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## INSTALLATION AND INSTRUCTION MANUAL

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# AEROSTAR™

Models

6032LED, 6464LED and 6564LED

 **M-Tech®** Plus Lightbars



PROUDLY MADE IN THE USA  
An ISO 9001:2008 Certified Company

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## Star Headlight & Lantern Co., Inc.

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PLIT449 REV. A 4/26/10



When mounting your lightbar, please be sure to keep any radio frequency sensitive equipment at least 20" from the bar and power cable(s). This is especially critical in lightbars utilizing strobes. Our strobe power supplies have been designed to limit RFI emissions, but certain very sensitive equipment may still be affected. Symptoms may include, but are not limited to, sporadic operation and degraded performance. Star Headlight & Lantern Co., Inc. cannot assume any responsibility for any radio frequency induced malfunction or damage to any radios, sirens, lightbars, or any other equipment mounted within 20" of a strobe lightbar. Any antennae mounted in the proximity of the lightbar may cause your radio to suffer the aforementioned results.



**PLEASE NOTE: THE DIRECT MOUNT IS THE STANDARD MOUNT INCLUDED WITH THE LIGHTBAR. THE HOOK MOUNTS MUST BE USED ON ALL POLICE AND/OR OTHER EMERGENCY VEHICLES!!! THE HOOK MOUNTS ARE SOLD SEPARATELY. THEY ARE NOT INCLUDED WITH EACH LIGHTBAR. THEY MUST BE ORDERED SEPARATELY. SEE THE ACCOMPANYING HOOK MOUNT MANUAL FOR A COMPLETE LIST OF AVAILABLE MOUNTS AND KNOWN VEHICLE APPLICATIONS.**



*It is the sole responsibility of the owner to ensure the lightbar is mounted securely. 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.*



This light utilizes high-intensity LED Lamps. DO NOT stare directly into the light while it is on, as momentary blindness and/or permanent eye damage may occur.

This light uses state-of-the-art Light Emitting Diode (LED) technology. This warning light is comprised of ultra-high intensity LEDs that are operated by a micro-controller to efficiently produce light output with lifetimes up to 100,000 hours.

***Please Note:*** These instructions are provided as a general guideline only. Specific mounting, wiring, and/or weather-sealing may be necessary and are the sole responsibility of the installer. Star Headlight & Lantern Co., Inc. assumes no responsibility for the integrity of the installation for this or any of its products.

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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 Headlight & Lantern Co., 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 Headlight & Lantern Co., Inc. 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.

## QUICK-INSTALL WIRING GUIDE

<b>6-Wire Harness</b>	
<b>Black</b>	(Ground) Connect to the negative side of the battery.
<b>Purple</b>	(Optional - High/Low) Ground for low intensity.
<b>White</b>	(Synchronization) Used to synchronize two lights together.
<b>Red</b>	(Power) Connect to +12-24 VDC through your switch.
<b>Green</b>	(Passenger Side Pattern Select) Touch and release to +12-24 VDC to change patterns.
<b>Yellow</b>	(Driver Side Pattern Select) Touch and release to +12-24 VDC to change patterns.

<b>13-Wire Harness Wiring</b>	
<b>Light Blue</b>	(Optional - High/Low) Ground for low intensity.
<b>Orange</b>	(Optional Components) Open
<b>Yellow</b>	(Left Stop/+12VDC Only) Used only if you have STT lights in your bar.
<b>Green</b>	(Right Stop/+12VDC Only) Used only if you have STT lights in your bar.
<b>White/Orange</b>	(Work Lights/+12VDC Only) Used only if you have worklights in your bar.
<b>Brown</b>	(Tail/+12VDC Only) Used only if I.D. or STT lights are in your bar.
<b>Red</b>	(Power) Connect to +12-24 VDC through your switch.
<b>Red/White</b>	(Optional Components) Open
<b>Red/Green</b>	(Passenger Side Pattern Select) Touch and release to +12-24 VDC to change patterns.
<b>Black/Green</b>	(Driver Side Pattern Select) Touch and release to +12-24 VDC to change patterns.
<b>White/Green</b>	(Optional Components) Open
<b>Gray</b>	(Synchronization) Used to synchronize two lights together.
<b>Black</b>	(Ground) Connect to the negative side of the battery.
<b>Bare</b>	(Shield) Connect to the negative side of the battery.

