Owner's Manual

MH-X50+ Led Spot

DMX-Controlled LED Spot Moving Head

STAIRVILLE

Contents

Safety notes

Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire or serious injury.
Save all warnings and instructions for future reference.

DANGER

Electric shock caused by high voltages inside!

Within the unit there are areas where high voltages may be present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed. Covers should be removed by qualified service personnel only.
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 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.

Power supply

Notice

Malfunction or damage to equipment!

Ensure that the input voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user.
Unplug the unit before electrical storms occur and when unused for long periods of time.

Operating conditions

Always install and use the device in accordance with these instructions.

Notice

Malfunction or damage to equipment!

This device has been designed for indoor use only. Do not expose the device to any liquid or moisture. Do not install the unit near any direct heat source. Keep the unit away from naked flames.
Do not block areas of ventilation. Failure to do so could result in fire.

Installation

You can install the device on the wall, the ceiling or on the ground. A mounting bracket and the required screws are provided together with the device.

WARNING

Injuries caused by falling parts!

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.

Notice

Malfunction or damage to equipment!

Do not block the area that is needed for the pan and tilt function.
We recommend to keep an area of at least 300 mm (W) × 300 mm (D) × 400 mm (H) (11.8 in × 11.8 in × 15.7 in) free of any objects.
The distance between light output and the illuminated surface must be more than 0.5 m (19.7 in).
Ensure also that there is enough room for ventilation.
The ambient temperature must always be below 45 °C (113 °F).
The device can be directly mounted on notinflammable construction material.

Setup

The required connections depend on the operation mode of the device.

Notice

Malfunction or damage to equipment!

For failure-free operation of the DMX chain, use dedicated DMX cables. Never use ordinary microphone cables.
Never connect the DMX output to audio devices such as mixers or amplifiers. The voltages used on the DMX lines may severely damage the audio input circuits.

Connections in DMX mode

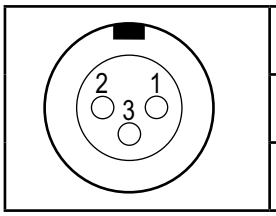
Connect the DMX input of the device to the DMX output socket of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a 120-Ω resistor. When the device and the DMX controller are operational, the DMX indicator in the display shows that a DMX signal is being received on the input.

Connections in master/slave mode

When you a group of devices in master/slave mode, the first unit will control the other units for an automatic, sound-activated, synchronized light 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.

DMX connectors

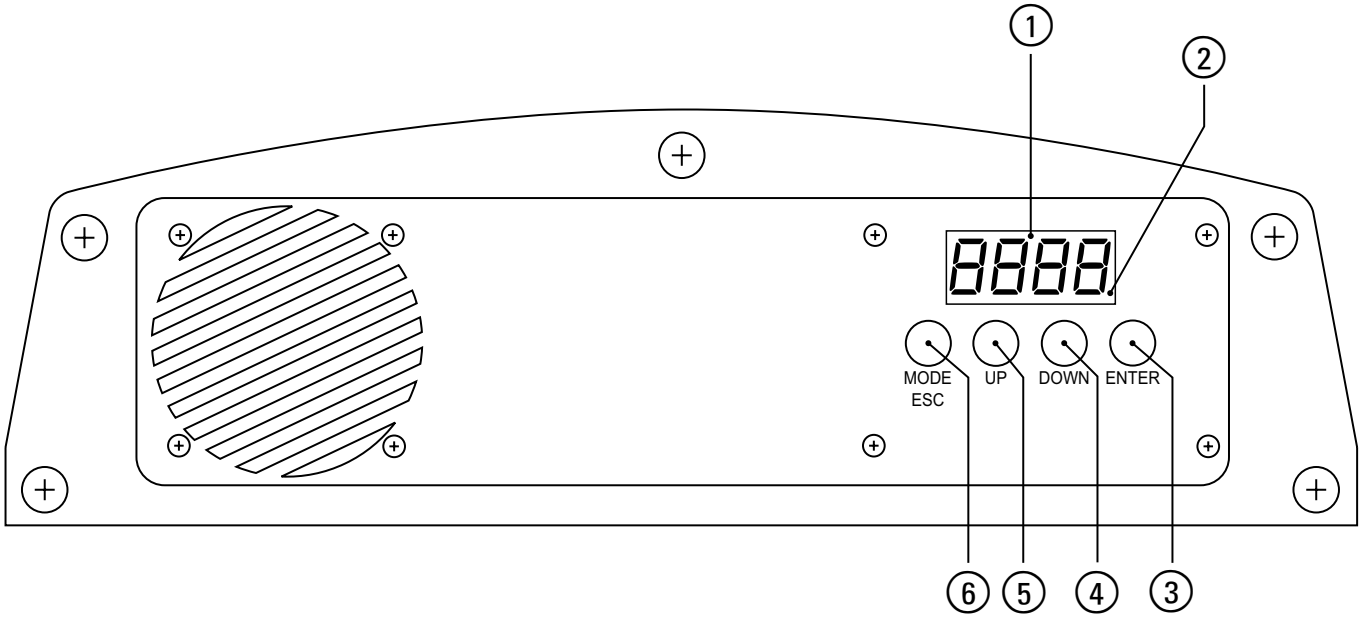
A female 3-pin XLR connector is used for the DMX output, a male 3-pin XLR connector for the DMX input. The figure below and the following table show the pin assignment.



