STAIRVILLE

MH-X50+ LED spot

moving head

thomann
MUSIC IS OUR PASSION

user manual

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1 General notes

This user manual contains important information on 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 other users, be sure that they also receive this manual.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

Symbols and signal words

This section provides an overview of the symbols and signal words used in this user 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.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor 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 – hot surface.
	Warning – suspended load.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used as moving-head spotlight. 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.

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.

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.

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.

WARNING!

Risk of burns

The surface of the device can become very hot during operation.

Do not touch the device with bare hands during operation, and after switching off wait for at least 15 minutes.

CAUTION!

Risk of injury due to movements of the device

The head of the device can move quickly (pan, tilt) and can produce very bright light. This is also valid immediately after you turn on the device, when the device operates in automatic mode or under remote control and when you turn off a DMX controller that is connected to the device. Persons staying near the device could be injured or frightened.

Before you turn on the device and during the operation, always ensure that nobody stays close to the device. If work has to be performed in the area of movement or in the near vicinity of the device, it must remain turned off.

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.

3 Features

The moving head is particularly suitable for professional lighting applications, e.g. for events, on rock stages, in theatres, musicals and in nightclubs.

Special features of the device:

- Control via DMX (8 or 14 channels) as well as via keyboard and display on the device
- Built-in auto-show programmes
- Sound control
- Master / slave mode
- Colour wheel with 8 colours plus white, 8 full-colours, 8 split-colours and rainbow effect
- Gobo wheel with 7 indexable and rotatable gobos
- Gobo shake function
- Automatic position correction

4 Installation

Unpack and check carefully 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 on the wall, ceiling or floor.

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.

CAUTION!

Risk of injury due to movements of the device

The head of the device can move quickly (pan, tilt) and can produce very bright light. This is also valid immediately after you turn on the device, when the device operates in automatic mode or under remote control and when you turn off a DMX controller that is connected to the device. Persons staying near the device could be injured or frightened.

Before you turn on the device and during the operation, always ensure that nobody stays close to the device. If work has to be performed in the area of movement or in the near vicinity of the device, it must remain turned off.

NOTICE!

Risk of overheating

The distance between the light output and the illuminated surface must be more than 0.5 m (19.7 in).

Always ensure sufficient ventilation.

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

NOTICE!

Possible damage caused by movements of the device

Always ensure that enough space is free around the device for the movements of the head (pan, tilt).

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 output to audio devices such as mixers or amplifiers.

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 pin assignment.

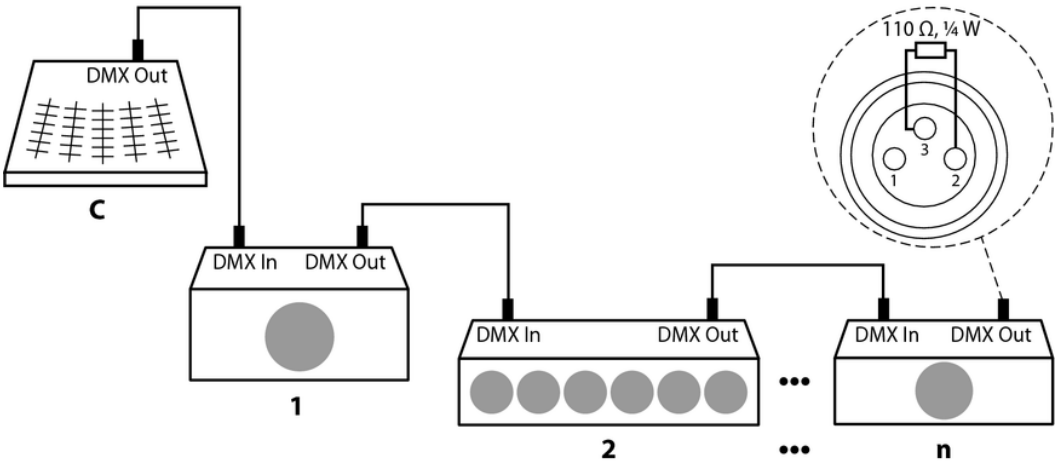
1	Ground, shielding
2	DMX data (–)
3	DMX data (+)

5 Starting up

Establish all connections as long as the unit is switched off. Use the shortest possible high-quality cables for all connections.

