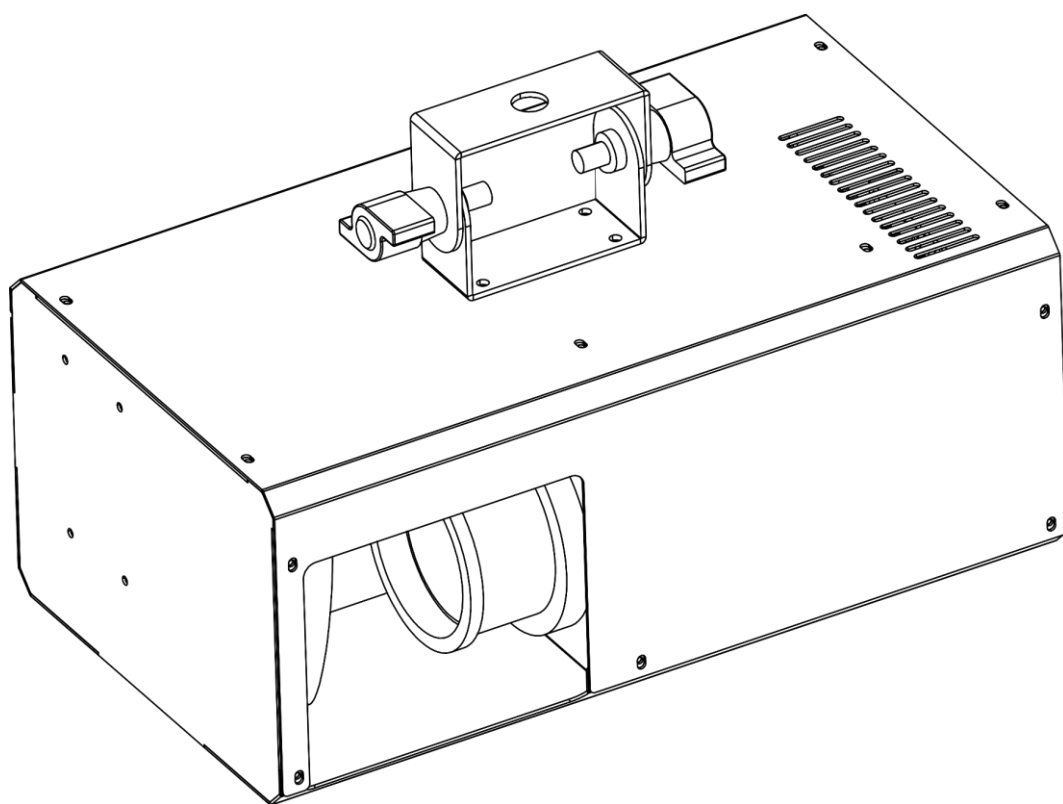




USER MANUAL



ENGLISH

Mad Moon

V1

Product code: 43171

Preface

Thank you for purchasing this Showtec product.

The purpose of this user manual is to provide instructions for the correct and safe use of this product.

Keep the user manual for future reference as it is an integral part of the product. The user manual shall be stored at an easily accessible location.

This user manual contains information concerning:

- Safety instructions
- Intended and non-intended use of the device
- Installation and operation of the device
- Maintenance procedures
- Troubleshooting
- Transport, storage and disposal of the device

Non-observance of the instructions in this user manual may result in serious injuries and damage of property.

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Design and product specifications are subject to change without prior notice.

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1. Introduction

1.1. Before Using the Product



Important

Read and follow the instructions in this user manual before installing, operating or servicing this product.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

After unpacking, check the contents of the box. If any parts are missing or damaged, contact your Highlite International dealer.

Your shipment includes:

- Showtec Mad Moon
- Schuko to IEC (C13) power cable (1,5 m)
- User manual

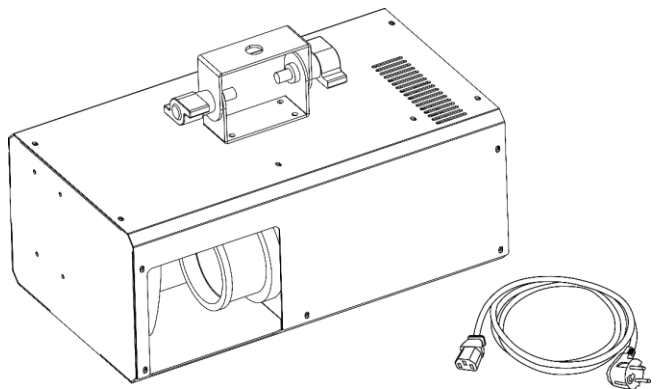


Fig. 01

1.2. Intended Use

This device is intended for professional use as a light effect. It is suitable only for indoor installation. This device is not suitable for households and for general lighting.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

1.3. Product Lifespan

This device is not designed for permanent operation. Disconnect the device from the electrical power supply when the device is not in operation. This will reduce the wear and will improve the device's lifespan.

1.4. LEDs Lifespan

The light output of the LEDs gradually decreases over time (lumen depreciation). High operating temperatures contribute to this process. You can extend the lifespan of the LEDs by providing adequate ventilation and operating the LEDs at the lowest possible brightness.

1.5. Text Conventions

Throughout the user manual the following text conventions are used:

- Buttons: All buttons are in bold lettering, for example "Press the **UP/DOWN** buttons"
- References: References to chapters and parts of the device are in bold lettering, for example: "Refer to **2. Safety**", "turn the **adjustment handle (05)**"
- 0–255: Defines a range of values
- Notes: **Note:** (in bold lettering) is followed by useful information or tips

1.6. Symbols and Signal Words

Safety notes and warnings are indicated throughout the user manual by safety signs.

Always follow the instructions provided in this user manual.



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.



Attention

Indicates important information for the correct operation and use of the product.



Important

Read and observe the instructions in this document.



Electrical hazard



Provides important information about the disposal of this product.

1.7. Symbols on the Information Label

This product is provided with an information label. The information label is located at the backside of the device.

The information label contains the following symbols:



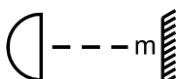
This device is designed for indoor use.



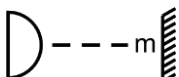
This device shall not be treated as household waste.



This device falls under IEC protection class I.



Minimum distance from lighted objects.



Minimum distance from other objects.

2. Safety



Important
Read and follow the instructions in this user manual before installing, operating or servicing this product.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

2.1. Warnings and Safety Instructions



DANGER
Danger for children

For adult use only. The device must be installed beyond the reach of children.

- Do not leave various parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within children's reach. Packaging material is a potential source of danger for children.



DANGER
Electric shock caused by dangerous voltage inside

There are areas within the device where dangerous touch voltage may be present.

- Do not open the device or remove any covers.
- Do not operate the device if the covers or the housing are open. Before operation, check if the housing is firmly closed and all screws are tightly fastened.
- Disconnect the device from electrical power supply before service and maintenance, and when the device is not in use.



DANGER
Electric shock caused by short-circuit

This device falls under IEC protection class I.

