DMX REFERENCE

iPixelWash

Sunbelt



Manufacturer	Sunbelt
GDTF file	Sunbelt_iPixelWash_147609.gdtf
GDTF revision	ver 1_1 · 2026-06-18
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1 About this manual

This document describes the iPixelWash by Sunbelt. It was compiled from the GDTF file Sunbelt_iPixelWash_147609.gdtf from the GDTF-Share library.

File revision: “ver 1_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 Sunbelt; 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	23 kg
Ingress protection	IP65

DMX modes

Mode	Channels	Units in one universe	First start addresses
23 Channel	23	22	1, 24, 47, 70, ...
25 Channel	25	20	1, 26, 51, 76, ...
101 Channel	101	5	1, 102, 203, 304, ...

No light? Check these channels

- 23 Channel: CH 8 Dimmer above 0; CH 9 Shutter at 0–9 “Open”
- 25 Channel: CH 8 Dimmer above 0; CH 9 Shutter at 0–9 “Open”
- 101 Channel: CH 8 Dimmer above 0; CH 9 Shutter at 0–9 “Open”



Read the manual before use



Do not stare into the light

3 Safety instructions



Read the manual before use



Do not stare into the light

⚠ WARNING

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

⚠ CAUTION

- The device is rated IP65 and may be used outdoors within the limits of this rating.
- This protection is effective only when all connectors are mated or closed with their protective caps and all seals are intact. Use cables and connectors with the same or a higher protection rating.
- Do not open the housing; opening it breaks the seals and the protection rating can no longer be guaranteed.
- Install the device so that water cannot collect around connectors and cable glands, and inspect seals and cables regularly.

⚠ CAUTION

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

⚠ CAUTION

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

⚠ WARNING

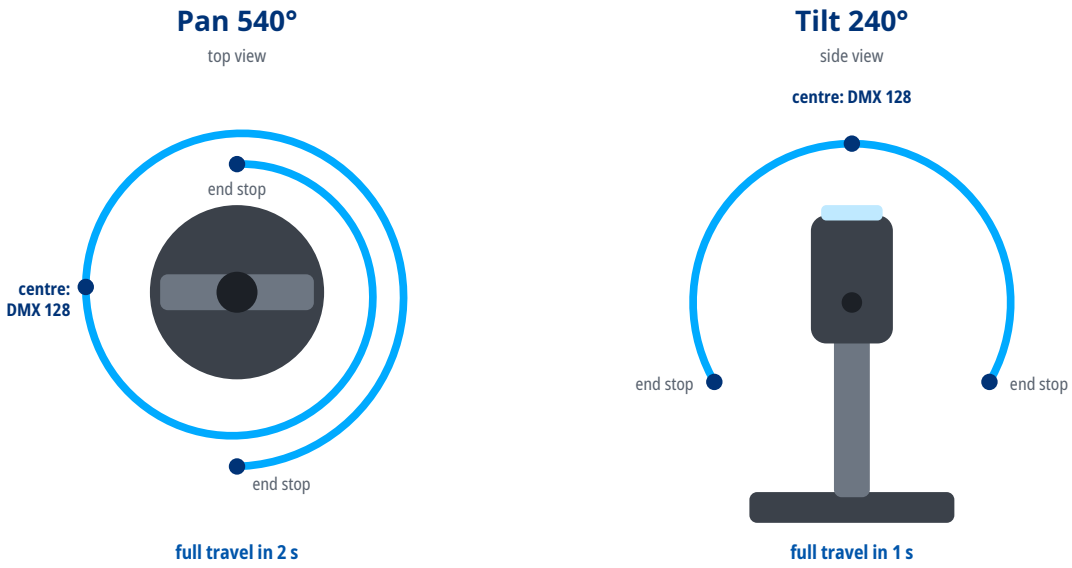
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
- Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

4 Product description

Description in the GDTF file

“Sunbelt iPixelWash 19x40W IP65 moving head wash”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

