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User Guide

Please read these instructions carefully before use

1. Safety Instruction

WARNING :

Please read carefully the instruction, which includes important information about the installation, usage and maintenance.



The following points are important for safety as well as for the smooth installation and performance of the unit.

- Unpack carefully and be sure that no damage has occurred during transportation.
- It is very important to ground the yellow/green conductor in order to meet regulations for safety.
- Do not connect the device to any dimmer pack.
- The electrical work that is necessary for installation must be made by qualified personnel.
- Be sure to locate the unit in a place with adequate ventilation at least 15 cm from the walls. Be sure that no ventilation slots are blocked.
- Be careful that no liquids or other objects can enter the unit. If this ever happens, disconnect the main power immediately.
- In the event of serious operating problems, turn off the power immediately. Never try to repair the unit yourself. Repairs carried out by non-qualified personnel can lead to serious damage or malfunction. Please contact your dealer for technical assistance. Always use genuine spare parts.
- Always remember to unplug the unit from the power mains before any service is done.
- When the laser starts up it is normal for output to vary. After several minutes the laser output will stabilize.

IMPORTANT: Install the laser projector in a manner that prevents the audience from looking directly into the beams. The installation should assure that the beam will not strike the audience.

*** DANGER *** VISIBLE LASER RADIATION-AVOID DIRECT EYE EXPOSURE

2. Technical Specification

Power supply : AC 120V 60Hz

AC 230/240/250V 50/60Hz

Laser diode : Green laser diode x 1, wavelength 532nm (laser output 100/200/300 mW)

Beam angle : 68 °

Scanning angle: ±12°

Effect : Animations, Patterns (Number, Dot, Line, Space Tunnel, Surface, Graphic, Special Graphic, Text), Zoom, 3D rotation and Strobe functions.

Scanner : Ultra smooth scanner

Safety Protection :

- Built-in soft program to monitor the scanning
- With Interlock, distal safety on/off remote controller and emergency door
- Automatic shutdown while case is open
- Never stop at one point avoiding retina damage

Cooling : Inter-cycle of cooling system

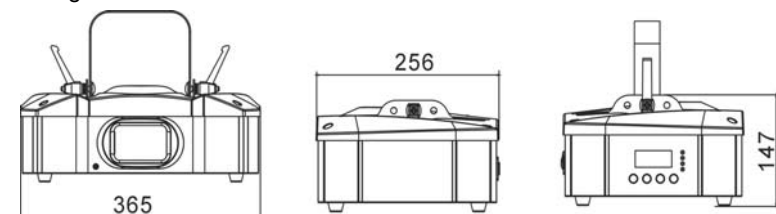
Dust-resistant glass : Easy cleaning and keep good optics output.

DMX Channels : 14 channels

- Ch 01 = Laser off/Animation mode / Pattern mode
- Ch 02 = Animation select / Pattern set
- Ch 03 = Animation speed / Pattern select
- Ch 04 = X Scale
- Ch 05 = Y Scale
- Ch 06 = Zoom
- Ch 07 = X Axis Rotation
- Ch 08 = Y Axis Rotation
- Ch 09 = Z Axis Rotation
- Ch 10 = X Movement
- Ch 11 = Y Movement
- Ch 12 = Write
- Ch 13 = Strobe
- Ch 14 = Scanner speed

Dimension : 365 x 256 x 147 mm

Weight : 5.3 kg



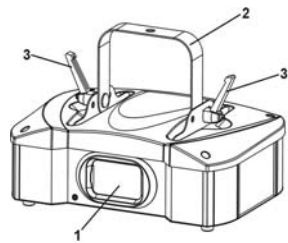
3. How To Set The Unit

The unit is power green laser. It features 2D & 3D patterns with many different effects- anime, zoom, rotation, movement and the most important regulation SAFETY. With above elements it creating a vivid and dynamic effects such as a painter there. The 14-ch. DMX laser, as well as fantastic pre-programmed shows on board, is perfect for entertainment applications i.e. disco, party.

