

Lineum Star Half Phantom™

Model ULB18

Dual Color Undercover Interior LED Lightbar



Please Note: These instructions are provided as a general guideline only. **Some vehicles may require special mounting, wiring, and/or weather-sealing. This is the sole responsibility of the installer.** Star Safety Technologies assumes no responsibility for the integrity of the installation for this or any of its products.



These lights utilize high-intensity LEDs. Do not stare directly into the light while it is on, as momentary blindness and/or permanent eye damage may occur.



STAR
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IMPORTANT: Please read all of the following instructions before installing your new **Star Half Phantom™** LED undercover lightbar.

CAUTION: Please be sure to check that your cigarette plug outlet is properly fused. **Testing the light before this fuse is properly installed will void the warranty on the light.**

WARNING!!!! Care should be taken when positioning this warning light so that the light and/or cord does not interfere with the proper operation of the driver-side or passenger-side airbag! Failure to heed this warning may result in serious or fatal injury.



CAUTION: All of our DC powered warning lights are polarity sensitive. These lights are polarity protected *only if the appropriate fuse is used.* All wires connected to the positive terminal of the battery should be fused at the battery for their rated load. **Testing the light before this fuse is properly installed will void the warranty on the light.**

Gasket Installation

Before installing any of the brackets, slide the enclosed rubber channel over the front edge of the baffle .



Mounting

There are several optional mounting brackets that can be used to mount your **Star Half Phantom™**. Each light is packaged with the bracket that was selected at the time the light was ordered. Please review the separate mounting instructions that are included with each bracket. You can visit www.star1889.com for a detailed list of available mounting brackets and their known vehicle compatibility.



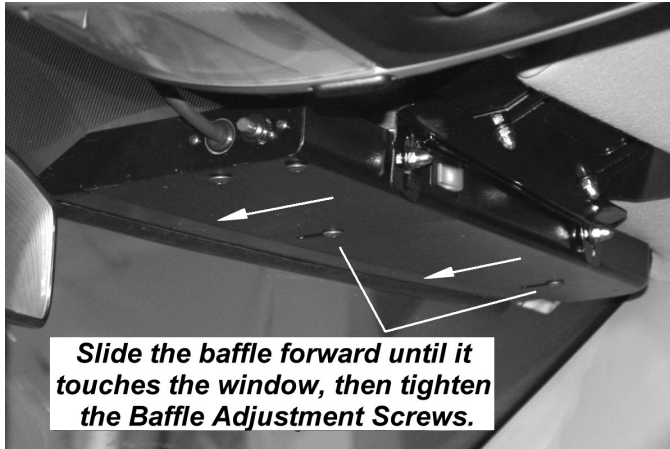
The Star Half Phantom™ is designed to be mounted on the inside of your vehicle. It is not intended for exterior applications and is not warranted against water damage.

It is the sole responsibility of the owner to ensure the warning light is secure. Check your light every time you enter the vehicle to ensure that it is mounted securely. The manufacturer assumes no responsibility for the secure mounting of this light.

Baffle Adjustment

1. After the light has been mounted (see separate mounting instructions), if adjustments permit, slide the light forward until the top of it is touching the windshield.
2. Loosen the baffle screws and carefully slide the baffle forward until the gasket is forced slightly downward by the pressure of the windshield.
3. Tighten the Baffle Adjusting Screws to secure the baffle in place .

CAUTION: Take extreme caution not to over tighten the screws!!! Over tightening of the screws can strip the holes.



