

THRILL Multi-FX LED



Safety and Installation Guide



WARNING!
Read the safety precautions in this guide before installing or using this product.

Introduction

The THRILL Multi-FX LED combines strobe effects, multibeam effects, and laser effects in a single lighting fixture. It features eight powerful white strobe LEDs, five red-green-blue-white-amber multi-color LEDs, a multi-faceted rotating mirror, and dynamic red and green multi-beam lasers. Control is flexible with music-triggered, stand-alone, synchronized master/slave, and DMX control options. Its rugged and lightweight construction and compact size make it ideal for mobile DJs and small venues.

It is supplied with this guide, a user guide, power cable(s), two keys for the laser lockout switch, and a mounting bracket for use with a suitable, user-supplied hanging clamp.

Before installing and using the fixture:

1. Read the safety information in this guide.
2. Unpack the fixture and ensure that there is no transportation damage. Do not attempt to operate a damaged fixture.
3. Ensure that your AC voltage and frequency match the power requirements of the fixture.
4. Check the Martin Professional website at www.martin.com for the most recent product documentation and technical information. Martin document revisions are identified by the revision letter below the legal notices.

Safety information

The following symbols identify important safety information:



Laser Safety

WARNING! Class 3R laser according to EN 60825-1 and FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. Possibly hazardous radiation emitted from this product. May be harmful to the eyes. Do not stare at operating laser and do not view the laser beam with optical instruments or any device that may concentrate the beam.

This lighting fixture presents risks of severe injury or death due to fire hazards, electric shock and falls. It produces powerful, highly concentrated beams of light that can cause eye injury or create a fire hazard if the safety precautions are not followed.



Lasers can be hazardous and have unique safety considerations. Permanent eye injury and blindness are possible if lasers are used incorrectly. Pay close attention to each safety remark and warning statement in this guide. Read all instructions carefully before operating this device. Always be aware of the laser beam location. Keep it away from people's eyes and heads. Take care to avoid reflected beams from glass and/or other shiny surfaces.

AVOID DIRECT EYE EXPOSURE. Never intentionally expose your eyes or others eyes to direct laser light. Take precautions when shining laser beams into audience areas. It is not legal to aim Class 3R lasers into areas where people can be exposed, even if the laser is aimed below person's faces.

LASERS CAN INTERFERE WITH PILOTS AND DRIVERS. Aiming ANY laser beam at an aircraft or vehicle is illegal.

ONLY ALLOW USE BY RESPONSIBLE PERSONS. This product is not a toy. Children should not be permitted to use Class 3R lasers. A responsible adult should continuously supervise any teenager using a Class 3R laser.

Do not aim this laser projector directly at any person or audience area closer than 3 m (9.8 ft.).

Do not perform any public demonstration, show, display or entertainment with this laser projector without meeting the requirements of the municipality in which it is being utilized.

Use of controls, adjustment, performance, and procedures other than those specified herein may result in hazardous radiation exposure.

Install, operate and service this product only as directed, or you may create a safety hazard or cause damage that is not covered by product warranties.

If transferring ownership of this product to another user, ensure this guide is included with the product



Follow the safety precautions below and observe all warnings on the product. Follow the instructions and observe all warnings in the product's user guide. Keep this information for future reference.

For the latest user documentation and other information about this and all Martin products, visit the Martin website at <http://www.martin.com>

Respect all locally applicable laws, codes and regulations when installing, operating or servicing the product.



Protection from electric shock

Do not expose the product to water or moisture. Disconnect the product from AC power before carrying out installation or maintenance and when the product is not in use.

Ensure that the product is electrically connected to ground (earth).

Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.

Replace blown fuses with ones of the specified type and rating.

Isolate the product from power immediately if the power plug or any seal, cover, cable, or other component is damaged, defective, deformed, wet or showing signs of overheating. Do not reapply power until the problem is corrected.

Before connecting the product to power, check that all power distribution equipment and cables are undamaged and rated for the electrical requirements of all connected products.