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).



DMX indicator

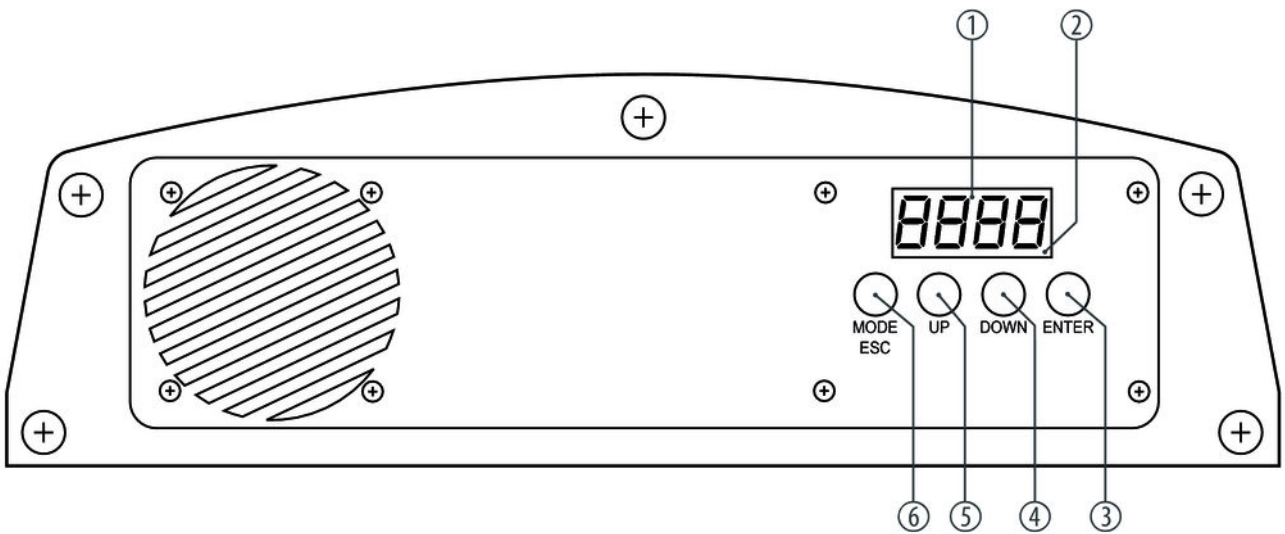
If the device and the DMX controller are in operation, the DMX indicator shows an incoming DMX signal at the input.

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.

