KAM

INSTRUCTION MANUAL

BLUE MOVER 500 SD FSCAN
500mW blue laser with 20K optical fast scanning motor

MANUAL VERSION 1.0

30 / 11 / 10

Playback of ILDA laser shows through SD card
500mW blue laser @450nm
Scanner system: 20K high speed optical scanner
PC IDLA input and output / LCD display for operating system control
12 channel DMX512 operation
Pre-programmed moving patterns in Auto mode
Sound-to-Light, Auto and DMX modes / Linkable Master/Slave mode
3 pin XLR DMX connection
AC 100V-240V, 50/60Hz input power / Rated power: 50w
Key operated safety control
Adjustable hanging bracket / Tough metal chassis
Dimensions: 310 x 110 x 210mm

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

www.kam.co.uk

Thank you for purchasing this 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.

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.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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.

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

Do not aim this laser directly into an audience and ensure any part of the lowest scanned beam is above head height. (Ideally greater than 3m). Visible and invisible laser-light, direct beam will damage the human eye and the eyes of animals. Do not look at any Laser light directly.

Do not touch the laser aperture with the hand. When cleaning the laser aperture, please use a soft cloth with alcohol or camera lens paper.

In the unlikely event that you hear unusual noise, see smoke, feel excessive heat or smell anything unusual, immediately unplug the power source and contact your retailer. Continued use may result in fires or electrical shock.

Do not use flammable sprays near this equipment. Also do not spill water, liquids, or flammable liquids on the equipment. If fluids enter this equipment and contact the electrical parts, fires or electrical shock may result. If anything enters the equipment, immediately unplug the power supply and contact your retailer.

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.
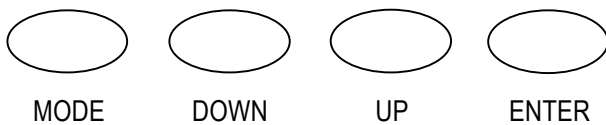
Front and Rear panel view
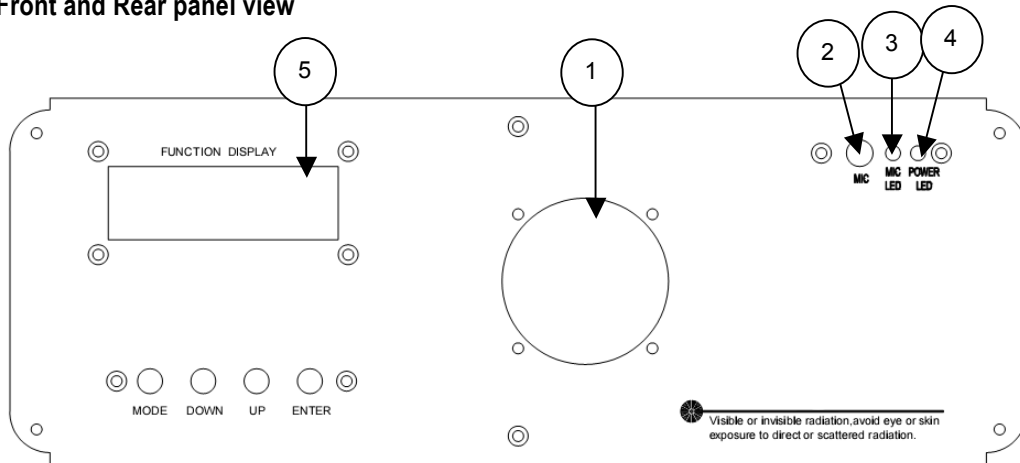
1. Laser Aperture   2. Sound active microphone   3. Sound active indicator: Blue
4. Power indicator: Red   5. Function Display LCD
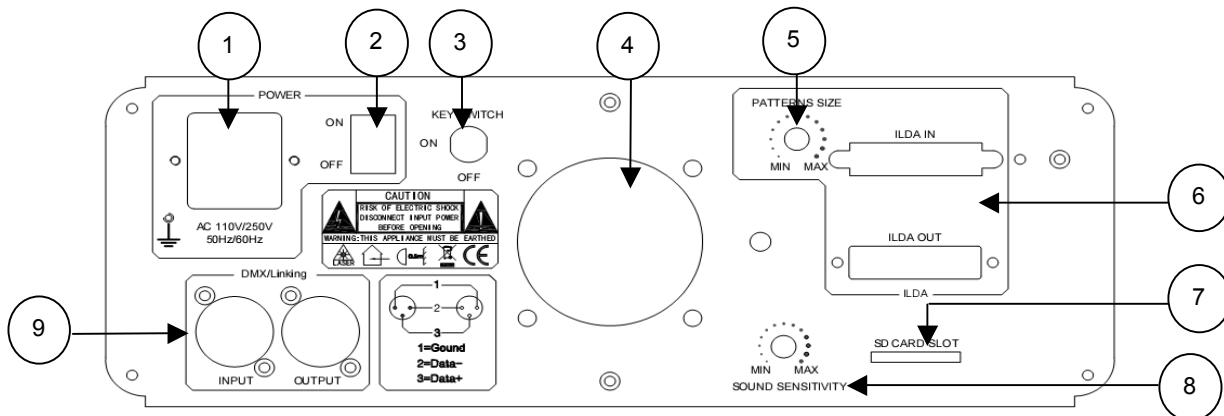
1. Mains input socket   2. ON/OFF switch   3. Key lock   4. Cooling fan   5. Pattern size adjustable knob
6. DB25 ILDA interface   7. SD card slot   8. Sound sensitivity knob   9. DMX in/out sockets

