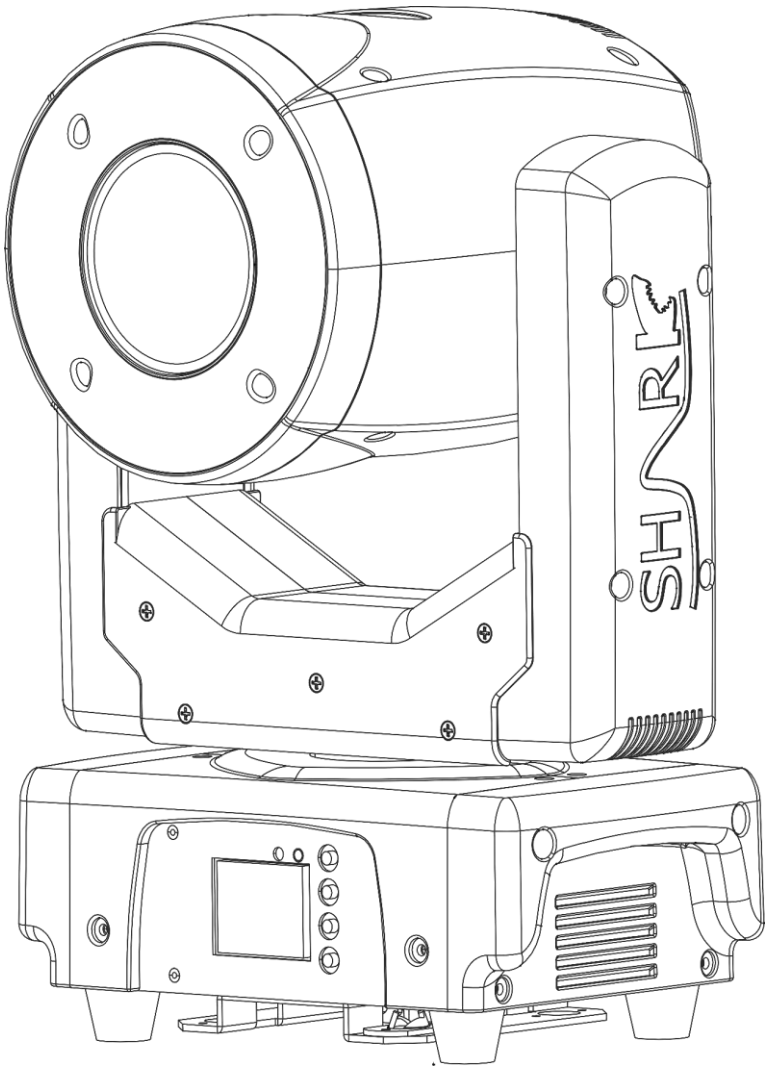
USER MANUAL



ENGLISH

Shark - The Meg - Hybrid One V1

Product code: 45041

Firmware version: 2.0

Highlite International B.V. – Vestastraat 2 – 6468 EX – Kerkrade – the Netherlands

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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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 Shark - The Meg - Hybrid One
- Schuko to Power Pro cable (1,5 m)
- Safety cable
- 2x Quick-lock bracket
- User manual

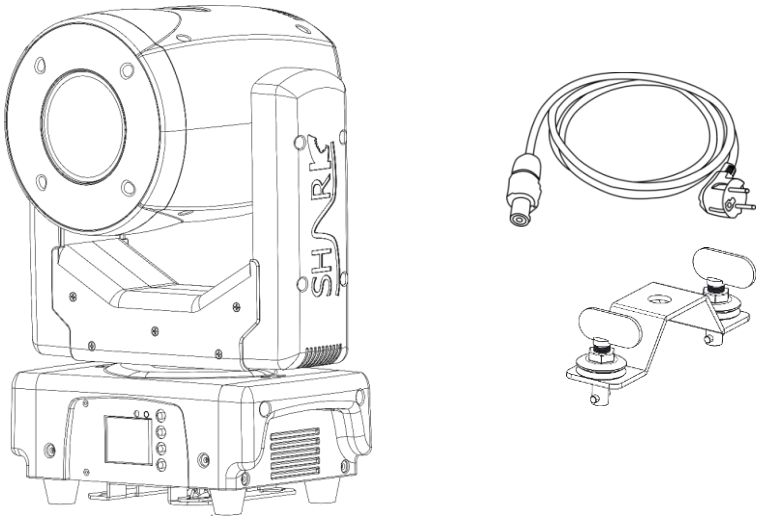


Fig. 01

1.2. Intended Use

This device is intended for professional use as a moving head. It 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 on the mounting bracket of the device.

The information label contains the following symbols:



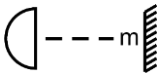
This device shall not be treated as household waste.



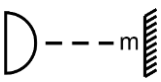
This device is designed for indoor use.



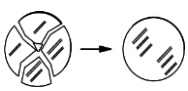
This device falls under IEC protection class I.



Minimum distance from lighted objects.



Minimum distance from other objects.



Replace any cracked protective shield.



Caution: Risk of electric shock. Do not open.
Caution: To reduce the risk of electrical shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified personnel.

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.
- 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.



CAUTION
Risk of injury due to movement of the device

The head of the device can move quickly. Persons staying near the device could be injured or frightened.

- Make sure that there are no persons close to the device when you turn on the device and during operation.
- Keep body parts away from the moving parts of the device when servicing and during maintenance. Long hair or loose clothing can be entangled during the rotation of the moving head.



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 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 moving head. 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.

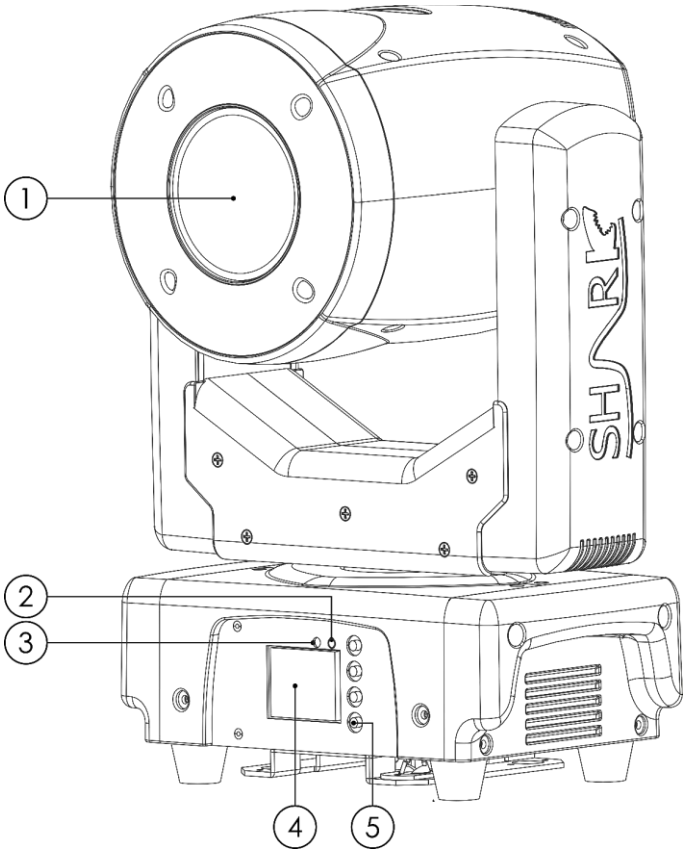
Skilled persons have training or experience, which enables them to recognize risks and to avoid hazards associated with the installation, service and maintenance of this product.

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 Showtec Shark - The Meg - Hybrid One is a compact but powerful 160 Watt LED hybrid moving head with a beam angle that can be adjusted from Beam to Spot to Wash (motorised zoom from 3,8 to 15,8 degrees). It is suitable for indoor applications and comes with a lot of impressive effects. It is equipped with a colour wheel with 9 dichroic colours plus open and it has two gobo wheels, one with 7 rotating gobos plus open, and one with 12 fixed gobos plus open. It has an indexed, rotatable 3-facet prism, and frost and motorised focus functions. The Shark - The Meg - Hybrid One can be controlled through DMX and has several built-in programs for stand-alone operation.

