DMX REFERENCE

Ronin R45

Leding

Manufacturer	Leding
GDTF file	Leding_Ronin_R45_63433.gdtf
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1 About this manual

This document describes the Ronin R45 by Leding. It was compiled from the GDTF file Leding_Ronin_R45_63433.gdtf from the GDTF-Share library.

File revision: “V1.0”.

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 Leding; 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	26 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic	23	22	1, 24, 47, 70, ...
Standard	29	17	1, 30, 59, 88, ...
Extended	31	16	1, 32, 63, 94, ...

No light? Check these channels

- Basic: CH 21 Dimmer above 254; CH 22 Shutter at 0–9, 100–109 or 180–189 “Open”
- Standard: CH 26 Dimmer above 0; CH 28 Shutter at 0–9, 100–109 or 180–189 “Open”
- Extended: CH 28 Dimmer above 0; CH 30 Shutter at 0–9, 100–109 or 180–189 “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.

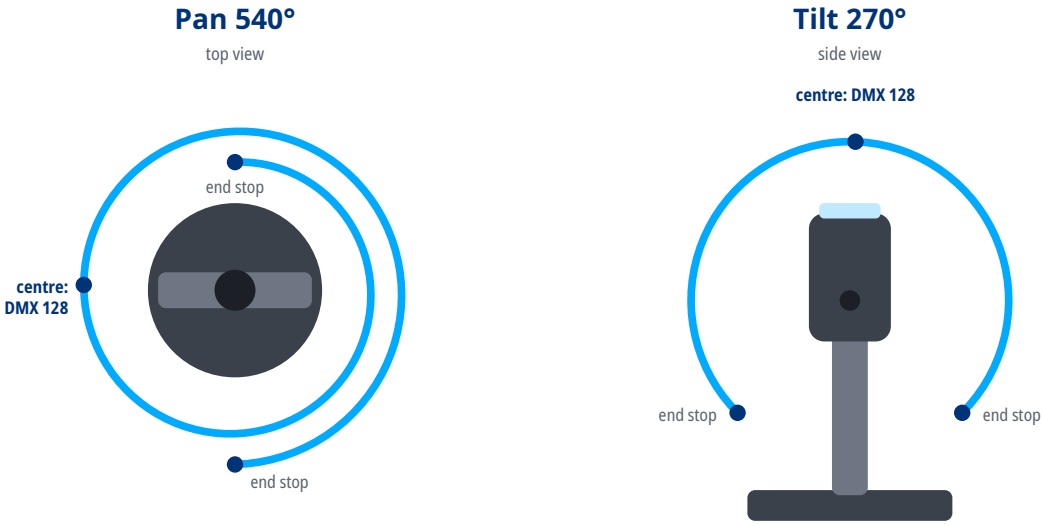
⚠ CAUTION

- 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.

> ⚠ **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



5 Installation

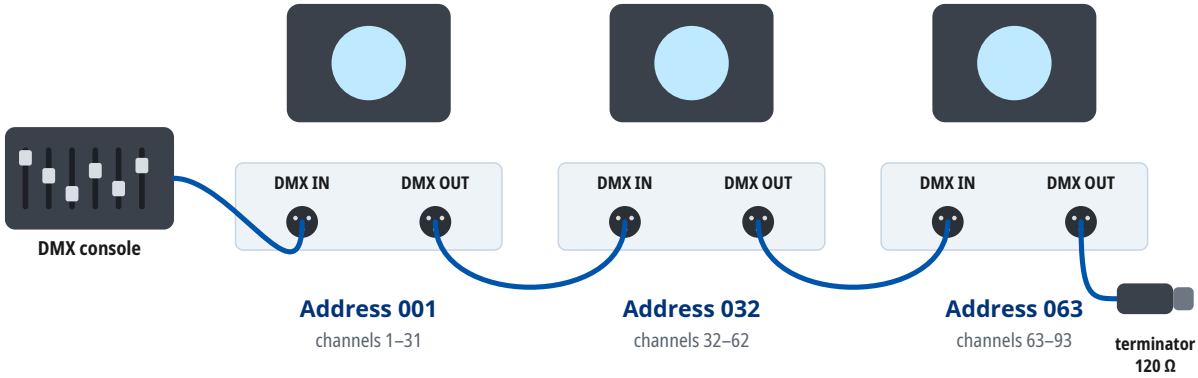
> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 26 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: every unit occupies 31 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”: 31.
- 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”, you can use, for example, the start addresses 1, 32, 63, 94.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

