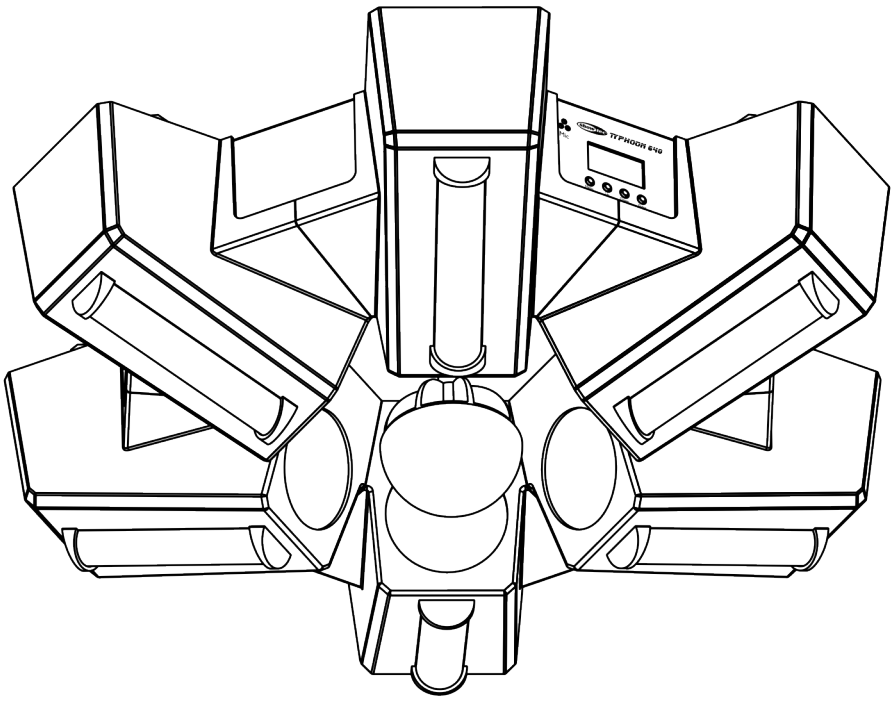
USER MANUAL

ENGLISH

V1.0



Typhoon 640

Product code: 43174

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.

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

For the latest version of this document or other language versions, please visit our website www.highlite.com or contact us at service@highlite.com.

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

Table of contents

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.

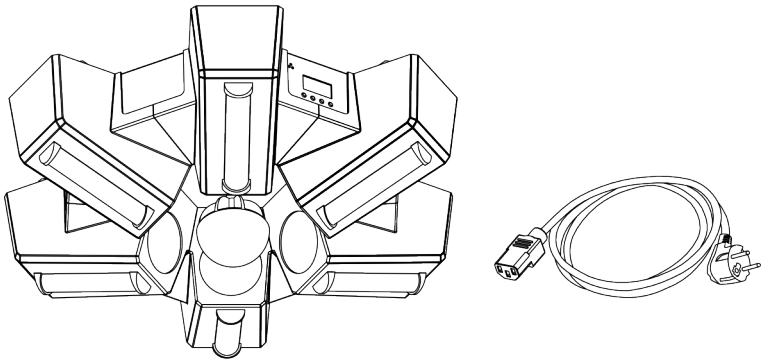
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

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

Your shipment includes:

- Showtec Typhoon 640
- Schuko to IEC power cable (1,5 m)
- User manual

Figure 1



1.2. Intended Use

This device is intended for professional use as a stage light effect. It can be installed only indoors. 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. 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.

1.4. 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 lifespan of the device.

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 parts of the device are in bold lettering, for example: "turn the **adjustment handle (05)**". References to chapters are hyperlinked
- 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 base plate 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.

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 any parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within the reach of children. Packaging material is a potential source of danger for children.

DANGER
Electric shock caused by dangerous voltage inside

There are areas inside 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 the 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 a ground (earth) connection.
- Do not cover the ground (earth) connection.
- Do not bypass the thermostatic switch or fuses.
- Replace fuses only with the same type and rating.
- 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 air vents.
- Do not connect the device to a dimmer pack.
- Do not switch the device on and off in short intervals. This reduces 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 use immediately.

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

This device is intended for professional use as a 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, fixings 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 out 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 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.

2.3. Personal Protective Equipment

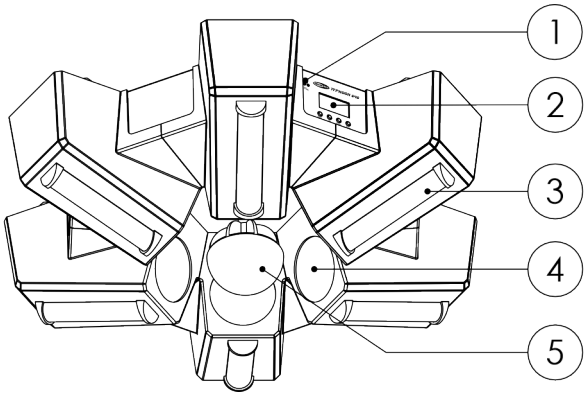
During installation, deinstallation and rigging wear personal protective equipment in compliance with the national and site-specific regulations.

3. Description of the Device

The Showtec Typhoon 640 is a light effect equipped with 6 circular 40 W RGBW LED spots. The 6 spots point inwards towards a rotating half mirror ball that is positioned in the center. You can individually control the 6 spots and you can control the speed and rotation direction of the half mirror ball. The device also features 6 LED effect strips with 10 RGB LEDs per strip. You can control the LED strips individually. The device supports DMX controlled mode, master/slave mode, manual mode and sound-controlled mode.