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

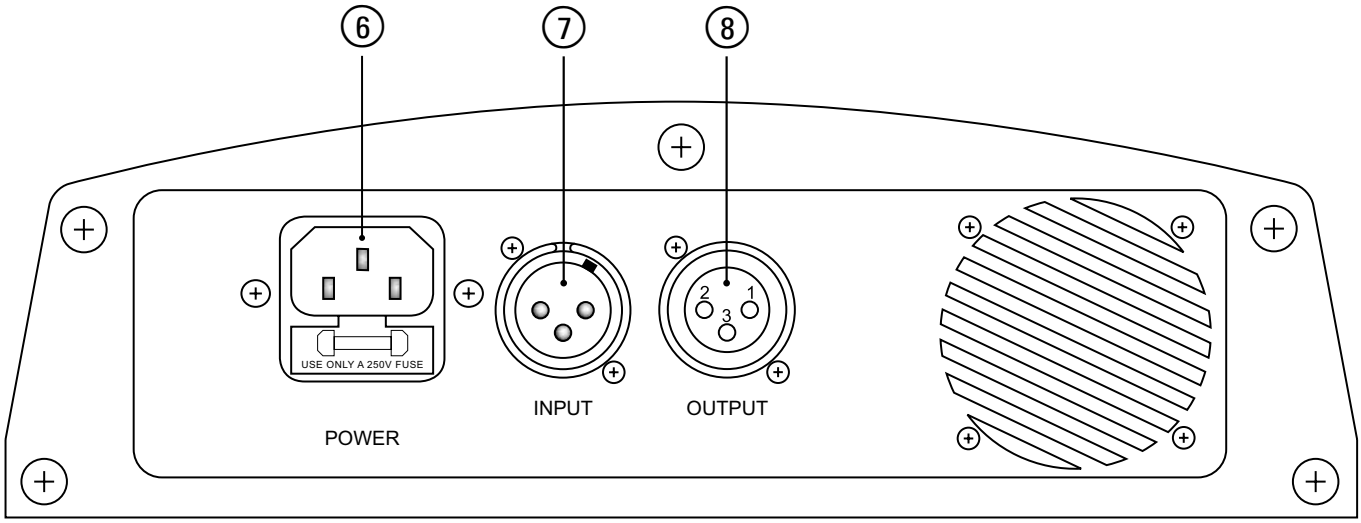
Components and functions

Front side



①	Display
②	DMX indicator: Shows that a DMX signal is being received
③	ENTER: Activates a setting
④	DOWN: Decreases a value
⑤	UP: Increases a value
⑥	MODE/ESC: Chooses between the options of the selected mode

Rear side



⑥	POWER: Plug for mains cable and fuse holder
⑦	INPUT: DMX input
⑧	OUTPUT: DMX output

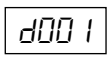
Operation

To operate the device, connect it to the mains. After a few seconds, the fans start to work, the head moves to its default pan and tilt positions and the display indicates a system reset. After another few seconds, the display shows “d001”. The device is now operational.