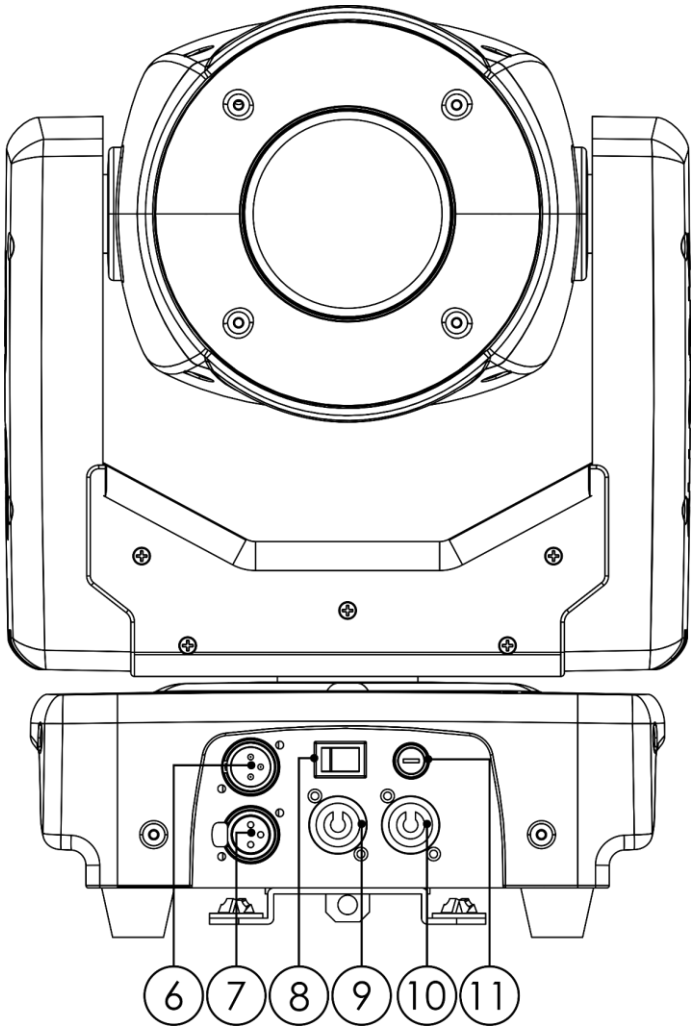
3.1. Front View



01) Lens / 1x 160 W CW LED module
02) Signal LED
03) Built-in microphone
04) TFT display
05) Control buttons

Fig. 02

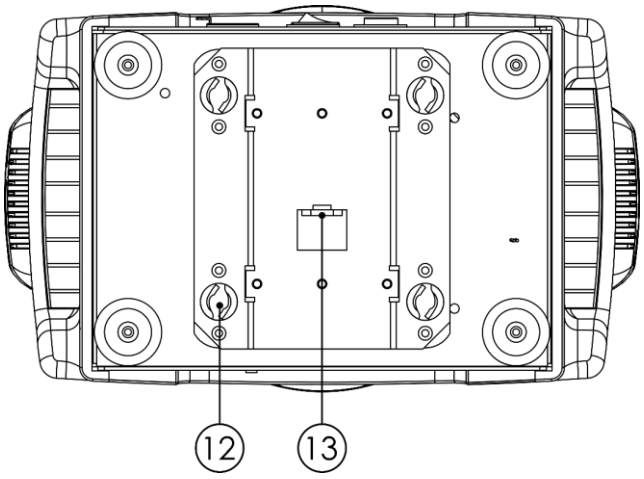
3.2. Back View



06) 3-pin DMX signal connector IN
07) 3-pin DMX signal connector OUT
08) Power switch (ON / OFF)
09) Power Pro connector IN (Blue)
10) Power Pro connector OUT (Grey)
11) Fuse F4AL / 250 V

Fig. 03

3.3. Bottom View



12) Mounting openings for quick lock bracket
13) Mounting opening for safety eye

Fig. 04

3.4. Product Specifications

Model:	Shark - The Meg - Hybrid One

Electrical:	
Input voltage:	100–240 V AC, 50/60 Hz
Power consumption:	200 W
Fuse:	F4AL, 250 V

Physical:	
Dimensions:	262 x 165 x 439 mm (L x W x H) (including bracket)
Weight:	9,85 kg

Optics:	
Light source:	1x 160 W White LED module
Dimmer:	0–100 %
Focus:	Motorized
Frost:	Frost filter
Prism:	3-facet
Dynamics effects:	Prism Rotate
Beam angle Circular:	3,8°–15,8°
Strobe:	0–20 Hz
Lux @2m	175844 lx
Lux @3m	78153 lx
Lux @5m	28135 lx
Lumen Total:	3075 lm
CRI:	73
Dichroic Colour Wheel 1	9 + open
Gobo Wheel 1	7 + Open: 2 glass gobos: diameter 14 mm, image size 9 mm, thickness 1,2 mm 5 metal gobos: diameter 14 mm, image size 9 mm, thickness 0,3 mm
Gobo Wheel 2	12 + Open
Pan:	540 °
Tilt	270 °

Operation and control:	
Control:	Stand-alone (Auto, Built-in Programs, Manual) Master/Slave DMX-512
DMX channels:	8 channels 16 channels 18 channels
Control panel:	TFT display and buttons

Connections:	
Power connections:	Power Pro connectors IN/OUT
Data connections:	3-pin DMX connectors IN/OUT
Signal pinouts:	Pin 1 (ground), pin 2 (-), pin 3 (+)

Construction:	
Housing:	Metal / PVC
Color:	Black
IP rating:	IP20
Cooling:	Axial Fan

Thermal:	
Minimum ambient temperature t_a:	0 °C
Maximum ambient temperature t_a:	45 °C

Minimum distance:	
Minimum distance from flammable surfaces:	0,8 m
Minimum distance to lighted object:	0,8 m

3.5. Dimensions

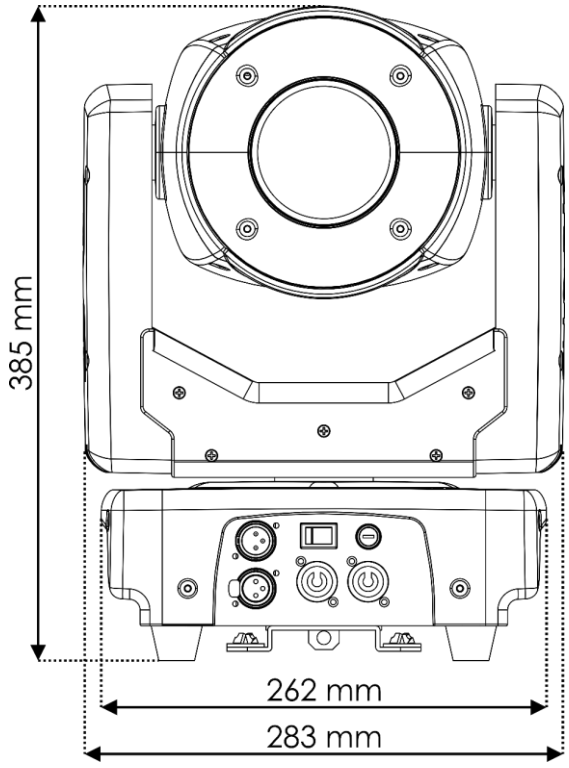


Fig. 05

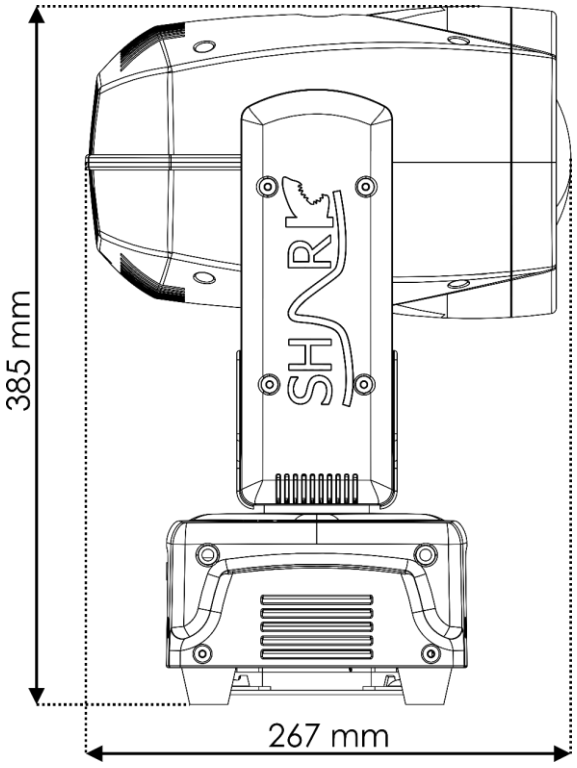


Fig. 06

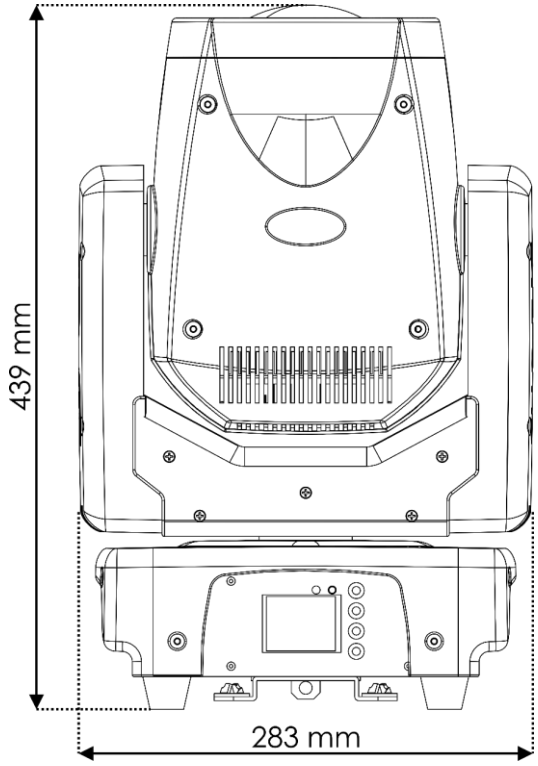


Fig. 07

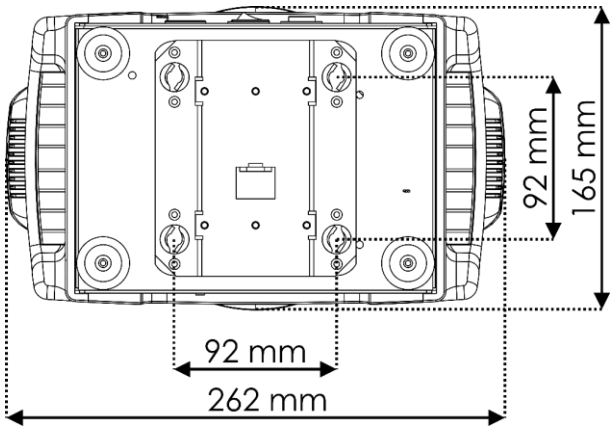


Fig. 08

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 in any orientation.
- The minimum distance between the light output and the illuminated surface must be bigger than 0,8 m.
- The maximum ambient temperature t_a = 45 °C must never be exceeded.