- Make sure that the device is electrically connected to ground (earth). Connect the device only to a socket-outlet with ground (earth) connection.
- Do not cover the ground (earth) connection.
- Do not bypass the thermostatic switch or fuses.
- For replacement use fuses of the same type and rating only.
- Do not let the power cable come into contact with other cables. Handle the power cable and all connections with the mains with caution.
- Do not modify, bend, mechanically strain, put pressure on, pull or heat up the power cable.
- Make sure that the power cable is not crimped or damaged. Examine the power cable periodically for any defects.
- Do not immerse the device in water or other liquids. Do not install the device in a location where flooding may occur.
- Do not use the device during thunderstorms. Disconnect the device from the electrical power supply immediately.



WARNING
Risk of epileptic shock

Strobe lighting can trigger seizures in photosensitive epilepsy. Sensitive persons should avoid looking at strobe lights.



Attention
Power supply

- Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.
- Make sure that the cross-sectional area of the extension cords and power cables is sufficient for the required power consumption of the device.



Attention
General safety

- Do not insert objects into the air vents.
- Do not connect the device to a dimmer pack.
- Do not switch the device on and off in short intervals. This decreases the device's life.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Change the lens or the LEDs if they are visibly damaged to such an extent that their effectiveness is impaired, for example by cracks or deep scratches. Contact your Highlite International dealer for more information, as servicing can be performed only by instructed or skilled persons.
- If the device is dropped or struck, disconnect the device from the electrical power supply immediately.
- If the device is exposed to extreme temperature variations (e.g. after transportation), do not switch it on immediately. Let the device reach room temperature before switching it on, otherwise it may be damaged by the formed condensation.
- If the device fails to work properly, discontinue the use immediately.



Attention
For professional use only
This device shall be used only for the purposes it is designed for.

This device is designed to be used as a professional stage light effect. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

- This device is not suitable for households and for general lighting.
- This device is not designed for permanent operation.
- This device does not contain user-serviceable parts. Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.



Attention
Before each use, examine the device visually for any defects.

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- The safety devices are not damaged.
- There are no deformations on housings, fixations and installation points.
- The lens is not cracked or damaged.
- The power cables are not damaged and do not show any material fatigue.



Attention

Do not expose the device to conditions that exceed the rated IP class conditions.

This device is IP20 rated. IP (Ingress Protection) 20 class provides protection against solid objects greater than 12 mm, such as fingers, and no protection against harmful ingress of water.

2.2. Requirements for the User

This product may be used by ordinary persons. Maintenance may be carried by ordinary persons. Installation and service shall be carried out only by instructed or skilled persons. Contact your Highlite International dealer for more information.

Instructed persons have been instructed and trained by a skilled person, or are supervised by a skilled person, for specific tasks and work activities associated with the installation, service and maintenance of this product, so that they can identify risks and take precautions to avoid them.

Skilled persons have training or experience, which enables them to recognize risks and to avoid hazards associated with the installation, service and maintenance of this product.

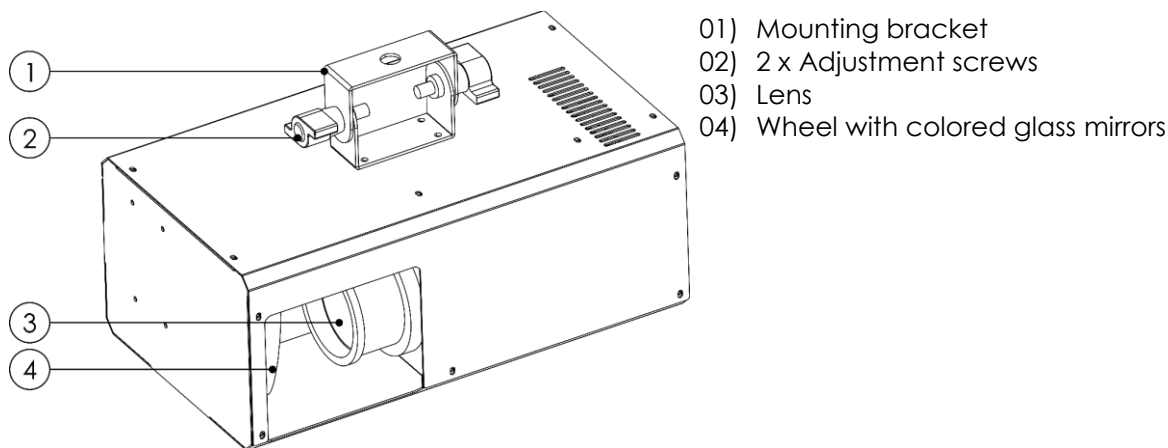
Ordinary persons are all persons other than instructed persons and skilled persons. Ordinary persons include not only users of the product but also any other persons that may have access to the device or who may be in the vicinity of the device.

3. Description of the Device

The Mad Moon has a wide projection angle of 75° and a built-in animation disc and colour wheel. Together, these create wonderful dynamic effects that are well-suited to provide a background ambiance. At the source is an efficient 100-W LED that generates white light, ensuring a powerful light output.

The Mad Moon can be controlled through 4 or 6 channels of DMX, has a Master/slave mode, and a sound control mode for stand-alone operation.

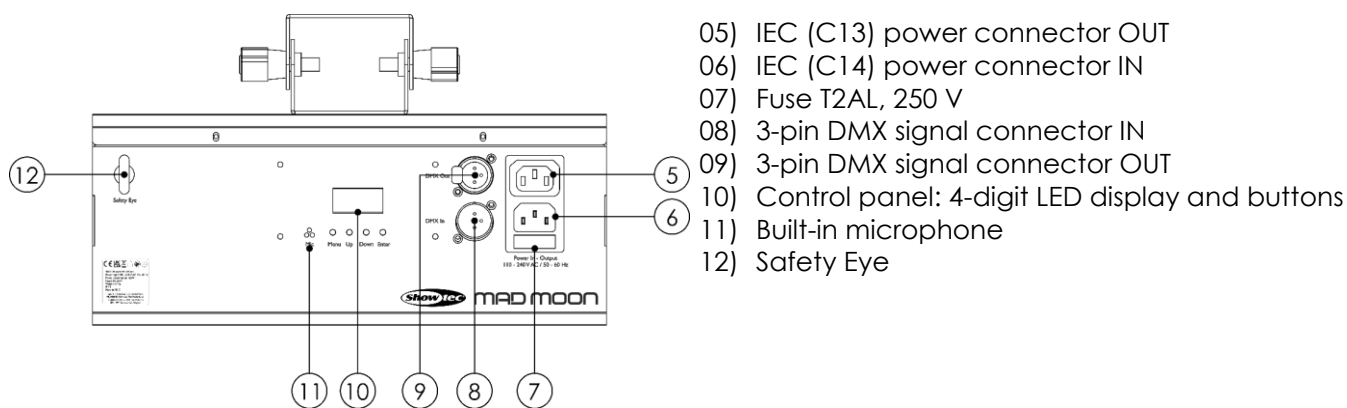
3.1. Front View



- 01) Mounting bracket
- 02) 2 x Adjustment screws
- 03) Lens
- 04) Wheel with colored glass mirrors

Fig. 02

3.2. Back View



- 05) IEC (C13) power connector OUT
- 06) IEC (C14) power connector IN
- 07) Fuse T2AL, 250 V
- 08) 3-pin DMX signal connector IN
- 09) 3-pin DMX signal connector OUT
- 10) Control panel: 4-digit LED display and buttons
- 11) Built-in microphone
- 12) Safety Eye

