

KAM

INSTRUCTION MANUAL

Combi Cluster

Two amazing laser effects in one unit!

M A N U A L V E R S I O N 1 . 0

Cluster and classic beam laser effects
40mW green laser & 100mW red laser
200+ cluster beams with classic laser tunnels & flat beams
Sound-to-Light, Auto, DMX512 and Master/Slave modes
9 channel DMX512 operation with XLR DMX in and out
Pre-programmed moving patterns in Auto mode
Tough metal chassis
Adjustable hanging bracket
Fan cooled operation
Key operated power control

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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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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INTRODUCTION

Thank you for purchasing the KAM Combi Cluster Laser.

To optimise the performance of this product please read these operating instructions carefully to familiarise yourself with the basic operations of this unit. The Kam Combi Cluster Laser has been designed to create amazing laser effects. Please keep these user instructions in safe place for future reference. This unit has been tested at the factory before being shipped to you. There is no assembly required.

WARNING

To prevent or reduce the risk of electrical shock or fire, do not expose this unit to high temperature, rain or moisture.

Unintended reflections of the laser beam from reflective or metallic surfaces can be dangerous. Do not touch the laser aperture. When cleaning the laser Aperture, please use a soft cloth.

Laser Class 3B product. National regulations must be adhered to at all steps of installation. These can be downloaded from the website www.kam.co.uk (In Germany apply DIN 56912 and BGVR LASER note: additional regulations may apply).

This appliance should be used by qualified personnel only.

This unit uses diode lasers in green and red this is CLASS 3B laser product.

Visible and invisible laser-light, direct beams can damage the human eye. Do not look at any Laser light directly. Do not touch the laser aperture

When cleaning the laser Aperture, please use a soft cloth.

There are no serviceable parts in the laser please have all servicing and adjustments made by a qualified service engineer.

Always replace with the exact same type fuse, replacement with anything other than the specified fuse can cause fire or electric shock and damage your unit, and will void your manufactures warranty.

This appliance must be earthed.

DANGER

LASER RADIATION AVOID EXPOSURE TO BEAM. CLASS 3B LASER PRODUCT.

UNPACKING YOUR NEW KAM PRODUCT

Thank you for purchasing this product. Please read user guide for safety and operations information before using the product. Keep this manual for future reference. This product can create perfect laser programs and effects since it has passed series of strict tests before delivery. Please check the attachments listed on the page after opening the carton. In the event of carton damage or attachment missing in transit, please contact your dealer or our after sales service department.

Contents: 1. Laser 2. Power Cable 3. User Guide 4. Keys 5. Wireless remote control

FEATURES

1. Wireless remote control

2. Various working modes

Includes three working modes as DMX, Sound Active, AUTO Control for different applications.

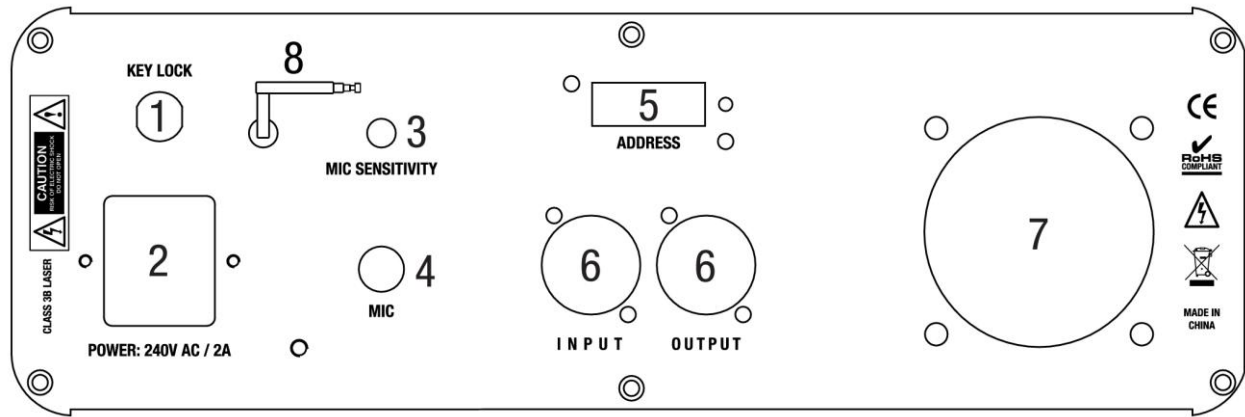
3. DMX control

The unit has 9 channel functions to control. System mode, laser beam pattern, rotating direction, flash speed and colour setting in DMX mode. The unit has BLACK OUT function.

4. LED indicating and shut-off function

In sound active mode, the unit's panel has LED indicating for sound active. The unit will shut off after 8 seconds when the music stops.

