VARYTEC

Star Shot Laser FX

LED effect

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1 General information

This user manual contains important information on the safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to another user, be sure that they also receive this manual.

Our products and user manuals are subject to a process of continuous development. We therefore reserve the right to make changes without notice. Please refer to the latest version of the user manual which is ready for download under *www.thomann.de*.

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'* .

Instructions

The individual steps of an instruction are numbered consecutively. The result of a step is indented and highlighted by an arrow.

Example:

1. ▶ Switch on the device.

2. ▶ Press *[Auto]*.

    ⇨ Automatic operation is started.

3. ▶ Switch off the device.

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 signs	Type of danger
⚠	Warning – dangerous optical radiation.
⚠	Warning – suspended load.
⚠	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended for use as an electronic lighting effect by means of LED technology and for the projection of laser light effects. The device is designed for professional use and is not suitable for use in households. 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

It is based on DIN EN 60825-1: 2015. The corresponding accident prevention regulation of the professional association in Germany is BGV-B2.

This device uses a class-3R laser. It is equipped with a safety key and a connection for an external safety switch. Always remove the safety 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 before use.

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 uses a class-3R 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 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!
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.

Only operate the device within the ambient conditions specified in the chapter 'Technical specifications' of this user manual. Avoid heavy temperature fluctuations and do not switch the device on immediately after it was exposed to temperature fluctuations (for example after transport at low outside temperatures).

Dust and dirt inside can damage the unit. When operated in harmful ambient conditions (dust, smoke, nicotine, fog, etc.), the unit should be maintained by qualified service personnel at regular intervals to prevent overheating and other malfunction.

!

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 damage due to installation of a wrong fuse

The use of different types of fuses can cause serious damage to the unit. Fire hazard!

Only fuses of the same type may be used.

3　Features

The device features a unique combination of laser and LED effects.

- Laser configuration:
    - Red (650 nm), 100 mW
    - Green (532 nm), 30 mW
- LED configuration:
    - Wash effect: 4 LEDs (1 × red, 1 × green, 1 × blue, 1 × UV, 1 W each)
    - Flower effect: 84 LEDs (24 × red, 18 × green, 18 × blue, 24 × amber, 0.75 W each)
    - Strobe effect: 12 LEDs (12 × white, 0.5 W each)
- Control via DMX (3, 5, 12, 19 or 32 channels, depending on operation mode), buttons and display on the unit as well as the supplied remote control
- Preprogrammed automatic shows
- Sound control
- Stand-alone mode
- Master / Slave mode
- Strobe effect
- Built-in fan

For technological reasons, the light output of LEDs decreases over their lifetime. This effect increases with higher operating temperature. You can extend the service life of the illuminants by providing adequate ventilation and operating the LEDs with the lowest possible brightness.

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.

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.

Minimum height
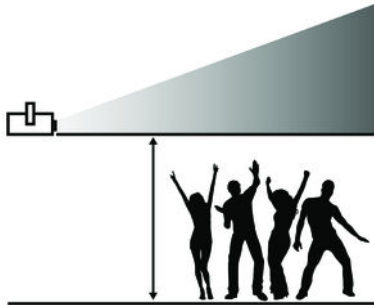
In order to meet the limits for maximum irradiation (MZB limit value for the non-hazardous irradiation of the eye or the skin with a laser), the device must be installed at a height of at least 2.7 m according to the BGV-B2 valid in Germany.

The determination of the MZB limit values depends on the specific environmental conditions in individual cases and must be carried out by the responsible laser protection representative on site, 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.

> **!** **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.

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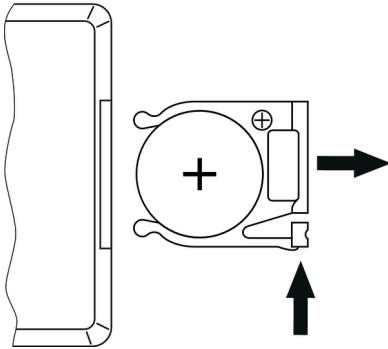
NOTICE!
Possible damage by leaking batteries
Leaking batteries can cause permanent damage to the device.

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.

Please note that this device must not be connected to a dimmer.