Fig. 03

3.3. Product Specifications

Model:	Mad Moon
--------	----------

Electrical:	
Input voltage:	100–240 V AC, 50/60 Hz
Power consumption:	122 W
Fuse:	T2AL, 250 V

Physical:	
Dimensions:	308 x 199 x 186 mm (L x W x H)
Weight:	3,7 kg

Optics:	
Light source:	100 W LED Warm White
Dimmer:	0–100 %
Strobe:	0–20 Hz
Beam angle Circular:	75°

Operation and control:	
Control:	Stand-alone (auto, manual, sound-controlled) Master/Slave (auto, manual, sound-controlled) DMX-512
DMX channels:	4, 6 channels
Control panel:	4-digit LED display and buttons

Connections:	
Power connections:	IEC (C14) power connector IN IEC (C13) power connector OUT
Data connections:	3-pin DMX connectors IN/OUT
Signal pinouts:	Pin 1 (ground), pin 2 (-), pin 3 (+)

Construction:	
Housing:	Metal
Color:	Black
IP rating:	IP20
Cooling:	Forced convection

Thermal:	
Minimum ambient temperature t_a :	0 °C
Maximum ambient temperature t_a :	40 °C
Maximum housing temperature t_c :	70 °C

Minimum distance:	
Minimum distance from flammable surfaces:	0,5 m
Minimum distance to lighted object:	0,5 m

3.4. Dimensions

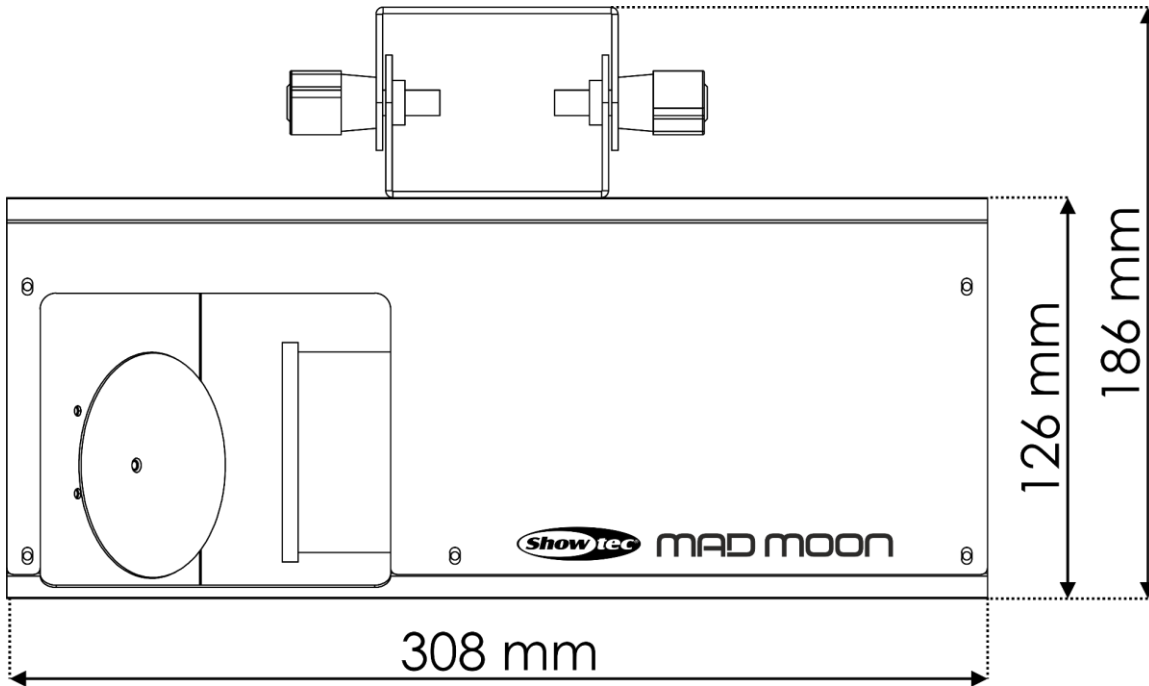


Fig. 04

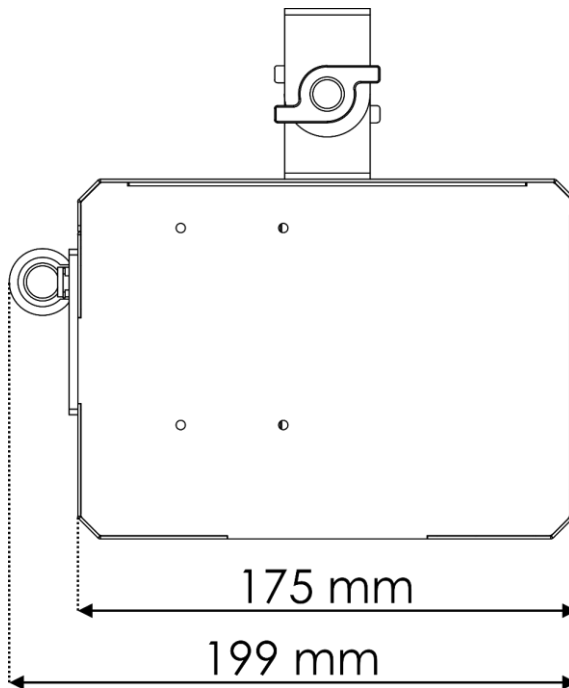


Fig. 05

4. Installation

4.1. Safety Instructions for Installation



WARNING

Incorrect installation can cause serious injuries and damage of property.

If trussing systems are used, installation must be carried out only by instructed or skilled persons.

Follow all applicable European, national and local safety regulations concerning rigging and trussing.

4.2. Personal Protective Equipment

During installation and rigging wear personal protective equipment in compliance with the national and site-specific regulations.

4.3. Installation Site Requirements

- The device can be used only indoors.
- The device can be mounted to a truss or other rigging structure.
- The minimum distance to other objects must be bigger than 0,5 m.
- The minimum distance between the light output and the illuminated surface must be bigger than 0,5 m.
- The maximum ambient temperature $t_a = 40\text{ °C}$ must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40 °C.

4.4. Rigging

The device can be positioned on a flat surface or mounted to a truss or other rigging structure. Make sure that all loads are within the pre-determined limits of the supporting structure.



CAUTION
Restrict the access under the work area during rigging and/or derigging.

To mount the device, follow the steps below:

- 01) Use a clamp to attach the device to the supporting structure, as shown in Fig. 06. Make sure that the device cannot move freely.
- 02) Secure the device with a secondary suspension, for example a safety cable. Make sure that the secondary suspension can hold 10 times the weight of the device. If possible, the secondary suspension should be attached to a supporting structure independent of the primary suspension. Put the safety cable through the **safety eye (12)**, as shown in Fig. 06.

