



## LASER LIGHT FIXTURE – CLASS 4

### LASER LIGHT

**AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED LIGHT**

**CLASS 4 LASER PRODUCT**

**CLASSIFIED PER EN/IEC 60825-1 2007**

**UNO LASERS FIXTURES ARE APPROVED FOR SAFE USE IN USA!  
THIS DEVICE COMPLIES WITH PERFORMANCE STANDARDS FOR LASER  
PRODUCTS UNDER 21 CFR 1040 EXCEPT  
WITH RESPECT TO THOSE CHARACTERISTICS AUTHORIZED BY  
VARIANCE NUMBER: "2013-V-0607"**

## **USER INFORMATION**

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.

## **WARNING DATA**

Lasers can be hazardous and have unique safety considerations. Permanent eye injury and blindness is possible if lasers are used incorrectly. Pay close attention to each safety REMARK and WARNING statement in the user manual. Read all instructions carefully BEFORE operating this device.

## **NON-INTERLOCKED HOUSING WARNING**

This unit contains high power lasers 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 open can cause instant blindness, burn skin, and cause fires.

## **VARIANCE**

A "Laser Light Show Variance" is the permit required from FDA for operating UNO Lasers in a public forum & outlined in details under FDA guidelines for Laser Display Show. If you are producing a show with laser light effects, not having a show variance could lead to large fines if your show gets inspected by FDA officials.

**Demonstration laser products are only to be purchased and used by organizations which already hold a valid Class 3B or Class 4 US laser light show variance!**

Visit our website to **apply for your FREE Laser show variance**

**<http://variance.ProXdirect.com>**

## **WARRANTY**

**1 Year** Laser Diodes & Scanner    **2 Years** General Parts

**Life Time Clean & Calibrate** Each Uno Laser system will be cleaned and re-calibrated at no extra cost each year for the life of the unit. (Shipping not included)

Please register your new purchase with us for your warranty with Uno Laser within 30 days of your purchase.

**<http://warranty.ProXdirect.com>**

## SAFETY NOTES



### LASER RADIATION WARNING / SAFETY

- Please note there is high potential for eye and skin injury if strict adherence to these guidelines is not followed.
- These Class 3B and Class 4 demonstration laser products are only to be purchased and used by organizations which already hold a valid Class 3B or Class 4 US laser light show variance.
- Do not point laser or allow laser light to be directed or reflected toward other people or reflect objects.
- Laser is never to be operated if the unit is defective or the cover or seal is damaged.
- Direct or scattered light can be hazards to eyes and skin.
- INDOOR USE ONLY. Outdoor laser shows require prior FAA written approval.



## USER ACCESSIBILITY / MAINTAINANCE

- Do not modify the unit or remove protective covers or housing.
- No scheduled maintenance is necessary to keep this product in compliance.
- Unit must be returned to factory for any required service or repair.
- Service is only to be handled by authorized factory trained technicians. There are no user serviceable parts, etc.

## Unpacking Instructions

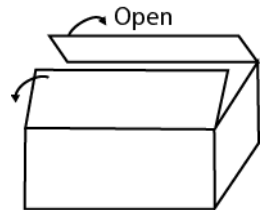
### CAUTION!

Immediately upon receiving a fixture, carefully unpack the carton, check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damage from shipping or the package itself shows signs of mishandling. Save the package and all packing materials. In the event that a fixture must be returned to the factor, it is important that the fixture be returned in the original factory box packing.

### What is included?

The carton or flight case contain following items:

<b>Name</b>	<b>QTY</b>
BERMUDA 1W RGB TTL Laser Light Fixture	1PCS
KEYs (for key switch)	2 PCS
6FT Power Cord (Edison to PowerConn)	1 PCS
E-Stop Switch w/ Keys w/30ft cable	1 PCS
USER MANUAL	1 PCS



## Power Supply

To determine the power requirements for a particular fixture, see the label affixed to the back plate of the fixture or refer to the fixture's specifications chart. A fixture's listed current rating is its average current draw under normal conditions.



