DMX REFERENCE

Expo Bar

ATON



Manufacturer	ATON
GDTF file	ATON_Expo_Bar_116120.gdtf
GDTF revision	V1_00 · 2025-11-03
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1 About this manual

This document describes the Expo Bar by ATON. It was compiled from the GDTF file ATON_Expo_Bar_116120.gdtf from the GDTF-Share library.

File revision: “V1_00”.

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 ATON; 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	3.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
3 Channel	3	170	1, 4, 7, 10, ...
8 Channel	8	64	1, 9, 17, 25, ...
12 Channel	12	42	1, 13, 25, 37, ...
32 Channel	32	16	1, 33, 65, 97, ...
37 Channel	37	13	1, 38, 75, 112, ...

No light? Check these channels

- 3 Channel: CH 3 Dimmer above 0
- 8 Channel: CH 1 Dimmer above 0; CH 8 Shutter at 0–9 “Open”
- 12 Channel: CH 1 Dimmer above 0; CH 8 Shutter at 0–9 “Open”
- 37 Channel: CH 1 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.

4 Installation

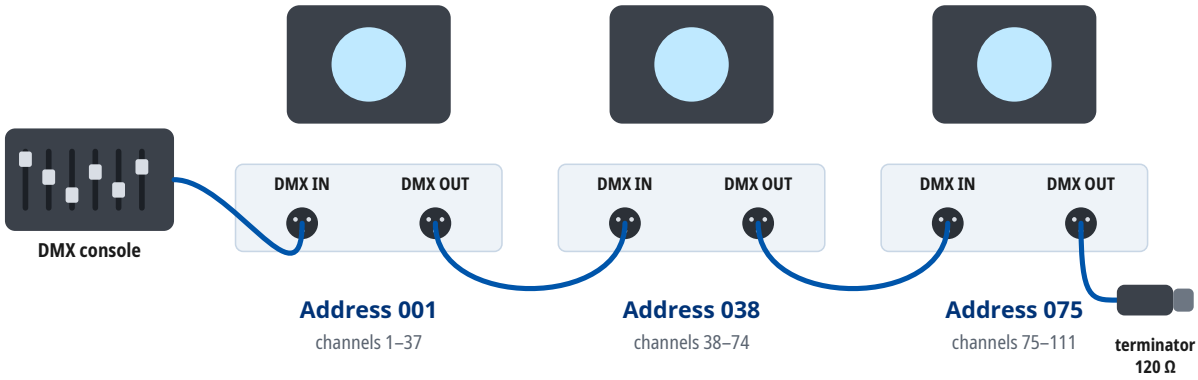
⚠ **WARNING**

- 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.
- Weight of the device: 3.5 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.

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 37 Channel: every unit occupies 37 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

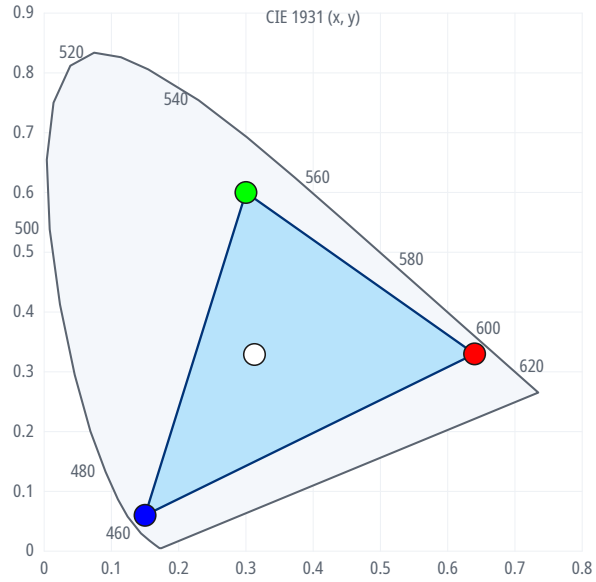
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “37 Channel”: 37.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “37 Channel”, you can use, for example, the start addresses 1, 38, 75, 112.
- 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

