Show tec ®

ENGLISH

Performer 2000 RGBAL   V3

Product code: 33038

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.

Table of contents

*Show*tec

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 Performer 2000 RGBAL
- Schuko to Pro power cable (1,5 m)
- 1 x safety cable
- User manual
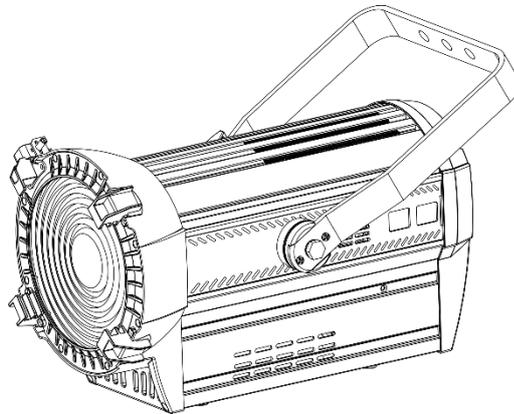
Fig. 01

1.2. Intended Use

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

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

1.3. Product Lifespan

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

1.4. LEDs Lifespan

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

1.5. Text Conventions

Throughout the user manual the following text conventions are used:

- Buttons: All buttons are in bold lettering, for example "Press the **UP/DOWN** buttons"
- References: References to chapters and parts of the device are in bold lettering, for example: "Refer to **2. Safety**", "turn the **adjustment screw (02)**"

- 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 backside of the device.

The information label contains the following symbols:

|	
	This device is designed for indoor use.
	This device shall not be treated as household waste.
	Replace any cracked protective shield.
	Minimum distance from lighted objects.
	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.
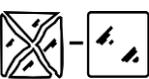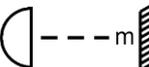
2. Safety

	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 (> 120 V DC) may be present.

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

	DANGER **Electric shock caused by short-circuit**

This device falls under IEC protection class I.

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

> ⚠️ **WARNING**
> **Risk of epileptic shock**

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

> 🛈 **Attention**
> **Power supply**

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

> 🛈 **Attention**
> **General safety**

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

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

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

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

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

Showtec

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 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 Performer 2000 RGBAL is a 240 watt colour LED Spot with high CRI and silent operations, suitable for theatrical and studio applications. It projects a bright, soft field of light within a 15°–45° motorised zoom range. The Performer 2000 RGBAL features a 5-colour LED Engine (RGB, Amber and Lime) with 16 preset colours. Its 0–100 % DMX controllable dimmer allow a selection between 4 different curves. A barndoor is optional for shaping the output manually.

3.1.   Front View
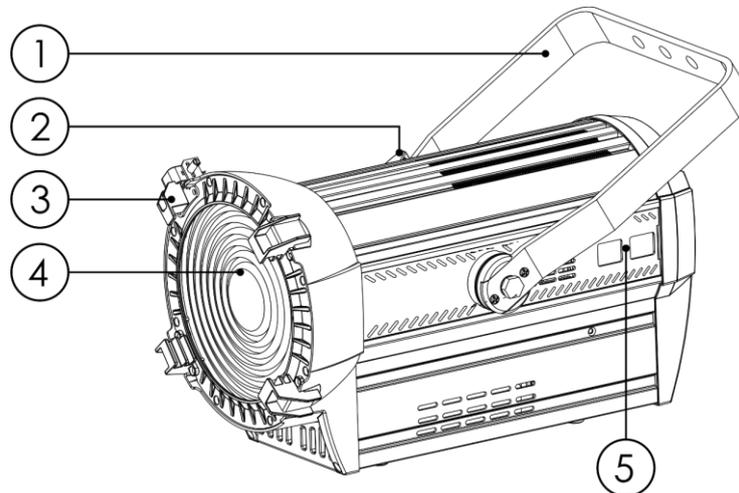
Fig. 02

01) Mounting bracket
02) Adjustment screw
03) Color frame retaining clip
04) Lens
05) Safety eye

3.2. Back View
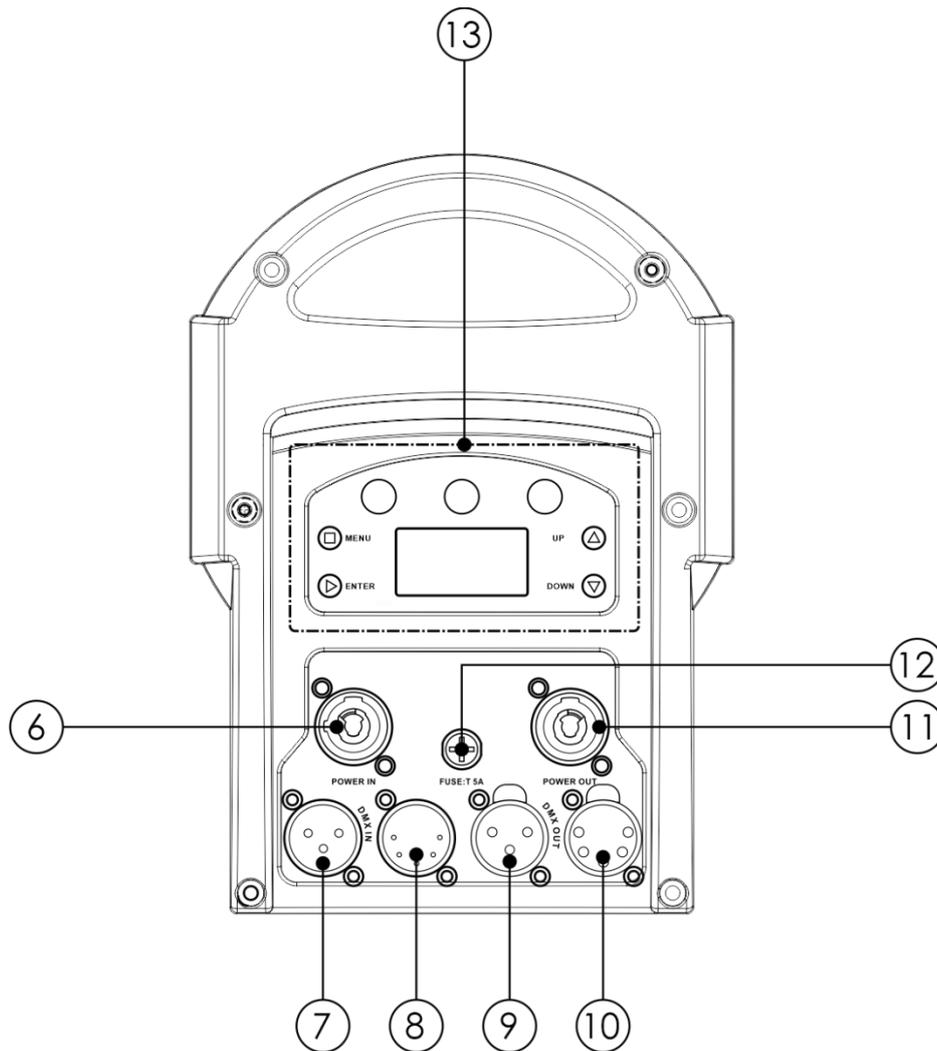
06) 100-240V Pro power connector Blue IN
07) 3-pin DMX signal connector IN
08) 5-pin DMX signal connector IN
09) 3-pin DMX signal connector OUT
10) 5-pin DMX signal connector OUT
11) 100-240V Pro power connector Gray OUT
12) Fuse T6,3AL/250V
13) LCD display + control buttons

3.3.   Product Specifications

Model:	Showtec Performer 2000 RGBAL

Electrical:	
Input voltage:	100–240 V AC, 50/60 Hz
Power consumption:	230 W
Fuse:	T6,3AL/250 V

Physical:	
Dimensions:	455 x 285 x 435 mm (LxWxH)
Weight:	7,42 kg

Optics:	
Light source:	1 x 240W LED Array 5-in-1
Dimmer:	0–100 %
Dimming curves:	Dimm4 technology, 4 presets
Dimmer resolution:	16-bit
Strobe:	0–25 Hz
Refresh rate:	600Hz to 25kHz
Zoom angle:	15–45°
Field angle circular:	25–76°
Lumen total:	5500 lm
Color temperature:	2700–8000 K
Zoom:	Motorised

Operation and control:	
Control:	Stand-alone (Manual mode, Static, Color presets)
	Master/Slave (Manual mode, Static, Color presets)
	DMX-512/RDM
DMX channels:	HSIC (8 channels), SSP (10 channels), TOUR (13 channels), TR16 (19 channels)
Control panel:	OLED display and buttons
Noise Level Maximum	40 dB
Noise Level Silent mode	37 dB