5 Connections and controls
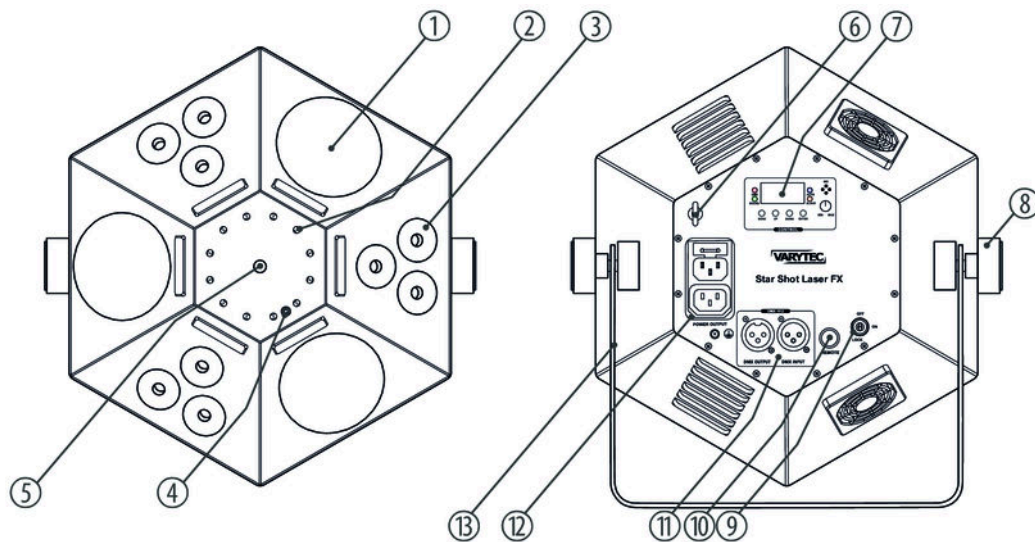
	1	LEDs for the Flower effect.
	2	LEDs for the strobe effect.
	3	LEDs for the Wash effect.
	4	Infra red sensor for the remote control.
	5	Laser aperture.
	6	Safety cable eyelet.
	7	Display and control buttons:
		[MENU]
		Activates the main menu and toggles between menu items. Closes an opened sub menu.
		[ENTER]
		Selects an option of the respective operating mode, confirms the set value.
		[UP]
		Increases the displayed value by one.

[DOWN]

Decreases the displayed value by one.

[DMX]

The LED indicates that a signal is present at the DMX input.

[SOUND]

The LED lights up when the built-in microphone for the sound control detects a signal.

[AUTO]

The LED lights up when an automatic show is running.

[SLAVE]

The LED indicates that the device is in 'Slave' mode.

[MIC]

Microphone for sound control.

[MIN/MAX]

Controller for the sensitivity of the built-in microphone.

8	Locking screws for the mounting bracket.
9	*[LOCK]* Safety key switch: switches the laser output on or off.
10	*[REMOTE]* Connection for optional remote safety switch (emergency stop). An adapter for safety switches equipped with phone jacks is included in the delivery.
11	*[DMX INPUT]* DMX input. *[DMX OUTPUT]* DMX output.
12	*[FUSE]* Fuse holder.

13	*[POWER]*
	IEC chassis plug for power supply with fuse holder. Should the fuse have blown, disconnect the unit from the power supply and replace the fuse with a new fuse of the same type.
	[POWER OUTPUT]
	IEC chassis socket for the power supply of further devices.

Remote control
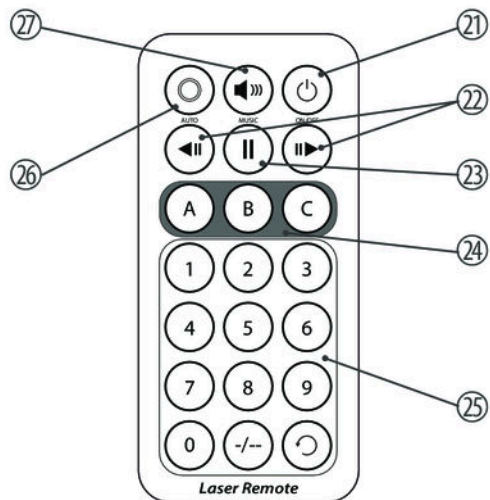
21	Main switch, turns the device on and off.
22	Colour change, forward or backward.
23	Pause
24	▪ A: Wash effect ▪ B: Flower effect ▪ C: Laser effect
25	Numeric buttons to set the progress speed (0: slow, 9: fast)
26	Activates the 'Automatic' mode (playback of preprogrammed automatic shows).
27	Activates the 'Sound-control' mode (playback of sound-controlled automatic shows).

