STAIRVILLE

DJ Lase 40-G MK-III

User Manual

Showlaser

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Table of contents


DJ Lase
40-G MKIII
STAGEVILLE
POWER
MUSIC
IR

1 General information

This document contains important instructions for the safe operation of the product. Read and follow the safety instructions and all other instructions. Keep the document for future reference. Make sure that it is available to all those using the product. If you sell the product to another user, be sure that they also receive this document.

Our products and documentation are subject to a process of continuous development. They are therefore subject to change. Please refer to the latest version of the documentation, which is ready for download under *www.thomann.de*.

1.1 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this document.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
WARNING!	This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – high-voltage.
	Warning – laser radiation.
	Warning – dangerous optical radiation.

Warning signs	Type of danger
	Warning – suspended load.
	Warning – danger zone.

2 Safety instructions

Intended use

This unit is used to project laser light effects; it is intended for show applications only. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Extend the operating life of the device by regular breaks and by avoiding frequent switching on and off. The device is not suitable for continuous operation.

Safety

DANGER!

Risk of injury and choking hazard for children!

Children can suffocate on packaging material and small parts. Children can injure themselves when handling the device. Never allow children to play with the packaging material and the device. Always store packaging material out of the reach of babies and small children. Always dispose of packaging material properly when it is not in use. Never allow children to use the device without supervision. Keep small parts away from children and make sure that the device does not shed any small parts (such knobs) that children could play with.

DANGER!

Danger to life due to electric current!

Within the device there are areas where high voltages may be present. Never remove any covers. There are no user-serviceable parts inside. Do not use the device when covers, safety equipment or optical components are missing or damaged.

DANGER!

Danger to life due to electric current!

A short circuit could lead to a fire hazard and risk of death. Always use proper ready-made insulated triple-core mains cable with a safety plug. Do not modify the mains cable or the plug. In case of isolation damage, disconnect immediately the power supply and arrange repair. If in doubt, seek advice from a qualified electrician.

WARNING!

Risk of injury from laser!

This device contains a class 3B laser, classified according to EN 60825-1:2014+A11:2021. The laser may only be installed and operated by a laser protection representative who is familiar with the legal regulations at the operating location. Familiarise yourself with the regulations applicable in the country of operation. The accessible laser radiation is in a wavelength range of between 302.5 nm and 1 µm, the output is between 5 mW and 500 mW. Looking into the laser beam or its reflections can cause injuries to the eyes and result in irreversible damage, especially if the beam cross-section is bundled by optical collecting instruments. Skin contact can result in burns. Highly flammable and explosive materials within the range of the laser radiation can ignite. When work is performed on the laser system while it is functional, unintentional contact with the laser beam is possible. As the operator, observe the applicable legal duties regarding safe operation before putting the device into service. Install the laser system in such a way that persons are not at risk while it is in operation. The laser may only be installed and operated by a laser protection representative who is familiar with the legal regulations at the operating location. Only operate the laser system in separate supervised areas. If necessary, use technical protection measures to reduce the range of the laser or reduce the beam intensity. Do not look into the laser beam or its reflections. Do not use optical collecting instruments (such as magnifying glasses or lenses) to look into the laser beam, and ensure that laser beams are not directed to areas where optical collecting instruments are used. Do not expose any limbs to the laser beam. Keep the range of the laser beams and areas that can be reached by reflected laser beams free from flammable and explosive materials. Always wear laser safety glasses in line with DIN EN 207 when working on the functional laser system. Have all work and repairs on class 3B lasers performed by trained experts. Never open a class 3B laser and do not make any technical changes.

WARNING!

Risk of injury due to stray laser radiation!

Additional components inadequately secured to the device as well as reflective objects and surfaces at the operating location can cause stray laser radiation, which can cause injuries. Make sure that additional components are always secured adequately. Make sure there are no reflective objects or surfaces in the range of the laser beams.

WARNING!

Risk of eye damage caused by high light intensity!

The device generates highly intense light radiation. Looking directly into the light source can damage the eyes. Never look directly into the light source.

WARNING!

Risk of epileptic fit due to flashing lights!

The device emits flashing lights (strobe effects). Flashing lights can trigger epileptic fits in specific people. If you are at risk of epilepsy, avoid spending longer periods of time subjected to flashing lights and looking into strobing light.

NOTICE!

Risk of fire due to covered vents and neighbouring heat sources!

If the vents of the device are covered or the device is operated in the immediate vicinity of other heat sources, the device can overheat and burst into flames. Never cover the device or the vents. Do not install the device in the immediate vicinity of other heat sources. Never operate the device in the immediate vicinity of naked flames.

