DMX REFERENCE

ACME BIG BANG (PM 1)

ACME



Manufacturer	ACME
GDTF file	ACME_ACME_BIG_BANG_PM_1_72213.gdtf
GDTF revision	ACME BIG BANG (PM 1) · 2024-08-28
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1 About this manual

This document describes the ACME BIG BANG (PM 1) by ACME. It was compiled from the GDTF file ACME_ACME_BIG_BANG_PM_1_72213.gdtf from the GDTF-Share library.

File revision: “ACME BIG BANG (PM 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 ACME; 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	42 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 1 156 DMX	156	3	1, 157, 313
Mode 2 16 DMX	16	32	1, 17, 33, 49, ...

No light? Check these channels

- Mode 1 156 DMX: CH 6 Shutter at 8–15 “Open” or 132–139 or 182–189 or 232–239 or 248–255; CH 7 Dimmer above 0
- Mode 2 16 DMX: CH 10 Shutter at 8–15 “Open” or 132–139 or 182–189 or 232–239 or 248–255; CH 11 Dimmer above 0


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

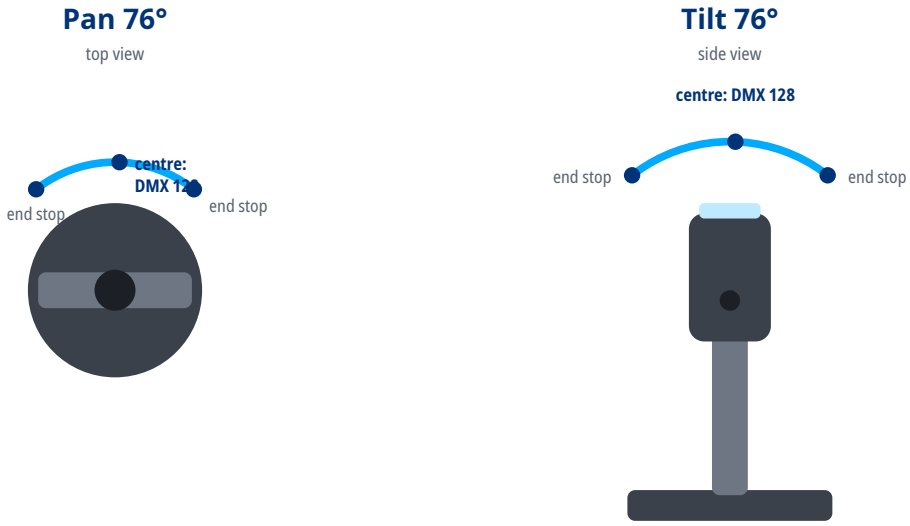
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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

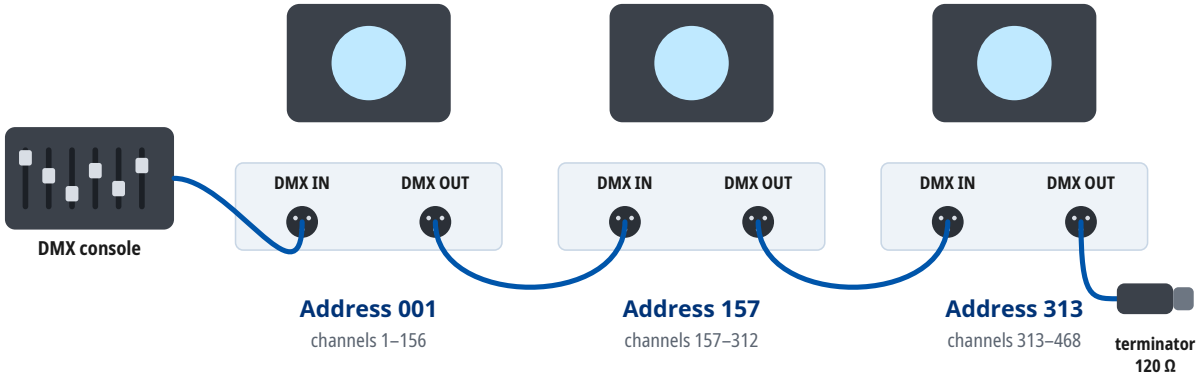
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 42 kg.
- 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 1 156 DMX: every unit occupies 156 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

