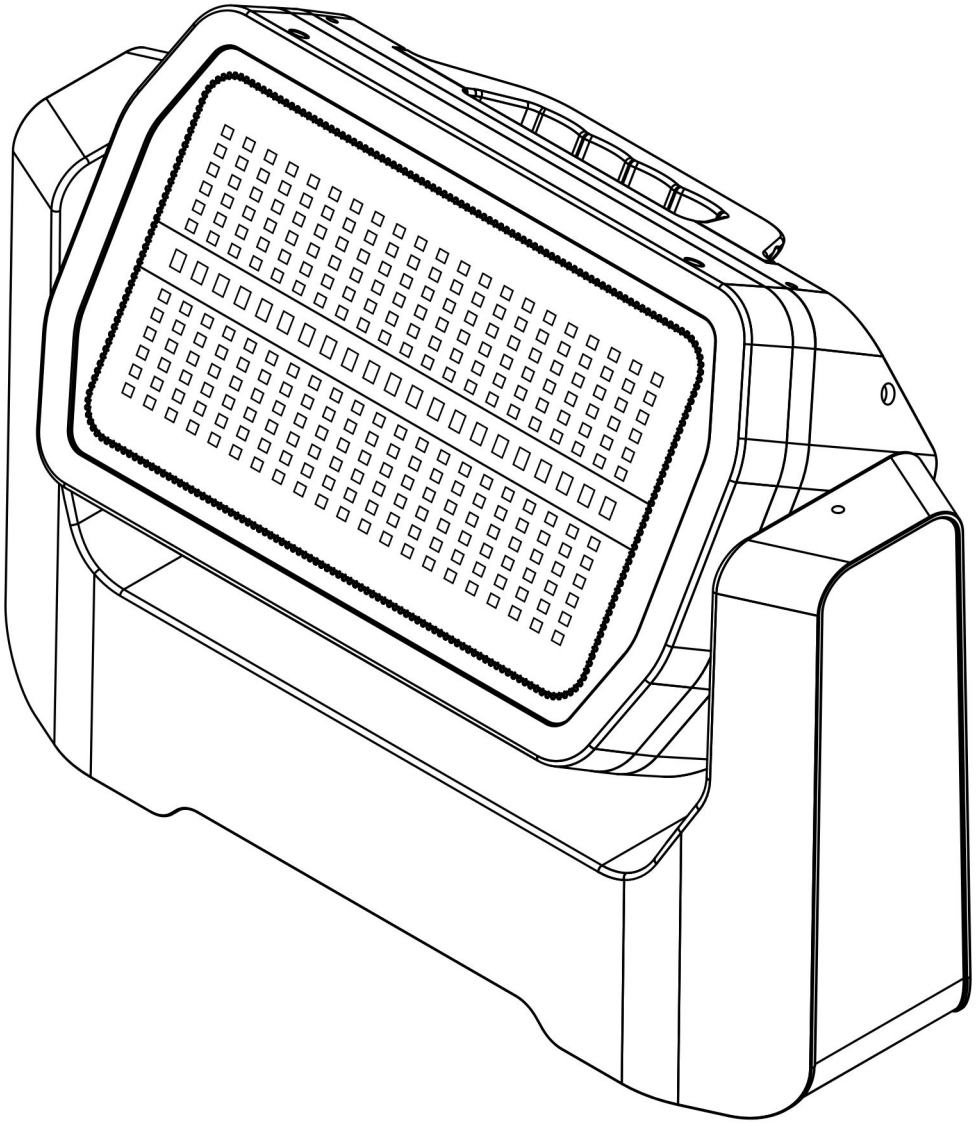
infinity

USER MANUAL

ENGLISH

V1.0



Raccoon S250/4 Junior

Product code: 200601

Preface

Thank you for purchasing this Infinity 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.

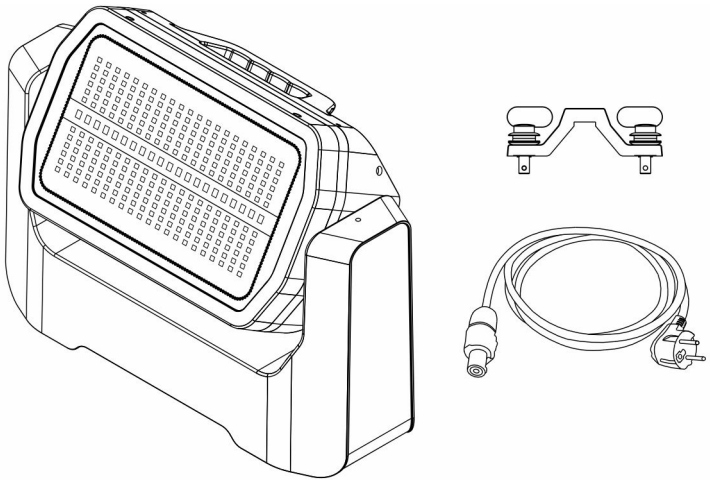
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

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

Your shipment includes:

- Infinity Raccoon S250/4 Junior
- 1 x Quick-lock bracket
- Schuko to Power Pro True cable (1,5 m)
- User manual

Figure 1



1.2. Intended Use

This device is intended for professional use as an LED luminaire for stage lighting. It can be installed indoors and outdoors. 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 shall not be treated as household waste.

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

This device falls under IEC protection class I.

IP65 This devices is rated IP65.

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.
- 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.
- Keep the connectors sealed with the rubber caps when the connectors are not in use.
- Do not connect the cables from above the connectors, if the device is installed outdoors. Make a ‘drip loop’ in the cable so that rain water cannot enter the device.

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 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 an LED luminaire for stage lighting. 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 IP65 rated. IP (Ingress Protection) 65 class means that the device is dust-tight and protected against harmful effect of water jets.

Keep the connectors sealed with the rubber caps when the connectors are not in use.

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

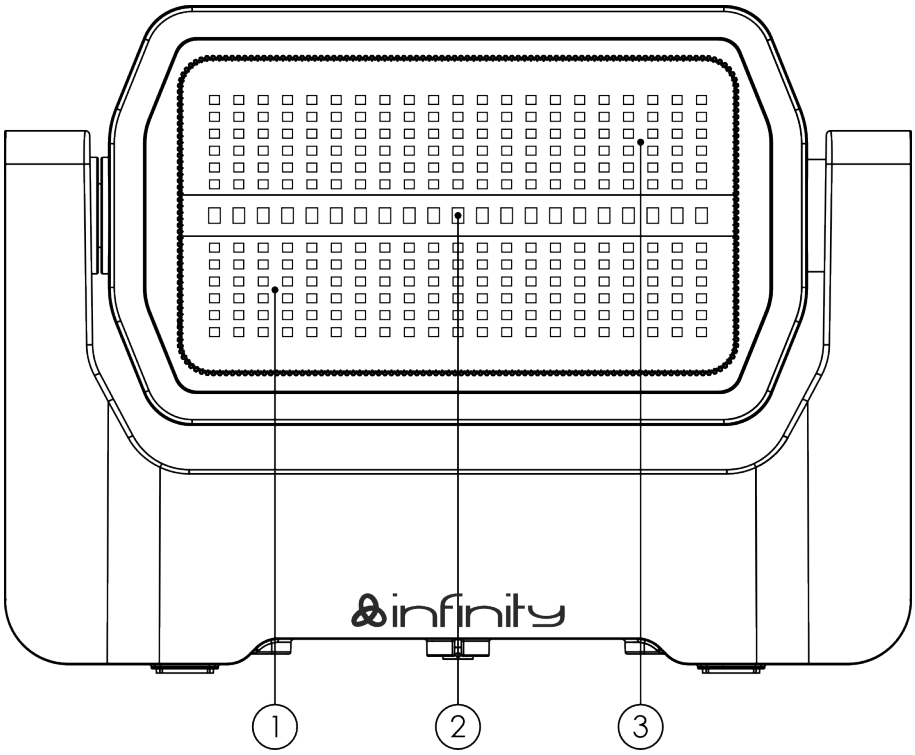
The Infinity Raccoon S250/4 Junior is a powerful strobe/wash combination fixture with a motorized tilt function and a beam angle of 130 degrees. The 252 RGBW LEDs deliver wash effects of over 14,000 lumens and can be controlled in 6 sections with 42 LEDs each. The white light from the RGBW LEDs has a CRI of 92, which is very high for a product of this type.

The strobe effect is created by a row of 21 ultra-bright CW LEDs, which can be controlled in 3 separate sections. Combined with the RGBW LEDs, the Raccoon S250/4 Junior is capable of delivering a constant output of almost 20,800 lumens and a strobe output of over 55,000 lumens! The strobe LEDs, that have a special lens to optimize the output angle, are positioned in a vertical line in the centre of the fixture in between the wash LEDs. In continuous output mode, the strobe LEDs alone deliver almost 12,000 lumens.

The LEDs are soldered onto a black PCB, so the strobes are inconspicuous when switched off. The cooling fans can be set to a slow mode to keep them whisper quiet. The housing is IP65-rated and suitable for temporary outdoor use. Other optional accessories include a top hat, a barndoor and a range of diffusers.

3.1. Front View

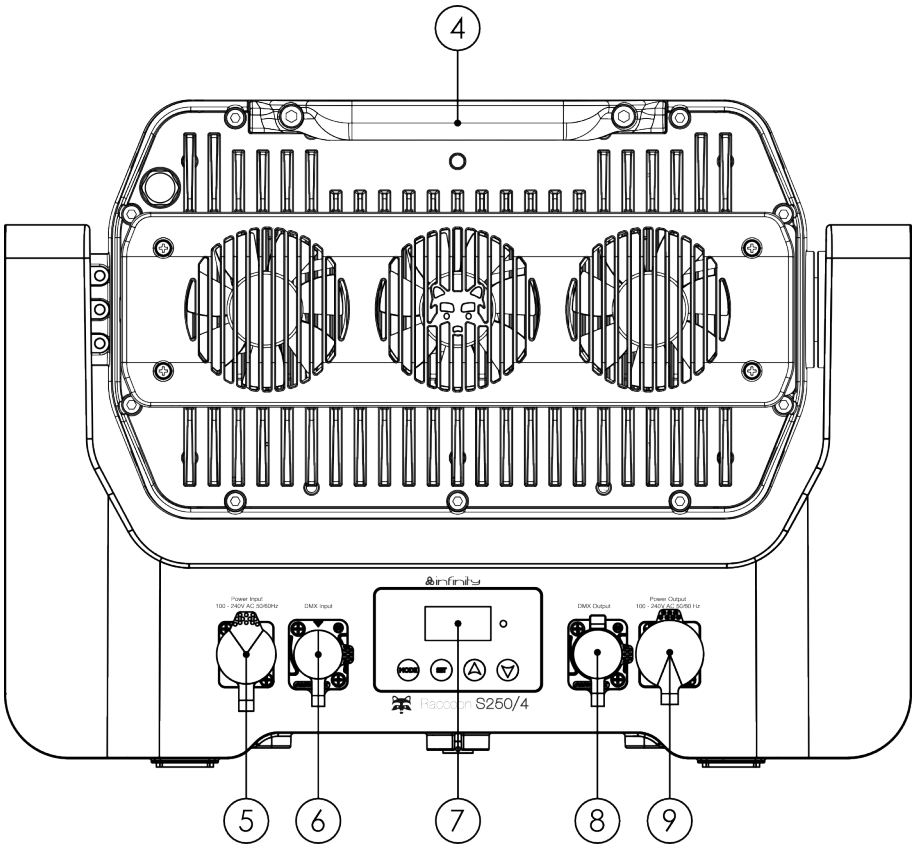
Figure 2



01) 126 x 2 W RGBW LEDs
02) 21 x 20 W CW strobe LEDs
03) 126 x 2 W RGBW LEDs

3.2. Back View

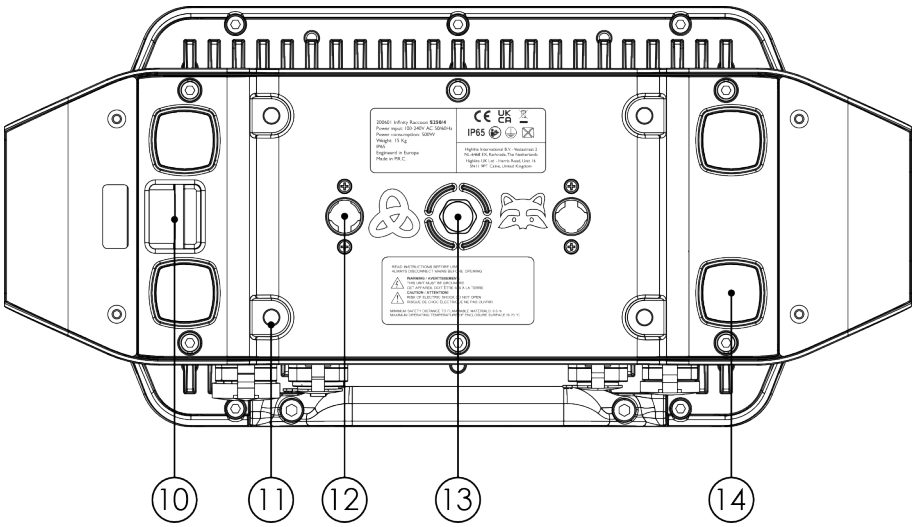
Figure 3



04) Carrying handle
05) IP65-rated Power Pro True connector IN
06) IP65-rated 5-pin DMX signal connector IN
07) Control panel: OLED display and control buttons
08) IP65-rated 5-pin DMX signal connector OUT
09) IP65-rated Power Pro True power connector OUT

