DMX REFERENCE

Megakolor

Starway

Manufacturer	Starway
GDTF file	Starway_Megakolor_11162.gdtf
GDTF revision	V1.0, Uploaded to GDTF Share. · 2021-02-25
Generated	2026-11-24

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1 About this manual

This document describes the Megakolor by Starway. It was compiled from the GDTF file Starway_Megakolor_11162.gdtf from the GDTF-Share library.

File revision: “V1.0, Uploaded to GDTF Share.”.

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 Starway; 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	11.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Tour	13	39	1, 14, 27, 40, ...
ARC2	4	128	1, 5, 9, 13, ...
ARC2 D	5	102	1, 6, 11, 16, ...
ARC2 S	6	85	1, 7, 13, 19, ...
ARC2 Z	8	64	1, 9, 17, 25, ...
TR16	18	28	1, 19, 37, 55, ...
HSV	3	170	1, 4, 7, 10, ...

No light? Check these channels

- Tour: CH 7 Shutter at 0–9 “Open”
- ARC2 S: CH 6 Shutter at 0–9 “Open”
- ARC2 Z: CH 6 Shutter at 0–9 “Open”
- TR16: CH 12 Shutter at 0–9 “Open”


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

“Mode Tour / ARC2 / ARC2D / ARC2S / HSV / TR16 / ARC2Z”

5 Installation

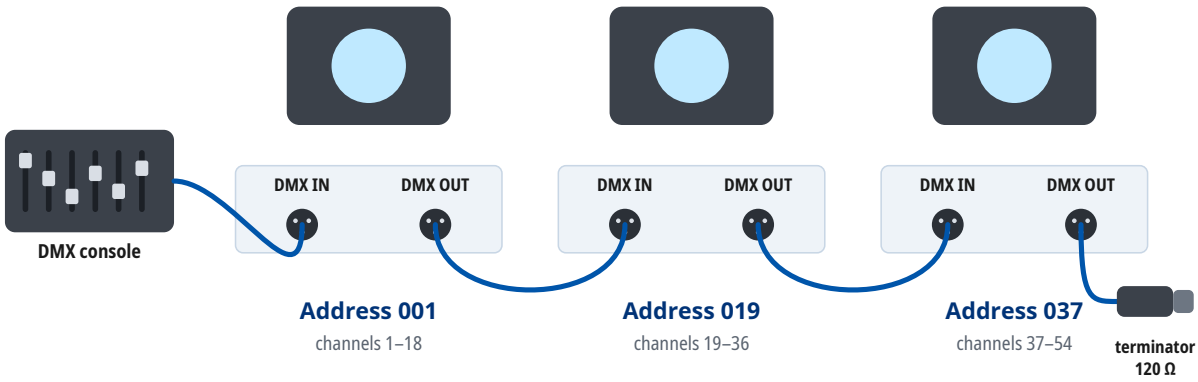
⚠ WARNING

- 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: 11.5 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 TR16: every unit occupies 18 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 “TR16”: 18.
- 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 “TR16”, you can use, for example, the start addresses 1, 19, 37, 55.
- 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

	Tour 13 channels	ARC2 4 channels	ARC2 D 5 channels	ARC2 S 6 channels	ARC2 Z 8 channels	TR16 18 channels	HSV 3 channels
Dimmer	1	✓	1	1	1	1	
Dimmer resolution	8 bit		8 bit	8 bit	8 bit	16 bit	
Shutter / strobe	7			6	6	12	
Color mixing	2–5	1–4	2–5	2–5	2–5	4× (3–9)	
Color wheel	6, 8					11, 13	
Gobo wheel	11					16	
Zoom	12				7	17	

