DMX REFERENCE

Rave Bar

JB Systems Rave Bar

JB Systems

Manufacturer	JB Systems
GDTF file	JB_Systems_Rave_Bar_46482.gdtf
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Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Product description 4
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 6
9 DMX channels 8
Mode 37CH Mode 9
Mode 6CH Mode 12
Mode 2CH 14
Mode 1CH 14
10 Technical specifications 15
11 Maintenance and cleaning 15
12 Troubleshooting 16
13 Disposal 16

1 About this manual

This document describes the JB Systems Rave Bar by JB Systems. It was compiled from the GDTF file JB_Systems_Rave_Bar_46482.gdtf from the GDTF-Share library.

File revision: “V233”.

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 JB Systems; 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	3.9 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
37CH Mode	37	13	1, 38, 75, 112, ...
6CH Mode	6	85	1, 7, 13, 19, ...
2CH	2	256	1, 3, 5, 7, ...
1CH	1	512	1, 2, 3, 4, ...

No light? Check these channels

- 37CH Mode: CH 1 Dimmer above 0 (the same in each of the 14 cells); CH 30 Dimmer 15 above 0; CH 31 Dimmer 16 above 0; CH 32 Dimmer 17 above 0; CH 33 Dimmer 18 above 0; CH 34 Dimmer 19 above 0
- 6CH Mode: CH 1 Dimmer above 0; CH 6 Strobe Speed at 0–9 “No Function”



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.

4 Product description

Description in the GDTF file

- LED-Bar
- 14x 3W Warm White LED
- 120x RGB-SMD-LED

- 180x Coldwhite SMD LED

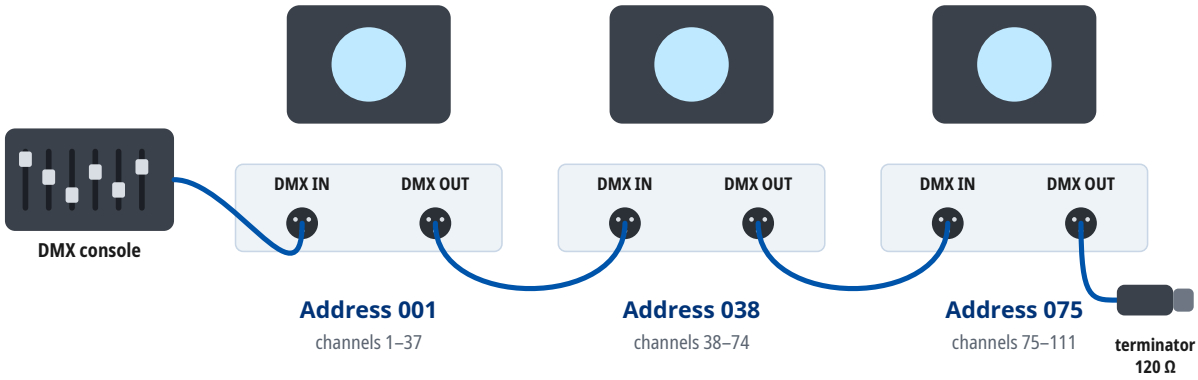
5 Installation

> ⚠ **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: 3.86 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 37CH Mode: every unit occupies 37 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

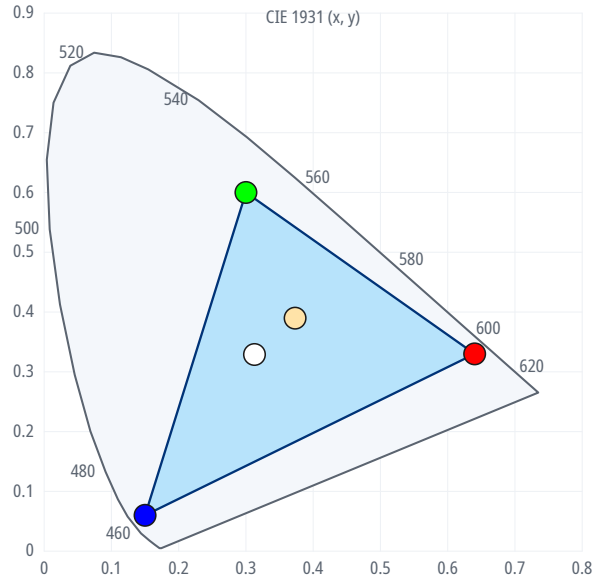
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “37CH Mode”: 37.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “37CH Mode”, you can use, for example, the start addresses 1, 38, 75, 112.
- 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