3.1. Front View

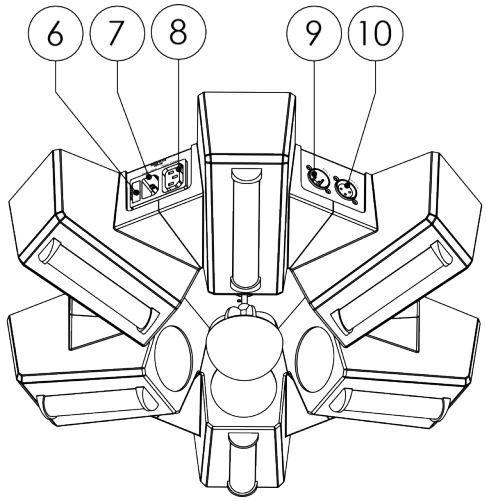
Figure 2



01) Built-in microphone
02) Control panel: OLED display and control buttons
03) 6 LED strips (RGB)
04) 6 LED spots (RGBW)
05) Half mirror ball

3.2. Back View

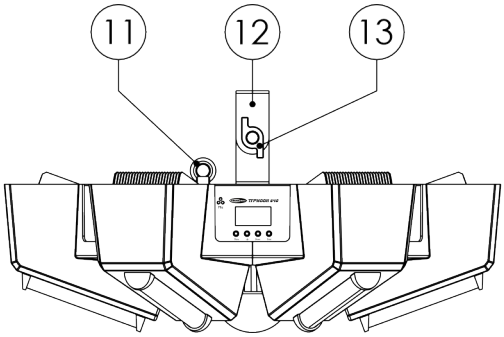
Figure 3



06) Fuse T3,15 A, 250 V
07) IEC power connector IN, 100–240 V AC, 50/60 Hz
08) IEC power connector OUT, 100–240 V AC, 50/60 Hz
09) 3-pin DMX signal connector IN
10) 3-pin DMX signal connector OUT

3.3. Side View

Figure 4



11) Safety eye
12) Mounting bracket
13) 2 adjustment screws

3.4. Product Specifications

Model:	Typhoon 640

Source:	
Light source type	LED
Light source quantity (LED spots)	6
Light source quantity (LED strips)	60
Light source power (LED spots)	40 W
Light source power (LED strips)	0,3 W
LED color type (LED spots)	RGBW
LED color type (LED strips)	RGB

Optical:	
Beam angle (circular)	160°

Control and Programming:	
Control mode	DMX / Sound / Manual / Master slave
DMX channels	4 / 16 / 31 / 36 / 51
Protocols	DMX
Display	OLED

Electrical Specifications and Connections:	
Power supply	100–240 V AC 50/60 Hz
Power consumption	138 W
Power connector IN	IEC
Power connector OUT	IEC
DMX connector	XLR 3P IN/OUT

Mechanical Specifications:	
Height	220 mm
Width	452 mm
Depth	431 mm
Weight	4,8 kg
IP rating	IP20 (indoor use only)
Housing	ABS / Metal
Color	Black

Product Properties:	
Cooling	Convection

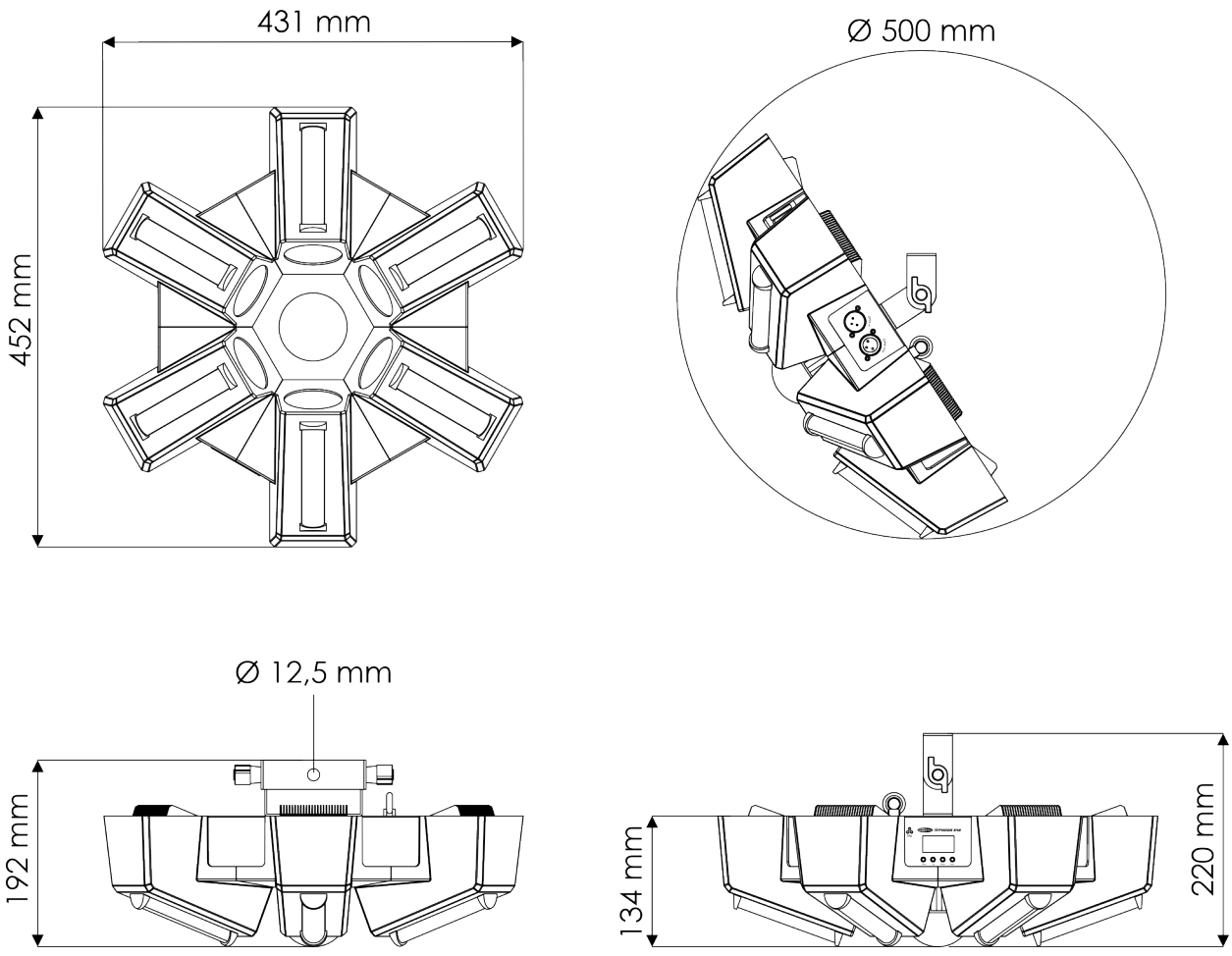
Rigging:	
Mounting options	Bracket

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

Included Items:	
Included cables	IEC cable

3.5. Dimensions

Figure 5



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, deinstallation 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 minimum distance to other objects must be bigger than 0,5 m.
- The maximum ambient temperature t_a = 45 °C must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 45 °C.

