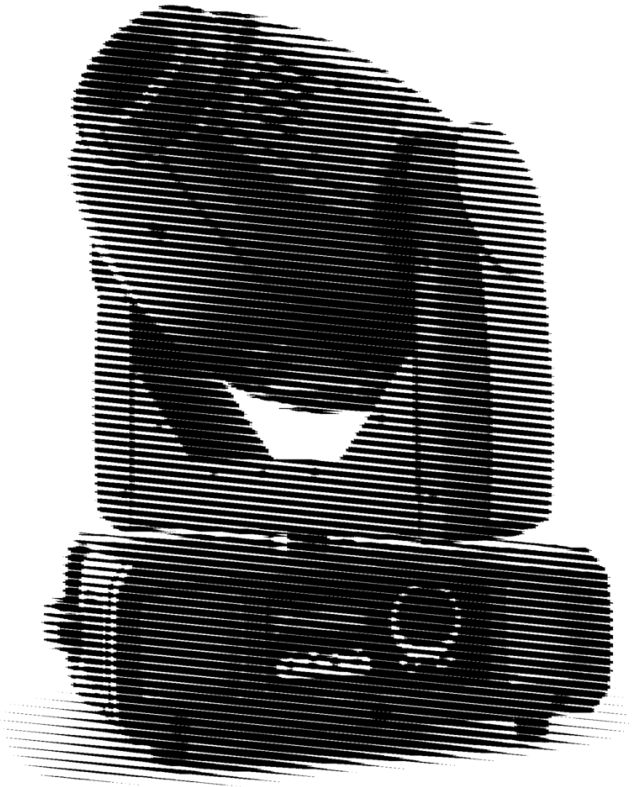


STAIRVILLE

novaSpot 250

moving head

thomann
MUSIC IS OUR PASSION

user manual

Musikhaus Thomann e.K.
Treppendorf 30
96138 Burgebrach
Germany
Telephone: +49 (0) 9546 9223-0
E-mail: info@thomann.de
Internet: www.thomann.de

28.11.2012

Table of contents

1 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.

Completely disconnect the device from the power supply before you open or remove covers. Mount all covers and attach them firmly before connecting the device again.

DANGER!

Electric shock caused by short-circuit

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

The lamp used in this device produces an intense beam of visible and invisible light radiation.

Do not start the operation of the device without completely fixed covers. 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 at the surface and inside of the device

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

After switching off the device wait for at least 15 minutes before you start any maintenance activities.

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 cover the device nor any ventilation slots. Do not place 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.

2 Features

This Moving Head is specially suited for professional lighting, e.g. for events, on rock stages, in theatres, musicals or discos.

Special features of the device:

- Control via DMX (16 or 22 channels), buttons and display on the unit and Pocket-master / Foot-master (optional remote controls)
- Built-in automatic show programmes
- Sound control
- Master / slave mode
- Gobo wheel 1 providing six colours plus white (open)
- Gobo wheel 2 with CTO (convert to orange), CTC (colour temperature correction), white frost filter, three colours plus white (open)
- Gobo wheel 1 with five indexable and rotatable gobos (exchangeable), variable rotation speed and directions
- Gobo wheel 2 with seven static gobos (exchangeable)
- Effect wheel with rotatable triple prism, variable rotation speed and directions
- Motorized variable iris (0…100 %)
- Motorized focus

- Shutter with blackout option
- Strobe and pulse effect
- Automatic position correction
- Two mounting brackets

3 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, the ceiling or on the floor. Two mounting brackets are included.

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 heavy weight

Due to the heavy weight of the device, at least two persons are required for transport and installation.

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!

Use of stands

When mounting the device onto a stand, ensure that the stand is in a safe and stable position and that the weight of the device does not exceed the maximum permissible load capacity of the stand.

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.

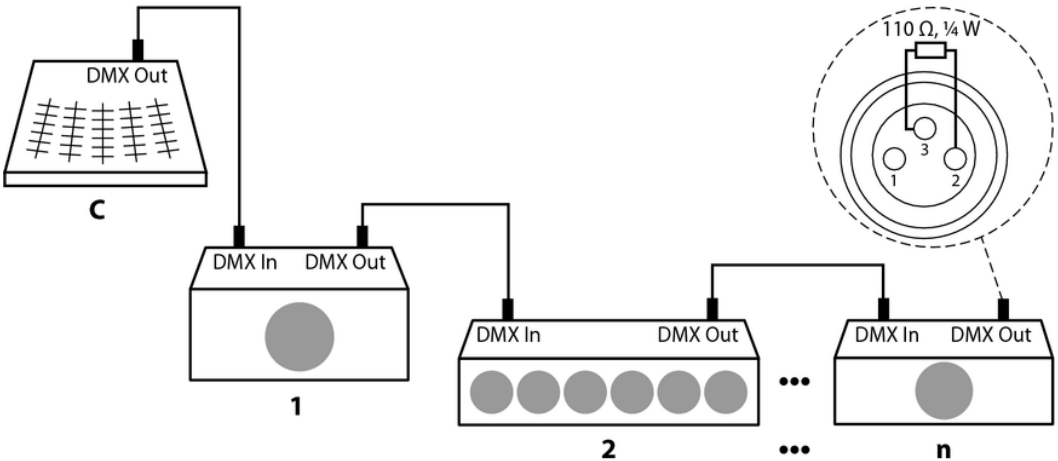
1	Ground, shielding
2	DMX data (–)
3	DMX data (+)

4 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).



