DMX REFERENCE

MAC 250

Mac 250 Entour

Martin Professional



Manufacturer	Martin Professional
GDTF file	Martin_Professional_MAC_250_45607.gdtf
GDTF revision	81523v2 · 2023-08-15
Generated	2026-11-24

Contents

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

1 About this manual

This document describes the Mac 250 Entour by Martin Professional. It was compiled from the GDTF file Martin_Professional_MAC_250_45607.gdtf from the GDTF-Share library.

File revision: “81523v2”.

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 Martin Professional; 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	17 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic	15	34	1, 16, 31, 46, ...

No light? Check these channels

- Basic: CH 1 Shutter at 20–24, 65–69, 85–89, 105–109, 125–129 or 145–255 “Open”; CH 2 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

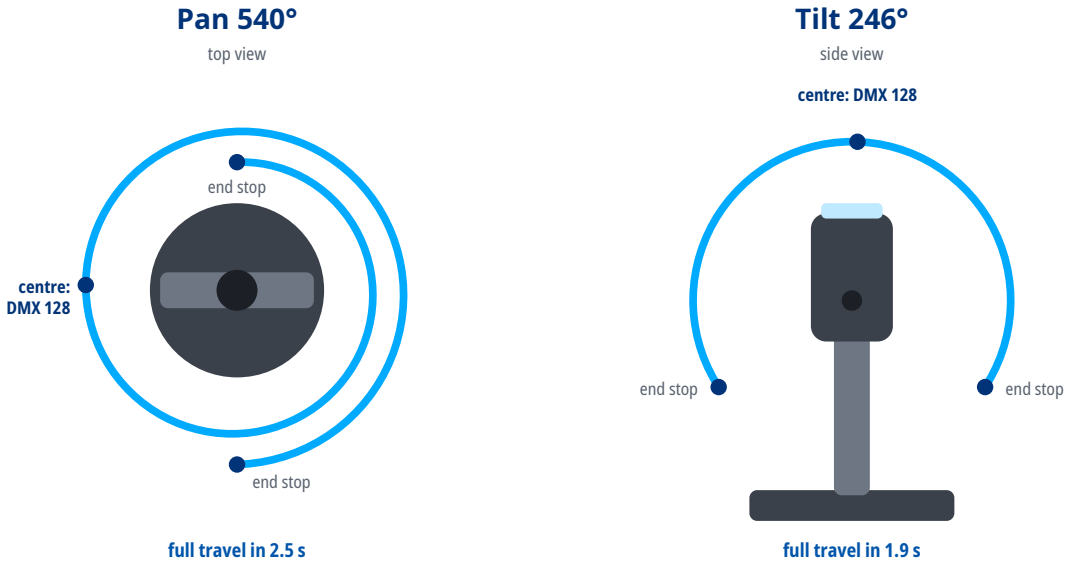
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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



Full-travel times as stated in the GDTF file.

5 Installation

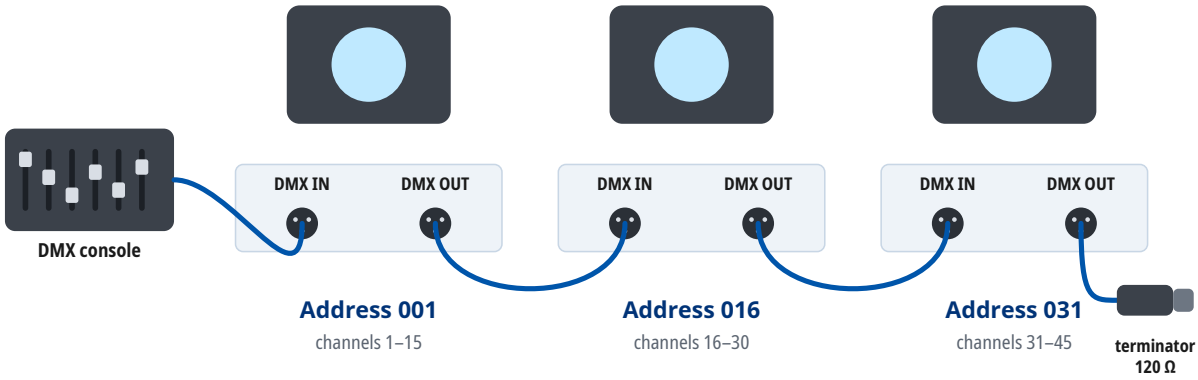
⚠ WARNING

- 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: 17 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 Basic: every unit occupies 15 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 “Basic”: 15.
- 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 “Basic”, you can use, for example, the start addresses 1, 16, 31, 46.
- 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