Protection from burns and fire

Do not operate the fixture if the ambient temperature (T_a) exceeds 40° C (104° F).

Keep flammable materials well away from the fixture. Keep all combustible materials (e.g. fabric, wood, paper) at least 100 mm (4 in.) away from the fixture.

Ensure that there is free and unobstructed airflow around the fixture.

Minimum distance to illuminated surface = 0.2 m (8 in.)

Do not attempt to bypass thermostatic switches or fuses.

Do not stick filters, masks or other materials onto any optical component.



Protection from eye injury

Lighting fixtures emit possibly hazardous radiation. Do not look at an operating laser. Eye injury may result. In order to avoid eye injury or blindness avoid direct or bright reflected laser light to be exposed to your or others eyes, mirrors, reflective surfaces, airplanes, or vehicles.

To minimize the risk of eye injury or irritation, disconnect lighting fixtures from power at all times when not in use, and provide well-lit conditions to reduce the pupil diameter of anyone working on or near them.

Do not look at output from lighting fixtures with magnifiers, telescopes, binoculars or similar optical instruments that may concentrate the light.

The fixture's lenses can focus the sun's rays inside the fixture, creating a risk of fire and damage. Do not expose the front of the fixture to sunlight or any other bright light source.

Ensure that persons are not looking directly into a lighting fixture when it lights up suddenly. This can happen when power is applied or when certain control menu items are selected.



Protection from injury

Do not attempt to repair a defective product or modify the product in any way. LEDs and lasers are not user-replaceable. Refer all service to your Martin dealer or contact Martin directly for technical support through <http://www.martin.com/contact-support>

Fasten the fixture securely to a fixed surface or structure when in use. The fixture is not portable when installed.

Ensure that any supporting structure and/or hardware used can support at least 10 times the weight of all the devices they support.

If suspending from a rigging structure, fasten the fixture using a hanging clamp. Do not use safety cables as the primary means of support.

If the product is installed in a location where it may cause injury or damage if it falls, install as directed a secondary attachment such as a safety cable that will hold the machine if a primary attachment fails. The secondary attachment must be approved by an official body such as TÜV as a safety attachment for the weight that it secures, must comply with EN 60598-2-17 Section 17.6.6 or BGV C1 / DGUV 17, and must be capable of bearing a static suspended load at least six times the weight of the fixture (or more if required by locally applicable regulations). Check that all external covers and rigging hardware are securely fastened.

Block access below the work area and work from a stable platform whenever installing, servicing or moving the fixture.

Do not operate the fixture with missing or damaged covers, shields or any optical component.

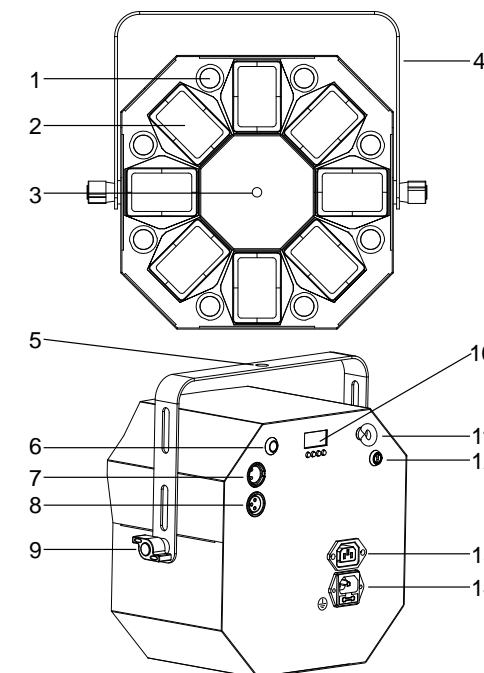
In the event of an operating problem, stop using the fixture immediately and disconnect it from power. Do not attempt to use a fixture that is obviously damaged.

Do not modify the fixture in any way not described in this manual or install other than genuine Martin parts.

Refer any service operation not described in this manual to a qualified technician.

