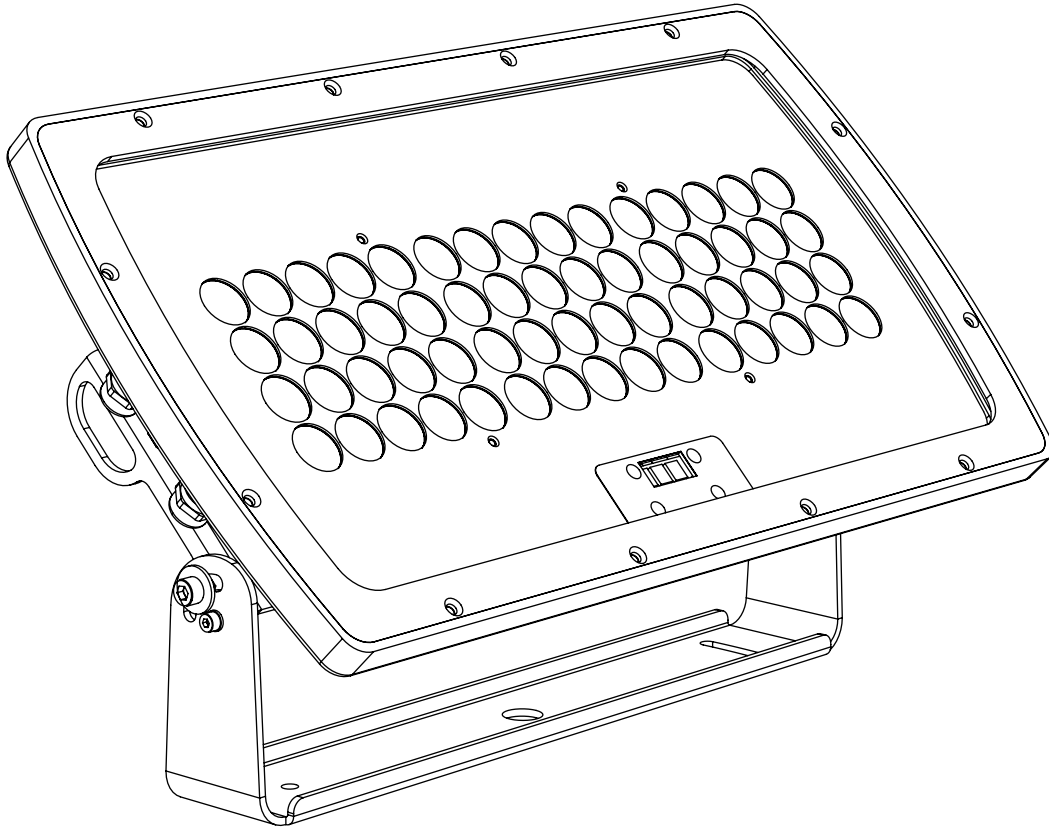


EMERALD



Manuale di istruzioni
Instructions manual

 **GRIVEN**
world lighting challenge

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1.0 Introduction

1.1 Safety information

Warning!

This unit is suitable for professional use only, not for domestic use.

1.1.1 Protecting against electric shock

- Disconnect the unit from mains supply before servicing it or performing any other action.
- Always ground/earth the unit electrically.
- Before connecting the unit to power supplies, verify that operating voltage and frequency are compatible.
- Do not handle the unit with wet hands or in the presence of water.
- Check regularly that the power supply cable is not damaged or crushed.
- Apply to a qualified technician for any regular maintenance action not described in this manual.

1.1.2 Installation

- Fix the unit with screws, hooks or any other support able to bear the weight of the unit itself.
- The unit installation actions must be performed by a qualified staff.

1.1.3 Protection against burns and fire



- Suitable to be installed onto normally inflammable surfaces.
- The unit is not to be installed in places where the ambient temperature exceeds 50° (122°F).