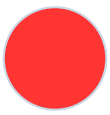
Functions in each DMX mode

	Basic 23 channels	Standard 29 channels	Extended 31 channels
Pan / Tilt	1, 2	1, 3	1, 3
Pan / Tilt resolution	8 bit	16 bit	16 bit
Dimmer	21	26	28
Dimmer resolution	8 bit	16 bit	16 bit
Shutter / strobe	22	28	30
Color mixing	4–6	6–8	6–8
Color wheel	9	11	11
Gobo wheel	10, 12	12, 15	13, 16
Gobo rotation	11	13	14
Prism	15, 16	18, 19	19, 20
Frost	17	20	21
Zoom	18	21	22
Focus	19, 20	23, 25	24, 26
Animation wheel	13, 14	16, 17	17, 18
Effects / macros	7	9	9

Color wheel



1 Color: Open
DMX 0–15



2 Red
DMX 16–23



3 Blue
DMX 24–31

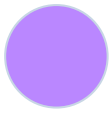


4 Cyan
DMX 32–39



5 Orange
DMX 40–47

6 Yellow
DMX 48–55



7 Purple
DMX 56–62

Gobo wheel 1

1
Gobo: Open
DMX 0–10

2 
Gobo 1
DMX 11–16

3 
Gobo 2
DMX 17–22

4 
Gobo 3
DMX 23–28

5 
Gobo 4
DMX 29–34

6 
Gobo 5
