DMX REFERENCE

B198

LED 198W Beam Move Head Light with LED Ring

V-Show



Manufacturer	V-Show
GDTF file	V-Show_B198_108163.gdtf
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Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 4
6 Connections 5
7 Operation 5
8 Functions at a glance 6
9 DMX channels 8
Mode Default 9
10 Technical specifications 14
11 Maintenance and cleaning 14
12 Troubleshooting 15
13 Disposal 15

1 About this manual

This document describes the LED 198W Beam Move Head Light with LED Ring by V-Show. It was compiled from the GDTF file V-Show_B198_108163.gdtf from the GDTF-Share library.

File revision: “FFF2”.

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 V-Show; 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	12.2 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Default	17	30	1, 18, 35, 52, …

No light? Check these channels

- Default: CH 6 Dimmer above 0; CH 7 Shutter at 251–255 “Open”; CH 14 Shutter 2 at 251–255 “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.

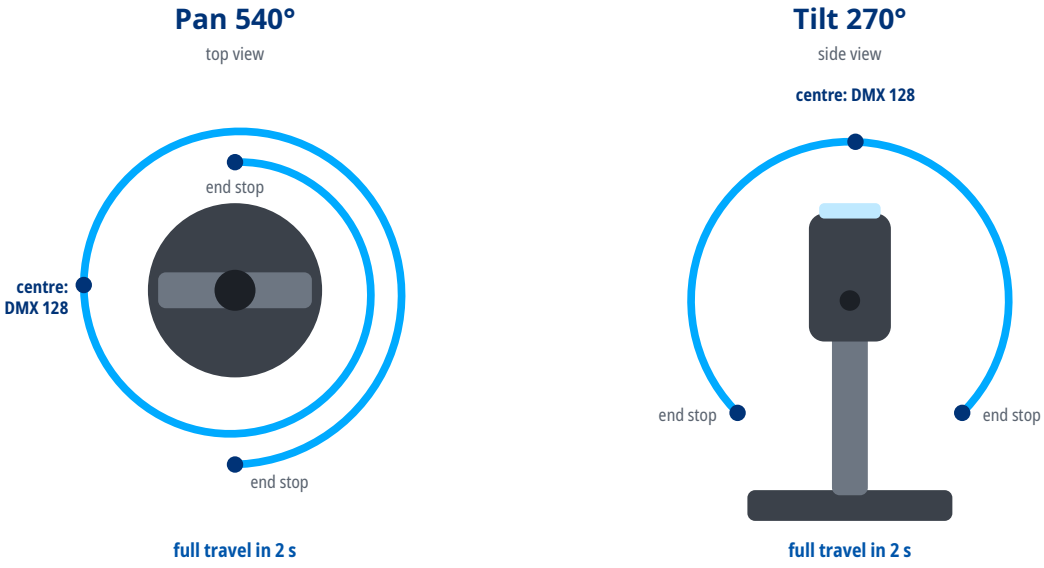
⚠ CAUTION

- 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



Full-travel times as stated in the GDTF file.

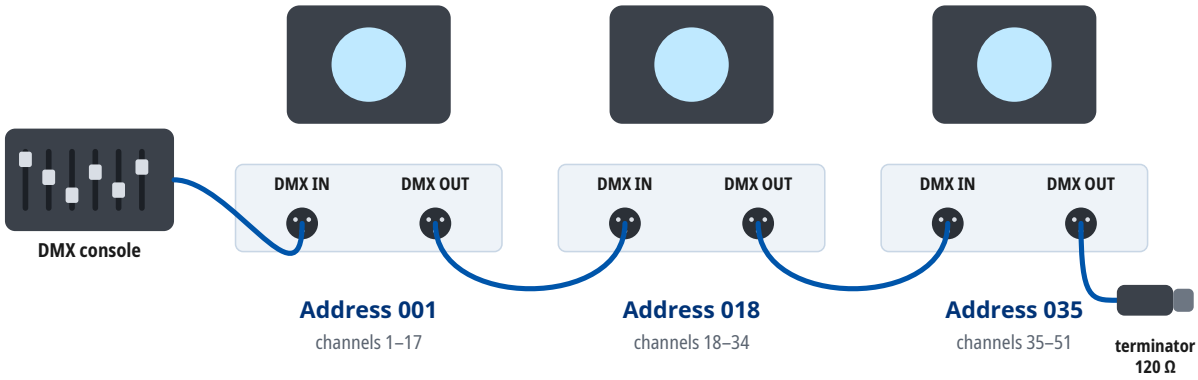
5 Installation

> ⚠ **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.
> - Weight of the device: 12.25 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 Default: every unit occupies 17 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 “Default”: 17.
- 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 “Default”, you can use, for example, the start addresses 1, 18, 35, 52.
- 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