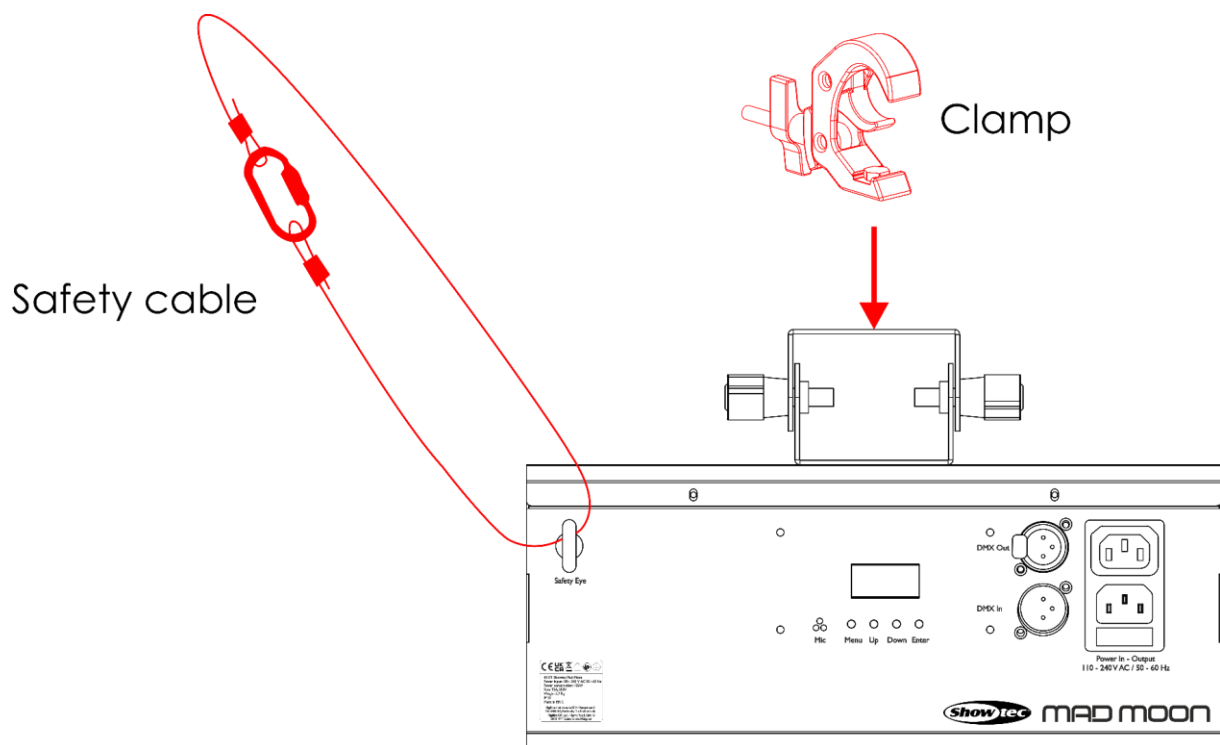


Fig. 06

4.5. Connecting to Power Supply



DANGER
Electric shock caused by short-circuit

The device accepts AC mains power at 100–240 V and 50/60 Hz. Do not supply power at any other voltage or frequency to the device.

This device falls under IEC protection class I. Make sure that the device is always electrically connected to the ground (earth).

Before connecting the device to the socket-outlet:

- Make sure that the power supply matches the input voltage specified on the information label on the device.
- Make sure that the socket-outlet has ground (earth) connection.

Connect the device to the socket-outlet with the power plug. Do not connect the device to a dimmer circuit, as this may damage the device.

4.6. Power Linking of Multiple Devices

This device supports power linking. Power can be relayed to another device via the power OUT connector. Note that the input and the output connectors have different designs: one type cannot be connected to the other.

Power linking of multiple devices must be carried out only by instructed or skilled persons.



WARNING
Incorrect power linking may lead to overload of the electrical circuit and result in serious injuries and damage of property.

To prevent overload of the electrical circuit, when power linking multiple devices:

- Use cables with sufficient current-carrying capacity. The power cable supplied with the device is not suitable for power linking of multiple devices.
- Make sure that the total current draw of the device and all connected devices does not exceed the rated capacity of the power cables and the circuit breaker.
- Do not link more devices on one power link than the maximum recommended number.

Maximum recommended number of devices:

- at 100–120 V: 10 devices Mad Moon
- at 200–240 V: 15 devices Mad Moon

5. Setup

5.1. Warnings and Precautions

**Attention****Connect all data cables before supplying power.****Disconnect power supply before connecting or disconnecting data cables.**

5.2. Stand-alone Setup

When the Mad Moon is not connected to a controller or to other devices, it functions as a stand-alone device. It can be operated manually, in auto mode or in sound-controlled mode.

For more information about the control modes, refer to **6.2. Control Modes** on page 18.

5.3. DMX Connection

5.3.1. DMX-512 Protocol

You need a DMX serial data link to run light shows of one or more devices using a DMX-512 controller or to run synchronized shows of two or more devices set in a master/slave operating mode.

The Mad Moon has 3-pin DMX signal IN and OUT connectors.

The pin assignment is as follows: pin 1 (ground), pin 2 (-), pin 3 (+).

Devices on a serial data link must be daisy-chained in a single line. The number of devices that you can control on one data link is limited by the combined number of the DMX channels of the connected devices and the 512 channels available in one DMX universe.

To comply with the TIA-485 standard, no more than 32 devices should be connected on one data link. In order to connect more than 32 devices on one data link, you must use a DMX optically isolated splitter/booster, otherwise this may result in deterioration of the DMX signal.

Note:

- Maximum recommended DMX data link distance: 300 m
- Maximum recommended number of devices on a DMX data link: 32 devices

5.3.2. DMX Cables

Shielded twisted-pair cables with 3-pin XLR connectors must be used for reliable DMX connection. You can purchase DMX cables directly from your Highlite International dealer or make your own cables.

If you use XLR audio cables for DMX data transmission, this may lead to signal degradation and unreliable operation of the DMX network.

When you make your own DMX cables, make sure that you connect the pins and wires correctly as shown in Fig. 09.

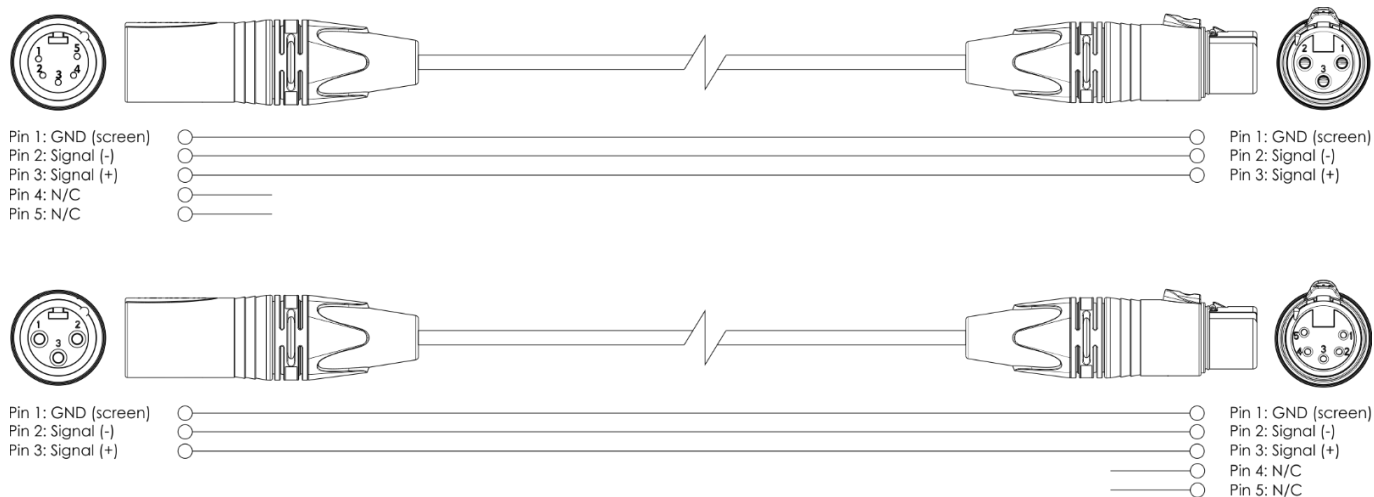


Fig. 07

5.3.3. Master/Slave Setup

The Mad Moon supports master/slave control mode. To connect multiple devices in a master/slave setup, follow the steps below:

