DMX REFERENCE

HAVOCW19X40

Event Lighting



Manufacturer	Event Lighting
GDTF file	Event_Lighting_HAVOCW19X40_102062.gdtf
GDTF revision	0001 · 2025-06-29
Generated	2026-11-24

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1 About this manual

This document describes the HAVOCW19X40 by Event Lighting. It was compiled from the GDTF file Event_Lighting_HAVOCW19X40_102062.gdtf from the GDTF-Share library.

File revision: “0001”.

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 Event Lighting; 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	15 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic_19ch	19	26	1, 20, 39, 58, ...
Basic+Section_19ch+12ch	31	16	1, 32, 63, 94, ...
Basic+Pixel_23ch+76ch	95	5	1, 96, 191, 286, ...
Standard_26ch	26	19	1, 27, 53, 79, ...
Standard+Section_26ch+12ch	38	13	1, 39, 77, 115, ...
Standard+Pixel_26ch+76ch	102	5	1, 103, 205, 307, ...
Extended_38ch	38	13	1, 39, 77, 115, ...
Extended+Section_38ch+12Ch	50	10	1, 51, 101, 151, ...
Extended+Pixel_38ch+76Ch	114	4	1, 115, 229, 343
Basic2_23ch	23	22	1, 24, 47, 70, ...
Basic2+Section_23ch+12ch	35	14	1, 36, 71, 106, ...
Basic2+Pixel_23ch+76ch	99	5	1, 100, 199, 298, ...



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.

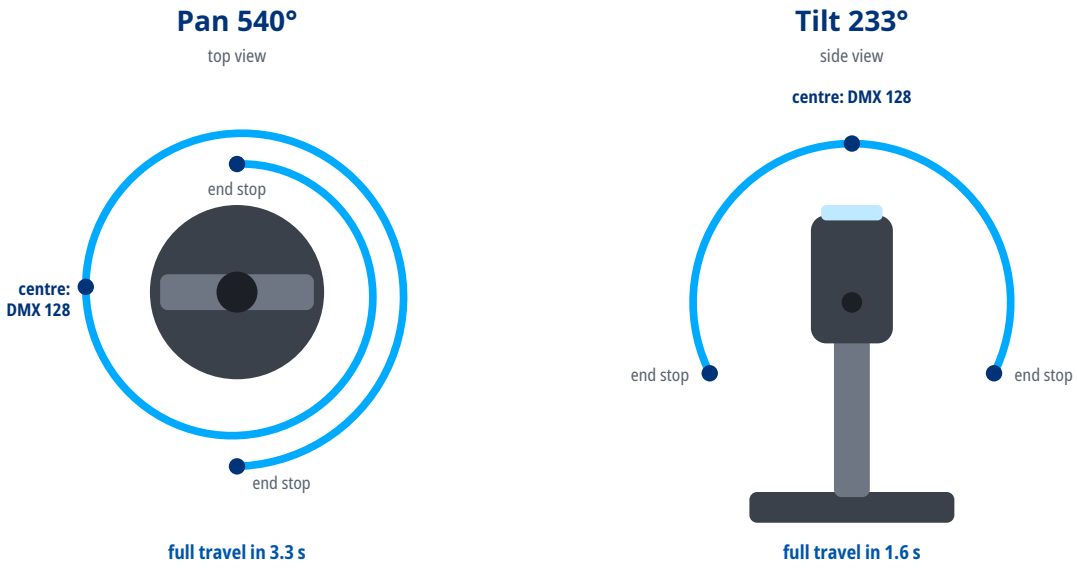
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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

Description in the GDTF file

“The Event Lighting HAVOCW19X40 is a powerhouse Zoom Wash Moving Head designed to transform any event or production. Boasting 19 x OSRAM 40W 4-in-1 LEDs, it delivers a stunning spectrum of colours and precise illumination. With a versatile beam angle ranging from 6° to 50°, you can effortlessly tailor the coverage to suit any venue or stage.”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

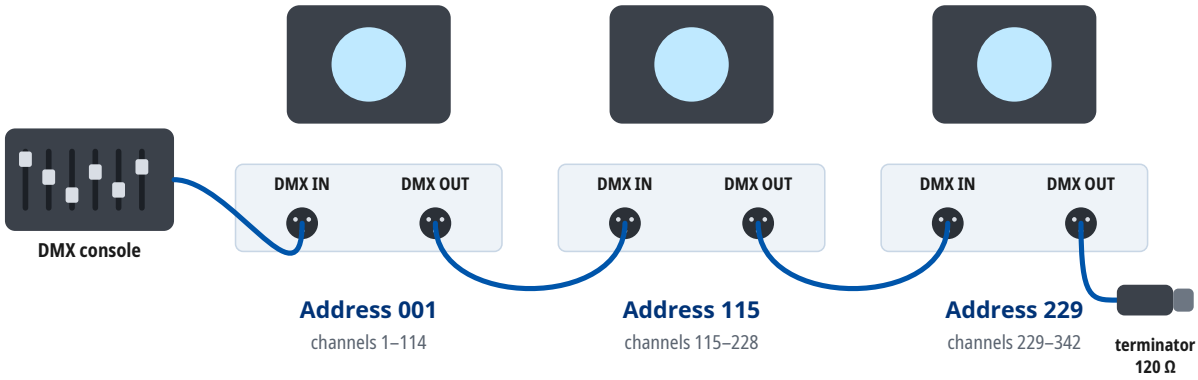
⚠ **WARNING**

- 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: 15 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 Extended+Pixel_38ch+76Ch: every unit occupies 114 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 “Extended+Pixel_38ch+76Ch”: 114.
- 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 “Extended+Pixel_38ch+76Ch”, you can use, for example, the start addresses 1, 115, 229, 343.
- 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.

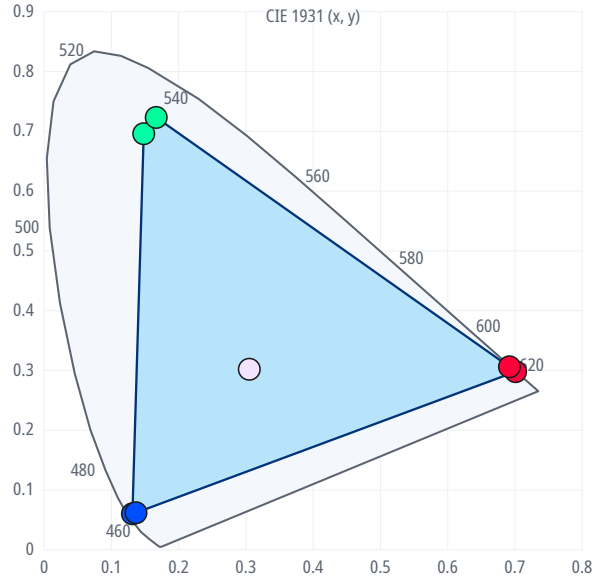
8 Functions at a glance

Functions in each DMX mode

	Basic_19ch 19 channels	Basic+Section_19ch+12ch 31 channels	Basic+Pixel_23ch+76ch 95 channels	Standard_26ch 26 channels	Standard+Section_26ch+12ch 38 channels	Standard+Pixel_26ch+76ch 102 channels	Extended_38ch 38 channels	Extended+Section_38ch+12Ch 50 channels
Pan / Tilt	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3
Dimmer	6	6	6	6	6	6	6, 31, 33	6, 31, 33
Shutter / strobe	8	8	8	8	8	8	8, 32, 34	8, 32, 34
Color mixing	9–12	1–12	1–76	4× (9–15)	1–13, 15	1–76	8 channels (9–38)	1–13, 15, 35–38
Color temperature	14	14	14	18	18	18	18 *	18 *
Zoom	15	15	15	19	19	19	19	19
Effects / macros	13	13	13	17	17	17	17, 27–30	17, 27–30
Pixel control		✓			✓		✓	✓

* The function works only when another channel switches it on; see the DMX table.

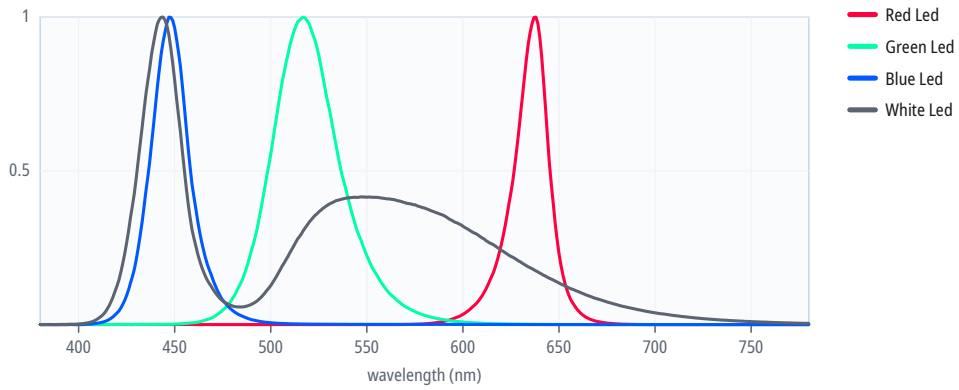
LED colors and the colors they mix



LED	x	y
Red Led	0.701	0.298
Green Led	0.148	0.696
Blue Led	0.131	0.060
White Led	0.305	0.302
Red Ring	0.692	0.306
Green Ring	0.167	0.723
Blue Ring	0.137	0.062

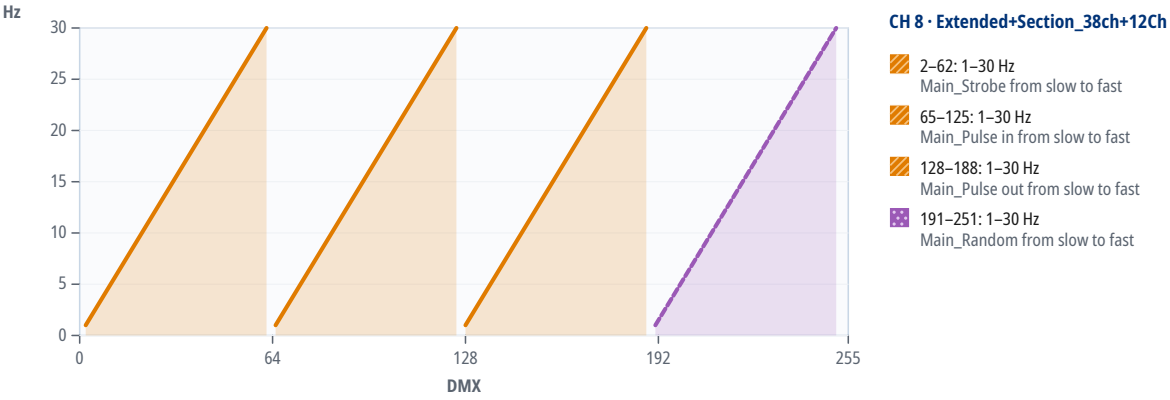
The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