4.4. Rigging

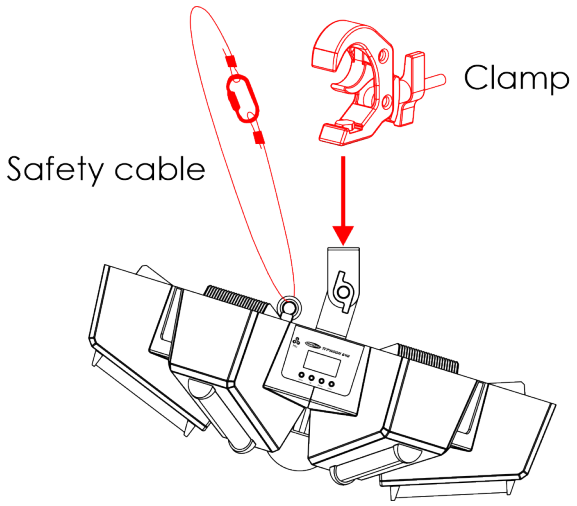
You can mount the device to a truss or other rigging structure in any orientation. Make sure that all loads are within the pre-determined limits of the supporting structure.

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

To mount the device, follow the steps below:

01) Use the clamp to attach the device to the supporting structure. 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 (11)**.

Figure 6

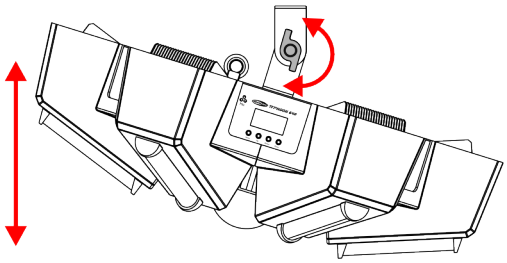


4.4.1. Angle Adjustment

You can adjust the angle of the device with the **adjustment screws (13)**.

01) Turn the **adjustment screws (13)** counterclockwise to loosen them.
02) Tilt the device to the change the angle.
03) Turn the **adjustment screws (13)** clockwise to tighten them. Make sure that the device cannot move freely after the **adjustment screws (13)** are tightened.

Figure 7



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: 7 devices Typhoon 640
- at 200–240 V: 12 devices Typhoon 640

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 Typhoon 640 is not connected to a DMX controller or to other devices, it functions as a stand-alone device. It can be operated manual mode, in auto operation mode or in sound-controlled mode.

For more information refer to Control Modes.

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.

The Typhoon 640 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

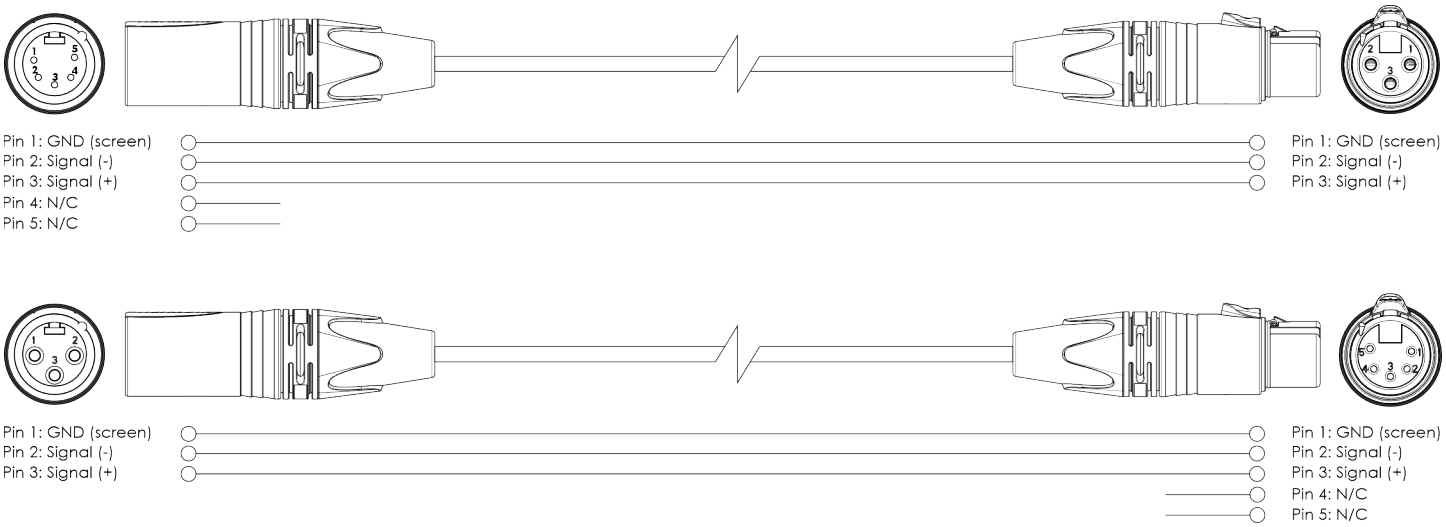
5.3.2. DMX Cables

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 the figure below.

Figure 8

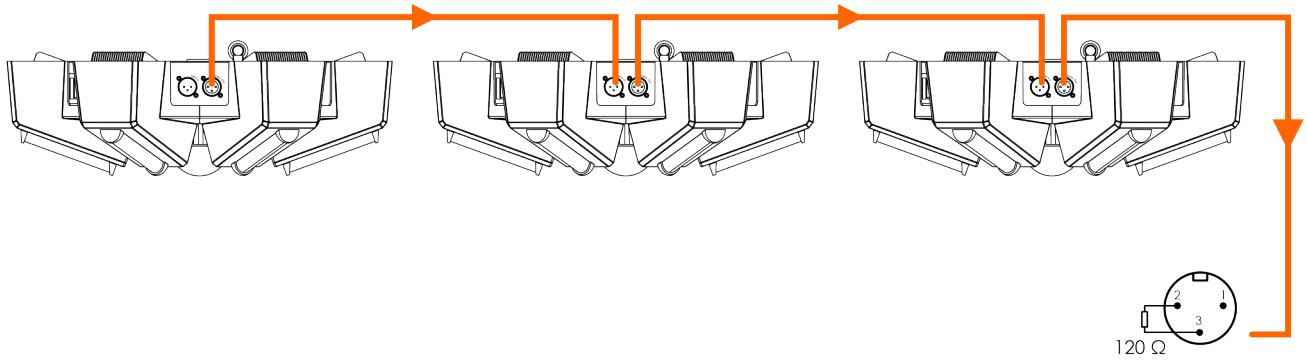


5.3.3. Master/Slave Setup

The Typhoon 640 supports master/slave control mode. To connect multiple devices in a master/slave setup, follow the steps below:

01) Connect the DMX OUT connector of the 1st device to the DMX IN connector of the 2nd device with a 3-pin DMX cable.
02) Repeat step 1 to connect all devices in a daisy-chain.
03) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device on the data link.
04) Set the 1st device on the data link as a master device. Refer to Slave Mode (see 6.6.2.3. Slave Mode on page 24) for more information.
05) Select a slave setting for the other devices on the data link. Refer to Slave Mode (see 6.6.2.3. Slave Mode on page 24) for more information.