4.4. Rigging

The device can be positioned on a flat surface or mounted to a truss or other rigging structure in any orientation. 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) Fasten the quick lock bracket, supplied with the device, on the **mounting openings for quick lock bracket (12)**, as shown in Fig. 09

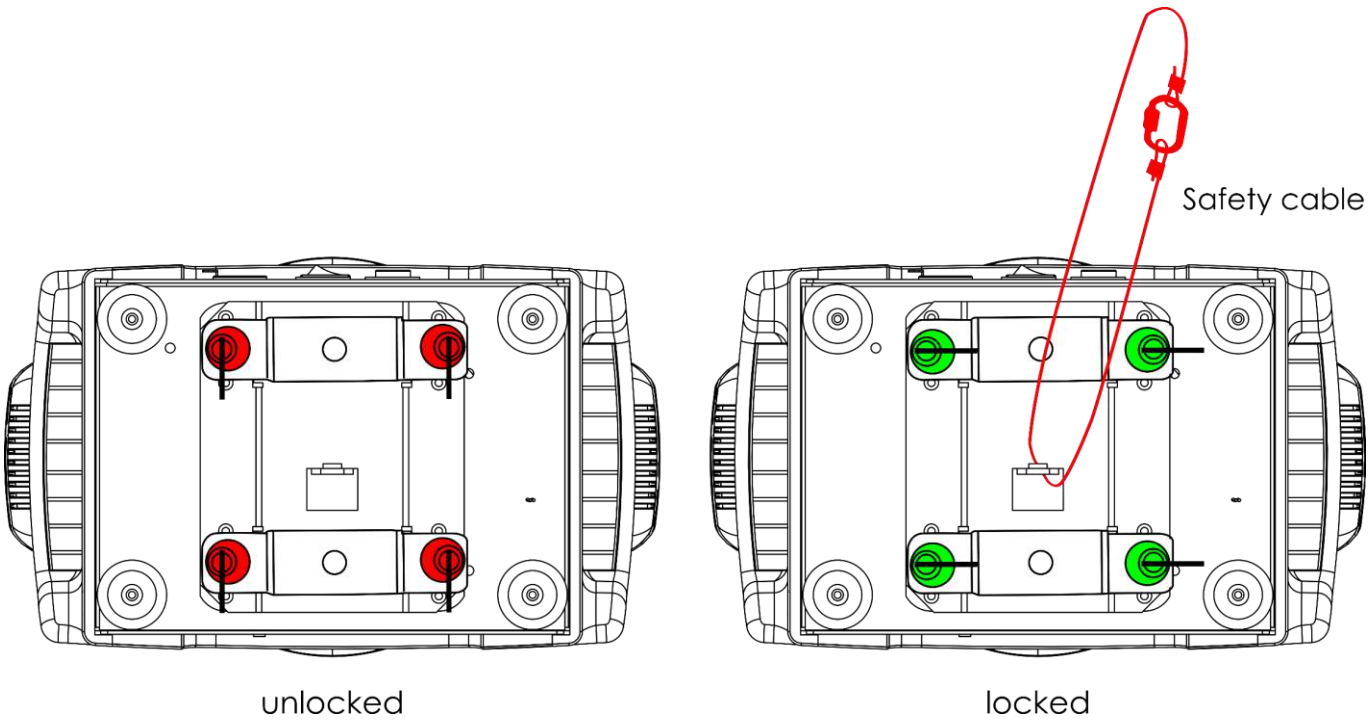


Fig. 09

02) Attach the device to the supporting structure. Make sure that the device cannot move freely.
03) 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 as shown in Fig. 09.

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: 4 devices Shark - The Meg - Hybrid One
- at 200–240 V: 8 devices Shark - The Meg - Hybrid One

5. Setup

5.1. Warnings and Precautions



DANGER
Electric shock caused by short-circuit



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

5.2. Stand-alone Setup

When the Shark - The Meg - Hybrid One is not connected to a controller or to other devices, it functions as a stand-alone device.

For more information about the control modes, refer to **6.2. Control Modes** on page 19.

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 control mode.

The Shark - The Meg - Hybrid One has 3-pin DMX signal IN and OUT connectors.

The pin assignment is as follows:
- 3-pin: 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 3-pin 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. 10.

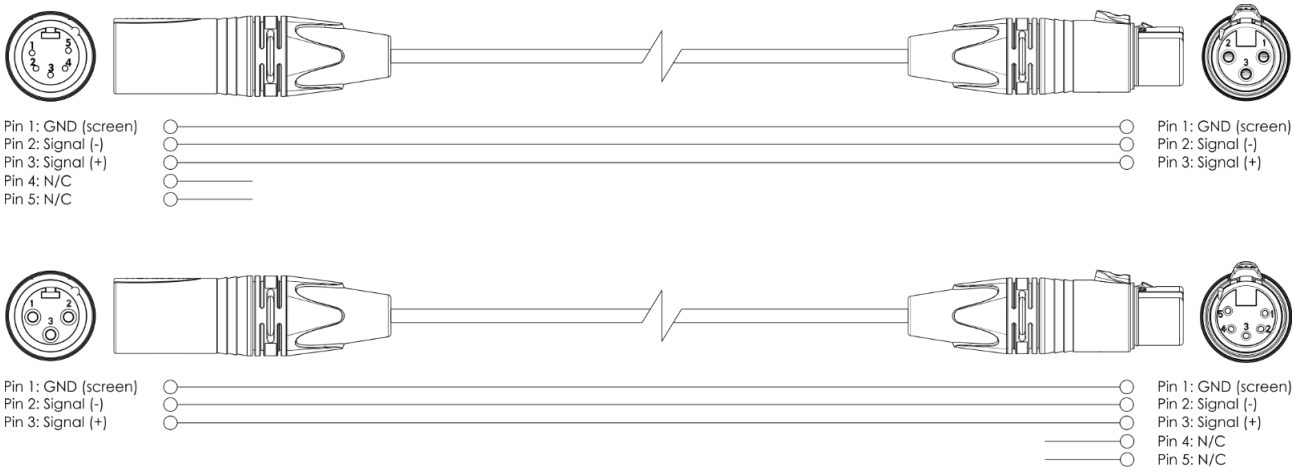


Fig. 10

5.3.3. Master/Slave Setup

The Shark - The Meg - Hybrid One 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 with a 3-pin DMX cable. The first connected device in the setup will be automatically recognized as the master device.
02) Repeat step 1 to connect all devices as shown in Fig. 11.
03) Set all subsequent devices in the setup as slave devices. See **6.6.1. DMX Functions** on page 26 for more information.
04) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device in the setup.

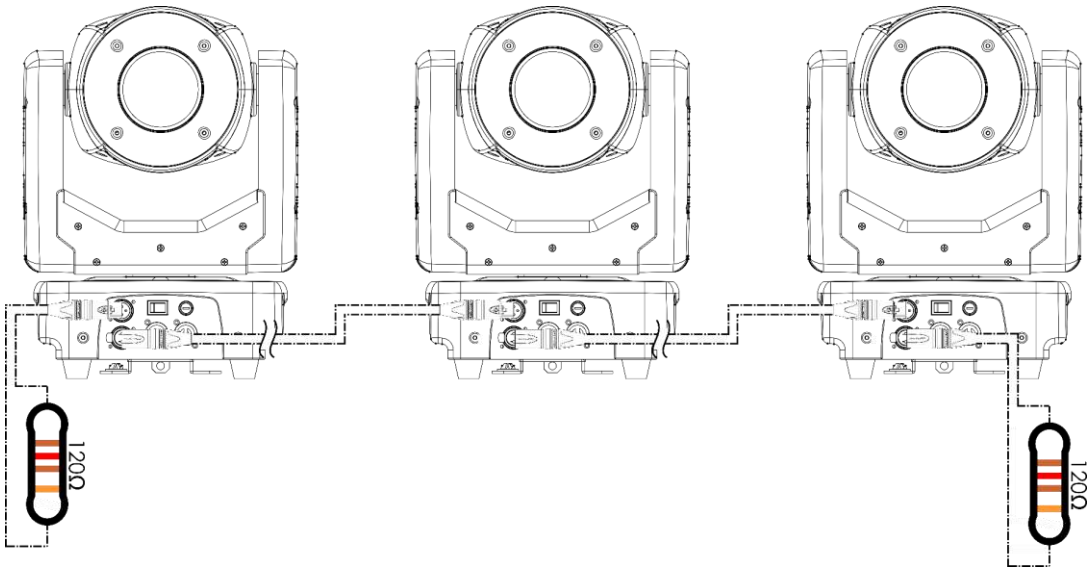


Fig. 11

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. 12.
04) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device on the data link.