Spectra of the light sources

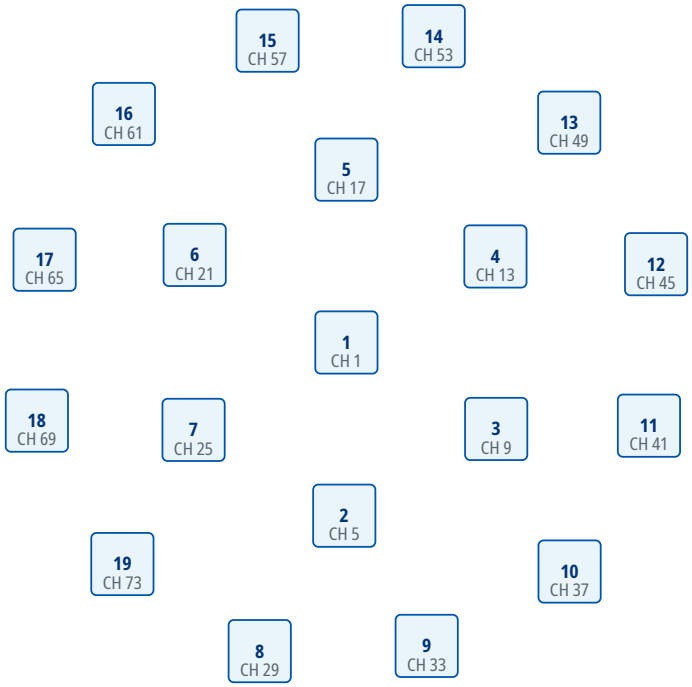


Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



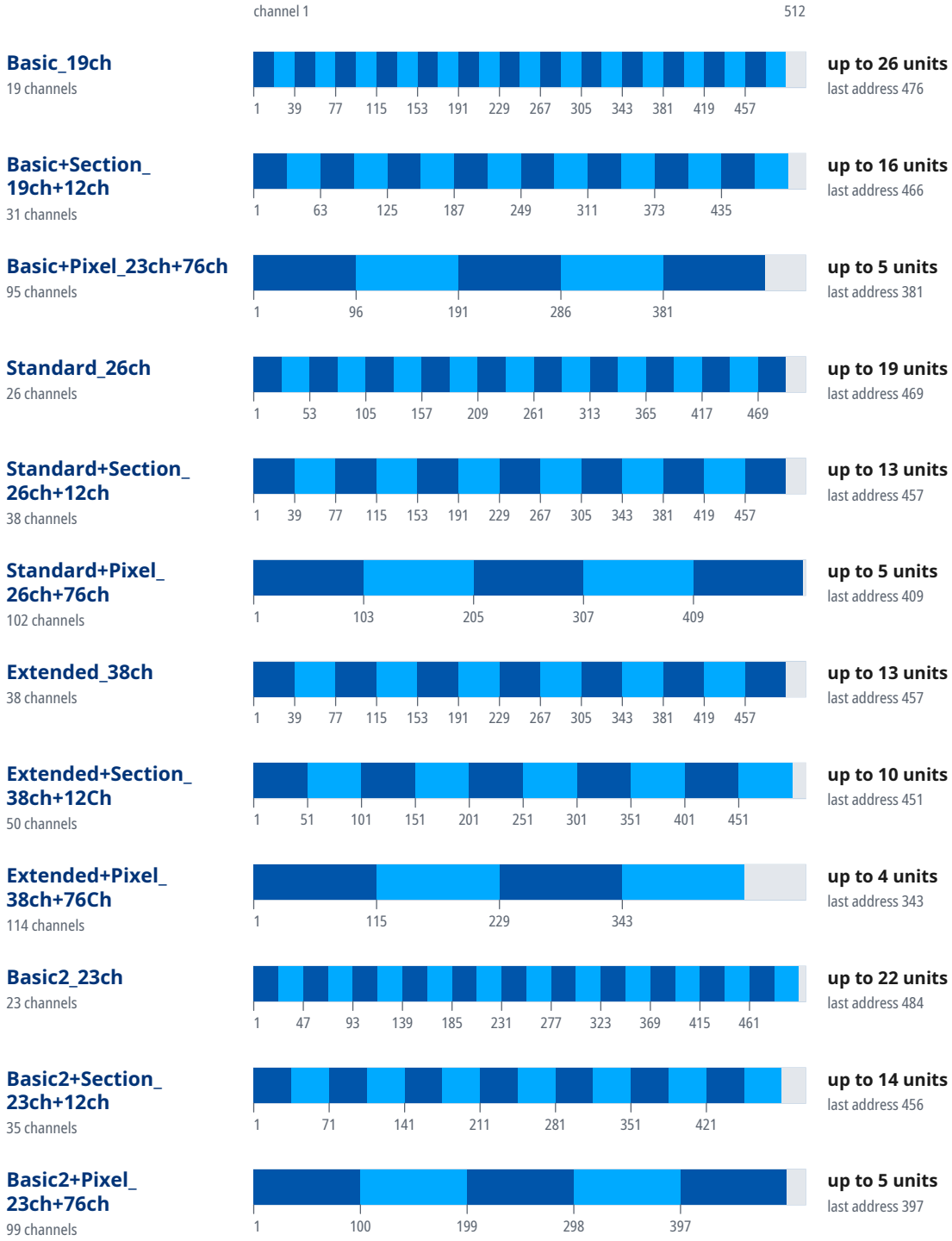
Cells (pixels)



19 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “Extended+Section_38ch+12Ch”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended+Pixel_38ch+76Ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 115	11	U3 · 229	16	U4 · 343
2	115	7	U2 · 229	12	U3 · 343	17	U5 · 1
3	229	8	U2 · 343	13	U4 · 1	18	U5 · 115
4	343	9	U3 · 1	14	U4 · 115	19	U5 · 229
5	U2 · 1	10	U3 · 115	15	U4 · 229	20	U5 · 343

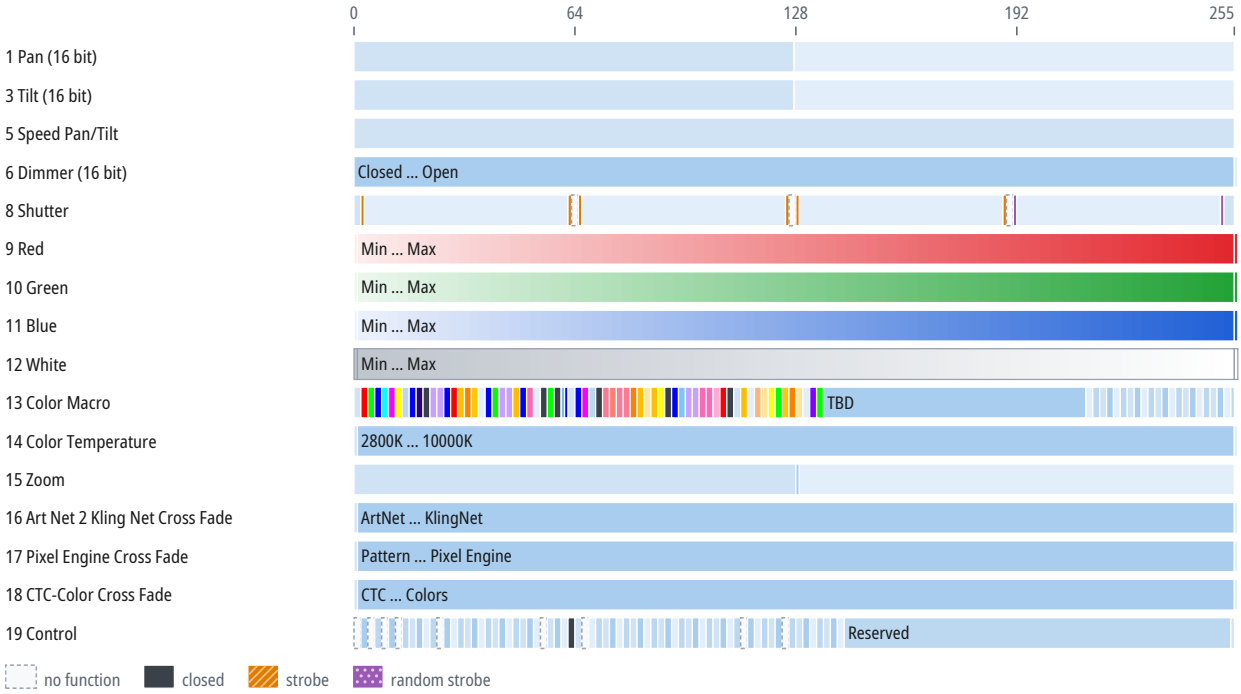
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Basic_19ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 255, CH 10 Green 255, CH 11 Blue 255, CH 12 White 255, CH 13 Color Macro 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Center
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt 1
		128	Center
		128–255	Tilt 1

CH	Function	DMX	Description
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer	0–255	Closed … Open
		255	Open
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter	0–1	Main_Shutter_Close
		2	Main_Strobe_Slow
		3–61	Main_Strobe_Slow … Main_Strobe_Fast
		62	Main_Strobe_Fast
		63–64	Main_Open_nofeature: Main_Shutter_Open
		65	Main_StrobePulseIN_Slow
		66–124	Main_StrobePulseIN_Slow … Main_StrobePulseIN_Fast
		125	Main_StrobePulseIN_Fast
		126–127	Main_Open_nofeature: Main_Shutter_Open
		128	Main_StrobePulseOUT_Slow
		129–187	Main_StrobePulseOUT_Slow … Main_StrobePulseOUT_Fast
		188	Main_StrobePulseOUT_Fast
		189–190	Main__nofeature: Main_Shutter_Open
		191	Main_RandomStrobe_Slow
		192–250	Main_RandomStrobe_Slow … Main_RandomStrobe_Fast
		251	Main_RandomStrobe_Fast
		252–255	Main_Open: Main_Shutter_Open
9	Red	0	Min
		1–254	Min … Max
		255	Max
10	Green	0	Min
		1–254	Min … Max
		255	Max
11	Blue	0	Min
		1–254	Min … Max
		255	Max
12	White	0	Min
		1–254	Min … Max
		255	Max
13	Color Macro	0–1	Open
		2–3	Red
		4–5	Green
		6–7	Blue
		8–9	Cyan
		10–11	Magenta
		12–13	Yellow

CH	Function	DMX	Description
13	Color Macro (continued)	14–15	Dirty White
		16–17	Alice Blue
		18–19	Congo Blue
		20–21	Dark Steel Blue
		22–23	Deep Lavender
		24–25	Lilac Ting
		26–27	Daylight Blue
		28–29	Flame Red
		30–31	Bastard Amber
		32–33	Deep Orange
		34–35	Pale Gold
		36–37	Apricot
		38–39	Bright Blue
		40–41	Primary Green
		42–43	Special Lavender
		44–45	Pale Lavender
		46–47	Deep Golden Amber
		48–49	Medium Blue
		50–51	Bright Pink
		52–53	Mauve
		54–55	Dark Green
		56–57	Lee Green
		58–59	Dark Blue
		60	Light Blue
		61	Steel Blue
		62–63	Medium Blue-Green
		64–65	Peacock Blue
		66–67	Magenta
		68–69	Magenta ... Dark Pink
		70–71	Dark Pink
		72–73	Middle Rose
		74–75	Light Salmon
		76–77	English Rose
		78–79	Light Rose
		80–81	Orange
		82–83	Deep Amber
		84–85	Straw
		86–87	Light Amber
		88–89	Spring Yellow
		90–91	Dark Yellow Green
		92–93	Just Blue

CH	Function	DMX	Description
13	Color Macro (continued)	94–95	Sky Blue
		96–97	Lavender
		98–99	Light Lavender
		100–101	Pink Carnation
		102–103	Medium Pink
		104–105	Light Pink
		106–107	Sunset Red
		108–109	Dark Amber
		110–111	Gold Amber
		112–113	Medium Amber
		114–115	Fire
		116–117	Surprise Peach
		118–119	Straw Tint
		120–121	Medium Yellow
		122–123	Lee Minus Green
		124–125	Pale Gold
		126–127	Orange
		128–129	Deep Straw
		130–131	Rose Purple
		132–133	Deep Purple
		134–135	Soft Green
		136–211	TBD
		212–213	2800K
		214–215	3000K
		216–217	3200K
		218–219	3400K
		220–221	3600K
		222–223	3800K
		224–225	4000K
		226–227	4200K
		228–229	4400K
		230–231	4600K
		232–233	4800K
		234–235	5000K
		236–237	5200K
		238–239	5400K
		240–241	5600K
		242–243	6000K
		244–245	6500K
		246–247	7000K
		248–249	8000K

