

USER MANUAL

Green multieffect laser Trifan 3x 50 mW, DMX512

LASER243



Code LASER243

1 About this manual

This user manual applies to the product Green multieffect laser Trifan 3x 50 mW, DMX512 (code LASER243).

Read this manual carefully before installing the product and putting it into operation for the first time, follow all of its instructions, and keep it for future reference. If you pass the product on to another person, include this manual.

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.

2 Safety instructions

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

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: Bi-Voltage 110 V to 220 V-250 V, 50/60 Hz, 20 W. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

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

- 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.

DANGER

- This device is a Class 3B laser product according to IEC/EN 60825-1.
- Laser radiation can cause permanent eye damage, even from brief exposure to a direct or reflected beam. Never look into the beam or the laser aperture, even if the laser appears to be off.
- Never aim the beam at people, animals, aircraft, vehicles or windows, and do not view it through optical instruments (binoculars, camera lenses).
- The operator is responsible for the safe operation of the laser and must ensure that the maximum permissible exposure (MPE) to laser radiation is not exceeded anywhere people may be present (operators, performers, audience) and that operation complies with the regulations applicable at the place of use; in the Czech Republic, these limits are set by Government Regulation No. 291/2015 Coll., on the protection of health against non-ionizing radiation.
- The laser may be operated only by an instructed person who keeps the beam paths under control at all times and can stop the emission immediately, for example by disconnecting the power. Never leave the laser running unattended.
- Do not modify the laser in any way; modifications can increase the emitted power and change the laser class. Do not remove the warning labels on the device and keep them legible.

DANGER Class 3B laser product – avoid exposure to the beam. Viewing the direct beam or its specular reflection is hazardous.

DANGER Avoid direct eye exposure to the light source while the fixture is on.

WARNING The maximum ambient temperature (Ta) is 104 °F (40 °C). Do not operate the fixture at a higher temperature.

3 Product description

Green laser with three individual controlled light outputs.

Package contents

- 1× Green multieffect laser Trifan 3x 50 mW, DMX512
- 1× Power cable
- 1× User Guide

4 Installation

WARNING

- Install the laser in a fixed, stable position and secure it against shifting and falling so that the beam paths cannot change unexpectedly.
- In areas accessible to people, keep all beams at least 3 m above the floor. Aiming beams into the audience (audience scanning) is permissible only on the basis of a competent assessment showing that the maximum permissible exposure is not exceeded.
- Remove mirrors, glass, shiny metal and other reflective surfaces from the beam paths. Terminate beams on matte, non-flammable surfaces.
- Outdoors, do not project beams into open airspace; laser projection into airspace may require permission from the aviation authority (in the Czech Republic, the Civil Aviation Authority).

- Before switching the laser on, make sure that nobody is in the beam path.

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: 1.7 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.

The unit can be positioned either sitting on a flat surface or suspended.

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.

Connector	Purpose
Power jack	Mains power input
DMX or linking jack (3-pin XLR)	DMX data input/output and Master/Slave linking

6 Operation

Switching on and off

- Turn on the unit using the power switch.
- Allow the unit to reset, after which it will start operating.

Control panel

Button	Function
MENU	Function mode selection, such as DMX512/Master/Slave, auto strobe, sound-active strobe, constant light on, brightness adjustment
UP	Previous or next, increase or decrease
DOWN	Previous or next, increase or decrease

Button	Function
ENTER	Confirm and save the selection

Switches and indicators

Control	Function
Power switch	Switches the fixture on or off
Sound sensitivity knob	Adjusts microphone sensitivity for sound mode
Sound-active LED indicator	Indicates sound activity
Power supply indicator	Indicates power status
Internal microphone	Picks up low audio frequencies for sound activation

Display menu

Code	Values	Function
AuTo		Select Auto mode. Activates automatic show mode. Press MENU until AuTo is displayed. Press ENTER to confirm Auto mode.
Soud		Activates sound mode. The light turns off when there is no sound. Press MENU until Soud is displayed. Press ENTER to select Sound mode.
d001-d512		Set DMX start address. Sets the DMX starting address from 001 to 512.
SLAu		Select slave mode. Sets the fixture to slave operation. Press MENU until SLAu is displayed. Press ENTER to enter Slave mode.
chSE	CH07, CH09	Set DMX channel mode. Selects between 7-channel mode and 9-channel mode.
– CH07		7-channel DMX mode. 3 lenses are controlled simultaneously, including stopping and rotating.
– CH09		9-channel DMX mode. 3 lenses rotate independently, with simultaneous sound control and independent AUTO effects.
SPEd	S01----rS64	Sets the rotation speed from level 01 to 64. Press MENU until SPEd is displayed. Press ENTER to access the rotation speed setting. Press UP or DOWN to set the speed from level 01 to 64. Press ENTER to save.
SEnS	000---100	Adjusts microphone sensitivity from 001 to 100; higher values indicate greater sensitivity. Press MENU until SEnS is displayed. Press ENTER to access the sound sensitivity setting. Press UP or DOWN to increase or decrease the sensitivity value from 001 to 100.

