



PROFESSIONAL LASER SERIES

M6

RGB MOVINGHEADLASER / 3D LED RING

5W / 10WRGBLASER|30KPPS|20/25CHDMX | ILDA / ART-NET

**5W / 10W**

RGB LASER POWER

30K PPS

GALVO SCANNING

20 / 25 CH

DMXPROFILES

540 / 270 deg

PAN / TILT

PRODUCT OVERVIEW

Thank you for choosing the Starshine M6. This professional moving head laser combines RGB animation output, a three-layer 3D LED halo, wide pan/tilt movement and multiple control workflows for clubs, DJs, stage productions and live entertainment. The M6 supports DMX512, standalone and sound-active operation, ILDA via DB25, and network control through RJ45 / Art-Net. A 30K PPS galvanometer system and 256 built-in animation patterns provide smooth graphics, beam effects and programmable motion.

! BEFORE POWERING ON

Inspect the housing, mounting points, power cable, laser aperture, ventilation openings and safety hardware. Confirm that the mains supply is within AC 100-240 V, 50/60 Hz.

! LASER SAFETY

High-power laser product. Never aim the beam into eyes, occupied audience zones, roads, vehicles or aircraft. Use only trained operators and comply with all local laser-safety rules.





TECHNICAL PARAMETERS

Item	Specification
Product Model	M6 - 5W / M6 - 10W
Product Type	RGB moving head animation laser with three-layer 3D LED ring
Power Supply	AC 100-240 V, 50/60 Hz
Rated Power	300 W
Laser Color	RGB full color
Laser Power Options	RGB 5 W or RGB 10 W
Laser Source - 10W	R: 3 W / 638 nm; G: 3 W / 525 nm; B: 4 W / 447 nm
Laser Source - 5W	R: 1 W; G: 1 W; B: 3 W (factory configuration)
Built-in Patterns	256 laser animation patterns
Scanning System	30K PPS galvanometer scanning
Scanning Angle	+/- 20 deg
Movement Range	Pan 540 deg; Tilt 270 deg
Stepper Motors	2 x 57-series two-phase stepper motors
LED Ring	Three-layer 3D RGB LED halo around the laser aperture
Control Modes	DMX512, auto run, sound-active, master/slave, ILDA (DB25), Art-Net (RJ45)
DMX Profiles	20CH / 25CH
Software Compatibility	Pangolin QuickShow / FB3 / FB4, Phoenix, and other ILDA-compatible software
Protection	Automatic electronic ILDA switching, scanner error protection, laser output safety protection
Cooling	Forced-air fan cooling
Recommended Environment	Indoor, dry, low-dust; 0-35 C ambient temperature
Fixture Size (W x D x H)	31 x 25 x 47 cm
Net Weight	9.3 kg
Packing Size	50 x 34 x 35 cm
Gross Weight	10.5 kg

CONTROL MODE SUMMARY

Mode	How to Select	Primary Use
DMX512	Select DMX mode, choose 20CH or 25CH, then set the DMX start address.	Console control of pan/tilt, patterns, color, strobe, scanning effects, LED ring and reset.
Auto / Sound	Quick Play -> Auto or Sound.	Controller-free playback using built-in shows; sound mode responds to the internal microphone.
ILDA DB25	ILDA Mode -> DB25. The fixture can detect an ILDA cable.	Laser-show software and DAC workflows for custom graphics and timelines.
Network / Art-Net	Select the RJ45 network mode manually when required.	Network-based integration with supported control software and lighting systems.
Master / Slave	Enable Master on the source fixture; set linked fixtures to DMX+Slave.	Synchronized playback across compatible M6 fixtures.

LCD CONTROL - DMX, QUICK PLAY AND ILDA

Use the LCD/encoder interface to select operating modes, adjust laser output parameters and check signal status. Menu labels can vary slightly with firmware revision.