## Mounting Instructions

Please review the separate Mounting Bracket manual that is also enclosed with your bar for mounting instructions.

## Wiring Instructions

**All standard lightbar models are designed for 12VDC negative ground vehicles only. Reverse polarity will cause serious damage to the lightbar and/or vehicle. Contact the automotive dealer if there are any doubts about the polarity of your vehicle.**

### Direct Wiring Guide

**PLEASE NOTE:** If you are using the existing 15-foot cable supplied with the lightbar, you may skip to the Electrical Connections section on page 4.

**If the wire supplied is too short,** Star recommends direct wiring to the terminal block on the inside of the lightbar, rather than making connections to the end of the wire that is supplied. This lightbar is designed so that no wire connectors are needed and only a few common tools are necessary in order to do this. Direct wiring allows the wire connections to the lightbar to be made in a clean and dry environment, avoiding any problems that may arise due to weathering on external connections. There is also an increase in voltage loss with the addition of each connection. Wiring directly inside the lightbar reduces the number of connections. However, making connections to the wires already provided is an acceptable alternative, as long as these connections are good electrical connections and are resistant from weathering effects. For direct wiring into the lightbar, follow the instructions listed below.

1. Determine the number of wires that you will need to run by reviewing the checklist enclosed with your bar. It will show you which wires are "in use".
2. Review the **Wire Harness Wiring** descriptions listed on page 5, identify your wires and select appropriate wire sizes and colors.
3. Locate the end of the lightbar that has the external wires entering the base of the lightbar. The black terminal block(s), which you will be making your wire terminations to, should also be located at this same end.

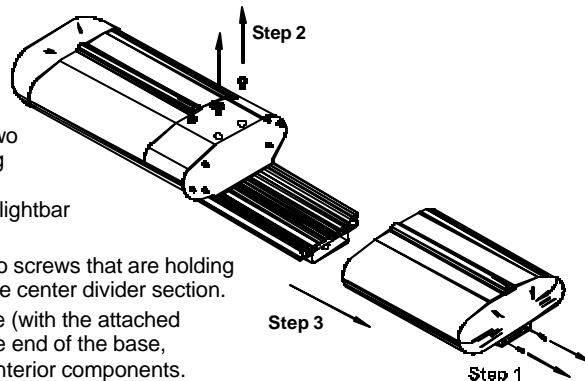
4. Remove the outer dome to expose the terminal block.