Sound mode

Pattern changes are controlled by sound; the rhythm of the sound controls the changing light pattern.

- Press MENU until Soud is displayed.
- Press ENTER to select Sound mode.

Auto mode

Automatically cycles through the built-in programs without external control. The light never turns off.

- Press MENU until AuTo is displayed.
- Press ENTER to confirm Auto mode.

DMX mode

Allows you to operate the fixture using a universal DMX-512 console.

Setting the DMX address

- Press MENU until dxxx (xxx: 001–512) is displayed.
- Press ENTER to enter DMX512 mode.
- Press UP or DOWN to increase or decrease the DMX address between 001 and 512.

- Press ENTER to save the value.
- Press MENU to return to the previous mode.
- 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 9CH mode: 9.
- 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 9CH mode, you can use, for example, the start addresses 1, 10, 19, 28.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

Selecting the DMX mode

- Press MENU until chSE is displayed.
- Press ENTER to enter DMX channel setting.
- Press UP or DOWN to select CH07 or CH09.
- Press ENTER to save the setting.
- Press MENU to return to the previous setting.

Master/Slave mode

- Press MENU until SLAu is displayed on the slave unit.
- Press ENTER to enter Slave mode.
- Install the units in a suitable position (flat on a surface or suspended).
- Select a unit to function as Master and set it to sound mode or Auto mode.
- Set the other units to Slave mode (display SLAu).
- Turn on the power to all units.
- Adjust the sound sensitivity knob on the back of the master unit to increase or decrease sensitivity.
- In Master/Slave mode, one device (Master) controls the other devices (Slaves), which copy its behavior in sync. No controller is needed.
- Connect the devices with DMX cable in a daisy chain, just as for control from a desk (DMX OUT to the DMX IN of the next device), and terminate the end of the line.
- On the master device, select the desired standalone mode (auto mode or sound mode, depending on the device), and set all other devices to Slave mode.
- Only one master device may be on the line; do not connect a DMX controller to the line in Master/Slave mode.
- For reliable synchronization, link only devices of the same type.

NOTE Laser brightness gradually degrades over time. Heat is the main factor accelerating this decline. Providing lower operating temperatures extends the expected lifespan (5,000 to 10,000 hours under normal operating conditions).

NOTE Grounding the common lead can cause ground loops and erratic operation.

7 DMX channels

Mode	Channels
7CH	7
9CH	9

Mode 7CH

CH	Function	DMX	Description
1	Mode	0–63	All OFF
		64–127	Sound Active, blackout without music
		128–191	AUTO
		192–255	Manual DMX, CH2-CH7 working
2	3 Lens A B C Position Selection	0–1	All OFF
		2–31	All ON
		32–63	Lens ON selection, controlled by CH3
		64–87	A--B--C 3 lens AUTO change, speed controlled by CH3
		88–111	AB--BC--AC 3 lens AUTO change, speed controlled by CH3
		112–135	A-AB-ABC-BC-C AUTO change, speed controlled by CH3
		136–159	A--AB--B--BC--C--AC--ABC AUTO change, speed controlled by CH3
		160–183	A--B--C Sound change
		184–207	AB--BC--AC Sound change
		208–231	A-AB-ABC-BC-C Sound change
		232–255	A--AB--B--BC--C--AC--ABC Sound change
3	3 Lens Position Change Speed Control	0–255	Speed from slow to fast
4	3 Lens Flash Position Change	0–255	ABC--A--B--C--AB--BC--AC--ABC
5	Flash Control	0–15	No flash
		16–223	AUTO flash
		224–255	Sound Flash
6	3 Lens Gobo Spin Direction Control	0–10	No spin
		11–60	Counter clockwise spin
		61–80	Counter clockwise spin AUTO Stop to Spin
		81–100	Counter clockwise spin Sound Stop to Spin
		101–160	Clockwise spin
		161–180	Clockwise spin AUTO Stop to Spin
		181–200	Clockwise spin Sound Stop to Spin
		201–255	Clockwise and Counter clockwise AUTO spin
7	Gobo Spin Speed	0–255	Slow to fast