REAR PANEL



1. Safety key
2. Fused mains inlet
3. Sound sensitivity
4. Microphone
5. Dipswitches:
Function Setting
6. DMX XLR in/output
7. Fan
8. Remote aerial

FUNCTIONS & SETTINGS

Function setting: 0=OFF 1=ON X=OFF or ON

DIPSWITCH CHART										Function
# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	
0	0	0	0	0	0	0	0	0	1	Laser combo sound activated
1	0	0	0	0	0	0	0	0	1	Beam laser only sound activated
1	1	0	0	0	0	0	0	0	1	Star cluster only sound activated
0	0	0	0	0	0	0	0	1	1	Laser combo auto mode
1	0	0	0	0	0	0	0	1	1	Beam only auto mode
1	1	0	0	0	0	0	0	1	1	Star cluster only auto mode
SET DMX ADDRESS									0	DMX control mode
Dip switch 10 must be in off position for dmx mode,use 1-9 to set dmx address										

Use the dipswitches to assign a unit's function: DMX, or sound active, or auto mode.

For the unit to be in DMX mode, set the DMX address using the dipswitches. Each dipswitch represents a binary value. Dipswitch #10 is used for DMX mode. And must be in off position

Wireless remote control

Switch the Combi Cluster wireless remote dip switch 9 and 10 on.

A: on/off Button B: mode sound/auto/DMX C: Pattern/Colour red cluster/green gobos/red & green.

When on wireless if no DMX cable is connected there will be no laser output.

Note. When in dmx mode if no signal received the unit will blackout

SOUND ACTIVE

The change of the laser pattern is controlled by sound, that is, the rhythm of the sound controls the effect of the changing laser pattern. Turning the sensitivity knob in the clockwise direction to increase the fixture's sensitivity to sound or turning the knob in the counter clockwise direction to decrease. The laser diode will automatically turn off after 8 seconds when the music stops.

Refer to chart above to set desired sound mode

AUTO

Auto cycles the built-in programs without being controlled externally. It has no laser off.
Refer to chart above to set desired auto mode

DMX Control

The system only accepts the DMX512 signal of international standard to control the system. The laser beam ON /OFF, laser pattern selection, running direction, beam speed and colour selection etc.

DMX Control Parameter Chart

Channel	Function	Value	Description
CH1	Mode	0-69	Black out
		70-139	Sound active mode
		140-209	AUTO mode
		210-255	DMX mode
CH2	Pattern selection	0-255	Pattern for selection
CH3	Flashing speed	0-255	Laser flashing
CH4	Beam effect	0-255	Beam effect for selection
CH5	This channel has no effect on the laser and is not used		
CH6	Position-X	0-255	Adjust position-X
CH7	Position-Y	0-255	Adjust position-Y
CH8	Pattern size	0-255	0 is small, 255 is big
CH9	Colour selection	0-255	R, G, Y, 3 colours combined

DMX address calculation

For DMX mode, DMX address dipswitches from 1 to 9 must be set; the address is set from 1 to 511. Each dipswitch represents a binary value.

Dipswitch	Value	Dipswitch	Value
# 1	1	# 6	32
# 2	2	# 7	64
# 3	4	# 8	128
# 4	8	# 9	256
# 5	16	# 10	DMX, Set to "0"

One unit has 9 channels, so each unit must be assigned at least 9 channels.
When setting dmx address and dmx chains

OPERATION

Stand-Alone Operation

Sound mode

This mode allows a single unit to react to the beat of the music

1. Install the units in a suitable position
2. Set dipswitch to select Sound Active or AUTO mode.
3. Turn on the unit power, the unit begins reset, then the unit begins working.
4. The unit will react to the low frequencies of music via the internal microphone.

Adjust the audio sensitivity knob on the back of the unit to make the unit more or less sensitive in sound active. The panel has LED flashing for sound active.

Universal DMX Operation (DMX mode)

This mode allows you to use universal DMX-512 controller

1. Install the units in a suitable position

2. Use standard XLR microphone cable chain your units together via the XLR connector on the rear of the units. For longer cable runs we suggest a terminator at the last fixture.
3. Assign a DMX address to each the unit using dipswitches
4. Turn on the all units' power, the units begins reset, and then the unit begins working.
5. Use DMX controller to control your units.

TECHNICAL SPECIFICATION

1. Voltage: AC220V/ 110V, 50HZ/60HZ, Fuse: 2A/250V
2. Rated Power: 25W
3. Laser: 50mW@532nm, green DPSS laser 100mW@650nm, red Laser
4. Working Modes: DMX, Sound Active, AUTO
5. DMX Control Channel: 8 channels
6. Graphics & Effects: laser beam patterns
7. Interface: 3 pin XLR jack for DMX linking
8. Size: 300*200*100mm
9. Weight: 3.5Kg