

KAM

INSTRUCTION MANUAL

Kam StarWash

Multicolour wash effects with green & red star cluster laser

M A N U A L V E R S I O N 2 . 0
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Due to continuous product development, please ensure that you have downloaded the latest instruction manual for this product from the Kam website at www.kam.co.uk

For the latest instruction manual updates and information on the entire Kam range visit:

www.kam.co.uk

Kam products are manufactured by: **Lamba plc**, Unit 1, Southfields Road, Dunstable, Bedfordshire, United Kingdom LU6 3EJ

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Thank you for purchasing this Kam product, we are sure that it will serve you for many years to come.

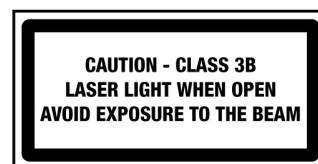
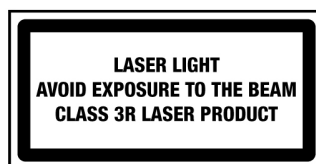
To optimise its performance, please read these instructions carefully to familiarise yourself with the basic operations of the unit. Please retain them for future reference. This unit has been tested at the factory before being shipped to you. To prevent or reduce the risk of electrical shock or fire, do not expose the unit to rain or moisture. To prevent a fire hazard, do not expose the unit to any naked flame sources. Unplug this apparatus during lightning storms or if it is unlikely to be used for long periods of time.

When installing the unit, please ensure you leave enough space around the unit for ventilation. Slots and openings in the unit are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. To prevent fire hazard, the openings should never be blocked or covered.

The unit is powered by the mains, always handle the power cable by the plug. Never pull out the plug by pulling on the cable. Never touch the power cable when your hands are wet as this could cause an electric shock. Do not tie a knot in the cable. The power cable should be placed such that it is not likely to be stepped on. A damaged power cable can cause a fire or give you an electrical shock. Check the power cord periodically, if you ever find that it is damaged, replace it before using the unit again. Contact your retailer for a replacement.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit is to be used meets the requirements of the unit.

The lightning flash symbol inside a triangle is to alert the user to the presence high voltage within the unit's enclosure that may be of sufficient power to constitute a risk of electrical shock to persons. Caution: to prevent the risk of electric shock, do not attempt to open the unit. No user-serviceable parts inside. Refer all servicing to qualified service personnel. The exclamation mark inside a triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance. Please read and pay attention to all laser safety warning sticker labels on the unit.



Select the installation location of your unit carefully. Avoid placing it in direct sunlight or locations subject to vibration and excessive dust. Do not use the unit where there are extremes in temperature (below 41°F / 5°C or exceeding 95°F / 35°C).

Unpacking and safety Please unpack your new product carefully. Your new product should reach you in perfect condition. Please check that no damage has occurred during transit. If any damage is found, do not operate your unit. Please contact the retailer you purchased it from immediately. If there is any damage to the mains cable do not use the device. Always disconnect the unit from the mains supply when carrying out any cleaning of the unit.

Manufacturer declarations



In compliance with the following requirements: **RoHS Directive (2002/95/EU)** and **WEEE Directive (2002/96/EU)**.

If this product is ever no longer functional please take it to a recycling plant for environmentally friendly disposal.

CE declaration of conformity

R&TTE Directive (1999/5/EU), EMC Directive (2004/108/EU), Low Voltage Directive (2006/95/EU).

The declarations are available on application from certification@lambapl.com


Before putting the devices into operation, please observe the respective country-specific regulations.


This manual contains important laser system safety and operation information. Read and understand all instructions prior to powering on the laser unit the first time to avoid eye injury and to avoid breaking the law. Keep this manual in a safe place for future reference. Lasers can be hazardous and have unique safety considerations. Permanent eye injury and blindness is possible if lasers are used incorrectly. Pay close attention to each safety WARNING statement in this manual.


Please refer to the **Kam Class 3R Laser Product Safety Guide** (available at Kam.co.uk) for more information on laser safety.

Laser safety warnings...

Potential laser injury hazard exists with this product! Please read these instructions carefully, which include important information about installation, safe use and service!

 **Caution** Avoid direct eye contact with laser light. Never intentionally expose your eyes or others to direct laser radiation.

