LASER SHOW SYSTEM

BI-214 GREEN LASER

USER MANUAL

1. Unpacking

Thanks for purchasing our laser. Please read our user manual carefully before use. Keep user manual for future reference and operate according to the manual instruction to avoid any damage. We will not be responsible for any damage resulting from misuse.
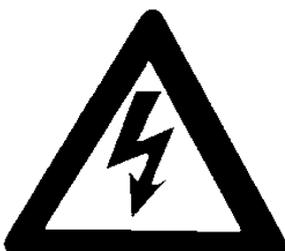
2. Attachments

1.One laser   2. one 3PIN power cable   3. User manual

3. Notice

1、Follow closely the procedure in the specification and do not take apart the laser light at random. Malfunction shall be maintained by professionals.

2、Keep this machine dry and away from rains, moisture , dust.

3、Install the machine firmly to avoid the strong quiver or shock.

4、Keep laser clean and avoid unnecessary malfunction

5、please make sure good ventilation under working condition

6、before electrifying the machine, please check the plug and socket.

7、Do not stare at the light source to avoid possible harm to eye.

8、Avoid frequent on/off and overtime work which are harmful to the life-span of laser diode; please turn off the machine for 15minutes after one hour' working time.

9、Don't touch laser when your hands are wet and pull the wire strongly.

10、the distance between light and target goods should not be less than one meter.

11、Please contact the distributor directly when the light intensity of diode goes down significantly or other malfunctions.

12、please pack the machine carefully during transportation.

4. Warning

1. Cut the power off for installment or repair.
2. The danger grade of laser is CLASS IIIB. Ensure the observing time inside the laser beam less than 10seconds and minimum distance 13CM for safety.
3. Keep laser away from combustible above 0.5meter.
4. Voltage range:110-240V   V. Protect laser with regulator when beyond the range.

Warning

High voltage and danger!
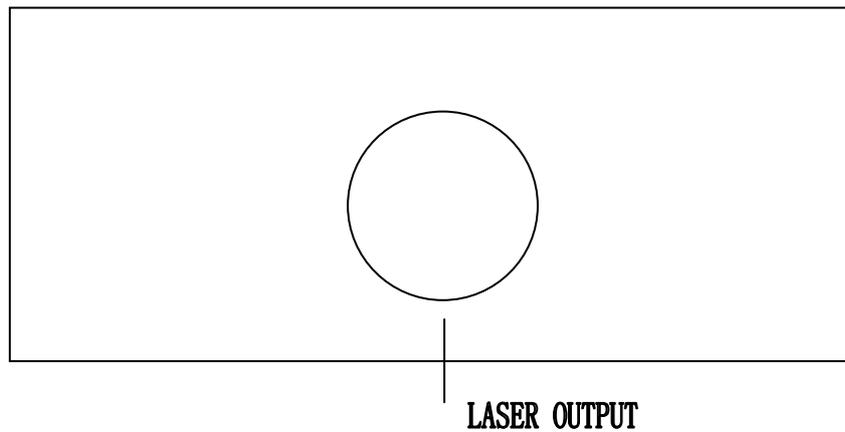
No dismantle and staring!

5. Installment

1. Ensure the electrical voltage accords with voltage labeled on laser.
2. Install under professionals and fix laser strongly to adjust the emission angle.
3. Keep laser away from combustible 0.5meter and 15CM above with wall.
4. Keep working place ventilate and without impediment.
5. Please hang on the laser with 10times endurance to laser's weight.
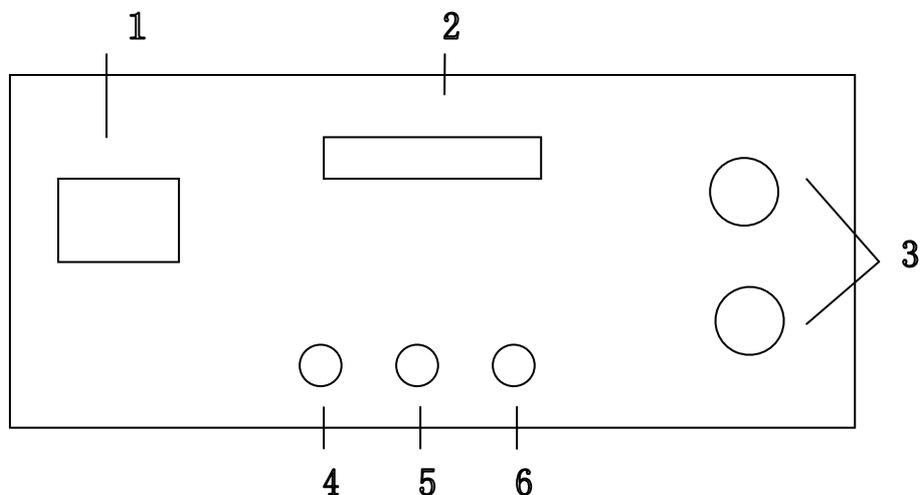6. Connect the grounding well for safety.