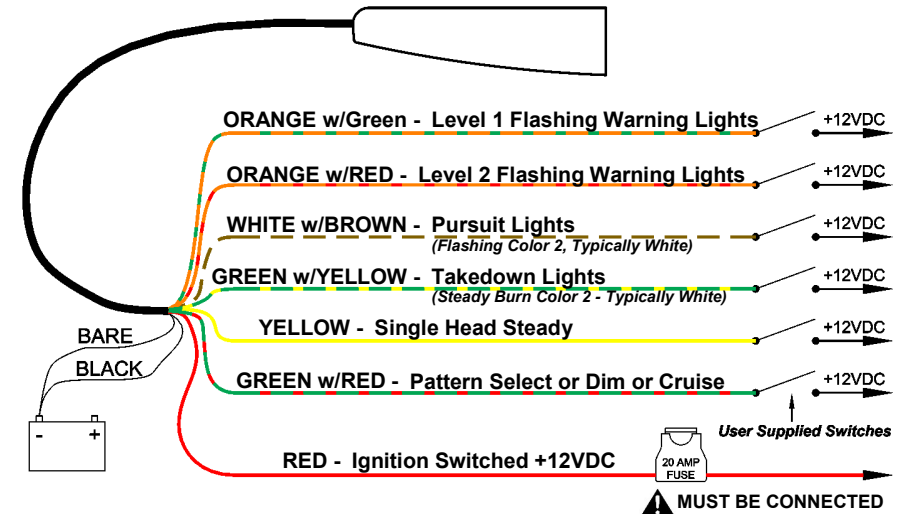
4. Once all of the brackets are securely tightened, check your mount to ensure the desired angle is achieved. Stand in front of the vehicle and inspect the light through the front windshield. The screws may be loosened slightly to allow for any final adjustments necessary.



Wiring

For proper installation and full operability, this light requires a 20A ignition switched power source, connections to the negative terminal of the battery, and 4-6 external switches rated for a minimum 1A (user supplied).

These lights come with a pre-installed 8-conductor harness. In addition, the cable also contains a bare drain wire and foil shielding.



Please Note: When the red wire is connected to +12VDC the light will draw a small current (2 mA). Occasionally vehicles may sit for extended periods of time (i.e. more than a few days), thus we recommend that the red wire be routed through an ignition switched power source.

! All wires connected to the positive terminal of the battery should be fused at the battery for their rated load. **Testing the light before this fuse is properly installed will void the warranty on the light.**

Programming

Programming is optional. If the default settings are acceptable, skip to the Operation section.

If you will be changing any of the options on your lightbar, this should be done prior to installation. Programmable features include the following:

- Pattern Selection
- Phase Selection (which heads alternate)
- Head Enable (which heads activate)
- Single Steady Head Option
- Dim Option (High-Low)
- Cruise Mode

Pattern Programming

Not only does this light have several Patterns to select from, but it also incorporates advanced programming that allows you to select which heads flash On and Off with one another (Phase), and which heads are active in any of the functions (Head Enable).

Basic Pattern Selection

The first step in programming is to select a basic pattern for each function:

- Level 1 Warning Lights (*Orange w/Green*)
- Level 2 Warning Lights (*Orange w/Red*)
- Pursuit (*White w/Brown*)

1. Connect the **Red** wire to power and the **Black** wire to Ground.
2. Activate the function you wish to program by connecting the corresponding wire to power.
3. Touch and release the **Green w/Red** wire to +12VDC to scroll through the patterns.

Note: At any time you can shortcut to the patterns indicated with the asterisks by holding the **Green w/Red** wire to +12VDC for the indicated time.

4. Repeat for each function you wish to program.

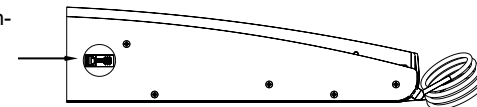
Patterns for Warning Lights

(Level 1, Level 2, and Pursuit)

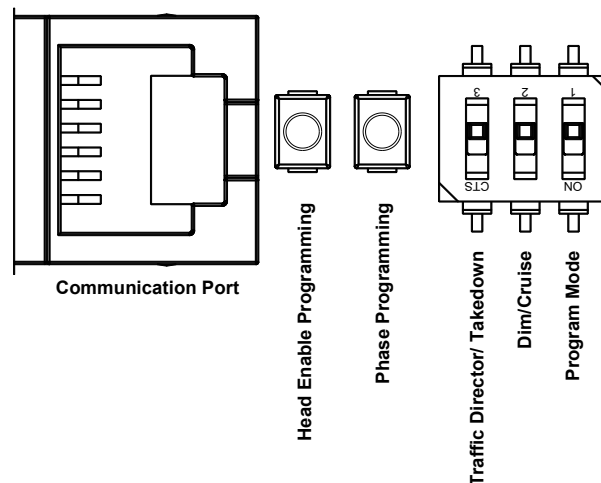
- 1 Flicker *
- 2 Slow Singleflash
- 3 Fast Singleflash
- 4 Slow Doubleflash
- 5 Fast Doubleflash
- 6 Slow Tripleflash
- 7 Fast Tripleflash (Level 2 default)
- 8 Quadflash
- 9 Quintflash
- 10 Tripleflash w/Post Pop
- 11 Quadflash w/Post Pop
- 12 Quintflash w/Pre Pop
- 13 Singleflash Flicker **
- 14 Doubleflash Flicker
- 15 Single, Quad w/Post Pop, Flicker
- 16 Delta-Omega
- 17 Moving Delta-Omega ***
- 18 Random 1
- 19 Random 2
- 20 Random 3
- 21 Flashing Bounce
- 22 Full Bounce (Level 1 default)
- 23 Split Bounce
- 24 Half Bounce
- 25 Bounce w/End Pop
- 26 Search Lights
- 27 Eyeballz
- 28 Fade Invert
- 29 Singleflash w/Alternating Ends
- 30 Triple In/Triple Out
- 31 Two Speed (Pursuit default)

