DMX REFERENCE

ColorSun 200s

Ayrton ColorSun 200s

Ayrton



Manufacturer	Ayrton
GDTF file	Ayrton_ColorSun_200s_129094.gdtf
GDTF revision	V2.84 Add_snap_Control · 2026-02-16
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1 About this manual

This document describes the Ayrton ColorSun 200s by Ayrton. It was compiled from the GDTF file Ayrton_ColorSun_200s_129094.gdtf from the GDTF-Share library.

File revision: “V2.84 Add_snap_Control”.

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 Ayrton; 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
Power consumption	220 W
Weight	8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 1	5	102	1, 6, 11, 16, ...
Mode 2	7	73	1, 8, 15, 22, ...
Mode 3	14	36	1, 15, 29, 43, ...
Mode 12	58	8	1, 59, 117, 175, ...
Mode 11	51	10	1, 52, 103, 154, ...
Mode 10	49	10	1, 50, 99, 148, ...
Mode 6	18	28	1, 19, 37, 55, ...
Mode 5	11	46	1, 12, 23, 34, ...
Mode 4	10	51	1, 11, 21, 31, ...


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


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

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ 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

“AYRTON COLOR SUN ™ 200 S is a color changer equipped with 12 LEDs of 13 Watts derived from the WILDSUN 200 S.”

5 Installation

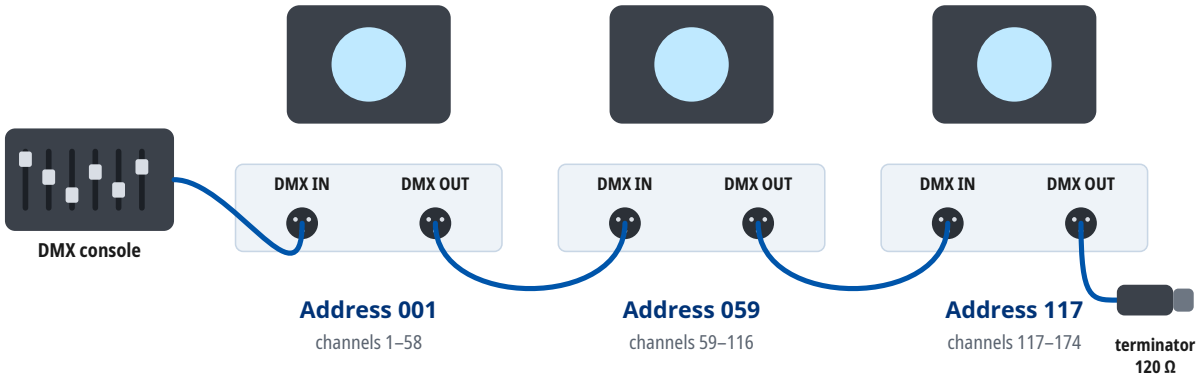
⚠ **WARNING**

- 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: 8 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 12: every unit occupies 58 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 12”: 58.
- 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 12”, you can use, for example, the start addresses 1, 59, 117, 175.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

8 Functions at a glance

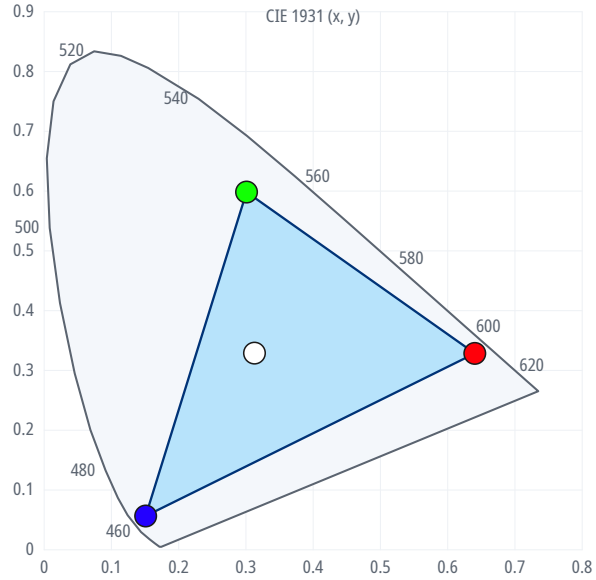
Functions in each DMX mode

	Mode 1 5 channels	Mode 2 7 channels	Mode 3 14 channels	Mode 12 58 channels	Mode 11 51 channels	Mode 10 49 channels	Mode 6 18 channels	Mode 5 11 channels
Dimmer	✓	6	13	57	50	✓	17	10
Shutter / strobe			5	49			9	
Color mixing	1–4	1–4	1–4	1–48	1–48	1–48	1–8	1–8
Color wheel			7	51			11	
Zoom	5	5	12	56	49	49	16	9
Effects / macros			6	50			10	