3.3. Bottom View

Figure 4



10) Safety eye
11) 4 x Mounting holes for Bottom Fixation Plate for Raccoon Strobe/Wash Junior (200633) (M8 x 16)
12) 2 x Mounting holes for quick-lock brackets
13) Protective vent (M12 x 1,5)
14) 4 x padded feet

3.4. Product Specifications

Model:	Raccoon S250/4 Junior

Source:	
Light source type	LED
Light source quantity	250
Light source power	2 W
LED color type	CW / RGBW
Life expectancy	50000 h
Refresh rate	12000 Hz
Luminous flux (total)	55361 lm
Luminous flux (red)	3026 lm
Luminous flux (green)	5448 lm
Luminous flux (blue)	1189 lm
Luminous flux (white)	5790 lm
CRI	92
CCT	6500 K

Optical:	
Beam angle (circular)	130°

Control and Programming:	
Control mode	DMX / Manual
DMX channels	5 / 14 / 22 / 22 / 31 / 44
Protocols	DMX / RDM
Wireless	LumenRadio
Display	OLED
Fan mode	Yes
Dim curve	Linear / Square / I-Square / S-Curve

Dynamic Effects:	
Dimmer	0–100 %
Strobe	0–20 Hz

Electrical Specifications and Connections:	
Power supply	100–240 V AC 50/60 Hz
Power consumption	410 W
Power connector IN	Power Pro True
Power connector OUT	Power Pro True
DMX connector	XLR 5P IN/OUT
DMX connector IN	XLR 5P
DMX connector OUT	XLR 5P

Mechanical Specifications:	
Height	315 mm
Width	428 mm
Depth	157 mm
Weight	14,4 kg
IP rating	IP65
Housing	Aluminium
Color	Black

Product Properties:

Cooling	Convection/Axial fan

Rigging:	
Mounting options	Quick-Lock
Safety attachment	Yes

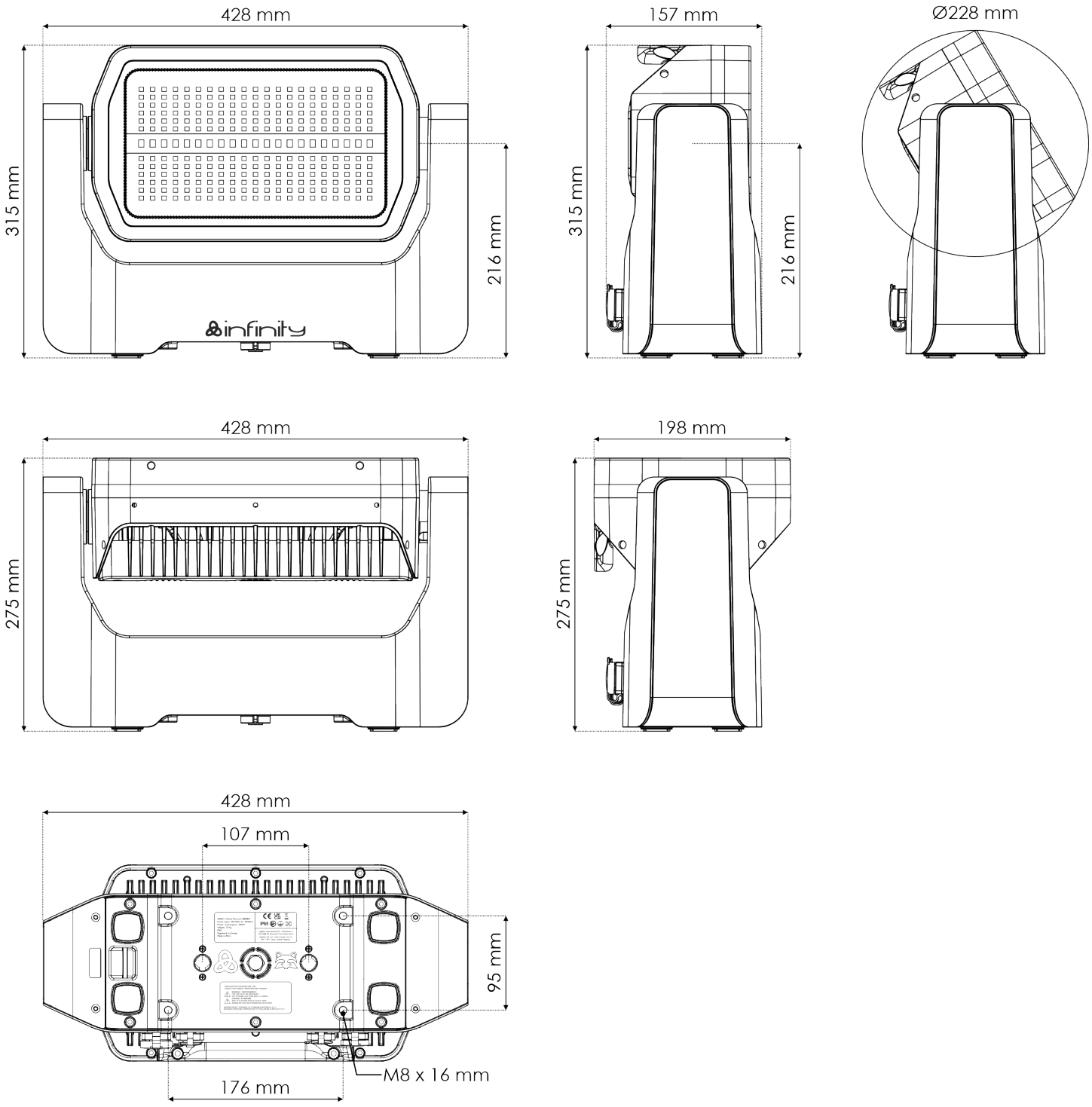
Thermal Specifications:	
Maximum ambient temperature	45 °C
Minimum ambient temperature	-20 °C
Maximum surface temperature	70 °C
Minimum operating temperature	0 °C

Included Items:	
Included cables	Power Pro True cable
Included rigging	Quick-lock bracket

Wireless Specifications:	
Wireless mode	G3 / G4s / CRMX

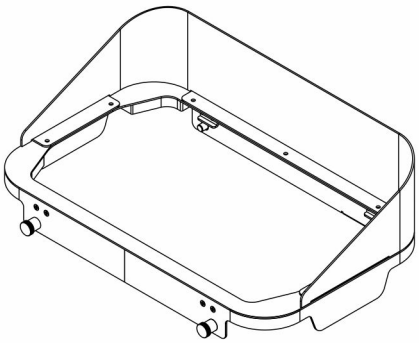
3.5. Dimensions

Figure 5

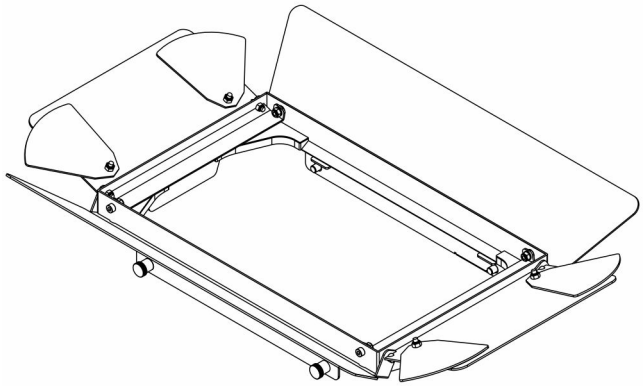


3.6. Optional Accessories

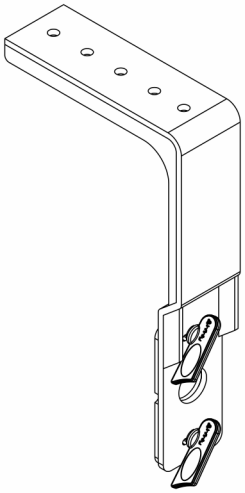
- Product code: 200630 (Tophat for Raccoon Strobe/ Wash Junior)



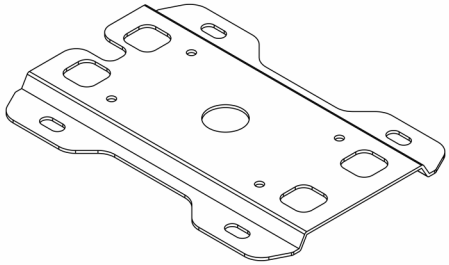
- Product code: 200631 (Barndoor for Raccoon Strobe/Wash Junior)



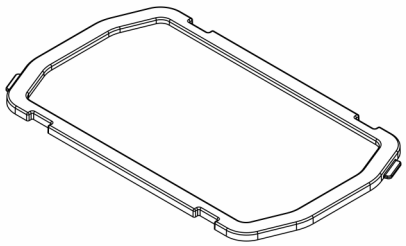
- Product code: 200632 (L-Bracket for Raccoon Strobe/Wash Junior)



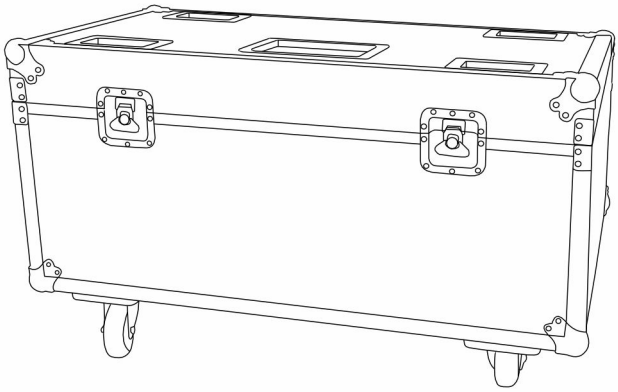
- Product code: 200633 (Bottom Fixation Plate for Raccoon Strobe/Wash Junior)



- Product code: 200636 (40° Diffuser for Raccoon Strobe/Wash Junior)
- Product code: 200637 (90° Diffuser for Raccoon Strobe/Wash Junior)
- Product code: 200638 (15° x 60° Diffuser for Raccoon Strobe/Wash Junior)



- Product code: 200639 (Case for Raccoon Strobe/ Wash Junior)



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 indoors and outdoors.
- The device must be installed away from heating sources and direct sunlight.
- The ambient temperature must be in the range -20 and 45 °C.

4.4. Rigging

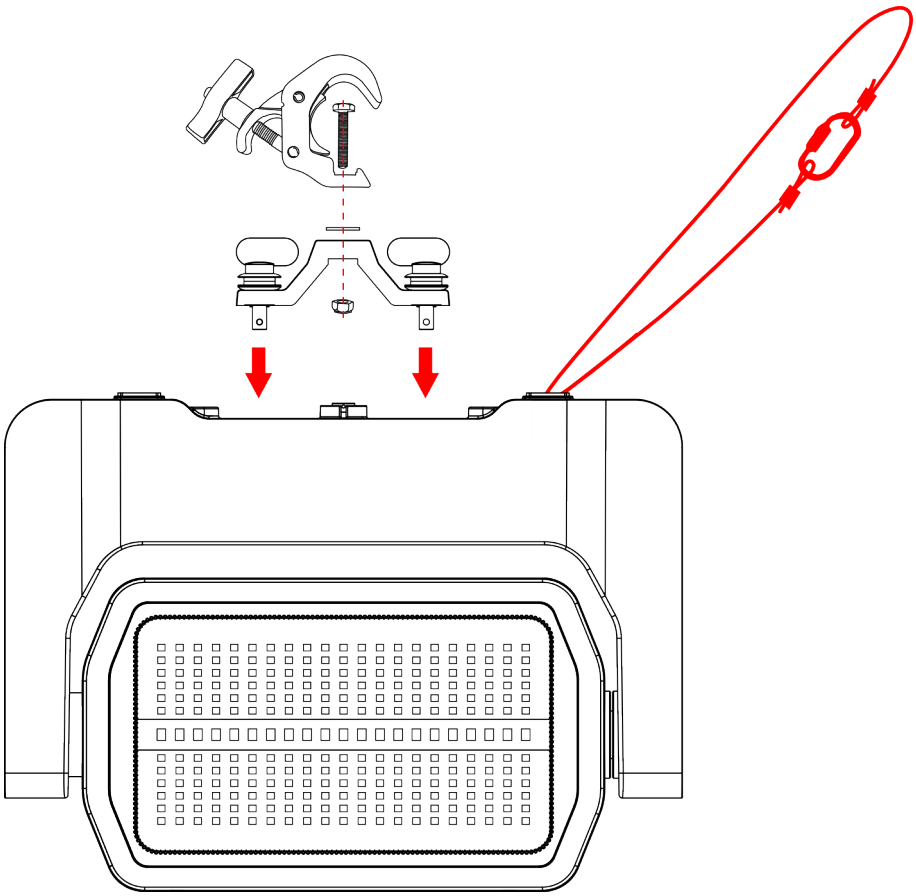
The device can be positioned on a flat surface or mounted to a truss or other rigging structure in any orientation. Make sure that all loads are within the pre-determined limits of the supporting structure.

