INSTRUCTION MANUAL

Gobo Cluster 150

Professional gobo cluster laser

MANUAL VERSION 1.0

50mW green laser & 100mW red laser
100+ red laser beams
Sound-to-Light, Auto, DMX512 and Master/Slave modes
4 channel DMX512 operation
XLR DMX in and out
8 different green gobos
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

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INTRODUCTION

Thank you for purchasing the Kam Gobo Cluster. To optimise the performance of this product, please read these operating instructions carefully to familiarize yourself with the basic operations of this unit. The KAM Gobo Cluster has been designed to create amazing laser effects. Please keep these user instructions in a 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).

Always replace the fuse with exact same type because anything other than the specified fuse can cause a fire, electric shock, damage your unit, and will void your manufactures warranty. This appliance must be earthed. 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

UNPACKING YOUR NEW KAM PRODUCT

Carefully inspect your laser, as you unpack it. If any damage is evident, please notify the supplier you purchased the unit from immediately. For safety reasons do not use the unit if any damage has occurred during transportation.

FEATURES

1. Red star cluster effect & 8 Green gobo effects, the scattering angle of laser beam > 70 degrees.

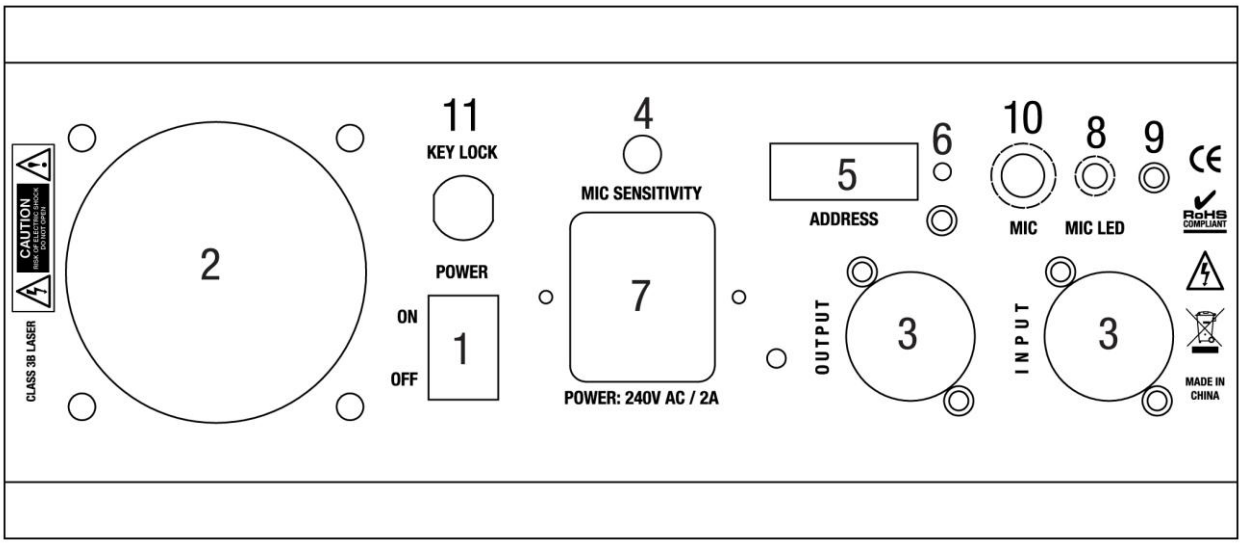
2. Various working modes
Including DMX, Sound Active, AUTO.

3. DMX control.
The unit has 4 channel functions to control system mode, cluster effect, rotating direction, flash speed and colour setting in DMX mode. The unit also has the blackout function.

4. LED indicating and shut-off function.
In sound active mode, the unit panel has LED indicating sound active. The unit will shut off after 8 seconds when the music stops.

5. DPSS Laser.

REAR PANEL



1. Power switch
2. Cooling fan
3. DMX xlr sockets
4. Audio sensitivity knob
5. Dipswitches: address setting
6. DMX signal indicator: Green. The LED will flash when DMX or Master-slave linking signal is received.
7. Power input
8. Sound led
9. Wireless remote aerial
10 key switch
11. Internal mic

FUNCTIONS & SETTINGS

Wireless remote control

Switch the Gobo 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 laser pattern is controlled by sound, and reacts to the beat of the music. Turning the sensitivity knob in the clockwise direction to increase the fixture's sensitivity to sound, turning the knob in the counter clockwise direction to decrease the sensitivity. The laser diode will automatically turn off after 8 seconds when the music stops.

