



MH-x200 Pro Spot moving head

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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, include the manual for the next owner.

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 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!

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.

3 Features

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

Special features of the device:

- Two moving axes with 8 or 16 bit resolution:
 - Inclination (270 °)
 - Rotation (540 °)
- Automatic position correction
- Control via DMX (11 or 16 channels) as well as via buttons and display on the unit
- Preprogrammed automatic show programmes
- Sound control
- Master / slave mode
- Colour wheel with white, 7 full colours, 7 split colours and rainbow effect
- Gobo wheel with 8 static gobos, gobo shake function and rainbow effect
- Gobo wheel with 7 rotatable gobos and rainbow effect
- Effects wheel with triple prism
- Electronical dimmer

- Electronical aperture
- Mechanical focus
- Shutter frequency: 0...20 Hz

4 Installation

Unpack and carefully check that 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.



WARNING!

Risk of injury by falling off

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.

The carrying capacity of the truss or other mounting must be sufficient for the intended number of devices. Note that the movement of the head may additionally stress the load-bearing structures.

**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**

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 input or 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 the pin assignment of a suitable XLR plug.

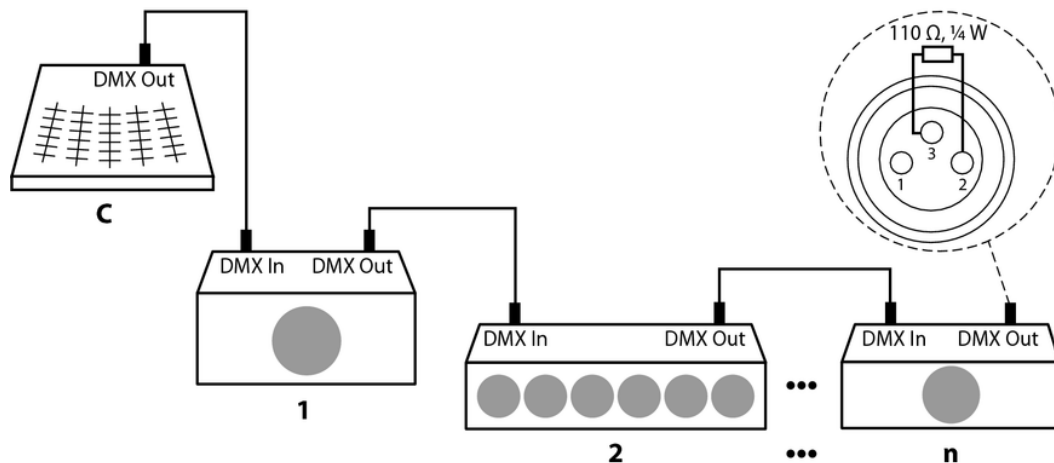
Pin	Configuration
1	Ground, shielding
2	Signal inverted (DMX-, 'cold signal')
3	Signal (DMX+, 'hot signal')