Button Operations

MODE   DOWN   UP   ENTER

MODE for menu, ENTER for confirmation, UP and DOWN to change operating mode, parameter or DMX address.

When the laser is powered on, the LCD panel on the front of the laser shows the current operating mode. Press the MODE button to select the desired menu. Where necessary use the up /down keys to select desired program or mode and press enter to confirm.

Program Table: Program file selected mode
Key seek: ILDA file selected mode
Audio mode: Sound activation mode
Auto mode: Auto-running mode
DMX mode: DMX512 mode
Slave mode: Master and slave mode
System set: Color setting, sound sensitivity setting, X/Y setting, etc.
Folder select: Select the program folder
After choosing the mode, press "ENTER" for confirmation.

Each Mode Operation

1. Program Table: the first line on LCD shows "SD program show", the second line shows the name of displayed program, press UP or DOWN to select other programs.

2. Key seek: the first line on LCD shows "Show file", the second line shows the name of the present displayed ILDA file. Press UP or DOWN to select other ILDA file.

3. Audio mode: the first line on LCD shows "Audio show", the second line shows Aurora Studio". Now the laser shows built-in program, changed according to sound activation.

4. Auto mode: the first line on LCD shows "Auto show", the second line shows Aurora Studio". Now laser shows built-in program automatically.

5. DMX mode: the first line on LCD shows the present DMX address, press UP or DOWN to change the address. Keep holding UP or DOWN to change quickly. Press ENTER to confirm address.

6. Slave mode: run programs as Master laser.

7. System set: the first line on LCD shows "system set", the second line shows the parameter. Press UP or DOWN to select parameter, and press ENTER for confirmation.

"Colour Mode Set" to select colour, **please not on this model the colour change menu is non-functional**

"Audio Set" to set sound sensitivity, use the up down buttons to change level.

"Phasic Set" to set X/Y.

8. Folder select: the first line on LCD shows "Folder Select", the second line shows the folder name. Press UP or DOWN to choose folder and press ENTER for confirmation.

The maximum size of SD card usable is 2GB.

Linking master slave

Several units may be linked master / slave without using a DMX controller.

Set the first unit (master) to the desired setting i.e sound or auto mode using the LCD menu display.

Note: only one unit must be set as the master.

Set all other units (slave) to slave mode. Use the LCD menu and choose slave mode. Press enter to select.

Link the units together using a 3pin XLR DMX cable (not supplied).

All slave units will follow the master unit.

DMX address

Controlling units with a DMX controller. Each unit uses 12 DMX channels.

To select the desired DMX address press the menu button until DMX mode is displayed, then press the enter button to access the DMX channel menu.

This example shows how to set the start address to 001 but use the same formula to set address at different numbers

At the top of the menu address #*** is displayed, use the up down buttons until 001 is shown and press the enter button to confirm.