NOTICE!

Damage to the device if operated in unsuitable ambient conditions!

The device can be damaged if it is operated in unsuitable ambient conditions. Only operate the device indoors within the ambient conditions specified in the “Technical specifications” chapter of this user manual. Avoid operating it in environments with direct sunlight, heavy dirt and strong vibrations. Avoid operating it in environments with strong temperature fluctuations. If temperature fluctuations cannot be avoided (for example after transport in low outside temperatures), do not switch on the device immediately. Never subject the device to liquids or moisture. Never move the device to another location while it is in operation. In environments with increased dirt levels (for example due to dust, smoke, nicotine or mist): Have the device cleaned by qualified specialists at regular intervals to prevent damage due to overheating and other malfunctions.

NOTICE!

Damage to the device due to high voltages!

The device can be damaged if it is operated with the incorrect voltage or if high voltage peaks occur. In the worst case, excess voltages can also cause a risk of injury and fires. Make sure that the voltage specification on the device matches the local power grid before plugging in the device. Only operate the device from professionally installed mains sockets that are protected by a residual current circuit breaker (FI). As a precaution, disconnect the device from the power grid when storms are approaching or it the device will not be used for a longer period.

NOTICE!

Risk of fire due to installation of a wrong fuse!

Using fuses of a different type than compatible with the device may cause a fire and seriously damage the device. Only use fuses of the same type. Observe the labelling on the device casing and the information in the "Technical data” chapter.

NOTICE!

Risk of fire due to incorrect polarity!

Incorrectly inserted batteries may cause fires and destroy the device and the batteries. Observe the markings on the batteries and on the device. Ensure that proper polarity is observed when inserting batteries.

NOTICE!

Possible damage due to leaking batteries!

Batteries can leak and cause permanent damage to the device. Take the batteries out of the device if it is not going to be used for an extended period of time.

NOTICE!

Possible staining due to plasticiser in rubber feet!

The plasticiser contained in the rubber feet of this product may react with the coating of the floor and cause permanent dark stains after some time. If necessary, use a suitable mat or felt slide to prevent direct contact between the device's rubber feet and the floor.

Duties of the operator

As the operator of the laser system, you must comply with legal occupational safety obligations as per the OStrV (in Germany). The following applies in particular:

- Before putting into service, draw up an assessment of the risk posed by the direct and indirect effects of laser beams in line with the regulations applicable at the operating location.
- Report the operation of the laser system to the responsible authorities and professional associations in line with the legislation. If the laser system is to be operated outdoors, where it could pose a risk to public traffic spaces, involve the traffic authorities responsible at the operating location (for example air traffic control) in your planning.
- Make sure that a registered laser safety representative is appointed in writing before the device is put into service, and that this person ensures the safe operation of the laser system, in particular if persons unable to assess the dangers of a class 3B laser can enter the area of the laser beams.
- Take adequate measures to prevent the risk of fire and explosion.
- Apply appropriate technical safety measures (e.g. shielding, protective walls, barriers) on the basis of the exposure limits determined in the risk assessment.
- Restrict the range of the laser beams to a limited area in order to reduce the risk to persons as much as possible.
- Apply safety measures (e.g. extraction) if the effects of laser radiation can generate harmful concentrations of hazardous substances (e.g. gases, mists, aerosols).
- Mark the danger zone in the immediate vicinity of the laser with appropriate signage if the event requires persons to have direct access to the laser system (e.g. stage, studio).
- Use technical and organisational safety measures to restrict access to the running laser system for unauthorised persons.
- Indicate the use of the laser by means of audible or visible warning signals (e.g. warning light) in the danger zone.

- Use an additional safety switch (emergency stop switch) installed in an easily accessible central monitoring location (e.g. control room) that switches off the laser immediately and safely in the event of danger.
- Always remove the key from the key switch when not using the laser, in order to prevent unintentional laser radiation and unauthorised use.
- Instruct staff on the basis of the risk assessment and familiarise them with the necessary safety measures.
- Provide staff with the required personal protective equipment (PPE).

3 Features

The showlaser is specially suited for discos, clubs, bars, small stages, etc. It allows smooth integration into light shows, but can also be operated as stand-alone device.

Special features of the device:

- Control via DMX (8 channels), buttons and display on the device and supplied IR remote control (item no. 277447)
- Built-in automatic show programmes
- Sound control
- Master / slave mode
- 32 different patterns
- Laser diode: green (40 mW)

4 Installation

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

You can install the device standing or hanging. When in use, the device must be mounted at a solid surface or clamped to an approved truss.

Work from a stable platform whenever you install or move the device or when you perform any kind of maintenance. Block access under the work area.