Color wheel

1. No function — DMX 0–4
2. White2700k — DMX 5
3. White3200k — DMX 10
4. White4300k — DMX 15
5. White5600k — DMX 20
6. White6500k — DMX 25
7. White8000k — DMX 30
8. Red — DMX 35
9. Green — DMX 40
10. Blue — DMX 45
11. Natural White — DMX 50
12. Full White — DMX 55
13. Yellow — DMX 60
14. Magenta — DMX 65
15. Cyan — DMX 70
16. Salmon — DMX 75
17. Turquoise — DMX 80
18. Light Green — DMX 85
19. Steel Blue — DMX 90
20. Orange — DMX 95
21. Straw — DMX 100
22. Pale Lavander — DMX 105
23. Pink — DMX 110
24. RED/WHITE — DMX 115
25. GREEN/RED — DMX 185
26. BLUE/RED — DMX 175
27. WHITE/RED — DMX 145
28. WHITE/GREEN — DMX 150
29. WHITE/BLUE — DMX 155
30. RED/GREEN — DMX 200

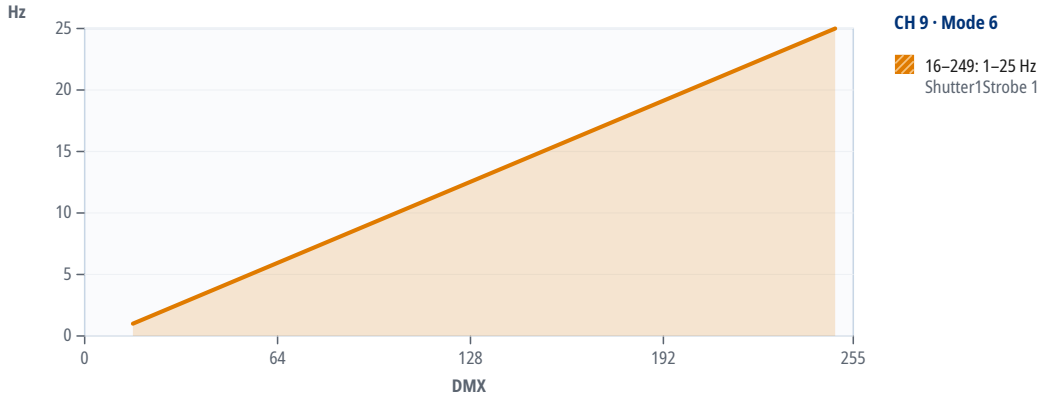
LED colors and the colors they mix



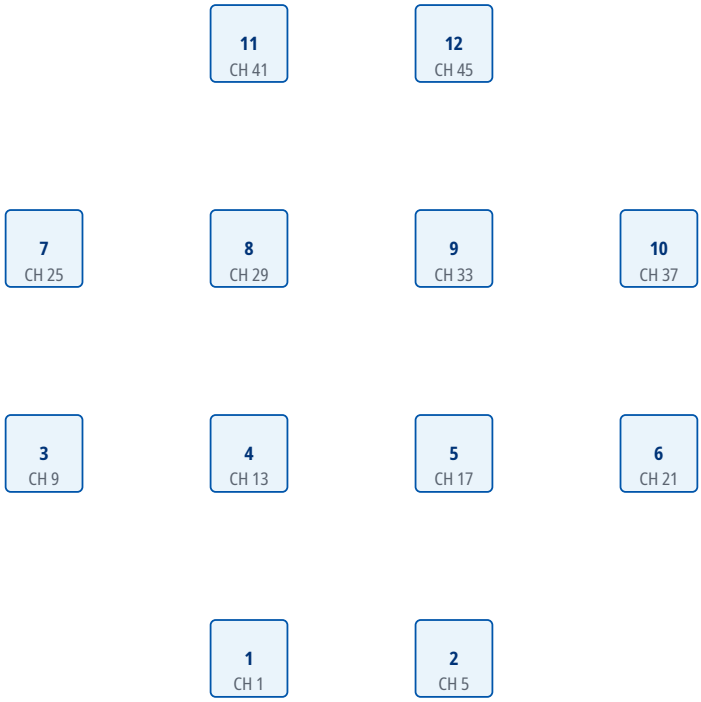
LED	x	y
RED	0.640	0.329
GREEN	0.301	0.598
BLUE	0.151	0.057
WHITE	0.313	0.329

