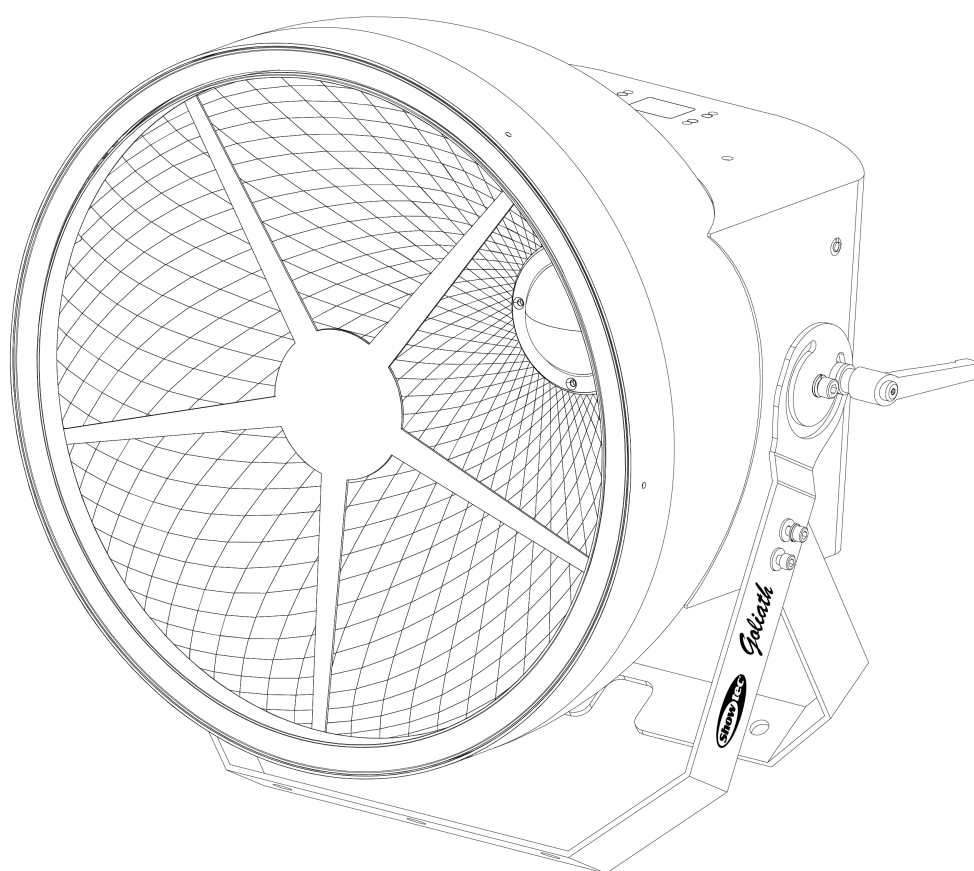




Goliath

Product code: 43325

Preface

Thank you for purchasing this Showtec product.

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

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

This user manual contains information concerning:

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

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

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

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1. Introduction

1.1. Before Using the Product

**Important**

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

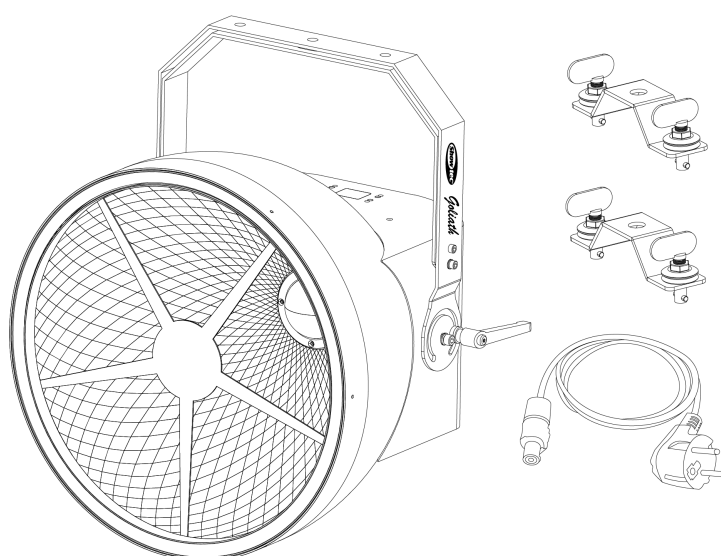
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

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

Your shipment includes:

- Showtec Goliath
- 2 x quick-lock bracket
- Schuko to Power Pro cable
- User manual

Figure 1



1.2. Intended Use

This device is intended for professional use as a retro light effect. It can be installed only indoors. This device is not suitable for households and for general lighting.

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

1.3. LEDs Lifespan

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

1.4. Product Lifespan

This device is not designed for permanent operation.

Disconnect the device from the electrical power supply when the device is not in operation. This will reduce the wear and will improve the lifespan of the device.

1.5. Text Conventions

Throughout the user manual the following text conventions are used:

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

1.6. Symbols and Signal Words

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

Always follow the instructions provided in this user manual.



DANGER

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



WARNING

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



CAUTION

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



Attention

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



Important

Read and observe the instructions in this document.



Electrical hazard



Provides important information about the disposal of this product.

1.7. Symbols on the Information Label

This product is provided with an information label. The information label is located on the base plate of the device.

The information label contains the following symbols:



This device is designed for indoor use.



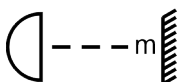
This device shall not be treated as household waste.



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



This device falls under IEC protection class I.



Minimum distance from lighted objects.



Warning: Risk of electric shock. Do not open.

Warning: To reduce the risk of fire or electric shock do not expose this equipment to rain or moisture.

2. Safety

**Important**

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

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

2.1. Warnings and Safety Instructions

**DANGER**

Danger for children

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

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

**DANGER**

Electric shock caused by dangerous voltage inside

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

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

**DANGER**

Electric shock caused by short-circuit

This device falls under IEC protection Class I.

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



WARNING
Risk of epileptic shock

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



Attention
Power supply

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



Attention
General safety

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



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

This device is intended for professional use as a retro light effect. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

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



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

Make sure that:

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

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

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

2.2. Requirements for the User

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

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

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

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

2.3. Personal Protective Equipment

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

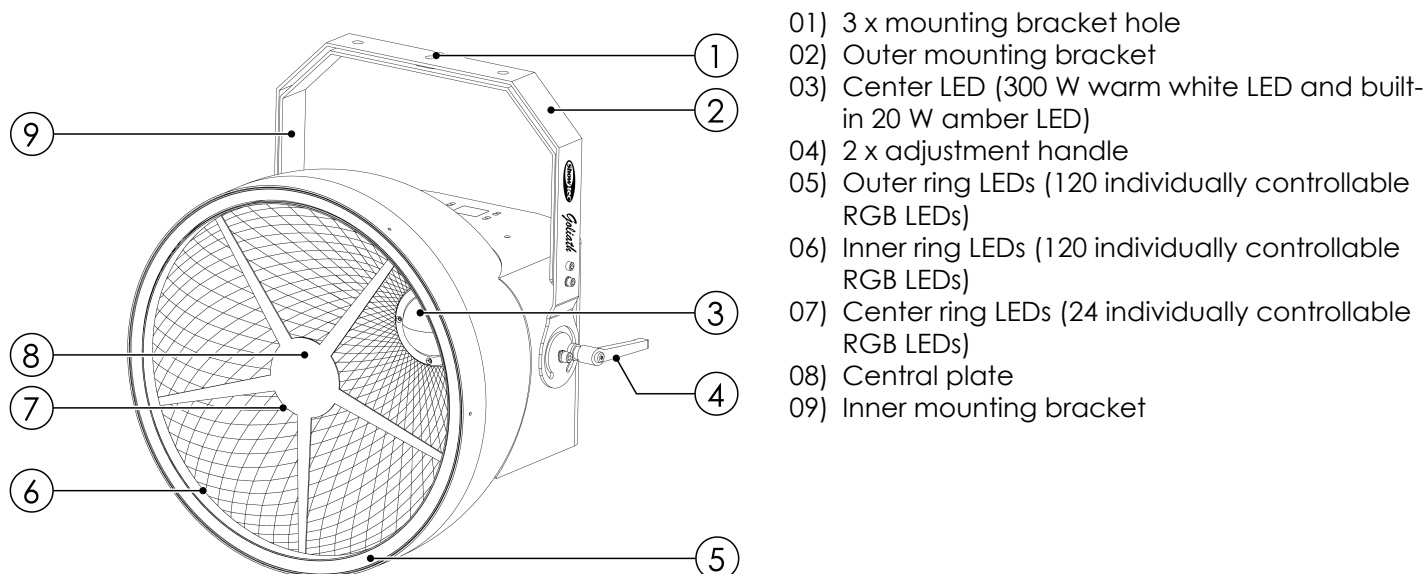
3. Description of the Device

The Showtec Goliath features a 300 W warm white LED with built-in 20 W amber LED that replicates a tungsten dimming effect. Behind the central plate there are 24 RGB LEDs that illuminate the center of the reflector. A circle of 120 RGB LEDs lights up the edges of the reflector. A second ring of 120 RGB LEDs at the outer edge faces forward. Each RGB LED can be controlled individually.

The Goliath supports DMX, Art-Net, sACN, RDM, master/slave and manual modes, with personalities ranging from 4 to 793 channels. It features a double bracket for both hanging and standing installations. Additionally, quick-lock mounting points on the back allow for attachment to a truss using the included brackets.

