DMX REFERENCE

HAVOCW19X40CRI

Event Lighting

Manufacturer	Event Lighting
GDTF file	Event_Lighting_HAVOCW19X40CRI_150349.gdtf
GDTF revision	Rev 1 · 2026-07-10
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Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Product description 5
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 7
9 DMX channels 8
Mode Extended 9
Mode Standard 14
Mode Basic 15
Mode Pixel Engine - Ring 16
Mode Pixel Engine - Pixels 17
10 Technical specifications 18
11 Maintenance and cleaning 18
12 Troubleshooting 18
13 Disposal 19

1 About this manual

This document describes the HAVOCW19X40CRI by Event Lighting. It was compiled from the GDTF file Event_Lighting_HAVOCW19X40CRI_150349.gdtf from the GDTF-Share library.

File revision: “Rev 1”.

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	15.9 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended	37	13	1, 38, 75, 112, ...
Standard	25	20	1, 26, 51, 76, ...
Basic	18	28	1, 19, 37, 55, ...
Pixel Engine - Ring	12	42	1, 13, 25, 37, ...
Pixel Engine - Pixels	76	6	1, 77, 153, 229, ...

No light? Check these channels

- Extended: CH 6 Dimmer 1 above 0; CH 8 Shutter 1 at 63–64 or 126–127 or 189–190 or 252–255; CH 30 Dimmer 2 above 0; CH 31 Shutter 2 at 63–64 or 126–127 or 189–190 or 252–255; CH 32 Dimmer 3 above 0; CH 33 Shutter 3 at 63–64 or 126–127 or 189–190 or 252–255
- Standard: CH 6 Dimmer above 0; CH 8 Shutter at 63–64 or 126–127 or 189–190 or 252–255
- Basic: CH 6 Dimmer above 0; CH 8 Shutter at 63–64 or 126–127 or 189–190 or 252–255


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

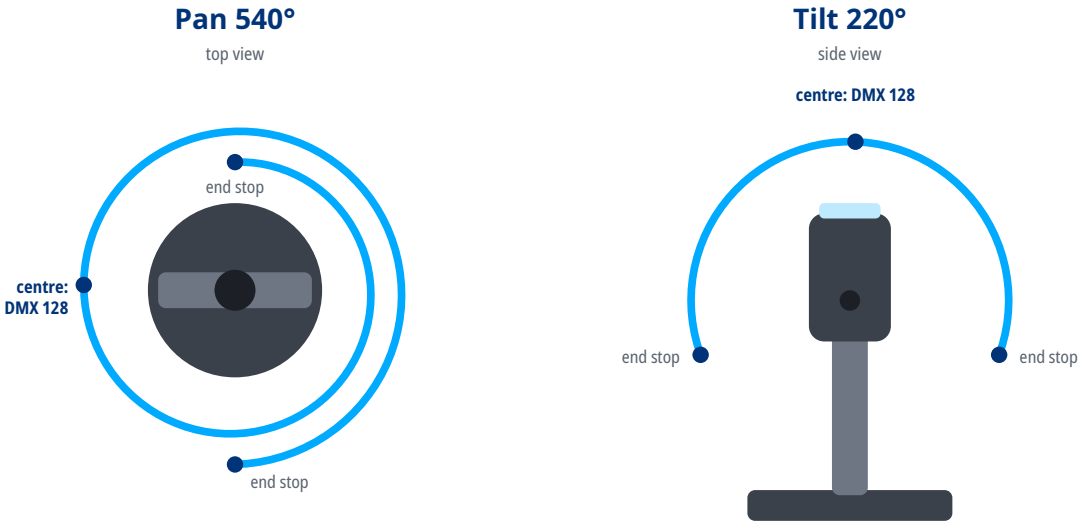
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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