All fixtures must be powered directly off a switched circuit and cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch. Before applying power to a fixture, check that the source voltage matches the fixture's requirement.

## LASER INFORMATION



This Laser Product is designated as Class 4 during all procedures of operation.

### LASER EMISSION DATA

Laser Classification	Class 4
Green Laser	LD 532nm
Red Laser	LD 635nm
Blue Laser	LD 445nm
Beam Diameter	<5mm at aperture
Divergence(each beam)	<2 mrad
Divergence(total light)	<90 degrees
Transverse Beam Mode	TEM <sub>00</sub>
Cooling	TEC & Fan Cooling
Scanning	DC to 20KHz, ±30 Degrees X & Y

\*As measured under IEC measurement conditions for classification.

## LASER INFORMATION

### Laser Power:

Total	1100mw	Beam Divergency	Diameter(mm)
Red	250mw 635nm	< 3.5x0.5 mrad	< 2x5mm
Green	150mw 532nm	< 1.5 mrad	< 3mm
Blue	700mw 445nm	< 2x0.5 mrad	< 2x5mm

<b>Scanner:</b>	25kpps@8° High Speed Optical Scanner
<b>Scan Angle max.:</b>	60°
<b>X/Y Axis Beam Angle:</b>	±30°

## SPECIFICATIONS

<b>Main Input:</b>	AC100~240V, 50/60Hz
<b>Fuse:</b>	250V 2A Slow Blow (20mm Glass)
<b>Power Consumption:</b>	45W
<b>Control Mode:</b>	Auto, Sound, DMX, Master / Slave, ILDA

### Laser Safety eyewear and NOHD distance.

Class 4 Safety Data

NOHD = 300 meters

Safety Eyewear OD (optical density.. Attenuation) = <3.5

<b>Laser Classification:</b>	Class 4
<b>Laser Safety Standard:</b>	EN/IEC 60825-1 2007
<b>Condition Temperature:</b>	10 ~40°C
<b>DMX Connections:</b>	3 pins XLR Male/Female
<b>DMX Channels:</b>	12 channels
<b>Measurement:</b>	L=32cm, W=26cm, H=26cm
<b>N Weight:</b>	6Kg / 13lbs

**All information provided is subject to change without notice.**



**Safety Label location**

As FDA/CDRH required under Laser Compliance Regulations, here you will find a diagram that outlines the radiation warning labels and where you will find them located on the unit itself.



**PROFESSIONAL LASER DISPLAY FIXTURES**  
Model#  
**BERMUDA X-LRGB1W ILDA**

Serial#  
**UX150390001**      Date of Manufacturer  
**APRIL 2015**

Total 1100mw	Beam Divergency	Diameter(mm)
Red 250mw 635nm	< 3.5x0.5 mrad	< 2x5mm
Green 150mw 532nm	< 1.5 mrad	< 3mm
Blue 700mw 445nm	< 2x0.5 mrad	< 2x5mm

Laser Sources: Diode, DPSS Laser  
Scammer: 25kpps@8° Scan Angle max.: 60°  
Voltage: 110V - 220V AC 50/60Hz  
Power Consumption: 45W

**THINK ABOUT AUDIENCE SAFETY FIRST!**  
Read all user instructions prior to use this fixture.  
FDA CDRH Variance requires prior to operation.  
*Warning: DO NOT SHINE YOUR LASER AT AN AIRCRAFT.*  
*Shooting a laser at an aircraft is considered a felony in the U.S.*



**LASER LIGHT**  
AVOID EYE OR SKIN EXPOSURE  
TO DIRECT OR SCATTERED LIGHT  
400-640nm < 1100mW Max. CW  
CLASSIFIED PER ENIEC 60825-1 2007

THIS DEVICE COMPLIES WITH PERFORMANCE STANDARDS FOR LASER PRODUCTS UNDER 21 CFR 1040 EXCEPT WITH RESPECT TO THOSE CHARACTERISTICS AUTHORIZED BY VARIANCE NUMBER: "2013-V-0607"  
EFFECTIVE: June 2013