Auto
Auto cycles are the built-in programs. It has no laser OFF. DMX Control.
The system only accepts the DMX512 signal of international standard to control the system mode, the laser beam ON /OFF, running direction and colour selection etc.

DMX Control Parameter Chart

Channel	DMX Address	Description
CH1	0-49	Off
	50-99	Auto mode
	100-149	Sound active
	150-210	No function
	210-255	Dmx mode

CH2	0-99	Anti-clockwise rotation
	100-199	Clockwise rotation
	200-255	Alternate rotating
	Note use channel 3 to adjust reaction time of ch2 rotation	
CH3	0-250 max	Speed (slow to fast)
	251-255	Do not use beyond motor range
CH4	0-69	Red firework effect on only
	70-139	Green gobos on only
	140-209	Red and green on
	210-255	Red and green flash on/off simultaneously

When the CH1 is selected the DMX mode (DMX value is 210 ~ 255), you can use channel CH2, CH3, CH4 to control laser beam, otherwise, CH2, CH3, CH4 are invalid.

Use dipswitches to assign a unit's function: DMX, sound active or AUTO mode.
For the unit is DMX mode, set the DMX address using dipswitch. Each dipswitch represents a binary value. See the "Function chart".

0=OFF 1=ON X=OFF OR ON

DIPSWITCH CHART										**FUNCTION**
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**	**#9**	**#10**	
X	X	X	X	X	X	X	X	0	1	SOUND ACTIVE
X	X	X	X	X	X	X	X	1	1	AUTO MODE
SET DMX ADDRESS FOR DMX MODE									0	DMX

Dip switch setting with no controller
Set dip switch 10 on only for sound activated mode
Set dipswitches 9 +10 on only for automatic mode

With DMX controller
Dipswitch 10 must be set to off position
Dipswitch 1 to 9 used to set dmx start address

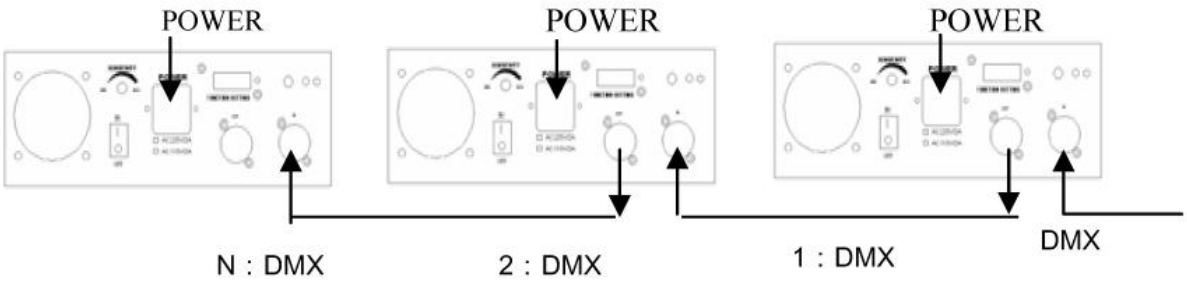
Function Chart

For DMX mode, DMX switches from 1 to 9 must be set, This start 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"

Stand-Alone Operation (Sound Active, AUTO mode)
The mode allows a single unit to react to the beat of the music in the master mode.
1. Install the unit 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 indicator for sound active.

Universal DMX Operation (DMX mode)
This mode allows you to use universal DMX-512 console to operate.
1. Install the unit in a suitable position.
2. Use standard XLR microphone cable to chain your units together via the XLR connector on the rear of the units.
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 SPECIFICATIONS

1. Voltage: AC200V-250V / 50HZ-60HZ / Fuse: 2A/250V
2. Rated Power: 20W
3. Laser: 50mW@532nm, green laser
   100mW@650nm, red Laser
4. Working Modes: DMX, Sound Active, AUTO
5. DMX Control Channel: 4 channels
6. Interface: 3 pins XLR jack for DMX 7. Size: 235*190*97mm
8. Weight: 2.6Kg