

 STARVILLE

MH-336  
moving head

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## Table of contents

<b>1</b>	<b>Safety instructions</b> .....	<b>5</b>
<b>2</b>	<b>Features</b> .....	<b>11</b>
<b>3</b>	<b>Installation</b> .....	<b>12</b>
<b>4</b>	<b>Starting up</b> .....	<b>15</b>
<b>5</b>	<b>Components and functions</b> .....	<b>18</b>
<b>6</b>	<b>Operating</b> .....	<b>22</b>
	6.1 Starting the device.....	22
	6.2 Main menu.....	23
	6.3 Function in 9-channel DMX mode.....	31
	6.4 Function in 11-channel DMX mode.....	32
	6.5 Function in 18-channel DMX mode.....	34
	6.6 Function in 20-channel DMX mode.....	36
<b>7</b>	<b>Troubleshooting</b> .....	<b>39</b>
<b>8</b>	<b>Cleaning</b> .....	<b>41</b>

<b>9</b>	<b>Technical specifications.....</b>	<b>42</b>
<b>10</b>	<b>Protecting the environment.....</b>	<b>43</b>

# 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. Never remove any covers.

There are no user-serviceable parts inside.



**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**

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.

## 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:

- 36 tricolour LEDs (3 W), arranged in three circular segments
- Control via DMX (9, 11, 18 or 20 channels) and buttons and display on the unit
- Built-in automatic show programmes
- Sound control
- Master / slave mode
- Strobe and pulse effect
- Electronic dimmer

### **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 the floor.

**WARNING!****Risk of injury caused by falling objects**

Make sure that the installation complies with the standards and regulations in your country. Always secure the unit by a second fastening, such as a retaining cable or safety chain.

The load capacity of trusses or other fixtures must be sufficient for the intended number of devices. Note that the movement of the head will cause additional loads to the load-bearing parts.

**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 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.

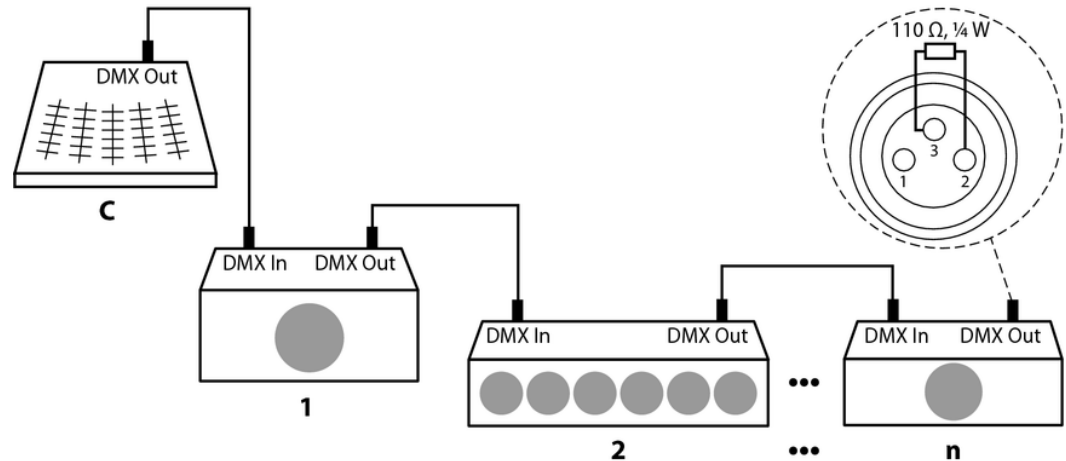
1	Ground, shielding
2	DMX data (-)
3	DMX data (+)