Main menu

Press “MODE/ESC” to activate the main menu and to select one of the operation modes.
Use the “UP” and “DOWN” buttons to change the displayed value. When the display shows the desired value, press “ENTER”. To go back to the main menu without any changes press “MODE/ESC” or wait for one minute. All settings that were made previously are kept, even if you disconnect the device from the power supply. To start over again with the default values, use the “Load default” function.

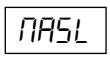
DMX address



Press “MODE/ESC” until the display shows “d*xxx*”. You can now set the number of the first DMX channel of the device (DMX address). Select a value between 1 and 512 using the “Up” and “Down” buttons. Press “ENTER” to store the value.
Ensure that this channel number fits to the configuration of your DMX controller. The following table shows the highest usable channel number for the different modes.

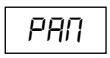
Mode	Highest usable DMX address
8Ch	505
14Ch	499

Operation mode



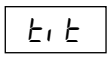
Press “MODE/ESC” until the display shows “NASL”. You can now select one of the following operation modes using the “Up” and “Down” buttons: “NASL” (pre-programmed, slow), “NAFA” (pre-programmed, fast), “NSt5” (sound mode) or “SLAV” (master/slave mode). Press “ENTER” to start the operation in the selected mode.

Pan inversion



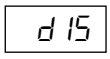
Press “MODE/ESC” until the display shows “PAN”. Using the “Up” and “Down” buttons, you can now choose between “rPAN” (reverted pan direction) and “PAN” (normal pan direction). Press “ENTER” to store the setting.

Tilt inversion



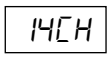
Press “MODE/ESC” until the display shows “tit”. Using the “Up” and “Down” buttons, you can now choose between “rtit” (reverted tilt direction) and “tit” (normal tilt direction). Press “ENTER” to store the setting.

Display inversion



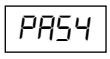
Press “MODE/ESC” until the display shows “diS”. Using the “Up” and “Down” buttons, you can now choose between “rdiS” (display appears upside down) and “dIS” (display appears normal). Press “ENTER” to store the setting.

DMX mode



Press “MODE/ESC” until the display shows “14CH”. You can now set one of the following modes: 8-channel or 14-channel using the “Up” and “Down” buttons. This takes effect when the device is operated under DMX control. Press “ENTER” to store the setting.

Panning range



Press “MODE/ESC” until the display shows “PA54”. Using the “Up” and “Down” buttons, you can now define the pan range. Choose between “PA54” (pan range = 540°), “PA36” (pan range = 360°) and “PA18” (pan range = 180°). Press “ENTER” to store the setting.

Tilting range

ti 27 Press “MODE/ESC” until the display shows “ti27”. Using the “Up” and “Down” buttons, you can now define the tilting range. Choose between “ti27” (tilting range = 270°), “ti18” (tilting range = 180°) and “ti 9” (tilting range = 90°). Press “ENTER” to store the setting.