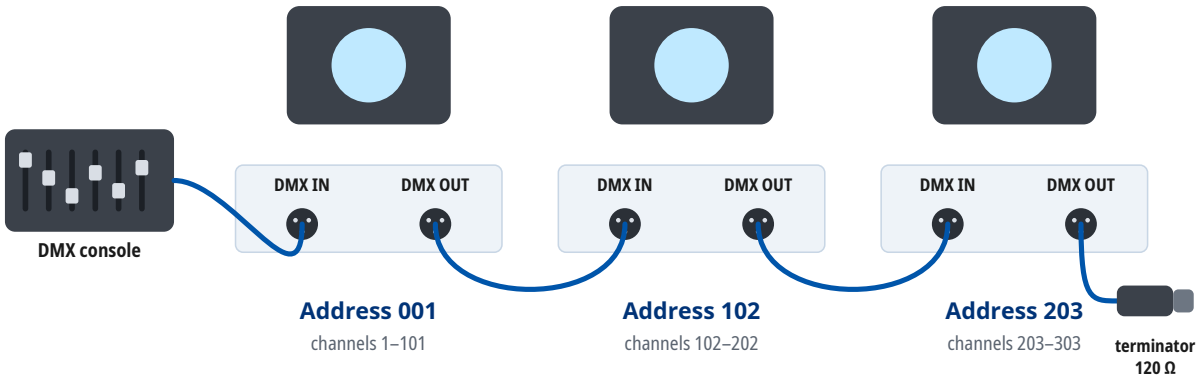
⚠ WARNING

- 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: 23 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 101 Channel: every unit occupies 101 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 “101 Channel”: 101.
- 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 “101 Channel”, you can use, for example, the start addresses 1, 102, 203, 304.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

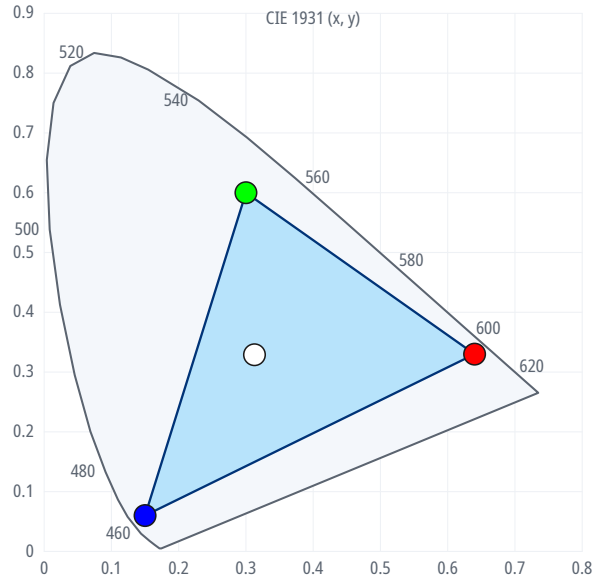
Functions in each DMX mode

	23 Channel 23 channels	25 Channel 25 channels	101 Channel 101 channels
Pan / Tilt	1, 3	1, 3	1, 3
Dimmer	8	8	8
Shutter / strobe	9	9	9
Color mixing	10–13, 19–22	10–13, 21–24	10–13, 21–24, 26–101
Color temperature	14	14	14
Color wheel	15	15	15
Prism	7	7	7
Zoom	6	6	6
Effects / macros	16–18	16–20	16–20

Color wheel

1. RGBW Mix — DMX 0–1
2. Black — DMX 2–9
3. Red — DMX 10
4. Green — DMX 11
5. Blue — DMX 12
6. Cyan — DMX 13
7. Yellow — DMX 14
8. Magenta — DMX 15
9. White — DMX 16–17
10. Warm White — DMX 18–19

