DMX REFERENCE

Big-Eye L10

Big-Eye

LiteLEES



Manufacturer	LiteLEES
GDTF file	LiteLEES_Big-Eye_L10_144606.gdtf
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1 About this manual

This document describes the Big-Eye by LiteLEES. It was compiled from the GDTF file LiteLEES_Big-Eye_L10_144606.gdtf from the GDTF-Share library.

File revision: “Version 1, 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 LiteLEES; 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	27.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	20	25	1, 21, 41, 61, ...

No light? Check these channels

- Standard: CH 11 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 12 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



5 Installation

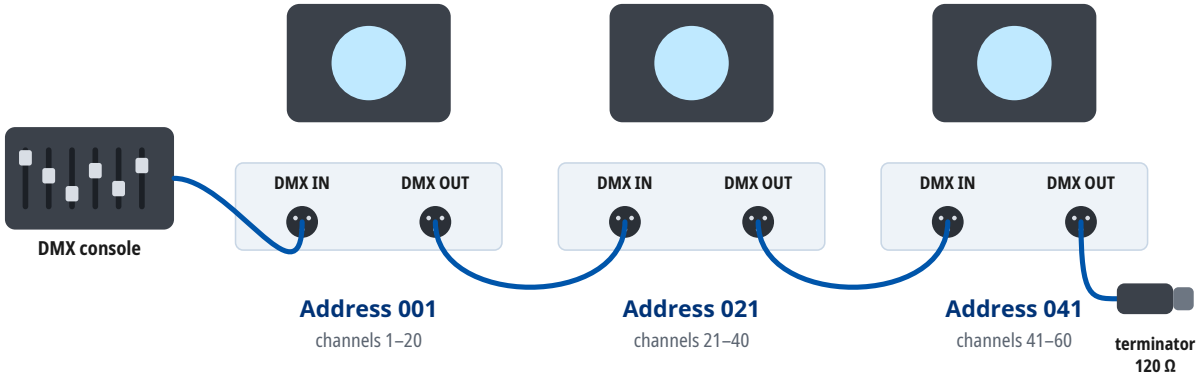
> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 27.5 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 Standard: every unit occupies 20 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

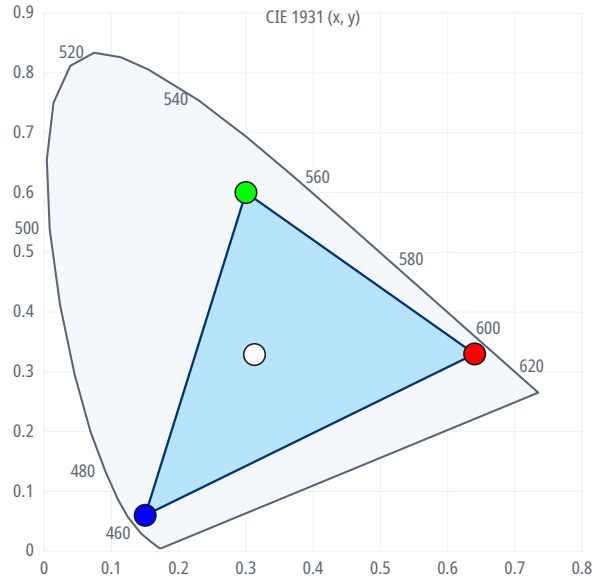
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Standard”: 20.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “Standard”, you can use, for example, the start addresses 1, 21, 41, 61.
- 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

	Standard 20 channels
Pan / Tilt	14, 16, 18
Dimmer	12
Shutter / strobe	11
Color mixing	4× (1–7)
Color temperature	9
Color wheel	10
Zoom	20
Effects / macros	19

