DJ Lase RGB
Pro Advanced 1000

showlaser

user manual

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DJ Lase RGB Pro Advanced 1000

showlaser

1 General notes

This manual contains important instructions for the safe operation of the unit. Read and follow the safety instructions and all other instructions. Keep the manual for future reference. Make sure that it is available to all those using the device. If you sell the unit please make sure that the buyer also receives this manual.

Our products are subject to a process of continuous development. Thus, they are subject to change.

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1.1 Further information

On our website (*www.thomann.de)* you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

1.2 Notational conventions

This manual uses the following notational conventions:

Letterings

The letterings for connectors and controls are marked by square brackets and italics.

Examples: *[VOLUME]* control, *[Mono]* button.

Displays

Texts and values displayed on the device are marked by quotation marks and italics.

Examples: *'24ch'* , *'OFF'* .

Cross-references

References to other locations in this manual are identified by an arrow and the specified page number. In the electronic version of the manual, you can click the cross-reference to jump to the specified location.

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1.3 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 manual.

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 – suspended load.
⚠	Warning – danger zone.

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2 Safety instructions

Intended use

This device is intended to be used for the projection of laser light effects. It has been designed exclusively for show applications. 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.

Laser safety basics

Laser safety requirements are based on DIN EN 60825-1:2015. The corresponding accident prevention regulation of the Accident Prevention and Insurance Association in Germany is BGV-B2.

This device contains a class-4 laser. It comes equipped with a safety key and a jack for connecting an external safety switch. Always remove the key when the device is not attended by a trained operator.

As an operator you are responsible for the safety of all persons present. Familiarize yourself with the laser safety regulations that apply in your country. To ensure safe operation, it is important to pay attention to the following instructions.

Prior to commissioning, the company/operator must appoint a qualified person as laser protection officer in writing and notify the operation of the laser equipment to the Accident Prevention and Insurance Association and to the authority responsible for occupational safety. In the event of public use, the complete laser equipment must be approved by an expert (e. g. the Technical Control Board TÜV) prior to commissioning.

Safety

	DANGER!
	Danger for children
	Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!
	Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!
	Never let children unattended use electrical devices.

	DANGER!
	Electric shock caused by high voltages inside
	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 if covers, protectors or optical components are missing or damaged.

DANGER!

Electric shock caused by short-circuit

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

DANGER!

Laser radiation – avoid exposure to beam

The device contains a class-4 laser, classified according to EN 60825-1:2015. Do not look into the laser beam. The laser beam can injure your eyes when you directly look into it. Do not expose yourself to the laser beam. The laser beam can cause skin burns.

In this context take extreme care when using converging optical instruments.

> **WARNING!**
> **Eye damage caused by high light intensity**
> Never look directly into the light source.

> **WARNING!**
> **Risk of epileptic shock**
> Strobe lighting can trigger seizures in photosensitive epilepsy. Sensitive persons should avoid looking at strobe lights.

> **NOTICE!**
> **Laser radiation – risk of fire**
> Keep the area exposed to laser radiation free from flammable substances.

!

NOTICE!

Risk of fire

Do not block areas of ventilation. Do not install the device near any direct heat source. Keep the device away from naked flames.

!

NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

! **NOTICE!**

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

! **NOTICE!**

Possible staining

The plasticiser contained in the rubber feet of this product may possibly react with the coating of your parquet, linoleum, laminate or PVC floor and after some time cause permanent dark stains.

In case of doubt, do not put the rubber feet directly on the floor, but use felt-pad floor protectors or a carpet.

3   Features

Professional RGB laser for use in all event areas:

- Colour mixing based on analogue diode modulation
- Laser power: 1,000 mW
- Laser class: 4
- Control options:
  - DMX-512 (20 channels)
  - ILDA
  - IR remote control (included)
  - built-in buttons and display
  - USB keyboard (included)
- Sound-control with preprogrammed patterns
- Auto operation with preprogrammed patterns
- Manual control with text input and countdown via USB keyboard
- Simultaneous menu items indication on the display and as laser projection
- Key switch secured
- Suitable for truss or ceiling mounting

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4   Installation

Unpack and carefully check that there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device 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.

Safety switch (emergency stop)

Connect the external safety switch (not included in scope of delivery) to the connection socket provided on the unit. If you press the switch, the laser beam will be switched off immediately.

