DMX REFERENCE

Lonestar Standard - MA3/GDTF

High End Systems

Manufacturer	High End Systems
GDTF file	High_End_Systems_Lonestar_Standard_-_MA3_GDTF_170204.gdtf
GDTF revision	Created by Lauren Bonavitacola - ACT, Uploaded to GDTF Share. · 2026-11-20
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1 About this manual

This document describes the Lonestar Standard - MA3/GDTF by High End Systems. It was compiled from the GDTF file High_End_Systems_Lonestar_Standard_-_MA3_GDTF_170204.gdtf from the GDTF-Share library.

File revision: “Created by Lauren Bonavitacola - ACT, Uploaded to GDTF Share.”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by High End Systems; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 0	48	10	1, 49, 97, 145, ...

No light? Check these channels

- Mode 0: CH 44 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.

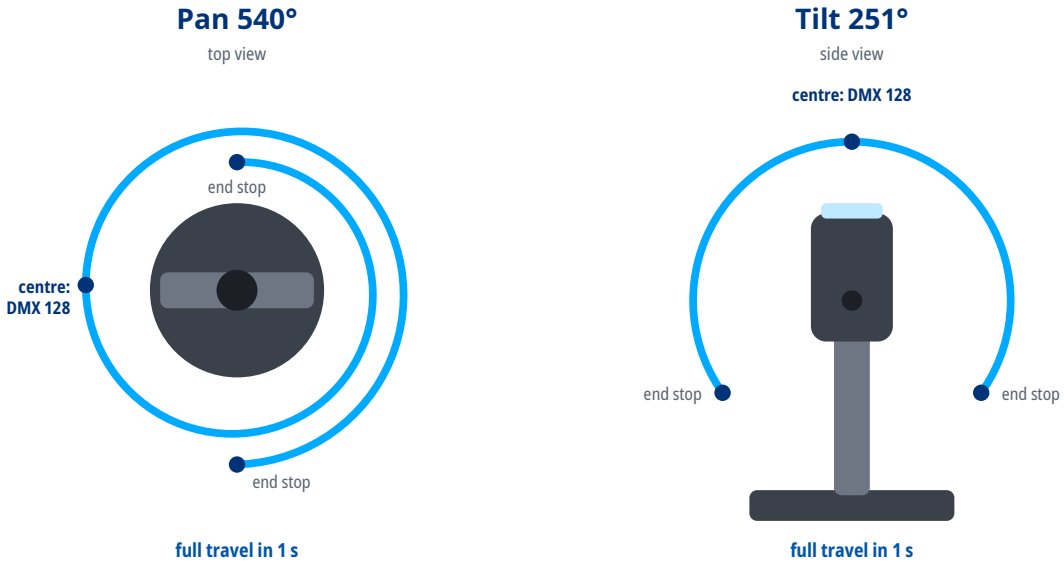
⚠ CAUTION

- 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.
> - 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.

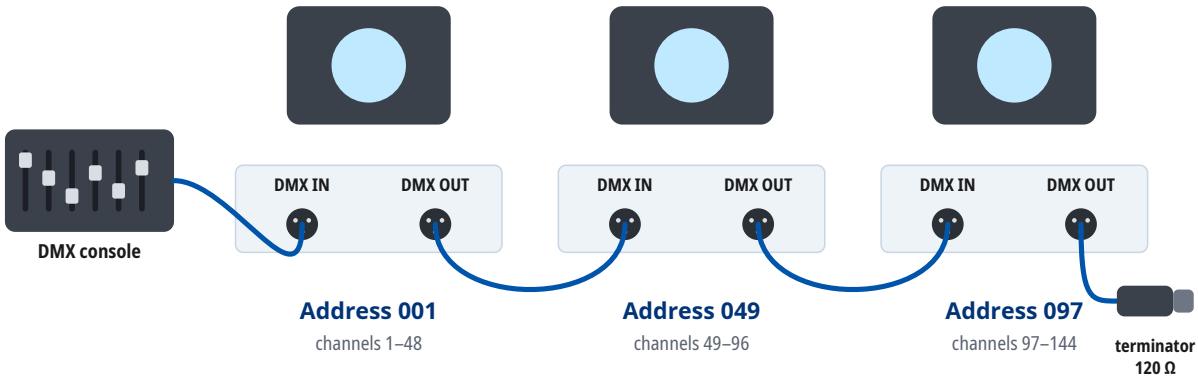
6 Connections

- 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 0: every unit occupies 48 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