System reset

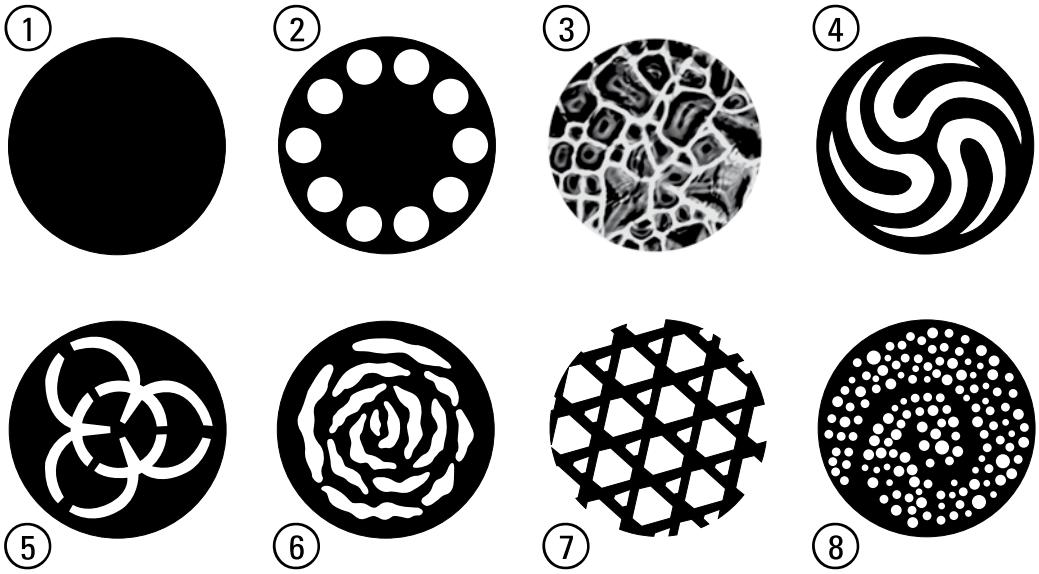
rESt Press “MODE/ESC” until the display shows “rESt”. Press “ENTER” to start a system reset.

Load defaults

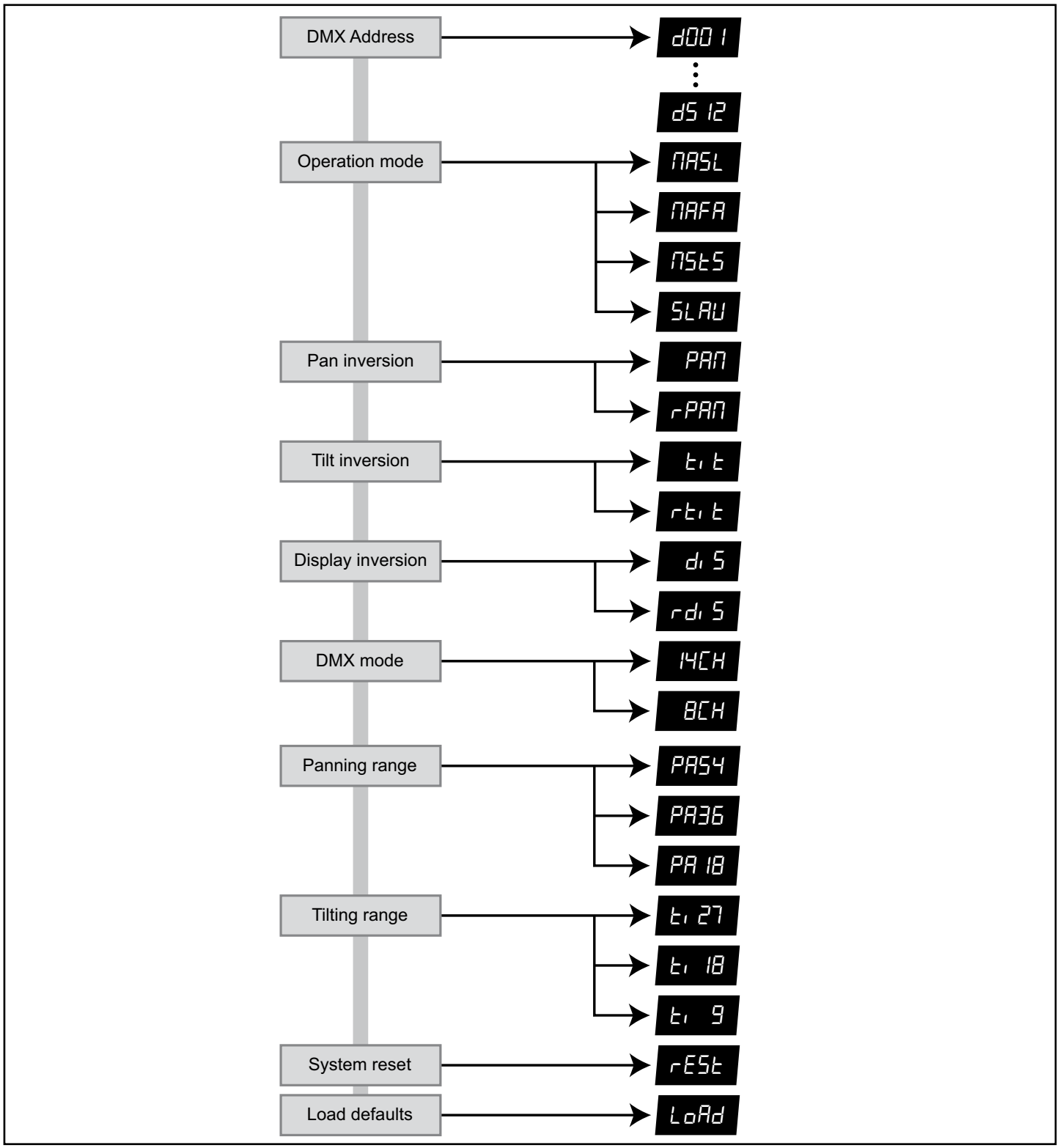
LoAd Press “MODE/ESC” until the display shows “LoAd”. Press “ENTER” to load the default values for all settings of the device.

