DMX REFERENCE

Volero Wave

Clay Paky



Manufacturer	Clay Paky
GDTF file	Clay_Paky_Volero_Wave_74241.gdtf
GDTF revision	Claypaky Volero Wave Shape PixelRGBW Release/LorenzoPolimeno, Uploaded to GDTF Share. ·
Generated	2026-11-23

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1 About this manual

This document describes the Volero Wave by Clay Paky. It was compiled from the GDTF file Clay_Paky_Volero_Wave_74241.gdtf from the GDTF-Share library.

File revision: “Claypaky Volero Wave Shape PixelRGBW Release/LorenzoPolimeno, Uploaded to GDTF Share.”.

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 Clay Paky; 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	20.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	20	25	1, 21, 41, 61, ...
Advanced	37	13	1, 38, 75, 112, ...
Shape	38	13	1, 39, 77, 115, ...
RGB	24	21	1, 25, 49, 73, ...
RGBW	32	16	1, 33, 65, 97, ...
Shape + Pixels RGBW	70	7	1, 71, 141, 211, ...

No light? Check these channels

- Standard: CH 7 Shutter at 104–107, 208–212 or 252–255 “Open”
- Advanced: CH 6 Shutter L 1 at 104–107, 208–212 or 252–255 “Open”; CH 8 Shutter 1 at 104–107, 208–212 or 252–255 “Open”; CH 21 Shutter 2 at 104–107, 208–212 or 252–255 “Open”; CH 28 Shutter 3 at 104–107, 208–212 or 252–255 “Open”
- Shape: CH 11 Shutter 1 at 104–107, 208–212 or 252–255 “Open”; CH 13 Shutter 2 at 104–107, 208–212 or 252–255 “Open”; CH 24 Shutter 3 at 104–107, 208–212 or 252–255 “Open”
- Shape + Pixels RGBW: CH 11 Shutter 1 at 104–107, 208–212 or 252–255 “Open”; CH 13 Shutter 2 at 104–107, 208–212 or 252–255 “Open”; CH 24 Shutter 3 at 104–107, 208–212 or 252–255 “Open”


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.

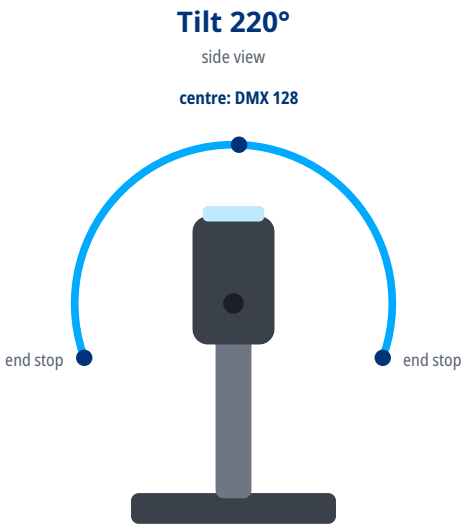
⚠ CAUTION

- 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**
>
> - 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

Range of movement



5 Installation

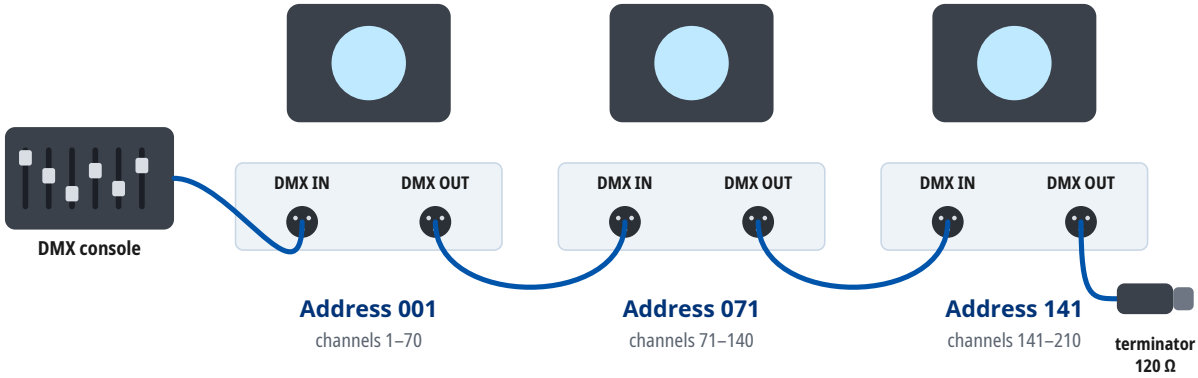
> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 20.8 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 Shape + Pixels RGBW: every unit occupies 70 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 “Shape + Pixels RGBW”: 70.
- 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 “Shape + Pixels RGBW”, you can use, for example, the start addresses 1, 71, 141, 211.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

8 Functions at a glance

Functions in each DMX mode

	Standard 20 channels	Advanced 37 channels	Shape 38 channels	RGB 24 channels	RGBW 32 channels	Shape + Pixels RGBW 70 channels
Pan / Tilt	10, 13–20	11, 30–37	16, 31–38			16, 31–38
Dimmer	8	4 channels (7–29)	12, 14, 25	✓	✓	12, 14, 25
Shutter / strobe	7	6 channels (6–28)	4 channels (11–27)			4 channels (11–27)
Color mixing	1–4	1–4, 16–19	8 channels (1–22)	1–24	1–32	40 channels (1–70)
Color temperature	5	5, 20	9, 23			9, 23
Color wheel	6		10			10
Pixel control				8 cells	8 cells	8 + 8 cells