6. Maintenance

1. Maintenance should forward periodically, 20days for reference.
2. Clean the dustproof glass with alcohol cotton
3. No wet cloth or chemistry for cleaning
4. Clean the small fans for better cooling.

7. Front panel

LASER OUTPUT

8.Back panel description

1	Power supply with fuse
2	Address code
3	DMX IN/OUT
4	SECURITY KEY
5	SOUND SENSITIVITY
6	MIC

9.Technical parameter

1. Voltage：   AC100V~AC240V   Frequency: 50/60Hz
2. Wavelength: Green 532nm
3. LASER power：３０ｍW
4. Power: 30~50W
5. Channel: 13 channels
6. Scanning angel: 0~+/-30°
7. Scanner speed: >=10KPPS
8. Control modes: auto /sound activate/master and slave/DMX512
9. Size：275*195*130mm
10. Weight：1.4Kg

10. Characteristics

This laser unit employs the latest scanner technique and can project out many cartoon, text and 3D effects like star, round, time-tunnel, letter, geometry graphics.

Pre-built 55 laser patterns of the latest performance effects and it can discretional control the pattern by DMX controller. High speed scanner and professional software are optional for professional laser show.

11. Operation

Stand-Alone Operation

1．Setting the work mode，According to Client requirement to set the mode ：SOUND ACTIVE or AUTO BEAM、AUTO ANIMATION, see the function setting chart。
2．Connecting the power，the unit start to work, beam come out。
3．For SOUND ACIVE mode，adjust the sound sensitivity knob on the back f the unit to make the unit more or less sensitive in sound active; Auto Mode is running automatically.

Master-Slave Mode

1．Setting the work Mode，Choose a unit to function as master mode, set dipswitch to select Sound Active or Auto mode. The other must be set to Slave mode, set dipswitch to select Salve mode. Master unit controlled the slave unit the effect also can arrive to master unit effect. please see the function setting chart。
2．Use standard XLR microphone cable chain your units together via the XLR connector on the rear of the units. For longer cable runs we suggest a terminator at the last fixture。
3．Turn on the all units' power, the units begins reset, then the unit begins working. The slave units will react the same as the master unit。
4．In sound active mode，adjust audio sensitivity knob to make the unit more or less sensitive in sound active; in Auto mode, the unit is running automatically。

Note: If the power time of the slave unit is behind of the master power time obviously, it means the slave unit has come out the deviating appearance. In order to connect securely and the react effect of chain, we suggest to connecting all light of the power in one power net, it's can use alternately. Master-Slave mode no needs DMX controller console control。

DMX Mode

1. Setting work mode, the system only accepts the DMX512 signal of international standard to control the system mode, and also dispatched the address channel of DMX, please see the function seeing chart.
2. Connect the controller line, use standard XLR-XLR controller line, from DMX512 output connect to link jack of the first light, and from the link jack of first light to the second's input port, and do as this chained all lights.
3. Connect the power supply, use DMX512 control console.
4. Note: Do please connect one loop insert to output signal of the terminal light, this loop inserter , this loop inserter must between to the 2 pin and 3pin of the jack , please connect one 120Ω resistance.

12.Troubleshooting

Trouble Appearance	Trouble Solution
IF the power supply indicator doesn't light up and the laser doesn't work.	Please check the power supply and the input voltage.