WARNING!

Risk of injury due to missing or incorrectly dimensioned laser safety glasses!

When work is performed on the laser system while it is functional, unintentional contact with the laser beam is possible.

There is a risk of injury to the eyes and the risk of irreversible damage.

Always wear correctly dimensioned laser safety glasses in line with DIN EN 207 when working on the functional laser system.

WARNING!

Risk of injury due to improper installation!

If the laser is set up incorrectly and the installation point is too low or too close to persons, there is an increased risk of injury due to the high intensity of the laser beam.

The laser may only be installed by a laser protection representative who is familiar with the legal regulations at the operating location.

In order to comply with the maximum legal exposure limits, determine the actual radiation intensities at the operating location as well as the distances for laser attachment, and install the laser in line with the ambient conditions.

Make sure the laser is firmly attached, and prevent the laser beam from leaving the planned laser beam area (e.g. through screens, housings or software-specific direction restrictions).

Shield laser beams from each other if multiple lasers are operated simultaneously.

Install the laser in such a way that the laser beam does not enter any traffic zones.

WARNING!

Risk of injury due to stray laser radiation!

Additional components inadequately secured to the device as well as reflective objects and surfaces at the operating location can cause stray laser radiation, which can cause injuries.

Make sure that additional components are always secured adequately.

Make sure there are no reflective objects or surfaces in the range of the laser beams.

WARNING!

Risk of injury in case of operation without a safety switch!

There is a risk of injury if the laser is operated without a safety switch.

Connect an approved external safety switch (not included in the scope of delivery) to the designated connection socket on the device.

It must be possible to switch off the laser safely in the event of danger by pressing the safety switch.

WARNING!

Risk of injury due to inadequate warning signals!

Persons unable to assess the dangers of a class 3B laser are at increased risk of injury and irreversible damage if such persons are not informed of the use of the laser.

Indicate the use of the laser by means of audible or visible warning signals (e.g. warning light) in the danger zone.

WARNING!

Risk of injury from falling devices that were inadequately secured!

If devices are not properly secured during assembly, they can cause severe injury and considerable damage by falling.

When installing and operating, make sure to follow the standards and regulations that apply in your country.

Always secure the device with a secondary safety attachment, such as a safety cable or a safety chain.

NOTICE!

Risk of overheating and fire due to inadequate distance and bad ventilation!

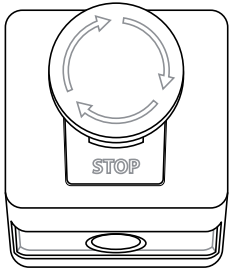
If the distance between the light source and the illuminated surface is too short or the device is badly ventilated, the device can overheat and cause fires.

Make sure that illuminated surfaces are more than 2 m away.

Do not operate the device in ambient temperatures above 40 °C.

Always ensure sufficient ventilation at the operating location.

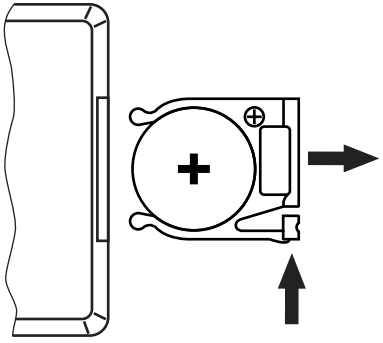
Safety switch (emergency stop)



Connect the external safety switch (not supplied) to the provided connection socket on the device. If you press the external switch, the laser beam will be switched off immediately.

Observe the safety instructions of the switch manufacturer and the regulations for the intended use.

Inserting the battery into the remote control



Push the lock of the battery holder towards the centre of the housing and pull out the battery holder like a drawer. Insert the batteries. The battery is correct if the positive pole points to the housing base of the remote control. Slide the battery holder back into the remote until it clicks into place.

When shipping, the battery is already installed in the remote and protected against discharge by a transparent plastic film. Remove the plastic film before initial use.

NOTICE!

Risk of fire due to incorrect polarity!

Incorrectly inserted batteries may cause fires and destroy the device and the batteries.

Observe the markings on the batteries and on the device.

Ensure that proper polarity is observed when inserting batteries.

NOTICE!

Possible damage due to leaking batteries!

Batteries can leak and cause permanent damage to the device.

Take the batteries out of the device if it is not going to be used for an extended period of time.

5 Starting up

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

NOTICE!

Data transfer errors due to improper wiring!