CH	Function	DMX	Description
13	Color Macro (continued)	250–251	9000K
		252–253	10000K
		254–255	Full ON
14	Color Temperature	0	2800K
		1–254	2800K ... 10000K
		255	10000K
15	Zoom	0–127	Zoom 1
		128	Center
		129–255	Zoom 1
16	Art Net 2 Kling Net Cross Fade	0	ArtNet
		1–254	ArtNet ... KlingNet
		255	KlingNet
17	Pixel Engine Cross Fade	0	Pattern
		1–254	Pattern ... Pixel Engine
		255	Pixel Engine
18	CTC-Color Cross Fade		CTC-Colors Cross Fade 1
		0	CTC
		1–254	CTC ... Colors
		255	Colors
19	Control	0–1	No function
		2–3	Kling Net Control: ON
		4–5	Kling Net Control: OFF
		6–7	Pan Reverse: ON
		8–9	Pan Reverse: OFF
		10–11	Tilt Reverse: ON
		12–13	Tilt Reverse: OFF
		14–15	Position MSpeed: Fast
		16–17	Medium
		18–19	Position MSpeed: Slow
		20–21	Sync
		22–23	Mov In Blackout: ON
		24–25	Mov In Blackout: OFF
		26–27	Home Position: Standard
		28–29	Custom
		30–31	DISPLAY ON
		32–33	DISPLAY 10S
		34–35	DISPLAY 20S
		36–37	DISPLAY 30S
		38–39	FLIP DISPLAY ON
		40–41	FLIP DISPLAY OFF
		42–43	FLIP DISPLAY AUTO
		44–45	KEY LOCK ON

CH	Function	DMX	Description
19	Control (continued)	46–47	KEY LOCK OFF
		48–49	Auto
		50–51	Silent
		52–53	Fan Mode: High
		54–55	Calibration Control: OFF
		56–57	Studio
		58–59	8000k
		60–61	NO SIGNAL HOLD
		62–63	NO SIGNAL BlackOut
		64–65	Led Status: ON
		66–67	Led Status: OFF
		68–69	LINEAR
		70–71	S-CURVE
		72–73	SQUARE LAW
		74–75	INVERSE SQUARE LAW
		76–77	AUTO
		78–79	Dimmer Speed: FAST
		80–81	MEDIUM
		82–83	Dimmer Speed: SLOW
		84–85	600Hz
		86–87	1200Hz
		88–89	2000Hz
		90–91	4000Hz
		92–93	6000Hz
		94–95	25Khz
		96–97	50Khz
		98–99	InvertMapping ON
		100–101	InvertMapping OFF
		102–103	Zoom Mode: Standard
		104–105	Pixels
		106–107	Invert OFF
		108–109	Invert ON
		110–111	Tungsten Emulation: ON
		112–113	Tungsten Emulation: OFF
		114–115	Reset All
		116–117	Pan Reset
		118–119	Tilt Reset
		120–121	Position Reset
		122–123	Zoom Reset
		124–125	TBD
		126–127	Ethernet to Dmx OFF
		128–129	Ethernet to DMX ON (Main Fixture to DMX)

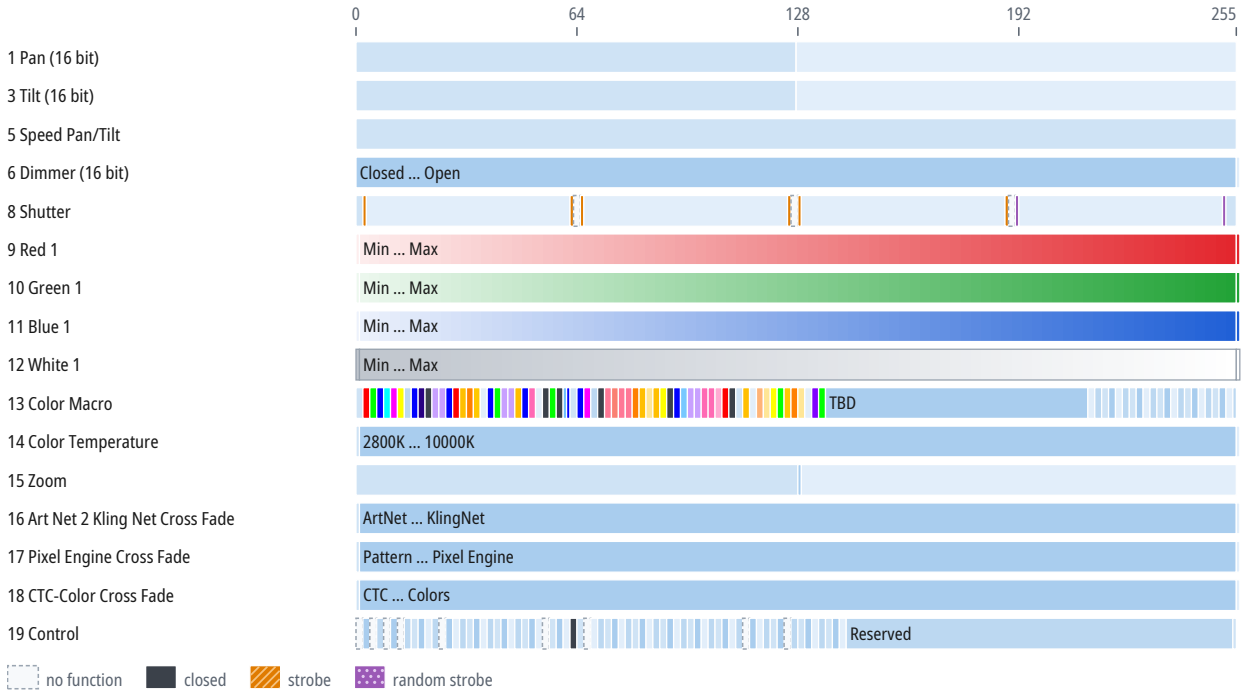
CH	Function	DMX	Description
19	Control (continued)	130–131	Ethernet to DMX ON (Pixel Engine to DMX)
		132–133	WDMX to DMX OFF
		134–135	WDMX to DMX ON
		136–137	Input to WDMX OFF
		138–139	Input to WDMX ON (Main Fixture to WDMX)
		140–141	Input to WDMX ON (Pixel Engine to WDMX)
		142–253	Reserved
		254–255	FactoryDefault of ControlsFunction

Mode Basic+Section_19ch+12ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 1 255, CH 10 Green 1 255, CH 11 Blue 1 255, CH 12 White 1 255, CH 13 Color Macro 0, CH 20 Red 2 255, CH 21 Green 2 255, CH 22 Blue 2 255, CH 23 White 2 255, CH 24 Red 3 255, CH 25 Green 3 255, CH 26 Blue 3 255, CH 27 White 3 255, CH 28 Red 4 255, CH 29 Green 4 255, CH 30 Blue 4 255, CH 31 White 4 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)

CH	Function	DMX	Description
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red 1	0	Min
		1–254	Min … Max
		255	Max
10	Green 1	0	Min
		1–254	Min … Max
		255	Max
11	Blue 1	0	Min
		1–254	Min … Max
		255	Max
12	White 1	0	Min
		1–254	Min … Max
		255	Max
13	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
14	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)
15	Zoom		Same as CH 15 in the mode “Basic_19ch” (p. 15)
16	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
17	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
18	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
19	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
20	Red 2	0	Min
		1–254	Min … Max
		255	Max
21	Green 2	0	Min
		1–254	Min … Max
		255	Max
22	Blue 2	0	Min
		1–254	Min … Max
		255	Max
23	White 2	0	Min
		1–254	Min … Max
		255	Max
24	Red 3	0	Min
		1–254	Min … Max
		255	Max
25	Green 3	0	Min
		1–254	Min … Max
		255	Max
26	Blue 3	0	Min
		1–254	Min … Max
		255	Max

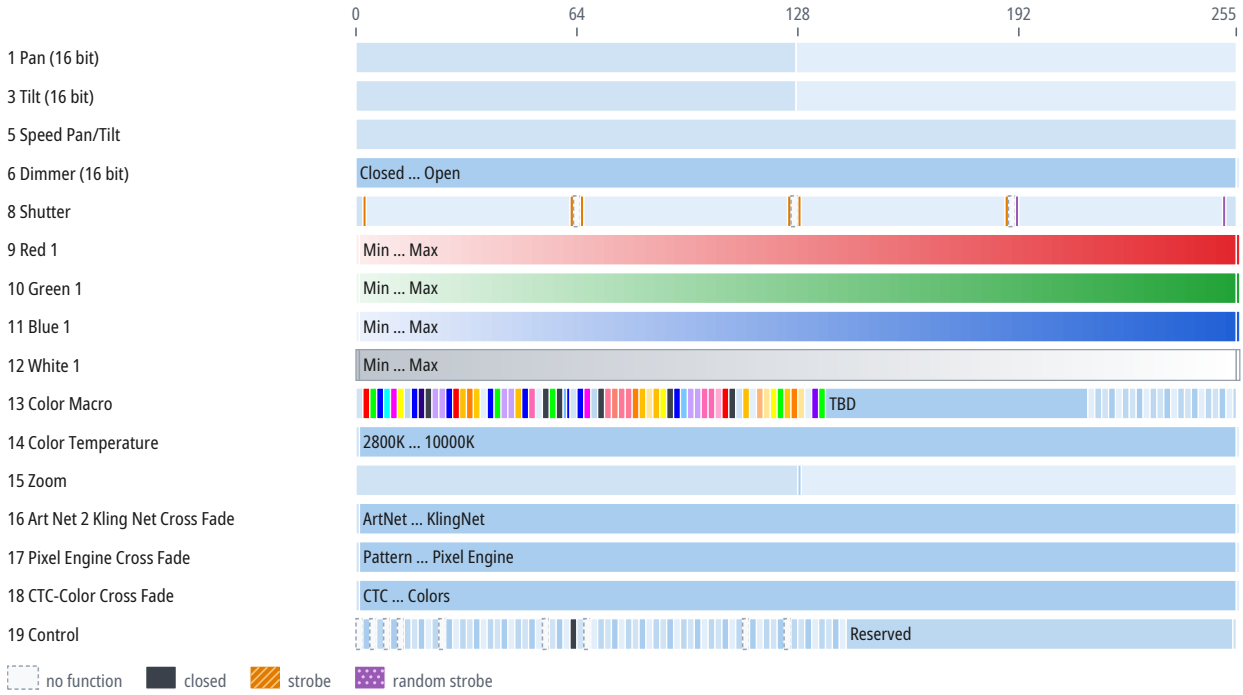
CH	Function	DMX	Description
27	White 3	0	Min
		1–254	Min … Max
		255	Max
28	Red 4	0	Min
		1–254	Min … Max
		255	Max
29	Green 4	0	Min
		1–254	Min … Max
		255	Max
30	Blue 4	0	Min
		1–254	Min … Max
		255	Max
31	White 4	0	Min
		1–254	Min … Max
		255	Max

Mode Basic+Pixel_23ch+76ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 1 255, CH 10 Green 1 255, CH 11 Blue 1 255, CH 12 White 1 255, CH 20 Red 255 (the same in each of the 19 cells), CH 21 Green 255 (the same in each of the 19 cells), CH 22 Blue 255 (the same in each of the 19 cells), CH 23 White 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red 1		Same as CH 9 in the mode “Basic+Section_19ch+12ch” (p. 18)
10	Green 1		Same as CH 10 in the mode “Basic+Section_19ch+12ch” (p. 18)
11	Blue 1		Same as CH 11 in the mode “Basic+Section_19ch+12ch” (p. 18)
12	White 1		Same as CH 12 in the mode “Basic+Section_19ch+12ch” (p. 18)
13	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
14	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)

CH	Function	DMX	Description
15	Zoom		Same as CH 15 in the mode “Basic_19ch” (p. 15)
16	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
17	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
18	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
19	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
20	Red 2	0	Min
		1–254	Min ... Max
		255	Max
21	Green 2	0	Min
		1–254	Min ... Max
		255	Max
22	Blue 2	0	Min
		1–254	Min ... Max
		255	Max
23	White 2	0	Min
		1–254	Min ... Max
		255	Max

CH 20–95: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 20–23); the table below gives each cell's channel numbers.