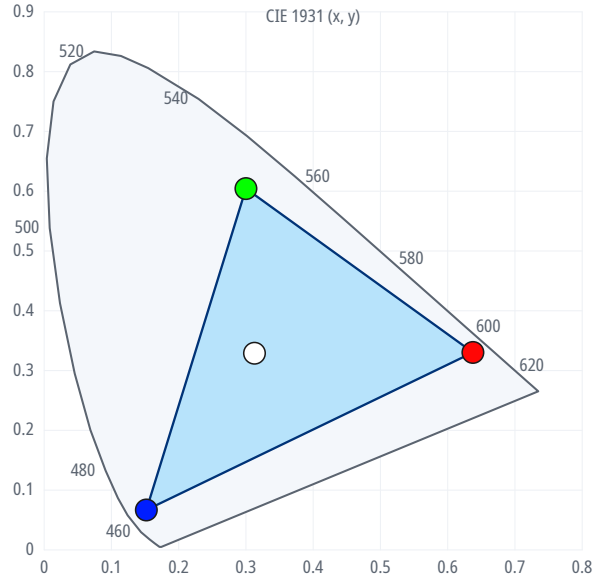
Color wheel

1 Open DMX 0–11	2 Red-Blue up DMX 12–23	3 Green-Red down DMX 24–36	4 Green-Blue up DMX 37–48	5 Blue-Green down DMX 49–60	6 Blue-Red up DMX 61–72
7 Red-Blue down DMX 73–84	8 Red-Blue up 1 DMX 85–97	9 Blue-Red down DMX 98–109	10 Full DMX 110–121	11 3200K DMX 122–133	12 3400K DMX 134–145
13 4200K DMX 146–157	14 4900K DMX 158–170	15 5600K DMX 171–182	16 5900K DMX 183–194	17 6500K DMX 195–206	18 7200K DMX 207–218
19 8000K DMX 219–231	20 8500K DMX 232–243	21 10000K DMX 244–255			

Gobo wheel

1 PIX 1-2-3	DMX 0–19	6 PIX 1-3	DMX 98–117	11 >>> <<<	DMX 197–216
2 PIX 1	DMX 20–38	7 PIX 2-3	DMX 118–137	12 Random	DMX 217–235
3 PIX 2	DMX 39–58	8 1-2- 3	DMX 138–157	13 ALL	DMX 236–255
4 PIX 3	DMX 59–78	9 >>>	DMX 158–176		
5 PIX 1-2	DMX 79–97	10 <<<	DMX 177–196		