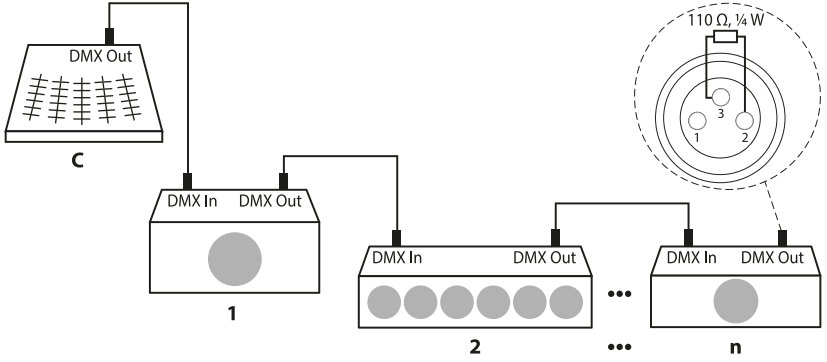
If the DMX connections are wired incorrectly, this can cause errors during the data transfer.

Do not connect the DMX input and output to audio devices, e.g. mixers or amplifiers.

Use special DMX cables for the wiring instead of normal microphone cables.

Connections in DMX mode

Connect the DMX input of the device to the DMX output of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a resistor (110 Ω, ¼ W).

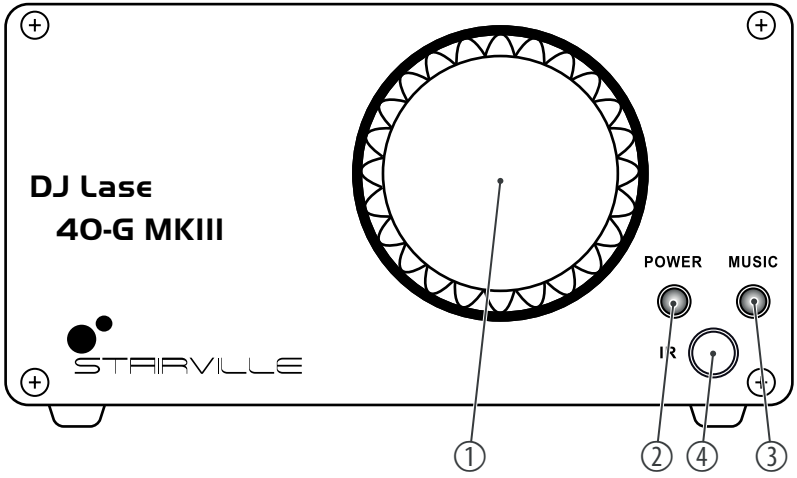


Connections in master/slave mode

When you configure a group of devices in master/slave mode, the first unit will control the other units for an automatic, sound-activated, synchronized show. This function is ideal when you want to start a show immediately. Connect the DMX output of the master device to the DMX input of the first slave device. Then connect the DMX output of the first slave device to the DMX input of the second slave device and so on.

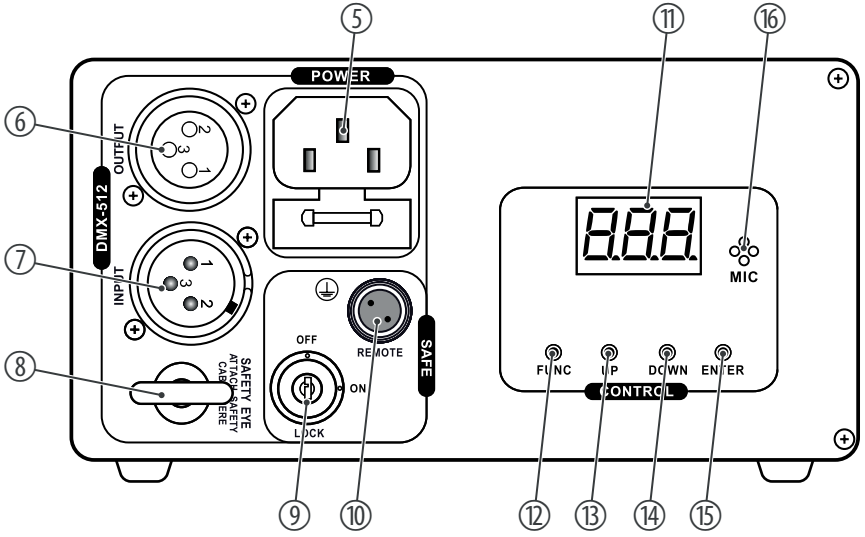
6 Connections and controls

Front



1	Laser aperture
2	*[POWER]* | Shows that the device is turned on.
3	*[MUSIC]* | Shows that a sound or music signal is being detected. Indicates that a sound signal is received. Lights up briefly on incoming infrared signals from the remote.
4	*[IR]* | Receiver for the infrared signal of the remote control