	Basic 15 channels
Pan / Tilt	10, 12
Dimmer	2
Shutter / strobe	1
Color wheel	3
Gobo wheel	4, 7
Gobo rotation	5
Prism	9
Focus	8
Effects / macros	9

Color wheel



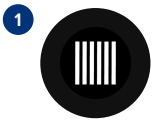
1. Color Selection: Open — DMX 0–6
2. Blue — DMX 19–25
3. Dark Green — DMX 74–80
4. Color Selection: Pink — DMX 26–31
5. Orange — DMX 88–94
6. Green — DMX 32–37
7. Color Selection: Magenta — DMX 51–56
8. Yellow — DMX 13–18
9. Blue 101 — DMX 57–64
10. Red — DMX 45–50
11. Dark Green
12. Purple 502
13. OPEN

Gobo wheel 1



1. Gobo 1 Selection: Open — DMX 0–7
2. Gobo 1 Selection: Gobo 1 — DMX 8–15
3. Gobo 1 Selection: Gobo 2 — DMX 16–23
4. Gobo 1 Selection: Gobo 3 — DMX 24–31
5. Gobo 1 Selection: Gobo 4 — DMX 32–39
6. Gobo 1 Selection: Gobo 5 — DMX 40–47
7. Gobo 1 Selection: Gobo 6 — DMX 48–55
8. OPEN — DMX 56–64

Gobo wheel 2



Gobo 2 Selection: Open
DMX 0–6



Gobo 2 Selection: Gobo 1
DMX 7–12



Gobo 2 Selection: Gobo 2
DMX 13–18



Gobo 2 Selection: Gobo 3
DMX 19–25



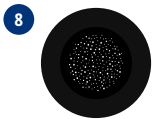
Gobo 2 Selection: Gobo 4
DMX 26–31



Gobo 2 Selection: Gobo 5
DMX 32–37



Gobo 2 Selection: Gobo 6
DMX 38–44



Gobo 2 Selection: Gobo 7
DMX 45–50



Gobo 2 Selection: Gobo 8
DMX 51–56



zeds a leaping
DMX 57–64

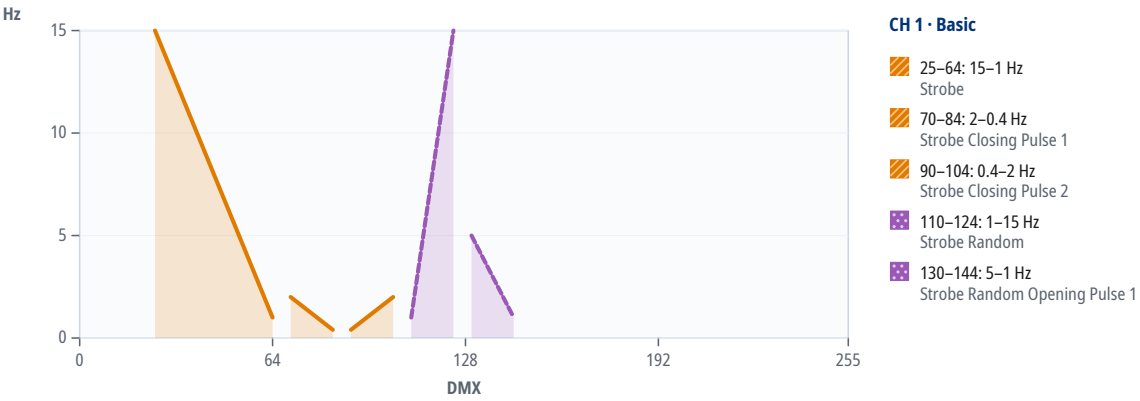
OPEN

Prism

Prism: Open
DMX 0–10

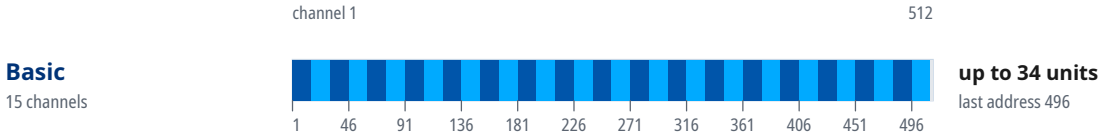
3 Facet Prism
DMX 11–128

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Basic”

