Kam

INSTRUCTION MANUAL

DMX Star Cluster 140i
Classic cluster effect DMX laser

MANUAL VERSION 3.0

Multi function wireless remote control
100mW red and 40mW green laser
200+ red and green laser points
Built-in animated patterns
70+ degree beam angle
Sound-to-Light sensitivity control
5 channel DMX512 operation
Endless show creation possibilities
XLR DMX in and out
Tough all-metal chassis
Key operated power control

For the latest product updates and information on the entire Kam range visit:

www.kam.co.uk

Kam DMX Star Cluster 140i

Classic cluster effect DMX laser

Thank you for purchasing this product, we hope that it serves 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.

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 this unit to high temperature and rain or moisture.

Unpacking

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.

Safety

This unit operates on 240V AC. This appliance must be earthed.
This product is for indoor use only. Always store unit in a dry place.
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 unit must not be connected to dimming-packs.
Never look directly into any light source as this may damage eyes.
There are no user serviceable parts in this unit, please consult your retailer for any repair work.

Operation

To prolong the life of your unit it is recommended that the unit is not for constant us. Leaving a break between long periods of use will increase the life span of your unit.

When choosing the installation position, please make sure that the device is not exposed to extreme temperature, moisture, and that no air ways are blocked, keep a good distance from materials etc.

When using smoke machines/foggers, make sure that the device is never exposed to the direct smoke jet and is installed at distance of 0.5 meters away from other surfaces. Always fix the fixture with an appropriate safety-chain. The maximum ambient temperature Ta = 45°C must never be exceeded.

Installation / Overhead rigging

Caution: any units installed in an overhead position may cause severe injuries if not installed correctly or safely. Please ensure the mounting structure is secure and stable, and is capable of holding 10 times the weight of the unit to be installed. Always use suitable hanging/mounting brackets or clamps. Always fit a suitable safety chain. If in any doubt about installation please contact a qualified technician.

Laser warning

This is a Laser Class 3B product. National regulations must be adhered to at all steps of installation. In Germany apply DIN 56912 and BGVR LASER note: additional regulations may apply.

Unintended reflections of the laser beam from reflective or metallic surfaces can be dangerous. This unit uses diode lasers in green and red colours. Avoid exposure to eyes. Never open the laser diode box, please refer the unit to a qualified engineer for servicing or repair.

Cleaning

It is important to keep the unit clean. We suggest you use a professional glass cleaning lotion and a soft cloth.

Basic operation
Connect the unit to the mains. You can adjust the microphone sensitivity with the rotary control on the rear panel. Use the dip switches to choose between Auto, Sound-to-Light, Master/Slave, DMX512 or Remote Control modes.

Auto operation
Select Auto mode by turning dip switches 1 and 8 to the the ON position and all other dip switches to the OFF position. The unit has built-in programs and will cycle through these programs in Auto mode.

Sound-to-Light operation
Select Sound-to-Light mode by turning dip switch 8 to the the ON position and all other dip switches to the OFF position. The unit will now respond to any strong bass sound. Adjust the sensitivity of the microphone using the Mic Sensitivity control on the rear of the unit.

DMX operation
Select DMX mode by turning dip switch 1 to the the OFF position. Then set the DMX starting address using dip switches 2 to 10. The DMX starting address is defined as the first channel from which the unit will respond to an external controller.

DIP SWITCH	1	2	3	4	5	6	7	8	9	10
ADDRESS	1	2	4	8	16	32	n/a	n/a	n/a	n/a

DMX example settings
To set a unit's DMX starting address to 45, set dip switches 6 (32), 4 (8), 3 (4) and 1 (1) to the ON position and all other dip switches to the OFF position. This gives you the address 45 because $32 + 8 + 4 + 1 = 45$. If your maths isn't that good, there are several online DMX dip switch calculators available. Look for them online with a search engine using the terms 'dmx', 'dip', 'switch' and 'calculator'.

DMX addressing
There are 512 DMX channels to choose from and all units with the same address will operate via an external DMX controller at the same time and in the same way. For individual control, each unit needs to be set with it's own unique address. The highest address this unit can go to is 64.

DMX Channels
The DMX Star Cluster 140i has 5 DMX channels and they operate in the following way.

Channel 1	Mode selection	0-53	Laser shut off
		54-107	DMX512 mode
		108-162	Auto mode
		153-255	Sound-to-Light mode
Channel 2	Grid effect selection	0-238	Grid position
		239-255	Grid clockwise rotation
		Note: there is no anti-clockwise rotation function	
Channel 3	Moving speed selection	0-255	Speed
Channel 4	Strobe speed selection	0-255	Strobe speed from 0 to fast
Channel 5	Colour selection	0-73	Red only
		74-148	Green only
		149-222	Red and green
		223-255	Red/green flashing

Building a serial DMX chain
You can connect multiple units in a DMX chain. Connect the DMX output of the first unit in the chain to the DMX
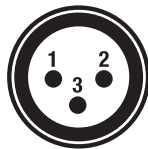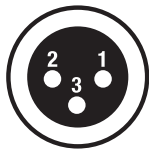
Using a DMX controller
If you are using a DMX controller with the chain, connect the DMX output of the controller directly into the DMX input of the first unit in the DMX chain.

DMX512 connection / connection between units
All DMX cables must be wired correctly, with suitable 2 core screened cable. The signal lines must be separate and no cables should be bridges. Please check this if you are trying to use a microphone cable as these are often balanced leads and will not work for DMX purposes.

DMX output / XLR socket   **DMX input / XLR plug**

1. Ground   /   2. Signal (-)   /   3. Signal (+)

Master/Slave operation
The Master/Slave operation enables multiple devices to be synchronised and controlled by one Master device. On the rear panel of the unit you will find XLR input and XLR output sockets which can be used for linking devices.

Choose one unit that is to control the effects. This device will work as the Master device and controls all other connected units. These connected units are known as the Slaves. Turn all Slave unit's dip switches 2 and 10 to the ON position and all other switches to the OFF position. Set the Master unit's dip switches as you would for single unit operation. The Slave units will now follow the effects of the Master unit.

Key lock
The unit can be 'locked' to stop the laser being turned on without the owner's permission. Using the supplied key, lock the unit and remove the key. The unit will no longer operate wether it is connected to the mains or not. In some countries this is a legal requirement for all laser units.

Wireless remote control
Select wireless remote control mode by turning dip switches 7 and 8 to the ON position and all other dip switches to the OFF position. The remote control has the following functions.
Button A (Power) - Press once to turn the laser OFF, press again to turn the laser ON.
Button B (Mode) - Pressing the button toggles between Sound-to-Light mode and Auto mode.
Button C (Pattern) - In either mode, pressing the button steps through the built-in patterns.

Technical specifications
Rated voltage: **240V AC**
Rated frequency: **50Hz**
Power consumption: ≤**15w**
Laser wavelength: **25-45mW/532nm, 100mW/650nm**
Laser source: **Solid semi-conductor laser generator**
Colour: **Emerald green and red**
DMX channels: **5**
Control modes: **Auto / Sound-to-Light / DMX512 / Master/Slave / Remote control**
Audio input: **Built-in mic for Sound-to-Light mode**
Connection: **XLR input & output**
Cooling system: **Forced fan**
Operating environment: **Indoor use only**
Fuse: **3A**

Due to continuous product development, specifications and appearance are subject to change.
If this product is ever no longer functional please it take to a recycling plant for environmentally friendly disposal.