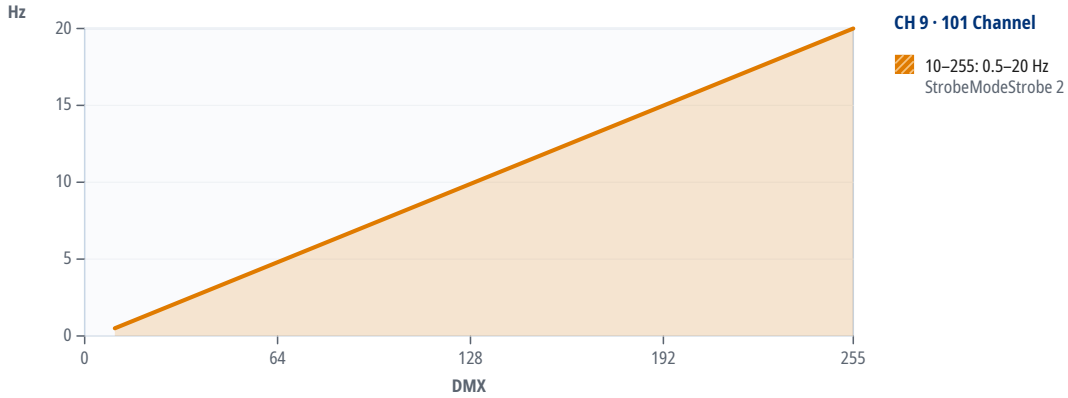
LED colors and the colors they mix



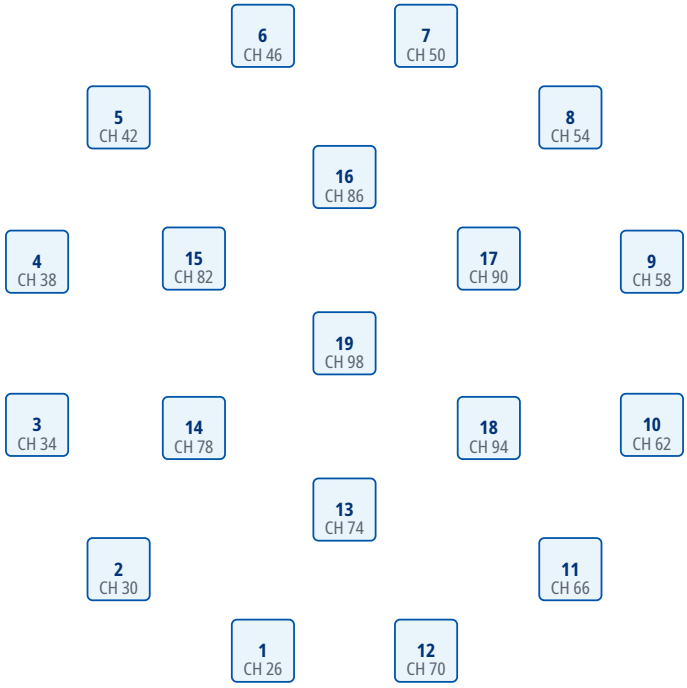
LED	x	y
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060
White	0.313	0.329

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

Strobe rate



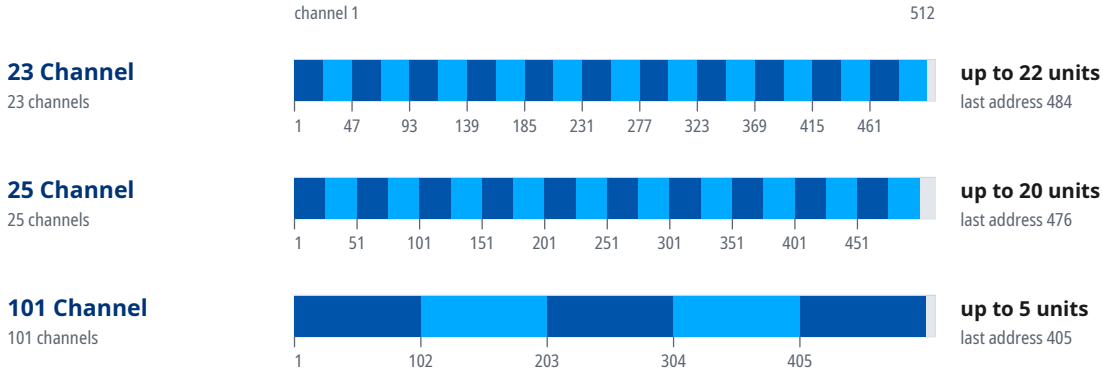
Cells (pixels)



19 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “101 Channel”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “101 Channel”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 1	11	U3 · 1	16	U4 · 1
2	102	7	U2 · 102	12	U3 · 102	17	U4 · 102
3	203	8	U2 · 203	13	U3 · 203	18	U4 · 203
4	304	9	U2 · 304	14	U3 · 304	19	U4 · 304
5	405	10	U2 · 405	15	U3 · 405	20	U4 · 405