	3 Channel 3 channels	8 Channel 8 channels	12 Channel 12 channels	32 Channel 32 channels	37 Channel 37 channels
Dimmer	3	1	1	✓	1
Shutter / strobe		8	8		
Color mixing		4–7	4–7	1–35	1–35
Color temperature			10		
Effects / macros			9, 11, 12		36, 37

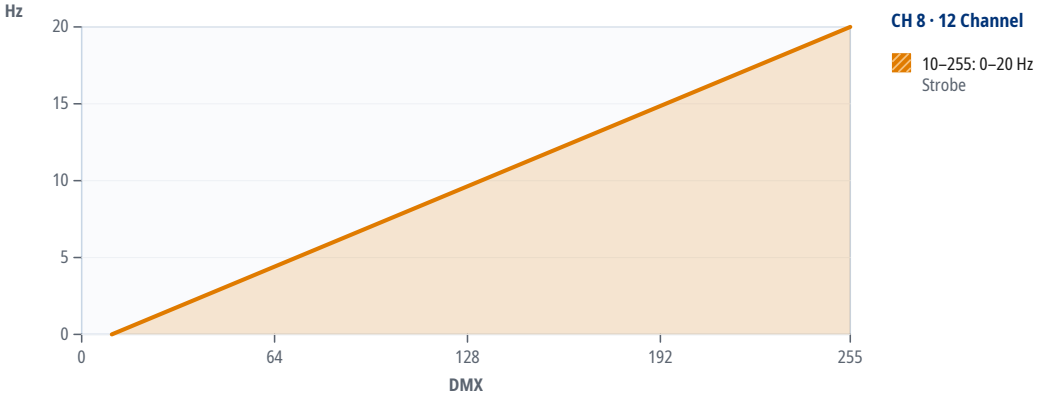
LED colors and the colors they mix



LED	x	y	nm
Red	0.640	0.330	626
Green	0.300	0.600	527
Blue	0.150	0.060	452
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



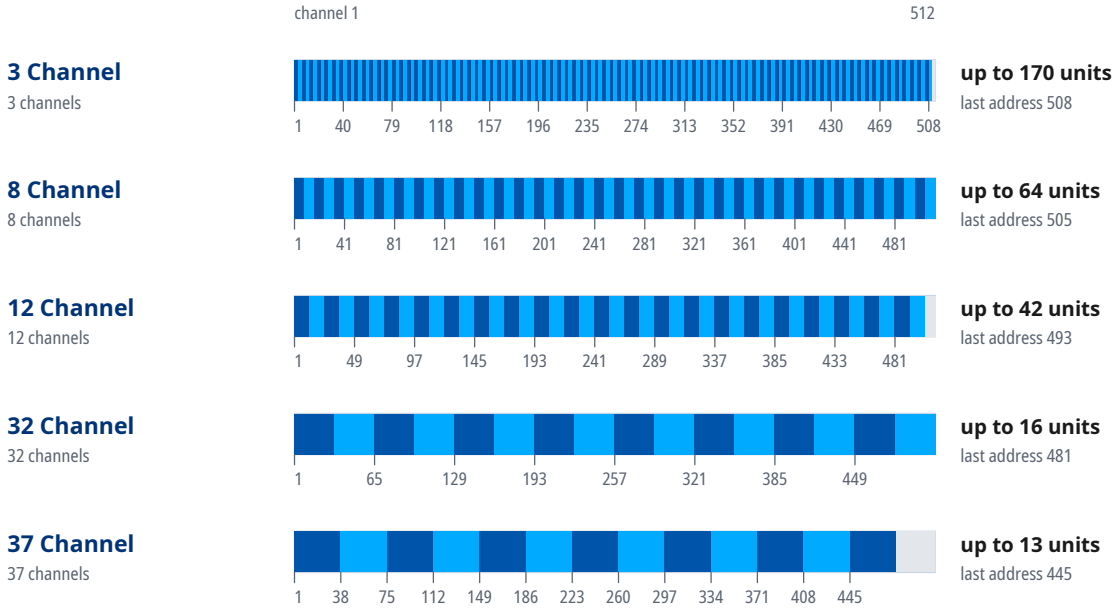
Cells (pixels)



8 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “12 Channel”.