Follow the switch manufacturer's safety instructions and the guidelines for intended use.

Minimum height
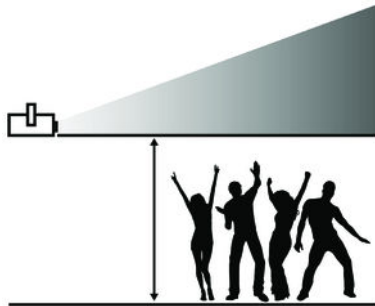
When installing the unit, observe the specified minimum height to prevent the risk of injury to persons, and observe the limits for maximum exposure of eyes or skin to a laser.

These limits are set depending on the specific ambient conditions in each case and must be determined on site by the laser safety authorised personnel in charge, based on the applicable standard, DIN EN 60825-1.

WARNING!

Risk of injury caused by falling objects

Make sure that the installation complies with the standards and rules that apply in your country. Always secure the device with a secondary safety attachment, such as a safety cable or a safety chain.

DANGER!

Follow the instructions in the chapter titled "Safety Instructions" in the user manual.

To avoid laser emission, remove the safety key before you start to install the device.

WARNING!
Stray laser radiation
Inadequately secured additional components may cause stray laser radiation.

Make sure that all additional components are adequately secured.

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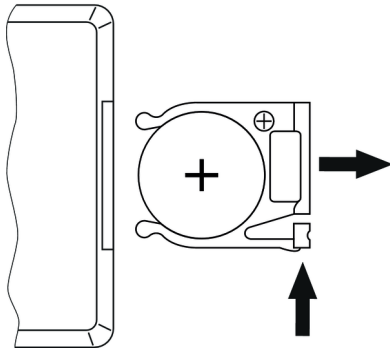
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! **NOTICE!**
Risk of overheating
The distance between the light output and the illuminated surface must be more than 2.0 m (78.7 in).

Always ensure sufficient ventilation.

The ambient temperature must always be below 40 °C (104 °F).

Inserting the battery into the remote control

Press the lock of the battery holder to the centre of the housing and pull out the battery holder like a drawer. Insert the battery. 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 foil. Remove the plastic foil prior to first use.

! **NOTICE!**
Possible damage by leaking batteries
Leaking batteries can cause permanent damage to the device.

Take batteries out of the device if it is not going to be used for a longer period.

! **NOTICE!**
Risk of fire due to incorrect polarity
Incorrectly inserted batteries may destroy the device or the batteries.

Ensure that proper polarity is observed when inserting batteries.

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.

> **DANGER!**
> **Laser radiation**
> Follow the instructions in the chapter titled "Safety Instructions" in this manual.

> **NOTICE!**
> **Possible data transmission errors**
> For error-free operation make use of dedicated DMX cables and do not use ordinary microphone cables.
>
> Never connect the DMX input or output to audio devices such as mixers or amplifiers.

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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).
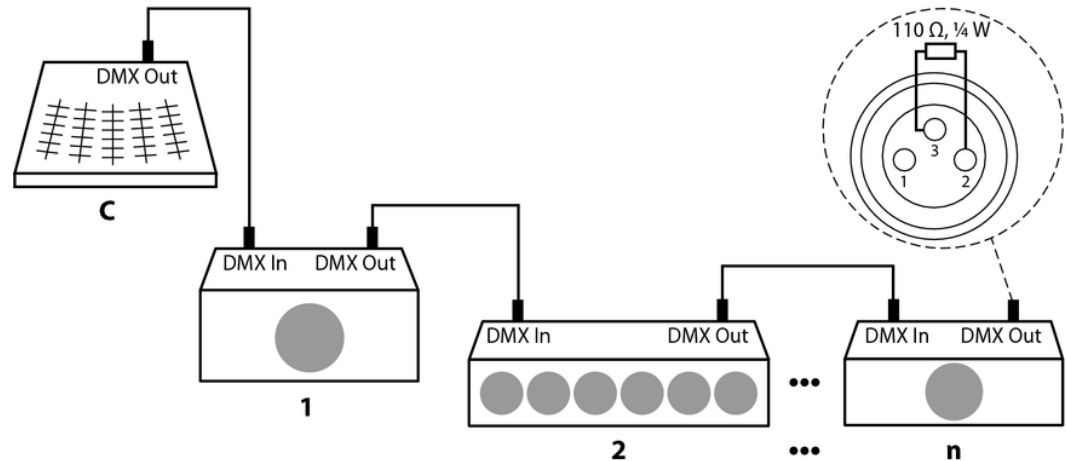
Connections in master/slave mode