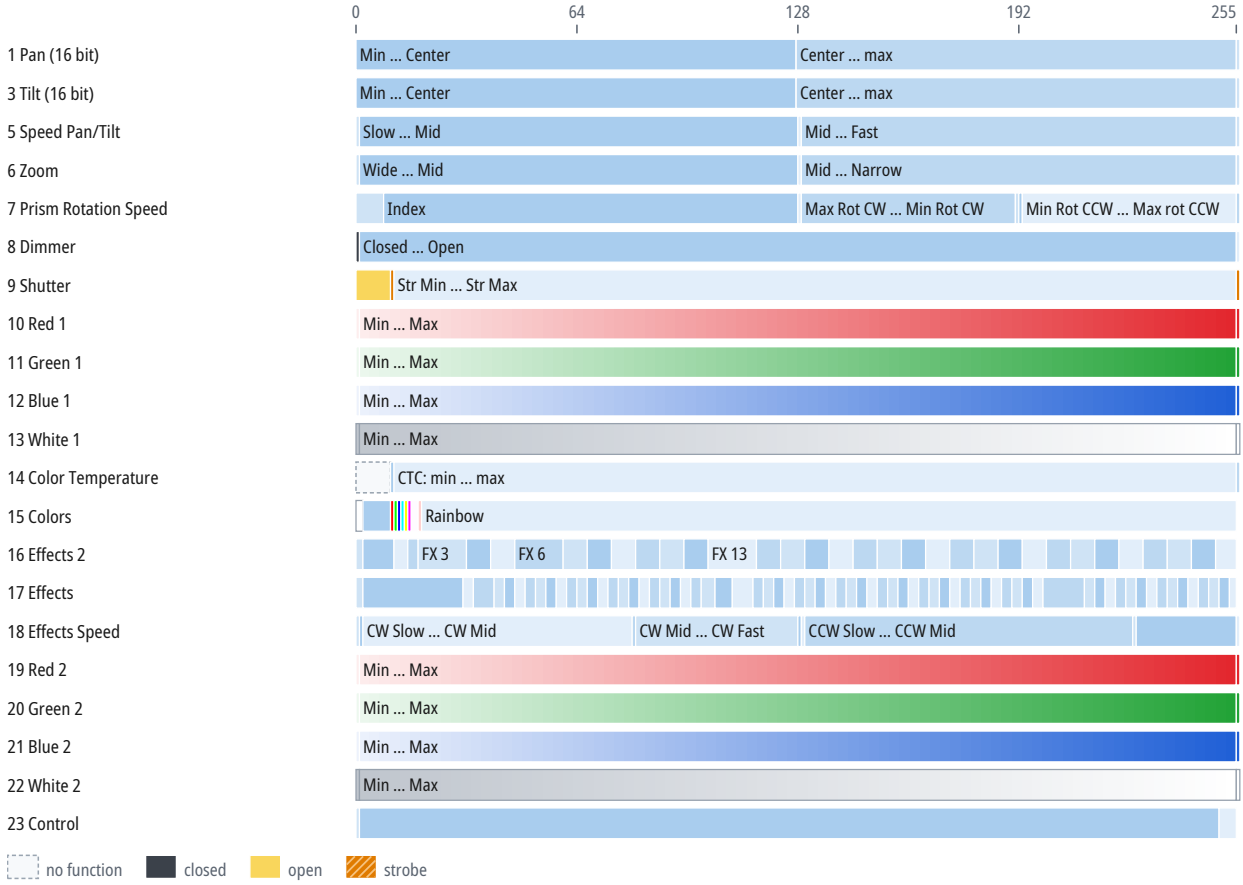
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 23 Channel

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 8 Dimmer above 0; CH 9 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 8 Dimmer 255, CH 10 Red 1 255, CH 11 Green 1 255, CH 12 Blue 1 255, CH 13 White 1 255, CH 14 Color Temperature 0, CH 15 Colors 0, CH 19 Red 2 255, CH 20 Green 2 255, CH 21 Blue 2 255, CH 22 White 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		128–255	Center ... max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		128–255	Center ... max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0	Slow
		1–127	Slow ... Mid
		128	Mid
		129–254	Mid ... Fast

CH	Function	DMX	Description
5	Speed Pan/Tilt (continued)	255	Fast
6	Zoom	0	Wide
		1–127	Wide ... Mid
		128	Mid
		129–254	Mid ... Narrow
		255	Narrow
7	Prism Rotation Speed	0–7	Beam
		8–127	Index
		128	Max Rot CW
		129–190	Max Rot CW ... Min Rot CW
		191	Min Rot CW
		192	Min Rot CCW
		193–254	Min Rot CCW ... Max rot CCW
		255	Max rot CCW
8	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
9	Shutter	0–9	Shutter 1: Open
		10	Str Min
		11–254	Str Min ... Str Max
		255	Str Max
10	Red 1		Color RGB_R 1
		0	Min
		1–254	Min ... Max
		255	Max
11	Green 1		Color RGB_Green 1
		0	Min
		1–254	Min ... Max
		255	Max
12	Blue 1		Color RGB_Blue 1
		0	Min
		1–254	Min ... Max
		255	Max
13	White 1	0	Min
		1–254	Min ... Max
		255	Max
14	Color Temperature	0–9	RGBW ColorMix
		10	CTC: min
		11–254	CTC: min ... max
		255	CTC: max
15	Colors	0–1	RGBW Mix
		2–9	Black