Figure 9

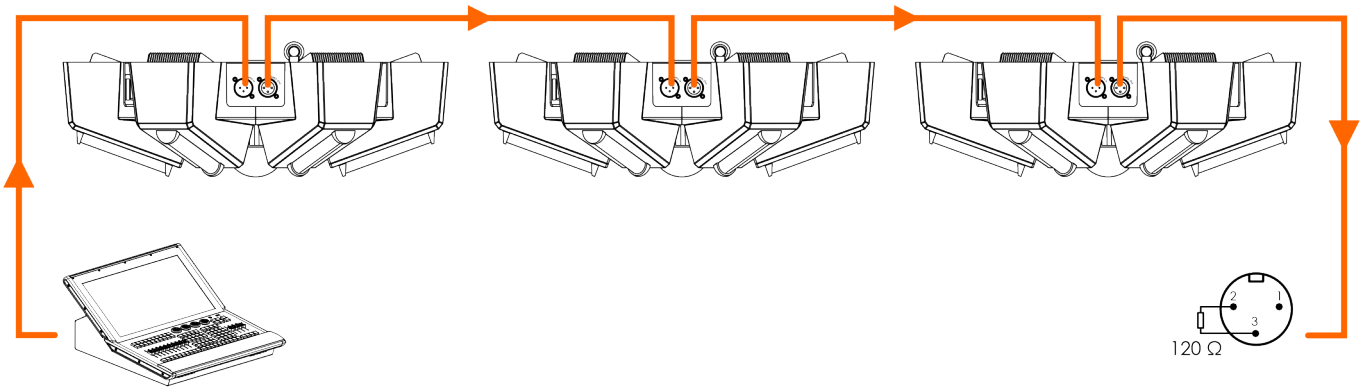


5.3.4. DMX Linking

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 1st device.
02) Connect the DMX OUT connector of the 1st device to the DMX IN connector of the 2nd device with a 3-pin DMX cable.
03) Repeat step 2 to connect all devices in a daisy-chain.
04) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device on the data link.

Figure 10



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 Typhoon 640 has 5 personalities: 4 channels, 16 channels, 31 channels, 36 channels and 51 channels.

If you want to connect multiple devices on one data link and use them in 51-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 52 (052), as 1 + 51 = 52.
03) Set the starting address of the 3rd device on the data link to 103 (103), as 52 + 51 = 103.
04) Continue assigning the starting addresses of the remaining devices by adding each time 51 to the previous number.

Make sure that you do not have any overlapping channels in order to control each Typhoon 640 correctly. If two or more devices have the same DMX starting address, they operate in the same way.

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 stage light effect. It can be installed only indoors. 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 and Operation Modes

The Typhoon 640 can be controlled as a stand-alone device, in master/slave mode and with a DMX controller.

The Typhoon 640 supports the following control modes:

- Stand-alone: Auto operation mode (show chases), manual operation mode, sound-controlled operation mode (show chases)
- Master/save: Auto operation mode (show chases), manual operation mode, sound-controlled operation mode (show chases)
- DMX-512: 4 channels, 16 channels, 31 channels, 36 channels and 51 channels

For more information about how to connect the devices, refer to Setup (see 5. Setup on page 15).

6.2.1. Auto Operation Mode

To run one of the show chases in auto operation mode without a DMX controller:

01) Select Show Settings in the main menu.
02) Select one of the 14 show chases in the Show Chase pop-up submenu (see 6.6.2.2. Show Chase on page 24).

You can additionally activate sound-controlled operation (see 6.6.2.1. Sound Settings on page 24) when you use the show chases.

Note:

When you use auto operation mode, DMX Fail must be set to Program (see 6.6.1.3. DMX Fail on page 23).

6.2.2. Manual Operation Mode

To operate the device manually from the control panel and the menu:

01) Select Manual Mode in the main menu.
02) Adjust the settings in the Manual Mode menu (see 6.6.3. Manual Mode on page 25).

Notes:

When you use Manual Mode:

- Do not leave the Manual Mode menu. If you leave the Manual Mode menu, the device goes back to auto operation mode.
- Set DMX Fail to Program (see 6.6.1.3. DMX Fail on page 23).

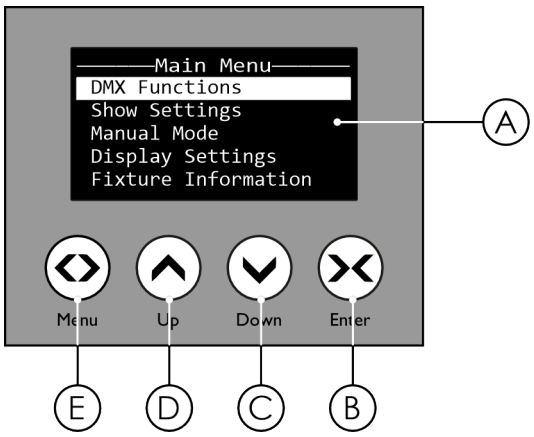
6.2.3. DMX Controlled Mode

To operate the device with a DMX controller:

01) Set the DMX starting address of the device in the DMX Address submenu (see 6.6.1.1. DMX Address on page 22).
02) Select the behavior of the device in case there is no DMX signal in the DMX Fail pop-up submenu (see 6.6.1.3. DMX Fail on page 23).
03) Select the DMX channel mode in the DMX channel mode submenu (see 6.6.1.2. Mode on page 23). Refer to DMX Channels (see 6.7. DMX Channels on page 27) for a complete overview of all DMX channels.

6.3. Control Panel

Figure 11



A) OLED display
B) ENTER button
C) DOWN button
D) UP button
E) MENU button

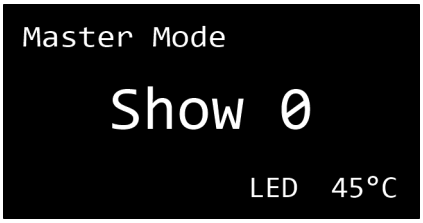
- Use the **MENU** button to exit the current submenu, to return to the Main Menu and to return to the start screen.
- Use the **UP/DOWN** buttons to navigate through the menus and to increase/decrease numeric values.
- Use the **ENTER** button to open the desired menu, to confirm your choice and to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

6.4. Start-up

Upon start-up, the display shows a splash screen with the name of the device.