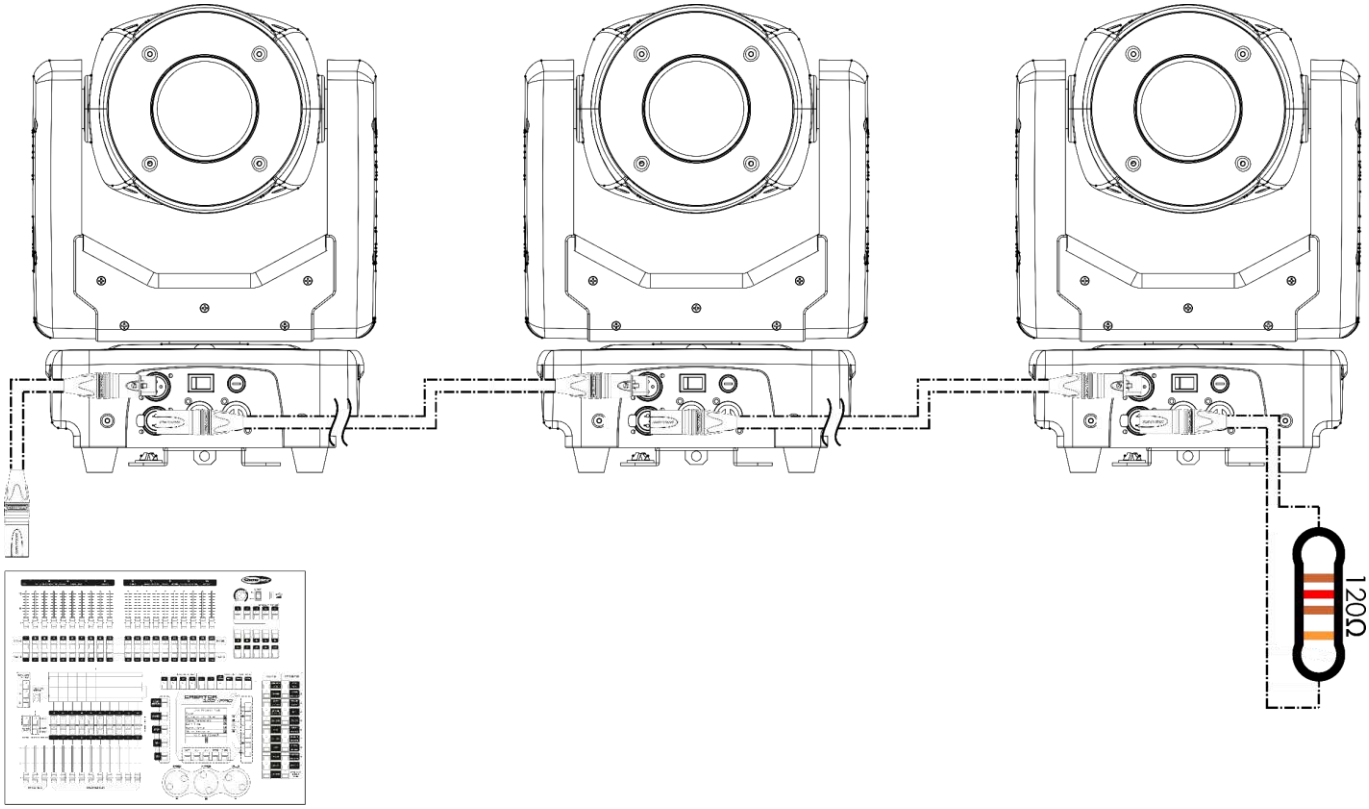


Fig. 12

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 Shark - The Meg - Hybrid One has 3 personalities: 8 channels, 16 channels and 18 channels.

If you want to connect multiple devices on one data link and use them in 18-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 19, as 1 + 18 = 19.
03) Set the starting address of the 3rd device on the data link to 37, as 19 + 18 = 37.
04) Continue assigning the starting addresses of the remaining devices by adding each time 18 to the previous number.

Make sure that you do not have any overlapping channels in order to control the Shark - The Meg - Hybrid One 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 moving head. It 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 Shark - The Meg - Hybrid One can be operated with a DMX controller, or without a DMX controller as a stand-alone device or in a master/slave setup.

The Shark - The Meg - Hybrid One supports the following control modes:

- Stand-alone: Auto Run, Music Run
- Master/Slave: Auto Run, Music Run
- DMX-512: 3 channel modes (8, 16 and 18 channels)

For more information about how to connect the devices, refer to **5. Setup** on pages 16–18.

In auto operation mode you can run the auto program or one of the 9 built-in auto programs.

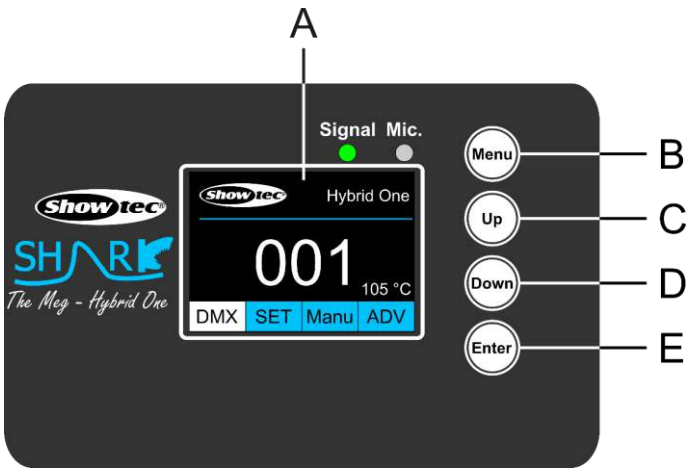
To run one of the 9 programs without a DMX controller, activate Programs menu. See **6.6.1.3. Auto Run** on page 27 for more information.

For more information about sound-controlled operation mode see **6.6.1.4. Music Run** on page 28.

To operate the device with a DMX controller:

01) Set the DMX starting address of the device in the DMX Address menu. See **6.6.1.1. DMX Address** on page 26 for more information.
02) Select the DMX channel mode in the DMX Configuration menu. See **6.6.1.2. Channel Mode** on page 27 for more information. See **6.7. DMX Channels** on pages 32–34 for complete overview of all DMX channels.

6.3. Control Panel



A) TFT DISPLAY
B) MENU button
C) UP button
D) DOWN button
E) ENTER button

Fig. 13

- Use the **MENU** button to open the main menu or to exit the current submenu and return to the main menu.
- 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 shows a splash screen, indicating the device is resetting.

Afterwards the display shows the start screen. The start screen provides information about the temperature of the LEDs, the DMX starting address of the device, and the selected DMX channel mode:





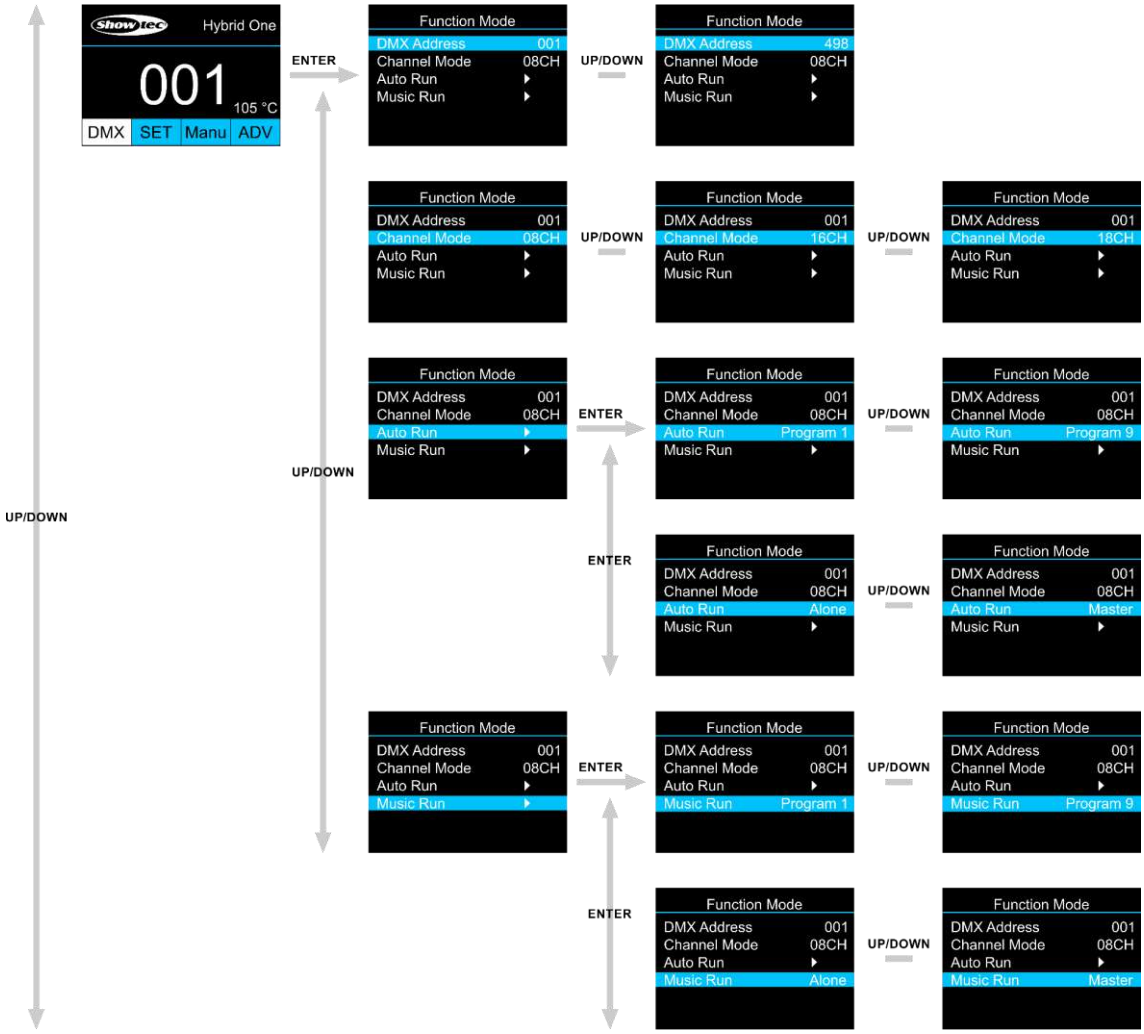


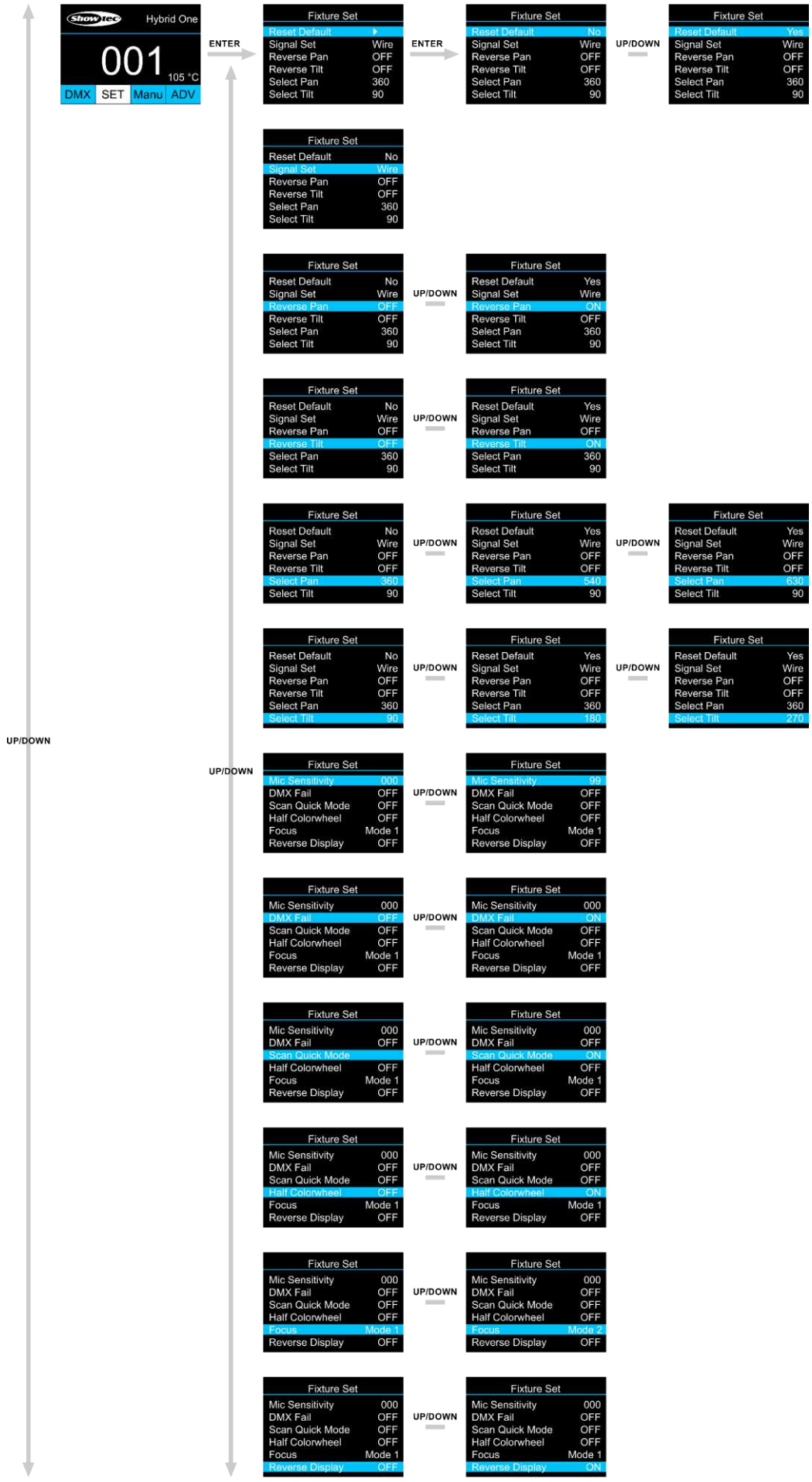
Press the **ENTER** button or the **UP/DOWN** buttons to enter the main menu.

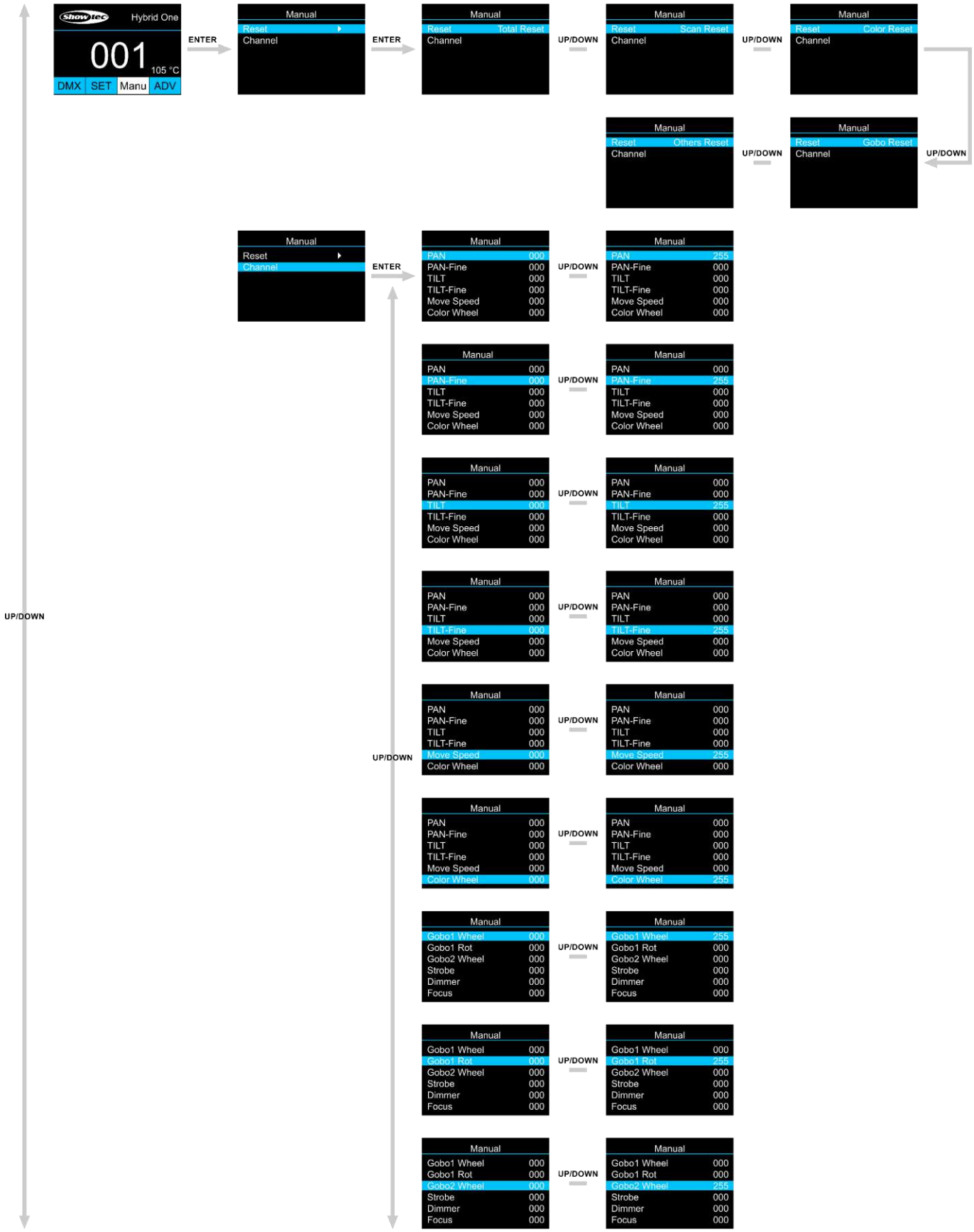
Note:

If no button is pressed, after 25 seconds of inactivity the display will turn off. Press any button to turn the display on.

