DMX REFERENCE

Kyalami

Ayrton Kyalami

Ayrton



Manufacturer	Ayrton
GDTF file	Ayrton_Kyalami_149946.gdtf
GDTF revision	V1.7 Add_RDM_Personality · 2026-07-07
Generated	2026-11-23

Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 7
9 DMX channels 9
Mode Extended_540 10
10 Technical specifications 19
11 Maintenance and cleaning 20
12 Troubleshooting 20
13 Disposal 21

1 About this manual

This document describes the Ayrton Kyalami by Ayrton. It was compiled from the GDTF file Ayrton_Kyalami_149946.gdtf from the GDTF-Share library.

File revision: “V1.7 Add_RDM_Personality”.

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	200 W
Weight	14.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended_540	33	15	1, 34, 67, 100, ...

No light? Check these channels

- Extended_540: CH 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0


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.

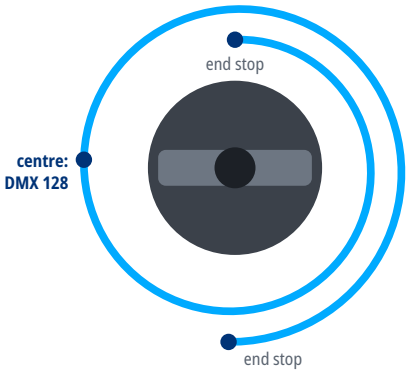
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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

Pan 542°

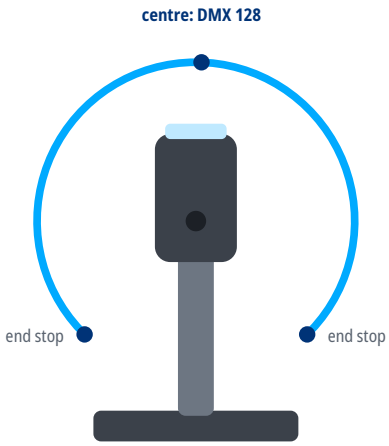
top view



full travel in 1.7 s

Tilt 271°

side view



full travel in 1.2 s

Full-travel times as stated in the GDTF file.

5 Installation

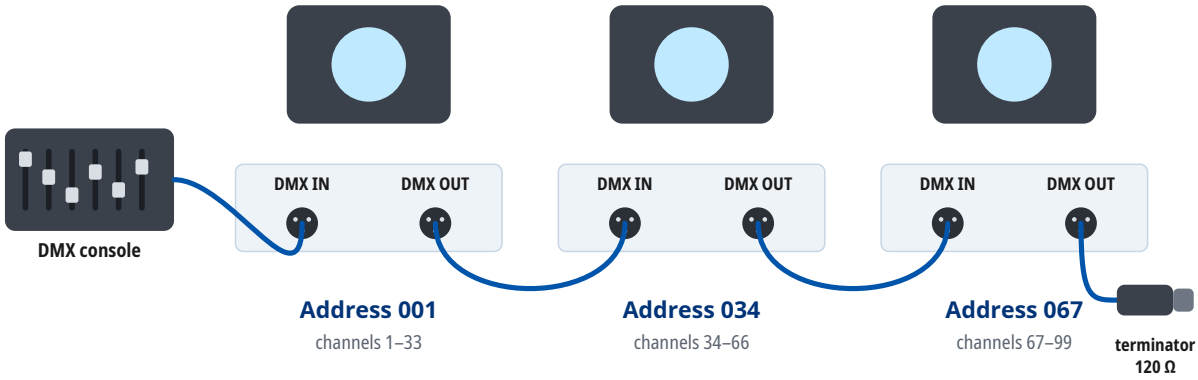
⚠ WARNING

- 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: 14.5 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 Extended_540: every unit occupies 33 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