	Default 17 channels
Pan / Tilt	1, 3
Dimmer	6
Shutter / strobe	7, 14
Color wheel	8
Gobo wheel	9
Prism	11, 12
Frost	10
Focus	13
Effects / macros	15, 16

Color wheel

1. White — DMX 0–1
2. Red — DMX 2–7
3. Yellow — DMX 8–13
4. Indigo — DMX 14–19
5. Forest Green — DMX 20–25
6. Orange — DMX 26–31
7. Magenta — DMX 32–37
8. Steel Blue — DMX 38–43
9. Lime Green — DMX 44–49
10. Red2 — DMX 50–55
11. Pink — DMX 56–61

Gobo wheel 1

1 
Index: Open
DMX 0–9

2 
Index: Star
DMX 10–12

3 
Index: Three Dots
DMX 13–15

4 
Index: Trifoil
DMX 16–18

5 
Index: Nickelodean
DMX 19–21

6 
Index: Trifecta
DMX 22–24

7 
Index: Curves
DMX 25–27

8 
Index: Anger Dot
DMX 28–30

9 
Index: Dashed Circle
DMX 31–33

10 
Index: Hazard
DMX 34–36

11 
Index: Ninja Star
DMX 37–39

12 
Index: Dots
DMX 40–42

13 
Index: Four Dots
DMX 43–45

14 
Index: Pinwheel
DMX 46–48

15 
Index: Pizza
DMX 49–51

16 
Index: Dots Ring
DMX 52–54

17 
Index: Flower
DMX 55–57

18 
Index: Medium Iris
DMX 58–60

19 
Narrow Iris
DMX 61–64

Prism

1
Prism Off
DMX 0–127

2 
24 facets
8 + 16 Facet Prism
DMX 128–255

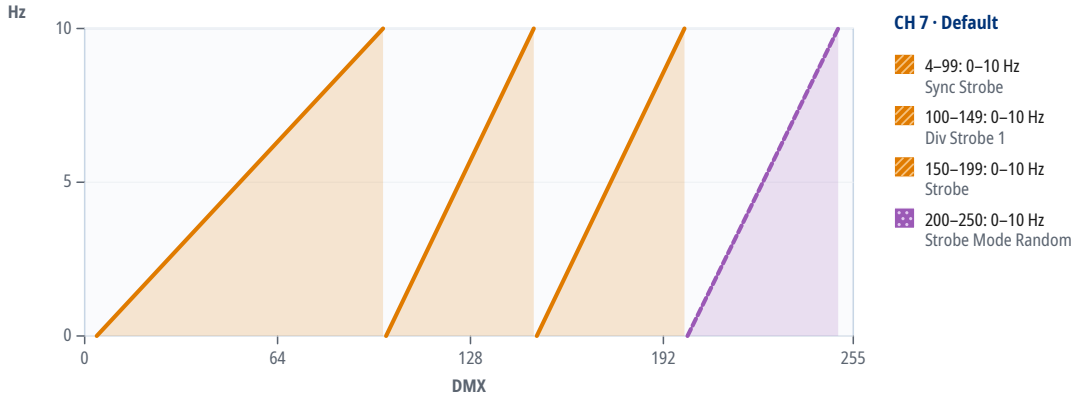
Gobo wheel 2

1
Off
DMX 0–126

2 
Frost
DMX 127–200

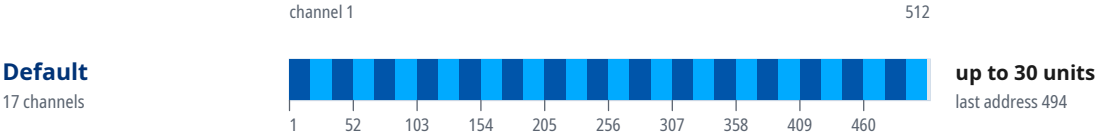
3 
Rainbow
DMX 201–255

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Default”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	86	11	171	16	256
2	18	7	103	12	188	17	273
3	35	8	120	13	205	18	290
4	52	9	137	14	222	19	307
5	69	10	154	15	239	20	324