6.5. Menu Overview




Hybrid One
001
105 °C
DMX
SET
Manu
ADV
ENTER
ENTER
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
UP/DOWN
Fixture Set
Reset Default
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default No
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default Yes
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default No
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default No
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default Yes
Signal Set Wire
Reverse Pan ON
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default No
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default Yes
Signal Set Wire
Reverse Pan OFF
Reverse Tilt ON
Select Pan 360
Select Tilt 90
Reset Default No
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default Yes
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 540
Select Tilt 90
Reset Default Yes
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 630
Select Tilt 90
Reset Default No
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 90
Reset Default Yes
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 180
Reset Default Yes
Signal Set Wire
Reverse Pan OFF
Reverse Tilt OFF
Select Pan 360
Select Tilt 270
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel OFF
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 99
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel OFF
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel OFF
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 000
DMX Fail ON
Scan Quick Mode OFF
Half Colorwheel OFF
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel OFF
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode ON
Half Colorwheel OFF
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel ON
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel ON
Focus Mode 1
Reverse Display OFF
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel OFF
Focus Mode 2
Reverse Display OFF
Mic Sensitivity 000
DMX Fail OFF
Scan Quick Mode OFF
Half Colorwheel OFF
Focus Mode 1
Reverse Display ON


Hybrid One
001
105 °C
DMX
SET
Manu
ADV
ENTER
Manual
Reset
Channel
Total Reset
Scan Reset
Color Reset
Others Reset
Gobo Reset
UP/DOWN
PAN 000
PAN-Fine 000
TILT 000
TILT-Fine 000
Move Speed 000
Color Wheel 000
Gobo1 Wheel 000
Gobo1 Rot 000
Gobo2 Wheel 000
Strobe 000
Dimmer 000
Focus 000

UP/DOWN

UP/DOWN

Manual	
Gobo1 Wheel	000
Gobo1 Rot	000
Gobo2 Wheel	000
Strobe	000
Dimmer	000
Focus	000

UP/DOWN

Manual	
Gobo1 Wheel	000
Gobo1 Rot	000
Gobo2 Wheel	000
Strobe	255
Dimmer	000
Focus	000

Manual	
Gobo1 Wheel	000
Gobo1 Rot	000
Gobo2 Wheel	000
Strobe	000
Dimmer	000
Focus	000

UP/DOWN

Manual	
Gobo1 Wheel	000
Gobo1 Rot	000
Gobo2 Wheel	000
Strobe	000
Dimmer	255
Focus	000

Manual	
Gobo1 Wheel	000
Gobo1 Rot	000
Gobo2 Wheel	000
Strobe	000
Dimmer	000
Focus	000

UP/DOWN

Manual	
Gobo1 Wheel	000
Gobo1 Rot	000
Gobo2 Wheel	000
Strobe	000
Dimmer	000
Focus	255

Manual	
Zoom	000
Prism	000
Frost	000
Color Time	000
Gobo Time	000

UP/DOWN

Manual	
Zoom	255
Prism	000
Frost	000
Color Time	000
Gobo Time	000

Manual	
Zoom	000
Prism	000
Frost	000
Color Time	000
Gobo Time	000

UP/DOWN

Manual	
Zoom	000
Prism	255
Frost	000
Color Time	000
Gobo Time	000

Manual	
Zoom	000
Prism	000
Frost	000
Color Time	000
Gobo Time	000

UP/DOWN

Manual	
Zoom	000
Prism	000
Frost	255
Color Time	000
Gobo Time	000

Manual	
Zoom	000
Prism	000
Frost	000
Color Time	000
Gobo Time	000

UP/DOWN

Manual	
Zoom	000
Prism	000
Frost	000
Color Time	255
Gobo Time	000

Manual	
Zoom	000
Prism	000
Frost	000
Color Time	000
Gobo Time	000

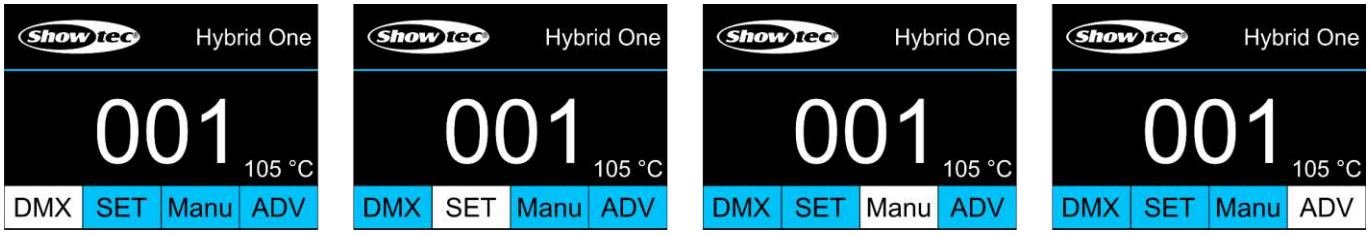
UP/DOWN

Manual	
Zoom	000
Prism	000
Frost	000
Color Time	000
Gobo Time	255


UP/DOWN
Hybrid One
001
105 °C
DMX
SET
Manu
ADV
ENTER
Advanced
Code=088
Calibration
UID08 93 02 0C FF FF
Temperature 072
Ver V2
ENTER
Advanced
Calibration
UID08 93 02 0C FF FF
Temperature 072
Ver V2
ENTER
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
UP/DOWN
Advanced
PAN 255
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
UP/DOWN
Advanced
PAN 000
TILT 255
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
UP/DOWN
Advanced
PAN 000
TILT 000
Color Wheel 255
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
UP/DOWN
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 255
Gobo2 Wheel 000
Focus 000
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 255
Focus 000
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 000
UP/DOWN
Advanced
PAN 000
TILT 000
Color Wheel 000
Gobo1 Wheel 000
Gobo2 Wheel 000
Focus 255
Manual
Zoom 000
Prism 000
UP/DOWN
Manual
Zoom 255
Prism 000
Manual
Zoom 000
Prism 000
UP/DOWN
Manual
Zoom 000
Prism 255

6.6. Main Menu Options

The main menu has the following options:



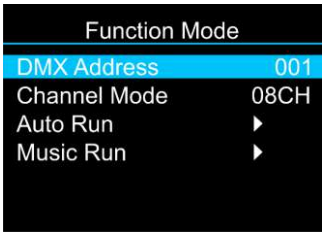
01) Press the **UP/DOWN** buttons to scroll through the following 4 main menu options:
- DMX Address: See **6.6.1. DMX Functions** for more information.
- Mode: See **6.6.2. Fixture Setting** for more information.
- DMX Fail: See **6.6.3. Manual** for more information.
- View DMX Value: See **6.6.4. Advanced** for more information.

02) Press the **ENTER** button to open the submenus.

6.6.1. DMX Functions

In this menu you can configure the Function settings of the device.

01) Press the **UP/DOWN** buttons to scroll through the following options:



- DMX Address: See **6.6.1.1. DMX Address**
- Channel Mode: See **6.6.1.2. Channel Mode**
- Auto Run: See **6.6.1.3. Auto Run**
- Music Run: See **6.6.1.4. Music Run**

02) Press the **ENTER** button to open the submenus.

6.6.1.1. DMX Address

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

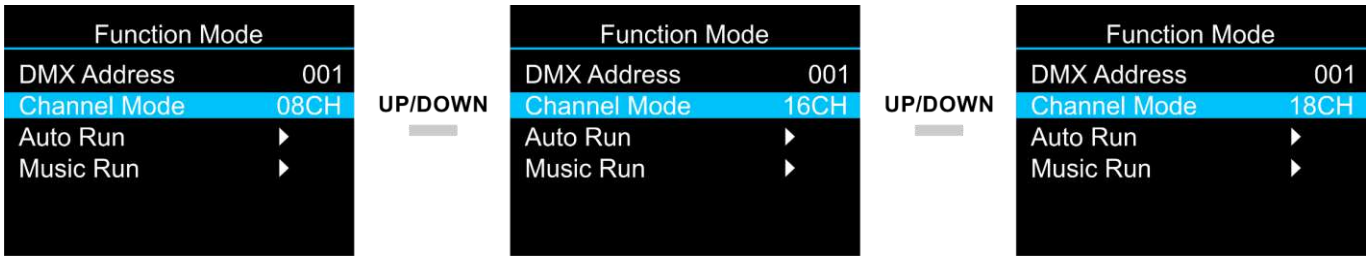
01) Press the **UP/DOWN** buttons to select the DMX starting address of the device. The selection range depends on the active DMX channel mode:
- 8 CH: 001–505
- 16 CH: 001–497
- 18 CH: 001–495

02) Press the **ENTER** button to save the changes.

6.6.1.2. Channel Mode

In this menu you can choose a DMX configuration.

01) Press the **UP/DOWN** buttons to choose 8, 16 or 18 DMX channels. The display shows:

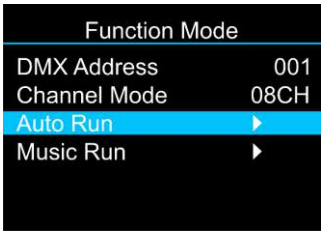


02) Press the **ENTER** button to confirm the desired Channel Mode.