CH	Function	DMX	Description
15	Colors (continued)	10	Red
		11	Green
		12	Blue
		13	Cyan
		14	Yellow
		15	Magenta
		16–17	White
		18	Warm White
		19–255	Rainbow
16	Effects 2	0–1	No FX
		2–10	Full Background Color
		11–14	FX 1
		15–17	FX 2
		18–31	FX 3
		32–38	FX 4
		39–45	FX 5
		46–59	FX 6
		60–66	FX 7
		67–73	FX 8
		74–80	FX 9
		81–87	FX 10
		88–94	FX 11
		95–101	FX 12
		102–115	FX 13
		116–122	FX 14
		123–129	FX 15
		130–136	FX 16
		137–143	FX 17
		144–150	FX 18
		151–157	FX 19
		158–164	FX 20
		165–171	FX 21
		172–178	FX 22
		179–185	FX 23
		186–192	FX 24
		193–199	FX 25
		200–206	FX 26
		207–213	FX 27
		214–220	FX 28
		221–227	FX 29
		228–234	FX 30
		235–241	FX 31

CH	Function	DMX	Description
16	Effects 2 (continued)	242–248	FX 32
		249–255	FX 33
17	Effects	0–1	No FX
		2–30	Full Background Color
		31–33	FX 1
		34–39	FX 2
		40–42	FX 3
		43–45	FX 4
		46–48	FX 5
		49–51	FX 6
		52–54	FX 7
		55–57	FX 8
		58–60	FX 9
		61–63	FX 10
		64–66	FX 11
		67–69	FX 12
		70–72	FX 13
		73–75	FX 14
		76–78	FX 15
		79–81	FX 16
		82–84	FX 17
		85–87	FX 18
		88–90	FX 19
		91–93	FX 20
		94–96	FX 21
		97–99	FX 22
		100–103	FX 23
		104–108	FX 24
		109–114	FX 25
		115–117	FX 26
		118–120	FX 27
		121–123	FX 28
		124–126	FX 29
		127–129	FX 30
		130–132	FX 31
		133–135	FX 32
		136–138	FX 33
		139–141	FX 34
		142–144	FX 35
		145–147	FX 36
		148–150	FX 37
		151–153	FX 38

CH	Function	DMX	Description
17	Effects (continued)	154–156	FX 39
		157–159	FX 40
		160–162	FX 41
		163–165	FX 42
		166–168	FX 43
		169–171	FX 44
		172–174	FX 45
		175–177	FX 46
		178–180	FX 47
		181–183	FX 48
		184–186	FX 49
		187–189	FX 50
		190–192	FX 51
		193–195	FX 52
		196–198	FX 53
		199–210	FX 54
		211–213	FX 55
		214–216	FX 56
		217–219	FX 57
		220–222	FX 58
		223–225	FX 59
		226–228	FX 60
		229–231	FX 61
		232–234	FX 62
		235–237	FX 63
		238–240	FX 64
		241–243	FX 65
		244–246	FX 66
		247–249	FX 67
		250–252	FX 68
		253–255	FX 69
18	Effects Speed	0	Index / Pos
		1	CW Slow
		2–79	CW Slow … CW Mid
		80	CW Mid
		81–127	CW Mid … CW Fast
		128	CW Fast
		129	CCW Slow
		130–224	CCW Slow … CCW Mid
		225	CCW Mid
		226–254	CCW Mid … CCW Fast
		255	CCW Fast

