



LASER SERIES

B13

SIX-HEAD FULL-COLOR ANIMATION LASER LIGHT

17CH per head / 102CH multi-head DMX/full-color animation / built-in dynamic effects



SIX INDEPENDENT FULL-COLOR ANIMATION LASER HEADS

SIX HEADS	17CH	102CH	DMX512
independent laser engines	per-head profile	17 x 6 control	controller ready

PRODUCT OVERVIEW

Thankyou for choosing the StarshineLights B13. This fixture is designed as a six-head full-color animation laser system for professional entertainment environments where animated graphics, segmented color looks and independent multi-head programming are required.

The supplied DMX chart documents a 17-channel control profile for one laser head and a 102-channel multi-head mode using 17 channels for each of the six heads. The manual below translates and restructures that information into a controller-friendly English reference.

BEFORE POWERING ON

Inspect the housing, mounting points, optical apertures, power cable and ventilation openings. Confirm that the mains supply and fuse rating match the product label before connecting power.

LASER SAFETY

Do not stare into any laser aperture. Prevent audience scanning unless permitted by local regulations and performed by qualified personnel with proper safety calculations and control measures.





TECHNICAL PARAMETERS

Item	Specification / Description
Product Model	B13
Product Type	Six-head full-color animation laser fixture
Optical Architecture	Six animation laser heads for multi-zone graphics and color effects
Control Protocol	DMX512
DMX Channel Profiles	17CH single-head profile; 102CH multi-head profile (17CH x 6 heads)
Color Control	Fixed full-color selections, segmented color selections and six color chase programs
Pattern Engine	Built-in pattern groups including geometry/line patterns, letters/numbers, white-edge highlight patterns and dotted graphics
Pattern Transform	Manual size, automatic zoom, center rotation, X-axis and Y-axis rotation, horizontal/vertical movement and X-wave effect
Dynamic Effects	Built-in dynamic effect selection, random effect playback and speed control
Installation Environment	Professional indoor entertainment use unless the fixture rating label states otherwise
Power / Voltage	Follow the specification label on the actual fixture and use a properly grounded supply

CONTROL MODE SUMMARY

Mode	How to Use	Main Use
17CH Single-Head Profile	Patch 17 DMX channels for one head/profile block.	Direct control of dimmer, strobe, color, pattern, movement, wave, tracing and built-in effects.
102CH Multi-Head Profile	Patch 102 consecutive channels: six 17CH blocks.	Independent programming for six heads and complex chase/pixel-style looks.
Built-In Dynamic Effects	Use CH16 for effect selection and CH17 for speed/color behavior.	Fast programming of animated looks without building every parameter manually.
Random Effect Playback	Set CH16 to 254-255.	Controller-driven random automatic effect playback.

DMX CONNECTION NOTES

Step	Action
1	Connect the controller DMX OUT to the B13 DMX IN with a shielded DMX cable.
2	Set the fixture starting address and the desired channel mode before programming.
3	For independent six-head control, reserve 102 consecutive DMX channels with no overlap.
4	Raise CH1 above blackout and then build color, pattern and movement values.
5	Terminate the final fixture on long DMX runs when required.





DMX512 CHANNEL FUNCTIONS - CH1 TO CH4

All values below are decimal DMX values from 000 to 255. In 102CH mode, the same 17-channel block is repeated for Head 1 through Head 6.

CH	Function	DMX Value	Description / Remark
1	Master Dimmer / Laser Shutter	000-009	Laser blackout / closed output.
1	Master Dimmer / Laser Shutter	010-255	Laser output enabled.
2	Strobe	000-009	No strobe.
2	Strobe	010-255	Strobe speed increases from slow to fast.
3	Color Selection	000-034	Fixed color selection: white, red, blue, pink, cyan, yellow and green.
3	Color Selection	035-039	Overall color change. Running speed is controlled by CH4.
3	Color Selection	040-044	Default color program. Running speed is controlled by CH4.
3	Color Selection	045-048	Rainbow color program. Running speed is controlled by CH4. 2-
3	Color Selection	049-064	segment color selection; 4-value stepping. Speed by CH4. 3-
3	Color Selection	065-084	segment color selection; 4-value stepping. Speed by CH4. 4-
3	Color Selection	085-100	segment color selection; 4-value stepping. Speed by CH4. 8-
3	Color Selection	101-116	segment color selection; 4-value stepping. Speed by CH4. 16-
3	Color Selection	117-164	segment color selection; 4-value stepping. Speed by CH4. 32-
3	Color Selection	165-212	segment color selection; 4-value stepping. Speed by CH4.
3	Color Chase	213-219	Color chase program 1. Speed by CH4.
3	Color Chase	220-226	Color chase program 2. Speed by CH4.
3	Color Chase	227-233	Color chase program 3. Speed by CH4.
3	Color Chase	234-240	Color chase program 4. Speed by CH4.
3	Color Chase	241-247	Color chase program 5. Speed by CH4.
3	Color Chase	248-255	Color chase program 6. Speed by CH4.
4	Color Chase Speed	000-009	No color running/chase movement.
4	Color Chase Speed	010-127	Forward color running, speed from slow to fast.
4	Color Chase Speed	128-255	Reverse color running, speed from slow to fast.