Connections:	
Power connections:	Pro power connectors IN/OUT
Data connections:	3-pin DMX connectors IN/OUT
	5-pin DMX connectors IN/OUT
Signal pinouts:	3-pin: pin 1 (ground), pin 2 (-), pin 3 (+)
	5-pin: pin 1 (ground), pin 2 (-), pin 3 (+), pin 4 (N/C), pin 5 (N/C)

Construction:	
Housing:	Die-cast aluminum
Color:	Black
IP rating:	IP20
Cooling:	Internal axial fan

Thermal:	
Maximum ambient temperature t_a:	40 °C
Maximum housing temperature t_c:	45 °C

Minimum distance:	
Minimum distance from flammable surfaces:	0,5 m
Minimum distance to lighted object:	0,8 m

3.4. Optional Accessories

The Performer 2000 RGBAL is delivered without accessories. You can additionally purchase the following accessories:

Product code: 33041 (Barndoor for Performer 2000 RGBAL)
Product code: 33042 (Filter Frame for Performer 2000 RGBAL)

3.5. Dimensions
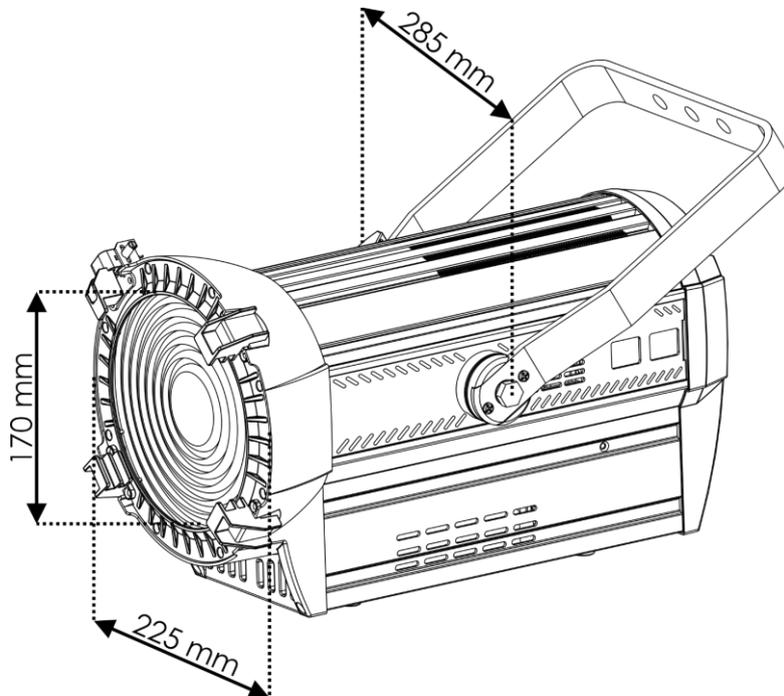
Fig. 04
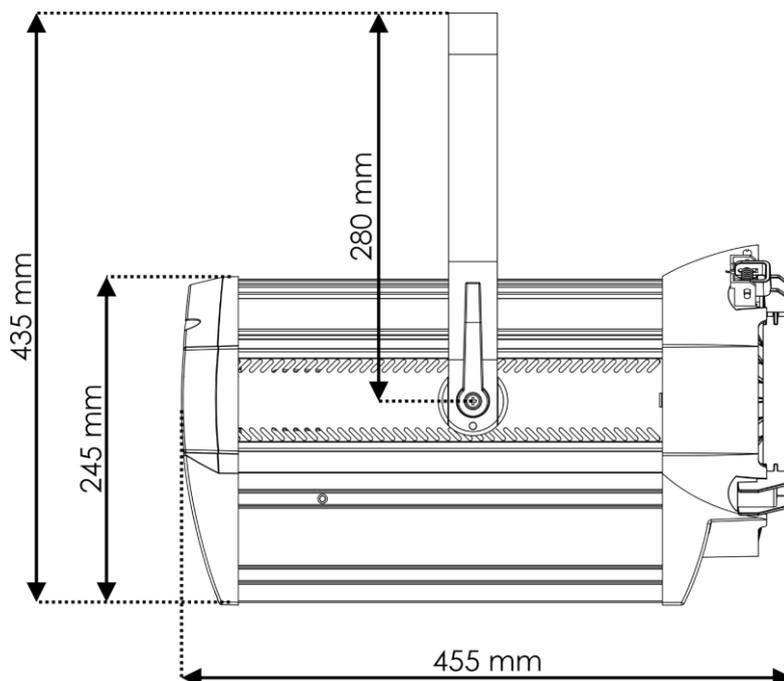
Fig. 05

4. Installation

4.1. Safety Instructions for Installation

⚠️ **WARNING**
Incorrect installation can cause serious injuries and damage of property.

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

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

4.2. Personal Protective Equipment

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

4.3. Installation Site Requirements

- The device can be used only indoors.
- The device can be mounted to a truss or other rigging structure in any orientation.
- The minimum distance to other objects must be bigger than 0,5 m.
- The minimum distance between the light output and the illuminated surface must be bigger than 0,8 m.
- The maximum ambient temperature ta = 40 °C must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40 °C.

4.4. Rigging

The device can be positioned on a flat surface or mounted to a truss or other rigging structure 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) Use a clamp to attach the device to the supporting structure, as shown in Fig. 07. Make sure that the device cannot move freely. Optionally, you can use the Slide Complete to attach the device.
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 (07)**, as shown in Fig. 07.
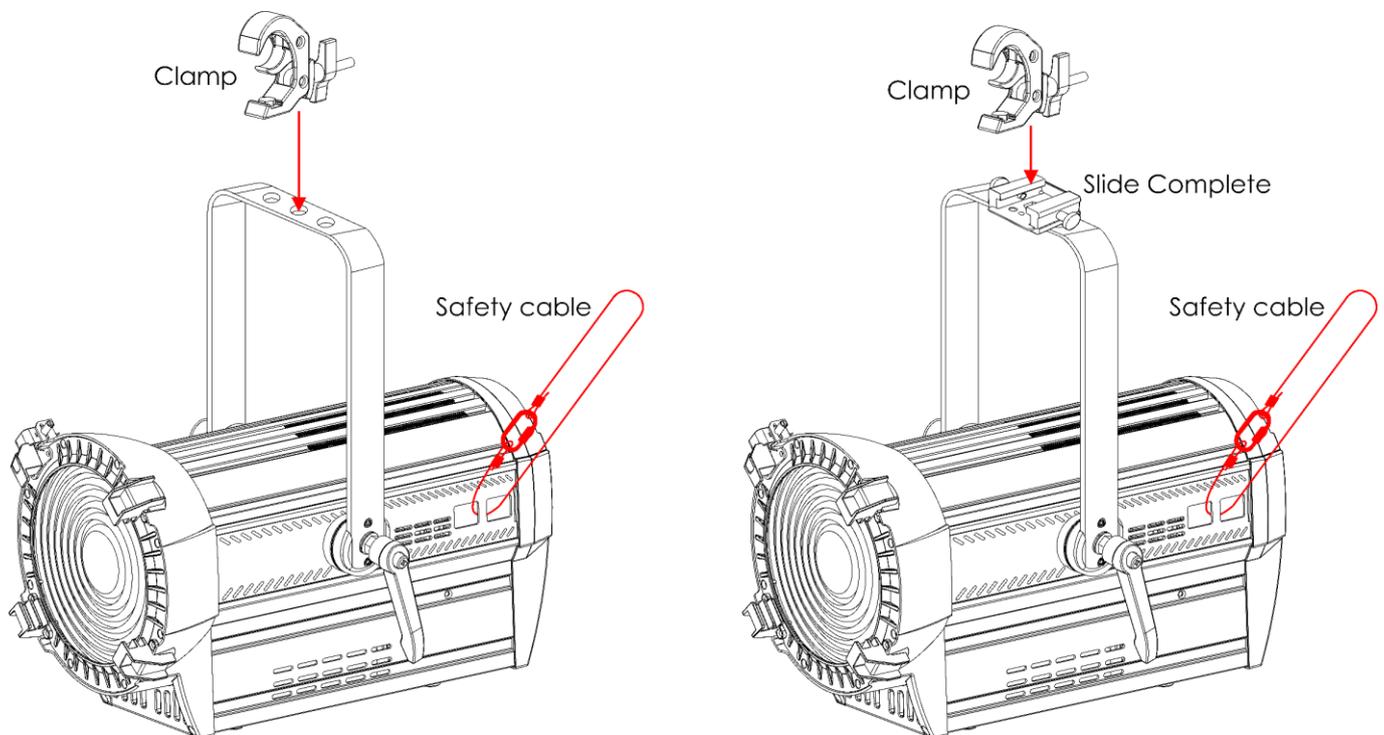
Fig. 07

4.4.1. Angle Adjustment

You can adjust the angle of the device with the **adjustment screw (03)**.