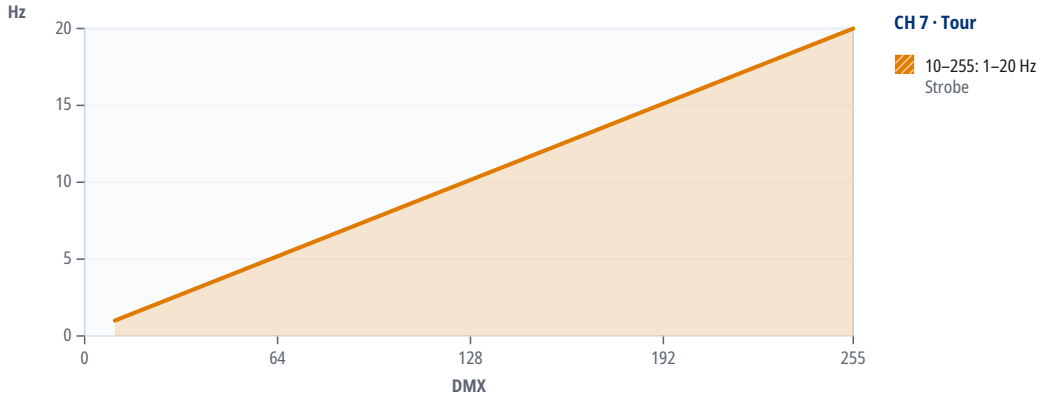
LED colors and the colors they mix



LED	x	y
Red	0.637	0.330
Green	0.300	0.604
Blue	0.152	0.067
White	0.313	0.329

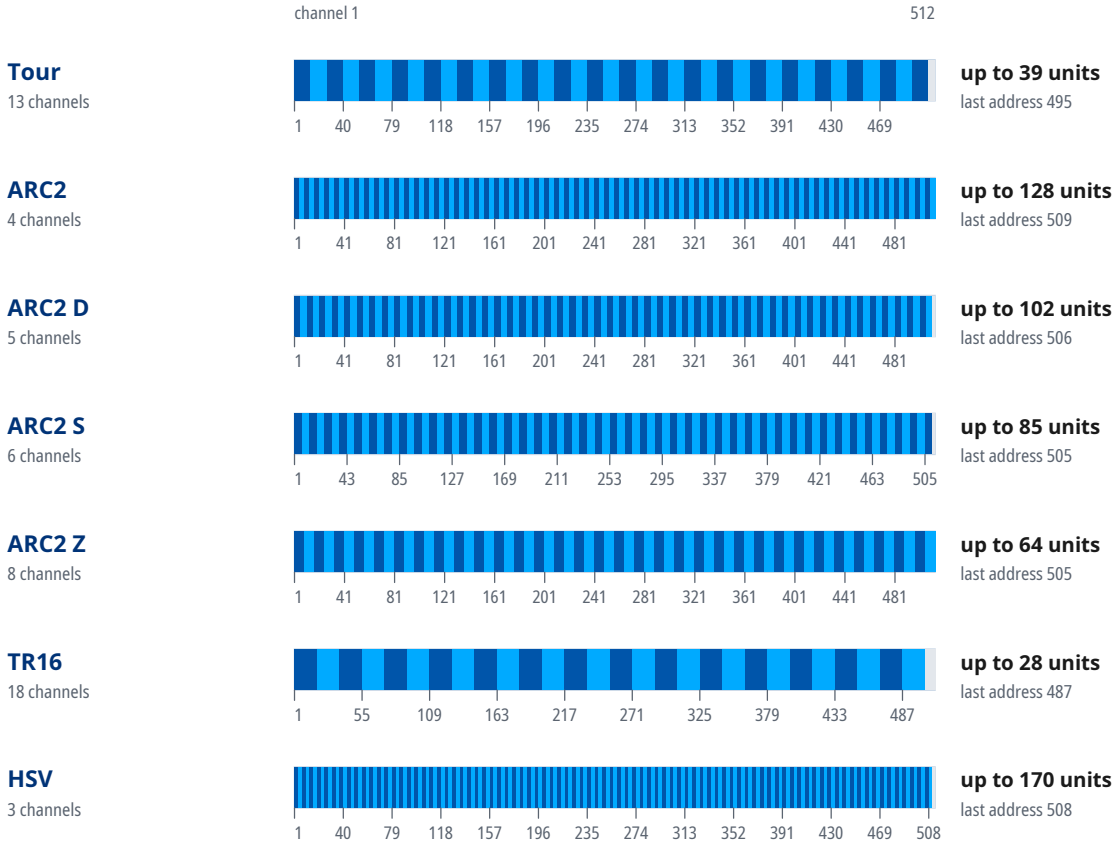
The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

Strobe rate



9 DMX channels

Units in one DMX universe



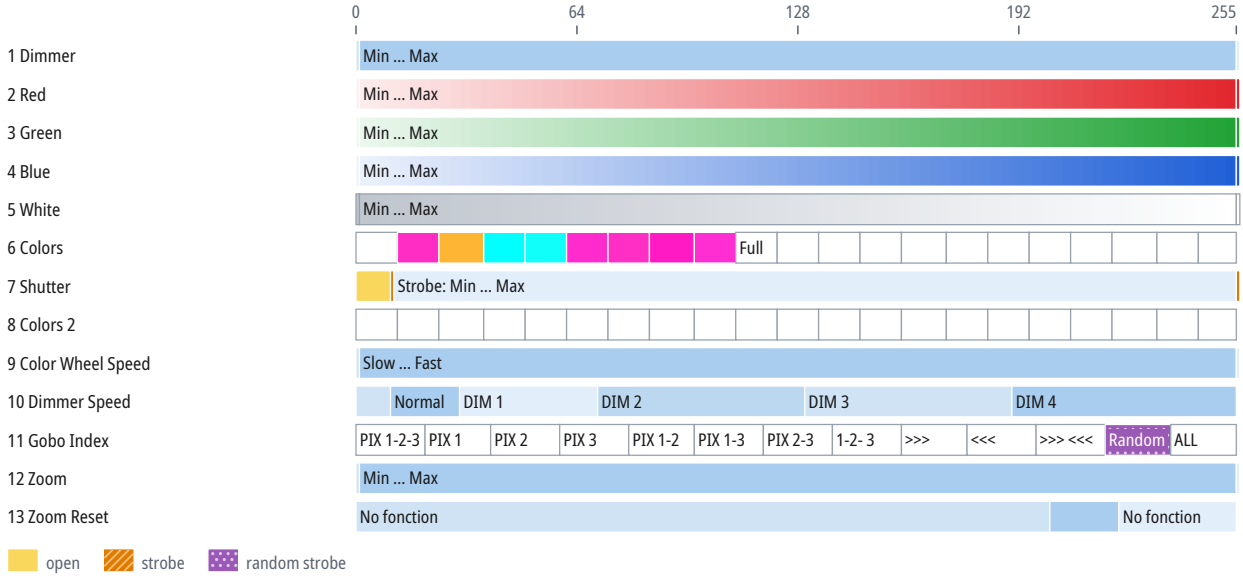
Start addresses of 20 units in the mode “TR16”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	91	11	181	16	271
2	19	7	109	12	199	17	289
3	37	8	127	13	217	18	307
4	55	9	145	14	235	19	325
5	73	10	163	15	253	20	343