Color wheel

1. Red — DMX 10
2. Green — DMX 11
3. Blue — DMX 12
4. Cyan — DMX 13
5. Yellow — DMX 14
6. Magenta
7. White 7000K — DMX 16
8. White 3700K — DMX 17
9. White 5000K — DMX 18
10. Black — DMX 19
11. Medium Yellow — DMX 20–22
12. Straw Tint — DMX 23–26
13. Surprise Peach — DMX 27–28
14. Fire — DMX 29
15. Medium Amber — DMX 30
16. Gold Amber — DMX 31
17. Dark Amber — DMX 32–34
18. Sunrise Red — DMX 35–44
19. Light Pink — DMX 45
20. Medium Pink — DMX 46–48
21. Pink Carnation — DMX 49–61
22. Light Lavender — DMX 62–67
23. Lavender — DMX 68–77
24. Sky Blue — DMX 78–88

25 Just Blue
DMX 89–99

26 Dark Yellow Green
DMX 100–109

27 Spring Yellow
DMX 110–111

28 Light Amber
DMX 112

29 Straw
DMX 113

30 Deep Amber
DMX 114

31 Orange
DMX 115–116

32 Light Rose
DMX 117

33 English Rose
DMX 118

34 Light Salmon
DMX 119

35 Middle Rose
DMX 120

36 Dark Pink
DMX 121–122

37 Magenta
DMX 15

38 Peacock Blue
DMX 125

39 Med Blu Green
DMX 126

40 Steel Blue
DMX 127

41 Light Blue
DMX 128

42 Dark Blue
DMX 129–130

43 Leaf Green
DMX 131–133

44 Dark Green
DMX 134–135

45 Mauve
DMX 136–137

46 Bright Pink
DMX 138–141

47 Medium Blue
DMX 142–144

48 Deep Golden Amber
DMX 145

49 Pale Lavender
DMX 146

50 Special Lavender
DMX 147–148

51 Primary Green
DMX 149–150

52 Bright Blue
DMX 151–156

53 Apricot
DMX 157–161

54 Pale Gold
DMX 162–167

55 Deep Orange
DMX 168–171

56 Bastard Amber
DMX 172–173

57 Flame Red
DMX 174

58 Daylight Blue
DMX 175–178

59 Lilac Tint
DMX 179

60 Deep Lavender
DMX 180–183

61 Dark Steel Blue
DMX 184–190

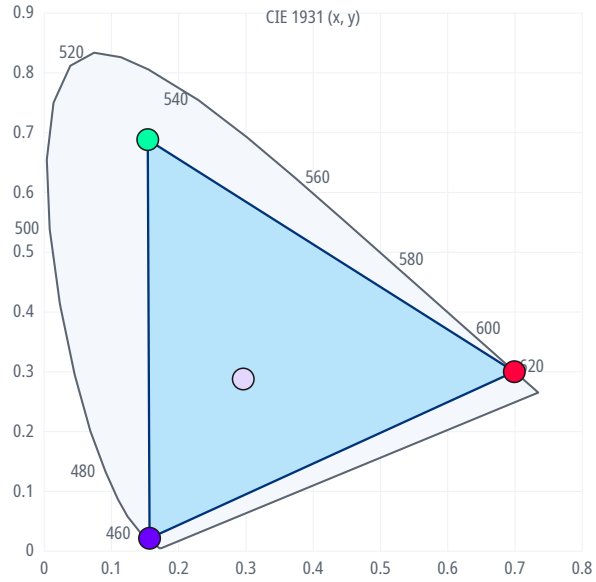
62 Congo Blue
DMX 191–206

63 Alice Blue
DMX 207

64 Dirty White
DMX 208

65 White
DMX 209–255

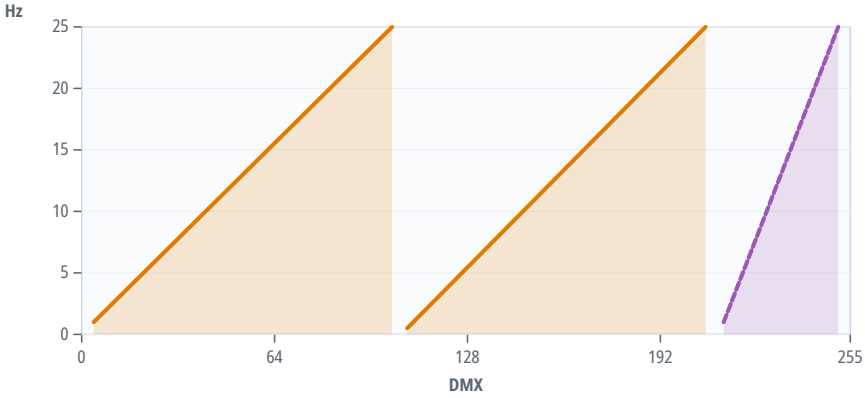
LED colors and the colors they mix



LED	x	y
Red	0.699	0.300
Green	0.154	0.688
Blue	0.157	0.022
White	0.296	0.288

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

Strobe rate



CH 11 · Shape + Pixels RGBW

- 4–103: 1–25 Hz
  Strobe
- 108–207: 0.5–25 Hz
  Pulsation
- 213–251: 1–25 Hz
  Random

Cells (pixels)



8 cells where the GDTF file places them (seen from above), numbered in the file's order; the mode “Shape + Pixels RGBW” drives them together.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Shape + Pixels RGBW”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	351	11	U2 · 211	16	U3 · 71
2	71	7	421	12	U2 · 281	17	U3 · 141
3	141	8	U2 · 1	13	U2 · 351	18	U3 · 211
4	211	9	U2 · 71	14	U2 · 421	19	U3 · 281
5	281	10	U2 · 141	15	U3 · 1	20	U3 · 351

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.