Mode Default

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 6 Dimmer above 0; CH 7 Shutter at 251–255 “Open”; CH 14 Shutter 2 at 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 7 Shutter 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–128	Home
		128–255	Pan
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt
		128	Home
		128–255	Tilt
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	P/T Speed
6	Dimmer	0	Closed
		1–255	Open
7	Shutter	0–3	Close
		4–99	Sync Strobe (0–10 Hz)
		100–149	Div Strobe 1 (0–10 Hz)
		150–199	Strobe (0–10 Hz)
		200–250	Strobe Mode Random (0–10 Hz)
		251–255	Open
8	Colors	0–1	White
		2–7	Red
		8–13	Yellow

CH	Function	DMX	Description
8	Colors (continued)	14–19	Indigo
		20–25	Forest Green
		26–31	Orange
		32–37	Magenta
		38–43	Steel Blue
		44–49	Lime Green
		50–55	Red2
		56–61	Pink
		62–67	White + Red
		68–73	Red + Yellow
		74–79	Yellow + Indigo
		80–85	Indigo + Forest Green
		86–91	Forest Green + Orange
		92–97	Orange + Magenta
		98–103	Magenta + Steel Blue
		104–109	Steel Blue + Lime Green
		110–115	Lime Green + Red2
		116–121	Red2 + Pink
		122–127	Pink + White
		128–187	CCW (360–0 °/s)
		188–190	Stop
		191–255	CW (0–360 °/s)
9	Gobo	0–9	Index: Open
		10–12	Index: Star
		13–15	Index: Three Dots
		16–18	Index: Trifoil
		19–21	Index: Nickelodean
		22–24	Index: Trifecta
		25–27	Index: Curves
		28–30	Index: Anger Dot
		31–33	Index: Dashed Circle
		34–36	Index: Hazard
		37–39	Index: Ninja Star
		40–42	Index: Dots
		43–45	Index: Four Dots
		46–48	Index: Pinwheel
		49–51	Index: Pizza
		52–54	Index: Dots Ring
		55–57	Index: Flower
		58–60	Index: Medium Iris
		61–63	Index: Narrow Iris
		64–70	Shake: Star (0.5–10 Hz)

CH	Function	DMX	Description
9	Gobo (continued)	71–77	Shake: Three Dots (0.5–10 Hz)
		78–84	Shake: Trifoil (0.5–10 Hz)
		85–91	Shake: Nickelodean (0.5–10 Hz)
		92–98	Shake: Trifecta (0.5–10 Hz)
		99–105	Shake: Curves (0.5–10 Hz)
		106–112	Shake: Anger Dot (0.5–10 Hz)
		113–119	Shake: Dashed Circle (0.5–10 Hz)
		120–126	Shake: Hazard (0.5–10 Hz)
		127–133	Shake: Ninja Star (0.5–10 Hz)
		134–140	Shake: Dots (0.5–10 Hz)
		141–147	Shake: Four Dots (0.5–10 Hz)
		148–154	Shake: Pinwheel (0.5–10 Hz)
		155–161	Shake: Pizza (0.5–10 Hz)
		162–168	Shake: Dots Ring (0.5–10 Hz)
		169–175	Shake: Flower (0.5–10 Hz)
		176–182	Shake: Medium Iris (0.5–10 Hz)
		183–189	Shake: Narrow Iris (0.5–10 Hz)
		190–199	Gobo 1 Wheel Spin
		200	CW
		201–221	CW ... Stop
		222–223	Gobo 1 Wheel Spin: Stop
		224–249	Stop ... CCW
		250	CCW
		251–255	Gobo 1 Wheel Spin
10	Frost		Frost / Rainbow
		0–126	Off
		127–200	Frost
		201–255	Rainbow
11	Prism	0–127	Prism Off
		128–255	8 + 16 Facet Prism
12	Prism Rotation Speed	0–127	8 + 16 Facet Prism (115200°)
		128–137	>>> (450–250 °/s)
		138–160	>> (250–60 °/s)
		161–190	> (60–0 °/s)
		191–193	Rotate: Stop
		194–222	< (0–60 °/s)
		223–246	<< (60–250 °/s)
		247–255	<<< (250–450 °/s)
13	Focus	0	Max
		1–80	Wide
		81–160	Medium
		161–254	Narrow