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



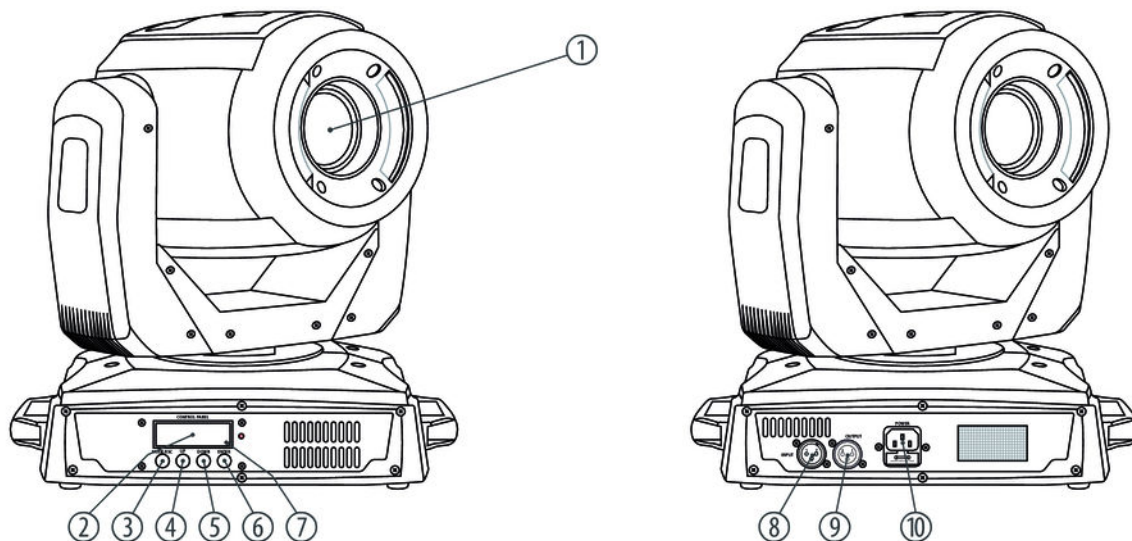
DMX indicator

If the device and the DMX controller are in operation, the DMX indicator in the display (red LED) 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 Connections and operating elements



MH-x200 Pro Spot

1	Light aperture with projection lens (mechanical focus).
2	Display
3	<i>[MODE/ESC]</i> button Activates the main menu and the settings menu and switches between the menu items. Closes an open menu without saving the changes.
4	<i>[UP]</i> button Increases the displayed value by one.
5	<i>[DOWN]</i> button Decreases the displayed value by one.
6	<i>[ENTER]</i> button Selects an option of the respective operating mode, confirms the set value.
7	DMX indicator.

8	INPUT DMX input.
9	OUTPUT DMX output.
10	POWER IEC chassis connector with fuse holder.

7 Operation

7.1 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 device to the power grid to start operation. After a few seconds, the fans start to work and the head moves to the pan (rotation) and tilt (inclination) home position. After some more seconds the display shows 'DMX Address: 001'. Now the device is operational.

7.2 Main menu

Press *[MODE/ESC]* to activate the main menu. Press *[UP]* and *[DOWN]* to select a main menu item and *[ENTER]* to open the selected menu item.

Use *[UP]* and *[DOWN]* to change the respectively indicated value. When the display shows the desired value, press *[ENTER]*. To return to the main menu without any changes, press *[MODE/ESC]*.

If you don't press any button for about 30 seconds, the display turns dark. Then press *[MODE/ESC]* briefly to turn it on again.

All previous settings are saved, even if you turn the device off and disconnect it from the mains. To restart with default values, use the 'Load set' function (↺ 'Loading default values' on page 32).

DMX address

Press *[MODE/ESC]* repeatedly until the display shows 'DMX Address'. Press *[ENTER]* to open this menu item. Now you can set the number of the first DMX channel to be used by the device (DMX address). Use *[UP]* and *[DOWN]* to select a value between 1 and 512.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Make sure that this number 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
11 channels	502
16 channels	497

Operating mode 'Auto-Show'

Press **[MODE/ESC]** repeatedly until the display shows **'Run'**. Press **[ENTER]** to open this menu item. Now use **[UP]** and **[DOWN]** to select the operating mode. Press **[ENTER]** to start operation in the selected operating mode.

Menu display	Operating mode
'Fast'	Fast automatic show in Stand-alone mode
'Slow'	Slow automatic show in Stand-alone mode
'Sound'	Sound-controlled show in Stand-alone mode
'Slave'	Preprogrammed show in slave mode

Pan inversion

Press **[MODE/ESC]** repeatedly until the display shows **'Pan'**. Press **[ENTER]** to open this menu item. Now use **[UP]** and **[DOWN]** to toggle between **'Reverse'** (inverse rotational direction) and **'Normal'** (normal rotational direction).

When the display shows the desired value, press **[ENTER]** to confirm the setting and then **[MODE/ESC]** to proceed to the next menu item. To switch the menu item without changes, press **[MODE/ESC]**.

Tilt inversion

Press *[MODE/ESC]* repeatedly until the display shows 'Tilt'. Press *[ENTER]* to open this menu item. Now use *[UP]* and *[DOWN]* to toggle between 'Reverse' (inverse direction of inclination) and 'Normal' (normal direction of inclination).