Flashing light can trigger epileptic seizures in flicker-sensitive persons. Provide notice when strobe lighting is in use at the entrance(s) to the venue. Mount flashing lights as high above head height as practicable and avoid extended periods of continuous flashing, particularly at 10 to 20 flashes per second. Stop lights from flashing immediately if a person has an epileptic seizure.

Fixture overview



1	White strobe LEDs	8	DMX in
2	Multibeam lenses	9	Hand wheel
3	Laser aperture	10	User interface
4	Mounting bracket	11	Secondary attachment point
5	Clamp attachment point	12	Laser lockout switch
6	Microphone	13	AC mains out
7	DMX out	14	AC mains in & fuse

Physical installation

The THRILL Multi-FX LED is designed for indoor use only and must be used in a dry, overhead location. Never use the laser feature where exposure to the outdoors and aircraft or vehicles is possible.

When exposing persons to the laser beams ensure a minimum of 3 m (9.8 ft.) of vertical clearance above floor level and the lowest laser beam. Additionally ensure a minimum of 3 m (9.8 ft.) horizontal clearance from the fixture to persons. Never allow the laser to project beams at or near eye-level of persons or animals.

Mounting the fixture on a truss

The fixture can be clamped to a truss or similar rigging structure. It must be suspended vertically, hanging downwards only. Use a suitable hanging clamp



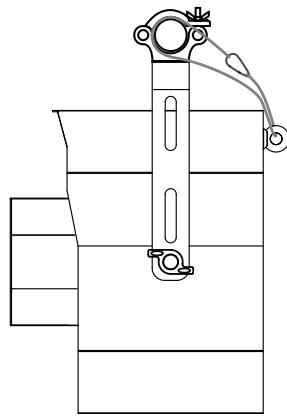
such as a super lightweight half-coupler clamp (shown to right) fastened to the included mounting bracket.

To clamp the fixture to a truss:

1. Check that the rigging structure can support at least 10 times the weight of all fixtures and equipment to be installed on it.
2. Block access under the work area.
3. To install the mounting bracket, place the washers in between the hanging bracket and the fixture. Secure with the hand wheels. Hand tighten only.
4. Bolt a hanging clamp securely to the mounting bracket. The bolt used must be M12, grade 8.8 steel minimum, and fastened with a self-locking nut or a wing-nut/self-locking washer combination.
5. Working from a stable platform, hang the fixture vertically on the truss and fasten the hanging clamp onto the truss.
6. Secure the fixture with a safety cable as directed.

Securing with a safety cable

Secure the THRILL Multi-FX LED with a safety cable or other secondary attachment that is approved for the weight of the fixture to prevent it from falling if the primary attachment fails. Loop the safety cable through the secondary attachment eyebolt and around a secure anchoring point.



Do not loop the safety cable around the mounting bracket only, as this will leave the fixture unsecured if it separates from the bracket.

AC power



For protection from electric shock, the fixture must be grounded (earthed). The power distribution circuit must be equipped with a fuse or circuit breaker and ground-fault (earth-fault) protection.

The fixture has an auto-ranging power supply that accepts AC mains power at 100-240 V at 50-60 Hz. Do not apply AC mains power at any other voltage or frequency. To prevent damage, do not use an external dimming system to supply power.

If a suitable IEC extension cord is obtained, additional fixtures may be connected to the MAINS OUT socket, but do not exceed a maximum current load of 3 A. If supplying power to additional Multi-FX LED fixtures, you may connect up to:

- Six (6) additional Multi-FX LED fixtures at 100-120 V, or
- Ten (10) additional Multi-FX LED fixtures at 200-240 V.

Maintenance

The user may carry out the maintenance operations described below. Do not attempt to repair a defective fixture. Refer all service to your Martin dealer or contact Martin directly for technical support at <http://www.martin.com/contact-support>



Do not open the housing; there are no user serviceable parts inside the fixture.

Disconnect the fixture from mains power before performing maintenance.