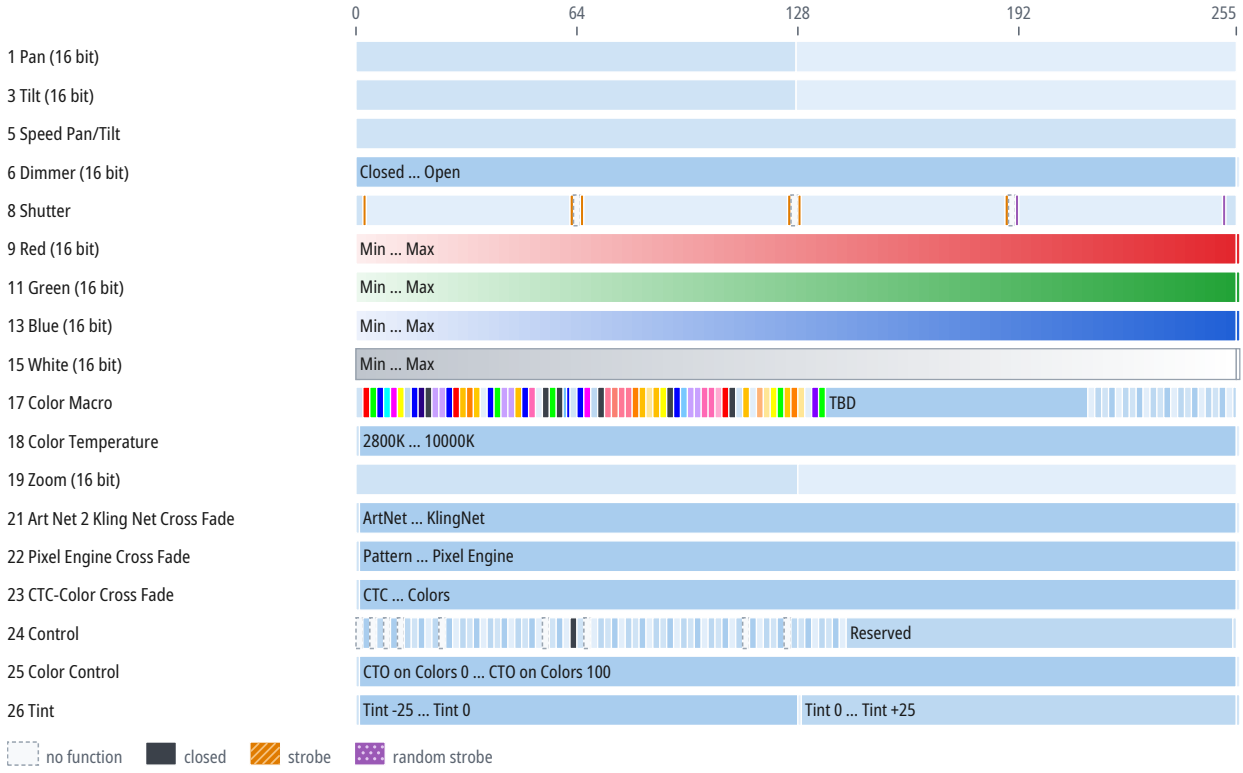
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	20	21	22	23	2	24	25	26	27
3	28	29	30	31	4	32	33	34	35
5	36	37	38	39	6	40	41	42	43
7	44	45	46	47	8	48	49	50	51
9	52	53	54	55	10	56	57	58	59
11	60	61	62	63	12	64	65	66	67
13	68	69	70	71	14	72	73	74	75
15	76	77	78	79	16	80	81	82	83
17	84	85	86	87	18	88	89	90	91
19	92	93	94	95					

Mode Standard_26ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 255, CH 11 Green 255, CH 13 Blue 255, CH 15 White 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red	0–255	Min ... Max
		255	Max
10	Red Fine	0–255	Fine adjustment of CH 9
11	Green	0–255	Min ... Max
		255	Max
12	Green Fine	0–255	Fine adjustment of CH 11
13	Blue	0–255	Min ... Max
		255	Max

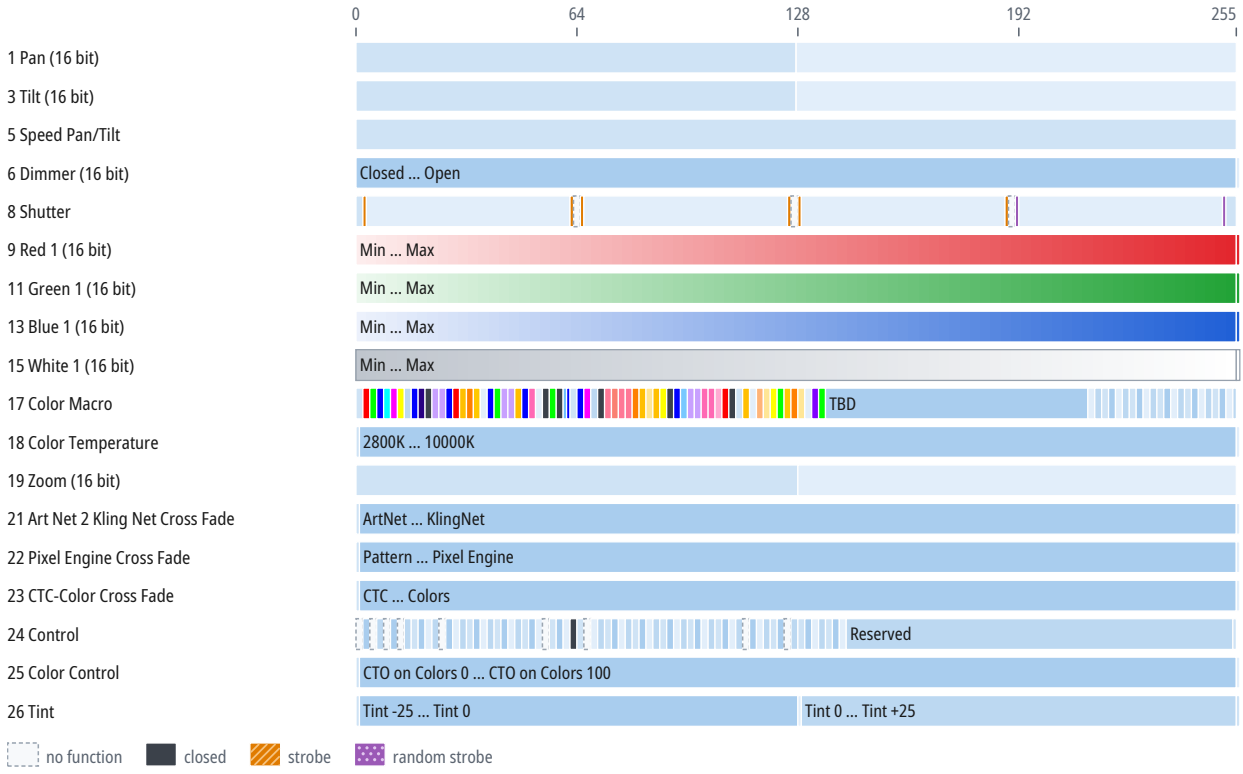
CH	Function	DMX	Description
14	Blue Fine	0–255	Fine adjustment of CH 13
15	White	0–255	Min ... Max
		255	Max
16	White Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)
19	Zoom	0–128	Zoom 1
		128	Center
		128–255	Zoom 1
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
22	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
23	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
24	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
25	Color Control		CTO On Colors
		0	CTO on Colors 0
		1–254	CTO on Colors 0 ... CTO on Colors 100
		255	CTO on Colors 100
26	Tint	0	Tint -25
		1–127	Tint -25 ... Tint 0
		128	Tint 0
		129–254	Tint 0 ... Tint +25
		255	Tint +25

Mode Standard+Section_26ch+12ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 1 255, CH 11 Green 1 255, CH 13 Blue 1 255, CH 15 White 1 255, CH 27 Red 2 255, CH 28 Green 2 255, CH 29 Blue 2 255, CH 30 White 2 255, CH 31 Red 3 255, CH 32 Green 3 255, CH 33 Blue 3 255, CH 34 White 3 255, CH 35 Red 4 255, CH 36 Green 4 255, CH 37 Blue 4 255, CH 38 White 4 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red 1	0–255	Min ... Max
		255	Max
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1	0–255	Min ... Max
		255	Max
12	Green 1 Fine	0–255	Fine adjustment of CH 11

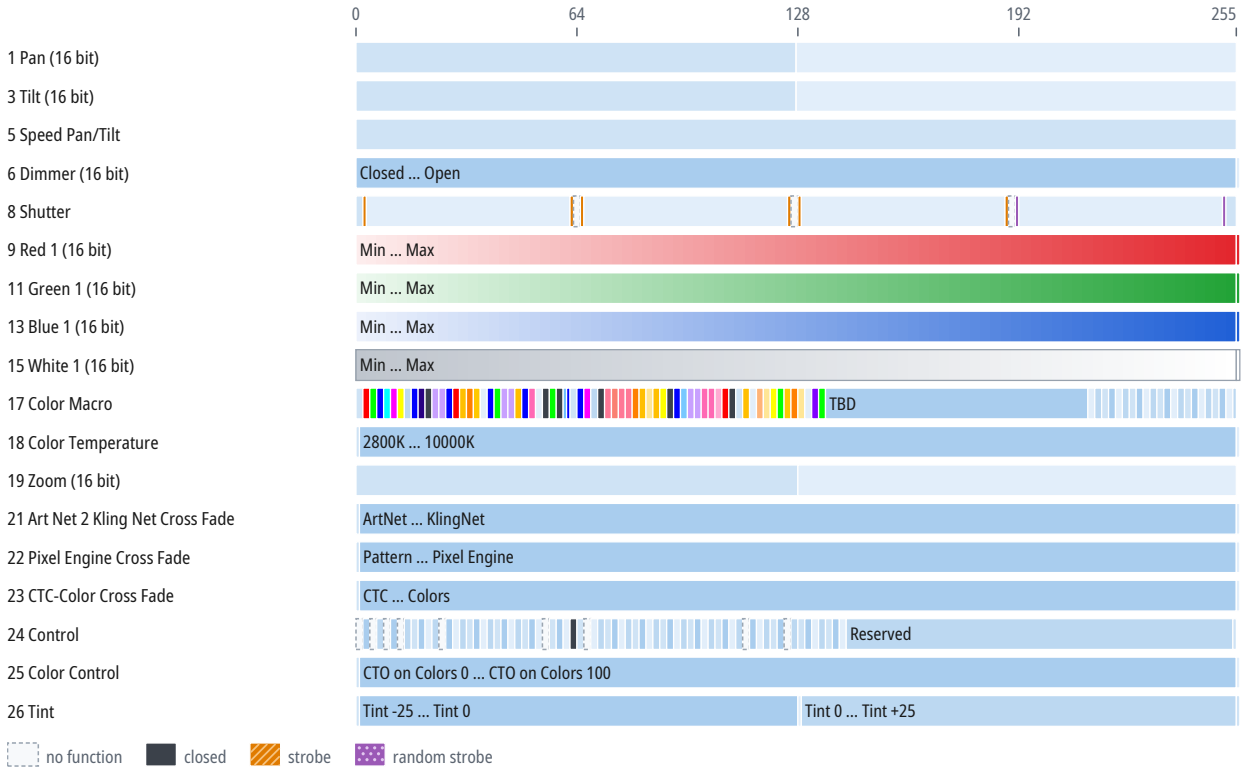
CH	Function	DMX	Description
13	Blue 1	0–255	Min ... Max
		255	Max
14	Blue 1 Fine	0–255	Fine adjustment of CH 13
15	White 1	0–255	Min ... Max
		255	Max
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
22	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
23	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
24	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
25	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
26	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)
27	Red 2		Same as CH 20 in the mode “Basic+Section_19ch+12ch” (p. 18)
28	Green 2		Same as CH 21 in the mode “Basic+Section_19ch+12ch” (p. 18)
29	Blue 2		Same as CH 22 in the mode “Basic+Section_19ch+12ch” (p. 18)
30	White 2		Same as CH 23 in the mode “Basic+Section_19ch+12ch” (p. 18)
31	Red 3		Same as CH 24 in the mode “Basic+Section_19ch+12ch” (p. 18)
32	Green 3		Same as CH 25 in the mode “Basic+Section_19ch+12ch” (p. 18)
33	Blue 3		Same as CH 26 in the mode “Basic+Section_19ch+12ch” (p. 18)
34	White 3		Same as CH 27 in the mode “Basic+Section_19ch+12ch” (p. 19)
35	Red 4		Same as CH 28 in the mode “Basic+Section_19ch+12ch” (p. 19)
36	Green 4		Same as CH 29 in the mode “Basic+Section_19ch+12ch” (p. 19)
37	Blue 4		Same as CH 30 in the mode “Basic+Section_19ch+12ch” (p. 19)
38	White 4		Same as CH 31 in the mode “Basic+Section_19ch+12ch” (p. 19)