Mode Tour

If the device receives DMX in this mode but gives no light, check these channels: CH 7 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255, CH 5 White 0, CH 6 Colors 0, CH 7 Shutter 0, CH 8 Colors 2 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0	Min
		1–254	Min ... Max
		255	Max
2	Red	0	Min
		1–254	Min ... Max
		255	Max
3	Green	0	Min
		1–254	Min ... Max
		255	Max
4	Blue	0	Min
		1–254	Min ... Max
		255	Max
5	White	0	Min
		1–254	Min ... Max
		255	Max
6	Colors	0–11	Open
		12–23	Red-Blue up
		24–36	Green-Red down
		37–48	Green-Blue up
		49–60	Blue-Green down
		61–72	Blue-Red up
		73–84	Red-Blue down

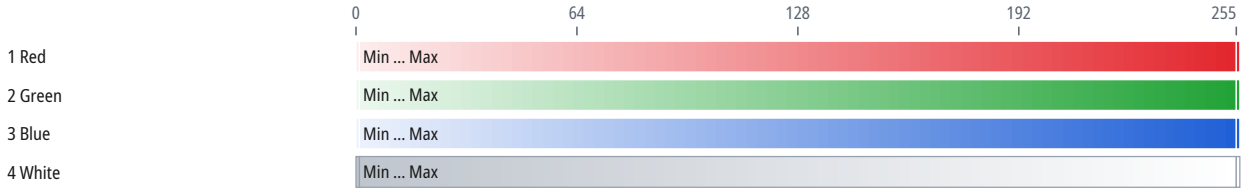
CH	Function	DMX	Description
6	Colors (continued)	85–97	Red-Blue up 1
		98–109	Blue-Red down
		110–121	Full
		122–133	3200K
		134–145	3400K
		146–157	4200K
		158–170	4900K
		171–182	5600K
		183–194	5900K
		195–206	6500K
		207–218	7200K
		219–231	8000K
		232–243	8500K
		244–255	10000K
7	Shutter	0–9	Open
		10	Strobe: Min
		11–254	Strobe: Min ... Max
		255	Strobe: Max
8	Colors 2	0–11	Open
		12–23	Auto 01
		24–36	Auto 02
		37–48	Auto 03
		49–60	Auto 04
		61–72	Auto 05
		73–84	Auto 06
		85–97	Auto 07
		98–109	Auto 08
		110–121	Auto 09
		122–133	Auto 10
		134–145	Custom 01
		146–157	Custom 02
		158–170	Custom 03
		171–182	Custom 04
		183–194	Custom 05
		195–206	Custom 06
		207–218	Custom 07
		219–231	Custom 08
		232–243	Custom 09
		244–255	Custom 10
9	Color Wheel Speed	0	Slow
		1–254	Slow ... Fast
		255	Fast

CH	Function	DMX	Description
10	Dimmer Speed	0–9	Fixture mode
		10–29	Normal
		30–69	DIM 1
		70–129	DIM 2
		130–189	DIM 3
		190–255	DIM 4
11	Gobo Index	0–19	PIX 1-2-3
		20–38	PIX 1
		39–58	PIX 2
		59–78	PIX 3
		79–97	PIX 1-2
		98–117	PIX 1-3
		118–137	PIX 2-3
		138–157	1-2- 3
		158–176	>>>
		177–196	<<<
		197–216	>>> <<<
		217–235	Random
		236–255	ALL
12	Zoom	0	Min
		1–254	Min ... Max
		255	Max
13	Zoom Reset	0–200	No fonction
		201–220	Zoom reset
		221–255	No fonction

Mode ARC2

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 4 White 255.