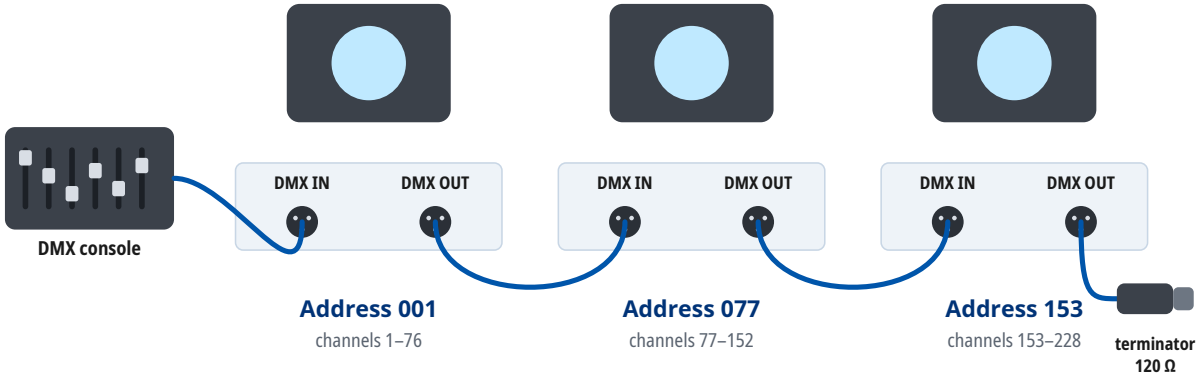
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 15.9 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 Pixel Engine - Pixels: every unit occupies 76 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

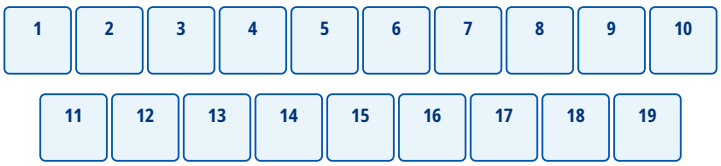
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Pixel Engine - Pixels”: 76.
- Choose start addresses so that the channels of individual devices do not overlap and the 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 “Pixel Engine - Pixels”, you can use, for example, the start addresses 1, 77, 153, 229.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

Functions in each DMX mode

	Extended 37 channels	Standard 25 channels	Basic 18 channels	Pixel Engine - Ring 12 channels	Pixel Engine - Pixels 76 channels
Pan / Tilt	1, 3	1, 3	1, 3		
Dimmer	6, 30, 32	6	6		
Shutter / strobe	8, 31, 33	8	8		
Color mixing	8 channels (9–37)	4× (9–15)	9–12	1–12	1–76
Color temperature	18, 24	18, 24	14		
Zoom	19	19	15		
Effects / macros	17, 26–29	17	13		
Pixel control	✓				19 cells

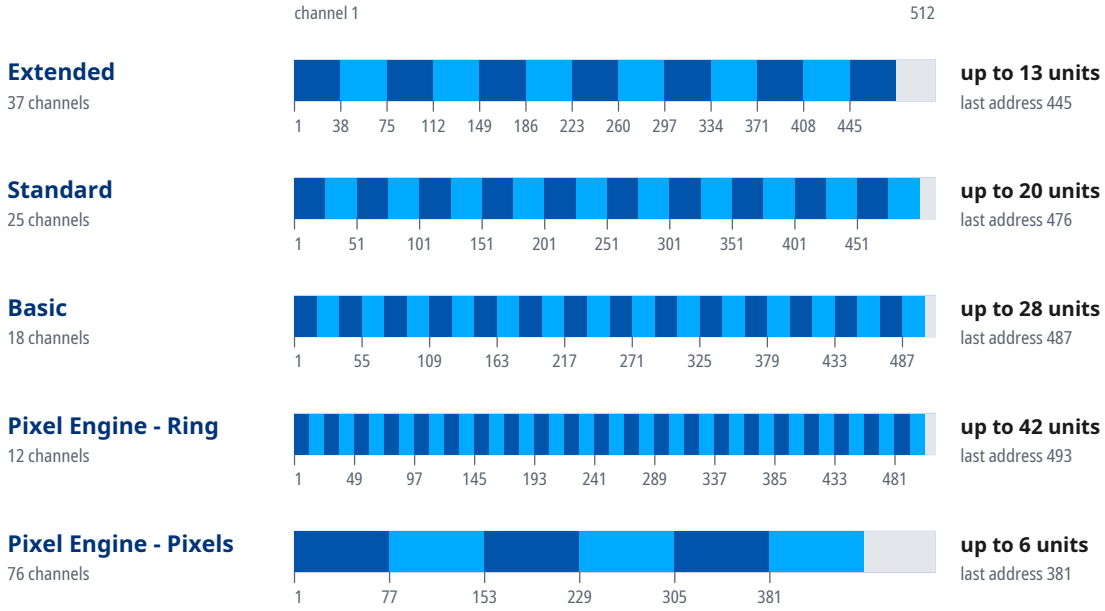
Cells (pixels)



