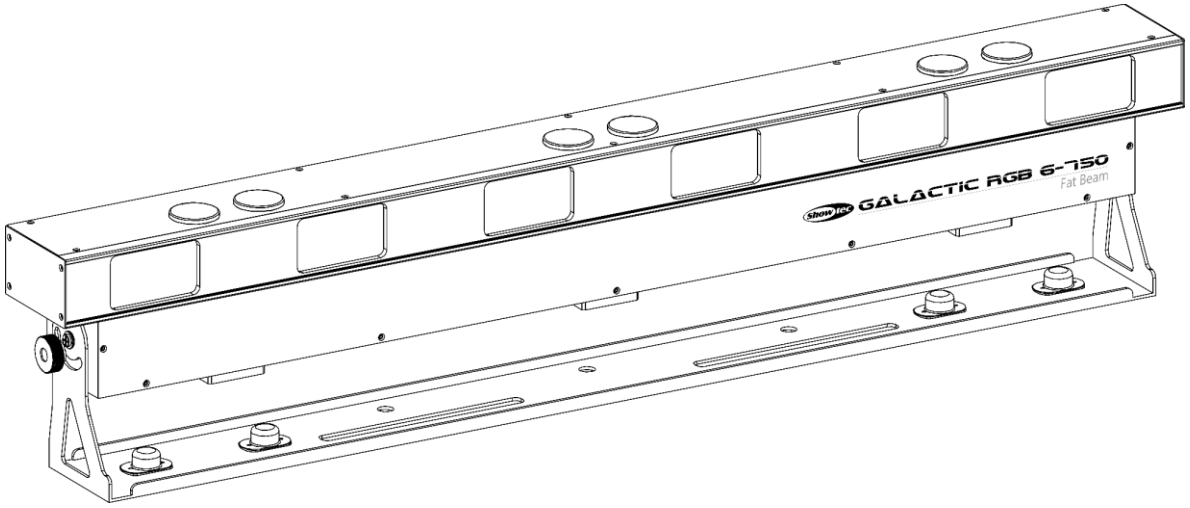
USER MANUAL



ENGLISH

Galactic RGB-6-750 V1

Product code: 51347

Preface

Thank you for purchasing this Showtec product.

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

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

This user manual contains information concerning:

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

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

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

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

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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 Galactic RGB-6-750
- Schuko to Pro power cable – 1,3 m
- Pro power connector OUT
- Remote interlock test connector
- 2 keys for key switch
- User manual

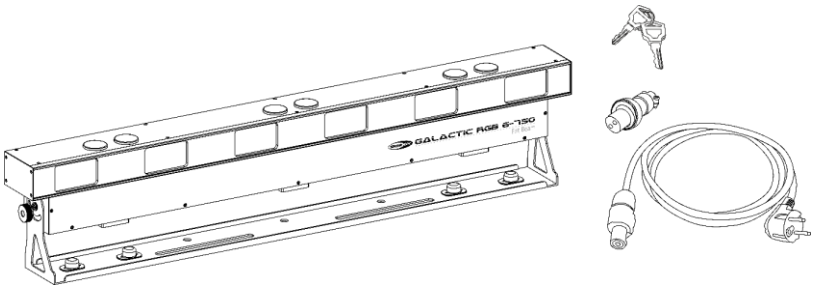


Fig. 01

1.2. Intended Use

This device is intended for professional use as a laser projector to produce laser displays or show effects. It is suitable only for indoor installation. This device is not suitable for households.

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

1.3. Product Lifespan

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

1.4. Text Conventions

Throughout the user manual the following text conventions are used:

- Buttons: All buttons are in bold lettering, for example "Press the **UP/DOWN** buttons"
- References: References to chapters and parts of the device are in bold lettering, for example: "Refer to **2. Safety**", "turn the **adjustment screw (02)**"
- 0–255: Defines a range of values
- Notes: **Note:** (in bold lettering) is followed by useful information or tips

1.5. 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.
	**Attention**	Indicates that eye protection must be used.
	**Important**	Read and observe the instructions in this document.
	**Electrical hazard**	
	**Laser beam hazard**	
		Provides important information about the disposal of this product.

1.6. Labels

This device is a class 3B laser device and is provided with the following labels and hazard warnings. Refer to Fig. 02 for the position of the labels.

1 

WARNING
Class 3B laser radiation when open
Avoid exposure to the beam

2 

Avoid exposure – laser radiation is emitted from this aperture

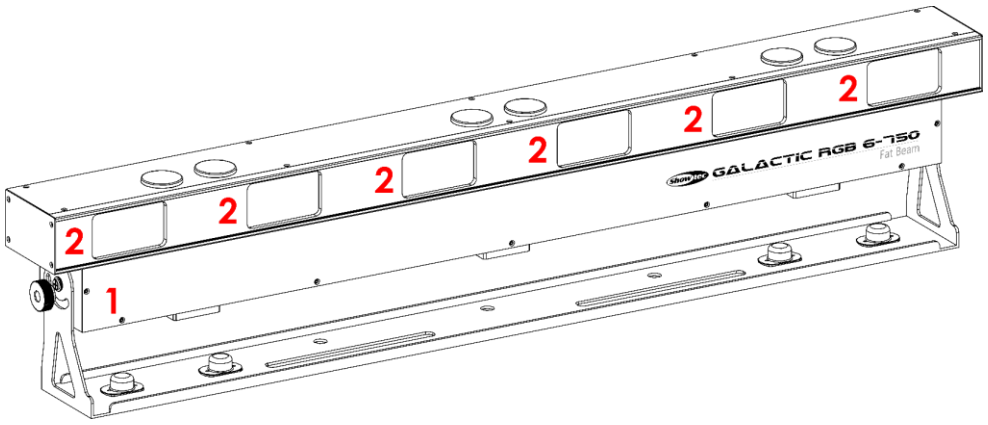


Fig. 02

2. Safety

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

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

2.1. Warnings and Safety Instructions

DANGER
Danger for children

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

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

DANGER
Electric shock caused by dangerous voltage inside

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

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

DANGER
Electric shock caused by short-circuit

This device falls under IEC protection class I.

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

WARNING
Laser radiation
Avoid exposure to beam.

This device is a class 3B laser device according to the classification in NEN-EN-IEC 60825-1:2014. It emits visible radiation in the wavelength range 400–700 nm. Exposure to the direct or reflected laser beam, including accidental short term exposure, is hazardous to the eye. Focused laser beam can cause minor skin injuries.

Check all applicable national and international regulations concerning laser safety before using this device. The user is responsible for the safety of all persons present during the use of the laser device.

- Do not look into the laser beam.
- Do not expose users of telescopic optics, such as binoculars, to this device.
- Do not open the device and do not modify the device.
- Do not use the device if the housing or the optics are damaged.
- Do not point the laser beam at people or animals.
- Make sure that the beam is terminated on a non-reflective and non-combustible surface.
- Do not point the laser beam at reflective surfaces such as windows, mirrors and shiny metal.
- Do not operate the device without supervision.

Attention
Risk of fire

If the beam is continuously pointed at one place from a close distance, the laser beam can burn materials.

- Do not point the laser beam at materials susceptible to burning.

Attention
Power supply

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

Attention
General safety

- Do not insert objects into the air vents.
- Do not connect the device to a dimmer pack.
- Do not switch the device on and off in short intervals. This decreases the device's life.
- Do not shake the device. Avoid brute force when installing or operating the device.
- If the device is dropped or struck, disconnect the device from the electrical power supply immediately.
- If the device is exposed to extreme temperature variations (e.g. after transportation), do not switch it on immediately. Let the device reach room temperature before switching it on, otherwise it may be damaged by the formed condensation.

- If the device fails to work properly, discontinue the use immediately.

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

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

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

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

Make sure that:

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

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

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

2.2. Requirements for the User

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

This product may not be used by ordinary persons. Users, operators and installers should have received sufficient training in laser safety to be able to accurately assure that the maximum permissible exposure (MPE) is not exceeded in spectator occupied areas and that the required separations are maintained between spectators and projections that exceed the MPE.

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 operation, installation, service and maintenance of this product, so that they can identify risks and take precautions to avoid them.

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

Ordinary persons are all persons other than instructed persons and skilled persons.

2.3. Laser Safety

CAUTION
Use of controls or adjustments, or performance of procedures, other than those specified in this manual, may result in hazardous radiation exposure.

Check all applicable national and international regulations concerning laser safety before using this device. In some countries, there may be specific requirements, such as government permissions or notifications of shows, or prohibitions, such as against laser scanning of spectators without appropriate safeguards.

Laser displays and shows, where class 3B and/or class 4 lasers are used, should be supervised by a laser safety officer (LSO). LSOs are trained to evaluate and control laser hazards and are responsible for overseeing the control of laser hazards. An LSO is recommended but not required for laser displays and shows, where only class 1, 1M, 2, 2M and/or 3R lasers are used.

During laser displays and shows the applicable eye and skin maximum permissible exposure (MPE) may not be exceeded. Under no circumstance should any person be exposed to laser radiation exceeding the applicable eye and skin MPE. MPE for spectators, ancillary personnel and performers is specified in IEC 60825-14, IEC 60825-3, and in the applicable local laser regulations.

Each time before operation of the device, make sure that:

- The beam is aligned and properly terminated
- All controls, including scan failure safeguards and emergency stop controls, are properly working
- Warning signs and barriers are in place as appropriate
- All components are securely mounted and locked into position

The device should be secured and protected against misalignment or maladjustment between alignment completion and the beginning of the laser display or show.

2.4. Safety Devices

This device is equipped with a key switch and a remote interlock connector. The key switch prevents that unauthorized and untrained persons can operate the device. If the key is removed, you cannot operate the device.

The remote interlock connector permits the connection of a remote interlock (not supplied). When you press the remote interlock, the laser radiation is terminated immediately. We recommend that you purchase a remote interlock. Check the local regulations, as in some countries it is not allowed to operate the device without a remote interlock.

For testing and programming purposes you may use the supplied test connector. If the test connector is not inserted into the remote interlock connector, you cannot operate the device.

2.5. Personal Protective Equipment

Attention
Use laser protective eyewear during alignment and setup.

Wearing of laser protective eyewear is recommended for Class 3B lasers. Make sure you follow any applicable national and site-specific regulations.

During alignment and setup use protective eyewear that complies with the requirements of EN 208. In all other cases laser protective eyewear must be in compliance with EN 207.

3. Description of the Device

The Showtec Galactic RGB-6-750 is a laser projector with high output and great effects.