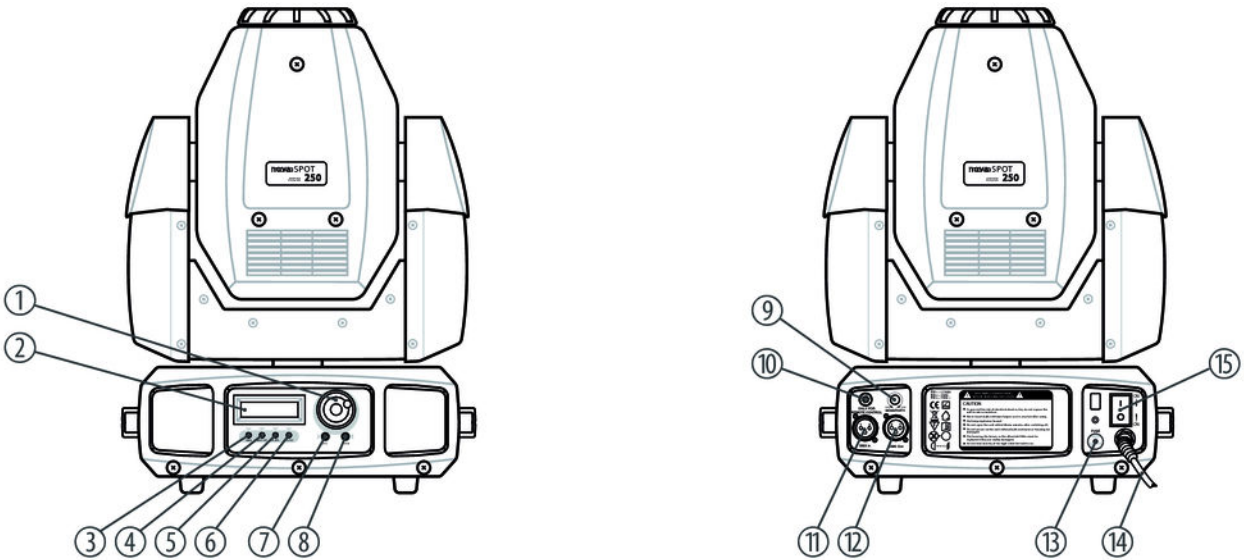
DMX indicator

If the device and the DMX controller are in operation, the DMX indicator indicates in the display that a DMX signal is received 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.

5 Components and functions



1	Jog wheel To increase or decrease the displayed value.
2	Display
3	**DMX** This LED indicates an incoming DMX signal.
4	**MASTER** This LED indicates the unit is running as ‘Master’. Thus, it controls other devices connected as ‘Slaves’.
5	**SLAVE** This LED indicates the unit is running as ‘Slave’, controlled by a ‘Master’.
6	**SOUND** In operating mode ‘Music’, this LED indicates an incoming signal from the microphone.
7	**ESC** Closes an open menu without saving changes.

8	**ENTER** To choose an option of the respective operating mode.
9	**SENSITIVITY** Use this control to adjust the sensitivity of the microphone in operating mode ‘Music’.
10	Connect the optionally available remote control here.
11	**DMX IN** DMX input.
12	**DMX OUT** DMX output.
13	**FUSE** Push button for resetting the electronic fuse.
14	Power cord.
15	Mains switch to turn the unit on or off.

6 Operation

6.1 Starting 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.

Make sure that the main switch (15) is set to the 'OFF' position.

Connect the device to the power grid. Turn it on with the main switch (15) to start the operation. After a few seconds, the fans start to work, the head moves to the default positions for rotation (pan) / inclination (tilt) and the display shows the device name. After a few more seconds, the device operates in the most recently used mode.

6.2 Main menu

Press *[ESC]* to activate the main menu. Use the jog wheel to choose a submenu. When the display shows the desired submenu, press *[ENTER]* to open it. To quit the main menu, press *[ESC]* or wait for 10 seconds.

All previous settings are saved even if you disconnect the device from the power grid. To restart with standard values use the *'RESET'* function.

DMX address

Press *[ESC]* and turn the jog wheel until the display shows *'DMX Address'*. Press *[ENTER]*. The display starts flashing. Now you can set the number of the first DMX channel to be used by the device (DMX address). Use the jog wheel to select a value between 1 and 512.

When the display shows the desired value, press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

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

Mode	Highest possible DMX address
16 channel	497
22 channel	491

Operating mode 'DMX'

Press *[ESC]* and turn the jog wheel until the display shows *'Channel Mode'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to select one of the following DMX operation modes: 16 channel or 22 channel. This setting is only relevant if the device is controlled via DMX.

When the display shows the desired value, press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Operating mode 'Standby'

Press *[ESC]* and turn the jog wheel until the display shows *'StandBy Mode'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to enable (*'yes'*) or disable (*'no'*) the Standby mode.

When the display shows the desired value, press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Operating mode 'Show'

Press *[ESC]* and turn the jog wheel until the display shows *'Show Mode'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to select one of the preprogrammed shows.

When the display shows the desired value, press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Operating mode 'Master/Slave'

Press *[ESC]* and turn the jog wheel until the display shows *'Slave Mode'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to toggle between *'Slave Mode 1'* (normal operation) and *'Slave Mode 2'* (operating mode 'Master/Slave'). In operating mode 'Master/Slave', the master and the connected slave unit operate synchronously.