19 cells in one row, left to right as the GDTF file places them (seen from above), wrapped after 10; the mode “Pixel Engine - Pixels” drives them together.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Pixel Engine - Pixels”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	381	11	U2 · 305	16	U3 · 229
2	77	7	U2 · 1	12	U2 · 381	17	U3 · 305
3	153	8	U2 · 77	13	U3 · 1	18	U3 · 381
4	229	9	U2 · 153	14	U3 · 77	19	U4 · 1
5	305	10	U2 · 229	15	U3 · 153	20	U4 · 77

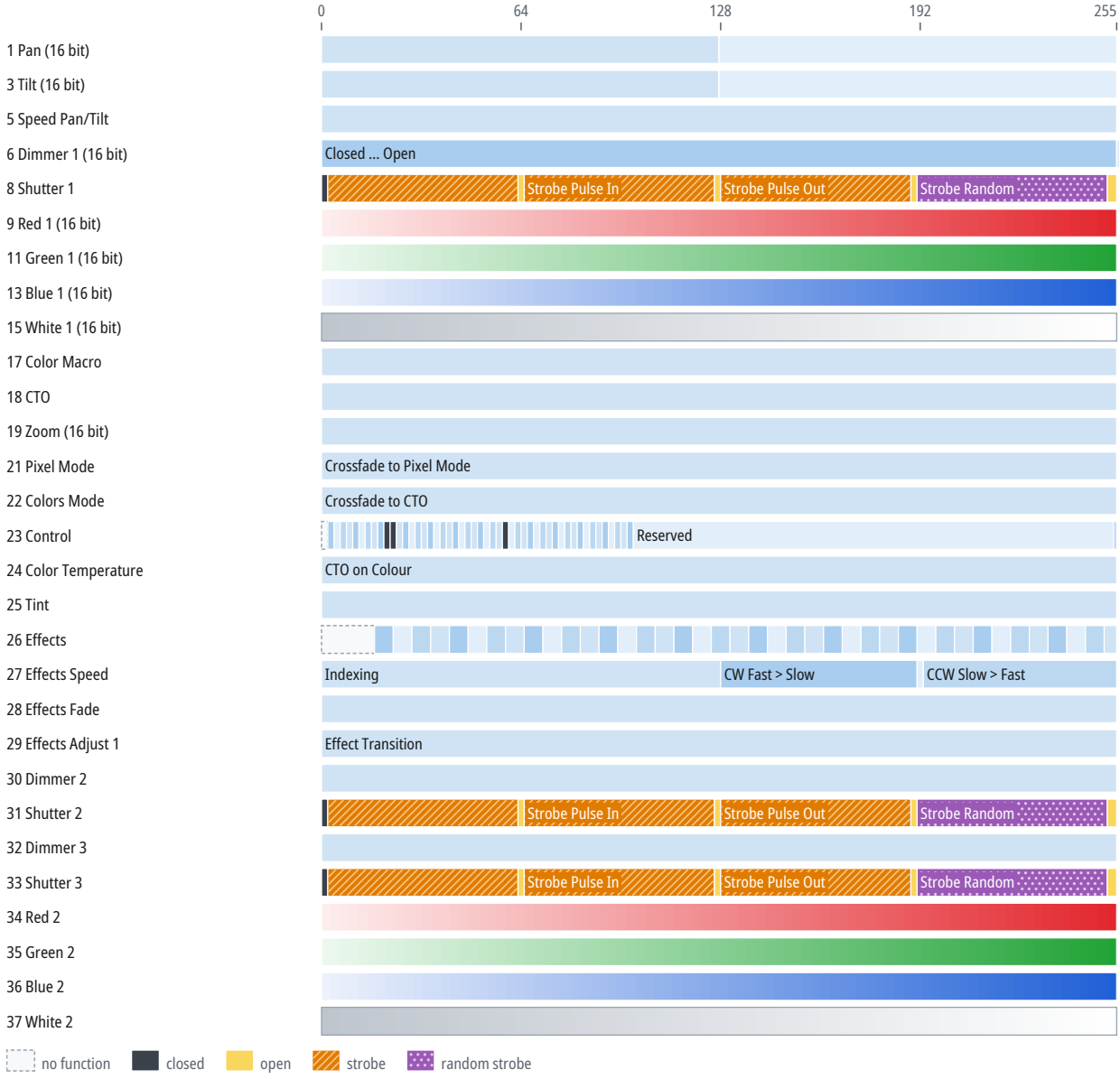
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Extended