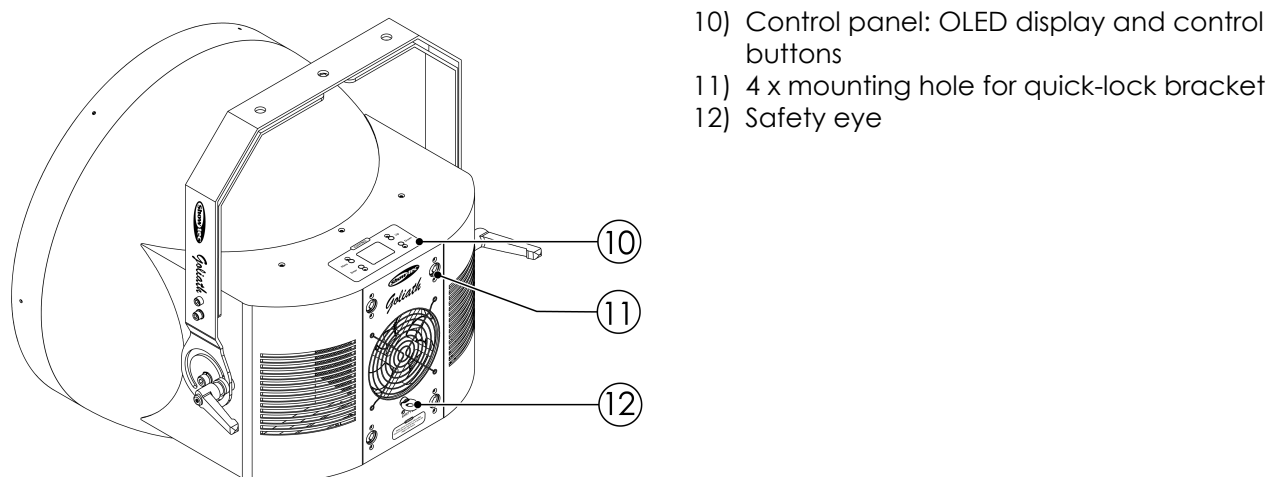
3.1. Front View

Figure 2



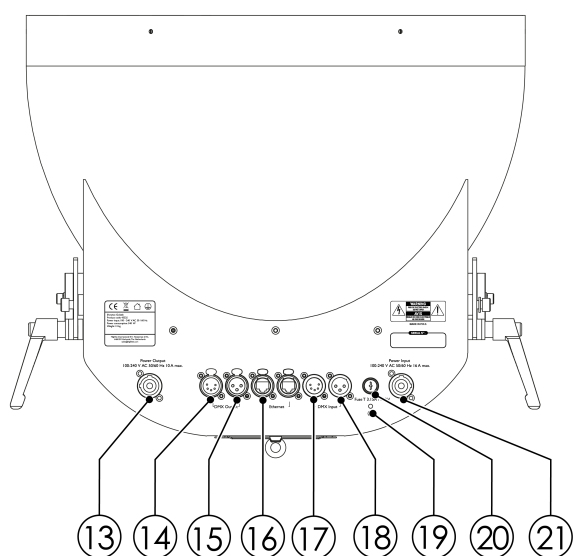
3.2. Back View

Figure 3



3.3. Bottom View

Figure 4

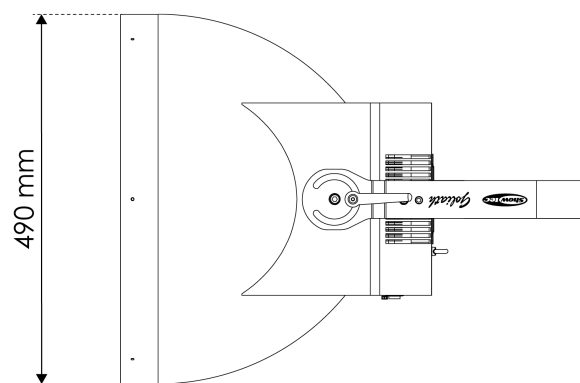
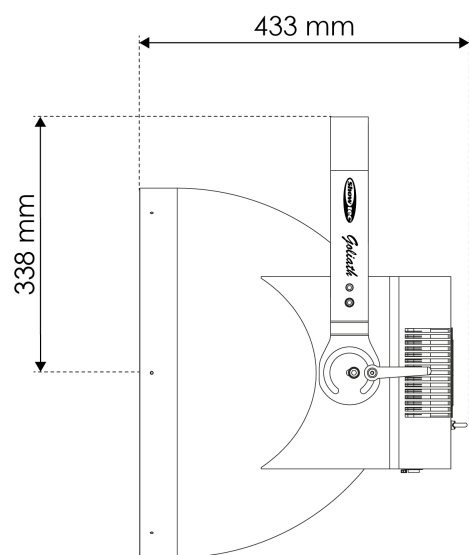
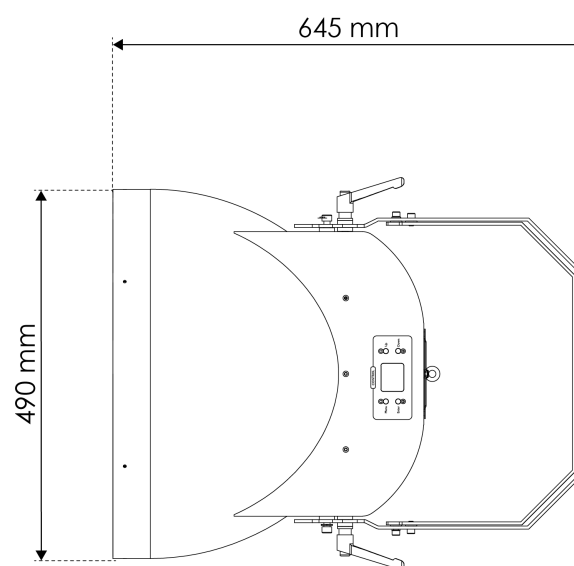
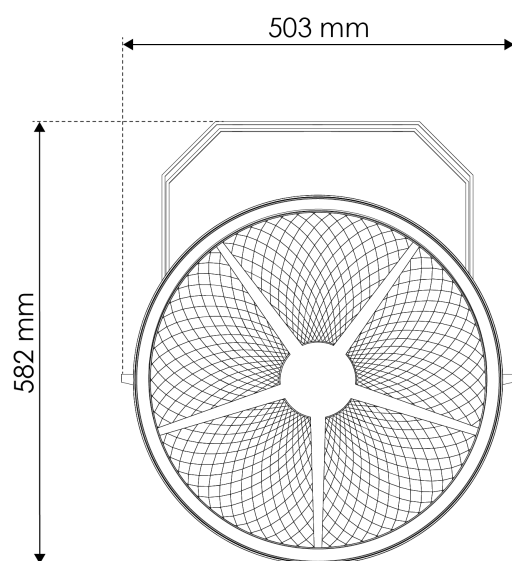


- 13) Power Pro connector OUT (gray)
- 14) 5-pin DMX signal connector OUT
- 15) 3-pin DMX signal connector OUT
- 16) 2 x RJ45 connector
- 17) 5-pin DMX signal connector IN
- 18) 3-pin DMX signal connector IN
- 19) Ground (earth) connection
- 20) Fuse T3.15 A 250V
- 21) Power Pro connector IN (blue)

3.4. Product Specifications

Model:	Goliath
Source:	
Light source type	LED
Light source 1 - quantity	1
Light source 1 - power	320 W
Light source 2 - quantity	264
Light source 2 - power	0,5 W
LED color type	WW + Amber / RGB
Refresh rate	4 kHz
Control and Programming:	
Control mode	Art-Net / Built-in Program / DMX / RDM / sACN / Stand-alone
DMX channels	4 / 5 / 13 / 19 / 433 / 793
Protocols	Art-Net / DMX / RDM / sACN
Display	OLED
Dynamic Effects:	
Dimmer	0–100 %
Electrical Specifications and Connections:	
Power supply	100–240 V AC 50/60 Hz
Power consumption	360 W
Power connector IN	Power Pro Blue
Power connector OUT	Power Pro Gray
DMX connector IN	RJ45 / XLR 3P / XLR 5P
DMX connector OUT	RJ45 / XLR 3P / XLR 5P
Mechanical Specifications:	
Height (including handles)	582 mm
Height (without handles)	490 mm
Width (including handles)	503 mm
Width (without handles)	490 mm
Depth (including handles)	433 mm
Weight	12 kg
IP rating	IP20 (indoor use only)
Housing	Metal
Color	Black
Product Properties:	
Cooling	Active
Rigging:	
Mounting Options	Bracket / quick-lock
Thermal Specifications:	
Maximum ambient temperature	40 °C
Minimum ambient temperature	-5 °C
Included Items:	
Included cables	Power Pro cable
Included rigging	2 x quick-lock bracket

3.5. Dimensions



4. Installation

4.1. Safety Instructions for Installation

**WARNING**

Incorrect installation can cause serious injuries and damage of property.

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

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

4.2. Personal Protective Equipment

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

4.3. Installation Site Requirements

- The device can be used only indoors.
- The minimum distance to other objects must be bigger than 0,8 m.
- The maximum ambient temperature $t_a = 40\text{ °C}$ must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40 °C.

4.4. Rigging

The device can be positioned on a flat surface or mounted to a truss or other rigging structure 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.