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

Strobe rate



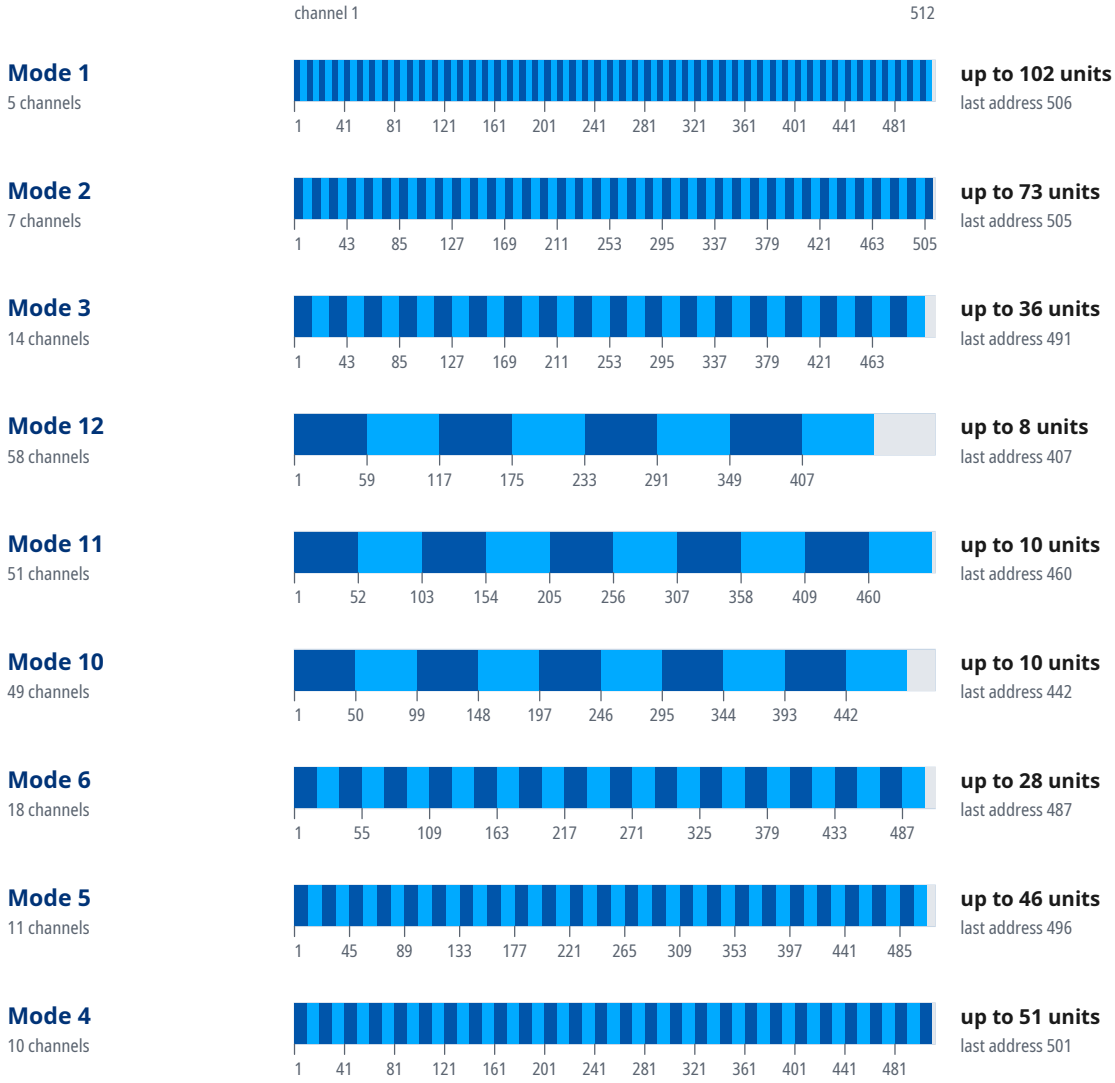
Cells (pixels)



12 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “Mode 6”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode 12”

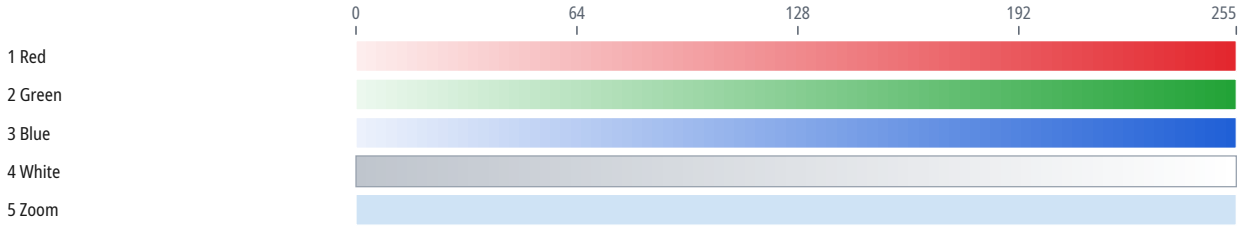
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	291	11	U2 · 117	16	U2 · 407
2	59	7	349	12	U2 · 175	17	U3 · 1
3	117	8	407	13	U2 · 233	18	U3 · 59
4	175	9	U2 · 1	14	U2 · 291	19	U3 · 117
5	233	10	U2 · 59	15	U2 · 349	20	U3 · 175