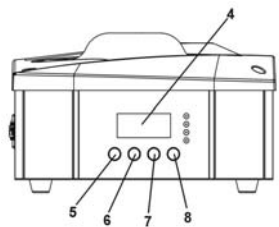
Note :

- You have to turn the Interlock at “on” position by key and connect the safety on/off remote controller before using.
- Close the emergency door manual to blackout the unit when necessary.

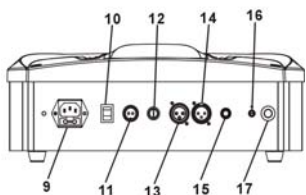
3.1 Description



1. Laser aperture
2. Bracket
3. Knob

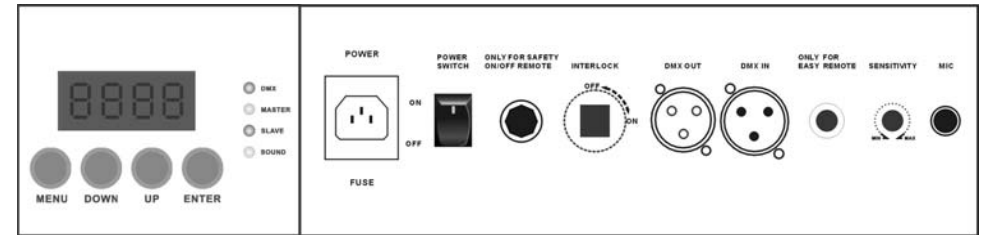


4. LED display
5. Menu-button
6. Up-button
7. Down-button
8. Enter-button



9. IEC plug socket
10. Power switch
11. Safety on/off remote controller input
12. Interlock
13. DMX output
14. DMX input
15. Easy remote controller input
16. Sensitivity
17. Microphone

3.2 Control Panel



1. **Display :** To show the various menu and the selected functions.

2. **LED :**

DMX	On	DMX input present
MASTER	On	Master mode
SLAVE	On	Slave mode
SOUND	Flashing	Sound activation

3. **Button :**

MENU	To select the programming functions
DOWN	To go backward in the selected functions
UP	To go forward in the selected functions
ENTER	To confirm the selected functions

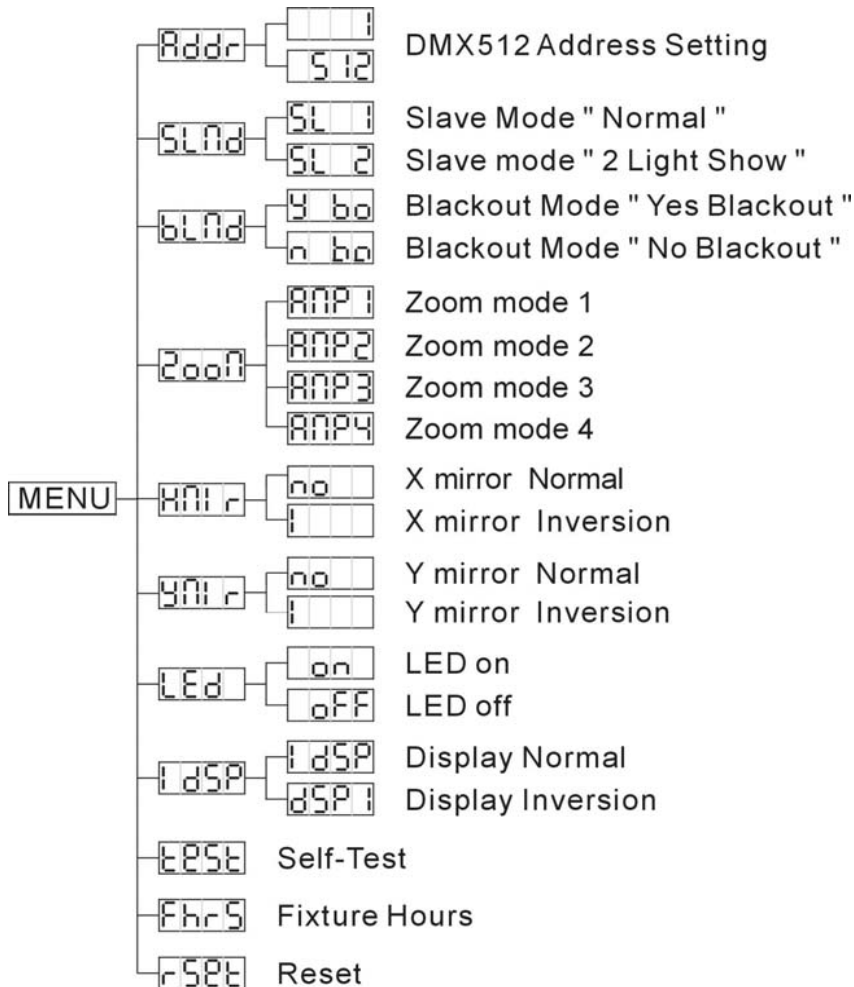
4. **IEC socket :** Use to connect the power cable and replace fuse.
5. **Power switch :** To switch on / off the power.
6. **Emergency remote controller input :** To connect the emergency controller to control the unit for switch off the laser diode output.
7. **Interlock :** Extra interlock-key device for confirming usage.
8. **DMX input/output :** For DMX512 link, use 3-pin XLR plug cable to link the unit together.
9. **Easy Remote controller input :** By connect to the 1/4" microphone jack to control the unit for Stand by, Function and Mode function.
10. **Sensitivity :** To adjust the sound receiving sensitivity.
11. **Microphone :** To receives audio signal for sound activation.

