DMX REFERENCE

BAR24X4FXL

Event Lighting

Manufacturer	Event Lighting
GDTF file	Event_Lighting_BAR24X4FXL_142866.gdtf
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1 About this manual

This document describes the BAR24X4FXL by Event Lighting. It was compiled from the GDTF file Event_Lighting_BAR24X4FXL_142866.gdtf from the GDTF-Share library.

File revision: “TestingWorking”.

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 Event Lighting; 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
40ch	40	12	1, 41, 81, 121, ...

No light? Check these channels

- 40ch: CH 1 Dimmer above 0; CH 2 Strobe at 0–9 “Strobe Off”



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.

4 Installation

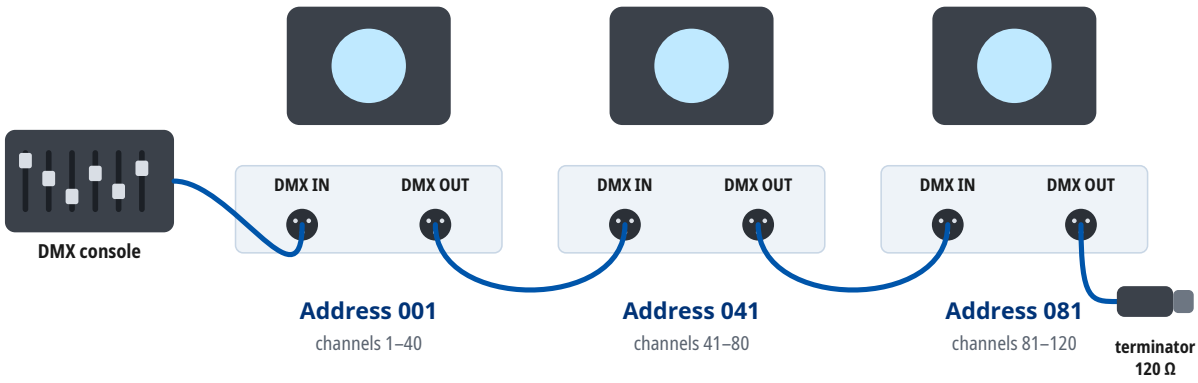
⚠ WARNING

- 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.

5 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 40ch: every unit occupies 40 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.

6 Operation

Setting the DMX address

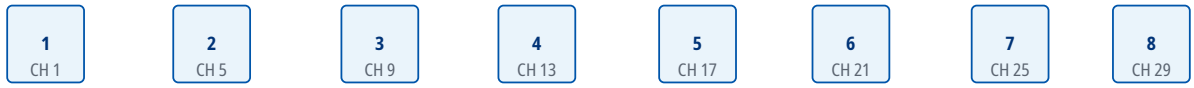
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “40ch”: 40.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “40ch”, you can use, for example, the start addresses 1, 41, 81, 121.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

7 Functions at a glance

Functions in each DMX mode

	40ch 40 channels
Dimmer	1
Color mixing	3–37
Effects / macros	38–40

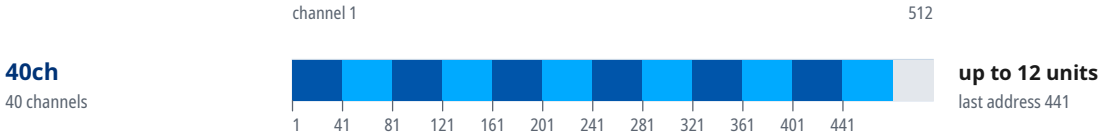
Cells (pixels)



8 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “40ch”.

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “40ch”

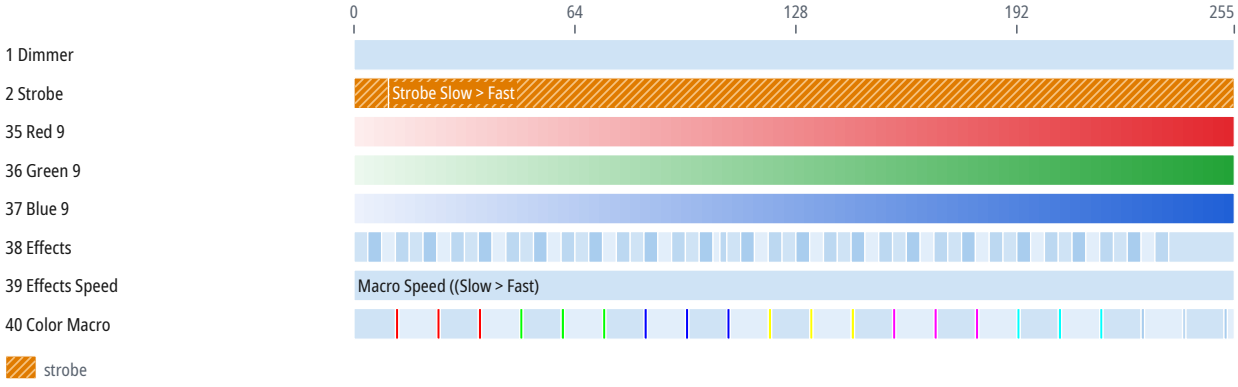
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	201	11	401	16	U2 · 121
2	41	7	241	12	441	17	U2 · 161
3	81	8	281	13	U2 · 1	18	U2 · 201
4	121	9	321	14	U2 · 41	19	U2 · 241
5	161	10	361	15	U2 · 81	20	U2 · 281