DMX 35–40

7 
Gobo 6
DMX 41–46

8 
Gobo 7
DMX 47–52

9 
Gobo 8
DMX 53–59

Gobo wheel 2

1
Gobo: Open
DMX 0–10

2 
Gobo 1
DMX 11–17

3 
Gobo 2
DMX 18–24

4 
Gobo 3
DMX 25–31

5 
Gobo 4
DMX 32–38

6 
Gobo 5
DMX 39–45

7 
Gobo 6
DMX 46–52

8 
Gobo 7
DMX 53–59

9 
Gobo 8
DMX 60–66

10 
Gobo 9
DMX 67–73

11 
Gobo 10
DMX 74–81

Prism 1

1
Prism 1: Open
DMX 0–10

2 
5 facets
5-facet Prism
DMX 11–12

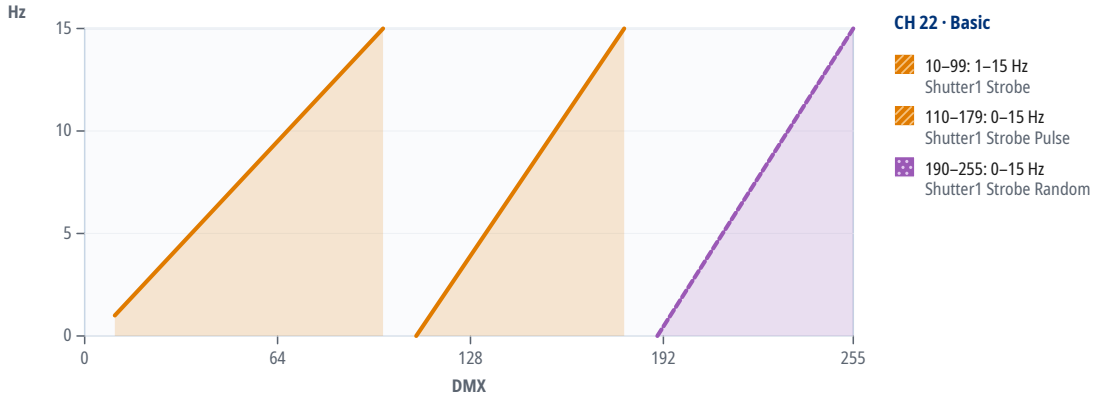
3
Wheel Slot 1

Prism 2

1
Prism: Open
DMX 0–10

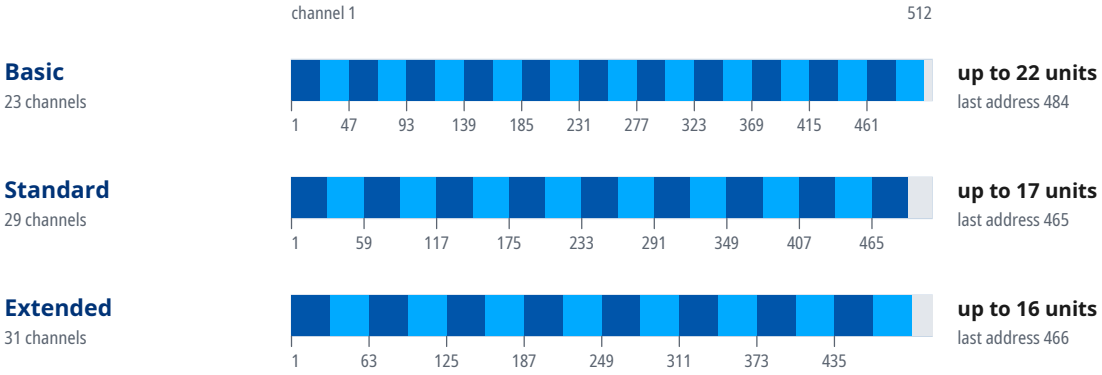
2 
5 facets
Linear Prism
DMX 11–12

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended”

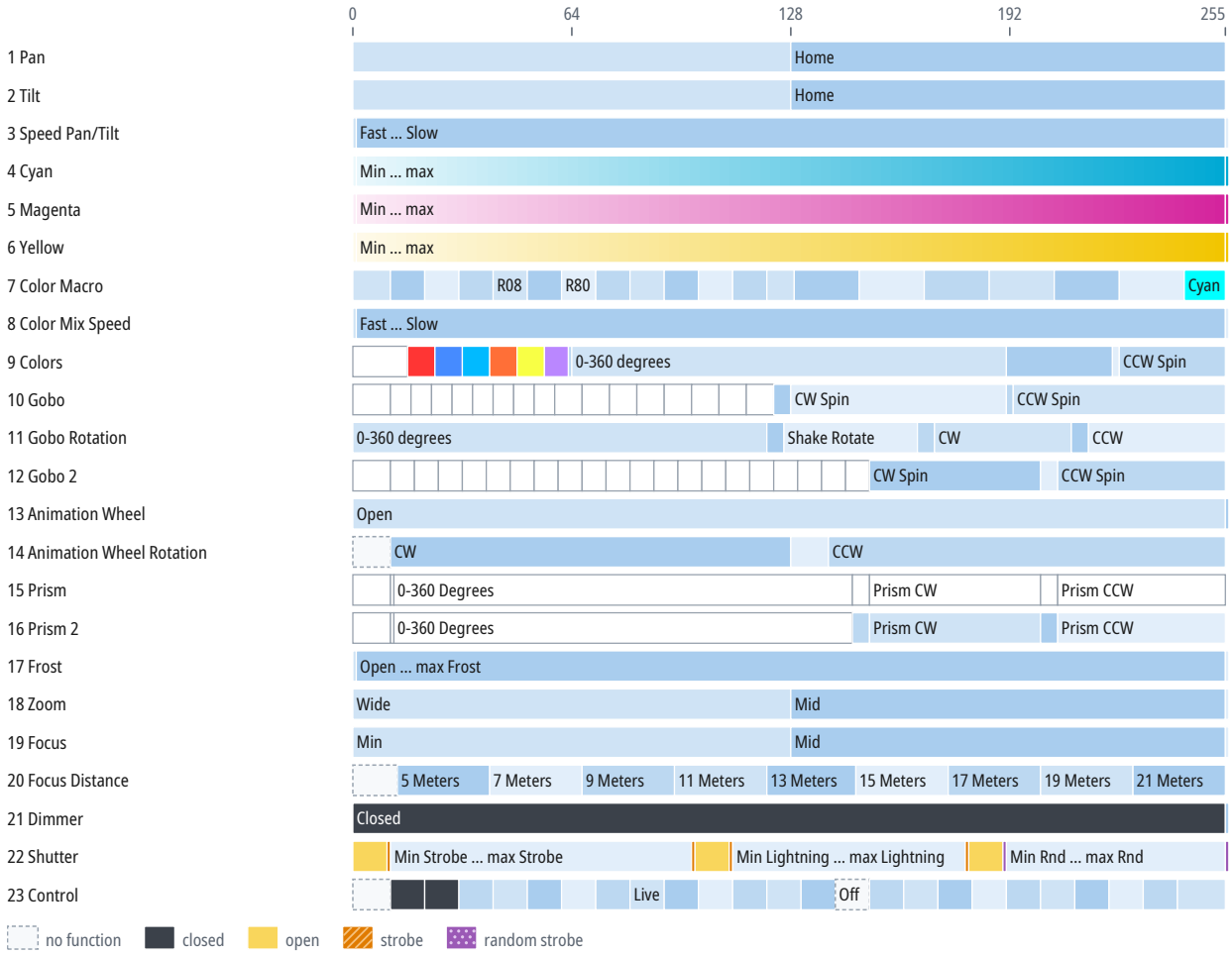
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	156	11	311	16	466
2	32	7	187	12	342	17	U2 · 1
3	63	8	218	13	373	18	U2 · 32
4	94	9	249	14	404	19	U2 · 63
5	125	10	280	15	435	20	U2 · 94