1.1.4 Weather protection

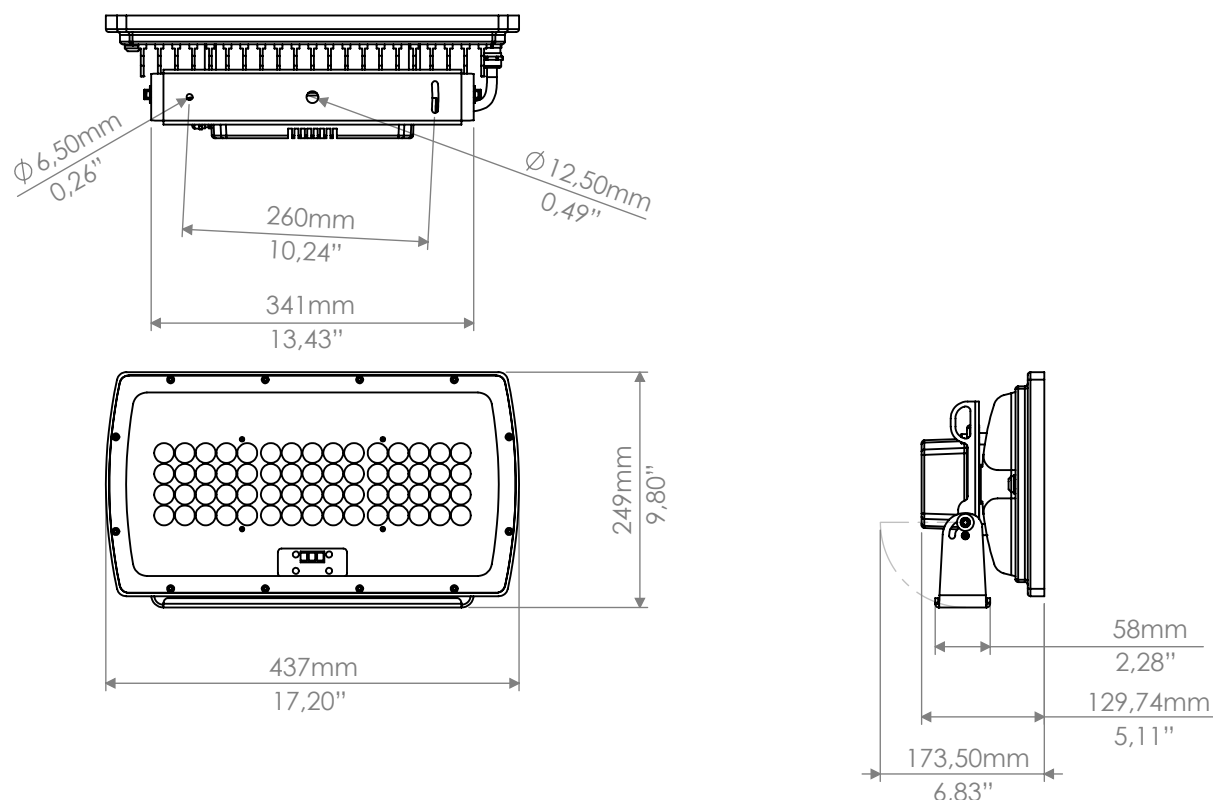
The unit is classified as device with an IP66 weather protection rate.

1.2 Compliance



- Product in compliance with EN60598-1 EN60598-2-17.
- Product in compliance with 2002/95/CE (RoHS).

2.0 Size



3.0 Packaging and transport

3.1 Packaging

Check carefully the content of the box and, in case of damage, contact your forwarder immediately. The following items are included in the box of this unit:

- n° 1 **EMERALD** unit
- n° 1 owner's manual
- n° 2 connection kit

Warning!

- Griven S.r.l. liability will cease upon consignment of goods to the forwarder: claims for damage due to transport must be addressed directly to the forwarder.
- Griven S.r.l. will accept claims for broken or missing goods only within seven days of receipt of the goods.
- Returns of equipment will not be accepted without prior authorization granted by Griven S.r.l. and if not duly accompanied by relevant shipping documents.

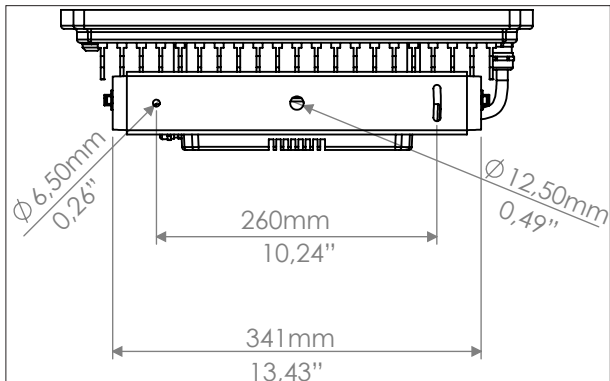
3.2 Transport

The carton box has not been designed to be used more than once, therefore, it is recommended to use one of our flight cases to transport the unit.