CAUTION:

Use of controls or adjustments or performance of procedures other than as specified herein may result in hazardous radiation exposure.

3.3 Main Function

To select any of the given functions, press the **MENU** button up to when the required one is showing on the display. Select the function by **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the mode. Once the required mode has been selected, press the **ENTER** button to setup or it will automatically return to the main functions without any change after idling 8 seconds. To go back to the functions without any change press the **MENU** button. The main functions are showing below:



Addr DMX512 Address Setting

Press the **MENU** button up to when the **Addr** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

SLNd Slave Mode

Press the **MENU** button up to when the **SLNd** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **SL 1** (normal) or **SL 2** (2 light show) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

bLNd Blackout Mode

Press the **MENU** button until the **bLNd** is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **Y bo** (yes blackout) or **n bn** (no blackout) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

Zoon Zoom Mode




Press the **MENU** button up to when the **Zoon** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **ANP 1** (zoom mode1) or **ANP 2** (zoom mode2), **ANP 3** (zoom mode3) or **ANP 4** (zoom mode4). Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

XMirr X Mirror Inversion




Press the **MENU** button up to when the **XMirr** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **no** (X mirror normal) or **i** (X mirror inversion). Once the mode has been selected,

press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.




Y Mirror Inversion

Press the **MENU** button up to when the  is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the  (Y mirror normal) or  (Y mirror inversion). Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.


Led Display

Press the **MENU** button up to when the  is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the  (Led on) or  (Led off) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.


Display Inversion

It is good for you to install the unit on the floor or under ceiling. Press the **MENU** button up to when the  is blinking on the display. Use the **ENTER** button to change to the mode  (display inversion), It will automatically store after 8 seconds. Or press the **ENTER** button again return to the mode  (display normal). To go back to the functions press the **MENU** button.

Self-Test


Press the **MENU** button up to when the  is blinking on the display. Pressing **ENTER** button and the unit will run self-test by built in program. To go back to the functions press the **MENU** button again.

Fixture Hours

Press the **MENU** button up to when the  is blinking on the display. Pressing **ENTER** button and the display will show the number of working hours of the unit.

To go back to the functions press the **MENU** button again.

Reset

Press the **MENU** button up to when the  is blinking on the display. Pressing **ENTER** button and all channels of the unit will return to their standard position. To go back to the functions press the **MENU** button again.




4. How To Control The Unit

You can operate the unit in three ways:





1. By master/slave built-in preprogram function
2. By easy controller
3. By universal DMX controller

No need to turn the unit off when you change the DMX address, as new DMX address setting will be effected at once. Every time you turn the unit on, it will show ILA on the display and move all the motors to their 'home' position and you may hear some noises for about 20 seconds. After that the unit will be ready to receive DMX signal or run the built in programs.