When the display shows the desired value, press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Setting 'Focus 1'

Press *[ESC]* and turn the jog wheel until the display shows *'Adjust Focus 1'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to select a value between 0 and 255 until the pattern is displayed sharply.

To facilitate the adjustment a gobo is selected and the first light beam automatically directed vertically up or (when mounted to the ceiling) downwards.

When the display shows the desired value, press *[ENTER]* to move the head in a horizontal position and to rotate it by 90 °. When the focus is adjusted in all directions, the submenu is closed. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Setting 'Focus 2'

Press *[ESC]* and turn the jog wheel until the display shows *'Adjust Focus 2'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to select a value between 0 and 255 until the pattern is displayed sharply.

To facilitate the adjustment a gobo is selected and the first light beam automatically directed vertically up or (when mounted to the ceiling) downwards.

Press *[ENTER]* to move the head in a horizontal position and to rotate it by 90 °. When the focus is adjusted in all directions, the submenu is closed. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Pan inversion

Press *[ESC]* and turn the jog wheel until the display shows *'Pan Inversion'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to toggle between *'Normal'* (normal rotation direction) and *'Inversion'* (inverse rotation direction).

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Tilt inversion

Press *[ESC]* and turn the jog wheel until the display shows *'Tilt Inversion'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to toggle between *'Normal'* (normal inclination direction) and *'Inversion'* (inverse inclination direction).

When the display shows the desired value, press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Self-test

Press *[ESC]* and turn the jog wheel until the display shows *'Auto Test'*. Press *[ENTER]*. Now the device performs a self-test.

When the test is finished, the display shows *'Test Finish'*.

To return to the main menu, press *[ESC]* or wait for 10 seconds.

Manual test

Press *[ESC]* and turn the jog wheel until the display shows *'Manual Test'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to select one of the following values:

- *'Pan'* (rotation)
- *'Tilt'* (inclination)
- *'Shutter'* (lens opening)
- *'Color 1'* (colour 1)
- *'Color 2'* (colour 2)
- *'Gobo 1'* (gobo wheel 1)
- *'R-Gobo 1'* (rotation of gobo wheel 1)
- *'Gobo 2'* (gobo wheel 2)
- *'Prism'* (prism)
- *'R-Prism'* (rotation of prism)
- *'Focus'* (focus)
- *'Iris'* (Iris aperture)

When the display shows the desired value, press *[ENTER]*. Now use the jog wheel to set a value between 0 and 255. Press *[ENTER]* to confirm the value. To return to the submenu 'Manual Test', press *[ESC]*. Press *'ESC'* again to return to the main menu.

Temperature display

Press *[ESC]* and turn the jog wheel until the display shows *'Lamp Temperature'*. The display now shows the temperature of the lamp.

Lamp hours counter

Press *[ESC]* and turn the jog wheel until the display shows *'Lamp Hours'*. The display now shows the elapsed operating hours of the lamp.

Switching the lamp on or off manually

This function lets you switch the lamp on or off manually, e.g. to carry out maintenance work.

Press *[ESC]* and turn the jog wheel until the display shows *'Lamp On/Off'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to toggle between *'On'* (lamp is switched on) and *'Off'* (lamp is switched off).

When the display shows the desired value, press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Quick start

With this function you can set the device's behaviour immediately after switching it on.

Press *[ESC]* and turn the jog wheel until the display shows *'Lamp On/Power On'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to toggle between *'On'* (Lamp is turned on immediately after the power is turned on) and *'Off'* (Lamp remains dark after power is turned on).

When the display shows the desired value, press *[ENTER]* to save the setting and quit the sub-menu. To quit the submenu and the main menu without saving the changes press *[ESC]* or wait for 10 seconds.

Software version

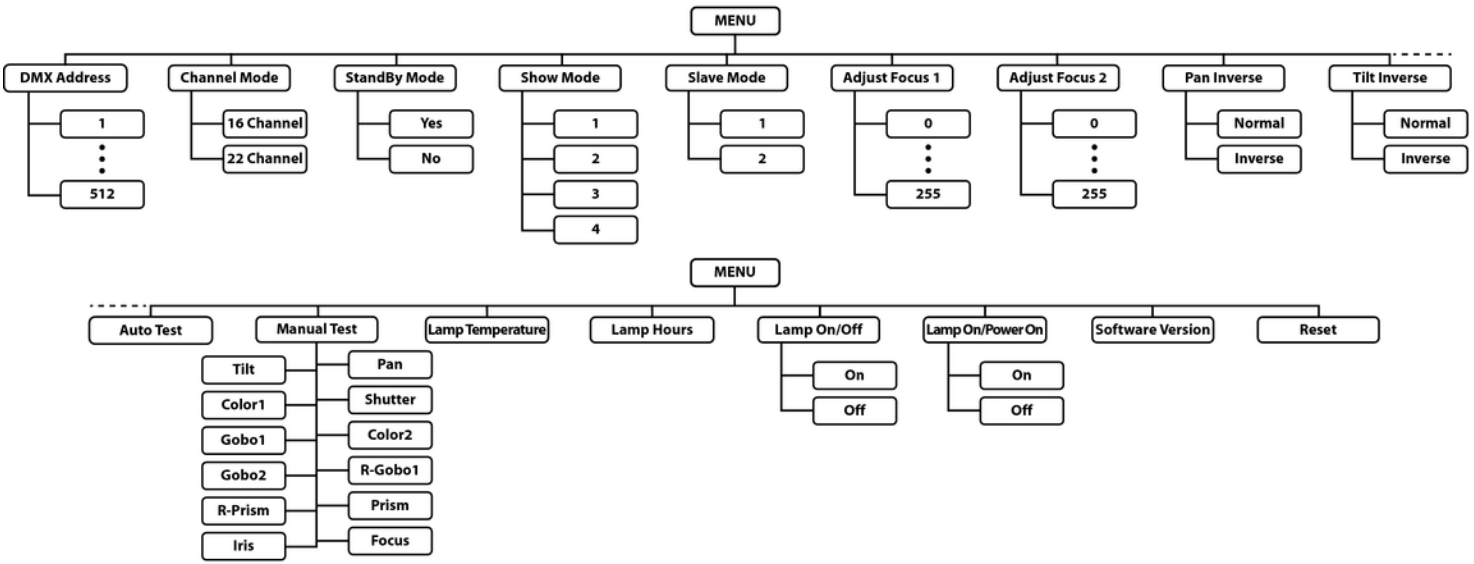
Press *[ESC]* and turn the jog wheel until the display shows *'Software Version'*. The display now shows the software version of the unit.

