STARSHINE LIGHTS PRODUCT MANUAL

MODEL O9

60W RGB WATERPROOF LASER BAR

Professional User Manual

Installation | Operation | DMXControl | Maintenance | Warranty

60 W	IP65	6	180
RGB LASER	OUTDOOR	LASER MODULES	DMXCHANNELS

IMPORTANT LASER SAFETY

Do not direct laser output toward eyes, skin, cameras, or combustible materials.
Installation and service should be performed by qualified personnel in accordance with local rules.

STARSHINE LIGHTS PRODUCT MANUAL

BEFORE YOU BEGIN

Manual Scope & Contents

This manual isfortheO9 60W RGBWaterproofLaser Bar.Itconsolidates the technical, menu, DMX, safety, maintenance and warranty information supplied with the product into a professional English reference.

Read Before Use	Keep this manual available to installers, operators and service personnel. High-power laser equipment can cause eye, skin, camera-sensor and fire hazards if used improperly.

SECTION	TOPIC	COVERAGE
01	Safety Instructions	Essential laser, electrical and environmental precautions
02	Installation & Pre-Power Checks	Rigging, grounding and inspection guidance
03	Technical Specifications	Laser source, power, scan, enclosure and dimensions Six-
04	Product Highlights	module optical design and control architecture Operating
05	Control Panel & Menu	modes and front-panel navigation
06	Auto Setup & Device Info DMX512	Per-module parameters and system information
07	Control - Channels 1-16 DMX512	Mode, safety zone, content and color controls
08	Control - Channels 17-30 Safety-	16-bit geometry, rotation and strobe
09	Zone Workflow Maintenance &	Practical setup sequence and persistence behavior
10	Troubleshooting Warranty &	Cleaning, cooling, storage and fault checks
11	Service Record	Warranty terms, exclusions and repair log

Document convention: Values and functions reproduce the supplied product documentation. Where the original DMX table expresses coarse/fine pairs as a single 16-bit number, this manual presents them as paired channels for clarity.

01

Safety Instructions

DANGER - LASER RADIATION	Never stare into thelaser aperture or deliberately expose eyes or skin to the beam. Do not aim the output at mobile phones, cameras, surveillance cameras or other optical sensors at close range.

All personnel involved in installation, operation or maintenance should understand the following requirements:

- Only personnel with appropriate electrical and technical competence should install or service the fixture.
- When a beam is held at a single point, keep combustible materials at least 10 m away from the output path, as specified in the supplied documentation.
- Do not project laser energy onto people. Avoid direct exposure to the eyes and skin.
- Do not point phone cameras, video cameras or security cameras directly into the laser aperture at close distance; concentrated laser energy can damage imaging sensors.
- Confirm that the mains voltage matches the fixture rating before connection. The allowed input range is 100-240 VAC, 50/60 Hz.
- The protective earth connection is mandatory. The grounding conductor is identified as yellow/green in the supplied documentation.
- Do not operate the fixture in an environment with excessive vibration or impact.
- Do not open or modify the unit unless you are an authorized, qualified service technician.
- Stop operation immediately if serious abnormal behavior occurs and contact the distributor or manufacturer for inspection.

Operator Responsibility	The manufacturer documentation states that accidents or losses caused by operation outside the instructions, or by unauthorized modification, are not the manufacturer's responsibility.

For outdoor use, preserve the integrity of the enclosure and cable interfaces. IP65 protection does not replace correct installation, grounding, cable management or routine inspection.

02

Installation & Pre-Power Checks

Before energizing the O9, inspect the fixture and installation carefully.This is especially important after transport, long-term storage or outdoor deployment.

Pre-Power Inspection

- Checkthechassis,mountingbracket, fasteners and laser output windows for shipping damage or looseness.
- Verify the fixture is mechanically secure. For elevated mounting, use an independent secondary safety method in addition to the primary mounting hardware.
- Confirm the mains supply is within 100-240 VAC at 50/60 Hz and that protective earth is effective.
- Keep ventilation paths unobstructed so the built-in forced-air cooling system can operate correctly.
- Make sure the beam path is controlled and does not intersect people, cameras, reflective hazards or combustible materials.
- For multi-fixture installations, maintain consistent alignment and module spacing to support synchronized visual effects.