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

To mount the device, follow the steps below:

01) Install a clamp. Make sure that you use clamps suitable for attaching the device to a truss.
02) Fasten the quick-lock bracket, supplied with the device, on the **mounting holes for quick-lock brackets (12)**.

Figure 6



03) Attach the device to the supporting structure. Make sure that the device cannot move freely.
04) 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 a **safety eye (10)**.

4.5. Installation of Accessories

There are a number of accessories available for the device (see 3.6. Optional Accessories on page 14).

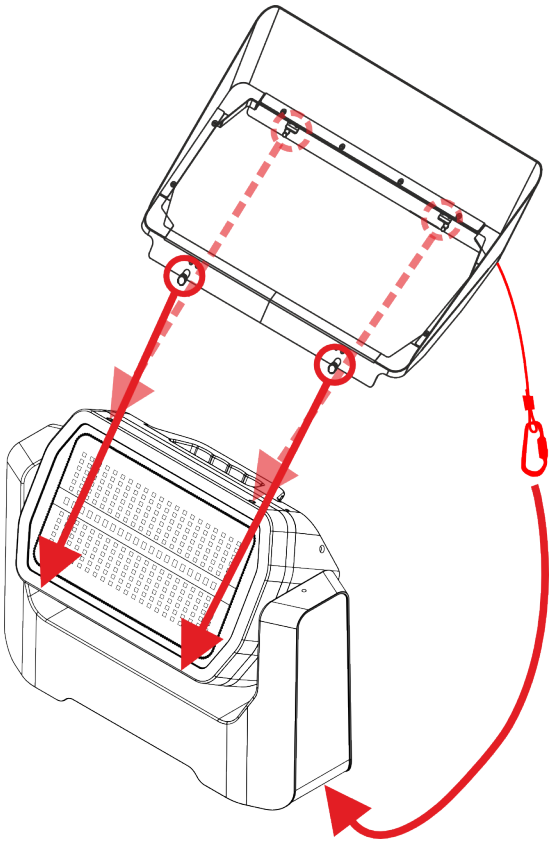
The accessories are not supplied with the device. Contact your Highlite International dealer for more information.

4.5.1. Top Hat Installation

To install the top hat, follow the steps below:

01) Align the top hat with the device.
02) Angle the top hat to insert the top or bottom screws into the accessory holes built into the device frame.
03) On the top hat, pull the spring-loaded screws not yet inserted and position them over the accessory holes on the device.
04) Release the spring-loaded screws into the accessory holes on the device to lock the top hat in position.
05) Secure the top hat to the **safety eye (10)** on the device using the included safety cable.

Figure 7

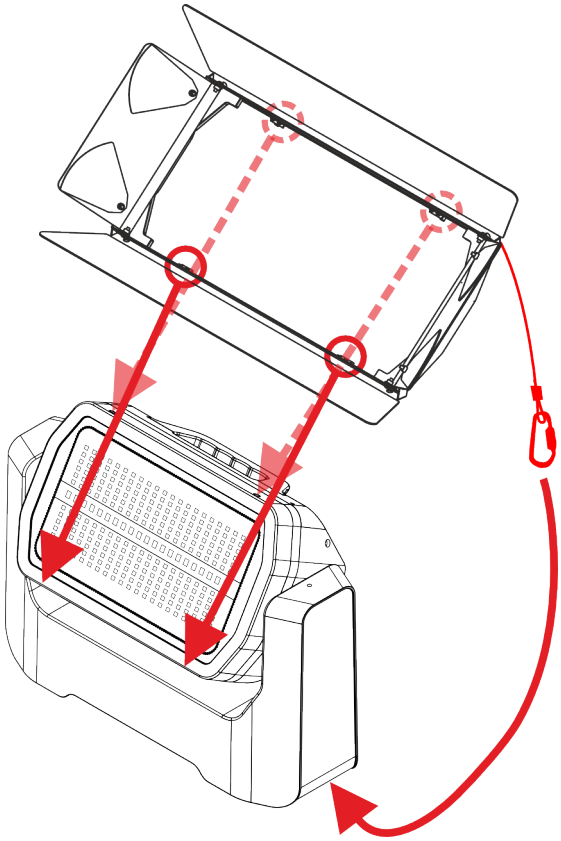


4.5.2. Barndoor Installation

To install the barndoor, follow the steps below:

01) Align the barndoor with the device.
02) Angle the barndoor to insert the top or bottom screws into the accessory holes built into the device frame.
03) On the barndoor, pull the spring-loaded screws not yet inserted and position them over the accessory holes on the device.
04) Release the spring-loaded screws into the accessory holes on the device to lock the barndoor in position.
05) Secure the barndoor to the **safety eye (10)** on the device using the included safety cable.

Figure 8



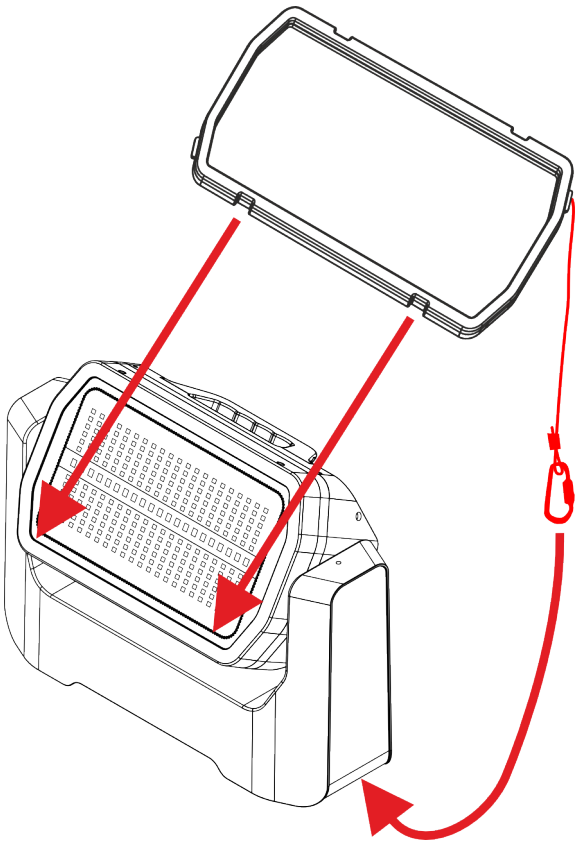
4.5.3. Diffuser Installation

The diffuser changes the beam angle of the device. The diffuser is equipped with 8 magnets to hold it in place.

To install the diffuser, follow the steps below:

01) Attach the magnetic side of the diffuser to the front of the device. The magnets hold the diffuser in position.
02) Secure the diffuser to the **safety eye (10)** on the device using the included safety cable.

Figure 9



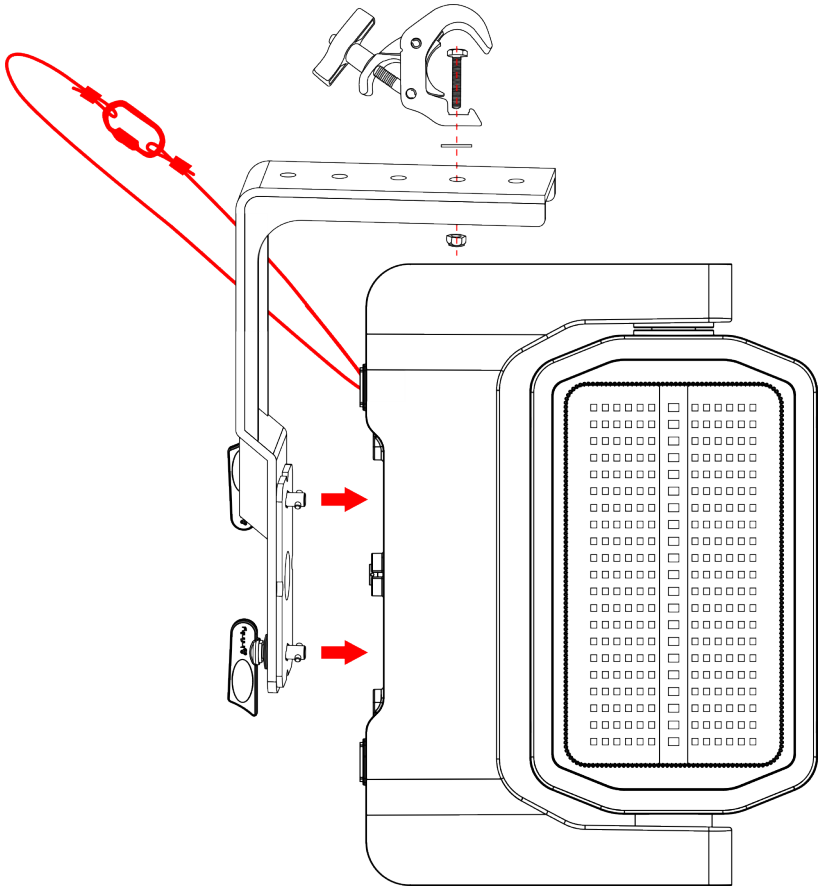
4.5.4. L-Bracket Installation

Install the L-Bracket to mount the device vertically or at an angle.

To install the L-Bracket, follow the steps below:

01) Install a clamp. Make sure that you use clamps suitable for attaching the L-Bracket and the device to a truss.
02) Fasten the L-Bracket on the **mounting holes for quick-lock brackets (12)**.

Figure 10



03) Attach the device to the supporting structure. Make sure that device cannot move freely.
04) 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 (10)**.

Note:

The L-bracket has 5 holes that can be used to attach the clamp. The clamp and hole used affects the angle at which the device will hang. Approximate hanging angles from the inner to outer holes are: 0°, 6°, 12°, 18° and 24°.

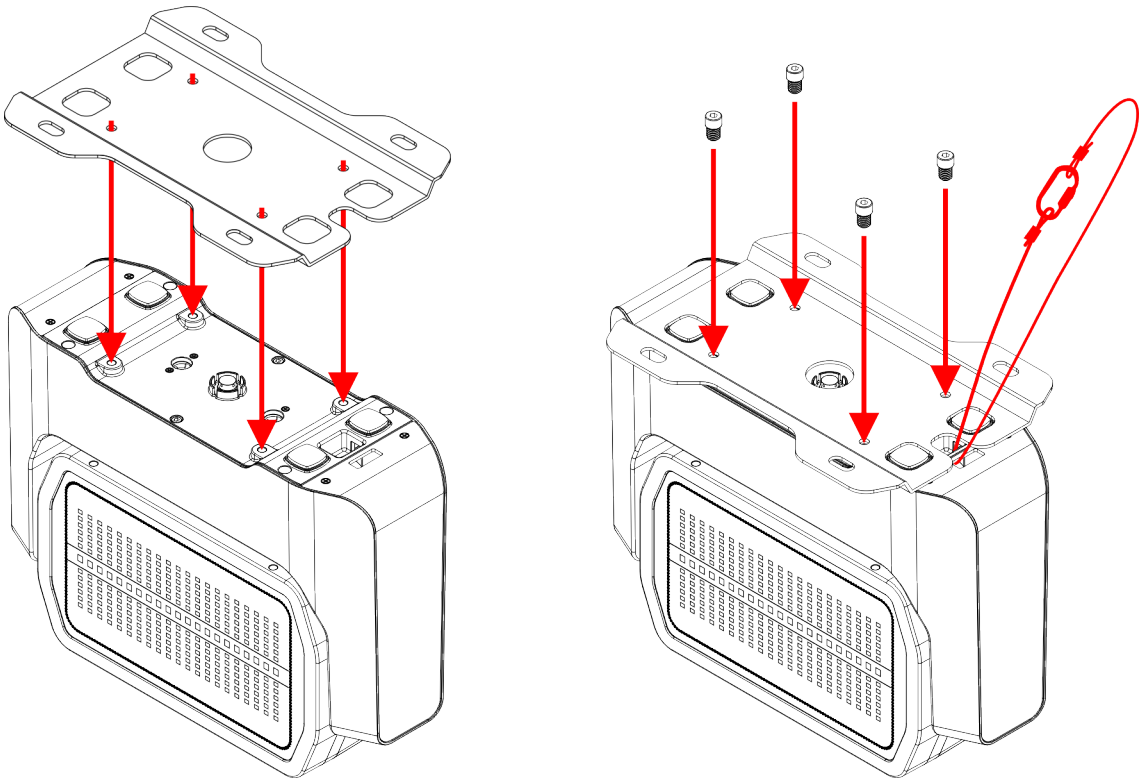
4.5.5. Bottom Fixation Plate Installation

Install the bottom fixation plate to mount the device horizontally or for a standing installation.