Mode Standard+Pixel_26ch+76ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 1 255, CH 11 Green 1 255, CH 13 Blue 1 255, CH 15 White 1 255, CH 27 Red 255 (the same in each of the 19 cells), CH 28 Green 255 (the same in each of the 19 cells), CH 29 Blue 255 (the same in each of the 19 cells), CH 30 White 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red 1		Same as CH 9 in the mode “Standard+Section_26ch+12ch” (p. 24)
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1		Same as CH 11 in the mode “Standard+Section_26ch+12ch” (p. 24)
12	Green 1 Fine	0–255	Fine adjustment of CH 11

CH	Function	DMX	Description
13	Blue 1		Same as CH 13 in the mode “Standard+Section_26ch+12ch” (p. 25)
14	Blue 1 Fine	0–255	Fine adjustment of CH 13
15	White 1		Same as CH 15 in the mode “Standard+Section_26ch+12ch” (p. 25)
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
22	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
23	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
24	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
25	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
26	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)
27	Red 2	0	Min
		1–254	Min ... Max
		255	Max
28	Green 2	0	Min
		1–254	Min ... Max
		255	Max
29	Blue 2	0	Min
		1–254	Min ... Max
		255	Max
30	White 2	0	Min
		1–254	Min ... Max
		255	Max

CH 27–102: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 27–30); the table below gives each cell's channel numbers.

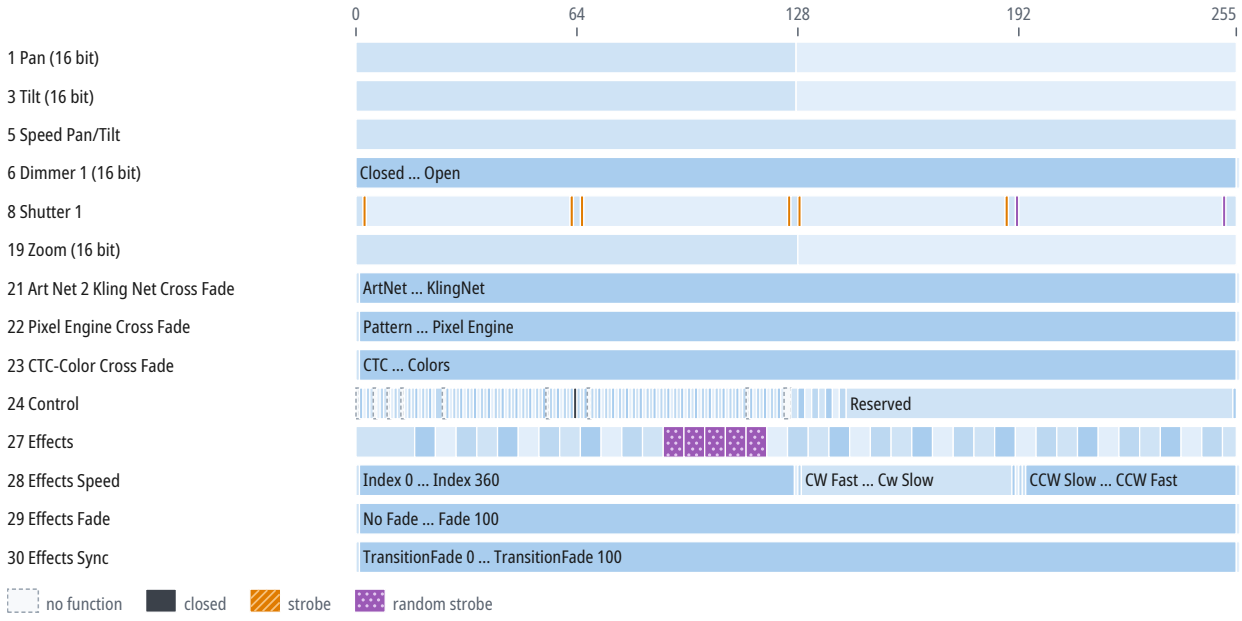
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	27	28	29	30	2	31	32	33	34
3	35	36	37	38	4	39	40	41	42
5	43	44	45	46	6	47	48	49	50
7	51	52	53	54	8	55	56	57	58
9	59	60	61	62	10	63	64	65	66
11	67	68	69	70	12	71	72	73	74
13	75	76	77	78	14	79	80	81	82
15	83	84	85	86	16	87	88	89	90
17	91	92	93	94	18	95	96	97	98
19	99	100	101	102					

Mode Extended_38ch

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 1 above 0; CH 31 Dimmer 2 above 0; CH 33 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 1 255, CH 8 Shutter 1 255, CH 9 Red 1 255, CH 11 Green 1 255, CH 13 Blue 1 255, CH 15 White 1 255, CH 31 Dimmer 2 255, CH 32 Shutter 2 255, CH 33 Dimmer 3 255, CH 34 Shutter 3 255, CH 35 Red 2 255, CH 36 Green 2 255, CH 37 Blue 2 255, CH 38 White 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer 1	0–255	Closed ... Open
		255	Open
7	Dimmer 1 Fine	0–255	Fine adjustment of CH 6
8	Shutter 1	0–1	Main_Shutter_Close
		2	Main_Strobe_Slow
		3–61	Main_Strobe_Slow ... Main_Strobe_Fast
		62	Main_Strobe_Fast
		63–64	Main_Open: Main_Shutter_Open
		65	Main_StrobePulseIN_Slow
		66–124	Main_StrobePulseIN_Slow ... Main_StrobePulseIN_Fast
		125	Main_StrobePulseIN_Fast
		126–127	Main_Open: Main_Shutter_Open
		128	Main_StrobePulseOUT_Slow

CH	Function	DMX	Description
8	Shutter 1 (continued)	129–187	Main_StrobePulseOUT_Slow ... Main_StrobePulseOUT_Fast
		188	Main_StrobePulseOUT_Fast
		189–190	Main_Open: Main_Shutter_Open
		191	Main_RandomStrobe_Slow
		192–250	Main_RandomStrobe_Slow ... Main_RandomStrobe_Fast
		251	Main_RandomStrobe_Fast
		252–255	Main_Open: Main_Shutter_Open
9	Red 1		Same as CH 9 in the mode “Standard+Section_26ch+12ch” (p. 24)
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1		Same as CH 11 in the mode “Standard+Section_26ch+12ch” (p. 24)
12	Green 1 Fine	0–255	Fine adjustment of CH 11
13	Blue 1		Same as CH 13 in the mode “Standard+Section_26ch+12ch” (p. 25)
14	Blue 1 Fine	0–255	Fine adjustment of CH 13
15	White 1		Same as CH 15 in the mode “Standard+Section_26ch+12ch” (p. 25)
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		When CH 23 is 0:
		0	2800K
		1–254	2800K ... 10000K
		255	10000K
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
22	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
23	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
24	Control	0–1	No function
		2	Kling Net Control
		3	Kling Net Control: ON
		4	Kling Net Control: ON ... OFF
		5	Kling Net Control: OFF
		6	Pan Reverse
		7	Pan Reverse: ON
		8	Pan Reverse: ON ... OFF
		9	Pan Reverse: OFF
		10	Tilt Reverse
		11	Tilt Reverse: ON
		12	Tilt Reverse: ON ... OFF
		13	Tilt Reverse: OFF
		14	Position MSpeed

CH	Function	DMX	Description
24	Control (continued)	15	Position MSpeed: Fast
		16	Fast ... Medium
		17	Medium
		18	Medium ... Slow
		19	Position MSpeed: Slow
		20	Slow ... Sync
		21	Sync
		22	Mov In Blackout: ON
		23–24	Mov In Blackout: ON ... OFF
		25	Mov In Blackout: OFF
		26	Home Position
		27	Home Position: Standard
		28	Standard ... Custom
		29	Custom
		30	Display Control
		31	DISPLAY ON
		32	DISPLAY ON ... DISPLAY 10S
		33	DISPLAY 10S
		34	DISPLAY 10S ... DISPLAY 20S
		35	DISPLAY 20S
		36	DISPLAY 20S ... DISPLAY 30S
		37	DISPLAY 30S
		38	DISPLAY 30S ... FLIP DISPLAY ON
		39	FLIP DISPLAY ON
		40	FLIP DISPLAY ON ... FLIP DISPLAY OFF
		41	FLIP DISPLAY OFF
		42	FLIP DISPLAY OFF ... FLIP DISPLAY AUTO
		43	FLIP DISPLAY AUTO
		44	FLIP DISPLAY AUTO ... KEY LOCK ON
		45	KEY LOCK ON
		46	KEY LOCK ON ... KEY LOCK OFF
		47	KEY LOCK OFF
		48	Fan Mode
		49	Auto
		50	Auto ... Silent
		51	Silent
		52	Silent ... High
		53	Fan Mode: High
		54	Calibration Control
		55	Calibration Control: OFF
		56	OFF ... Studio
		57	Studio

CH	Function	DMX	Description
24	Control (continued)	58	Studio ... 8000k
		59	8000k
		60	No Signal Controls
		61	NO SIGNAL HOLD
		62	NO SIGNAL HOLD ... NO SIGNAL BlackOut
		63	NO SIGNAL BlackOut
		64	Led Status
		65	Led Status: ON
		66	Led Status: ON ... OFF
		67	Led Status: OFF
		68	Dimmer Curve
		69	LINEAR
		70	LINEAR ... S-CURVE
		71	S-CURVE
		72	S-CURVE ... SQUARE LAW
		73	SQUARE LAW
		74	SQUARE LAW ... INVERSE SQUARE LAW
		75	INVERSE SQUARE LAW
		76	Dimmer Speed
		77	AUTO
		78	AUTO ... FAST
		79	Dimmer Speed: FAST
		80	FAST ... MEDIUM
		81	MEDIUM
		82	MEDIUM ... SLOW
		83	Dimmer Speed: SLOW
		84	LEDFrequency
		85	600Hz
		86	600Hz ... 1200Hz
		87	1200Hz
		88	1200Hz ... 2000Hz
		89	2000Hz
		90	2000Hz ... 4000Hz
		91	4000Hz
		92	4000Hz ... 6000Hz
		93	6000Hz
		94	6000Hz ... 25Khz
		95	25Khz
		96	25Khz ... 50Khz
		97	50Khz
		98	Layout Mapping
		99	InvertMapping ON