4.0 Installation

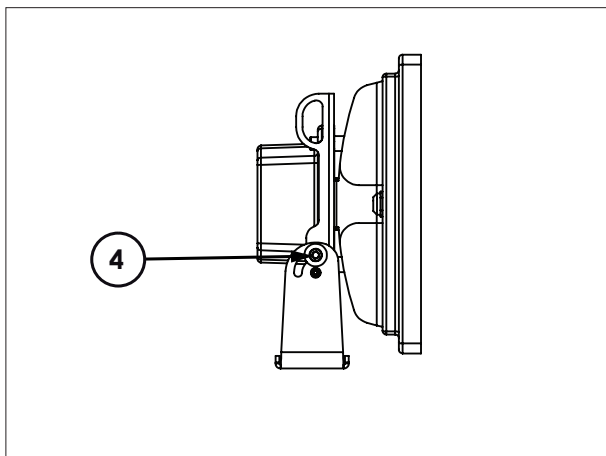
4.1 Fixing

The unit can be used both rested on floor and fixed onto a structure. The unit can operate in any position.

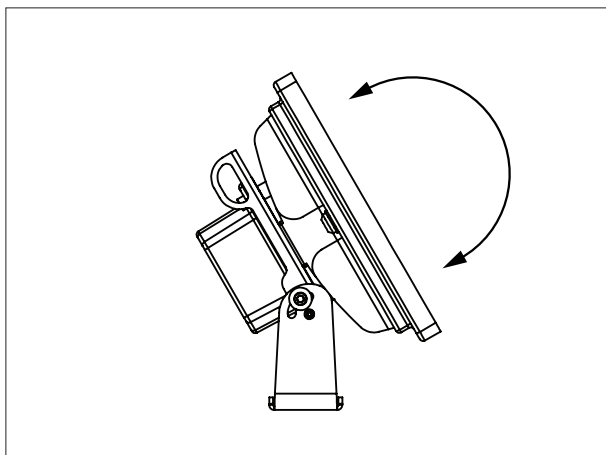


Use the holes $\text{Ø}12.5$ (1/2") or $\text{Ø}6.5$ (1/4") in the bracket to fix the unit.

4.2 Adjusting light beam direction



1. Untighten the lateral screw "4".



2. Rotate the bodies of the unit towards desired direction and tighten the screw "4".

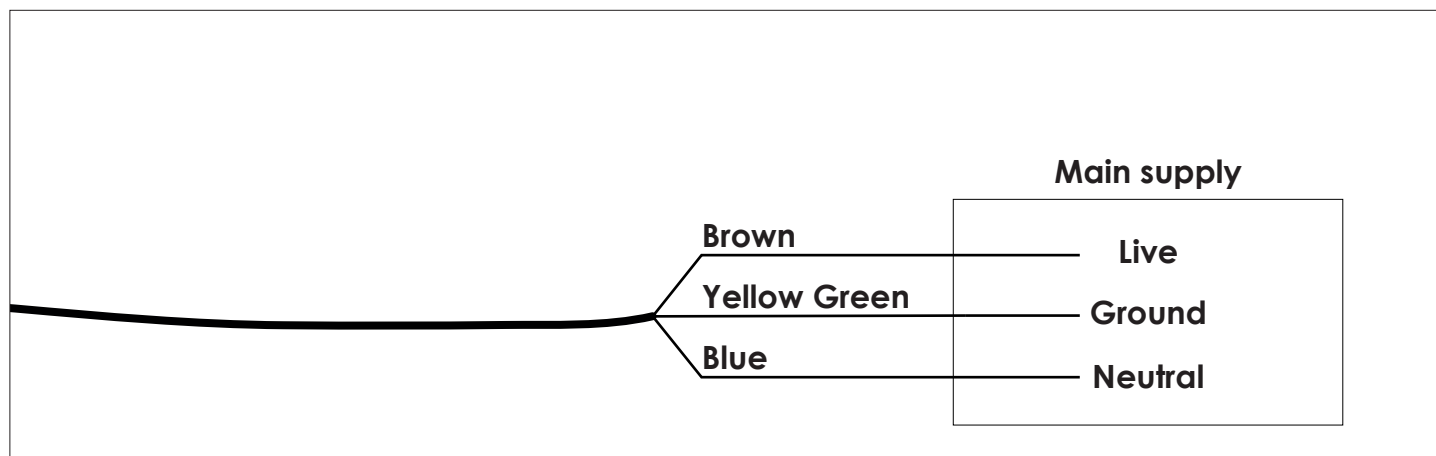
4.3 Connection to mains power

The unit can operate with voltage from 100-277Vac and with frequency of 50 and 60Hz.