Menu	Function	Setting / Example	Description
DMX Control	DMX Setup	DMX+Slave	Use for slave fixtures when a master fixture is controlling a linked DMX512 chain.
DMX Control	DMX Setup	DMX512	Standard DMX512 control mode.
DMX Control	Channel Profile	20CH	Normal channel profile.
DMX Control	Channel Profile	25CH	Professional / extended channel profile.
DMX Control	Address	001-512	Set the DMX starting address.
DMX Control	DMX Signal	Connected / Disconnected	Shows whether a DMX signal is being received.
DMX Control	State Info	Laser ON / OFF	Displays laser-output status.
Quick Play	Trigger	Auto	Runs built-in automatic programs.
Quick Play	Trigger	Sound	Runs built-in programs with sound activation.
Quick Play	Playing	Show: All	Select a built-in show; All cycles through the complete show library.
Quick Play	Playlist	List: All	Select a playlist; All includes the complete internal list.
Quick Play	Size X	0-100	Adjust horizontal size of standalone patterns.
Quick Play	Size Y	0-100	Adjust vertical size of standalone patterns.
Quick Play	Brightness	0-255	Adjust overall standalone laser brightness.
Quick Play	Auto Speed	0-100	Adjust automatic playback speed.
Quick Play	Sensitivity	0-100	Adjust sound-control microphone sensitivity.
ILDA Mode	Input	ILDA-DB25	Select DB25 ILDA input; cable detection is automatic on supported firmware.
ILDA Mode	Network	RJ45 / Art-Net	Select network input manually when using network control. Some firmware may label this ILDA-NET.
ILDA Mode	Signal Status	Connected / Disconnected	Shows whether the selected ILDA/network signal is present.

MODE-SWITCHING NOTE

When changing between ILDA/network input and other operating modes, stop laser output first. Some firmware requires the active mode to be shut down before a new input mode can be selected.





LCD CONTROL - LASER SETUP, SYSTEM AND MOVING HEAD

Menu	Function	Setting / Example	Description
Laser Setup	Scan Rate	30K PPS	Set the galvanometer scan speed.
Laser Setup	Test Pattern	Pattern 1, etc.	Select a test pattern for setup and alignment.
Laser Setup	Color	RGB	Select full-color output mode.
Laser Setup	R / G / B Max	0-255	Set the maximum output level for each laser color.
Laser Setup	Invert X	Yes / No	Reverse horizontal scan orientation.
Laser Setup	Invert Y	Yes / No	Reverse vertical scan orientation.
Laser Setup	Swap XY	Yes / No	Exchange X and Y scan axes.
Laser Setup	XY Size	X 0-100 / Y 0-100	Adjust horizontal and vertical scan size.
Laser Setup	XY Offset	X / Y around 128	Adjust scan position. Out-of-range positions can trigger laser blanking.
Settings	Safety	ON / OFF	When ON, single-point output is suppressed. Keep safety protection ON for normal operation.
Settings	Master	ON / OFF	Enable or disable master/slave source operation.
Settings	Laser Type	TTL / Analog*	Select modulation type where supported by the installed configuration. Automatically enter DMX when a signal is received, or require manual DMX selection.
Settings	DMX Trigger	Trigger Run / Manual Run	Enable or disable laser temperature monitoring where supported.
Settings	Temperature	ON / OFF	
System	Language	English / Chinese	Select menu language.
System	Backlight	Always On / 15s Off / 15s Lock	Control LCD backlight timeout and screen lock.
System	Display	Normal / 180 deg	Rotate the display for installation orientation.
System	Factory Default	Confirmation value	Restore factory settings after confirmation.
System Info	Version / Hardware / App / Firmware	Read-only	Displays installed firmware and hardware information; values vary by batch.
Moving Head	Move Show	Show / Speed	Select built-in moving-head motion and movement speed.
Moving Head	Run Manual	Pan / Tilt	Manually position the moving head for setup.
Moving Head	Move Phase	Pan / Tilt phase	Reverse movement phase if required.
Moving Head	LED Show	Show / Speed / Brightness	Select LED-ring effects, speed and brightness.

* Availability of TTL/analog selection depends on the laser module and installed firmware. If the menu differs from this manual, use the options shown on the fixture.

DMX512 - 20CH NORMAL PROFILE (CHANNELS 1-10)

All values are decimal values from 0 to 255. Channel ranges are based on the manufacturer-supplied M6 control chart.