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Display duty cycle

Press *[MODE/ESC]* repeatedly until the display shows 'Display'. Press *[ENTER]* to open this menu item. Now use *[UP]* and *[DOWN]* to toggle between 'Bright' (display permanently on) and '30 Close' (display shuts off when no button is pressed for 30 seconds).

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Pan range

Press *[MODE/ESC]* repeatedly until the display shows 'Pan Angle'. Press *[ENTER]* to open this menu item. Now use *[UP]* and *[DOWN]* to determine the Pan range. Choose between '540' (Pan range = 540°), '360' (Pan range = 360°) and '180' (Pan range = 180°).

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Tilt range

Press *[MODE/ESC]* repeatedly until the display shows *'Tilt Angle'*. Press *[ENTER]* to open this menu item. Now use *[UP]* and *[DOWN]* to determine the Tilt range. Choose between *'270'* (Tilt range = 270°), *'180'* (Tilt range = 180°) and *'90'* (Tilt range = 90°).

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Operating mode 'DMX'

Press *[MODE/ESC]* repeatedly until the display shows *'Channel'*. Press *[ENTER]* to open this menu item. Now use *[UP]* and *[DOWN]* to select one of the following DMX operating modes: 11 channel (display shows *'Basic'*) or 16 channel (display shows *'Advanced'*). This setting is only relevant if the device is controlled via DMX.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Temperature display

Press *[MODE/ESC]* repeatedly until the display shows *'Temp. Display'*. Press *[ENTER]* to let the display show the current LED temperature.

Press *[MODE/ESC]* to quit the menu.

System reset

Press *[MODE/ESC]* repeatedly until the display shows 'Reset System'. Press *[ENTER]* to open this menu item. Now use *[UP]* and *[DOWN]* to select one of the following options: 'NO' or 'OK'. Select 'OK' and press *[ENTER]* to reset all moving axes, the Gobo wheels and the Colour wheel to their home positions

Loading default values

Press *[MODE/ESC]* repeatedly until the display shows 'Load Set'. Press *[ENTER]* to open this menu item. Now use *[UP]* and *[DOWN]* to select one of the following options: 'NO' or 'OK'. Select 'OK' and press *[ENTER]* to reset all parameters to their factory default values.

7.3 Settings menu

Press *[MODE/ESC]* for at least five seconds to activate the settings menu. Use *[UP]* and *[DOWN]* to enter the password 2323. Use the *[UP]* button to change the digit on the cursor position, the *[DOWN]* button moves the cursor to the next position. Press *[ENTER]* when all digits are entered.

Press *[MODE/ESC]* twice to quit the settings menu.

All previously done settings are saved, even if you disconnect the device from the mains power supply.

Rotation (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Pan Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Inclination (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Tilt Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Colour wheel (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Color Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Gobo wheel 1 (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Gobo 1 Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Gobo rotation

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Gota Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired rotation position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Gobo wheel 2 (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Gobo 2 Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Focus (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Focus Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Prism (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Prism Init'. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

Aperture (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Iris Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired home position.

When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

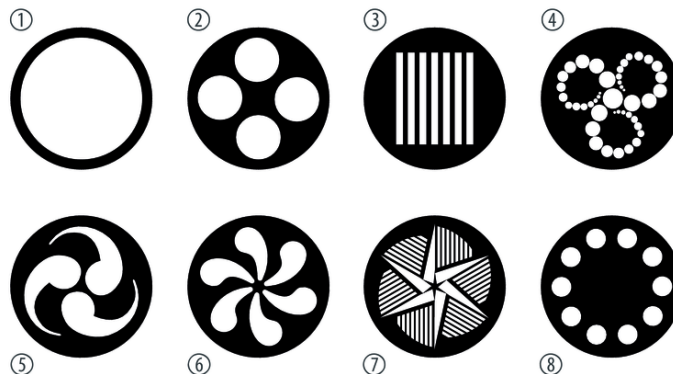
Brightness (alignment)

Activate the settings menu. Press *[MODE/ESC]* repeatedly until the display shows 'Lamp Init'. Press *[ENTER]* to open this menu item. Use the *[UP]* and *[DOWN]* buttons to adjust the desired default brightness.