Channel functions at a glance

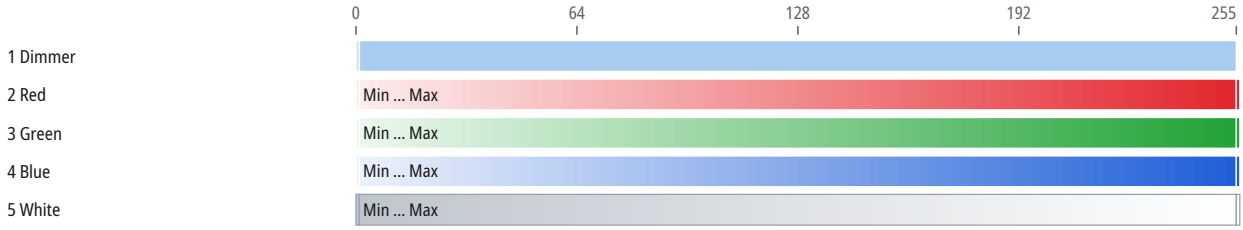


CH	Function	DMX	Description
1	Red		Same as CH 2 in the mode “Tour” (p. 9)
2	Green		Same as CH 3 in the mode “Tour” (p. 9)
3	Blue		Same as CH 4 in the mode “Tour” (p. 9)
4	White		Same as CH 5 in the mode “Tour” (p. 9)

Mode ARC2 D

The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 4294967295, CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255, CH 5 White 255.

Channel functions at a glance

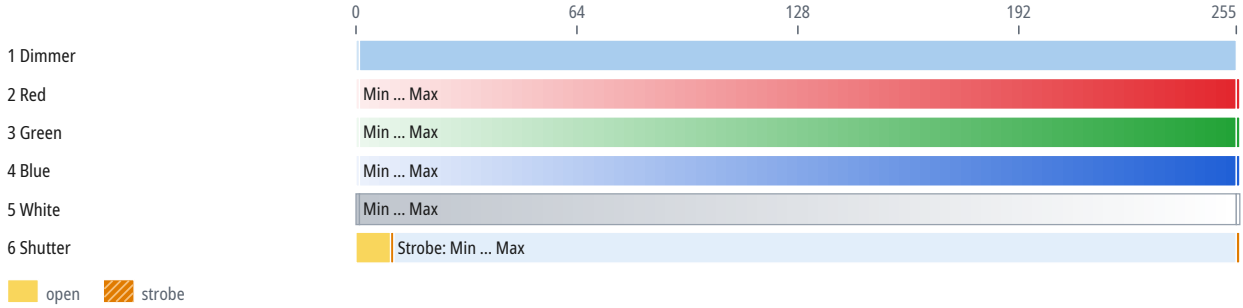


CH	Function	DMX	Description
1	Dimmer	0	Min
		1–255	Dimmer 1
2	Red		Same as CH 2 in the mode “Tour” (p. 9)
3	Green		Same as CH 3 in the mode “Tour” (p. 9)
4	Blue		Same as CH 4 in the mode “Tour” (p. 9)
5	White		Same as CH 5 in the mode “Tour” (p. 9)

Mode ARC2 S

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 4294967295, CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255, CH 5 White 255, CH 6 Shutter 0.

