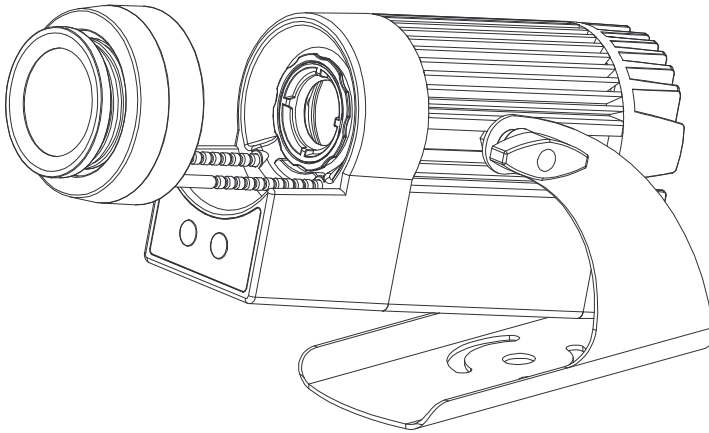


Gobo Projector 1



User Manual



Professional Entertainment Technology

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Manual: Revision B

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Safety information



WARNING!

Read the safety precautions in this manual before installing, operating or servicing this product.

The following symbols are used to identify important safety information on the product and in this manual:



Warning!

Safety hazard.
Risk of severe injury or death.



Warning!

Powerful light emission.
Risk of eye injury.



Warning!

See user manual for important safety information.



Warning!

Hazardous voltage.
Risk of lethal or severe electric shock.



Warning!

Hot surfaces and fire hazard.



Warning! Risk Group 2 product according to EN 62471. Do not stare directly into the beam. Do not view the light output with optical instruments or any device that may concentrate the beam.



This lighting fixture is for professional use only – it is not for household use. The fixture must be installed by a qualified technician. The safety of the installation is the responsibility of the installer. The fixture presents risks of severe injury or death due to fire hazards, electric shock and falls. It produces a powerful, concentrated beam of light that can create a fire hazard or a risk of eye injury if the safety precautions below are not followed.

If you have any questions about how to install, operate or service the fixture safely, please contact your Martin™ distributor (see www.martin.com/distributors for details) or call the Martin™ 24-hour service hotline on +45 8740 0000, or in the USA on 1-888-tech-180.

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

There are no user-serviceable parts inside the fixture. Do not open it. Refer any service or repair operation not described in this manual to an authorized Martin™ service technician. Do not try to carry out any such operation yourself, as doing so may present a health or safety risk. It may also cause damage or malfunction and it may void your product warranty.



Install, operate and service RUSH by Martin™ products only as directed in their user manuals, or you may create a safety hazard or cause damage that is not covered by product warranties.

Follow the safety precautions listed below and observe all warnings in this manual and printed on the product. Keep this user manual for future use. If you sell the product, give this manual to the new owner.

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



Protection from electric shock

Do not expose the fixture to rain or moisture.

Disconnect the fixture from AC power before carrying out any installation or maintenance work and when the fixture is not in use.

Ensure that the fixture 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.

Socket outlets or external power switches used to supply the fixture with power must be located near the fixture and easily accessible so that the fixture can easily be disconnected from power.

Isolate the fixture 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 repairs have been completed

Before using the fixture, check that all power distribution equipment and cables are in perfect condition and rated for the electrical requirements of all connected devices.

The supplied power input cable is rated 6 A. If you replace this cable, the replacement cable must also be rated 6 A minimum, have three conductors 18 AWG or 0.75 mm² minimum conductor size, have an outer cable diameter of 6 - 15 mm (0.2 - 0.6 in.) and be temperature-rated to suit the application. In the USA and Canada the cable must be UL listed, type SJT or equivalent. In the EU the cable must be type H05VV-F or equivalent.



Protection from burns and fire

Do not use the fixture to illuminate surfaces within 200 mm (7.9 in.) of the fixture.