Mounting Orientation

The supplied documentation allows both horizontal and vertical installation. The six laser modules are arranged at consistent spacing so multiple fixtures can be combined into wider synchronized arrays.

Recommended Commissioning Sequence

STEP	CHECK	ACTION
1	MECHANICAL	Secure the fixture and secondary safety. Confirm bracket adjustment is locked.
2	ELECTRICAL	Verify supply voltage, grounding and weather-protected connections.
3	BEAM PATH	Establish a controlled projection zone before enabling output.
4	CONTROL	Select DMX512, Auto Mode or ILDA Input as required.
5	OUTPUT	Start with reduced brightness / safe-zone settings, then verify alignment.

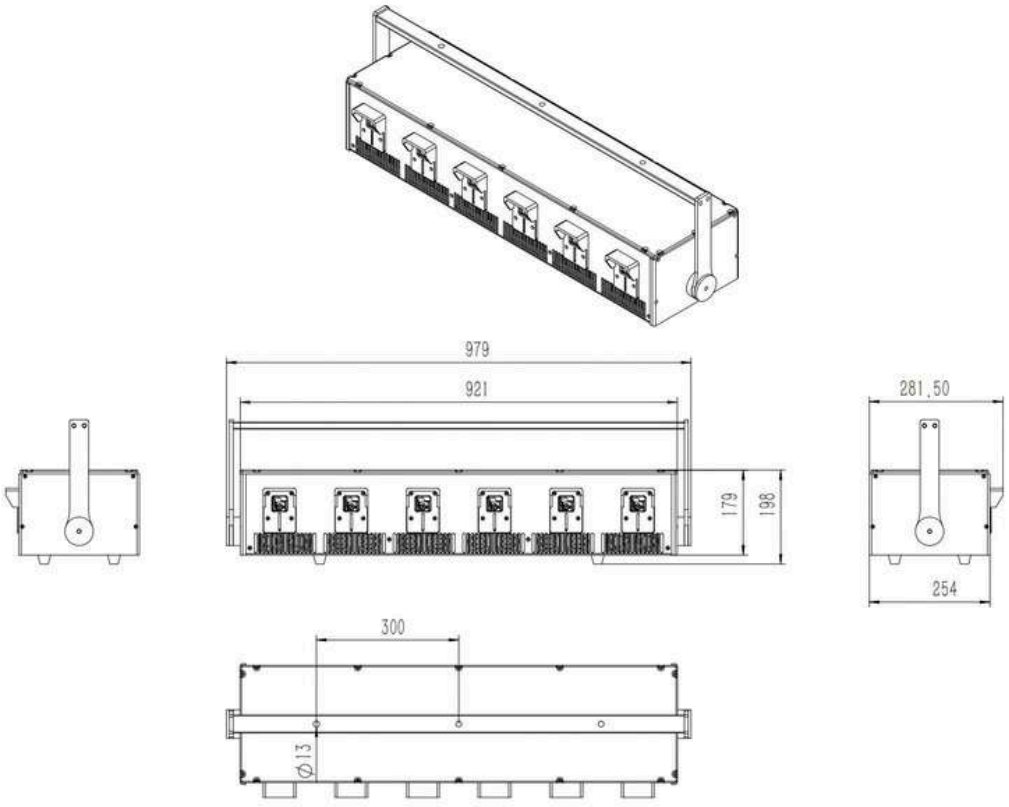
Grounding The original warranty conditions specifically require effective grounding of the product power supply.