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 operating elements

Front panel
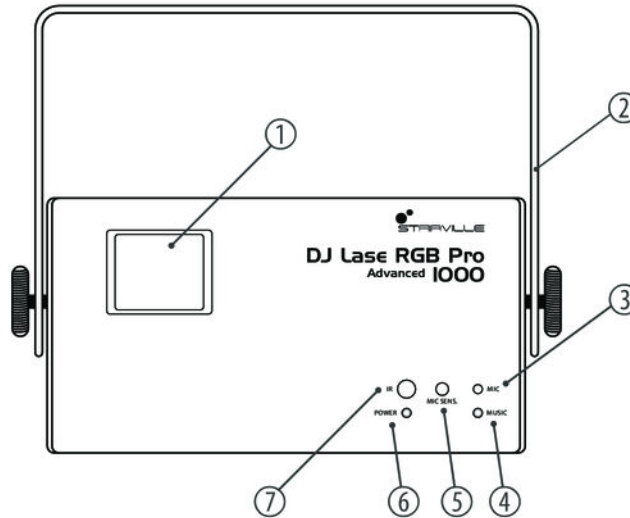
1	Laser aperture.
2	Retainer and mounting bracket.
3	*[MIC]* Microphone for sound-controlled operation.
4	*[MUSIC]* Indicator LED, flashes blue in sound-controlled operation.
5	*[Mic Sensitivity]* Rotary control for adjusting the sensitivity of the built-in microphone for sound control.
6	*[POWER]* Indicator LED, lights constantly white when the unit is on.
7	*[IR]* Infrared sensor for the signals from the included remote control.

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Rear panel
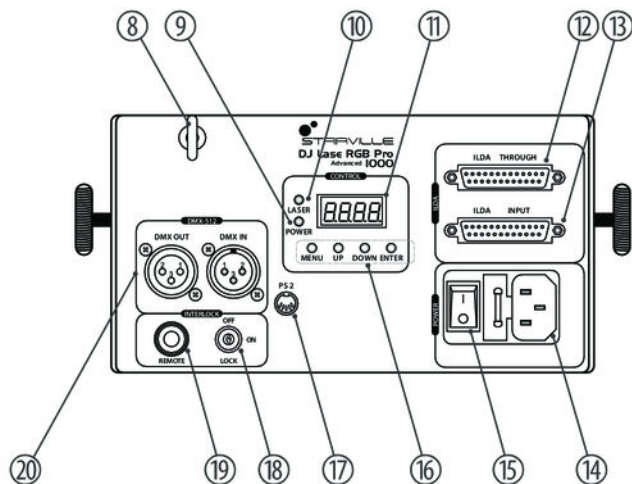
8	Safety eyelet.
9	*[LASER]* Indicator LED, lights steady white when the unit is on.
10	*[POWER]* Indicator LED, lights steady red when the laser is on (key switch in *[ON]* position).
11	Display.
12	*[ILDA THROUGH]* 25-pin ILDA output connector for looping through the ILDA signal to other devices.
13	*[ILDA INPUT]* 25-pin ILDA input socket.
14	IEC chassis plug for the mains cable with fuse holder.
15	Mains switch. Turns the device on and off.

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16	Function and control buttons
	[MENU]: Opens the main menu.
	[UP]: Increases the displayed value by one.
	[DOWN]: Decreases the displayed value by one.
	[ENTER]: Selects an option of the respective operating mode, confirms the set value.
17	*[PS 2]*
	Connection socket for the USB adapter of the included USB keyboard.
18	Safety key switch: switches the laser output on or off.
19	Connection for optional remote safety switch (emergency stop). An adapter for safety switches equipped with phone jacks is included in the delivery.
20	*[DMX IN]*: DMX input.
	[DMX OUT]: DMX output.