CH	Function	DMX	Description
24	Control (continued)	100	InvertMapping ON ... InvertMapping OFF
		101	InvertMapping OFF
		102	Zoom Mode
		103	Zoom Mode: Standard
		104	Standard ... Pixels
		105	Pixels
		106	Pixels ... Invert OFF
		107	Invert OFF
		108	Invert OFF ... Invert ON
		109	Invert ON
		110	Tungsten Emulation
		111	Tungsten Emulation: ON
		112	Tungsten Emulation: ON ... OFF
		113	Tungsten Emulation: OFF
		114–115	Reset All
		116–117	Pan Reset
		118–119	Tilt Reset
		120–121	Position Reset
		122–123	Zoom Reset
		124–125	TBD
		126–127	Ethernet to Dmx OFF
		128–129	Ethernet to DMX ON (Main Fixture 2 DMX)
		130–131	Ethernet to DMX ON (Pixel Engine 2 DMX)
		132–133	WDMX to DMX OFF
		134–135	WDMX to DMX ON
		136–137	Input to WDMX OFF
		138–139	Input to WDMX ON (Main Fixture to WDMX)
		140–141	Input to WDMX ON (Pixel Engine to WDMX)
		142–253	Reserved
		254–255	FactoryDefault of ControlsFunction
25	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
26	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)
27	Effects	0–16	No Effect
		17–22	All rings In and Out
		23–28	All rings In and Out Bouncing
		29–34	Single Ring In and Out
		35–40	Single Ring In and Out Bouncing
		41–46	All Pixels In and Out in Right Direction
		47–52	Single Line In and Out in Right Direction
		53–58	Single Line In and Out Bouncing in Left - Right Direction
		59–64	All Pixels In and Out in Bottom Direction
		65–70	Single Line In and Out in Bottom Direction

CH	Function	DMX	Description
27	Effects (continued)	71–76	Single Line In and Out Bouncing in Top / Bottom Direction
		77–82	Half Pixels rotating clockwise
		83–88	Fixture divided into 2 parts ring effect
		89–94	Random with 1px Density
		95–100	Random with 2px Density
		101–106	Random with 4px Density
		107–112	Random with 5px Density
		113–118	Random with 7px Density
		119–124	Pixel Going around Ring 1_1
		125–130	Pixel Going around Ring 1_2
		131–136	Pixel Going around Ring 2_1
		137–142	Pixel Going around Ring 2_2
		143–148	Pixel Going around Ring 2_3
		149–154	Pixel Going around Ring 2_4
		155–160	Clock rotating anti-clockwise
		161–166	Two squares rotating while moving from center
		167–172	Wiggling Line
		173–178	Two rotating 2x2px squares
		179–184	Pixels In and Out on Ring 2 side to side
		185–190	Triangle from 9 pixels rotate to right
		191–196	Wiggling clock
		197–202	2 hands moving up and down
		203–208	Aperture effect
		209–214	Aperture Effect with 1 px only
		215–220	2 Pixels Going around Ring 2
		221–226	3 Pixels Going around Ring 2
		227–232	Bottom Half Open - Close than Top Half Open Close
		233–238	Moving Fists
		239–244	Pixels coming in zigzak shape
		245–250	2 Arc's rotating
		251–255	2 2px wide lines rotating
28	Effects Speed	0	Index 0
		1–126	Index 0 ... Index 360
		127	Index 360
		128	CW Fast
		129–189	CW Fast ... Cw Slow
		190	Cw Slow
		191	Pattern Stop
		192	Stop Rotate
		193	CCW Slow
		194–254	CCW Slow ... CCW Fast
		255	CCW Fast

CH	Function	DMX	Description
29	Effects Fade	0	No Fade
		1–254	No Fade ... Fade 100
		255	Fade 100
30	Effects Sync	0	TransitionFade 0
		1–254	TransitionFade 0 ... TransitionFade 100
		255	TransitionFade 100
31	Dimmer 2		FG Dimmer 1
		0	Closed
		1–254	Closed ... Open
		255	Open
32	Shutter 2	0	FG Close
		1	FG_Shutter_Close
		2	FG_Strobe_Slow
		3–61	FG_Strobe_Slow ... FG_Strobe_Fast
		62	FG_Strobe_Fast
		63	FG Open
		64	FG Open: FG_Shutter_Open
		65	FG_StrobePulseIN_Slow
		66–124	FG_StrobePulseIN_Slow ... FG_StrobePulseIN_Fast
		125	FG_StrobePulseIN_Fast
		126	FG Open 1
		127	FG Open: FG_Shutter_Open
		128	FG_StrobePulseOut_Slow
		129–187	FG_StrobePulseOut_Slow ... FG_StrobePulseOut_Fast
		188	FG_StrobePulseOut_Fast
		189	FG Open 2
		190	FG Open: FG_Shutter_Open
		191	FG_RandomStrobe_Slow
		192–250	FG_RandomStrobe_Slow ... FG_RandomStrobe_Fast
		251	FG_RandomStrobe_Fast
		252–254	FG Open 3
		255	FG Open: FG_Shutter_Open
33	Dimmer 3		BG Dimmer 1
		0	Closed
		1–254	Closed ... Open
		255	Open
34	Shutter 3	0	BG Close
		1	BG_Shutter_Close
		2	BG_Strobe_Slow
		3–61	BG_Strobe_Slow ... BG_Strobe_Fast
		62	BG_Strobe_Fast
		63	BG Open

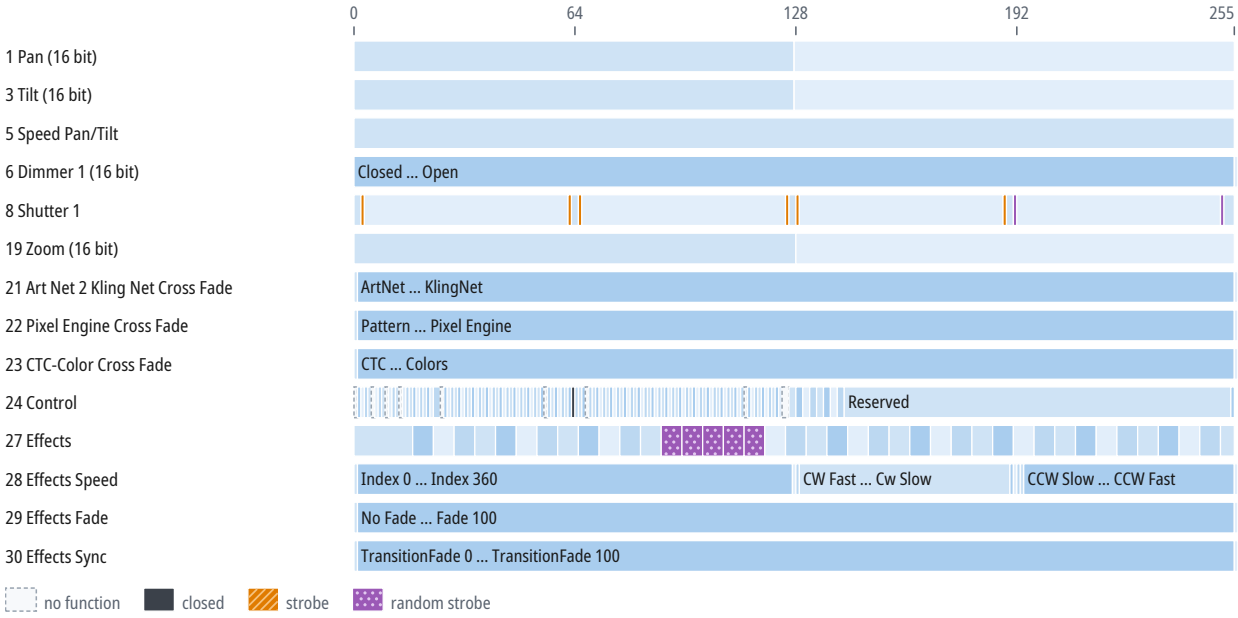
CH	Function	DMX	Description
34	Shutter 3 (continued)	64	BG Open: BG_Shutter_Open
		65	BG_StrobePulseIN_Slow
		66–124	BG_StrobePulseIN_Slow ... BG_StrobePulseIN_Fast
		125	BG_StrobePulseIN_Fast
		126	BGOpen 1
		127	BGOpen: BG_Shutter_Open
		128	BG_StrobePulseOUT_Slow
		129–187	BG_StrobePulseOUT_Slow ... BG_StrobePulseOUT_Fast
		188	BG_StrobePulseOUT_Fast
		189	BGOpen 2
		190	BGOpen: BG_Shutter_Open
		191	BG_RandomStrobe_Slow
		192–250	BG_RandomStrobe_Slow ... BG_RandomStrobe_Fast
		251	BG_RandomStrobe_Fast
		252–254	BG Open 3
		255	BG Open: BG_Shutter_Open
35	Red 2		Same as CH 20 in the mode “Basic+Section_19ch+12ch” (p. 18)
36	Green 2		Same as CH 21 in the mode “Basic+Section_19ch+12ch” (p. 18)
37	Blue 2		Same as CH 22 in the mode “Basic+Section_19ch+12ch” (p. 18)
38	White 2		Same as CH 23 in the mode “Basic+Section_19ch+12ch” (p. 18)

Mode Extended+Section_38ch+12Ch

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 1 above 0; CH 31 Dimmer 2 above 0; CH 33 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 1 255, CH 8 Shutter 1 255, CH 9 Red 1 255, CH 11 Green 1 255, CH 13 Blue 1 255, CH 15 White 1 255, CH 31 Dimmer 2 255, CH 32 Shutter 2 255, CH 33 Dimmer 3 255, CH 34 Shutter 3 255, CH 35 Red 2 255, CH 36 Green 2 255, CH 37 Blue 2 255, CH 38 White 2 255, CH 39 Red 3 255, CH 40 Green 3 255, CH 41 Blue 3 255, CH 42 White 3 255, CH 43 Red 4 255, CH 44 Green 4 255, CH 45 Blue 4 255, CH 46 White 4 255, CH 47 Red 5 255, CH 48 Green 5 255, CH 49 Blue 5 255, CH 50 White 5 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer 1		Same as CH 6 in the mode “Extended_38ch” (p. 28)
7	Dimmer 1 Fine	0–255	Fine adjustment of CH 6
8	Shutter 1		Same as CH 8 in the mode “Extended_38ch” (p. 28)
9	Red 1		Same as CH 9 in the mode “Standard+Section_26ch+12ch” (p. 24)
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1		Same as CH 11 in the mode “Standard+Section_26ch+12ch” (p. 24)
12	Green 1 Fine	0–255	Fine adjustment of CH 11
13	Blue 1		Same as CH 13 in the mode “Standard+Section_26ch+12ch” (p. 25)

