INSTRUCTION MANUAL

iLink laser series

Linkable colour DMX laser effects

MANUAL VERSION 1.0
01-02-12

Kam iLink RGY | Kam iLink GBC | Kam iLink RBP | Kam iLink Blue 500

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

For the latest 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
Telephone: (+44) (**0**)**1582 690600** • Fax: (+44) (**0**)**1582 690400** • Email: mail@lambaplc.com • Web: www.lambaplc.com

RoHS COMPLIANT

MADE IN CHINA

Thank you for purchasing this Kam 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. 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.

If 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 periodicaly, 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 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.

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 41ºF / 5ºC or exceeding 95ºF / 35ºC).

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

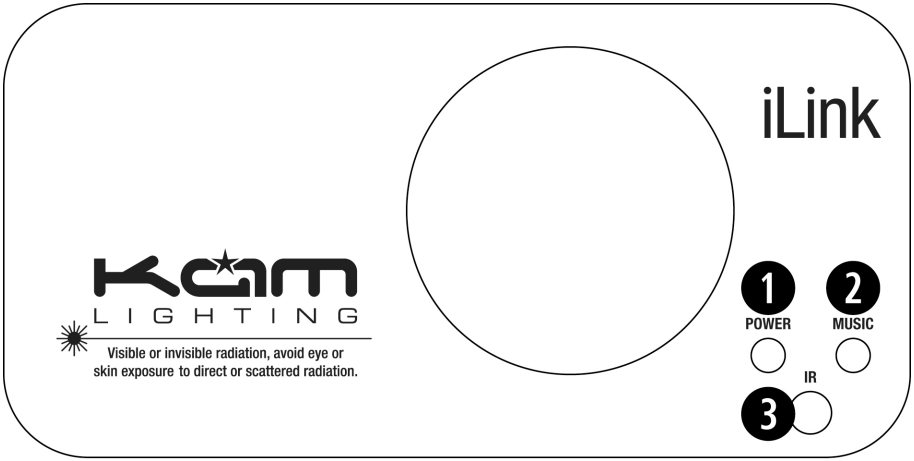
In compliance with the following requirements: **RoHS Directive (2002/95/EU)** and **WEEE Directive (2002/96/EU),** and **Battery Directive (2006/66/EU).** If this product is ever no longer functional please take it to a recycling plant for environmentally friendly disposal. Any supplied batteries can also be recycled.

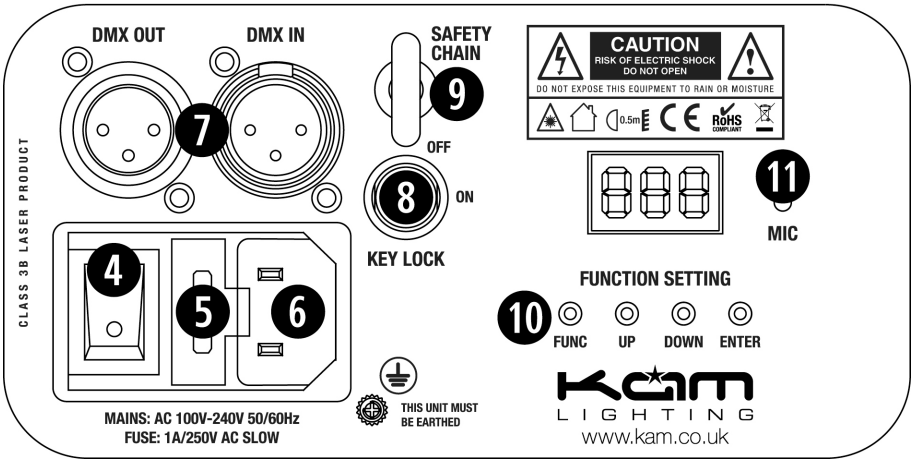
CE declaration of conformity
Low Voltage Directive (2006/95/EU). The declarations are available on application from certification@lambpalc.com
Before putting the devices into operation, please observe the respective country-specific regulations.