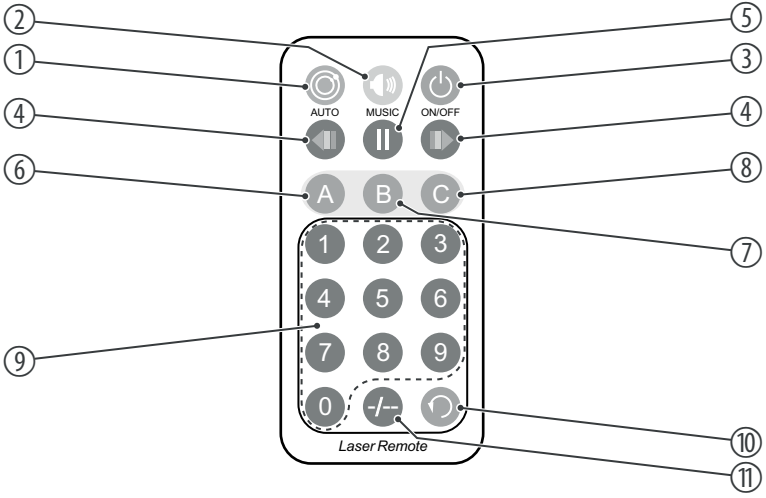
Back


⑤
⑪
⑯
POWER
⑥
OUTPUT
DMX-512
⑦
INPUT
⑧
SAFETY EYE
ATTACH SAFETY CABLE HERE
OFF
ON
LOCK
REMOTE
SAFE
MIC
FUNC
UP
DOWN
ENTER
CONTROL
⑨
⑩
⑫
⑬
⑭
⑮

5	IEC chassis plug for the mains cable with fuse holder
6	*[OUTPUT]* | DMX output
7	*[INPUT]* | DMX input
8	Safety cable eyelet
9	*[LOCK]* | Safety key switch. Turns the laser output on or off.
10	*[REMOTE]* | Connection for an external safety switch (e.g. an emergency-stop button)
11	Display
12	*[FUNC]* | Opens the main menu.
13	*[UP]* | Increases the displayed value by one.
14	*[DOWN]* | Decreases the displayed value by one.
15	*[ENTER]* | Selects an option of the respective operating mode.
16	*[MIC]* | Microphone for the “sound” mode

infrared remote control (item no. 277447)

Since the universal remote control can be used for several device types, some buttons may not be assigned and therefore have no function.



1	*[AUTO]* | Starts an automatic show in random order.
2	*[MUSIC]* | Starts a sound-controlled automatic show in random order.
3	*[ON/OFF]* | When the device is in the “auto show” mode or is performing a self test, press the button for several seconds to enter the “remote control” mode. When the device is already in the ‘Remote control’ mode, this button switches the laser on or off.
4	Changes the colours used for representing the patterns. For item no. 276235, item no. 276238 and item no. 272917: no function
5	Stops or restarts a running show.
6	*[A]* | Switches to the previous pattern. For item no. 255628: Switches the flash effect for the red laser on or off.
7	*[B]* | Changes the sensitivity and thus the response of the microphone. First, press *[MUSIC]*, then press *[B]* followed by a key from *[0]* to *[9]* on the numeric keypad.. For item no. 255628: Switches the flash effect for the green laser on or off.
8	*[C]* | Switches to the next pattern. For item no. 255628: no function
9	Numeric keypad for direct input of values (microphone sensitivity or pattern number). To enter two-digit numbers, press *[-/--]* before the first digit and before the second digit.. For item no. 255628: Numeric keypad for direct input of values (flash frequency, motor speed, speed of the double burst grating effect).

10	Toggles between the current and the previously displayed pattern. For item no. 255628: Controls the motor speed of the laser optics in conjunction with the numeric keypad.
11	*[-/--]* | Shift button for entering two-digit numbers. For item no. 255628: Controls the double burst grating effect in conjunction with the numeric keypad.

7 Operation

7.1 Starting and stopping the device

WARNING!

Risk of injury due to improper operation!

There is a risk of injury if the device is not operated properly.

Only operate the laser after approval has been granted, and under the supervision of a laser protection representative.

Starting

Perform the following steps to start up the device:

1. Verify that all required laser safety precautions have been taken. Make sure that there is no one in the reach of the laser beam.
2. Connect the *[REMOTE]* connection (10) to an external safety switch (e.g. emergency stop switch) or another equivalent system with a protection function.
3. Insert the safety key into the lock (9).
4. If you have not already done so, connect the device to the mains (5).
5. After a few seconds, the fan and the motors start to work. The display shows the current operation mode. The device is now operational.
6. Turn the safety key (9) to the “ON” position to turn the laser beam on.