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “37 Channel”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	186	11	371	16	U2 · 75
2	38	7	223	12	408	17	U2 · 112
3	75	8	260	13	445	18	U2 · 149
4	112	9	297	14	U2 · 1	19	U2 · 186
5	149	10	334	15	U2 · 38	20	U2 · 223

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 3 Channel

If the device receives DMX in this mode but gives no light, check these channels: CH 3 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 3 Dimmer 255.

CH	Function	DMX	Description
1	Hue	0	Min
		1–254	Min … Max
		255	Max
2	Saturation	0	Min
		1–254	Min … Max
		255	Max
3	Dimmer	0	Closed
		1–254	Closed … Open
		255	Open

Mode 8 Channel

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 8 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 4 Red 255, CH 5 Green 255, CH 6 Blue 255, CH 7 White 255, CH 8 Shutter 0.

CH	Function	DMX	Description
1	Dimmer		Same as CH 3 in the mode “3 Channel” (p. 8)
2	Dimmer Curve	0–20	No function
		21–80	Linear
		81–140	Square Law
		141–200	Inv Square
		201–255	S-Curve
3	Dimmer Mode	0–20	No function
		21–80	Dim Speed 1
		81–140	Dim Speed 2
		141–200	Dim Speed 3
		201–255	Dim Speed 4
4	Red	0	Min
		1–254	Min ... Max
		255	Max
5	Green	0	Min
		1–254	Min ... Max
		255	Max
6	Blue	0	Min
		1–254	Min ... Max
		255	Max
7	White	0	Min
		1–254	Min ... Max
		255	Max
8	Shutter	0–9	Open
		10–91	Slow Strobe
		92–173	Med Strobe
		174–255	Fast Strobe

Mode 12 Channel

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 8 Shutter at 0–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 4 Red 255, CH 5 Green 255, CH 6 Blue 255, CH 7 White 255, CH 8 Shutter 0, CH 9 Color Macro 0, CH 10 CTO 0.

CH	Function	DMX	Description
1	Dimmer		Same as CH 3 in the mode “3 Channel” (p. 8)
2	Dimmer Curve		Same as CH 2 in the mode “8 Channel” (p. 9)
3	Dimmer Mode		Same as CH 3 in the mode “8 Channel” (p. 9)
4	Red		Same as CH 4 in the mode “8 Channel” (p. 9)

CH	Function	DMX	Description
5	Green		Same as CH 5 in the mode “8 Channel” (p. 9)
6	Blue		Same as CH 6 in the mode “8 Channel” (p. 9)
7	White		Same as CH 7 in the mode “8 Channel” (p. 9)
8	Shutter		Same as CH 8 in the mode “8 Channel” (p. 9)
9	Color Macro	0–23	Open
		24–27	Colour 1
		28–31	Colour 2
		32–35	Colour 3
		36–39	Colour 4
		40–43	Colour 5
		44–47	Colour 6
		48–51	Colour 7
		52–55	Colour 8
		56–59	Colour 9
		60–63	Colour 10
		64–67	Colour 11
		68–71	Colour 12
		72–75	Colour 13
		76–79	Colour 14
		80–83	Colour 15
		84–87	Colour 16
		88–91	Colour 17
		92–95	Colour 18
		96–99	Colour 19
		100–103	Colour 20
		104–107	Colour 21
		108–111	Colour 22
		112–115	Colour 23
		116–119	Colour 24
		120–123	Colour 25
		124–127	Colour 26
		128–131	Colour 27
		132–135	Colour 28
		136–139	Colour 29
		140–143	Colour 30
		144–147	Colour 31
		148–151	Colour 32
		152–155	Colour 33
		156–159	Colour 34
		160–163	Colour 35
		164–167	Colour 36
		168–171	Colour 37

