

# KAM

## INSTRUCTION MANUAL

# Kam MoonCluster

2-in-1 multi-colour derby beams plus laser cluster FX

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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](http://www.kam.co.uk)

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

[www.kam.co.uk](http://www.kam.co.uk)

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

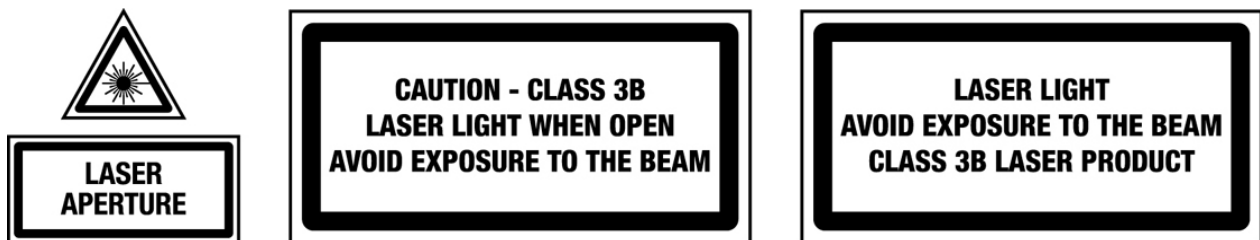
To optimise its performance, please read these instructions carefully to familiarise yourself with the basic operations of the unit. Please retain them for future reference. This unit has been tested at the factory before being shipped to you. To prevent or reduce the risk of electrical shock or fire, 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](mailto: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 3B Laser Product Safety Guide** (available at [Kam.co.uk](http://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.

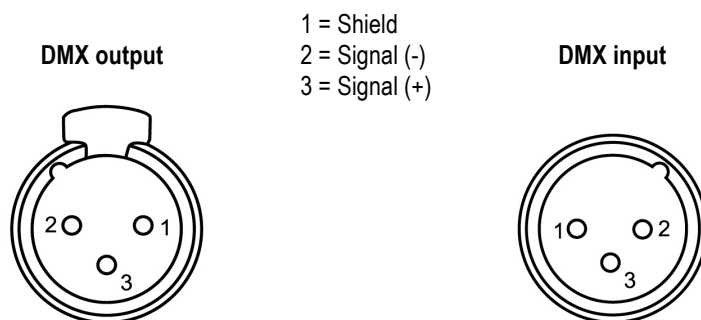
### AC power

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.