CH	Function	DMX	Description
14	Blue 1 Fine	0–255	Fine adjustment of CH 13
15	White 1		Same as CH 15 in the mode “Standard+Section_26ch+12ch” (p. 25)
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 18 in the mode “Extended_38ch” (p. 29)
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
22	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
23	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
24	Control		Same as CH 24 in the mode “Extended_38ch” (p. 29)
25	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
26	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)
27	Effects		Same as CH 27 in the mode “Extended_38ch” (p. 32)
28	Effects Speed		Same as CH 28 in the mode “Extended_38ch” (p. 33)
29	Effects Fade		Same as CH 29 in the mode “Extended_38ch” (p. 34)
30	Effects Sync		Same as CH 30 in the mode “Extended_38ch” (p. 34)
31	Dimmer 2		Same as CH 31 in the mode “Extended_38ch” (p. 34)
32	Shutter 2		Same as CH 32 in the mode “Extended_38ch” (p. 34)
33	Dimmer 3		Same as CH 33 in the mode “Extended_38ch” (p. 34)
34	Shutter 3		Same as CH 34 in the mode “Extended_38ch” (p. 34)
35	Red 2		Same as CH 20 in the mode “Basic+Section_19ch+12ch” (p. 18)
36	Green 2		Same as CH 21 in the mode “Basic+Section_19ch+12ch” (p. 18)
37	Blue 2		Same as CH 22 in the mode “Basic+Section_19ch+12ch” (p. 18)
38	White 2		Same as CH 23 in the mode “Basic+Section_19ch+12ch” (p. 18)
39	Red 3		Same as CH 24 in the mode “Basic+Section_19ch+12ch” (p. 18)
40	Green 3		Same as CH 25 in the mode “Basic+Section_19ch+12ch” (p. 18)
41	Blue 3		Same as CH 26 in the mode “Basic+Section_19ch+12ch” (p. 18)
42	White 3		Same as CH 27 in the mode “Basic+Section_19ch+12ch” (p. 19)
43	Red 4		Same as CH 28 in the mode “Basic+Section_19ch+12ch” (p. 19)
44	Green 4		Same as CH 29 in the mode “Basic+Section_19ch+12ch” (p. 19)
45	Blue 4		Same as CH 30 in the mode “Basic+Section_19ch+12ch” (p. 19)

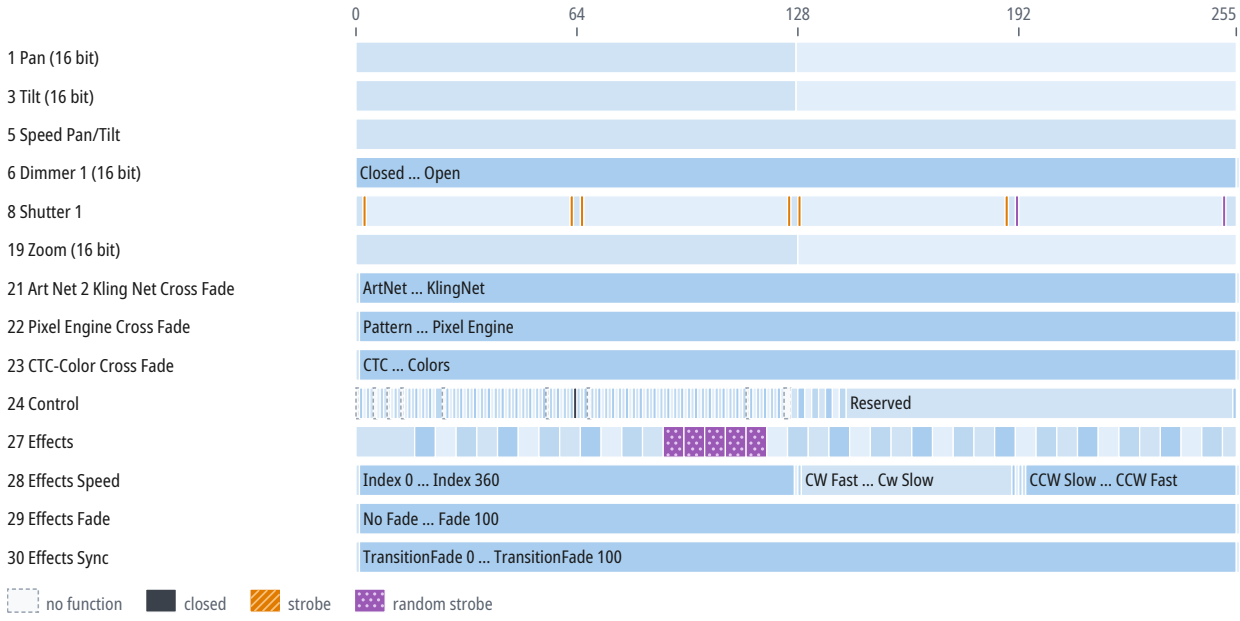
CH	Function	DMX	Description
46	White 4		Same as CH 31 in the mode “Basic+Section_19ch+12ch” (p. 19)
47	Red 5	0	Min
		1–254	Min ... Max
		255	Max
48	Green 5	0	Min
		1–254	Min ... Max
		255	Max
49	Blue 5	0	Min
		1–254	Min ... Max
		255	Max
50	White 5	0	Min
		1–254	Min ... Max
		255	Max

Mode Extended+Pixel_38ch+76Ch

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 1 above 0; CH 31 Dimmer 2 above 0; CH 33 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 1 255, CH 8 Shutter 1 255, CH 9 Red 1 255, CH 11 Green 1 255, CH 13 Blue 1 255, CH 15 White 1 255, CH 31 Dimmer 2 255, CH 32 Shutter 2 255, CH 33 Dimmer 3 255, CH 34 Shutter 3 255, CH 35 Red 255 (the same in each of the 20 cells), CH 36 Green 255 (the same in each of the 20 cells), CH 37 Blue 255 (the same in each of the 20 cells), CH 38 White 255 (the same in each of the 20 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer 1		Same as CH 6 in the mode “Extended_38ch” (p. 28)
7	Dimmer 1 Fine	0–255	Fine adjustment of CH 6
8	Shutter 1		Same as CH 8 in the mode “Extended_38ch” (p. 28)
9	Red 1		Same as CH 9 in the mode “Standard+Section_26ch+12ch” (p. 24)
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1		Same as CH 11 in the mode “Standard+Section_26ch+12ch” (p. 24)
12	Green 1 Fine	0–255	Fine adjustment of CH 11
13	Blue 1		Same as CH 13 in the mode “Standard+Section_26ch+12ch” (p. 25)
14	Blue 1 Fine	0–255	Fine adjustment of CH 13

CH	Function	DMX	Description
15	White 1		Same as CH 15 in the mode “Standard+Section_26ch+12ch” (p. 25)
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 18 in the mode “Extended_38ch” (p. 29)
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Art Net 2 Kling Net Cross Fade		Same as CH 16 in the mode “Basic_19ch” (p. 15)
22	Pixel Engine Cross Fade		Same as CH 17 in the mode “Basic_19ch” (p. 15)
23	CTC-Color Cross Fade		Same as CH 18 in the mode “Basic_19ch” (p. 15)
24	Control		Same as CH 24 in the mode “Extended_38ch” (p. 29)
25	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
26	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)
27	Effects		Same as CH 27 in the mode “Extended_38ch” (p. 32)
28	Effects Speed		Same as CH 28 in the mode “Extended_38ch” (p. 33)
29	Effects Fade		Same as CH 29 in the mode “Extended_38ch” (p. 34)
30	Effects Sync		Same as CH 30 in the mode “Extended_38ch” (p. 34)
31	Dimmer 2		Same as CH 31 in the mode “Extended_38ch” (p. 34)
32	Shutter 2		Same as CH 32 in the mode “Extended_38ch” (p. 34)
33	Dimmer 3		Same as CH 33 in the mode “Extended_38ch” (p. 34)
34	Shutter 3		Same as CH 34 in the mode “Extended_38ch” (p. 34)
35	Red 2	0	Min
		1–254	Min … Max
		255	Max
36	Green 2	0	Min
		1–254	Min … Max
		255	Max
37	Blue 2	0	Min
		1–254	Min … Max
		255	Max
38	White 2	0	Min
		1–254	Min … Max
		255	Max

CH 35–114: 20 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 35–38); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	35	36	37	38	2	39	40	41	42
3	43	44	45	46	4	47	48	49	50
5	51	52	53	54	6	55	56	57	58
7	59	60	61	62	8	63	64	65	66
9	67	68	69	70	10	71	72	73	74

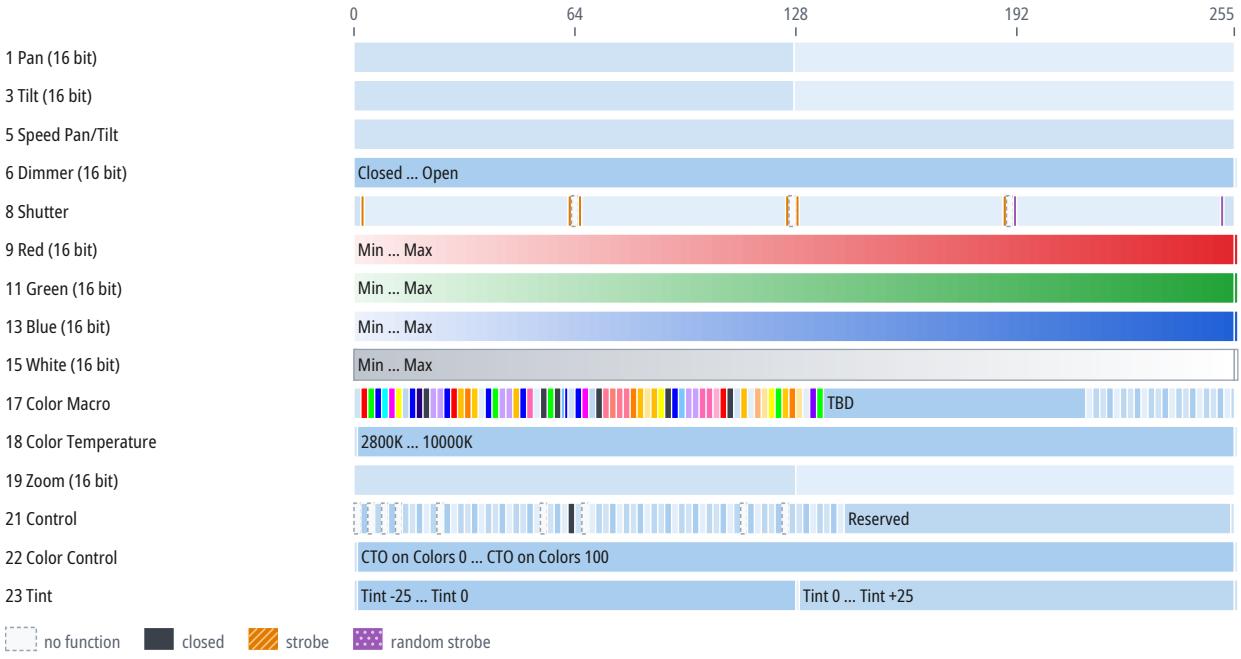
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
11	75	76	77	78	12	79	80	81	82
13	83	84	85	86	14	87	88	89	90
15	91	92	93	94	16	95	96	97	98
17	99	100	101	102	18	103	104	105	106
19	107	108	109	110	20	111	112	113	114

Mode Basic2_23ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 255, CH 11 Green 255, CH 13 Blue 255, CH 15 White 255.