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 8 Shutter 1 at 63–64 or 126–127 or 189–190 or 252–255; CH 30 Dimmer 2 above 0; CH 31 Shutter 2 at 63–64 or 126–127 or 189–190 or 252–255; CH 32 Dimmer 3 above 0; CH 33 Shutter 3 at 63–64 or 126–127 or 189–190 or 252–255. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 1 255.

Channel functions at a glance



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

CH	Function	DMX	Description
3	Tilt (continued)	128	Home
		128–255	Tilt 1
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	Shutter Closed
		2–62	Strobe Rate
		63–64	Shutter Open 1
		65–125	Strobe Pulse In
		126–127	Shutter Open 2
		128–188	Strobe Pulse Out
		189–190	Shutter Open 3
		191–251	Strobe Random
		252–255	Shutter Open 4
9	Red 1	0–255	
10	Red 1 Fine	0–255	Fine adjustment of CH 9
11	Green 1	0–255	
12	Green 1 Fine	0–255	Fine adjustment of CH 11
13	Blue 1	0–255	
14	Blue 1 Fine	0–255	Fine adjustment of CH 13
15	White 1	0–255	
16	White 1 Fine	0–255	Fine adjustment of CH 15
17	Color Macro	0–255	
18	CTO	0–255	
19	Zoom	0–255	
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Pixel Mode		Crossfade to Pixel Mode
		0–255	Crossfade to Pixel Mode
22	Colors Mode		Crossfade to CTO
		0–255	Crossfade to CTO
23	Control	0–1	No Function
		2–5	Reserved
		6–7	Pan Reverse On
		8–9	Pan Reverse Off
		10–11	Tilt Reverse On
		12–13	Tilt Reverse Off
		14–15	X/Y Fast
		16–17	X/Y Medium
		18–19	X/Y Slow
		20–21	Movement in Blackout On