4.1 Master/Slave Built-In Pre-program Function

By linking the units in master/slave connection, the first unit will control the other units to give an automatic, sound activated, synchronized light show. This function is good when you want an instant show. Its DMX input jack will have nothing plugged into it, and its master LED will be constantly on and sound LED will flash to the music. The other units will have to set in slave mode  and select  (normal) or  (2 light show) mode, Their DMX cables plugged into the DMX input jacks (daisy chain) and the slave led lights will constantly on.

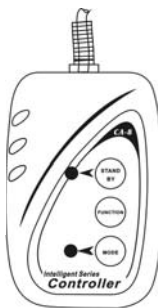
2-light show

In  (slave mode),  means the unit works normally and  means 2-light show. In order to create a great light show, you can set  on the second unit to get contrast movement to each other, even if you have two units only.

4.2 Easy Controller

The easy remote control is used only in master/slave mode. By connecting to the 1/4" microphone jack of the first unit, you will find that the remote control on the first unit will control all the other units for Stand by, Function and Mode.

Stand By	Blackout the unit			
Function	Select Sound / Auto mode	Select 16 Patterns	Select 16 Texts	Select 16 Animations
Mode	Effect (LED off)	Pattern (LED slow blinking)	Text (LED fast blinking)	Animation (LED on)



4.3 Universal DMX Controller

If you use a universal DMX controller to control the units, you have to set DMX address from 1 to 512 so that the units can receive DMX signal.

Press the **MENU** button up to when the **Addr** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press and keep **ENTER** button pressed up to when the display stops blinking or storing automatically 8 seconds later. To go back to the functions without any change press the **MENU** button again. Please refer to the following diagram to address your DMX512 channel for the first 4 units.

