

# KAM

## INSTRUCTION MANUAL

# COLOUR SHOW 800

## RGB laser with 20K fast scanning motor

M A N U A L V E R S I O N 3 . 0

26 / 07 / 10

680mW RGB laser with pre-programmed fast scanning RGB moving effects  
300mW blue laser @450nm / 80mW green laser @532nm / 300mW red laser @650nm  
Scanner system: 20K high speed optical scanner  
PC IDLA input and output / 12 channel DMX512 operation  
Pre-programmed moving patterns in Auto mode  
Sound-to-Light, Auto and DMX modes  
Linkable Master/Slave mode  
3 pin XLR DMX connection  
AC 110V-240V, 50/60Hz input power / Rated power: 40w  
Key operated safety control / Safety mounting point  
Adjustable hanging bracket / Tough metal chassis  
Dimensions: 345 x 100 x 230mm

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

Due to continuous product development, specifications and appearance are subject to change.

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

To optimise the performance of this product, please read these operating instructions carefully to familiarise yourself with the basic operations of this unit. After you have read the instructions, 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.

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 required written on the unit.



The lightning flash symbol inside a triangle is intended 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.**

Any modification carried out on the unit may invalidate the unit's warranty.

**Do not aim this laser directly into an audience and ensure any part of the lowest scanned beam is above head height. (Ideally greater than 3m). Visible and invisible laser-light, direct beam will damage the human eye and the eyes of animals. Do not look at any Laser light directly.**

**Do not touch the laser aperture with the hand. When cleaning the laser aperture, please use a soft cloth with alcohol or camera lens paper.**

In the unlikely event that you hear unusual noise, see smoke, feel excessive heat or smell anything unusual, immediately unplug the power source and contact your retailer. Continued use may result in fires or electrical shock.

Do not use flammable sprays near this equipment. Also do not spill water, liquids, or flammable liquids on the equipment. If fluids enter this equipment and contact the electrical parts, fires or electrical shock may result. If anything enters the equipment, immediately unplug the power supply and contact your retailer.

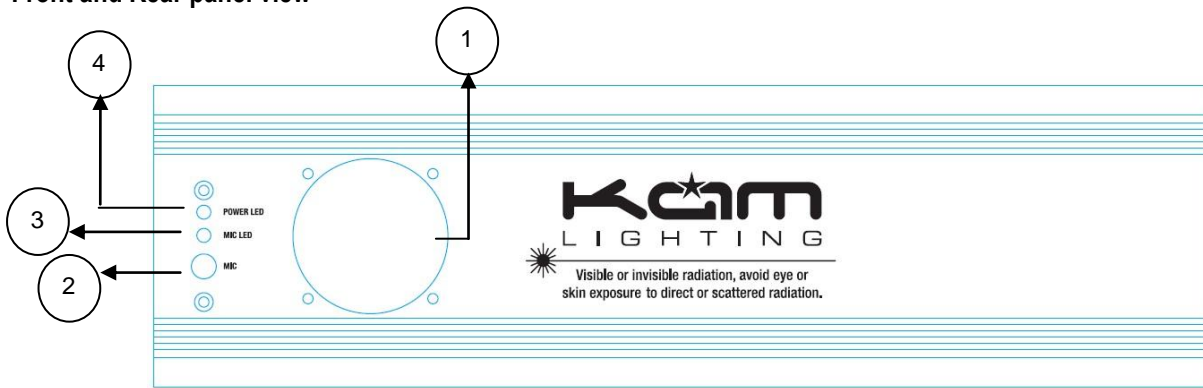
If applicable, only use the stand, tripod or bracket specified or sold with the apparatus.

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).

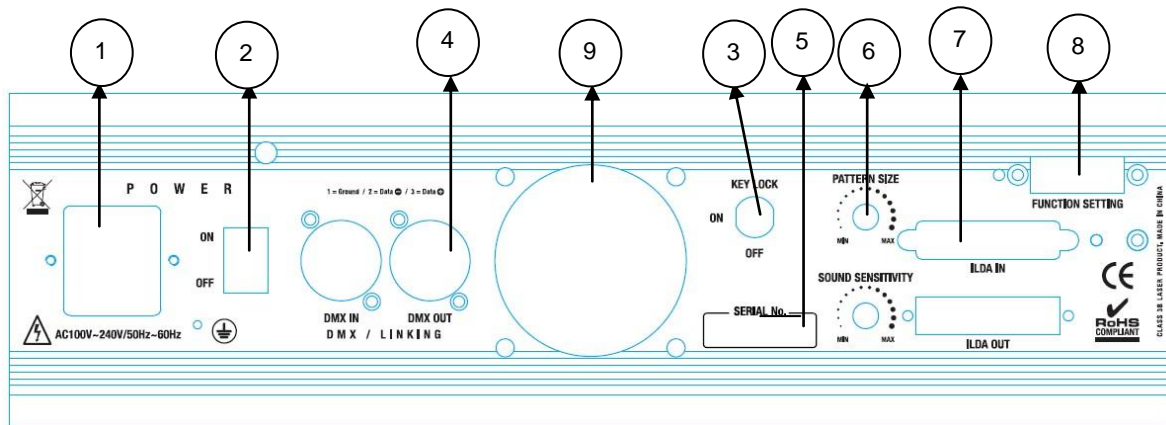
Unpacking and safety: Please unpack your new product carefully, your new product should reach you in perfect condition. Please check that no damage has occurred during transit. If any damage is found, do not operate your unit. Please contact the retailer you purchased it from immediately. If there is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

The serial number for this equipment should be located on the rear or underside of the unit. Please make a note of this number as you will need it for your warranty, it is a good idea to keep a copy of the serial number for your own records.