**Step 1 :** Remove the two screws holding the endcap to the lightbar base.

**Step 2 :** Loosen the two screws that are holding the dome to the center divider section.

**Step 3 :** Slide the dome (with the attached endcap) off the end of the base, exposing the interior components.

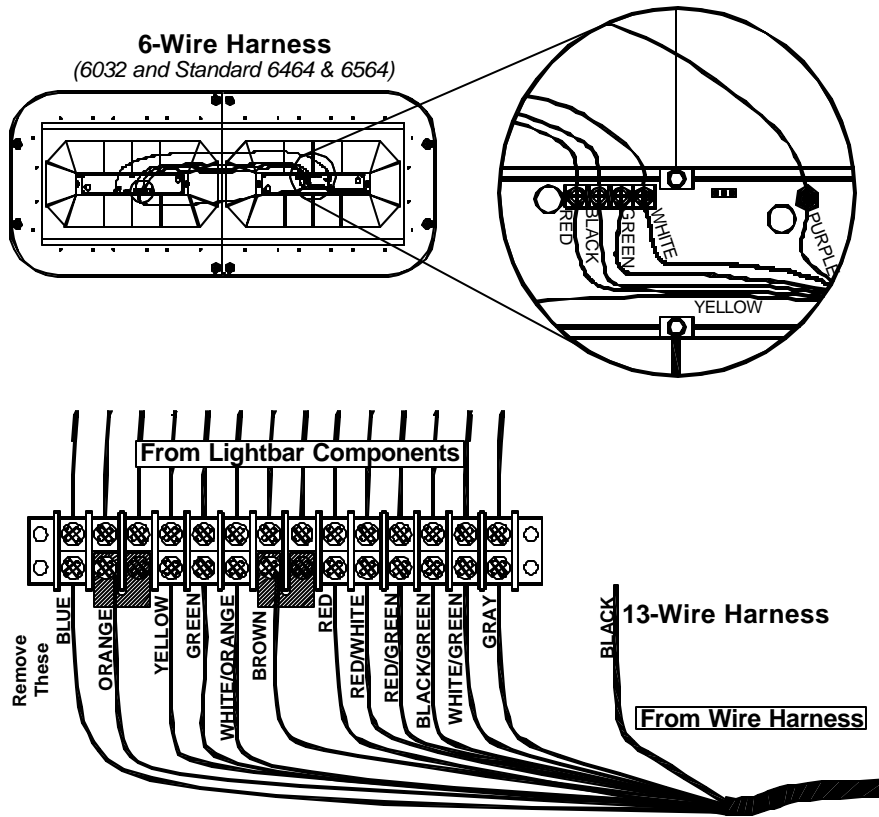
**Step 4 :** When all work is completed, reverse the steps to reinstall the dome, taking care that the gasket is properly aligned.



(Direct Wiring Guide CONT'D)

5. The wiring harness will connect to one or more terminal blocks inside the lightbar. For the 6032LED models and any 6464 and 6564 models using the 6-wire harness, the harness will run directly into the circuits. For the 2464 and 2564 models with 13-conductor harnesses, the harness will be connected to a separate terminal block.

All of the wires coming from outside of the lightbar are terminated on the same side of the terminal block and the wires leading to the internal components terminate on the opposite side of the terminal block. Loosen the screws on the terminal block and remove **only those wires that exit the lightbar through the hole in the base.**



6. Run the new external wires up through the wire bushing into the base and into the terminal block(s). The function of each color wire in the lightbar is listed in the **Wire Harness Wiring** descriptions on page 5.
7. Align each external wire on the terminal block directly across from the corresponding internal wire with the same function. If there is more than one internal wire of the same color connected to the terminal block, you will need to trace the internal wire back to its origin to be sure of its function.

## Electrical Connections

**All standard lightbar models are designed for 12VDC negative ground vehicles only. Reverse polarity will cause serious damage to the lightbar and/or vehicle. Contact the automotive dealer if there are any doubts about the polarity of your vehicle.**



### RF INTERFERENCE

**Please take the following steps to help eliminate any Radio Frequency Interference (RFI) with your two-way radio.**

- *DO NOT* run the power wire for the lightbar along same path as any antenna wires.
- *DO NOT* run the power wire for the lightbar along same path as any radio power wires.
- *DO NOT* tap power for the lightbar off of the radio power wires.
- *DO NOT* mount the lightbar within 20" of any antennae. Sometimes mounting the lightbar or antenna over by just one foot can make a large difference in the interference.
- Ensure the black wire from the lightbar has a good connection to the **negative side of the battery.**