- 01) Connect the first device's DMX OUT connector to the second device's DMX IN connector.
- 02) Repeat step 1 to connect all devices as shown in Fig. 10. The first connected device will be automatically recognized as the master device.
- 03) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device in the setup.
- 04) Set the first device on the data link as a master device and the remaining devices as slave devices. See **6.6.4 Master/Slave Mode** on page 22 for more information.

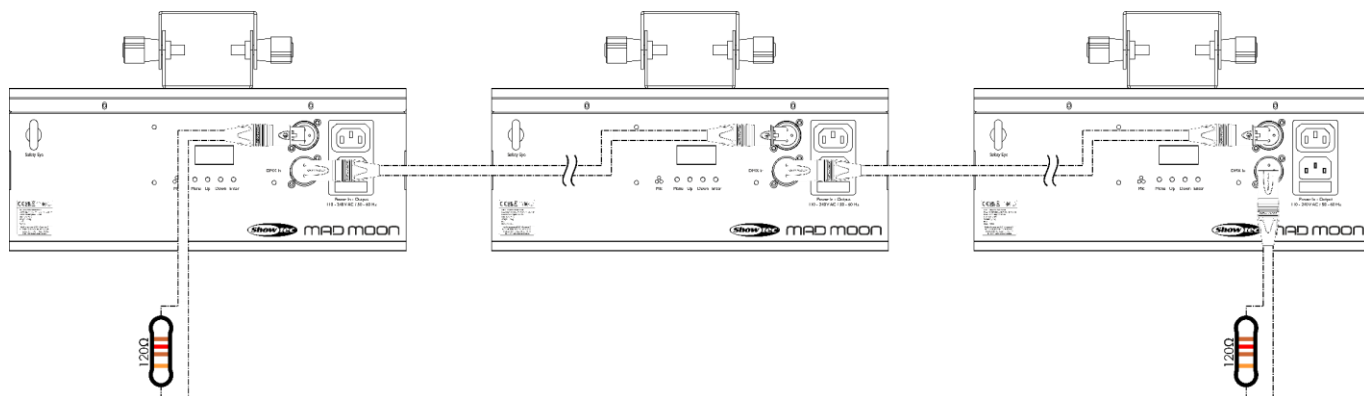


Fig. 08

5.3.4. DMX Linking

To connect multiple devices on one DMX data link, follow the steps below:

- 01) Use a 3-pin DMX cable to connect the DMX OUT connector of the lighting controller to the DMX IN connector of the first device.
- 02) Connect the first device's DMX OUT connector to the second device's DMX IN connector with a 3-pin DMX cable.
- 03) Repeat step 2 to connect all devices in a daisy-chain as shown in Fig. 11.
- 04) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device on the data link.

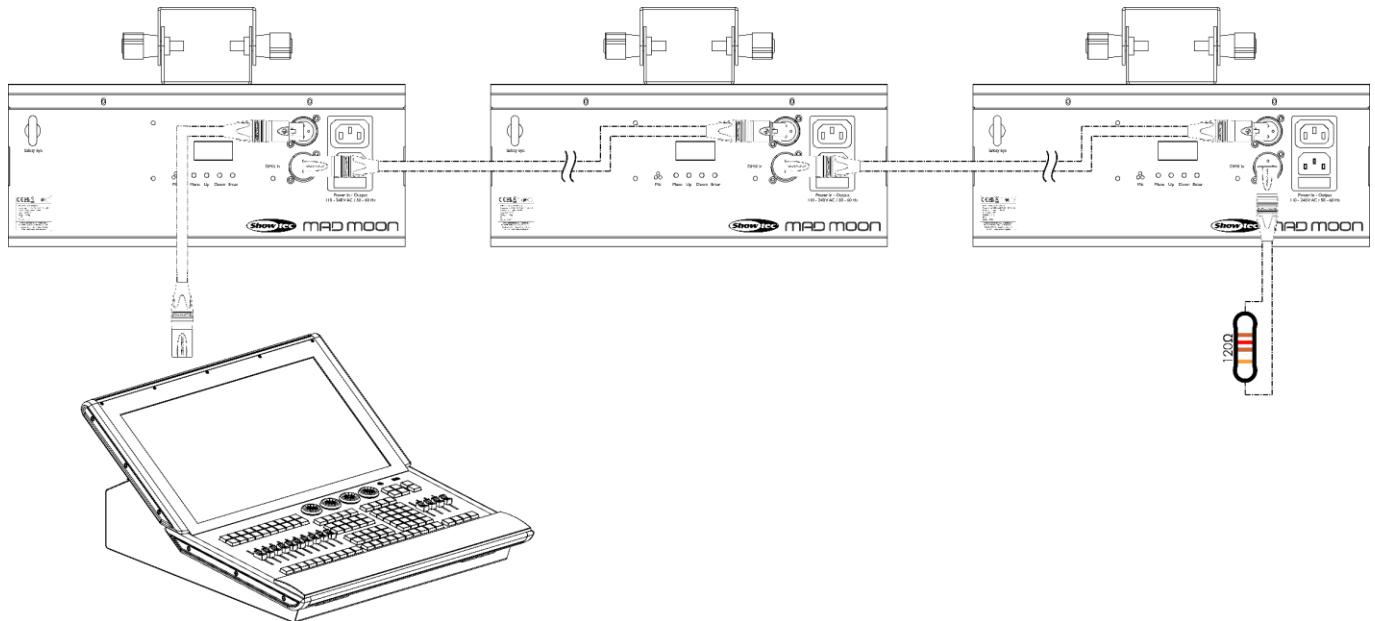


Fig. 09

5.3.5. DMX Addressing

In a setup with multiple devices, make sure that you set the DMX starting address of each device correctly. The Mad Moon has 2 personalities: 4 channels and 6 channels.

If you want to connect multiple devices on one data link and use them in 6-channel mode, for example, follow the steps below:

- 01) Set the starting address of the 1st device on the data link to 1 (001).
- 02) Set the starting address of the 2nd device on the data link to 11 (007), as $1 + 6 = 7$.
- 03) Set the starting address of the 3rd device on the data link to 13 (013) as $7 + 6 = 13$.
- 04) Continue assigning the starting addresses of the remaining devices by adding each time 6 to the previous number.

Make sure that you do not have any overlapping channels in order to control each Mad Moon correctly. If two or more devices are addressed similarly, they will work similarly.