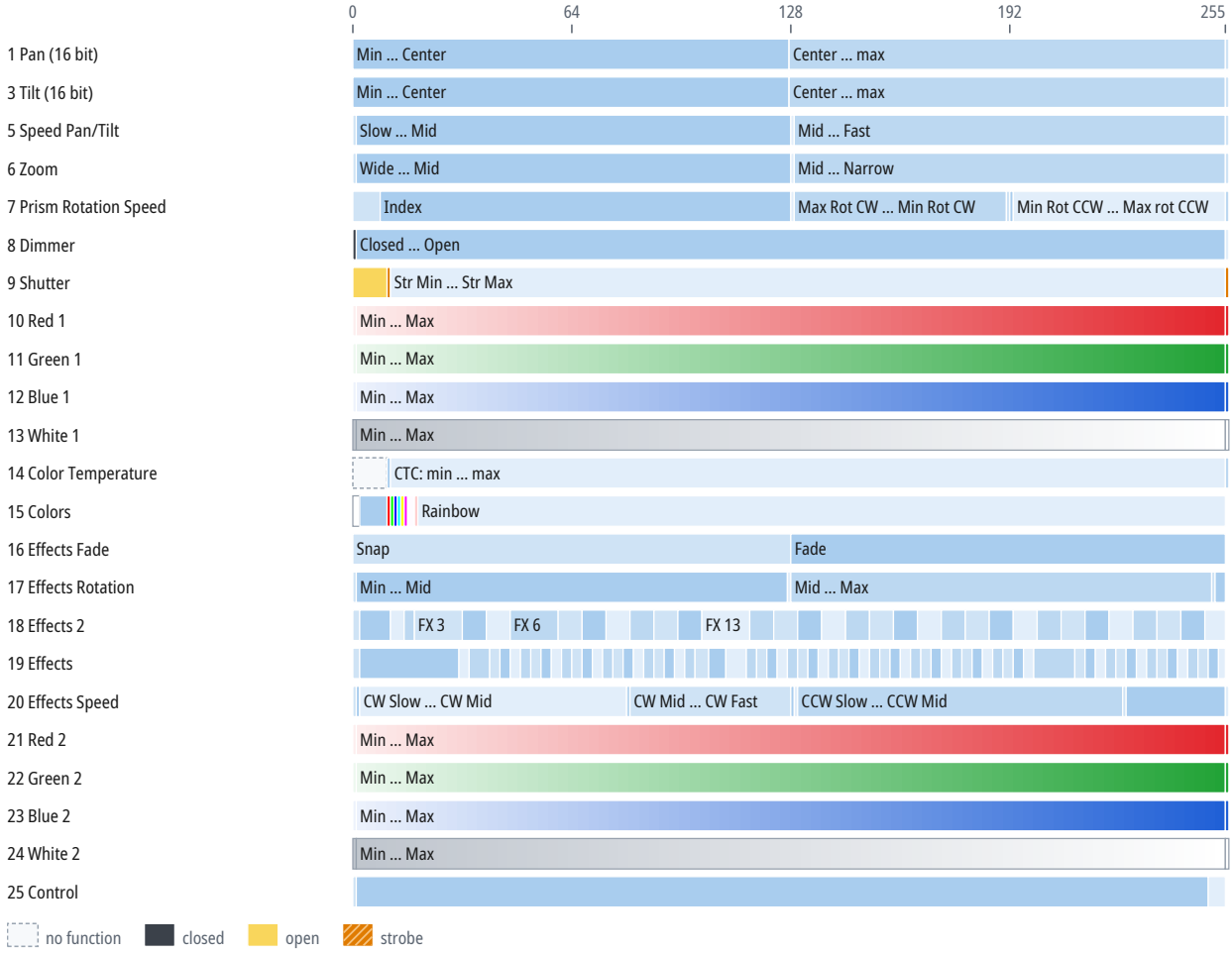
CH	Function	DMX	Description
19	Red 2		Color RGB_Red 1
		0	Min
		1–254	Min ... Max
		255	Max
20	Green 2		Color RGB_Green 1
		0	Min
		1–254	Min ... Max
		255	Max
21	Blue 2		Color RGB_Blue 1
		0	Min
		1–254	Min ... Max
		255	Max
22	White 2	0	Min
		1–254	Min ... Max
		255	Max
23	Control	0	Default
		1–249	Control 1 1
		250–255	Global Reset

Mode 25 Channel

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 8 Dimmer above 0; CH 9 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 8 Dimmer 255, CH 10 Red 1 255, CH 11 Green 1 255, CH 12 Blue 1 255, CH 13 White 1 255, CH 14 Color Temperature 0, CH 15 Colors 0, CH 21 Red 2 255, CH 22 Green 2 255, CH 23 Blue 2 255, CH 24 White 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “23 Channel” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “23 Channel” (p. 10)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “23 Channel” (p. 10)
6	Zoom		Same as CH 6 in the mode “23 Channel” (p. 11)
7	Prism Rotation Speed		Same as CH 7 in the mode “23 Channel” (p. 11)
8	Dimmer		Same as CH 8 in the mode “23 Channel” (p. 11)
9	Shutter		Same as CH 9 in the mode “23 Channel” (p. 11)
10	Red 1		Same as CH 10 in the mode “23 Channel” (p. 11)