03

Technical Specifications

PARAMETER	VALUE	PARAMETER	VALUE
Product	O9 60W RGB Waterproof Laser	Laser source configuration	R: 6 x 3W / 638 nm; G: 6 x 3W / 525 nm; B: 6 x 5W / 455 nm
Nominal laser output	60W RGB	Laser source brand	Nichia (Japan), as stated in supplied documentation
Input power	100-240 VAC, 50/60 Hz	Rated electrical power	600 W
Power supply	Mornsun / Mean Well	DMX capacity	180 channels total (source specification)
Scan angle	Max. 50 degrees	Scanner	GS-45 high-speed scanner optimized for animation
Laser content	Text / patterns / animation / beams / logos / custom content	Optical structure	Dual-layer design; optical path layer fully sealed
Cooling	High-speed forced-air cooling with built-in fans	Ingress protection	IP65
Operating temperature	-40 C to +45 C	Laser source life	More than 20,000 hours
Net weight	33 kg	Dimensions	97.9 x 28.1 x 19.8 cm
Output protection	Automatic blackout if beam energy remains concentrated at the minimum point for too long	Modulation	100 kHz analog modulation; RGB power adjustable 0-100%
Control options	DMX mode / Auto mode / ILDA input via menu	Internal content	Up to approximately 2,000 optimized programs described in source documentation

Product Dimensions



Dimension drawing reproduced from the supplied product documentation. Dimensions shown in millimeters.

STARSHINE LIGHTS PRODUCT MANUAL

04

Product Highlights

01 Six independent RGB laser modules
Six independently arranged laser sources with beam shaping are used to create consistent beam spots and color. The source documentation specifies more than 10 W per module and more than 60 W for the complete fixture.

02 Multi-fixture structural design
Horizontal or vertical deployment is supported. Consistent spacing and color tuning are intended to make adjacent fixtures read as a continuous, coordinated laser array.

03 High-speed GS-45 scanning
The scanner system is described as being optimized for animation, geometric accuracy and reduced visible flicker, including improved stability for camera capture in concerts, festivals and stadium-scale shows.

04 Dedicated six-head control system
A dedicated controller synchronizes the six laser modules. The original documentation describes an internal program library of up to 2,000 programs with optimized color balance and synchronized multi-head playback.

05 Per-module safety-zone control
Output area can be configured per module to help avoid sensitive zones such as cameras or audience areas. Position and size settings are stored after power-off; maximum brightness is not stored.

Application Profile	Designed for professional outdoor laser effects, synchronized beam arrays, animation, text, logos and custom show content. Typical use cases described by the source include concerts, electronic music festivals and stadium-scale productions.

05

Control Panel & Main Menu

MENU	FUNCTION
Operation Mode	Select DMX512, Auto Mode or ILDA Input
DMX Config	Set DMX start address and timeout
Auto Setup	Configure module 1-6 geometry and brightness
System Setup	System reset / factory reset
Device Info	View local/module information plus hardware and firmware versions
Exit Menu	Return / leave the menu

Operation Mode

OPTION	DESCRIPTION	DEFAULT
DMX512	DMX playback / external DMX control	Selected
Auto Mode	Internal autonomous playback	-
ILDA Input	External ILDA signal playback	-

DMX Config

SETTING	RANGE	DEFAULT	DESCRIPTION
Start Addr	1-512	1	DMX start address
Timeout	1-20	3	DMX timeout setting

Navigation Use the + and - keys to change or move through settings and the OK key to confirm. Status indicators identify DMX, AUTO, ILDA and RUN states on the control panel.

06

Auto Setup & Device Information

Auto Setupprovidesadedicatedsettings blockfor Channel1throughChannel6,corresponding to the six laser modules described in the product documentation.

Per-Module Parameters

PARAMETER	RANGE	DEFAULT
Master Size	0-255	255
X Scale	0-255	255
Y Scale	0-255	255
X Position	-127 to +127	0
Y Position	-127 to +127	0
Brightness	0-255	255
Red	0-255	255
Green	0-255	255
Blue	0-255	255

System Setup

ITEM	FUNCTION
System Reset	Restore factory settings

Device Info

ITEM	DESCRIPTION
Local	Main controller information
Channel 1-6	Information for each laser module
Hardware	Hardware version
Firmware	Firmware / software version

Setup Tip Before programming a show, verify each module's X/Y position, scale and brightness independently. This makes multi-module alignment and safety-zone configuration much faster.