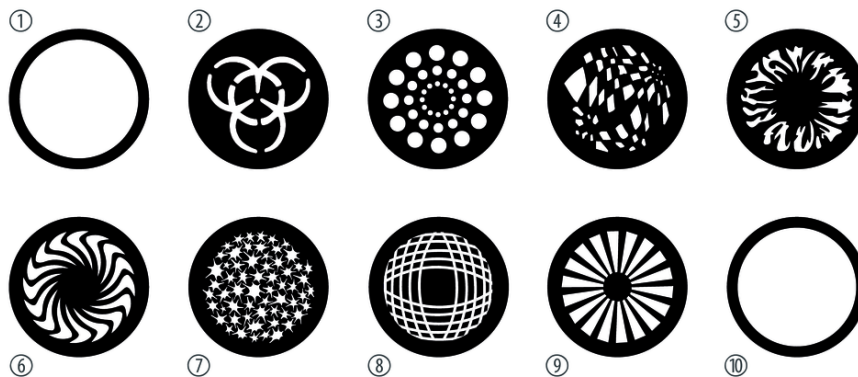
When the display shows the desired value, press *[ENTER]* to confirm the setting and then *[MODE/ESC]* to proceed to the next menu item. To switch the menu item without changes, press *[MODE/ESC]*.