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 40ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 2 Strobe at 0–9 “Strobe Off”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Red 255 (the same in each of the 8 cells), CH 4 Green 255 (the same in each of the 8 cells), CH 5 Blue 255 (the same in each of the 8 cells), CH 6 White 255 (the same in each of the 8 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0–255	
2	Strobe		Strobe Off
		0–9	Strobe Off
		10–255	Strobe Slow > Fast
3	Red 1	0–255	
4	Green 1	0–255	
5	Blue 1	0–255	
6	White 1	0–255	

CH	Function	DMX	Description
35	Red 9	0–255	
36	Green 9	0–255	
37	Blue 9	0–255	
38	Effects	0–3	No Macro
		4–7	Pattern 1
		8–11	Pattern 2
		12–15	Pattern 3
		16–19	Pattern 4
		20–23	Pattern 5
		24–27	Pattern 6
		28–31	Pattern 7
		32–35	Pattern 8
		36–39	Pattern 9
		40–43	Pattern 10
		44–47	Pattern 11
		48–51	Pattern 12
		52–55	Pattern 13
		56–59	Pattern 14
		60–63	Pattern 15
		64–67	Pattern 16
		68–71	Pattern 17
		72–75	Pattern 18
		76–79	Pattern 19
		80–83	Pattern 20
		84–87	Pattern 21
		88–91	Pattern 22
		92–95	Pattern 23
		96–99	Pattern 24
		100–103	Pattern 25
		104–105	Pattern 26
		106–107	Pattern 26 ... Pattern 27
		108–111	Pattern 27
		112–115	Pattern 28
		116–119	Pattern 29
		120–123	Pattern 30
		124–127	Pattern 31
		128–131	Pattern 32
		132–135	Pattern 33
		136–139	Pattern 34
		140–143	Pattern 35
		144–147	Pattern 36
		148–151	Pattern 37

CH	Function	DMX	Description
38	Effects (continued)	152–155	Pattern 38
		156–159	Pattern 39
		160–163	Pattern 40
		164–167	Pattern 41
		168–171	Pattern 42
		172–175	Pattern 43
		176–179	Pattern 44
		180–183	Pattern 45
		184–187	Pattern 46
		188–191	Pattern 47
		192–195	Pattern 48
		196–199	Pattern 49
		200–203	Pattern 50
		204–207	Pattern 51
		208–211	Pattern 52
		212–215	Pattern 53
		216–219	Pattern 54
		220–223	Pattern 55
		224–227	Pattern 56
		228–231	Self Propelled Effect (Looping 1 - 56)
		232–235	Sound Control Effect Strip 1
		236–255	Sound Control Effect Strip 2
39	Effects Speed		Macro Speed
		0–255	Macro Speed ((Slow > Fast)
40	Color Macro		Macro Colour
		0–11	Black (assuming this is off)
		12	Little Red
		13–23	Little Red ... More Red
		24	More Red
		25–35	More Red ... Most Red
		36	Most Red
		37–47	Most Red ... Little Green
		48	Little Green
		49–59	Little Green ... More Green
		60	More Green
		61–71	More Green ... Most Green
		72	Most Green
		73–83	Most Green ... Little Blue
		84	Little Blue
		85–95	Little Blue ... More Blue
		96	More Blue
		97–107	More Blue ... Most Blue

CH	Function	DMX	Description
40	Color Macro (continued)	108	Most Blue
		109–119	Most Blue ... Little Yellow
		120	Little Yellow
		121–131	Little Yellow ... More Yellow
		132	More Yellow
		133–143	More Yellow ... Most Yellow
		144	Most Yellow
		145–155	Most Yellow ... Little Magenta
		156	Little Magenta
		157–167	Little Magenta ... More Magenta
		168	More Magenta
		169–179	More Magenta ... Most Magenta
		180	Most Magenta
		181–191	Most Magenta ... Little Cyan
		192	Little Cyan
		193–203	Little Cyan ... More Cyan
		204	More Cyan
		205–215	More Cyan ... Most Cyan
		216	Most Cyan
		217–227	Most Cyan ... Little White
		228	Little White
		229–239	Little White ... More White
		240	More White
		241–251	More White ... Most White
		252	Most White
		253–255	Macro Colour

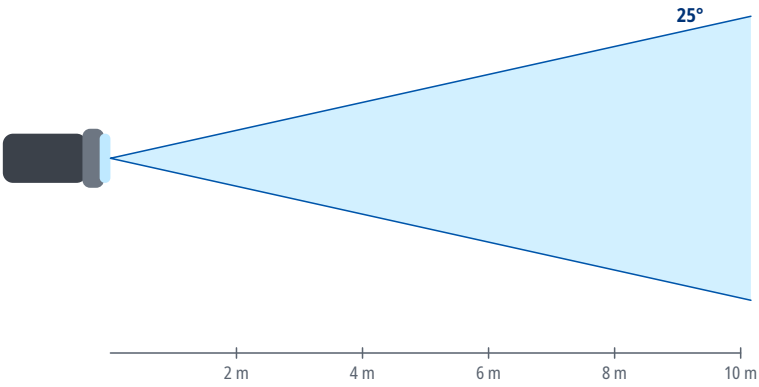
CH 3–34: 8 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 3–6); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	3	4	5	6	2	7	8	9	10
3	11	12	13	14	4	15	16	17	18
5	19	20	21	22	6	23	24	25	26
7	27	28	29	30	8	31	32	33	34

9 Technical specifications

Parameter	Value
Light source	discharge lamp
Operating temperature	0 to 40 °C

Spot diameter



Distance	Ø 25°
2 m	0.89 m
4 m	1.8 m
6 m	2.7 m
8 m	3.5 m
10 m	4.4 m
15 m	6.7 m

Spot diameter square to the beam axis, calculated from the beam angle.

10 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.

11 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.

12 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.