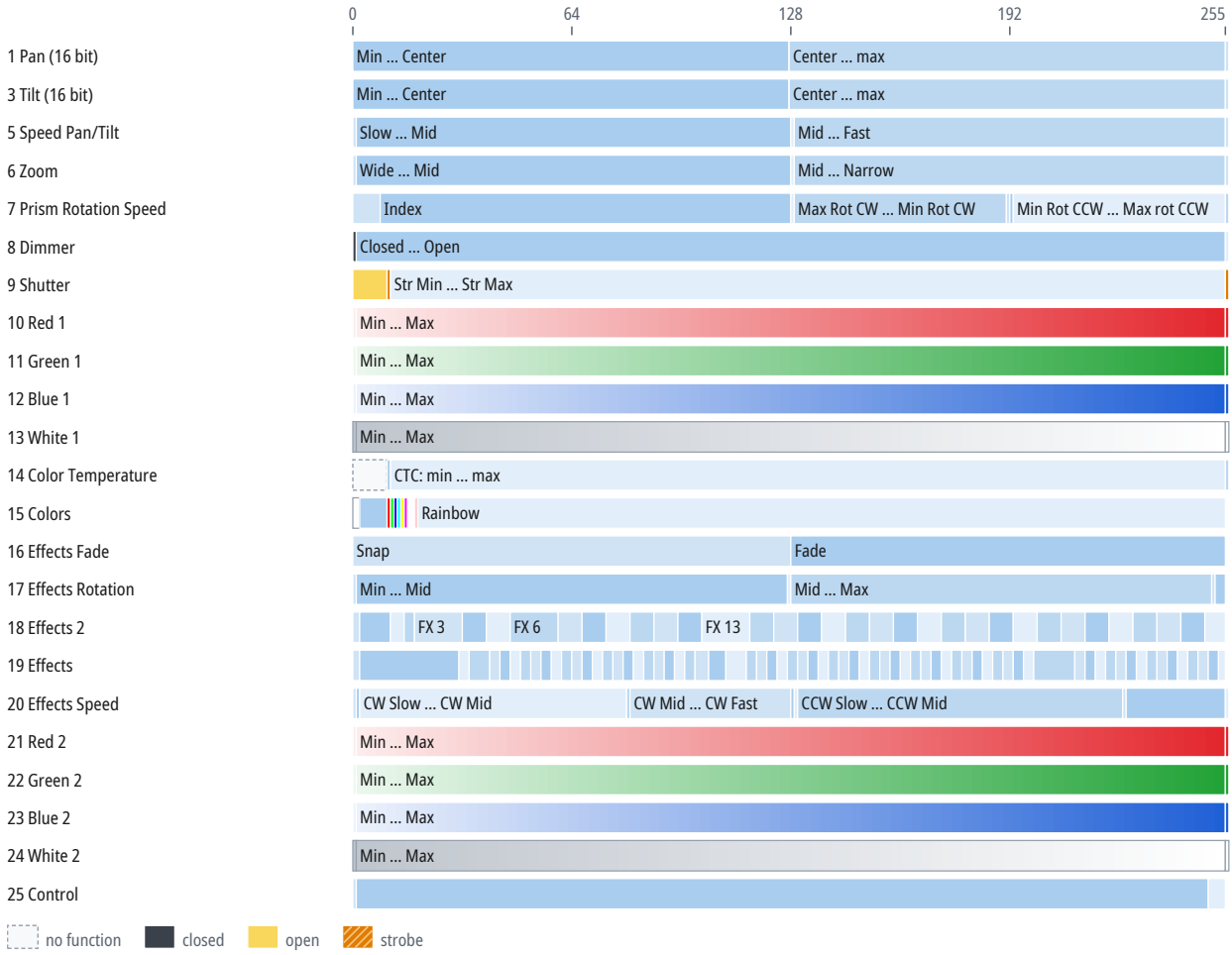
CH	Function	DMX	Description
11	Green 1		Same as CH 11 in the mode “23 Channel” (p. 11)
12	Blue 1		Same as CH 12 in the mode “23 Channel” (p. 11)
13	White 1		Same as CH 13 in the mode “23 Channel” (p. 11)
14	Color Temperature		Same as CH 14 in the mode “23 Channel” (p. 11)
15	Colors		Same as CH 15 in the mode “23 Channel” (p. 11)
16	Effects Fade	0–127	Snap
		128–255	Fade
17	Effects Rotation	0	Min
		1–126	Min ... Mid
		127	Mid
		128–250	Mid ... Max
		251	Max
		252–255	Effects 1 Pos 1
18	Effects 2		Same as CH 16 in the mode “23 Channel” (p. 12)
19	Effects		Same as CH 17 in the mode “23 Channel” (p. 13)
20	Effects Speed		Same as CH 18 in the mode “23 Channel” (p. 14)
21	Red 2		Same as CH 19 in the mode “23 Channel” (p. 15)
22	Green 2		Same as CH 20 in the mode “23 Channel” (p. 15)
23	Blue 2		Same as CH 21 in the mode “23 Channel” (p. 15)
24	White 2		Same as CH 22 in the mode “23 Channel” (p. 15)
25	Control		Same as CH 23 in the mode “23 Channel” (p. 15)