Non-Interlocked Housing Warning

**CAUTION**

**CLASS 4 LASER LIGHT WHEN OPEN**  
**AVOID EYE OR SKIN EXPOSURE**  
**TO DIRECT OR SCATTERED LIGHT**

Designed by **UNO LASER USA**  
901 Essex St Brooklyn NY 11208 USA 718-237-2299

- ↔ **EXPLANATORY LABEL**
- ↔ **CERTIFICATION LABEL**
- ↔ **PROTECTIVE HOUSING NON-INTERLOCKED LABEL**
- ↔ **MANUFACTURER'S IDENTIFICATION LABEL**



**LASER APERTURE**

**HAZARD WARNING LABEL & APERTURE LABEL**

## PROPER USE/MINIMUM HEIGHT



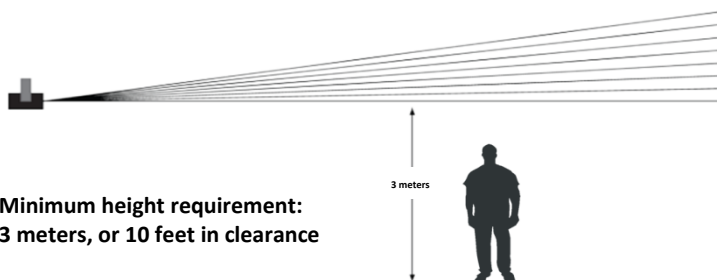
**CAUTION! - USE OF CONTROLS OR ADJUSTMENTS, OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.**

### **This product is for overhead mounting only.**

For safety purposes, ProX and Xstatic Pro Lighting recommend mounting lighting effect products on steady elevated platforms or sturdy overhead using suitable hanging clamps. In all cases, use safety cables.

Obtain appropriate mounting hardware from your lighting vendor.

International laser safety regulations require that laser products must be operated in the fashion illustrated below, with a minimum of 3 meters (9.8 ft) of vertical separation between the floor and the lowest laser light. Additionally, 3 meters of horizontal separation is required between laser light and audience or other public spaces.



**Minimum height requirement:  
3 meters, or 10 feet in clearance**



Do not point laser or allow laser light to be directed or reflected toward other people or reflective objects.



### **LASER VARIANCE REQUIREMENT!**

These Class 3B and Class 4 demonstration laser Products are only to be purchased and used by organizations which already hold a valid Class 3B or Class 4 US laser light show variance

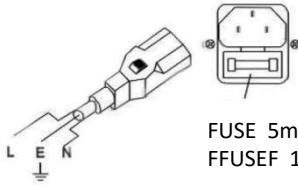
Visit our website to **apply for your FREE Laser show variance**

<http://variance.ProXdirect.com>



The unit is supplied with a power plug appropriate to its voltage and destination. Should any other connections be required they must be carried out with the following configuration.

**L = Brown**  
**E = Green/Yellow**  
**N = Blue**

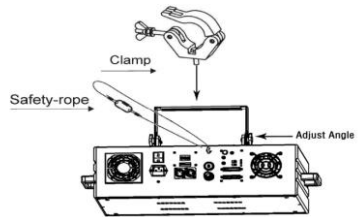


Cable (EU)	Cable(US)	Pin	International
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	⊕

**Proper Laser Set Up & Usage**

- This fixture has been designed to be hung. It is recommended for safety purposes, your lighting effect are properly mounted using a suitable hanging clamp and make sure the area below the installation place is free unwanted persons during rigging, de-rigging and servicing.
- The operator has to make sure that safety-relating and machine-technical installations are approved by an expert before taking into operation for the first time and after changes before taking into operation another time.
- The operator has to make sure that safety-relating and machine-technical installations are approved by a skilled persons cannot reach
- The fixture should be installed in the position where persons cannot reach and where persons may walk by or be seated.