- | |
|---|
| * Shortcut Pattern #1 (3 sec/1 flash) |
| ** Shortcut Pattern #2 (6 sec/2 flashes) |
| *** Shortcut Pattern #3 (9 sec/3 flashes) |

There is a telephone-style jack, two push-button switches, and three DIP switches, all located on the top of the light, that will be used for setting several programming options prior to installation.



Please Note: A small black adhesive-backed plastic plate (P30019-148) is included to cover the opening once all programming has been completed.



Traffic Director /Takedown Switch

DO NOT TOUCH THIS SWITCH !!!

This DIP switch option is only used for the full size Phantoms. Please leave this switch in the Takedown Position.

Phase Selection (Programmable for Patterns 1-16 only)

Each flashing head has two Phases, an "On" phase and an "Off" phase. You can program each head for either Phase, allowing you to customize which heads flash On together and which are Off together. This can be done for your **Level 1**, **Level 2**, and **Pursuit** functions.

1. Connect the **Red** wire to power and the **Black** wire to Ground.
2. Activate the function you wish to program by connecting the corresponding wire to +12VDC.
3. Press and release the **Phase Programming** button to scroll through the five optional Phase variations.
4. Repeat for each function you wish to program, then disconnect power.

	Head 1	Head 2	Head 3	Head 4	
Standard	1	Phase 2	Phase 1	Phase 2	Phase 1
Simultaneous	2	Phase 1	Phase 1	Phase 1	Phase 1
CAL T13	3	Phase 2	Phase 2	Phase 2	Phase 2
Alt Pairs	4	Phase 2	Phase 2	Phase 1	Phase 1
Center Two	5	Phase 1	Phase 1	Phase 1	Phase 1

Please note: Because this is a 4-head unit, the outputs of options 2, 3, and 5 will appear identical to each other.

Programming (CONT'D)

Head Enable

This light has the ability for the installer to select which heads are active for any given function. For example, you may wish to de-activate several heads in your Level 1 Pattern to indicate less urgency. This option can be programmed for any of the functions.

1. Connect the **Red** wire to power and the **Black** wire to Ground.
2. Activate the function you wish to program by connecting the corresponding wire to +12VDC.
3. Press and release the **Head Enable Programming** button to scroll through the 13 optional variations.
4. Repeat for each function you wish to program.

	Head 1	Head 2	Head 3	Head 4
1	ON	ON	ON	ON
2	ON	ON	ON	
3	ON	ON		
4	ON			
5				
6				ON
7			ON	ON
8		ON	ON	ON
9	ON	ON	ON	ON
10	ON			
11		ON	ON	ON
12	ON	ON		
13			ON	ON

Please note: Because this is a 4-head unit, the outputs of some options are identical others.

Single Steady Head Programming

Some applications (such as Cal. Title 13) require the use of a single steady head. If you are using this feature (Yellow wire) and wish to change the head location, proceed as follows:

1. Connect the **Red** wire to power and the **Black** wire to Ground.
2. Connect the **Yellow** wire to power and press and release the **Head Enable Programming** button to scroll through the various positions for the steady burn head.

	Head 1	Head 2	Head 3	Head 4
1				ON
2			ON	
3		ON		
4	ON			
5				
6				
7				
8				
9				
10				

Please note: Because this is a 4-head unit, options 5-10 will have no output.