Gobos

The following figure shows the available gobos and their numbers.



Menu diagram



Functions in 8-channel DMX mode

Channel	Value	Function
1	0…255	Pan (0° to maximum value of the panning range: 180°, 270° or 540°)
2	0…255	Tilt (0° to maximum value of the tilting 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
	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
	106…112	Kelly + red
	113…119	Red + dark blue
	120…127	Dark blue + white
	128…191	Positive rainbow effect with increasing speed
	192…255	Negative rainbow effect with increasing speed
4	Shutter	
	0…3	Closed
	4…7	Open
	8…215	Strobe effect with increasing speed
	210…255	Open
5	Gobo wheel	
	0…7	Gobo 1
	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
	64…71	Gobo 7 shake, speed increasing from slow to fast
	72…79	Gobo 6 shake, speed increasing from slow to fast
	80…87	Gobo 5 shake, speed increasing from slow to fast
	88…95	Gobo 4 shake, speed increasing from slow to fast
	96…103	Gobo 3 shake, speed increasing from slow to fast
	104…111	Gobo 2 shake, speed increasing from slow to fast
	112…119	Gobo 1 shake, speed increasing from slow to fast
	120…127	Open
	128…191	Positive rainbow effect with increasing speed
	192…255	Negative rainbow effect with increasing speed

Channel	Value	Function
6	Gobo rotation	
	0…63	Gobo fixed
	64…147	Positive rotation with increasing speed
	148…231	Negative rotation with increasing speed
	232…255	Gobo bouncing
7	Prism	
	0…7	Reserved
	8…247	Rotating prism with increasing speed
	248…255	Prism fixed
8	0…255	Focus

Functions in 14-channel DMX mode

Channel	Value	Function
1	0…255	Pan (0° to maximum value of the panning range: 180°, 270° or 540°)
2	0…255	Tilt (0° to maximum value of the tilting range: 90°, 180° or 270°)
3	0…255	Fine pan
4	0…255	Fine 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
	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
	106…112	Kelly + red
	113…119	Red + dark blue
	120…127	Dark blue + white
	128…191	Positive rainbow effect with increasing speed
	192…255	Negative rainbow effect with increasing speed
7	Shutter	
	0…3	Closed
	4…7	Open
	8…215	Strobe effect with increasing speed
	210…255	Open
8	0…255	Mechanical dimmer (0 to 100 %)
9	Gobo wheel	
	0…7	Gobo 1
	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
	64…71	Gobo 8 shake, speed increasing from slow to fast
	72…79	Gobo 7 shake, speed increasing from slow to fast
	80…87	Gobo 6 shake, speed increasing from slow to fast
	88…95	Gobo 5 shake, speed increasing from slow to fast
	96…103	Gobo 4 shake, speed increasing from slow to fast
	104…111	Gobo 3 shake, speed increasing from slow to fast
	112…119	Gobo 2 shake, speed increasing from slow to fast
	120…127	Open
	128…191	Positive rainbow effect with increasing speed
	192…255	Negative rainbow effect with increasing speed