01) Turn the **adjustment screw (03)** counterclockwise to release it.
02) Tilt the device to the desired angle (see Fig. 08).
03) Turn the **adjustment screw (03)** clockwise to tighten it. Make sure that the device cannot move freely after the **adjustment screw (03)** is tightened.
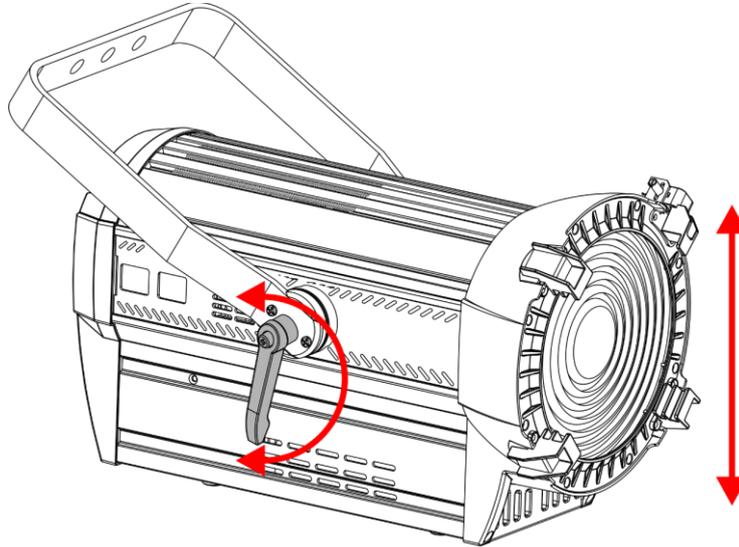
Fig. 08

4.4.2. Color Frame Retaining Clip

The color frame holder is equipped with a spring-loaded retaining clip. This prevents color frames and accessories from falling out.

01) Release the retaining clip by pressing the lock towards the lens and pressing the longer side of the screw. The retaining clip will open.
02) Insert the color frame(s).
03) Lock the retaining clip by pressing the retaining clip towards the lens.
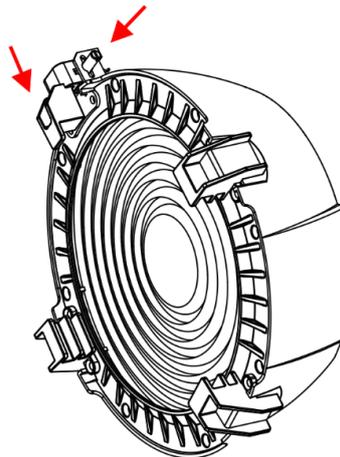
Retaining clip in unlocked position

Fig. 09

Note: Make sure that all color frame accessories are locked in position with the retaining clip before hanging the Performer 2000 RGBAL.

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 a power plug. Do not connect the device to a dimmer pack, 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 Performer 2000 RGBAL
- at 200–240 V: 8 devices Performer 2000 RGBAL

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 Performer 2000 RGBAL is not connected to a controller or to other devices, it functions as a stand-alone device. It can be operated manually, in static color mode or in preset color mode.

For more information about the control modes, refer to **6.6.1.** Manual Mode on page 25, **6.6.2. Static** on page 27 or **6.6.3.** Preset Color on page 28.

5.3. DMX Connection

5.3.1. DMX-512 Protocol

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

The Performer 2000 RGBAL has 3-pin and 5-pin DMX signal IN and OUT connectors.

The pin assignment is as follows:
● 3-pin: pin 1 (ground), pin 2 (-), pin 3 (+)
● 5-pin: pin 1 (ground), pin 2 (-), pin 3 (+), pin 4 (N/C), pin 5 (N/C)

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 5-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. 12.

Pin 1: GND (screen)   Pin 1: GND (screen)
Pin 2: Signal (-)   Pin 2: Signal (-)
Pin 3: Signal (+)   Pin 3: Signal (+)
Pin 4: N/C
Pin 5: N/C

Pin 1: GND (screen)   Pin 1: GND (screen)
Pin 2: Signal (-)   Pin 2: Signal (-)
Pin 3: Signal (+)   Pin 3: Signal (+)
                       Pin 4: N/C
                       Pin 5: N/C
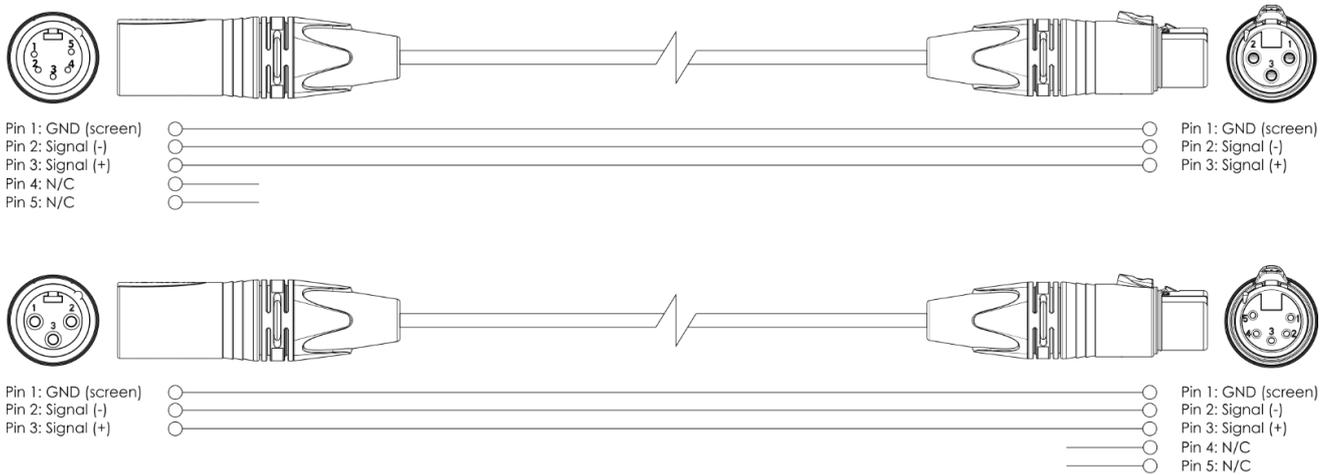
Fig. 12

5.3.3. Master/Slave Setup

The Performer 2000 RGBAL supports master/slave control mode. To connect multiple devices in master/slave setup, follow the steps below:

01) Connect the first device's DMX OUT connector to the second device's DMX IN connector.
02) Repeat step 1 to connect all devices as shown in Fig. 13.
03) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device in the setup.
04) Set the first device on the data link as a master device. See **6.6.4. Run Mode** on page 28 for more information.
05) Set the remaining devices to slave mode. See **6.6.4. Run Mode** on page 28 for more information.
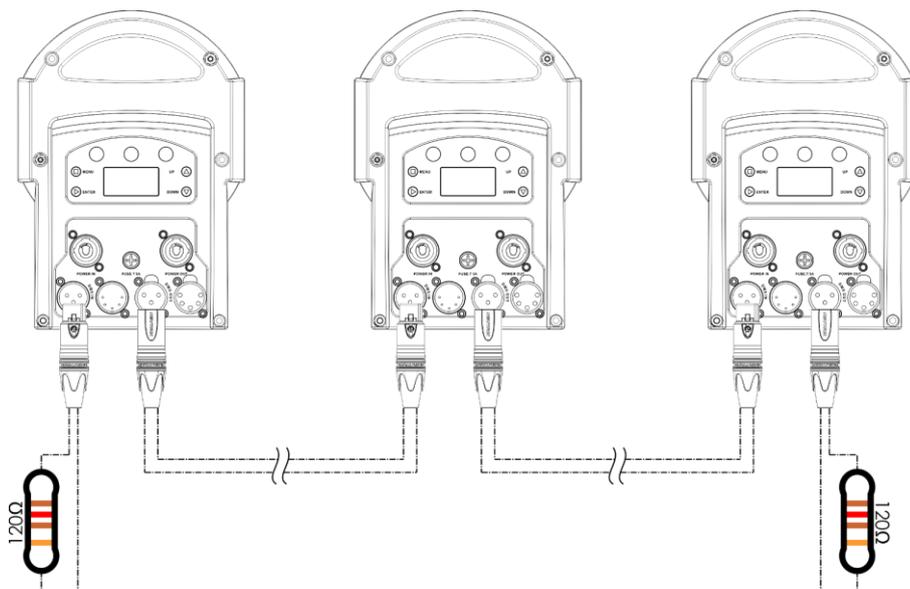
Fig. 13