IR remote control
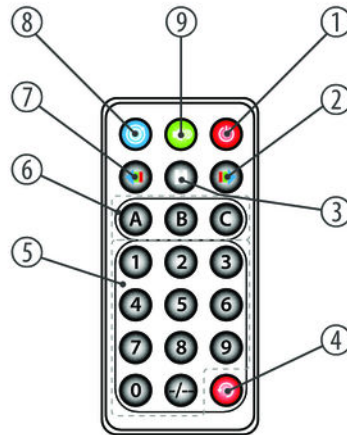
1	On / off switch. When the device is in the 'Auto Show' mode or is performing a self test, press the button for several seconds to enter the 'Remote control' mode. When the device is already in the 'Remote control' mode, this button switches the laser on or off.
2	No function.
3	Stops or restarts a running show.
4	Starts automatic switching between the previous two selected patterns.
5	Numeric keypad for direct input of values (microphone sensitivity or pattern number). To enter two-digit numbers, press before the first and before the second digit the *[-/--]* button.
6	*[A]*: Switch to previous pattern. *[B]*: changes the sensitivity and thus the response of the microphone. First, press the button *[MUSIC]*, then the button *[B]*, subsequently on the numeric keypad a button from *[0]* to *[9]*. *[C]*: Switch to next pattern.
7	No function.
8	Starts an automatic show in random order.
9	Starts a sound-controlled automatic show in random order.

7 Operating

7.1 Switching the device on / off

Switching the device on

Perform the following steps to switch the device on:

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 an external safety switch *[REMOTE]* to the port (e.g. emergency stop) or any other comparable installation using a protection function.

3. ▶ Insert the safety key into the lock.

4. ▶ If not already connected, connect the device to the mains.

5. ▶ Using the main switch, turn the device on. 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 to the "ON" position to turn the laser beam on.

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Turning off

Perform the following steps to switch the device off:

1. ▸ Turn the safety key to the OFF" position to turn the laser beam off and remove the key. Keep the safety key under control.

2. ▸ Turn off the power using the main switch.

3. ▸ Optionally, disconnect the device from the mains.

7.2 Main menu

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select one of the following menu items: AUTO, MUSIC, TEXT, TIME, COUNTDOWN, DMX, SLAVE or SYSTEM. Press *[ENTER]* to enter the menu.

Change the currently displayed value with *[UP]* and *[DOWN]* and confirm all new values again with *[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

All settings are saved, even if you disconnect the device from the power supply.

7.3 SYSTEM menu

In this menu, you can adjust various device settings.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select the *'SYS'* menu and confirm with *[ENTER]*.

Parameter	Description	Value range
'Nirr'	Position and direction of the X and the Y-axis on the projection surface.	N-PP, N-PN, N-NP, N-NN
'SiZE'	Height and width of the projection.	SX01 … SX16, SY01 … SY16
'N-En'	Master operation.	oN, oFF
'irEn'	IR mode, control via remote control.	oN, oFF
'rSET'	Resetting to factory defaults	

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Change the currently displayed value with *[UP]* and *[DOWN]* and confirm all new values again with *[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

7.4 Operating modes

AUTO mode

In this mode, the device automatically projects programmed patterns in the selected mode onto a surface.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select the *'Aut'* menu item and confirm with *[ENTER]*.

Use *[UP]* and *[DOWN]* to select the desired Auto mode (see chart) and confirm with *[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

Parameter	Description
'Aut 1'	Auto mode 1, show with programmed patterns, geometric shapes in random order.
'Aut 2'	Auto mode 2, show with programmed patterns, geometric shapes in random order.
'Aut 3'	Auto mode 3, show with programmed New Year motto patterns.
'Aut 4'	Auto mode 4, show with programmed Christmas motto patterns.

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Parameter	Description
'Aut 5'	Auto mode 5, show with programmed Love motto patterns.
'Aut 6'	Auto mode 6, show with programmed Birthday motto patterns.
'Aut 7'	Auto mode 7, show with programmed Party motto patterns.
'Aut 8'	Auto mode 8, show with programmed Halloween motto patterns.
'Aut 9'	Auto mode 9, show with programmed Music motto patterns.

SOUND mode

In this mode, the device projects programmed patterns sound-controlled onto a surface.

Set the sensitivity of the built-in microphone using the adjustment screw *[Mic Sensitivity]* on the front panel of the housing.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to open the *'Sou'* menu and confirm with *[ENTER]*.