3.1. Front View

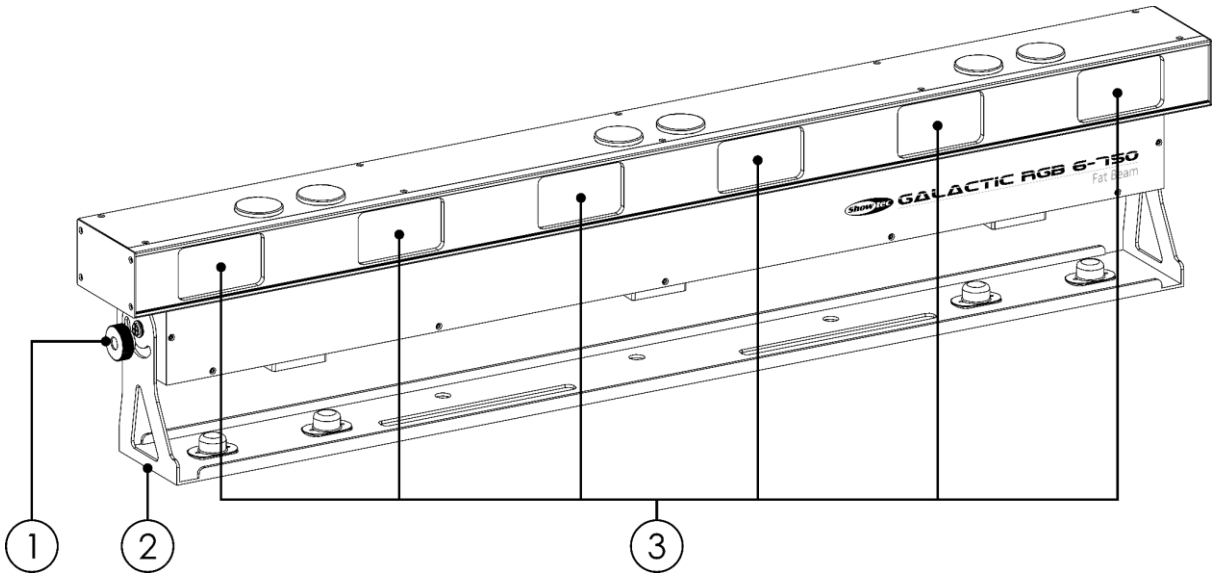


Fig. 03

01) 2 x adjustment screw
02) Mounting bracket
03) 6 x laser beam aperture

3.2. Back View

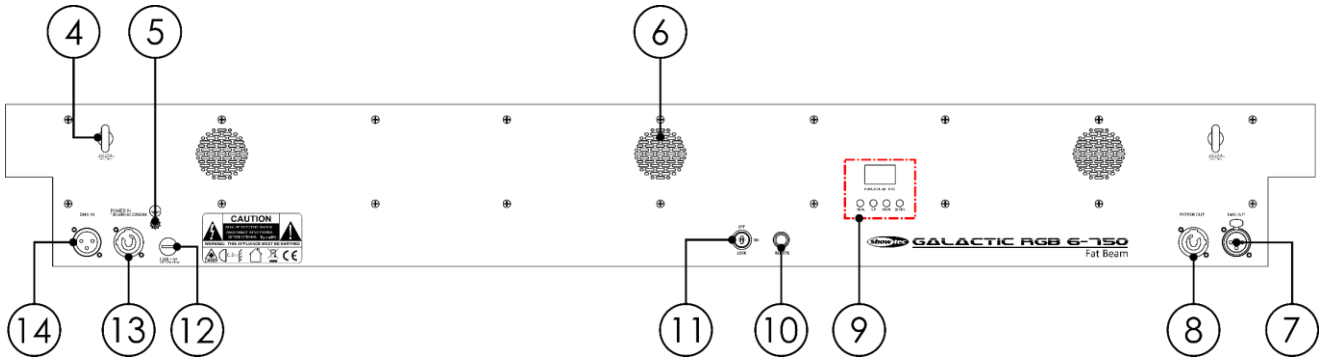


Fig. 04

04) Safety eye
05) Ground (earth) connection
06) Air vent
07) 3-pin DMX connector OUT
08) Pro power connector (Gray) OUT
09) Control panel: 3-digit LED display + control buttons
10) Remote interlock connector
11) Key switch
12) Fuse 5KT1,6AL/250 V
13) Pro power connector (Blue) IN
14) 3-pin DMX connector IN

3.3. Product Specifications

Model:	Galactic RGB-6-750

Electrical:	
Input voltage:	100–240 V AC, 50/60 Hz
Power consumption:	120 W
Fuse:	5KT1,6AL/250 V

Physical:	
Dimensions:	1000 x 135 x 200 mm (LxWxH)
Weight:	9,3 kg

Laser:	
Laser class:	3B
Laser power:	638 nm = 90 mW (red) 515 nm = 60 mW (green) 450 nm = 330 mW (blue)
Beam diameter at aperture:	18 mm
Beam divergence:	1,5 mrad
NOHD:	153 m (P total output power all beams = 480 mW)
MPE:	25 $W \cdot m^{-2}$ for exposure duration of 0,25 s

Operation and control:	
Control:	Stand-alone (auto, color) Master/Slave (auto, color) DMX-512
DMX channels:	7, 9, 12, 36, 48, 54, 66 channels
Control panel:	3-digit LED display + control buttons

Connections:	
Power connections:	Pro power connectors (Blue) IN/(Gray) OUT, 100–240 V
Data connections:	3-pin DMX connectors IN/OUT
Signal pinouts:	pin 1 (ground), pin 2 (-), pin 3 (+)

Construction:	
Housing:	Metal and flame-retardant plastic
Color:	Black
IP rating:	IP20
Cooling:	Cooling fan

Thermal:	
Maximum ambient temperature t_a:	40 °C
Minimum ambient temperature:	0 °C

3.4. Dimensions

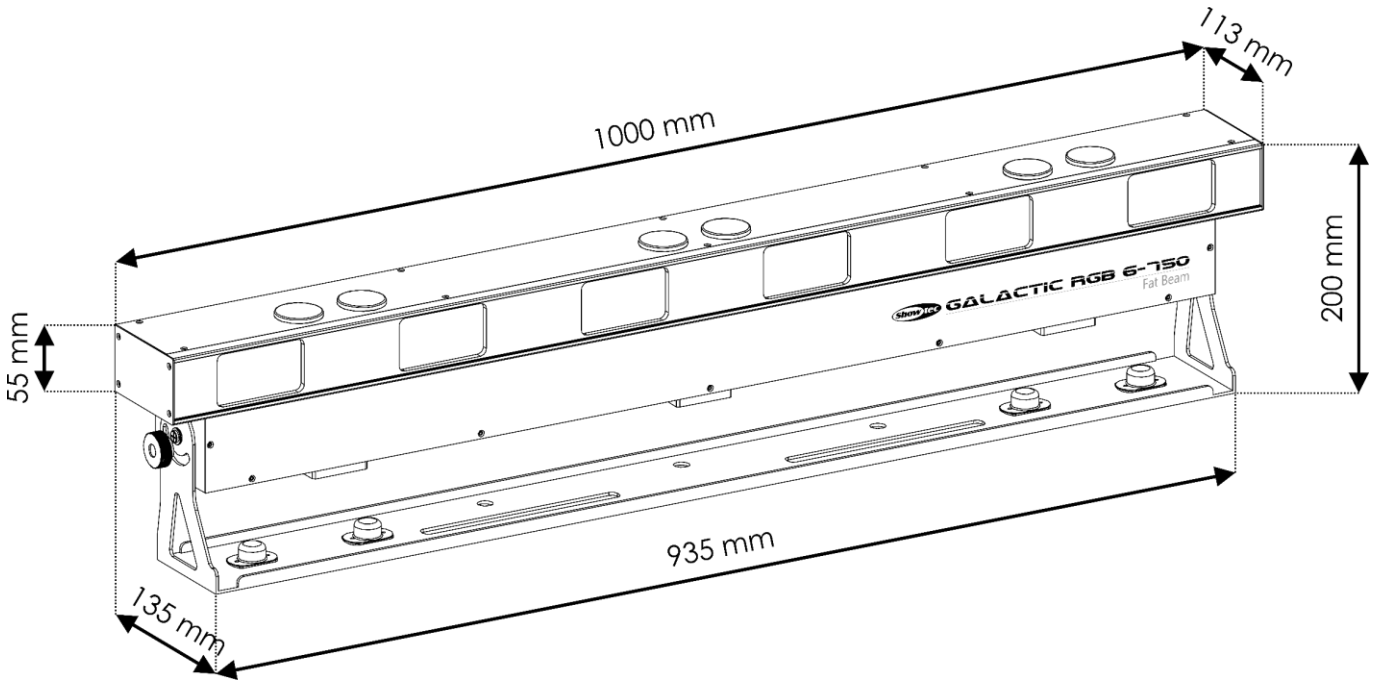


Fig. 05

4. Installation

4.1. Safety Instructions for Installation

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

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

- Make sure that the device is rigidly mounted to prevent movement due to vibration or jarring.
- Follow all applicable European, national and local safety regulations concerning rigging and trussing.

The device should be installed in such a way that there is at least 3 m distance in height and 2,5 m laterally between the laser beam that exceeds the spectator MPE and the surface where spectators are expected to stand.

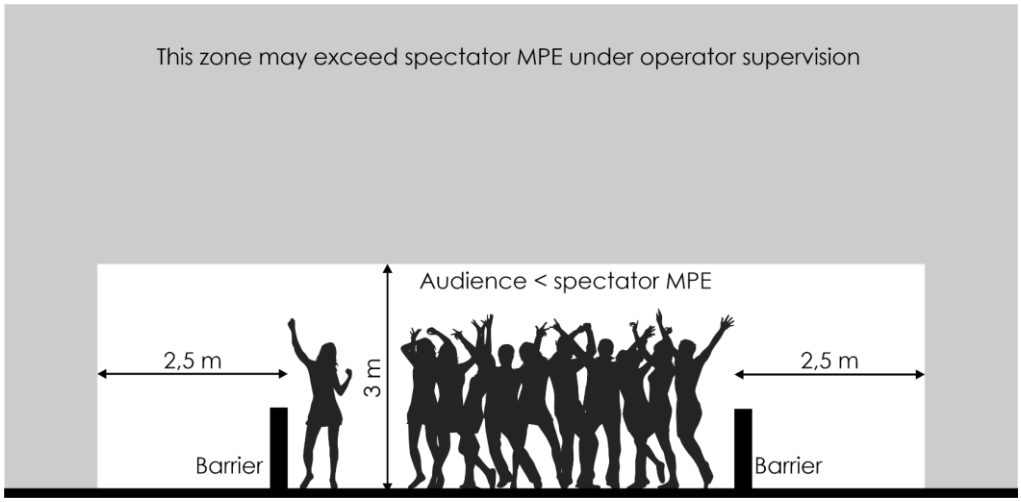


Fig. 06

If the laser display or show is not under the continuous control of an operator who can immediately terminate laser radiation in the event of a problem, the MPE shall not exceed 5 times the spectator MPE in the space between 3 m and 6 m above the surface where spectators are expected to stand.