## 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 ( $110\ \Omega$ ,  $\frac{1}{4}\text{ W}$ ).



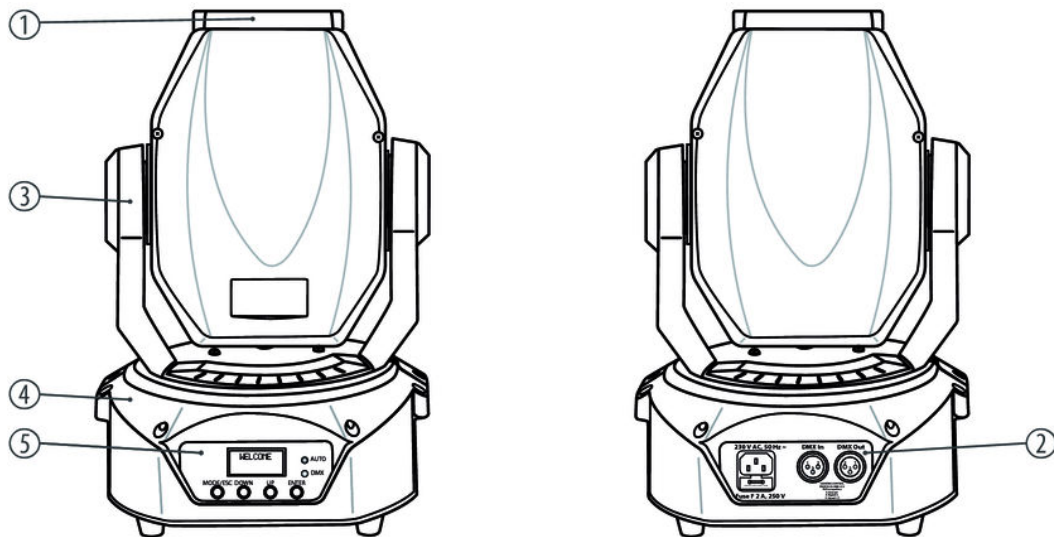


The flashing LED 'DMX' indicates an incoming DMX signal. If the LED lights up constantly, no data can be received although a DMX cable is connected (☞ *Chapter 7 'Troubleshooting' on page 39*).

### **Connections in master/slave mode**

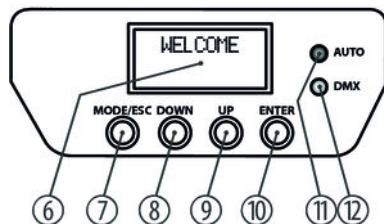
When you configure a group of devices in master/slave mode, the first unit will control the other units for an automatic, sound-activated, synchronized show. This function is ideal when you want to start a show immediately. Connect the DMX output of the master device to the DMX input of the first slave 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



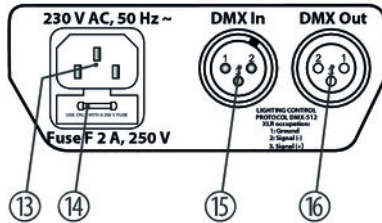
1	Spotlight head with LEDs
2	Connections
3	Swivelling suspension
4	Base
5	Control panel

## Control panel



6	Display
7	<b>MODE/ESC</b> Closes an open menu without saving any changes.
8	<b>DOWN</b> Decreases the displayed value by one.
9	<b>UP</b> Increases the displayed value by one.
10	<b>ENTER</b> Selects an option of the respective operating mode.
11	<b>AUTO</b> In operating mode 'Music', this LED indicates an incoming audio signal from the microphone.
12	<b>DMX</b> This LED indicates an incoming DMX signal.

**Connections**



13	IEC chassis connector for mains voltage supply
14	Fuse holder
15	<b>DMX IN</b> DMX input
16	<b>DMX OUT</b> DMX output

## 6 Operating

### 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.

Connect the unit to the power grid in order to start the operation. After a few seconds, the fans start to work, the head moves to the starting points for rotation (pan) and inclination (tilt) and the screen displays a startup message. After a few more seconds, the device operates in the previously selected mode.

## 6.2 Main menu

Press *[MODE/ESC]* to activate the main menu. Use the buttons *[UP]* or *[DOWN]* to select a submenu. When the display shows the desired submenu, press *[ENTER]* to open it. To exit the main menu, press *[MODE/ESC]* or wait ten seconds.

All previous settings are saved even if you disconnect the unit from the mains. To restart with default values, use the function 'DEFAULT' (↶ 'Default settings' on page 28).

