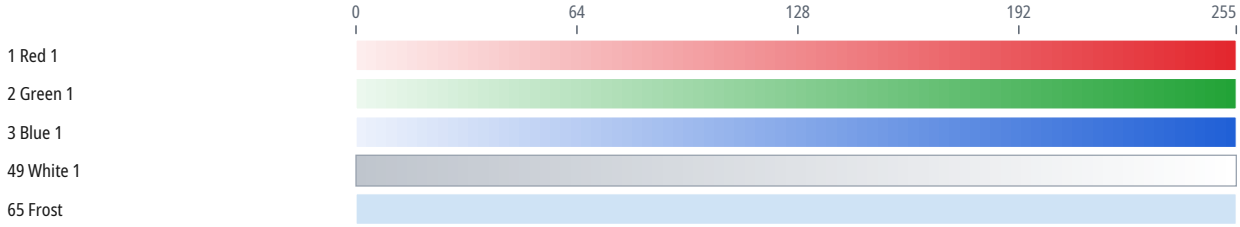
CH 53–68: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 53); the table below gives each cell's channel numbers.

Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
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				

Mode 65ch

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 16 cells), CH 2 Green 255 (the same in each of the 16 cells), CH 3 Blue 255 (the same in each of the 16 cells), CH 49 White 255 (the same in each of the 16 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
49	White 1	0–255	
65	Frost	0–255	

CH 1–48: 16 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

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

CH 49–64: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 49); the table below gives each cell's channel numbers.

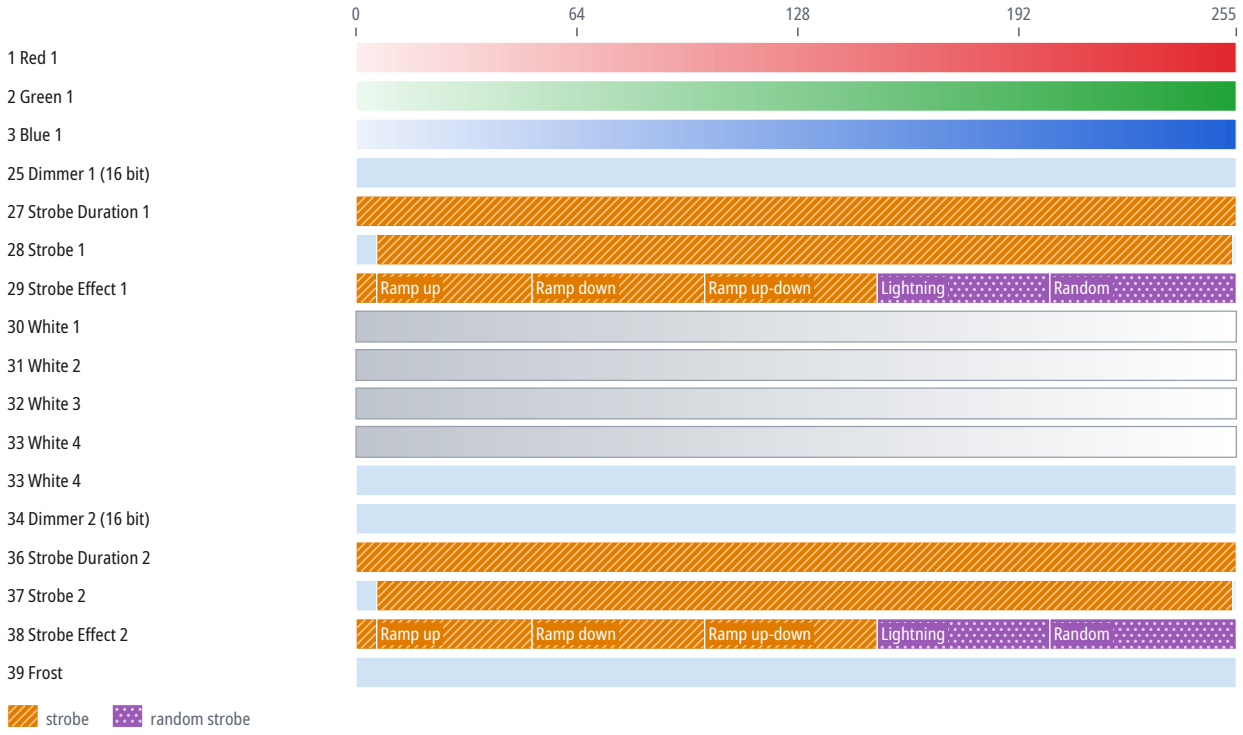
Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
1	49	2	50	3	51	4	52	5	53	6	54
7	55	8	56	9	57	10	58	11	59	12	60
13	61	14	62	15	63	16	64				