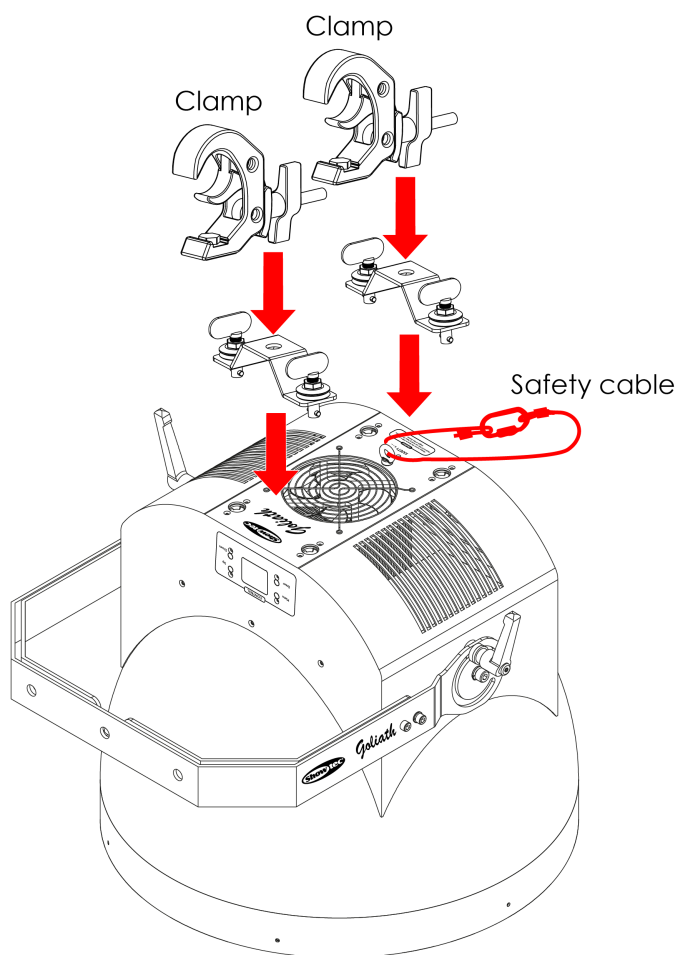
4.4.1. Fixed Installation

The Goliath can be mounted to a truss in a fixed position using the 2 included quick-lock brackets.

To mount the device, follow the steps below:

- 01) Install 2 clamps on the 2 quick-lock brackets, supplied with the device. Make sure that you use clamps suitable for attaching the device to a truss.
- 02) Fasten the 2 quick-lock brackets on the **mounting holes for quick-lock brackets (11)**.

Figure 5



- 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 the **safety eye (12)**.

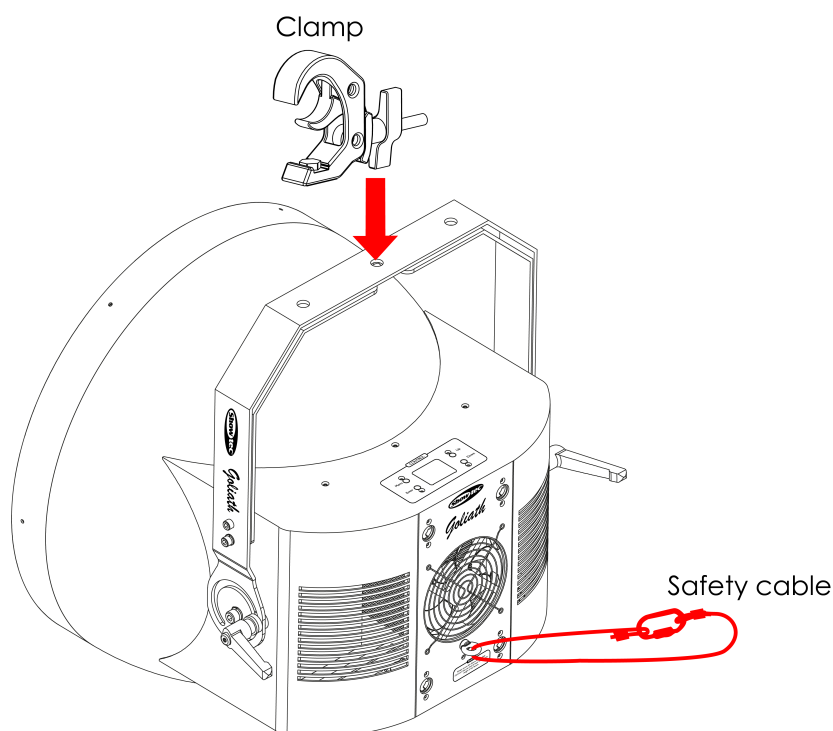
4.4.2. Hanging Installation

The device can also be rigged in a hanging installation using the **outer mounting bracket (02)**.

To mount the device, follow the steps below:

- 01) Install the clamp to the **mounting bracket hole (01)**. Make sure that you use a clamp suitable for attaching the device to a truss.

Figure 6



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

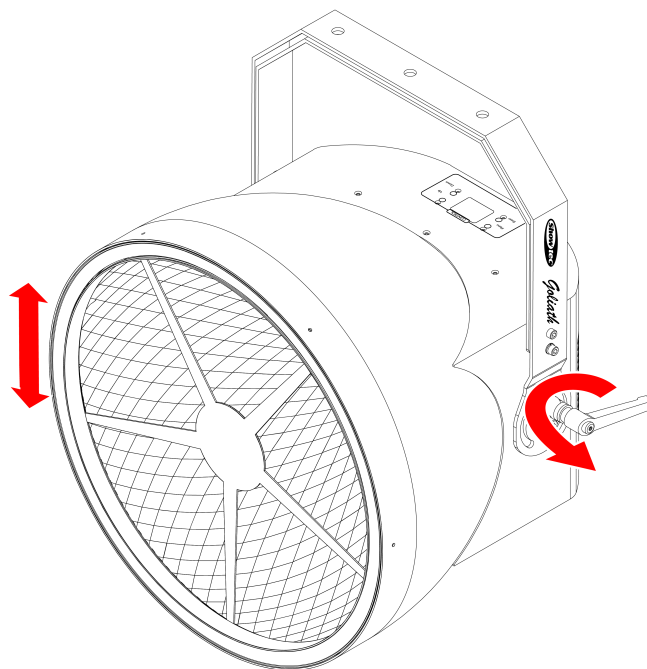
4.5. Angle Adjustment

You can adjust the angle of the device with the 2 **adjustment handles (04)**.

To adjust the angle, follow the steps below:

- 01) Turn the 2 **adjustment handles (04)** counterclockwise to loosen them.
- 02) Tilt the device to the desired angle.
- 03) Turn the 2 **adjustment handle (04)** clockwise to tighten them. Make sure that the device cannot move freely after the 2 **adjustment handles (04)** are tightened.

Figure 7



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.

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: 3 devices Goliath
- at 200–240 V: 6 devices Goliath

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 Goliath 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 25).

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 Goliath 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

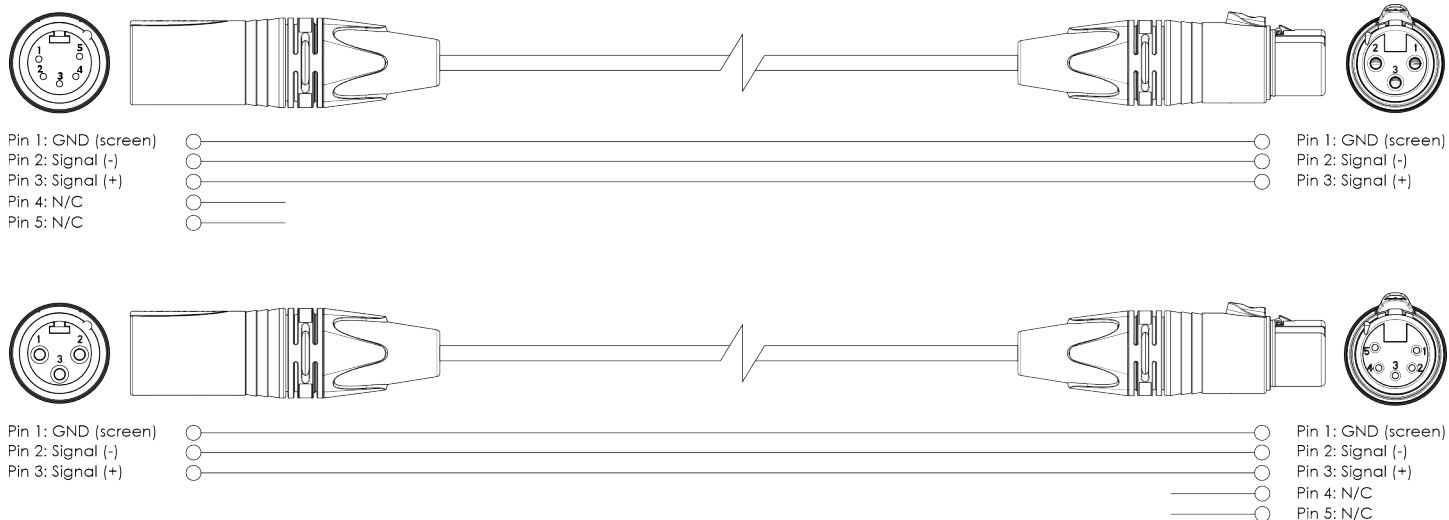
5.3.2. DMX Cables

Shielded twisted-pair cables with 3-pin/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 8

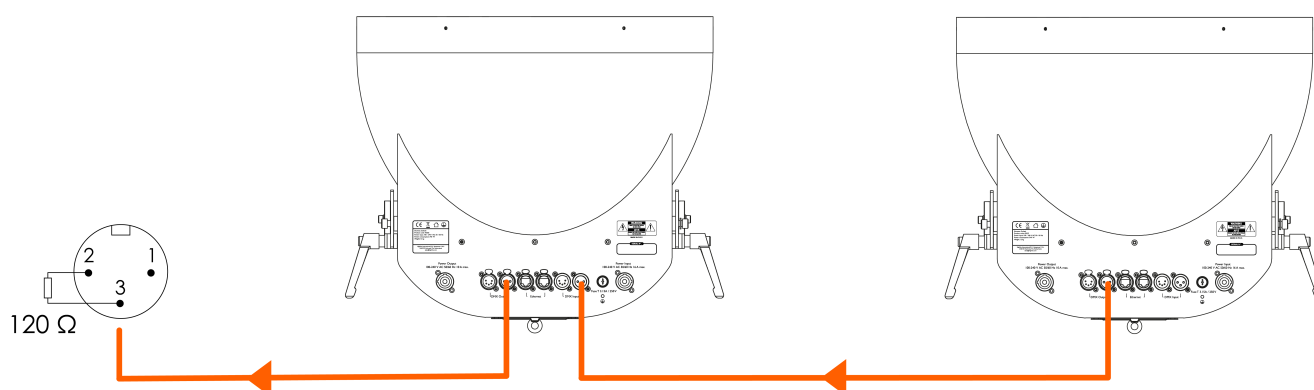


5.3.3. Master/Slave Setup

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

- 01) Connect the DMX OUT connector of the 1st device to the DMX IN connector of the 2nd device with a 3-pin/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 [6.6.3.4. Slave](#) on page 31).
- 05) Set the remaining devices as slave devices (see [6.6.3.4. Slave](#) on page 31).