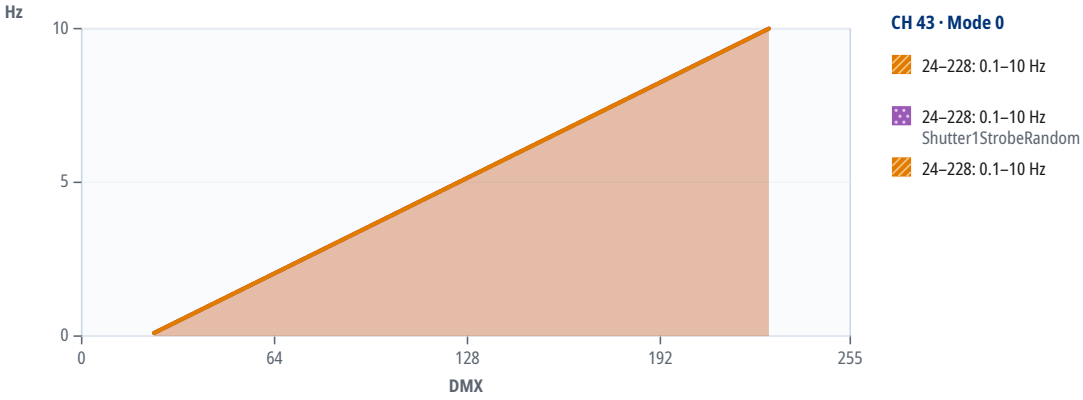
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode 0”: 48.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 0”, you can use, for example, the start addresses 1, 49, 97, 145.
- 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

	Mode 0 48 channels
Pan / Tilt	1, 3
Dimmer	44
Shutter / strobe	43
Color mixing	6–8
Color temperature	9
Color wheel	11
Gobo wheel	13
Gobo rotation	15
Prism	29, 30
Zoom	39
Focus	37
Iris	41
Animation wheel	28

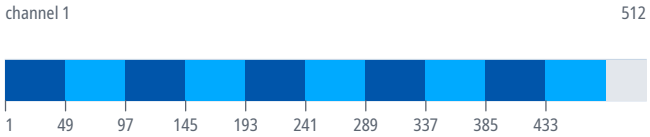
Strobe rate



9 DMX channels

Units in one DMX universe

Mode 0
48 channels



up to 10 units
last address 433

Start addresses of 20 units in the mode “Mode 0”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	241	11	U2 · 1	16	U2 · 241
2	49	7	289	12	U2 · 49	17	U2 · 289
3	97	8	337	13	U2 · 97	18	U2 · 337
4	145	9	385	14	U2 · 145	19	U2 · 385
5	193	10	433	15	U2 · 193	20	U2 · 433