Mode 39ch

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 25 Dimmer 1 above 0; CH 34 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 8 cells), CH 2 Green 255 (the same in each of the 8 cells), CH 3 Blue 255 (the same in each of the 8 cells), CH 25 Dimmer 1 255, CH 27 Strobe Duration 1 255, CH 28 Strobe 1 255, CH 34 Dimmer 2 255, CH 36 Strobe Duration 2 255, CH 37 Strobe 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
25	Dimmer 1	0–255	
26	Dimmer 1 Fine	0–255	Fine adjustment of CH 25
27	Strobe Duration 1	0–255	
28	Strobe 1	0–5	Shutter 1 1
		6–253	Shutter 1 Strobe 1 (0–20 Hz)
		254–255	Shutter 2 3
29	Strobe Effect 1	0–5	Strobe
		6–50	Ramp up (1–20 Hz)
		51–100	Ramp down (1–20 Hz)
		101–150	Ramp up-down (1–20 Hz)
		151–200	Lightning (1–20 Hz)
		201–255	Random (1–20 Hz)

CH	Function	DMX	Description
30	White 1	0–255	
31	White 2	0–255	
32	White 3	0–255	
33	White 4	0–255	
34	Dimmer 2	0–255	
35	Dimmer 2 Fine	0–255	Fine adjustment of CH 34
36	Strobe Duration 2	0–255	
37	Strobe 2	0–5	Shutter 1 1
		6–253	Shutter 1 Strobe 1 (0–20 Hz)
		254–255	Shutter 2 3
38	Strobe Effect 2	0–5	Strobe
		6–50	Ramp up (1–20 Hz)
		51–100	Ramp down (1–20 Hz)
		101–150	Ramp up-down (1–20 Hz)
		151–200	Lightning (1–20 Hz)
		201–255	Random (1–20 Hz)
39	Frost	0–255	

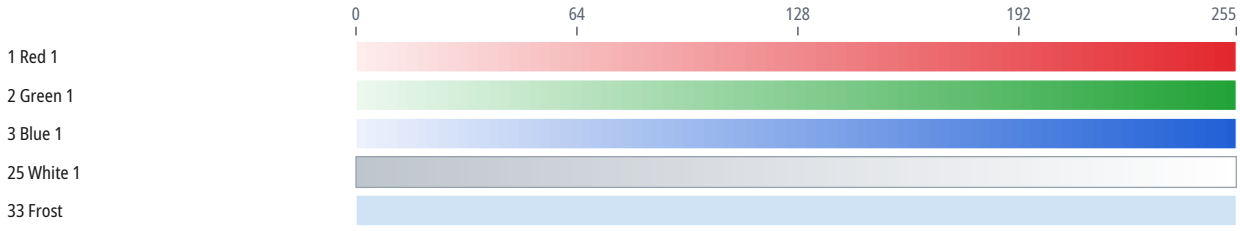
CH 1–24: 8 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24				

Mode 33ch

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 8 cells), CH 2 Green 255 (the same in each of the 8 cells), CH 3 Blue 255 (the same in each of the 8 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
25	White 1	0–255	
33	Frost	0–255	