## Front and Rear panel view



1. Laser Aperture    2. Sound active microphone    3. Sound active indicator: Blue    4. Power indicator: Red



1. Power Jack    2. ON/OFF switch    3. Key lock    4. DMX or linking jack    5. Sound sensitivity knob  
6. Pattern Size knob    7. DB25 ILDA interface    8. Dipswitch function setting    9. Cooling Fan

## Function and Setting

| Dip Switch     | #1  | #2  | #3  | #4  | #5  | #6  | #7  | #8  | #9  | #10 |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Sound-to-light | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| Auto Beam      | ON  | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| Auto Animation | ON  | ON  | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| DMX/Slave mode | ON  | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | ON  |

As the above chart, DIP switch setting reference as follows:

### Stand alone

1. Sound active: ALL OFF
2. Auto beam run: #1 ON
3. Auto animation: #1 and #2 ON

### Linking master slave

Several units may be linked master / slave without using a DMX controller. Link the units together using a 3pin XLR DMX cable (not supplied).

Set slave units with dipswitch 3 ON.

Master unit: When all the dipswitches are set to OFF, all the units will run with sound activation.

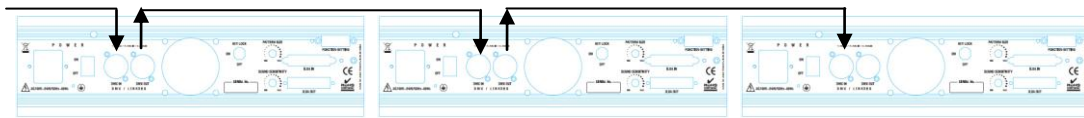
Master unit: When dipswitch 1 is set to ON, all the units will run with the auto program.  
 Master unit: When dipswitches 1 and 2 are set to ON, all the units run with auto animation.

**Important note:**

1. Link no more than 5 units together at one time.
2. Before setting master slave function, you must turn off all the lasers in one link. Once you have set the dipswitches, you can then turn the units on. If you are going to change the master unit and slave unit, you should again turn off all the lasers before making the changes.

**Universal DMX Operation (DMX mode)**

This mode allows you to use universal DMX-512 console to operate the unit. Install the units in a suitable position. Use standard XLR cable to connect your units together via the XLR connector on the rear of the units. For longer cable we suggest a terminator at the last fixture. Assign a DMX address to each the unit using the dipswitches. Turn on the units then use the DMX console to control all your units.



**Instruction for DMX channels**

| Channel | Mode           | Value   | Function  |
|---------|----------------|---------|---|
| CH1     | Mode select    | 0~49    | Sound active mode                                       |
|         |                | 50~99   | Auto-beam mode  |
|         |                | 100~149 | Auto-animation mode                                     |
|         |                | 150~199 | Static patterns   |
|         |                | 200~255 | Dynamic Patterns  |
| CH2     | Color select   | 0~255   | 0 is LASER OFF, the rest to change colors               |
| CH3     | Pattern select | 0~255   | Selecting patterns                                      |
| CH4     | Y axis moving  | 0~127   | Manual up to down moving                                |
|         |                | 128~191 | Auto down moving (under dynamic pattern)                |
|         |                | 192~255 | Auto up moving (under dynamic pattern)                  |
| CH5     | X axis moving  | 0~127   | Manual left to right moving                             |
|         |                | 128~191 | Auto right moving (under dynamic pattern)               |
|         |                | 192~255 | Auto left moving (under dynamic pattern)                |
| CH6     | X axis rolling | 0~127   | Manual rolling  |
|         |                | 128~255 | Auto rolling (under dynamic pattern)                    |
| CH7     | Y axis rolling | 0~127   | Manual rolling  |
|         |                | 128~255 | Auto rolling (under dynamic pattern)                    |
| CH8     | Rotation       | 0~127   | Manual rotation   |
|         |                | 128~191 | Auto counter-clockwise rotation (under dynamic pattern) |
|         |                | 192~255 | Auto clockwise rotation (under dynamic pattern)         |

|      |              |         |  |
|------|--------------|---------|--|
| CH9  | Zooming      | 0~85    | Auto zooming (+)                             |
|      |              | 86~170  | Auto zooming (-)                             |
|      |              | 171~255 | Manual zooming (+/-)                         |
| CH10 | Pattern Size | 0~255   | 0 is Moderate, 1 is smallest, 255 is biggest |
| CH11 | Display dot  | 0~255   | 0 is display dot, 255 is best brightness     |
| CH12 | Drawing      | 0~127   | Auto drawing mode 1 (under dynamic pattern)  |
|      |              | 128~255 | Auto drawing mode 2 (under dynamic pattern)  |

### Trouble shooting

1. If the power supply indicator is off and the laser doesn't work, please check the power supply and the input voltage.
2. In Standalone operation, if the power supply indicator is ON and sound active indicator is OFF, but the laser doesn't work.
  - A. The sound is too low and cannot activate the laser running, please increase the music volume or increase audio sensitivity on rear panel.
  - B. Please check if unit has been set up in slave mode, or DMX mode.
3. In Master-Slave operation, slave units don't function, please check as below.
  - A. Make sure there's only one master in the chain, and the others are set in slave mode.
  - B. Make sure to control the units without DMX controller.
  - C. Make sure to use a good quality power cable and XLR connector.
4. In DMX mode operation, the laser is OFF and the DMX signal indicator is not lit up, please check as below:
  - A. Make sure dipswitches #1 and #10 are ON.
  - B. Make sure you have a good XLR connection.
5. In DMX operation, the unit can't be controlled by the DMX console, but the DMX signal indicator is flashing, please make sure the DMX console and unit have the same channel.
6. If the output beam direction above is unusual, please restart the unit.
7. If the unit fails, please turn off the unit, and then turn on again after 5 minutes.