Reset

Press *[ESC]* and turn the jog wheel until the display shows *'Reset'*. Press *[ENTER]*. The display starts flashing. Now use the jog wheel to toggle between *'Yes'* (reset the unit to factory default values) and *'No'* (function cancelled).

When the display shows the desired value, press *[ENTER]*. To return to the main menu, press *[ESC]* or wait for 10 seconds.

Overview


MENU
DMX Address
1
512
Channel Mode
16 Channel
22 Channel
StandBy Mode
Yes
No
Show Mode
1
2
3
4
Slave Mode
1
2
Adjust Focus 1
0
255
Adjust Focus 2
0
255
Pan Inverse
Normal
Inverse
Tilt Inverse
Normal
Inverse
MENU
Auto Test
Manual Test
Tilt
Color1
Gobo1
Gobo2
R-Prism
Iris
Pan
Shutter
Color2
R-Gobo1
Prism
Focus
Lamp Temperature
Lamp Hours
Lamp On/Off
On
Off
Lamp On/Power On
On
Off
Software Version
Reset

6.3 Settings menu

Press *[ESC]* and then *'ENTER'* for at least five seconds to activate the settings menu. Use the jog wheel to choose a submenu. When the display shows the desired submenu, press *[ENTER]* to open it. To quit the settings menu, press *[ESC]* or wait for 10 seconds.

All previous settings are saved even if you disconnect the device from the power grid. To restart with standard values use the *'RESET'* function.

Adjusting the focus

Activate the settings menu and turn the jog wheel until the display shows *'Adjust Focus'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between 0 and 255 until the pattern is displayed sharply.

To facilitate the adjustment a gobo is selected and the first light beam automatically directed vertically upwards or (when mounted to the ceiling) down.

Press *[ENTER]* to move the head in a horizontal position and to rotate it by 90 °. Each time you press *[ENTER]* the head is rotated by another 90 °. When the focus is adjusted in all directions, press *[ESC]* to exit the submenu.

Adjusting the pan offset

Activate the settings menu and turn the jog wheel until the display shows *'Pan Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between 0 and 255 until the head is in the desired position.

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting the tilt offset

Activate the settings menu and turn the jog wheel until the display shows *'Tilt Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between 0 and 255 until the head is in the desired position.

Press *[ENTER]*, to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting the dimmer offset

Activate the settings menu and turn the jog wheel until the display shows *'Dimmer Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between 0 and 255 until the dimmer setting suits your needs.

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting colour wheel offset 1 and 2

Activate the settings menu and turn the jog wheel until the display shows *'Color1 Offset'* or *'Color2 Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between –127 and 127 until the selected colour wheel is exactly in the desired position.

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting gobo wheel offset 1 and 2

Activate the settings menu and turn the jog wheel until the display shows *'Gobo1 Offset'* or *'Gobo2 Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between –127 and 127 until the indicated gobo of the selected gobo wheel is exactly in the desired position.

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting gobo rotation offset 1

Activate the settings menu and turn the jog wheel until the display shows *'R-Gobo1 Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between –127 and 127 until the gobo in gobo wheel 1 is shown in the desired rotation position.

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting prism offset

Activate the settings menu and turn the jog wheel until the display shows *'Prism Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between 0 and 255 until the desired prism setting is displayed.

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting prism rotation offset

Activate the settings menu and turn the jog wheel until the display shows *'R-Prism Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between –127 and 127 until the desired rotation position of the prism is displayed.

Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting iris offset

Activate the settings menu and turn the jog wheel until the display shows *'Iris Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between 0 and 255 until the desired iris aperture is displayed.