Immediately afterwards, the display shows the start screen. The start screen provides information about the current control mode of the device and the temperature of the LEDs. For example:

36-channel DMX mode with starting address 001



Stand-alone or master/slave mode

Press the **MENU** button to enter the main menu.

Note:

If no button is pressed, after 55 s the display returns to the start screen. After 55 s more the backlight of the display turns off. You can change this setting in the Backlight submenu (see 6.6.4. Display Settings on page 25). The backlight of the display does not turn off when the Manual Mode menu is selected.

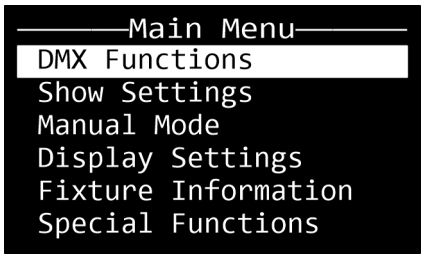
6.5. Menu Overview

Level 1	Level 2	Level 3	Level 4
DMX Functions (see 6.6.1. DMX Functions on page 22)	DMX Address	001–512	
	Mode	4 Channel	
		16 Channel	
		31 Channel	
		36 Channel	
		51 Channel	
	DMX Fail	Blackout	
		Last	
		Program	
Show Settings (see 6.6.2. Show Settings on page 23)	Sound Settings	Sound	No
			Yes
		Sensitivity	000–100
	Show Chase	Show 0	Sp 0–99
		Show 1	Sp 0–99
		Show 2	Sp 0–99
		Show 3	Sp 0–99
		Show 4	Sp 0–99
		Show 5	Sp 0–99
		Show 6	Sp 0–99
		Show 7	Sp 0–99
		Show 8	Sp 0–99
		Show 9	Sp 0–99
		Show 10	Sp 0–99
		Show 11	Sp 0–99
		Show 12	Sp 0–99
		Show 13	Sp 0–99
		Show 14	Sp 0–99
	Slave mode	Master	
		Slave 1	
		Slave 2	

Level 1	Level 2	Level 3	Level 4
Manual Mode (see 6.6.3. Manual Mode on page 25)	Red	000–255	
	Green	000–255	
	Blue	000–255	
	White	000–255	
	Rotation	000–255	
	Dimmer	000–255	
	Strobe	000–255	
	Vibe Show	000–255	
	Vibe Speed	000–255	
Display Settings (see 6.6.4. Display Settings on page 25)	Display Inverse	No	
		Yes	
	Display Backlight Auto Off	No	
		Yes	
	Display Contrast	0–30	
Fixture Information (see 6.6.5. Fixture Information on page 25)	Fixture Hour		
	Firmware Version	CPU–A V 1.0 B 1.0	
Special Functions (see 6.6.6. Special Functions on page 26)	Factory Setting	No	
		Yes	

6.6. Main Menu Options

The main menu has the following options:



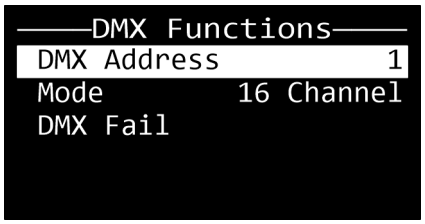
DMX Functions
Show Settings
Manual Mode
Display Settings
Fixture Information
Special Functions

01) Press the **UP/DOWN** buttons to navigate through the menu.
02) Press the **ENTER** button to open submenus.

6.6.1. DMX Functions

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

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



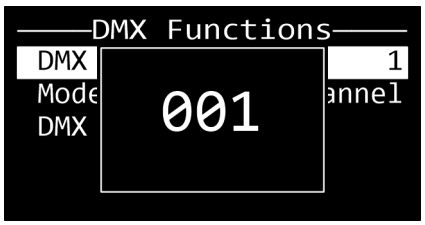
- DMX Address (see 6.6.1.1. DMX Address)
- Mode (see 6.6.1.2. Mode)
- DMX Fail (see 6.6.1.3. DMX Fail)

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

6.6.1.1. DMX Address

In this pop-up submenu 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 (001–512).

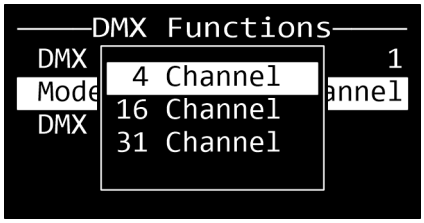


02) Press the **ENTER** button to confirm the selection.

6.6.1.2. Mode

In this pop-up submenu you can select the DMX channel mode.

01) Press the **UP/DOWN** buttons to select one of the 5 options:



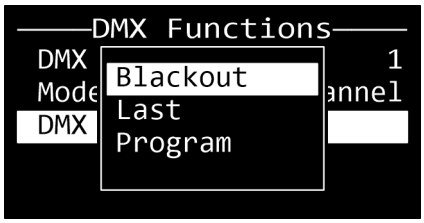
- 4 Channel
- 16 Channel
- 31 Channel
- 36 Channel
- 51 Channel

02) Press the **ENTER** button to confirm the selection. For more information, refer to DMX Channels (see 6.7. DMX Channels on page 27).

6.6.1.3. DMX Fail

In this pop-up submenu you can determine the behavior of the device in case there is no DMX signal.

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



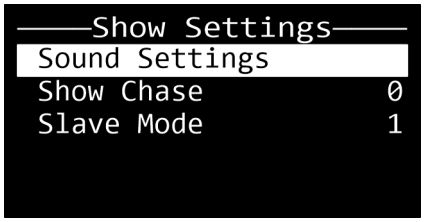
- Blackout: The device blacks out the light output
- Last: The device uses the last DMX signal correctly received
- Program: The device uses the selected show chase

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

6.6.2. Show Settings

In this menu you can activate sound-controlled mode, select a show chase and set the device as a master or a slave in a master/slave setup.

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



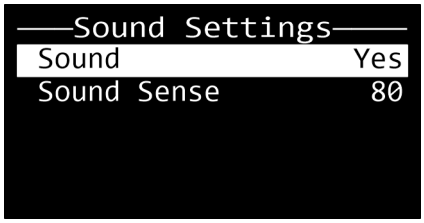
- Sound Settings (see 6.6.2.1. Sound Settings)
- Show Chase (see 6.6.2.2. Show Chase)
- Slave Mode (see 6.6.2.3. Slave Mode)

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

6.6.2.1. Sound Settings

In this submenu you can activate sound-controlled mode and adjust the sensitivity of the built-in microphone.