Warning!

- Before connecting the unit, verify that power supplies features are compatible with the unit features.
- The unit must never be installed if not grounded electrically.
- It is suggested to use a magnetothermic switch along the power supply line, as prescribed by in force rules.
- The unit must not be powered up through a dimmer power device.
- Wiring and connection actions are to be performed by a qualified staff.

For the connection use main cable in the side of the rear boxl of the fixture and connect as shown below.



Warning!

Follow the instructions provided along with the connection kit to perform the connections.

4.4 Connection to DMX signal

The DMX signal is to be connected by using a shielded cable designed for devices RS-485.

The signal cable must be connected according to the following table:

GND = Shield
DATA - = Black
DATA + = Red

Warning!

All data wires must be isolated one from another and from the shield.
The GND of the DMX signal is not to be connected to the electric ground of the unit.
Insert a terminal plug with a 120 Ω resistor connected to DATA- and DATA+ in the last unit.

EMERALD is fitted with butt connectors and heat shrink tube which allow to perform IP67 connections.
To make the connection follow these instructions.

Warning!

Follow the instructions provided along with the connection kit to perform the connections.

5.0 Use of the unit

5.1 Setting operating mode

By the control panel it is possible to select one of the following operating modes:

- **using DMX512 signal control mode**

Each fixture is controlled from DMX512 signal control.

(see chapter **6.0 DMX function**)

- **MASTER-SLAVE or AUTOMATIC mode (ONLY RGBW and DW)**

The projector operates independently, without DMX512 signal control.

(see chapter **7.0 MASTER/SLAVE and AUTOMATIC function**)

- **using FIXED COLOURS mode (ONLY RGBW and DW)**

The projector operates independently, without DMX512 signal control.

(see chapter **8.0 FIXED COLOURS function**)

The unit NORMALLY works in DMX mode and, on turning on, the display will read the number of DMX address (e.g. 012).

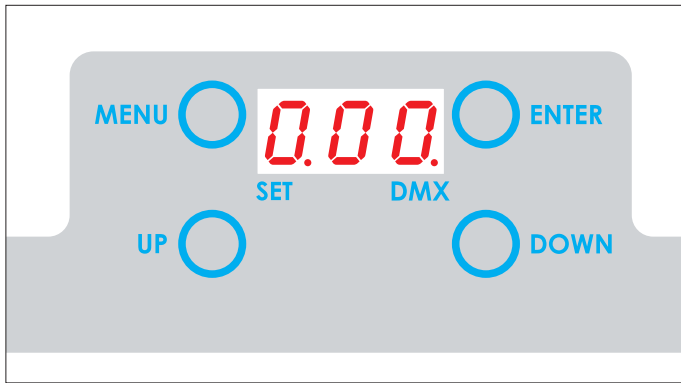
If on turning on the display will read "AUT", it will mean that the unit is working in AUTOMATIC mode.

Disable this function to go back to the DMX mode.

If on turning on, the display will read "COL", it will mean that the unit is working in FIXED COLOURS mode.

Disable this function to go back to the DMX mode.

5.2 Unit control panel



The display of the unit is programmed to turn off automatically after 20 seconds of non working.

To activate it just press "UP" "DOWN" "UP" "DOWN" keys.

When the display is active, the luminous intensity is dimmed to 10% in order to avoid blind effect.

In the presence of DMX signal, the DMX led (right decimal point) will be steady on, in the absence of signal, the red led will be off, while in Master mode the red led will flash.

The SET led (left decimal point) is on during:

- DMX address is setting
- menu setting

5.2.1 Reading the display and using controls

MENU button:

By pushing the "MENU" button the display will show the main menu or you can exit from function and go back to main menu.

By pushing the "MENU" button when it shows the DMX address, you will enter in the main menu.

- address setting ADR
- channels number setting CHN only RGBW-DW
- MASTER/SLAVE and AUTOMATIC mode AUT only RGBW-DW
- FIXED COLOURS mode COL only RGBW-DW
- LED temperature TEM
- Default setting DEF
- Software release REL

UP and **DOWN** buttons:

By pushing the "UP" and "DOWN" buttons, values of the function which is shown in the display can be changed.

ENTER button:

Keep the "ENTER" button pushed, until the display and the SET led flash, in order to memorize the function which is shown on the display.

6.0 DMX function mode

6.1 Setting DMX channels

The number of DMX channels used by the unit to operate will depend from the selected operating mode.

Each RGBW unit will use **4, 5 or 6** DMX channels.