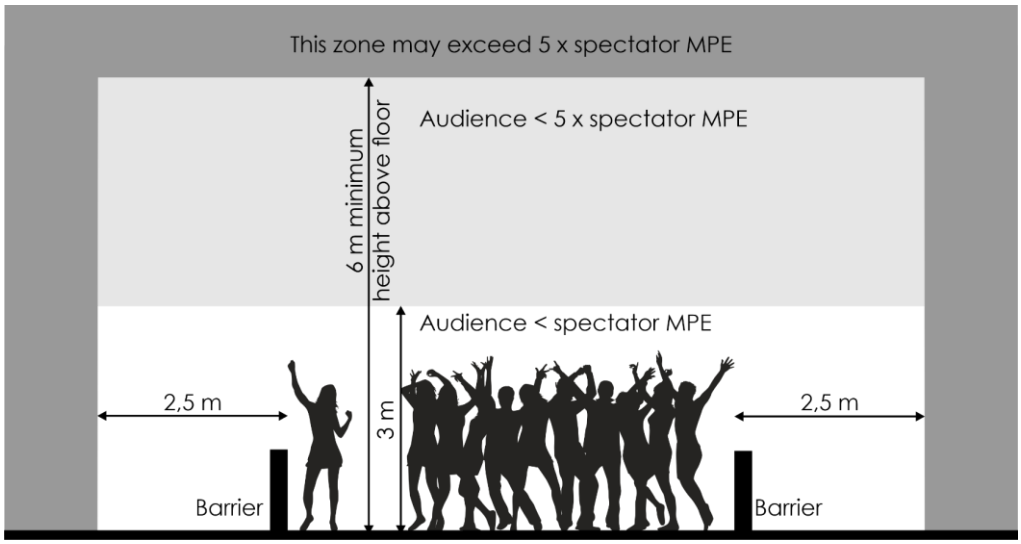


Fig. 07

4.2. Personal Protective Equipment

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

4.3. Installation Site Requirements

- The device can be used only indoors.
- The minimum distance to other objects must be bigger than 0,5 m.
- The maximum ambient temperature t_a = 40 °C must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40 °C.

4.4. Rigging

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

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

To mount the device, follow the steps below:

01) Use quick-lock brackets to attach the device to the supporting structure, as shown in Fig. 08. Make sure that the device cannot move freely.
02) Secure the device with a secondary suspension, for example a safety cable. Make sure that the secondary suspension can hold 10 times the weight of the device. If possible, the secondary suspension should be attached to a supporting structure independent of the primary suspension. Put the safety cable through both **safety eyes (04)**, as shown in Fig. 08.

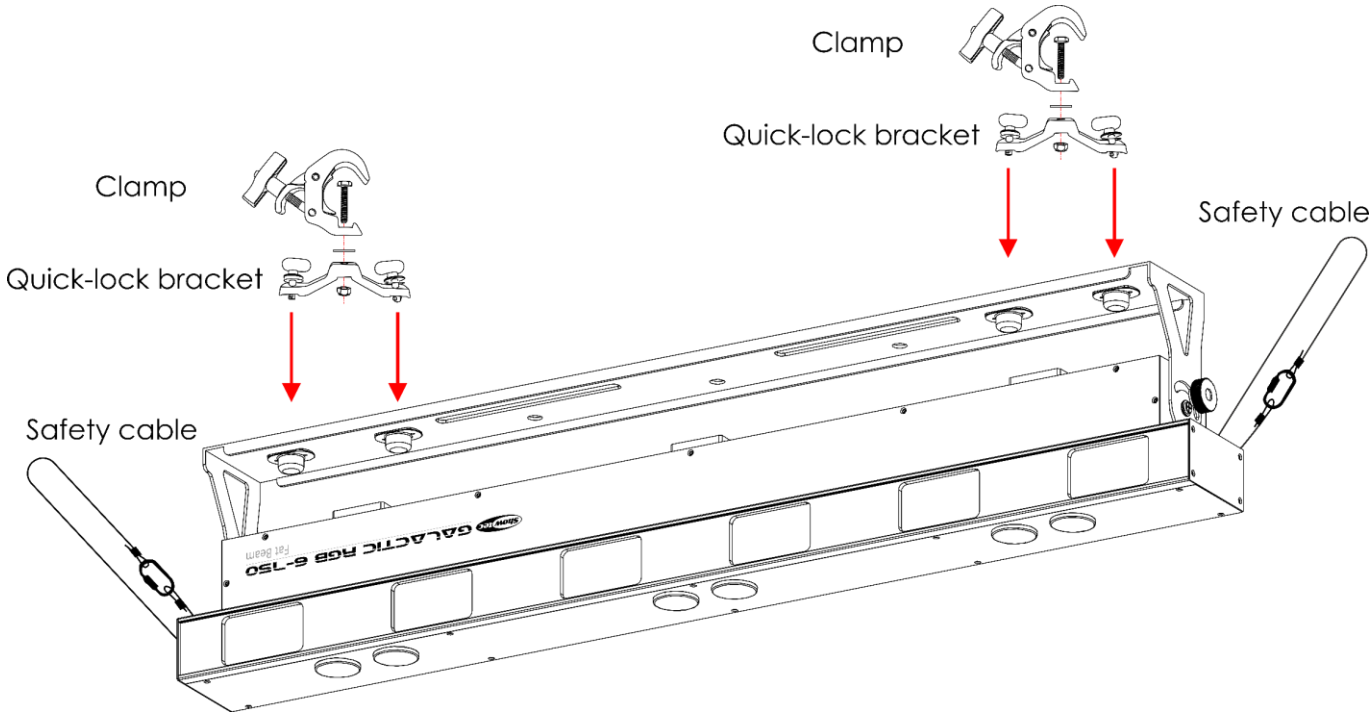


Fig. 08

4.4.1. Angle Adjustment

You can adjust the angle of the device with the **adjustment screws (01)**.

01) Turn the **adjustment screws (01)** counterclockwise to release them.
02) Tilt the device at the desired angle (see Fig. 09).
03) Turn the **adjustment screws (01)** clockwise to tighten them. Make sure that the device cannot move freely after the **adjustment screws (01)** are tightened.

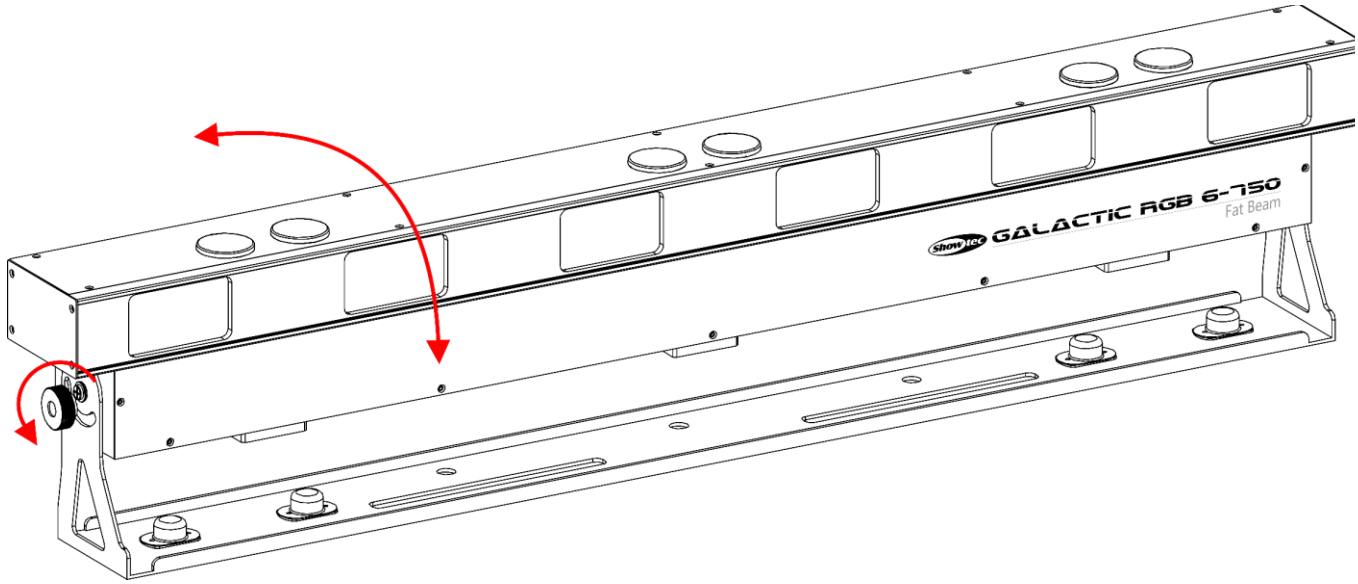


Fig. 09

4.5. Connecting to Power Supply

DANGER
Electric shock caused by short-circuit

The device accepts AC mains power at 100–240 V and 50/60 Hz. Do not supply power at any other voltage or frequency to the device.

This device falls under IEC protection class I. Make sure that the device is always electrically connected to the ground (earth).

Before connecting the device to the socket-outlet:
- Make sure that the power supply matches the input voltage specified on the information label on the device.
- Make sure that the socket-outlet has ground (earth) connection.

Connect the device to the socket-outlet with the power plug. Do not connect the device to a dimmer circuit, as this may damage the device.

4.6. Power Linking of Multiple Devices

This device supports power linking. Power can be relayed to another device via the power OUT connector. Note that the input and the output connectors have different designs: one type cannot be connected to the other.

Power linking of multiple devices must be carried out only by instructed or skilled persons.

WARNING
Incorrect power linking may lead to overload of the electrical circuit and result in serious injuries and damage of property.

To prevent overload of the electrical circuit, when power linking multiple devices:

- Use cables with sufficient current-carrying capacity. The power cable supplied with the device is not suitable for power linking of multiple device.
- Make sure that the total current draw of the device and all connected devices does not exceed the rated capacity of the power cables and the circuit breaker.
- Do not link more devices on one power link than the maximum recommended number.

Maximum recommended number of devices:
- at 100–120 V: 7 devices
- at 200–240 V: 16 devices

5. Setup

5.1. Warnings and Precautions

WARNING
Laser radiation
Avoid exposure to beam.

Attention
Use laser protective eyewear during alignment and setup.

During alignment and setup the access of unauthorized persons to the area, where the laser radiation exceeds the spectator MPE, must be restricted. The temporary laser controlled area must be marked accordingly.