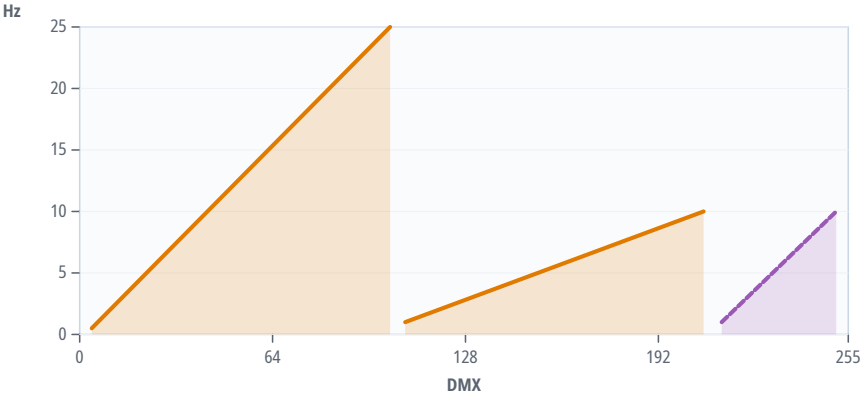
LED colors and the colors they mix



LED	x	y
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060
White	0.313	0.329

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

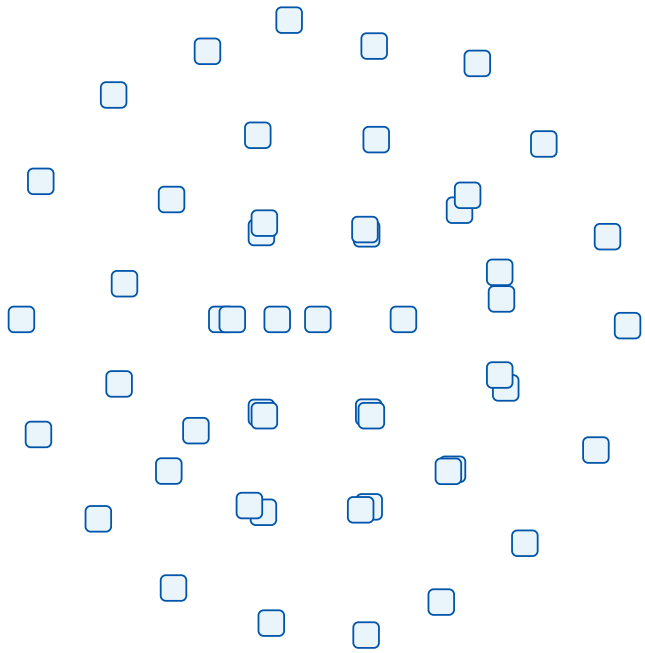
Strobe rate



CH 11 · Standard

- 4–103: 0.5–25 Hz Strobe
- 108–207: 1–10 Hz Pulse
- 213–251: 1–10 Hz Random

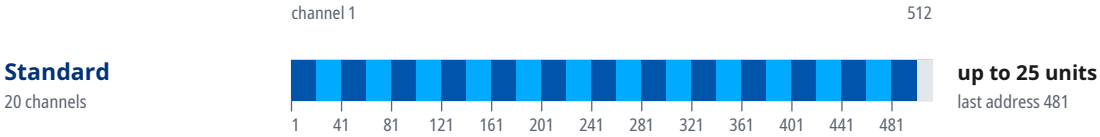
Cells (pixels)



Cells where the GDTF file places them (seen from above), 50 in all in the mode “Standard”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Standard”