Each DW unit will use **2 or 3** DMX channels.

Each monochrome unit will use **1** DMX channel.

Follow this description to modify the DMX channels setting: press the "MENU" button, select "CHN" and press "ENTER" button to activate the function. Then select the desired value (1C/.../ 6C) through the "UP" and "DOWN" keys. Press "ENTER" to confirm.

6.2 Setting DMX address

Follow this description to modify the address: press once the "MENU" button, select "ADR" and press "ENTER" button to activate the function. Then select the desired value (between 1 and 512) through the "UP" and "DOWN" keys. Press "ENTER" to confirm.

6.3 DMX functions RGBW

Warning!

In absence of DMX signal the led will remain OFF.

6.3.1 DMX functions with DMX MODE = 4 channels

Channel	Function	Value	Description
1	Red	0-255	Proportional control 0-100% of the Red color
2	Green	0-255	Proportional control 0-100% of the Green color
3	Blue	0-255	Proportional control 0-100% of the Blue color
4	White	0-255	Proportional control 0-100% of the White color

6.3.2 DMX functions with DMX MODE = 5 channels

Channel	Function	Value	Description
1	Red	0-255	Proportional control 0-100% of the Red color
2	Green	0-255	Proportional control 0-100% of the Green color
3	Blue	0-255	Proportional control 0-100% of the Blue color
4	White	0-255	Proportional control 0-100% of the White color
5	Dimmer Strobe	0-15	Luminous output intensity 100%
		16-150	Proportional control of the luminous output intensity 100-0%
		151-160	Luminous output intensity 0%
		161-255	Proportional control of the strobe effect 0-100% (255=max)

6.3.3 DMX functions with DMX MODE = 6 channels

Channel	Function	Value	Description
1	Red	0-255	Proportional control 0-100% of the Red color
2	Green	0-255	Proportional control 0-100% of the Green color
3	Blue	0-255	Proportional control 0-100% of the Blue color
4	White	0-255	Proportional control 0-100% of the White color
5	Dimmer	0-5	Luminous output intensity 0%
		6-250	Proportional control of the luminous output intensity 0-100%
		251-255	Luminous output intensity 100%
6	Strobe	0-15	No strobe
		6-250	Proportional control of the strobe effect 0-100%
		251-255	Strobe effect 100%

6.4 DMX functions DW

<p>Warning! In absence of DMX signal the led will remain ON.</p>

6.4.1 DMX functions with DMX MODE = 2 channels

Channel	Function	Value	Description
1	Dynamic white	0-3	Warm white 100% - Cold white 0%
		4-122	Warm white 100% - Cold white from 0% to 100%
		123-132	Warm white 100% - Cold white 100%
		133-251	Warm white 100% to 0% - Cold white 00%
		252-255	Warm white 0% - Cold white 100%%
2	Dimmer Strobe	0-15	Luminous output intensity 100%
		16-150	Proportional control of the luminous output intensity 100-0%
		151-160	Luminous output intensity 0%
		161-255	Proportional control of the strobe effect 0-100% (255=max)

6.4.2 DMX functions with DMX MODE = 3 channels

Channel	Function	Value	Description
1	Warm white	0-255	Proportional control 0-100% of the warm white
2	Cold white	0-255	Proportional control 0-100% of the cold white
3	Dimmer Strobo	0-15	Luminous output intensity 100%
		16-150	Proportional control of the luminous output intensity 100-0%
		151-160	Luminous output intensity 0%
		161-255	Proportional control of the strobe effect 0-100% (255=max)