 **Caution** It is illegal and dangerous to shine any laser at aircraft.

 **Caution** Operating procedures other than those specified herein may result in hazardous radiation exposure.

Overhead rigging


Important - the installation must be carried out by qualified service personal only. Improper installation can result in serious injuries and /or damage to property. Overhead rigging required extensive experience. Working load limits should be respected, certified installation materials should be used, the installed unit should be inspected regularly for safety.

- Make sure the area below the installation place is free from unwanted persons during rigging, de-rigging and servicing.
- Locate the unit in a well ventilated spot, far away from any flammable materials and/or liquids. The fixture must be fixed **at least 50cm** from surrounding walls
- The device should be installed out of reach of people and outside of areas where persons may walk by or be seated.
- Before rigging make sure that the installation area can hold minimum point load of 10 times the device's weight.
- The device should be well fixed; a free swinging mounting is dangerous.
- Do not cover any ventilation opening as this may result in overheating

Before first time use, the unit should be inspected for safety. Inspection the unit regularly every year.

AC power

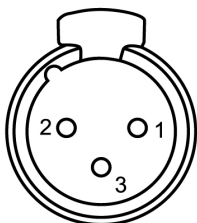
The unit is supplied with a power plug appropriate to its voltage. Should any other connections be required they must be carried out with the following configuration:

Cable (EU)	Cable (US)	Pin	International
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/green	Green	Earth	

DMX-512 connection

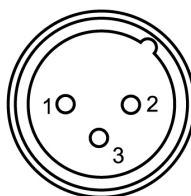
If you are using a standard DMX controller, you can connect the DMX output of the controller directly to the DMX input of the first unit in a DMX chain. If you wish to connect a DMX controller with other XLR outputs you will need to use adapter cables.

DMX output

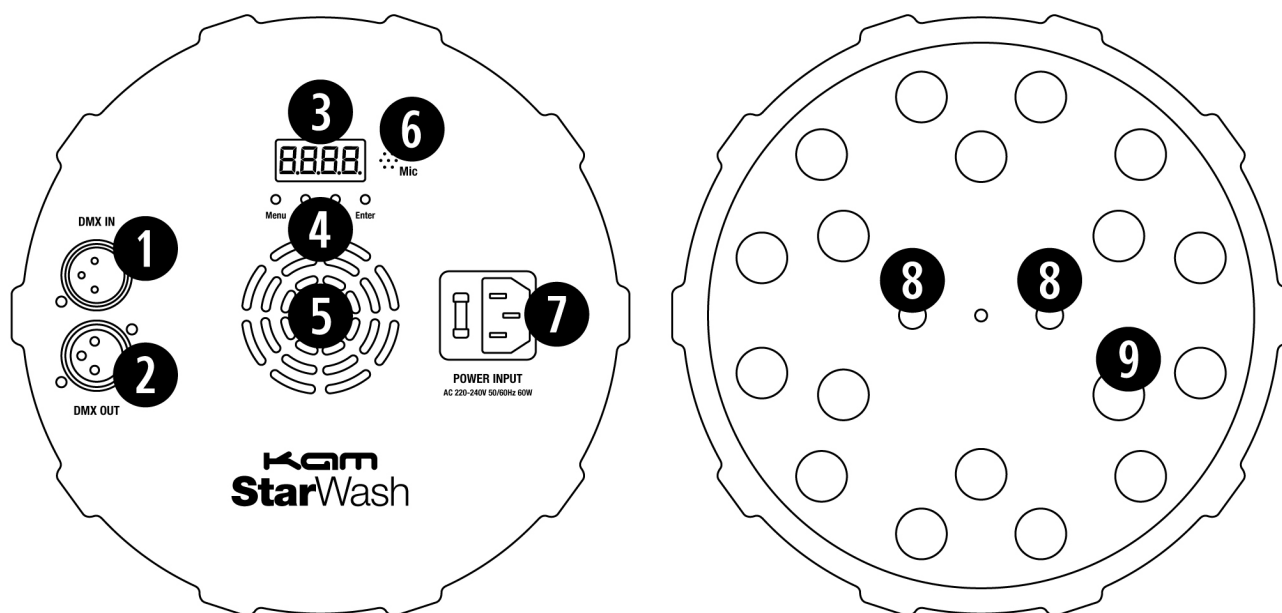


1 = Shield
2 = Signal (-)
3 = Signal (+)

DMX input



Connect the DMX output of the first unit in a DMX chain with the DMX input of the next unit in the chain. Always connect the the output of one unit with the input of the next unit until all units are connected.