CH	Function	DMX	Description
9	Color Macro (continued)	172–175	Colour 38
		176–179	Colour 39
		180–183	Colour 40
		184–187	Colour 41
		188–191	Colour 42
		192–195	Colour 43
		196–199	Colour 44
		200–203	Colour 45
		204–207	Colour 46
		208–211	Colour 47
		212–215	Colour 48
		216–219	Colour 49
		220–222	Colour 50
		223–255	Colour 51
10	CTO	0–16	Open
		17–117	2500K
		118–254	2500K … 10000K
		255	10000K
11	Effects	0–7	Open
		8–23	Auto 1
		24–39	Auto 2
		40–55	Auto 3
		56–71	Auto 4
		72–87	Auto 5
		88–103	Auto 6
		104–119	Auto 7
		120–135	Auto 8
		136–151	Auto 9
		152–167	Auto 10
		168–183	Auto 11
		184–199	Auto 12
		200–255	Auto 13
12	Effects Speed	0	Slow
		1–127	Slow … Med
		128	Med
		129–254	Med … Fast
		255	Fast

Mode 32 Channel

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 8 cells), CH 2 Green 255 (the same in each of the 8 cells), CH 3 Blue 255 (the same in each of the 8 cells), CH 4 White 255 (the same in each of the 8 cells).

CH	Function	DMX	Description
1	Red 1	0	Min
		1–254	Min ... Max
		255	Max
2	Green 1	0	Min
		1–254	Min ... Max
		255	Max
3	Blue 1	0	Min
		1–254	Min ... Max
		255	Max
4	White 1	0	Min
		1–254	Min ... Max
		255	Max

CH 1–32: 8 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 1–4); the table below gives each cell's channel numbers.

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

Mode 37 Channel

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 4 Red 255 (the same in each of the 8 cells), CH 5 Green 255 (the same in each of the 8 cells), CH 6 Blue 255 (the same in each of the 8 cells), CH 7 White 255 (the same in each of the 8 cells).

CH	Function	DMX	Description
1	Dimmer		Same as CH 3 in the mode “3 Channel” (p. 8)
2	Dimmer Curve		Same as CH 2 in the mode “8 Channel” (p. 9)
3	Dimmer Mode		Same as CH 3 in the mode “8 Channel” (p. 9)
4	Red 1	0	Min
		1–254	Min ... Max
		255	Max
5	Green 1	0	Min
		1–254	Min ... Max
		255	Max
6	Blue 1	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
7	White 1	0	Min
		1–254	Min ... Max
		255	Max
36	Effects		Same as CH 11 in the mode “12 Channel” (p. 11)
37	Effects Speed		Same as CH 12 in the mode “12 Channel” (p. 11)

CH 4–35: 8 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 4–7); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	4	5	6	7	2	8	9	10	11
3	12	13	14	15	4	16	17	18	19
5	20	21	22	23	6	24	25	26	27
7	28	29	30	31	8	32	33	34	35

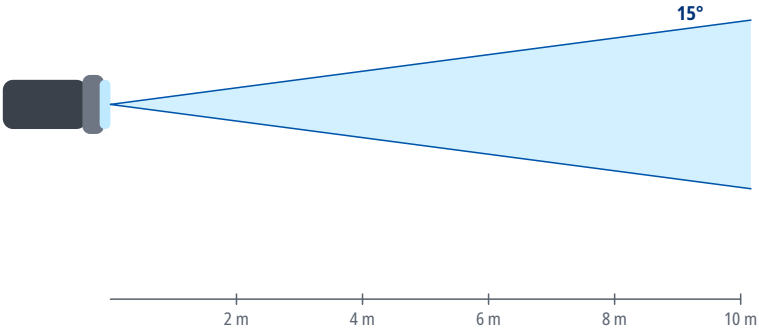
9 Technical specifications

Parameter	Value
Light source	LED
Weight	3.5 kg
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2500–10000 K
Strobe frequency	0–20 Hz

Spot diameter



Distance	Ø 15°
2 m	0.53 m
4 m	1.1 m
6 m	1.6 m
8 m	2.1 m
10 m	2.6 m
15 m	3.9 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.