6.5 DMX functions monochrome

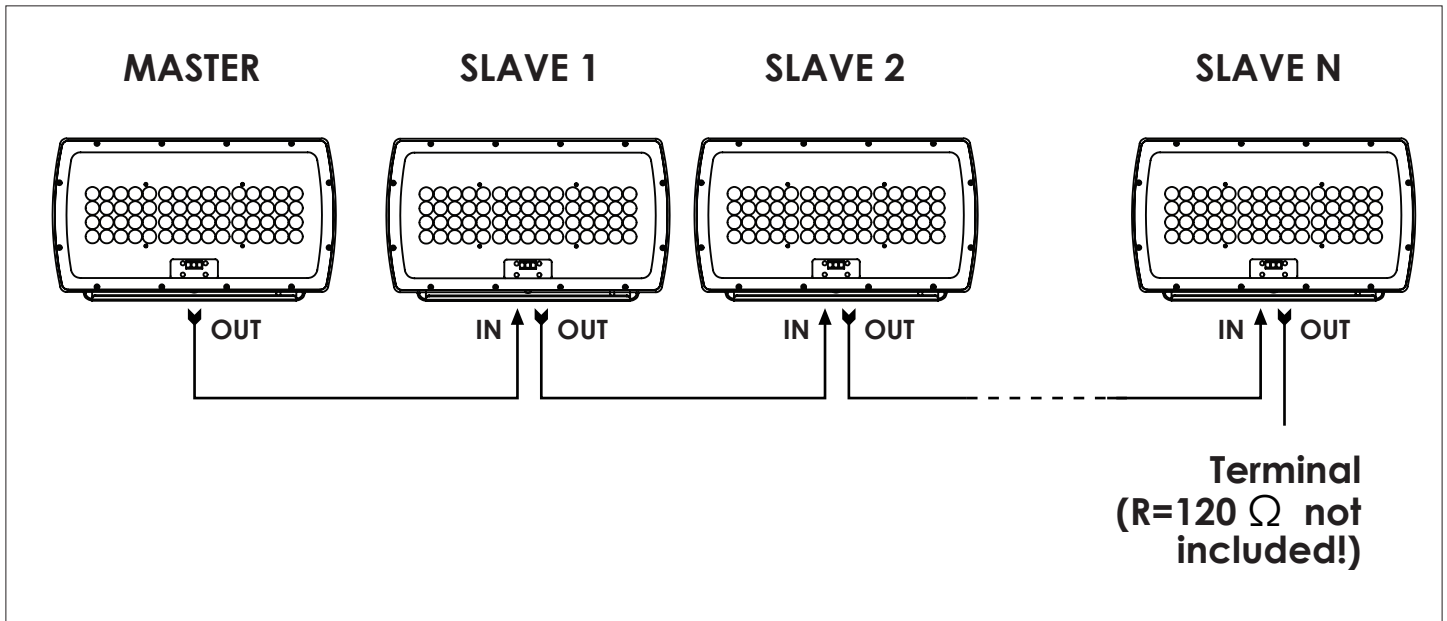
Attention!
In absence of DMX signal the led will remain ON.

Channel	Function	Value	Description
1	Dimmer Strobe	0-15	Luminous output intensity 100%
		16-150	Proportional control of the luminous output intensity 100-0%
		151-160	Luminous output intensity 0%
		161-255	Proportional control of the strobe effect 0-100% (255=max)

7.0 Master-Slave and Automatic function - RGBW - DW

Emerald can operate without DMX signal (in AUTOMATIC mode) and can be set so that a single MASTER unit will command a series of SLAVE units. This function is particularly useful when more units are desired to execute the same programme in synchrony.

The following picture shows an example of a Master-Slave layout.



7.1 AUTOMATIC configuration DW

The AUTOMATIC mode ONLY works when set to operate with 3 DMX channels.

Follow this description to modify the DMX channels setting: press the "MENU" button, select "CHN" and press "ENTER" button to activate the function. Then select 3C through the "UP" and "DOWN" keys. Press "ENTER" to confirm.

To activate the AUTOMATIC mode, press the "MENU" button up to visualize "ADR". Through the "UP" and "DOWN" keys select "AUT". Press "ENTER" to confirm.

Through the "UP" and "DOWN" keys select "ACT". Through the "UP" and "DOWN" keys select "ON" or "OFF" to activate or deactivate the AUTOMATIC mode. Press "ENTER" to confirm.

The projector will perform a pre-set colour changing program, alternating warm white, neutral white and cold white.

Now the unit is in AUTOMATIC mode and the display will keep reading "AUT".

To exit from the AUTOMATIC mode, press the "MENU" button, select "ACT" and press "ENTER" to confirm.

Select "OFF" to deactivate the AUTOMATIC mode. Press ENTER to confirm.

7.2 AUTOMATIC configuration RGBW

To activate the AUTOMATIC mode, press the "MENU" button up to visualize "ADR". Through the "UP" and "DOWN" keys select "AUT". Press "ENTER" to confirm.

Through the "UP" and "DOWN" keys select "ACT". Through the "UP" and "DOWN" keys select "ON" or "OFF" to activate or deactivate the AUTOMATIC mode. Press "ENTER" to confirm.

It is possible to adjust the length of time of the scenes of the programmes.

Through the "UP" and "DOWN" keys select "TI" and press "ENTER" to confirm. Through the "UP" and "DOWN" keys select the length of time desired (5-10-20-40 seconds) and press "ENTER" to confirm.