Channel functions at a glance

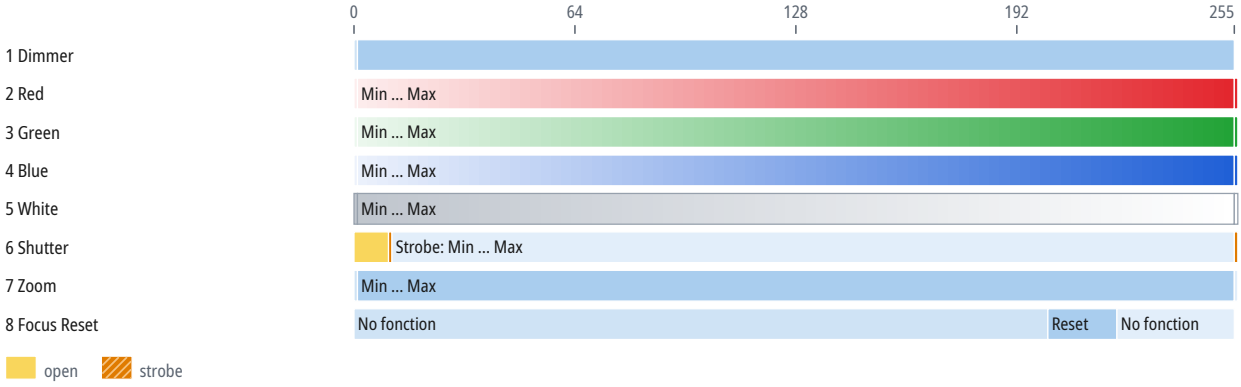


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “ARC2 D” (p. 12)
2	Red		Same as CH 2 in the mode “Tour” (p. 9)
3	Green		Same as CH 3 in the mode “Tour” (p. 9)
4	Blue		Same as CH 4 in the mode “Tour” (p. 9)
5	White		Same as CH 5 in the mode “Tour” (p. 9)
6	Shutter		Same as CH 7 in the mode “Tour” (p. 10)

Mode ARC2 Z

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 4294967295, CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255, CH 5 White 255, CH 6 Shutter 0.

Channel functions at a glance



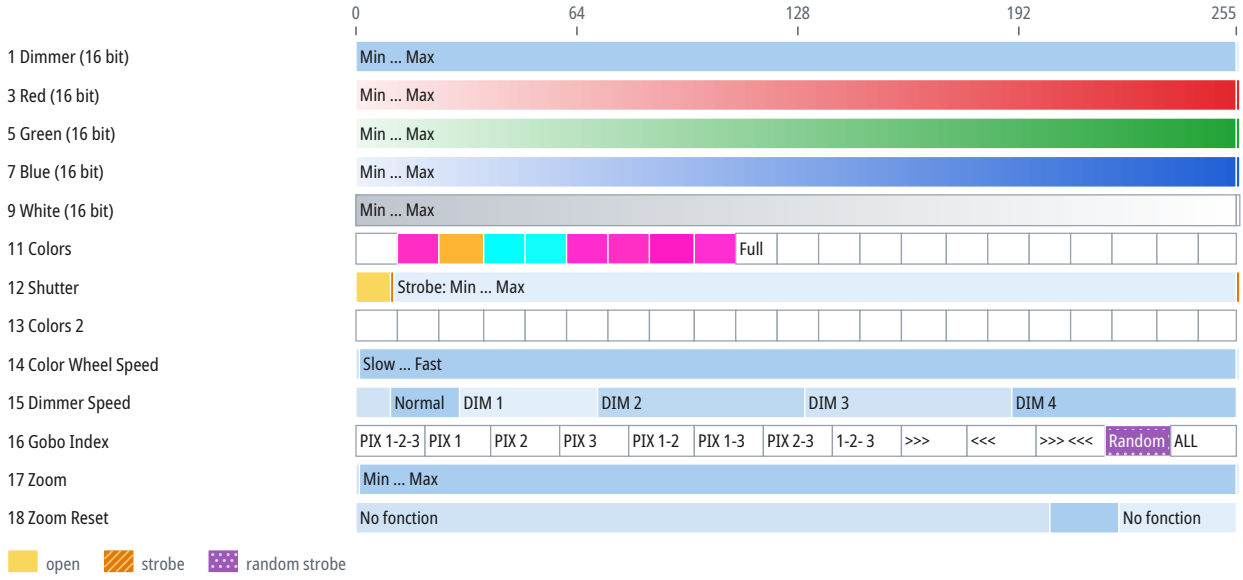
CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “ARC2 D” (p. 12)
2	Red		Same as CH 2 in the mode “Tour” (p. 9)
3	Green		Same as CH 3 in the mode “Tour” (p. 9)
4	Blue		Same as CH 4 in the mode “Tour” (p. 9)
5	White		Same as CH 5 in the mode “Tour” (p. 9)
6	Shutter		Same as CH 7 in the mode “Tour” (p. 10)
7	Zoom		Same as CH 12 in the mode “Tour” (p. 11)
8	Focus Reset	0–200	No fonction
		201–220	Reset
		221–255	No fonction

Mode TR16

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 12 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Red 255, CH 5 Green 0, CH 7 Blue 255, CH 9 White 0, CH 11 Colors 0, CH 12 Shutter 0, CH 13 Colors 2 0.