CH 1–24: 8 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24				

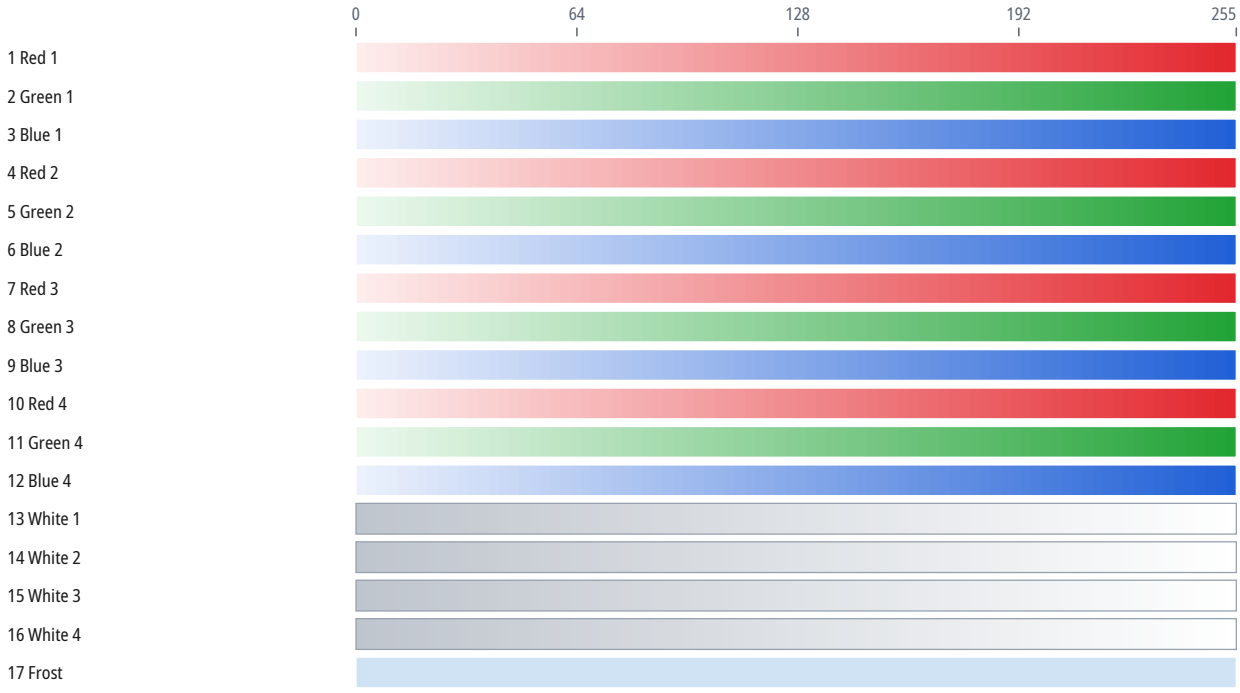
CH 25–32: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 25); the table below gives each cell's channel numbers.

Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
1	25	2	26	3	27	4	28	5	29	6	30
7	31	8	32								

Mode 17ch

The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 Red 2 255, CH 5 Green 2 255, CH 6 Blue 2 255, CH 7 Red 3 255, CH 8 Green 3 255, CH 9 Blue 3 255, CH 10 Red 4 255, CH 11 Green 4 255, CH 12 Blue 4 255, CH 13 White 1 255, CH 14 White 2 255, CH 15 White 3 255, CH 16 White 4 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
4	Red 2	0–255	
5	Green 2	0–255	
6	Blue 2	0–255	
7	Red 3	0–255	