6 Operating

6.1 Switching the device on / off

Switching 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 to the *[REMOTE]* connection (e.g. an emergency stop button) or another equivalent device with protection function.

3. ▶ Insert the safety key into the lock.

4. ▶ If not already done, connect the device to the mains. After a few seconds, the fan and the motors start to work. The display shows the current operation mode. The device is now operational.

5. ▶ Turn the safety key to the 'ON' position to turn the laser beam on.

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. ▶ Disconnect the device from the mains.

6.2 Main menu

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

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select one of the following menu items: *'Aut'*, *'Sou'*, *'CoL'*, *'dNH'*, *'SLA'* or *'SYS'*. Press *[ENTER]* to open the selected 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.

Menu Auto

In this menu, you can select an automatic show that optionally controls the laser, the wash effect LEDs, the flower effect LEDs, the stroboscope LEDs, or a combination of all.

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

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select the menu item *'Aut'* and confirm with *[ENTER]*. The display shows *'Aut'*; confirm with *[ENTER]*. Use *[UP]* and *[DOWN]* to select a show group and confirm with *[ENTER]*. Within this show group, use *[UP]* and *[DOWN]* to select a show.

To adjust the progress speed, press *[ENTER]*. With *[UP]* and *[DOWN]* you can select a value between *'S.01'* (slow) and *'S.99'* (fast).

Show group	Elements used	Value range
'AutP'	Wash effect LEDs	AP01 … AP08
'Autb'	Flower effect LEDs	Ab01 … Ab10
'AutL'	Laser	AL01 … AL06
'AutF'	Circularly arranged stroboscope LEDs	AF01 … AF10
'AutN'	All	AN01 … AN08

Menu sound

In this menu, you can select a sound-controlled automatic show that optionally controls the laser, the wash effect LEDs, the flower effect LEDs, the stroboscope LEDs, or a combination of all.

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

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select the menu item *'Sou'* and confirm with *[ENTER]*. The display shows *'Sou'*; confirm with *[ENTER]*. Use *[UP]* and *[DOWN]* to select a show group and confirm with *[ENTER]*. Within this show group, use *[UP]* and *[DOWN]* to select a show and confirm again with *[ENTER]*.

Show group	Elements used	Value range
'SouP'	Wash effect LEDs	SP01 … SP08
'Soub'	Flower effect LEDs	Sb01 … Sb10
'SouL'	Laser	SL01 … SL06
'SouF'	Circularly arranged stroboscope LEDs	SF01 … SF10
'SouN'	All	SN01 … SN08

Menu colour

In this menu you can adjust the colour of the LEDs for the wash effect. In addition, a strobo-scope effect can be activated for these LEDs.

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

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select the menu item *'CoL'* and confirm with *[ENTER]*. The display shows *'Colo'*; confirm with *[ENTER]*.

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

Parameter	Meaning
'r.000' … 'r.255'	Intensity red
'G.000' … 'G.255'	Intensity green
'b.000' … 'b.255'	Intensity blue
'u.000' … 'u.255'	Intensity UV
'S.0' … 'S.100'	Stroboscope effect, increasing speed

Operating mode DMX

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 select the menu item *'dNH'* and confirm with *[ENTER]*.

The display shows *'d1'*; confirm with *[ENTER]*. Use *[UP]* and *[DOWN]* to select a DMX mode: 3-channel (*'3Ch'*), 5-channel (*'5Ch'*), 11-channel (*'11Ch'*) or 28-channel (*'28Ch'*) and confirm with *[ENTER]*. Now you can set the number of the first DMX channel to be used by the device (DMX address). Use *[UP]* and *[DOWN]* to select a value between 1 and 512 (the display shows *'d001'* … *'d512'*). Confirm with *[ENTER]*.

Make sure that this number matches the configuration of your DMX controller. The following table shows the highest possible DMX address for the various DMX modes.

Mode	Highest possible DMX address
3-channel	510
5-channel	508
11-channel	502
28-channel	485

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

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

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

Press repeatedly *[MENU]* or *[UP]* and *[DOWN]* to select the menu item *'SLA'* 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]*.