To install the bottom fixation plate, follow the steps below:

01) Fasten the bottom fixation plate on the **mounting holes for Bottom Fixation Plate (11)**. Make sure to mount the bottom fixation plate in the correct direction so you can attach the safety cable.

Figure 11



02) Attach the device to the supporting structure. Make sure that device cannot move freely.
03) Secure the device with a secondary suspension, for example a safety cable. Make sure that the secondary suspension can hold 10 times the weight of the device. If possible, the secondary suspension should be attached to a supporting structure independent of the primary suspension. Put the safety cable through the **safety eye (10)**.

4.6. 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 a 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.

This device is IP65 rated.

- Do not expose the device to conditions that exceed the rated IP class conditions.
- Keep the connectors sealed with the rubber caps when the connectors are not in use.
- Do not connect the cables from above the connectors, if the device is installed outdoors. Make a 'drip loop' in the cable so that rain water cannot enter the device.
- Make sure that the cable run is not too heavy. A heavy cable run can cause damage to the connectors. If the connectors are damaged, their ingress protection (IP) can deteriorate.

4.7. 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: 2 devices Raccoon S250/4 Junior
- at 200–240 V: 4 devices Raccoon S250/4 Junior

5. Setup

5.1. Warnings and Precautions

DANGER
Electric shock caused by short-circuit

This device is IP65 rated.

- Do not expose the device to conditions that exceed the rated IP class conditions.
- Keep the connectors sealed with the rubber caps when the connectors are not in use.
- Do not connect the cables from above the connectors, if the device is installed outdoors. Make a 'drip loop' in the cable so that rain water cannot enter the device.
- Make sure that the cable run is not too heavy. A heavy cable run can cause damage to the connectors. If the connectors are damaged, their ingress protection (IP) can deteriorate.

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

5.2. Stand-alone Setup

When the Raccoon S250/4 Junior is not connected to a controller or to other devices, it functions as a stand-alone device. It can be operated manually via the control panel or in auto mode.

For more information, refer to Control Modes (see 6.2. Control Modes on page 27).

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 Raccoon S250/4 Junior has 5-pin DMX signal IN and OUT connectors.

The pin assignment is as follows: 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

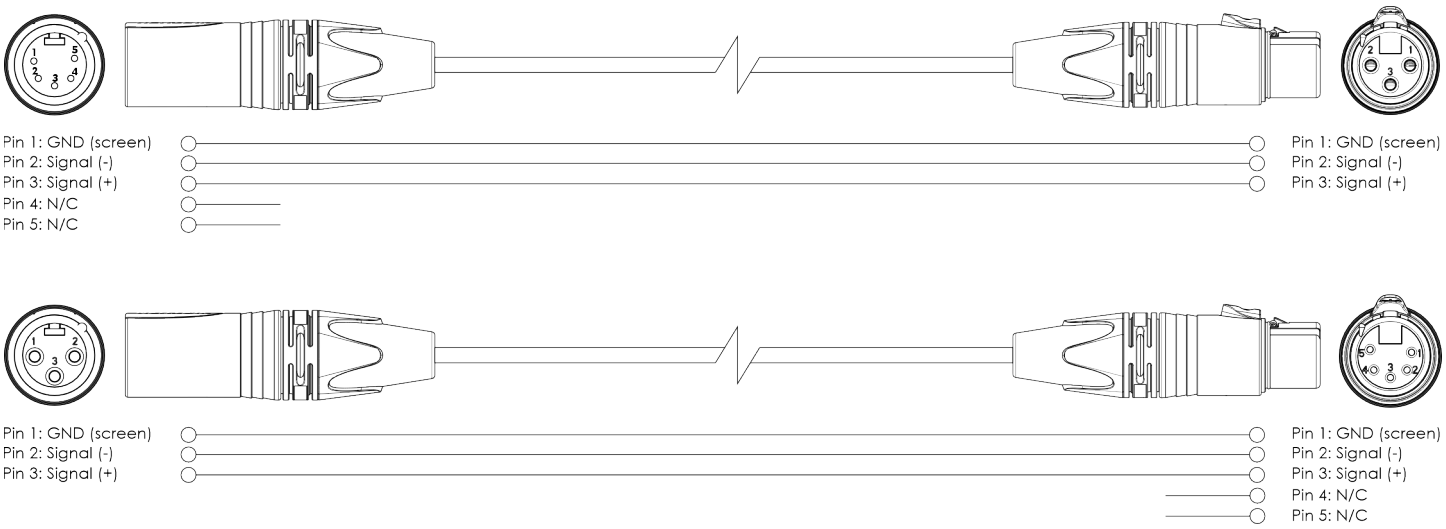
5.3.2. DMX Cables

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 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 12

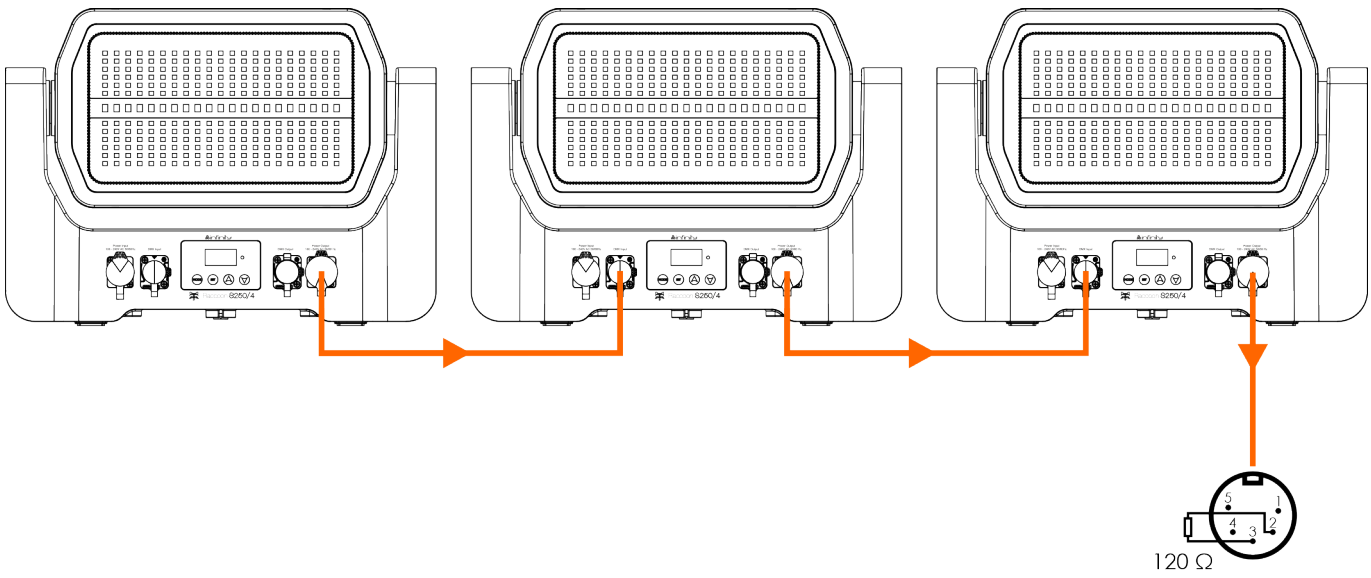


5.3.3. Master/Slave Setup

The Raccoon S250/4 Junior 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 5-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 (see 6.6.9. Slave Mode on page 38).
05) Set the remaining devices as slave devices (see 6.6.9. Slave Mode on page 38).

Figure 13

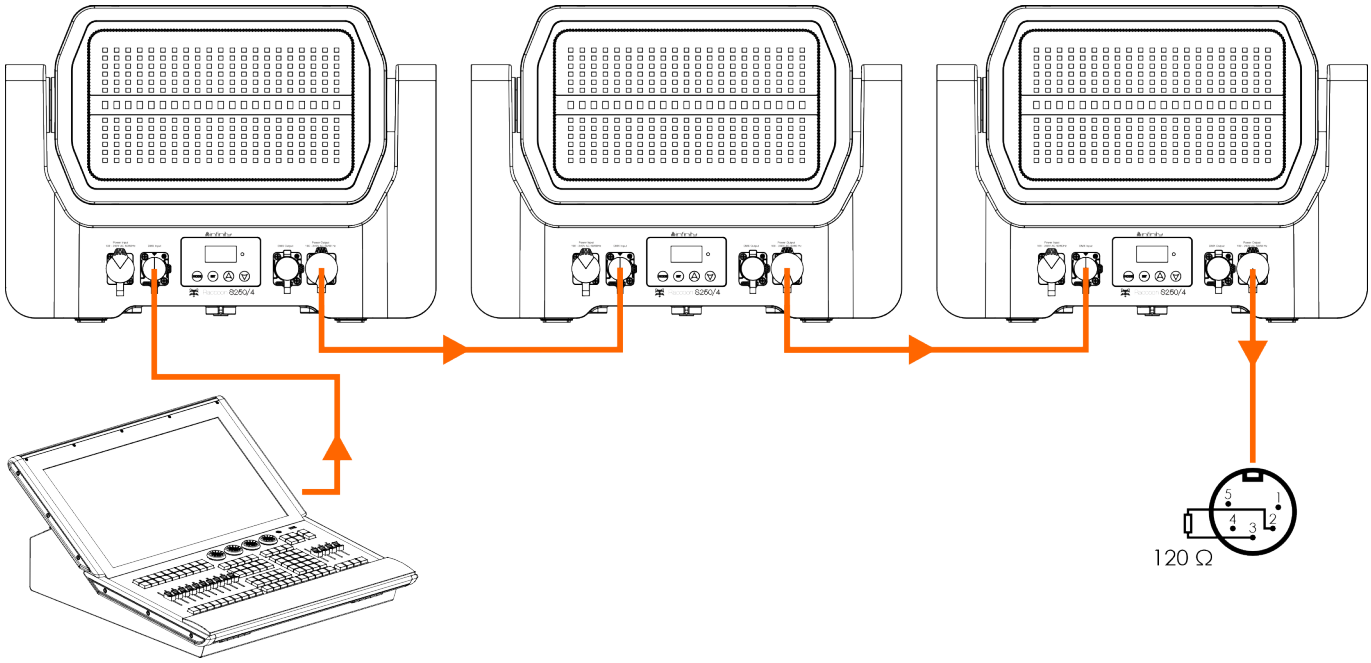


5.3.4. DMX Linking

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 1st device.
02) Connect the DMX OUT connector of the 1st device to the DMX IN connector of the 2nd device with a 5-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 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 Raccoon S250/4 Junior has 6 personalities: 5 channels, 14 channels, 22 channels, 22 channels, 31 channels, 44 channels.

If you want to connect multiple devices on one data link and use them in 44-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 45 (045), as 1 + 44 = 45.
03) Set the starting address of the 3rd device on the data link to 89 (89), as 45 + 44 = 89.
04) Continue assigning the starting addresses of the remaining devices by adding 44 to the previous number each time.

Make sure that you do not have any overlapping channels in order to control each Raccoon S250/4 Junior correctly. If two or more devices have the same DMX starting address, they operate in the same way.

5.3.6. Wireless G3 and G4s Connection

The device is equipped with a 2,4 GHz wireless receiver from LumenRadio. The W-DMX receiver is compatible only with other W-DMX devices. It can be paired only with transceivers and transmitters with a W-DMX module.