CH	Function	DMX	Description
23	Control (continued)	22–23	Movement in Blackout Off
		24–25	Display On
		26–27	Display 10s
		28–29	Display 20s
		30–31	Display 30s
		32–33	Flip Display On
		34–35	Flip Display Off
		36–37	Flip Display Auto
		38–39	Key Lock On
		40–41	Key Lock Off
		42–43	Fan Mode Auto
		44–45	Fan Mode Silent
		46–47	Fan Mode High
		48–49	White Calibration Off
		50–51	White Calibration Studio
		52–53	Tungsten Emulation On
		54–55	Tungsten Emulation Off
		56–57	No Signal Hold
		58–59	No Signal Blackout
		60–61	Control Status Led On
		62–63	Control Status Led Off
		64–65	Dimmer Linear
		66–67	Dimmer S-Curve
		68–69	Dimmer Square Law
		70–71	Dimmer Inverse Square Law
		72–73	Dimmer Speed Auto
		74–75	Dimmer Speed Fast
		76–77	Dimmer Speed Medium
		78–79	Dimmer Speed Slow
		80–81	LED Frequency 16kHZ
		82–83	LED Frequency 20kHZ
		84–85	LED Frequency 40kHZ
		86–87	Invert Mapping On
		88–89	Invert Mapping Off
		90–91	Base Colour On
		92–93	Base Colour Off
		94–95	Reset All
		96–97	Reset X/Y
		98–99	Reset Zoom
		100–253	Reserved
		254–255	Control Settings Factory Reset
24	Color Temperature		CTO on Colour

CH	Function	DMX	Description
24	Color Temperature (continued)	0–255	CTO on Colour
25	Tint	0–255	
26	Effects	0–16	No Function
		17–22	FX 1
		23–28	FX 2
		29–34	FX 3
		35–40	FX 4
		41–46	FX 5
		47–52	FX 6
		53–58	FX 7
		59–64	FX 8
		65–70	FX 9
		71–76	FX 10
		77–82	FX 11
		83–88	FX 12
		89–94	FX 13
		95–100	FX 14
		101–106	FX 15
		107–112	FX 16
		113–118	FX 17
		119–124	FX 18
		125–130	FX 19
		131–136	FX 20
		137–142	FX 21
		143–148	FX 22
		149–154	FX 23
		155–160	FX 24
		161–166	FX 25
		167–172	FX 26
		173–178	FX 27
		179–184	FX 28
		185–190	FX 29
		191–196	FX 30
		197–202	FX 31
		203–208	FX 32
		209–214	FX 33
		215–220	FX 34
		221–226	FX 35
		227–232	FX 36
		233–238	FX 37
		239–244	FX 38
		245–250	FX 39