RDM personalities

Mode	Channels	RDM personality
Standard	20	1
Advanced	37	1
Shape	38	1
RGB	24	–
RGBW	32	–
Shape + Pixels RGBW	70	1

Mode Standard

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 Shutter at 104–107, 208–212 or 252–255 “Open”. 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 CTO 0, CH 6 Colors 0, CH 7 Shutter 105, CH 8 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0	0%
		1–254	0% ... 100%
		255	100%
2	Green	0	0%
		1–254	0% ... 100%
		255	100%
3	Blue	0	0%
		1–254	0% ... 100%
		255	100%
4	White	0	0%
		1–254	0% ... 100%
		255	100%
5	CTO	0–9	CTO Deactivated
		10	8000K
		11–254	8000K ... 2500K
		255	2500K
6	Colors	0–9	No Function
		10	Red
		11	Green
		12	Blue
		13	Cyan

CH	Function	DMX	Description
6	Colors (continued)	14	Yellow
		15	Magenta
		16	White 7000K
		17	White 3700K
		18	White 5000K
		19	Black
		20–22	Medium Yellow
		23–26	Straw Tint
		27–28	Surprise Peach
		29	Fire
		30	Medium Amber
		31	Gold Amber
		32–34	Dark Amber
		35–44	Sunrise Red
		45	Light Pink
		46–48	Medium Pink
		49–61	Pink Carnation
		62–67	Light Lavender
		68–77	Lavender
		78–88	Sky Blue
		89–99	Just Blue
		100–109	Dark Yellow Green
		110–111	Spring Yellow
		112	Light Amber
		113	Straw
		114	Deep Amber
		115–116	Orange
		117	Light Rose
		118	English Rose
		119	Light Salmon
		120	Middle Rose
		121–122	Dark Pink
		123–124	Magenta
		125	Peacock Blue
		126	Med Blu Green
		127	Steel Blue
		128	Light Blue
		129–130	Dark Blue
		131–133	Leaf Green
		134–135	Dark Green
		136–137	Mauve
		138–141	Bright Pink

CH	Function	DMX	Description
6	Colors (continued)	142–144	Medium Blue
		145	Deep Golden Amber
		146	Pale Lavender
		147–148	Special Lavender
		149–150	Primary Green
		151–156	Bright Blue
		157–161	Apricot
		162–167	Pale Gold
		168–171	Deep Orange
		172–173	Bastard Amber
		174	Flame Red
		175–178	Daylight Blue
		179	Lilac Tint
		180–183	Deep Lavender
		184–190	Dark Steel Blue
		191–206	Congo Blue
		207	Alice Blue
		208	Dirty White
		209–255	White
7	Shutter	0–3	Light OFF: Closed
		4	Strobe: Slow
		5–102	Strobe: Slow ... Fast
		103	Strobe: Fast
		104–107	Light ON: Open
		108	Pulsation: Slow (0.5–25 Hz)
		109–206	Pulsation: Slow ... Fast
		207	Pulsation: Fast (0.5–25 Hz)
		208–212	Light ON: Open
		213–225	Random: Slow
		226–238	Medium
		239–251	Random: Fast
		252–255	Light ON: Open
8	Dimmer	0–255	0% ... 100%
		255	100%
9	Dimmer Fine	0–255	Fine adjustment of CH 8
10	Control	0–9	Unused Range
		10–14	Tilt Speed Mode Smooth
		15–19	Tilt Speed Mode Fast
		20–24	Calibrated White
		25–29	Raw
		30–34	Reverse Pix Mapping: Off
		35–39	Reverse Pix Mapping: On

CH	Function	DMX	Description
10	Control (continued)	40–44	Set Customized White
		45–49	Record Customized
		50–54	Use Colour Calibration Customized
		55–59	Use Factory Calibration
		60–64	Reset Custom Calibration
		65–69	Tilt Invert: Off
		70–74	Tilt Invert: On
		75–79	Reverse Tilt Mapping: Off
		80–84	Reverse Tilt Mapping: On
		85–99	Free
		100–102	Enable RGB
		103–105	Enable RGBW
		106–108	Disable
		109–255	Free
11	Reset	0–25	Unused Range
		26–127	Tilt Reset
		128–255	Complete Reset
12	Dummy	0–255	Reserved
13	Tilt 1	0–255	220°

CH 13–20: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 13); the table below gives each cell's channel numbers.