07

DMX512 Control - Channels 1-16

Theproduct specificationlists 180 DMX channels. Thesource DMXfunction tabledefines a30-channel controlblock. Forasix-module fixture, this is consistentwith six30-channel blocks;the tablebelow reproduces the 30-channel function set in a clearer English format.

CH	FUNCTION	VALUE	RESULT	DEF.	NOTE
CH1	Control Type	0-199	Blackout	0	200-219 = safety-zone setup; 220-255 = normal output
CH2	Safety Max Brightness	0-255	0-100%	0	Active during safety-zone setup; brightness value is not saved after power-off
CH3	Safety X Size	0-255	0-100%	255	Safety-zone horizontal size; saved
CH4	Safety Y Size	0-255	0-100%	255	Safety-zone vertical size; saved
CH5	Safety X Offset	0 / 127-128 / 255	-100% / 0% / +100%	128	Saved
CH6	Safety Y Offset	0 / 127-128 / 255	-100% / 0% / +100%	128	Saved
CH7	Page Index	0; 1-11; 255	Blackout; Page 1-11; no program	0	Only Pages 1-11 are listed as available
CH8	Cue Index	0; 1-255	Blackout; Cue 1-255	0	Number of cues varies by page
CH9	Brightness	0-255	0-100%	0	Master brightness
CH10	Red	0-255	0-100%	255	Scales the pattern original red value
CH11	Green	0-255	0-100%	255	Scales the pattern original green value
CH12	Blue	0-255	0-100%	255	Scales the pattern original blue value
CH13	Scanner Speed	0-31; 32-223; 224-255	Original; 5k-25k; 25k	0	Speed values reproduced from source table
CH14	Original / RGB Convert	0-31; 32-223; 224-255	Original; RGB convert; white	0	Color-processing mode
CH15	Progressive Draw Start	0-255	0-100%	0	Pattern start-point position
CH16	Progressive Draw End	0-255	0-100%	255	Pattern end-point position

08

DMX512 Control - Channels 17-30

16-BitChannel Pairs	Thesource tableexpresses Channels 17-28 as 16-bitvalues from 0 to65,535. In practice, the coarse and fine channel in each pair combine to form one high-resolution parameter.

CHANNEL	FUNCTION	RANGE / ACTION	DEFAULT
CH17-18	Master Size (coarse/fine)	0 = -100%; 32767-32768 = 0; 65535 = +100%	65535
CH19-20	X Size (coarse/fine)	0 = -100%; 32767-32768 = 0; 65535 = +100%	65535
CH21-22	Y Size (coarse/fine)	0 = -100%; 32767-32768 = 0; 65535 = +100%	65535
CH23-24	X Position (coarse/fine)	0 = -100%; 32767-32768 = 0; 65535 = +100%	32768
CH25-26	Y Position (coarse/fine)	0 = -100%; 32767-32768 = 0; 65535 = +100%	32768
CH27-28	Z Angle (coarse/fine)	0 = 0 degrees; 65535 = 360 degrees	0
CH29	Z Rotation	0 = normal; 1-127 = -100% to -1%; 128 = hold angle / stop; 129-255 = +1% to +100%	0
CH30	Strobe	0 = no strobe; 1 = 1 Hz; 255 = 20 Hz	0

Rotation Note

Theoriginal documentation describes continuous Z-axis rotation over approximately -60 to +60 revolutions perminute,controlledaroundtheneutral stop value at 128.

Programming Recommendation

- Program and test a safety zone before enabling high-brightness content.
- Use the 16-bit geometry pairs for smooth positioning and size changes.
- When building multi-fixture cues, verify all six module blocks are addressed correctly before increasing output.
- Use gradual brightness and strobe transitions when testing a new scene to reduce unintended exposure.

09

Safety-Zone Workflow

TheO9 control system includes adedicatedsafety-zoneconfiguration method. The original documentation highlights this feature for avoiding sensitive areas such as cameras or audience zones when the wide six-head output is used.