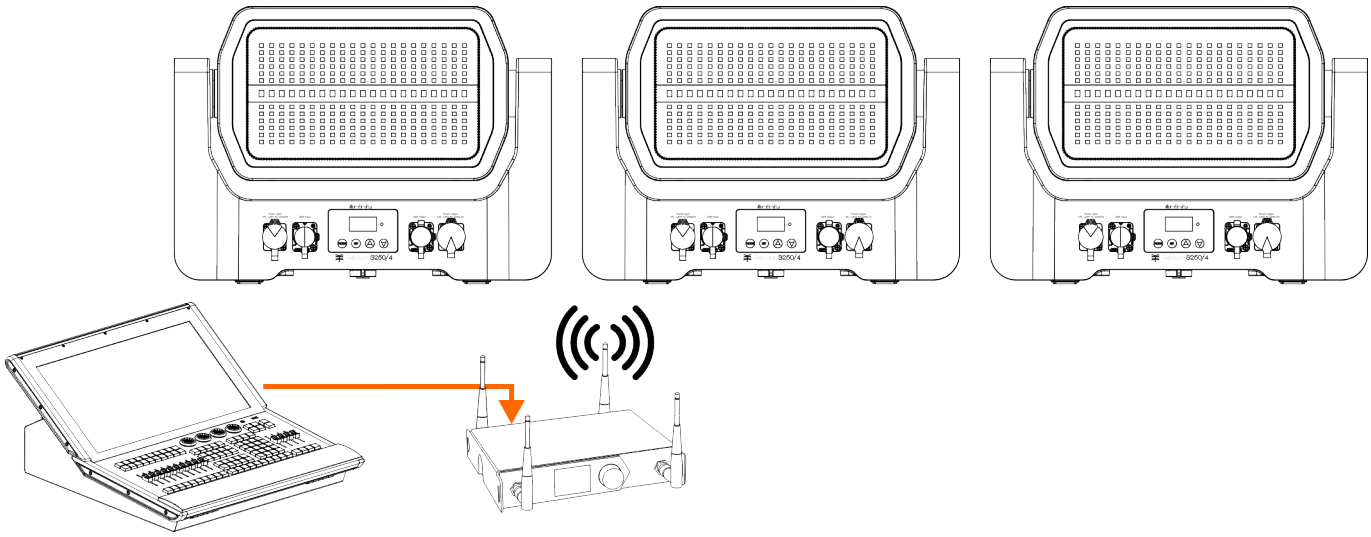
Communication distance	**Depending on the transmitting power or transmitter module**
Test conditions	WDMX TRx Transmitter module, 2 dBi Antenna, transmitting power 20 dBm (100 mW)
Range indoor	60 m
Range outdoor	250 m

Recommended transceiver: 51503 Lumenradio Stardust (G3, G4s, CRMX)

To connect multiple devices via wireless DMX, follow the steps below:

01) Set the devices to receive wireless DMX signal, refer to Control Mode (see 6.6.3. DMX Signal on page 33).
02) Connect the transceiver/transmitter to the lighting controller.
03) Follow the user manual supplied with the transceiver to pair the devices.

Figure 15



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 an LED luminaire for stage lighting. It can be installed indoors and outdoors. 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 Raccoon S250/4 Junior can be operated with a DMX controller or as a stand-alone device.

The Raccoon S250/4 Junior supports the following control modes:

- Stand-alone: Manual operation, auto operation mode (built-in programs, color presets)
- Master/slave: Manual operation, auto operation mode (built-in programs, color presets)
- DMX-512: 5 channels, 14 channels, 22 channels, 22 channels, 31 channels, 44 channels
- CRMX: 5 channels, 14 channels, 22 channels, 22 channels, 31 channels, 44 channels

For more information about how to connect the devices, refer to Setup (see 5. Setup on page 23).

To operate the device as a stand-alone device:

- Select manual mode (see 6.6.6. Manual Mode on page 36) or auto mode (see 6.6.7. Auto Mode on page 36)

To operate the device with a DMX controller:

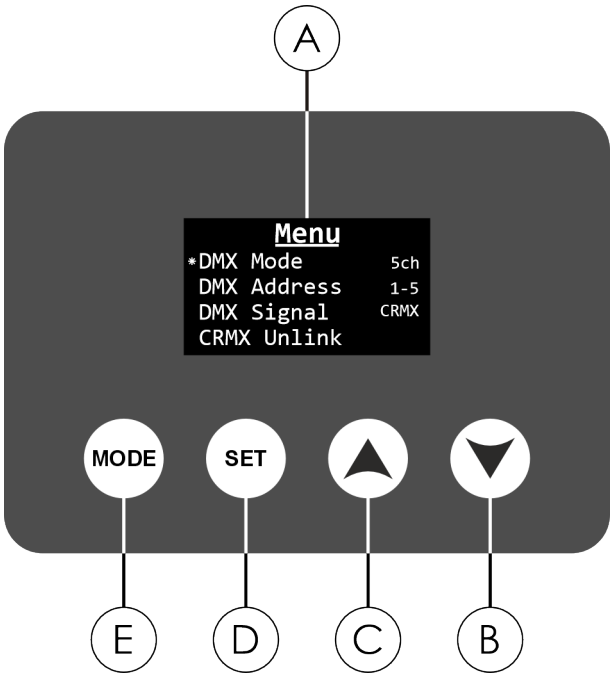
01) Select the DMX channel mode in the DMX Mode menu (see 6.6.1. DMX Mode on page 33). Refer to the DMX chart (see 6.7.1. DMX Channel Overview on page 44) for a complete overview of all DMX channels.
02) Set the DMX starting address of the device in DMX Address menu (see 6.6.2. DMX Address on page 33).
03) Set the behavior of the device in case there is no DMX signal in the DMX Lost menu (see 6.6.19. DMX Lost on page 41).

To operate the device wireless with a DMX controller in combination with a wireless transceiver:

01) Select CRMX as control mode in the Control Mode menu (see 6.6.3. DMX Signal on page 33).
02) Set the DMX starting address of the device in the DMX Address menu (see 6.6.2. DMX Address on page 33).
03) Select the DMX channel mode in the Control Mode menu (see 6.6.3. DMX Signal on page 33). Refer to DMX Channels (see 6.7. DMX Channels on page 44) for a complete overview of all DMX channels.

6.3. Control Panel

Figure 16



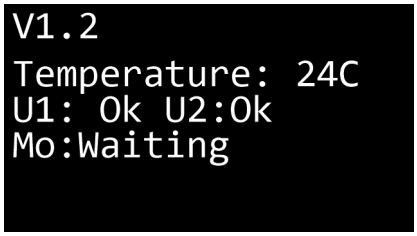
A) OLED display
B) DOWN button
C) UP button
D) SET button
E) MODE button

- Use the **DOWN button (B)** and the **UP button (C)** to navigate through the menus or decrease/increase numeric values.
- Use the **SET button (D)** to open the selected menu, confirm your choice or set the currently selected value.
- Use the **MODE button (E)** to exit the current submenu and return to the Main Menu.

6.4. Start-up

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

Immediately afterwards, the display shows a second splash screen. This screen provides information about the software version and the temperature and status of the wash LEDs. The screen also shows Mo waiting, indicating the tilt motor is calibrating.



Immediately afterwards, the display shows a third splash screen. The screen shows Mo OK, indicating the tilt motor has been calibrated.

Immediately afterwards, the display shows the start screen. The start screen provides information about the current DMX mode, the DMX signal, the DMX address, the LED frequency and the temperature of the LEDs.

Note:

If no button is pressed, after 40 seconds the backlight of the display turns off. You can change this setting in the Backlight submenu (see 6.6.18. Display Backlight on page 41). If the DMX signal is lost, the display blinks.

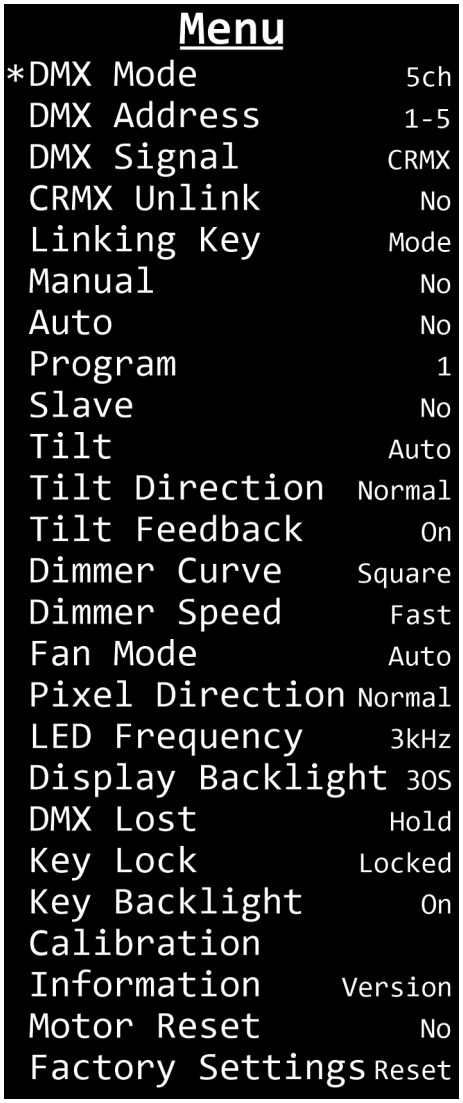
6.5. Menu Overview

Level 1	Level 2	Level 3	Level 4
DMX Mode (see 6.6.1. DMX Mode on page 33)	5CH		
	14CH		
	22CH		
	22CH		
	31CH		
	44CH		
DMX Address (see 6.6.2. DMX Address on page 33)	001–512		
DMX Signal (see 6.6.3. DMX Signal on page 33)	DMX		
	CRMX		
CRMX Unlink (see 6.6.4. CRMX Unlink on page 34)	Yes		
	No		
Linking Key (see 6.6.5. Linking Key on page 34)	Key	xxxxxxxx (11111111)	
	Mode	CRMX Classic	
		CRMX2	
	Universe	A	
		B	
		C	
		D	
		E	
		F	
		G	
		H	
	Reset	Yes	
		No	
Manual Mode (see 6.6.6. Manual Mode on page 36)	Red	000–255	
	Green	000–255	
	Blue	000–255	
	White	000–255	
	Strobe White	000–255	
Auto Mode (see 6.6.7. Auto Mode on page 36)	Yes		
	No		
Program Mode (see 6.6.8. Program Mode on page 37)	Mode	01–35	
	Color (Mode: 1)	01–38	
	Speed (Mode: 2–35)	1–100 (81)	
	Strobe	0–99	
Slave Mode (see 6.6.9. Slave Mode on page 38)	Yes		
	No		
Tilt (see 6.6.10. Tilt on page 38)	Angle	000–255	
	Auto	On	
		Off	
Tilt Direction (see 6.6.11. Tilt Direction on page 38)	Normal		
	Invert		
Tilt Feedback (see 6.6.12. Tilt Feedback on page 38)	On		
	Off		
Dimmer Curve (see 6.6.13. Dimmer Curve on page 39)	Linear		
	Square		
	Inverse Square		
	S-Curve		
Dimmer Speed (see 6.6.14. Dimmer Speed on page 39)	Fast		

Level 1	Level 2	Level 3	Level 4
	Smooth		
Fan Mode (see 6.6.15. Fan Mode on page 39)	Auto		
	High		
	Slow		
Pixel Direction (see 6.6.16. Pixel Direction on page 40)	Normal		
	Invert		
LED Frequency (see 6.6.17. LED Frequency on page 40)	12 kHz		
	6 kHz		
	3 kHz		
	1 kHz		
Display Backlight (see 6.6.18. Display Backlight on page 41)	5 S		
	10 S		
	20 S		
	30 S		
	Stay On		
DMX Lost (see 6.6.19. DMX Lost on page 41)	Blackout		
	Hold		
	Manual		
	Program		
Key Lock (see 6.6.20. Key Lock on page 41)	Locked		
	Unlocked		
Key Backlight (see 6.6.21. Key Backlight on page 42)	On		
	Off		
Calibration (see 6.6.22. Calibration on page 42)	Password (6468)	Tilt (127)	000–255
		Default	Yes
			No
Information (see 6.6.23. Information on page 43)	Version	Display Vx.x / xxxx	
		LED U1 Vx.x / xxxx	
		LED U2 Vx.x / xxxx	
		Motor Vx.x / xxxx	
	Operating Hours	32:41	
	LED Temperature	21 C	
	RDM ID	29B4:0BA12345	
	Product	Raccoon S250/4 Junior	
	Device Label	Raccoon S250/4 Junior	
	Fan Speed	Led Fan1 0 rpm	
		Led Fan2 0 rpm	
		Led Fan3 0 rpm	
		PowerFan 1380 rpm	
Motor Reset (see 6.6.24. Motor Reset on page 43)	Yes		
	No		
Factory Settings (see 6.6.25. Factory Settings on page 43)	Abort		
	Reset Settings		

6.6. Main Menu Options

The main menu has the following 25 options:



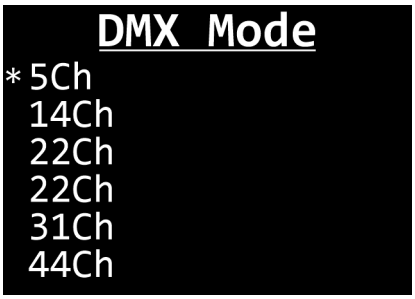
DMX Mode
DMX Address
DMX Signal
CRMX Unlink
Linking Key
Manual
Auto
Program
Slave
Tilt
Tilt Direction
Tilt Feedback
Dimmer Curve
Dimmer Speed
Fan Mode
Pixel Direction
LED Frequency
Display Backlight
DMX Lost
Key Lock
Key Backlight
Calibration
Information
Motor Reset
Factory Settings

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

6.6.1. DMX Mode

In this menu, you can select the DMX channel mode.

01) Touch the **UP/DOWN** buttons to navigate through the main menu. There are 6 options:



- 5 channels
- 14 channels
- 22 channels
- 22 channels
- 31 channels
- 44 channels

02) Touch the **SET** button to confirm the selection. For more information, refer to the DMX chart (see 6.7.1. DMX Channel Overview on page 44).