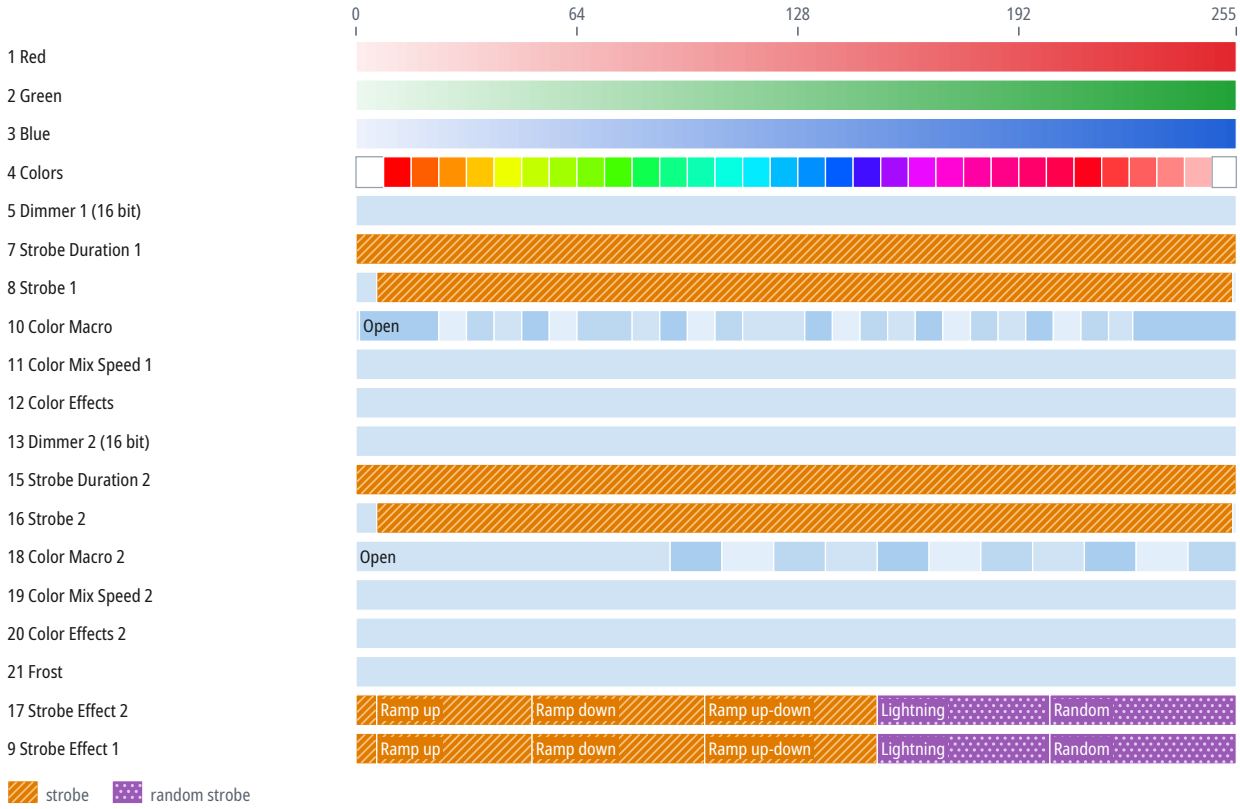
CH	Function	DMX	Description
8	Green 3	0–255	
9	Blue 3	0–255	
10	Red 4	0–255	
11	Green 4	0–255	
12	Blue 4	0–255	
13	White 1	0–255	
14	White 2	0–255	
15	White 3	0–255	
16	White 4	0–255	
17	Frost	0–255	

Mode 21ch

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 Dimmer 1 above 0; CH 13 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 5 Dimmer 1 255, CH 7 Strobe Duration 1 255, CH 8 Strobe 1 255, CH 10 Color Macro 255, CH 12 Color Effects 255, CH 13 Dimmer 2 255, CH 15 Strobe Duration 2 255, CH 16 Strobe 2 255, CH 18 Color Macro 2 255, CH 20 Color Effects 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	

CH	Function	DMX	Description
4	Colors	0–7	White
		8–15	Wheel Slot 1
		16–23	Wheel Slot 2
		24–31	Wheel Slot 3
		32–39	Wheel Slot 4
		40–47	Wheel Slot 5
		48–55	Wheel Slot 6
		56–63	Wheel Slot 7
		64–71	Wheel Slot 8
		72–79	Wheel Slot 9
		80–87	Wheel Slot 10
		88–95	Wheel Slot 11
		96–103	Wheel Slot 12
		104–111	Wheel Slot 13
		112–119	Wheel Slot 14
		120–127	Wheel Slot 15
		128–135	Wheel Slot 16
		136–143	Wheel Slot 17
		144–151	Wheel Slot 18
		152–159	Wheel Slot 19
		160–167	Wheel Slot 20
		168–175	Wheel Slot 21
		176–183	Wheel Slot 22
		184–191	Wheel Slot 23
		192–199	Wheel Slot 24
		200–207	Wheel Slot 25
		208–215	Wheel Slot 26
		216–223	Wheel Slot 27
		224–231	Wheel Slot 28
		232–239	Wheel Slot 29
		240–247	Wheel Slot 30
		248–255	Wheel Slot 31
5	Dimmer 1	0–255	
6	Dimmer 1 Fine	0–255	Fine adjustment of CH 5
7	Strobe Duration 1	0–255	
8	Strobe 1		Same as CH 28 in the mode “39ch” (p. 16)
9	Strobe Effect 1		Same as CH 29 in the mode “39ch” (p. 16)
10	Color Macro	0	Color Macro 1 1
		1–23	Open
		24–31	Macro 1
		32–39	Macro 2
		40–47	Macro 3