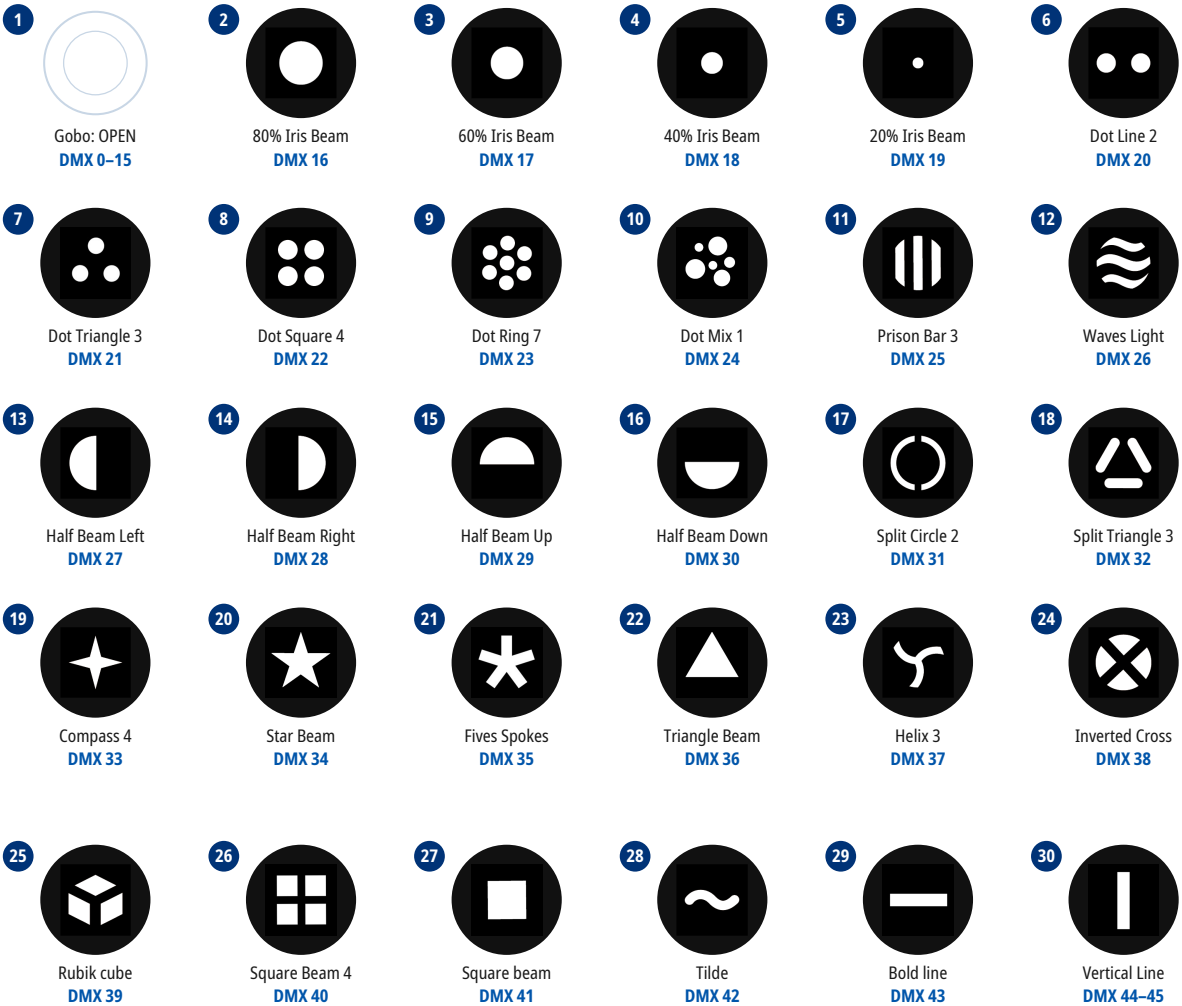
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Extended_540”: 33.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “Extended_540”, you can use, for example, the start addresses 1, 34, 67, 100.
- 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

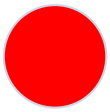
	Extended_540 33 channels
Pan / Tilt	1, 3, 6, 7
Dimmer	9
Shutter / strobe	8
Color mixing	15, 17, 19
Color wheel	13
Gobo wheel	24
Prism	25, 26, 28, 29
Frost	31, 32
Focus	11

