INSTRUCTION MANUAL

VR Firefly

250mw violet & red scanning cluster laser

MANUAL VERSION 1.0

Two button wireless remote control
100s of projected twinkling, sweeping & pulsating patterns
150mW 405nm violet laser
100mW 650nm red laser
Adjustable microphone sensitivity
Pre-programmed patterns in Sound-to-Light & Auto modes
Fan cooled operation
Key operated power control
Adjustable hanging bracket
Safety mounting point
Tough metal chassis

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 VR Firefly.

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 VR Firefly 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.

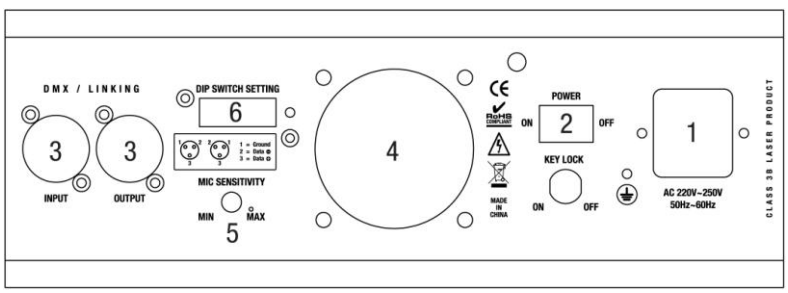
UNPACKING YOUR NEW KAM PRODUCT

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. 4 function modes
Includes DMX, Sound Active, AUTO and Master-Slave
2. DMX control
The unit has 9 channels functions of scan track, XY position, XY movement speed, spin direction, spin speed, frequency flashing and color controlled. The unit has BLACK OUT function. The unit will shut OFF if no DMX512 signal.
3. Master-Slave function
The system allow link many units (as slave unit) together
4. LED indicator and shut-off function in sound active mode, the unit's panel has LED indicator for sound active mode. The unit will shut off after 8 seconds when the music stops.
5. DPSS Laser

The front panel has indication lights which show the when the laser is powered on and when the sound active microphone is working. The sound active indicator twinkles when the microphone receives sound.



1. Power jack
2. Power switch
3. DMX or Linking Jack
4. Cooling Fan
5. Audio Sensitivity Knob
6. Dipswitches: Function Setting
7. DMX Signal Indicator: Green. The LED will twinkle when DMX or Master-slave linking signal is received

FUNCTIONS & SETTINGS

Sound Active
The change of the laser pattern is controlled by sound, the patterns change 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 diode will automatically turn off after 8 seconds when the music stops.

AUTO
Auto cycles the built-in programs without being controlled by DMX controller. 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, running speed and twinkle speed etc.

DMX Control Parameter Chart

Channel	Function	Value	Description
CH1	Mode	0-50	laser OFF
		50-99	Sound active mode
		100-149	AUTO mode
		150-255	DMX mode
CH2	Scan track selection	0-255	38 tracks (255/5)
CH3	Position-X	0-255	Adjust position-X
CH4	Position-X	0-255	Adjust position-Y
CH5	Scanning Speed	0-255	0 is speedy, 255 is slow
CH6	Spin direction	0-99	Clockwise direction spin
		100-199	Stop spin
		200-255	Counter clockwise direction spin
CH7	Spin Speed	0-255	0 is fast 255 is slow
CH8	Frequency Flashing	0-255	0 is fast, 255 is slow
CH9	Colour selection	0-99	Red-violet
		100-199	Red
		200-255	Violet

When the CH1 is selected the DMX mode (DMX value is 150～255), you can use channel CH2 to CH9 to control laser beam. If CH1's DMX mode is not selected, CH2 to CH9 are invalid.

Function setting
Uses dipswitches to assign the unit's function: DMX/slave, or 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

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
1	SET DMX ADDRESS FOR DMX MODE								0	DMX/SLAVE

Dipswitch #10 is use to set master or slave mode. Master modes have sound active and AUTO mode. Slave modes have DMX and Slave mode. The units automatically identify DMX or SLAVE mode by data receives. Dipswitch #9 is used to set sound active or AUTO mode in master mode.

DMX address calculation
For DMX mode, DMX address from #1 to 9# dipswitches 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 9 channels at least.

Remote Control
A = switches the unit on B= switches the unit off.
The remote will turn all units off and on at the same time.

OPERATION

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

Master-Slave Operation
This mode will allow you to link up to 32 units together without controller.
The master unit can be in sound active or auto mode.
The slave units need to have all dipswitches off.
1. Install the units in a suitable position
2. Choose a unit to function as Master unit, set dipswitch to select Sound Active or AUTO mode. The others must be set to Slave mode, set dipswitch to select Slave mode.
3. Use standard XLR cable to chain your units together via the XLR connector on the rear of the units.
4. Turn on the all units' power, the unit begins reset, then the unit begins working. The slave units will react the same as the master unit.
5. The units will react to the low frequencies of music via the internal microphone. Adjust the audio sensitivity knob on the back of the master unit to make the unit more or less sensitive in sound active mode. The panel has LED indicator for sound active mode

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 cable to chain your units together via the XLR connector on the rear of the units.
3. Assign a DMX address to each unit using dipswitches.
4. Turn on the all units' power, the units begin reset, then the unit begins working.
5. Use DMX console to control your units.

Notes: 1. DMX console cannot be used in Master-Slave operation (Sound Active or AUTO mode).
2. There should be only one master unit in Master-Slave operation.

SPECIFICATIONS

1. Voltage: AC200V-250V/ 50HZ-60HZ/ Fuse: 2A/250V
2. Rated Power: 20W
3. Laser: 150mW@405nm, violet DPSS laser 100mW@650nm, red Laser
4. Working Modes: DMX, Sound Active, AUTO, Master-Slave
5. DMX Control Channel: 9 channels
6. Graphics & Effects: more than 100 violet or red laser beams shooting out within 70 angles, more than 50 built-in scan track or pattern, X and Y scan angles ±30°, such as a “moving head” twinkling laser star
7. Interface: 3 pins XLR jack for DMX or Maser-Slave linking
8. Size: 280*200*100mm
9. Weight: 4.0Kg