CH	Function	DMX	Description
13	Focus (continued)	255	Min
14	Shutter 2		Ring Shutter
		0–3	Closed
		4–250	Shutter
		251–255	Open
15	Color Macro 2		Ring Color Macros
		0–11	Closed
		12–13	Red
		14–15	Green
		16–17	Blue
		18–19	Yellow
		20–21	Light Blue
		22–23	Magenta
		24–25	White
		26–27	Red
		28–29	Pink
		30–31	Magenta
		32–33	Purple
		34–35	Violet
		36–37	Blue
		38–39	Light Blue
		40–41	Turqoise
		42–43	Mint
		44–45	Lime
		46–47	Acid
		48–49	Amber
		50–51	Orange
		52–55	Effect 1
		56–59	Effect 2
		60–63	Effect 3
		64–67	Effect 4
		68–71	Effect 5
		72–75	Effect 6
		76–79	Effect 7
		80–83	Effect 8
		84–87	Effect 9
		88–91	Effect 10
		92–95	Effect 11
		96–99	Effect 12
		100–103	Effect 13
		104–107	Effect 14
		108–111	Effect 15

CH	Function	DMX	Description
15	Color Macro 2 (continued)	112–115	Effect 16
		116–119	Effect 17
		120–123	Effect 18
		124–127	Effect 19
		128–131	Effect 20
		132–135	Effect 21
		136–139	Effect 22
		140–143	Effect 23
		144–147	Effect 24
		148–151	Effect 25
		152–155	Effect 26
		156–159	Effect 27
		160–163	Effect 28
		164–167	Effect 29
		168–171	Effect 30
		172–175	Effect 31
		176–179	Effect 32
		180–183	Effect 33
		184–187	Effect 34
		188–191	Effect 35
		192–195	Effect 36
		196–199	Effect 37
		200–203	Effect 38
		204–207	Effect 39
		208–211	Effect 40
		212–215	Effect 41
		216–219	Effect 42
		220–223	Effect 43
		224–227	Effect 44
		228–231	Effect 45
		232–235	Effect 46
		236–239	Effect 47
		240–243	Effect 48
		244–247	Effect 49
		248–251	FULL ON DOUBLE RAINBOW
		252–255	Rainbow
16	Color Macro 2 Speed		Ring Color Macro Speed
		0–255	Ring Color Speed
17	Reset	0–199	No function
		200–205	Reset Fixture
		206–255	No function

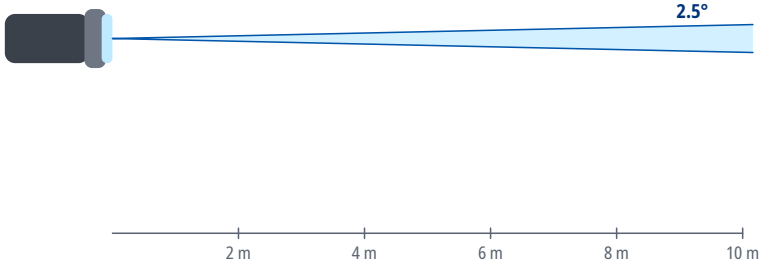
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	300 W
Luminous flux	30,040 lm
Color temperature	7,000 K
Color rendering index (CRI)	95
Optics	
Beam angle	2.5°
Movement	
Pan	540°
Tilt	270°
Dimensions and construction	
Weight	12.2 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0–10 Hz
Color wheel rotation	up to 360 °/s (60 rpm)
Gobo wheel 1 rotation	up to 360 °/s (60 rpm)
Prism rotation	up to 450 °/s (75 rpm)

Spot diameter



Distance	Ø 2.5°
2 m	0.09 m
4 m	0.17 m
6 m	0.26 m
8 m	0.35 m
10 m	0.44 m
15 m	0.65 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.