CH	Function	DMX	Description
10	Color Macro (continued)	48–55	Macro 4
		56–63	Macro 5
		64–79	Macro 6
		80–87	Macro 7
		88–95	Macro 8
		96–103	Macro 9
		104–111	Macro 10
		112–129	Macro 11
		130–137	Macro 12
		138–145	Macro 13
		146–153	Macro 14
		154–161	Macro 15
		162–169	Macro 16
		170–177	Macro 17
		178–185	Macro 18
		186–193	Macro 19
		194–201	Macro 20
		202–209	Macro 21
		210–217	Macro 22
		218–224	Macro 23
		225–255	Color Macro 1 1
11	Color Mix Speed 1	0–255	
12	Color Effects	0–255	
13	Dimmer 2	0–255	
14	Dimmer 2 Fine	0–255	Fine adjustment of CH 13
15	Strobe Duration 2	0–255	
16	Strobe 2		Same as CH 37 in the mode “39ch” (p. 17)
17	Strobe Effect 2		Same as CH 38 in the mode “39ch” (p. 17)
18	Color Macro 2	0–90	Open
		91–105	Macro 1
		106–120	Macro 2
		121–135	Macro 3
		136–150	Macro 4
		151–165	Macro 5
		166–180	Macro 6
		181–195	Macro 7
		196–210	Macro 8
		211–225	Macro 9
		226–240	Macro 10
		241–255	Macro 11

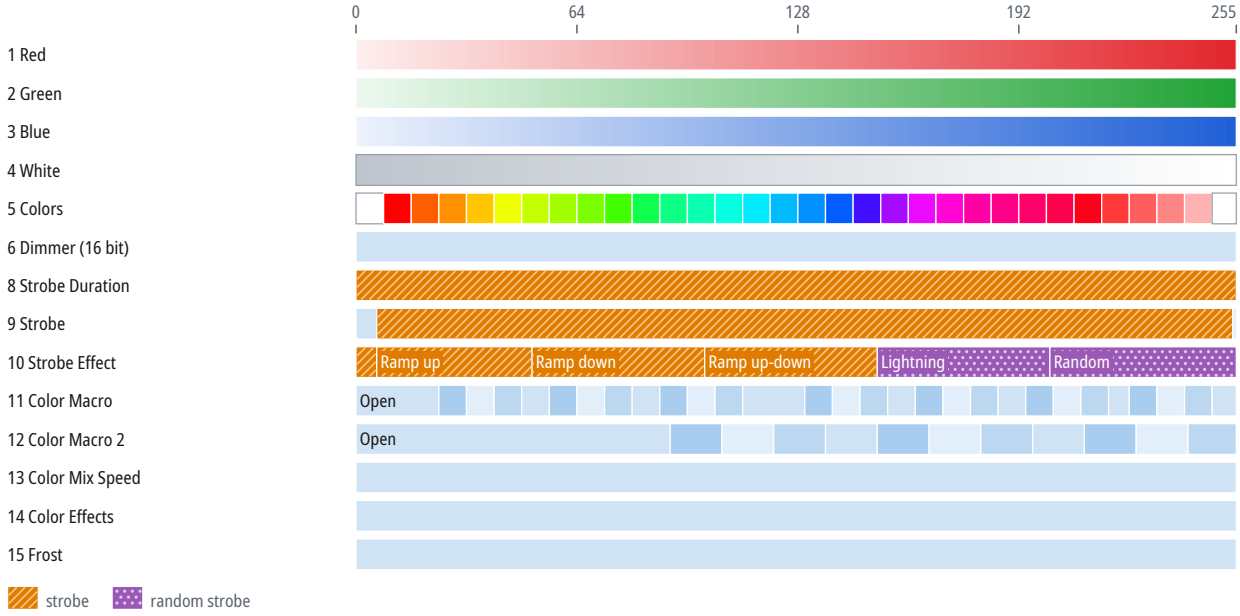
CH	Function	DMX	Description
19	Color Mix Speed 2	0–255	
20	Color Effects 2	0–255	
21	Frost	0–255	

