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# THUNDERBOLT B

## NON-INTERLOCKED HOUSING WARNING

This unit contains high power laser devices internally. Do not open the laser housing, due to potential exposure to unsafe levels of laser radiation. The laser power levels accessible if the unit is opened can cause instant blindness, skin burns and fires.

## LASER EMISSION DATA

Laser Classification	Class 3B
Green Laser Medium	LD GaAlAs 450nm, typical
Beam Diameter	<5mm at aperture
Pulse Data	All pulses < 4Hz (>0.25sec)
Divergence (each beam)	<2 mrad
Divergence (total light)	<160 degrees
Laser Power	BLUE>400mW

As measured under IEC measurement conditions for classification.

### **Version: 1.0**

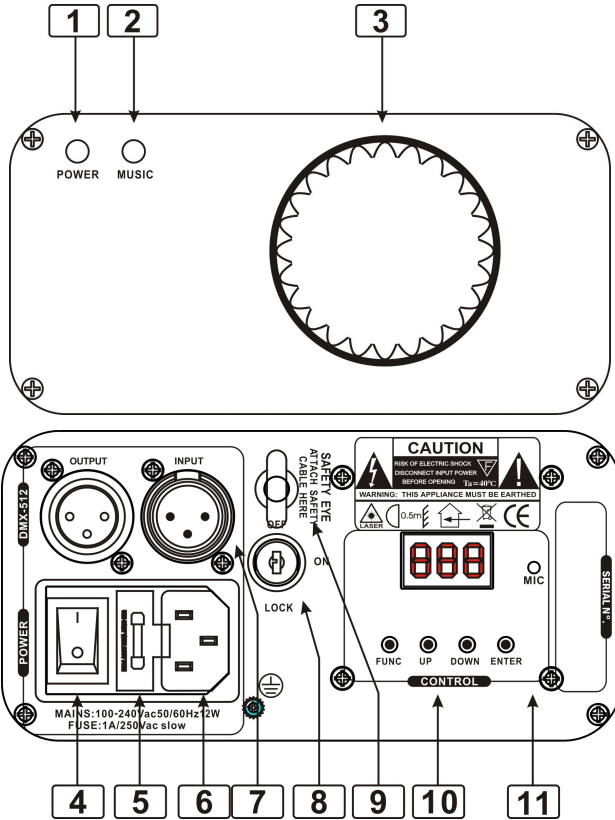
This manual contains important laser operation information. Read and understand all instructions prior to powering on laser unit the first time, to avoid laser eye injury and to avoid breaking the law. Keep this manual in a safe place for future reference.

## **PRODUCT OVERVIEW**

- This device has left out premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is necessary for the

user to follow the safety instructions and warning notes written in this manual.

- The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.



NO.	NAME	DESCRIPTION
1	Power LED	Indicates the fixture is switched on
2	Music LED	Synchronize to detected music signal
3	Laser Aperture	The laser effect output aperture. NEVER LOOK INSIDE THE FIXTURE THROUGH THIS APERTURE WHILE FIXTURE IS OPERATING.
4	Power Switch	Switch ON and OFF the fixture
5	Fuse Holder	The replaced fuse is hold here

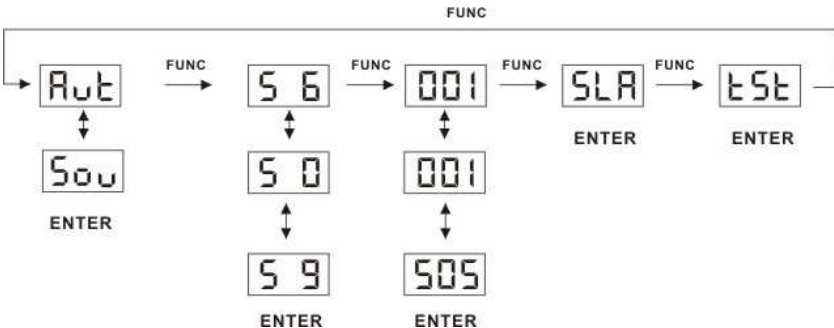
6	Main Power Input	With IEC socket and integrated fuse holder.
7	DMX Input/Output	3 pins male/female XLR connector
8	Key Switch	To turn the laser effect (laser diode) ON/OFF. Be sure that only authorized operator hold the key
9	Safety Eye	Used to attach a safety cable when the fixture is rigged. Check more details in RIGGING
10	Control panel	To control the fixture with digital LED display, check more information on CONTROL & FUNCTION
11	Microphone	To detect the music/sound signal

## CONTROL & FUNCTION

- Regular breaks during operation are essential to maximize the life of this device as it is not designed for continual use.
- Do not switch the unit on and off in short time intervals
- Always unplug the unit when it is not used for a longer time. Or before replacing the bulb or start servicing.
- In the event of serious operation problems, stop using the fixture and contact your dealer immediately.

**ATTENTION:** Laser will be output from laser aperture in 5 seconds after the unit is powered on.

### Operation

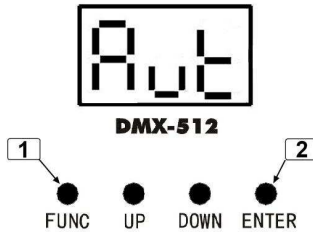


### AUTO SHOW Stand Alone Mode

- Press FUNC to enter MODE OPTION.
- Till to LED panel shows AUt.