Fixture 1	Fixture 2	Fixture 3	Fixture 4
1	17	33	49

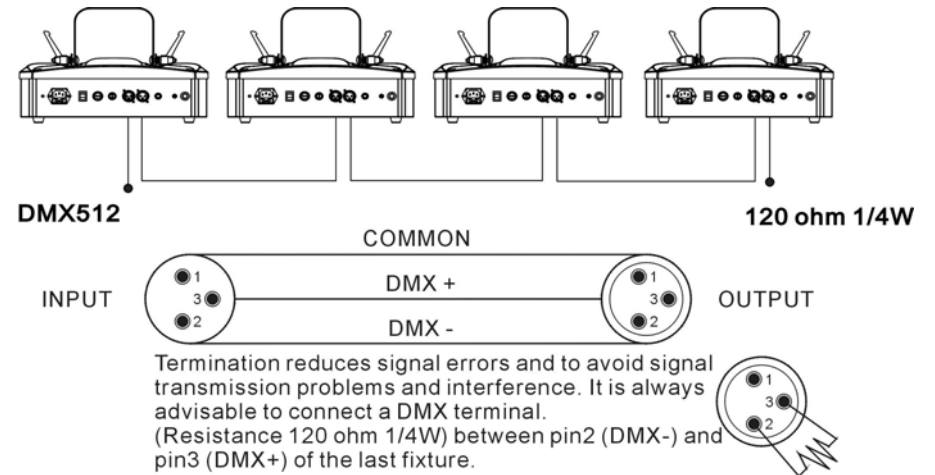
4.4 DMX512 Configuration

DMX-512 Configuration																																																																																																																																										
Ch1	Animation/Pattern	Close 0, Open 86, Animation Select 172, Pattern Select 255																																																																																																																																								
	Animation select	Animation 1 (000-025), Animation 2 (026-051), Animation 3 (052-077), Animation 4 (078-103), Animation 5 (104-129), Animation 6 (130-155), Animation 7 (156-181), Animation 8 (182-207), Animation 9 (208-233), Animation 10 (234-255)																																																																																																																																								
Ch2	Pattern Set	Number 0, Dot 32, Line 64, Tunnel 96, Surface 128, Special graphics 160, Graphic 192, Text 224, 255																																																																																																																																								
	Animation speed	Fast 0, Slow 255																																																																																																																																								
Ch3	Single Pattern	<table border="1"> <tr> <th>Numbers</th> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <th>Dot</th> <td>000-015</td><td>016-031</td><td>032-047</td><td>048-063</td><td>064-079</td><td>080-095</td><td>096-111</td><td>112-127</td><td>128-143</td><td>144-159</td><td>160-175</td><td>176-191</td><td>192-207</td><td>208-223</td><td>224-239</td><td>240-255</td> </tr> <tr> <th>Line</th> <td>000-015</td><td>016-031</td><td>032-047</td><td>048-063</td><td>064-079</td><td>080-095</td><td>096-111</td><td>112-127</td><td>128-143</td><td>144-159</td><td>160-175</td><td>176-191</td><td>192-207</td><td>208-223</td><td>224-239</td><td>240-255</td> </tr> <tr> <th>Tunnel</th> <td>000-015</td><td>016-031</td><td>032-047</td><td>048-063</td><td>064-079</td><td>080-095</td><td>096-111</td><td>112-127</td><td>128-143</td><td>144-159</td><td>160-175</td><td>176-191</td><td>192-207</td><td>208-223</td><td>224-239</td><td>240-255</td> </tr> <tr> <th>Surface</th> <td>000-015</td><td>016-031</td><td>032-047</td><td>048-063</td><td>064-079</td><td>080-095</td><td>096-111</td><td>112-127</td><td>128-143</td><td>144-159</td><td>160-175</td><td>176-191</td><td>192-207</td><td>208-223</td><td>224-239</td><td>240-255</td> </tr> <tr> <th>Special Graphics</th> <td>000-015</td><td>016-031</td><td>032-047</td><td>048-063</td><td>064-079</td><td>080-095</td><td>096-111</td><td>112-127</td><td>128-143</td><td>144-159</td><td>160-175</td><td>176-191</td><td>192-207</td><td>208-223</td><td>224-239</td><td>240-255</td> </tr> <tr> <th>Graphic</th> <td>000-015</td><td>016-031</td><td>032-047</td><td>048-063</td><td>064-079</td><td>080-095</td><td>096-111</td><td>112-127</td><td>128-143</td><td>144-159</td><td>160-175</td><td>176-191</td><td>192-207</td><td>208-223</td><td>224-239</td><td>240-255</td> </tr> <tr> <th>Text</th> <td colspan="16"> Let's Party Happy Happy Thank Merry Happy Welcome Party! Time! Holidays Birthday Goal! Go Go Go You ISolution Valentine Congratulations Halloween Christmas Year Easter Bye-Bye </td> </tr> </table>	Numbers	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	Dot	000-015	016-031	032-047	048-063	064-079	080-095	096-111	112-127	128-143	144-159	160-175	176-191	192-207	208-223	224-239	240-255	Line	000-015	016-031	032-047	048-063	064-079	080-095	096-111	112-127	128-143	144-159	160-175	176-191	192-207	208-223	224-239	240-255	Tunnel	000-015	016-031	032-047	048-063	064-079	080-095	096-111	112-127	128-143	144-159	160-175	176-191	192-207	208-223	224-239	240-255	Surface	000-015	016-031	032-047	048-063	064-079	080-095	096-111	112-127	128-143	144-159	160-175	176-191	192-207	208-223	224-239	240-255	Special Graphics	000-015	016-031	032-047	048-063	064-079	080-095	096-111	112-127	128-143	144-159	160-175	176-191	192-207	208-223	224-239	240-255	Graphic	000-015	016-031	032-047	048-063	064-079	080-095	096-111	112-127	128-143	144-159	160-175	176-191	192-207	208-223	224-239	240-255	Text	Let's Party Happy Happy Thank Merry Happy Welcome Party! Time! Holidays Birthday Goal! Go Go Go You ISolution Valentine Congratulations Halloween Christmas Year Easter Bye-Bye															
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	Text	Let's Party Happy Happy Thank Merry Happy Welcome Party! Time! Holidays Birthday Goal! Go Go Go You ISolution Valentine Congratulations Halloween Christmas Year Easter Bye-Bye																																																																																																																																								