5.3.4. DMX Linking

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

01) Use a 5-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 5-pin DMX cable.
03) Repeat step 2 to connect all devices in a daisy-chain as shown in Fig. 14.
04) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device on the data link.
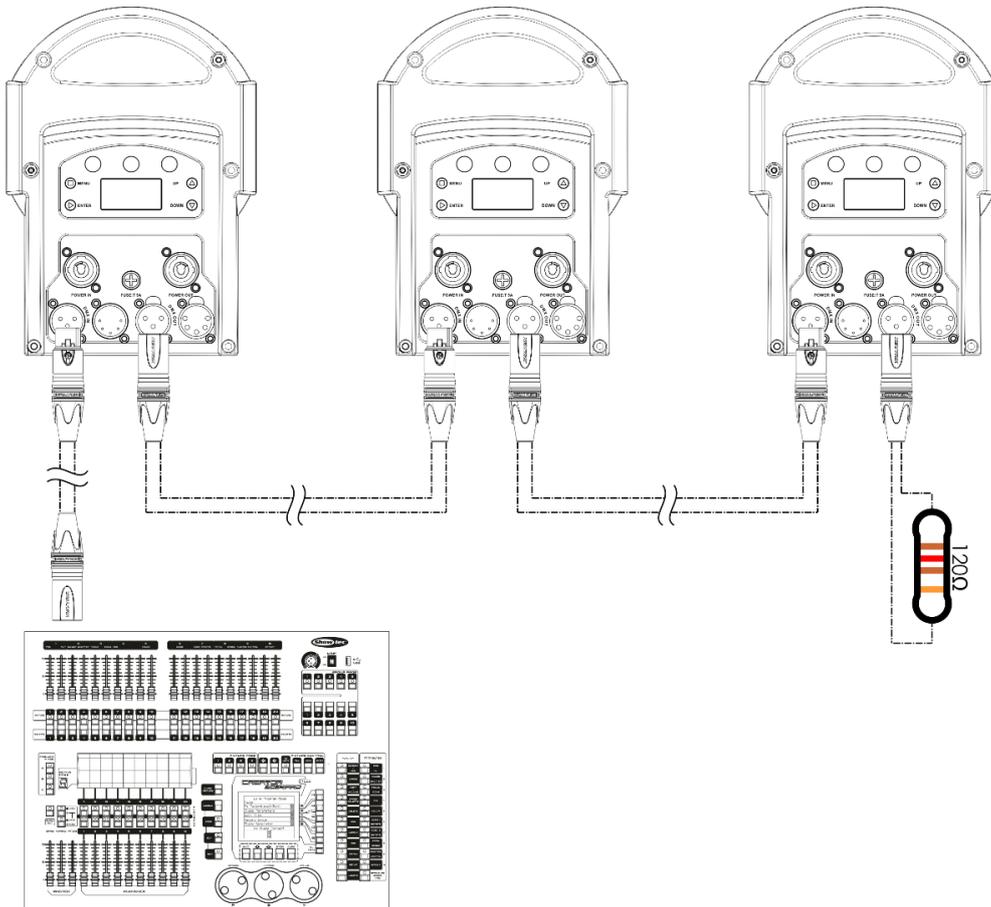
Fig. 14

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 Performer 2000 RGBAL has 4 personalities: 8 channels, 10 channels, 13 channels and 19 channels.

If you want to connect multiple devices on one data link and use them in 19-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 20 (020), as 1 + 19 = 20.
03) Set the starting address of the 3rd device on the data link to 41 (039) as 20 + 19 = 39.
04) Continue assigning the starting addresses of the remaining devices by adding each time 19 to the previous number.

Make sure that you do not have any overlapping channels in order to control each Performer 2000 RGBAL 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 theater spot. It is suitable only for indoor installation. This device is not suitable for households and for general lighting.

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

> **Attention**
> **Power supply**

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

6.2.   Control Modes

The Performer 2000 RGBAL supports the following control modes:
- Stand-alone: Manual (Knob mode), Static, Preset Color
- Master/Slave: Manual (Knob mode), Static, Preset Color
- DMX-512, RDM   8, 10, 13, 19 channels

For more information about how to connect the devices, refer to **5. Setup** on pages 17–19.

To operate the device manually as a stand-alone device or in a master/slave setup:

- Adjust the functions by turning the **rotatable controls (F**, **G**, **H)** in Manual Mode. See **6.6.1. Manual Mode** on page 25 for more information.
- Adjust the levels for red, green, blue, amber, lime and cyan in Static menu. See **6.6.2. Static** on page 27 for more information.

To run the preset colors without a DMX controller:

01)   Select one of the 16 preset colors in Preset Color menu. See **6.6.3. Preset Color** on page 28 for more information.

To operate the device with a DMX controller:

01)   Set the DMX starting address of the device in the DMX Address menu. See **5.3.5. DMX Addressing** on page 19 and **6.6.4. DMX Address** on page 28.
02)   Select the DMX channel mode. See **6.6.6. Personality (DMX Channel Modes)** on page 29 for more information. See **6.7. DMX Channels** on pages 36–38 for complete overview of all DMX channels.

6.3. Control Panel

F G H

A) MENU button
B) ENTER button
C) OLED display
D) DOWN button
E) UP button
F) Control 1
G) Control 2
H) Control 3

A ── MENU

ADDRESS
001

UP ── E

B ── ENTER

DOWN ── D

C
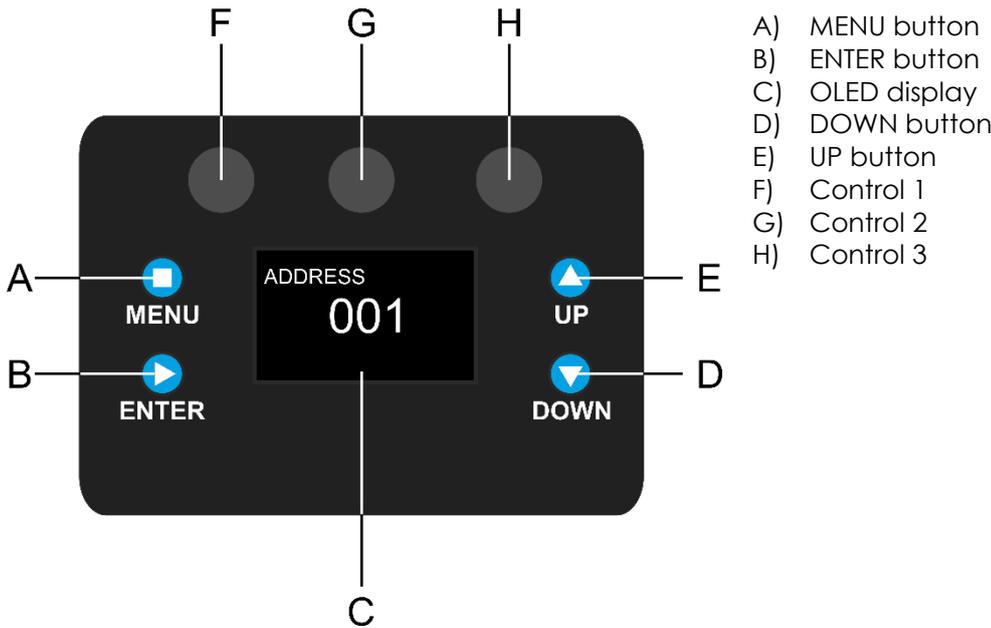
Fig. 15

- Use the **MENU** button to exit the current submenu, to return to the Main Menu and to return to the start screen.
- Use the **UP/DOWN** buttons to navigate through the menus or to increase/decrease numeric values.
- Use the **ENTER** button to open the desired menu, to confirm your choice or to set the currently selected value.
- Use the rotatable controls to adjust settings in Knob mode. See **6.6.1. Manual Mode** on page 25 for more information.

6.4. Start-up

Upon start-up the display will show a splash screen with the logo of Showtec. the display will show information about the device's current status. Press any button to enter the password and/or enter the Main Menu.

Note:

- If no button is pressed, after the preset number of seconds of inactivity, the display will turn off. Press any button to turn the display on.
- By default the display is locked. To access the main menu, you need to enter the **password**.
  The default password is pressing the **UP/DOWN** buttons in the following order: **UP, DOWN, UP, DOWN, ENTER**. Deactivating the display lock does not affect the submenu items which by default require a password. See **6.6.8. Key (Display Lock)** on page 33 for more information.