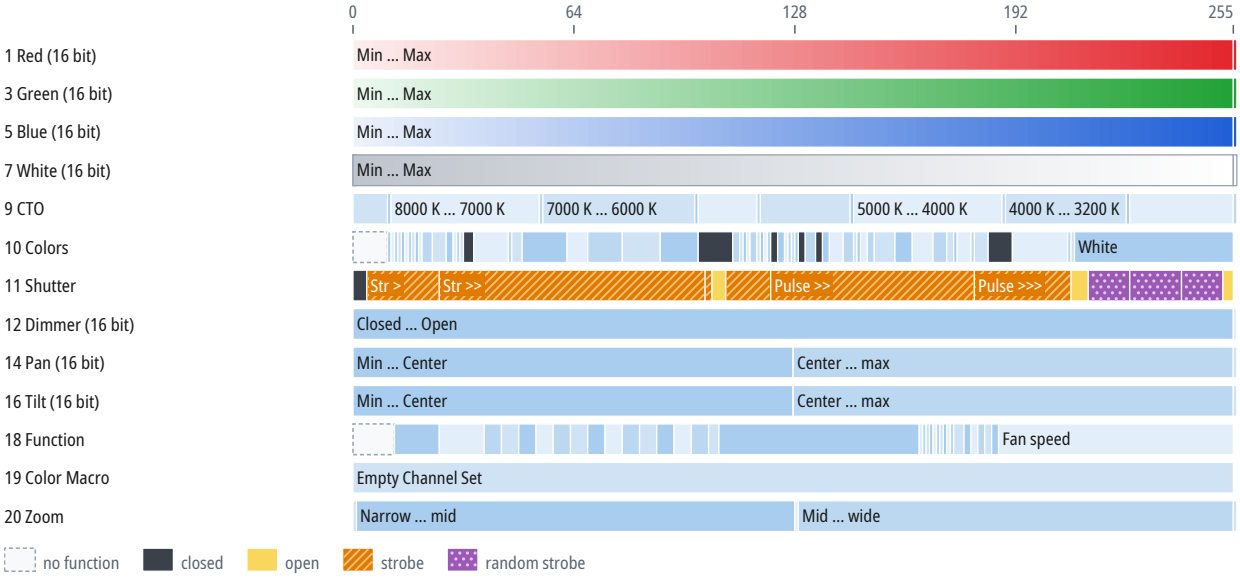
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	101	11	201	16	301
2	21	7	121	12	221	17	321
3	41	8	141	13	241	18	341
4	61	9	161	14	261	19	361
5	81	10	181	15	281	20	381

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 11 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 3 Green 255, CH 5 Blue 255, CH 7 White 255, CH 9 CTO 0, CH 10 Colors 0, CH 11 Shutter 255, CH 12 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	Min ... Max
		255	Max
2	Red Fine	0–255	Fine adjustment of CH 1
3	Green	0–255	Min ... Max
		255	Max

CH	Function	DMX	Description
4	Green Fine	0–255	Fine adjustment of CH 3
5	Blue	0–255	Min … Max
		255	Max
6	Blue Fine	0–255	Fine adjustment of CH 5
7	White	0–255	Min … Max
		255	Max
8	White Fine	0–255	Fine adjustment of CH 7
9	CTO	0–9	CTO OFF
		10	8000 K
		11–53	8000 K … 7000 K
		54	7000 K
		55–98	7000 K … 6000 K
		99	6000 K
		100–116	6000 K … 5600 K
		117	5600 K
		118–143	5600 K … 5000 K
		144	5000 K
		145–187	5000 K … 4000 K
		188	4000 K
		189–223	4000 K … 3200 K
		224	3200 K
		225–254	3200 K … 2500 K
		255	2500 K
10	Colors	0–9	No function
		10	Red
		11	Green
		12	Blue
		13	Cyan
		14	Yellow
		15	Magenta
		16	White 7000 K
		17	White 3700 K
		18	White 5000 K
		19	Black
		20–22	Medium Yellow
		23–26	Straw Tint
		27–28	Surprise Peach
		29	Fire
		30	Medium Amber
		31	Gold Amber
		32–34	Dark Amber
		35–44	Sunrise Red

CH	Function	DMX	Description
10	Colors (continued)	45	Light Pink
		46–48	Medium Pink
		49–61	Pink Carnation
		62–67	Light Lavender
		68–77	Lavender
		78–88	Sky Blue
		89–99	Just Blue
		100–109	Dark yellow green
		110–111	Spring Yellow
		112	Light Amber
		113	Straw
		114	Deep Amber
		115–116	Orange
		117	Light Rose
		118	English Rose
		119	Light Salmon
		120	Middle Rose
		121–122	Dark Pink
		123–124	Magenta 1
		125	Peacock Blue
		126	Med Blu Green
		127	Steel Blue
		128	Light Blue
		129–130	Dark blue
		131–133	Leaf Green
		134–135	Dark Green
		136–137	Mauve
		138–141	Bright Pink
		142–144	Medium Blue
		145	Deep Golden Amber
		146	Pale Lavender
		147–148	Special Lavender
		149–150	Primary Green
		151–156	Bright Blue
		157–161	Apricot
		162–167	Pale Gold
		168–171	Deep Oranger
		172–173	Bastard Amber
		174	Flame Red
		175–178	Daylight Blue
		179	Lilac Tint
		180–183	Deep Lavender