**CAUTION!** When installing the device, make sure there is no highly - inflammable material (decoration articles, etc.) within a distance of min. 0.5m / 20inches

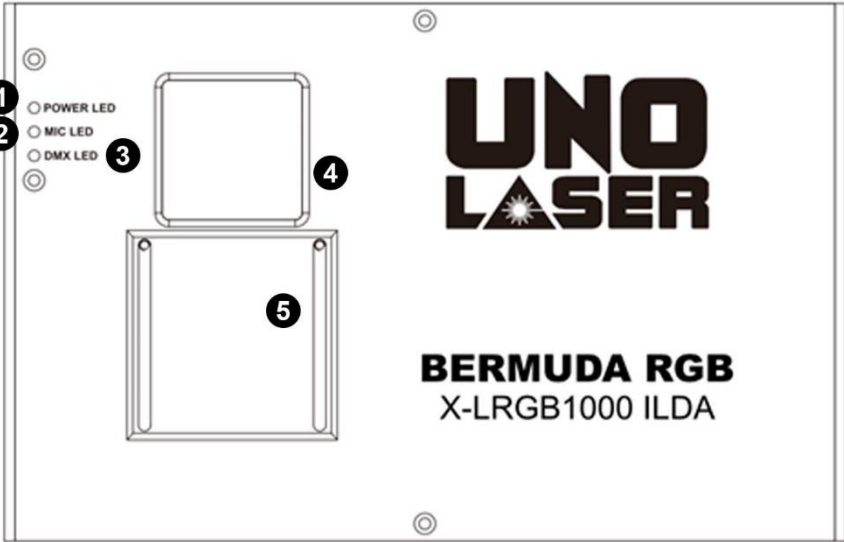


**PRODUCT OVERVIEW**

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure safe operation, it is necessary for the user to follow the safety instructions and warning notes written in this manual.

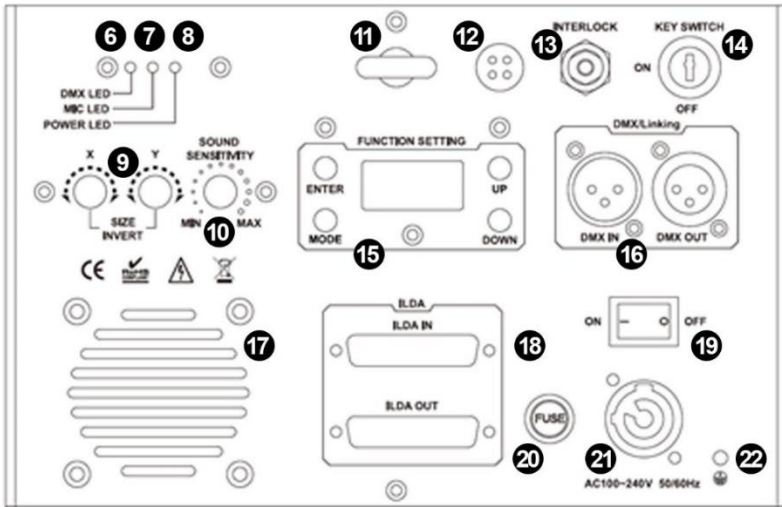
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

**Front Panel**



NO	NAME	FUNCTION
1	<b>Emission Indicator</b>	Laser emission LED indicator
2	<b>MIC Sync LED</b>	Synchronize to detected music signal.
3	<b>“DMX On” LED</b>	Indicates DMX Signal is Active.
4	<b>APERTURE</b>	Laser output aperture
5	<b>Beam Block</b>	Sliding laser beam block used for audience safety

## Rear Panel



NO	NAME	FUNCTION
6	Rear DMX Sync LED	Indicates DMX Signal is Active.
7	Rear MIC Sync LED	Synchronize to detected music signal.
8	Rear “Power On” LED	Laser emission LED indicator
9	X Y invert	Invert X or Y axis/pattern size zoom control
10	Sound Sense Adjust	Attenuates the Sensitivity to Music
11	Safety Eye	Safety Cable attachment mount
12	MIC, Microphone	Ambient Audio Input for Music Sync
13	Remote Interlock Port	Attaches Emergency Stop box.
14	Key Switch	Switches on and Off the Diode Emissions
15	Laser Control Panel	Intelligent LED control panel of the system
16	DMX Linking	XLR-3PIN Ports, for DMX in/out
17	Fan	ventilation fan
18	ILDA Interface In/Out	ILDA interface for software
19	Main Power Switch	On/Off Switch, Main Power Source.
20	Fuse	2A Fuse
21	Mains input	Main powercon socket
22	Ground Pin	Ground screw

**LCD FUNCTION SETTING**



Press “UP” or “DOWN” to choose function in the same menu.