Use *[UP]* and *[DOWN]* to select the desired Sound mode (see chart) and confirm with *[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

Parameter	Description
'Sou 1'	Sound mode 1, show with programmed patterns, geometric shapes in random order.
'Sou 2'	Sound mode 2, show with programmed patterns, geometric shapes in random order.
'Sou 3'	Sound mode 3, show with programmed New Year motto patterns.
'Sou 4'	Sound mode 4, show with programmed Christmas motto patterns.

Parameter	Description
'Sou 5'	Sound mode 5, show with programmed Love motto patterns.
'Sou 6'	Sound mode 6, show with programmed Birthday motto patterns.
'Sou 7'	Sound mode 7, show with programmed Party motto patterns.
'Sou 8'	Sound mode 8, show with programmed Halloween motto patterns.
'Sou 9'	Sound mode 9, show with programmed Music motto patterns.

TEXT mode

In this mode, the device projects text that has been entered and stored via the supplied keyboard (see) onto a surface.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to open the *'tXt'* menu and confirm with *[ENTER]*.

Use *[UP]* and *[DOWN]* to select the desired Text mode (see chart) and confirm with*[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

Parameter	Description
'tEXt'	Text mode 1, texts *'t-01'* *'t-09'* are being projected in an endless loop.
't-01'	Text mode 2, text *'t-01'* is being projected.
⋮	⋮
't-09'	Text mode 9, text *'t-09'* is being projected.

TIME mode

In this mode, the device consecutively projects time, date and the day of the week onto a surface.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to open the *'tiM'* menu and confirm with *[ENTER]*.

Use *[UP]* and *[DOWN]* to select one of the following menu items and confirm with *[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

Parameter	Description
'tiME'	Confirm this selection with *[ENTER]* to let the device consecutively project time, date and the day of the week onto a surface.
'SNod'	Select the display mode here: only time or time and date.
'SEtt'	Use here *[UP]* and *[DOWN]* to set the values for time, date and the day of the week and confirm each set value with *[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

COUNTDOWN mode

In this mode, the device projects a linked text (*'t-01'* … *'t-09'*) after a programmed countdown time onto a surface.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to open the *'Cnt'* menu and confirm with *[ENTER]*.

Use *[UP]* and *[DOWN]* to set the desired time in a range from *'0'* … *'9999'* and confirm with *[ENTER]*. To return to the main menu without making changes, press *[MENU]*.

SLAVE mode

In this mode, the device exactly follows the operation of the master it is connected to.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to open the *'SLA'* menu and confirm with *[ENTER]*.

The display shows *'SLAV'*, the unit is now in Slave mode. When the display flashes, no master is connected.

To return to the main menu without making changes, or to change back to an active operating mode, press *[MENU]*.

DMX mode

In this mode the device is controlled via a DMX controller.

Press *[MENU]* to open the main menu.

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to open the *'SLA'* menu and confirm with *[ENTER]*.

The display shows *'d001'*, the unit is now controlled via DMX channel 1. When the display flashes, no controller is connected.

To return to the main menu without making changes, press *[MENU]*.

7.5 Setting DMX channel

Switch to the DMX mode. The display shows *'d001'*.

Press *[ENTER]*. The display shows *'001'*. Use *[UP]* and *[DOWN]* to set the desired DMX address in a range from *'001'* … *'492'* and confirm with *[ENTER]*.

To return to the parent menu without making changes, press *[MENU]*.

7.6   Functions in DMX mode

Channel	Value	Function
1	Operating mode selection	
	0 … 9	Laser off
	10 … 49	Auto mode
	50 … 99	Sound mode
	100 … 149	Text mode
	150 … 199	Selecting first pattern
	200 … 255	Selecting second pattern
2	Auto mode, channel 1 = 10 … 79	
	0 … 29	AUTO1
	30 … 59	AUTO2

Channel	Value	Function
	60 … 89	AUTO3
	90 … 119	AUTO4
	120 … 149	AUTO5
	150 … 179	AUTO6
	180 … 209	AUTO7
	210 … 239	AUTO8
	240 … 255	AUTO9
	Sound mode, channel 1 = 80 … 150	
	0 … 29	MUSIC1
	30 … 59	MUSIC2
	60 … 89	MUSIC3
	90 … 119	MUSIC4