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

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

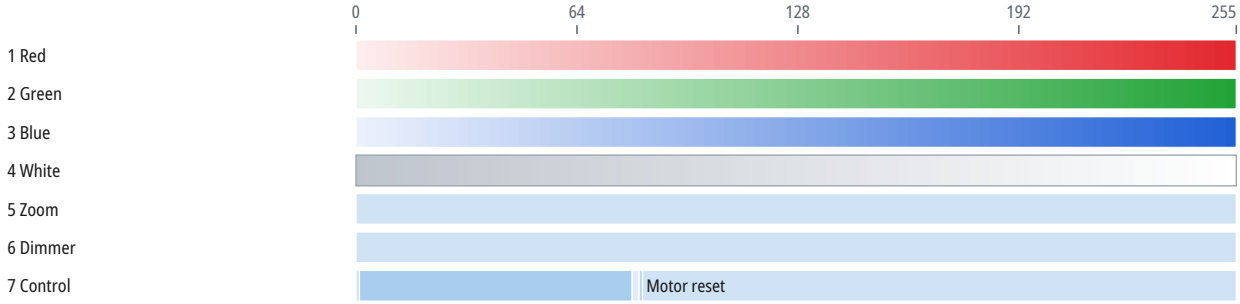


CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	
4	White	0–255	
5	Zoom	0–255	40–8°

Mode 2

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Dimmer above 0. 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, CH 6 Dimmer 255.

Channel functions at a glance

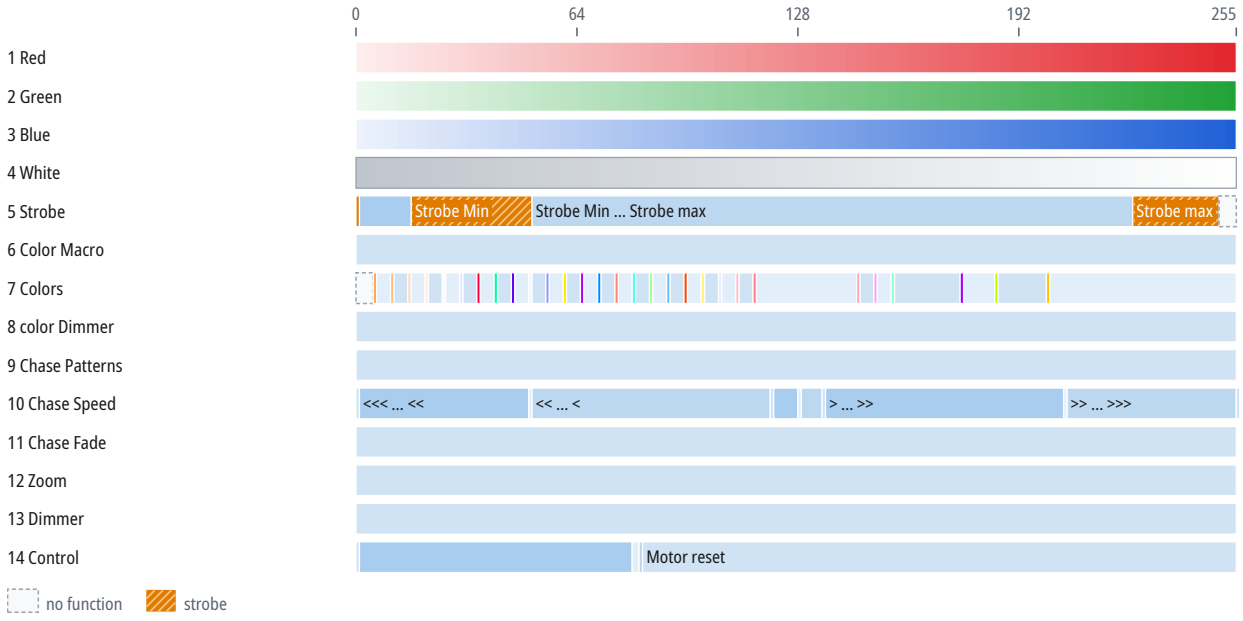


CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	
4	White	0–255	
5	Zoom	0–255	40–8°
6	Dimmer	0–255	
7	Control	0–79	No Fonction
		80–81	Motor reset
		82	Reset Motor
		83–255	Motor reset