Follow all applicable national and site-specific regulations regarding laser safety.

5.2. Stand-alone Setup

When the Galactic RGB-6-750 is not connected to a controller or to other devices, it functions as a stand-alone device. It can be operated manually with the control panel, the keyboard, or the remote control.

5.3. DMX Connection

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

5.3.1. DMX-512 Protocol

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

The Galactic RGB-6-750 has 3-pin DMX signal IN and OUT connectors.

The pin assignment is as follows:
- 3-pin: pin 1 (ground), pin 2 (-), pin 3 (+)

Devices on a serial data link must be daisy-chained in a single line. The number of devices that you can control on one data link is limited by the combined number of the DMX channels of the connected devices and the 512 channels available in one DMX universe.

To comply with the TIA-485 standard, no more than 32 devices should be connected on one data link. In order to connect more than 32 devices on one data link, you must use a DMX optically isolated splitter/booster, otherwise this may result in deterioration of the DMX signal.

Note:
- Maximum recommended DMX data link distance: 300 m
- Maximum recommended number of devices on a DMX data link: 32 devices

5.3.2. DMX Cables

Shielded twisted-pair cables with 3-pin/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 Fig. 10.

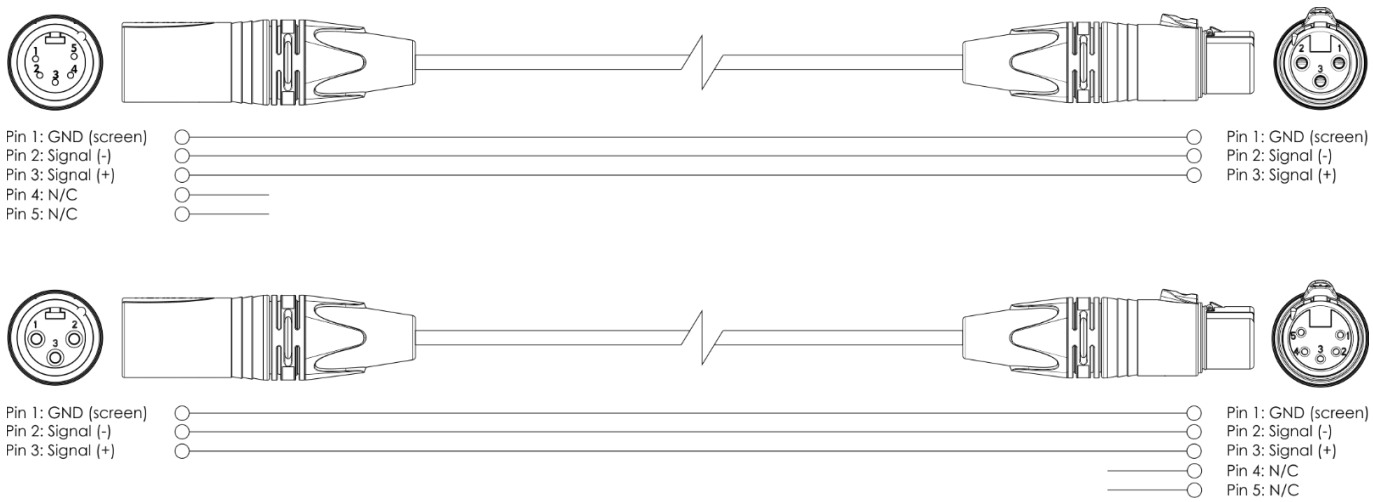


Fig. 10

5.3.3. Master/Slave Setup

The Galactic RGB-6-750 supports master/slave control mode. To connect multiple devices in a master/slave setup, follow the steps below:

01) Connect the first device's DMX OUT connector to the second device's DMX IN connector with a 3-pin DMX cable.
02) Repeat step 1 to connect all devices as shown in Fig. 11.
03) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device in the setup.
04) Set the first device on the data link as a master device. See **6.6.4. Master/Slave Mode** on page 24 for more information.
05) Set the remaining devices as slave devices. See **6.6.4. Master/Slave Mode** on page 24 for more information.

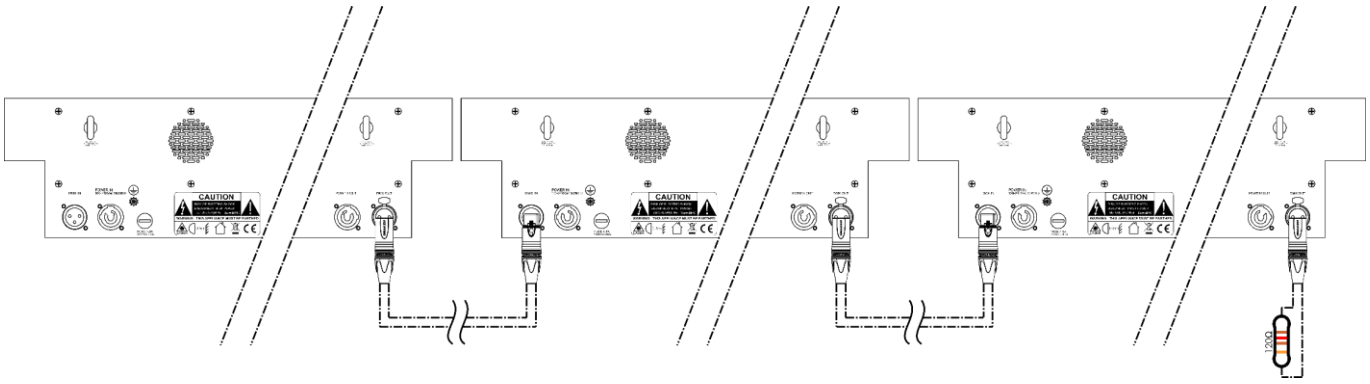


Fig. 11

5.3.4. DMX Linking

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

01) Use a 3-pin DMX cable to connect the DMX OUT connector of the lighting controller to the DMX IN connector of the first device.
02) Connect the first device's DMX OUT connector to the second device's DMX IN connector with a 3-pin DMX cable.
03) Repeat step 2 to connect all devices in a daisy-chain as shown in Fig. 12.
04) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device on the data link.

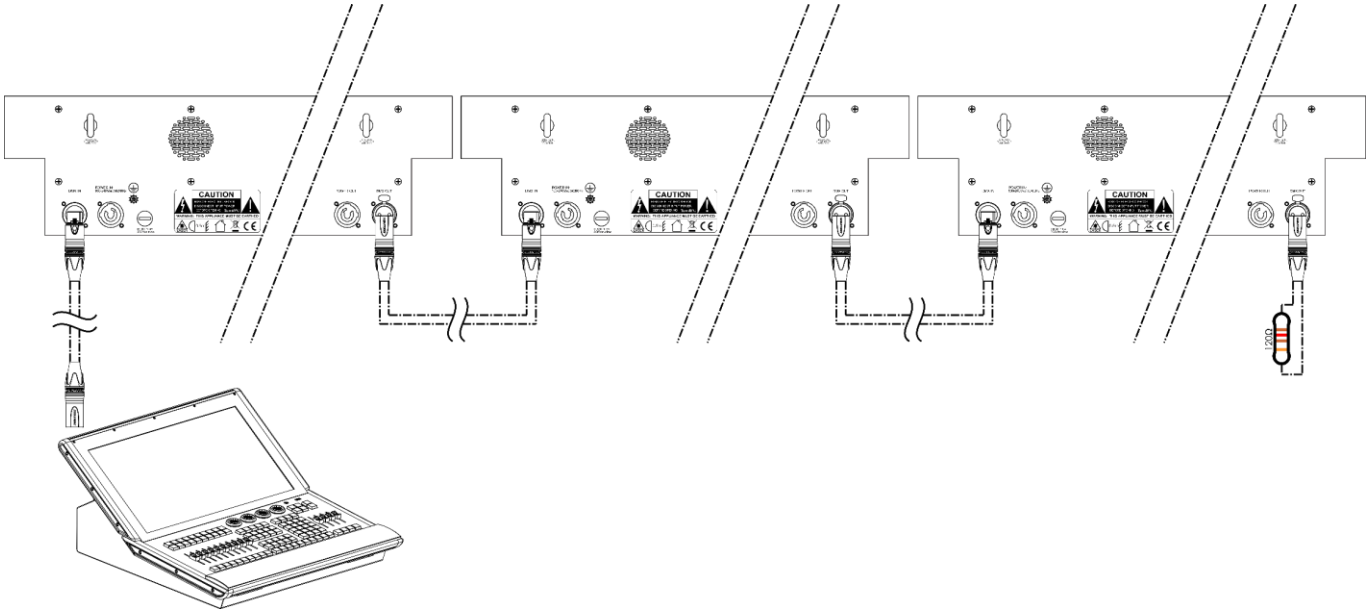


Fig. 12

5.3.5. DMX Addressing

In a setup with multiple devices, make sure that you set the DMX starting address of each device correctly. The Galactic RGB-6-750 has 7 personalities: 7 channels, 9 channels, 12 channels, 36 channels, 48 channels, 54 channels and 66 channels.

If you want to connect multiple devices on one data link, 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 67 (067), as 1 + 66 = 67.
03) Set the starting address of the 3rd device on the data link to 133 (133), as 67 + 66 = 133.
04) Continue assigning the starting addresses of the remaining devices by adding each time 66 to the previous number.

Make sure that you do not have any overlapping channels in order to control each Galactic RGB-6-750 correctly. If two or more devices are addressed similarly, they will work similarly.

6. Operation

6.1. Safety Instructions for Operation

WARNING
Laser radiation
Avoid exposure to beam.

This device is a class 3B laser device according to the classification in NEN-EN-IEC 60825-1:2014. The device can be operated only by instructed or skilled persons.

- Check all applicable national and international regulations concerning laser safety before operating this device.

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

This device is intended for professional use as a laser projector to produce laser displays or show effects. It is suitable only for indoor installation. This device is not suitable for households.

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

Attention
Power supply

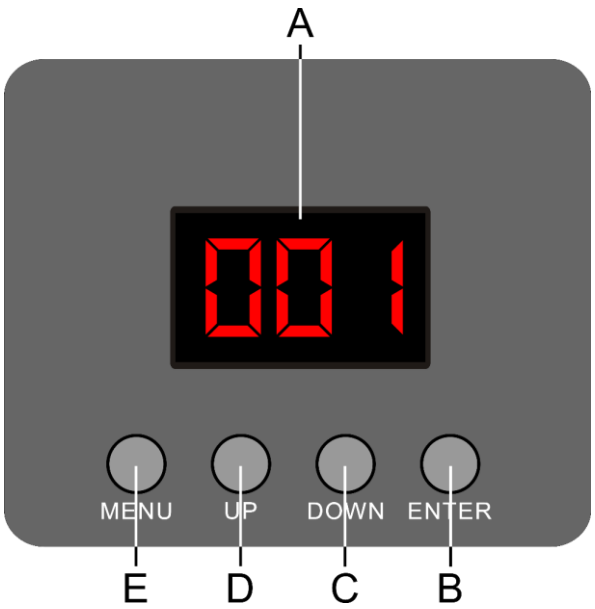
Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.