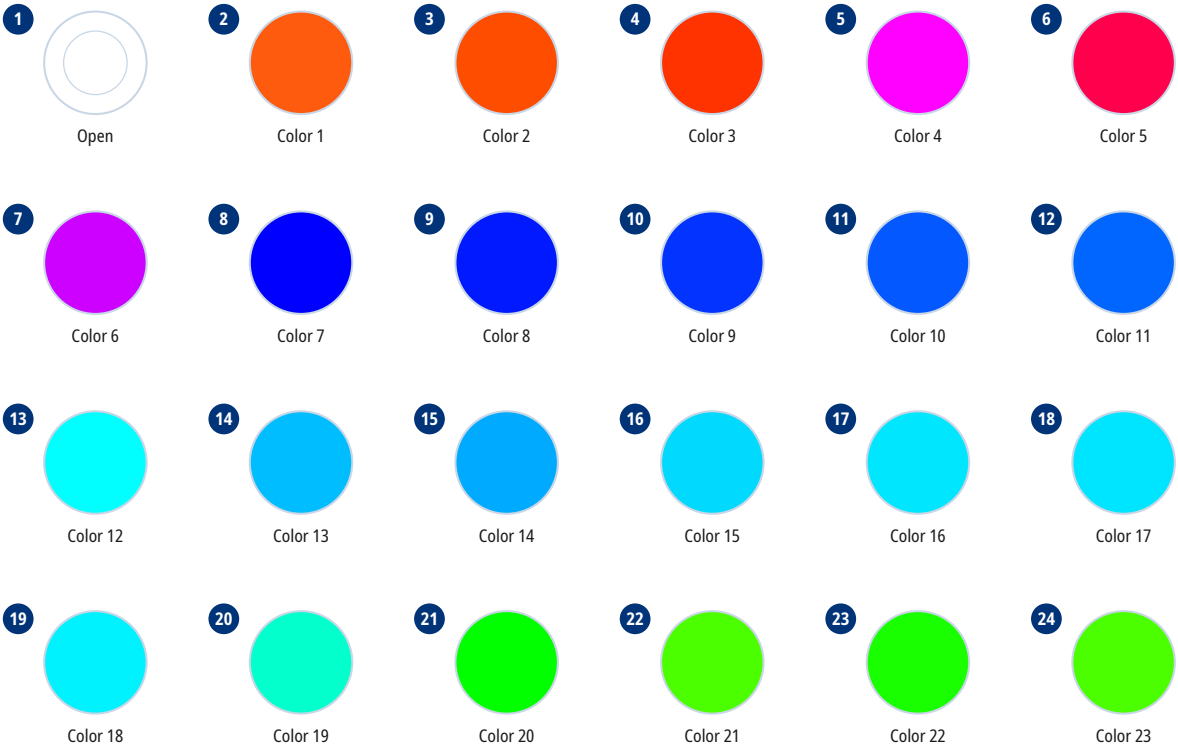
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode 1 156 DMX”: 156.
- Choose start addresses so that the channels of individual devices do not overlap and the last 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 “Mode 1 156 DMX”, you can use, for example, the start addresses 1, 157, 313.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