CH	Function	DMX Value	Description / Remark
1	Pan	0-255	Horizontal motor position.
2	Pan Fine	0-255	16-bit fine pan adjustment.
3	Tilt	0-255	Vertical motor position.
4	Tilt Fine	0-255	16-bit fine tilt adjustment.
5	Laser Dimmer / Enable	0	Laser output OFF.
5	Laser Dimmer / Enable	1-255	Laser output ON; brightness increases from low to high.
6	Pattern / Gobo Mode	0-26	Pattern / gobo playback mode.
6	Auto Mode	27-127	Automatic mode; value controls auto speed.
6	Sound Mode	128-255	Sound-active mode; value controls microphone sensitivity.
7	Pattern Group	0-127	Select a static pattern group; approximately one group per 16 values.
7	Dynamic Effect Group	128-255	Select a dynamic-effect group; approximately one group per 16 values.
8	Pattern Selection	0-255	Select a pattern; approximately one pattern per 5 values.
8	Dynamic Effect Selection	0-1	Play all effects in the selected dynamic-effect group.
8	Dynamic Effect Selection	2-255	Select a dynamic effect; approximately one effect per 2 values.
9	Strobe	1-255	Strobe speed from slow to fast.
10	Color	0-3	Original / source color.
10	Color	4-31	Fixed seven-color selection; approximately one color per 4 values.
10	Color	32-35	Rainbow color-change effect.
10	Color	36-39	RGB three-color change effect.
10	Color	40-43	Original-color change effect.
10	Color	44-239	Combined streaming color effects; approximately one effect per 4 values.
10	Color	240-255	Progressive / gradual drawing color effect.





DMX512 - 20CH NORMAL PROFILE (CHANNELS 11-20)

CH	Function	DMX Value	Description / Remark
11	Color Speed	0-3	Color movement OFF.
11	Color Speed	4-127	Forward color movement, slow to fast.
11	Color Speed	128-255	Reverse color movement, slow to fast.
12	Pattern Rotation	0-127	Select rotation angle / position.
12	Pattern Rotation	128-192	Forward rotation speed selection.
12	Pattern Rotation	193-255	Reverse rotation speed selection.
13	Horizontal Move	0-127	Horizontal pattern position.
13	Horizontal Move	128-255	Horizontal movement speed.
14	Vertical Move	0-127	Vertical pattern position.
14	Vertical Move	128-255	Vertical movement speed.
15	Zoom	0-127	Pattern size from large to small.
15	Zoom	128-255	Automatic zoom speed.
16	Wave	1-127	Horizontal wave speed.
16	Wave	128-255	Vertical wave speed.
17	LED Ring Effect	0-5	LED ring OFF.
17	LED Ring Effect	8-255	Select an LED-ring effect; approximately one effect per 8 values.
18	LED Ring Effect Speed	0-255	LED-ring effect speed from slow to fast.
19	Pan / Tilt Speed	0-255	Moving-head motor speed from fast to slow.
20	System Reset	0-250	No reset.
20	System Reset	251-255	Hold in this range for approximately 3 seconds to reset the moving-head system.

QUICK DMX SETUP

- 1 Connect the controller DMX OUT to the first M6 DMX IN and link additional fixtures as required.
- 2 On the fixture, select DMX512 and choose the 20CH profile.
- 3 Set a unique DMX starting address for each independently controlled fixture.
- 4 Raise Channel 5 above zero to enable laser output, then select the required pattern and color channels.
- 5 For master/slave operation, enable Master on the source fixture and place linked fixtures in DMX+Slave mode.