6.2. Control Modes

The Galactic RGB-6-750 supports the following control modes:

- Stand-alone: Auto mode (built-in shows), color mode
- Master/Slave: Auto mode (built-in shows), color mode
- DMX-512: 7, 9, 12, 36, 48, 54, 66 channels

6.3. Control Panel



A) 3-digit LED display
B) ENTER button
C) DOWN button
D) UP button
E) MENU button

Fig. 13

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

6.4. Starting the Device

01) Make sure that all laser safety measures are in place and working. See **2.3. Laser Safety** on page 9 for more information.
02) Connect all data cables, if applicable. See **5.3. DMX Connection** on pages 17–19 for more information.
03) Connect the remote interlock (or emergency switch) to the **remote interlock connector (10)**. See **2.4. Safety Devices** on page 9 for more information. For programming purposes you may use the supplied test connector.

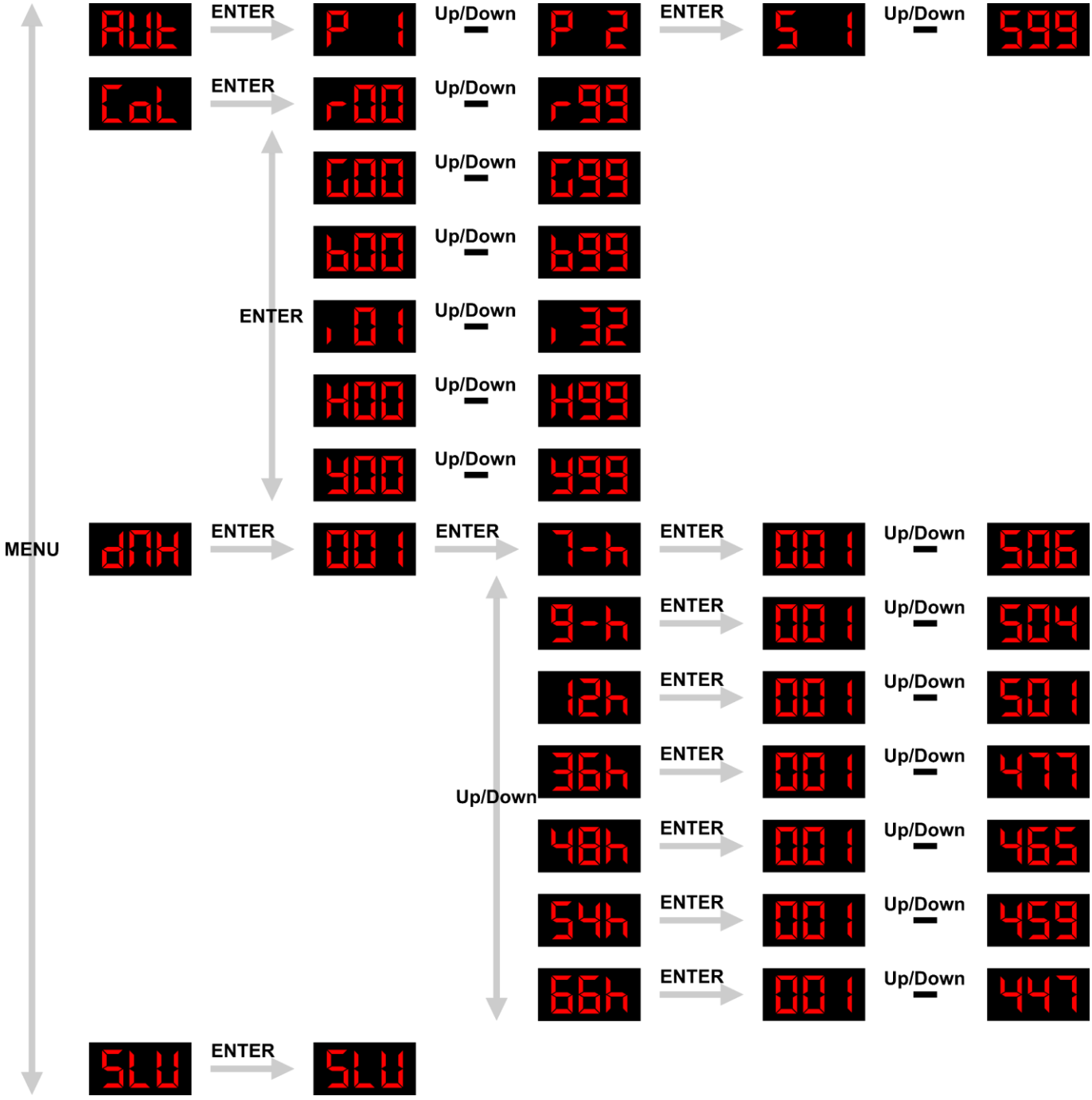
Note:

- If the test connector is not inserted into the remote interlock connector, you cannot operate the device. The device will power up, but it will not produce a laser beam.
- The remote interlock is not supplied. You can purchase a remote interlock from your Highlite International dealer. Check your local regulations, as in some countries it is not allowed to operate the device without a remote interlock.

04) Connect the device to the socket-outlet with the power plug. See. **4.5. Connecting to Power Supply** on page 15 for more information. The display shows a splash screen with the current version of the firmware:

05) Insert the key into the **key switch (11)**. The device is now operational. Turn the **key switch (11)** to ON position to turn on the laser beam. See **2.4. Safety Devices** on page 9 for more information.

6.5. Menu Overview



6.6. Main Menu Options

From the main menu you can access the following operating modes:

1. Auto mode

2. Color mode

3. DMX mode

4. Master/Slave mode

If the device is not connected to a DMX controller, you can operate the device using the control panel.

If the laser beam is turned on, any changes are displayed in real time.

6.6.1. Auto Mode

In this menu you can play the built-in programs.

01) Press the **MENU** button until the display shows 

.
02) Press **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to select one of the 2 built-in programs: 

Up/Down 

.
04) Press the **ENTER** button to play the show and proceed to the program speed settings.
05) Press the **UP/DOWN** buttons to set the program speed. The adjustment range is 

Up/Down 

, from slow to fast.

6.6.2. Color Mode

In this menu you can play the manual show.

01) Press the **MENU** button until the display shows 

.
02) Press **ENTER** button to open the menu.
03) Press the **ENTER** button to toggle through the following options:

Up/Down 

Red laser intensity, from dark to brightest

Up/Down 

Green laser intensity, from dark to brightest

Up/Down 

Blue laser intensity, from dark to brightest

Up/Down 

Laser patterns. See **6.8.6.1. Pattern Selection Chart** on page 37.

Up/Down 

Horizontal movement, from slow to fast

Up/Down 

Vertical movement, from slow to fast

04) Press the **UP/DOWN** buttons to set the value for the currently selected option.

6.6.3. DMX Mode

In this menu you can select the desired DMX channel mode (personality) and set the DMX starting address of the device.

01) Press the **MENU** button until the display shows  .
02) Press **ENTER** button to open the menu. The current DMX starting address will be blinking.

Note: If you exit DMX mode, the DMX connection will be discontinued and the device will not react to the DMX controller.

03) Press **ENTER** button to open the menu.
04) Press the **UP/DOWN** buttons to toggle through the following DMX channel modes (personalities):

 7-channel mode, 001–506

 9-channel mode, 001–504

 12-channel mode, 001–501

 36-channel mode, 001–477

 48-channel mode, 001–465

 54-channel mode, 001–459

 66-channel mode, 001–447

05) Press the **ENTER** button to confirm your choice and proceed to DMX starting address setting.
06) Press the **UP/DOWN** buttons to set the desired DMX starting address. The adjustment range depends on the currently selected DMX channel mode.

6.6.4. Master/Slave Mode

In this menu you can set the device as a slave device in master/slave control mode.

01) Press the **MENU** button until the display shows  .
02) Press **ENTER** button to set the device as a slave device.

6.7. Corrective Menu Options

6.7.1. Factory Reset

In this menu it is possible to restore the default factory settings. Make sure that the device is off before performing the following steps.

01) Press and hold down the **MENU** and **UP** buttons.
02) While holding the buttons down, connect the device to the socket-outlet with the power plug. See. **4.5. Connecting to Power Supply** on page 15 for more information. The display shows a splash screen with the current version of the firmware:

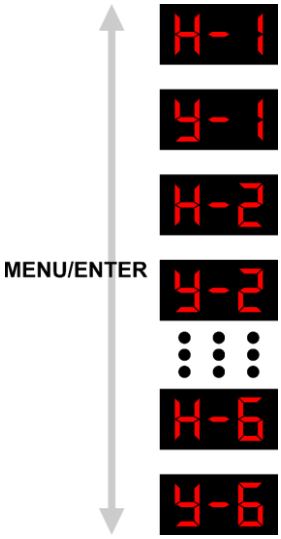
03) The display will blink and the default factory settings will be restored.

6.7.2. Beam Direction

In this menu it is possible to manually set the individual laser beam directions. Make sure that the device is off before performing the following steps.

01) Insert the key into the **key switch (11)**. The device is now operational. Turn the **key switch (11)** to ON position to turn on the laser beam. See **2.4. Safety Devices** on page 9 for more information.
02) Press and hold down the **DOWN** and **ENTER** buttons.
03) While holding the buttons down, connect the device to the socket-outlet with the power plug. See. **4.5. Connecting to Power Supply** on page 15 for more information. The display shows a splash screen with the current version of the firmware:

04) A new menu will appear:



05) Press the **MENU** or **ENTER** button to select the desired laser aperture (1–6). The currently selected laser aperture will light in red.
06) Press the **UP/DOWN** buttons to adjust the beam direction.
07) Press and hold down the **ENTER** button for 2 seconds to save changes. The device will start up.