Channel	Value	Function
	120 … 149	MUSIC5
	150 … 179	MUSIC6
	180 … 209	MUSIC7
	210 … 239	MUSIC8
	240 … 255	MUSIC9
	Pattern mode, channel 1 = 151 … 255	
	0 … 31	Pattern group 1
	32 … 63	Pattern group 2
	64 … 95	Pattern group 3
	96 … 127	Pattern group 4
	128 … 159	Pattern group 5
	160 … 191	Pattern group 6

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Channel	Value	Function
	192 … 223	Pattern group 7
	224 … 255	Pattern group 8
3	Pattern selection, channel 1 = 151 … 255, channel 2 = 0 … 255	
	0 … 255	Patterns 1 to 16 of the respectively selected group of channel 2 (16 patterns x 8 groups = 128 patterns)
4	Colour selection	
	0 … 7	automatic
	8 … 15	Red
	16 … 23	Green
	24 … 31	Red + green = yellow
	32 … 39	Blue
	40 … 47	Red + blue = purple
	48 … 57	Green + blue = cyan

Channel	Value	Function
	58 … 63	Red + green + blue = white
	64 … 111	Single colour conversion
	112 … 159	Multi-coloured motion above and below, increasing speed
	160 … 207	Multi-coloured motion left to right, increasing speed
	208 … 255	Strobe effect, increasing speed
5	Drawing of pattern (clipping)	
	0	Original pattern, no Clipping effect
	1 … 127	Build-up of patterns 0 % to 99 %
	128 … 255	Clipping effect speed from slow to fast
6	Zoom	
	0 … 127	100 % to 5 % zoom effect of patterns
	128 … 169	Zoom out

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Channel	Value	Function
	170 … 209	Zoom in
	210 … 255	Zoom in / out loop
7	Zoom speed	
	0 … 255	Zoom effect speed from slow to fast
8	Y axis rotation	
	0 … 127	Fixed adjusted position of Y-axis
	128 … 191	Y-axis rotation clockwise
	192 … 255	Y-axis rotation counter-clockwise
9	Rotation speed of Y-axis	
	0 … 255	Rotation speed of Y-axis from slow to fast
10	X axis rotation	
	0 … 127	Fixed adjusted position of X-axis

Channel	Value	Function
	128 … 191	X-axis rotation clockwise
	192 … 255	X-axis rotation counter-clockwise
11	Rotation speed of X-axis	
	0 … 255	Rotation speed of X-axis from slow to fast
12	Z axis rotation	
	0 … 127	Fixed adjusted position of Z-axis
	128 … 191	Z-axis rotation clockwise
	192 … 255	Z-axis rotation counter-clockwise
13	Rotation speed of Z-axis	
	0 … 255	Rotation speed of Z-axis from slow to fast
14	X axis moving	
	0 … 127	Fixed adjusted position of X-axis

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Channel	Value	Function
	128 … 191	Rotation around X-axis clockwise
	192 … 255	Rotation around X-axis counter-clockwise
15	Motion speed on X-axis	
	0 … 255	Motion speed on X-axis from slow to fast
16	Y axis moving	
	0 … 127	Fixed adjusted position of Y-axis
	128 … 191	Rotation around Y-axis clockwise
	192 … 255	Rotation around Y-axis counter-clockwise
17	Motion speed on Y-axis	
	0 … 255	Motion speed on Y-axis from slow to fast
18	Wave effect	
	0 … 255	Increasing wave size

Channel	Value	Function
19	Wave effect	
	0 … 255	Increasing wave frequency
20	Wave effect	
	0 … 127	Wave position
	128 … 255	Wave motion speed from slow to fast

7.7   Operating via keyboard

The functions of the device can also be controlled via the supplied keyboard. The following tables show the key layout in the different operating modes.

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General functions

Button	Symbol	Function
Windows®	⊞	Start key, opens the main menu ().
		Use the arrow keys ↑ and ↓ to switch between the menu options. Confirm to open a subordinate menu and to activate a selection with *[Enter]*.

Functions in AUTO mode

| Button	Symbol	Function
[Pause]	❚❚	Stops the running program in the motion of the currently projected pattern. Press the button again to let the programme continue.
[RGB | Color]	RGB	Manual change between the fixed colours red, green, yellow, blue, pink and white during the current projection.
[Mirror]	◀▮▶	Mirroring of the X-axis and the Y-axis. Each time you press a level is mirrored.