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 Basic

If the device receives DMX in this mode but gives no light, check these channels: CH 21 Dimmer above 254; CH 22 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Cyan 0, CH 5 Magenta 0, CH 6 Yellow 0, CH 7 Color Macro 0, CH 9 Colors 0, CH 21 Dimmer 255, CH 22 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128–255	Home
2	Tilt	0–127	Tilt 1
		128–255	Home
3	Speed Pan/Tilt	0	Fast
		1–254	Fast ... Slow
		255	Slow
4	Cyan	0	Min
		1–254	Min ... max
		255	Max
5	Magenta	0	Min
		1–254	Min ... max

CH	Function	DMX	Description
5	Magenta (continued)	255	Max
6	Yellow	0	Min
		1–254	Min ... max
		255	Max
7	Color Macro	0–10	Open
		11–20	L106
		21–30	L194
		31–40	L019
		41–50	R08
		51–60	L213
		61–70	R80
		71–80	L202
		81–90	L328
		91–100	R3314
		101–110	L101
		111–120	L768
		121–128	Open
		129–147	Cyan +Magenta
		148–166	Magenta -Cyan
		167–185	Magenta +Yellow
		186–204	Yellow -Magenta
		205–223	Yellow +Cyan
		224–242	Cyan -Yellow
		243–255	Cyan
8	Color Mix Speed	0	Fast
		1–254	Fast ... Slow
		255	Slow
9	Colors	0–15	Color: Open
		16–23	Red
		24–31	Blue
		32–39	Cyan
		40–47	Orange
		48–55	Yellow
		56–62	Purple
		63	Color 1
		64–190	0-360 degrees
		191–221	Color 1 Wheel Spin 3
		222–223	Color 1 Wheel Spin: Stop
		224–255	CCW Spin
10	Gobo	0–10	Gobo: Open
		11–16	Gobo 1
		17–22	Gobo 2

CH	Function	DMX	Description
10	Gobo (continued)	23–28	Gobo 3
		29–34	Gobo 4
		35–40	Gobo 5
		41–46	Gobo 6
		47–52	Gobo 7
		53–58	Gobo 8
		59–66	Gobo 1 Wheel Shake: Gobo 1
		67–74	Gobo 1 Wheel Shake: Gobo 2
		75–82	Gobo 1 Wheel Shake: Gobo 3
		83–90	Gobo 1 Wheel Shake: Gobo 4
		91–98	Gobo 1 Wheel Shake: Gobo 5
		99–106	Gobo 1 Wheel Shake: Gobo 6
		107–114	Gobo 1 Wheel Shake: Gobo 7
		115–122	Gobo 1 Wheel Shake: Gobo 8
		123–127	Gobo 1 Wheel Spin: Open
		128–190	CW Spin
		191–192	Static
		193–255	CCW Spin
11	Gobo Rotation	0–120	0-360 degrees
		121–125	Gobo 1 Pos: Stop
		126–164	Shake Rotate
		165–169	Gobo 1 Pos Rotate
		170–209	CW
		210–214	Static
		215–255	CCW
12	Gobo 2	0–10	Gobo: Open
		11–17	Gobo 1
		18–24	Gobo 2
		25–31	Gobo 3
		32–38	Gobo 4
		39–45	Gobo 5
		46–52	Gobo 6
		53–59	Gobo 7
		60–66	Gobo 8
		67–73	Gobo 9
		74–80	Gobo 10
		81–87	Gobo 1 Wheel Shake: Gobo 1
		88–94	Gobo 1 Wheel Shake: Gobo 2
		95–101	Gobo 1 Wheel Shake: Gobo 3
		102–108	Gobo 1 Wheel Shake: Gobo 4
		109–115	Gobo 1 Wheel Shake: Gobo 5
		116–122	Gobo 1 Wheel Shake: Gobo 6