Examples:

- If the display shows 

, press the **UP/DOWN** buttons to set the vertical position of the 2nd laser aperture.
- If the display shows 

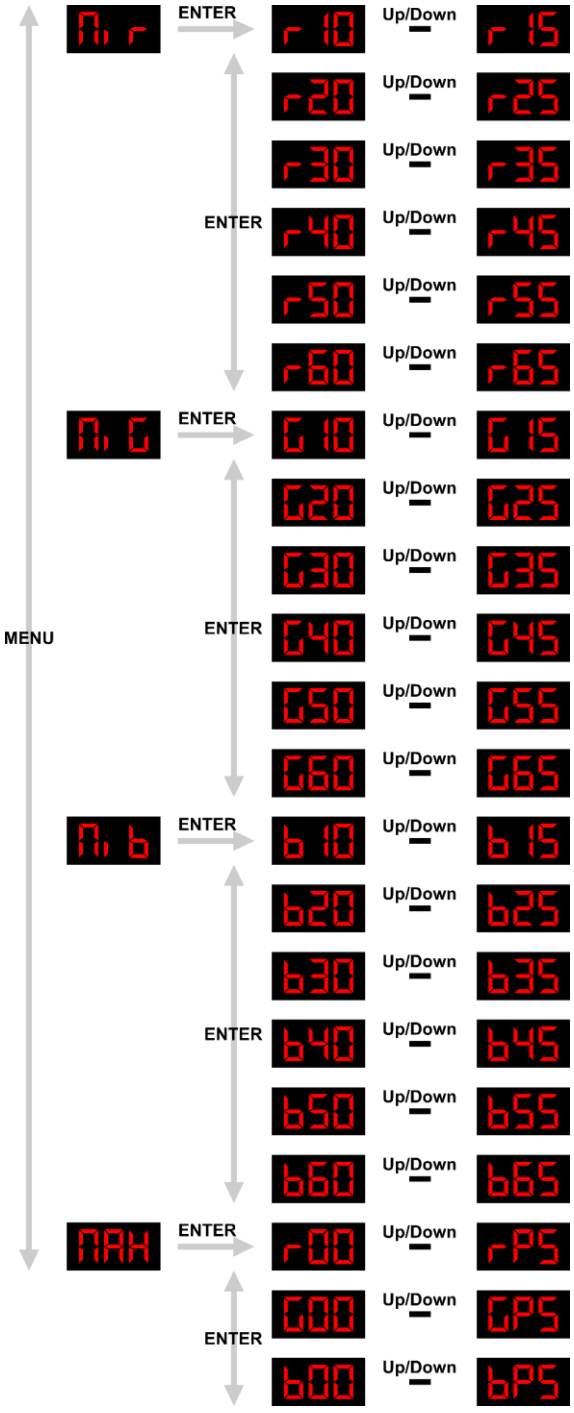
, press the **UP/DOWN** buttons to set the horizontal position of the 6th laser aperture.

6.7.3. Laser Intensity

In this menu it is possible to manually set the individual laser intensities. Make sure that the device is off before performing the following steps.

01) Insert the key into the **key switch (11)**. The device is now operational. Turn the **key switch (11)** to ON position to turn on the laser beam. See **2.4. Safety Devices** on page 9 for more information.
02) Press and hold down the **UP** and **DOWN** buttons.
03) Connect the device to the socket-outlet with the power plug. See. **4.5. Connecting to Power Supply** on page 15 for more information. The display shows a splash screen with the current version of the firmware:

04) A new menu will appear:



05) Press the **MENU** button to toggle through the following options:


Red laser, minimum output calibration


Green laser, minimum output calibration


Blue laser, minimum output calibration


Red/Green/Blue laser, maximum output adjustment

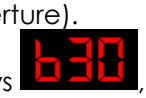
06) Press the **ENTER** button to open the desired menu.

6.7.3.1. Minimum Laser Output Calibration

If you have opened  ,  or  menu, you can set the individual minimum laser output (per aperture: 1–6; and per laser: Red, Green and Blue).

01) Press the **ENTER** button to select the desired laser aperture (1–6).
02) Press the **UP/DOWN** buttons to adjust the minimum output of the selected laser aperture.
03) Press and hold down the **ENTER** button for 2 seconds to save changes. The device will start-up.

Examples:

- If the display shows  , press the **UP/DOWN** buttons to set the minimum output of the green laser (5th laser aperture).
- If the display shows  , press the **UP/DOWN** buttons to set the minimum output of the blue laser (3rd laser aperture).

Note:

- While pressing the **UP/DOWN** buttons in order to set the minimum laser output, you will notice different values. For example, the adjustment range for the red laser in the 2nd laser aperture is  Up/Down  . Due to the limitations of the 3-digit display, not all values can be displayed.

  The exact range is from r2000 to r2009 through r2010 to r2019, up to r2255. Those are 255 steps, from off to maximum output. The digits in red are not shown on the display, only the digits in black are. See the table below for the entire range:

Display	Values
r20–29	0–9
r20–29	10–19
r20–29	20–29
r20–29	30–39
…	…
r20–29	230–239
r20–29	240–249
r20–25	250–255

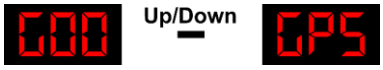
- Calibrate your device in a dark area, otherwise you will not be able to see the ultimate minimal value.
- Set the specific minimal value, where you are no longer able to see even the faintest laser dot on the wall.

6.7.3.2. Maximum Laser Output Adjustment

If you have opened  menu, you can set the maximum laser output: Red, Green and Blue. This is not a calibration menu. You can set the laser output only by color and not per aperture.

01) Press the **ENTER** button to select the desired laser:

Red laser, maximum output adjustment

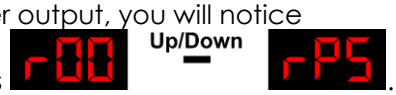


Green laser, maximum output adjustment

Blue laser, maximum output adjustment

02) Press the **UP/DOWN** buttons to adjust the maximum output of the selected laser.
03) Press and hold down the **ENTER** button for 2 seconds to save changes. The device will start-up.

Note:

- While pressing the **UP/DOWN** buttons in order to set the maximum laser output, you will notice different values. For example, the adjustment range for the red laser is 

. Due to the limitations of the 3-digit display, not all values can be displayed.

  The exact range is r00 to r99 (0–99) and then from rA0 to rP5 (100–255). Those are 255 steps, from off to maximum output. See the table below for the entire range:

100–109	110–119	120–129	130–139	…	230–239	240–249	250–255
ra0	rb0	rc0	rd0	…	rn0	ro0	rp0
ra1	rb1	rc1	rd1	…	rn1	ro1	rp1
ra2	rb2	rc2	rd2	…	rn2	ro2	rp2
ra3	rb3	rc3	rd3	…	rn3	ro3	rp3
ra4	rb4	rc4	rd4	…	rn4	ro4	rp4
ra5	rb5	rc5	rd5	…	rn5	ro5	rp5
ra6	rb6	rc6	rd6	…	rn6	ro6	
ra7	rb7	rc7	rd7	…	rn7	ro7	
ra8	rb8	rc8	rd8	…	rn8	ro8	
ra9	rb9	rc9	rd9	…	rn9	ro9	

6.8. DMX Channels

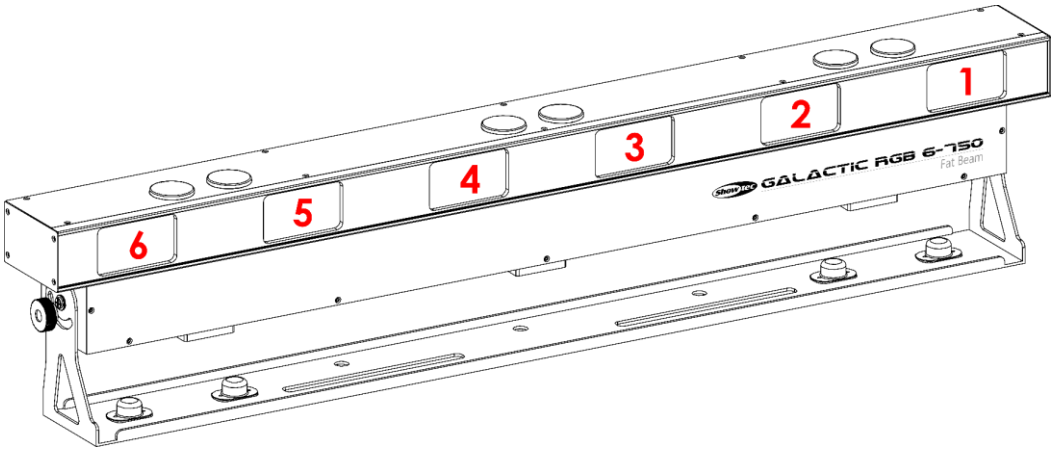


Fig. 14

The Galactic RGB-6-750 is equipped with 6 laser beam apertures.

Note: Make sure that the laser intensity channel(s) and laser color channels are open, in order to see the laser output. When using preset colors, it is not possible to adjust the individual laser colors (RGB).

6.8.1. 7 Channels, 9 Channels

7 CH	9 CH	Function	Value	Setting
	1	**Laser Intensity**	000–100	From low to high RGB laser intensity (0–100 %)
			101–110	Maximum RGB laser intensity (100 %)
			111–125	Default color
			126–190	Color switch (White, Red, Green, Blue, Yellow, Magenta, Cyan), from slow to fast
			191–254	Color flow, from slow to fast
			255	Color flow stop
	2	**Red Laser**	000–255	From low to high intensity (0–100 %)
	3	**Green Laser**	000–255	From low to high intensity (0–100 %)
	4	**Blue Laser**	000–255	From low to high intensity (0–100 %)
1		**Laser Color**	000–005	Blackout
			006–021	R=255, G+, B=0
			022–037	R-, G=255, B=0
			038–053	R=0, G=255, B+
			054–070	R=0, G-, B=255
			071–086	R+, G=0, B=255
			087–100	R=255, G+, B=255
			101–115	Default color
			116–185	White, Red, Green, Blue, Yellow, Magenta, Cyan (fixed colors)
			186–254	Color flow, from slow to fast
			255	Color flow stop
2		**Laser Intensity**	000–255	From low to high intensity (0–100 %)
3	5	**Patterns**	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
4	6	**Zoom**	000–127	Fixed zooming, 100–5 %
			128–169	Zoom in, from slow to fast
			170–209	Zoom out, from slow to fast
			210–255	Zoom in and zoom out, from slow to fast

7 CH	9 CH	Function	Value	Setting
5	7	X Movement	000–191	192 fixed positions on the X axis
			192–223	Horizontal movement from left to right, from slow to fast
			224–255	Horizontal movement from right to left, from slow to fast
6	8	Y Movement	000–191	192 fixed positions on the Y axis
			192–223	Vertical movement down – up, from slow to fast
			224–255	Vertical movement up – down, from slow to fast
7	9	Laser Mirror	000–015	No function
			016–055	Lasers 1, 2, 3 and 4, 5, 6 mirrored on the X axis
			056–095	Lasers 1, 3, 5 and 2, 4, 6 mirrored on the X axis
			096–135	Lasers 1, 2, 3 and 4, 5, 6 mirrored on the Y axis
			136–175	Lasers 1, 3, 5 and 2, 4, 6 mirrored on the Y axis
			176–215	Lasers 1, 2, 3 and 4, 5, 6 mirrored on the X and Y axes
			216–255	Lasers 1, 3, 5 and 2, 4, 6 mirrored on the X and Y axes

Note: In 9-channel mode, set Laser Intensity channel (CH 1) between 0–110 for the Red/Green/Blue Laser channels to work.