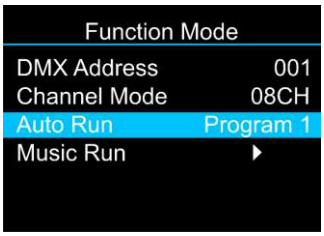
6.6.1.3. Auto Run

In this menu you can set the Auto Run mode of the device.

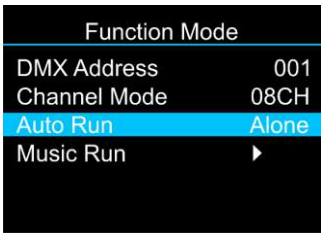
01) Press the **UP/DOWN** buttons to select the Auto Run mode. The display shows:



02) Press the **ENTER** button to open the submenus. The display shows:



03) Press the **UP/DOWN** buttons to select one of the 9 options: Program 1–9
04) Press the **ENTER** button to open the second submenu. The display shows:



05) Press the **UP/DOWN** buttons to select one of 2 options:
- Alone: used for Stand-alone setting
- Master: used for Master-Slave setting

06) Press the **ENTER** button to confirm your choice.

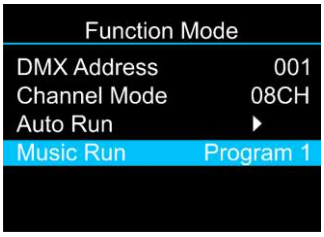
6.6.1.4. Music Run

In this menu you can set the sound-controlled mode of the device.

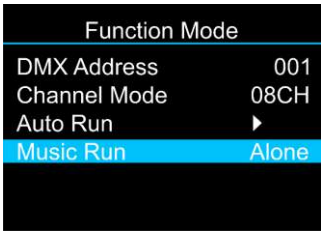
01) Press the **UP/DOWN** buttons to select the Music Run mode. The display shows:



02) Press the **ENTER** button to open the submenus. The display shows:



03) Press the **UP/DOWN** buttons to select one of the 9 options: Program 1–9
04) Press the **ENTER** button to open the second submenu. The display shows:



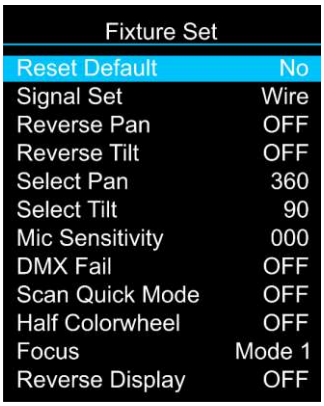
05) Press the **UP/DOWN** buttons to select one of 2 options:
- Alone: used for Stand-alone setting
- Master: used for Master-Slave setting

06) Press the **ENTER** button to confirm your choice.

6.6.2. Fixture Settings

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

01) Press the **UP/DOWN** buttons to select the desired submenu. The display shows:



02) Press the **UP/DOWN** buttons to scroll through the following 12 submenu options. The submenus are:
- Reset default. Press the **UP/DOWN** buttons to return to factory settings OFF/ON.
- Signal Set: No Function
- Reverse Pan. Press the **UP/DOWN** buttons to choose between OFF/ON.
- Reverse Tilt. Press the **UP/DOWN** buttons to choose between OFF/ON.
- Select Pan: Press the **UP/DOWN** buttons to set between 360°, 540°, 630°.
- Select Tilt: Press the **UP/DOWN** buttons to set between 90°, 180°, 270°.
- Mic Sensitivity: Sound sensitivity. Press the **UP/DOWN** buttons to set between 000–099, from OFF to high sound sensitivity.
- DMX Fail: To adjust the behaviour of the device in case of a DMX signal error. Press the **UP/DOWN** buttons to choose between OFF and ON. Choose OFF and the device will blackout its output, when a DMX signal error occurs. Choose ON and the device will fall back on the last properly working DMX signal from before the DMX signal error, which ensures undisrupted performance.
- Scan Quick Mode: The 0-100% acceleration will speed up.
- Half Colorwheel: Press the **UP/DOWN** buttons to choose between OFF/ON.
- Focus: Press the **UP/DOWN** buttons to choose between Mode1 (near) /Mode2 (far).
- Reverse Display. Press the **UP/DOWN** buttons to choose between OFF/ON.

03) Press the **ENTER** button to enter the desired submenu.
04) Press the **UP/DOWN** buttons to adjust the values.
05) Once you have adjusted the settings, press the **ENTER** button to save changes.

6.6.3. Manual

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

01) Press the **UP/DOWN** buttons to select the desired submenu. The display shows:

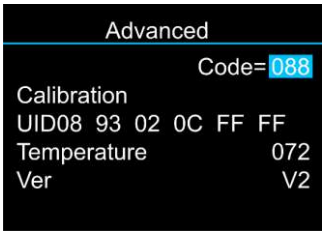


02) Press the **UP/DOWN** buttons to scroll through the following 17 submenu options. The submenus are:
- Pan: Set the initial pan position.
- Pan-Fine: Set the initial pan-fine position.
- Tilt: Set the initial tilt position.
- Tilt-Fine: Set the initial tilt-fine position.
- Move Speed: Set the initial move speed value.
- Color Wheel: Set the initial color wheel position.
- Gobo1 wheel: Set the initial gobo1 wheel position.
- Gobo1 Rot: Set the initial rotation position of gobo1 wheel.
- Gobo2 wheel: Set the initial gobo2 wheel position.
- Strobe: Set the initial strobe value.
- Dimmer: Set the initial dimmer value.
- Focus: Set the initial focus value.
- Prism: Set the initial Prism position.
- Frost: Set the initial frost value.
- Color Time: Set the initial color time value.
- Gobo Time: Set the initial gobo time value.

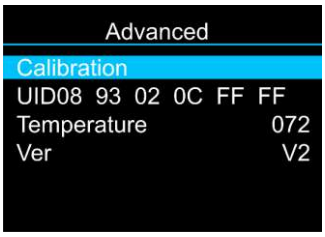
03) Press the **ENTER** button to enter the desired submenu.
04) Press the **UP/DOWN** buttons to adjust the values.
05) Once you have adjusted the settings, press the **ENTER** button to save changes.

6.6.4. Advanced

In this menu you can view the status of the device and set the calibration settings of the device.



01) Press the **UP/DOWN** buttons to set the code to: 088.
02) Press the **ENTER** button to enter the desired submenu. The display shows:



03) Press the **ENTER** button to enter the calibration submenu.
04) Press the **UP/DOWN** buttons to scroll through the following 8 submenu options. The submenus are::
    - Pan: Set the initial pan position.
    - Tilt: Set the initial tilt position.
    - Color Wheel: Set the initial color wheel position.
    - Gobo1 wheel: Set the initial gobo1 wheel position.
    - Gobo2 wheel: Set the initial gobo2 wheel position.
    - Focus: Set the initial focus value.
    - Zoom: Set the initial zoom value.
    - Prism: Set the initial Prism position.
05) Press the **ENTER** button to enter the desired submenu.
06) Press the **UP/DOWN** buttons to adjust the values.
07) Once you have adjusted the settings, press the **ENTER** button to save changes.
08) You can also view the UID, the temperature and the current software version.
    - UID: No Function
    - Temperature: See the current temperature of the LED.
    - Ver: See the current software version

6.7. DMX Channels

6.7.1. 8 Channels, 16 Channels, 18 Channels

8 CH	16 CH	18 CH	Function	Value	Setting
1	1	1	Pan	000–255	Pan adjustment 0°–540°
	2	2	Pan Fine	000–010	Pan adjustment, 16-bit
2	3	3	Tilt	000–255	Tilt adjustment 0°–210°
	4	4	Tilt Fine	000–255	Tilt adjustment, 16-bit
3	5	5	Pan/Tilt Speed	000–225	From fast to slow
				226–235	Blackout during Pan/Tilt movement
				236–245	Blackout during Color wheel movement/gobo wheel 1 + 2 movement
				246–255	No function
4	6	6	Master Dimmer	000–255	From low to high intensity (0–100 %)
5	7	7	Shutter	000–031	Shutter closed
				032–063	Shutter open
				064–095	Linear strobe, from low to high frequency (0–25 Hz)
				096–127	Shutter open
				128–144	Pulse strobe, from slow to fast
				145–159	Pulse strobe, from fast to slow
				160–191	Shutter open
				192–223	Random strobe, from slow to fast
				224–255	Shutter open
8	8	8	Color wheel (Half color Mode)	000–004	Open
				005–009	Open + Color 1
				010–014	Color 1
				015–019	Color 1 + Color 2
				020–024	Color 2
				025–029	Color 2 + Color 3
				030–034	Color 3
				035–039	Color 3 + Color 4
				040–044	Color 4
				045–049	Color 4 + Color 5
				050–054	Color 5
				055–059	Color 5 + Color 6
				060–064	Color 6
				065–069	Color 6+ Color 7
				070–074	Color 7
				075–079	Color 7 + Color 8
				080–084	Color 8
				085–089	Color 8 + Color 9
				090–127	Color 9
				128–189	Clockwise color flow (CW), from fast to slow
				190–193	Stop
				194–255	Counter-clockwise color flow (CCW), from slow to fast
9	9	9	Gobo wheel 1	000–009	Open
				010–019	Gobo 1
				020–029	Gobo 2
				030–039	Gobo 3
				040–049	Gobo 4
				050–059	Gobo 5
				060–069	Gobo 6
				070–079	Gobo 7
				080–099	Gobo 1 shake effect, from slow to fast
				100–119	Gobo 2 shake effect, from slow to fast