6. Operation

6.1. Safety Instructions for Operation



Attention

This device must be used only for the purposes it is designed for.

This device is intended for professional use as a light effect. It is suitable only for indoor installation. This device is not suitable for households and for general lighting.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.



Attention

Power supply

Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.

6.2. Control Modes

The Mad Moon can be operated with a DMX controller, and as a stand-alone device or in a master/slave setup without a DMX controller.

The Mad Moon supports the following control modes:

- Stand-alone: Auto operation mode (built-in program), manual operation mode, sound-controlled operation mode (built-in program)
- Master/Slave: Auto operation mode (built-in program), manual operation mode, sound-controlled operation mode (built-in program)
- DMX-512: 4 channels and 6 channels

6.3. Control Panel

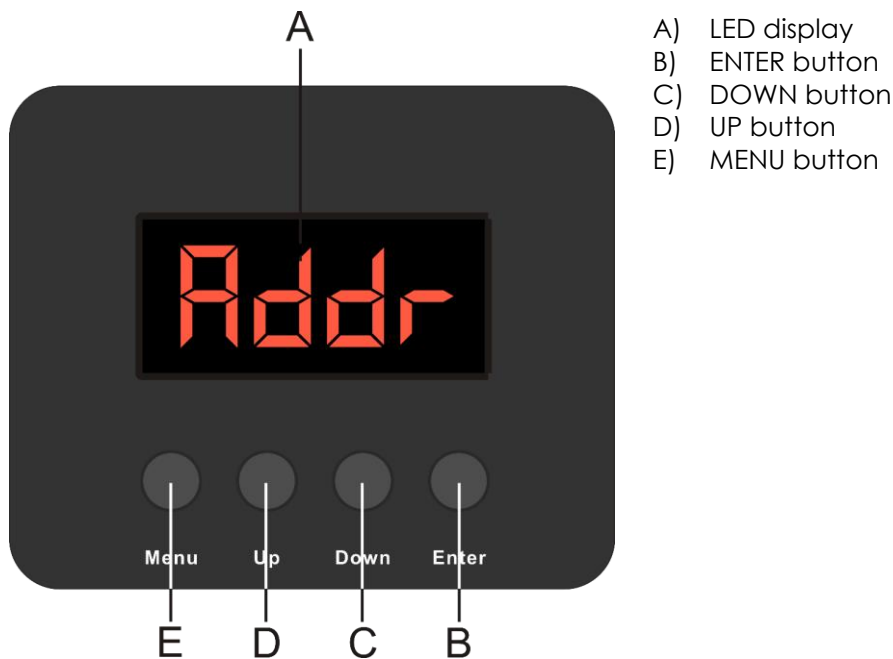


Fig. 10

- Use the **MENU** button to exit the current submenu, to return to the main menu and to return to the start screen.
- Use the **UP/DOWN** buttons to navigate through the menus or to increase/decrease numeric values.
- Use the **ENTER** button to open the desired menu, to confirm your choice or to set the currently selected value.

6.4. Start-up

Upon start-up the display will show the following screen:



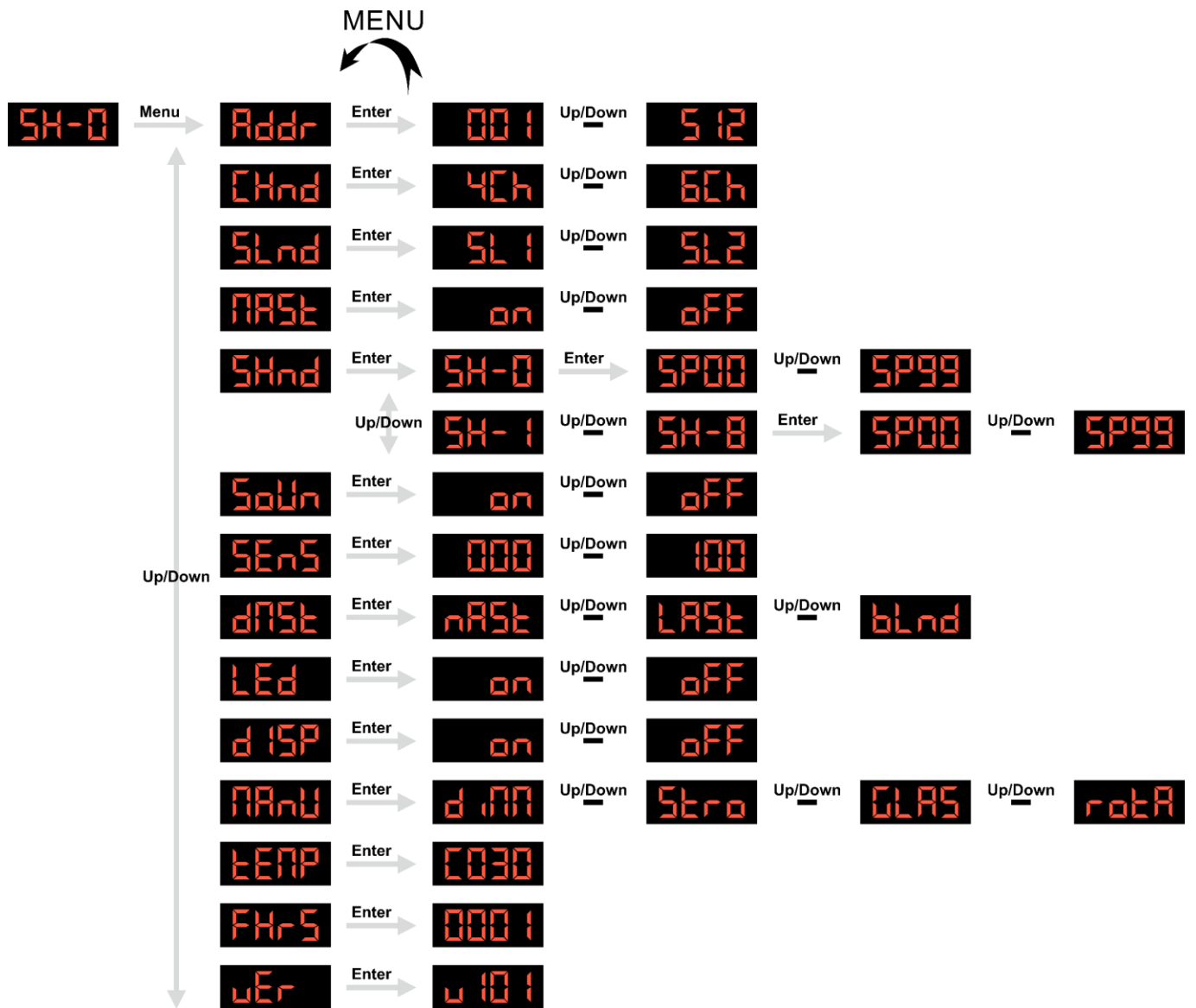
Immediately afterwards the display will show the start screen. The start screen provides information about the current control mode of the device:



The device is plays the built-in program.

Note: If no button is pressed, after 30 seconds of inactivity the display will return to the start screen and after 30 more seconds it will turn off. Press any button to turn the display on. See **6.6.9. Backlight** on page 23 for more information.