Now, through the "UP" and "DOWN" keys, it is possible to scroll the 8 preset programmes (P1-P8). Once positioned onto the desired programme, press "ENTER" to confirm. By the keys "UP" and "DOWN" select "ON" or "OFF". It is possible to activate or deactivate the programme. Press ENTER to confirm.

Now the unit is in AUTOMATIC mode and the display will keep reading "AUT".

To exit from the AUTOMATIC mode, press the "MENU" button, select "ACT" and press "ENTER" to confirm. Select "OFF" to deactivate the AUTOMATIC mode. Press ENTER to confirm.

Warning!

**It is possible to select more programmes which will be executed in sequence.
If MASTER-SLAVE mode is being used, the fixture cannot be controlled by a DMX control device
and no other DMX control device must be present along the line!!
If the DMX connectors in the rear panel of the unit are not used,
they are to be connected one with each other, in order to preserve the IP65 protection rate.**

The following table shows the light output colour effect according to the programme (RGBW).

Program N°	Effect
1	Red - Magenta - Yellow
2	Red - Magenta - Yellow - White
3	Green - Cyan - Yellow
4	Green - Cyan - Yellow - White
5	Blue - Cyan - Magenta
6	Blue - Cyan - Magenta - White
7	Green - Cyan - Blue - Magenta - Red - Yellow
8	Green - Cyan - Blue - Magenta - Red - Yellow - White

7.3 MASTER configuration

To set up the unit as MASTER the same instructions for the set up as AUTOMATIC must be followed.

7.4 SLAVE configuration RGBW

To set up the unit as SLAVE set the DMX mode with address 001.

7.5 SLAVE configuration DW

To set up the unit as SLAVE set the 3 channels DMX mode with address 001.

8.0 FIXED COLOURS mode

In the FIXED COLOURS mode, it is possible to manually turn on the LEDs, without the use of a DMX. In this mode, the projector also behaves as a master and can control a number of projectors SLAVE.

8.1 RGBW MASTER configuration

To activate the FIXED COLOUR mode, press the "MENU" button up to visualize "ADR". Through the "UP" and "DOWN" keys select "COL". Press "ENTER" to confirm.

Through the "UP" and "DOWN" keys select "ACT". Through the "UP" and "DOWN" keys select "ON" or "OFF" to activate or deactivate the FIXED COLOUR mode. Press "ENTER" to confirm.

Now, through the "UP" and "DOWN" keys, it is possible scroll the colours.

- | | |
|----------|-----|
| 1. Red | RED |
| 2. Green | GRE |
| 3. Blue | BLU |
| 4. White | UHT |

Once positioned onto the desired colour, press "ENTER" to confirm. By the keys "UP" and "DOWN" select "ON" or "OFF". It is possible to activate or deactivate the colours. Press ENTER to confirm.

Now the unit is in FIXED COLOURS mode and the display will keep reading "COL".

To exit from the FIXED COLOURS mode, press the "MENU" button, select "ACT" and press "ENTER" to confirm. Select "OFF" to deactivate the FIXED COLOURS mode. Press ENTER to confirm.

8.2 DW MASTER configuration

The FIXED COLOURS mode ONLY works when 3 channels DMX mode is set.

To activate the FIXED COLOUR mode, press the "MENU" button up to visualize "ADR". Through the "UP" and "DOWN" keys select "COL". Press "ENTER" to confirm.

Through the "UP" and "DOWN" keys select "ACT". Through the "UP" and "DOWN" keys select "ON" or "OFF" to activate or deactivate the FIXED COLOUR mode. Press "ENTER" to confirm.

Now, through the "UP" and "DOWN" keys, it is possible scroll the colours.

- | | |
|---------------|----|
| 1. Cold white | CW |
| 2. Warm white | WW |

Once positioned onto the desired colour, press "ENTER" to confirm. By the keys "UP" and "DOWN" select "ON" or "OFF". It is possible to activate or deactivate the colours. Press ENTER to confirm.

Now the unit is in FIXED COLOURS mode and the display will keep reading "COL".

To exit from the FIXED COLOURS mode, press the "MENU" button, select "ACT" and press "ENTER" to confirm. Select "OFF" to deactivate the FIXED COLOURS mode. Press ENTER to confirm.

8.3 SLAVE configuration

To set up the unit as SLAVE set the 5 channels DMX mode with address 001.

9.0 Led temperature

With this operation the working temperature of Leds can be checked.

Press the "MENU" button up to visualize "ADR". Through the "UP" and "DOWN" keys select "TEM". Press "ENTER" to confirm.