	37CH Mode 37 channels	6CH Mode 6 channels	2CH 2 channels	1CH 1 channel
Dimmer	1–14, 30–34	1		
Shutter / strobe	37	6		
Color mixing	15–29			
Effects / macros		3		
Pixel control	14 cells			

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
WarmWhite	0.373	0.390
ColdWhite	0.313	0.329

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

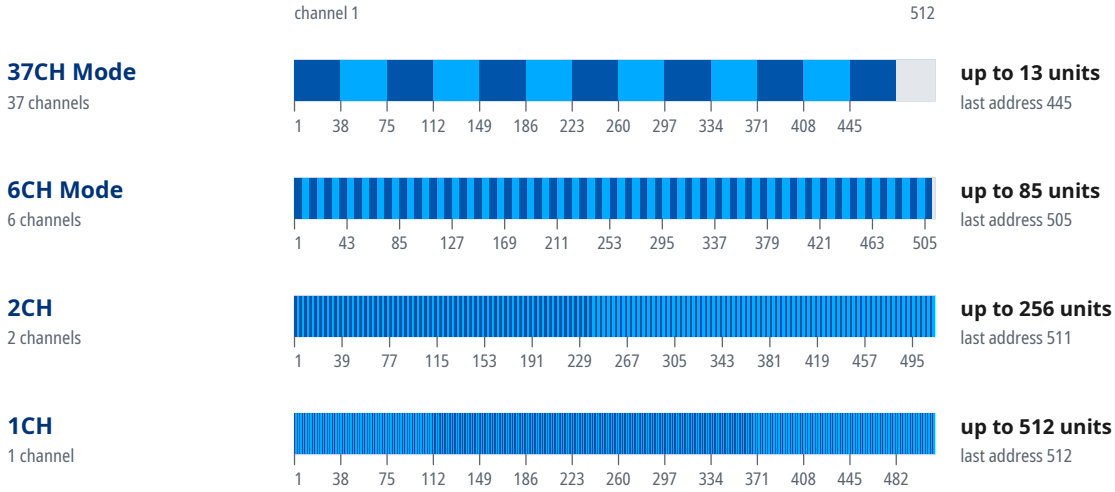
Cells (pixels)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12	CH 13	CH 14

14 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “37CH Mode”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “37CH Mode”