Dim Option (cannot be used with Cruise Mode)

By default, the **Green w/Red** wire is normally used for Pattern Programming. This light also has the option of allowing you to use it to dim the light for nighttime operation. If you do not need this feature, skip this section.

If you wish to use the **Green w/Red** wire for the **Dim** function, proceed below:

1. AFTER PROGRAMMING YOUR FLASH PATTERNS, flip the **Dim/Cruise** DIP switch into the ON position (DOWN in the diagram on the previous page).
2. Connect the **Red** wire and the **Green w/Red** wire to power and the **Black** wire to Ground to activate Cruise Mode.
3. Press the **Phase Programming** Button once. Now when +12VDC is applied to the **Green w/Red** wire, the light will dim.

Programming (CONT'D)

Cruise Mode (cannot be used with Dim Option)

This light has the option of allowing you to use the **Green w/Red** wire to activate Cruise Mode. Cruise Mode is a dim steady burn mode that can be enabled on some or all of the heads. If you do not need this feature, skip this section.

By default, the **Green w/Red** wire is normally used for Pattern Programming. If you wish to utilize **Cruise Mode**, proceed as follows:

1. AFTER PROGRAMMING YOUR FLASH PATTERNS, flip the **Dim/Cruise** DIP switch into the ON position (DOWN in the diagram on the following page).
2. Connect the **Red** wire and the **Green w/Red** wire to power and the **Black** wire to Ground.
3. Select which Cruise Mode option that you want:
 - **Low Priority** (All other functions override Cruise): Hold the **Phase Programming** button until the light flashes once.
 - **High Priority** (Cruise overrides all other functions): Hold the **Phase Programming** button until the light flashes twice.

To change the **Green w/Red** wire to **Dim** functionality, activate Cruise Mode and press the **Phase Programming** Button once.

Cruise Mode Head Selection

By default Cruise Mode will illuminate all of the heads of one color in a dim steady burn mode. If desired, you can change which heads will be activated in Cruise Mode, and which color will be activated. **Please Note:** Although you can program each head to activate both colors and it will not harm the heads, it is not recommended that you do so.

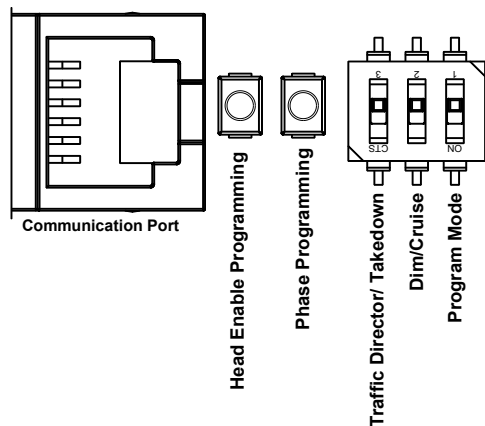
1. Connect the **Red** wire to power and the **Black** wire to Ground.
2. Activate Cruise Mode by connecting the **Green w/Red** wire to +12VDC.
3. Decide which color you would like to program:
 - To program Color 1: Press and hold the **Head Enable Programming** button until the light flashes once.
 - To program Color 2: Press and hold the **Head Enable Programming** button until the light flashes twice.
4. Press and release the **Head Enable Programming** button to scroll through the 14 optional variations shown to the right.
5. If needed, repeat for the other color.

	Head 1	Head 2	Head 3	Head 4
1	ON	ON	ON	ON
2	ON	ON	ON	
3	ON	ON		
4	ON			
5				
6				ON
7			ON	ON
8		ON	ON	ON
9	ON	ON	ON	ON
10	ON			
11		ON	ON	ON
12	ON	ON		
13			ON	ON
14				

Factory Default Settings

To reset the light to all of the factory default settings, proceed as follows:

1. Flip the **Program Mode** switch ON position (DOWN in the diagram below). All Pursuit lights should start flashing.
2. Press and hold the **Head Enable Programming** button until the Pursuit lights go off and all of the heads light up sequentially from left to right.
3. Once all of the heads are illuminated, release the **Head Enable Programming** button and the light will be restored to the factory default settings.
4. Flip the **Program Mode** DIP switch into the OFF position. Reprogramming should be completed.