- For all standard Aerostar lightbars, 15 feet of cable (plus a drain wire and a foil shield) is supplied with the bar. All wires are color coded and sized at the correct gauge. If this length is not sufficient, it is recommended that the wire harness be completely replaced with the only connections to be made directly at the terminal block inside the lightbar. This will reduce the number of wire connections and help prevent any weathering problems on these connections. Refer to the *Direct Wiring Guide* on pages 2-3 for further instructions on this.
- **CAUTION: All wires and switches should be rated for at least 125% of their maximum current load.** In addition, all wires connected to the positive terminal of the battery should be fused at the battery for 125% of their rated load. The load can be calculated by adding all lamp wattages and dividing by 13. (Load <Amps> = Total Watts / 13 volts) **Do not use** 1/4" diameter glass fuses, as they are not suitable for continuous duty above 20 amps. A list of recommended wire colors is provided on pages 5-6. If you are unsure of the current draw, please contact our Customer Service Department.
- **TESTING THE LIGHTBAR BEFORE IT IS PROPERLY FUSED & INSTALLED WILL VOID THE WARRANTY!!**
- The black ground wire should be connected to the negative terminal of your vehicle's battery. This wire should be as short as possible in order to minimize the voltage loss in this wire and reduce any chance of overheating.
- The *13-Wire Harness* section on page 5 lists the different wire colors and lights controlled by those wires. Your harness will contain all of the colored wires, the drain wire, and a foil shield. Most applications though, will not use every wire. The "dead" wires in the harness will be connected to the terminal block inside your lightbar, but there will be no wires connected to the terminal across from them. These "dead" wires can be used for additional components that may be added at some point in the future, or they may be used to separately switch components that are currently wired together.
- Since many of the lightbars we build have custom components, occasionally wire colors may slightly vary. If you are unsure of the function of a particular wire, you may test the function by grounding the black wire and applying +12VDC to the wire in question. Be sure to use a 20-amp fuse when testing.

### 13-Wire Harness Wiring

**Light Blue** - (Optional - High/Low) Used to switch the light between High and Low power.

- Leave disconnected for High Power only (cover wire with wirenut or tape).
- Connect to Ground for Low Power only.
- Connect to Ground through a switch for High/Low switching option.

**Orange** - (Optional Components) Open

**Yellow**- (Left Stop/+12VDC Only) Used only if you have STT lights installed in your bar.

**Green** - (Right Stop/+12VDC Only) Used only if you have STT lights installed in your bar.

**White/Orange** - (Work Lights/+12VDC Only) Used only if you have worklights installed in your bar.

**Brown** - (Tail/+12VDC Only) Used only if I.D. or STT lights are installed in your bar.

**Red** - (Power) Connect to +12-24 VDC through your switch. *Be sure to use a 10 amp fuse when connecting the switch to the positive side of the power supply.*

**Red/White** - (Optional Components) Open

**Red/Green** - (Passenger Side Pattern Select) Touch and release to +12-24 VDC to change patterns (see next page).

**Black/Green**- (Driver Side Pattern Select) Touch and release to +12-24 VDC to change patterns (see next page).

**White/Green** - (Optional Components) Open

**Gray** - (Synchronization) Used to synchronize two lights together. If you are only installing one unit, cut the Gray wire short and tape the end. If you will be synchronizing two or more units together, or synchronizing this light with other approved synchronizable lights, *leave the Gray wire disconnected for now*. Connect the Gray wires from all units together **ONLY AFTER PROGRAMMING** them for the **same** pattern (see Pattern Programming).

**Black** - (Ground) Connect to the negative side of the battery.

**Bare** - (Shield) Connect to the negative side of the battery.

### 6-Wire Harness Wiring

**Black** - (Ground) Connect to the negative side of the battery.

**Purple** - (Optional - High/Low) Used to switch the light between High and Low power.

- Leave disconnected for High Power only (cover wire with wirenut or tape).
- Connect to Ground for Low Power only.
- Connect to Ground through a switch for High/Low switching option.

**White** - (Synchronization) Used to synchronize two lights together. If you are only installing one unit, cut the White wire short and tape the end. If you will be synchronizing two or more units together, or synchronizing this light with other approved synchronizable lights, *leave the white wire disconnected for now*. Connect the white wires from both units together **ONLY AFTER PROGRAMMING** them for the **same** pattern (see Pattern Programming).