Press “ENTER” button to enter next menu.

Press “RETURN” button to return previous menu.

**Menu operating instruction**

When you turn on the laser for the first time, it will take some seconds to auto load the built-in show

The default setting is AUTO EFFECT 1.

First Menu	Second Menu	Third Menu	Fourth Menu	
DMX512	Running A001 (DMX address)			
AUTO (auto running mode)	Running Effect 1 (Full show) Effect 2 (only beam) Effect 3 (only cartoon)			
Music (sound activate mode)	Running Effect 1 (Full show) Effect 2 (only beam) Effect 3 (only cartoon)			
Setting	Address	Choose DMX address		
	Light (LCD backlight setting)	OFF ON ON 5S (ON for 5 seconds) ON 10S (ON for 10 seconds)		
	Cartoon (Running speed)	Press UP and down to choose running speed from 1~ 99, 99 is the fastest		
	Master (set master unit)	OFF ON		
	LASER (size and color setting)	Size		(press up or down to choose the size of graphics)
		Color		1. Single color (7 colors) 2. RGY 3. GBC 4. RBP 5. RGB
Default (Restore default setting)	Yes NO			

## DMX-512 connection between fixtures

The fixture is equipped with 2-pin XLR sockets for DMX input and output. The sockets are wired in parallel. Only use a shielded twisted-pair cable designed for 3-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

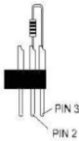
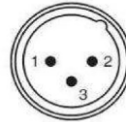
### Occupation of the XLR-connection

DMX – output  
XLR mounting-sockets (rear view):



- 1 - Shield
- 2 - Signal (-)
- 3 - Signal (+)

DMX - output  
XLR mounting-plugs (rear view):

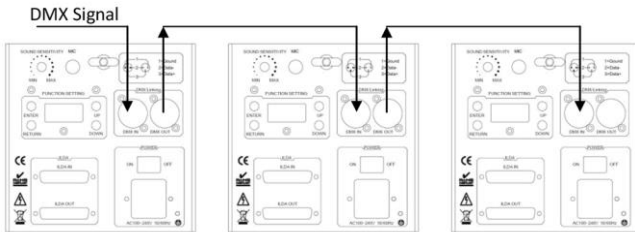


#### Caution:

At the laser fixture, the DMX-cable has to terminate with a terminator. Contact your dealer to purchase ProX Cables DMX Terminator.

SKU: XC-DMX3PTR

### Building a serial DMX-chain (DMX Mode)



- If you are using the standard DMX-controllers, you can connect the DMX-output of the controller directly with the DMX-input of the first fixture in the DMX-chain.
- Connect the DMX-output of the first fixture in the DMX-chain with the DMX-input of the next fixture. Always connect output with the input of the next fixture until all fixtures are connected.
- If you use a controller with 5 pins DMX connector, you need to use a 5 to 3 pins adapter
- Connect the fixture together in a daisy chain by DMX XLR plug cable from the output of the fixture to the input of the next fixture. The cable cannot be branched or split to a Y cable. DMX 512 is a very high speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort signal and shut down the system.
- Each fixture needs to have a DMX address to receive the data from the controller. The DMX address number which could be read from rear panel of each fixture is between 001-512
- The end of the DMX 512 chain should be terminated to reduce signal errors.