This unit now has the DMX starting address of 1.

If all units are to be controlled exactly the same set all units to address 001.

If individual control of units is required each unit must have its own starting address and must be at least 11 channels apart , no channels must cross.

i.e set the first unit to 001 the second unit to 012 and so on each unit 11 channels apart.

now the DMX controller will control all units seperatley.

Link the units together using a 3pin XLR DMX cable (not supplied).

Instruction for DMX channels

Channel		Value	Function	
CH 1	Mode select	0-36	Laser OFF	
		37-110	Automatic play of PRG files. One folder can have more than one PRG file, but there must be on PRG file name exactly the same as the folder name.	
		111-146	Manual selected SD files. Use Ch2 to select different programs (PRG files) & CH3 to select *.ilda files you wish to output.	
		148-184	Sound active mode	
		185-221	Auto mode	
		222-255	Manual mode. Use CH2 to CH11 to control	
CH 2	Pattern select	0-255	Change patterns every 2 values	PRG file select under CH 1, 37~146
CH 3	Strobe	0-10	No strobe	Select ILDA file under CH1, 111~146
		11-199	Auto strobe	
		200-255	Sound strobe	
CH 4	X axis moving	0-125	Manual adjust position	
		126-185	Auto running from left to right	
		186-225	Auto jump running from left to right	
		226-245	Auto jumping	
		246-255	Sound active jumping	
CH 5	Y axis moving	0-125	Manual adjust position	
		125-185	Auto running up and down	
		186-225	Auto jump running up and down	
		226-245	Auto jumping	
		246-255	Sound active jumping	
CH 6	Zooming	0-10	No change	
		11-100	Manual zooming	
		101-150	Zooming out	
		151-200	Zooming in	
		201-255	Zoom in and out	
CH 7	X axis rotation	0-10	Stop	
		11-110	Manual rotating	
		111-255	Auto rotation	

CH 8	Y axis rotation	0-10	Stop
		11-110	Manual rotating
		111-255	Auto rotation
CH 9	Z axis rotation	0	Stop
		1-180	Manual rotating
CH 9	Z axis rotation	181-217	Auto clockwise rotation
		218-255	Auto counterclockwise rotation
CH 10	Gradually drawing	0-74	Manual adjust drawing
		75-104	Auto drawing (increase)
		105-144	Auto drawing (reduce)
		145-184	Auto loop drawing
		185-224	Loop drawing (increase)
		225-255	Loop drawing (reduce)
CH 11	Waves	0-9	Stop
		10-199	Adjust wave speed
		200-255	Adjust wave range
CH13	Vector path	0-255	Increase the DMX value towards 255 to display pattern as vector dots.

Attention - SD card format

1. This system only supports FAT32 format. A new SD card should be formatted under FAT32.

2. This system only supports short file names (folder names also), it can support no more than an 8 character file name and 3 character extension name. The file name and extension name can be composed using alphanumerics.

3. SD card supports a maximum of 100 folders. Each folder can save 255 files maximum. DO NOT use the SD card to save other documents.

4. The SD card function requires a simple text file which tells the control program the play speed and repeat information for the .ild files. A user must use a TXT document to save and edit the program table; the extension name for this file is ".prg". The program list is made of the ILDA file names, play speed and play times, each of them is separated by ",". User must only create one .ild program on each line.
For example, we create one program list using the name "prg1.prg". It is made of file1.ild, file2.ild, file3.ild. The play speed of file1.ild is 12k, repeat playing 3 times. The play speed of file2.ild is 20k, playing once. The play speed of file3.Ild is 18k, playing 4 times. Then the content of "prg1.prg" is as follows:
File1.ild,12,3
File2.ild,20,1
File3.ild,18,4

When creating a new folder, user should build a .prg file with the same name as this folder. In our example above "prg1.prg" would be contained within a folder on the SD card called prg1. The user must list all ILDA files under this folder to the .prg file. The edited playing speed represents the speed in "Key seek" mode. For example, user can create an "aurora.prg" under the folder of "aurora".
When user adds new ILDA file to this folder, they should also edit this ILDA file to the PRG file. The user will find this ILDA file under "Key seek" mode, and can set the play speed.

5. This system supports standard ILDA file, with the extension name of .ild.