**Red** - (Power) Connect to +12-24 VDC through your switch. *Be sure to use a 10 amp fuse when connecting the switch to the positive side of the power supply.*

**Green** - (Passenger Side Pattern Select) Touch and release to +12-24 VDC to change patterns (see next page).

**Yellow**- (Driver Side Pattern Select) Touch and release to +12-24 VDC to change patterns (see next page).

## **Pattern Programming**

Before changing the pattern, please review these key points about programming the lightbar:

- The lightbar consists of two separate circuits. One circuit controls the driver's side and the other circuit controls the passenger's side.
  - The driver's side circuit is programmed with the Yellow wire (6-wire harness) or the Black/Green wire (13-wire harness).
  - The passenger's side circuit is programmed with the Green wire (6-wire harness) or the Red/Green wire (13-wire harness).
  - The two sides are usually programmed at the same time by connecting the two pattern programming wires together. The only exception typically will be when you wish to set the two sides for patterns that differ from one another.
  - The **default pattern** for this lightbar will produce a Quadflash with Post Pop pattern that alternates between the two halves of both the passenger side and driver side.
1. Connect the two pattern select wires together (<Yellow and Green> wires or <Red/Green and Black/Green>).
  2. Power up the light so that it is flashing.
  3. Touch and hold the **Pattern Select Wires** to +12-24VDC for 3 seconds. After 3 seconds, the light should blink once and you should release the Pattern Select wires. This will set both circuits to Pattern 1 (Alternating Flicker).
  4. Touch the Pattern Select wires to +12-24VDC for **one second** and release them to scroll through the patterns listed on the following page. The cycle will repeat itself after the last pattern.
  5. Once you find the pattern you wish to display, connect the Pattern Select wires to ground and deactivate the light. This will store the selected pattern.

Review the chart on the following page for programming "shortcuts" that allow you to jump to specific patterns.

### **Restoring the Factory Default Pattern(s)**

If you wish to set the lightbar back to the factory default pattern, proceed below:

1. Follow Steps 1-2 above.
2. Instead of holding both Pattern Select wires (<Red/Green and Black/Green> wires or <Red/Green and Red/Black> wires ) to +12-24VDC for three seconds, as indicated in Step 3 above, hold them to +12-24VDC for **6 seconds**.
3. After 6 seconds, the light will blink twice.
4. Release the Pattern Select wires and both circuits will be programmed for Pattern 6 (Alternating Quadflash).
5. Touch the Pattern Select wires to +12-24VDC for one second and release them. This will advance the circuits to Pattern 7 (Alternating Quadflash with Post Pop).
6. Connect the Pattern Select wires to ground and deactivate the light. This will store the selected pattern(s).

### Patterns

Flash Pattern #	Pattern Type*	Pattern List	CPS**
1	K	Alternating Flicker †	1.0
2	L	Alternating Fast Doubleflash	3.3
3	M	Alternating Tripleflash	2.5
4	N	Alternating PSU Flicker	0.7
5	O	Alternating PSU Random	0.6
6	F	Alternating Quadflash ††	1.0
7	G	Alternating Quadflash w/Post-Pop ( <i>Default Pattern</i> )	1.0
8	H	Alternating Singleflash	1.0
9	I	Alternating Doubleflash	1.0
10	J	Alternating Variable	0.3
11	P	Alternating Quintflash †††	1.2
12	Q	Swing	1.3
13	R	Alt. Fast Doubleflash, Alt. Flicker	N/A
14	S	Alt. Quad, Alt. Flicker, Alt. Double, Flicker	N/A
15	T	Counter Clockwise Rotating Flash	2.5
16	G	Sim. Quad w/Post Pop (Phase 1) ††††	1.0
17	G	Sim. Quad w/Post Pop (Phase 2)	1.0
18	U	Alt. Triple, Alt. Non-Synch Double, Alt. Quint, Flicker	N/A
19	V	Steady burn one side, Other side Single Flash	1.0
20	NONE	Cycle All	N/A

†, ††, †††, †††† = Programming Shortcuts 1, 2, 3, and 4 (see table below)  
 \* = Used for Synchronization  
 \*\* = Cycles Per Second


### Programming Shortcuts


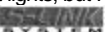
For quicker programming, you can skip directly to specific patterns in the programming sequence. Touch and hold the Pattern Select wires to +12/24VDC for the length of time that corresponds to the pattern you would like to jump to. Then release the Pattern Select wires once the light blinks the appropriate number of times.