Mode 15ch

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

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 4 White 255, CH 6 Dimmer 255, CH 8 Strobe Duration 255, CH 9 Strobe 255, CH 13 Color Mix Speed 255, CH 14 Color Effects 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	
4	White	0–255	
5	Colors		Same as CH 4 in the mode “21ch” (p. 20)
6	Dimmer	0–255	
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Strobe Duration	0–255	
9	Strobe		Same as CH 3 in the mode “117ch” (p. 10)
10	Strobe Effect		Same as CH 4 in the mode “117ch” (p. 10)
11	Color Macro	0–23	Open
		24–31	Macro 0
		32–39	Macro 1

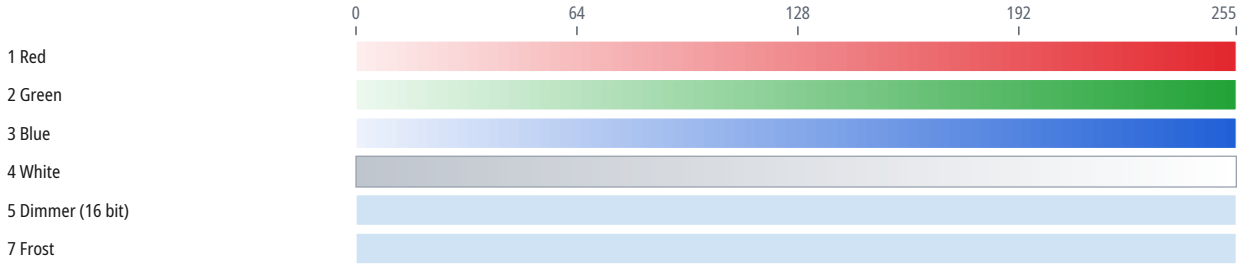
CH	Function	DMX	Description
11	Color Macro (continued)	40–47	Macro 2
		48–55	Macro 3
		56–63	Macro 4
		64–71	Macro 5
		72–79	Macro 6
		80–87	Macro 7
		88–95	Macro 8
		96–103	Macro 9
		104–111	Macro 10
		112–129	Macro 11
		130–137	Macro 12
		138–145	Macro 13
		146–153	Macro 14
		154–161	Macro 15
		162–169	Macro 16
		170–177	Macro 17
		178–185	Macro 18
		186–193	Macro 19
		194–201	Macro 20
		202–209	Macro 21
		210–217	Macro 22
		218–223	Macro 23
		224–231	Macro 24
		232–239	Macro 25
		240–247	Macro 26
		248–255	Macro 27
12	Color Macro 2		Same as CH 18 in the mode “21ch” (p. 21)
13	Color Mix Speed	0–255	
14	Color Effects	0–255	
15	Frost	0–255	

Mode 7ch

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 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 4 White 255, CH 5 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	
4	White	0–255	
5	Dimmer	0–255	
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	Frost	0–255	

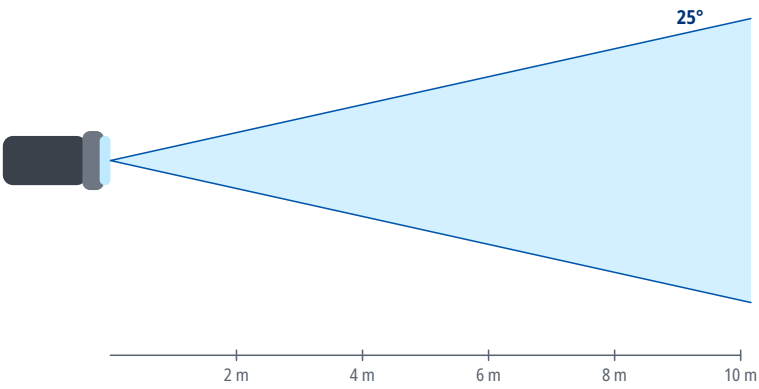
9 Technical specifications

Parameter	Value
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0–20 Hz

Spot diameter



Distance	Ø 25°
2 m	0.89 m
4 m	1.8 m
6 m	2.7 m
8 m	3.5 m
10 m	4.4 m
15 m	6.7 m

Spot diameter square to the beam axis, calculated from the beam angle.

10 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.

11 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.

12 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.