Figure 9

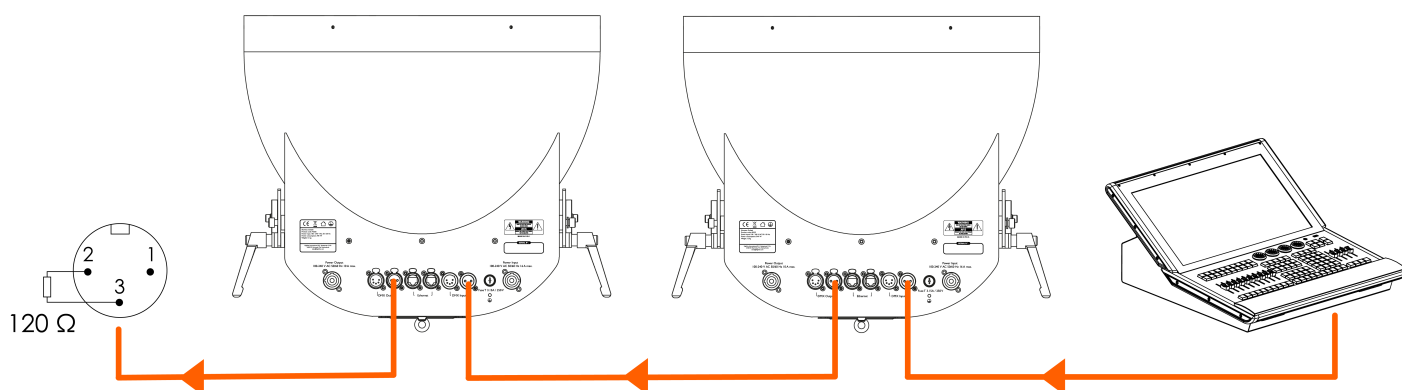


5.3.4. DMX Linking

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

- 01) Use a 3-pin/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 3-pin/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 10



5.3.5. DMX Addressing

In a setup with multiple devices, make sure that you set the DMX starting address of each device correctly. The Goliath has 5 DMX personalities: RGBW mode (4 channels), RAW mode (5 channels), Basic mode (13 channels), Extended mode (19 channels), Pixel Freak mode (433 channels). The device also has a 6th personality with 793 channels that is only available with Art-Net or sACN (see [5.4. Ethernet Connection](#) on page 22).

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 39 (039), as $20 + 19 = 39$.
- 04) Continue assigning the starting addresses of the remaining devices by adding 19 each time to the previous number.

When addressing multiple devices on one data link, make sure that there are no overlapping channels. You cannot control devices individually if they have overlapping channels.

Note:

DMX connection is limited to 512 channels. For larger setups, connect the devices via Art-Net or sACN protocols (see [5.4. Ethernet Connection](#) on page 22).

5.4. Ethernet Connection

5.4.1. Art-Net/sACN Protocol

Art-Net is a protocol that uses TCP/IP to transfer a large amount of DMX-512 data over an Ethernet network. Art-Net 4 can support up to 32768 universes. Art-Net™ is designed by and copyright of Artistic Licence Holdings Ltd.

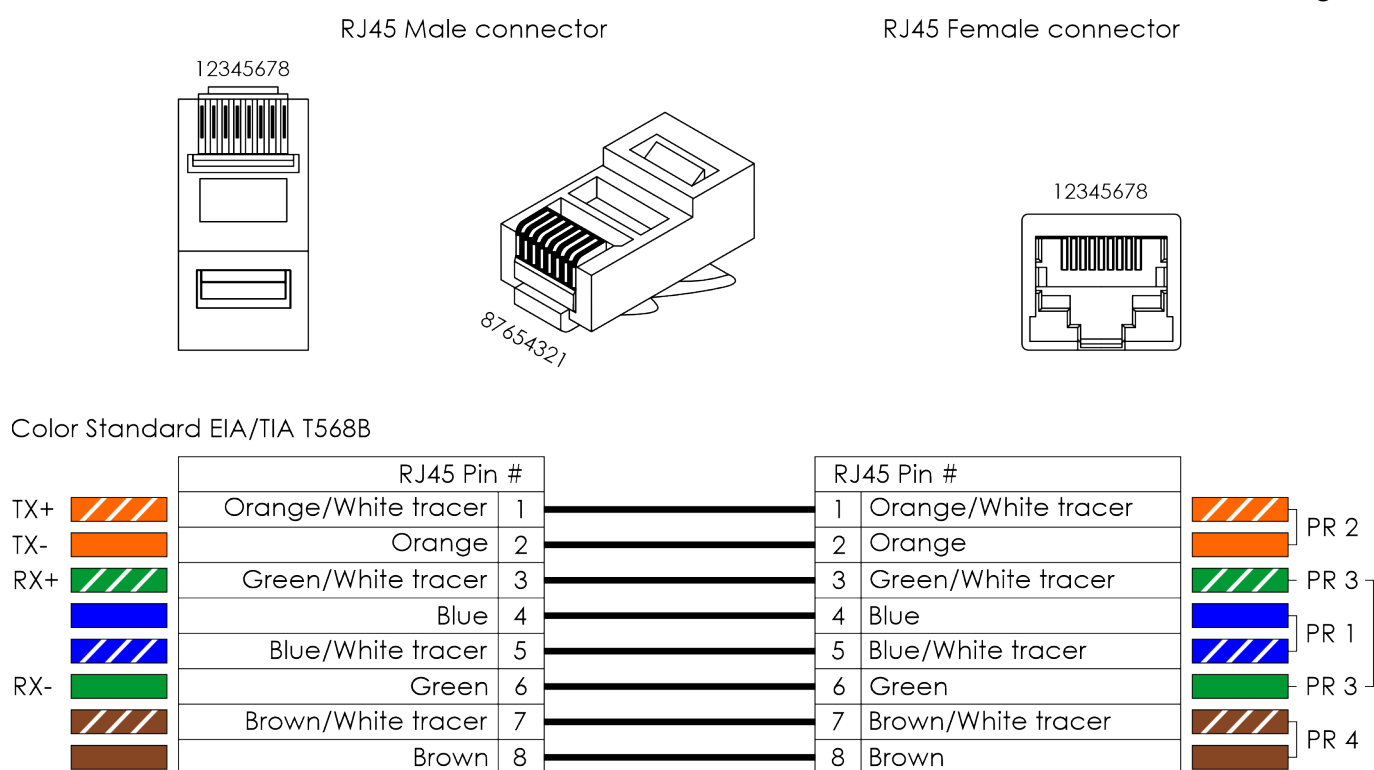
sACN (streaming Architecture for Control Networks), also known as ANSI E1.31, is a protocol developed by ESTA (Entertainment Services and Technology Association) for sending DMX-512 data over IP networks. It supports up to 65535 universes and uses multicasting.

5.4.2. Network Cables

Standard twisted-pair Ethernet cables (CAT-5E/CAT-6) can be used to connect the device to a computer or to a lighting controller that supports Art-Net or sACN.

If you make your own network cables, make sure that you connect the pins and wires correctly. Use RJ45 (8P8C) connectors and patch the cables according to the T568B color standard.

Figure 11

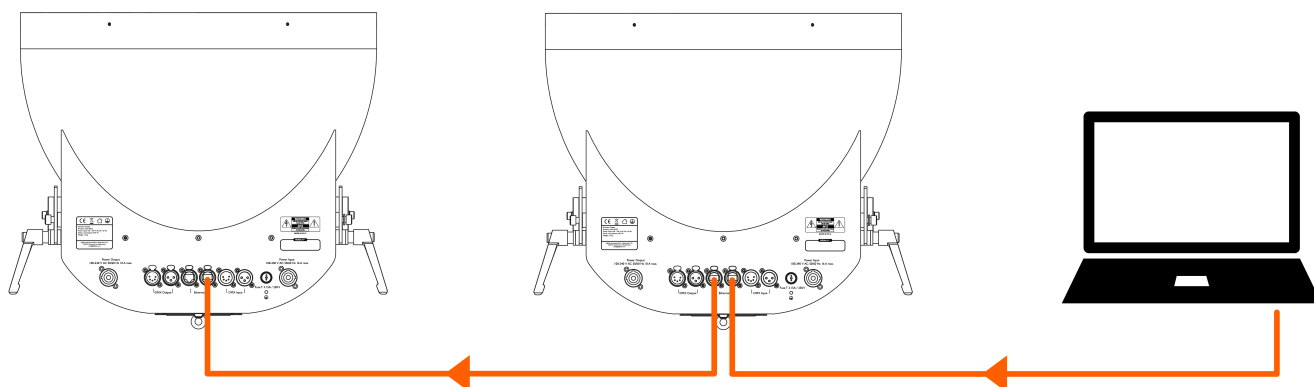


5.4.3. Art-Net/sACN Linking

To connect multiple devices on one Art-Net/sACN data link, follow the steps below:

- 01) Use a CAT-5E/CAT-6 cable to connect the RJ45 connector of the computer/lighting controller to one of the RJ45 connectors of the 1st device.
- 02) Connect the 2nd RJ45 connector of the 1st device to the 1st RJ45 connector of the 2nd device with a CAT-5E/CAT-6 cable.
- 03) Repeat step 2 to connect all devices in a daisy-chain.