Functions in SOUND mode

Button	Symbol	Function
[Pause]	‖	Stops the running program in the motion of the currently projected pattern. Press the button again to let the programme continue.
[RGB | Color]	RGB	Manual change between the fixed colours red, green, yellow, blue, pink and white during the current projection.
[Mirror]	◊	Mirroring of the X-axis and the Y-axis. Each time you press a level is mirrored.

Functions in TEXT mode

Button	Symbol	Function
[Flow]	≪	Enables the Marquee function: the entered text will be projected circumferentially. With the arrow buttons ↑ and ↓ you can adjust the scrolling speed. Press the button again to deactivate the function.
[RGB | Color]	RGB	Manual change between the fixed colours red, green, yellow, blue, pink and white during the current projection.

Button	Symbol	Function
[Draw]	◣	Enables the Animation function: the individual letters of the entered text are being 'written' in succession on the projection surface. With the arrow buttons ↑ and ↓ you can adjust the animation. Press the button again to deactivate the function.
[Zoom]	▣	Activates the Zoom function: the entered text is zoomed out, disappears and is zoomed out again. With the arrow buttons ↑ and ↓ you can adjust the zoom speed. Press the button again to deactivate the function.
[X Move]	⊡	Activates the motion in the X direction: the entered text moves from right to left and back. With the arrow buttons ↑ and ↓ you can adjust the motion speed. Press the button again to deactivate the function.
[Y Move]	⊡	Activates the motion in the Y direction: the entered text moves up from below and back. With the arrow buttons ↑ and ↓ you can adjust the motion speed. Press the button again to deactivate the function.

Button	Symbol	Function
[X Roll]		Activates the rolling motion with stationary X-axis: the entered text rolls in the Y-axis. With the arrow buttons ↑ and ↓ you can adjust the motion speed. Press the button again to deactivate the function.
[Y Roll]		Activates the rolling motion with stationary Y-axis: the entered text rolls in the X-axis. With the arrow buttons ↑ and ↓ you can adjust the motion speed. Press the button again to deactivate the function.
[Z Roll]		Activates the rolling motion in the Z-axis: the entered text performs a clockwise circular motion on the projection surface. With the arrow buttons ↑ and ↓ you can adjust the motion speed. Press the button repeatedly to reverse the direction of the circular motion or to disable the function.
[Wave]		No function
[Text Qty.]		No function
[Play Time]		No function
[Mirror]		Mirroring of the X-axis and the Y-axis. Each time you press a level is mirrored.

Button	Symbol	Function
[Del]	🧹	Delete key. Use this button to delete the text of the open program.
[Back Space]		Delete key. Use this button to delete the last character of the entered text.
[Home]		No function
[End]		No function
[Save]	💾	Store button. Use this key to store the entered text in the open pro-gramme location (1 … 9). The entered text is now saved on the disk space.
[Play]	▶	No function
[Loop playback]	⏎	Loop key. This key allows the endless loop playback of the text stored under *'t-01'* … *'t-09'*.
[PgUP]	↑	Browse key. Activates the previous program location where text is saved.

Button	Symbol	Function
[PgDN]	↓	Browse key. Activates the next program location where text is saved.
[Pause]	❚❚	Stops the running program in the motion of the currently projected pattern. Press the button again to let the programme continue.