6.5. Menu Overview

Control 1   Control 2   Control 3

MAIN MENU
MANUAL MODE
STATIC
PRESET COLOR
ADDRESS

ENTER

MANUAL MODE
MODE1
MODE2
MODE3
MODE4

ENTER

Dimmer   Zoom   CCT
0%   0%   2700K
MANUALOVERRIDE

MANUAL MODE
MODE1
MODE2
MODE3
MODE4

ENTER

Dimmer   Zoom   Color
0%   0%   L106
MANUALOVERRIDE

UP/DOWN

MANUAL MODE
MODE1
MODE2
MODE3
MODE4

ENTER

H   S   I
0%   0%   0%
MANUALOVERRIDE

MANUAL MODE
MODE1
MODE2
MODE3
MODE4

ENTER

Dimmer   CCT   Green
0%   2700K +10
MANUALOVERRIDE

MAIN MENU
MANUAL MODE
STATIC
PRESET COLOR
ADDRESS

ENTER

STATIC
RED
GREEN
BLUE
AMBER

ENTER

STATIC
RED   255
GREEN   255
BLUE   255
AMBER   255

UP/DOWN

STATIC
AMBER
LIME
ZOOM
STROBE

UP/DOWN

STATIC
AMBER   255
LIME   255
ZOOM   255
STROBE   25

MAIN MENU
MANUAL MODE
STATIC
PRESET COLOR
ADDRESS

ENTER

PRESET COLOR
L106
R05
L194
R54

PRESET COLOR
L019
R08
R89
R86

UP/DOWN

PRESET COLOR
L213
R377
R80
L202

PRESET COLOR
L328   L328
R3314   R3314
L101   L101
L768   L768

MAIN MENU
MANUAL MODE
STATIC
PRESET COLOR
ADDRESS

ENTER

ADDRESS
001

UP/DOWN

ADDRESS
512

MAIN MENU
RUN MODE
PERSONALITY
SETTING
KEY

ENTER

RUN MODE
DMX
SLAVE

MAIN MENU
RUN MODE
PERSONALITY
SETTING
KEY

ENTER

PERSONALITY
HSIC
SSP
TOUR
TR16

UP/DOWN

MAIN MENU
RUN MODE
PERSONALITY
SETTING
KEY

ENTER

Pass code:

ENTER

SETTING
UPLOAD
RESET
DIMMER
DMX ERROR

ENTER

Pass code:

Up/Down/Up/Down
ENTER

SEND...

SETTING
UPLOAD
RESET
DIMMER
DMX ERROR

ENTER

Pass code:

Up/Down/Up/Down
ENTER

RESET...

SETTING
UPLOAD
DRESET
DIMMER
DMX ERROR

ENTER

DIMMER
DIM4
DIM3
DIM2
DIM1

UP/DOWN

DIMX
DIM3
DIM2
DIM1
OFF

SETTING
UPLOAD
DRESET
DIMMER
DMX ERROR

ENTER

DMX ERROR
SAVE
BLACK

UP/DOWN

SETTING
PERFORMANCE
MCON
PWM_RATE
POWER_CCT

ENTER

FAN CONTROL
LIVE
STUDIO
POWER

SETTING
PERFORMANCE
MCON
PWM_RATE
POWER_CCT

ENTER

MCON
SELF
MASTER

SETTING
PERFORMANCE
MCON
PWM_RATE
POWER_CCT

ENTER

PWM RATE
600Hz
1200Hz
2000Hz
4000Hz

UP/DOWN

PWM RATE
2000Hz
4000Hz
6000Hz
25000Hz

SETTING
PERFORMANCE
MCON
PWM_RATE
POWER_CCT

ENTER

POWER CCT
3200K
4200K
5600K
10000K

UP/DOWN

POWER CCT
4200K
5600K
10000K
NORMAL

UP/DOWN

MAIN MENU
RUN MODE
PERSONALITY
SETTING
KEY

ENTER

KEY
ON
OFF

MAIN MENU
SETTING
KEY
CALIBRATION.C
INFO

ENTER

Pass code:

ENTER

CALIBRATION.C
WHITE
CALIBRATION.R

ENTER

WHITE
2700K
3000K
3200K
3500K

ENTER

WHITE
RED
GREEN
BLUE
AMBER

ENTER

WHITE
RED   255
GREEN   255
BLUE   255
AMBER   255

UP/DOWN

WHITE
4000K
4200K
4500K
5600K

UP/DOWN

WHITE
GREEN
BLUE
AMBER
LIME

UP/DOWN

WHITE
GREEN   255
BLUE   255
AMBER   255
LIME   255

UP/DOWN

WHITE
6000K
6500K
7200K
8000K

UP/DOWN

WHITE
6500K
7200K
8000K
10000K

CALIBRATION.C
WHITE
CALIBRATION.R

ENTER

Pass code:

Up/Down/Up/Down
ENTER

OK!

UP/DOWN

6.6. Main Menu Options

The main menu has the following options:

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

Note: Some of the submenus require a password. The default password is pressing the **UP/DOWN** buttons in the following order: **UP, DOWN, UP, DOWN, ENTER**. Deactivating the display lock does not affect the submenu items which by default require a password.

6.6.1. Manual Mode

In this menu you can set the dimmer and CCT.
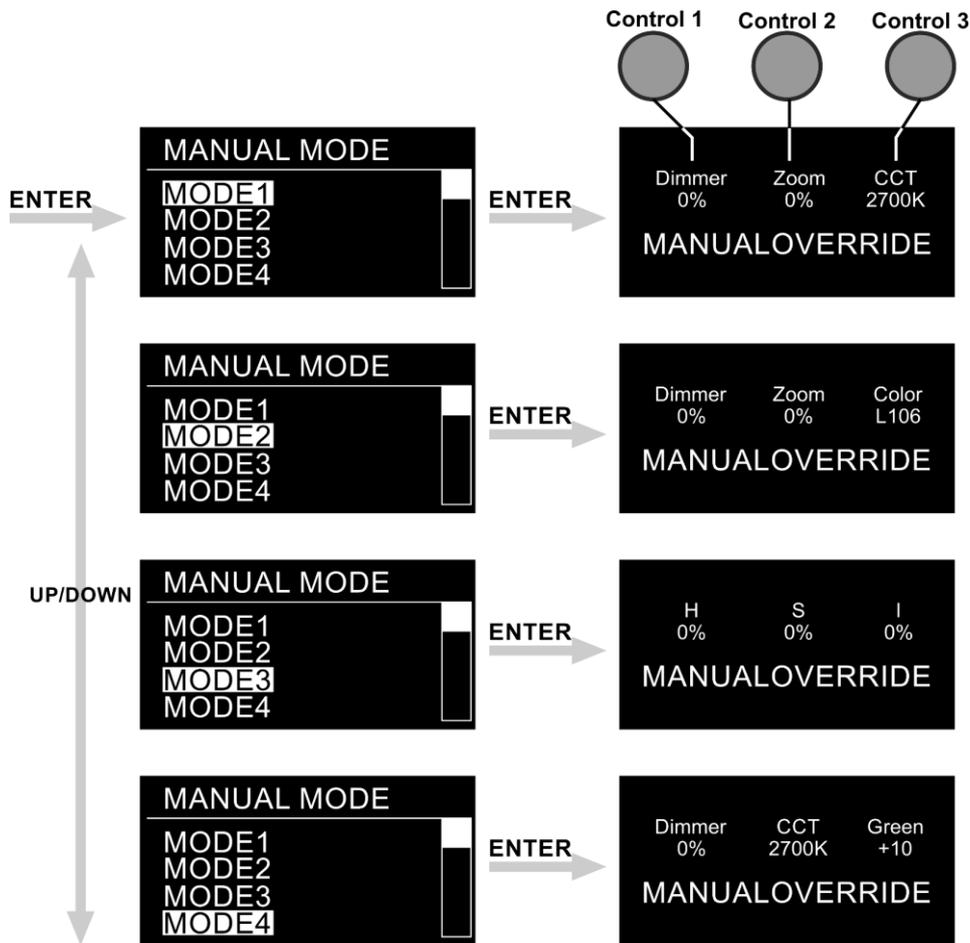
01) While in main menu, press the **UP/DOWN** buttons to select **MANUAL MODE**.
02) Press the **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to select the desired manual mode (1-4).
04) Press the **ENTER** button to activate the previously chosen mode.