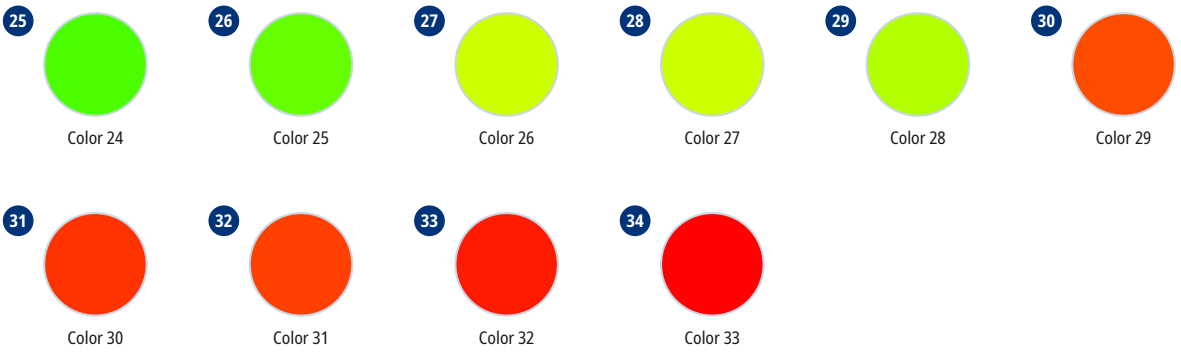
8 Functions at a glance

Functions in each DMX mode

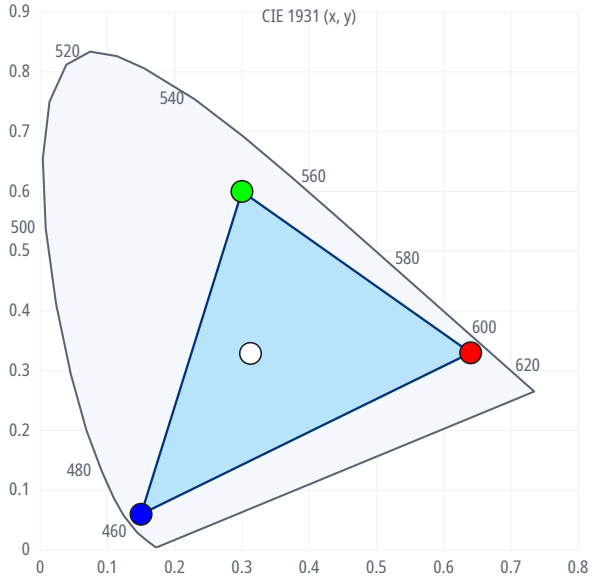
	Mode 1 156 DMX 156 channels	Mode 2 16 DMX 16 channels
Pan / Tilt	1, 3	1, 3
Dimmer	7	11
Shutter / strobe	6	10
Color mixing	10–156	6–8
Color wheel		9
Effects / macros		14, 15
Pixel control	49 cells	

Color wheel





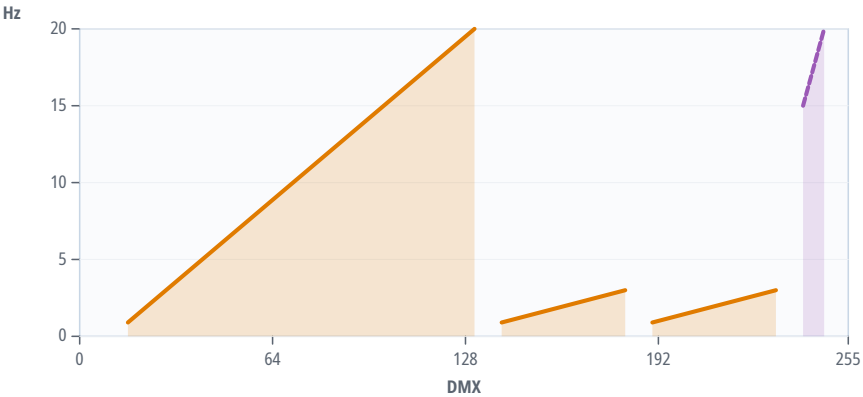
LED colors and the colors they mix



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.