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

The surface of the product casing can reach up to 60° C (140° F) during operation. Avoid contact by persons and materials. Allow the fixture to cool for at least 15 minutes before handling.

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. Provide a minimum clearance of 100 mm (4 in.).

Do not attempt to bypass thermostatic switches or fuses.

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

Use only glass or metal gobos. Do not insert film, plastic, paper, or any other flammable material in the gobo holder.



Protection from eye injury

Do not stare directly into the light output. Ensure that persons are not looking directly into the LEDs when the product lights up suddenly. This can happen when power is applied.

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

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



Protection from injury

Fasten the fixture securely to a fixed surface or structure with a minimum of two permanent fasteners. Do not fasten with clamps. The fixture is not portable when installed.

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

Check that all external covers and rigging hardware are securely fastened.

Do not operate the fixture with missing or damaged covers, shields or any optical component. If shields, lenses or ultraviolet screens have become visibly damaged to such an extent that their effectiveness is impaired, for example by cracks or deep scratches, send the fixture to an authorized Martin™ service agent for replacement.

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

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 RUSH by Martin™ parts.

Introduction

The Rush Gobo Projector 1™ is a dynamic effect lamp that projects sharp images from user-supplied glass or metal size-E gobos. It has a 20W LED engine with long-life white LEDs.

The fixture is supplied with this user manual, a 1.9 m (6 ft.) power cable (power plug not included with EU model), an adjustable mounting bracket / floor stand, a “Welcome” gobo mounted in the gobo holder, and a spare gobo holder.

Before using the product

1. Read ‘Safety information’ on page 5 before installing, operating or servicing the fixture.
2. Unpack and ensure that there is no transportation damage before using the fixture. Do not attempt to operate a damaged fixture.
3. If the fixture is not going to be hard-wired to a mains supply, install as directed in this manual a local power plug (not supplied with EU model) on the supplied power cable.
4. Before operating, ensure that the voltage and frequency of the power supply match the power requirements of the fixture.
5. Check the RUSH support pages on the Martin™ website at www.martin.com for the most recent user documentation and technical information about the fixture. RUSH by Martin™ user manual revisions are identified by the revision letter at the bottom of the inside cover.

Note that when the fixture is powered on for the first time, it may smoke slightly as it warms up, but this will only last a few minutes and is no cause for concern.

Physical installation



Read ‘Safety information’ on page 5 before installing the fixture.

The fixture is designed for indoor use only and must be used in a dry location with adequate ventilation. The fixture presents risks of severe injury or death due to fire hazards, electric shock and falls and is not intended for truss mounting or installation with rigging clamps. The fixture must be installed by a qualified technician. The safety of the installation is the responsibility of the installer.

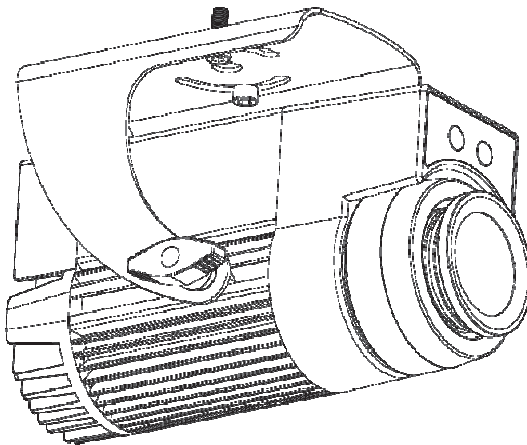
Locate the fixture at least 10 cm (4 in.) from adjacent surfaces.

Fasten the fixture to a secure structure or surface. Do not stand it or leave it unfastened where it can be moved or fall over.

Fastening the fixture to a flat surface

The fixture can be fastened to a hard, fixed, flat surface that is oriented at any angle. Ensure that the surface and all fasteners used can support at least 10 times the weight of all fixtures and equipment to be installed on it.

Fasten the fixture securely with at least two fasteners (not supplied) inserted through the 7 mm (1/4 in.) curved mounting slots in the mounting bracket as shown. The bracket’s 13 mm (1/2 in.) hole may also be used for fastening.