6.6.1.1. Mode 1

In this menu you can set the dimmer, zoom and CCT.
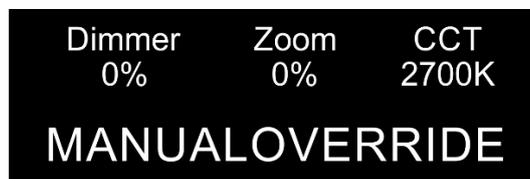
01) Turn the controls (**F/G/H**) to adjust settings.
02) The adjustment ranges are:
    (F)   Dimmer: 0-100% (from dark to brightest)
    (G)   Zoom: 0-100% (from small to big)
    (H)   CCT: 2700K, 3000K, 3200K, 3500K, 4000K, 4200K, 4500K, 5600K, 6000K, 6500K, 7200K, 8000K

6.6.1.2. Mode 2

In this menu you can set the dimmer, zoom and choose a color preset.

```
Dimmer        Zoom         Color
0%            0%           L106

    MANUALOVERRIDE
```

01) Turn the controls (**F/G/H**) to adjust settings.
02) The adjustment ranges are:
- **(F)**   Dimmer: 0-100% (from dark to brightest)
- **(G)**   Zoom: 0-100% (from small to big)
- **(H)**   Color presets: L106, R05, L194, R54, L019, R08, R89, R86, L213, R377, R80, L202, L328, R3314, L101, L768

6.6.1.3. Mode 3

In this menu you can set the hue, saturation and intensity.

```
H             S            I
0%            0%           0%

    MANUALOVERRIDE
```

01) Turn the controls (**F/G/H**) to adjust settings.
02) The adjustment ranges are:
- **(F)**   Hue: 0-100%
- **(G)**   Saturation: 0-100%
- **(H)**   Intensity: 0-100% (from dark to brightest)

6.6.1.4. Mode 4

In this menu you can set the dimmer, CCT and green.

```
Dimmer        CCT          Green
0%            2700K        +10

    MANUALOVERRIDE
```

01) Turn the controls (**F/G/H**) to adjust settings.
02) The adjustment ranges are:
- **(F)**   Dimmer: 0-100% (from dark to brightest)
- **(G)**   CCT: 2700K, 3000K, 3200K, 3500K, 4000K, 4200K, 4500K, 5600K, 6000K, 6500K, 7200K, 8000K
- **(H)**   Green: -10 to +10

6.6.2. Static

In this menu you can manually set the colors, zoom and the strobe.
01) While in main menu, press the **UP/DOWN** buttons to select **STATIC**.
02) Press the **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to select the parameter.
04) Press the **ENTER** button to confirm the selection and open the submenu.
05) Press the **UP/DOWN** buttons to increase/decrease the values:
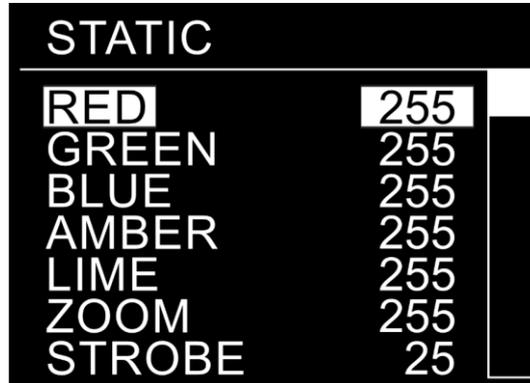
```
STATIC

RED       255
GREEN     255
BLUE      255
AMBER     255
LIME      255
ZOOM      255
STROBE     25
```

- RED: Set the intensity of the red color. The adjustment range is 0–255, from low to high intensity
- GREEN: Set the intensity of the green color. The adjustment range is 0–255, from low to high intensity
- BLUE: Set the intensity of the blue color. The adjustment range is 0–255, from low to high intensity
- AMBER: Set the intensity of the amber color. The adjustment range is 0–255, from low to high intensity
- LIME: Set the intensity of the lime color. The adjustment range is 0–255, from low to high intensity
- ZOOM: Adjust the zoom. The adjustment range is 0–255, from narrow angle to wide angle
- STROBE: Add strobe effect. The adjustment range is 0–25, from OFF to high frequency

06) Press the **ENTER** button to set the value and to move to the next setting.

6.6.3. Preset Color

In this menu you can choose the desired color preset.

```
PRESET COLOR
L106
R05
L194
R54
L019
R08
R89
R86
L213
R377
R80
L202
L328
R3314
L101
L768
```
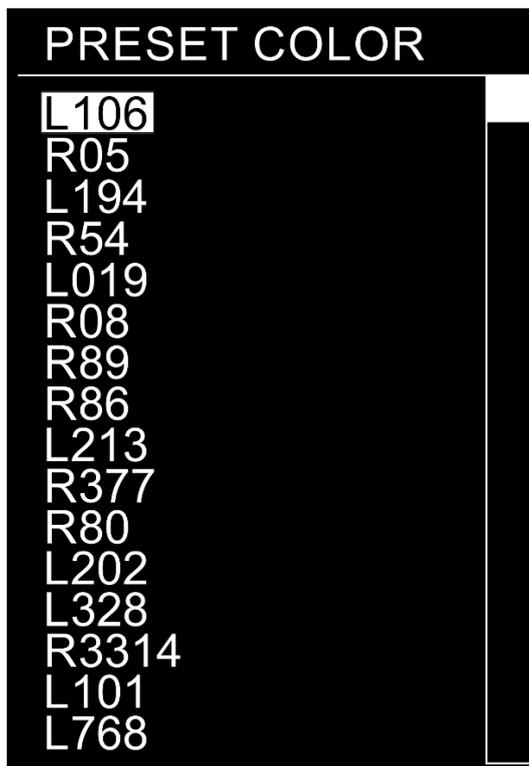
01) While in main menu, press the **UP/DOWN** buttons to select **PRESET COLOR**.
02) Press the **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to toggle through the 16 color presets: L106, R05, L194, R54, L019, R08, R89, R86, L213, R377, R80, L202, L328, R3314, L101, L768.

6.6.4. DMX Address

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

01) While in main menu, press the **UP/DOWN** buttons until the display shows **ADDRESS**.
02) Press the **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to set the desired DMX starting address. The adjustment range is between 001-512. The adjustment range is between 001 and 494/500/503/505, depending on the currently selected DMX channel mode.

6.6.5. Run Mode

In this menu you can set the control mode of the device.

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

```
RUN MODE
DMX
SLAVE
```
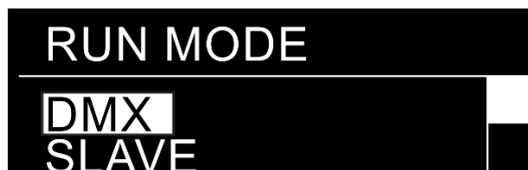
- DMX: The device will operate in DMX mode
- SLAVE: The device will operate as a slave device in master/slave mode
02) Press the **ENTER** button to confirm the selection.

6.6.6. Personality (DMX Channel Modes)

In this menu you can set the DMX channel mode (personality).

01) Press the **UP/DOWN** buttons to select the desired DMX channel mode. There are 4 options available:

```
PERSONALITY
HSIC
SSP
TOUR
TR16
```

HSIC:	8 channels (DMX Address: 001-505)
SSP:	10 channels (DMX Address: 001-503)
TOUR:	13 channels (DMX Address: 001-500)
TR16:	19 channels (DMX Address: 001-494)

02) Press the **ENTER** button to confirm your choice. See pages 36–38 for the DMX channel modes.

6.6.7. Settings

In this menu you can adjust the device's settings.

This menu requires the **password**. The default password is pressing the **UP/DOWN** buttons in the following order: **UP, DOWN, UP, DOWN**.

01) Press the **ENTER** button to confirm the password.
02) Press the **UP/DOWN** buttons to scroll through the following options:

```
SETTING
UPLOAD
RESET
DIMMER
DMX ERROR
PERFORMANCE
MCON
PWM_RATE
POWER_CCT
```
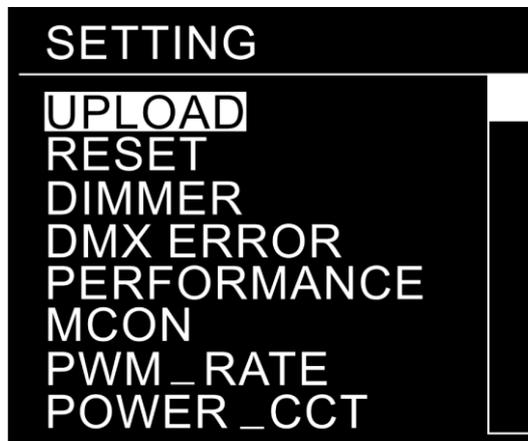
6.6.7.1. Upload

In this submenu you can export the custom programs from the master device to the connected slave devices.

01) Select UPLOAD and press the **ENTER** button to open the submenu.
02) Enter the password, pressing the buttons in the following order: **UP, DOWN, UP, DOWN**.
03) Press the **ENTER** button to confirm the password.
04) While **exporting**, the light output of the slave devices will turn yellow and the display will show:

SEND..
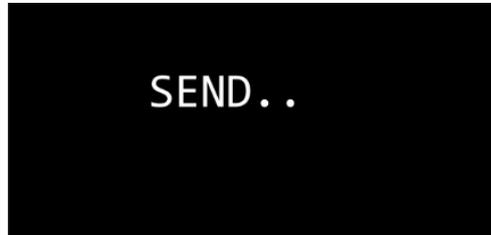
05) When the upload is finished, the display will show OK.
06) If there are any **problems with exporting**, the master and the slave devices will light in **red**.
07) If the operation was **completed successfully**, the master and the slave devices will light in **green**.