In stand-Alone mode, if the pattern direction is offset, a part of pattern was shading beam.	Maybe voltage of the power supply is too low, causing the motor can't work well. Please make sure the range of the motor voltage within $\pm 10V$,and please use the low voltage regulator.
In stand-Alone operation and in the state of close if the power supply red indicator is light up, and the sound active indicator light isn't light up.	Because sound is too small make for laser shut off in sound active, please increase the music volume or increase audio sensitivity with sensitivity knob.
In stand-Alone operation and in the state of close if the power supply red indicator is light up, and the sound active indicator light is light up.	Its fault to set up as Slave mode please set up as master mode.
In DMX mode, the laser is off and the DMX signal indicator is unlighted	Make sure to set up the DMX mode, and make sure to have a good connection.
In DMX mode, the unit can't be controlled by the DMX console, but the DMX signal indicator I flashing.	Please make sure the DMX console and unit have the same channel.

13.Address code setting

Please see the sheet attached。

Up means "ON", shown with "1"; Down means "OFF", shown with "0";
0=OFF   1=ON

DISPWITCH CHART /Code Number										Working mode
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	
0	0	0	0	0	0	0	0	0	0	SOUND ACTIVE
1	0	0	0	0	0	0	0	0	0	AUTO BEAM
0	0	0	0	0	0	0	0	1	0	AUTO ANIMATION
0	1	0	0	0	0	0	0	0	0	SLAVE MODE
SET DMX ADDRESS CODE									1	DMX

For DMX mode, the system only accept the DMX512singanal of international standard t control the system mode, address from1~9 dipswitch must be set, the address is set from 1to 511. Each dipswitch represents a binary value, Example:

Dipswitch	Value	Dipswitch	Value
#2	1	#7	32
#3	2	#8	64
#4	4	#9	128

#5	8	#1	256
#6	16	#10	DMX，set to "0"

When setting, as long as you select the dipswitch account to value of the binary is equal to the address your set, it' OK! The unit controlled by DMX9#, as following. Its use 16 Channel to dispatch for the light DMX512 Address steadily, please see the chart.

Loop	Address	Binary	Dipswitches
1	1	010000000	#2 as "ON", others as "OFF"
2	17	010001000	#2. ＃5 as "ON"（17=16+1）
3	33	010000100	#2. ＃6 as "ON"（33=32+1

The dipswitches setting for DMX address see the "DMX Address Quick Reference Cha

13 channel description

Channel		DMX512	Content
1	Control mode	0~51	Sound Active(3~13ch invalid)
		52-103	Auto－Beam((3~13ch invalid)
		104-155	Auto－Animation
		156-207	Manual, sound trigger
		208-255	Manual, auto trigger
2	Open &Closed	0~85	closed
		86-171	Open \Blanking
		172-255	No blanking
3	Change of Patterns	0~225	55 patterns（0~255）
4	Speed	0~255/23=0~11	12 graded speed（0~11）
5	Rolling	0~63	Non-rolling
		64~127	Horizontal Rolling
		128~191	Vertical Rolling
		192~255	Horizontal &Vertical Rolling
6	Rotation &Point-draw	0~63	Non-rotation & non point draw
		64-127	Rotation
		128-191	Point draw
		192-255	Rotation &Point-draw
7	pattern :& rotation	0~63	No function
		64-127	Clockwise rotation
		128-191	Dotted pattern
		192-255	Dotted pattern and rotation
8	Stretch	0~63	Non-stretch
		64~127	Horizontal stretch
		128~191	Vertical stretch
		192~255	Horizontal& Vertical stretch

9 Zoom	0-85	NO ZOOM
	86-169	one point to large
	170-255	large to one point
10 Slow- Draw Speed	0~5	No function
	6~255	43graded speed（6~255）
11 Scanning speed	0-255	255graded speed（Fast to slow）
12 Color changing speed	(6~255)/23	No function
13 Size of pattern	0~2	No function
	(3~255)/6	42graded speed（3~255）/6＝（0-42） 20 grade original size 0-19grade zoom in 20-42grade zoom out