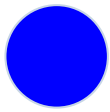
Gobo wheel

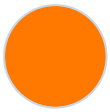


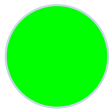
Color wheel

1
Color 1: Open
DMX 0–3

2 
Color 1
DMX 4–5

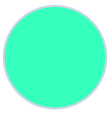
3 
Color 2
DMX 6–7

4 
Color 3
DMX 8–9

5 
Color 4
DMX 10–11

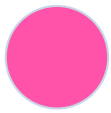
6
Color 5
DMX 12–13

7
Color 6
DMX 14–15

8 
Color 7
DMX 16–17

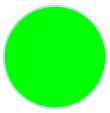
9 
Color 8
DMX 18–19

10
Color 9
DMX 20–21

11 
Color 10
DMX 22–23

12 
Color 11
DMX 24–25

13 
Color 12
DMX 26–27

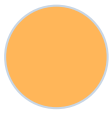
14 
Color 13
DMX 28–29

15 
Color 14
DMX 30–31

16 
Color 15
DMX 32–33

17
Color 16
DMX 34–35

18
Color 17
DMX 36–37

19 
Color 18
DMX 38–39

20
Color 19
DMX 40–41

21
Color 20
DMX 42–43

22
Color 21
DMX 44–45

23
Minus Green 1/2
DMX 46–48

Prism 1

1
Open
DMX 0–127

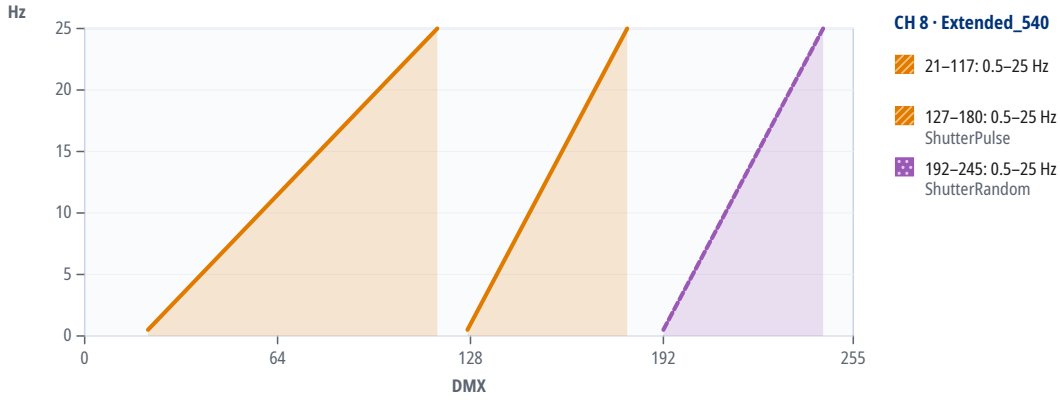
2 
32 facets
Prism 1
DMX 128–255

Prism 2

1
OPEN
DMX 0–127

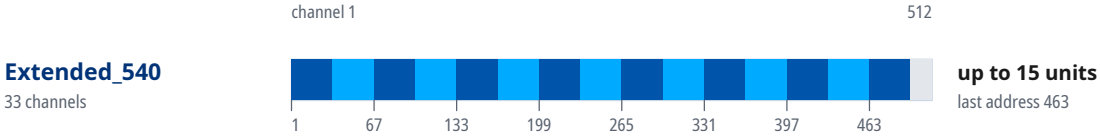
2 
5 facets
Prism 1
DMX 128–255

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended_540”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	166	11	331	16	U2 · 1
2	34	7	199	12	364	17	U2 · 34
3	67	8	232	13	397	18	U2 · 67
4	100	9	265	14	430	19	U2 · 100
5	133	10	298	15	463	20	U2 · 133

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.