6.6.7.2. Reset

In this submenu you can restore the default factory settings and reset the custom programs.

01) Select RESET and press the **ENTER** button to open the submenu.
02) Enter the password, pressing the buttons in the following order: **UP, DOWN, UP, DOWN**.
03) Press the **ENTER** button to confirm. During reset the display will show:

RESET..

04) When the resetting is finished, the display will show OK.
05) Press the **ENTER** button to confirm and exit the submenu.

6.6.7.3. Dimmer

In this submenu you can adjust the dimmer speed.

DIMX

DIM4
DIM3
DIM2
DIM1
OFF

01) Select DIMMER and press the **ENTER** button to open the submenu.
02) Press the **UP/DOWN** buttons to choose one of the following options:
   ● OFF: linear dimmer
   ● DIM1-DIM 4: Dimmer speed, from fast to slow
03) Press the **ENTER** button to confirm your choice.

6.6.7.4. DMX Error

In this menu you can determine what the device will do in case of a DMX signal error.

```
DMX ERROR
SAVE
BLACK
```

01) Select DMX ERROR and press the **ENTER** button to open the submenu.
02) Press the **UP/DOWN** buttons to select one of the following 2 options:
  ● SAVE: in case of a DMX signal failure the device will use the last properly received DMX signal ensuring uninterrupted performance
  ● BLACK: in case of a DMX signal failure the device will black out the light output
03) Press the **ENTER** button to confirm your choice.

6.6.7.5. Performance

In this menu you can set the performance of the cooling fan.

```
FAN CONTROL
LIVE
STUDIO
POWER
```

01) Select PERFORMANCE and press the **ENTER** button to open the submenu.
02) Press the **UP/DOWN** buttons to choose the desired performance mode. The available options are:
  ● LIVE: Default mode. It provides a compromise between output quality and noise level
  ● STUDIO: Noise level-oriented mode. It emits little noise and operates at moderate power level
  ● POWER: Output-oriented mode. The device does not offer any consideration for noise level and operates at full power
03) Press the **ENTER** button to confirm your choice.

6.6.7.6. MCON (DMX data transfer)

In this menu you can set the DMX data transfer settings.

```
MCON
SELF
MASTER
```

01) Select MCON and press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to select one of the following 2 options:
  ● SELF: DMX data transfer OFF
  ● MASTER: DMX data transfer ON
03) Press the **ENTER** button to confirm your choice.

6.6.7.7. PWM Rate

In this submenu you can set the PWM (Pulse Width Modulation) frequency.

```
PWM RATE
600Hz
1200Hz
2000Hz
4000Hz
6000Hz
25000Hz
```
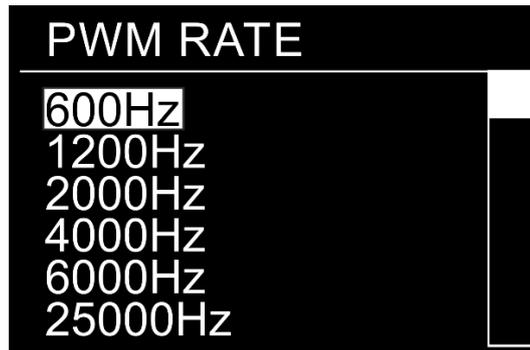
01) Select PWM RATE and press the **ENTER** button to open the submenu.
02) Press the **UP/DOWN** buttons to choose the desired PWM frequency.
    The available options are: 600 Hz, 1200 Hz, 2000 Hz, 4000 Hz, 6000 Hz and 25000 Hz.
    Note: The higher the PWM frequency, the lower the dimmer's grayscale.
03) Press the **ENTER** button to set the value.

6.6.7.8. Power CCT

In this menu you can set the correlated color temperature.

```
POWER CCT
3200K
4200K
5600K
10000K
NORMAL
```
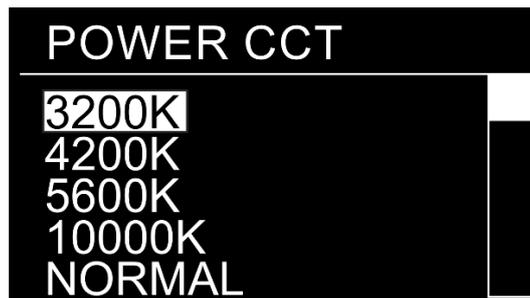
01) Select POWER_CCT and press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to choose one of the following options: 3200K, 4200K, 5600K, 10000K, NORMAL.
03) Press the **ENTER** button to confirm your choice.

6.6.8. Key (Display Lock)

In this menu you can activate the display lock.

```
KEY
ON
OFF
```

01) Press the **UP/DOWN** buttons to select one of the following 2 options:
   - ON: display lock is on. The display turns off if no button is pressed within the preset amount of time. You will need to enter the password every time the display turns off to access the main menu. The default password is pressing the **UP/DOWN** buttons in the following order: **UP, DOWN, UP, DOWN, ENTER**.
   - OFF: the main menu remains unlocked after the display turns off.

Note: Deactivating the display lock does not affect the submenu items which by default require a password.

6.6.9. Calibration.C

In this menu you can adjust the device's calibration settings.

This menu requires the **password**. The default password is pressing the **UP/DOWN** buttons in the following order: **UP, DOWN, UP, DOWN**.

```
CALIBRATION.C
WHITE
CALIBRATION.R
```

01) Press the **UP/DOWN** buttons to select one of the following 2 options:
   - WHITE
   - CALIBRATION.R
02) Press the **ENTER** button to confirm your choice.

6.6.9.1. White

In this menu you can set the white color calibration.
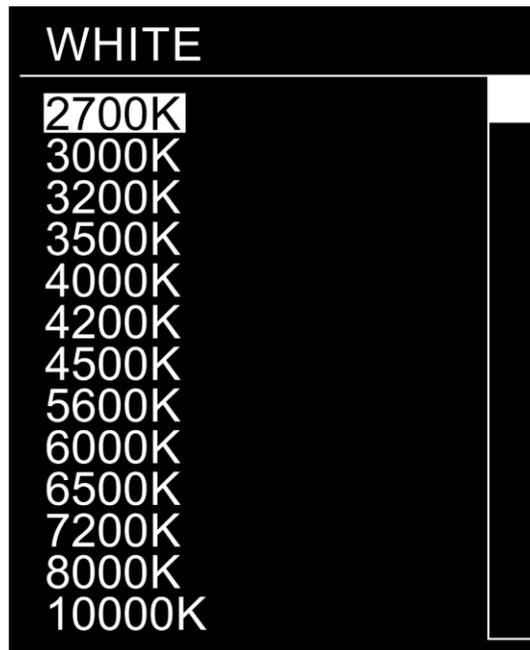
```
WHITE

2700K
3000K
3200K
3500K
4000K
4200K
4500K
5600K
6000K
6500K
7200K
8000K
10000K
```

01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to select the parameter.
03) Press the **ENTER** button to confirm the selection and open the submenu.
04) Press the **UP/DOWN** buttons to increase/decrease the values:
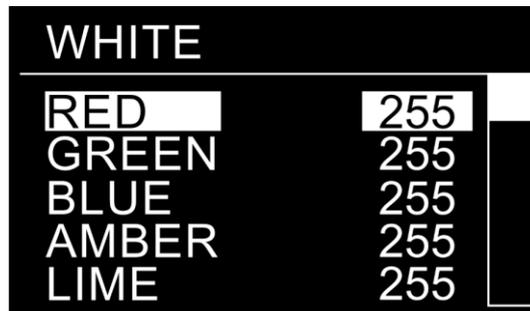
```
WHITE

RED        255
GREEN      255
BLUE       255
AMBER      255
LIME       255
```

- RED: Set the intensity of the red color. The adjustment range is 0–255, from low to high intensity
- GREEN: Set the intensity of the green color. The adjustment range is 0–255, from low to high intensity
- BLUE: Set the intensity of the blue color. The adjustment range is 0–255, from low to high intensity
- AMBER: Set the intensity of the amber color. The adjustment range is 0–255, from low to high intensity
- LIME: Set the intensity of the lime color. The adjustment range is 0–255, from low to high intensity

05) Press the **ENTER** button to set the value and to move to the next setting.

6.6.9.2. Calibration.R (reset)

In this menu you can set reset the device's calibration settings.

This menu requires the **password**. The default password is pressing the **UP/DOWN** buttons in the following order: **UP, DOWN, UP, DOWN**.

01) Press the **ENTER** button to confirm your choice.
02) The calibration settings will now be reset. The display will show **OK!**.

6.6.10. Info

In this menu you can view the total operation time, current software version and the RDM details of the device.

01) Press the **UP/DOWN** buttons to select one of the following 2 options:
  ●   VERSION
  ●   RDM
02) Press the **ENTER** button to confirm your choice.