### Operating mode

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'RUN'. Press *[ENTER]*. The display starts flashing. Use the buttons *[UP]* or *[DOWN]* to select an operating mode:

- 'DMX512': DMX controlled operation
- 'SOUND': Sound controlled show in stand-alone operation
- 'AUTO1': Automatic fast show in stand-alone operation
- 'AUTO2': Automatic slow show in stand-alone operation

If the display shows the desired value, press *[ENTER]* to save the setting and close the sub-menu. To close the sub and that main menu without changes, press *[MODE/ESC]* or wait ten seconds.



**DMX address**

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'ADDRESS'. Press *[ENTER]*. The display starts flashing. Now you can enter the number of the first DMX channel to be used by the unit (DMX address). Use the buttons *[UP]* or *[DOWN]* to select a value between 1 and 512.

If the display shows the desired value, press *[ENTER]* to save the setting and close the sub-menu. To close the sub and that main menu without changes, press *[MODE/ESC]* or wait ten seconds.

Make sure the DMX address suits to the configuration of your DMX controller. The following table shows the highest possible DMX address for the different DMX modes.

<b>Mode</b>	<b>Highest possible DMX address</b>
9-channel	504
11-channel	502
18-channel	495
20-channel	493

### **Pan inversion**

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'SETTING'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'INVERT'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'PAN'. Use the buttons *[UP]* or *[DOWN]* to select 'NORMAL' (normal rotation direction) or 'REVERSE' (reverse rotation direction).

Press *[ENTER]* to save the setting and close the submenu. To close the sub and that main menu without changes, press *[MODE/ESC]* or wait ten seconds.

### **Tilt inversion**

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'SETTING'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'INVERT'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'TILT'. Use the buttons *[UP]* or *[DOWN]* to select 'NORMAL' (normal direction of inclination) or 'REVERSE' (reverse direction of inclination).

If the display shows the desired value, press *[ENTER]* to save the setting and close the submenu. To close the sub and that main menu without changes, press *[MODE/ESC]* or wait ten seconds.

### Operating mode 'DMX'

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'SETTING'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'CHANNELS'. Press *[ENTER]*. The display starts flashing. Use the buttons *[UP]* or *[DOWN]* to select one of the following DMX operating modes: 9-channel, 11-channel, 18-channel or 20-channel. This setting is only relevant if the device is controlled via DMX.

If the display shows the desired value, press *[ENTER]* to save the setting and close the sub-menu. To close the sub and that main menu without changes, press *[MODE/ESC]* or wait ten seconds.

### Switching the display on and off

This function allows you to set whether the display is constantly lit or whether it automatically goes off 60 seconds after the last key operation.

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'SETTING'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]*, until the display shows 'DISPLAY'. Press *[ENTER]*. The display starts flashing. Use the buttons *[UP]* or *[DOWN]* to select '60s OFF' or 'Always on'.

If the display shows the desired value, press *[ENTER]* to save the setting and close the sub-menu. To close the sub and that main menu without changes, press *[MODE/ESC]* or wait ten seconds.

### Microphone sensitivity

This function allows you to set the microphone sensitivity for the sound control.

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'SETTING'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'SOUND'. Press *[ENTER]*. The display starts flashing. Use the buttons *[UP]* or *[DOWN]* to select a value between 1 and 255.

If the display shows the desired value, press *[ENTER]* to save the setting and close the sub-menu. To close the sub and that main menu without changes, press *[MODE/ESC]* or wait ten seconds.

### Default settings

This function allows you to reset the device to the factory default settings.

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'SETTING'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'DEFAULT'. Press *[ENTER]*. The display starts flashing. Use the buttons *[UP]* or *[DOWN]* to select 'YES' or 'NO'.

If the display shows the desired value, press *[ENTER]*. To return to the main menu, press *[MODE/ESC]* or wait ten seconds.