Mode 101 Channel

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 8 Dimmer above 0; CH 9 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 8 Dimmer 255, CH 10 Red 1 255, CH 11 Green 1 255, CH 12 Blue 1 255, CH 13 White 1 255, CH 14 Color Temperature 0, CH 15 Colors 0, CH 21 Red 2 255, CH 22 Green 2 255, CH 23 Blue 2 255, CH 24 White 2 255, CH 26 Red 255 (the same in each of the 19 cells), CH 27 Green 255 (the same in each of the 19 cells), CH 28 Blue 255 (the same in each of the 19 cells), CH 29 White 0 (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 “23 Channel” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “23 Channel” (p. 10)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “23 Channel” (p. 10)
6	Zoom		Same as CH 6 in the mode “23 Channel” (p. 11)
7	Prism Rotation Speed		Same as CH 7 in the mode “23 Channel” (p. 11)
8	Dimmer		Same as CH 8 in the mode “23 Channel” (p. 11)
9	Shutter		Same as CH 9 in the mode “23 Channel” (p. 11)

CH	Function	DMX	Description
10	Red 1		Same as CH 10 in the mode “23 Channel” (p. 11)
11	Green 1		Same as CH 11 in the mode “23 Channel” (p. 11)
12	Blue 1		Same as CH 12 in the mode “23 Channel” (p. 11)
13	White 1		Same as CH 13 in the mode “23 Channel” (p. 11)
14	Color Temperature		Same as CH 14 in the mode “23 Channel” (p. 11)
15	Colors		Same as CH 15 in the mode “23 Channel” (p. 11)
16	Effects Fade		Same as CH 16 in the mode “25 Channel” (p. 17)
17	Effects Rotation		Same as CH 17 in the mode “25 Channel” (p. 17)
18	Effects 2		Same as CH 16 in the mode “23 Channel” (p. 12)
19	Effects		Same as CH 17 in the mode “23 Channel” (p. 13)
20	Effects Speed		Same as CH 18 in the mode “23 Channel” (p. 14)
21	Red 2		Same as CH 19 in the mode “23 Channel” (p. 15)
22	Green 2		Same as CH 20 in the mode “23 Channel” (p. 15)
23	Blue 2		Same as CH 21 in the mode “23 Channel” (p. 15)
24	White 2		Same as CH 22 in the mode “23 Channel” (p. 15)
25	Control		Same as CH 23 in the mode “23 Channel” (p. 15)
26	Red 3	0	Min
		1–254	Min … Max
		255	Max
27	Green 3	0	Min
		1–254	Min … Max
		255	Max
28	Blue 3	0	Min
		1–254	Min … Max
		255	Max
29	White 3	0	Min
		1–254	Min … Max
		255	Max

CH 26–101: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 26–29); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	26	27	28	29	2	30	31	32	33
3	34	35	36	37	4	38	39	40	41
5	42	43	44	45	6	46	47	48	49
7	50	51	52	53	8	54	55	56	57
9	58	59	60	61	10	62	63	64	65
11	66	67	68	69	12	70	71	72	73
13	74	75	76	77	14	78	79	80	81
15	82	83	84	85	16	86	87	88	89
17	90	91	92	93	18	94	95	96	97
19	98	99	100	101					

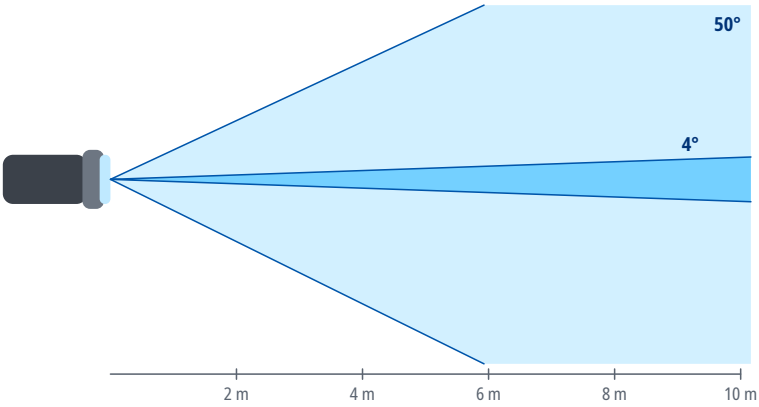
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	4–50°
Movement	
Pan	540°
Tilt	240°
Dimensions and construction	
Weight	23 kg
Operating environment	
Ingress protection	IP65
Meaning of the IP code (IEC 60529)	Dust-tight; protected against water jets
Operating temperature	0 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2800–8500 K
Strobe frequency	0.5–20 Hz

Spot diameter



Distance	Ø 4°	Ø 50°
2 m	0.14 m	1.9 m
4 m	0.28 m	3.7 m
6 m	0.42 m	5.6 m
8 m	0.56 m	7.5 m
10 m	0.7 m	9.3 m
15 m	1 m	14 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.