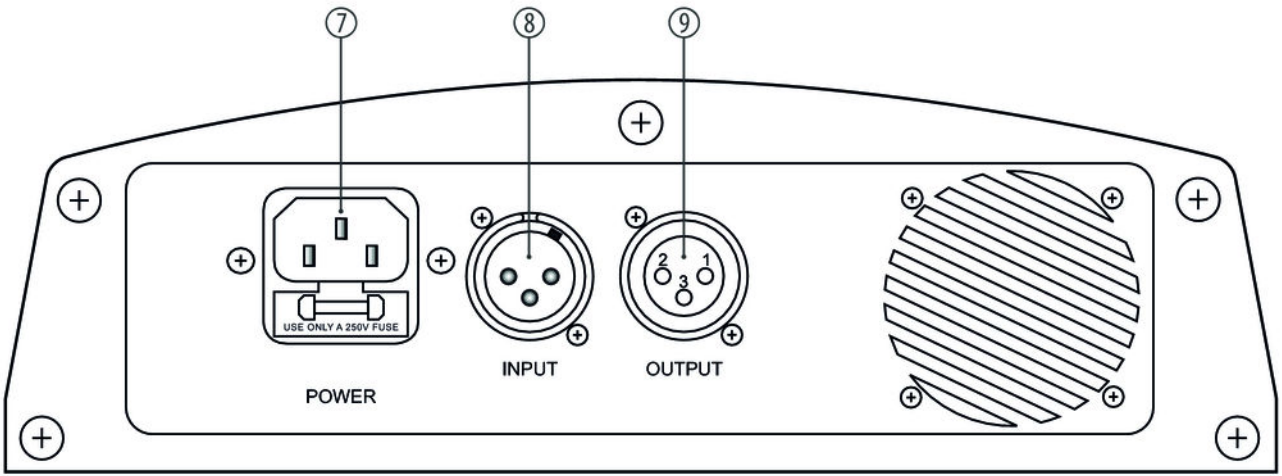
6 Components and functions

Front panel



1	Display
2	DMX indicator The LED indicates an incoming DMX signal.
3	**ENTER** Selects an option of the respective operating mode.
4	**DOWN** Decreases the displayed value by one.
5	**UP** Increases the displayed value by one.
6	**MODE/ESC** Activates the main menu.

Rear panel



7	**POWER** IEC chassis connector with fuse holder
8	**INPUT** DMX input
9	**OUTPUT** DMX output

7 Operating

7.1 Starting up the device

CAUTION!

Risk of injury due to movements of the device

The head of the device can move quickly (pan, tilt) and can produce very bright light. This is also valid immediately after you turn on the device, when the device operates in automatic mode or under remote control and when you turn off a DMX controller that is connected to the device. Persons staying near the device could be injured or frightened.

Before you turn on the device and during the operation, always ensure that nobody stays close to the device. If work has to be performed in the area of movement or in the near vicinity of the device, it must remain turned off.

Connect the device to the mains voltage supply to start the operation. After a few seconds, the fans start to work and the head moves to the starting points for rotation (pan) and inclination (tilt). After a few more seconds, the display shows *'d001'*. Now the device is ready for use.

7.2 Main menu

Press the *[MODE/ESC]* button to activate the main menu and to select a menu item. When the desired menu item appears in the display, confirm the selection using the *[ENTER]* button. The bottom line of the display starts flashing.

Use the *[UP]* and *[DOWN]* buttons to change the currently displayed value. When the display shows the desired value, press *[ENTER]* to confirm. To return to the main menu without changes, press either the *[MODE/ESC]* button or wait for a minute.

All previous settings are saved even when you turn the unit off and disconnect it from the mains. To restart with the default values, use the *'Load default'* function.

DMX address

Repeatedly press the *[MODE/ESC]* button until the display shows *'dxxx'*. Now you can set the number of the first DMX channel used by the device (DMX address). Use the *[UP]* and *[DOWN]* buttons to select a value between 1 and 512.

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

Mode	Highest possible DMX address
8Ch	505
14Ch	499

Operating mode 'Auto-Show'

Repeatedly press the [MODE / ESC] button until the display shows *'NASL'*. Using *[UP]* and *[DOWN]* you can now select one of the pre-programmed shows. Press the *[ENTER]* button to start the operation in the selected operating mode.

Mode	Description
NASL	Pre-programmed show, slow
NAFA	Pre-programmed show, fast
NSt5	Sound control
SLAV	Master / slave mode

Pan reversal

Repeatedly press the *[MODE/ESC]* button until the display shows *'PAN'*. Using *[UP]* and *[DOWN]* you can now choose between *'rPAN'* (reverse rotation direction) and *'PAN'* (normal rotation direction).

When the display shows the desired value, press *[ENTER]*.

Tilt reversal

Repeatedly press the *[MODE/ESC]* button until the display shows *'tit'*. Using *[UP]* and *[DOWN]* you can now choose between *'rtit'* (reverse inclination direction) and *'tit'* (normal inclination direction).

When the display shows the desired value, press *[ENTER]*.

Display reversal

Repeatedly press the *[MODE/ESC]* button until the display shows *'diS'*. Using *[UP]* and *[DOWN]* you can now choose between *'rdis'* (text is displayed upside down) and *'dIS'* (text is displayed normally).

When the display shows the desired value, press *[ENTER]*.

Operating mode 'DMX'

Repeatedly press the *[MODE/ESC]* button until the display shows *'14CH'*. Using *[UP]* and *[DOWN]* you can now select one of the following DMX operating modes: 8 channel or 14 channel. This setting is only relevant when the device is DMX controlled.