6.8.2. 12 Channels

In CH 1 you can select the operating mode of the device. Depending on the selection made in CH 1, CH 2 has different functions in the different operating modes. The remaining channels' functions do not change.

CH	Function	Value	Setting
1	Mode Selection	000	Blackout
		001–100	Manual mode, from low to high RGB laser intensity (0–100 %)
		101–138	Default color
		139–177	Static colors
		178–215	Multiple colors
		216–255	Color flow

6.8.2.1. Manual Mode

Set CH 1 between 001–100 to select manual mode.

CH	Function	Value	Setting
2	Red Laser	000–255	From low to high intensity (0–100 %)
3	Green Laser	000–255	From low to high intensity (0–100 %)
4	Blue Laser	000–255	From low to high intensity (0–100 %)

6.8.2.2. Static Colors

Set CH 1 between 139–177 to select static colors.

CH	Function	Value	Setting
2	Static Colors	000–036	Red
		037–073	Green
		074–110	Blue
		111–147	Yellow
		148–184	Magenta
		185–221	Cyan
		222–255	White

6.8.2.3. Multiple Colors

Set CH 1 between 178–215 to select multiple colors.

CH	Function	Value	Setting
2	Multiple Colors	000–036	Green, Cyan, Magenta, Yellow
		037–073	Blue, Cyan, Magenta, Yellow
		074–110	White, Cyan, Magenta, Yellow
		111–147	Red, White, Cyan, Magenta
		148–184	Red, Green, White, Cyan
		185–221	Red, Green, Blue, White
		222–255	Red, Green, Blue, Yellow

6.8.2.4. Color Flow

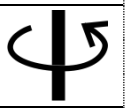
Set CH 1 between 216–255 to select color flow.

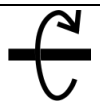
CH	Function	Value	Setting
2	Color Flow Speed	000–254	From slow to fast
		255	Color flow stop

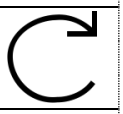
6.8.2.5. Universal Channels

The channels below always have the same function, regardless of the CH 1 setting.

CH	Function	Value	Setting
5	Patterns	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
6	Zoom	000–127	Fixed zooming, 100–5 %
		128–169	Zoom in, from slow to fast
		170–209	Zoom out, from slow to fast
		210–255	Zoom in and zoom out, from slow to fast
7	Y Rotation	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
8	X Rotation	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
9	Z Rotation	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
10	X Movement	000–191	192 fixed positions on the X axis
		192–223	Horizontal movement from left to right, from slow to fast
		224–255	Horizontal movement from right to left, from slow to fast
11	Y Movement	000–191	192 fixed positions on the Y axis
		192–223	Vertical movement down – up, from slow to fast
		224–255	Vertical movement up – down, from slow to fast
12	Laser Mirror	000–015	No function
		016–055	Lasers 1, 2, 3 and 4, 5, 6 mirrored on the X axis
		056–095	Lasers 1, 3, 5 and 2, 4, 6 mirrored on the X axis
		096–135	Lasers 1, 2, 3 and 4, 5, 6 mirrored on the Y axis
		136–175	Lasers 1, 3, 5 and 2, 4, 6 mirrored on the Y axis
		176–215	Lasers 1, 2, 3 and 4, 5, 6 mirrored on the X and Y axes
		216–255	Lasers 1, 3, 5 and 2, 4, 6 mirrored on the X and Y axes







6.8.3. 36 Channels

CH	Function	Value	Setting
1	**X Movement (Laser 1)**	000–255	Fixed positions on the X axis, 127 = middle
2	**Y Movement (Laser 1)**	000–255	Fixed positions on the Y axis, 127 = middle
3	**Laser 1**	000–127	Laser off
		128–255	Laser on
4	**Red Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
5	**Green Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
6	**Blue Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
7	**X Movement (Laser 2)**	000–255	Fixed positions on the X axis, 127 = middle
8	**Y Movement (Laser 2)**	000–255	Fixed positions on the Y axis, 127 = middle
9	**Laser 2**	000–127	Laser off
		128–255	Laser on
10	**Red Laser (Laser 2)**	000–255	From low to high intensity (0–100 %)
11	**Green Laser (Laser 2)**	000–255	From low to high intensity (0–100 %)
12	**Blue Laser (Laser 2)**	000–255	From low to high intensity (0–100 %)
…	…	…	…
31	**X Movement (Laser 6)**	000–255	Fixed positions on the X axis, 127 = middle
32	**Y Movement (Laser 6)**	000–255	Fixed positions on the Y axis, 127 = middle
33	**Laser 6**	000–127	Laser off
		128–255	Laser on
34	**Red Laser (Laser 6)**	000–255	From low to high intensity (0–100 %)
35	**Green Laser (Laser 6)**	000–255	From low to high intensity (0–100 %)
36	**Blue Laser (Laser 6)**	000–255	From low to high intensity (0–100 %)

6.8.4. 48 Channels

CH	Function	Value	Setting
1	**Laser Intensity (Laser 1)**	000–100	From low to high RGB laser intensity (0–100 %)
		101–110	Maximum RGB laser intensity (100 %)
		111–125	Default color
		126–190	Color switch (White, Red, Green, Blue, Yellow, Magenta, Cyan), from slow to fast
		191–254	Color flow, from slow to fast
		255	Color flow stop
2	**Red Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
3	**Green Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
4	**Blue Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
5	**Patterns (Laser 1)**	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
6	**Zoom (Laser 1)**	000–127	Fixed zooming, 100–5 %
		128–169	Zoom in, from slow to fast
		170–209	Zoom out, from slow to fast
		210–255	Zoom in and zoom out, from slow to fast
7	**X Movement (Laser 1)**	000–191	192 fixed positions on the X axis
		192–223	Horizontal movement from left to right, from slow to fast
		224–255	Horizontal movement from right to left, from slow to fast
8	**Y Movement (Laser 1)**	000–191	192 fixed positions on the Y axis
		192–223	Vertical movement down – up, from slow to fast
		224–255	Vertical movement up – down, from slow to fast
…	…	…	…
41	**Laser Intensity (Laser 6)**	000–100	From low to high RGB laser intensity (0–100 %)
		101–110	Maximum RGB laser intensity (100 %)
		111–125	Default color
		126–190	Color switch (White, Red, Green, Blue, Yellow, Magenta, Cyan), from slow to fast
		191–254	Color flow, from slow to fast
		255	Color flow stop
42	**Red Laser (Laser 6)**	000–255	From low to high intensity (0–100 %)
43	**Green Laser (Laser 6)**	000–255	From low to high intensity (0–100 %)
44	**Blue Laser (Laser 6)**	000–255	From low to high intensity (0–100 %)
45	**Patterns (Laser 6)**	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
46	**Zoom (Laser 6)**	000–127	Fixed zooming, 100–5 %
		128–169	Zoom in, from slow to fast
		170–209	Zoom out, from slow to fast
		210–255	Zoom in and zoom out, from slow to fast
47	**X Movement (Laser 6)**	000–191	192 fixed positions on the X axis
		192–223	Horizontal movement from left to right, from slow to fast
		224–255	Horizontal movement from right to left, from slow to fast
48	**Y Movement (Laser 6)**	000–191	192 fixed positions on the Y axis
		192–223	Vertical movement down – up, from slow to fast
		224–255	Vertical movement up – down, from slow to fast

Note: Set Laser Intensity channels, for each laser aperture, between 0–110 for the Red/Green/Blue Laser channels to work.

6.8.5. 54 Channels

CH	Function	Value	Setting
1	Laser Color (Laser 1)	000–005	Blackout
		006–021	R=255, G+, B=0
		022–037	R-, G=255, B=0
		038–053	R=0, G=255, B+
		054–070	R=0, G-, B=255
		071–086	R+, G=0, B=255
		087–100	R=255, G+, B=255
		101–115	Default color
		116–185	White, Red, Green, Blue, Yellow, Magenta, Cyan (fixed colors)
		186–254	Color flow, from slow to fast
		255	Color flow stop
2	Laser Intensity (Laser 1)	000–255	From low to high intensity (0–100 %)
3	Patterns (Laser 1)	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
4	Zoom (Laser 1)	000–127	Fixed zooming, 100–5 %
		128–169	Zoom in, from slow to fast
		170–209	Zoom out, from slow to fast
		210–255	Zoom in and zoom out, from slow to fast
5	Y Rotation (Laser 1)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
6	X Rotation (Laser 1)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
7	Z Rotation (Laser 1)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
8	X Movement (Laser 1)	000–191	192 fixed positions on the X axis
		192–223	Horizontal movement from left to right, from slow to fast
		224–255	Horizontal movement from right to left, from slow to fast
9	Y Movement (Laser 1)	000–191	192 fixed positions on the Y axis
		192–223	Vertical movement down – up, from slow to fast
		224–255	Vertical movement up – down, from slow to fast
…	…	…	…
46	Laser Color (Laser 6)	000–005	Blackout
		006–021	R=255, G+, B=0
		022–037	R-, G=255, B=0
		038–053	R=0, G=255, B+
		054–070	R=0, G-, B=255
		071–086	R+, G=0, B=255
		087–100	R=255, G+, B=255
		101–115	Default color
		116–185	White, Red, Green, Blue, Yellow, Magenta, Cyan (fixed colors)
		186–254	Color flow, from slow to fast
		255	Color flow stop
47	Laser Intensity (Laser 6)	000–255	From low to high intensity (0–100 %)

CH	Function	Value	Setting
48	**Patterns (Laser 6)**	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
49	**Zoom (Laser 6)**	000–127	Fixed zooming, 100–5 %
		128–169	Zoom in, from slow to fast
		170–209	Zoom out, from slow to fast
		210–255	Zoom in and zoom out, from slow to fast
50	**Y Rotation (Laser 6)**	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
51	**X Rotation (Laser 6)**	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
52	**Z Rotation (Laser 6)**	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
53	**X Movement (Laser 6)**	000–191	192 fixed positions on the X axis
		192–223	Horizontal movement from left to right, from slow to fast
		224–255	Horizontal movement from right to left, from slow to fast
54	**Y Movement (Laser 6)**	000–191	192 fixed positions on the Y axis
		192–223	Vertical movement down – up, from slow to fast
		224–255	Vertical movement up – down, from slow to fast