Channel functions at a glance

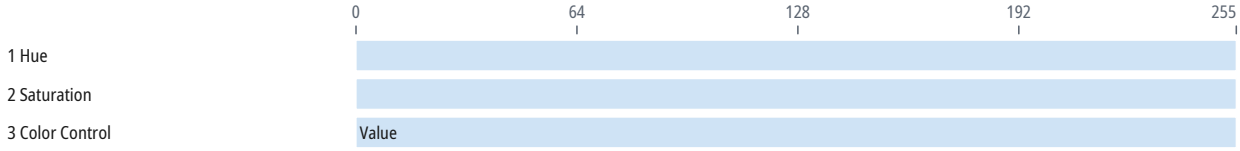


CH	Function	DMX	Description
1	Dimmer	0–255	Min ... Max
		255	Max
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Red	0–255	Min ... Max
		255	Max
4	Red Fine	0–255	Fine adjustment of CH 3
5	Green	0–255	Min ... Max
		255	Max
6	Green Fine	0–255	Fine adjustment of CH 5
7	Blue	0–255	Min ... Max
		255	Max
8	Blue Fine	0–255	Fine adjustment of CH 7
9	White	0–255	Min ... Max
		255	Max
10	White Fine	0–255	Fine adjustment of CH 9
11	Colors		Same as CH 6 in the mode “Tour” (p. 9)
12	Shutter		Same as CH 7 in the mode “Tour” (p. 10)
13	Colors 2		Same as CH 8 in the mode “Tour” (p. 10)
14	Color Wheel Speed		Same as CH 9 in the mode “Tour” (p. 10)
15	Dimmer Speed		Same as CH 10 in the mode “Tour” (p. 11)

CH	Function	DMX	Description
16	Gobo Index		Same as CH 11 in the mode “Tour” (p. 11)
17	Zoom		Same as CH 12 in the mode “Tour” (p. 11)
18	Zoom Reset		Same as CH 13 in the mode “Tour” (p. 11)

Mode HSV

Channel functions at a glance



CH	Function	DMX	Description
1	Hue	0–255	
2	Saturation	0–255	
3	Color Control	0–255	Value

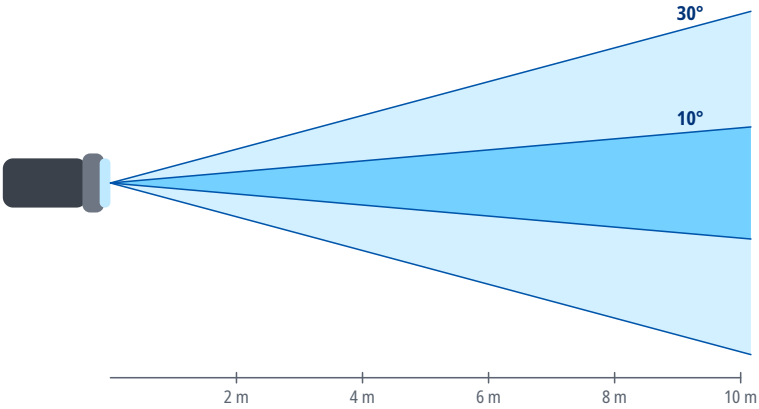
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	405 W
Luminous flux	224 lm
Color temperature	10,000 K
Color rendering index (CRI)	85
Optics	
Zoom	10–30°
Dimensions and construction	
Weight	11.5 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–20 Hz

Spot diameter



Distance	Ø 10°	Ø 30°
2 m	0.35 m	1.1 m
4 m	0.7 m	2.1 m
6 m	1 m	3.2 m
8 m	1.4 m	4.3 m
10 m	1.7 m	5.4 m
15 m	2.6 m	8 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.