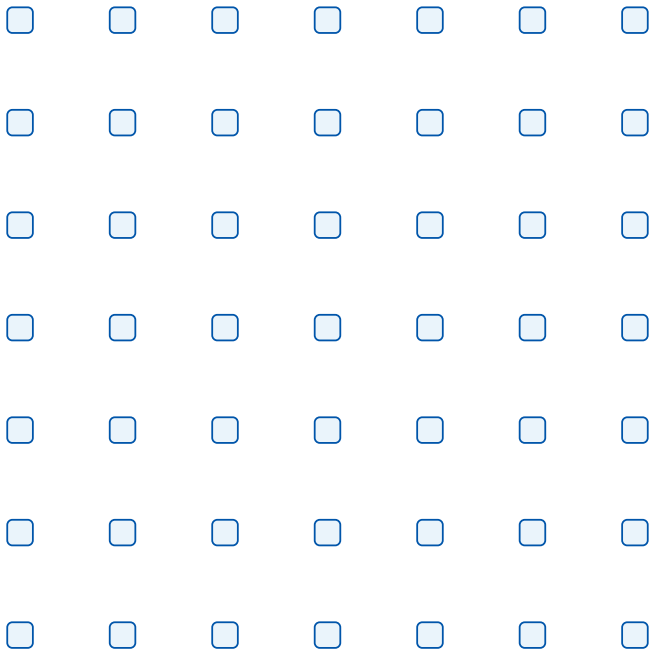
Strobe rate



CH 6 · Mode 1 156 DMX

- 16–131: 0.9–20 Hz
  ShutterStrobe 1
- 140–181: 0.9–3 Hz
  Pulse Open
- 190–231: 0.9–3 Hz
  Pulse Close
- 240–247: 15–20 Hz
  Strobe Ran

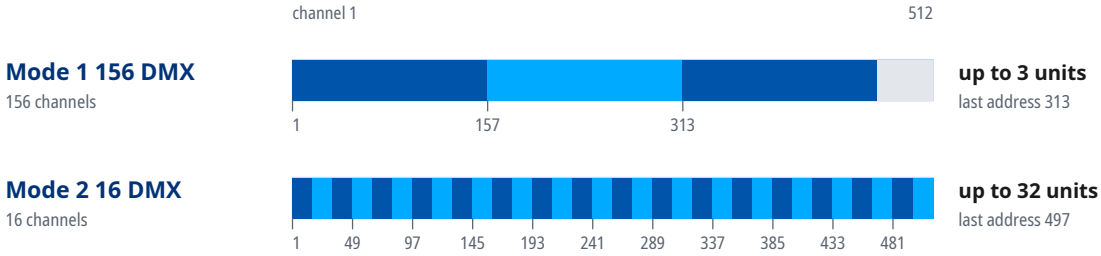
Cells (pixels)



Cells where the GDTF file places them (seen from above), 49 in all in the mode “Mode 1 156 DMX”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode 1 156 DMX”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 313	11	U4 · 157	16	U6 · 1
2	157	7	U3 · 1	12	U4 · 313	17	U6 · 157
3	313	8	U3 · 157	13	U5 · 1	18	U6 · 313
4	U2 · 1	9	U3 · 313	14	U5 · 157	19	U7 · 1
5	U2 · 157	10	U4 · 1	15	U5 · 313	20	U7 · 157