Menu system

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]*.

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

Parameter	Meaning	Value range
'LEdS'	Automatic display blackout	ON, OFF
'LEDr'	Display rotation for overhead mounting	ON, OFF
'tESt'	Starts a self-test. To stop it, press *[MENU]*	
'rESt'	Reset to factory defaults.	

6.3 Menu overview
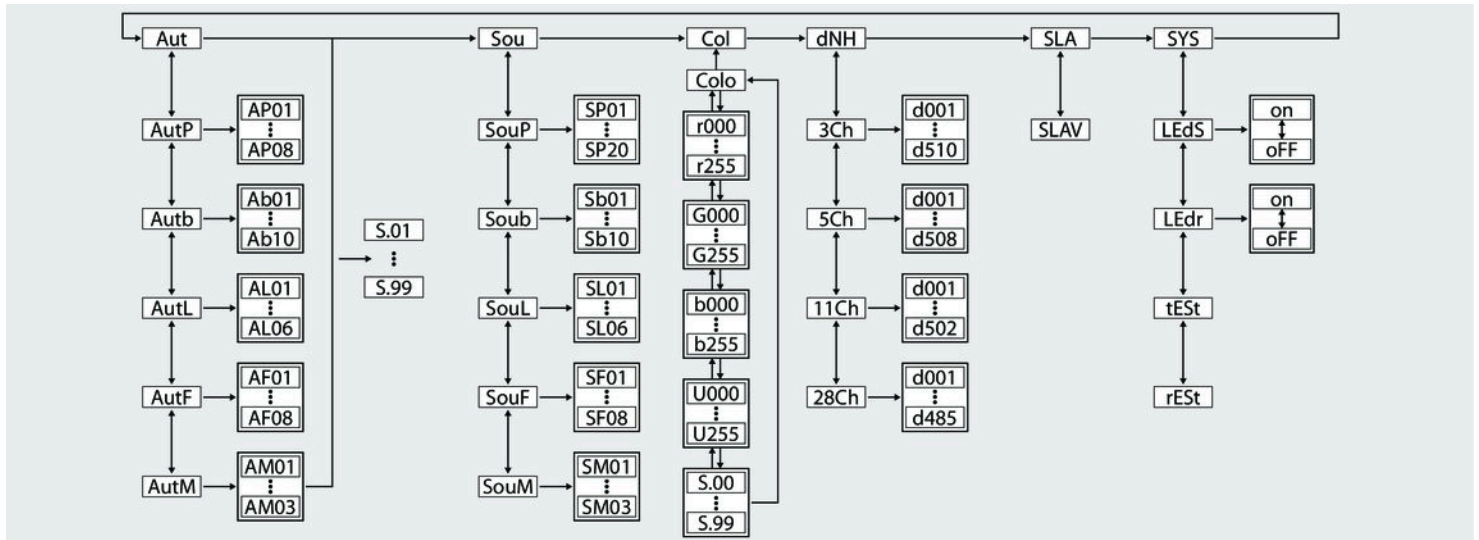
6.4 Functions in 3-channel DMX mode

Channel	Value	Function
1	Element selection for preprogrammed automatic show	
	0…5	Blackout
	6…55	Wash effect LEDs
	56…105	Flower effect LEDs
	106…155	Laser
	156…205	Circularly arranged stroboscope LEDs
	206…255	All
2	Selecting a preprogrammed automatic show	
	Show for the Wash effect LEDs, if channel 1 = 6…55	
	0…5	LEDs off (blackout)
	6…32	Automatic show 1

Channel	Value	Function
	33…64	Automatic show 2
	65…96	Automatic show 3
	97…128	Automatic show 4
	129…160	Automatic show 5
	161…192	Automatic show 6
	193…224	Automatic show 7
	225…255	Automatic show 8
Show for the Flower effect LEDs, if channel 1 = 56…105		
	0…5	LEDs off (blackout)
	6…30	Automatic show 1
	31…55	Automatic show 2
	56…80	Automatic show 3
	81…105	Automatic show 4

Channel	Value	Function
	106…130	Automatic show 5
	131…155	Automatic show 6
	156…180	Automatic show 7
	181…205	Automatic show 8
	206…230	Automatic show 9
	231…255	Automatic show 10
	Show for the laser, if channel 1 = 106…155	
	0…5	Laser off (blackout)
	6…46	Automatic show 1
	47…88	Automatic show 2
	89…130	Automatic show 3
	131…172	Automatic show 4
	173…214	Automatic show 5