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



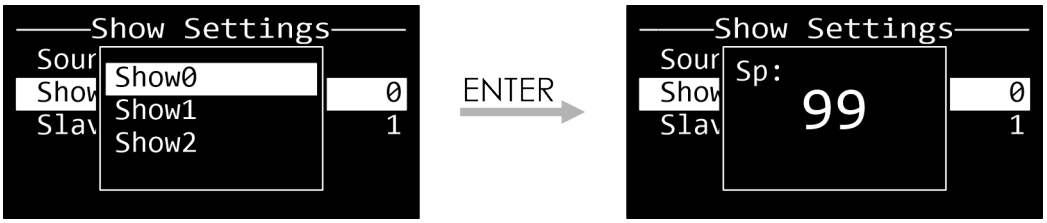
- Sound: Enable sound-controlled mode (No/Yes)
- Sound Sense: Adjust the sensitivity of the built-in microphone (0–100)

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

6.6.2.2. Show Chase

In this submenu you can run one of the show chases and adjust the speed of the selected show chase.

Press the **UP/DOWN** buttons to select one of the 14 show chases:



01) Press the **UP/DOWN** buttons to set the speed (0–99, from slow to fast).
02) Press the **ENTER** button to confirm the selection.

6.6.2.3. Slave Mode

In this submenu you can set the device as a master or a slave device in a master/slave setup.

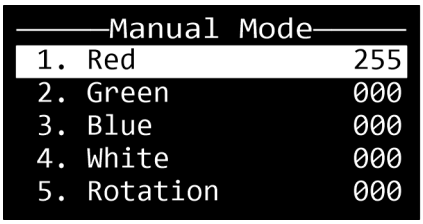
01) Press the **UP/DOWN** buttons to select one of the 3 options:
- Master: Set the device as a master device
- Slave1: Set the device as a slave device. The device copies the operation of the master device
- Slave2: Set the device as a slave device. The device copies the operation of the master device and reverses the rotation direction of the half mirror ball

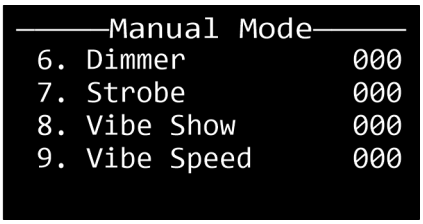
02) Press the **ENTER** button to confirm.

6.6.3. Manual Mode

In this menu you can manually select settings for the LED spots, the half mirror ball and the LED strips.

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





- Red: Red color intensity of the spots (000–255)
- Green: Green color intensity of the spots (000–255)
- Blue: Blue color intensity of the spots (000–255)
- White: White color intensity of the spots (000–255)
- Rotation: Rotation adjustment of the half mirror ball (000–255). For specific information, refer to the Half Mirror Ball Rotation setting in the DMX Channels (see 6.7.4. 4 Channels, 16 Channels on page 30)
- Dimmer: Light intensity adjustment of the spots (000–255)
- Strobe: Strobe effect of the of the spots (000–255)
- Vibe Show: Built-in chase for the strips (000–255)
- Vibe Speed: Show speed of the strips (000–255)

02) Press the **ENTER** button to confirm the selection.
03) Press the **UP/DOWN** buttons to adjust the values.
04) Press the **ENTER** button to confirm the value.

6.6.4. Display Settings

In this menu you can adjust the display settings of the device.

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

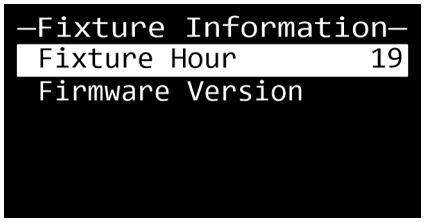
- Display Inverse: The OLED display rotates by 180° (No/Yes)
- Backlight Auto Off: The backlight of the OLED display turns off automatically after 55 seconds of inactivity (No/Yes)
- Display Contrast: Change the display contrast. The adjustment range is 0–30 (from low to high contrast)

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

6.6.5. Fixture Information

In this menu you can view the operating hours and the firmware version of the device.

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



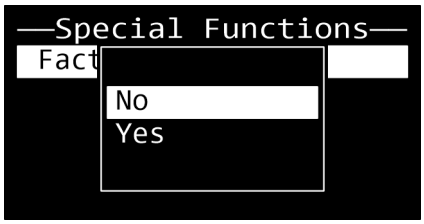
- Fixture Hour: Shows the operating hours of the device
- Firmware Version: Shows the current firmware version

02) Press the **ENTER** button to view the information.

6.6.6. Special Functions

In this menu you can reset the settings of the device to the default factory settings.

01) Press the **ENTER** button to open the Fctory Setting pop-up submenu.
02) Press the **UP/DOWN** buttons to select one of the 2 options:



- No: Cancel the reset and return to the previous screen
- Yes: Reset the settings of the device to the default factory settings

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

6.7. DMX Channels

6.7.1. DMX Channels Overview

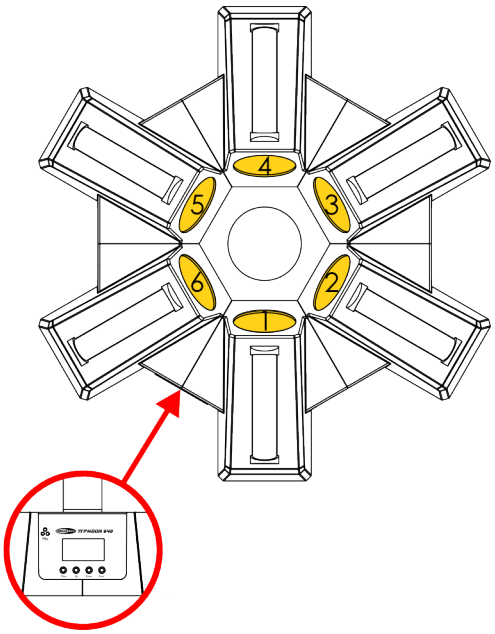
Function	4 Channel	16 Channel	31 Channel	36 Channel	51 Channel
Spots Dimmer		1	1	1	1
Spots Strobe		2	2	2	2
Strips Dimmer		3	3	3	3
Strips Strobe		4	4	4	4
Spots (All) Red		5	5		
Spots (All) Green		6	6		
Spots (All) Blue		7	7		
Spots (All) White		8	8		
Spot 1 Red				5	5
Spot 1 Green				6	6
Spot 1 Blue				7	7
Spot 1 White				8	8
Spot 2 Red				9	9
Spot 2 Green				10	10
Spot 2 Blue				11	11
Spot 2 White				12	12
Spot 3 Red				13	13
Spot 3 Green				14	14
Spot 3 Blue				15	15
Spot 3 White				16	16
Spot 4 Red				17	17
Spot 4 Green				18	18
Spot 4 Blue				19	19
Spot 4 White				20	20
Spot 5 Red				21	21
Spot 5 Green				22	22
Spot 5 Blue				23	23
Spot 5 White				24	24
Spot 6 Red				25	25
Spot 6 Green				26	26
Spot 6 Blue				27	27
Spot 6 White				28	28
Strips (All) Red		9		29	
Strips (All) Green		10		30	
Strips (All) Blue		11		31	
Strip 1 Red			9		29
Strip 1 Green			10		30
Strip 1 Blue			11		31
Strip 2 Red			12		32
Strip 2 Green			13		33
Strip 2 Blue			14		34
Strip 3 Red			15		35
Strip 3 Green			16		36