6.6.2. DMX Address

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

01) Touch the **UP/DOWN** buttons to select the DMX starting address of the device. The selection range depends on the active DMX channel mode.
- 001–508 (5 channels)
- 001–499 (14 channels)
- 001–491 (22 channels)
- 001–491 (22 channels)
- 001–482 (31 channels)
- 001–469 (44 channels)

02) Touch the **SET** button to confirm the selection.

Note:

The display shows the DMX address range of the device. For example, "2–15" means that the DMX starting address of the device is 002 and the device is operating in a 14-channel mode. The DMX address range of the device is 002–015.

6.6.3. DMX Signal

In this menu, you can select the DMX signal.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- DMX
- CRMX

02) Touch the **SET** button to confirm the selection.

6.6.4. CRMX Unlink

In this menu, you can link or unlink CRMX (wireless DMX).

01) Touch the **SET** button to select one of the 2 options:
- Yes: CRMX is unlinked
- No: CRMX is linked

02) Touch the **SET** button to confirm the selection.

6.6.5. Linking Key

In this menu you can select the linking key for the device.

- Key (see 6.6.5.1. Key)
- Mode (see 6.6.5.2. Mode)
- Universe (see 6.6.5.3. Universe)
- Reset (see 6.6.5.4. Reset)

6.6.5.1. Key

In this submenu you can set the linking key.

01) Touch the **UP/DOWN** buttons to set the first digit of the linking key:

02) Touch the **SET** button to jump to the next digit.
03) Touch the **UP/DOWN** buttons to set the next digit of the linking key.
04) Repeat step 2–3 for all 8 digits. The adjustment range is 00000000–99999999.
05) Touch the **SET** button to confirm.

Note:

Once the linking key is set, you need to exit the menu in order to complete the linking process.

General Linking Key Info:

When setting the linking key value, the left or right 3 digits of the 8-digit key cannot have more than three 0s, otherwise the key connection will fail.

Example: 00001234 or 12340000 are both wrong, since they contain four 0s

The linking key serves 2 functions:

- Cloning transmitters: By assigning the same linking key to multiple transmitters, you can create identical links across different physical locations. This setup allows receivers to move seamlessly between these transmitters without the need for re-linking, provided the transmitters are sufficiently separated to prevent interference.
- Linking receivers via linking key: For receivers that support this feature, entering the same linking key as the transmitter enables the receiver to join the network without initiating a linking procedure from the transmitter. This is particularly useful when the transmitter is inaccessible.

To implement the linking key:

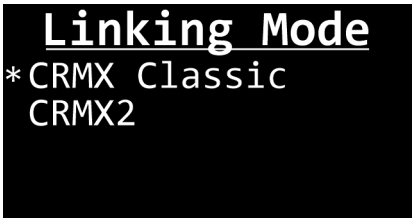
- On the transmitter: Access the settings menu and input your chosen 8-digit linking key.
- On the receiver: Navigate to the linking settings and enter the same 8-digit linking key.

Once both devices share the same linking key, the receiver will automatically link to the transmitter when within range.

6.6.5.2. Mode

In this submenu you can set the CRMX mode.

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



- CRMX Classic
- CRMX2

02) Touch the **SET** button to confirm the selection and open the submenu.
03) If you select Color, touch the **UP/DOWN** buttons to select one of the 38 color presets. Touch the **SET** button to save the settings.
04) If you select Strobe, touch the **UP/DOWN** buttons to set the strobe frequency. The adjustment range is 00–99, from OFF to high frequency.
05) Touch the **SET** button to confirm.

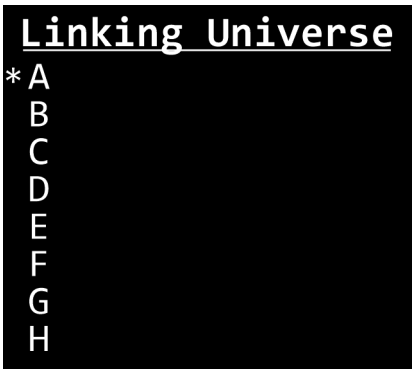
Note:

You need select the same linking mode on the device and on the transmitter. If the linking modes do not match, the device and the transmitter will not be able to link.

6.6.5.3. Universe

In this submenu you can set the universe.

01) Touch the **UP/DOWN** buttons to select one of the 8 options:



- A
- B
- C
- D
- E
- F
- G
- H

02) Touch the **SET** button to confirm.

Note:

The setting range must be set according to the output port, that the transmitter needs to be connected to. If the output port of the selected universe is inconsistent with the transmitter, the device can be matched and connected, but it cannot be controlled.

6.6.5.4. Reset

In this submenu you can reset the linking key settings of the device to the default factory settings.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Yes: Reset the linking key settings on
- No: Reset the linking key settings off

02) Touch the **SET** button to confirm the selection.

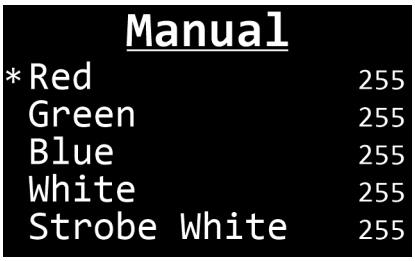
Note:

After the reset, all linking key parameters will be restored to the default factory settings and saved in the CRMX module. The connection matching will be automatically unlocked and the linking key function will be exited.

6.6.6. Manual Mode

In this menu, you can select colors and set their values.

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



- Red: The adjustment range is 0–255, from low to high intensity
- Green: The adjustment range is 0–255, from low to high intensity
- Blue: The adjustment range is 0–255, from low to high intensity
- White: The adjustment range is 0–255, from low to high intensity
- Strobe White: The adjustment range is 0–255, from low to high intensity

02) Touch the **SET** button to confirm the selection.
03) Touch the **UP/DOWN** buttons to decrease or increase the values.
04) Touch the **SET** button to confirm the selection.

6.6.7. Auto Mode

In this menu, you can turn auto mode on or off.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Yes: Auto mode turns on
- No: Auto mode turns off

02) Touch the **SET** button to confirm the selection.

6.6.8. Program Mode

In this menu you can select a built-in program, add a strobe effect, and adjust the program speed. The device has 38 built-in color presets and 35 built-in programs available:

- Program 01 (see 6.6.8.1. Program 01)
- Program 02–35 (see 6.6.8.2. Program 02-35)

Note:

Each program mode starts with default values or the last used preset values.

To turn off program mode, select Manual or Auto Mode.

6.6.8.1. Program 01

In this submenu you can set the color presets and the strobe for built-in program 01.

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

- Color
- Strobe

02) Touch the **SET** button to confirm the selection and open the submenu.
03) If you select Color, touch the **UP/DOWN** buttons to select one of the 38 color presets. Touch the **SET** button to save the settings.
04) If you select Strobe, touch the **UP/DOWN** buttons to set the strobe frequency. The adjustment range is 00–99, from OFF to high frequency.
05) Touch the **SET** button to confirm.

6.6.8.2. Program 02-35

In this submenu you can set program speed and the strobe for built-in program 02–35.

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

- Speed
- Strobe

02) Touch the **SET** button to confirm the selection and open the submenu.
03) If you select Speed, touch the **UP/DOWN** buttons to set the speed of the built-in programs. The adjustment range is 001–100, from slow to fast.
04) If you select Strobe, touch the **UP/DOWN** buttons to set the strobe frequency. The adjustment range is 00–99, from OFF to high frequency.
05) Touch the **SET** button to confirm.

6.6.9. Slave Mode

In this menu, you can turn slave mode ON or OFF.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Yes: Slave mode turns on
- No: Slave mode turns off

02) Touch the **SET** button to confirm the selection.

6.6.10. Tilt

In this menu, you can select the tilt angle or create an tilt auto run.

- Angle (see 6.6.10.1. Angle)
- Auto (see 6.6.10.2. Auto)

6.6.10.1. Angle

In this submenu you can set the tilt angle from 0–180°.

01) Touch the **UP/DOWN** buttons to select the tilt angle of the device. The adjustment range is 000–255.
02) Touch the **SET** button to confirm.

6.6.10.2. Auto

In this submenu, you can turn auto run mode ON or OFF.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Yes: Auto mode turns on. The device has an automatic tilt movement in a random order (up and down) and with a random speed.
- No: Auto mode turns off

02) Touch the **SET** button to confirm the selection.

6.6.11. Tilt Direction

In this menu, you can set the tilt direction Normal or Invert.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Normal: The tilt direction is normal
- Invert: The tilt direction is inverted

02) Touch the **SET** button to confirm the selection.

6.6.12. Tilt Feedback

In this menu, you can turn the tilt feedback ON or OFF.

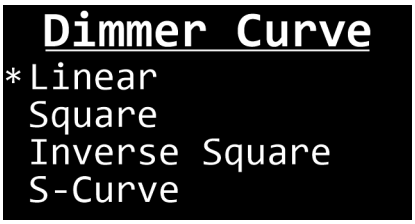
01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- On: The tilt feedback is on. When manually moving the tilted head by hand, the head returns to the preset DMX value and its corresponding tilt position.
- Off: The tilt feedback is off. When manually moving the tilted head by hand, the head remains at that position, independent of the preset DMX value and its corresponding tilt position.

02) Touch the **SET** button to confirm the selection.

6.6.13. Dimmer Curve

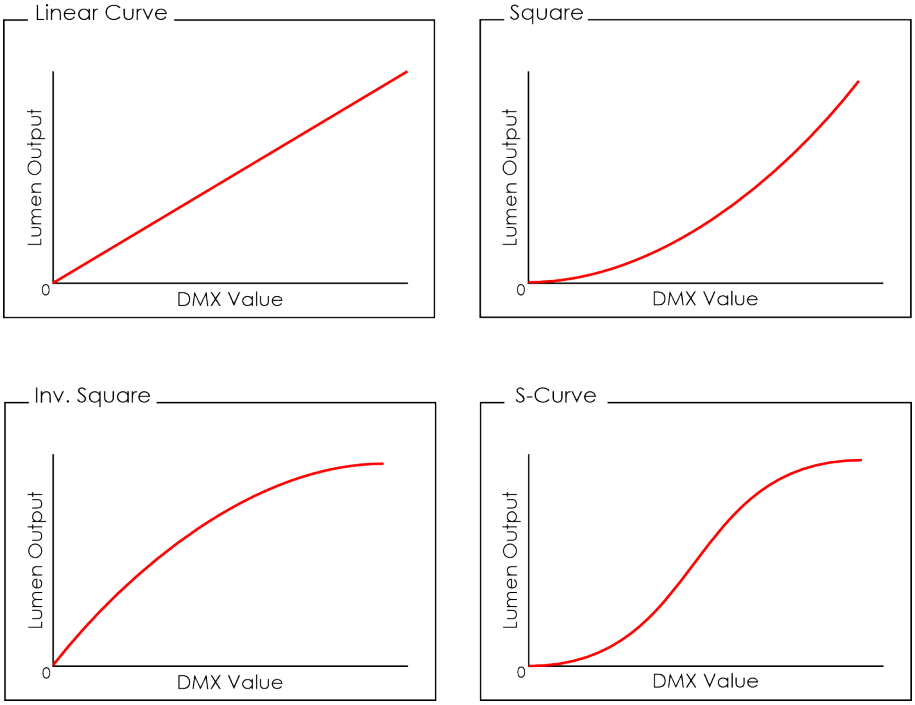
In this menu, you can select the dimming curve.

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



- Linear
- Square
- Inverse Square
- S-Curve

Figure 17



02) Touch the **SET** button to confirm the selection.

6.6.14. Dimmer Speed

In this menu, you can set the dimmer speed.

01) Touch the **UP/DOWN** buttons to choose one of the 2 options:
- Fast: Fast dimmer
- Smooth: Smooth dimmer

02) Touch the **SET** button to confirm the selection.

6.6.15. Fan Mode

In this menu, you can select the fan mode.

01) Touch the **UP/DOWN** buttons to choose one of the 3 options:
- Auto: Automatic fan
- High: Fast fan
- Slow: Slow fan

02) Touch the **SET** button to confirm the selection.