RDM personalities

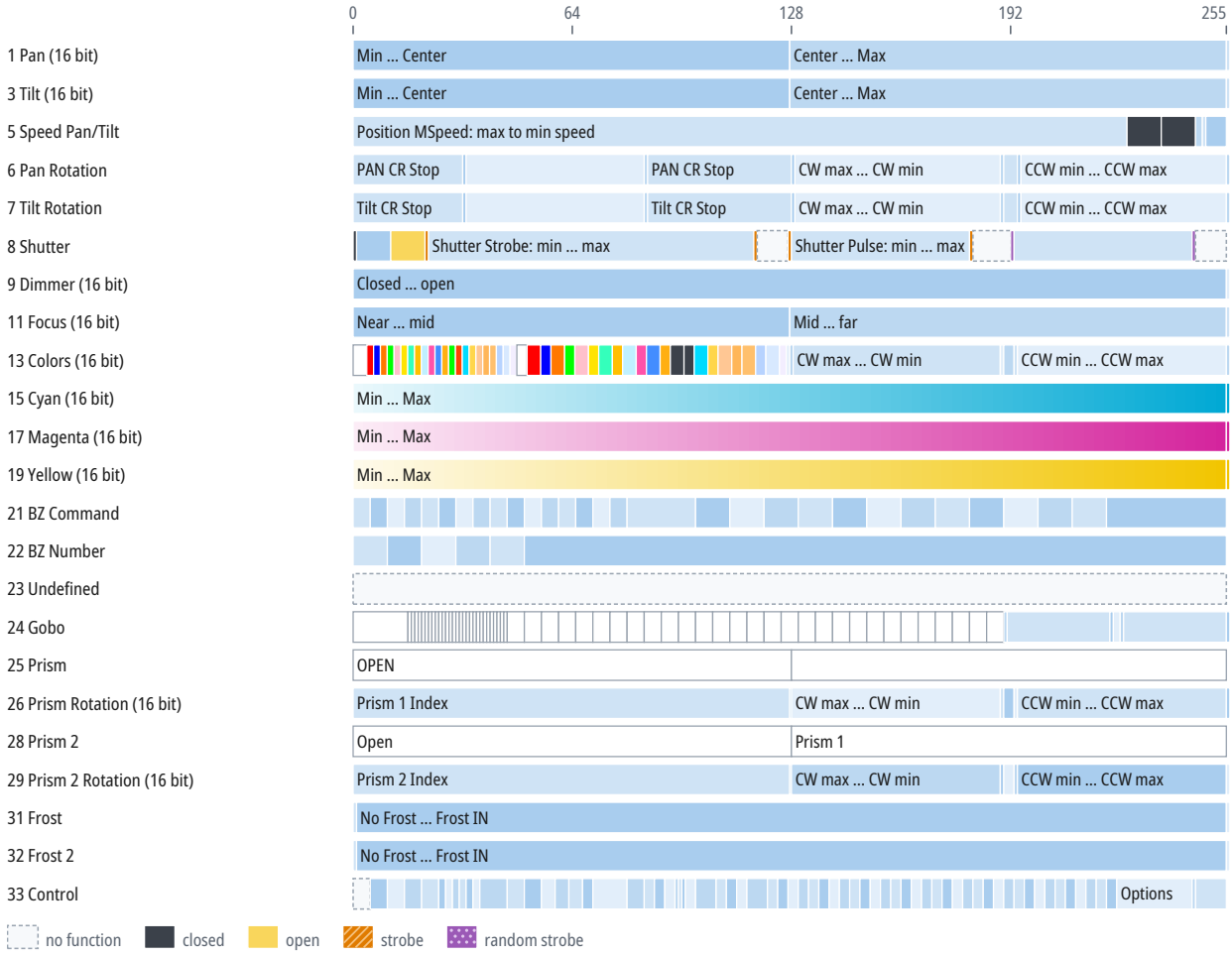
Mode	Channels	RDM personality
Extended_540	33	1

Mode Extended_540

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 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 8 Shutter 11, CH 9 Dimmer 255, CH 13 Colors 0, CH 15 Cyan 0, CH 17 Magenta 0, CH 19 Yellow 0.