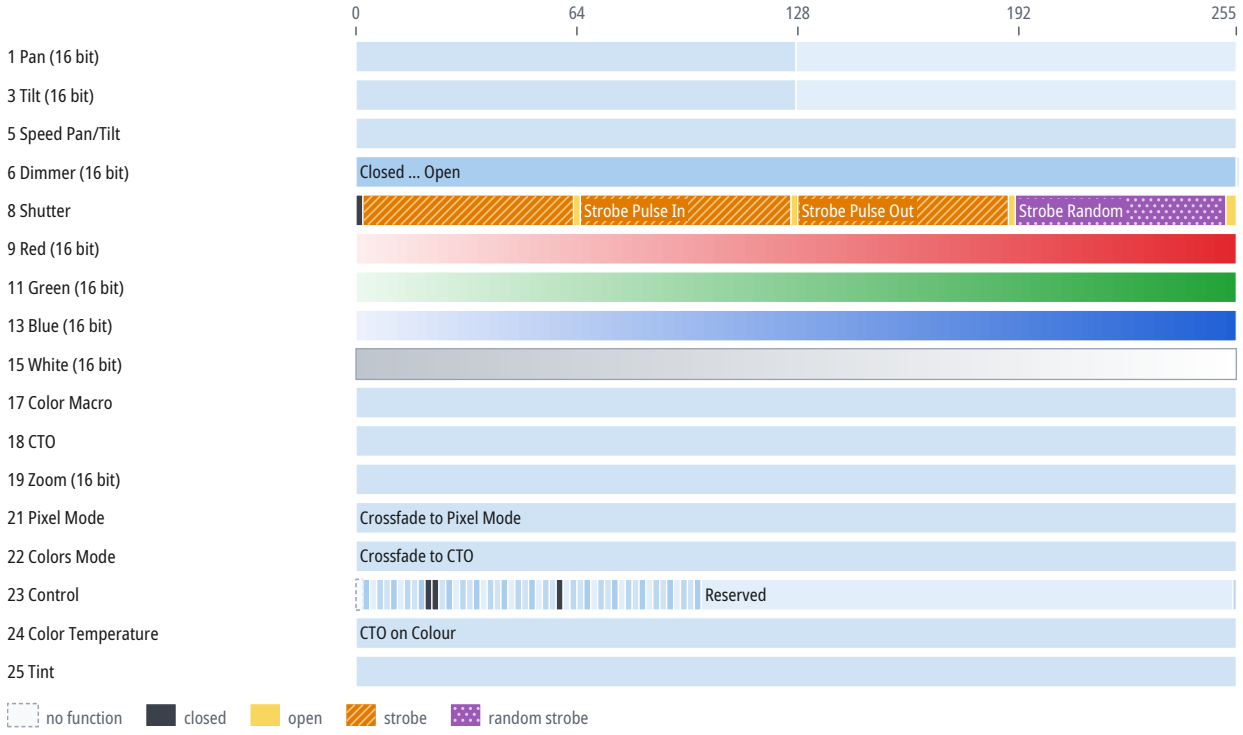
CH	Function	DMX	Description
26	Effects (continued)	251–255	FX 40
27	Effects Speed	0–127	Indexing
		128–190	CW Fast > Slow
		191–192	Stop
		193–255	CCW Slow > Fast
28	Effects Fade	0–255	
29	Effects Adjust 1		Effect Transition
		0–255	Effect Transition
30	Dimmer 2	0–255	
31	Shutter 2	0–1	Shutter Closed
		2–62	Strobe Rate
		63–64	Shutter Open 1
		65–125	Strobe Pulse In
		126–127	Shutter Open 2
		128–188	Strobe Pulse Out
		189–190	Shutter Open 3
		191–251	Strobe Random
		252–255	Shutter Open 4
32	Dimmer 3	0–255	
33	Shutter 3	0–1	Shutter Closed
		2–62	Strobe Rate
		63–64	Shutter Open 1
		65–125	Strobe Pulse In
		126–127	Shutter Open 2
		128–188	Strobe Pulse Out
		189–190	Shutter Open 3
		191–251	Strobe Random
		252–255	Shutter Open 4
34	Red 2	0–255	
35	Green 2	0–255	
36	Blue 2	0–255	
37	White 2	0–255	

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 6 Dimmer above 0; CH 8 Shutter at 63–64 or 126–127 or 189–190 or 252–255. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended” (p. 9)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended” (p. 9)
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	Shutter Closed
		2–62	Strobe Rate
		63–64	Shutter Open 1
		65–125	Strobe Pulse In
		126–127	Shutter Open 2
		128–188	Strobe Pulse Out
		189–190	Shutter Open 3
		191–251	Strobe Random
		252–255	Shutter Open 4