CH	Function	DMX	Description
12	Gobo 2 (continued)	123–129	Gobo 1 Wheel Shake: Gobo 7
		130–136	Gobo 1 Wheel Shake: Gobo 8
		137–143	Gobo 1 Wheel Shake: Gobo 9
		144–150	Gobo 1 Wheel Shake: Gobo 10
		151–200	CW Spin
		201–205	Static
		206–255	CCW Spin
13	Animation Wheel	0–254	Open
		255	Anim wheel
14	Animation Wheel Rotation	0–10	No Function
		11–127	CW
		128–138	Static
		139–255	CCW
15	Prism	0–10	Prism 1: Open
		11	5-facet Prism
		12–145	0-360 Degrees (360°)
		146–150	Static
		151–200	Prism CW
		201–205	Static
		206–255	Prism CCW
16	Prism 2	0–10	Prism: Open
		11	Linear Prism
		12–145	0-360 Degrees (360°)
		146–150	Static
		151–200	Prism CW
		201–205	Static
		206–255	Prism CCW
17	Frost	0	Open
		1–254	Open ... max Frost
		255	Max Frost
18	Zoom	0–127	Wide
		128–254	Mid
		255	Narrow
19	Focus	0–127	Min
		128–254	Mid
		255	Max
20	Focus Distance	0–12	No Function
		13–39	5 Meters
		40–66	7 Meters
		67–93	9 Meters
		94–120	11 Meters
		121–146	13 Meters

CH	Function	DMX	Description
20	Focus Distance (continued)	147–173	15 Meters
		174–200	17 Meters
		201–227	19 Meters
		228–255	21 Meters
21	Dimmer	0–254	Closed
		255	Open
22	Shutter	0–9	Shutter: Open
		10	Min Strobe
		11–98	Min Strobe ... max Strobe
		99	Max Strobe
		100–109	Open
		110	Min Lightning
		111–178	Min Lightning ... max Lightning
		179	Max Lightning
		180–189	Open
		190	Min Rnd
		191–254	Min Rnd ... max Rnd
		255	Max Rnd
23	Control	0–10	No Function
		11–20	P/T Blackout On
		21–30	P/T Blackout Off
		31–40	Pan Invert
		41–50	Tilt Invert
		51–60	P/T Invert Off
		61–70	Studio
		71–80	Power
		81–90	Live
		91–100	Reserved
		101–110	Dim 1
		111–120	Dim 2
		121–130	Dim 3
		131–140	Dim 4
		141–150	Off
		151–160	1200Hz
		161–170	2400Hz
		171–180	4000Hz
		181–190	6000Hz
		191–200	25000Hz
		201–210	Reset All
		211–220	P/T Reset

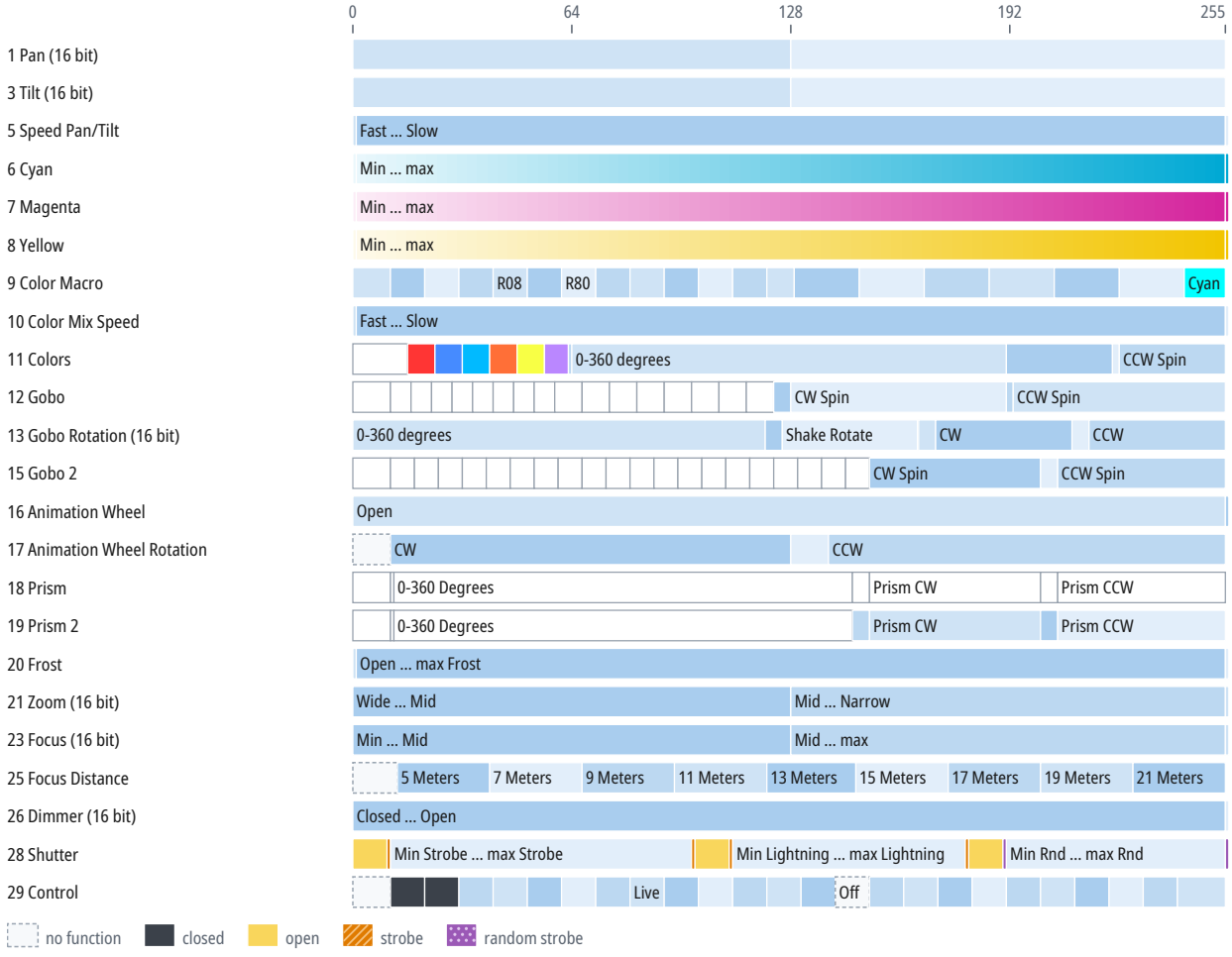
CH	Function	DMX	Description
23	Control (continued)	221–230	Color/Gobo Reset
		231–240	Focus/Zoom Reset
		241–255	Reserved