Use at least two fasteners for installation

AC power



Read 'Safety information' on page 5 before connecting the fixture to AC mains power.




Warning! 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.

Socket outlets or external power switches used to supply the fixture with power must be located near the fixture and easily accessible so that the fixture can easily be disconnected from power.

Connecting the fixture to a switched AC mains circuit provides a convenient way to power the fixture on and off. Do not use an external dimming system to supply power to the fixture, as this may cause damage to the fixture that is not covered by the product warranty. The fixture can be hard-wired to a building electrical installation or a power plug (not supplied with the EU model) that is suitable for the local power outlets can be installed on the power cable.

If you install a power plug on the power cable, install a grounding type (earthed) plug with integral cable grip that is rated minimum 250 V, 6 A. Follow the plug manufacturer's instructions and connect the wires in the power cable as shown in this table:

| | Live or L | Neutral or N | Earth, Ground or  |
|------------------|-----------|--------------|----------------------------------------------------------------------------------------------------|
| US system | Black | White | Green |
| EU system | Brown | Blue | Yellow/green |

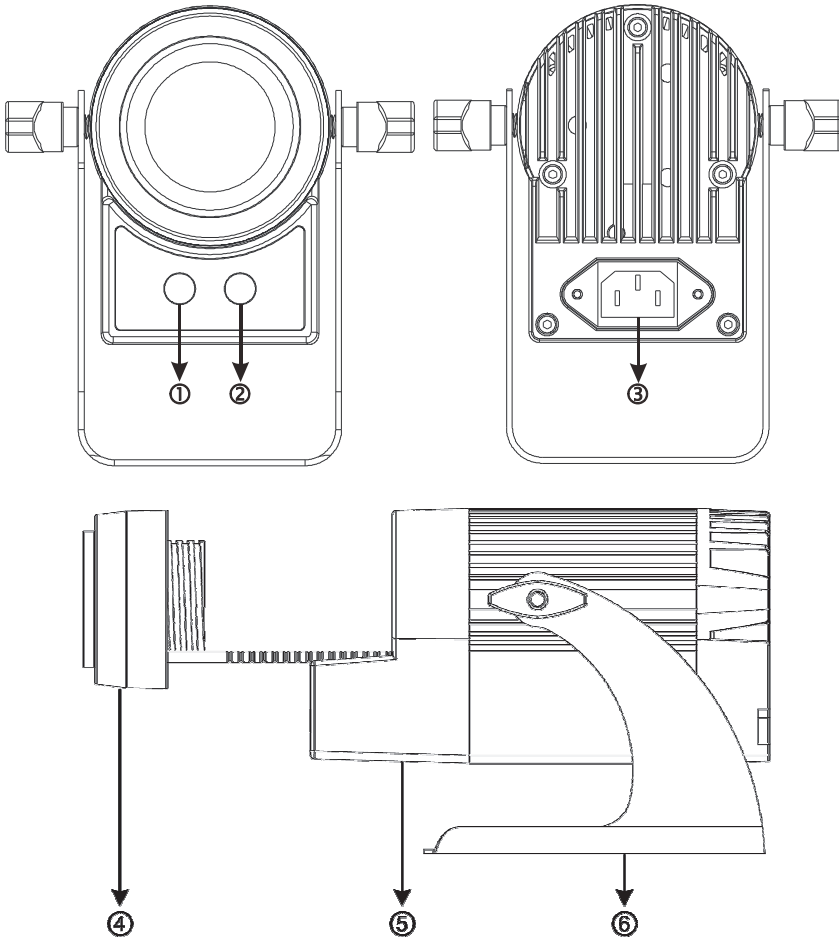
The fixture has an auto-ranging power supply that accepts AC mains power at 100V~240V, 50/60Hz. Do not apply AC mains power at any other voltage or frequency to the fixture.

Operation



Read 'Before using the product' on page 9 before operating the fixture.