DMX512 - 25CH PRO PROFILE (CHANNELS 1-12)

CH	Function	DMX Value	Description / Remark
1	Pan	0-255	Horizontal motor position.
2	Pan Fine	0-255	16-bit fine pan adjustment.
3	Tilt	0-255	Vertical motor position.
4	Tilt Fine	0-255	16-bit fine tilt adjustment.
5	Laser Dimmer / Enable	0	Laser output OFF.
5	Laser Dimmer / Enable	1-255	Laser output ON; brightness increases from low to high.
6	Auto Playback	0-26	Default standalone playback speed.
6	Auto Playback	27-127	Automatic mode; value controls playback speed.
6	Sound Control	128-255	Sound-active mode; value controls microphone sensitivity.
7	Pattern Group	0-127	Select a static pattern group; approximately one group per 16 values.
7	Dynamic Effect Group	128-255	Select a dynamic-effect group; approximately one group per 16 values.
8	Pattern Selection	0-255	Select a pattern; approximately one pattern per 5 values.
8	Dynamic Effect Selection	0-1	Play all effects in the selected dynamic-effect group.
8	Dynamic Effect Selection	2-255	Select a dynamic effect; approximately one effect per 2 values.
9	Strobe	1-255	Strobe speed from slow to fast.
10	Color	0-3	Original / source color.
10	Color	4-31	Fixed seven-color selection; approximately one color per 4 values.
10	Color	32-35	Rainbow color-change effect.
10	Color	36-39	RGB three-color change effect.
10	Color	40-43	Original-color change effect.
10	Color	44-239	Combined streaming color effects; approximately one effect per 4 values.
10	Color	240-255	Gradual / progressive rendering effect.
11	Color Speed	0-3	Color movement OFF.
11	Color Speed	4-127	Forward color movement, slow to fast.
11	Color Speed	128-255	Reverse color movement, slow to fast.
12	Scan Speed	0-127	Line-scan speed selection.
12	Scan Speed	128-255	Point-scan speed selection.





DMX512 - 25CH PRO PROFILE (CHANNELS 13-25)

CH	Function	DMX Value	Description / Remark
13	Z Rotation	0-127	Select Z-axis rotation angle.
13	Z Rotation	128-255	Z-axis rotation speed.
14	X Rotation	0-127	Select X-axis rotation angle.
14	X Rotation	128-255	X-axis rotation speed.
15	Y Rotation	0-127	Select Y-axis rotation angle.
15	Y Rotation	128-255	Y-axis rotation speed.
16	Horizontal Move	0-127	Horizontal pattern position.
16	Horizontal Move	128-255	Horizontal movement speed.
17	Vertical Move	0-127	Vertical pattern position.
17	Vertical Move	128-255	Vertical movement speed.
18	Zoom	0-127	Pattern size from large to small.
18	Zoom	128-255	Automatic zoom speed.
19	Progressive Drawing	1-255	Progressive drawing speed.
20	Wave	1-127	Horizontal wave speed.
20	Wave	128-255	Vertical wave speed.
21	LED Ring Effect	0-5	LED ring OFF.
21	LED Ring Effect	8-255	Select an LED-ring effect; approximately one effect per 8 values.
22	LED Ring Effect Speed	0-255	LED-ring effect speed from slow to fast.
23	LED Ring Strobe	0-255	LED-ring strobe speed from slow to fast.
24	Pan / Tilt Speed	0-255	Moving-head motor speed from fast to slow.
25	System Reset	0-250	No reset.
25	System Reset	251-255	Hold in this range for approximately 3 seconds to reset the moving-head system.

i PROFILE NOTE

The 25CH profile adds independent 3D pattern rotations, separate scan-speed control, progressive drawing and an LED-ring strobe channel. Use this profile when detailed laser animation control is required.

CONTROL WORKFLOWS AND PROGRAMMING NOTES

Workflow	Connection / Setup	Recommended Use
DMX512	Select 20CH or 25CH, set the DMX address, connect the console, then verify DMX Signal = Connected.	Venue lighting consoles, cue stacks, synchronized motion, color, pattern and LED-ring control.
ILDA / DB25	Connect a compatible ILDA DAC/interface to DB25 IN, select ILDA-DB25, then verify ILDA signal status.	Custom laser graphics, logos, timelines and advanced show programming.
Art-Net / RJ45	Connect the RJ45 network port to a supported control network and select network mode manually.	Networked lighting systems and software workflows that support the M6 network implementation.
Auto Run	Quick Play -> Auto; select show/playlist, size, brightness and speed.	Simple controller-free playback for bars, lounges and mobile setups.
Sound Active	Quick Play -> Sound; adjust microphone sensitivity.	Music-responsive built-in effects where exact cue timing is not required.
Master / Slave	Set the source fixture as Master; set linked fixtures to DMX+Slave.	Matched built-in playback across multiple compatible M6 units.