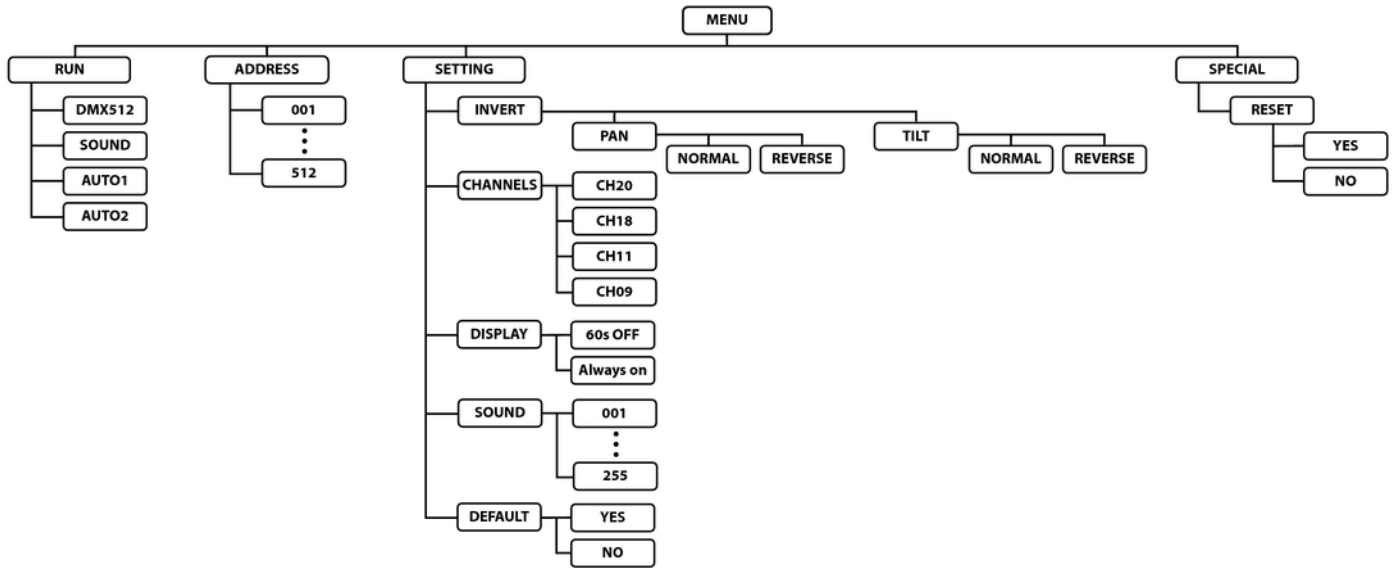
## Resetting control

This function allows you to restart the control of the device.

Press *[MODE/ESC]*, then *[UP]* or *[DOWN]* until the display shows 'SPECIAL'. Press *[ENTER]*. The display starts flashing. Press the buttons *[UP]* or *[DOWN]* until the display shows 'RESET'. Press *[ENTER]*. The display starts flashing. Use the buttons *[UP]* or *[DOWN]* to select 'YES' or 'NO'.

If the display shows the desired value, press *[ENTER]*. To return to the main menu, press *[MODE/ESC]* or wait ten seconds.

### Menu overview



## 6.3 Function in 9-channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0° to 540°)
2	0...255	Inclination (tilt) (0° to 270°)
3	0...255	Rotation (pan) and inclination (tilt) speed, fast to slow
4	0...255	Intensity red (0 % to 100 %), all three segments
5	0...255	Intensity green (0 % to 100 %), all three segments
6	0...255	Intensity blue (0 % to 100 %), all three segments
7	Built-in automatic shows (colour and effect macros)	
	0...10	No show
	11...255	One of 25 built-in automatic shows
8	Special settings	
	0...10	All LEDs off

Channel	Value	Function
	11...20	All LEDs on
	21...30	Reset
	31...250	Strobe effect, increasing speed
	251..255	All LEDs on
9	0...255	Dimmer (0 % to 100 %)

## 6.4 Function in 11-channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0° to 540°)
2	0...255	Inclination (tilt) (0° to 270°)
3	0...255	Fine adjustment of rotation (pan)



Channel	Value	Function
4	0...255	Fine adjustment of inclination (tilt)
5	0...255	Rotation (pan) and inclination (tilt) speed, fast to slow
6	0...255	Intensity red (0 % to 100 %), all three segments
7	0...255	Intensity green (0 % to 100 %), all three segments
8	0...255	Intensity blue (0 % to 100 %), all three segments
9	Built-in automatic shows (colour and effect macros)	
	0...10	No show
	11...255	One of 25 built-in automatic shows
10	Special settings	
	0...10	All LEDs off
	11...20	All LEDs on
	21...30	Reset
	31...250	Strobe effect, increasing speed