Rear and front panel diagrams

- 1 DMX Input - 3 pin male XLR interface for DMX connections
- 2 DMX Output - 3 pin female XLR interface for DMX connections
- 3 LED function setting display - shows the various menus and the selected functions
- 4 Menu buttons - used to select the different menu items (Menu / Up / Down / Enter)
- 5 Cooling vent - do not cover
- 6 Microphone - for sound-to-light operation
- 7 Mains power input IEC socket and fuse compartment
- 8 Laser apertures
- 9 LED lenses

Main Menu

To select any of the menu options, press the MENU button on the rear of the unit to select the mode required. Once you have made a selection then press ENTER to confirm. Use the UP and DOWN buttons to choose the desired menu option.

Mode Selection

Press the MENU button, the following functions can be selected and then confirmed using the UP, DOWN, and ENTER buttons:

LED display	Function description
Addr	DMX address 001-511. Press up/down buttons to select
SLAv	Slave Mode
CF01-CF99	Colour fade mode. 01-99 fade speed from slow to fast
CJ01-CJ99	Colour jump mode. 01-99 jump speed from slow to fast
CP01-CP99	Colour pulse mode. 01-99 pulse speed from slow to fast
CT01-CT99	Colour strobe mode. 01-99 strobe speed from slow to fast
rGb	Sets the brightness of Red, Green and Blue LED's 0-255. Press ENTER to save
dEno	Auto mode
Soud	Sound to light mode
L rG	Green and Red lasers both on
L G	Green laser only
L r	Red laser only
L oF	Laser off
L Au	Laser cycles through auto programs

8 Channel DMX control

Channel	DMX	Function
1	0-255	Master dimmer
2	0-255	Red dimming
3	0-255	Green dimming
4	0-255	Blue dimming
5	0	Red, Green and Blue LED's on
	1-255	Colour change from slow to fast
6	0	Off
	1-255	Colour flash from slow to fast
7	0-50	Manual mode. DMX Channels 1-6 available
	51-100	Choose colour
	101-150	7 colour gradual change from slow to fast
	151-200	7 colour pulse change from slow to fast
	201-250	7 colour jump change slow to fast
	251-255	Sound mode
8	0-5	Laser off
	6-49	Auto mode
	50-99	Red laser on
	100-149	Green laser on
	150-199	Red and green laser on
	200-255	Red and green laser change automatically

DMX address setting

When controlling the unit (or units) with a DMX controller, each one must be set with a specific DMX address. You can choose to set all units with the same DMX address or you can set every unit with its own DMX address. If all units are set with the same DMX address all units will be synchronised and operate in the same way, you cannot control each unit separately. If you set each unit with a different DMX address, they will receive the DMX signal from their own DMX address. You will now be able to control each unit individually. The DMX address that you set for each unit must be determined by the number of channels. This unit has 8 channels, therefore you should set the starting address of the first unit to 1, the second unit must then be set to 9 (8+1), the third unit must be set to 17 (9+8) and so on.

Troubleshooting

Problem	Check list	Troubleshooting
No output - the unit does not appear to work	1. Check if the power cord is connected to the input mains socket of the unit.	1. Make sure there is mains present to the cable, check the fuse or replace the cable.
Lights are dimmed	1. Check if the power cord is connected to the input mains socket of the unit.	1. Make sure the mains input voltage is the correct voltage.
No DMX input	1. Check that the cable is not damaged. 2. Check the polarity of the pin connections is correct. 3. Check If the unit is in DMX mode. 4. Check if 2 units are set as Master units in a chain.	1. Change the DMX cable. 2. Correct the DMX polarity or change the cable. 3. Set up the function mode as DMX. 4. Set all other units as Slave units in the chain.

Technical Specifications

DMX512 control channels: **8 Channels**

DMX512 Input & Output connection: **3 pin XLR**

Modes: **DMX512 / Auto / Sound-to-Light / Master/Slave**

Lasers: **red 100mW, green 30mW**

LEDs: **18 x 1W (red, green, & blue) colour LED**

Power supply: **IEC mains / AC 220-240V 50/60Hz**

Power consumption: **25W**

Fuse: **2A / 250V**

Dimensions (WxDxH): **255 x 90 x 220mm**

Weight: **1.5Kg**

Laser class: **3R**

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