Function	4 Channel	16 Channel	31 Channel	36 Channel	51 Channel
Strip 3 Blue			17		37
Strip 4 Red			18		38
Strip 4 Green			19		39
Strip 4 Blue			20		40
Strip 5 Red			21		41
Strip 5 Green			22		42
Strip 5 Blue			23		43
Strip 6 Red			24		44
Strip 6 Green			25		45
Strip 6 Blue			26		46
Half Mirror Ball Rotation		12	27	32	47
Macro FX (Spots and Half Mirror Ball)	1	13	28	33	48
Macro FX Speed (Spots and Half Mirror Ball)	2	14	29	34	49
Macro FX (Strips)	3	15	30	35	50
Macro FX Speed (Strips)	4	16	31	36	51

6.7.2. LED Spots Numbering

The numbering of the LED spots in the DMX channels is as follows:

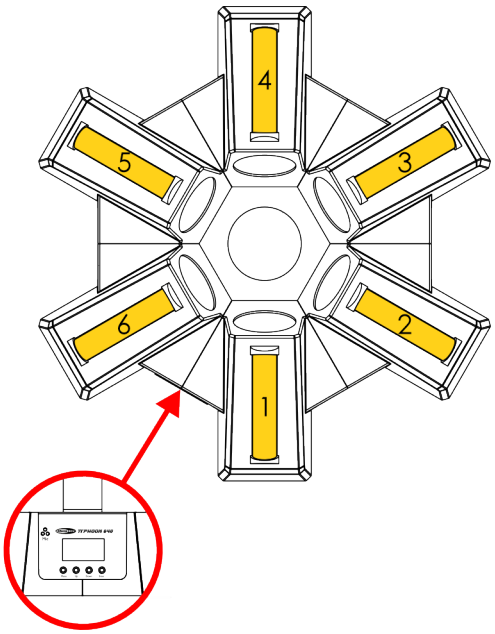
Figure 12



6.7.3. LED Strips Numbering

The numbering of the LED strips in the DMX channels is as follows:

Figure 13



6.7.4. 4 Channels, 16 Channels

4 Channel	16 Channel	Function	Value	Setting
	1	Spots Dimmer	000–255	From low to high intensity (0–100 %)
	2	Spots Strobe	000–004	No function
			005–067	Linear strobe, from low to high frequency
			068–130	Pulse strobe, from low to high frequency
			131–193	Random strobe on all spots
			194–255	Random strobe on individual spots
	3	Strips Dimmer	000–255	From low to high intensity (0–100 %)
	4	Strips Strobe	000–004	No function
			005–067	Linear strobe, from low to high frequency
			068–130	Pulse strobe, from low to high frequency
			131–193	Random strobe on all spots
			194–255	Random strobe on individual spots
	5	Spots (All) Red	000–255	From low to high intensity (0–100 %)
	6	Spots (All) Green	000–255	From low to high intensity (0–100 %)
	7	Spots (All) Blue	000–255	From low to high intensity (0–100 %)
	8	Spots (All) White	000–255	From low to high intensity (0–100 %)
	9	Strips (All) Red	000–255	From low to high intensity (0–100 %)
	10	Strips (All) Green	000–255	From low to high intensity (0–100 %)
	11	Strips (All) Blue	000–255	From low to high intensity (0–100 %)
	12	Half Mirror Ball Rotation	000–005	No function
			006–125	Clockwise rotation, from fast to slow
			126–129	No function
			130–249	Counterclockwise rotation, from slow to fast
			250–255	No function
1	13	Macro FX (Spots and Half Mirror Ball)	000–015	No function
			016–031	Show 0 (loops show 1–show 14)
			032–047	Show 1
			048–063	Show 2
			064–079	Show 3
			080–095	Show 4
			096–111	Show 5
			112–127	Show 6
			128–143	Show 7
			144–159	Show 8
			160–175	Show 9
			176–191	Show 10
			192–207	Show 11
			208–223	Show 12
			224–239	Show 13
			240–255	Show 14
2	14	Macro FX Speed (Spots and Half Mirror Ball)	000–255	From slow to fast
3	15	Macro FX (Strips)	000–015	No function
			016–027	Show 0 (loops show 1–show 19)
			028–039	Show 1

4 Channel	16 Channel	Function	Value	Setting
			040–051	Show 2
			052–063	Show 3
			064–075	Show 4
			076–087	Show 5
			088–099	Show 6
			100–111	Show 7
			112–123	Show 8
			124–135	Show 9
			136–147	Show 10
			148–159	Show 11
			160–171	Show 12
			172–183	Show 13
			184–195	Show 14
			196–207	Show 15
			208–219	Show 16
			220–231	Show 17
			232–243	Show 18
			244–255	Show 19
4	**16**	**Macro FX Speed (Strips)**	000–255	From slow to fast