6.5. Menu Overview



6.6. Main Menu Options

The main menu has the following options:

Addr	DMX-512 Mode
CHnd	DMX Channel Modes (see 6.7. Manual Control of the DMX Channels on page 25)
SLnd	Slave Modes
MASt	Master/Slave
SHnd	Color Macros/Color Programs
SoUn	Sound Mode
SEnS	Sensitivity
dMSt	DMX Fail
LEd	Display Backlight
dISP	Display Inversion
MANU	Manual Mode
TEMP	Temperature
FXrS	Total Operation Time
vEr	Software Version

6.6.1. DMX Address

In this menu you can set the DMX starting address of the device.

- 01) Press the **UP/DOWN** buttons to select the DMX starting address of the device. The selection range is 001–512. Refer to 5.3.5. DMX Addressing on page 17 for more information.
- 02) Press the **ENTER** button to confirm the selection.

6.6.2. DMX Channel Mode

In this menu you can select the DMX channel mode.

- 01) Press the **UP/DOWN** buttons to set the desired DMX channel mode. Choose one of the 2 options:
 - 4 channels
 - 6 channels
- 02) Press the **ENTER** button to confirm the selection.

Note:

See **6.7. DMX Channels** on page 25 for complete overview of all DMX channels.

6.6.3. Slave Mode

In this menu you can set the device to slave mode.

01) Press the **UP/DOWN** buttons to choose one of the 2 options:

SL1

Normal slave mode (the slave will act the same as the master device)

SL2

Mirror slave mode (the slave will mirror the master device)

02) Press the **ENTER** button to confirm the selection.

6.6.4. Master/Slave Mode

In this menu you can set the device as a master or a slave device in master/slave control mode.

01) Press the **UP/DOWN** buttons to choose one of the 2 options:

- ON: Master Mode (The device operates as a master device and runs the built-in program.)
- OFF: Slave Mode (All slave devices will react the same as the master device)

02) Press the **ENTER** button to confirm the selection.

6.6.5. Show Mode

In this menu you can set the show modes.

01) Press the **UP/DOWN** buttons to choose one of the 9 options:

● **SH-0**

This program runs all 8 shows (SH-1 – SH-8) randomly

● **SH-1**

Up/Down

SH-8

Show 1 – Show 8

02) Press the **ENTER** button to open the following submenu to set the speed.

03) Press the **UP/DOWN** buttons to select the speed of the show. The selection range is 00–99, from slow to fast.

04) Press the **ENTER** button to confirm the selection.

Note: The Sound setting has priority over a regular DMX Show.

When the “ Sound “ is turned ON in menu **6.6.6. Sound**, the device is in sound mode.

This means, Show Speed is working and you can change the show speed.

However, the device reacts to the beat of the music. So, if no music is playing, the show speed is 0.

If the sensitivity is set between 0–54, the show speed is not working. The sensitivity has to be set ≥ 55.

When the “ Sound “ is turned OFF in menu **6.6.6. Sound**, the device is NOT in sound mode.

This means, Show Speed is working and you can change the show speed.

6.6.6. Sound control Mode

In this menu you can set the Sound control.

01) Press the **UP/DOWN** buttons to choose one of the 2 options:

- ON: Sound control ON, the device will react to the beat of the music
- OFF: Sound control OFF.

02) Press the **ENTER** button to confirm the selection.

6.6.7. Sensitivity Mode

In this menu you can set the audio sensitivity.

01) Press the **UP/DOWN** buttons to select the audio sensitivity of the device. The selection range is 000–100.

02) Press the **ENTER** button to confirm the selection.

6.6.8. Blackout/DMX Fail Mode

In this menu you can set the device's behavior in case of a DMX signal error.

01) Press the **UP/DOWN** buttons to select one of the 3 options:

- **LAST**
If the DMX signal is lost, the device will not blackout, it will automatically start its selected program **SH-0** ^{Up/Down} **SH-8**.
- **LAST**
If the DMX signal is lost, the device will not blackout, it will use its last properly received DMX signal, ensuring uninterrupted performance.
- **blnd**
If the DMX signal is lost, the device will black out the light output. Do not use this option when the device is used as a stand-alone device (i.e. without a DMX signal and without an XLR cable). The moving head will remain in a blackout state, no matter what setting you have set in one of the stand-alone modes.

02) Press the **ENTER** button to confirm the selection.

6.6.9. Backlight

In this menu you can set In this menu you can set the backlight of the display.

01) Press the **UP/DOWN** buttons to choose one of the 2 options:

- **ON**: The display will always light up, even if there is no operation at the device.
- **OFF**: The display will blackout after 30 seconds.

02) Press the **ENTER** button to confirm the selection.

6.6.10. Display Inverse

In this menu you can set In this menu you can set the backlight of the display.

01) Press the **UP/DOWN** buttons to choose one of the 2 options:

- **ON**: Display Invert
- **OFF**: Normal Display

02) Press the **ENTER** button to confirm the selection.

6.6.11. Manual

In this menu you can manually set the Dimmer, Strobe, Glass effect and Mirror rotation.

01) Press the **UP/DOWN** buttons to select one of the 4 options:

- **dim** See **6.6.11.1. Dimmer** on page 23 for more information
- **stro** See **6.6.11.2. Strobe** on page 24 for more information
- **GLAS** See **6.6.11.3. Graphic Glass Effect wheel** on page 24 for more information
- **rotA** See **6.6.11.4. Mirror Rotation** on page 24 for more information

02) Press the **ENTER** button to confirm the selection.

6.6.11.1. Dimmer

In this menu you can set the dimmer of the device.

01) Press the **UP/DOWN** buttons to select the dimmer of the device. The selection range is 001–255, from from dark to brightest.

02) Press the **ENTER** button to confirm the selection.

6.6.11.2. Strobe

In this menu you can set the strobe speed of the device.

01) Press the **UP/DOWN** buttons to select the strobe speed of the device. The selection range is 001–255.

000–031	Shutter closed
032–063	Open
064–095	Strobe, from slow to fast
096–127	Open
128–159	Pulse strobe, from slow to fast
160–191	Open
192–223	Random strobe, from slow to fast
224–255	Open

02) Press the **ENTER** button to confirm the selection.

6.6.11.3. Graphic Glass Effect Wheel

In this menu you can set the speed of the glass effect wheel.

01) Press the **UP/DOWN** buttons to select the speed of the glass effect wheel. The selection range is 001–255.

000–127	Index
128–191	CCW rotation, from fast to slow
192–255	CW rotation, from slow to fast

02) Press the **ENTER** button to confirm the selection.

6.6.11.4. Mirror Rotation

In this menu you can set the mirror rotation speed of the device.

01) Press the **UP/DOWN** buttons to select the mirror rotation speed of the device. The selection range is 001–255.

000–127	Index
128–191	CCW rotation, from fast to slow
192–255	CW rotation, from slow to fast

02) Press the **ENTER** button to confirm the selection.

6.6.12. Temperature

In this menu you can see the current LED temperature.

01) Press the **MENU** button to return to the main menu.

6.6.13. Lifetime

In this menu you can see how long your device has been used.

01) Press the **MENU** button to return to the main menu.

6.6.14. Lifetime

In this menu you can see the currently installed software version.

01) Press the **MENU** button to return to the main menu.