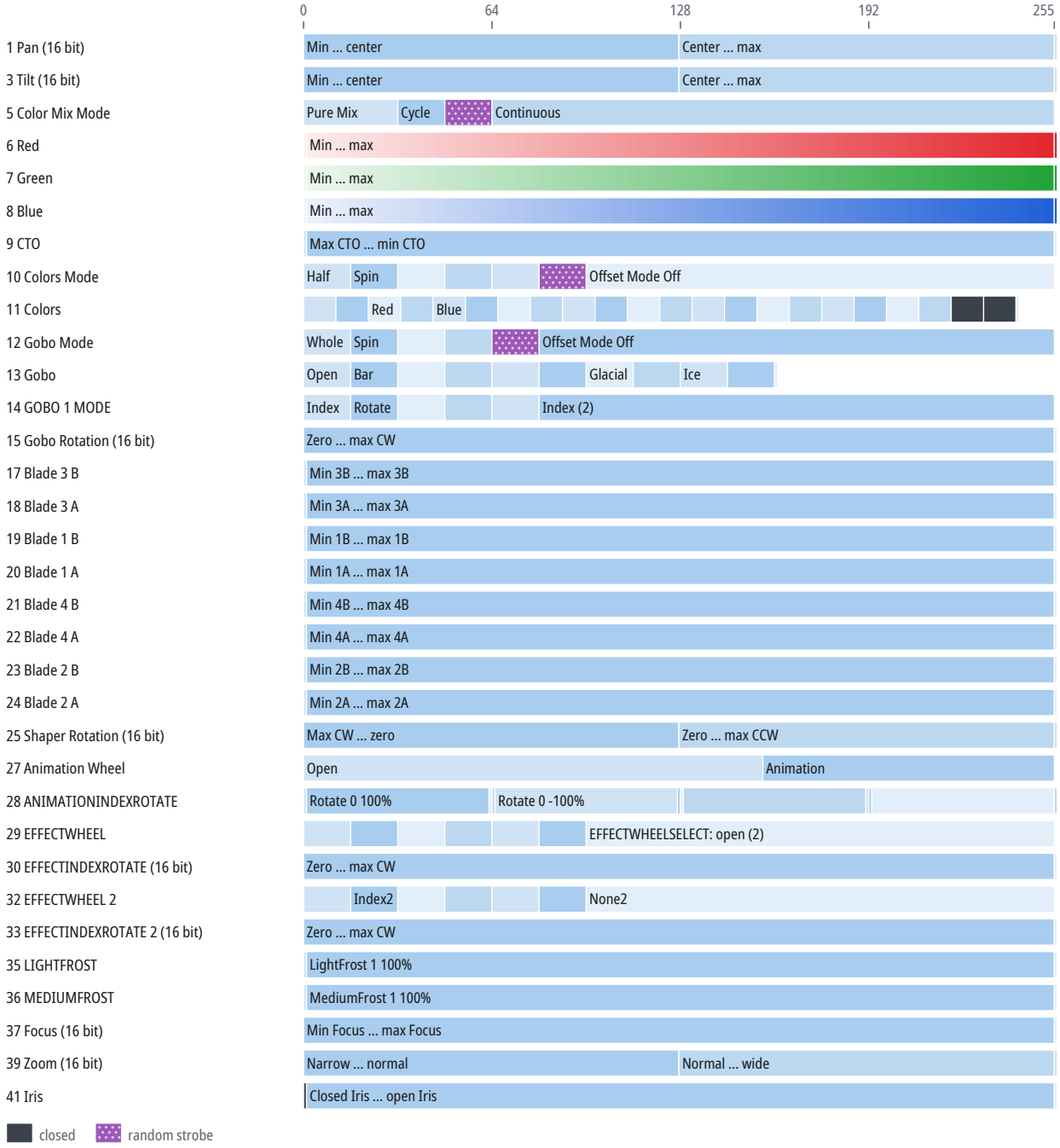
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 0

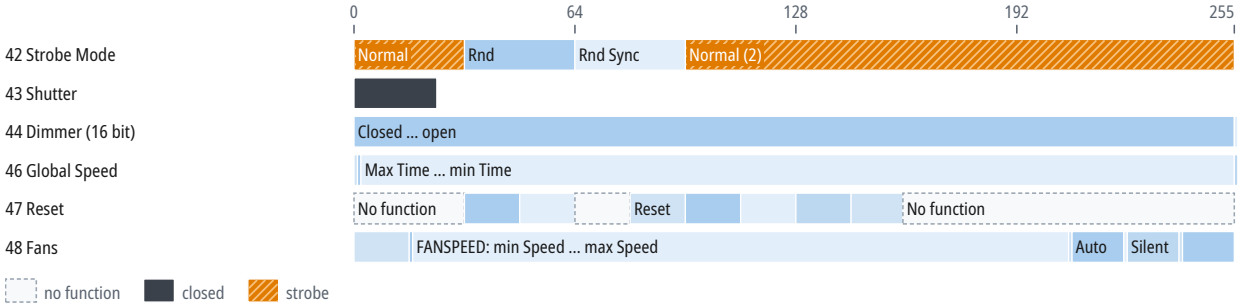
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 44 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Red 255, CH 7 Green 255, CH 8 Blue 255, CH 11 Colors 0, CH 43 Shutter 255, CH 44 Dimmer 255.