<u>Length of Hold</u>	<u>Unit Blinks</u>	<u>Jumps to</u>
3 seconds	1 time	† - Pattern 1
6 seconds	2 times	†† - Pattern 6
9 seconds	3 times	††† - Pattern 11
12 seconds	4 times	†††† - Pattern 16

### Synchronization


**You can synchronize up to six total  approved lights.**


If you will be synchronizing your light with any of our  products, please note the following:


- All units that are to be synchronized **MUST** have the same **Pattern Type**.
- To check pattern compatibility with other  products, review the **Pattern List** for each product, noting the **Pattern Type**. Certain patterns are compatible with some lights, but not compatible with others.
- Programmable **Flash Patterns** can vary between our different lights, but Pattern Types F, G, H, I, & J are fully compatible patterns with ALL of our other  products.
- Program the Pattern(s) for each light PRIOR TO connecting the synchronization wires together.
- All Synchronized Units must be switched ON/OFF by the same power switch.


## AEROSTAR Parts


### Bulbs and Tubes


- 


2073-795X  
50-WATT HALOGEN BULB  
*(Rotators, Work Lights, Takedowns, Flashers, etc.)*
- 

ST3901-7  
360° STROBE HEAD
- 

LST129-4  
4.5" LINEAR STROBE TUBE
- 


LST129-7  
7" LINEAR STROBE TUBE
- 


2073-795S  
65-WATT HALOGEN BULB w/Black Top  
*(for Metal Alley Lights)*
- 


2073-H27  
27-WATT HALOGEN BULB  
*(for Plastic Alley Lights)*
- 


2073-1157  
STOP-TURN-TAIL BULB


### Power Supplies/Flashers


- 

620-181-MPQ  
2-HEAD WALL MIRROR/POWER PACK  
ASSEMBLY FOR 6020S and 6222S
- 

RP310-SBQ  
2-HEAD REPLACEMENT STROBE  
POWER SUPPLY w/MOUNTING PLATE
- 


RP248A  
2-OUTLET STROBE PACK FOR LINEAR  
STROBE HEADS
- 


RP248  
4-OUTLET STROBE PACK FOR LINEAR  
STROBE HEADS
- 


FM3662  
2.9 FPS HALOGEN FLASHER
- 


LDF369  
2-OUTPUT LED FLASHER  
(8 OUTPUT TERMINALS)


### Filters and Lenses

- 

920-100-\*  
COLOR FILTER FOR ROTATORS  
& STATIONARY LIGHTS
- 


LSF4.5-\*  
COLOR FILTER FOR 4.5" STROBE HEAD  
(SH3964)
- 


LSF7-\*  
COLOR FILTER FOR 7" STROBE HEAD  
(SH3967)
- 


330-1-\*  
330-° DOME w/P30165-5 DOME RING  
FOR ST3901-7 360 DEGREE  
STROBE HEADS
- 

620-7-\*  
END DOME WINDOW FOR  
ALLEY LIGHTS

### Mirrors


- 


620-30  
WALL MIRROR FOR AEROSTAR  
(\* = L or R)
- 

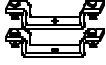
820-29  
MEDIUM V-MIRROR FOR AEROSTAR,  
INTERCEPTOR, & STROBE MINBARS
- 


820-292  
MEDIUM DOUBLE V-MIRROR FOR  
AEROSTAR, INTERCEPTOR,  
& STROBE MINBARS

### Mounts

- 

920-39  
DIRECT MOUNT KIT
- 



























177-BK-1  
MAGNETIC MOUNT  
FOR 20" BARS ONLY
- 

920-39T  
LOW PROFILE TOW MOUNT
- 

HOOK MOUNTS  
THESE ARE PICTURED IN THE  
**HOOK MOUNT MANUAL** ALSO  
ENCLOSED WITH YOUR LIGHTBAR  
AND WORK IN CONJUNCTION  
WITH THE 820-39P\*  
\* = COLOR (White, Black, Clear, or Gray)

Please note that these items are not drawn to scale. Many have been enlarged to show more detail.