6.7. DMX Channels

4 CH	6 CH	Function	Value	Setting
1	1	Master Dimmer	000–255	From low to high intensity (0–100 %)
2	2	Strobe	000–031	Shutter closed
			032–063	Open
			064–095	Strobe, from slow to fast
			096–127	Open
			128–159	Pulse strobe, from slow to fast
			160–191	Open
			192–223	Random strobe, from slow to fast
3	3	Graphic Glass Wheel	224–255	Open
			000–127	Index
			128–191	CCW rotation, from fast to slow
4	4	Rotating Colored Disk	192–255	CW rotation, from slow to fast
			000–127	Index
	5	Built-in Shows	128–191	CCW rotation, from fast to slow
			192–255	CW rotation, from slow to fast
			000–003	No function
			004–031	Show 0 (Combination of Show 1 – Show 8)
			032–059	Show 1
			060–087	Show 2
			088–115	Show 3
			116–143	Show 4
144–171	Show 5			
172–199	Show 6			
200–227	Show 7			
228–255	Show 8			
	6	Show Speed	000–255	Speed adjustment, from slow to fast

Note:

The manual Sound setting has priority over a regular DMX Show.

When the " Sound " is turned ON in menu **6.6.6. Sound**, the device is in sound mode. This means, Show Speed (CH6) is not working and you cannot change the show speed via DMX. However, the device reacts to the beat of the music. So, if no music is playing, the show speed is 0. If the sensitivity is set between 0–54, the show speed is not working. The sensitivity has to be set > 54.

When the " Sound " is turned OFF in menu **6.6.6. Sound**, the device is NOT in sound mode. This means, Show Speed (CH6) is working and you can change the show speed via DMX.

7. Troubleshooting

This troubleshooting guide contains solutions to problems which can be carried out by an ordinary person. The device does not contain user-serviceable parts.

Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.

Refer servicing to instructed or skilled persons. Contact your Highlite International dealer in case the solution is not described in the table.

Problem	Probable cause(s)	Solution
The device does not function at all	No power to the device	<ul style="list-style-type: none"> • Check if power is switched on and cables are plugged in
	Main fuse is blown	<ul style="list-style-type: none"> • Replace the fuse. See 8.3.1. Replacing the Fuse on page 28
The device does not respond to DMX control	The controller is not connected	<ul style="list-style-type: none"> • Connect the controller
	The signal is reversed. The 3-pin DMX OUT of the controller does not match the DMX IN of the device	<ul style="list-style-type: none"> • Install a phase-reversing cable between the controller and the device
	The controller is defective	<ul style="list-style-type: none"> • Try using another controller
The device responds erratically to DMX control	Bad data link connection	<ul style="list-style-type: none"> • Examine connections and cables. Correct poor connections. Repair or replace damaged cables
	The data link is not terminated with a 120 Ω termination plug	<ul style="list-style-type: none"> • Insert a termination plug in the DMX OUT connector of the last device on the link
	Incorrect addressing	<ul style="list-style-type: none"> • Check address settings and correct, if necessary
	In case of a setup with multiple devices, one of the devices is defective and disturbs data transmission on the link	<ul style="list-style-type: none"> • To find out which device is defective, bypass one device at a time until normal operation is restored
No light or LEDs cut out intermittently	LEDs are damaged	<ul style="list-style-type: none"> • Disconnect the device and contact your Highlite International dealer
	The power supply settings do not match local AC voltage and frequency	<ul style="list-style-type: none"> • Disconnect the device. Check the settings and correct, if necessary

8. Maintenance

8.1. Safety Instructions for Maintenance



DANGER
Electric shock caused by dangerous voltage inside

Disconnect power supply before servicing or cleaning.

8.2. Preventive Maintenance



Attention
Before each use, examine the device visually for any defects.

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- The safety devices are not damaged.
- There are no deformations on housings, fixations and installation points.
- The lens is not cracked or damaged.
- The power cables are not damaged and do not show any material fatigue.

8.2.1. Basic Cleaning Instructions

The external lens of the device must be cleaned periodically in order to optimize the light output. The cleaning schedule depends on the conditions at the site where the device is installed. When smoke or fog machines are used at the site, the device will need more frequent cleaning. On the other hand, if the device is installed in well-ventilated area, it will need less frequent cleaning. To establish a cleaning schedule, examine the device at regular intervals during the first 100 hours of operation.

To clean the device, follow the steps below:

- 01) Disconnect the device from the electrical power supply.
- 02) Allow the device to cool down for at least 15 minutes.
- 03) Remove the dust collected on the external surface with dry compressed air and a soft brush.
- 04) Clean the lens with a damp cloth. Use a mild detergent solution.
- 05) Dry the lens carefully with a lint-free cloth.
- 06) Clean the DMX and other connections with a damp cloth.



Attention

- Do not immerse the device in liquid.
- Do not use alcohol or solvents.
- Make sure that the connections are fully dry before connecting the device to the power supply and to other devices.

8.3. Corrective Maintenance

The device does not contain user-serviceable parts. Do not open the device and do not modify the device.

Refer repairs and servicing to instructed or skilled persons. Contact your Highlite International dealer for more information.

8.3.1. Replacing the Fuse



DANGER Electric shock caused by short-circuit

- Do not bypass the thermostatic switch or fuses.
- For replacement use fuses of the same type and rating only.

Power surges, short-circuit or incorrect electrical power supply may cause a fuse to burn out. If the fuse burns out, the device will not function anymore. If this happens, follow the steps below:

- 01) Disconnect the device from the electrical power supply.
- 02) Allow the device to cool down for at least 15 minutes.
- 03) Pry up the integrated fuse holder with a flat-blade screwdriver.
- 04) If the fuse is brown or unclear, it is burned out. Remove the old fuse.
- 05) Insert a new fuse in the fuse holder. Make sure that the type and the rating of the replacement fuse are the same as the ones specified on the information label of the product.
- 06) Replace the integrated fuse holder in the opening and push it gently back in its place.

9. Deinstallation, Transportation and Storage

9.1. Instructions for Deinstallation



WARNING

Incorrect deinstallation can cause serious injuries and damage of property.

- Let the device cool down before dismounting.
- Disconnect power supply before deinstallation.
- Always observe the national and site-specific regulations during deinstallation and derigging of the device.
- Wear personal protective equipment in compliance with the national and site-specific regulations.

9.2. Instructions for Transportation

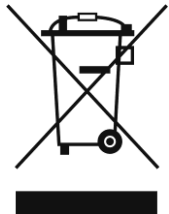
- Use the original packaging to transport the device, if possible.
- Always observe the handling instructions printed on the outer carton box, for example: "Handle with care", "This side up", "Fragile".

9.3. Storage

- Clean the device before storing. Follow the cleaning instructions in chapter **8.2.1. Basic Cleaning Instructions** on page 28.
- Store the device in the original packaging, if possible.

10. Disposal

Correct disposal of this product



Waste Electrical and Electronic Equipment

This symbol on the product, its packaging or documents indicates that the product shall not be treated as household waste. Dispose of this product by handing it to the respective collection point for recycling of electrical and electronic equipment. This is to avoid environmental damage or personal injury due to uncontrolled waste disposal. For more detailed information about recycling of this product contact the local authorities or the authorized dealer.

11. Approval



Check the respective product page on the website of Highlite International (www.highlite.com) for an available declaration of conformity.



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