Fixture overview



Key

1. Direction button
2. Speed button
3. AC power inlet
4. Lens carrier
5. Projector body
6. Mounting bracket

Projecting a gobo



Do not stare directly into the light output. Ensure that persons are not looking directly into the LEDs when the product lights up suddenly. This can happen when power is applied.

To project a gobo and choose a rotation option:

1. Connect the AC power cord to the AC power inlet.
2. Loosen the mounting bracket screws. Aim the projected image to the desired location. Securely tighten the mounting bracket screws.
3. Slide the lens carrier in or out of the projector body to the click-stop that brings the image closest to correct focus, then fine-tune focus by turning the lens ring on the front of the lens carrier to obtain the sharpest image.
4. Press the Direction button repeatedly to set the desired gobo rotation: clockwise, counterclockwise or none.
5. Press the Speed button repeatedly to set the desired gobo rotation speed: fast, medium or slow.

Note: The selected rotation direction and speed settings are stored in memory and applied when the fixture is powered on.

Replacing a gobo

The Rush Gobo Projector 1™ accepts size E glass or metal gobos. See 'Gobo' on page 17 for gobo requirements.

To replace a gobo:

1. Disconnect the fixture from AC power and allow it to cool for at least 15 minutes.
2. Slide the lens carrier out if necessary to access the magnetic goboholder.
3. Remove the magnetic gobo holder from the projector body.
4. Turn the gobo retaining ring (3) counterclockwise to remove it from the magnetic goboholder (1). Remove the old gobo (2).



Magnetic gobo holder, gobo, and gobo retaining ring

5. Insert the new gobo in the magnetic goboholder with the reversed side of the gobo facing the retaining ring.
6. Screw the gobo retaining ring securely back on to the magnetic goboholder.
7. Place the magnetic goboholder on the projector body.

Maintenance



Warning! Read ‘Safety information’ on page 5 before servicing the fixture.

Refer any service operation not described in this user manual to an authorized Martin™ service technician.

Disconnect mains power before cleaning or servicing the fixture.

Service fixtures in an area where there is no risk of injury from failing parts, tools or other materials.

Installation, on-site service and maintenance can be provided worldwide by the Martin Professional™ Global Service organization and its approved agents, giving owners access to Martin’s expertise and product knowledge in a partnership that will ensure the highest level of performance throughout the product’s lifetime. Please contact Martin™ for details.

Cleaning

Excessive dust, smoke fluid, and particle buildup degrades performance, causes overheating and will damage the fixture. Damage caused by inadequate cleaning or maintenance is not covered by the product warranty.

The cleaning of external optical lenses must be carried out periodically to optimize light output. Cleaning schedules for lighting fixtures vary greatly depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the fixture. Environmental factors that may result in a need for frequent cleaning include:

- Use of smoke or fog machines.
- High airflow rates (near air conditioning vents, for example).
- Presence of cigarette smoke.
- Airborne dust.

If one or more of these factors is present, inspect fixtures within their first 100 hours of operation to see whether cleaning is necessary. Check again at frequent intervals. This procedure will allow you to assess cleaning requirements in your particular situation. If in doubt, consult your RUSH by Martin dealer about a suitable maintenance schedule.

Use gentle pressure only when cleaning, and work in a clean, well-lit area. Do not use any product that contains solvents or abrasives, as these can cause surface damage.

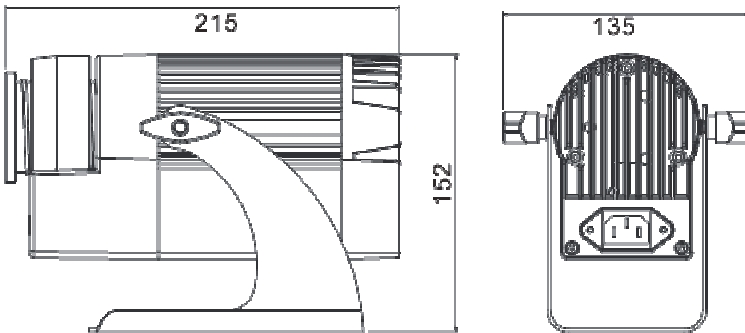
To clean the fixture:

1. Disconnect the fixture from power and allow it to cool for at least 15 minutes.
2. Vacuum or gently blow away dust and loose particles from the outside of the fixture with low-pressure compressed air.
3. Clean the surfaces by wiping gently with a soft, clean lint-free cloth moistened with a weak detergent solution. Do not rub glass surfaces hard: lift particles off with a soft repeated press. Dry with a soft, clean, lint-free cloth or low-pressure compressed air. Remove stuck particles with an unscented tissue or cotton swab moistened with glass cleaner or distilled water.
4. Check that the fixture is dry before reapplying power.

Specifications

Physical

| | |
|-------------|------------------|
| Length..... | 215 mm (8.5 in.) |
| Width..... | 135 mm (5.4 in.) |
| Height..... | 152 mm (6.0 in.) |
| Weight..... | 2 kg (11.0 lbs.) |



Effects

| | |
|-----------------------|------------------------------------|
| Gobo projection | Static / rotating replaceable gobo |
| Focus | Manual |

Optics and Photometric Data

| | |
|-----------------------------|----------------------------------------|
| Light source | 20 W LED array |
| Beam angle..... | 17° |
| Minimum LED lifetime* | 30 000 hours (to >70% luminous output) |

**Figure obtained under manufacturer's test conditions*

Control

| | |
|---------------------|--------------------------------------------|
| Gobo rotation | Direction, speed (static/slow/medium/fast) |
| Control input | Two onboard control buttons |

Construction

| | |
|------------------------|--------|
| Color | Silver |
| Protection rating..... | IP20 |

Gobo

| | |
|------------------------------|-----------------------------------------|
| Size..... | E24 (Size E, max. image diameter 24 mm) |
| Recommended material..... | Steel or glass |
| Outside diameter | 37.5 mm +0/-0.2 mm |
| Maximum image diameter | 24 mm |

Maximum thickness 3.0 mm

Installation

Mounting Adjustable bracket, surface or floor mount
Location Indoor use only, must be fastened to surface or structure
Orientation Any

Connections

AC power in IEC

Electrical

AC power 100-240 V, 50/60 Hz
Power consumption 20 W

Typical power and current

110 V, 60 Hz 17.6 W, 0.285 A
230 V, 50 Hz 17.6 W, 0.163 A

Measurements made at nominal voltage. Allow for a deviation of +/- 10%.

Thermal

Cooling Convection
Maximum ambient temperature (T_a max.) 40°C (104°F)
Minimum ambient temperature (T_a min) 0°C (32°F)
Total heat dissipation* 65 BTU/hr.

**Calculated, +/- 10%*

Approvals



EU safety EN 60598-2-17 (EN 60598-1), EN 62471, EN 62493
EU EMC EN 55015, EN 55032, EN 55103-2, EN 61000-3-2,
EN 61000-3-3, EN 61547
US safety UL 122
US EMC FCC Part 15 Class A
Canadian safety CSA C22.2 No. 118-1959
Canadian EMC ICES-003 Class A
Australia/NZ C-Tick N4241

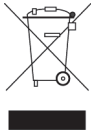
Included items

- Demo “Welcome” gobo in gobo holder
- Spare gobo holder
- Mounting bracket
- Power cable, 1.9 m (without mains plug on EU model)

Ordering Information

- RUSH Gobo Projector 1™ in cardboard box, EU model..... P/N 90480060
- RUSH Gobo Projector 1™ in cardboard box, US model..... P/N 90480065

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

| | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <h3>Disposing of this product</h3> <p>RUSH 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 RUSH by Martin products.</p> |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Photobiological Safety Warning

The label shown below is displayed on this product. If it becomes difficult or impossible to read, it must be replaced using the illustration below to reproduce a new label sized 45 x 18 mm, in black on a yellow background.

| |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| RISK GROUP 2 |
| CAUTION. Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eyes. |



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