Channel	Value	Function
	215…255	Automatic show 6
	Show for the circularly arranged LEDs, if channel 1 = 156…205	
	0…5	LEDs off (blackout)
	6…32	Automatic show 1
	33…64	Automatic show 2
	65…96	Automatic show 3
	97…128	Automatic show 4
	129…160	Automatic show 5
	161…192	Automatic show 6
	193…224	Automatic show 7
	225…255	Automatic show 8
	Show for all elements, if channel 1 = 206…255	
	0…5	All off (blackout)

Channel	Value	Function
	6…85	Automatic show 1
	86…170	Automatic show 2
	171…255	Automatic show 3
3	0…250	Progress speed of the selected show, slow to fast
	251…255	Sound control for the selected show.

6.5 Functions in 5-channel DMX mode

Channel	Value	Function
1		Selecting a preprogrammed automatic show for the Wash effect LEDs
	0…5	LEDs off (blackout)
	6…32	Automatic show 1

Channel	Value	Function
	33…64	Automatic show 2
	65…96	Automatic show 3
	97…128	Automatic show 4
	129…160	Automatic show 5
	161…192	Automatic show 6
	193…224	Automatic show 7
	225…255	Automatic show 8
2		Selecting a preprogrammed automatic show for the Flower effect LEDs
	0…5	LEDs off (blackout)
	6…30	Automatic show 1
	31…55	Automatic show 2
	56…80	Automatic show 3
	81…105	Automatic show 4

Channel	Value	Function
	106…130	Automatic show 5
	131…155	Automatic show 6
	156…180	Automatic show 7
	181…205	Automatic show 8
	206…230	Automatic show 9
	231…255	Automatic show 10
3		Selecting a preprogrammed automatic show for the Laser
	0…5	Laser off (blackout)
	6…46	Automatic show 1
	47…88	Automatic show 2
	89…130	Automatic show 3
	131…172	Automatic show 4
	173…214	Automatic show 5

Channel	Value	Function
	215…255	Automatic show 6
4	Selecting a preprogrammed automatic show for the circularly arranged stroboscope LEDs	
	0…5	LEDs off (blackout)
	6…32	Automatic show 1
	33…64	Automatic show 2
	65…96	Automatic show 3
	97…128	Automatic show 4
	129…160	Automatic show 5
	161…192	Automatic show 6
	193…224	Automatic show 7
	225…255	Automatic show 8
5	0…250	Progress speed of the selected shows, slow to fast
	251…255	Sound control for the selected show.

6.6 Functions in 11-channel DMX mode

Channel	Value	Function
Settings for the Wash effect LEDs		
1	0…255	Intensity red (0 % to 100 %)
2	0…255	Intensity green (0 % to 100 %)
3	0…255	Intensity blue (0 % to 100 %)
4	0…255	Intensity UV (0 % to 100 %)
5	0…100	Dimmer
	101…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
Settings for the Flower effect LEDs		
6	0…5	LEDs off (blackout)
	6…18	Red

Channel	Value	Function
	19…32	Green
	33…46	Blue
	47…60	Amber
	61…74	Red + green
	75…88	Red + blue
	89…102	Red + amber
	103…116	Green + blue
	117…130	Green + amber
	131…144	Blue + amber
	145…158	Red + green + blue
	159…172	Red + green + amber
	173…186	Red + blue + amber
	187…200	Green + blue + amber

Channel	Value	Function
	201…214	Red + green + blue + amber
	215…228	Colour change 1
	229…242	Colour change 2
	243…255	Colour change 3
7	Strobe effect, If channel 6 = 6…214	
	0…5	No strobe effect
	6…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
	Speed of colour change, if channel 6 = 215…255	
	0…250	Increasing speed
	251…255	Sound-controlled colour change
Laser settings		
8	Colour effect selection	

Channel	Value	Function
	0…5	Laser off (blackout)
	6…48	Red
	49…89	Green
	90…131	Red + green
	132…173	Red flash + green
	174…215	Green flash + red
	216…255	Red flash + green flash
9	Strobe effect	
	0…5	No strobe effect
	6…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
10	Rotation of laser projection axis	
	0	No rotation