Cleaning

The Multi-FX LED must be cleaned periodically. Excessive dust, effects fluid, and particle buildup degrades performance, causes overheating and will damage the fixture. Damage caused by inadequate cleaning is not covered by the product warranty.

The cleaning schedule will vary greatly depending on the operating environment. Inspect the fixture once a month and clean if necessary. Inspect every 1-2 weeks if the fixture is frequently used with effects machines, in locations with heavy cigarette smoke, operated or stored in a dusty location, or installed near an air duct. This procedure will allow you to assess cleaning requirements in your particular situation.

Keep the fixture dry and use gentle pressure only when cleaning. Work in a clean, well-lit area. Do not use any cleanser that contains solvents or abrasives, as these can cause surface damage.

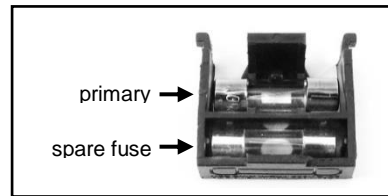
To clean the fixture:

1. Disconnect the fixture from power and allow it to cool.
2. Vacuum or gently blow away dust and loose particles from the outside of the fixture with low-pressure compressed air.
3. Clean the casing and lenses by wiping gently with a soft, clean microfiber cloth. Remove stuck particles with an unscented tissue or cotton swab moistened with distilled water. Do not rub hard.
4. Clean the laser aperture gently with a cotton swap.

Replacing the primary fuse

If the fixture is completely dead, the primary fuse may have blown. A spare fuse is provided in the fuse holder. To check and replace the fuse:

1. Unplug the power cord from the MAINS INPUT socket.
2. Pull out the fuse holder.

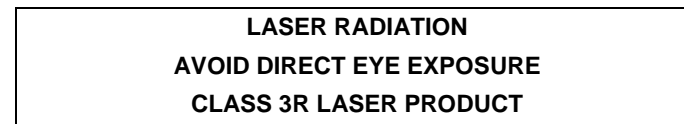


3. Remove the primary fuse if the wire element is broken or melted.
4. Place a spare fuse in the primary fuse holder. *Replace fuse with same size and specified rating only.*
5. Place the fuse holder in the fixture and reconnect power.

Stop using the fixture if the fuse blows repeatedly.

Laser Safety Warning Labels

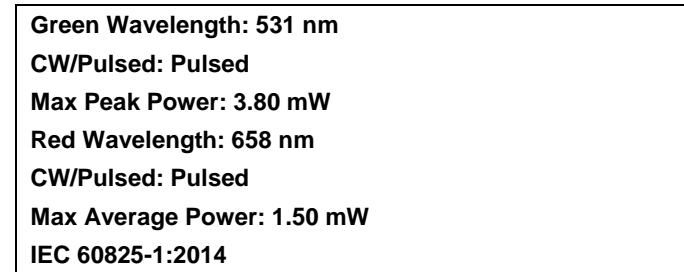
The warnings shown below are displayed on this fixture. If it becomes difficult or impossible to read, it must be replaced using the illustration below to reproduce a new label with the sizes as indicated, in black on a yellow background and placed where noted.



Classification label placed on rear panel, 74 x 31 mm (2.95 x 1.19 in.).



Laser Aperture Label placed on front panel, above laser aperture, 52 x 31 mm (2.05 x 1.21 in.).



Radiation Output & Standards label placed on rear panel, 74 x 48 mm (2.95 x 1.88 in.).



Laser Hazard Symbol label, placed on rear panel, 44 x 38 mm (1.7 x 1.5 in.).

Technical Specifications

Physical

Dimensions (L x W x H)..... 246 x 234 x 246 mm (9.7 x 9.3 x 9.7 in.)
 Dimensions with hanging bracket.....
 307 x 234 x 286 mm (12.1 x 9.3 x 11.3 in.)
 Weight..... 4.5 kg (9.8 lbs.)