Mode 3

If the device receives DMX in this mode but gives no light, check these channels: CH 5 Strobe at 0 “Strobe OFF” or 250–255 “no strobe”; CH 8 color Dimmer above 0; CH 13 Dimmer above 0. 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, CH 6 Color Macro 0, CH 7 Colors 0, CH 8 color Dimmer 0, CH 13 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	
2	Green	0–255	
3	Blue	0–255	
4	White	0–255	
5	Strobe	0	Strobe OFF
		1–15	No strobe 1
		16–50	Strobe Min
		51–224	Strobe Min ... Strobe max
		225–249	Strobe max
		250–255	No strobe
6	Color Macro	0–255	
7	Colors	0–4	No function
		5	White2700k
		6–9	White2700k ... White3200k
		10	White3200k
		11–14	White3200k ... White4300k
		15	White4300k
		16–19	White4300k ... White5600k
		20	White5600k
		21–24	White5600k ... White6500k
		25	White6500k

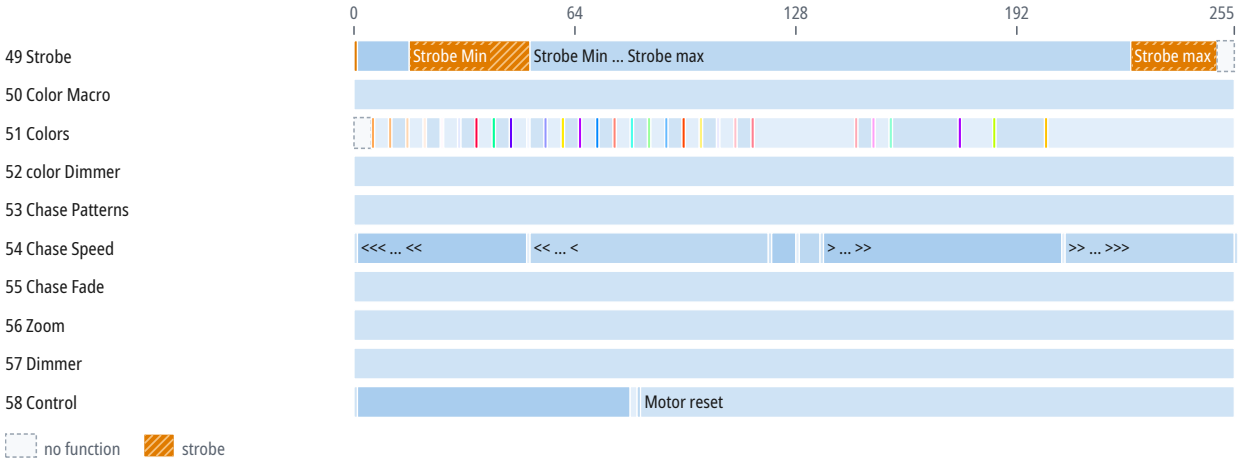
CH	Function	DMX	Description
7	Colors (continued)	26–29	White6500k ... White8000k
		30	White8000k
		31–34	White8000k ... Red
		35	Red
		36–39	Red ... Green
		40	Green
		41–44	Green ... Blue
		45	Blue
		46–49	Blue ... Natural White
		50	Natural White
		51–54	Natural White ... Full White
		55	Full White
		56–59	Full White ... Yellow
		60	Yellow
		61–64	Yellow ... Magenta
		65	Magenta
		66–69	Magenta ... Cyan
		70	Cyan
		71–74	Cyan ... Salmon
		75	Salmon
		76–79	Salmon ... Turquoise
		80	Turquoise
		81–84	Turquoise ... Light Green
		85	Light Green
		86–89	Light Green ... Steel Blue
		90	Steel Blue
		91–94	Steel Blue ... Orange
		95	Orange
		96–99	Orange ... Straw
		100	Straw
		101–104	Straw ... Pale Lavander
		105	Pale Lavander
		106–109	Pale Lavander ... Pink
		110	Pink
		111–114	Pink ... RED/WHITE
		115	RED/WHITE
		116–144	RED/WHITE ... WHITE/RED
		145	WHITE/RED
		146–149	WHITE/RED ... WHITE/GREEN
		150	WHITE/GREEN
		151–154	WHITE/GREEN ... WHITE/BLUE
		155	WHITE/BLUE

CH	Function	DMX	Description
7	Colors (continued)	156–174	WHITE/BLUE ... BLUE/RED
		175	BLUE/RED
		176–184	BLUE/RED ... GREEN/RED
		185	GREEN/RED
		186–199	GREEN/RED ... RED/GREEN
		200	RED/GREEN
		201–255	Color 1 1
8	color Dimmer	0–255	
9	Chase Patterns	0–255	
10	Chase Speed	0	<<<
		1–49	<<< ... <<
		50	<<
		51–119	<< ... <
		120	<
		121–127	< ... Stop(=0)
		128	Stop(=0)
		129–134	Stop(=0) ... >
		135	>
		136–204	> ... >>
		205	>>
		206–254	>> ... >>>
		255	>>>
11	Chase Fade	0–255	
12	Zoom	0–255	40–8°
13	Dimmer	0–255	
14	Control		Same as CH 7 in the mode “Mode 2” (p. 10)