Warning
This unit contains high power laser devices. Do not open the laser housing due to potential exposure to unsafe levels of laser radiation

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

Front and rear panels



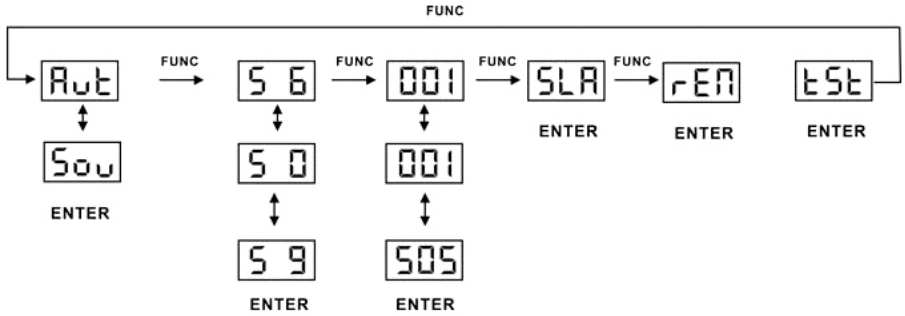


1	**Power LED**	Indicates that the fixture is switched on
2	**Music LED**	Synchronises to any detected music/sound signal
3	**Remote receiver**	Remote controller signal receiver
4	**Power switch**	Use to power On or Off the unit
5	**Fuse holder**	The replaceable fuse is held here
6	**Mains power**	Power input With IEC socket and integrated fuse holder
7	**DMX In/Out**	3 pin male/female XLR connector
8	**Key switch**	Insert the supplied safety key before being able to turn the laser On or Off
9	**Safety eyelet**	Used to attach a safety cable/chain when the fixture is rigged
10	**Control panel**	LED display and operation control buttons
12	**Microphone**	Used to detect the music/sound signal

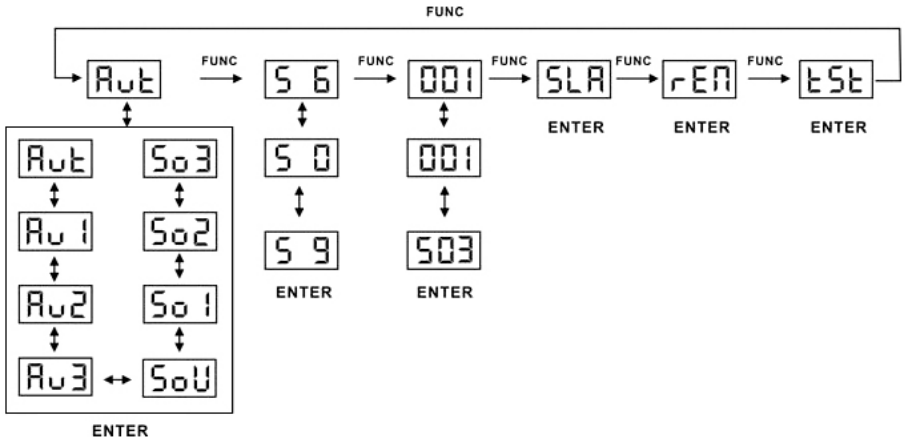
Control and function
Regular breaks during operation are essential to maximise the life of this device as it is not designed for continual use. Always unplug the unit when it is not being used for long periods or before servicing. In the event of serious operation problems, stop using the unit and contact your dealer immediately. Note: There will output from the laser 5 seconds after the unit is powered on.

Operation (via control buttons on rear of unit)

Single colour Kam iLink lasers



Three colour Kam iLink lasers



Auto Show / Stand Alone mode (Aut)
1 Press the function button (**Func**) to enter **Mode** options
2 Press the function button until the LED panel shows **Aut**
3 Press the **Enter** button to confirm the setting
The laser will now be working in Auto Show / Stand Alone mode

Sound Activated / Sound-to-Light / Stand Alone mode (Sou)
1 Press the function button (**Func**) to enter **Mode** options
2 Press the function button until the LED panel shows **Sou**
3 Press the **Enter** button to confirm the setting
The laser will now be working in Sound Activated / Sound-to-Light / Stand Alone mode