Mode Standard

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 26 Dimmer above 0; CH 28 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Cyan 0, CH 7 Magenta 0, CH 8 Yellow 0, CH 9 Color Macro 0, CH 11 Colors 0, CH 26 Dimmer 255, CH 28 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–128	Pan 1
		128	Home
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–128	Tilt 1

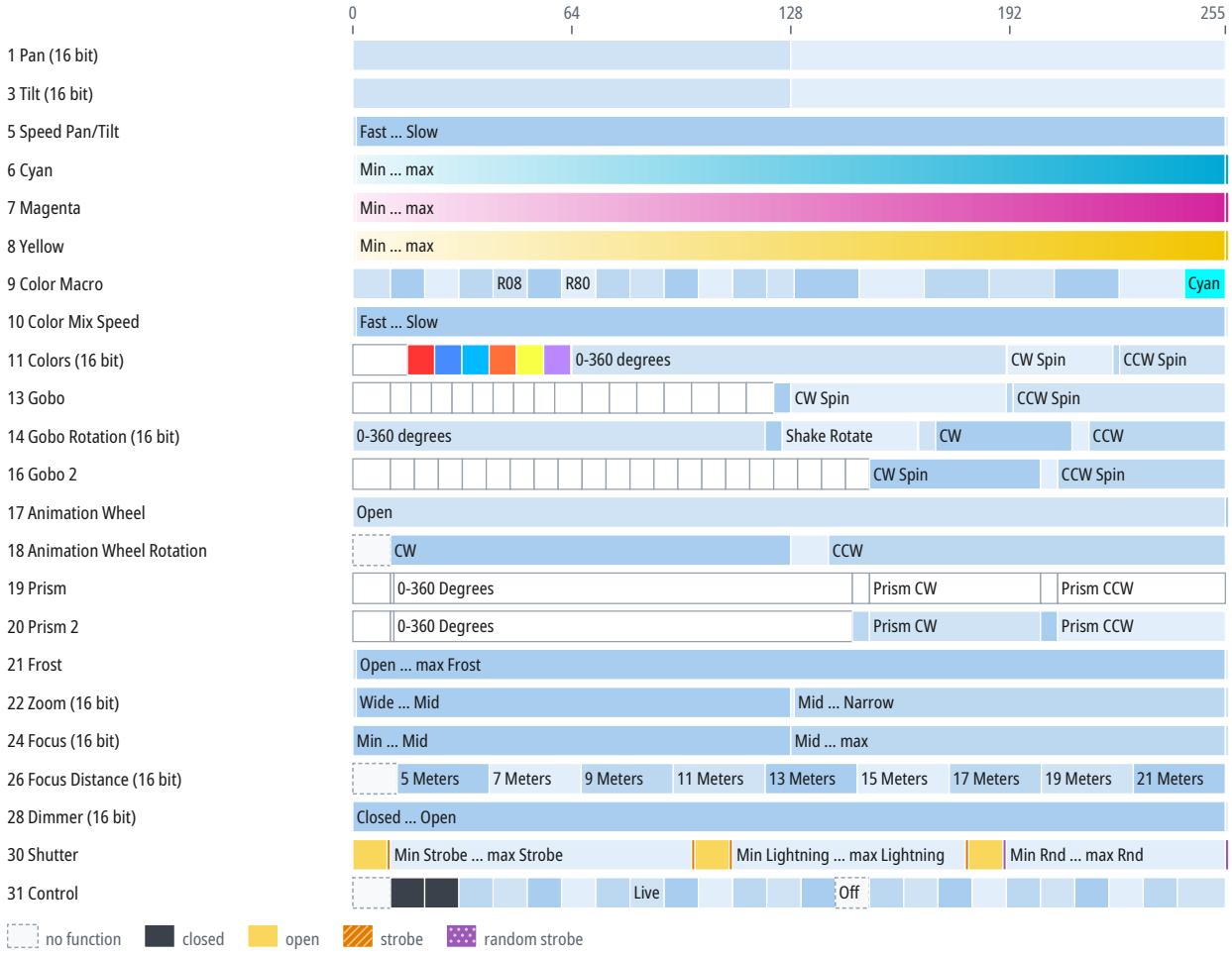
CH	Function	DMX	Description
3	Tilt (continued)	128	Home
		128–255	Tilt 1
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 3 in the mode “Basic” (p. 10)
6	Cyan		Same as CH 4 in the mode “Basic” (p. 10)
7	Magenta		Same as CH 5 in the mode “Basic” (p. 10)
8	Yellow		Same as CH 6 in the mode “Basic” (p. 11)
9	Color Macro		Same as CH 7 in the mode “Basic” (p. 11)
10	Color Mix Speed		Same as CH 8 in the mode “Basic” (p. 11)
11	Colors		Same as CH 9 in the mode “Basic” (p. 11)
12	Gobo		Same as CH 10 in the mode “Basic” (p. 11)
13	Gobo Rotation	0–120	0-360 degrees
		121–125	Gobo 1 Pos: Stop
		126–165	Shake Rotate
		166–170	Gobo 1 Pos Rotate: Stop
		171–210	CW
		211–215	Static
		216–255	CCW
14	Gobo Rotation Fine	0–255	Fine adjustment of CH 13
15	Gobo 2		Same as CH 12 in the mode “Basic” (p. 12)
16	Animation Wheel		Same as CH 13 in the mode “Basic” (p. 13)
17	Animation Wheel Rotation		Same as CH 14 in the mode “Basic” (p. 13)