6.7.5. 31 Channels, 36 Channels, 51 Channels

31 Channel	36 Channel	51 Channel	Function	Value	Setting
1	1	1	Spots Dimmer	000–255	From low to high intensity (0–100 %)
2	2	2	Spots Strobe	000–004	No function
				005–067	Linear strobe, from low to high frequency
				068–130	Pulse strobe, from low to high frequency
				131–193	Random strobe on all spots
				194–255	Random strobe on individual spots
3	3	3	Strips Dimmer	000–255	From low to high intensity (0–100 %)
4	4	4	Strips Strobe	000–004	No function
				005–067	Linear strobe, from low to high frequency
				068–130	Pulse strobe, from low to high frequency
				131–193	Random strobe on all spots
				194–255	Random strobe on individual spots
5			Spots (All) Red	000–255	From low to high intensity (0–100 %)
6			Spots (All) Green	000–255	From low to high intensity (0–100 %)
7			Spots (All) Blue	000–255	From low to high intensity (0–100 %)
8			Spots (All) White	000–255	From low to high intensity (0–100 %)
	5	5	Spot 1 Red	000–255	From low to high intensity (0–100 %)
	6	6	Spot 1 Green	000–255	From low to high intensity (0–100 %)
	7	7	Spot 1 Blue	000–255	From low to high intensity (0–100 %)
	8	8	Spot 1 White	000–255	From low to high intensity (0–100 %)
	9	9	Spot 2 Red	000–255	From low to high intensity (0–100 %)
	10	10	Spot 2 Green	000–255	From low to high intensity (0–100 %)
	11	11	Spot 2 Blue	000–255	From low to high intensity (0–100 %)
	12	12	Spot 2 White	000–255	From low to high intensity (0–100 %)
	13	13	Spot 3 Red	000–255	From low to high intensity (0–100 %)
	14	14	Spot 3 Green	000–255	From low to high intensity (0–100 %)
	15	15	Spot 3 Blue	000–255	From low to high intensity (0–100 %)
	16	16	Spot 3 White	000–255	From low to high intensity (0–100 %)
	17	17	Spot 4 Red	000–255	From low to high intensity (0–100 %)
	18	18	Spot 4 Green	000–255	From low to high intensity (0–100 %)
	19	19	Spot 4 Blue	000–255	From low to high intensity (0–100 %)
	20	20	Spot 4 White	000–255	From low to high intensity (0–100 %)
	21	21	Spot 5 Red	000–255	From low to high intensity (0–100 %)
	22	22	Spot 5 Green	000–255	From low to high intensity (0–100 %)
	23	23	Spot 5 Blue	000–255	From low to high intensity (0–100 %)
	24	24	Spot 5 White	000–255	From low to high intensity (0–100 %)
	25	25	Spot 6 Red	000–255	From low to high intensity (0–100 %)
	26	26	Spot 6 Green	000–255	From low to high intensity (0–100 %)
	27	27	Spot 6 Blue	000–255	From low to high intensity (0–100 %)
	28	28	Spot 6 White	000–255	From low to high intensity (0–100 %)
	29		Strips (All) Red	000–255	From low to high intensity (0–100 %)
	30		Strips (All) Green	000–255	From low to high intensity (0–100 %)
	31		Strips (All) Blue	000–255	From low to high intensity (0–100 %)
9		29	Strip 1 Red	000–255	From low to high intensity (0–100 %)
10		30	Strip 1 Green	000–255	From low to high intensity (0–100 %)

31 Channel	36 Channel	51 Channel	Function	Value	Setting
11		31	Strip 1 Blue	000–255	From low to high intensity (0–100 %)
12		32	Strip 2 Red	000–255	From low to high intensity (0–100 %)
13		33	Strip 2 Green	000–255	From low to high intensity (0–100 %)
14		34	Strip 2 Blue	000–255	From low to high intensity (0–100 %)
15		35	Strip 3 Red	000–255	From low to high intensity (0–100 %)
16		36	Strip 3 Green	000–255	From low to high intensity (0–100 %)
17		37	Strip 3 Blue	000–255	From low to high intensity (0–100 %)
18		38	Strip 4 Red	000–255	From low to high intensity (0–100 %)
19		39	Strip 4 Green	000–255	From low to high intensity (0–100 %)
20		40	Strip 4 Blue	000–255	From low to high intensity (0–100 %)
21		41	Strip 5 Red	000–255	From low to high intensity (0–100 %)
22		42	Strip 5 Green	000–255	From low to high intensity (0–100 %)
23		43	Strip 5 Blue	000–255	From low to high intensity (0–100 %)
24		44	Strip 6 Red	000–255	From low to high intensity (0–100 %)
25		45	Strip 6 Green	000–255	From low to high intensity (0–100 %)
26		46	Strip 6 Blue	000–255	From low to high intensity (0–100 %)
27	32	47	Half Mirror Ball Rotation	000–005	No function
				006–125	Clockwise rotation, from fast to slow
				126–129	No function
				130–249	Counterclockwise rotation, from slow to fast
				250–255	No function
28	33	48	Macro FX (Spots and Half Mirror Ball)	000–015	No function
				016–031	Show 0 (loops show 1–show 14)
				032–047	Show 1
				048–063	Show 2
				064–079	Show 3
				080–095	Show 4
				096–111	Show 5
				112–127	Show 6
				128–143	Show 7
				144–159	Show 8
				160–175	Show 9
				176–191	Show 10
				192–207	Show 11
				208–223	Show 12
				224–239	Show 13
				240–255	Show 14
29	34	49	Macro FX Speed (Spots and Half Mirror Ball)	000–255	From slow to fast
30	35	50	Macro FX (Strips)	000–015	No function
				016–027	Show 0 (loops show 1–show 19)
				028–039	Show 1
				040–051	Show 2
				052–063	Show 3
				064–075	Show 4
				076–087	Show 5

31 Channel	36 Channel	51 Channel	Function	Value	Setting
				088–099	Show 6
				100–111	Show 7
				112–123	Show 8
				124–135	Show 9
				136–147	Show 10
				148–159	Show 11
				160–171	Show 12
				172–183	Show 13
				184–195	Show 14
				196–207	Show 15
				208–219	Show 16
				220–231	Show 17
				232–243	Show 18
				244–255	Show 19
31	**36**	**51**	**Macro FX Speed (Strips)**	000–255	From slow to fast

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	• Make sure that the device is connected to power supply and the cables are plugged in
	Main 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 parameters of the device to the default factory settings (see 6.6.6. Special Functions on page 26)
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	Connections are defective	• Examine connections and cables. Correct defective 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	• Make sure that the address settings are correct
	In case of a setup with multiple devices, one of the devices is defective and disturbs data transmission on the link	• To find out the defective device, 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 input power parameters of the device do not match the local AC voltage and frequency	• Disconnect the device. Make sure that the local current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device

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.
- Replace fuses only with the same type and rating.

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 fuse holder, integrated in the power connector, 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 fuse holder in the opening and push it gently back in 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 (see 8.2.1. Basic Cleaning Instructions on page 36).
- 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.