Mode 12

If the device receives DMX in this mode but gives no light, check these channels: CH 49 Strobe at 0 “Strobe OFF” or 250–255 “no strobe”; CH 52 color Dimmer above 0; CH 57 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 12 cells), CH 2 Green 255 (the same in each of the 12 cells), CH 3 Blue 255 (the same in each of the 12 cells), CH 4 White 255 (the same in each of the 12 cells), CH 51 Colors 0, CH 52 color Dimmer 0, CH 57 Dimmer 255.

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	
49	Strobe		Same as CH 5 in the mode “Mode 3” (p. 11)
50	Color Macro	0–255	
51	Colors		Same as CH 7 in the mode “Mode 3” (p. 11)
52	color Dimmer	0–255	
53	Chase Patterns	0–255	
54	Chase Speed		Same as CH 10 in the mode “Mode 3” (p. 13)
55	Chase Fade	0–255	
56	Zoom	0–255	40–8°
57	Dimmer	0–255	
58	Control		Same as CH 7 in the mode “Mode 2” (p. 10)

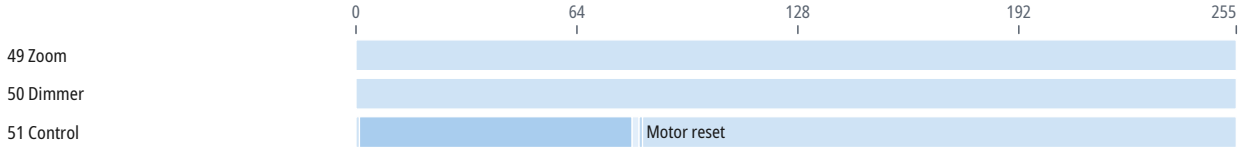
CH 1–48: 12 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 1–4); the table below gives each cell's channel numbers.

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

Mode 11

If the device receives DMX in this mode but gives no light, check these channels: CH 50 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 12 cells), CH 2 Green 255 (the same in each of the 12 cells), CH 3 Blue 255 (the same in each of the 12 cells), CH 4 White 255 (the same in each of the 12 cells), CH 50 Dimmer 255.

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	
49	Zoom	0–255	40–8°
50	Dimmer	0–255	
51	Control		Same as CH 7 in the mode “Mode 2” (p. 10)

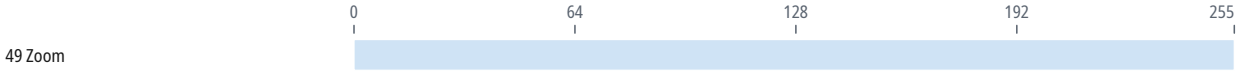
CH 1–48: 12 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 1–4); the table below gives each cell's channel numbers.

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

Mode 10

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 12 cells), CH 2 Green 255 (the same in each of the 12 cells), CH 3 Blue 255 (the same in each of the 12 cells), CH 4 White 255 (the same in each of the 12 cells).