The value of the operating temperature of LED, which should never be higher than 75°C, will appear. A higher value indicates a malfunction of the fixture.

10.0 Default setting

With this operation ALL the parameters can be set to the default values.

Press the "MENU" button up to visualize "ADR". Through the "UP" and "DOWN" keys select "DEF". Press "ENTER" to confirm. Select "RES" or "CAN" to reset value or cancel operation.

Following parameters will be set to default values: dmx address, number of dmx channels, automatic mode, colour mode.

11.0 Thermal protection

An internal temperature sensor prevents the unit from overheating. The temperature sensor will limit the current to leds, protecting their integrity, if the ambient temperature exceeds the one allowed.

12.0 Maintenance

Attention!

Always remove mains power prior to opening up the fixture.

To ensure maximum functionality and light output it is recommended to follow these instructions:

12.1 Cleaning the unit

The unit must be cleaned regularly. Cleaning regularity will depend especially on the environment where the unit will operate: deposits of dust, smokes or other wastes will reduce the light output performances.

- Clean regularly the glass of the unit.
- Be careful when cleaning the components. Operate in a clean, properly illuminated environment.
- Do not use solvents which could damage painted surfaces.
- Remove left particles by a cotton towel dampened with a glass-cleaning liquid or distilled water.
- Remove smoke and other wastes by a cotton towel dampened with isopropyl alcohol.
- Dry out by a clean, soft, non-scratching towel or by compressed air.

12.2 Regular checks

- Check electrical connections, especially the ground wiring and the power supply cable.
- Check that the unit is not damaged mechanically. Replace those components which have got deteriorated.

13.0 Spare parts

All components of the unit are available as spare parts at **Griven** dealers.

Exploded views, wiring diagrams, electronic layouts and advertising brochures are available on request.

To make the job of assistance centres easier, specify serial number and model of the unit which spare parts are requested for.

14.0 Disposal

The European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE), requires that old lighting fixtures must not be disposed of the normal unsorted municipal waste stream. Old appliances must be collected separately in order to optimise the recovery and recycling of the materials they contain and reduce the impact on human health and the environment.



The crossed out "wheeled bin" symbol on the product reminds you of your obligation, that when you dispose of the appliance it must be separately collected.

Consumer should contact their local authority or retailer for information concerning the correct disposal of their old appliance.

15.0 Troubleshooting

Inconvenience	Possible Cause	Action
The unit does not respond properly to the DMX control.	Incorrect DMX cable connection.	Check connections and wires. Rectify inefficient connections. Repair or replace damaged wires.
	Unfinished data connection.	Insert a terminal plug in the output jack of the last unit of the connection.
	Incorrect address assignment to the units.	Check the addresses of the units and the protocol settings.
	One of the unit is faulty and it is affecting the data transmission along the connection.	Short-circuit units singularly, one by one, since regular working is restored.
	It has been set up an operating mode different from the DMX mode used.	Check the operating mode set up.
The unit is set to Master or Automatic, but is not running any programs.	In addition to setting the Master dip-switch to ON, it is necessary to also select a program number.	Select a program number. Check the corresponding DMX functions table.
The unit is set to Slave, but does not respond properly to the Master.	There more than a unit is set to Master.	Check that amongst the interconnected fixtures, only one has been set to Master.
	Conflict in signals.	Ensure that there is no incoming DMX signal.

16.0 Technical specifications

Mechanical features

Height	.....249mm (9.8")
Width	.....437mm (17.2")
Depth	.....173.6mm (6.83")
Weight	.....6Kg (15.4Lbs)

Thermal features

Maximum ambient temperature	.....50°C (122°F)
Minimum ambient temperature	.....-40°C (-40°F)
Maximum surface temperature	.....<70°C (<158°F)

Electrical features

Voltage	.....100-277 Vac 50/60Hz
Nominal current	.....0.4A @ 230V
Maximum power	......95W
Thermal protection Electronic

Light output source

Type of light output source 60 Leds
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Optics

Optical system Lenses
----------------	--------------

Control

Protocol USITT DMX-512
RGBW control channel 3 - 4 - 5 DMX channels
Dynamic white control channel	..... 2 - 3 DMX channels
Monochromatic control channel	..... 1 DMX channels

Construction

Unit body Iron/Aluminium
Treatment Scratch resistant paint
Weather protection rate IP66



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<http://www.griven.com/> e-mail griven@griven.com
<http://www.griven.it/> e-mail griven@griven.it

User's manual rel. 2.10