Stopping

Perform the following steps to stop the device:

1. Turn the safety key (9) to the “OFF” position to turn the laser beam off and remove the key. Keep the safety key in a secure place.
2. Disconnect the device from the mains (5).

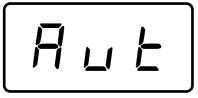
7.2 Main menu

Press *[FUNC]* to activate the main menu and select an operating mode.

When the display flashes, use the *[UP]* and *[DOWN]* buttons to change the displayed value. When the display shows the desired value, press *[ENTER]*. To return to the main menu without any changes, press *[FUNC]* or wait a minute.

All previous settings are retained even when you disconnect the device from the power grid.

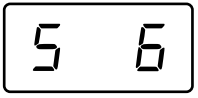
Operating mode 'Auto-Show'



Press *[FUNC]* repeatedly until the display shows Aut. The device operates in stand-alone mode and displays a pre-programmed show that can optionally be controlled by the built-in microphone. Use the *[UP]* and *[DOWN]* buttons to choose between the pre-programmed show types listed in the table below. Press *[ENTER]* to store the value and to start the operation in "Auto-Show" mode.

Display	Show
Aut	Automatic show in random order
Sou	Sound controlled automatic show in random order

Response



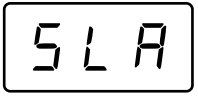
Press *[FUNC]* repeatedly until the display shows S 6 and starts flashing. In this menu you can adjust the sensitivity and thus the response characteristic of the microphone. Use the *[UP]* and *[DOWN]* buttons to select the settings "S 0" (sensitivity = 0, "sound" mode off) or "S 1" (low sensitivity) to "S 9" (high sensitivity). Press *[ENTER]* to save the setting.

"DMX" operating mode

Press *[FUNC]* repeatedly until the display shows 001. Now you can set the number of the first DMX channel to be used by the device (DMX address). Use the *[UP]* and *[DOWN]* buttons to select a value between 1 and 505. Press *[ENTER]* to save the value and to start operation in "DMX" mode.

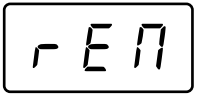
Make sure that this number matches the configuration of your DMX controller.

"Master/slave" mode



Press *[FUNC]* repeatedly until the display shows SLA. In this mode, the device exactly follows the operation of the master that it is connected to. Press *[ENTER]* to confirm and to start operation in "Master / Slave" mode.

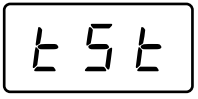
Remote control mode



Press *[FUNC]* repeatedly until the display shows rEM. Press *[ENTER]* to confirm and to start operation in 'Remote control' mode.

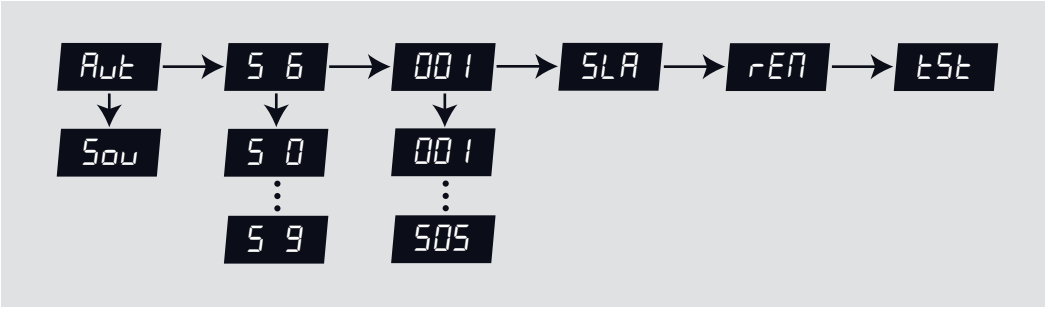
This mode allows you to operate the device conveniently with the infrared remote control. Make sure that the infrared receiver on the front panel of the device is not obstructed.

Self test



Press *[FUNC]* repeatedly until the display shows tSt. Press *[ENTER]* to start a self test. Press *[FUNC]* again and select another menu item to stop the self test.