DMX512 CHANNEL FUNCTIONS - CH5 TO CH13

CH	Function	DMX Value	Description / Remark
5	Pattern Selection	000-255	Select built-in pattern. Pattern group is selected by CH6. Built-
6	Pattern Group	000-050	in pattern group 1: basic geometry and line patterns. Built-in
6	Pattern Group	051-101	pattern group 2: basic geometry and line patterns. Built-in
6	Pattern Group	102-152	pattern group 3: English letters and Arabic numerals. Built-in
6	Pattern Group	153-203	pattern group 4: patterns with white highlighted edges. Built-in
6	Pattern Group	204-255	pattern group 5: dotted-point graphic patterns.
7	Pattern Size	000-255	Manual pattern size selection.
8	Automatic Zoom	000-015	Static size selection / no automatic zoom.
8	Automatic Zoom	016-055	Zoom from small to large; speed selection.
8	Automatic Zoom	056-095	Zoom from large to small; speed selection.
8	Automatic Zoom	096-135	Continuous zoom speed selection.
8	Automatic Zoom	136-175	Two-part irregular cyclic zoom.
8	Automatic Zoom	176-215	Four-part irregular cyclic zoom.
8	Automatic Zoom	216-255	Four-part irregular cyclic zoom variation.
9	Center Rotation	000-127	Manual rotation angle selection around the center.
9	Center Rotation	128-191	Forward rotation speed selection.
9	Center Rotation	192-255	Reverse rotation speed selection.
10	X-Axis Rotation	000-127	Horizontal flip / X-axis position selection.
10	X-Axis Rotation	128-255	Horizontal flip / X-axis rotation speed selection.
11	Y-Axis Rotation	000-127	Vertical flip / Y-axis position selection.
11	Y-Axis Rotation	128-255	Vertical flip / Y-axis rotation speed selection.
12	Horizontal Movement	000-255	Horizontal position selection.
13	Vertical Movement	000-255	Vertical position selection.





DMX512 CHANNEL FUNCTIONS - CH14 TO CH17

CH	Function	DMX Value	Description / Remark
14	X-Direction Wave	000-009	No wave effect.
14	X-Direction Wave	010-255	Wave amplitude and speed adjustment. The range is divided into 8 levels, with approximately 32 DMX values per level.
15	Pattern Drawing / Tracing	000-001	No drawing / tracing effect.
15	Pattern Drawing / Tracing	002-063	Manual drawing mode 1.
15	Pattern Drawing / Tracing	064-127	Manual drawing mode 2.
15	Pattern Drawing / Tracing	128-153	Automatic drawing: increasing direction.
15	Pattern Drawing / Tracing	154-179	Automatic drawing: decreasing direction.
15	Pattern Drawing / Tracing	180-205	Automatic drawing: increase then decrease, reverse direction.
15	Pattern Drawing / Tracing	206-255	Automatic drawing: increase then decrease, same direction.
16	Built-In Dynamic Effects	000-001	No function.
16	Built-In Dynamic Effects	002-253	Select built-in dynamic effect. Speed and color behavior are controlled by CH17.
16	Built-In Dynamic Effects	254-255	Random automatic playback of all effects.
17	Dynamic Effect Speed / Color Control	000-127	Built-in effect speed from fast to slow; color program is fixed inside the effect.
17	Dynamic Effect Speed / Color Control	128-255	Built-in effect speed from fast to slow; color can be freely controlled by the lighting console.

EFFECT PROGRAMMING TIPS

Goal	Recommended Programming Approach
Clean static graphic	Open CH1, set CH3 fixed color, select CH5 pattern and CH6 group, then set size with CH7.
Animated logo or text look	Use CH6 group 3 for letters/numbers, then combine CH8 zoom and CH15 drawing.
Color chase across graphics	Use CH3 values 213-255 and set direction/speed with CH4.
Live DJ movement	Add CH9 center rotation, CH10/CH11 flips and CH14 wave in small amounts.
Fast show building	Use CH16 effects and CH17 speed, then refine color behavior with CH3/CH4 where supported.