LASER SOFTWARE AND ILDA NOTES

- **Software compatibility:** The M6 can be used with Pangolin QuickShow / FB3 / FB4, Phoenix and other ILDA-compatible software when paired with a suitable DAC/interface.
- **Scanner setup:** The factory specification is 30K PPS with a maximum scan angle of approximately +/-20 deg. Use conservative scan size and speed settings when testing new content.
- **XY correction:** Use Invert X, Invert Y, Swap XY, XY Size and XY Offset to align projected content to the installation orientation.
- **Brightness limits:** R Max, G Max and B Max can be used to limit individual color output. Save venue-specific limits where appropriate.
- **Safety protection:** Keep the fixture safety function enabled for normal operation so single-point output is suppressed where supported.





MOVEMENT AND EFFECT TIPS

Area	Programming Guidance
Pan / Tilt	Use 16-bit fine channels for precise repositioning. Keep movement speed slower for smooth scenic transitions and faster for high-energy club cues.
Pattern Size	Use Zoom plus XY Size to keep graphics within a safe projection zone.
Pattern Motion	Use rotation, horizontal/vertical movement, wave and progressive drawing channels to animate static patterns.
LED Halo	The three-layer RGB LED ring can run as a visual accent independently from laser content in DMX mode.
Haze / Atmosphere	A suitable haze level can make airborne laser beams more visible, but do not use atmosphere effects to justify unsafe audience exposure.

SAFETY, INSTALLATION AND MAINTENANCE

DISCONNECT POWER BEFORE SERVICE

Disconnect mains power before installation, cleaning, inspection or maintenance. Allow the fixture to cool before touching the housing, optics or internal components.

- Read this manual and understand local laser regulations before operation.
- Indoor use only unless the specific fixture has an approved outdoor rating. Keep the M6 dry and protect it from rain, condensation and prolonged humidity.
- Use a properly grounded AC 100-240 V, 50/60 Hz supply. Do not operate with damaged power or signal cables.
- For overhead mounting, use a rated clamp and an independent safety cable attached to a suitable structural point.
- Never look directly into the laser aperture. Do not project laser beams into audience eye level, public roads, vehicles, aircraft or uncontrolled outdoor airspace.
- Keep ventilation openings clear and maintain free airflow around the cooling fans.
- Keep the fixture away from flammable materials and excessive heat.
- Internal service and laser alignment must be performed by qualified personnel.

RECOMMENDED CLEANING AND INSPECTION

Interval	Procedure
Weekly	Wipe the outer housing with a soft, slightly damp, lint-free cloth.
Monthly	Clean the laser aperture and optical surfaces carefully with suitable optical-cleaning materials.
Monthly	Remove dust from ventilation openings and verify unobstructed fan airflow.
Before overhead use	Inspect mounting points, clamp hardware and the independent safety cable.
As required	Stop operation if there is abnormal noise, odor, excessive heat, unstable movement, scanner error or unexpected laser output.

TROUBLESHOOTING QUICK CHECK

Symptom	Check
No laser output	Verify Channel 5 / laser enable, Safety setting, active control mode, signal connection and any scanner-protection status.
DMX not responding	Confirm DMX mode, start address, 20CH/25CH profile, cable path, termination and DMX Signal status.
ILDA not responding Network	Confirm DB25 cable, DAC output, ILDA-DB25 mode and Signal ILDA status.
control unavailable Patterns	Confirm RJ45 link, network configuration and manually select the network / Art-Net mode supported by the installed firmware.
mirrored or rotated	Use Invert X, Invert Y or Swap XY in Laser Setup.
Movement direction incorrect	Use movement phase / inversion settings or correct the controller personality.

STARSHINE LIGHTS SUPPORT

Product Model: M6 **Website:** www.starshinelights.com

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Keep the product serial number, purchase information and firmware version available when requesting support.