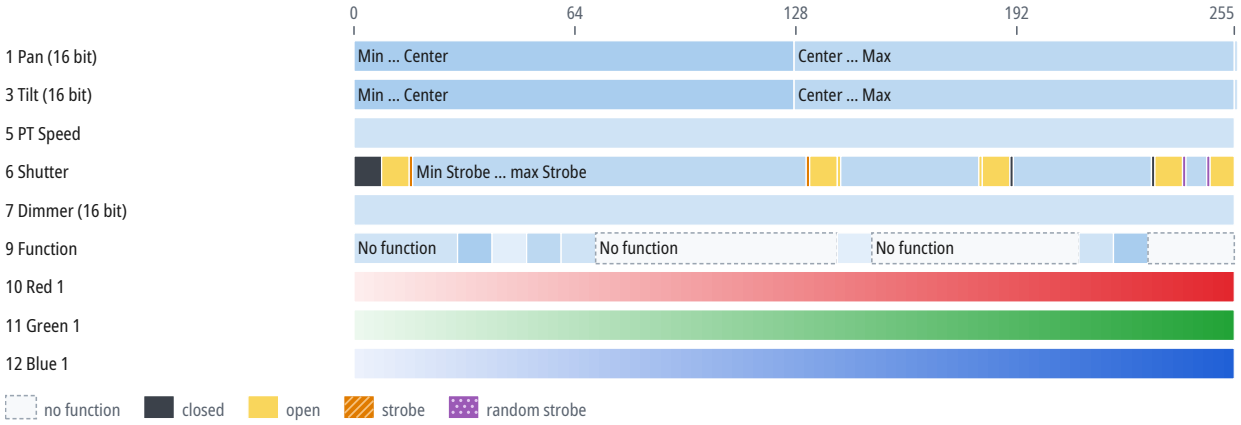
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 1 156 DMX

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

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Shutter at 8–15 “Open” or 132–139 or 182–189 or 232–239 or 248–255; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 10, CH 7 Dimmer 255, CH 10 Red 255 (the same in each of the 49 cells), CH 11 Green 255 (the same in each of the 49 cells), CH 12 Blue 255 (the same in each of the 49 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		128–255	Center ... Max
		255	Max

CH	Function	DMX	Description
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	PT Speed	0–255	
6	Shutter	0–7	Closed
		8–15	Open
		16	Min Strobe
		17–130	Min Strobe ... max Strobe
		131	Max Strobe
		132–139	Open 2
		140	Min Pulse Open
		141–180	Min Pulse Open ... max Pulse Open
		181	Max Pulse Open
		182–189	Open 3
		190	Min Pulse Close
		191–230	Min Pulse Close ... max Pulse Close
		231	Max Pulse Close
		232–239	Open 4
		240	Min Strobe Rand
		241–246	Min Strobe Rand ... max Strobe Rand
		247	Max Strobe Rand
		248–255	Open 5
7	Dimmer	0–255	
8	Dimmer Fine	0–255	Fine adjustment of CH 7
9	Function	0–29	No function
		30–39	Dim Linear
		40–49	Square Law
		50–59	Inv SQ Law
		60–69	S Curve
		70–139	No function
		140–149	All Reset
		150–209	No function
		210–219	Dim Fast
		220–229	Dim Smooth
		230–255	No function
10	Red 1	0–255	
11	Green 1	0–255	
12	Blue 1	0–255	

CH 10–156: 49 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 10–12); the table below gives each cell's channel numbers.