When the display shows the desired value, press *[ENTER]*.

Pan range

Repeatedly press the *[MODE/ESC]* button until the display shows *'PA54'*. Using *[UP]* and *[DOWN]* you can now determine the Pan range. Select between *'PA54'* (Pan range = 540°), *'PA36'* (Pan range = 360°) and *'PA18'* (Pan range = 180°).

When the display shows the desired value, press *[ENTER]*.

Tilt range

Repeatedly press the *[MODE/ESC]* button until the display shows *'ti27'*. Using *[UP]* and *[DOWN]* you can now determine the Tilt range. Select between *'ti27'* (Tilt range = 270°), *'ti18'* (Tilt range = 180°) and *'ti 9'* (Tilt range = 90°).

When the display shows the desired value, press *[ENTER]*.

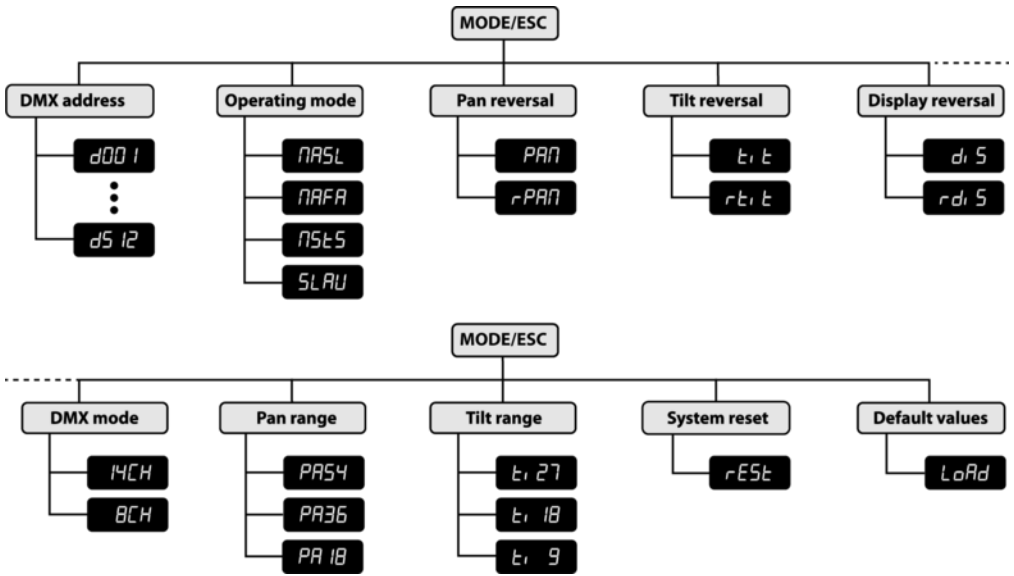
System reset

Repeatedly press the *[MODE/ESC]* button until the display shows *'rESt'*. Press *[ENTER]* to activate a system reset.