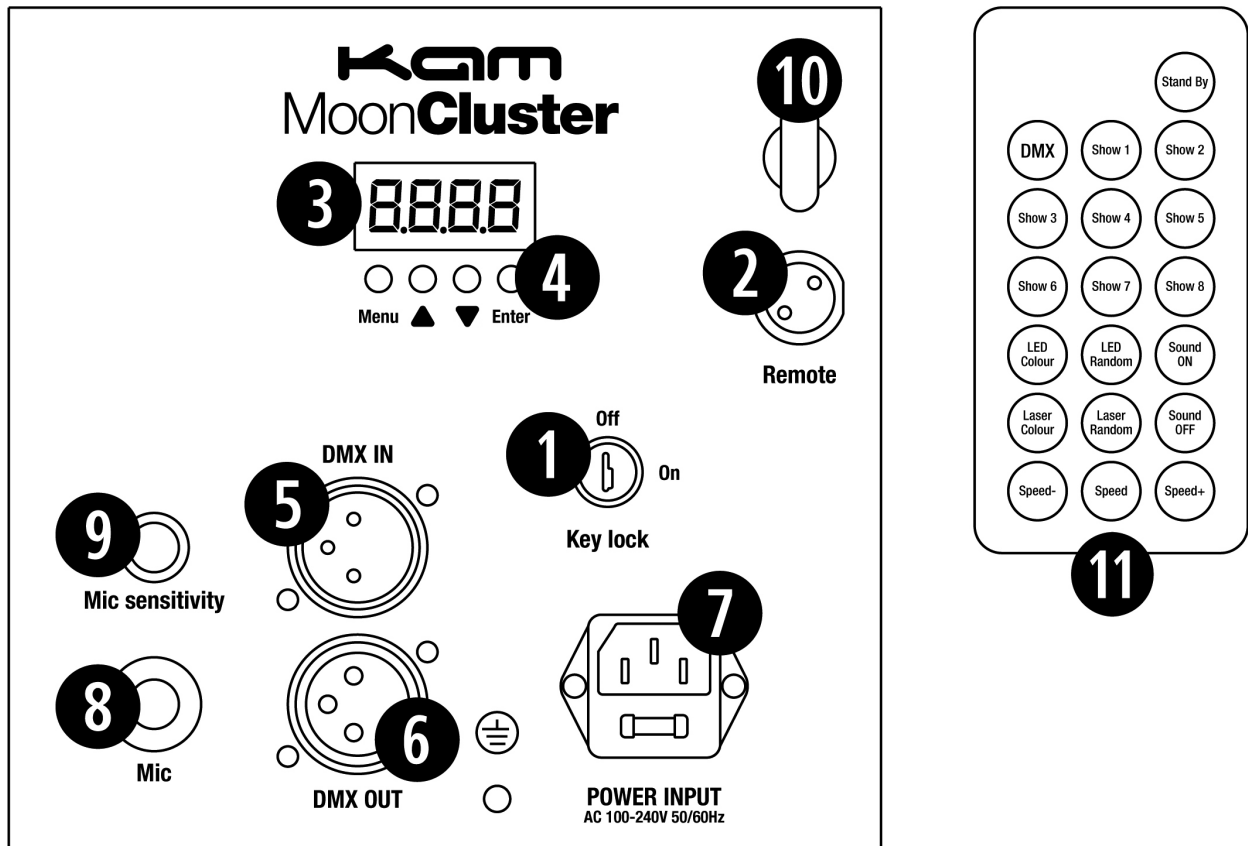


Connect the DMX output of the first unit in a DMX chain with the DMX input of the next unit in the chain. Always connect the the output of one unit with the input of the next unit until all units are connected.

## Operation

Before operating the unit, ensure that the safety key is inserted into the safety Key Lock (1) on the rear of the unit and turned to the ON position. Next, ensure that you have inserted the safety lock connector into the Remote socket (2).

**IMPORTANT** both of the above safety features need to be in place before the unit will operate.



### Key to rear panel diagram

1. Safety key switch - insert the supplied safety key before being able to turn the unit On or Off
2. Remote connect - ensure that you have inserted the safety lock connector into the Remote socket before operation can begin
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. DMX Input - 3 pin male XLR interface for DMX connections
6. DMX Output - 3 pin female XLR interface for DMX connections
7. Mains power input IEC socket
8. Microphone - for sound-to-light for operation
9. Microphone sensitivity adjustment – adjusts how much the unit reacts to any audible music/sound
10. Safety chain eylet
11. **Remote control functions:**
  - Stand By - standby mode
  - DMX - DMX mode
  - Show 1 - LED show with adjustable speed
  - Show 2 - Laser show with adjustable speed
  - Show 3 - LED and Laser show with adjustable speed
  - Show 4 - LED and Laser show with fixed speed
  - Show 5-8 - no function on remote control
  - LED Colour - choose LED colour from 15 colour options
  - LED Random - LED colour with random colours
  - Laser Colour - choose laser colour from 3 colour options
  - Laser Random - laser colour with random colours
  - Sound ON - choose Sound ON and Shows 1-4 will operate as sound-to-light shows
  - Sound OFF - choose Sound OFF and Shows 1-4 will operate as auto shows
  - Speed+ / Speed- - increases or decreases speed