18	Prism		Same as CH 15 in the mode “Basic” (p. 13)
19	Prism 2		Same as CH 16 in the mode “Basic” (p. 13)
20	Frost		Same as CH 17 in the mode “Basic” (p. 13)
21	Zoom	0–128	Wide ... Mid
		128–255	Mid ... Narrow
		255	Narrow
22	Zoom Fine	0–255	Fine adjustment of CH 21
23	Focus	0–128	Min ... Mid
		128–255	Mid ... max
		255	Max
24	Focus Fine	0–255	Fine adjustment of CH 23
25	Focus Distance		Same as CH 20 in the mode “Basic” (p. 13)
26	Dimmer	0–255	Closed ... Open
		255	Open
27	Dimmer Fine	0–255	Fine adjustment of CH 26
28	Shutter		Same as CH 22 in the mode “Basic” (p. 14)
29	Control		Same as CH 23 in the mode “Basic” (p. 14)

Mode Extended

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 28 Dimmer above 0; CH 30 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Cyan 0, CH 7 Magenta 0, CH 8 Yellow 0, CH 9 Color Macro 0, CH 11 Colors 0, CH 28 Dimmer 255, CH 30 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Standard” (p. 15)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Standard” (p. 15)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 3 in the mode “Basic” (p. 10)
6	Cyan		Same as CH 4 in the mode “Basic” (p. 10)
7	Magenta		Same as CH 5 in the mode “Basic” (p. 10)
8	Yellow		Same as CH 6 in the mode “Basic” (p. 11)
9	Color Macro		Same as CH 7 in the mode “Basic” (p. 11)
10	Color Mix Speed		Same as CH 8 in the mode “Basic” (p. 11)
11	Colors	0–15	Color: Open