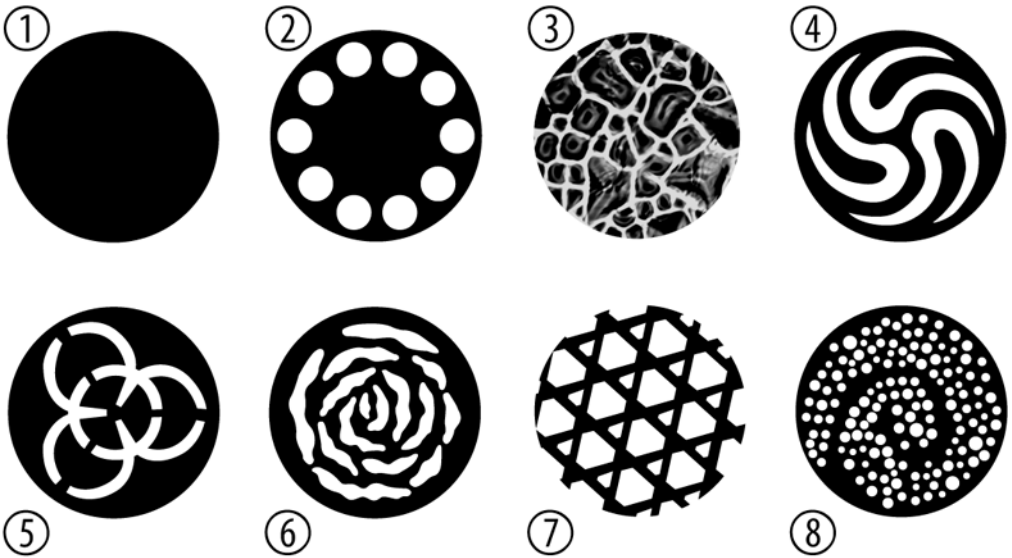
Loading default values

Repeatedly press the *[MODE/ESC]* button until the display shows *'LoAd'*. Press *[ENTER]* to reset all values to the default setting.

7.3 Menu overview



7.4 Gobos



7.5 Functions in 8 channel DMX mode

Channel	Value	Function
1	0…255	Rotation (pan) (0° to max. value of Pan range: 180°, 270° or 540°)
2	0…255	Inclination (tilt) (0° to max. value of Tilt range: 90°, 180° or 270°)
3	Colour wheel	
	0…6	White
	7…13	Yellow
	14…20	Pink
	21…27	Green
	28…34	Peachblow
	35…41	Blue
	42…48	Kelly-green
	49…55	Red

Channel	Value	Function
	56…63	Dark blue
	64…70	White + yellow
	71…77	Yellow + pink
	78…84	Pink + green
	85…91	Green + peachblow
	92…98	Peachblow + blue
	99…105	Blue + kelly-green
	106…112	Kelly-green + red
	113…119	Red + dark blue
	120…127	Dark blue + white
	128…191	Rainbow effect with positive direction of rotation, increasing speed
	192…255	Rainbow effect with negative direction of rotation, increasing speed
4	Shutter	

Channel	Value	Function
	0…3	Closed (blackout)
	4…7	Open
	8…215	Strobe effect, increasing speed
	216…255	Open
5	Gobo wheel	
	0…7	Open
	8…15	Gobo 2
	16…23	Gobo 3
	24…31	Gobo 4
	32…39	Gobo 5
	40…47	Gobo 6
	48…55	Gobo 7
	56…63	Gobo 8

Channel	Value	Function
	64…71	Gobo 8 shake, increasing speed
	72…79	Gobo 7 shake, increasing speed
	80…87	Gobo 6 shake, increasing speed
	88…95	Gobo 5 shake, increasing speed
	96…103	Gobo 4 shake, increasing speed
	104…111	Gobo 3 shake, increasing speed
	112…119	Gobo 2 shake, increasing speed
	120…127	Open
	128…191	Rainbow effect with positive direction of rotation, increasing speed
	192…255	Rainbow effect with negative direction of rotation, increasing speed
6	Gobo rotation	
	0…63	Fixed gobo
	64…147	Positive direction of rotation, increasing speed

Channel	Value	Function
	148…231	Negative direction of rotation, increasing speed
	232…255	Gobo bouncing
7	Prism	
	0…7	Unused
	8…247	Rotating prism, increasing speed
	248…255	Fixed prism
8	0…255	Focus

7.6 Functions in 14 channel DMX mode

Channel	Value	Function
1	0…255	Rotation (pan) (0° to max. value of the Pan range: 180°, 270° or 540°)
2	0…255	Inclination (tilt) (0° to max. value of the Tilt range: 90°, 180° or 270°)
3	0…255	Fine adjustment for rotation (pan)
4	0…255	Fine adjustment for inclination (tilt)
5	0…255	Response speed (normal to slow)
6	Colour wheel	
	0…6	White
	7…13	Yellow
	14…20	Pink
	21…27	Green
	28…34	Peachblow