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	0–225	Position MSpeed: max to min speed
		226–235	Blackout by movement
		236–245	Blackout by all wheels

CH	Function	DMX	Description
5	Speed Pan/Tilt (continued)	246–247	BZ Command
		248	Execute blanking zone command(10 sec before action)
		249–255	BZ Command
6	Pan Rotation	0–31	PAN CR Stop
		32	Stop by SpinOut
		33–84	Stop by SpinOut ... Stop by ShortCut
		85	Stop by ShortCut
		86–127	PAN CR Stop
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Pause
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
7	Tilt Rotation	0–31	Tilt CR Stop
		32	Stop by SpinOut
		33–84	Stop by SpinOut ... Stop by ShortCut
		85	Stop by ShortCut
		86–127	Tilt CR Stop
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Pause
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
8	Shutter	0	LED OFF: Closed
		1–10	LED OFF
		11–20	LED ON: open
		21	Shutter Strobe: min
		22–116	Shutter Strobe: min ... max
		117	Shutter Strobe: max
		118–126	LED ON: open
		127	Shutter Pulse: min
		128–179	Shutter Pulse: min ... max
		180	Shutter Pulse: max
		181–191	LED ON: open
		192	Shutter Random: min
		193–244	Shutter Random: min ... max
		245	Shutter Random: max
		246–255	LED ON: open

CH	Function	DMX	Description
9	Dimmer	0–255	Closed … open
		255	Open
10	Dimmer Fine	0–255	Fine adjustment of CH 9
11	Focus	0–127	Near … mid
		128–255	Mid … far
		255	Far
12	Focus Fine	0–255	Fine adjustment of CH 11
13	Colors	0–3	Color 1: Open
		4–5	Color 1
		6–7	Color 2
		8–9	Color 3
		10–11	Color 4
		12–13	Color 5
		14–15	Color 6
		16–17	Color 7
		18–19	Color 8
		20–21	Color 9
		22–23	Color 10
		24–25	Color 11
		26–27	Color 12
		28–29	Color 13
		30–31	Color 14
		32–33	Color 15
		34–35	Color 16
		36–37	Color 17
		38–39	Color 18
		40–41	Color 19
		42–43	Color 20
		44–45	Color 21
		46–47	Color 22
		48–50	Color 1 Index: OPEN
		51–54	Red
		55–57	Blue
		58–61	Orange
		62–64	Green
		65–68	Pink
		69–71	Yellow
		72–75	Velvet Green
		76–78	Amber
		79–82	Light Blue
		83–85	Follies Pink
		86–89	Slate Blue

CH	Function	DMX	Description
13	Colors (continued)	90–92	Slate Blue ... Dark Green
		93–96	Dark Green
		97–99	Dark Amber
		100–103	Medium Blue
		104–106	Oklahoma Yellow
		107–110	Light Amber
		111–113	CTO
		114–117	CTO 1/2
		118–120	CTB
		121–124	CTB1/2
		125–126	Minus Green 1/2
		127	Color 1 Index
		128	CW max
		129–189	CW max ... CW min
		189–190	CW min ... stop
		190–193	Rainbow: stop
		193–194	Stop ... CCW min
		194–255	CCW min ... CCW max
		255	CCW max
14	Colors Fine	0–255	Fine adjustment of CH 13
15	Cyan	0–255	Min ... Max
		255	Max
16	Cyan Fine	0–255	Fine adjustment of CH 15
17	Magenta	0–255	Min ... Max
		255	Max
18	Magenta Fine	0–255	Fine adjustment of CH 17
19	Yellow	0–255	Min ... Max
		255	Max
20	Yellow Fine	0–255	Fine adjustment of CH 19
21	BZ Command	0–4	BZ Command
		5–9	Store/overwrite blanking Zone TOP RIGHT
		10–14	Store/overwrite blanking Zone BOTTOM RIGHT
		15–19	Store/overwrite blanking Zone TOP LEFT
		20–24	Store/overwrite blanking Zone BOTTOM LEFT
		25–29	Recall blanking Zone TOP RIGHT
		30–34	Recall blanking Zone BOTTOM RIGHT
		35–39	Recall blanking Zone TOP LEFT
		40–44	Recall blanking Zone BOTTOM LEFT
		45–49	Delete blanking Zone TOP RIGHT
		50–54	Delete blanking Zone BOTTOM RIGHT
		55–59	Delete blanking Zone TOP LEFT
		60–64	Delete blanking Zone BOTTOM LEFT