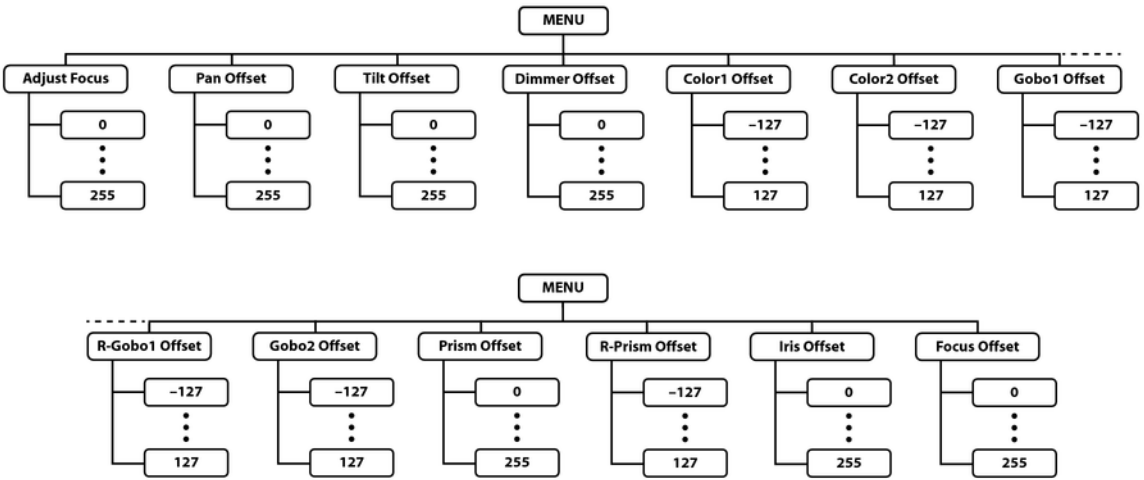
Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

Adjusting focus offset

Activate the settings menu and turn the jog wheel until the display shows *'Focus Offset'*. Press *[ENTER]*. The display starts flashing. Use the jog wheel to select a value between 0 and 255 until the display is focussed.

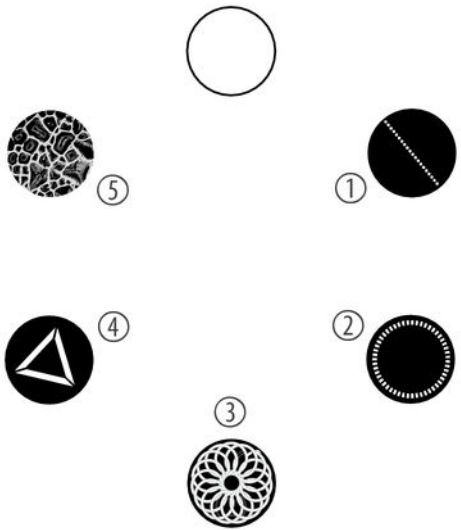
Press *[ENTER]* to save the setting and quit the submenu. To quit the submenu and the settings menu without saving the changes press *[ESC]* or wait for 10 seconds.

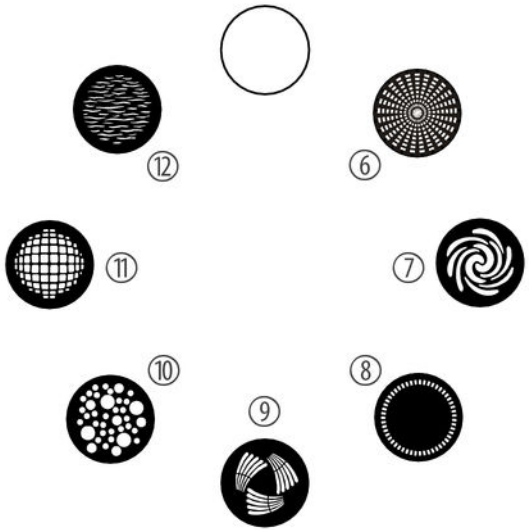
Overview


MENU
Adjust Focus
0
255
Pan Offset
0
255
Tilt Offset
0
255
Dimmer Offset
0
255
Color1 Offset
–127
127
Color2 Offset
–127
127
Gobo1 Offset
–127
127
MENU
R-Gobo1 Offset
–127
127
Gobo2 Offset
–127
127
Prism Offset
0
255
R-Prism Offset
–127
127
Iris Offset
0
255
Focus Offset
0
255

6.4 Gobos

The following figure shows the available gobos of gobo wheel 1 (left) and gobo wheel 2 (right) as well as their numbers.


⑤
①
④
②
③


⑫
⑥
⑪
⑦
⑩
⑨
⑧

6.5 Functions in 16 channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0 ° up to the maximum value of Pan range: 270 ° or 600 °)
2	0...255	Inclination (tilt) (0 ° up to the maximum value of Tilt range: 135 ° or 270 °)
3	0...255	Speed of rotation (pan) and inclination (tilt), fast to slow
4	0...255	Dimmer (0 % to 100 %)
5	Shutter	
	0...7	Closed (blackout)
	8...15	Open
	16...131	Strobe effect, increasing speed
	132...184	Shake effect for gobo wheel 1, slow
	185	Shake effect for gobo wheel 1, fast
	186..238	Shake effect for gobo wheel 2, slow

Channel	Value	Function
	239	Shake effect for gobo wheel 2, fast
	240...247	Strobe effect, random speed
	248...255	Open
6	Colour wheel 1	
	0...9	White
	10...18	Red
	19...27	Yellow
	28...36	Magenta
	37...45	Orange
	46...54	Blue
	55...63	Green
	64...127	Fixed position
	128...191	Rotation clockwise, increasing speed

Channel	Value	Function
	192...255	Rotation counterclockwise, decreasing speed
7	Colour wheel 2	
	0...18	White
	19...37	Light blue
	36...56	Pink
	57...75	Light green
	76...94	'UV'
	95...113	Warm white (3200 K)
	114...127	White frost filter
	128...167	Rotation counterclockwise, increasing speed
	168...207	Rotation clockwise, decreasing speed
	208...215	Programme 1
	216...223	Programme 2