Dynamic Effects

Multibeam effects
 Color mixing..... RGBWA
 Color selection 36 color presets
 Electronic dimming..... 0-100%
 Strobe rate 0-22 Hz
 Strobe and pulse effects..... Variable speed and action, random strobe
 Electronic 'shutter' effect..... Instant open and blackout

Strobe effects

Color White
 Strobe rate Fixed, 11 Hz
 Special effects.. On/off, strobe effect, pulse effects, random and blackout

Laser effects

Color Red, green
 Special effects.. On/off, strobe effect, pulse effects, random and blackout

Control and Programming

Control options DMX, stand-alone
 Safety lockout switch, laser Keyed switch on/off operation
 DMX channels..... 2/16
 Stand-alone trigger options Sound-trigger, auto-run
 User interface..... Control panel with LED display
 DMX compliance ANSI E1.11, USITT DMX512-A

Optics

Multibeam and strobe
 Multibeam light source 5 x 3 W RGBWA LEDs
 Strobe light source 8 x 1 W White LEDs
 Minimum LED lifetime 30 000 hours (to >70% luminous output)*
 *Figure obtained under manufacturer's test conditions

Laser

Green laser, power / wavelength 3.8 mW / 531 nm
 Red laser, power / wavelength 1.5 mW / 659 nm
 Aperture diameter 7 mm
 Beam shape Divergent
 Class:..... 3R, US Class IIIIR
 Minimum laser lifetime..... 3 000 hours*
 *Figure obtained under manufacturer's test conditions

Construction

Housing..... Steel
 Color Black
 Ingress protection..... IP 20

Installation

Mounting Adjustable bracket, surface or truss mount
 Mounting points..... Bracket for single rigging clamp, M12 or ½"
 Orientation Any (respecting laser precautions)
 Location Indoor, dry locations only, overhead use only
 Minimum distance above floor level..... 3 m (9.8 ft.)
 Minimum distance from persons..... 3 m (9.8 ft.)

Connections

AC power in/thru IEC male inlet/female connector, C14/C13
 DMX data in/thru 3-pin XLR

Electrical

AC power 100-240 V nominal, 50-60 Hz
 Fuse..... F 3AL, 250 V
 Typical total power consumption 35 W*

Maximum fixtures on AC power throughput, 100-130 V: 6 THRILL Multi-FX LED or 3 A

Maximum fixtures on AC power throughput, 220-240 V: 10 THRILL Multi-FX LED or 3 A

*Power consumption figures are typical, not maximum. Allow for +/-10% variation.

Typical power and current

110 V, 60 Hz..... 0.5 A, 35 W*
 230 V, 50 Hz..... 0.3 A, 35 W*

*Measurements made at nominal voltage with all LEDs at full intensity. Allow for a deviation of +/- 10%.

Thermal

Cooling Passive
 Maximum ambient temperature (T_a max.)..... 40° C (104° F)
 Minimum ambient temperature (T_a min) 0° C (32° F)
 Total heat dissipation 225 BTU/hr.*
 *Calculated, +/- 10%, at full intensity, full white

Approvals

EU Safety EN 60598-1, EN 60598-2-17, EN 60825-1, EN 62031, EN 6247-1, EN 6247-2-13, EN 62493, IEC TR 62471-2
 EU EMC..... EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547
 Australia/NZ (pending) RCM



Included Items

Power cable, EU, IEC C13 female, molded Schuko, 1.5 m (4.9 ft.)
 Power cable, US, IEC C13 female, molded NEMA 5-15P, 1.5 m (4.9 ft.)
 Mounting bracket and hardware
 Set of keys for laser lockout switch

Accessories

Super lightweight half-coupler, black..... P/N 91602018
 Safety cable, SWL 60 kg, BGV C1/ DGUV 17, black..... P/N 91604006

Ordering Information

THRILL Multi-FX LED P/N 90280117

Specifications subject to change without notice. For latest product specifications, see www.martin.com

Disposing of this product



THRILL by Martin® products are supplied in compliance with Directive 2012/19/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), where applicable. Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Martin products.

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