Figure 12



5.4.4. Art-Net Settings

To operate the device using the Art-Net protocol:

- 01) Set the IP address of your computer/light controller to 2.x.x.x or 10.x.x.x, depending on the Art-Net settings. All devices in the network must have a unique IP address. To change the IP address, the IP Mode and the Subnet mask of the device, refer to the Network menu (see [6.6.2. Network](#) on page 29). To change the Universe of the device, refer to the Art-Net menu (see [6.6.3.2. Art-Net](#) on page 30).
- 02) Set the Subnet mask to 255.0.0.0. on all devices.
- 03) Set the universe of the 1st device to 001.
- 04) Set the DMX address of the 1st device to 1.
- 05) Map all the connected devices in the Art-Net-based software. To change the Art-Net protocol of the device, refer to Art-Net/sACN Protocol (see [5.4.1. Art-Net/sACN Protocol](#) on page 22).

5.4.5. sACN Settings

To run your device using sACN protocol:

- 01) Set the IP address of your computer/light controller. sACN does not have restrictions on the IP address. To change the IP address, the IP Mode and the Subnet mask of the device, refer to the Network menu (see [6.6.2. Network](#) on page 29). To change the Universe of the device, refer to the sACN menu (see [6.6.3.3. sACN](#) on page 31).
- 02) Select sACN Protocol in the Mode menu (see [6.6.3. Mode](#) on page 29).
- 03) Set the universe in the sACN menu (see [6.6.3.3. sACN](#) on page 31).

5.4.6. Universe Numbering

If you want to connect 2 or more devices on one data link and use them in 433-channel mode, you need to address the devices on different universes.

- 01) Set the DMX starting address of the 1st device (see [5.3.5. DMX Addressing](#) on page 21).
- 02) Set the universe number of the 2nd device to 001 and the DMX starting address to 001.
- 03) Continue addressing the devices, each time increasing the universe number, after you reach the limit of 512 channels in one universe.

There are 512 channels (1–512) in one universe. 16 consecutive universes (0–15) make up one sub-net. 16 sub-nets (0–15) make up one net. There are 128 nets (0–127) in total.

Note:

- In Art-Net, universes are called Port Address and number from 0 to 32767. There are 32768 unique numbers.
- In sACN, universes number from 1 to 63999.

15-bit Port Address	Net (0–127)	Sub-net (0–15)	Universe (0–15)
0	0	0	0
1	0	0	1
2	0	0	2
...	...	...	...
15	0	0	15
16	0	1	0
17	0	1	1
...	...	...	...
31	0	1	15
32	0	2	0
33	0	2	1
...	...	...	...
255	0	15	15
256	1	0	0
257	1	0	1
...	...	...	...
32766	127	15	14
32767	127	15	15

When addressing multiple devices on one data link, make sure that there are no overlapping channels. You cannot control devices individually if they have overlapping channels.

Note:

If you use an Art-Net controller that supports Art-Net I or Art-Net II, you need to set the Art-Net net to 0. The net number is available in Art-Net 3 and higher versions of the Art-Net protocol.

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 retro light effect. It can be installed only indoors. This device is not suitable for households and for general lighting.

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



Attention

Power supply

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

6.2. Control Modes

The Goliath supports the following control modes:

- Stand-alone: Master/slave mode, manual control, built-in programs
- DMX-512: 4CH RGBW (4 channels), 5CH RAW (5 channels), 13CH Basic (13 channels), 19CH Extended (19 channels), 433CH Pixel Freak Mode (433 channels)
- Art-Net: 4CH RGBW (4 channels), 5CH RAW (5 channels), 13CH Basic (13 channels), 19CH Extended (19 channels), 433CH Pixel Freak Mode (433 channels), 793CH Pixel Freak Mode (793 channels)
- sACN: 4CH RGBW (4 channels), 5CH RAW (5 channels), 13CH Basic (13 channels), 19CH Extended (19 channels), 433CH Pixel Freak Mode (433 channels), 793CH Pixel Freak Mode (793 channels)

For more information about how to connect the devices, refer to Setup (see [5. Setup](#) on page 19).

To operate the device manually as a stand-alone device:

- Set up the master/slave mode in the Mode menu (see [6.6.3.4. Slave](#) on page 31).
- Adjust the parameters for manual control in the Mode menu (see [6.6.3.6. Manual](#) on page 32).
- Select a built-in program in the Mode menu (see [6.6.3.5. Auto](#) on page 32).

To operate the device with a DMX controller:

- 01) Select a DMX personality in the Mode menu (see [6.6.3.1. DMX](#) on page 30). Refer to DMX Channels (see [6.7. DMX Channels](#) on page 36) for a complete overview of all DMX channels.
- 02) Set the DMX starting address of the device in the Address menu (see [6.6.1. Address](#) on page 28).

To operate the device via Art-Net with a computer/lighting controller:

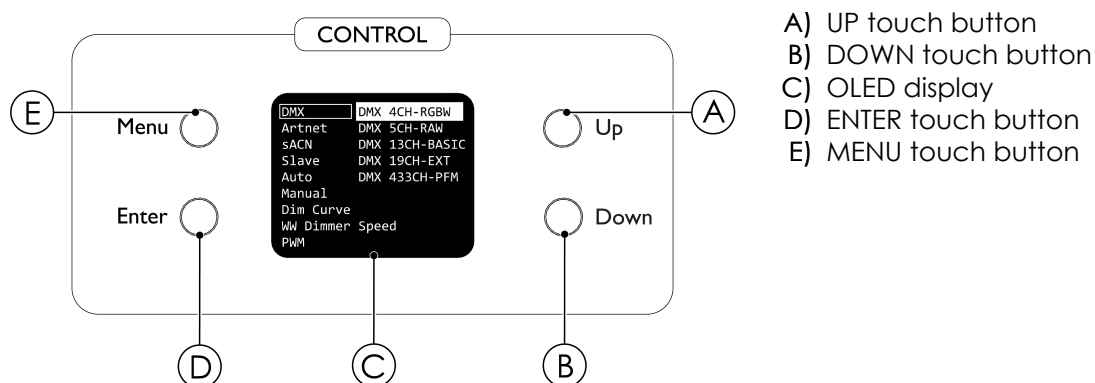
- 01) Select an Art-Net personality in the Mode menu (see [6.6.3.2. Art-Net](#) on page 30). Refer to DMX Channels (see [6.7. DMX Channels](#) on page 36) for a complete overview of all DMX channels.
- 02) Set the Art-Net universe number in the Mode menu (see [6.6.3.2. Art-Net](#) on page 30).
- 03) Set the DMX starting address of the device in the Address menu (see [6.6.1. Address](#) on page 28).

To operate the device via sACN with a computer/lighting controller:

- 01) Select an sACN personality in the Mode menu (see [6.6.3.3. sACN](#) on page 31). Refer to DMX Channels (see [6.7. DMX Channels](#) on page 36) for a complete overview of all DMX channels.
- 02) Set the sACN universe number in the Mode menu (see [6.6.3.3. sACN](#) on page 31).
- 03) Set the DMX starting address of the device in the Address menu (see [6.6.1. Address](#) on page 28).

6.3. Control Panel

Figure 13



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

6.4. Start-up

Upon start-up the display shows a splash screen with the Showtec logo and the name of the device:



Immediately afterwards, the display shows the start screen. The start screen provides information about the DMX starting address of the device, the IP address, the Net Mask, the Universe number, the selected control mode and the PWM frequency:

```

Goliath
DMX Address: 001
IP Addr: 002.000.000.100
Net Mask:255.000.000.000
Universe:0000
Mode: DMX 19CH-EXT
PWM:1200 HZ

```

Press the **MENU** button to open the main menu (see [6.6. Main Menu Options](#) on page 28).

Note:

If no button is pressed, after 30 seconds of inactivity the display will turn off. Press any button to turn the display on. You can adjust the screen timeout in the Advance menu (see [6.6.4. Advance](#) on page 35).