7.3 Menu overview



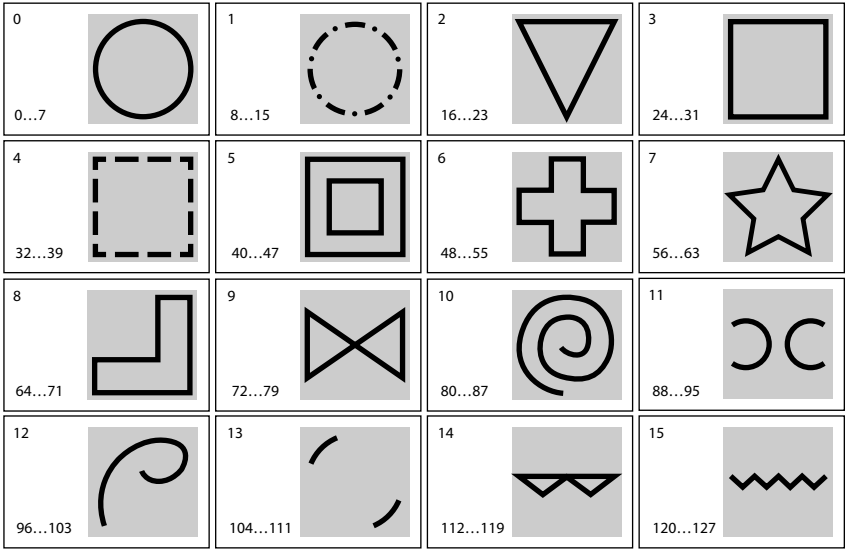
7.4 Functions in 'DMX' mode

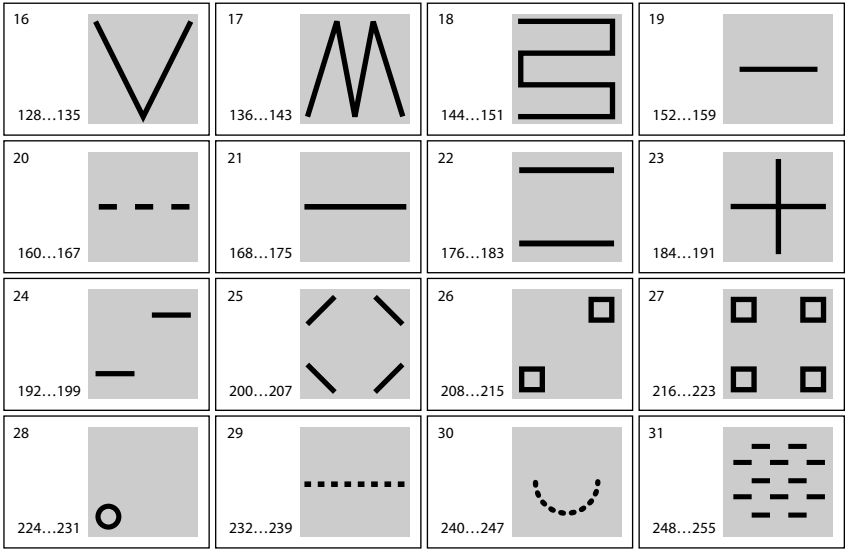
Channel	Value	Function
1	Operating mode selection	
	0…63	Laser off
	64…127	Automatic show in random order
	128…191	Sound controlled automatic show in random order

Channel	Value	Function
	192…255	DMX mode: This setting enables the function of the other DMX channels
2	0…255	Pattern selection (*Chapter 7.5 'Pattern list' on page 39*)
3	Zoom	
	0…127	Fixed zoom (100%…5%)
	128…169	Zooming in effect, speed increasing from slow to fast
	170…209	Zooming out effect, speed increasing from slow to fast
	210…255	Zooming in effect, speed increasing from slow to fast
4	Y axis rotation (rolling)	
	0…127	Fixed position of Y-axis (0…359°)
	128…191	Clockwise rotating effect, speed increasing from slow to fast
	192…255	Anti-clockwise rotating effect, speed increasing from slow to fast
5	X axis rotation (rolling)	
	0…127	Fixed position of X-axis (0…359°)
	128…191	Clockwise rotating effect, speed increasing from slow to fast
	192…255	Anti-clockwise rotating effect, speed increasing from slow to fast

Channel	Value	Function
6	Z axis rotation (rolling)	
	0…127	Fixed position of Z-axis (0…359°)
	128…191	Anti-clockwise rotating effect, speed increasing from slow to fast
	192…255	Clockwise rotating effect, speed increasing from slow to fast
7	X-axis mouving	
	0…127	Fixed positions on X-axis
	128…191	Clockwise moving effect, speed increasing from slow to fast
	192…255	Anti-clockwise moving effect, speed increasing from slow to fast
8	Y-axis moving	
	0…127	Fixed positions on Y-axis
	128…191	Clockwise moving effect, speed increasing from slow to fast
	192…255	Anti-clockwise moving effect, speed increasing from slow to fast