Channel	Value	Function
	35…41	Blue
	42…48	Kelly-green
	49…55	Red
	56…63	Dark blue
	64…70	White + yellow
	71…77	Yellow + pink
	78…84	Pink + green
	85…91	Green + peachblow
	92…98	Peachblow + blue
	99…105	Blue + kelly-green
	106…112	Kelly-green + red
	113…119	Red + dark blue
	120…127	Dark blue + white

Channel	Value	Function
	128…191	Rainbow effect in positive rotation direction, increasing speed
	192…255	Rainbow effect in negative rotation direction, increasing speed
7	Shutter	
	0…3	Closed (blackout)
	4…7	Open
	8…215	Strobe effect, increasing speed
	216…255	Open
8	0…255	Mechanical dimmer (0 to 100 %)
9	Gobo wheel	
	0…7	Open
	8…15	Gobo 2
	16…23	Gobo 3
	24…31	Gobo 4

Channel	Value	Function
	32…39	Gobo 5
	40…47	Gobo 6
	48…55	Gobo 7
	56…63	Gobo 8
	64…71	Gobo 8 shake, increasing speed
	72…79	Gobo 7 shake, increasing speed
	80…87	Gobo 6 shake, increasing speed
	88…95	Gobo 5 shake, increasing speed
	96…103	Gobo 4 shake, increasing speed
	104…111	Gobo 3 shake, increasing speed
	112…119	Gobo 2 shake, increasing speed
	120…127	Open
	128…191	Rainbow effect in positive rotation direction, increasing speed

Channel	Value	Function
	192…255	Rainbow effect in negative rotation direction, increasing speed
10	Gobo rotation	
	0…63	Gobo fixed
	64…147	Positive rotation direction, increasing speed
	148…231	Negative rotation direction, increasing speed
	232…255	Gobo bouncing
11	Special functions	
	0…7	Unused
	8…15	Blackout during pan or tilt movement
	16…23	No blackout during pan or tilt movement
	24…31	Blackout during colour wheel movement
	32…39	No blackout during colour wheel movement
	40…47	Blackout during gobo wheel movement

Channel	Value	Function
	48…55	No blackout during gobo wheel movement
	56…87	Unused
	88…95	Blackout during movement
	96…103	Reset pan
	104…111	Reset tilt
	112…119	Reset colour wheel
	120…127	Reset gobo wheel
	128…135	Reset gobo rotation
	136…143	Reset prism
	144…151	Reset focus
	152…159	Reset all channels
	160…255	Unused
12	Built-in programmes	

Channel	Value	Function
	0…7	Unused
	8…23	Program 1
	24…39	Program 2
	40…55	Program 3
	56…71	Program 4
	72…87	Program 5
	88…103	Program 6
	104…119	Program 7
	120…135	Program 8
	136…151	Sound control 1
	152…167	Sound control 2
	168…183	Sound control 3
	184…199	Sound control 4

Channel	Value	Function
	200…215	Sound control 5
	216…231	Sound control 6
	232…247	Sound control 7
	248…255	Sound control 8
13	Prism	
	0…7	Unused
	8…247	Rotating prism, increasing speed
	248…255	Prism fixed
14	0…255	Focus

8 Cleaning

Optical lenses

Clean the exterior of accessible optical lenses periodically to optimise 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 normal glass cleaning products.
- Always dry the parts carefully.

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 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, the fan does not run	Check the mains power connection and the main fuse.
No response to the DMX controller	1. The DMX indicator should light up. If it doesn't, check DMX connectors and cables for proper connection.
	2. If the DMX indicator lights up but with no response, check the address settings and DMX polarity.
	3. Try using another DMX controller.
	4. Check whether the DMX cables lie near or adjacent to high voltage cables, which could cause damage or interference with a DMX interface circuit.

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

10 Technical specifications

Number of DMX channels	8, 14
LED	50 W
Operating voltage supply	AC 230 V ~ , 50 Hz
Power consumption	135 W
Fuse	5 mm × 20 mm, 2 A, 250 V, fast-blow
Dimensions (W × D × H) when the light beam is pointing upwards	240 mm × 280 mm × 370 mm
Weight	10.3 kg

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 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 your old device

This device is subject to the European directive 2002/96/EC.

Do not dispose of the device 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.