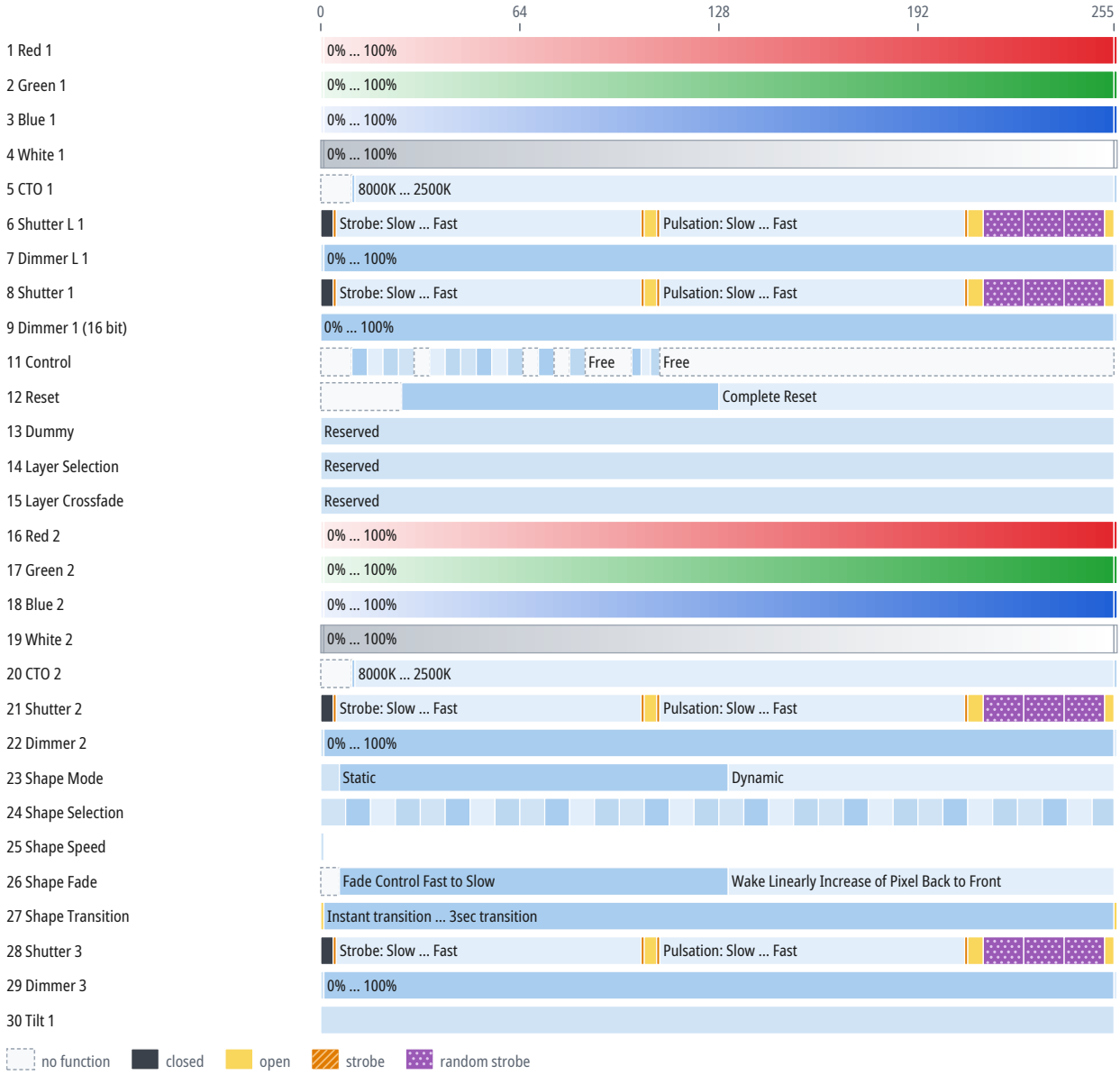
Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt
1	13	2	14	3	15	4	16	5	17	6	18
7	19	8	20								

Mode Advanced

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 Shutter L 1 at 104–107, 208–212 or 252–255 “Open”; CH 8 Shutter 1 at 104–107, 208–212 or 252–255 “Open”; CH 21 Shutter 2 at 104–107, 208–212 or 252–255 “Open”; CH 28 Shutter 3 at 104–107, 208–212 or 252–255 “Open”. 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 White 1 255, CH 5 CTO 1 0, CH 6 Shutter L 1 105, CH 7 Dimmer L 1 100, CH 8 Shutter 1 105, CH 9 Dimmer 1 255, CH 18 Blue 2 0, CH 21 Shutter 2 105, CH 28 Shutter 3 105, CH 29 Dimmer 3 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0	0%
		1–254	0% ... 100%
		255	100%

CH	Function	DMX	Description
2	Green 1	0	0%
		1–254	0% … 100%
		255	100%
3	Blue 1	0	0%
		1–254	0% … 100%
		255	100%
4	White 1	0	0%
		1–254	0% … 100%
		255	100%
5	CTO 1	0–9	CTO Deactivated
		10	8000K
		11–254	8000K … 2500K
		255	2500K
6	Shutter L 1	0–3	Light OFF: Closed
		4	Strobe: Slow
		5–102	Strobe: Slow … Fast
		103	Strobe: Fast
		104–107	Light ON: Open
		108	Pulsation: Slow (0.5–25 Hz)
		109–206	Pulsation: Slow … Fast
		207	Pulsation: Fast (0.5–25 Hz)
		208–212	Light ON: Open
		213–225	Random: Slow
		226–238	Medium
		239–251	Random: Fast
		252–255	Light ON: Open
7	Dimmer L 1	0	0%
		1–254	0% … 100%
		255	100%
8	Shutter 1	0–3	Light OFF: Closed
		4	Strobe: Slow
		5–102	Strobe: Slow … Fast
		103	Strobe: Fast
		104–107	Light ON: Open
		108	Pulsation: Slow (0.5–25 Hz)
		109–206	Pulsation: Slow … Fast
		207	Pulsation: Fast (0.5–25 Hz)
		208–212	Light ON: Open
		213–225	Random: Slow
		226–238	Medium
		239–251	Random: Fast
		252–255	Light ON: Open