- Press ENTER to confirm the setting.

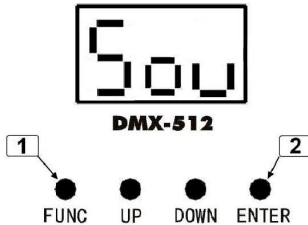
The laser is working in standalone mode – AUTO SHOW. Each time when you turn on your laser, you will have this confirmed laser show.



### SOUND ACTIVATED SHOW (MUSIC SHOW) Stand Alone Mode

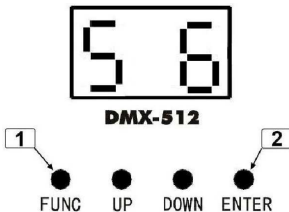
- Press FUNC to enter MODE OPTION.
- Till to LED panel shows SoU.
- Press ENTER to confirm the setting.

The laser is working in standalone mode – SOUND ACTIVATED SHOW. Each time when you turn on your laser, you will have this confirmed laser show.



### SOUND ACTIVATED MODE sensitivity setting

- Press FUNC till to see S 6
- Press UP/DOWN to set microphone sensitivity. S 0 is no sound activated, from S 1 to S 9, the sensitivity level is going more sensitive.
- Press ENTER to confirm and save the setting.

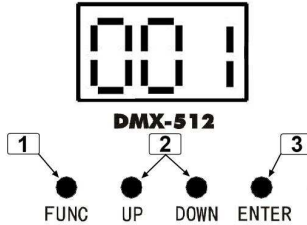


### DMX MODE

- Press FUNC to enter MODE OPTION

- Till to LED panel shows 001.
- Press ENTER to confirm the setting.

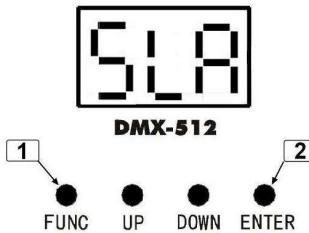
The laser is working in “DMX MODE”. With help of UP/DOWN button, it could be easily change the DMX address of the laser.




**MASTER/SLAVE MODE**

- Press FUNC to enter MODE OPTION
- Till to LED panel shows SLA
- Press ENTER to confirm the setting.

The laser is working in “SLAVE MODE”. Connect MASTER laser and SLAVE lasers with DMX cable, the SLAVE lasers do what exactly MASTER laser does. Check “5.2 DMX connection” to have more details about laser connection.



**DMX PROTOCOL**









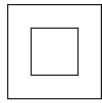









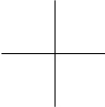

CHANNEL	VALUE	FUNCTION
CH 1 MODE	000-063	Laser Block Out <span style="float: right;">Ⓢ</span>
	064-127	AUTO SHOW
	128-191	SOUND ACTIVATED SHOW (MUSIC)
	192-255	DMX MODE (Other channels activated)
CH 2	000-255	32 Patterns as shown in PATTERN LIST
CH 3 ZOOMING	0-127	100%-5% Size 
	128-169	Zooming In

	170-209	Zooming Out	
	210-255	Zooming In & Out	
<b>CH 4 Y AXIS ROLLING</b>	000-127	0 -359 degree fixed Y axis rolled	
	128-191	Clockwise rolling	
	192-255	Anticlockwise rolling	
<b>CH 5 X AXIS ROLLING</b>	000-127	0 -359 degree fixed X axis rolled	
	128-191	Clockwise rolling	
	192-255	Anticlockwise rolling	
<b>CH 6 Z AXIS ROTATING</b>	000-127	0 -359 degree fixed Z axis rotate	
	128-191	Clockwise rotating	
	128-255	Anticlockwise rotating	
<b>CH 7 X AXIS MOVING</b>	000-127	128 different fixed position on X	
	128-191	Clockwise moving	
	128-255	Anticlockwise moving	
<b>CH 8 Y AXIS MOVING</b>	000-127	128 different fixed position on Y	
	128-191	Clockwise moving	
	128-255	Anticlockwise moving	

**PATTERN LIST IN CHANNEL 2**

DMX	PATTERNS	DMX	PATTERNS	DMX	PATTERNS	DMX	PATTERNS
000-007		064-071		128-135		190-197	
008-015		072-079		136-143		198-205	
016-023		080-087		144-151		206-213	

USER MANUAL

024-031		088-095		152-159		214-221	
032-039		096-103		160-167		222-229	
040-047		104-111		168-175		230-237	
048-055		112-119		176-181		238-245	
056-063		120-127		182-189		246-255	

## SPECIFICATIONS

<b>Mains Input:</b>	AC100-240V, 50/60Hz
<b>Fuse:</b>	250V 1 A Slow Blow (20mm Glass)
<b>Total Power:</b>	12W
<b>Music Control:</b>	Internal microphone
<b>Laser Power:</b>	400mW-B CW
<b>Laser Classification:</b>	Class 3B
<b>Laser Safety Standard:</b>	EN60825-1 2007
<b>Condition Temperature:</b>	10~40°C
<b>DMX Connections:</b>	3 pins XLR Male/Female
<b>DMX Channels</b>	8 channels
<b>Measurement:</b>	145x160x80mm
<b>N Weight:</b>	1.3 Kg

Specifications subject to change without prior notice.

The availability of particular products may vary by region. Please check with the dealer.