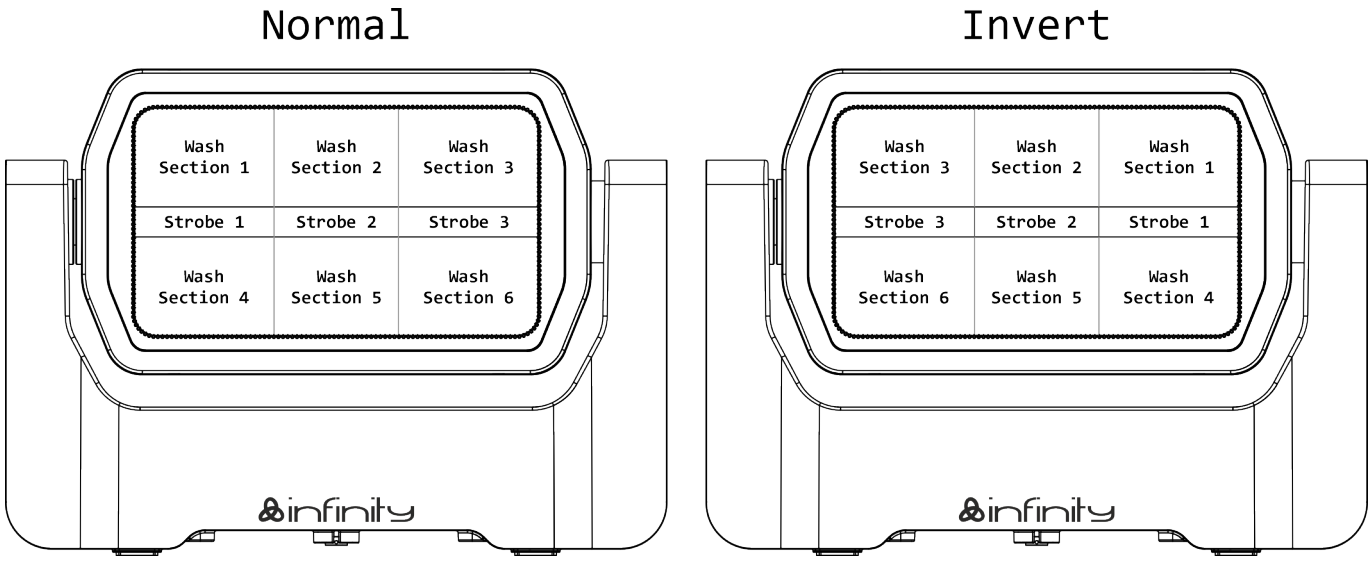
6.6.16. Pixel Direction

In this menu, you can select the pixel direction.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Normal: Pixel direction is normal
- Invert: Pixel direction is inverted

02) Touch the **SET** button to confirm the selection.

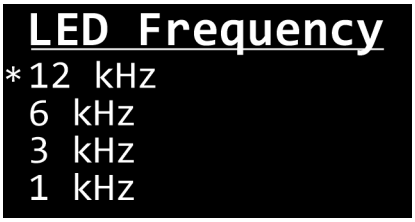
Figure 18



6.6.17. LED Frequency

In this menu, you can adjust the PWM (pulse-width modulation) frequency of the LEDs.

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



- 12 kHz
- 6 kHz
- 3 KHz
- 1 kHz

02) Touch the **SET** button to confirm the selection.

6.6.18. Display Backlight

In this submenu, you can adjust the behavior of the display.

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

- 5 s: The display returns to the start screen after 5 seconds of inactivity. After 10 seconds more, the backlight of the display turns off
- 10 s: The display returns to the start screen after 10 seconds of inactivity. After 10 seconds more, the backlight of the display turns off
- 20 s: The display returns to the start screen after 20 seconds of inactivity. After 10 seconds more, the backlight of the display turns off
- 30 s: The display returns to the start screen after 30 seconds of inactivity. After 10 seconds more, the backlight of the display turns off
- Stay On: The display returns to the start screen after 30 seconds of inactivity and the backlight remains on

02) Touch the **SET** button to confirm the selection.

6.6.19. DMX Lost

In this menu, you can determine the behavior of the device in case there is no DMX signal.

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

- Blackout: The device blacks out the light output
- Hold: The device uses the last DMX signal correctly received
- Manual: The device uses the values selected in Manual Mode (see 6.6.6. Manual Mode on page 36)
- Program: The device uses the values selected in Program Mode (see 6.6.8. Program Mode on page 37)

02) Touch the **SET** button to confirm the selection.

6.6.20. Key Lock

In this menu, you can turn the key lock ON and OFF.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Locked: The key lock is on. Do not press any button within 10 s of activating the lock. If you do so, the lock will be canceled. The selection remains but the keys are not locked
- Unlocked: The key lock is off

02) Touch the **SET** button to confirm the selection.

Note:

If the display is locked, you need to enter a password to access the main menu. The default password is touching the **UP** button and the **DOWN** button in the following order: **UP**, **DOWN**, **UP**, **DOWN**.

6.6.21. Key Backlight

In this menu, you can turn the key backlight ON or OFF.

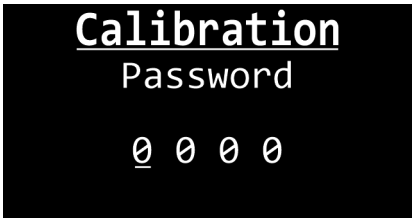
01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- On: Key backlight turns on
- Off: Key backlight turns off

02) Touch the **SET** button to confirm the selection.

6.6.22. Calibration

In this menu you can adjust the tilt home position of the device or reset the tilt position of the device to the default factory settings.

01) Touch the **UP/DOWN** buttons to insert the master code: 6468.
02) Touch the **SET** button to confirm and open one of the 2 options:



- Tilt Calibration (see 6.6.22.1. Tilt Calibration)
- Reset Calibration (see 6.6.22.2. Reset Calibration)

03) Touch the **SET** button to confirm the selection and open the submenu.

6.6.22.1.Tilt Calibration

In this submenu you can adjust the tilt home position of the device.

01) Touch the **UP/DOWN** buttons to select the tilt home position of the device. The adjustment range is 000–255. The factory default setting is 127.
02) Touch the **SET** button to confirm.

6.6.22.2.Reset Calibration

In this submenu you can reset the tilt home position of the device to the default factory settings.

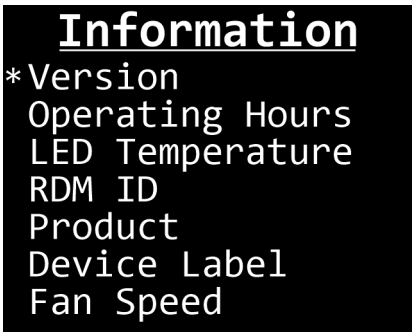
01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Yes: Reset the tilt home position on
- No: Reset the tilt home position off

02) Touch the **SET** button to confirm the selection.

6.6.23. Information

In this menu, you can view the parameters of the device.

01) Touch the **UP/DOWN** buttons to select one of the 7 options:



- Version: Shows the current firmware version of the display and the LEDs
- Operating Hours: Shows the total hours and minutes (h:m) of operation of the device
- LED Temperature: Provides information about the temperature of the LEDs
- RDM ID: Shows the RDM identification number of the device (29B4:0BAXXXXX)
- Product: Shows the name of the device
- Device Label: Shows the RDM device label of the device
- Fan Speed: Shows the current speed and power of the fans

02) Touch the **SET** button to open the submenu and view the parameters.

6.6.24. Motor Reset

In this menu, you can reset the tilt motor on or off.

01) Touch the **UP/DOWN** buttons to select one of the 2 options:
- Yes: Tilt motor reset on
- No: Tilt reset motor off

02) Touch the **SET** button to confirm the selection.

6.6.25. Factory Settings

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

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

- Abort: Cancel the reset and return to the previous screen
- Reset Settings: Reset all settings

02) Touch the **SET** button to confirm the selection.

6.7. DMX Channels

6.7.1. DMX Channel Overview

Function	5 CH	14 CH	22 CH	22 CH	31 CH	44 CH
Strobe Dimmer	1	1	1	1		1
Strobe Flash Duration	2	2	2	2		2
Strobe Speed	3	3	3	3		3
Strobe Type	4	4	4	4		4
Strobe Programs			5			5
Strobe Program Speed			6			6
Strobe Dimmer Section A			7		1	7
Strobe Dimmer Section B			8		2	8
Strobe Dimmer Section C			9		3	9
RGBW Dimmer		5	10	5		10
RGBW Flash Duration		6	11	6		11
RGBW Strobe Speed		7	12	7		12
RGBW Strobe Type		8	13	8		13
Red All		9	14			
Green All		10	15			
Blue All		11	16			
White All		12	17			
Color Preset			18			14
Color Program			19			15
Color Program Speed			20			16
Red Group 1 (1 + 4)				9		
Green Group 1 (1 + 4)				10		
Blue Group 1 (1 + 4)				11		
White Group 1 (1 + 4)				12		
Red Group 2 (2 + 5)				13		
Green Group 2 (2 + 5)				14		
Blue Group 2 (2 + 5)				15		
White Group 2 (2 + 5)				16		
Red Group 3 (3 + 6)				17		
Green Group 3 (3 + 6)				18		
Blue Group 3 (3 + 6)				19		
White Group 3 (3 + 6)				20		
Red 1					4	17
Green 1					5	18
Blue 1					6	19
White 1					7	20
Red 2					8	21
Green 2					9	22
Blue 2					10	23
White 2					11	24
Red 3					12	25
Green 3					13	26
Blue 3					14	27
White 3					15	28
Red 4					16	29
Green 4					17	30

Function	5 CH	14 CH	22 CH	22 CH	31 CH	44 CH
Blue 4					18	31
White 4					19	32
Red 5					20	33
Green 5					21	34
Blue 5					22	35
White 5					23	36
Red 6					24	37
Green 6					25	38
Blue 6					26	39
White 6					27	40
Tilt	5	13	21	21	28	41
Tilt Fine					29	42
Tilt Speed					30	43
Control Channel		14	22	22	31	44

6.7.2. 5 channels, 14 channels, 22 channels

5CH	14CH	22CH	Function	Value	Setting
1	1	1	**Strobe Dimmer**	000–255	From low to high intensity (0–100 %)
2	2	2	**Strobe Flash Duration**	000–255	7–500 ms
3	3	3	**Strobe Speed**	000–004	No function
				005–255	From slow to fast (0,2–20 Hz)
4	4	4	**Strobe Type**	000–005	Linear strobe
				006–042	Ramp up
				043–085	Ramp down
				086–128	Ramp up > down
				129–150	Random all
				151–171	Random sectional
				172–214	Lighting
				215–255	Spikes (flash over low light)
		5	**Strobe Programs**	000–005	No function
				006–030	Strobe white program jump 1
				031–055	Strobe white program jump 2
				056–080	Strobe white program jump 3
				081–105	Strobe white program jump 4
				106–130	Strobe white program jump 5
				131–155	Strobe white program fade 1
				156–180	Strobe white program fade 2
				181–205	Strobe white program fade 3
				206–230	Strobe white program fade 4
				231–255	Strobe white program fade 5
		6	**Strobe Program Speed**	000–255	From slow to fast (0,2–20 Hz)
		7	**Strobe Dimmer Section A**	000–255	From low to high intensity (0–100 %)
		8	**Strobe Dimmer Section B**	000–255	From low to high intensity (0–100 %)
		9	**Strobe Dimmer Section C**	000–255	From low to high intensity (0–100 %)
	5	10	**RGBW Dimmer**	000–255	From low to high intensity (0–100 %)
	6	11	**RGBW Flash Duration**	000–255	7–500 ms
	7	12	**RGBW Strobe Speed**	000–004	No function
				005–255	From slow to fast (0,2–20 Hz)
	8	13	**RGBW Strobe Type**	000–005	Linear strobe
				006–042	Ramp up
				043–085	Ramp down
				086–128	Ramp up > down
				129–150	Random all
				151–171	Random sectional
				172–214	Lighting
				215–255	Spikes (flash over low light)
	9	14	**Red All**	000–255	From low to high intensity (0–100 %)
	10	15	**Green All**	000–255	From low to high intensity (0–100 %)
	11	16	**Blue All**	000–255	From low to high intensity (0–100 %)
	12	17	**White All**	000–255	From low to high intensity (0–100 %)
		18	**Color preset**	000–255	Color presets (see 6.7.4. Lee Color Presets on page 51)
		19	**Color program**	000–005	No function
				006–017	Program jump 1
				018–029	Program jump 2
				030–041	Program jump 3
				042–053	Program jump 4
				054–065	Program jump 5

5CH	14CH	22CH	Function	Value	Setting
				066–077	Program jump 6
				078–089	Program jump 7
				090–101	Program jump 8
				102–113	Program jump 9
				114–125	Program jump 10
				126–137	Program fade 1
				138–149	Program fade 2
				150–161	Program fade 3
				162–173	Program fade 4
				174–185	Program fade 5
				186–197	Program fade 6
				198–209	Program fade 7
				210–221	Program fade 8
				222–233	Program fade 9
				234–255	Program fade 10
		20	**Color Program Speed**	000–255	From slow to fast
5	**13**	**21**	**Tilt**	000–255	Tilt adjustment 0–180°
				000–010	No function
				011–020	Curve set to linear
				021–030	Curve set to square
				031–040	Curve set to inv square
				041–050	Curve set to s-curve
				051–060	Dimmer speed fast
				061–070	Dimmer speed smooth
				071–080	Fan speed slow
				081–090	Fan speed auto
				091–100	Fan speed high
				101–110	Pixel direction normal
	14	**22**	**Control Channel**	111–120	Pixel direction inverted
				121–130	PWM 1 kHz
				131–140	PWM 3 kHz
				141–150	PWM 6 kHz
				151–160	PWM 12 kHz
				161–170	Tilt direction normal
				171–180	Tilt direction inverted
				181–190	Tilt feedback on
				191–200	Tilt feedback off
				201–210	Reserved
				211–220	Motor reset
				221–255	Reserved