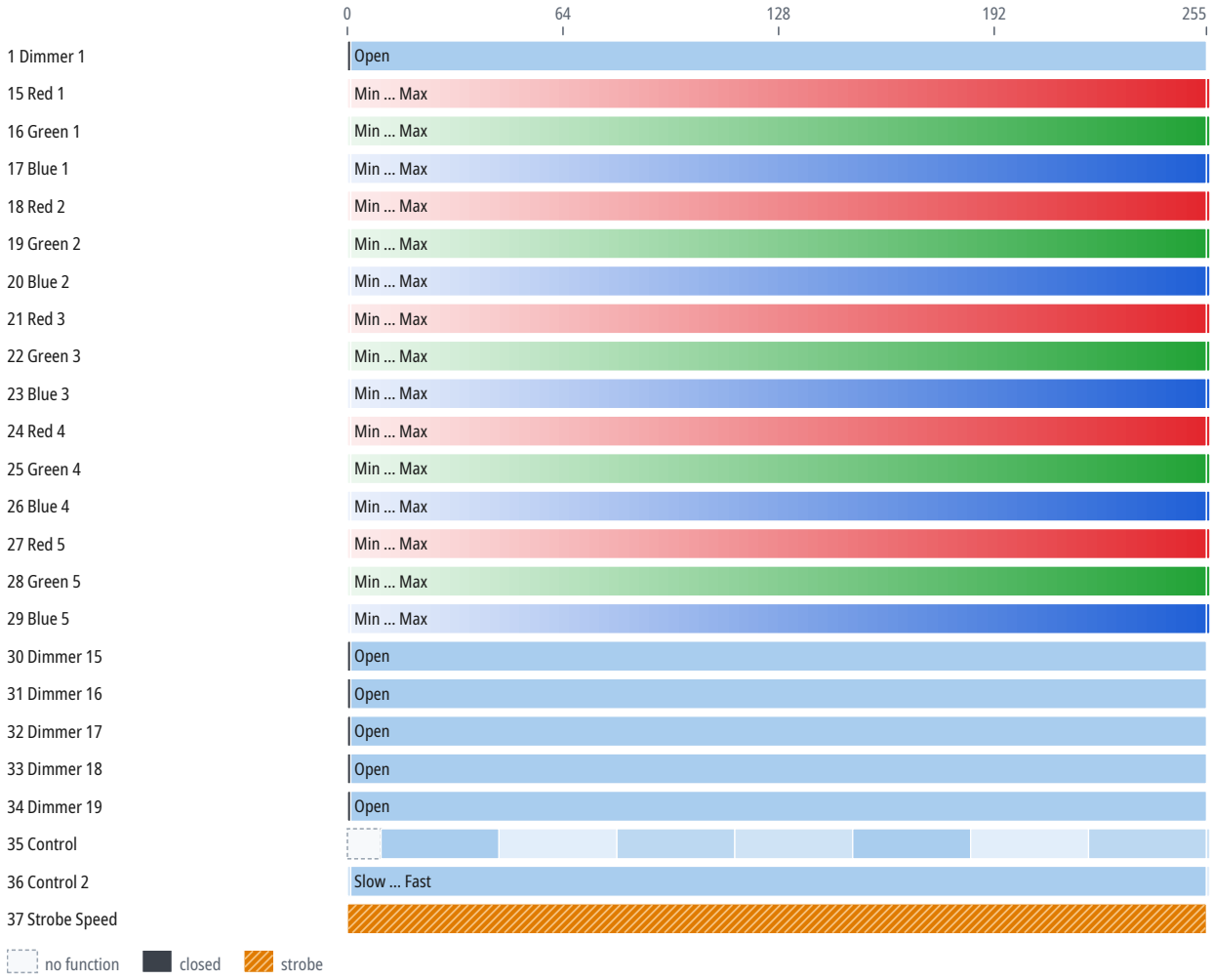
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	186	11	371	16	U2 · 75
2	38	7	223	12	408	17	U2 · 112
3	75	8	260	13	445	18	U2 · 149
4	112	9	297	14	U2 · 1	19	U2 · 186
5	149	10	334	15	U2 · 38	20	U2 · 223

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 37CH Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0 (the same in each of the 14 cells); CH 30 Dimmer 15 above 0; CH 31 Dimmer 16 above 0; CH 32 Dimmer 17 above 0; CH 33 Dimmer 18 above 0; CH 34 Dimmer 19 above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255 (the same in each of the 14 cells), CH 15 Red 1 255, CH 16 Green 1 255, CH 17 Blue 1 255, CH 18 Red 2 255, CH 19 Green 2 255, CH 20 Blue 2 255, CH 21 Red 3 255, CH 22 Green 3 255, CH 23 Blue 3 255, CH 24 Red 4 255, CH 25 Green 4 255, CH 26 Blue 4 255, CH 27 Red 5 255, CH 28 Green 5 255, CH 29 Blue 5 255, CH 30 Dimmer 15 255, CH 31 Dimmer 16 255, CH 32 Dimmer 17 255, CH 33 Dimmer 18 255, CH 34 Dimmer 19 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer 1	0	Closed
		1–255	Open
15	Red 1	0	Min
		1–254	Min ... Max
		255	Max
16	Green 1	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
17	Blue 1		Color RGB_Blue 1
		0	Min
		1–254	Min ... Max
		255	Max
18	Red 2	0	Min
		1–254	Min ... Max
		255	Max
19	Green 2	0	Min
		1–254	Min ... Max
		255	Max
20	Blue 2	0	Min
		1–254	Min ... Max
		255	Max
21	Red 3	0	Min
		1–254	Min ... Max
		255	Max
22	Green 3	0	Min
		1–254	Min ... Max
		255	Max
23	Blue 3	0	Min
		1–254	Min ... Max
		255	Max
24	Red 4	0	Min
		1–254	Min ... Max
		255	Max
25	Green 4	0	Min
		1–254	Min ... Max
		255	Max
26	Blue 4	0	Min
		1–254	Min ... Max
		255	Max
27	Red 5	0	Min
		1–254	Min ... Max
		255	Max
28	Green 5	0	Min
		1–254	Min ... Max
		255	Max
29	Blue 5	0	Min
		1–254	Min ... Max
		255	Max
30	Dimmer 15	0	Closed
		1–255	Open