CH	Function	DMX	Description
11	Colors (continued)	16–23	Red
		24–31	Blue
		32–39	Cyan
		40–47	Orange
		48–55	Yellow
		56–63	Purple
		64–191	0-360 degrees
		192–222	CW Spin
		223–224	Color 1 Wheel Spin: Stop
		225–255	CCW Spin
12	Colors Fine	0–255	Fine adjustment of CH 11
13	Gobo		Same as CH 10 in the mode “Basic” (p. 11)
14	Gobo Rotation		Same as CH 13 in the mode “Standard” (p. 16)
15	Gobo Rotation Fine	0–255	Fine adjustment of CH 14
16	Gobo 2		Same as CH 12 in the mode “Basic” (p. 12)
17	Animation Wheel		Same as CH 13 in the mode “Basic” (p. 13)
18	Animation Wheel Rotation		Same as CH 14 in the mode “Basic” (p. 13)
19	Prism		Same as CH 15 in the mode “Basic” (p. 13)
20	Prism 2		Same as CH 16 in the mode “Basic” (p. 13)
21	Frost		Same as CH 17 in the mode “Basic” (p. 13)
22	Zoom	0–1	Wide
		1–128	Wide ... Mid
		128–129	Mid
		129–255	Mid ... Narrow
		255	Narrow
23	Zoom Fine	0–255	Fine adjustment of CH 22
24	Focus		Same as CH 23 in the mode “Standard” (p. 16)
25	Focus Fine	0–255	Fine adjustment of CH 24
26	Focus Distance	0–12	No Function
		13–39	5 Meters
		40–66	7 Meters
		67–93	9 Meters
		94–120	11 Meters
		121–147	13 Meters
		148–174	15 Meters
		175–201	17 Meters
		202–228	19 Meters
		229–255	21 Meters
27	Focus Distance Fine	0–255	Fine adjustment of CH 26
28	Dimmer		Same as CH 26 in the mode “Standard” (p. 16)

CH	Function	DMX	Description
29	Dimmer Fine	0–255	Fine adjustment of CH 28
30	Shutter		Same as CH 22 in the mode “Basic” (p. 14)
31	Control		Same as CH 23 in the mode “Basic” (p. 14)

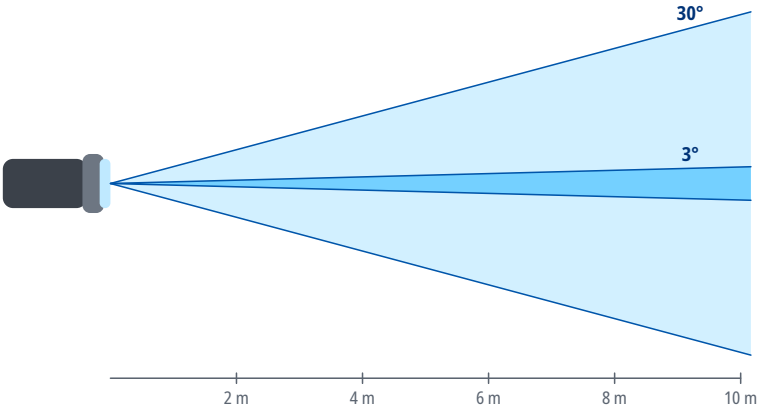
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	450 W
Luminous flux	32,500 lm
Color temperature	6,000 K
Color rendering index (CRI)	75
Optics	
Zoom	3–30°
Movement	
Pan	540°
Tilt	270°
Dimensions and construction	
Weight	26 kg
Operating environment	
Operating temperature	0 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–15 Hz
Color wheel rotation	up to 180 °/s (30 rpm)
Gobo wheel 1 rotation	up to 180 °/s (30 rpm)
Gobo wheel 2 rotation	up to 180 °/s (30 rpm)
Gobo 1 rotation	up to 180 °/s (30 rpm)
Prism 1 rotation	up to 180 °/s (30 rpm)
Prism 2 rotation	up to 180 °/s (30 rpm)
Animation wheel rotation	up to 180 °/s (30 rpm)

Spot diameter



Distance	Ø 3°	Ø 30°
2 m	0.1 m	1.1 m
4 m	0.21 m	2.1 m
6 m	0.31 m	3.2 m
8 m	0.42 m	4.3 m
10 m	0.52 m	5.4 m
15 m	0.79 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.
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.