## Instruction for DMX channels

CH1	LASER OFF	0~41	LASER OFF
	Auto Activate	42~83	DMX mode, CH2~CH12 valid
		84~125	Built-in cartoon graphics auto running mode
		126~167	Built-in beam graphics auto running mode
	Sound Activate	168~209	Built-in beam graphics auto running mode
		210~251	Built-in cartoon graphics auto running mode
252~255		DMX mode, CH2~CH12 valid	
CH2	Pattern select	0~255	Selecting built-in patterns
CH3	Rotation	0~127	Manual rotation
		128~191	Auto counter-clockwise rotation (from slow of fast)
		192~255	Auto clockwise rotation (from slow to fast)
CH4	X axis rolling	0~127	Manual rolling
		128~255	Auto rolling (from slow to fast)
CH5	Y axis rolling	0~127	Manual rolling
		128~255	Auto rolling (from slow to fast)
CH6	X axis moving	0~127	Manual choose moving position
		128~255	Auto moving (from slow to fast)
CH7	Y axis moving	0~127	Manual choose moving position
		128~125	Auto moving (From slow to fast)
CH8	Pattern size	0~63	Choose pattern size, 0 is normal size, 1 is the smallest, 63 is the biggest
	Zooming	64~127	Auto zooming (-) from slow to fast
		128~191	Auto zooming (+) from slow to fast
		192~255	Manual zooming (+/-) from slow to fast
CH9	Drawing	0~255	Auto drawing from slow to fast
CH10	Scanning speed	0~127	Choose scanning speed from slow to fast
	Display dot	128~255	Choose the length of dot
CH11	Color setting	0~24	Normal color
		25~199	Choose every single color
		200~224	Every single color changing one by one
		225~255	All the colors together changing alternatively in pattern
CH12	Color change speed	0~255	Adjust color changing speed from slow to fast

## **TROUBLE SHOOTING**

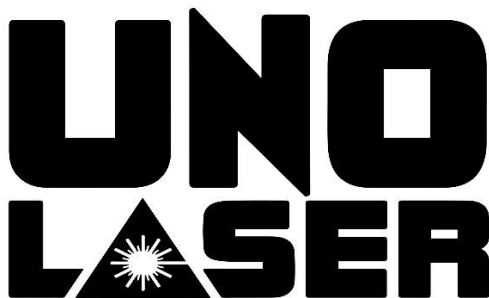
1. If the power indicator is off the laser doesn't work, please check the Power Cord, fuse and power supply.
2. In Stand-Alone operation, if the power supply indicator is ON and sound active indicator is OFF, but the laser doesn't work.
  - The sound may be too small and cannot activate the laser running, please increase the music volume or increase sound sensitivity on rear panel.
  - Please check if unit has been set up in slave mode, or DMX mode.
3. In Master-Slave operation, if slave fixtures don't run;
  - Make sure there's only one master in the chain, and the others are set in Slave mode.
  - Make sure to use a good quality DMX and Power Cables to run the chain.
4. In DMX operation, if the unit can't be controlled by the DMX console, but the DMX signal indicator on the item is flashing, Please make sure the DMX console and fixture have the same channel.

After trying the above solution you still cannot sort out the problem, please contact your Dealer or UNO LASER for service.

### **Preliminary warning notices**

1. Please use this device only according to these operating instructions.
  2. Do not use the device if there are any visible damages on housing, connector panels, power supplies or power cords.
  3. Never look directly into the light source of a laser projector. Danger of damage to the eyes or even blindness in extreme circumstances!
  4. Do not operate the device at high humidity, in the rain or in dusty environments.
  5. Protect device against dripping or splashing water. Do not place any liquid filled containers near to this device.
- Any warranty claims are void if the warranty label is removed or tampered with in any way.

**All information provided in this manual is subject to change without notice.**



Please register your new purchase with us for your warranty with Uno Laser within 30 days of your purchase.

**<http://warranty.ProXdirect.com>**

**Our Products and You**

Year after year, we are continuously blown away by the amazing productions we see happening around the world with ProX Gear! We especially want to thank all our dealers, and all our seriously talented customers who choose ProX, for your support and creativity! Be sure to tag us on social media like Facebook and Instagram, or send us your best images of you and your favorite ProX Gear to our website! THANK YOU!

#unolaser

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Tel: 718-237-2299  
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