Channel	Value	Function
	224...231	Programme 3
	232...239	Programme 4
	240...247	Programme 5
	248...255	Programme 6
8	Gobo wheel 1	
	0...21	Open, no Gobo
	22...42	Gobo 1
	43...63	Gobo 2
	64...84	Gobo 3
	85...105	Gobo 4
	106...127	Gobo 5
	128...191	Rotation of gobo wheel 1 counterclockwise, increasing speed
	192...255	Rotation of gobo wheel 1 clockwise, decreasing speed

Channel	Value	Function
9	Gobo rotation gobo wheel 1	
	0...127	Fixed position 0 ° to 360 °
	128...191	Gobo rotation clockwise, increasing speed
	192...255	Gobo rotation counterclockwise, decreasing speed
10	Gobo wheel 2	
	0...15	Open, no Gobo
	16...31	Gobo 6
	32...47	Gobo 7
	48...63	Gobo 8
	64...79	Gobo 9
	80...95	Gobo 10
	96...111	Gobo 11
	112...127	Gobo 12

Channel	Value	Function
	128...191	Rotation of gobo wheel 2 counterclockwise, increasing speed
	192...255	Rotation of gobo wheel 2 clockwise, decreasing speed
11	Reserved	
12	Prism	
	0...7	No prism
	8...15	Prism
	16...39	Programme 1
	40...63	Programme 2
	64...87	Programme 3
	88...111	Programme 4
	112...135	Programme 5
	136...159	Programme 6
	160...183	Programme 7

Channel	Value	Function
	184...207	Programme 8
	208...231	Programme 9
	232...255	Programme 10
13	Prism rotation	
	0...127	Index position 0 ° to 360 °
	128...191	Rotation counterclockwise, increasing speed
	192...255	Rotation clockwise, decreasing speed
14	Focus	
15	Iris aperture (maximum to minimum)	
16	Special settings	
	0...69	Reserved
	70...79	Shutter closed during rotation or inclination
	80...89	Shutter open during rotation or inclination

Channel	Value	Function
	90...99	Shutter closed during rotation of colour wheels
	100...109	Shutter open during rotation of colour wheels
	110...119	Shutter closed during rotation of gobo wheels
	120...129	Shutter open during rotation of gobo wheels
	130..199	Reserved
	200...209	Reset of the unit (after about 10 seconds)
	210...255	Reserved

6.6 Functions in 22 channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0 ° up to the maximum value of Pan range: 270 ° or 600 °)
2	0...255	Inclination (tilt) (0 ° up to the maximum value of Tilt range: 135 ° or 270 °)
3	0...255	Speed of rotation (pan) and inclination (tilt), fast to slow
4	0...255	Dimmer (0 % to 100 %)
5	Shutter	
	0...7	Closed (blackout)
	8...15	Open
	16...131	Strobe effect, increasing speed
	132...184	Shake effect for gobo wheel 1, slow
	185	Shake effect for gobo wheel 1, fast
	186..238	Shake effect for gobo wheel 2, slow

Channel	Value	Function
	239	Shake effect for gobo wheel 2, fast
	240...247	Strobe effect, random speed
	248...255	Open
6	Colour wheel 1	
	0...9	White
	10...18	Red
	19...27	Yellow
	28...36	Magenta
	37...45	Orange
	46...54	Blue
	55...63	Green
	64...127	Fixed position
	128...191	Rotation clockwise, increasing speed

Channel	Value	Function
	192...255	Rotation counterclockwise, decreasing speed
7	Colour wheel 2	
	0...18	White
	19...37	Light blue
	36...56	Pink
	57...75	Light green
	76...94	'UV'
	95...113	Warm white (3200 K)
	114...127	White frost filter
	128...167	Rotation counterclockwise, increasing speed
	168...207	Rotation clockwise, decreasing speed
	208...215	Programme 1
	216...223	Programme 2

Channel	Value	Function
	224...231	Programme 3
	232...239	Programme 4
	240...247	Programme 5
	248...255	Programme 6
8	Gobo wheel 1	
	0...21	No gobo
	22...42	Gobo 1
	43...63	Gobo 2
	64...84	Gobo 3
	85...105	Gobo 4
	106...127	Gobo 5
	128...191	Rotation of gobo wheel 1 counterclockwise, increasing speed
	192...255	Rotation of gobo wheel 1 clockwise, decreasing speed

Channel	Value	Function
9	Gobo rotation gobo wheel 1	
	0...127	Fixed position 0° to 360°
	128...191	Gobo rotation clockwise, increasing speed
	192...255	Gobo rotation counterclockwise, decreasing speed
10	Gobo wheel 2	
	0...15	Open, no gobo
	16...31	Gobo 6
	32...47	Gobo 7
	48...63	Gobo 8
	64...79	Gobo 9
	80...95	Gobo 10
	96...111	Gobo 11
	112...127	Gobo 12

Channel	Value	Function
	128...191	Rotation of gobo wheel 2 counterclockwise, increasing speed
	192...255	Rotation of gobo wheel 2 clockwise, decreasing speed
11	Reserved	
12	Prism	
	0...7	No prism
	8...15	Prism
	16...39	Programme 1
	40...63	Programme 2
	64...87	Programme 3
	88...111	Programme 4
	112...135	Programme 5
	136...159	Programme 6
	160...183	Programme 7