7.5 Pattern list




16
128…135
17
136…143
18
144…151
19
152…159
20
160…167
21
168…175
22
176…183
23
184…191
24
192…199
25
200…207
26
208…215
27
216…223
28
224…231
29
232…239
30
240…247
31
248…255

8 Technical specifications

Laser medium	Green: 532 nm (typical), ND: YVO4 DPSS	
Laser power	Green: 40 mW	
Laser class	3B	
Beam diameter at aperture	< 5 mm	
Pulse data	All pulses < 4 Hz (> 0.25 s)	
Divergence (each beam)	< 2 mrad	
Divergence (total light)	< 90°	
Number of DMX channels	8	
Input connections	Power supply	IEC chassis plug C14
	DMX control	XLR chassis plug, 3-pin
Output connections	DMX control	XLR chassis socket, 3-pin
Control	DMX	
	Infrared remote control	
Power consumption	12 W	
Supply voltage	100 - 240 V ~ 50/60 Hz	

Fuse	5 mm × 20 mm, 1.0 A, 250 V, slow blow	
Battery remote control	Lithium-ion button cell CR2025, 3 V	
International Protection Rating	IP20	
Mounting options	Hanging, standing	
Dimensions (W × H × D)	155 mm × 85 mm × 145 mm	
Weight	1.26 kg	
Ambient conditions	Temperature range	0 °C…40 °C
	Relative humidity	20%…80% (non-condensing)

Further information

Colour spectrum	green
Animation laser	Yes
Grating laser	No
ILDA	No
DMX	Yes
Power rating	Up to 100
Analogue modulation	No

9 Plug and connection assignments

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment so that a perfect light experience is guaranteed.

Please take our tips, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into a socket, the result of an incorrect connection may be a destroyed DMX controller, a short circuit or 'just' a not working light show!

DMX connections

The unit offers a 3-pin XLR socket for DMX output and a 3-pin XLR plug for DMX input. Please refer to the drawing and table below for the pin assignment of a suitable XLR plug.

Pin	Configuration
1	Ground, shielding
2	Signal inverted (DMX–, 'cold signal')
3	Signal (DMX+, 'hot signal')

10 Troubleshooting

WARNING!

Risk of injury due to improper troubleshooting!

There is a risk of injury if troubleshooting is not performed properly.

Have all work and repairs on class 3B lasers performed by trained experts.

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

Symptom	Remedy
The device is not working, no light, the fan is not running	1. Check the power supply and the main fuse.
	2. Check the safety key switch.
	3. Check the external safety switch (e.g. emergency stop button)
No response to the DMX controller	1. If the display shows a flashing number, for example “001”, no DMX signal is being received. Check the DMX connectors and cables for proper connection.
	2. If the display does not flash and there is no response, check the address settings and DMX polarity.
	3. Try using another DMX controller.
	4. Check whether the DMX cables run near or parallel to high-voltage cables that may cause damage or interference to a DMX interface circuit.
No response to the remote control	1. Check whether the device is in “remote control” mode. The display has to show rEM.
	2. Try using the remote control at a different angle to the IR sensor on the front panel of the device. When the unit receives a signal from the remote control the LED ‘MUSIC’ lights up briefly.
	3. Check the remote control battery.

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at *www.thomann.de*.

11 Cleaning

WARNING!

Risk of injury due to improper cleaning!

There is a risk of injury if cleaning is not performed properly.

To avoid unintentional laser radiation, always remove the key from the key switch before you start cleaning the device.

Optical lenses

Clean the optical lenses, that are accessible from the outside, regularly in order to optimize the light output. The frequency of cleaning depends on the operating environment: wet, smoky or particularly dirty surroundings can cause more accumulation of dirt on the optics of the device.

- Clean with a soft cloth using our lamp and lens cleaner (item no. 280122).
- Always dry the parts carefully.

Fan grids

The fan grids of the device must be cleaned of any contamination, such as dust, etc. on a regular basis. Before cleaning, switch off the device and disconnect mains-operated devices from the mains. Only use pH-neutral, solvent-free and non-abrasive cleaning agents. Clean the unit with a slightly damp lint-free cloth.

12 Protecting the environment

Disposal of the packaging material

For the packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

Disposal of batteries

Batteries must not be thrown away or incinerated; they must be disposed of in accordance with local regulations for the disposal of hazardous waste. Use the existing collection points for this.

Only dispose of lithium batteries when they are discharged. Remove replaceable lithium batteries from the device before disposal. Protect used lithium batteries against short circuits, for example by covering the poles with adhesive tape. Permanently built-in lithium batteries must be disposed of together with the device. Please inquire about an appropriate collection point.

Disposal of your old device

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.