Ch 4	X Scale	Min 0	Max 255
Ch 5	Y Scale	Min 0	Max 255
Ch 6	Zoom	Min 000-015	Max 144-255
Ch 7	X Rotation	Stopped 0-15	Fast 144-255
Ch 8	Y Rotation	Stopped 0-15	Fast 144-255
Ch 9	Z Rotation	Stopped 0-15	Fast 144-255
Ch 10	X Movement	Stopped 0-15	Fast 144-255
Ch 11	Y Movement	Stopped 0-15	Fast 144-255
Ch 12	Write	Normal 0-63	Fast 64-255
Ch 13	Strobe	No function 0-31	Slow strobe 32-255
Ch 14	Scanner Speed	18k 0	6k 255

4.5 DMX512 Connection

The DMX512 is widely used in intelligent lighting control, with a maximum of 512 channels.



1. If you using a controller with 5 pins DMX output, you need to use a 5 to 3 pin adapter-cable.
2. At last unit, the DMX cable has to be terminated with a terminator. Solder a 120 ohm 1/4W resistor between pin 2(DMX-) and pin 3(DMX+) into a 3-pin XLR-plug and plug it in the DMX-output of the last unit.
3. Connect the unit together in a “daisy chain” by XLR plug from the output of the unit to the input of the next unit. The cable can not be branched or split to a “Y” cable. DMX512 is a very high-speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system.
4. The DMX output and input connectors are pass-through to maintain the DMX circuit, when power is disconnected to the unit.
5. Each lighting unit needs to have an address set to receive the data sent by the controller. The address number is between 0-511 (usually 0 & 1 are equal to 1).
6. The end of the DMX512 system should be terminated to reduce signal errors.
 - 3 pin XLR connectors are more popular than 5 pin XLR.
 - 3 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)
 - 5 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)

5. Troubleshooting

Following are a few common problems that may occur during operation. Here are some suggestions for easy troubleshooting:

A. If the unit does not work, no light output, or fan is not working

1. Check the main power connection and the fuse.
2. Measure the mains voltage on the main power connector.
3. Check the power on LED.

B. Not responding to DMX controller

1. DMX LED should be on. If not, check DMX connectors, cables to see if link properly.
2. If the DMX LED is on and no response to the channel, check the DMX address settings and DMX polarity.
3. If you have intermittent DMX signal problems, check the pins on connectors or on PCB of the unit or the previous one.
4. Try to use another DMX controller.
5. Check if the DMX cables run near or run alongside to high voltage cables that may cause damage or interference to DMX interface circuit.

C. Some units don't respond to the easy controller

1. You may have a break in the DMX cabling. Check the LED for the response of the master/ slave mode signal.

D. No response to the sound

1. Check the unit that is not receiving DMX signal.
2. Check the unit that is not set to display mode.
3. Check microphone to see if it is good by tapping the microphone.

E. One of the channels is not working well

1. The stepper motor might be damaged or the cable connected to the PCB is broken.
2. The motor's drive IC on the PCB might be out of condition.

6. Fixture Cleaning

- The cleaning of internal and external optical lenses and/or mirrors must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's optics.
- Clean with soft cloth using normal glass cleaning fluid.
- Always dry the parts carefully.
- Clean the external optics at least every 20 days. Clean the internal optics at least every 30/60 days.

EC-Declaration of Conformity

We declare that our products (lighting equipments) comply with the following specification and bears CE mark in accordance with the provision of the Electromagnetic Compatibility (EMC) Directive 89/336/EEC.

EN55014-2: 1997 A1:2001, EN61000-4-2: 1995; EN61000-4-3:2002;
EN61000-4-4: 1995; EN61000-4-5: 1995, EN61000-4-6:1996,
EN61000-4-11: 1994.

&

Harmonized Standard

EN60598-1: 2000+ALL:2000+A12:2002

Safety of household and similar electrical appliances

Part 1 : General requirements

Innovation , Quality , Performance