Channel functions at a glance



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	Color Mix Mode	0–31	Pure Mix
		32–47	Cycle
		48–63	Random
		64–255	Continuous
6	Red		When CH 5 is 0–31:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 5 is 32–47:
		0	Min Cycle
		1–254	Min Cycle ... max Cycle
		255	Max Cycle
			When CH 5 is 48–63:
		0	Min Rnd
		1–254	Min Rnd ... max Rnd
		255	Max Rnd
			When CH 5 is 64–255:
		0	Min
		1–254	Min ... max
		255	Max
7	Green	0	Min
		1–254	Min ... max
		255	Max
8	Blue	0	Min

CH	Function	DMX	Description
8	Blue (continued)	1–254	Min ... max
		255	Max
9	CTO	0	Max CTO
		1–254	Max CTO ... min CTO
		255	Min CTO
10	Colors Mode	0–15	Half
		16–31	Spin
		32–47	Spin (2)
		48–63	Continuous
		64–79	Scan Mode
		80–95	Random
		96–255	Offset Mode Off
11	Colors		When CH 10 is 0–15:
		0–10	Open
		11–21	Open (2)
		22–32	Red
		33–43	Red (2)
		44–54	Blue
		55–65	Blue (2)
		66–76	Green
		77–87	Green (2)
		88–98	Yellow
		99–109	Yellow (2)
		110–120	Purple
		121–131	Purple (2)
		132–142	TM-30
		143–153	TM-30 (2)
		154–164	Lavender
		165–175	Lavender (2)
		176–186	Half CTO
		187–197	Half CTO (2)
		198–208	Full CTO
		209–219	Full CTO (2)
		220–230	Dark blue
		231–241	Dark blue (2)
		242–255	Open (3)
			When CH 10 is 16–31:
		0	Color 1 Wheel Spin: stop
		1–254	Color 1 Wheel Spin
		255	>>>
			When CH 10 is 32–47:
		0	Color 1 Wheel Spin: stop

CH	Function	DMX	Description
11	Colors (continued)	1–254	Color 1 Wheel Spin
		255	<<<
			When CH 10 is 48–63:
		0–15	Open
		16–38	Red
		39–61	Blue
		62–83	Green
		84–106	Yellow
		107–128	Purple
		129–151	TM-30
		152–174	Lavender
		175–196	Half CTO
		197–219	Full CTO
		220–242	Dark blue
		243–255	Open (2)
			When CH 10 is 64–79:
		0–21	Open
		22–43	Red
		44–65	Blue
		66–87	Green
		88–109	Yellow
		110–131	Purple
		132–153	TM-30
		154–175	Lavender
		176–197	Half CTO
		198–219	Full CTO
		220–255	Dark blue
			When CH 10 is 80–95:
		0	Min Rnd
		1–254	Color 1 Wheel Random
		255	Max Rnd
			When CH 10 is 96–255:
		0–10	Open
		11–21	Open (2)
		22–32	Red
		33–43	Red (2)
		44–54	Blue
		55–65	Blue (2)
		66–76	Green
		77–87	Green (2)
		88–98	Yellow
		99–109	Yellow (2)