Channel	Value	Function
	184...207	Programme 8
	208...231	Programme 9
	232...255	Programme 10
13	Prism rotation	
	0...127	Index position 0 ° to 360 °
	128...191	Rotation counterclockwise, increasing speed
	192...255	Rotation clockwise, decreasing speed
14	Focus	
15	Iris aperture (maximum to minimum)	
16	Special settings	
	0...69	Reserved
	70...79	Shutter closed during rotation or inclination
	80...89	Shutter open during rotation or inclination

Channel	Value	Function
	90...99	Shutter closed during rotation of colour wheels
	100...109	Shutter open during rotation of colour wheels
	110...119	Shutter closed during rotation of gobo wheels
	120...129	Shutter open during rotation of gobo wheels
	130..199	Reserved
	200...209	Reset of the unit (after about 10 seconds)
	210...255	Reserved
17	0...255	Fine tuning rotation (pan)
18	0...255	Fine tuning inclination (tilt)
19	Programme (macros) for rotation (pan) and inclination (tilt)	
	0…7	No programme
	8…15	Programme 1
	16…23	Programme 2

Channel	Value	Function
	24…31	Programme 3
	32…39	Programme 4
	40…47	Programme 5
	48…55	Programme 6
	56…63	Programme 7
	64…71	Programme 8
	72…79	Programme 9
	80…87	Programme 10
	88…95	Programme 11
	96…103	Programme 12
	104…111	Programme 13
	112…119	Programme 14
	120…127	Programme 15

Channel	Value	Function
	128…135	Programme 16
	136…143	Programme 17
	144…151	Programme 18
	152…159	Programme 19
	160…167	Programme 20
	168…175	Programme 21
	176…183	Programme 22
	184…191	Programme 23
	192…199	Programme 24
	200…207	Programme 25
	208…215	Programme 26
	216…223	Programme 27
	224…231	Programme 28

Channel	Value	Function
	232…239	Programme 29
	240…247	Programme 30
	248…255	Programme 31
20	Step size for rotation (pan) and inclination (tilt) from minimum to maximum	
21	Iris aperture effect	
	0...7	No effect
	8...90	Decrease from full to closed aperture, increasing speed
	91...172	Increase from minimum to full aperture, increasing speed
	173...255	Decrease from full to closed aperture, then zoom back to full aperture, increasing speed
22	Dimmer effect	
	0...7	No effect
	8...131	From 0 % to 100 % brightness, increasing speed
	132...255	From 100 % to 0 % brightness, increasing speed

7 Service

7.1 Inserting / replacing the illuminant

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present.

Completely disconnect the device from the power supply before you open or remove covers. Mount all covers and attach them firmly before connecting the device again.

WARNING!

Eye damage caused by high light intensity

The lamp used in this device produces an intense beam of visible and invisible light radiation.

Do not start the operation of the device without completely fixed covers. Never look directly into the light source.

WARNING!

Risk of burns at the surface and inside of the device

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

After switching off the device wait for at least 15 minutes before you start any maintenance activities.

NOTICE!

Possible damages due to dirt or finger prints

Due to the high temperatures, even smallest pieces of dirt on the bulb can destroy the lamp when it is turned on.

Do not touch the lamp directly with your fingers. Use clean gloves or a clean lint-free tissue.

NOTICE!

Possible damages due to wrong type of lamp

Any attempt to use the device with a lamp other than those specified in this manual can result in severe damages to the device.

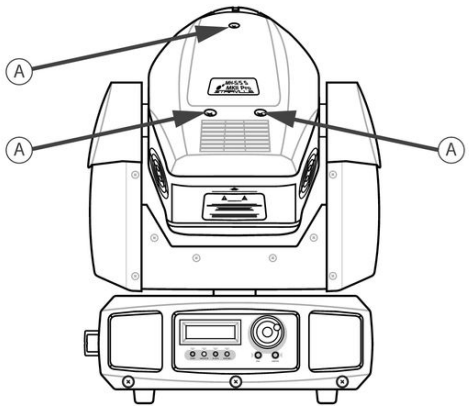
Only use a lamp of the specified type.

Notes on the Illuminant

A double-ended metal-halide discharge lamp is used in this device. Matching replacement lamps (type designation depending on manufacturer, for example, HTI 250 W) can be found at *www.thomann.de*. Follow the safety instructions given by the lamp manufacturer.

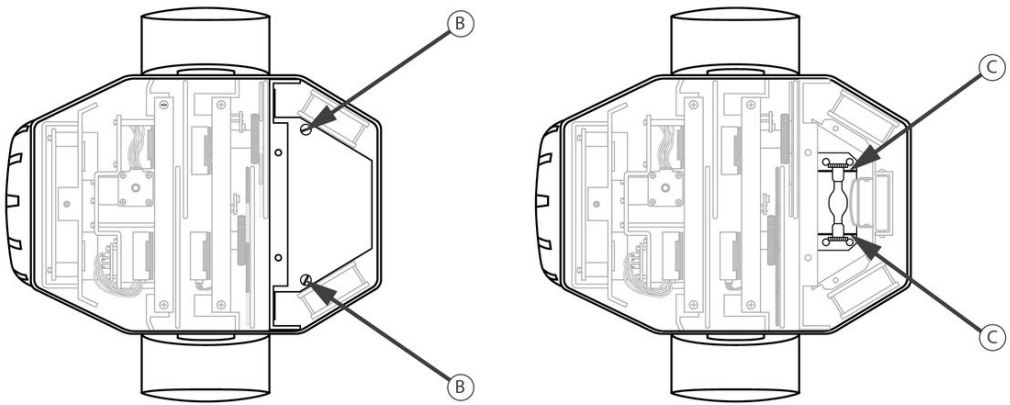
Proceeding

1. Make sure the device is switched off, disconnected from the mains and completely cooled down.



2. Bring the head of the unit in a horizontal position. The arrow printed on the back of the head points to the top.

3. Open the housing by removing the three cross-head screws at the top of the housing (marked with 'A' in the figure above), and remove the top of the housing. The upper part of the housing is held by a short safety wire rope.



