Kam

INSTRUCTION MANUAL

DMX STAR CLUSTER 140I V2
Multi star cluster effect laser with remote control

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

09 / 12 / 10

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

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

www.kam.co.uk

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. After you have read the instructions, 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.

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 of 45°C must never be exceeded. The unit must not be connected to dimming-packs.

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 intended 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.

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.

Any modification carried out on the unit may invalidate the unit's warranty.

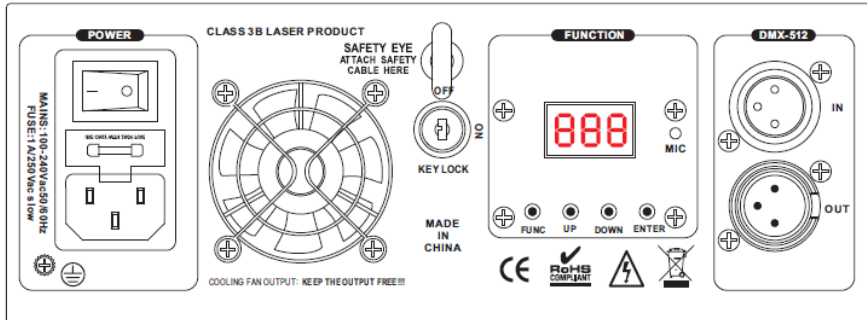If applicable, only use the stand, tripod or bracket specified or sold with the apparatus.

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 servicing or cleaning of the unit.

The serial number for this equipment should be located on the rear or underside of the unit. Please make a note of this number as you will need it for your warranty, it is a good idea to keep a copy of the serial number for your own records.

The new version of the award winning Starcluster 140i incorporates the following new features:
- Extra exciting output effect such as Firework effect, Burst effect and Flat beam chase.
- 4 button back panel control system navigates auto show, sound activated random show, sound activated cluster show and sound activated random pattern show modes as well as the easy select DMX, Master/Slave and Sound sensitivity control features.
- The new LED display for easy operation and mode status.

Basic operation

First connect the unit to the mains, to get an output from the unit you have to insert the safety key into the key switch and turn the key clockwise.
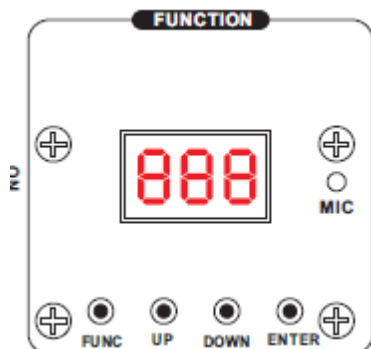

The LED display will light up and your unit should default to Starcluster mode. You have 5 show control options to choose from:

MODE	LED DISPLAY SHOWS	DESCRIPTION
REMOTE	rEN	REMOTE CONTROL MODE **Button A:** Off, Red, Off, Green, OFF, RED and Green. **Button B:** Sound or Auto on Currently Program. **Button C:** Program select: first one Random Programs of all effects, then step and hold each one and each time you press step to the next effect
SOUND	Sra	**S**ound activated mixed laser effect show with **rA**ndom order
CLUSTER	SoD	**So**und activated soli**d** beam with double burst grating effect
SOUND PATTERN	SOP	**So**und activated **P**attern effect show with random order
AUTO MODE	ARA	Mixed laser effect **A**uto show with **rA**ndom order

*These show options are clearly shown on the LED Display, the above grid is an indication of what will be displayed on the LED display when the unit is in the various show options.

The operation of the laser and navigation of the modes is via the four button controller situated on the rear display of the unit.

Basic operation of the unit is controlled via the built in function controller:
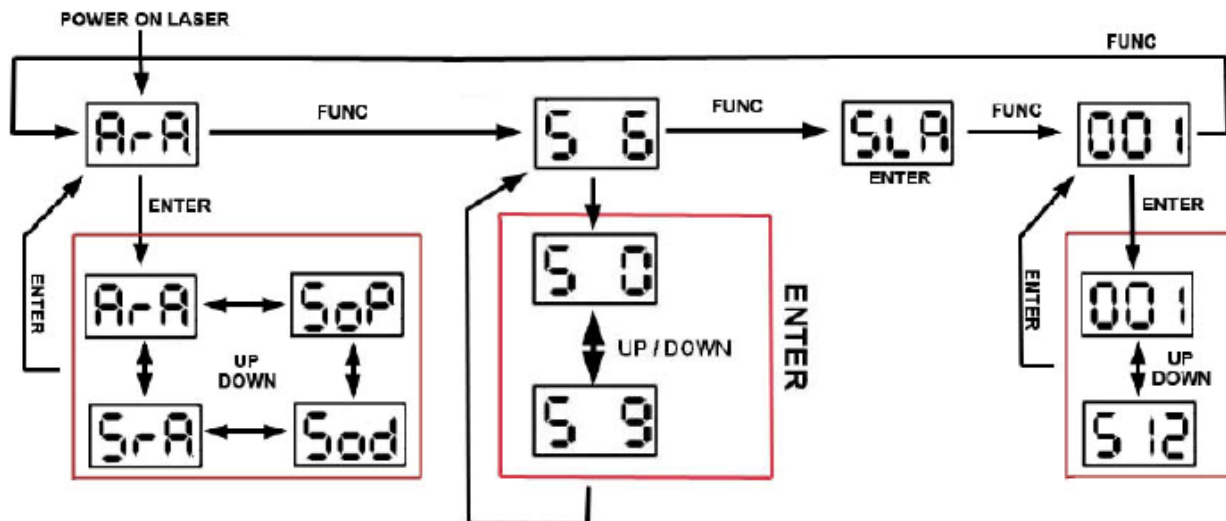Navigation and access of the functions, modes and shows is initiated via the **function** button.
Whatever mode/function or show you are in, Press the **Func** Button once and the LED display will start to flash.
You now use the **Func** Button to navigate the unit. You can select from the following modes:
Remote-control mode (REM), Slave mode (SLA), Sound sensitivity mode (S 0-9), DMX mode (001-512) and show control modes (ArA, SrA, SoD, SoP).