Sound-to-Light / microphone sensitivity setting

1 Press the function button (**Func**) to enter **Mode** options
2 Press the function button until the LED panel shows **S 6**
3 Press the **Up or Down** buttons to adjust the microphone sensitivity
4 **S 1** = low sensitivity / **S 9** = high sensitivity / **S 0** = mic is turned off
5 Press the **Enter** button to confirm the setting

DMX mode

1 Press the function button (**Func**) to enter **Mode** options
2 Press the function button until the LED panel shows **001**
3 Press the **Enter** button to confirm the setting or change the address using the Up and Down buttons
4 Press the **Enter** button to confirm the setting

The laser will now be working in DMX mode

DMX mode / DMX address setting

1 Ensure the unit is in DMX mode (see above)
2 Press the **Up or Down** buttons to adjust the DMX address
3 Press the **Enter** button to confirm the setting

If multiple connected units are to be controlled in exactly the same way, set all units to the same starting address (e.g. **001**). If individual control of multiple connected units is required, each unit must have its own starting address. This address must be at least 10 channels apart e.g. set the first unit to **001** and the second unit to **011**, the third unit to **021** and so on. The DMX controller will now control all the connected units separately.

Master/Slave mode

1 Press the function button (**Func**) to enter **Mode** options
2 Press the function button until the LED panel shows **SLA**
3 Press the **Enter** button to confirm the setting

The laser will now be working in Slave mode

To create a Master/Slave chain of units, one laser has to be designated as the Master unit whilst the remaining units have to be set as Slave units. To set the Master unit, choose one laser and set it to your desired mode (Auto mode, Sound-to-Light mode, etc). Next connect all other units via DMX cables. To achieve this, join the DMX output of one unit to the next unit's DMX input until all lasers are connected. Set all the Slave units to Slave mode (see above). The Slave lasers will now duplicate the actions of the Master unit.

Operation (via IR remote control unit)

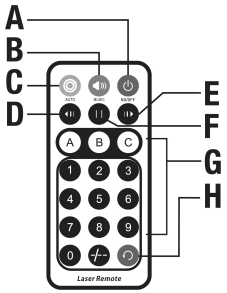
Remote Control mode

1 Press the function button (**Func**) on the rear of the laser to enter **Mode** options
2 Press the function button until the LED panel shows **rEN**
3 Press the **Enter** button to confirm the setting

The laser will now be working in Remote Control mode

To set the laser to Remote Control mode via the IR remote control unit, press the On/Off button (red button **A**) for two seconds whilst the laser in any mode (except rEN or SLA modes).

A	**On/Off button**	Press button to turn laser On or Off
B	**Music mode**	Press button to activate Sound-to-Light mode To set adjust the mic sensitivity, press **Music** and **B** buttons Use the **0-9** digit buttons to increase or decrease sensitivity
C	**Auto mode**	Press button to activate Auto mode
D/E	**Colour buttons**	Press buttons to cycle through laser's available colours
F	**Pause button**	Press button to pause the laser effect
G	**Pattern buttons**	Press the **A** and **C** buttons to change the laser patterns Use the **0-9** digit buttons to choose any pattern from 1 to 48
H	**Pattern repeat**	Press button to cycle repeat the last and current patterns



Any control or setting in Remote Mode will be saved in RAM, until the unit is turned off.

DMX protocol for one colour lasers

Channel	Value	Function	
Channel 1 - mode	000-063	Laser black out	
	064-127	Auto show	
	128-191	Sound activated show (music)	
	192-255	DMX mode (other channels activated)	
Channel 2 - patterns	000-255	32 patterns as shown in pattern list (see below)	
Channel 3 - zooming	000-127	100%-5% size 	
	128-169	Zooming in	
	170-209	Zooming out	
	210-255	Zooming in and out	
Channel 4 – Y axis rolling	000-127	0-359 degree fixed Y axis rolled	
	128-191	Clockwise rolling	
	192-255	Anticlockwise rolling	
Channel 5 – X axis rolling	000-127	0-359 degree fixed X axis rolled	
	128-191	Clockwise rolling	
	192-255	Anticlockwise rolling	
Channel 6 – Z axis rotating	000-127	0-359 degree fixed Z axis rotate	
	128-191	Clockwise rotating	
	192-255	Anticlockwise rotating	
Channel 7 – X axis rotating	000-127	128 different fixed position on X	
	128-191	Clockwise moving	
	192-255	Anticlockwise moving	
Channel 8 – Y axis moving	000-127	128 different fixed position on Y	
	128-191	Clockwise moving	
	192-255	Anticlockwise moving	