7.8 Menu diagram
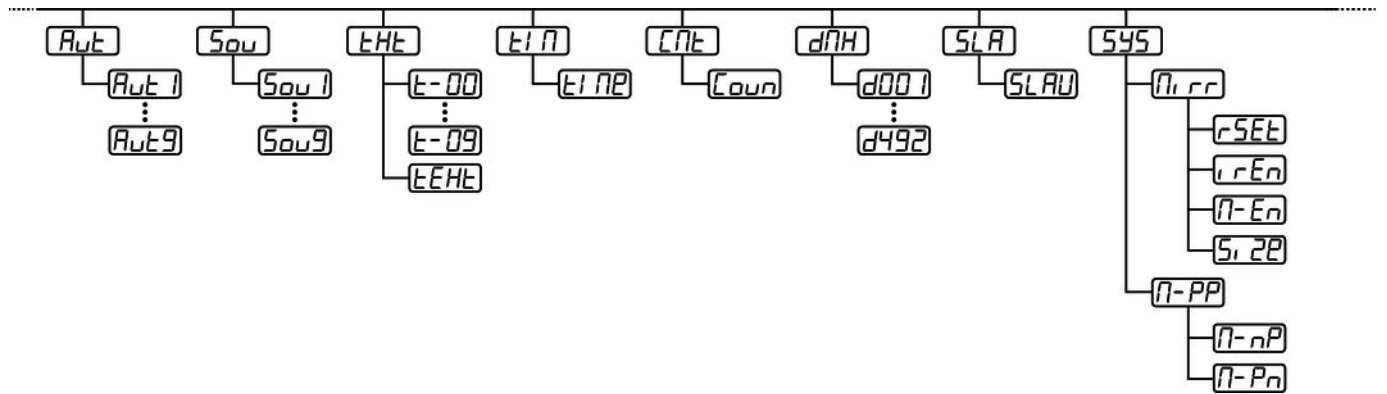
7.9 Resetting to factory defaults

To reset the device to factory default settings, open the SYSTEM menu (see), select the menu item *'rSET'* and confirm with *[ENTER]*. All settings are reset immediately without prompting.

8 Technical specifications

Laser medium	Red: 638 nm (typical), LD
	Green: 532 nm (typical), LD
	Blue: 450 nm (typical), LD
Laser power	Red: 200 mW
	Green: 200 mW
	Blue: 600 mW
Laser classification acc. to EN 60825-1 2015	4
Beam diameter at aperture	5 mm
Divergence (each beam)	< 2 mrad
Divergence (total light)	< 90°
Deflection angle	1 … 36°
Number of DMX channels	20

Operating supply voltage	100 … 240 V ∼ 50/60 Hz
Power consumption	25 W
Fuse	5 mm × 20 mm, 1,6 A, 250 V, slow-blow
Dimensions (W × H × D)	291 mm × 120 mm × 200 mm (without bracket)
	291 mm × 210 mm × 200 mm (with bracket)
Weight	3.6 kg

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9 Plug and connection assignment

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')

ILDA interface

You can connect laser control units, that generate signals as standardized by the International Laser Display Association to the ILDA input. The ILDA output of the unit can be connected to other laser devices.

The ILDA interfaces are designed as 25-pin D-sub connectors. The drawing and table below show the pin assignment.
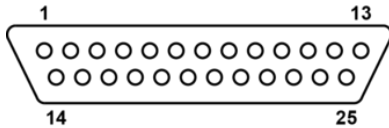
1	X+
2	Y+
3	Intensity+
4	Locking (Interlock) A
5	R+
6	G+
7	B+
8	User-defined signal 1+
9	User-defined signal 2+
10	User-defined signal 3+

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11	User-defined signal 4+
12	Return signal from the unit
13	Shutter
14	X–
15	Y–
16	Intensity–
17	Locking (Interlock) B
18	R–
19	G–
20	B–
21	User-defined signal 1–
22	User-defined signal 2–
23	User-defined signal 3–

24	User-defined signal 4–
25	Ground

10 Troubleshooting

> **DANGER!**
> **Laser radiation inside**
> Follow the instructions in the chapter titled "Safety Instructions" in this manual.
>
> Only qualified personnel may carry out service work on the (open) device.
>
> Suitable laser protection glasses are required for any activities at the device.

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

Symptom	Remedy
Device not working, no light, fan not working.	1. Check the power connection and main fuse.
	2. Check the safety key switch.
	3. Check the external safety switch (e.g. emergency stop).
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 to see if they are properly linked.
	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 the DMX interface circuit.
No response to the remote control	1. Check to see that the unit is in operation mode 'Remote Control'. The display has to show `r E n`.

Symptom	Remedy
	2. Try using the remote control at a different angle to the IR sensor on the front panel of the device. If the device receives a signal from the remote control the '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

> **DANGER!**
> **Laser radiation**
> Follow the instructions in the chapter titled "Safety Instructions" in this manual.
>
> To avoid laser emission, remove the safety key before you start to clean 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.

12 Protecting the environment

Disposal of the packaging material

For the transport and protective 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 these materials with your normal household waste, but make sure that they are fed to a recovery. Please follow the notes and markings on the packaging.

Disposal of batteries

Batteries must not be disposed of as domestic waste or thrown into fire. Dispose of the batteries according to national or local regulations regarding hazardous waste. To protect the environment, dispose of empty batteries at your retail store or at appropriate collection sites.

Disposal of your old device

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

Dispose 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.

Notes

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Notes