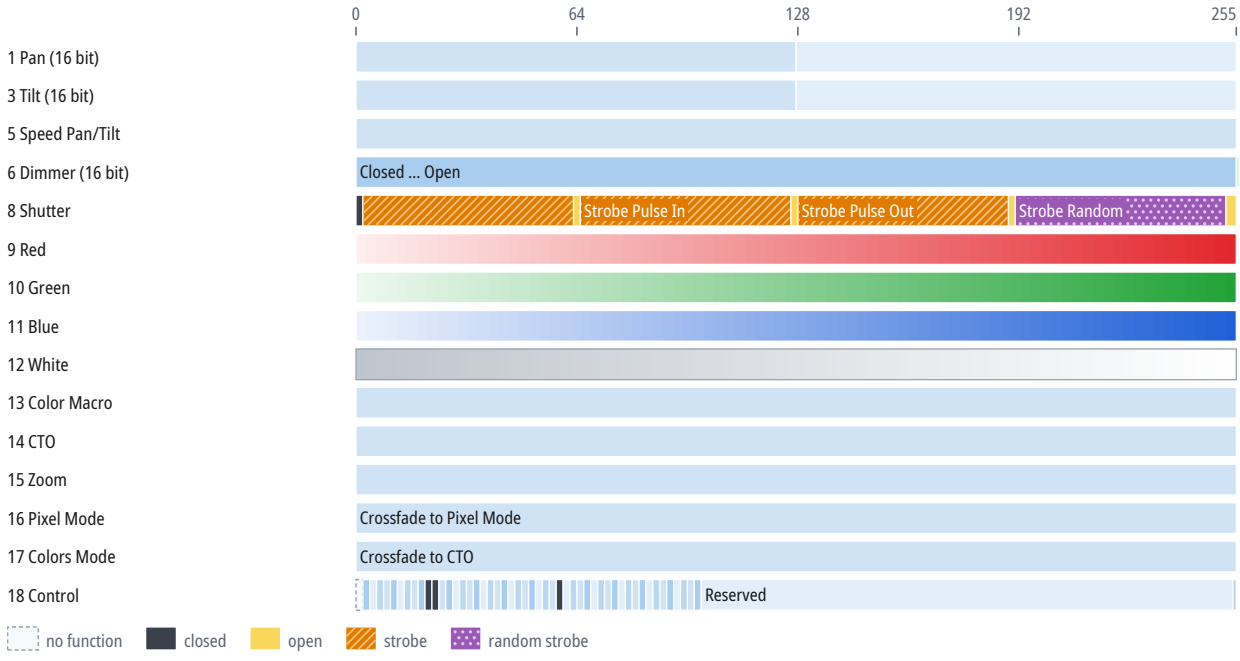
CH	Function	DMX	Description
9	Red	0–255	
10	Red Fine	0–255	Fine adjustment of CH 9
11	Green	0–255	
12	Green Fine	0–255	Fine adjustment of CH 11
13	Blue	0–255	
14	Blue Fine	0–255	Fine adjustment of CH 13
15	White	0–255	
16	White Fine	0–255	Fine adjustment of CH 15
17	Color Macro	0–255	
18	CTO	0–255	
19	Zoom	0–255	
20	Zoom Fine	0–255	Fine adjustment of CH 19
21	Pixel Mode		Same as CH 21 in the mode “Extended” (p. 10)
22	Colors Mode		Same as CH 22 in the mode “Extended” (p. 10)
23	Control		Same as CH 23 in the mode “Extended” (p. 10)
24	Color Temperature		Same as CH 24 in the mode “Extended” (p. 11)
25	Tint	0–255	

Mode Basic

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; CH 8 Shutter at 63–64 or 126–127 or 189–190 or 252–255. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255.

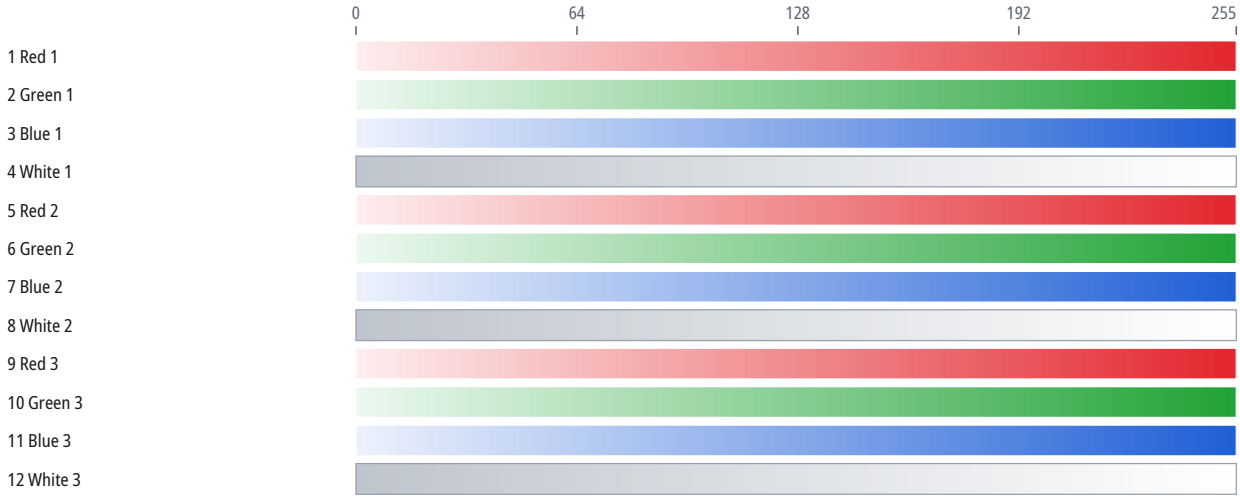
Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended” (p. 9)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended” (p. 9)
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 “Standard” (p. 14)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “Standard” (p. 14)
9	Red	0–255	
10	Green	0–255	
11	Blue	0–255	
12	White	0–255	
13	Color Macro	0–255	
14	CTO	0–255	
15	Zoom	0–255	
16	Pixel Mode		Same as CH 21 in the mode “Extended” (p. 10)
17	Colors Mode		Same as CH 22 in the mode “Extended” (p. 10)
18	Control		Same as CH 23 in the mode “Extended” (p. 10)