4. Loosen the two thumbscrews of the lamp cover, which are marked in the figure above by ‘B’.

5. Lift the lamp cover.

6. Loosen the two knurled nuts on the old Illuminant and remove the old Illuminant from the socket carefully.

7. Loosen the two knurled nuts on the new Illuminant to the point that the lamp fits into the recesses of the socket (marked by ‘C’ in the figure above)

8. Carefully insert the new Illuminant into the socket and tighten the knurled nuts firmly so that the socket is pushed to the bulb. Check for secure seating.
9. Close the lamp cover.
10. Tighten the two thumbscrews on the lamp cover securely.
11. Attach the top part of the housing back on and secure it with the associated three cross-head screws.
12. Reconnect the device to the power grid.

7.2 Resetting the lamp hours counter

We recommend to reset the operating hours counter every time you replace the illuminant. That lets you monitor the elapsed operating hours at any time (*'Lamp hours counter' on page 31*).

Proceeding

1. Make sure the device is switched off.
2. Switch the device on. While it is booting, keep the *[ENTER]* button pressed until the display shows *'Password : 0'*.

3. Turn the jog wheel until the display shows the value *'88'*.
4. Press the *[ENTER]* button.
   ⇨ The operating hours counter is reset to zero.

7.3 Replacing gobos

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present.

Completely disconnect the device from the power supply before you open or remove covers. Mount all covers and attach them firmly before connecting the device again.

WARNING!

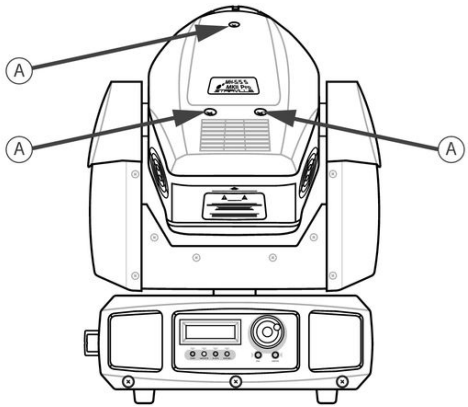
Risk of burns at the surface and inside of the device

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

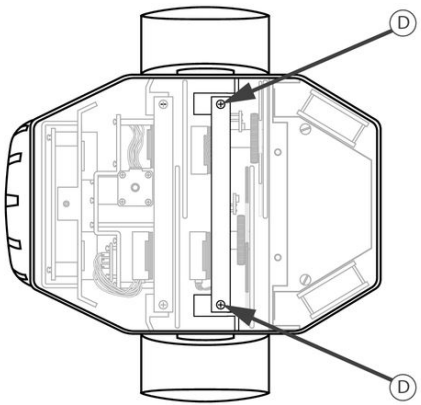
After switching off the device wait for at least 15 minutes before you start any maintenance activities.

Proceeding

1. Make sure the device is switched off, disconnected from the mains and completely cooled down.
2. Bring the head of the unit in a horizontal position. The arrow printed on the back of the head points to the top.



3. Open the housing by removing the three cross-head screws at the top of the housing (marked with 'A' in the figure above), and remove the top of the housing. The upper part of the housing is held by a short safety wire rope.



4. Loosen the two cross-head screws that hold the gobo module in the unit (marked with 'D' in the figure above). Carefully lift the module out upwards.

5. The individual gobos are secured by clamping springs in their gobo wheel. In gobo wheel 1, these clamping springs are located on the front side, in the gobo wheel 2 on the back. Carefully lever out the clamping spring of the gobo to be exchanged and remove the gobo from the gobo wheel.

By no means loosen the screws on the gobo wheel! This would open the ball bearings.

6. Insert the new gobo carefully into the free opening of the gobo wheel and attach the clamp spring back to its original position.
7. Insert the gobo module back into the unit. Make sure that the D-Sub connector slides straight into its counterpart on the motherboard. Secure the gobo with the two associated cross-head screws.
8. Remount the upper housing part and attach it using the three associated cross-head screws.
9. Reconnect the device to the power grid.

8 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 DMX controller	1. The LED ‘DMX’ should be flashing. If it doesn't, check the DMX connectors and cables for proper connection.
	2. If the LED ‘DMX’ lights up without any response, check the address settings and DMX polarity.
	3. Try using another DMX controller.
	4. Check to see if the DMX cables run near or alongside to high voltage cables that may cause damage or interference to DMX interface circuits.

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

9 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.

10 Technical specifications

Number of DMX channels	16, 22
Illuminant	Double-ended metal-halide discharge lamp, 90 V, 250 W (e.g. HTI 250 W)
Dispersion	15°
Maximum rotation angle (pan)	600 °
Maximum inclination angle (tilt)	270 °
Iris	0 … 100 %
Dimmer	0 … 100 %
Shutter	0 … 12 Hz
Operating voltage supply	AC 230 V ~ , 50 Hz
Power consumption	353 W
Fuse	electronic

Dimensions (W × D × H)	400 mm × 360 mm × 600 mm
Weight	25 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.