6.7.3. 22 channels, 31 channels, 44 channels

22CH	31CH	44CH	Function	Value	Setting
1		1	Strobe Dimmer	000–255	From low to high intensity (0–100 %)
2		2	Strobe Flash Duration	000–255	7–500 ms
3		3	Strobe Speed	000–004	No function
				005–255	From slow to fast (0,2–20 Hz)
4		4	Strobe Type	000–005	Linear strobe
				006–042	Ramp up
				043–085	Ramp down
				086–128	Ramp up > down
				129–150	Random all
				151–171	Random sectional
				172–214	Lighting
				215–255	Spikes (flash over low light)
		5	Strobe Programs	000–005	No function
				006–030	Strobe white program jump 1
				031–055	Strobe white program jump 2
				056–080	Strobe white program jump 3
				081–105	Strobe white program jump 4
				106–130	Strobe white program jump 5
				131–155	Strobe white program fade 1
				156–180	Strobe white program fade 2
				181–205	Strobe white program fade 3
				206–230	Strobe white program fade 4
				231–255	Strobe white program fade 5
		6	Strobe Program Speed	000–255	From slow to fast (0,2–20 Hz)
	1	7	Strobe Dimmer Section A	000–255	From low to high intensity (0–100 %)
	2	8	Strobe Dimmer Section B	000–255	From low to high intensity (0–100 %)
	3	9	Strobe Dimmer Section C	000–255	From low to high intensity (0–100 %)
5		10	RGBW Dimmer	000–255	From low to high intensity (0–100 %)
6		11	RGBW Flash Duration	000–255	7–500 ms
7		12	RGBW Strobe Speed	000–004	No function
				005–255	From slow to fast (0,2–20 Hz)
8		13	RGBW Strobe Type	000–005	Linear strobe
				006–042	Ramp up
				043–085	Ramp down
				086–128	Ramp up > down
				129–150	Random all
				151–171	Random sectional
				172–214	Lighting
				215–255	Spikes (flash over low light)
		14	Color preset	000–255	Color presets (see 6.7.4. Lee Color Presets on page 51)
		15	Color program	000–005	No function
				006–017	Program jump 1
				018–029	Program jump 2
				030–041	Program jump 3
				042–053	Program jump 4
				054–065	Program jump 5
				066–077	Program jump 6
				078–089	Program jump 7
				090–101	Program jump 8

22CH	31CH	44CH	Function	Value	Setting
				102–113	Program jump 9
				114–125	Program jump 10
				126–137	Program fade 1
				138–149	Program fade 2
				150–161	Program fade 3
				162–173	Program fade 4
				174–185	Program fade 5
				186–197	Program fade 6
				198–209	Program fade 7
				210–221	Program fade 8
				222–233	Program fade 9
				234–255	Program fade 10
		16	**Color Program Speed**	000–255	From slow to fast
9			**Red group 1 (1 + 4)**	000–255	From low to high intensity (0–100 %)
10			**Green group 1 (1 + 4)**	000–255	From low to high intensity (0–100 %)
11			**Blue group 1 (1 + 4)**	000–255	From low to high intensity (0–100 %)
12			**White group 1 (1 + 4)**	000–255	From low to high intensity (0–100 %)
13			**Red group 2 (2 + 5)**	000–255	From low to high intensity (0–100 %)
14			**Green group 2 (2 + 5)**	000–255	From low to high intensity (0–100 %)
15			**Blue group 2 (2 + 5)**	000–255	From low to high intensity (0–100 %)
16			**White group 2 (2 + 5)**	000–255	From low to high intensity (0–100 %)
17			**Red group 3 (3 + 6)**	000–255	From low to high intensity (0–100 %)
18			**Green group 3 (3 + 6)**	000–255	From low to high intensity (0–100 %)
19			**Blue group 3 (3 + 6)**	000–255	From low to high intensity (0–100 %)
20			**White group 3 (3 + 6)**	000–255	From low to high intensity (0–100 %)
	4	17	**Red 1**	000–255	From low to high intensity (0–100 %)
	5	18	**Green 1**	000–255	From low to high intensity (0–100 %)
	6	19	**Blue 1**	000–255	From low to high intensity (0–100 %)
	7	20	**White 1**	000–255	From low to high intensity (0–100 %)
	8	21	**Red 2**	000–255	From low to high intensity (0–100 %)
	9	22	**Green 2**	000–255	From low to high intensity (0–100 %)
	10	23	**Blue 2**	000–255	From low to high intensity (0–100 %)
	11	24	**White 2**	000–255	From low to high intensity (0–100 %)
	....	....	....	....	....
	24	37	**Red 6**	000–255	From low to high intensity (0–100 %)
	25	38	**Green 6**	000–255	From low to high intensity (0–100 %)
	26	39	**Blue 6**	000–255	From low to high intensity (0–100 %)
	27	40	**White 6**	000–255	From low to high intensity (0–100 %)
21	28	41	**Tilt**	000–255	Tilt adjustment 0–180°
	29	42	**Tilt Fine**	000–255	Tilt adjustment, 16-bit
	30	43	**Tilt Speed**	000–255	From slow to fast
22	31	44	**Control Channel**	000–010	No function
				011–020	Curve set to linear
				021–030	Curve set to square
				031–040	Curve set to inv square
				041–050	Curve set to s-curve
				051–060	Dimmer speed fast
				061–070	Dimmer speed smooth
				071–080	Fan speed slow
				081–090	Fan speed auto
				091–100	Fan speed high

22CH	31CH	44CH	Function	Value	Setting
				101–110	Pixel direction normal
				111–120	Pixel direction inverted
				121–130	PWM 1 kHz
				131–140	PWM 3 kHz
				141–150	PWM 6 kHz
				151–160	PWM 12 kHz
				161–170	Tilt direction normal
				171–180	Tilt direction inverted
				181–190	Tilt feedback on
				191–200	Tilt feedback off
				201–210	Reserved
				211–220	Motor reset
				221–255	Reserved

6.7.4. Lee Color Presets

Value	Preset Color	Number	Color
000–010	Black		
011–016	Red		
017–022	Flame Red	164	
023–028	Deep Golden Amber	135	
029–034	Millennium Gold	778	
035–040	Gold Amber	021	
041–046	Orange		
047–052	Chrome Orange	179	
053–058	Deep Amber	104	
059–064	Spring Yellow	100	
065–070	Lime Green	088	
071–076	JAS Green	738	
077–082	Fern Green	122	
083–088	Moss Green	089	
089–094	Primary Green	139	
095–100	Dark Green	124	
101–106	Green		
107–112	Medium Blue Green	116	
113–118	Light Blue	118	
119–124	Lighter Blue	353	
125–130	Steel Blue	117	
131–136	Half C.T. Blue	202	
137–142	Full C.T. Blue	201	
143–148	Slate Blue	161	
149–154	Double C.T. Blue	200	
155–160	Medium Blue	132	
161–166	Just Blue	079	
167–172	Deep Blue	120	
173–178	Blue		
179–184	Congo Blue	181	
185–190	Surprise Pink	194	
191–196	Fuchsia Pink	345	
197–202	Follies Pink	328	
203–208	Special Rose Pink	332	
209–214	Pink	157	
215–220	Moroccan Pink	790	
221–226	Warm White		
227–232	Cold White		
233–255	Open White		

6.8. RDM Information

This device supports RDM (see 6.8.1. RDM Details).

6.8.1. RDM Details

- Responder: 29B4:0BAxxxxx
- Manufacturer's ID: 29B4
- Manufacturer Label: Infinity
- Model Description: Raccoon S250/4 Junior4
- Model ID: 0BA
- Device Label: Raccoon S250/4 Junior

Note:

An RDM responder ID consists 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 all products of Highlite International start with the same 4 digits. The first 7 digits of the RDM responder ID for each model are the same. The last 5 digits are different for each device.

6.8.2. Supported RDM PIDs (Parameter IDs)

Parameter ID	Value	Required	GET	SET
SUPPORTED_PARAMETERS	0x0050	*	*	
DEVICE_MODEL_DESCRIPTION	0x0080		*	
MANUFACTURER_LABEL	0x0081		*	
DEVICE_LABEL	0x0082		*	*
FACTORY_DEFAULTS	0x0090		*	*
DMX_PERSONALITY	0x00E0		*	*
DMX_PERSONALITY_DESCRIPTION	0x00E1		*	
DMX_START_ADDRESS	0x00F0	*	*	*
SENSOR_DEFINITION	0x0200		*	
SENSOR_VALUE	0x0201		*	*
CURVE	0x0343		*	*
CURVE_DESCRIPTION	0x0344	*	*	
MODULATION_FREQUENCY	0x0347		*	*
MODULATION_FREQUENCY_ DESCRIPTION	0x0348	*	*	
TILT_INVERT	0x0601		*	*

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 the power supply and the cables are plugged in
	The internal fuse is blown	• Disconnect the device and contact your Highlite International dealer
The device responds erratically	The factory settings of the device are changed	• Reset the parameters of the device to the default factory settings (see 6.6.25. Factory Settings on page 43)
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	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 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 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
No wireless connection	The device is not connected to the transmitter, when the green W-DMX indicator on the display of the device is off.	• Create a wireless connection, refer to Wireless Connection (see 6.6.3. DMX Signal on page 33)
	The device is trying to connect to the transmitter, when the green W-DMX indicator on the display is blinking quickly. This will take 30 seconds.	• Create a wireless connection, refer to Wireless Connection (see 6.6.3. DMX Signal on page 33)
	This device cannot receive a wireless DMX signal and a DMX cable signal at the same time.	• Remove the DMX cable

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, fixings 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 connectors with a damp cloth.

Attention

- Do not immerse the device in liquid.
- Do not use alcohol or solvents.
- Make sure that the connectors are fully dry before using them.

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.

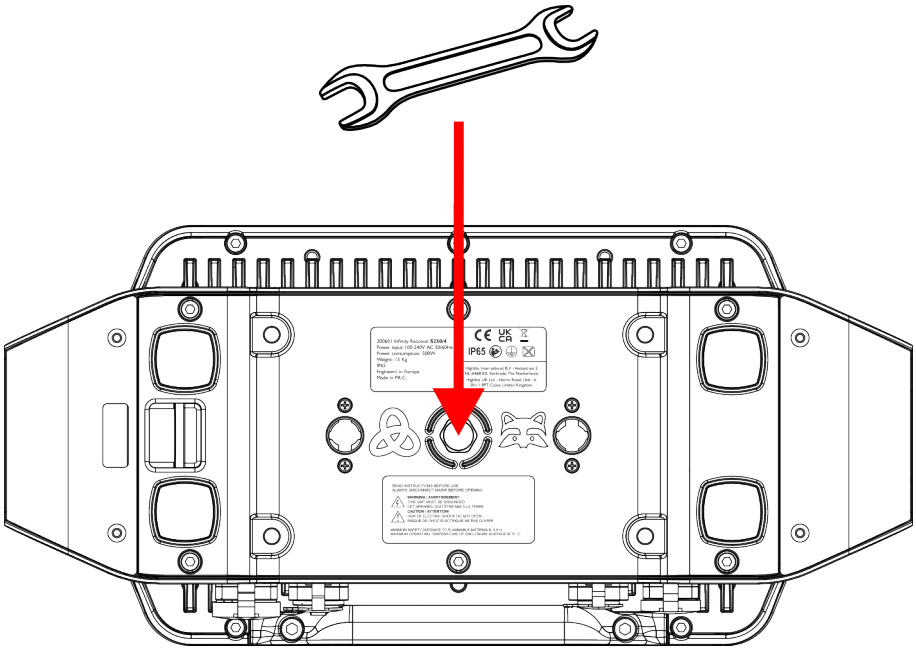
8.3.1. Draining Condensation Water

The Raccoon S250/4 Junior is IP65 rated. The device can resist water jets. If the device is exposed to extreme humid conditions during use, condensation may collect inside the device. This can happen also during transportation, if the device is exposed to extreme temperature variations.

If condensation water collects inside the device, follow the steps below to remove the condensation water:

01) Carefully remove the **protective vent (13)** with a wrench (16 mm).
02) Let the device operate with the lamp at full output for 60 minutes.
03) Let the device cool down for 30 minutes.
04) Reinstall the **protective vent (13)**. Make sure that you do not overtighten.

Figure 19



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 54).
- 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

Hereby, Highlite International declares that the device Raccoon S250/4 Junior, product code 200601, is in compliance with Directive 2014/53/EU (RED – Radio Equipment Directive).

The full text of the EU declaration of conformity is available on the respective product page on the website of Highlite International (www.highlite.com).