6.6.10.1. Version

In this submenu you can view the current version of the installed firmware.

6.6.10.2. RDM

In this submenu you can view the RDM details of the device.

01) Press the **UP/DOWN** buttons to select one of the following 2 options:
  ●   UID: the display shows the unique identification number of the device.
      The model ID for the Performer 2000 RGBAL is 0x294000
  ●   LABEL: the display shows the name of the device
02) Press the **ENTER** button to confirm the selection.

6.7. DMX Channels

6.7.1. 8 Channels

8 CH (HSIC)	Function	Value	Setting
1	**Intensity**	000–255	From low to high intensity (0–100 %)
2	**Hue**	000–255	From low to high intensity (0–100 %)
3	**Hue Fine**	000–255	From low to high intensity (0–100 %)
4	**Red Saturation**	000–255	From low to high intensity (0–100 %)
5	**CCT**	000–010	No function
		011–030	2700K
		031–050	3000K
		051–070	3200K
		071–090	3500K
		091–110	4000K
		111–130	4200K
		131–150	4500K
		151–170	5600K
		171–190	6000K
		191–210	6500K
		211–230	7200K
		231–255	8000K
6	**Strobe**	000–009	No function
		010–099	Strobe, from low to high frequency (0–25 Hz)
		100–109	No function
		110–179	Lightning strobe, from low to high frequency (0–25 Hz)
		180–189	No function
		190–255	Random strobe, from low to high frequency (0–25 Hz)
7	**Zoom**	000–255	Gradual adjustment zoom, from small to big
8	**Dimmer Speed**	000–009	Preset dimmer speed from the device's menu
		010–030	Linear dimmer
		031–069	Non-linear dimmer 1 (fastest)
		070–129	Non-linear dimmer 2
		130–189	Non-linear dimmer 3
		190–255	Non-linear dimmer 4 (slowest)

6.7.2. 10 Channels, 13 Channels, 19 Channels

10 CH (SSP)	13 CH (TOUR)	19 CH (TR16)	Function	Value	Setting
1	1	1	**Master Dimmer**	000–255	From low to high intensity (0–100 %)
		2	**Dimmer Fine**	000–255	From low to high intensity (0–100 %)
2	2	3	**Red**	000–255	From low to high intensity (0–100 %)
		4	**Red Fine**	000–255	From low to high intensity (0–100 %)
3	3	5	**Green**	000–255	From low to high intensity (0–100 %)
		6	**Green Fine**	000–255	From low to high intensity (0–100 %)
4	4	7	**Blue**	000–255	From low to high intensity (0–100 %)
		8	**Blue Fine**	000–255	From low to high intensity (0–100 %)
5	5	9	**Amber**	000–255	From low to high intensity (0–100 %)
		10	**Amber Fine**	000–255	From low to high intensity (0–100 %)
6	6	11	**Lime**	000–255	From low to high intensity (0–100 %)
		12	**Lime Fine**	000–255	From low to high intensity (0–100 %)
7	7	13	**Color Presets**	000–010	No function
				011–020	L106
				021–030	R05
				031–040	L194
				041–050	R54
				051–060	L019
				061–070	R08
				071–080	R89
				081–090	R86
				091–100	L213
				101–110	R377
				111–120	R80
				121–130	L202
				131–140	L328
				141–150	R3314
				151–160	L101
				161–170	L768
				171–255	No function
	8	14	**Color Macros**	000–010	No function
				011–030	Red 100% / Green Up / Blue 0%
				031–050	Red Down / Green 100% / Blue 0%
				051–070	Red 0% / Green 100% / Blue Up
				071–090	Red 0% / Green Down / Blue 100%
				091–110	Red Up / Green 0% / Blue 100%
				111–130	Red 100% / Green 0% / Blue Down
				131–150	Red 100% / Green Up / Blue Up
				151–170	Red Down / Green Down / Blue 100%
				171–195	Red 100% / Green 100% / Blue 100% / White 100%
				196–200	2700K
				201–205	3000K
				206–210	3200K
				211–215	3500K
				216–220	4000K
				221–225	4200K
				226–230	4500K
				231–235	5600K
				236–240	6000K
				241–245	6500K
				246–250	7200K
				251–255	8000K
8	9	15	**Strobe**	000–009	No function
				010–099	Strobe, from low to high frequency (0–25 Hz)
				100–109	No function
				110–179	Lightning strobe, from low to high frequency (0–25 Hz)
				180–189	No function

10 CH (SSP)	13 CH (TOUR)	19 CH (TR16)	Function	Value	Setting
				190–255	Random strobe, from low to high frequency (0–25 Hz)
9	10	16	Zoom	000–255	Gradual adjustment zoom, from small to big
				000–040	No function
				041–060	Auto 1
				061–080	Auto 2
				081–100	Auto 3
				101–120	Auto 4
	11	17	Auto Programs	121–140	Auto 5
				141–160	Auto 6
				161–180	Auto 7
				181–200	Auto 8
				201–220	Auto 9
				221–255	Auto 10
	12	18	Program Speed	000–255	Program speed adjustment, from slow to fast
				000–009	Preset dimmer speed from the device's menu
				010–030	Linear dimmer
10	13	19	Dimmer Speed	031–069	Non-linear dimmer 1 (fastest)
				070–129	Non-linear dimmer 2
				130–189	Non-linear dimmer 3
				190–255	Non-linear dimmer 4 (slowest)

Note: Make sure that the Master Dimmer channel is open in order to see the light output.

6.8. RDM Information

This device supports RDM. Refer to **6.6.10.2. Supported RDM PIDs (Parameter IDs)** on page 35 for more information.

6.8.1. RDM Details

- Responder: 29B4:042xxxxx
- Manufacturer's ID: Showtec (Highlite International B.V.)
- Manufacturer Label: Showtec
- Model Description: Performer Fresnel 2000 RGBAL
- Model ID: 66
- Device Label: Performer Fresnel 2000 RGBAL

6.8.2. Supported RDM PIDs (Parameter IDs)

Parameter ID	Value	Required	GET	SET
DISC_UNIQUE_BRANCH	0x0001	*		
DISC_MUTE	0x0002	*		
DISC_UN_MUTE	0x0003	*		
COMMS_STATUS	0x0015		*	*
STATUS_MESSAGES	0x0030		*	
STATUS_ID_DESCRIPTION	0x0031		*	
CLEAR_STATUS_ID	0x0032			*
SUPPORTED_PARAMETERS	0x0050	*	*	
DEVICE_INFO	0x0060	*	*	
DEVICE_MODEL_DESCRIPTION	0x0080		*	
MANUFACTURER_LABEL	0x0081		*	
DEVICE_LABEL	0x0082		*	*
SOFTWARE_VERSION_LABEL	0x00C0	*	*	
DMX_PERSONALITY	0x00E0		*	*
DMX_PERSONALITY_DESCRIPTION	0x00E1		*	
DMX_START_ADDRESS	0x00F0	*	*	*
SENSOR_DEFINITION	0x0200		*	
SENSOR_VALUE	0x0201		*	*
IDENTIFY_DEVICE	0x1000	*	*	*
RESET_DEVICE	0x1001			*

6.8.3. Highlite RDM Details

RDM responder IDs consist of 3 parts:

- 1st part – 4 digits – Manufacturer's ID
- 2nd part – 3 digits – Model ID
- 3rd part – 5 digits – Unique ID

The RDM responder IDs of Highlite start with the same 4 digits. The RDM responder IDs of each model starts with the same 7 digits. The last 5 digits are different for each device.

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
	Main fuse is blown	● Replace the fuse. See **8.3.1. Replacing the Fuse** on page 42
The device responds erratically	The factory settings of the device are changed	● Reset the device's parameters to the default factory settings. See **6.6.7.2. Reset** on page 30
The device does not respond to DMX control	The controller is not connected	● Connect the controller
	The signal is reversed. The 5-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 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 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.

	WARNING **Risk of burns due to hot surface**

Allow the device to cool down for at least 15 minutes before servicing or cleaning.

8.2. Preventive Maintenance

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

Make sure that:

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

8.2.1. Basic Cleaning Instructions

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

To clean the device, follow the steps below:

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

🛈	**Attention**

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

8.3. Corrective Maintenance

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

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

8.3.1. Replacing the Fuse

⚠	**DANGER** **Electric shock caused by short-circuit**

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

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

01) Disconnect the device from the electrical power supply.
02) Allow the device to cool down for at least 15 minutes.
03) 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 42.
● Store the device in the original packaging, if possible.

10. Disposal

Correct disposal of this product
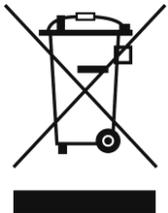
Waste Electrical and Electronic Equipment

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

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