7.4 Gobos

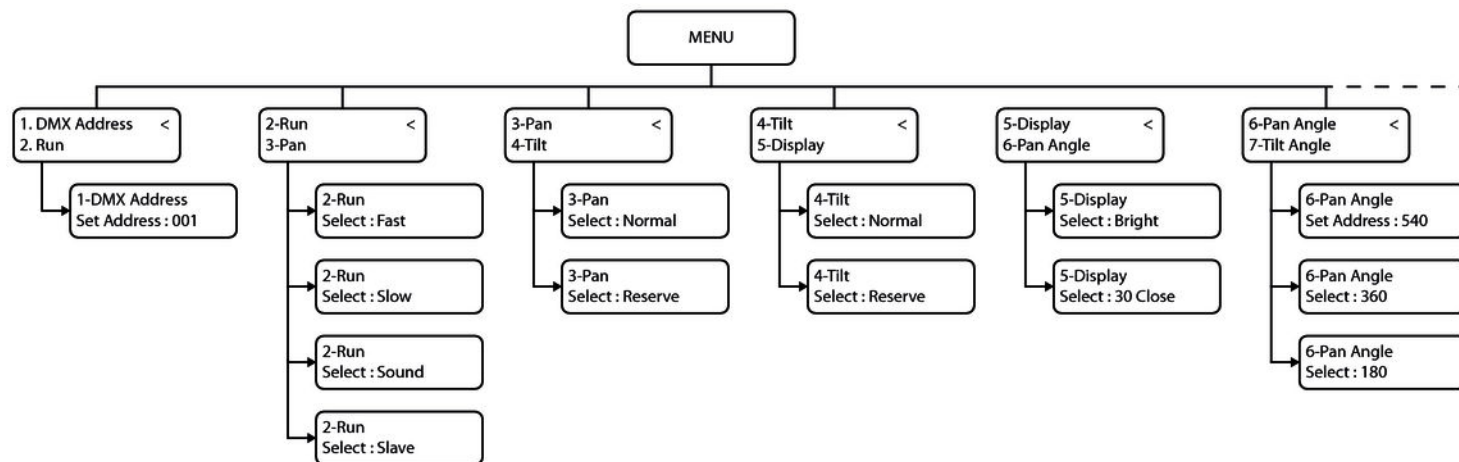
Gobo wheel 1, rotating gobos

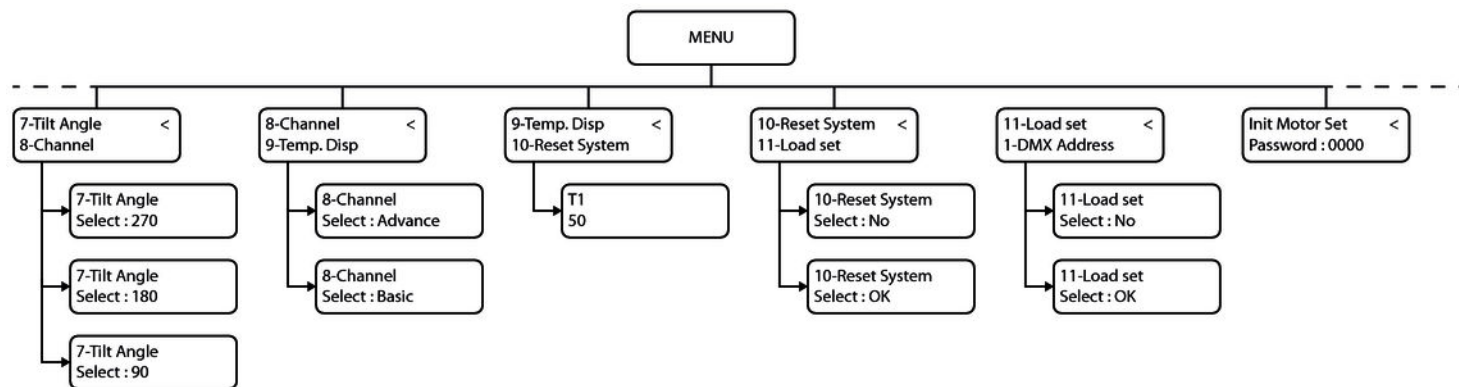


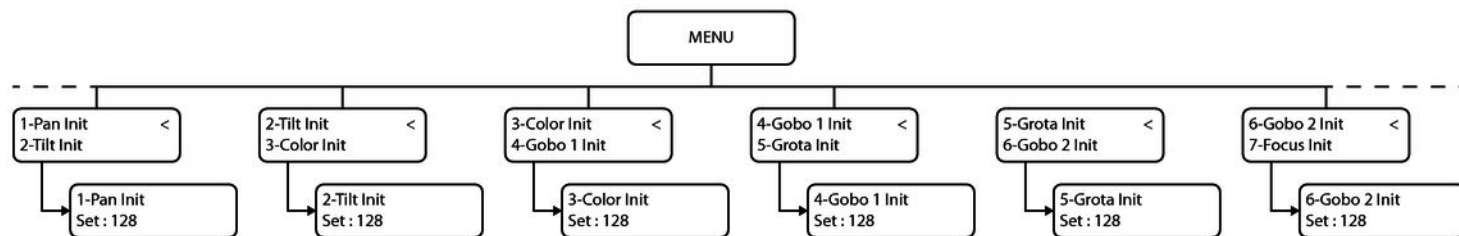
Gobo wheel 2, static gobos

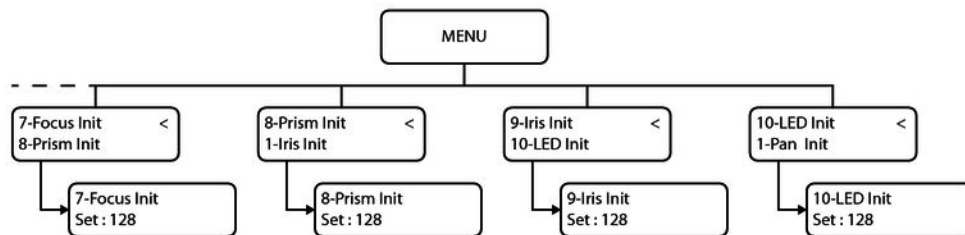


7.5 Menu overview









7.6 Functions in 11 channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0° to maximum Pan range value: 180°, 270° or 540°)
2	0...255	Inclination (tilt) (0° to maximum Tilt range value: 90°, 180° or 270°)
3	Colour wheel	
	0...7	White
	8...15	Blue
	16...23	Yellow
	24...31	Pink
	32...39	Green
	40...47	Red
	48...55	Light blue
	56...63	Orange red

Channel	Value	Function
	64...66	White
	67...78	Stepwise transition from white to blue
	79...92	Stepwise transition from blue to yellow
	93...107	Stepwise transition from yellow to pink
	108...120	Stepwise transition from pink to green
	121...136	Stepwise transition from green to red
	137...152	Stepwise transition from red to light blue
	153...170	Stepwise transition from light blue to orange red
	171...212	Rotation clockwise, increasing speed
	213...255	Rotation counter-clockwise, increasing speed
4	Shutter	
	0...7	Closed
	8...22	Open