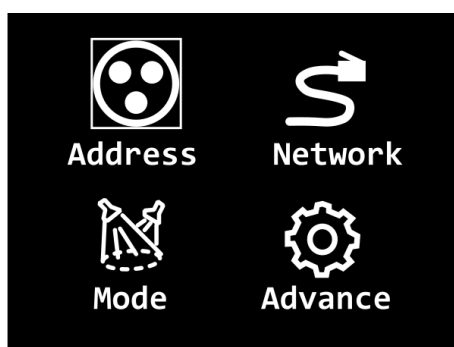
6.5. Menu Overview

Menu 1	Menu 2	Menu 3	Menu 4
Address (see 6.6.1. Address on page 28)	DMX address	001–509	
Network (see 6.6.2. Network on page 29)	Manual/DHCP	Manual DHCP	
	IP Address		
	Net Mask	255.0.0.0	
		255.255.0.0	
		255.255.255.0	
Mode (see 6.6.3. Mode on page 29)	DMX	DMX 4CH-RGBW	
		DMX 5CH-RAW	
		DMX 13CH-BASIC	
		DMX 19CH-EXT	
		DMX 433CH-PFM	
	Art-Net	Universe	000–255
		4CH-RGBW	
		5CH-RAW	
		13CH-BASIC	
		19CH-EXT	
		433CH-PFM	
		793CH-PFM	
	sACN	Universe	00001–65535
		4CH-RGBW	
		5CH-RAW	
		13CH-BASIC	
		19CH-EXT	
		433CH-PFM	
		793CH-PFM	
	Slave	Disable	
		Enable	
	Auto	Program	001–030
		Speed	000–025
	Manual	Dimmer	000–255
		Strobe	000–255
		Red	000–255
		Green	000–255
		Blue	000–255
		White	000–255
	Dim Curve	Linear	
		Square	
		Inv. Square	
		S-Curve	
	WW Dimmer Speed	Tungsten	
		LED	
	PWM	600 HZ	
		1200 HZ	
		2000 HZ	
		2500 HZ	
		4000 HZ	
Advance (see 6.6.4. Advance on page 35)	Signal Hold	Hold	

Menu 1	Menu 2	Menu 3	Menu 4
		Black	
	Pixel Reverse	ON	
		OFF	
	Screen Timeout	Never	
		30sec	
		60sec	
	Screen Brightness	25 %	
		50 %	
		75 %	
		100 %	
	Soft Version		
	Invert Display	YES	
		NO	
	Factory Reset	YES	
		NO	

6.6. Main Menu Options

The main menu has the following options:



Address

Network

Mode

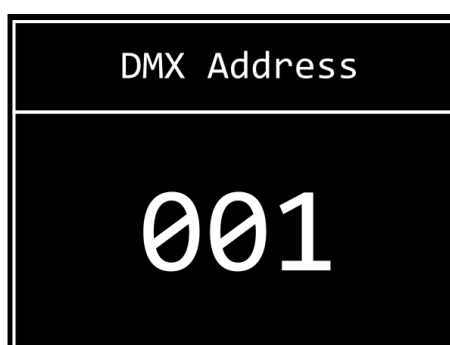
Advance

01) Press the **UP/DOWN** buttons to navigate through the menu.

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

6.6.1. Address

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



01) Press the **UP/DOWN** buttons to select the DMX starting address of the device. The selection range depends on the active DMX channel mode:

- DMX 4CH-RGBW: 001–509 (4 channels)
- DMX 5CH-RAW: 001–508 (5 channels)
- DMX 13CH-BASIC: 001–500 (13 channels)
- DMX 19CH-EXT: 001–494 (19 channels)
- DMX 433CH-PFM: 001–080 (433 channels)

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

6.6.2. Network

In this menu you can configure the network settings.

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

Manual/DHCP
Manual
IP Address
002.000.000.100
Net Mask
255.000.000.000

- Manual/DHCP: Select Manual to set the configuration of the IP address manually or select DHCP to have the IP address set automatically by a network server
- IP Address: Set the IP address if Manual/DHCP is set to Manual
- Net Mask: Set the Net Mask if Manual/DHCP is set to Manual

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

03) Press the **UP/DOWN** buttons to increase/decrease the value.

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

6.6.3. Mode

In this menu you can configure the control mode and adjust the settings of the device.

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

DMX	DMX 4CH-RGBW
Artnet	DMX 5CH-RAW
sACN	DMX 13CH-BASIC
Slave	DMX 19CH-EXT
Auto	DMX 433CH-PFM
Manual	
Dim Curve	
WW Dimmer Speed	
PWM	

- DMX (see [6.6.3.1. DMX](#))
- Art-Net (see [6.6.3.2. Art-Net](#))
- sACN (see [6.6.3.3. sACN](#))
- Slave (see [6.6.3.4. Slave](#))
- Auto (see [6.6.3.5. Auto](#))
- Manual (see [6.6.3.6. Manual](#))
- Dim Curve (see [6.6.3.7. Dim Curve](#))
- WW Dimmer Speed (see [6.6.3.8. WW Dimmer Speed](#))
- PWM (see [6.6.3.9. PWM](#))

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

6.6.3.1. DMX

In this submenu you can select the DMX channel mode.

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

DMX	DMX 4CH-RGBW
Artnet	DMX 5CH-RAW
sACN	DMX 13CH-BASIC
Slave	DMX 19CH-EXT
Auto	DMX 433CH-PFM
Manual	
Dim Curve	
WW Dimmer Speed	
PWM	

- DMX 4CH-RGBW: 4 channels
- DMX 5CH-RAW: 5 channels
- DMX 13CH-BASIC: 13 channels
- DMX 19CH-EXT: 19 channels
- DMX 433CH-PFM: 433 channels

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

6.6.3.2. Art-Net

In this submenu you can configure the Art-Net settings of the device.

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

DMX	Universe: 000
Artnet	4CH-RGBW
sACN	5CH-RAW
Slave	13CH-BASIC
Auto	19CH-EXT
Manual	433CH-PFM
Dim Curve	793CH-PFM
WW Dimmer Speed	
PWM	

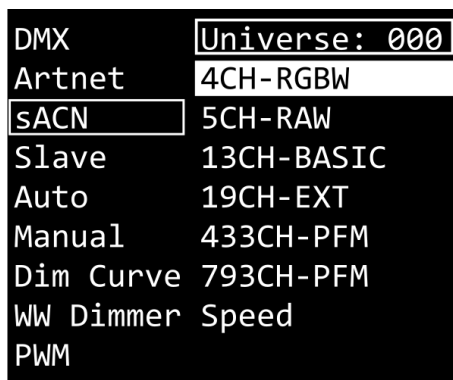
- Universe: Set the Art-Net universe (see [5.4.6. Universe Numbering](#) on page 24)
- 4CH-RGBW: 4 channels
- 5CH-RAW: 5 channels
- 13CH-BASIC: 13 channels
- 19CH-EXT: 19 channels
- 433CH-PFM: 433 channels
- 793CH-PFM: 793 channels

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

6.6.3.3. sACN

In this submenu you can configure the sACN settings of the device.

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



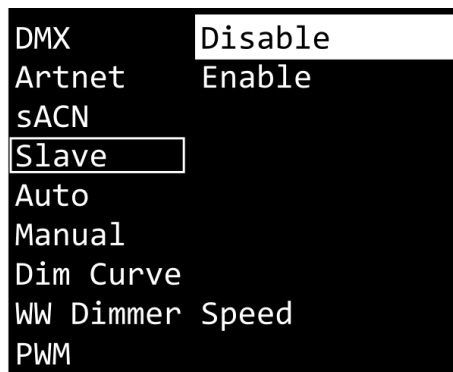
- Universe: Sets the sACN universe (see [5.4.6. Universe Numbering](#) on page 24)
- 4CH-RGBW: 4 channels
- 5CH-RAW: 5 channels
- 13CH-BASIC: 13 channels
- 19CH-EXT: 19 channels
- 433CH-PFM: 433 channels
- 793CH-PFM: 793 channels

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

6.6.3.4. Slave

In this submenu you can configure the device as a master or slave device (see [5.3.3. Master/Slave Setup](#) on page 20).

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



- Disable: Set the device as a master device or stand-alone device
- Enable: Set the device as a slave device

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

6.6.3.5. Auto

In this submenu you can select a built-in program and adjust the speed of the program.

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

```

DMX      Program: 001
Artnet   Speed:  001
sACN
Slave
Auto
Manual
Dim Curve
WW Dimmer Speed
PWM
  
```

- Program: Select one of the 30 built-in programs (001–030)
- Speed: Set the speed of the built-in program (000–025)

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

03) Press the **UP/DOWN** buttons to increase/decrease the value.

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

6.6.3.6. Manual

In this submenu you can manually configure the output settings of the device.

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

```

DMX      Dimmer:  000
Artnet   Strobe:  000
sACN     Red:     000
Slave    Green:   000
Auto     Blue:    000
Manual   White:   000
Dim Curve
WW Dimmer Speed
PWM
  
```

- Dimmer: Set the intensity of the light output (000–255)
- Strobe: Set the strobe frequency (000–255)
- Red: Set the intensity of the red LED color (000–255)
- Green: Set the intensity of the green LED color (000–255)
- Blue: Set the intensity of the blue LED color (000–255)
- White: Set the intensity of the white LED color (000–255)

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

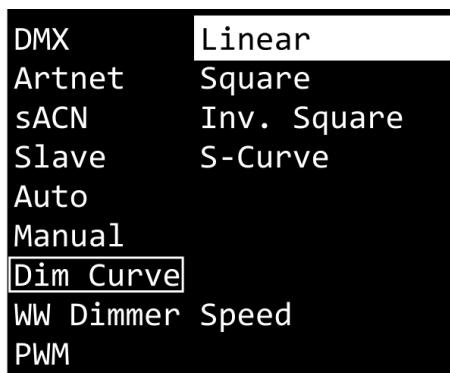
03) Press the **UP/DOWN** buttons to increase/decrease the value.