Mode Pixel Engine - Ring

Channel functions at a glance

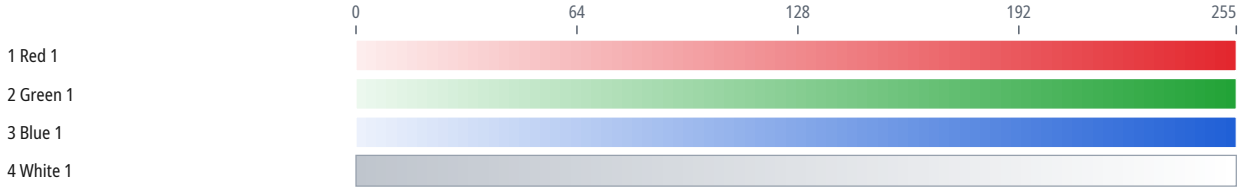


CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
4	White 1	0–255	
5	Red 2	0–255	
6	Green 2	0–255	

CH	Function	DMX	Description
7	Blue 2	0–255	
8	White 2	0–255	
9	Red 3	0–255	
10	Green 3	0–255	
11	Blue 3	0–255	
12	White 3	0–255	

Mode Pixel Engine - Pixels

Channel functions at a glance



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

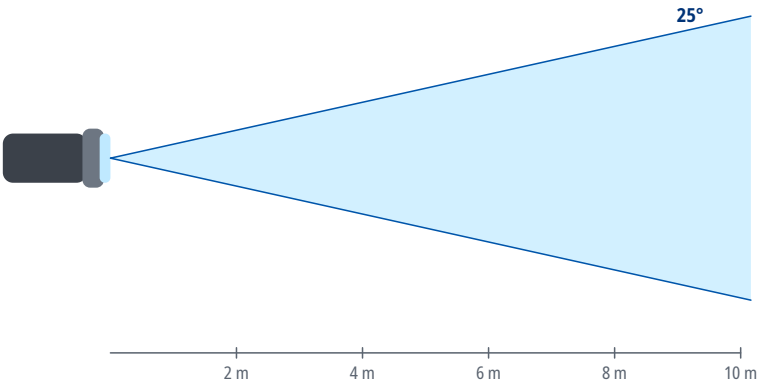
CH 1–76: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 1–4); the table below gives each cell's channel numbers.

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
9	33	34	35	36	10	37	38	39	40
11	41	42	43	44	12	45	46	47	48
13	49	50	51	52	14	53	54	55	56
15	57	58	59	60	16	61	62	63	64
17	65	66	67	68	18	69	70	71	72
19	73	74	75	76					

10 Technical specifications

Parameter	Value
Light source	discharge lamp
Pan	540°
Tilt	220°
Weight	15.9 kg
Operating temperature	0 to 40 °C

Spot diameter



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

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

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.