Channel	Value	Function
	1…127	Clockwise rotation, speed increasing
	128	No rotation
	129…255	Counter-clockwise rotation, speed increasing
Settings for the circularly arranged stroboscope LEDs		
11	0…5	LEDs off (blackout)
	6…10	LEDs on
	11…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect

6.7 Functions in 28-channel DMX mode

Channel	Value	Function
Settings for Wash effect module 1		
1	0…255	Intensity red (0 % to 100 %)
2	0…255	Intensity green (0 % to 100 %)
3	0…255	Intensity blue (0 % to 100 %)
4	0…255	Intensity UV (0 % to 100 %)
5	0…100	Dimmer
	101…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
Settings for Wash effect module 2		
6	0…255	Intensity red (0 % to 100 %)
7	0…255	Intensity green (0 % to 100 %)

Channel	Value	Function
8	0…255	Intensity blue (0 % to 100 %)
9	0…255	Intensity UV (0 % to 100 %)
10	0…100	Dimmer
	101…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
Settings for Wash effect module 3		
11	0…255	Intensity red (0 % to 100 %)
12	0…255	Intensity green (0 % to 100 %)
13	0…255	Intensity blue (0 % to 100 %)
14	0…255	Intensity UV (0 % to 100 %)
15	0…100	Dimmer
	101…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect

Channel	Value	Function
Settings for Flower effect LED 1		
16	0…5	LED off (blackout)
	6…18	Red
	19…32	Green
	33…46	Blue
	47…60	Amber
	61…74	Red + green
	75…88	Red + blue
	89…102	Red + amber
	103…116	Green + blue
	117…130	Green + amber
	131…144	Blue + amber
	145…158	Red + green + blue

Channel	Value	Function
	159…172	Red + green + amber
	173…186	Red + blue + amber
	187…200	Green + blue + amber
	201…214	Red + green + blue + amber
	215…228	Colour change 1
	229…242	Colour change 2
	243…255	Colour change 3
17	Strobe effect, If channel 16 = 6…214	
	0…5	No strobe effect
	6…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
	Speed of colour change, if channel 16 = 215…255	
	0…250	Increasing speed

Channel	Value	Function
	251…255	Sound-controlled colour change
Settings for Flower effect LED 2		
18	0…5	LED off (blackout)
	6…18	Red
	19…32	Green
	33…46	Blue
	47…60	Amber
	61…74	Red + green
	75…88	Red + blue
	89…102	Red + amber
	103…116	Green + blue
	117…130	Green + amber
	131…144	Blue + amber

Channel	Value	Function
	145…158	Red + green + blue
	159…172	Red + green + amber
	173…186	Red + blue + amber
	187…200	Green + blue + amber
	201…214	Red + green + blue + amber
	215…228	Colour change 1
	229…242	Colour change 2
	243…255	Colour change 3
19	Strobe effect, If channel 18 = 6…214	
	0…5	No strobe effect
	6…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
	Speed of colour change, if channel 18 = 215…255	

Channel	Value	Function
	0…250	Increasing speed
	251…255	Sound-controlled colour change
Settings for Flower effect LED 3		
20	0…5	LED off (blackout)
	6…18	Red
	19…32	Green
	33…46	Blue
	47…60	Amber
	61…74	Red + green
	75…88	Red + blue
	89…102	Red + amber
	103…116	Green + blue
	117…130	Green + amber

Channel	Value	Function
	131…144	Blue + amber
	145…158	Red + green + blue
	159…172	Red + green + amber
	173…186	Red + blue + amber
	187…200	Green + blue + amber
	201…214	Red + green + blue + amber
	215…228	Colour change 1
	229…242	Colour change 2
	243…255	Colour change 3
21	Strobe effect, If channel 20 = 6…214	
	0…5	No strobe effect
	6…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect

Channel	Value	Function
	Speed of colour change, if channel 20 = 215…255	
	0…250	Increasing speed
	251…255	Sound-controlled colour change
Laser settings		
22	Colour effect selection	
	0…5	Laser off (blackout)
	6…48	Red
	49…89	Green
	90…131	Red + green
	132…173	Red flash + green
	174…215	Green flash + red
	216…255	Red flash + green flash
23	Strobe effect	