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

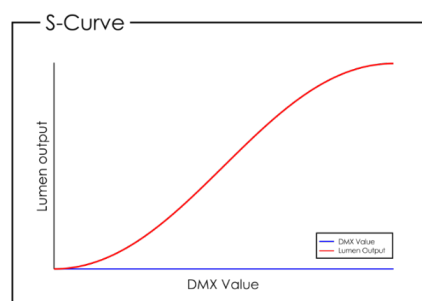
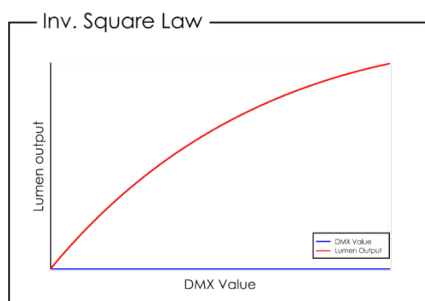
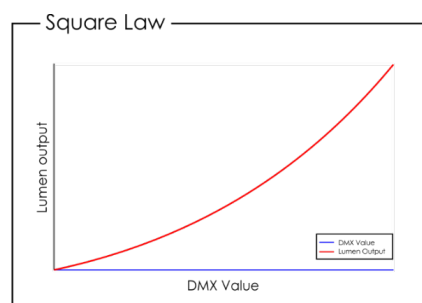
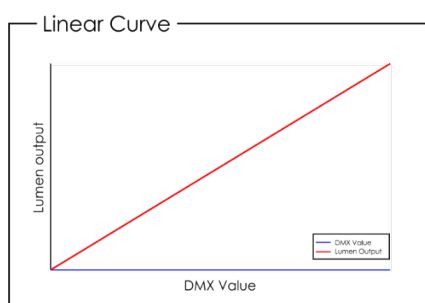
6.6.3.7. Dim Curve

In this submenu you can select the dimming curve.

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



- Linear
- Square
- Inverse Square
- S-Curve

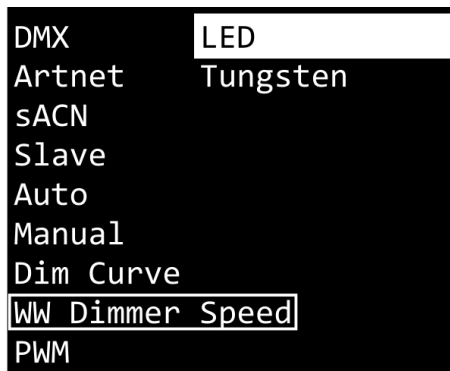


02) Press the **ENTER** button to confirm the selection.

6.6.3.8. WW Dimmer Speed

In this submenu you can select the reaction time for the **center LED (03)**.

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



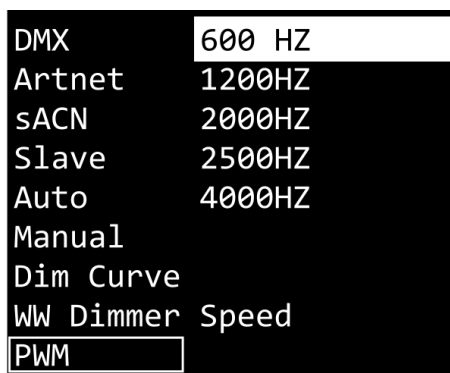
- LED: The **center LED (03)** reacts without a delay
- Tungsten: The **center LED (03)** reacts with a delay to simulate the effect of a tungsten lamp

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

6.6.3.9. PWM

In this submenu you can select the PWM (pulse-width modulation) rate of the device.

01) Press the **UP/DOWN** buttons to select one of the 6 options:



- 600 HZ
- 1200 HZ
- 2000 HZ
- 2500 HZ
- 4000 HZ

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

6.6.4. Advance

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

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

Signal Hold:	Black
Pixel Reverse:	OFF
Screen Timeout:	30sec
Screen Brightness:	75 %
Soft Version:	V1.05
Invert Display:	NO
Factory Reset:	NO

- **Signal Hold:** Choose if the device uses the last working DMX value or blacks out the light output in case of a DMX failure (Hold/Black)
- **Pixel Reverse:** Reverse the direction in which the LEDs on the center, inner and outer rings (see [6.7.1. Section Overview](#) on page 36) are controlled (ON/OFF)
- **Screen Timeout:** Adjust if the display turns off automatically after a period of inactivity (Never/30sec/60sec)
- **Screen Brightness:** Adjust the brightness of the display (25 %/50 %/75 %/100 %)
- **Soft Version:** View the firmware version of the device
- **Invert Display:** Rotate the display at 180° (YES/NO)
- **Factory Reset:** Reset the settings of the device to the default factory settings (YES/NO)

02) Press the **ENTER** button to select a setting.

03) Press the **UP/DOWN** buttons to change the value.

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

6.7. DMX Channels

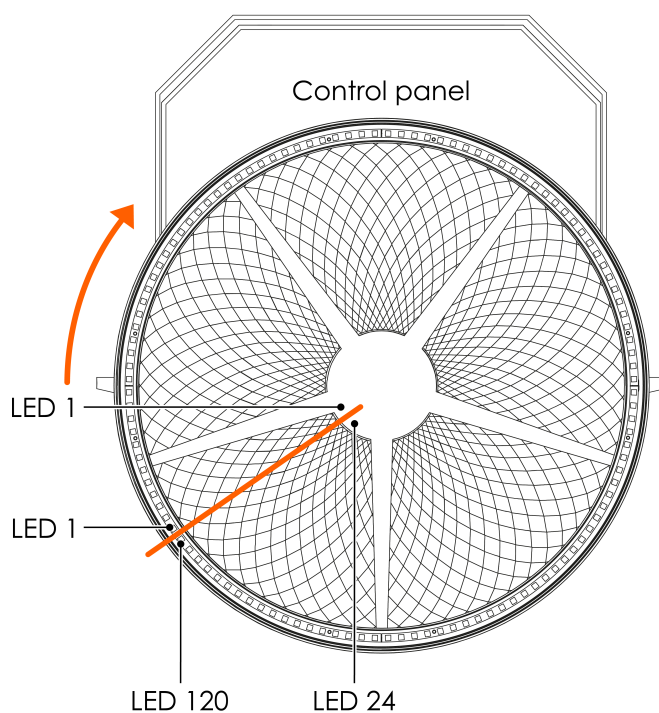
6.7.1. Section Overview

The Goliath has **120 outer ring LEDs (05)**, **120 inner ring LEDs (06)** and **24 center ring LEDs (07)**. In 433CH Pixel Freak Mode (433 channels) and 793CH Pixel Freak Mode (793 channels) (see [6.7.5. 433CH Extended \(433 Channels\)](#), [793CH Extended \(793 Channels\)](#) on page 40), the LEDs can be controlled as follows:

Mode	Outer ring LEDs	Inner ring LEDs	Center ring LEDs
433CH PFM	Controlled together in 120 sections		Controlled individually
793CH PFM	Controlled individually	Controlled individually	Controlled individually

The LEDs are counted clockwise when viewing the device from the front, with the **control panel (10)** facing up.

Figure 14



6.7.2. DMX Channel Overview

Function	4CH RGBW	5CH RAW	13CH Basic	19CH Extended	433CH Pixel Freak Mode	793CH Pixel Freak Mode
All Red (Center, Inner & Outer Ring)	1					
All Green (Center, Inner & Outer Ring)	2					
All Blue (Center, Inner & Outer Ring)	3					
Center LED (WW) Dimmer	4	1	1	1	1	1
Center LED (Amber) Dimmer		2				
All Red (Center, Inner & Outer Ring)		3				
All Green (Center, Inner & Outer Ring)		4				
All Blue (Center, Inner & Outer Ring)		5				
Center LED (WW) Strobe			2	2		
Inner & Outer Ring RGB Dimmer			3	3		
Inner & Outer Ring RGB Strobe			4	4		
Blaze Center Ring Red			5	5		
Blaze Center Ring Green			6	6		
Blaze Center Ring Blue			7	7		
Blaze Inner Ring Red			8	8		
Blaze Inner Ring Green			9	9		
Blaze Inner Ring Blue			10	10		
Outer Ring Red			11	11		
Outer Ring Green			12	12		
Outer Ring Blue			13	13		
Built-in Programs				14		
Program Speed				15		
Effect Size				16		
Red Background (All RGB)				17		
Green Background (All RGB)				18		
Blue Background (All RGB)				19		
24x RGB Center Ring Blaze					2-73	2-73
RGB Outer Ring and Inner Ring Blaze					74-433	
120x RGB Inner Ring Blaze						74-433
120x Outer Ring RGB						434-793

6.7.3. 4CH RGBW (4 Channels), 5CH RAW (5 Channels)

4CH RGBW	5CH RAW	Function	Value	Setting
1		All Red (Center, Inner & Outer Ring)	000–255	From low to high intensity (0–100 %)
2		All Green (Center, Inner & Outer Ring)	000–255	From low to high intensity (0–100 %)
3		All Blue (Center, Inner & Outer Ring)	000–255	From low to high intensity (0–100 %)
4	1	Center LED (WW) Dimmer	000–255	Individual control for warm white source
	2	Center LED (Amber) Dimmer	000–255	Individual control for amber source
	3	All Red (Center, Inner & Outer Ring)	000–255	From low to high intensity (0–100 %)
	4	All Green (Center, Inner & Outer Ring)	000–255	From low to high intensity (0–100 %)
	5	All Blue (Center, Inner & Outer Ring)	000–255	From low to high intensity (0–100 %)

6.7.4. 13CH Basic (13 Channels), 19CH Extended (19 Channels)