Channel	Value	Function
10	Gobo rotation	
	0…63	Gobo rotation fixing
	64…147	Positive rotation with increasing speed
	148…231	Negative rotation with increasing speed
	232…255	Gobo bouncing
11	Special functions	
	0…7	Reserved
	8…15	Blackout while pan/tilt moving
	16…23	Disabled blackout while pan/tilt moving
	24…31	Blackout while colour wheel moving
	32…39	Disabled blackout while colour wheel moving
	40…47	Blackout while gobo wheel moving
	48…55	Disabled blackout while gobo wheel moving
	56…87	Reserved
	88…95	Blackout while moving
	96…103	Reset pan
	104…111	Reset tilt
	112…119	Reset colour disc
	120…127	Reset gobo disc
	128…135	Reset gobo rotation
	136…143	Reset prism
	144…151	Reset focus
	152…159	Reset all channels
	160…255	Reserved
12	Built-in programs	
	0…7	Reserved
	8…23	Built-in program 1
	24…39	Built-in program 2
	40…55	Built-in program 3
	56…71	Built-in program 4
	72…87	Built-in program 5
	88…103	Built-in program 6
	104…119	Built-in program 7
	120…135	Built-in program 8
	136…151	Sound control 1
	152…167	Sound control 2
	168…183	Sound control 3
	184…199	Sound control 4
	200…215	Sound control 5
	216…231	Sound control 6
	232…247	Sound control 7
	248…255	Sound control 8
13	Prism	
	0…7	Reserved
	8…247	Rotating prism with increasing speed
	248…255	Stop, static prism effect
14	0…255	Focus (far to near)

Troubleshooting

A few common problems that may occur during operation are shown in the following. Here are some suggestions for easy troubleshooting:

The device does not work, no light and the fan does not work

1. Check the power connection and main fuse.

No response to the DMX controller

1. The DMX indicator should flash. If not, check the DMX connectors and cables to see if they are properly linked.
2. If the DMX LED flashes and there is no response, check the address settings and DMX polarity.
3. Try to use another DMX controller.
4. Check if the DMX cables run near or alongside high-voltage cables that may cause damage or interference to the 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.

Cleaning

Clean the optical lenses which are accessible from the outside periodically to optimise light output. The cleaning frequency depends on the environment in which the device operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's optics.Clean with soft cloth using normal glass cleaning fluid.

- Always dry the parts carefully.
- Clean the external optics at least every 20 days.

Technical data

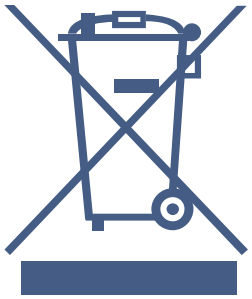
Number of DMX channels	8, 14
LEDs	One 50-W LED
Input voltage	230 VAC, 50 Hz
Power consumption	135 W
Fuse	5 mm × 20 mm, 2 A, 250 V, fast characteristic
Dimensions (W × D × H), when light beam is pointing straight upwards	240 mm × 280 mm × 370 mm (9.4 in. × 11.0 in. × 14.5 in.)
Weight	10.3 kg (22.7 lbs)

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 and are not in the reach of babies and young children. Choking hazard! 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 your old device



Electrical and electronic equipment often contain materials which can be unhealthy and environmentally harmful, if not properly treated and disposed of. However, they are essential for the proper operation of your device. At the end of its operating lifetime, do not dispose the device with your normal household waste.
This device is subject to the European directive 2002/96/EC.
Dispose this device through an approved waste disposal firm or through your local waste facility. When discarding the unit, comply with your rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

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