Mode 9CH

CH	Function	DMX	Description
1	Mode	0–63	All OFF
		64–127	Sound Active, blackout without music

CH	Function	DMX	Description
		128–191	AUTO
		192–255	Manual DMX, CH2-CH7 working
2	3 Lens A B C Position Selection	0–1	All OFF
		2–31	All ON
		32–63	Lens ON selection, controlled by CH3
		64–87	A--B--C 3 lens AUTO change, speed controlled by CH3
		88–111	AB--BC--AC 3 lens AUTO change, speed controlled by CH3
		112–135	A-AB-ABC-BC-C AUTO change, speed controlled by CH3
		136–159	A--AB--B--BC--C--AC--ABC AUTO change, speed controlled by CH3
		160–183	A--B--C Sound change
		184–207	AB--BC--AC Sound change
		208–231	A-AB-ABC-BC-C Sound change
		232–255	A--AB--B--BC--C--AC--ABC Sound change
3	3 Lens Position Change Speed Control	0–255	Speed from slow to fast
4	3 Lens Flash Position Change	0–255	ABC--A--B--C--AB--BC--AC--ABC
5	Flash Control	0–15	No flash
		16–223	AUTO flash
		224–255	Sound Flash
6	A Gobo Rotation	0–255	A gobo position setting
7	B Gobo Rotation	0–255	B gobo position setting
8	C Gobo Rotation	0–255	C gobo position setting
9	Gobo Spin Speed	0–255	Slow to fast

8 Technical specifications

Parameter	Value
Beam angle	150°
Operating modes	Auto, Sound, DMX512, Master/Slave
DMX channels	7 or 9 channels
DMX connection	3-pin XLR IN/OUT connectors
Controls	4-button LCD display (MODE-UP-DOWN-ENTER)
Power supply	Bi-Voltage 110 V to 220 V-250 V, 50/60 Hz, 20 W
Total power	150 mW
Dimensions	375 x 55 x 135 mm (L x H x D)
Weight	1700 g
Laser class	3b
Diodes	3x green 50 mW
Laser color	Green
Wavelength	532 nm

9 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.

CAUTION

- Keep the laser aperture window clean; dirt scatters the beam and can create unwanted reflections.
- Clean the window only with the laser switched off and disconnected, using a soft lint-free cloth and an optics cleaner. Do not look into the aperture, even while cleaning.

Periodically remove dust from the external lenses with a cleaning tissue to optimize light output.
(periodically)

Replace the fuse with one of the exact same type.

10 Troubleshooting

- 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.

Problem	Remedy
The power indicator does not light up and the fixture does not work	Check the power supply, input voltage, and fuse.
In standalone operation, the power indicator lights up and the sound active indicator does not light up, but the light is off	Because low sound levels cause the fixture to turn off in sound mode, increase the music volume or raise the microphone sensitivity using the sensitivity knob. Also check whether the unit is set to slave mode; if so, change it to master mode.
In Master/Slave operation, the slave unit does not function	Make sure there is only one master unit in the chain and the others are set to slave mode. Ensure the fixture is operated without a connected DMX console. Ensure good-quality power cables and DMX connections.

11 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.

SOH Sound & Lights s.r.o. provides take-back through the collective compliance scheme ASEKOL a.s. (Československého exilu 2062/8, 143 00 Praha 4 – Modřany, www.asekol.cz).

Recycle the packaging materials according to their type.

12 Warranty and service

For products purchased from SOH, a buyer who is a consumer may, under the Czech Civil Code, notify the seller of a defect that becomes apparent within 24 months of taking delivery; this statutory right is not affected by any warranty. Defect claims for these products and out-of-warranty repairs are handled by sending the goods to SOH's premises or bringing them in person: SOH, Antala Staška 242/14, 140 00 Praha 4, Czech Republic. Further information (in Czech) is available at eshop.soh.cz/casto-kladene-otazky.

Statutory rights in respect of defects and the warranty are governed by applicable law and the seller's terms and conditions.

Submit any claim to the seller from whom you purchased the product. Enclose proof of purchase and as precise a description of the fault as possible.

Neither the statutory rights nor the warranty cover defects caused by the buyer, for example by installation or operation contrary to this manual, mechanical damage or unskilled tampering. Wear caused by normal use is not a defect either.

Service and technical support are provided by SOH Sound & Lights s.r.o., Antala Staška 242/14, 140 00

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