13CH Basic	19CH Extended	Function	Value	Setting
1	1	Center LED (WW) Dimmer	000–255	Individual control for warm white source
2	2	Center LED (WW) Strobe	000–009	No function
			010–099	Strobe speed (slow–fast)
			100–109	No function
			110–139	Ramp up (slow–fast)
			140–149	No function
			150–179	Ramp down (slow–fast)
			180–189	No function
			190–255	Random strobe ALL (between multiple fixtures)
3	3	Inner & Outer Ring RGB Dimmer	000–255	From low to high intensity (0–100 %)
4	4	Inner & Outer Ring RGB Strobe	000–009	No function
			010–099	Strobe speed (slow–fast)
			100–109	No function
			110–139	Ramp up (slow–fast)
			140–149	No function
			150–179	Ramp down (fast–slow)
			180–189	No function
			190–219	Random strobe ALL (between multiple fixtures)
			220–229	No function
			230–255	Random fixture (slow–fast) (random strobe RGB Pixels, grouped to 6 pixels each)
5	5	Blaze Center Ring Red	000–255	From low to high intensity (0–100 %)
6	6	Blaze Center Ring Green	000–255	From low to high intensity (0–100 %)
7	7	Blaze Center Ring Blue	000–255	From low to high intensity (0–100 %)
8	8	Blaze Inner Ring Red	000–255	From low to high intensity (0–100 %)
9	9	Blaze Inner Ring Green	000–255	From low to high intensity (0–100 %)
10	10	Blaze Inner Ring Blue	000–255	From low to high intensity (0–100 %)
11	11	Outer Ring Red	000–255	From low to high intensity (0–100 %)
12	12	Outer Ring Green	000–255	From low to high intensity (0–100 %)
13	13	Outer Ring Blue	000–255	From low to high intensity (0–100 %)
	14	Built-in Programs	000–010	Off
			011–018	Program 1
			019–026	Program 2

13CH Basic	19CH Extended	Function	Value	Setting
			027–034	Program 3
			035–042	Program 4
			043–050	Program 5
			051–058	Program 6
			059–066	Program 7
			067–073	Program 8
			074–081	Program 9
			082–089	Program 10
			090–097	Program 11
			098–105	Program 12
			106–113	Program 13
			114–121	Program 14
			122–129	Program 15
			130–137	Program 16
			138–145	Program 17
			146–152	Program 18
			153–160	Program 19
			161–167	Program 20
			168–175	Program 21
			176–183	Program 22
			184–191	Program 23
			192–199	Program 24
			200–207	Program 25
			208–215	Program 26
			216–223	Program 27
			224–231	Program 28
			232–239	Program 29
			240–255	Program 30
	15	Program Speed	000–128	Clockwise (slow–fast)
			129–255	Counterclockwise (fast–slow)
	16	Effect Size	000–255	Adjusts the size/width of the built-in program effect
	17	Red Background (All RGB)	000–255	From low to high intensity (0–100 %)
	18	Green Background (All RGB)	000–255	From low to high intensity (0–100 %)
	19	Blue Background (All RGB)	000–255	From low to high intensity (0–100 %)

6.7.5. 433CH Extended (433 Channels), 793CH Extended (793 Channels)

Note:

793CH Extended mode is only available with Art-Net and sACN protocol. The function Outer Ring RGB on channels 434–793 shall be set to universe 2 with starting address 1 (001).

433CH Pixel Freak Mode	793CH Pixel Freak Mode	Function	Value	Setting
1	1	WW Dimmer	000–255	Individual control for warm white source
2	2	Center Ring Blaze (LED 1) Red	000–255	From low to high intensity (0–100 %)
3	3	Center Ring Blaze (LED 1) Green	000–255	From low to high intensity (0–100 %)
4	4	Center Ring Blaze (LED 1) Blue	000–255	From low to high intensity (0–100 %)
5	5	Center Ring Blaze (LED 2) Red	000–255	From low to high intensity (0–100 %)
6	6	Center Ring Blaze (LED 2) Green	000–255	From low to high intensity (0–100 %)
7	7	Center Ring Blaze (LED 2) Blue	000–255	From low to high intensity (0–100 %)
...				
71	71	Center Ring Blaze (LED 24) Red	000–255	From low to high intensity (0–100 %)
72	72	Center Ring Blaze (LED 24) Green	000–255	From low to high intensity (0–100 %)
73	73	Center Ring Blaze (LED 24) Blue	000–255	From low to high intensity (0–100 %)
74		Outer Ring and Inner Ring Blaze (LED 1) Red	000–255	From low to high intensity (0–100 %)
75		Outer Ring and Inner Ring Blaze (LED 1) Green	000–255	From low to high intensity (0–100 %)
76		Outer Ring and Inner Ring Blaze (LED 1) Blue	000–255	From low to high intensity (0–100 %)
77		Outer Ring and Inner Ring Blaze (LED 2) Red	000–255	From low to high intensity (0–100 %)
78		Outer Ring and Inner Ring Blaze (LED 2) Green	000–255	From low to high intensity (0–100 %)
79		Outer Ring and Inner Ring Blaze (LED 2) Blue	000–255	From low to high intensity (0–100 %)
...				
431		Outer Ring and Inner Ring Blaze (LED 120) Red	000–255	From low to high intensity (0–100 %)
432		Outer Ring and Inner Ring Blaze (LED 120) Green	000–255	From low to high intensity (0–100 %)
433		Outer Ring and Inner Ring Blaze (LED 120) Blue	000–255	From low to high intensity (0–100 %)
	74	Inner Ring Blaze (LED 1) Red	000–255	From low to high intensity (0–100 %)
	75	Inner Ring Blaze (LED 1) Green	000–255	From low to high intensity (0–100 %)
	76	Inner Ring Blaze (LED 1) Blue	000–255	From low to high intensity (0–100 %)
	77	Inner Ring Blaze (LED 2) Red	000–255	From low to high intensity (0–100 %)
	78	Inner Ring Blaze (LED 2) Green	000–255	From low to high intensity (0–100 %)
	79	Inner Ring Blaze (LED 2) Blue	000–255	From low to high intensity (0–100 %)
...				
	431	Inner Ring Blaze (LED 120) Red	000–255	From low to high intensity (0–100 %)
	432	Inner Ring Blaze (LED 120) Green	000–255	From low to high intensity (0–100 %)
	433	Inner Ring Blaze (LED 120) Blue	000–255	From low to high intensity (0–100 %)
	434	Outer Ring (LED 1) Red	000–255	From low to high intensity (0–100 %)
	435	Outer Ring (LED 1) Green	000–255	From low to high intensity (0–100 %)
	436	Outer Ring (LED 1) Blue	000–255	From low to high intensity (0–100 %)

433CH Pixel Freak Mode	793CH Pixel Freak Mode	Function	Value	Setting
	437	Outer Ring (LED 2) Red	000–255	From low to high intensity (0–100 %)
	438	Outer Ring (LED 2) Green	000–255	From low to high intensity (0–100 %)
	439	Outer Ring (LED 2) Blue	000–255	From low to high intensity (0–100 %)
	...			
	791	Outer Ring (LED 120) Red	000–255	From low to high intensity (0–100 %)
	792	Outer Ring (LED 120) Green	000–255	From low to high intensity (0–100 %)
	793	Outer Ring (LED 120) Blue	000–255	From low to high intensity (0–100 %)

6.8. RDM Information

This device supports RDM (see [6.8.1. RDM Details](#)).

6.8.1. RDM Details

- Responder: 29B4:0DAxxxxx
- Manufacturer's ID: 29B4
- Manufacturer Label: Showtec
- Model Description: Goliath
- Model ID: 0DA
- Device Label: Goliath

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
STATUS_MESSAGES	0x0030		*	*
SUPPORTED_PARAMETERS	0x0050	*	*	
DEVICE_MODEL_DESCRIPTION	0x0080		*	
MANUFACTURER_LABEL	0x0081		*	
DEVICE_LABEL	0x0082		*	
DMX_PERSONALITY	0x00E0		*	*
DMX_PERSONALITY DESCRIPTION	0x00E1		*	
DMX_START_ADDRESS	0x00F0	*	*	*

7. Troubleshooting

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

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

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

Problem	Probable cause(s)	Solution
The device does not function at all	No power to the device	Make sure that the device is connected to power supply and the cables are plugged in
	The fuse is blown	Replace the fuse (see 8.3.1. Replacing the Fuse on page 45)
The device responds erratically	The factory settings of the device are changed	Reset the parameters of the device to the default factory settings (see 6.6.4. Advance on page 35)
The device does not respond to DMX control	The controller is not connected	Connect the controller
	The signal is reversed. The 3-pin/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
	Incorrect protocol	Make sure the device is controlled through Art-Net or sACN (see 6.2. Control Modes on page 25) when using the 793CH PFM mode
	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	The LEDs are defective	Disconnect the device and contact your Showtec 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

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

To clean the device, follow the steps below:

- 01) Disconnect the device from the electrical power supply.
- 02) Allow the device to cool down for at least 5 minutes.
- 03) Remove the dust collected on the external surface with dry compressed air and a soft brush.
- 04) Clean the lens with damp cloth.
- 05) Dry the lens carefully with a lint-free cloth.

**Attention**

- Do not immerse the device in liquid.
- Do not use alcohol or solvents.

8.3. Corrective Maintenance

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

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

8.3.1. Replacing the Fuse



DANGER
Electric shock caused by short-circuit

- Do not bypass the thermostatic switch or fuses.
- Replace fuses only with the same type and rating.

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

- 01) Disconnect the device from the electrical power supply.
- 02) Allow the device to cool down for at least 15 minutes.
- 03) 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 (see [8.2.1. Basic Cleaning Instructions](#) on page 44).
- Store the device in the original packaging, if possible.

10. Disposal

Correct disposal of this product



Waste Electrical and Electronic Equipment

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

11. Approval



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