DMX Setup Sequence

STEP	ACTION	DMX INSTRUCTION
1	Enter setup	Set CH1 to 200-219.
2	Limit brightness	Use CH2 to set a temporary maximum brightness for setup.
3	Set width / height	Use CH3 and CH4 for safety-zone X/Y size.
4	Set position	Use CH5 and CH6 for safety-zone X/Y offset.
5	Verify the excluded area	Confirm the programmed output does not enter restricted zones.
6	Return to normal output	Set CH1 to 220-255.

Persistence Behavior

SETTING	POWER-CYCLE BEHAVIOR
Safety-zone maximum brightness (CH2)	Not saved after power-off
Safety-zone position and size (CH3-CH6)	Saved and automatically reused at next power-on

Important Incorrect safety-zone settings can cause the fixture to produce no output. If expected output is missing, review CH1 and the saved safety-zone size/position values before troubleshooting the laser source itself.

Practical Show-Site Use

- Useseparatesafetyzones foreachmodule when the fixture is used close to camera positions.
- Re-check saved zones after the fixture is physically moved, rotated or mounted at a different height.
- Treat saved settings as configuration aids, not as a substitute for responsible beam placement and site-specific laser safety controls.

10

Maintenance & Troubleshooting

Routine maintenance helps preserve optical output,scan qualityand thermal performance.

Maintenance

- Keepdust,dirt,smoke fluid and residue away from the fixture and especially from the laser output windows.
- Clean optical windows regularly with suitable professional optical/glass-cleaning materials. The source manual recommends a monthly cleaning interval under typical use.
- Keep cooling inlets and outlets clear. Inspect fans for abnormal noise, blockage or reduced airflow.
- Do not disassemble the fixture for routine cleaning. Internal servicing should be performed by qualified personnel.
- Avoid long-duration static projection at minimum spot size. The fixture includes an automatic blackout protectionfunction when beamenergy remains concentrated at the smallest point for too long.

Quick Troubleshooting

SYMPTOM	CHECK / ACTION
No laser output	Check CH1 control type, saved safety-zone size/offset, master brightness, selected page/cue, operating mode and DMX addressing.
DMX control unstable	Verify start address, cable/signal chain, DMX timeout setting and controller output.
Uneven module alignment	Review Auto Setup X/Y position and scale for Channels 1-6; confirm fixture mounting is rigid.
Color imbalance	Check per-module Red/Green/Blue values and DMX CH10-CH12 scaling.
Overheating / shutdown	Clear ventilation paths, inspect cooling fans and confirm the ambient temperature is within -40 C to +45 C.
Output appears to flicker	Review scanner speed, content complexity, camera shutter settings and control signal stability.

Service If a serious fault persists, stop using the fixture and contact the distributor or manufacturer. The supplied documentation states that there are no user-serviceable internal parts for unqualified personnel.

11

Warranty & Service Record

Warranty Coverage

The suppliedocumentation provides a three-year free warranty for damage caused by product quality defects, followed by lifetime maintenance service. After the three-year period, repair labor and replacement parts may be charged at cost. Product software is described as eligible for free later upgrades,with ongoing technical support and a 24-hour technical hotline.

Warranty Exclusions

- Incorrect installation.
- Use of an incorrect or incompatible supply voltage.
- Improper operation contrary to the user instructions.
- Unauthorized repair or modification.
- Insufficient routine maintenance.
- Failure to provide the required operating environment.
- Damage caused by secondary transportation by the user.
- System failure caused by third-party software or viruses.
- Force-majeure events such as lightning, earthquake, tsunami, flood or other accidents beyond reasonable control.
- Failure to provide an effective protective-earth connection.

Service Record

DATE SENT	FAULT / SERVICE PERFORMED	DATE RETURNED	CUSTOMER SIGNATURE

Manufacturer / Brand: STARSHINE LIGHTS | Website: www.starshinelights.com

Keep purchase documentation, serial information and service records with this manual for future reference.