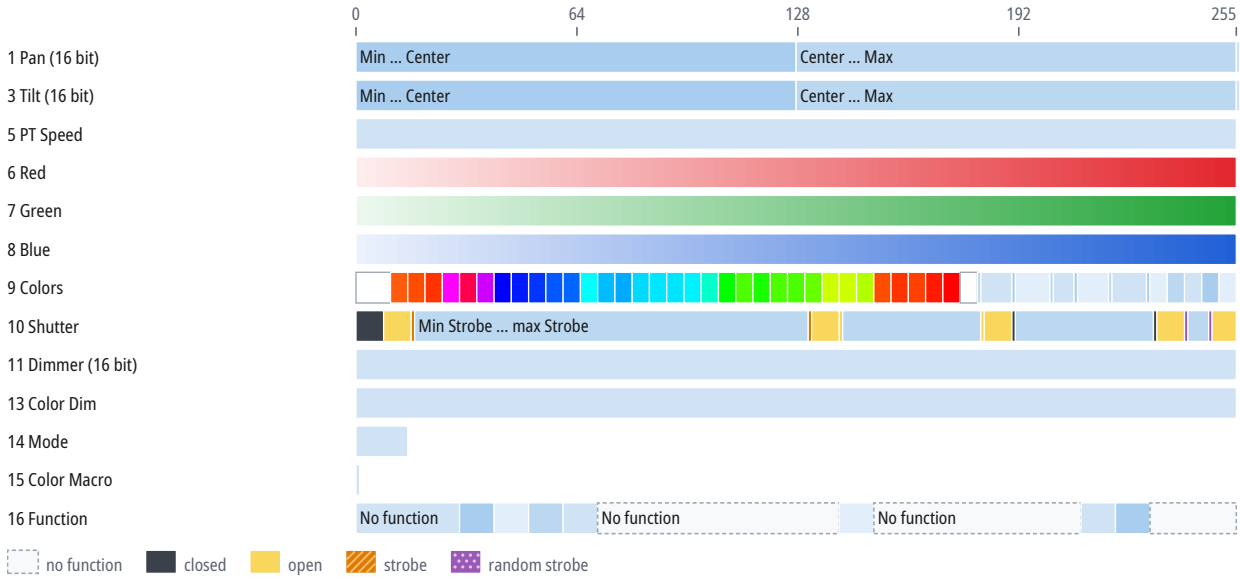
Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	10	11	12	2	13	14	15	3	16	17	18
4	19	20	21	5	22	23	24	6	25	26	27
7	28	29	30	8	31	32	33	9	34	35	36
10	37	38	39	11	40	41	42	12	43	44	45
13	46	47	48	14	49	50	51	15	52	53	54
16	55	56	57	17	58	59	60	18	61	62	63
19	64	65	66	20	67	68	69	21	70	71	72
22	73	74	75	23	76	77	78	24	79	80	81
25	82	83	84	26	85	86	87	27	88	89	90
28	91	92	93	29	94	95	96	30	97	98	99
31	100	101	102	32	103	104	105	33	106	107	108
34	109	110	111	35	112	113	114	36	115	116	117
37	118	119	120	38	121	122	123	39	124	125	126
40	127	128	129	41	130	131	132	42	133	134	135
43	136	137	138	44	139	140	141	45	142	143	144
46	145	146	147	47	148	149	150	48	151	152	153
49	154	155	156								

Mode 2 16 DMX

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 10 Shutter at 8–15 “Open” or 132–139 or 182–189 or 232–239 or 248–255; CH 11 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Red 255, CH 7 Green 255, CH 8 Blue 255, CH 9 Colors 0, CH 10 Shutter 10, CH 11 Dimmer 255, CH 13 Color Dim 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Mode 1 156 DMX” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Mode 1 156 DMX” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	PT Speed	0–255	
6	Red	0–255	
7	Green	0–255	
8	Blue	0–255	
9	Colors	0–9	Color 1: Open
		10–14	Color 1
		15–19	Color 2
		20–24	Color 3
		25–29	Color 4
		30–34	Color 5
		35–39	Color 6
		40–44	Color 7
		45–49	Color 8
		50–54	Color 9
		55–59	Color 10
		60–64	Color 11
		65–69	Color 12
		70–74	Color 13
		75–79	Color 14
		80–84	Color 15
		85–89	Color 16
		90–94	Color 17
		95–99	Color 18
		100–104	Color 19
		105–109	Color 20
		110–114	Color 21
		115–119	Color 22
		120–124	Color 23
		125–129	Color 24
		130–134	Color 25
		135–139	Color 26
		140–144	Color 27
		145–149	Color 28
		150–154	Color 29
		155–159	Color 30
		160–164	Color 31
		165–169	Color 32