CH	Function	DMX	Description
9	Dimmer 1	0–255	0% … 100%
		255	100%
10	Dimmer 1 Fine	0–255	Fine adjustment of CH 9
11	Control		Same as CH 10 in the mode “Standard” (p. 13)
12	Reset		Same as CH 11 in the mode “Standard” (p. 14)
13	Dummy	0–255	Reserved
14	Layer Selection	0–255	Reserved
15	Layer Crossfade	0–255	Reserved
16	Red 2	0	0%
		1–254	0% … 100%
		255	100%
17	Green 2	0	0%
		1–254	0% … 100%
		255	100%
18	Blue 2	0	0%
		1–254	0% … 100%
		255	100%
19	White 2	0	0%
		1–254	0% … 100%
		255	100%
20	CTO 2	0–9	CTO Deactivated
		10	8000K
		11–254	8000K … 2500K
		255	2500K
21	Shutter 2	0–3	Light OFF: Closed
		4	Strobe: Slow
		5–102	Strobe: Slow … Fast
		103	Strobe: Fast
		104–107	Light ON: Open
		108	Pulsation: Slow (0.5–25 Hz)
		109–206	Pulsation: Slow … Fast
		207	Pulsation: Fast (0.5–25 Hz)
		208–212	Light ON Slave: Open
		213–225	Random: Slow
		226–238	Medium
		239–251	Random: Fast
		252–255	Light ON Master: Open
22	Dimmer 2	0	0%
		1–254	0% … 100%
		255	100%
23	Shape Mode	0–5	Normal
		6–130	Static

CH	Function	DMX	Description
23	Shape Mode (continued)	131–255	Dynamic
24	Shape Selection		Shape Selection 1
		0–7	Effect 1
		8–15	Effect 2
		16–23	Effect 3
		24–31	Effect 4
		32–39	Effect 5
		40–47	Effect 6
		48–55	Effect 7
		56–63	Effect 8
		64–71	Effect 9
		72–79	Effect 10
		80–87	Effect 11
		88–95	Effect 12
		96–103	Effect 13
		104–111	Effect 14
		112–119	Effect 15
		120–127	Effect 16
		128–135	Effect 17
		136–143	Effect 18
		144–151	Effect 19
		152–159	Effect 20
		160–167	Effect 21
		168–175	Effect 22
		176–183	Effect 23
		184–191	Effect 24
		192–199	Effect 25
		200–207	Effect 26
		208–215	Effect 27
		216–223	Effect 28
		224–231	Effect 29
		232–239	Effect 30
		240–247	Effect 31
		248–255	Effect 32
25	Shape Speed		When CH 23 is 6–130:
		0–255	
			When CH 23 is 131–255:
		0–124	Forward Fast to Slow
		125–130	Stop
		131–255	Backward Slow to Fast
26	Shape Fade	0–5	Off
		6–130	Fade Control Fast to Slow

CH	Function	DMX	Description
26	Shape Fade (continued)	131–255	Wake Linearly Increase of Pixel Back to Front
27	Shape Transition	0	Instant transition
		1–254	Instant transition ... 3sec transition
		255	3sec transition
28	Shutter 3	0–3	Light OFF: Closed
		4	Strobe: Slow
		5–102	Strobe: Slow ... Fast
		103	Strobe: Fast
		104–107	Light ON: Open
		108	Pulsation: Slow (0.5–25 Hz)
		109–206	Pulsation: Slow ... Fast
		207	Pulsation: Fast (0.5–25 Hz)
		208–212	Light ON Slave: Open
		213–225	Random: Slow
		226–238	Medium
		239–251	Random: Fast
		252–255	Light ON Master: Open
29	Dimmer 3	0	0%
		1–254	0% ... 100%
		255	100%
30	Tilt 1	0–255	220°

CH 30–37: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 30); the table below gives each cell's channel numbers.

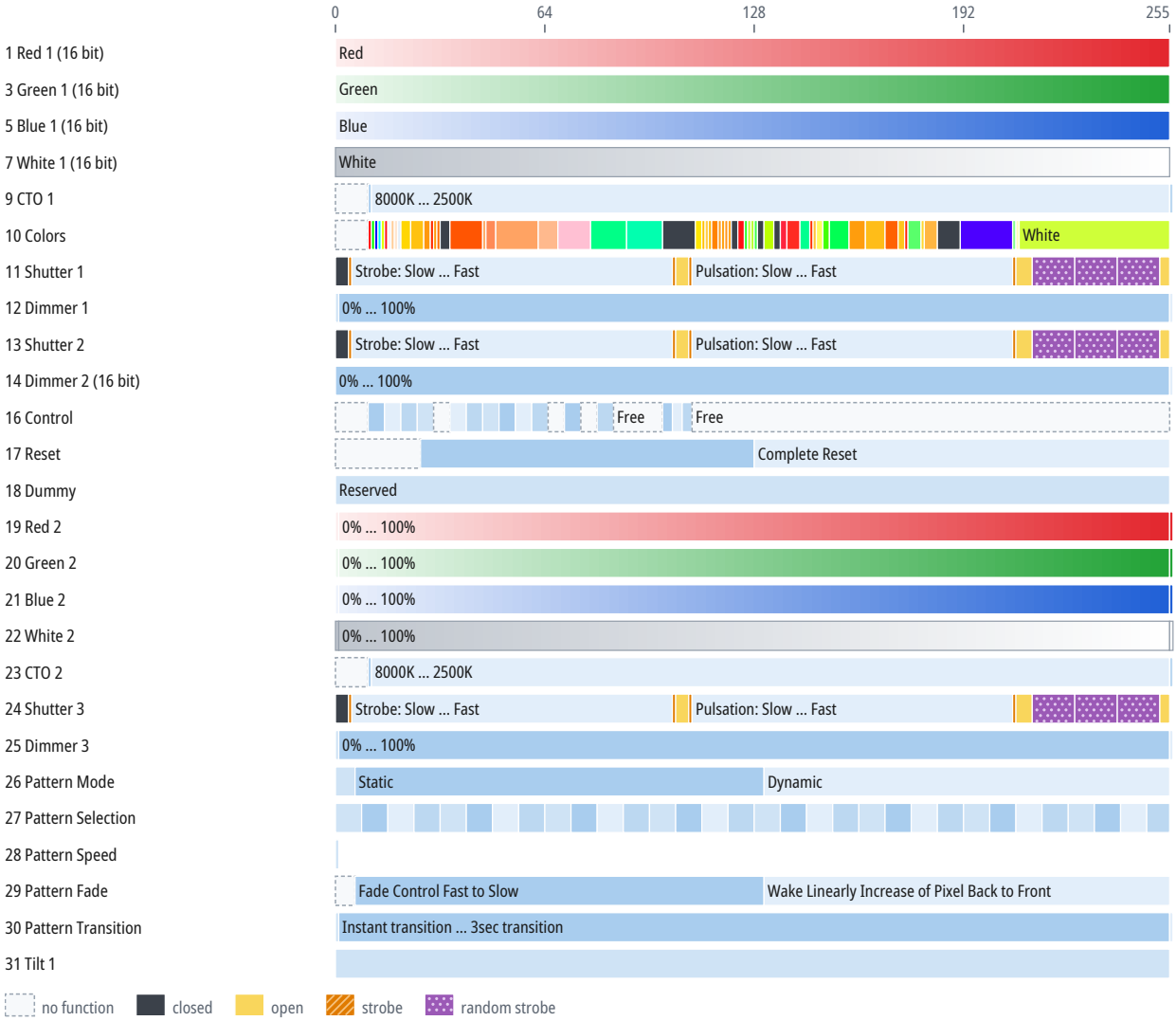
Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt
1	30	2	31	3	32	4	33	5	34	6	35
7	36	8	37								