## 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 ENTER button:

LED display	Function description
Addr	DMX address 001-512. Press up/down buttons to select
Shou	Sh 1 – LED auto show (adjustable speed - SP0-99) ensure that <b>Soun</b> menu setting is OFF
	Sh 2 – Laser auto show (adjustable speed SP0-99) ensure that <b>Soun</b> menu setting is OFF
	Sh 3 – LED & laser auto show (adjustable speed SP0-99) ensure that <b>Soun</b> menu setting is OFF
	Sh 4 – LED & laser auto show (fixed speed)
Soun	Sound-to-light mode – set to ON - use the microphone sensitivity knob on the rear panel to adjust
Ver	Software version number
TeNP	Light temperature

## 13 Channel DMX control

Channel	DMX	Function
1	0-255	Red dimming
2	0-255	Green dimming
3	0-255	Blue dimming
4	0-255	White dimming
5	0-9	No strobe
	10-255	Strobe speed from slow to fast
6	0-255	Master dimming
7	0-9	Laser off
	10-127	Red laser control
	128-199	Green laser control
	200-255	Red and green laser control
8	0-9	No laser strobe
	10-255	Laser strobe speed from slow to fast
9	0-127	LED position option
	128-255	LED motor speed from slow to fast
10	0-127	Laser motor position option
	128-255	Laser motor speed from slow to fast
11	0-9	DMX mode
	10-100	Show 1 – LED (speed controlled by Channel 12)
	101-149	Show 2 – laser (speed controlled by Channel 12)
	150-199	Show 3 – LED and laser (speed controlled by Channel 12)
	200-255	Show 4 – LED and laser (fixed speed)
12	0-255	Show 1, Show 2 and Show 3 speed control (from slow to fast) ensure that <b>Soun</b> menu setting is OFF
13	0-127	Sound sensitivity OFF (for channel 11)
	128-255	Sound sensitivity ON (for channel 12)

## Channel 11 and speed control

If **Soun** mode is turned ON while using channel 11, the show speed is controlled by the sound-to-light function and therefore channel 12 will no effect on the show.

## 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 13 channels, therefore you should set the starting address of the first unit to 1, the second unit must then be set to 14 (13+1), the third unit must be set to 27 (14+13) and so on.

### Troubleshooting

Problem	Check list	Troubleshooting
No output - the unit does not appear to work	<ol style="list-style-type: none"> <li>1. Check if the power cord is connected to the input mains socket of the unit.</li> <li>2. Ensure that the safety key is inserted into the safety lock on the rear of the unit and turned to the ON position.</li> <li>3. Ensure that you have inserted the safety lock connector into the Remote socket on the rear.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure there is mains present to the cable, check the fuse or replace the cable.</li> <li>2. Make sure they safety key is inserted.</li> <li>3. Make sure the safety lock is inserted.</li> </ol>
Lights are dimmed	<ol style="list-style-type: none"> <li>1. Check if the power cord is connected to the input mains socket of the unit.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure the mains input voltage is the correct voltage.</li> </ol>
No DMX input	<ol style="list-style-type: none"> <li>1. Check that the cable is not damaged.</li> <li>2. Check the polarity of the pin connections is correct.</li> <li>3. Check If the unit is in DMX mode.</li> <li>4. Check if 2 units are set as Master units in a chain.</li> </ol>	<ol style="list-style-type: none"> <li>1. Change the DMX cable.</li> <li>2. Correct the DMX polarity or change the cable.</li> <li>3. Set up the function mode as DMX.</li> <li>4. Set all other units as Slave units in the chain.</li> </ol>

### Technical Specifications

DMX512 control channels: **13 Channels**

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

Mode: **DMX512 / Auto / Sound-to-Light / Master/Slave / Remote control**

Lasers: **red 150mW, green 50mW**

LEDs: **1 x 30W (red, green, blue & white) colour LED**

Power supply: **IEC mains / AC 10-240V 50/60Hz**

Power consumption: **50W**

Fuse: **1A / 250V**

Dimensions (WxDxH): **200 x 200 x 218mm** (not including brackets)

Weight: **2Kgs**

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