CH	Function	DMX	Description
10	Colors (continued)	184–190	Dark Steel Blue
		191–206	Congo Blue
		207	Alice Blue
		208	Dirty White
		209–255	White
11	Shutter	0–3	Closed
		4–24	Str >
		25–101	Str >>
		102–103	Str >>>
		104–107	Open
		108–120	Pulse >
		121–179	Pulse >>
		180–207	Pulse >>>
		208–212	Open
		213–224	Rnd >
		225–239	Rnd >>
		240–251	Rnd >>>
		252–255	Open
12	Dimmer	0–255	Closed ... Open
		255	Open
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan	0–127	Min ... Center
		128–255	Center ... max
		255	Max
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–127	Min ... Center
		128–255	Center ... max
		255	Max
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Function	0–11	No function
		12–24	P/T fast
		25–37	P/T normal
		38–42	Curve 1
		43–47	Curve 2
		48–52	Curve 3
		53–57	Curve 4
		58–62	RGBW gamma curve 1
		63–67	RGBW gamma curve 2
		68–72	RGBW gamma curve 3
		73–77	Halogen lamp simulation off
		78–82	Halogen lamp simulation type 1 (750w)
		83–87	Halogen lamp simulation type 2 (1000 w)

CH	Function	DMX	Description
18	Function (continued)	88–92	Halogen lamp simulation type 3 (1200 w)
		93–97	Halogen lamp simulation type 4 (2000 w)
		98–102	Halogen lamp simulation type 5 (2500 w)
		103–163	Pixelmap enabled
		164	1000Hz
		165	1500Hz
		166	2400Hz
		167	3700Hz
		168	5600Hz
		169	9400Hz
		170	15100Hz
		171	21400Hz
		172	31000Hz
		173	43700Hz
		174–176	LED Frequency
		177–178	Emulation K10/K20 OFF
		179–180	Emulation K10/K20 ON
		181–182	Standard
		183–184	Silent
		185–186	Theather
		187–255	Fan speed
19	Color Macro	0–255	Empty Channel Set
20	Zoom	0	Narrow
		1–127	Narrow ... mid
		128	Mid
		129–254	Mid ... wide
		255	Wide

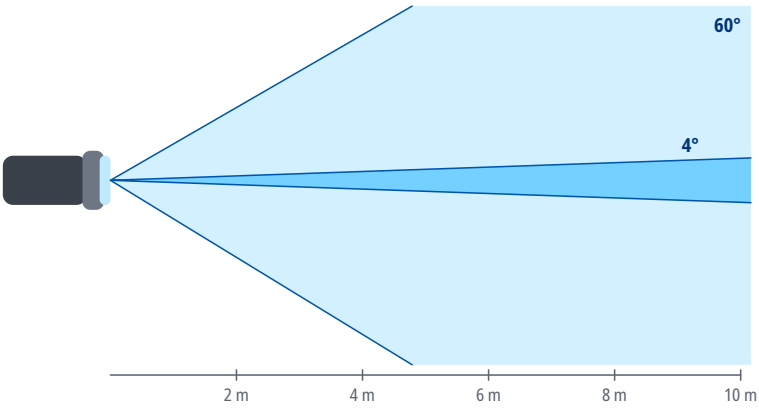
10 Technical specifications

Parameter	Value
Light source	LED
Zoom	4–60°
Pan	540°
Tilt	200°
Weight	27.5 kg
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2500–8000 K
Strobe frequency	0.5–25 Hz

Spot diameter



Distance	Ø 4°	Ø 60°
2 m	0.14 m	2.3 m
4 m	0.28 m	4.6 m
6 m	0.42 m	6.9 m
8 m	0.56 m	9.2 m
10 m	0.7 m	11.5 m
15 m	1 m	17.3 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.