CH	Function	DMX	Description
11	Colors (continued)	110–120	Purple
		121–131	Purple (2)
		132–142	TM-30
		143–153	TM-30 (2)
		154–164	Lavender
		165–175	Lavender (2)
		176–186	Half CTO
		187–197	Half CTO (2)
		198–208	Full CTO
		209–219	Full CTO (2)
		220–230	Dark blue
		231–241	Dark blue (2)
		242–255	Open (3)
12	Gobo Mode	0–15	Whole
		16–31	Spin
		32–47	Spin (2)
		48–63	Scan Mode
		64–79	Random
		80–255	Offset Mode Off
13	Gobo		When CH 12 is 0–15:
		0–15	Open
		16–31	Bar
		32–47	Starvolver
		48–63	Fracked
		64–79	Broken tunnel
		80–95	Seashell
		96–111	Glacial
		112–127	Shower
		128–143	Ice
		144–159	Branch out
		160–255	Open (2)
			When CH 12 is 16–31:
		0–3	Gobo 1 Wheel Spin: stop
		4–254	Gobo 1 Wheel Spin
		255	>>>
			When CH 12 is 32–47:
		0–3	Gobo 1 Wheel Spin: stop
		4–254	Gobo 1 Wheel Spin
		255	<<<
			When CH 12 is 48–63:
		0–15	Max Scan
		16–31	Bar

CH	Function	DMX	Description
13	Gobo (continued)	32–47	Starvolver
		48–63	Fracked
		64–79	Broken tunnel
		80–95	Seashell
		96–111	Glacial
		112–127	Shower
		128–143	Ice
		144–159	Branch out
		160–255	Gobo: open
			When CH 12 is 64–79:
		0–3	Min Rnd
		4–254	Gobo 1 Wheel Random
		255	Max Rnd
			When CH 12 is 80–255:
		0–15	Open
		16–31	Bar
		32–47	Starvolver
		48–63	Fracked
		64–79	Broken tunnel
		80–95	Seashell
		96–111	Glacial
		112–127	Shower
		128–143	Ice
		144–159	Branch out
		160–255	Open (2)
14	GOBO 1 MODE		When CH 13 is 0–255:
		0–15	Index
		16–31	Rotate
		32–47	Rotate (2)
		48–63	Animate
		64–79	Animate (2)
		80–255	Index (2)
15	Gobo Rotation		When CH 14 is 16–31:
		0–3	Zero ... max CW
		4–255	Rotate 1 100% (1.8–179.9 °/s)
		255	Max CW
			When CH 14 is 32–47:
		0–3	Stop
		4–255	Rotate -1 -100% (1.8–179.9 °/s)
		255	<<<
			When CH 14 is 48–63:
		0–3	Min Animate

CH	Function	DMX	Description
15	Gobo Rotation (continued)	4–255	Animate 1 100%
		255	Max Animate
			When CH 14 is 64–79:
		0–3	Max Animate
		4–255	Animate -1 -100%
		255	Min Animate
			When CH 14 is 80–255:
		0–255	Zero ... max CW
		255	Max CW
16	Gobo Rotation Fine	0–255	Fine adjustment of CH 15
17	Blade 3 B	0	Min 3B
		1–254	Min 3B ... max 3B
		255	Max 3B
18	Blade 3 A	0	Min 3A
		1–254	Min 3A ... max 3A
		255	Max 3A
19	Blade 1 B	0	Min 1B
		1–254	Min 1B ... max 1B
		255	Max 1B
20	Blade 1 A	0	Min 1A
		1–254	Min 1A ... max 1A
		255	Max 1A
21	Blade 4 B	0	Min 4B
		1–254	Min 4B ... max 4B
		255	Max 4B
22	Blade 4 A	0	Min 4A
		1–254	Min 4A ... max 4A
		255	Max 4A
23	Blade 2 B	0	Min 2B
		1–254	Min 2B ... max 2B
		255	Max 2B
24	Blade 2 A	0	Min 2A
		1–254	Min 2A ... max 2A
		255	Max 2A
25	Shaper Rotation	0–127	Max CW ... zero
		128–255	Zero ... max CCW
		255	Max CCW
26	Shaper Rotation Fine	0–255	Fine adjustment of CH 25
27	Animation Wheel	0–155	Open
		156–255	Animation
28	ANIMATIONINDEXROTATE	0	Animation Wheel 1 Pos Rotate: stop
		1–62	Rotate 0 100% (2.81–174.3 °/s)