Use the **Func** button to step through the modes options available and use the enter button to select and set the mode you require. In each mode there is a sub menu or setting control that can be accessed via the **up** and **down** buttons to access the various desired settings for each mode. To access the sub settings, you first press the **Func** button to access and set the mode you desire. The LED display will flash and display the current mode, press the **Func** button again with one more press to step through the next mode available. Use the function button to step forward through all modes. When you have sourced the desired mode press the **enter** button if you just want to select that mode without alteration of the sub menu and its settings. Then just press **enter** You will see that the LED Display will show the mode you have selected and stop flashing if it is set.

To alter the settings of each mode, you will have to enter the sub menu. With the mode you have chosen displayed and flashing on the LED display use the **up** and **down** buttons to access the various options or settings for that mode. Once you have reach your desired setting then press the **enter** button to select and set it. In some operations again you use the **up** and **down** buttons to increase or decrease the setting value. Once you reach your desired setting press **enter**. The display will flash and then return to the mode, above the sub section you have just accessed.

Auto operation
Standalone pre-programed laser show
Press the **FUNC** button to enter MODE OPTION.
Till to LED panel shows either one of **ArA, SrA, SoD & SoP.**
Press the UP or DOWN buttons to select your favourite standalone mode as above.
Press the ENTER button to confirm the setting.
The laser is working in standalone.
In the MODE OPTION setting, the stand alone laser show that you are going to choose is flashing. Press UP or DOWN to change stand alone laser show, you will have 4 different stand alone preprogrammed laser show.
*Their DISPLAY and EFFECT are listed in **TABLE 1**

Sound-to-Light operation
Sound activated mode and sensitivity setting
Press the **FUNC** button till to see **S 0-9**
Press the **UP/DOWN** buttons to set microphone sensitivity. S 0 is no sound activated, and S 9 is maximum sensitivity. From S 0 to S 9, the sensitivity level is going more sensitive.
Press the **ENTER** button to confirm and save the setting.

DMX-512

DMX operation

Press the **FUNC** button to enter MODE OPTION
Till to LED display shows **001**. Press the **ENTER** button to confirm the setting.
The laser is now working in "DMX MODE". Use the UP/DOWN buttons to change the DMX address of the laser.

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 a unique address. The highest address this unit can go to is 512

DMX Channels

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

CHANNEL	DMX VALUE	DESCRIPTION
CH 1 MODE	000-019	Laser Block Out
	020-075	ARA Mixed Effect Auto Mode
	076-131	SRA Sound Activated Mixture Mode
	132-188	SOD Sound Activated Moving Dots Mode
	189-239	SOP Sound Activated Firework Mode
	240-255	DMX MODE
CH 2 Color selection	000-036	Blackout
	036-072	Red
	073-108	Green
	109-144	Red &green (alternate strobe) **use CH 2 to select speed of flash**
	145-180	Red on & Green strobe
	181-216	Green on & Red strobe
	216-255	Red & Green strobe
CH 3 Strobe	000-004	No function
	005-254	Strobe (fast-slow)
	255-255	Strobe to sound
CH 4 Rotation	000-004	No function
	005-127	Clockwise rotation (slow-fast)
	128-133	Stop
	134-255	Counterclockwise rotation (slow-fast)
CH 5 Swing	000-255	Swing range (short – long)

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 input of the next unit. Always connect one output with the input of the next unit until all units are connected. Then set the starting address for all units using the above dip switch table. If the address of the first unit is set as 1, the second unit should be set to 6 (as the unit has 5 channels); the third unit is set at 11 and so on.

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.

Master/Slave operation
Press the **FUNC** button to enter MODE OPTION
Till to LED display shows **SLA**
Press the **ENTER** button to confirm the setting.
The laser is working in "SLAVE MODE". Connect the MASTER and the SLAVE
Laser together with a DMX cable, the SLAVE lasers will know do what exactly MASTER laser does.

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 whether 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 pressing the **FUNC** button to enter MODE OPTION and press till to LED display shows **ReN.** The three buttons on the unit control laser output, Mode and Program select.
Button A: Off, Red, Off, Green, OFF, RED and Green.
Button B: Sound or Auto on Currently Program.
Button C: Program select: first one Random Programs of all effects, then step and hold each one and each time you press step to the next effect

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