CH	Function	DMX	Description
31	Dimmer 16	0	Closed
		1–255	Open
32	Dimmer 17	0	Closed
		1–255	Open
33	Dimmer 18	0	Closed
		1–255	Open
34	Dimmer 19	0	Closed
		1–255	Open
35	Control		Auto Program
		0–9	No Function
		10–44	Program 1 random
		45–79	Program 2 WW + RGB slow >> fast
		80–114	Program 3 WW + CW slow >> fast
		115–149	Program 4 RGB + CW slow >> fast
		150–184	Program 5 WW slow >> fast
		185–219	Program 6 RGB slow >> fast
		220–254	Program 7 CW slow >> fast
		255	Soundmode
36	Control 2		Program Speed
		0	Slow
		1–254	Slow ... Fast
		255	Fast
37	Strobe Speed	0–255	

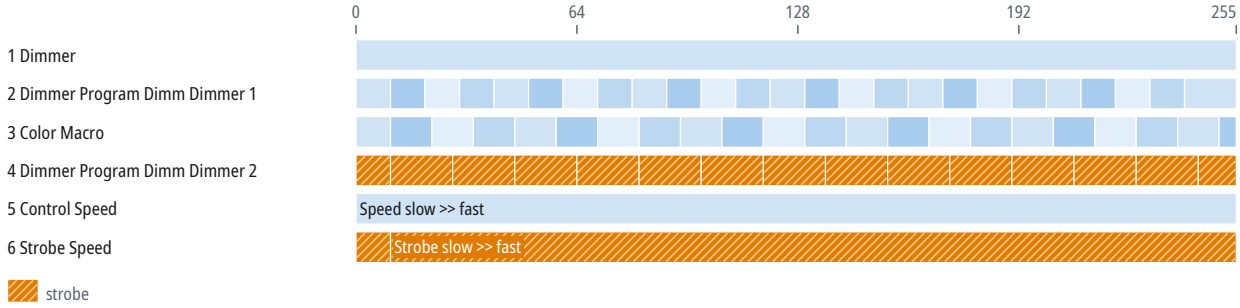
CH 1–14: 14 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 1); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	1	2	2	3	3	4	4	5	5	6	6
7	7	8	8	9	9	10	10	11	11	12	12
13	13	14	14								

Mode 6CH Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 6 Strobe Speed at 0–9 “No Function”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance

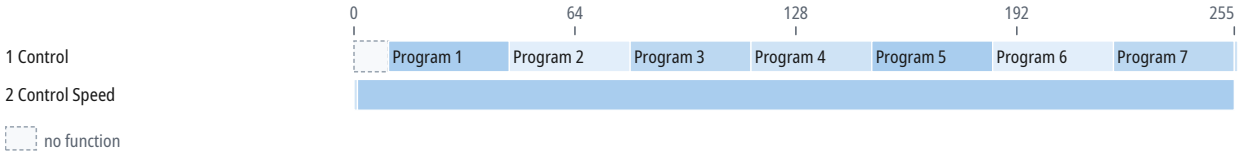


CH	Function	DMX	Description
1	Dimmer	0–255	
2	Dimmer Program Dimm Dimmer 1	0–9	Sunstripe 0%
		10–19	Sunstripe 100%
		20–29	Sunstripe Program 1
		30–39	Sunstripe Program 2
		40–49	Sunstripe Program 3
		50–59	Sunstripe Program 4
		60–69	Sunstripe Program 5
		70–79	Sunstripe Program 6
		80–89	Sunstripe Program 7
		90–99	Sunstripe Program 8
		100–109	Sunstripe Program 9
		110–119	Sunstripe Program 10
		120–129	Sunstripe Program 11
		130–139	Sunstripe Program 12
		140–149	Sunstripe Program 13
		150–159	Sunstripe Program 14
		160–169	Sunstripe Program 15
		170–179	Sunstripe Program 16
		180–189	Sunstripe Program 17
		190–199	Sunstripe Program 18
		200–209	Sunstripe Program 19
		210–219	Sunstripe Program 20
		220–229	Sunstripe Program 21
		230–239	Sunstripe Program 22
		240–255	Sunstripe Program 23
3	Color Macro	0–9	RGB LED 0%
		10–21	Static Color 1

CH	Function	DMX	Description
3	Color Macro (continued)	22–33	Static Color 2
		34–45	Static Color 3
		46–57	Static Color 4
		58–69	Static Color 5
		70–81	Static Color 6
		82–93	Static Color 7
		94–105	Static Color 8
		106–117	Static Color 9
		118–129	Static Color 10
		130–141	Program 1
		142–153	Program 2
		154–165	Program 3
		166–177	Program 4
		178–189	Program 5
		190–201	Program 6
		202–213	Program 7
		214–225	Program 8
		226–237	Program 9
		238–249	Program 10
		250–255	Program 11
4	Dimmer Program Dimm Dimmer 2	0–9	Strobe LED 0%
		10–27	Strobe LED 100%
		28–45	Strobe Program 1
		46–63	Strobe Program 2
		64–81	Strobe Program 3
		82–99	Strobe Program 4
		100–117	Strobe Program 5
		118–135	Strobe Program 6
		136–153	Strobe Program 7
		154–189	Strobe Program 9
		190–207	Strobe Program 10
		208–225	Strobe Program 11
		226–243	Strobe Program 12
		244–255	Strobe Program 13
5	Control Speed	0–255	Speed slow >> fast
6	Strobe Speed	0–9	No Function
		10–255	Strobe slow >> fast

Mode 2CH

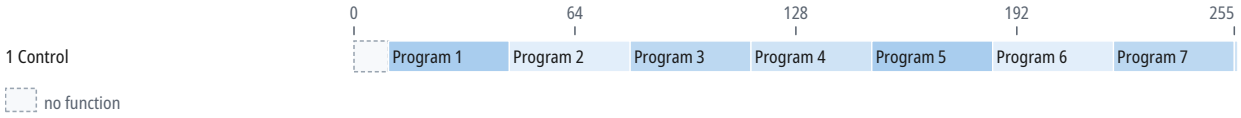
Channel functions at a glance



CH	Function	DMX	Description
1	Control	0–9	No Function
		10–44	Program 1
		45–79	Program 2
		80–114	Program 3
		115–149	Program 4
		150–184	Program 5
		185–219	Program 6
		220–254	Program 7
		255	Soundmode
2	Control Speed	0	Speed slow >> fast
		1–255	Control Speed 1

Mode 1CH

Channel functions at a glance

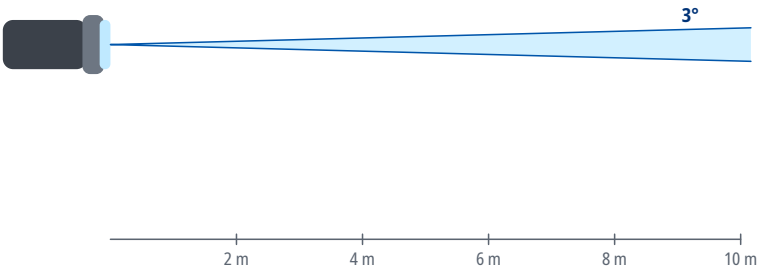


CH	Function	DMX	Description
1	Control		Same as CH 1 in the mode “2CH” (p. 14)

10 Technical specifications

Parameter	Value
Light source	LED
Weight	3.9 kg
Operating temperature	0 to 40 °C

Spot diameter



Distance	Ø 3°
2 m	0.1 m
4 m	0.21 m
6 m	0.31 m
8 m	0.42 m
10 m	0.52 m
15 m	0.79 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.

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.