DMX protocol for multi colour lasers

Channel	Value	Function	
Channel 1 - mode	000-029	Automatic show with original preprogrammed colour	
	030-059	Auto show with colour 1	
	060-089	Auto show with colour 2	
	090-119	Auto show with colour 3	
	120-149	Sound activated show with original preprogrammed colour	
	150-179	Sound activated show with colour 1	
	180-209	Sound activated show with colour 2	
	210-239	Sound activated show with colour 3	
	240-255	DMX mode	
Channel 2 - patterns	000-255	32 patterns as shown in pattern list (see below)	
Channel 3 - colour	000-024	Blackout	
	025-049	Original preprogrammed colour	
	050-074	Colour 1	
	075-099	Colour 2	
	100-124	Colour 3	
	125-149	Alternate colour 1 and colour 2	
	150-174	Alternate colour 2 and colour 3	
	175-199	Alternate colour 1 and colour 3	
	200-224	Alternate colour 1, colour 2 and colour 3	
	225-255	Colour rolling	
Channel 4 – colour speed	000-004	Stop	
	005-255	Slow > fast 	
Channel 5 - zooming	000-127	100%-5% size	
	128-169	Zooming in	
	170-209	Zooming out	
	210-255	Zooming in and out	
Channel 6 – X axis moving	000-127	128 different fixed position on X	
	128-191	Clockwise moving	
	192-255	Anticlockwise moving	
Channel 7 – Y axis moving	000-127	128 different fixed position on Y	
	128-191	Clockwise moving	
	192-255	Anticlockwise moving	
Channel 8 – Y axis rolling	000-127	0-359 degree fixed Y axis rolling	
	128-191	Clockwise rolling	
	192-255	Anticlockwise rolling	
Channel 9 – X axis rolling	000-127	0-359 degree fixed X axis rolling	
	128-191	Clockwise rolling	
	192-255	Anticlockwise rolling	
Channel 10 – Z axis rotating	000-127	0-359 degree fixed Z axis rotating	
	128-191	Clockwise rotating	
	192-255	Anticlockwise rotating	

Pattern list in channel 2

000-007		064-071		128-135		190-197	
008-015		072-079		136-143		198-205	
016-023		080-087		144-151		206-213	
024-031		088-095		152-159		214-221	
032-039		096-103		160-167		222-229	
040-047		104-111		168-175		230-237	
048-055		112-119		176-181		238-245	
056-063		120-127		182-189		246-255	

Specifications

Kam iLink Blue 500	**490mW 450nm blue**
Kam iLink RGY	**100mW red / 40mW green colour mixed to yellow**
Kam iLink RBP	**100mW red / 80mW blue colour mixed to pink**
Kam iLink GBC	**40mW green / 80mW blue colour mixed to cyan**
Mains input/total power	**AC100-240V, 50/60Hz / 12w**
Fuse	**250V 1A slow blow (20mm glass)**
Sound control	**Internal microphone**
Laser classification	**Class 3B**
Laser safety standard	**EN60825-1 2007**
Working temperature	**10~40˚C**
DMX connections	**3 pin XLR male and female**
DMX channels	**8** (single colour iLink lasers) / **10** (multi colour iLink lasers)
Dimensions (WxHxD)	**165 x 80 x 145mm** (main unit not inc hanging bracket)
Nett weight	**1.5Kg**
Red laser medium	**LD GaAlAs 650nm, typical**
Green laser medium	**DPSS Nd:YVO4, 532nm**
Blue laser medium	**LD GeAs 450nm, typical**
Beam diameter	**<5mm at aperture**
Pulse data	**All pulses < 4Hz (>0.25sec)**
Divergence (each beam)	**<2 mrad**
Divergence (total light)	**<90 degrees**