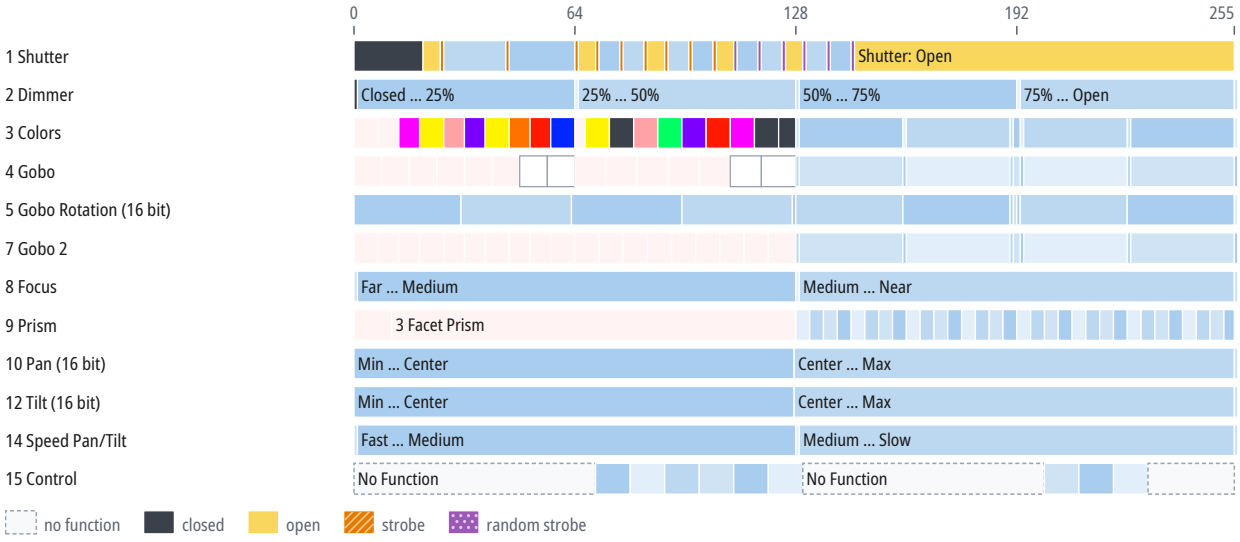
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	76	11	151	16	226
2	16	7	91	12	166	17	241
3	31	8	106	13	181	18	256
4	46	9	121	14	196	19	271
5	61	10	136	15	211	20	286

Mode Basic

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 1 Shutter at 20–24, 65–69, 85–89, 105–109, 125–129 or 145–255 “Open”; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 22, CH 2 Dimmer 255, CH 3 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Shutter	0–19	Shutter: Closed
		20–24	Shutter: Open
		25	Strobe: Fast
		26–43	Strobe: Fast ... Medium
		44	Strobe: Medium
		45–63	Strobe: Medium ... Slow

CH	Function	DMX	Description
1	Shutter (continued)	64	Strobe: Slow
		65–69	Shutter: Open
		70	Strobe Closing Pulse: Fast
		71–76	Strobe Closing Pulse: Fast ... Medium
		77	Strobe Closing Pulse: Medium
		78–83	Strobe Closing Pulse: Medium ... Slow
		84	Strobe Closing Pulse: Slow
		85–89	Shutter: Open
		90	Strobe Closing Pulse: Slow
		91–96	Strobe Closing Pulse: Slow ... Medium
		97	Strobe Closing Pulse: Medium
		98–103	Strobe Closing Pulse: Medium ... Fast
		104	Strobe Closing Pulse: Fast
		105–109	Shutter: Open
		110	Strobe Random: Slow
		111–116	Strobe Random: Slow ... Medium
		117	Strobe Random: Medium
		118–123	Strobe Random: Medium ... Fast
		124	Strobe Random: Fast
		125–129	Shutter: Open
		130	Strobe Random Opening Pulse: Fast
		131–136	Strobe Random Opening Pulse: Fast ... Medium
		137	Strobe Random Opening Pulse: Medium
		138–143	Strobe Random Opening Pulse: Medium ... Slow
		144	Strobe Random Opening Pulse: Slow
		145–255	Shutter: Open
2	Dimmer	0	Closed
		1–63	Closed ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... Open
		255	Open
3	Colors	0–6	Color Selection: Open
		7–12	CTC
		13–18	Yellow
		19–25	Blue
		26–31	Color Selection: Pink
		32–37	Green
		38–44	Blue