CH	Function	DMX	Description
21	BZ Command (continued)	65–69	Delete blanking Zone ALL POINT
		70–74	Invert Blanking Zone Off
		75–79	Invert Blanking Zone On
		80–99	Invert Blanking Zone On ... Distance Off
		100–109	Distance Off
		110–119	Distance 10m
		120–129	Distance 15m
		130–139	Distance 20m
		140–149	Distance 25m
		150–159	Distance 30m
		160–169	Distance 35m
		170–179	Distance 40m
		180–189	Distance 45m
		190–199	Distance 50m
		200–209	Distance 55m
		210–219	Distance 60m
		220–255	BZ Command
22	BZ Number	0–9	BZ Number 1
		10–19	Blanking Zone #1
		20–29	Blanking Zone #2
		30–39	Blanking Zone #3
		40–49	Blanking Zone #4
		50–255	BZ Number 1
23	Undefined	0–255	
24	Gobo	0–15	Gobo: OPEN
		16	80% Iris Beam
		17	60% Iris Beam
		18	40% Iris Beam
		19	20% Iris Beam
		20	Dot Line 2
		21	Dot Triangle 3
		22	Dot Square 4
		23	Dot Ring 7
		24	Dot Mix 1
		25	Prison Bar 3
		26	Waves Light
		27	Half Beam Left
		28	Half Beam Right
		29	Half Beam Up
		30	Half Beam Down
		31	Split Circle 2
		32	Split Triangle 3

CH	Function	DMX	Description
24	Gobo (continued)	33	Compass 4
		34	Star Beam
		35	Fives Spokes
		36	Triangle Beam
		37	Helix 3
		38	Inverted Cross
		39	Rubik cube
		40	Square Beam 4
		41	Square beam
		42	Tilde
		43	Bold line
		44	Vertical Line
		45–49	Gobo 1
		50–54	Gobo 2
		55–59	Gobo 3
		60–64	Gobo 4
		65–69	Gobo 5
		70–74	Gobo 6
		75–79	Gobo 7
		80–84	Gobo 8
		85–89	Gobo 9
		90–94	Gobo 10
		95–99	Gobo 11
		100–104	Gobo 12
		105–109	Gobo 13
		110–114	Gobo 14
		115–119	Gobo 15
		120–124	Gobo 16
		125–129	Gobo 17
		130–134	Gobo 18
		135–139	Gobo 19
		140–144	Gobo 20
		145–149	Gobo 21
		150–154	Gobo 22
		155–159	Gobo 23
		160–164	Gobo 24
		165–169	Gobo 25
		170–174	Gobo 26
		175–179	Gobo 27
		180–184	Gobo 28
		185–189	Gobo 29
		190	CW max

CH	Function	DMX	Description
24	Gobo (continued)	191–220	CW max ... CW min
		221	CW min
		222–223	Gobo 1 Wheel Rotation: Stop
		224	CCW min
		225–254	CCW min ... CCW max
		255	CCW max
25	Prism	0–127	OPEN
		128–255	Prism 1
26	Prism Rotation	0–127	Prism 1 Index (360°)
		128–189	CW max ... CW min
		189–190	CW min ... stop
		190–193	Prism 1 Rotation: stop
		193–194	Stop ... CCW min
		194–255	CCW min ... CCW max
		255	CCW max
27	Prism Rotation Fine	0–255	Fine adjustment of CH 26
28	Prism 2	0–127	Open
		128–255	Prism 1
29	Prism 2 Rotation	0–127	Prism 2 Index (360°)
		128–189	CW max ... CW min
		189–190	CW min ... stop
		190–193	Prism 2 Rotation: stop
		193–194	Stop ... CCW min
		194–255	CCW min ... CCW max
		255	CCW max
30	Prism 2 Rotation Fine	0–255	Fine adjustment of CH 29
31	Frost	0	No Frost
		1–254	No Frost ... Frost IN
		255	Frost IN
32	Frost 2	0	No Frost
		1–254	No Frost ... Frost IN
		255	Frost IN
33	Control	0–4	No Function
		5–9	Display Off
		10–14	Display On
		15–19	Display Inv Off
		20–24	Display Inv On
		25–26	Auto Fan
		27–28	Stage Fan
		29–30	Silence Fan
		31–32	Super Silence Fan
		33–34	Constant Fan OFF