Channel functions at a glance



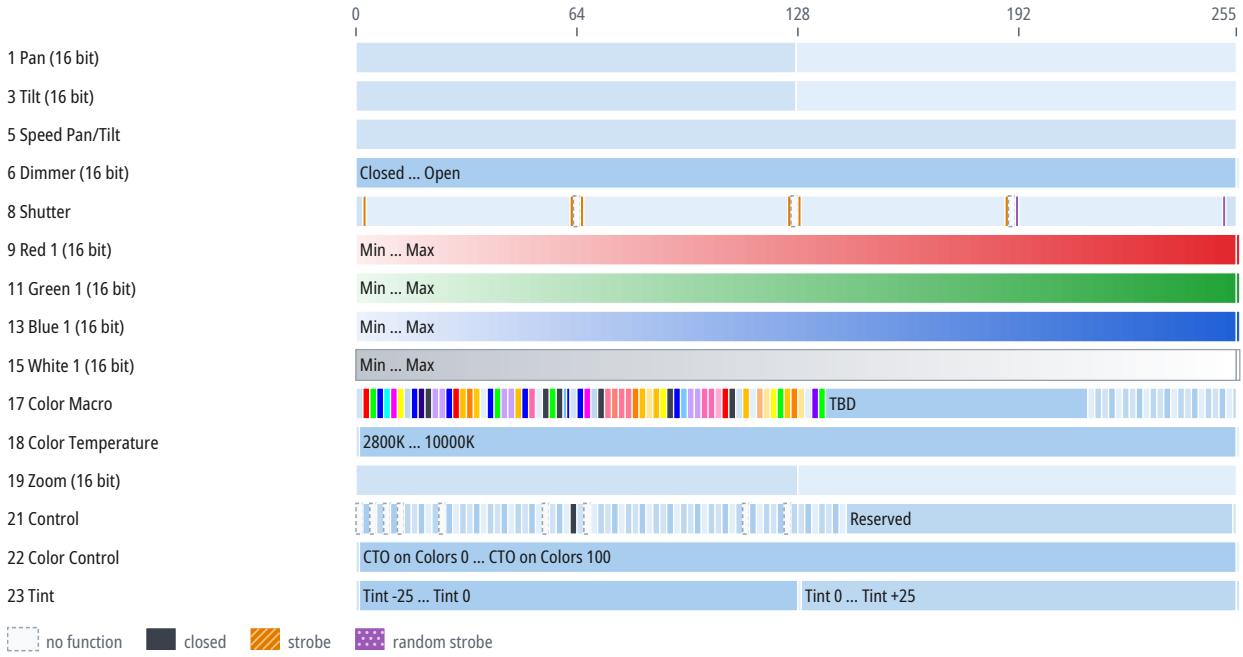
CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red		Same as CH 9 in the mode “Standard_26ch” (p. 22)
10	Red Fine	0–255	Fine adjustment of CH 9
11	Green		Same as CH 11 in the mode “Standard_26ch” (p. 22)
12	Green Fine	0–255	Fine adjustment of CH 11
13	Blue		Same as CH 13 in the mode “Standard_26ch” (p. 22)
14	Blue Fine	0–255	Fine adjustment of CH 13
15	White		Same as CH 15 in the mode “Standard_26ch” (p. 23)
16	White Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
22	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
23	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)

Mode Basic2+Section_23ch+12ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 1 255, CH 11 Green 1 255, CH 13 Blue 1 255, CH 15 White 1 255, CH 24 Red 2 255, CH 25 Green 2 255, CH 26 Blue 2 255, CH 27 White 2 255, CH 28 Red 3 255, CH 29 Green 3 255, CH 30 Blue 3 255, CH 31 White 3 255, CH 32 Red 4 255, CH 33 Green 4 255, CH 34 Blue 4 255, CH 35 White 4 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red 1		Same as CH 9 in the mode “Standard+Section_26ch+12ch” (p. 24)
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1		Same as CH 11 in the mode “Standard+Section_26ch+12ch” (p. 24)
12	Green 1 Fine	0–255	Fine adjustment of CH 11
13	Blue 1		Same as CH 13 in the mode “Standard+Section_26ch+12ch” (p. 25)
14	Blue 1 Fine	0–255	Fine adjustment of CH 13

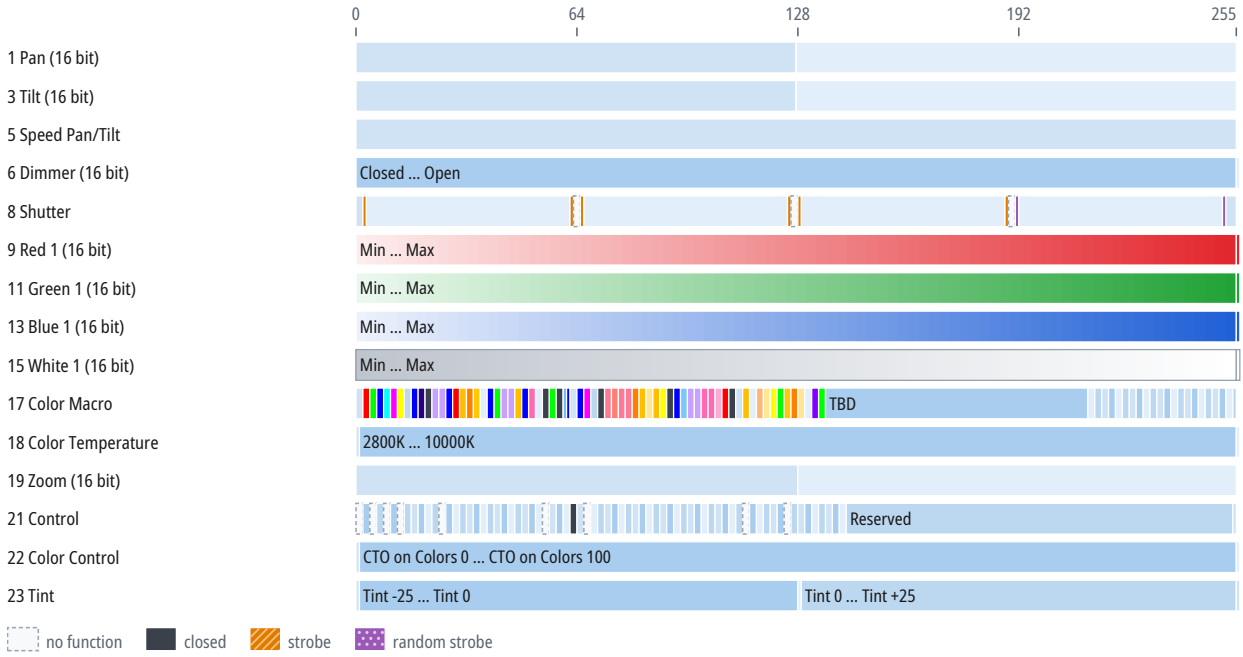
CH	Function	DMX	Description
15	White 1		Same as CH 15 in the mode “Standard+Section_26ch+12ch” (p. 25)
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
22	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
23	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)
24	Red 2		Same as CH 20 in the mode “Basic+Section_19ch+12ch” (p. 18)
25	Green 2		Same as CH 21 in the mode “Basic+Section_19ch+12ch” (p. 18)
26	Blue 2		Same as CH 22 in the mode “Basic+Section_19ch+12ch” (p. 18)
27	White 2		Same as CH 23 in the mode “Basic+Section_19ch+12ch” (p. 18)
28	Red 3		Same as CH 24 in the mode “Basic+Section_19ch+12ch” (p. 18)
29	Green 3		Same as CH 25 in the mode “Basic+Section_19ch+12ch” (p. 18)
30	Blue 3		Same as CH 26 in the mode “Basic+Section_19ch+12ch” (p. 18)
31	White 3		Same as CH 27 in the mode “Basic+Section_19ch+12ch” (p. 19)
32	Red 4		Same as CH 28 in the mode “Basic+Section_19ch+12ch” (p. 19)
33	Green 4		Same as CH 29 in the mode “Basic+Section_19ch+12ch” (p. 19)
34	Blue 4		Same as CH 30 in the mode “Basic+Section_19ch+12ch” (p. 19)
35	White 4		Same as CH 31 in the mode “Basic+Section_19ch+12ch” (p. 19)

Mode Basic2+Pixel_23ch+76ch

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 6 Dimmer 255, CH 8 Shutter 255, CH 9 Red 1 255, CH 11 Green 1 255, CH 13 Blue 1 255, CH 15 White 1 255, CH 24 Red 255 (the same in each of the 19 cells), CH 25 Green 255 (the same in each of the 19 cells), CH 26 Blue 255 (the same in each of the 19 cells), CH 27 White 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Basic_19ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Basic_19ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer		Same as CH 6 in the mode “Basic_19ch” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Basic_19ch” (p. 12)
9	Red 1		Same as CH 9 in the mode “Standard+Section_26ch+12ch” (p. 24)
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1		Same as CH 11 in the mode “Standard+Section_26ch+12ch” (p. 24)
12	Green 1 Fine	0–255	Fine adjustment of CH 11
13	Blue 1		Same as CH 13 in the mode “Standard+Section_26ch+12ch” (p. 25)
14	Blue 1 Fine	0–255	Fine adjustment of CH 13

CH	Function	DMX	Description
15	White 1		Same as CH 15 in the mode “Standard+Section_26ch+12ch” (p. 25)
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro		Same as CH 13 in the mode “Basic_19ch” (p. 12)
18	Color Temperature		Same as CH 14 in the mode “Basic_19ch” (p. 15)
19	Zoom		Same as CH 19 in the mode “Standard_26ch” (p. 23)
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Control		Same as CH 19 in the mode “Basic_19ch” (p. 15)
22	Color Control		Same as CH 25 in the mode “Standard_26ch” (p. 23)
23	Tint		Same as CH 26 in the mode “Standard_26ch” (p. 23)
24	Red 2	0	Min
		1–254	Min ... Max
		255	Max
25	Green 2	0	Min
		1–254	Min ... Max
		255	Max
26	Blue 2	0	Min
		1–254	Min ... Max
		255	Max
27	White 2	0	Min
		1–254	Min ... Max
		255	Max

CH 24–99: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 24–27); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	24	25	26	27	2	28	29	30	31
3	32	33	34	35	4	36	37	38	39
5	40	41	42	43	6	44	45	46	47
7	48	49	50	51	8	52	53	54	55
9	56	57	58	59	10	60	61	62	63
11	64	65	66	67	12	68	69	70	71
13	72	73	74	75	14	76	77	78	79
15	80	81	82	83	16	84	85	86	87
17	88	89	90	91	18	92	93	94	95
19	96	97	98	99					

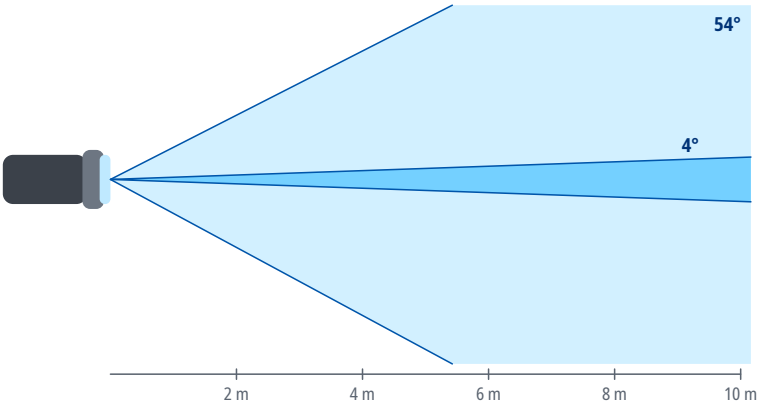
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	4–54°
Movement	
Pan	540°
Tilt	233°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45 IN
RDM	yes (manufacturer ID 0x15D0, device model ID 0xA006)
Electrical	
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	15 kg
Operating environment	
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2800–10000 K
Strobe frequency	1–30 Hz
Effect rotation	up to 360 °/s (60 rpm)

Spot diameter



Distance	Ø 4°	Ø 54°
2 m	0.14 m	2 m
4 m	0.28 m	4.1 m
6 m	0.42 m	6.1 m
8 m	0.56 m	8.2 m
10 m	0.7 m	10.2 m
15 m	1 m	15.3 m

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

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.

- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.
Movement is reversed	Check whether Pan/Tilt inversion is enabled in the device menu or in the controller.
Moving parts do not reach the correct position after power-on or transport	Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center.
Movement is jerky	Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.