Channel	Value	Function
	0…5	No strobe effect
	6…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect
24	Rotation of laser projection axis	
	0	No rotation
	1…127	Clockwise rotation, speed increasing
	128	No rotation
	129…255	Counter-clockwise rotation, speed increasing
Settings for the circularly arranged stroboscope LEDs		
25	0…5	LEDs off (blackout)
	6…10	LEDs on
	11…250	Strobe effect, increasing speed
	251…255	Sound-controlled strobe effect

| Channel	Value	Function
26		Element selection for preprogrammed automatic show
	0…5	Blackout
	6…55	Wash effect LEDs
	56…105	Flower effect LEDs
	106…155	Laser
	156…205	Circularly arranged stroboscope LEDs
	206…255	All
Settings for preprogrammed automatic show		
27		Selecting a preprogrammed automatic show
	Show for the Wash effect LEDs, if channel 26 = 6…55	
	0…5	LEDs off (blackout)
	6…32	Automatic show 1
	33…64	Automatic show 2

Channel	Value	Function
	65…96	Automatic show 3
	97…128	Automatic show 4
	129…160	Automatic show 5
	161…192	Automatic show 6
	193…224	Automatic show 7
	225…255	Automatic show 8
	Show for the Flower effect LEDs, if channel 26 = 56…105	
	0…5	LEDs off (blackout)
	6…30	Automatic show 1
	31…55	Automatic show 2
	56…80	Automatic show 3
	81…105	Automatic show 4
	106…130	Automatic show 5

Channel	Value	Function
	131…155	Automatic show 6
	156…180	Automatic show 7
	181…205	Automatic show 8
	206…230	Automatic show 9
	231…255	Automatic show 10
28	0…250	Progress speed of the selected show, slow to fast
	251…255	Sound control for the selected show.

7   Technical specifications
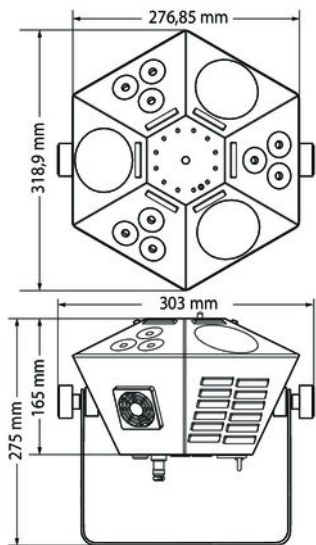
Laser medium		Red: 650 nm (typical)
		Green: 532 nm (typical)
Laser power		Red: 100 mW
		Green: 30 mW
Laser classification acc. to EN 60825-1:2015		3R
Light source	Wash effect	4 × RGBUV LED, 1 W
	Flower effect	84 × RGBA LED, 0.75 W
	Strobe effect	12 × W LED, 0.5 W
Control		DMX
		Infrared remote control
Number of DMX channels		3, 5, 12, 19, 32
Input connections	Voltage supply	IEC chassis plug C14

	DMX control	XLR chassis socket, 3-pin
Output connections	Voltage supply	IEC chassis plug C13
	DMX control	XLR chassis socket, 3-pin
	Emergency stop safety switch (optional) via included adapter	1/4" jack socket
Power consumption		70 W
Supply voltage		100 – 240 V ∼ 50/60 Hz
Fuse		5 mm × 20 mm, 1,6 A, 250 V, slow-blow
Battery remote control	Battery type	Lithium button cell, 3 V, CR 2025
Degree of protection		IP20
Mounting options		Hanging, standing
Dimensions (W × H × D)		280 mm × 170 mm × 230 mm
Weight		3.1 kg

Ambient conditions	Temperature range	0 °C…40 °C
	Relative humidity	50 %, non condensing

Further information

Similar design	Combined device
DMX control	Yes
Master/Slave	Yes
Remote control	Included
Sound control	Yes
Display	Yes

8 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')

9   Troubleshooting

> **!** **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.

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 unit does not work, no light	1. Check the mains connection 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. Check whether the DMX cables run near or parallel to high-voltage cables that may cause damage or interference to a DMX interface circuit.
	3. Try using another DMX controller.
No response to the remote control	1. Try using the remote control at a different angle to the IR sensor on the front panel of the device.
	2. 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*.

10 Cleaning

> ⚠ **DANGER!**
> **Laser radiation**
>
> When cleaning, observe the instructions in the 'Safety instructions' chapter of 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.

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.

11 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) in its currently valid version. 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

Notes