Channel	Value	Function
	23...85	Strobe light, increasing speed
	86...100	Open
	101...165	Triple strobe, increasing speed
	166...180	Open
	181...245	Irregular strobe light, increasing speed
	246...255	Open
5	Dimmer	
	0...255	0...100 %
6	Gobo wheel 1, movable	
	0...9	Open
	10...19	Gobo 2
	20...29	Gobo 3
	30...39	Gobo 4

Channel	Value	Function
	40...49	Gobo 5
	50...59	Gobo 6
	60...69	Gobo 7
	70...79	Gobo 8
	80...99	Gobo 2 shake, increasing speed
	100...119	Gobo 3 shake, increasing speed
	120...139	Gobo 4 shake, increasing speed
	140...159	Gobo 5 shake, increasing speed
	160...179	Gobo 6 shake, increasing speed
	180...199	Gobo 7 shake, increasing speed
	200...219	Gobo 8 shake, increasing speed
	220...237	Rotation clockwise, increasing speed
	238...255	Rotation counter-clockwise, increasing speed

Channel	Value	Function
7	Gobo rotation	
	0...10	No rotation
	11...127	Fixed position from 0° to 360°
	128...191	Rotation clockwise, increasing speed
	192...255	Rotation counter-clockwise, increasing speed
8	Gobo wheel 2, static	
	0...9	Open
	10...19	Gobo 2
	20...29	Gobo 3
	39...39	Gobo 4
	40...49	Gobo 5
	50...59	Gobo 6
	60...69	Gobo 7

Channel	Value	Function
	70...79	Gobo 8
	80...89	Gobo 9
	90...91	Open
	92...107	Gobo 2 shake, increasing speed
	108...123	Gobo 3 shake, increasing speed
	124...139	Gobo 4 shake, increasing speed
	140...155	Gobo 5 shake, increasing speed
	156...171	Gobo 6 shake, increasing speed
	172...187	Gobo 7 shake, increasing speed
	188...203	Gobo 8 shake, increasing speed
	204...219	Gobo 9 shake, increasing speed
	220...237	Rotation clockwise, increasing speed
	238...255	Rotation counter-clockwise, increasing speed

Channel	Value	Function
9	Focus	
	0...255	Focussing
10	Aperture	
	0...63	Open / close iris diaphragm manually
	64...127	Automatic zoom, increasing speed
	128...191	Slow zooming in, fast zooming out
	192...255	Fast zooming in, slow zooming out
11	Prism	
	0...7	White
	8...15	Static prism
	16...127	Clockwise rotating prism
	128...239	Counter-clockwise rotating prism
	240...255	Static prism

7.7 Functions in 16 channel DMX mode

Channel	Value	Function
1	0...255	Rotation (pan) (0° to maximum Pan range value: 180°, 270° or 540°)
2	0...255	Inclination (tilt) (0° to maximum Tilt range value: 90°, 180° or 270°)
3	0...255	Rotation (pan), 16 bit operation
4	0...255	Inclination (tilt), 16 bit operation
5	0...255	Speed rotation/inclination, fast to slow
6	Colour wheel	
	0...7	White
	8...15	Blue
	16...23	Yellow
	24...31	Pink
	32...39	Green

Channel	Value	Function
	40...47	Red
	48...55	Light blue
	56...63	Orange red
	64...66	White
	67...78	Stepwise transition from white to blue
	79...92	Stepwise transition from blue to yellow
	93...107	Stepwise transition from yellow to pink
	108...120	Stepwise transition from pink to green
	121...136	Stepwise transition from green to red
	137...152	Stepwise transition from red to light blue
	153...170	Stepwise transition from light blue to orange red
	171...212	Rotation clockwise, increasing speed
	213...255	Rotation counter-clockwise, increasing speed

Channel	Value	Function
7	Shutter	
	0...7	Closed
	8...22	Open
	23...85	Strobe light, increasing speed
	86...100	Open
	101...165	Triple strobe, increasing speed
	166...180	Open
	181...245	Irregular strobe light, increasing speed
	246...255	Open
8	Dimmer	
	0...255	0...100 %
9	Gobo wheel 1, movable	
	0...9	Open