CH	Function	DMX	Description
3	Colors (continued)	45–50	Red
		51–56	Color Selection: Magenta
		57–63	Blue
		64–66	Color Wheel Index: Open
		67–73	Light Blue
		74–80	Dark Green
		81–87	Color Wheel Index: Pink
		88–94	Orange
		95–101	Light Green
		102–108	Color Wheel Index: Magenta
		109–115	Light Yellow
		116–122	Dark Blue
		123–127	Dark Red
		128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med
		160–189	CW Med ... CW Min
		190	CW Min
		191–192	Color Wheel Spin: Stop
		193	CCW Mix
		194–223	CCW Mix ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max
		255	CCW Max
4	Gobo	0–7	Gobo 1 Selection: Open
		8–15	Gobo 1 Selection: Gobo 1
		16–23	Gobo 1 Selection: Gobo 2
		24–31	Gobo 1 Selection: Gobo 3
		32–39	Gobo 1 Selection: Gobo 4
		40–47	Gobo 1 Selection: Gobo 5
		48–55	Gobo 1 Selection: Gobo 6
		56–63	Gobo 1 Selection: Gobo 7
		64–72	Gobo 1 Shake: Gobo 1 (1–5 Hz)
		73–81	Gobo 1 Shake: Gobo 2 (1–5 Hz)
		82–90	Gobo 1 Shake: Gobo 3 (1–5 Hz)
		91–99	Gobo 1 Shake: Gobo 4 (1–5 Hz)
		100–108	Gobo 1 Shake: Gobo 5 (1–5 Hz)
		109–117	Gobo 1 Shake: Gobo 6 (1–5 Hz)
		118–127	Gobo 1 Shake: Gobo 7 (1–5 Hz)
		128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med

CH	Function	DMX	Description
4	Gobo (continued)	160–189	CW Med ... CW Min
		190	CW Min
		191–192	Gobo 1 Wheel Spin: Stop
		193	CCW Min
		194–223	CCW Min ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max
		255	CCW Max
5	Gobo Rotation	0–31	0 deg ... 90 deg
		31–63	90 deg ... 180 deg
		63–95	180 deg ... 270 deg
		95–127	270 deg ... 360 deg
		127	360 deg
		127–128	Gobo 1 Index
		128–159	CCW Max ... CCW Med
		159–190	CCW Med ... CCW Min
		190–191	CCW Min ... Stop
		191–192	Gobo 1 Rotation: Stop
		192–193	Stop ... CW Min
		193–224	CW Min ... CW Med
		224–255	CW Med ... CW Max
		255	CW Max
6	Gobo Rotation Fine	0–255	Fine adjustment of CH 5
7	Gobo 2	0–6	Gobo 2 Selection: Open
		7–12	Gobo 2 Selection: Gobo 1
		13–18	Gobo 2 Selection: Gobo 2
		19–25	Gobo 2 Selection: Gobo 3
		26–31	Gobo 2 Selection: Gobo 4
		32–37	Gobo 2 Selection: Gobo 5
		38–44	Gobo 2 Selection: Gobo 6
		45–50	Gobo 2 Selection: Gobo 7
		51–56	Gobo 2 Selection: Gobo 8
		57–63	Gobo 2 Selection: Gobo 9
		64–70	Gobo 2 Shake: Gobo 1 (1–5 Hz)
		71–77	Gobo 2 Shake: Gobo 2 (1–5 Hz)
		78–84	Gobo 2 Shake: Gobo 3 (1–5 Hz)
		85–91	Gobo 2 Shake: Gobo 4 (1–5 Hz)
		92–98	Gobo 2 Shake: Gobo 5 (1–5 Hz)
		99–105	Gobo 2 Shake: Gobo 6 (1–5 Hz)
		106–112	Gobo 2 Shake: Gobo 7 (1–5 Hz)
		113–119	Gobo 2 Shake: Gobo 8 (1–5 Hz)
		120–127	Gobo 2 Shake: Gobo 9 (1–5 Hz)