Channel	Value	Function
	251..255	All LEDs on
11	0...255	Dimmer (0 % to 100 %)

## 6.5 Function in 18-channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0° to 540°)
2	0...255	Inclination (tilt) (0° to 270°)
3	0...255	Rotation (pan) and inclination (tilt) speed, fast to slow
4	0...255	Intensity red (0 % to 100 %), all three segments
5	0...255	Intensity green (0 % to 100 %), all three segments
6	0...255	Intensity blue (0 % to 100 %), all three segments

Channel	Value	Function
7	0...255	Intensity red (0 % to 100 %), outer LED circle
8	0...255	Intensity green (0 % to 100 %), outer LED circle
9	0...255	Intensity blue (0 % to 100 %), outer LED circle
10	0...255	Intensity red (0 % to 100 %), middle LED circle
11	0...255	Intensity green (0 % to 100 %), middle LED circle
12	0...255	Intensity blue (0 % to 100 %), middle LED circle
13	0...255	Intensity red (0 % to 100 %), inner LED circle
14	0...255	Intensity green (0 % to 100 %), inner LED circle
15	0...255	Intensity blue (0 % to 100 %), inner LED circle
16	Built-in automatic shows (colour and effect macros)	
	0...10	No show
	11...255	One of 25 built-in automatic shows (macros)
17	Special settings	

Channel	Value	Function
	0...10	All LEDs off
	11...20	All LEDs on
	21...30	Reset
	31...250	Strobe effect, increasing speed
	251..255	All LEDs on
18	0...255	Dimmer (0 % to 100 %)

## 6.6 Function in 20-channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0° to 540°)
2	0...255	Inclination (tilt) (0° to 270°)

Channel	Value	Function
3	0...255	Fine adjustment of rotation (pan)
4	0...255	Fine adjustment of inclination (tilt)
5	0...255	Rotation (pan) and inclination (tilt) speed, fast to slow
6	0...255	Intensity red (0 % to 100 %), all three segments
7	0...255	Intensity green (0 % to 100 %), all three segments
8	0...255	Intensity blue (0 % to 100 %), all three segments
9	0...255	Intensity red (0 % to 100 %), outer LED circle
10	0...255	Intensity green (0 % to 100 %), outer LED circle
11	0...255	Intensity blue (0 % to 100 %), outer LED circle
12	0...255	Intensity red (0 % to 100 %), middle LED circle
13	0...255	Intensity green (0 % to 100 %), middle LED circle
14	0...255	Intensity blue (0 % to 100 %), middle LED circle
15	0...255	Intensity red (0 % to 100 %), inner LED circle

Channel	Value	Function
16	0...255	Intensity green (0 % to 100 %), inner LED circle
17	0...255	Intensity blue (0 % to 100 %), inner LED circle
18	Built-in automatic shows (colour and effect macros)	
	0...10	No show
	11...255	One of 25 built-in automatic shows (macros)
19	Special settings	
	0...10	All LEDs off
	11...20	All LEDs on
	21...30	Reset
	31...250	Strobe effect, increasing speed
	251..255	All LEDs on
20	0...255	Dimmer (0 % to 100 %)

## 7 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	<ol style="list-style-type: none"><li>1. The LED 'DMX' should be flashing on data transmission. If it doesn't, check the DMX connectors and cables for proper connection.</li><li>2. If the LED 'DMX' lights up without response, check the address settings and DMX polarity.</li><li>3. Try using another DMX controller.</li><li>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.</li></ol>

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at [www.thomann.de](http://www.thomann.de).



## 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 Technical specifications

Number of DMX channels	9, 11, 18 or 20 channels, depending on operating mode
Illuminant	36 tricolour LEDs (3 W), arranged in three circular segments
Dispersion	22°
Maximum rotation angle (pan)	540°
Maximum inclination angle (tilt)	270°
Dimmer	electronic, 0 ... 100 %
Operating voltage supply	AC 230 V ~ , 50 Hz
Power consumption	152 W
Fuse	5 mm × 20 mm, 2.0 A, 250 V, fast-acting
Dimensions (W × D × H)	247 mm × 247 mm × 314 mm
Weight	6.2 kg

## 10 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.



MH-336