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	
49	Zoom	0–255	40–8°

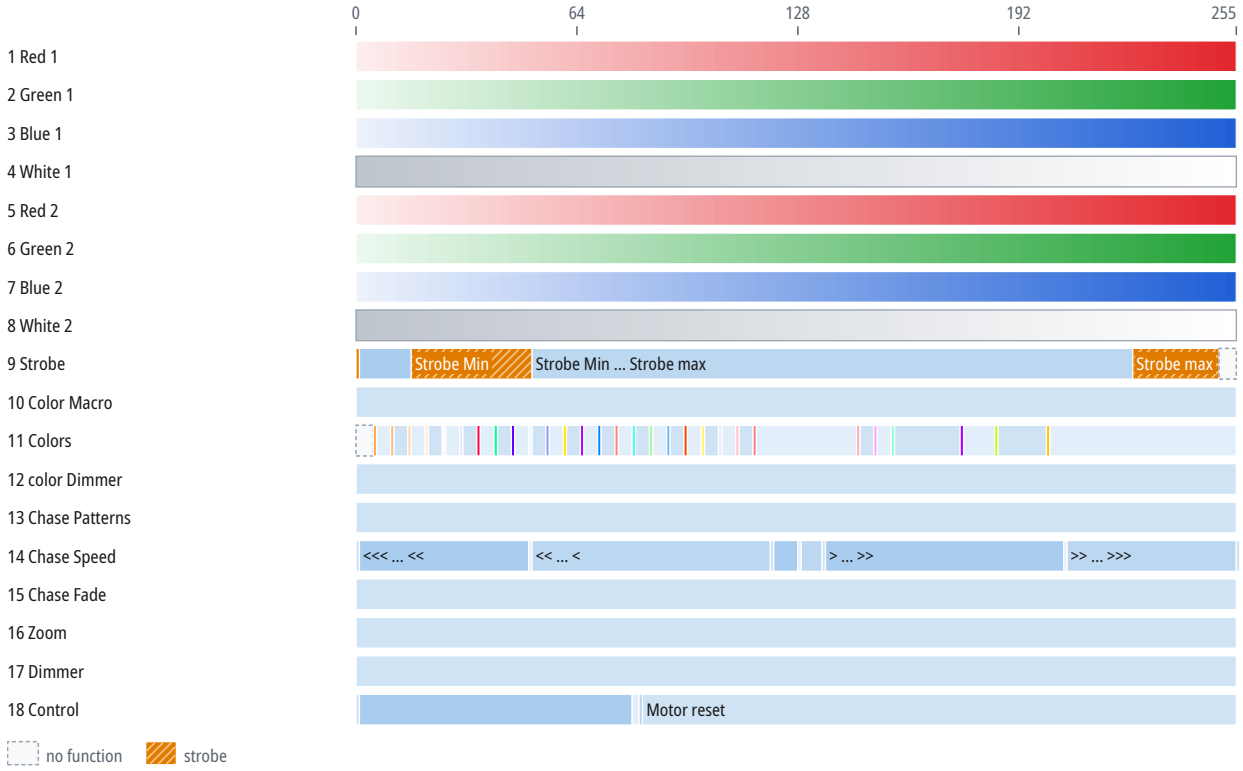
CH 1–48: 12 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 1–4); the table below gives each cell's channel numbers.

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

Mode 6

If the device receives DMX in this mode but gives no light, check these channels: CH 9 Strobe at 0 “Strobe OFF” or 250–255 “no strobe”; CH 12 color Dimmer above 0; CH 17 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 White 1 255, CH 5 Red 2 255, CH 6 Green 2 255, CH 7 Blue 2 255, CH 8 White 2 255, CH 11 Colors 0, CH 12 color Dimmer 0, CH 17 Dimmer 255.

Channel functions at a glance



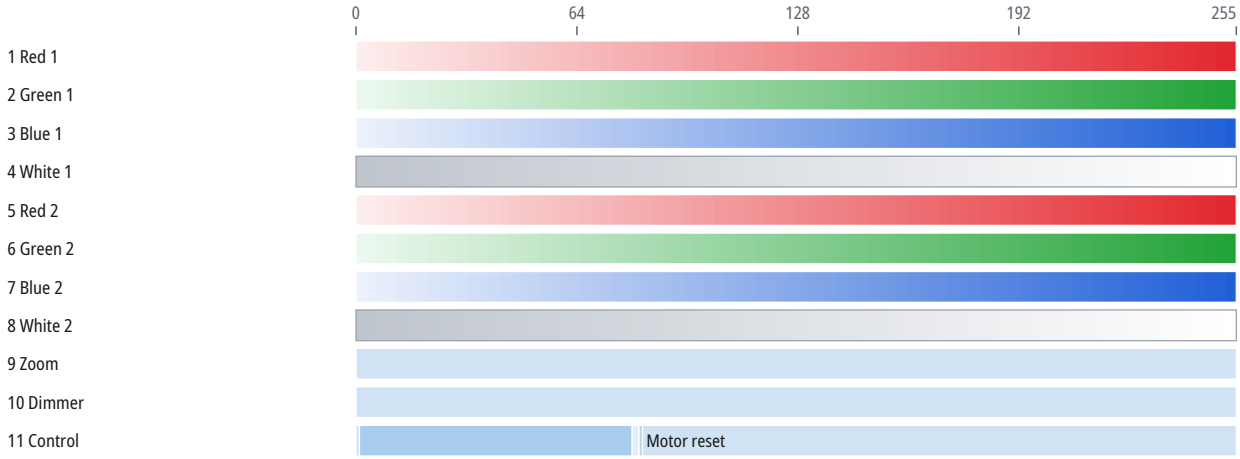
CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
4	White 1	0–255	
5	Red 2	0–255	
6	Green 2	0–255	
7	Blue 2	0–255	
8	White 2	0–255	
9	Strobe		Same as CH 5 in the mode “Mode 3” (p. 11)
10	Color Macro	0–255	
11	Colors		Same as CH 7 in the mode “Mode 3” (p. 11)
12	color Dimmer	0–255	
13	Chase Patterns	0–255	
14	Chase Speed		Same as CH 10 in the mode “Mode 3” (p. 13)
15	Chase Fade	0–255	

CH	Function	DMX	Description
16	Zoom	0–255	40–8°
17	Dimmer	0–255	
18	Control		Same as CH 7 in the mode “Mode 2” (p. 10)

Mode 5

If the device receives DMX in this mode but gives no light, check these channels: CH 10 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 White 1 255, CH 5 Red 2 255, CH 6 Green 2 255, CH 7 Blue 2 255, CH 8 White 2 255, CH 10 Dimmer 255.