8 CH	16 CH	18 CH	Function	Value	Setting
				120–139	Gobo 3 shake effect, from slow to fast
				140–159	Gobo 4 shake effect, from slow to fast
				160–179	Gobo 5 shake effect, from slow to fast
				180–199	Gobo 6 shake effect, from slow to fast
				200–219	Gobo 7 shake effect, from slow to fast
				220–255	Clockwise rotation (CW) gobo flow from slow to fast
	10	**10**	**Gobo rotation**	000–003	No Function
				004–127	Clockwise gobo rotation, from fast to slow
				128–131	Stop
				132–255	Counter-clockwise gobo rotation, from slow to fast
	11	**11**	**Gobo wheel 2**	000–009	Open
				010–019	Gobo 1
				020–029	Gobo 2
				030–039	Gobo 3
				040–049	Gobo 4
				050–059	Gobo 5
				060–069	Gobo 6
				070–079	Gobo 7
				080–089	Gobo 8
				090–099	Gobo 9
				100–109	Gobo 10
				110–119	Gobo 11
				120–129	Gobo 12
				130–137	Rotating Gobo 1 shake effect, from slow to fast
				138–145	Rotating Gobo 2 shake effect, from slow to fast
				146–153	Rotating Gobo 3 shake effect, from slow to fast
				154–161	Rotating Gobo 4 shake effect, from slow to fast
				162–169	Rotating Gobo 5 shake effect, from slow to fast
				170–177	Rotating Gobo 6 shake effect, from slow to fast
				178–185	Rotating Gobo 7 shake effect, from slow to fast
				186–193	Rotating Gobo 8 shake effect, from slow to fast
				194–201	Rotating Gobo 9 shake effect, from slow to fast
				202–209	Rotating Gobo 10 shake effect, from slow to fast
				210–217	Rotating Gobo 11 shake effect, from slow to fast
				218–225	Rotating Gobo 12 shake effect, from slow to fast
				226–255	Clockwise gobo wheel rotation (CW), from slow to fast
6	**12**	**12**	**Focus**	000–255	Gradual focus adjustment, from near to far
7	**13**	**13**	**Zoom**	000–255	Gradual adjustment zoom, from small to big
	14	**14**	**Prism (3-facet)**	000–005	Prism Off
				006–127	Prism On (3-facet)
				128–189	Counter-clockwise Prism rotation (CCW), from fast to slow
				190–193	Stop
				194–255	Clockwise Prism rotation (CW), from slow to fast
	15	**15**	**Frost**	000–199	Frost Filter Off
				200–255	Frost Filter On
8	**16**	**16**	**Channel Functions**	000–019	No function
				020–029	No function
				030–039	No function
				040–079	No function
				080–084	Reset All motors after 3 seconds
				085–087	Reset Pan + Tilt after 3 seconds
				088–090	Reset Color wheel after 3 seconds
				091–093	Reset Gobo wheel after 3 seconds

8 CH	16 CH	18 CH	Function	Value	Setting
				094–096	No function
				097–099	Reset other motors after 3 seconds
				100–108	Auto Program 1
				109–117	Auto Program 2
				118–126	Auto Program 3
				127–135	Auto Program 4
				136–144	Auto Program 5
				145–153	Auto Program 6
				154–162	Auto Program 7
				163–171	Auto Program 8
				172–180	Auto Program 9
				181–189	Sound-controlled Program 1
				190–198	Sound-controlled Program 2
				199–207	Sound-controlled Program 3
				208–216	Sound-controlled Program 4
				217–225	Sound-controlled Program 5
				226–234	Sound-controlled Program 6
				235–243	Sound-controlled Program 7
				244–252	Sound-controlled Program 8
				253–255	Sound-controlled Program 9
		17	**Color Time**	000–255	Gradual time adjustment, from short to long
		18	**Gobo Time**	000–255	Gradual time adjustment, from short to long

Note:

- Make sure that Master Dimmer channel is open, to see the light output.
- When the Half Colorwheel settings in menu **6.6.2. Fixture Settings** on page 29 has been set to OFF, the colorwheel will only show entire colors and no split colors.

6.8. Rotating Gobo Wheel, Static Gobowheel and Color Wheel

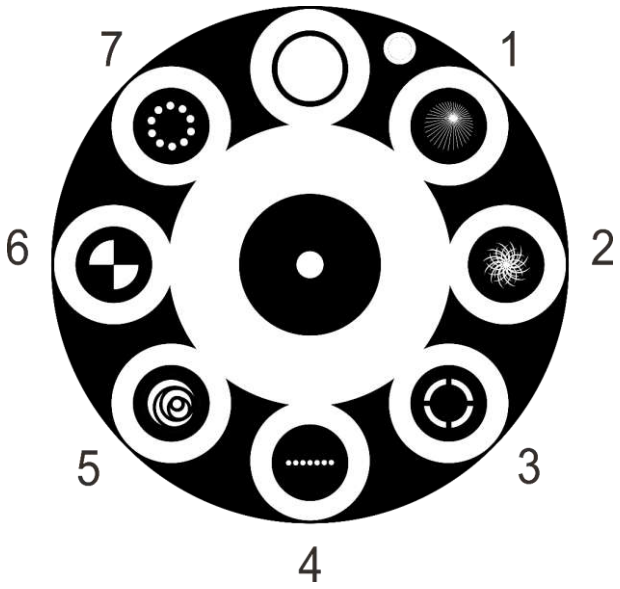


Fig. 14

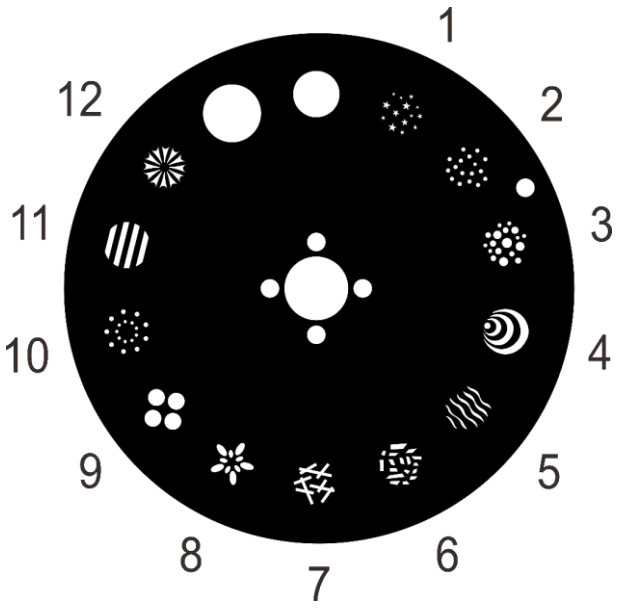


Fig. 15

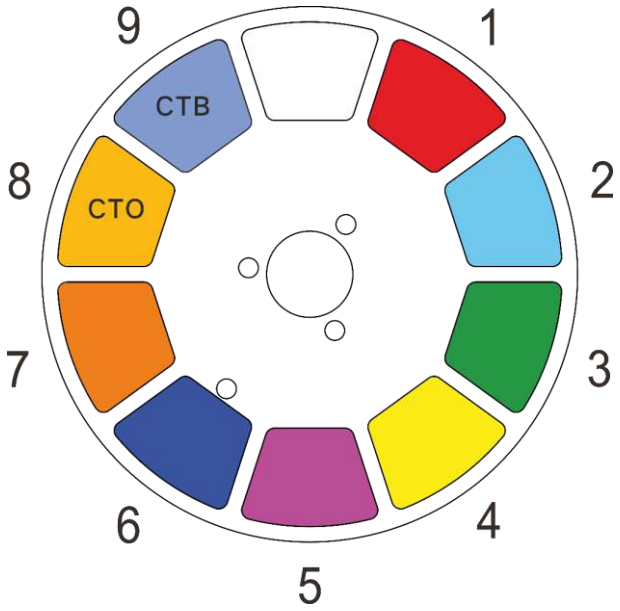


Fig. 16

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	• Check if power is switched on and cables are plugged in
	Primary fuse is blown	• Replace the fuse. See **8.3.1. Replacing the Fuse** on page 37
The device responds erratically	The factory settings of the device are changed	• Reset the device's parameters to the default factory settings. See **6.6.2. Fixture Settings** on page 29
The device does not respond to DMX control	The controller is not connected	• Connect the controller
	The signal is reversed. The 3-pin DMX OUT of the controller does not match the DMX IN of the device	• Install a phase-reversing cable between the controller and the device
	The controller is defective	• Try using another controller
The device responds erratically to DMX control	Bad data link connection	• Examine connections and cables. Correct poor connections. Repair or replace damaged cables
	The data link is not terminated with a 120 Ω termination plug	• Insert a termination plug in the DMX OUT connector of the last device on the link
	Incorrect addressing	• 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	• 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	• Disconnect the device and contact your Highlite International dealer
	The power supply settings do not match local AC voltage and frequency	• 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 5 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 20 minutes.
03) Loosen the fuse cover with a screwdriver and remove the fuse holder.
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 fuse holder in the opening and tighten the fuse cover.

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 37.
- 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

CE

UK CA

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

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