CH	Function	DMX	Description
9	Colors (continued)	170–174	Color 33
		175–179	Color 1: Open2
		180	>>>
		181–189	>>> ... >>
		190	>>
		191–200	>> ... >
		201	>
		202–207	Color 1 Wheel Spin: Stop
		208	<
		209–217	< ... <<
		218	<<
		219–228	<< ... <<<
		229	<<<
		230–234	Color 1 Wheel Spin: Open 3
		235–239	Color 1 Wheel Spin: Fast
		240–244	Medium
		245–249	Color 1 Wheel Spin: Slow
		250–255	Color 1 Wheel Spin: Open 4
10	Shutter		Same as CH 6 in the mode “Mode 1 156 DMX” (p. 11)
11	Dimmer	0–255	
12	Dimmer Fine	0–255	Fine adjustment of CH 11
13	Color Dim	0–255	
14	Mode		When CH 15 is 0–255:
		0–14	Entry 0
		15–47	Full on
		48–95	Macro
		96–135	0 to 9
		136–175	A to Z
		176–255	Entry 2
15	Color Macro		When CH 14 is 0–14:
		0–255	Entry 0
			When CH 14 is 15–47:
		0–255	
			When CH 14 is 48–95:
		0–7	Entry 0
		8–15	Macro 1
		16–23	Macro 2
		24–31	Macro 3
		32–39	Macro 4
		40–47	Macro 5
		48–55	Macro 6
		56–63	Macro 7

CH	Function	DMX	Description
15	Color Macro (continued)	64–71	Macro 8
		72–79	Macro 9
		80–87	Macro 10
		88–95	Macro 11
		96–103	Macro 12
		104–111	Macro 13
		112–119	Macro 14
		120–127	Macro 15
		128–135	Macro 16
		136–143	Macro 17
		144–151	Macro 18
		152–159	Macro 19
		160–167	Macro 20
		168–175	Macro 21
		176–183	Macro 22
		184–191	Macro 23
		192–199	Macro 24
		200–207	Macro 25
		208–215	Macro 26
		216–223	Macro 27
		224–231	Macro 28
		232–247	Random
		248–255	Entry 2
			When CH 14 is 96–135:
		0–25	Entry 0
		26–48	0
		49–71	1
		72–94	2
		95–117	3
		118–140	4
		141–163	5
		164–186	6
		187–209	7
		210–232	8
		233–255	9
			When CH 14 is 136–175:
		0–21	Entry 0
		22–30	A
		31–39	B
		40–48	C
		49–57	D
		58–66	E

CH	Function	DMX	Description
15	Color Macro (continued)	67–75	F
		76–84	G
		85–93	H
		94–102	I
		103–111	J
		112–120	K
		121–129	L
		130–138	M
		139–147	N
		148–156	O
		157–165	P
		166–174	Q
		175–183	R
		184–192	S
		193–201	T
		202–210	U
		211–219	V
		220–228	W
		229–237	X
		238–246	Y
		247–255	Z
			When CH 14 is 176–255:
		0–255	Entry 2
16	Function		Same as CH 9 in the mode “Mode 1 156 DMX” (p. 11)

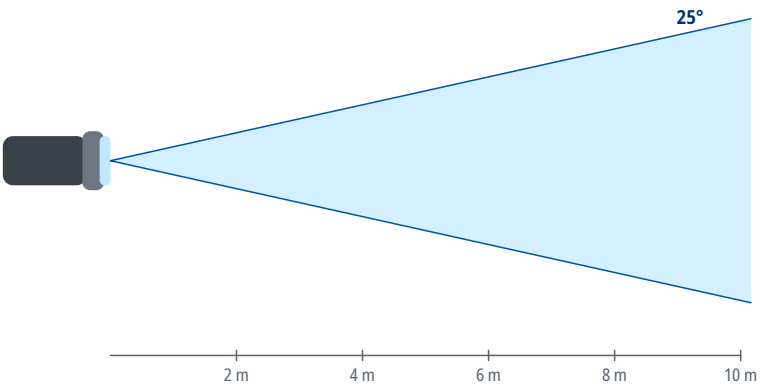
10 Technical specifications

Parameter	Value
Pan	76°
Tilt	76°
Weight	42 kg
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.9–20 Hz
Color wheel rotation	up to 120 °/s (20 rpm)

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.
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.