Channel functions at a glance

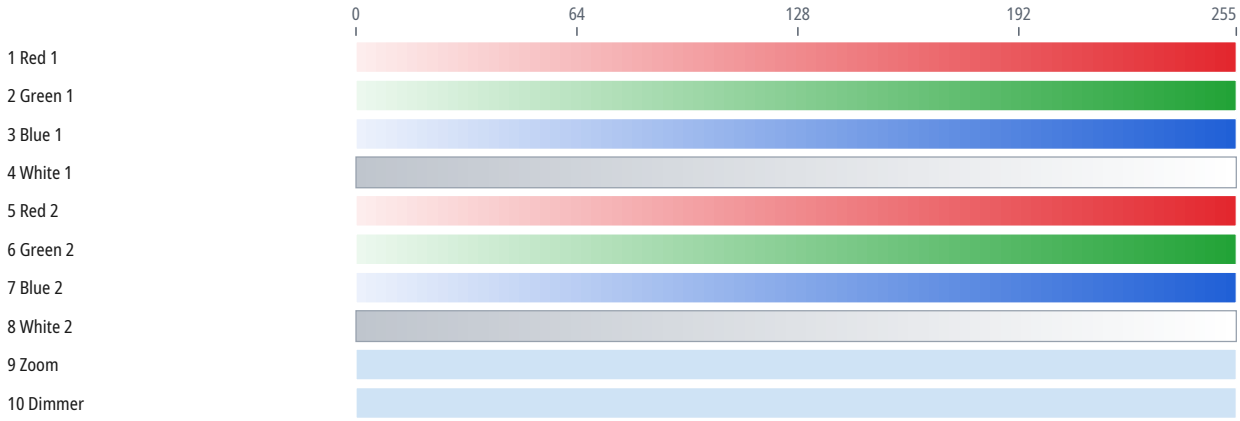


CH	Function	DMX	Description
1	Red 1	0–255	
2	Green 1	0–255	
3	Blue 1	0–255	
4	White 1	0–255	
5	Red 2	0–255	
6	Green 2	0–255	
7	Blue 2	0–255	
8	White 2	0–255	
9	Zoom	0–255	40–8°
10	Dimmer	0–255	
11	Control		Same as CH 7 in the mode “Mode 2” (p. 10)

Mode 4

If the device receives DMX in this mode but gives no light, check these channels: CH 10 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 White 1 255, CH 5 Red 2 255, CH 6 Green 2 255, CH 7 Blue 2 255, CH 8 White 2 255.

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	
7	Blue 2	0–255	
8	White 2	0–255	
9	Zoom	0–255	40–8°
10	Dimmer	0–255	

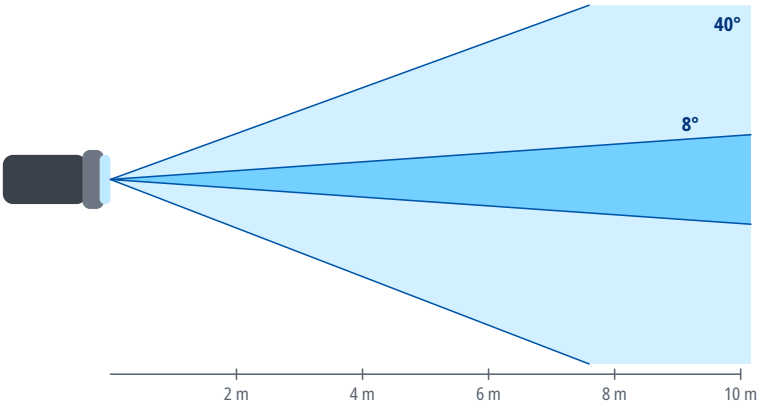
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	8–40°
Control	
DMX connection	5-pin XLR IN/OUT
RDM	yes (manufacturer ID 0x4179, device model ID 0x0A51)
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	220 W
Power connectors	NAC3FCA IN, NAC3FCB OUT
Dimensions and construction	
Weight	8 kg
Operating environment	
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–25 Hz

Spot diameter



Distance	Ø 8°	Ø 40°
2 m	0.28 m	1.5 m
4 m	0.56 m	2.9 m
6 m	0.84 m	4.4 m
8 m	1.1 m	5.8 m
10 m	1.4 m	7.3 m
15 m	2.1 m	10.9 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.