CH	Function	DMX	Description
28	ANIMATIONINDEXROTATE (continued)	63	>>>
		64	Animation Wheel 1 Pos Rotate: stop (3)
		65–126	Rotate 0 -100% (2.81–174.3 °/s)
		127	<<<
		128	ANIMATIONSTEPPEDROTATE: stop (2)
		129–190	AnimationSteppedRotate 0 100%
		191	>>> (2)
		192	ANIMATIONSTEPPEDROTATE: stop (4)
		193–254	AnimationSteppedRotate 0 -100%
		255	<<< (2)
29	EFFECTWHEEL	0–15	EFFECTWHEELSELECT: open
		16–31	5 facet prism
		32–47	5 facet prism<>
		48–63	5 facet prism<> (2)
		64–79	5 facet prism Effect<>Mode EffectModeAnimate
		80–95	5 facet prism Effect<>Mode EffectModeAnimate (2)
		96–255	EFFECTWHEELSELECT: open (2)
30	EFFECTINDEXROTATE		When CH 29 is 0–15:
		0–255	Zero ... max CW
		255	Max CW
			When CH 29 is 16–31:
		0–255	Zero ... max CW
		255	Max CW
			When CH 29 is 32–47:
		0–3	Stop
		4–255	Rotate 1 100% (1.8–179.9 °/s)
		255	>>>
			When CH 29 is 48–63:
		0–3	Stop
		4–255	Rotate -1 -100% (1.8–179.9 °/s)
		255	<<<
			When CH 29 is 64–79:
		0–3	Min EffectAnimate
		4–255	EffectAnimate 1 100%
		255	Max EffectAnimate
			When CH 29 is 80–95:
		0–3	Max EffectAnimate
		4–255	EffectAnimate -1 -100%
		255	Min EffectAnimate
			When CH 29 is 96–255:
		0–255	Zero ... max CW
		255	Max CW

CH	Function	DMX	Description
31	EFFECTINDEXROTATE Fine	0–255	Fine adjustment of CH 30
32	EFFECTWHEEL 2	0–15	EFFECTWHEELSELECT2: open
		16–31	Index2
		32–47	Rotate2
		48–63	Rotate2 (2)
		64–79	EffectModeAnimate2
		80–95	EffectModeAnimate2 (2)
		96–255	None2
33	EFFECTINDEXROTATE 2		When CH 32 is 0–15:
		0–255	Zero ... max CW
		255	Max CW
			When CH 32 is 16–31:
		0–255	Zero ... max CW
		255	Max CW
			When CH 32 is 32–47:
		0–3	Stop
		4–255	Rotate2 1 100%
		255	>>>
			When CH 32 is 48–63:
		0–3	Stop
		4–255	Rotate2 -1 -100%
		255	<<<
			When CH 32 is 64–79:
		0–3	Min EffectAnimate2
		4–255	EffectAnimate2 1 100%
		255	Max EffectAnimate2
			When CH 32 is 80–95:
		0–3	Max EffectAnimate2
		4–255	EffectAnimate2 -1 -100%
		255	Min EffectAnimate2
			When CH 32 is 96–255:
		0–255	Zero ... max CW
		255	Max CW
34	EFFECTINDEXROTATE 2 Fine	0–255	Fine adjustment of CH 33
35	LIGHTFROST	0	LightFrost 0%
		1–254	LightFrost 1 100%
		255	Max LightFrost
36	MEDIUMFROST	0	MediumFrost 0%
		1–254	MediumFrost 1 100%
		255	Max MediumFrost
37	Focus	0–255	Min Focus ... max Focus
		255	Max Focus