Channel	Value	Function
	10...19	Gobo 2
	20...29	Gobo 3
	30...39	Gobo 4
	40...49	Gobo 5
	50...59	Gobo 6
	60...69	Gobo 7
	70...79	Gobo 8
	80...99	Gobo 2 shake, increasing speed
	100...119	Gobo 3 shake, increasing speed
	120...139	Gobo 4 shake, increasing speed
	140...159	Gobo 5 shake, increasing speed
	160...179	Gobo 6 shake, increasing speed
	180...199	Gobo 7 shake, increasing speed

Channel	Value	Function
	200...219	Gobo 8 shake, increasing speed
	220...237	Rotation clockwise, increasing speed
	238...255	Rotation counter-clockwise, increasing speed
10	Gobo rotation	
	0...10	No rotation
	11...127	Fixed position from 0° to 360°
	128...191	Rotation clockwise, increasing speed
	192...255	Rotation counter-clockwise, increasing speed
11	Gobo wheel 2, static	
	0...9	Open
	10...19	Gobo 2
	20...29	Gobo 3
	30...39	Gobo 4

Channel	Value	Function
	40...49	Gobo 5
	50...59	Gobo 6
	60...69	Gobo 7
	70...79	Gobo 8
	80...89	Gobo 9
	90...91	Open
	92...107	Gobo 2 shake, increasing speed
	108...123	Gobo 3 shake, increasing speed
	124...139	Gobo 4 shake, increasing speed
	140...155	Gobo 5 shake, increasing speed
	156...171	Gobo 6 shake, increasing speed
	172...187	Gobo 7 shake, increasing speed
	188...203	Gobo 8 shake, increasing speed

Channel	Value	Function
	204...219	Gobo 9 shake, increasing speed
	220...237	Rotation clockwise, increasing speed
	238...255	Rotation counter-clockwise, increasing speed
12	Focus	
	0...255	Focussing
13	Aperture	
	0...63	Open / close iris diaphragm manually
	64...127	Automatic zoom, increasing speed
	128...191	Slow zooming in, fast zooming out
	192...255	Fast zooming in, slow zooming out
14	Prism	
	0...7	White
	8...15	Static prism

Channel	Value	Function
	16...127	Rotating prism, rotation clockwise
	128...239	Rotating prism, rotation counter-clockwise
	240...255	Static prism
15	Channel-dependent functions	
	0...9	Free
	10...14	Blackout during rotation and inclination
	15...19	Blackout during colour wheel movement
	20...24	No blackout during colour wheel movement and during rotation and inclination
	25...29	Blackout during Gobo wheel movement
	30...34	No blackout during Gobo wheel movement and during rotation and inclination
	35...39	No blackout during colour wheel or Gobo wheel movement
	40...44	No blackout during colour wheel or Gobo wheel movement and during rotation and inclination

Channel	Value	Function
	45...49	Reset rotation
	50...54	Reset inclination
	55...59	Reset colour wheel
	60...64	Reset aperture
	65...69	Reset Gobo 1
	70...74	Reset Gobo rotation
	75...79	Reset Gobo 2
	80...84	Reset focus
	85...89	Reset prism
	90...99	Reset channels
	100...129	Free
	130...192	Random programme sequence
	193...255	Sound-control

Channel	Value	Function
16	Effects	
	0...9	Free
	10...19	Effect 1
	...	
	240...249	Effect 24
	250...255	Effect 25

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.

Fan grids

The fan grids of the device must be cleaned on a regular basis to remove dust and dirt. Before cleaning, switch off the device and disconnect AC-powered devices from the mains. Use a lint-free damp cloth for cleaning. Never use solvents or alcohol for cleaning.

9 Troubleshooting

**NOTICE!****Possible data transmission errors**

For error-free operation make use of dedicated DMX cables and do not use ordinary microphone cables.

Never connect the DMX input or output to audio devices such as mixers or amplifiers.

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

Symptom	Remedy
The unit does not work, no light, 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	16, 11
LED	120 W
Operating supply voltage	AC 230 V ~ , 50 Hz
Power consumption	200 W
Dimensions (W × D × H), when pointing upwards	495 mm × 422 mm × 482 mm
Weight	20.5 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.