Operating Instructions

Main control of this light is done through the wires in the harness. They should be connected to +12VDC through several switches (*user supplied*) as described in the **Wiring** section.

Level 1 Flashing Mode (Orange w/Green wire)

This is usually intended as a slower, less urgent mode typically used when parked. The colored lights will flash in the pattern you have them programmed for. If Pursuit Mode is activated, those lights will continue to flash.

Level 2 Flashing Mode (Orange w/Red wire)

This mode is intended for high-urgency situations, such as a high speed chase, requiring significant warning power. It is usually a faster pattern than Level 1. The colored lights will flash in the pattern you have them programmed for. Level 2 will override Level 1 lights. If Pursuit Mode is activated, those lights will continue to flash.

Pursuit Mode (White w/Brown wire)

Usually activated when in pursuit of another vehicle. These lights (typically white) will flash in the pattern you have them programmed for.

Takedowns (Green w/Yellow wire)

These are steady burn lights (typically white) that are used to illuminate the scene once a vehicle has been pulled over. This mode will override all others, stopping all flashing for heads that have Takedown mode enabled.

Single Head Steady (Yellow wire)

When activated, the preprogrammed light will be activated in a steady burn mode.

Burst Mode (Green w/Yellow and Green w/Red)

Please Note: This mode is only available in Takedown Mode AND if you have the Dim/Cruise Option disabled (see pages 6-7).

This mode will temporarily "burst" the steady burn lights (typically white) into an "extra bright" mode for 30 seconds. A 30 second cool down period is then required before the Burst Mode can be activated again.

DIM or Cruise (Green w/Red)

If the Dim/Cruise Switch is set for ON, then, depending upon the Dim/Cruise programming described on pages 6-7, applying +12VDC will either dim the light (typically used in nighttime applications) or it will activate Cruise Mode.

Service

These lights use state-of-the-art Light Emitting Diode (LED) technology. These warning lights are comprised of ultra-high intensity LEDs that are controlled by a solid state flasher unit to efficiently produce light output with lifetimes up to 100,000 hours. Under normal circumstances, you will not need to replace any LEDs in this light. If any of the LED's in your light do fail, please contact Star for arrangements to have them repaired. The flasher unit and heads CANNOT be serviced in the field and any attempt to do so will void the warranty.

NOTE: Most failures can be traced to wiring and battery problems. Check "quick-connects" and wiring to insure that correct voltage/polarity is reaching the electronic strobe light/LED beacon.

LED FIVE YEAR LIMITED WARRANTY

Star Safety Technologies warrants this LED light against factory defects in material and workmanship for five years after the date of manufacture. The owner will be responsible for returning to the Service Center any defective item(s) with the transportation costs prepaid. The manufacturer will, without charge, repair or replace *at its option*, products, or part(s), which its inspection determines to be defective. Repaired or replacement item(s) will be returned to the purchaser with transportation costs prepaid from the service point. A copy of the purchaser's receipt must be returned with the defective item(s) in order to qualify for the warranty coverage. Exclusions from this warranty include, but are not limited to, domes, and/or the finish. This warranty shall not apply to any light, which has been altered, such that in the manufacturer's judgment, the performance or reliability has been affected, or if any damage has resulted from abnormal use or service.

There are no warranties expressed or implied (including any warranty of merchantability or fitness), which extend this warranty period. **The loss of use of the product, loss of time, inconvenience, commercial loss or consequential damages, including costs of any labor, are not covered.** Star reserves the right to change the design of the product without assuming any obligation to modify any product previously manufactured.

This warranty gives you specific legal rights. You might also have additional rights that may vary from state to state. Some states do not allow limitations on how long an implied warranty lasts. Some states do not allow the exclusion or limitation of incidental or consequential damages. Therefore, the above limitation(s) or exclusion(s) may not apply to you.

If a product must be returned for any reason, please contact our Repair Department at (585) 226-9500 Option #3 to obtain a Returned Materials Authorization number (RMA #) before you ship the product back. Please write the RMA # clearly on the package near the mailing label.

If you have any questions concerning this or any other product, please contact our **Customer Service Department** at (585) 226-9500 Option #4.

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NOTICE

Due to continuous product improvements, we must reserve the right to change any specifications and information, contained in this manual at any time without notice. Star Safety Technologies, Inc. makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Star shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this manual.



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