CH	Function	DMX	Description
38	Focus Fine	0–255	Fine adjustment of CH 37
39	Zoom	0–127	Narrow ... normal
		128–255	Normal ... wide
		255	Wide
40	Zoom Fine	0–255	Fine adjustment of CH 39
41	Iris	0	Closed Iris
		1–254	Closed Iris ... open Iris
		255	Open Iris
42	Strobe Mode	0–31	Normal
		32–63	Rnd
		64–95	Rnd Sync
		96–255	Normal (2)
43	Shutter		When CH 42 is 0–31:
		0–23	Shutter: closed
		24	Min Strobe
		25–228	Min Strobe ... max Strobe
		229	Max Strobe
		230–255	Shutter: open
			When CH 42 is 32–63:
		0–23	Shutter: closed
		24	Min Rnd
		25–228	Min Rnd ... max Rnd
		229	Max Rnd
		230–255	Shutter: open
			When CH 42 is 64–95:
		0–23	Shutter: closed
		24	Min Rnd Sync
		25–228	Min Rnd Sync ... max Rnd Sync
		229	Max Rnd Sync
		230–255	Shutter: open
			When CH 42 is 96–255:
		0–23	Shutter: closed
		24	Min Strobe
		25–228	Min Strobe ... max Strobe
		229	Max Strobe
		230–255	Shutter: open
44	Dimmer	0–255	Closed ... open
		255	Open
45	Dimmer Fine	0–255	Fine adjustment of CH 44
46	Global Speed	0	Track 100%
		1	Max Time
		2–254	Max Time ... min Time

CH	Function	DMX	Description
46	Global Speed (continued)	255	Min Time
47	Reset	0–31	No function
		32–47	Display 0%
		48–63	Display 100%
		64–79	No function
		80–95	Reset
		96–111	FixtureSleep
		112–127	PositionMotorsDisable
		128–143	Min PWMFrequency
		144–158	Max PWMFrequency
		159–255	No function
48	Fans	0–15	As Menu
		16	FANSPEED: min Speed
		17–206	FANSPEED: min Speed ... max Speed
		207	FANSPEED: max Speed
		208–222	Auto
		223	FANSSILENT
		224–238	Silent
		239	FANSASMENU
		240–255	As Menu (2)

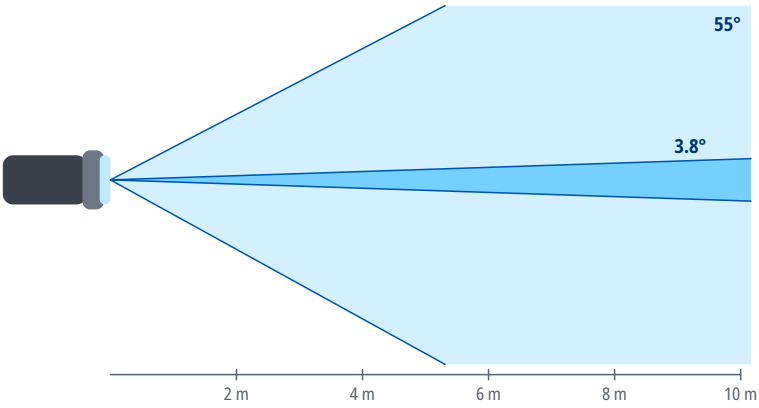
10 Technical specifications

Parameter	Value
Zoom	3.8–55°
Pan	540°
Tilt	251°
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.1–10 Hz
Color wheel rotation	up to 179.9 °/s (30 rpm)
Gobo wheel rotation	up to 179.9 °/s (30 rpm)
Gobo rotation	up to 179.9 °/s (30 rpm)
Prism rotation	up to 179.9 °/s (30 rpm)
Animation wheel rotation	up to 177.1 °/s (30 rpm)

Spot diameter



Distance	Ø 3.8°	Ø 55°
2 m	0.13 m	2.1 m
4 m	0.27 m	4.2 m
6 m	0.4 m	6.2 m
8 m	0.53 m	8.3 m
10 m	0.66 m	10.4 m
15 m	1 m	15.6 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.