Mode Shape

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 11 Shutter 1 at 104–107, 208–212 or 252–255 “Open”; CH 13 Shutter 2 at 104–107, 208–212 or 252–255 “Open”; CH 24 Shutter 3 at 104–107, 208–212 or 252–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 3 Green 1 255, CH 5 Blue 1 255, CH 7 White 1 255, CH 9 CTO 1 0, CH 10 Colors 0, CH 11 Shutter 1 105, CH 12 Dimmer 1 0, CH 13 Shutter 2 105, CH 14 Dimmer 2 255, CH 19 Red 2 255, CH 20 Green 2 255, CH 21 Blue 2 255, CH 22 White 2 255, CH 23 CTO 2 0, CH 24 Shutter 3 105, CH 25 Dimmer 3 0.

Channel functions at a glance



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

CH	Function	DMX	Description
7	White 1	0–255	White
8	White 1 Fine	0–255	Fine adjustment of CH 7
9	CTO 1		Same as CH 5 in the mode “Advanced” (p. 16)
10	Colors		Same as CH 6 in the mode “Standard” (p. 11)
11	Shutter 1		Same as CH 8 in the mode “Advanced” (p. 16)
12	Dimmer 1	0	0%
		1–254	0% … 100%
		255	100%
13	Shutter 2	0–3	Light OFF: Closed
		4	Strobe: Slow
		5–102	Strobe: Slow … Fast
		103	Strobe: Fast
		104–107	Light ON: Open
		108	Pulsation: Slow (0.5–25 Hz)
		109–206	Pulsation: Slow … Fast
		207	Pulsation: Fast (0.5–25 Hz)
		208–212	Light ON: Open
		213–225	Random: Slow
		226–238	Medium
		239–251	Random: Fast
		252–255	Light ON: Open
14	Dimmer 2	0–255	0% … 100%
		255	100%
15	Dimmer 2 Fine	0–255	Fine adjustment of CH 14
16	Control		Same as CH 10 in the mode “Standard” (p. 13)
17	Reset		Same as CH 11 in the mode “Standard” (p. 14)
18	Dummy	0–255	Reserved
19	Red 2		Same as CH 16 in the mode “Advanced” (p. 17)
20	Green 2		Same as CH 17 in the mode “Advanced” (p. 17)
21	Blue 2		Same as CH 18 in the mode “Advanced” (p. 17)
22	White 2		Same as CH 19 in the mode “Advanced” (p. 17)
23	CTO 2		Same as CH 20 in the mode “Advanced” (p. 17)
24	Shutter 3	0–3	Light OFF: Closed
		4	Strobe: Slow
		5–102	Strobe: Slow … Fast
		103	Strobe: Fast
		104–107	Light ON: Open
		108	Pulsation: Slow (0.5–25 Hz)
		109–206	Pulsation: Slow … Fast
		207	Pulsation: Fast (0.5–25 Hz)
		208–212	Light ON: Open
		213–225	Random: Slow

CH	Function	DMX	Description
24	Shutter 3 (continued)	226–238	Medium
		239–251	Random: Fast
		252–255	Light ON: Open
25	Dimmer 3		Same as CH 29 in the mode “Advanced” (p. 19)
26	Pattern Mode	0–5	Normal
		6–130	Static
		131–255	Dynamic
27	Pattern Selection	0–7	Effect 1
		8–15	Effect 2
		16–23	Effect 3
		24–31	Effect 4
		32–39	Effect 5
		40–47	Effect 6
		48–55	Effect 7
		56–63	Effect 8
		64–71	Effect 9
		72–79	Effect 10
		80–87	Effect 11
		88–95	Effect 12
		96–103	Effect 13
		104–111	Effect 14
		112–119	Effect 15
		120–127	Effect 16
		128–135	Effect 17
		136–143	Effect 18
		144–151	Effect 19
		152–159	Effect 20
		160–167	Effect 21
		168–175	Effect 22
		176–183	Effect 23
		184–191	Effect 24
		192–199	Effect 25
		200–207	Effect 26
		208–215	Effect 27
		216–223	Effect 28
		224–231	Effect 29
		232–239	Effect 30
		240–247	Effect 31
		248–255	Effect 32
28	Pattern Speed		When CH 26 is 6–130:
		0–255	
			When CH 26 is 131–255:

CH	Function	DMX	Description
28	Pattern Speed (continued)	0–124	Forward Fast to Slow
		125–130	Stop
		131–255	Backward Slow to Fast
29	Pattern Fade	0–5	Off
		6–130	Fade Control Fast to Slow
		131–255	Wake Linearly Increase of Pixel Back to Front
30	Pattern Transition	0	Instant transition
		1–254	Instant transition ... 3sec transition
		255	3sec transition
31	Tilt 1	0–255	220°

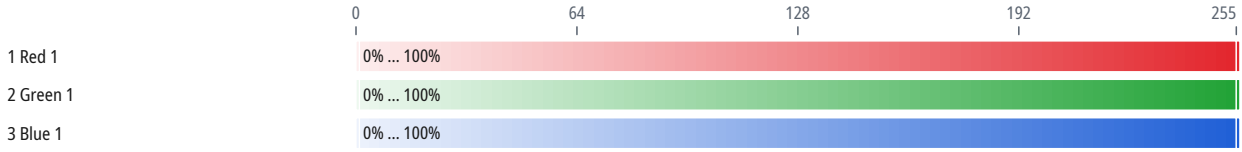
CH 31–38: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 31); the table below gives each cell's channel numbers.

Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt
1	31	2	32	3	33	4	34	5	35	6	36
7	37	8	38								

Mode RGB

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	0%
		1–254	0% ... 100%
		255	100%
2	Green 1	0	0%
		1–254	0% ... 100%
		255	100%
3	Blue 1	0	0%
		1–254	0% ... 100%
		255	100%

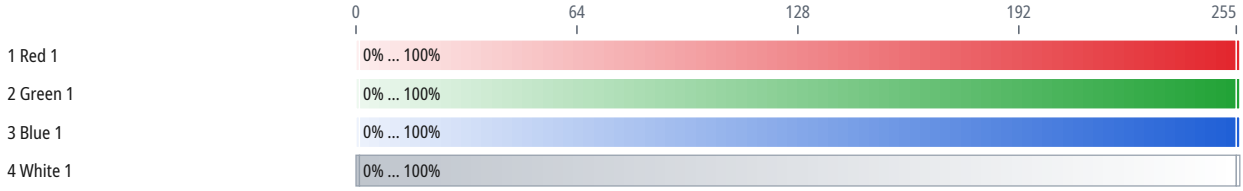
CH 1–24: 8 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

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 RGBW

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 4 White 255 (the same in each of the 8 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0	0%
		1–254	0% ... 100%
		255	100%
2	Green 1	0	0%
		1–254	0% ... 100%
		255	100%
3	Blue 1	0	0%
		1–254	0% ... 100%
		255	100%
4	White 1	0	0%
		1–254	0% ... 100%
		255	100%

CH 1–32: 8 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 1–4); the table below gives each cell's channel numbers.

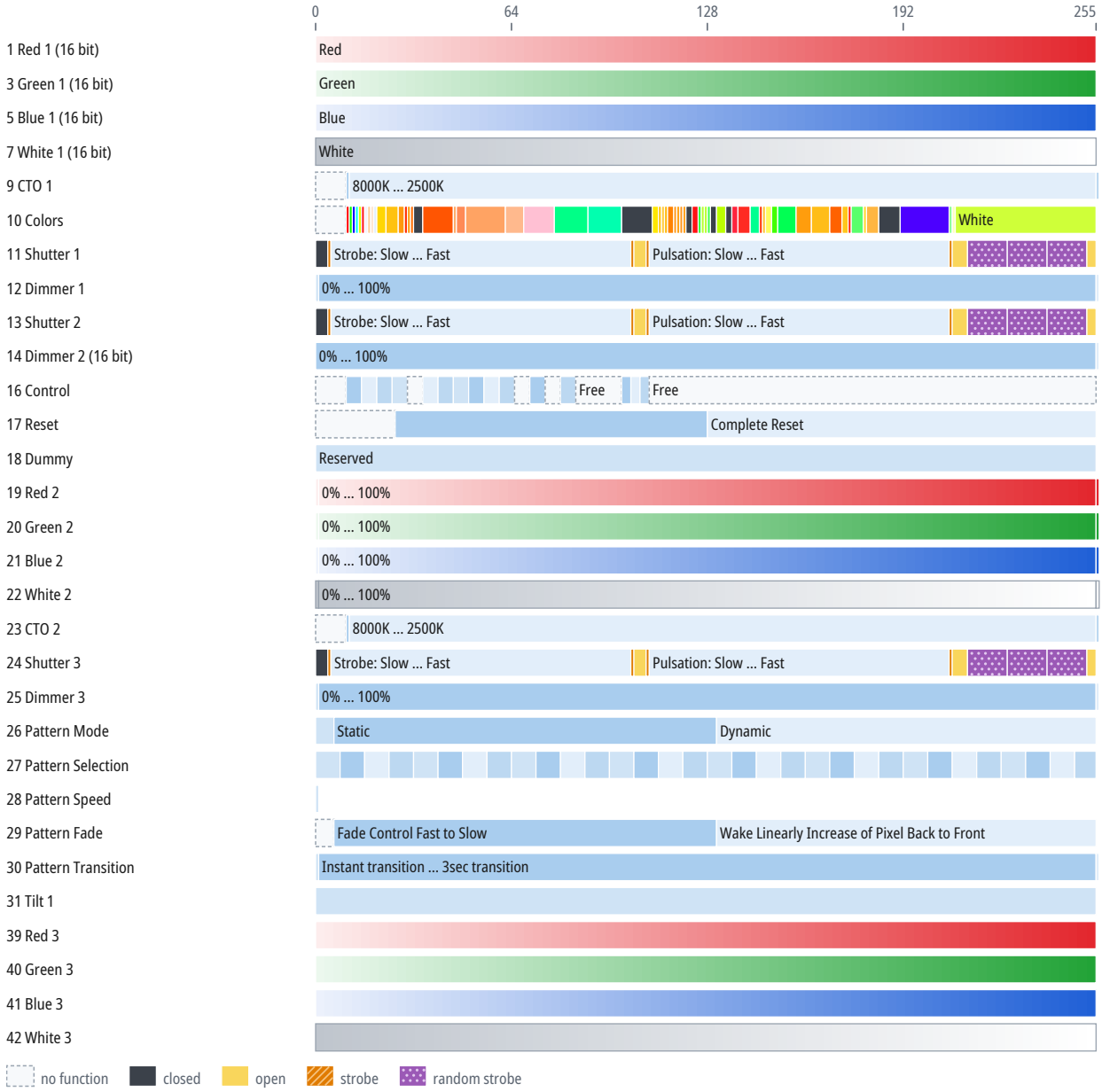
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	1	2	3	4	2	5	6	7	8
3	9	10	11	12	4	13	14	15	16
5	17	18	19	20	6	21	22	23	24
7	25	26	27	28	8	29	30	31	32