102CH MULTI-HEAD ADDRESSING

In multi-head mode, B13 uses six consecutive 17-channel blocks. Each block controls one full-color animation head with the same CH1-CH17 function map.

Head	Channel Block	If Start Address = A001	Main Purpose
Head 1	CH 001-017	DMX 001-017	First animation head control block
Head 2	CH 018-034	DMX 018-034	Second animation head control block
Head 3	CH 035-051	DMX 035-051	Third animation head control block
Head 4	CH 052-068	DMX 052-068	Fourth animation head control block
Head 5	CH 069-085	DMX 069-085	Fifth animation head control block
Head 6	CH 086-102	DMX 086-102	Sixth animation head control block

ADDRESS CALCULATION

Formula	Example
Head N start channel = fixture start address + (N - 1) x 17	If fixture address is A001, Head 4 starts at 001 + (4 - 1) x 17 = DMX 052.
Head N end channel = head start channel + 16	Head 4 uses DMX 052-068.

PATCH PLANNING NOTES

Reserve the full 102-channel range when programming independent effects. If several B13 fixtures share the same starting address, they will respond identically. To create staggered looks, assign each fixture a separate, non-overlapping address range.

DMX UNIVERSE CHECK

A single B13 in 102CH mode uses 102 channels. One 512-channel DMX universe can hold up to five full 102CH B13 fixtures with two channels remaining, provided no other fixtures are patched in the same universe.





RECOMMENDED SETUP WORKFLOW

Step	Procedure	Reason
1	Mount the fixture securely and connect an independent safety cable for overhead installation.	Prevents fixture movement or fall risk.
2	Check the product label for voltage, power and fuse requirements before powering on.	Protects the fixture and venue power system.
3	Select the channel mode required by the show: 17CH or 102CH.	Prevents channel overlap and makes patching predictable.
4	Set the DMX start address before connecting the full show network.	Makes troubleshooting easier.
5	Open CH1 above 009, then add strobe, color, pattern and transform channels.	Avoids programming while the laser output is still closed.
6	Save console presets for color, pattern groups, zoom and drawing effects.	Speeds up show programming and live operation.

FIXTURE DISPLAY / MENU GUIDANCE

Menu names may vary by firmware version. The standard setup items normally include DMX address, channel mode, standalone or automatic effect playback, sound response where supported, display orientation and system reset. Always verify the fixture display before patching the controller.

SHOW DESIGN TIPS

Design Area	Practical Tip
Layered animation	Program heads 1, 3 and 5 with one pattern family and heads 2, 4 and 6 with a different family for depth.
Text and number effects	Use the letters/numbers pattern group with slow drawing values for readable reveals.
High-energy drops	Combine color chase, center rotation and random dynamic effects for short accents rather than continuous use.
Clean professional looks	Avoid running every transform at full speed; use one major movement plus subtle size or wave variation.
Multi-fixture shows	Offset fixture start addresses and apply chase timing in the console for wide-stage motion.

SAFETY, INSTALLATION AND MAINTENANCE

DISCONNECT POWER

Disconnect the fixture from mains power before installation, inspection, cleaning or maintenance. Allow optical and electronic components to cool before touching the fixture.

Requirement	Professional Guidance
Laser output	Avoid direct viewing of laser apertures. Keep beams away from eyes, reflective surfaces and uncontrolled audience areas.
Mounting	Use rated clamps, secure mounting points and an independent safety cable for overhead use.
Ventilation	Keep ventilation openings clear and do not cover the housing during operation.
Environment	Keep the fixture dry unless the product label specifically states an outdoor/IP rating.
Power	Use only a properly grounded supply within the rated range shown on the fixture label.
Service	Internal service, optical alignment and laser-module repair must be performed by qualified personnel.

RECOMMENDED CLEANING AND INSPECTION

Interval	Procedure
Before each use	Inspect housing, lenses, apertures, power cable, signal connectors, screws and mounting hardware.
Weekly	Wipe the outer housing with a soft, slightly damp, lint-free cloth.
Monthly	Clean optical apertures carefully with professional optical or glass cleaner and a soft cloth.
Monthly	Remove dust from ventilation openings and confirm cooling airflow is unobstructed.
As required	Stop using the fixture if there is abnormal noise, smell, heat, flickering output or unexpected behavior.

STARSHINE LIGHTS SUPPORT

Product Model: B13

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

Website: www.starshinelights.com