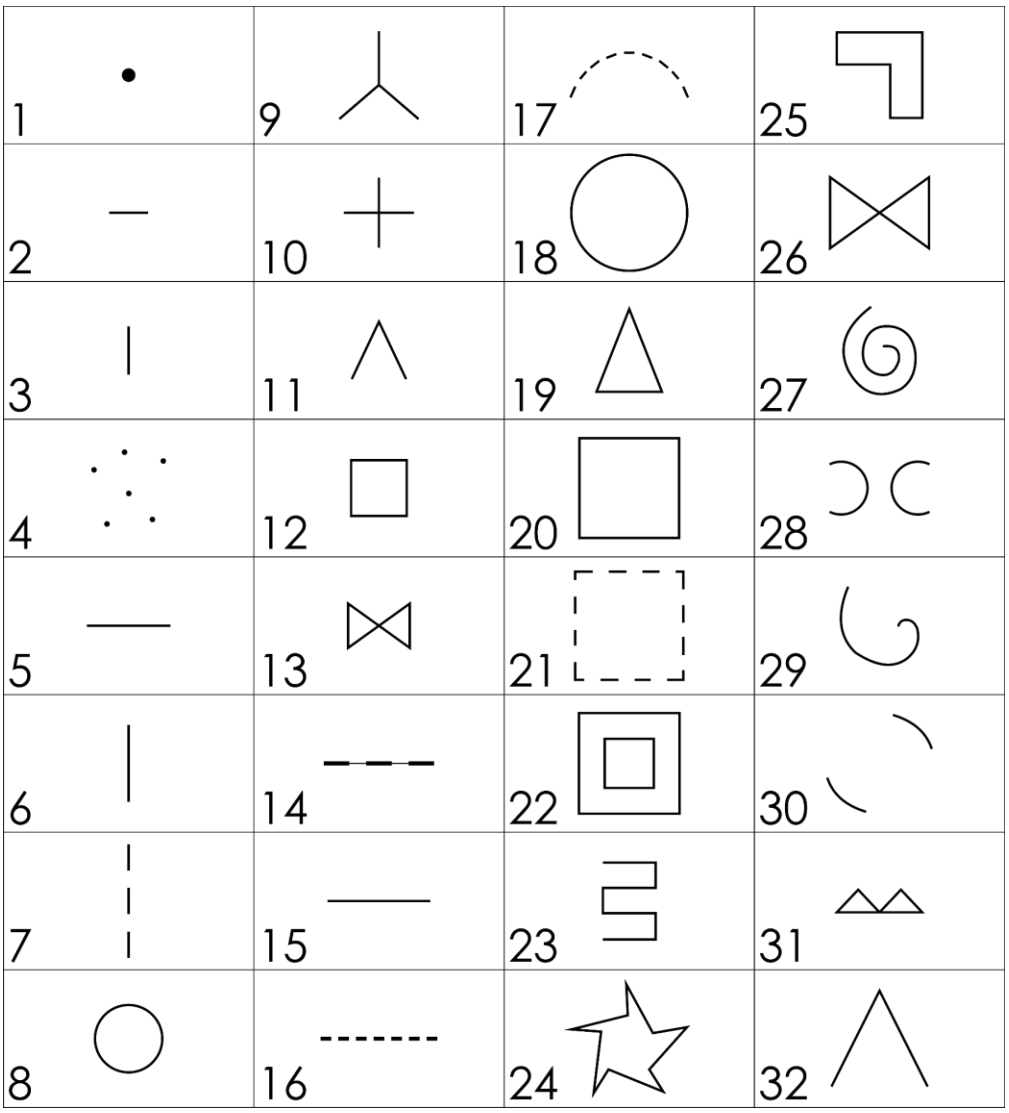
6.8.6. 66 Channels

CH	Function	Value	Setting
1	**Laser Intensity (Laser 1)**	000–100	From low to high RGB laser intensity (0–100 %)
		101–110	Maximum RGB laser intensity (100 %)
		111–125	Default color
		126–190	Color switch (White, Red, Green, Blue, Yellow, Magenta, Cyan), from slow to fast
		191–254	Color flow, from slow to fast
		255	Color flow stop
2	**Red Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
3	**Green Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
4	**Blue Laser (Laser 1)**	000–255	From low to high intensity (0–100 %)
5	**Patterns (Laser 1)**	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
6	**Zoom (Laser 1)**	000–127	Fixed zooming, 100–5 %
		128–169	Zoom in, from slow to fast
		170–209	Zoom out, from slow to fast
		210–255	Zoom in and zoom out, from slow to fast
7	**Y Rotation (Laser 1)**	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast

CH	Function	Value	Setting
8	X Rotation (Laser 1)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
9	Z Rotation (Laser 1)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
10	X Movement (Laser 1)	000–191	192 fixed positions on the X axis
		192–223	Horizontal movement from left to right, from slow to fast
		224–255	Horizontal movement from right to left, from slow to fast
11	Y Movement (Laser 1)	000–191	192 fixed positions on the Y axis
		192–223	Vertical movement down – up, from slow to fast
		224–255	Vertical movement up – down, from slow to fast
…	…	…	…
56	Laser Intensity (Laser 6)	000–100	From low to high RGB laser intensity (0–100 %)
		101–110	Maximum RGB laser intensity (100 %)
		111–125	Default color
		126–190	Color switch (White, Red, Green, Blue, Yellow, Magenta, Cyan), from slow to fast
		191–254	Color flow, from slow to fast
		255	Color flow stop
57	Red Laser (Laser 6)	000–255	From low to high intensity (0–100 %)
58	Green Laser (Laser 6)	000–255	From low to high intensity (0–100 %)
59	Blue Laser (Laser 6)	000–255	From low to high intensity (0–100 %)
60	Patterns (Laser 6)	000–255	Laser patterns (See **6.8.6.1. Pattern Selection Chart** on page 37 for the list of patterns.)
61	Zoom (Laser 6)	000–127	Fixed zooming, 100–5 %
		128–169	Zoom in, from slow to fast
		170–209	Zoom out, from slow to fast
		210–255	Zoom in and zoom out, from slow to fast
62	Y Rotation (Laser 6)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
63	X Rotation (Laser 6)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
64	Z Rotation (Laser 6)	000–127	Fixed rotating 0–359°
		128–191	Continuous clockwise rotation, from slow to fast
		192–255	Continuous counterclockwise rotation, from slow to fast
65	X Movement (Laser 6)	000–191	192 fixed positions on the X axis
		192–223	Horizontal movement from left to right, from slow to fast
		224–255	Horizontal movement from right to left, from slow to fast
66	Y Movement (Laser 6)	000–191	192 fixed positions on the Y axis
		192–223	Vertical movement down – up, from slow to fast
		224–255	Vertical movement up – down, from slow to fast

Note: Set Laser Intensity channels, for each laser aperture, between 0–110 for the Red/Green/Blue Laser channels to work.

6.8.6.1. Pattern Selection Chart



7. Troubleshooting

This troubleshooting guide contains actions which can be carried out by the user. 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 power up	No power to the device	• Check if power is switched on and cables are plugged in
	Main fuse is blown	• Replace the fuse. See **8.3.1. Replacing the Fuse** on page 40
The device does not produce a laser projection	The key switch is not in ON position	• Insert the key switch and turn it in ON position. See **2.4. Safety Devices** on page 9
	The remote interlock or the test connector is not connected	• Connect the remote interlock or the test connector. See **2.4. Safety Devices** on page 9
The device responds erratically	The factory settings of the device are changed	• Reset the device's parameters to the default factory settings. See **6.7.1. Factory Reset** on page 25
The device does not respond to DMX control	The controller is not connected	• Connect the controller
	The device is not in DMX mode	• Activate DMX mode from the main menu
	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	Bad data link connection	• Examine connections and cables. Correct poor connections. Repair or replace damaged cables
	The data link is not terminated with a 120 Ω termination plug	• Insert a termination plug in the DMX OUT connector of the last device on the link
	Incorrect addressing	• Check address settings and correct, if necessary
	In case of a setup with multiple devices, one of the devices is defective and disturbs data transmission on the link	• To find out which is the defective device, bypass one device at a time until normal operation is restored

8. Maintenance

8.1. Safety Instructions for Maintenance

DANGER
Electric shock caused by dangerous voltage inside

Disconnect power supply before servicing or cleaning.

WARNING
Laser radiation
Avoid exposure to beam.

This device is a class 3B laser device according to the classification in NEN-EN-IEC 60825-1:2014.

Maintenance can be carried out by instructed or skilled persons. Service shall be carried out only by skilled persons. Contact your Highlite International dealer for more information.

8.2. Preventive Maintenance

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

Make sure that:

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

8.2.1. Basic Cleaning Instructions

WARNING
Laser radiation
Avoid exposure to beam

To avoid laser emission, remove the key before cleaning the device.

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

To clean the device, follow the steps below:

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

05) Dry the lens carefully with a lint-free cloth.
06) Clean the DMX and other connections with a damp cloth.

Attention

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

8.3. Corrective Maintenance

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

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

8.3.1. Replacing the Fuse

DANGER
Electric shock caused by short-circuit

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

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

01) Disconnect the device from the electrical power supply.
02) Allow the device to cool down for at least 15 minutes.
03) Loosen the fuse cover with a screwdriver and remove the fuse holder.
04) If the fuse is brown or unclear, it is burned out. Remove the old fuse.
05) Insert a new fuse in the fuse holder. Make sure that the type and the rating of the replacement fuse are the same as the ones specified on the information label of the product.
06) Replace the fuse holder in the opening and tighten the fuse cover.

9. Deinstallation, Transportation and Storage

9.1. Instructions for Deinstallation

WARNING
Incorrect deinstallation can cause serious injuries and damage of property.

- Let the device cool down before dismounting.
- Disconnect power supply before deinstallation.
- Always observe the national and site-specific regulations during deinstallation and derigging of the device.
- Wear personal protective equipment in compliance with the national and site-specific regulations.

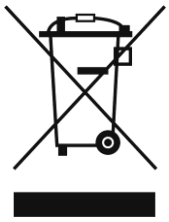
9.2. Instructions for Transportation

- Use the original packaging to transport the device, if possible.
- Always observe the handling instructions printed on the outer carton box, for example: “Handle with care”, “This side up”, “Fragile”.

9.3. Storage

- Clean the device before storing. Follow the cleaning instructions in chapter **8.2.1. Basic Cleaning Instructions** on page 39.
- Store the device in the original packaging, if possible.

10. Disposal



Correct disposal of this product

Waste Electrical and Electronic Equipment

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

11. Approval

CE

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

This product is in compliance with IEC60825-1:2014.