Mode Shape + Pixels RGBW

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 11 Shutter 1 at 104–107, 208–212 or 252–255 “Open”; CH 13 Shutter 2 at 104–107, 208–212 or 252–255 “Open”; CH 24 Shutter 3 at 104–107, 208–212 or 252–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 3 Green 1 255, CH 5 Blue 1 255, CH 7 White 1 255, CH 9 CTO 1 0, CH 10 Colors 0, CH 11 Shutter 1 105, CH 12 Dimmer 1 0, CH 13 Shutter 2 105, CH 14 Dimmer 2 255, CH 19 Red 2 255, CH 20 Green 2 255, CH 21 Blue 2 255, CH 22 White 2 255, CH 23 CTO 2 0, CH 24 Shutter 3 105, CH 25 Dimmer 3 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0–255	Red
2	Red 1 Fine	0–255	Fine adjustment of CH 1
3	Green 1	0–255	Green
4	Green 1 Fine	0–255	Fine adjustment of CH 3
5	Blue 1	0–255	Blue
6	Blue 1 Fine	0–255	Fine adjustment of CH 5
7	White 1	0–255	White
8	White 1 Fine	0–255	Fine adjustment of CH 7
9	CTO 1		Same as CH 5 in the mode “Advanced” (p. 16)
10	Colors		Same as CH 6 in the mode “Standard” (p. 11)
11	Shutter 1		Same as CH 8 in the mode “Advanced” (p. 16)
12	Dimmer 1		Same as CH 12 in the mode “Shape” (p. 21)
13	Shutter 2		Same as CH 13 in the mode “Shape” (p. 21)
14	Dimmer 2		Same as CH 14 in the mode “Shape” (p. 21)
15	Dimmer 2 Fine	0–255	Fine adjustment of CH 14
16	Control		Same as CH 10 in the mode “Standard” (p. 13)
17	Reset		Same as CH 11 in the mode “Standard” (p. 14)
18	Dummy	0–255	Reserved
19	Red 2		Same as CH 16 in the mode “Advanced” (p. 17)
20	Green 2		Same as CH 17 in the mode “Advanced” (p. 17)
21	Blue 2		Same as CH 18 in the mode “Advanced” (p. 17)
22	White 2		Same as CH 19 in the mode “Advanced” (p. 17)
23	CTO 2		Same as CH 20 in the mode “Advanced” (p. 17)
24	Shutter 3		Same as CH 24 in the mode “Shape” (p. 21)
25	Dimmer 3		Same as CH 29 in the mode “Advanced” (p. 19)
26	Pattern Mode		Same as CH 26 in the mode “Shape” (p. 22)
27	Pattern Selection		Same as CH 27 in the mode “Shape” (p. 22)
28	Pattern Speed		Same as CH 28 in the mode “Shape” (p. 22)
29	Pattern Fade		Same as CH 29 in the mode “Shape” (p. 23)
30	Pattern Transition		Same as CH 30 in the mode “Shape” (p. 23)
31	Tilt 1	0–255	220°
39	Red 3	0–255	
40	Green 3	0–255	
41	Blue 3	0–255	
42	White 3	0–255	

CH 31–38: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 31); the table below gives each cell's channel numbers.

Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt	Cell	Tilt
1	31	2	32	3	33	4	34	5	35	6	36
7	37	8	38								

CH 39–70: 8 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 39–42); the table

below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	39	40	41	42	2	43	44	45	46
3	47	48	49	50	4	51	52	53	54
5	55	56	57	58	6	59	60	61	62
7	63	64	65	66	8	67	68	69	70

10 Technical specifications

Parameter	Value
Light source	LED
Tilt	220°
RDM	yes (manufacturer ID 0x4350, device model ID 0x0470)
Weight	20.8 kg
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2500–8000 K
Strobe frequency	1–25 Hz

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.

Problem	Remedy
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.