CH	Function	DMX	Description
33	Control (continued)	35–36	Constant Fan ON
		37–44	Fan Control Mode
		45–49	Square Law
		50–54	Linear
		55–58	1200 Hz
		59–62	2400 Hz
		63–66	16000 Hz
		67–69	25000 Hz
		70–79	LEDFrequency
		80–84	All Motor Reset
		85–87	P/T Motor Reset
		88–90	Color Motor Reset
		91–93	Gobo Motor Reset
		94	Gobo Motor Reset ... Reset P/T Fade Off
		95	Reset P/T Fade Off
		96	Reset P/T Fade ON
		97–99	Other Motor Reset
		100–105	Motor Reset
		106–108	CMY speed Fast
		109–111	CMY speed Medium
		112–114	CMY speed Slow
		115–120	CMY Speed
		121–123	Sun Protection Off
		124–126	Sun Protection On
		127–129	Pan Reverse Off
		130–132	Pan Reverse On
		133–135	Tilt Reverse Off
		136–138	Tilt Reverse On
		139–141	Pan Degree 540
		142–144	Pan Degree 630
		145–147	Tilt Degree 540
		148–150	Tilt Degree 270
		151–153	Feedback Off
		154–156	Feedback On
		157–159	Init PAN Off
		160–162	Init PAN On
		163–165	Init TILT Off
		166–168	Init TILT On
		169–171	Prerig INIT Off
		172–174	Prerig INIT On
		175–177	PAN Degree 360SC
		178–180	TILT Degree 360SC

CH	Function	DMX	Description
33	Control (continued)	181–183	Pan/Tilt Spd Medium
		184–186	Pan/Tilt Spd Fast
		187–189	Pan/Tilt Spd Slow
		190–192	Pan/Tilt Spd Slow ... Zoom/Focus Spd Fast
		193–195	Zoom/Focus Spd Fast
		196–198	Zoom/Focus Spd Medium
		199–201	Zoom/Focus Spd Slow
		202–204	Reset LED Fade Off
		205–207	Reset LED Fade On
		208–210	Defog OFF
		211–213	Defog AUTO
		214–216	Defog ON
		217–219	CMY Path Shortcut
		220–222	CMY Path Spinout
		223–244	Options
		245	Enter Blanking Zone Mode
		246–255	Blanking Zone

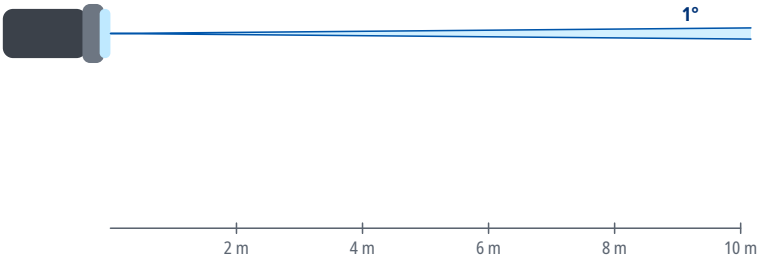
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	100 W
Luminous flux	4,000 lm
Color temperature	9,000 K
Color rendering index (CRI)	70
Optics	
Beam angle	1°
Movement	
Pan	542.1°
Tilt	271.1°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45 IN/OUT
RDM	yes (manufacturer ID 0x4179, device model ID 0x0B24)
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	200 W
Power connectors	powerCONTRUE1TOP IN/OUT
Dimensions and construction	
Weight	14.5 kg
Operating environment	
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.5–25 Hz
LED frequency	1200–25000 Hz
Color wheel rotation	up to 1800 °/s (300 rpm)
Gobo wheel rotation	up to 117 °/s (20 rpm)
Prism 1 rotation	up to 600 °/s (100 rpm)
Prism 2 rotation	up to 600 °/s (100 rpm)

Spot diameter



Distance	Ø 1°
2 m	0.03 m
4 m	0.07 m
6 m	0.1 m
8 m	0.14 m
10 m	0.17 m
15 m	0.26 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.