CH	Function	DMX	Description
7	Gobo 2 (continued)	128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med
		160–189	CW Med ... CW Min
		190	CW Min
		191–192	Gobo 2 Wheel Spin: Stop
		193	CCW Min
		194–223	CCW Min ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max
		255	CCW Max
8	Focus	0	Far
		1–127	Far ... Medium
		128	Medium
		129–254	Medium ... Near
		255	Near
9	Prism	0–10	Prism: Open
		11–127	3 Facet Prism
		128–131	Macro 1
		132–135	Macro 2
		136–139	Macro 3
		140–143	Macro 4
		144–147	Macro 5
		148–151	Macro 6
		152–155	Macro 7
		156–159	Macro 8
		160–163	Macro 9
		164–167	Macro 10
		168–171	Macro 11
		172–175	Macro 12
		176–179	Macro 13
		180–183	Macro 14
		184–187	Macro 15
		188–191	Macro 16
		192–195	Macro 17
		196–199	Macro 18
		200–203	Macro 19
		204–207	Macro 20
		208–211	Macro 21
		212–215	Macro 22
		216–219	Macro 23
		220–223	Macro 24

CH	Function	DMX	Description
9	Prism (continued)	224–227	Macro 25
		228–231	Macro 26
		232–235	Macro 27
		236–239	Macro 28
		240–243	Macro 29
		244–247	Macro 30
		248–251	Macro 31
		252–255	Macro 32
10	Pan	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
11	Pan Fine	0–255	Fine adjustment of CH 10
12	Tilt	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
13	Tilt Fine	0–255	Fine adjustment of CH 12
14	Speed Pan/Tilt	0	Fast
		1–127	Fast ... Medium
		128	Medium
		129–254	Medium ... Slow
		255	Slow
15	Control	0–69	No Function
		70–79	BO while PAN TILT moving ON
		80–89	BO while PAN TILT moving OFF
		90–99	BO while Colour moving ON
		100–109	BO while Colour moving OFF
		110–119	BO while Gobo moving ON
		120–129	BO while Gobo moving OFF
		130–199	No Function
		200–209	Reset All
		210–219	Reset Effects
		220–229	Reset Pan Tilt
		230–255	No Function

10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	230 W
Luminous flux	9,384 lm
Color temperature	6,500 K
Color rendering index (CRI)	74
Optics	
Beam angle	17.7°
Movement	
Pan	540°
Tilt	246°
Dimensions and construction	
Weight	17 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

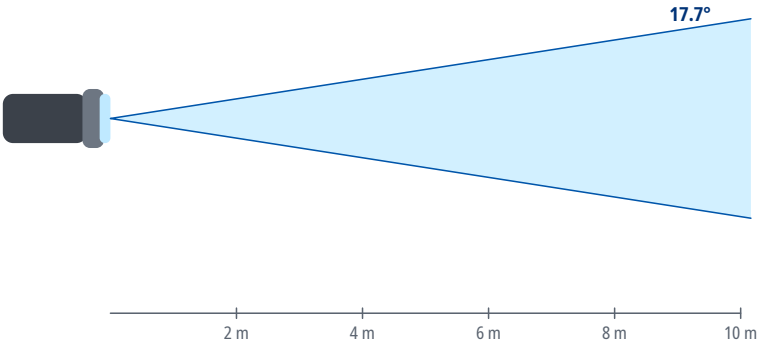
Parameter	Value
Strobe frequency	1–15 Hz
Color wheel rotation	up to 1406 °/s (234 rpm)
Gobo wheel 1 rotation	up to 914 °/s (152 rpm)
Gobo wheel 2 rotation	up to 724 °/s (121 rpm)
Gobo 1 rotation	up to 628 °/s (105 rpm)

Dimensions

weight 17 kg



Spot diameter



Distance	Ø 17.7°
2 m	0.62 m
4 m	1.2 m
6 m	1.9 m
8 m	2.5 m
10 m	3.1 m
15 m	4.7 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.