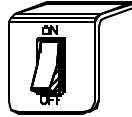
**Interior Components**

- |   |  |
|---|--|
| <p> <b>920-99 OR 920-99F</b><br/>80FPM OR 160FPM HALOGEN ROTATOR</p> <p> <b>240SFQ</b><br/>360° STROBE</p> <p> <b>SH3964</b><br/>4.5" LINEAR STROBE HEAD</p> <p> <b>RSK248A-4K</b><br/>4.5" 2-HEAD LINEAR STROBE KIT W/RP248A<br/>POWER SUPPLY FOR AEROSTAR</p> <p> <b>RSK248-4K</b><br/>4.5" 4-HEAD LINEAR STROBE KIT W/RP248<br/>POWER SUPPLY FOR AEROSTAR</p> <p> <b>SH3967</b><br/>7" LINEAR STROBE HEAD</p> <p> <b>RSK248A-7K</b><br/>7" 2-HEAD LINEAR STROBE KIT W/RP248A<br/>POWER SUPPLY FOR AEROSTARS</p> <p> <b>RSK248-7K</b><br/>7" 4-HEAD LINEAR STROBE KIT W/RP248<br/>POWER SUPPLY FOR AEROSTARS</p> <p> <b>920-51</b><br/>DIRECTIONAL HALOGEN<br/>FLOOD/TAKEDOWN LIGHT</p> <p> <b>920-51F</b><br/>DIRECTIONAL HALOGEN<br/>FLASHING LIGHT</p> <p> <b>920-51FK*</b><br/>2-LIGHT HALOGEN FLASHER KIT<br/>w/FM3662 FLASHER<br/>FRONT or REAR (*=F or R)</p> <p> <b>920-51HP</b><br/>DIRECTIONAL HALOGEN<br/>TAKEDOWN/PURSUIT LIGHT</p> | <p> <b>ST3901-7 and 333-* DOME</b><br/>360° REMOTE STROBE HEAD w/DOME</p> <p> <b>RSK620-SBQ</b><br/>2-HEAD LINEAR STROBE KIT w/RP310-5<br/>Power Pack, 820-292 Medium Diamond M<br/>and two ST3901-7 360 Degree Strobe He<br/>Aerostar or Interceptor</p> <p> <b>620-D1-*</b><br/>M-Tech LED Lighthouse w/No Endcaps<br/>for Aerostar and Interceptor</p> <p> <b>620-D1AL-*</b><br/>M-Tech LED Lighthouse w/Left Angle Refle<br/>for Aerostar and Interceptor</p> <p> <b>620-D1AR-*</b><br/>M-Tech LED Lighthouse w/Right Angle Ref<br/>for Aerostar and Interceptor</p> <p> <b>620-D1LEC-*</b><br/>M-Tech LED Lighthouse w/Left Endcap<br/>for Aerostar and Interceptor</p> <p> <b>620-D1REC-*</b><br/>M-Tech LED Lighthouse w/Right Endcap<br/>for Aerostar and Interceptor</p> <p> <b>620-D1EC-*</b><br/>M-Tech LED Lighthouse w/Endcaps<br/>for Aerostar and Interceptor</p> <p> <b>920-32*</b><br/>STOP/TAILO/TURN LIGHT<br/>(Specify R or L)</p> <p> <b>620-14</b><br/>NEW STYLE PLASTIC ALLEY LIGHT<br/>FOR AEROSTAR LIGHTBARS</p> <p> <b>620-36</b><br/>TRIPLE MARKER LIGHT BRACKET<br/>STRIP FOR AEROSTAR EXTRUSION</p> <p> <b>920-37</b><br/>SINGLE ID LIGHT FOR TRIPLE<br/>EXTRUSION BRACKET</p> <p> <b>620-38-1</b><br/>620-36 w/3 (920-37) ID LIGHTS</p> <p> <b>620-SPKK</b><br/>AEROSTAR SPEAKER KIT</p> |
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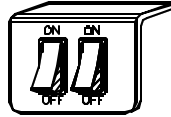
\*=COLOR

Please note that these items are not drawn to scale. Many have been enlarged to show more detail.

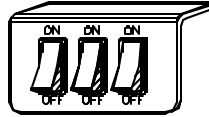
## Switches and Switchboxes



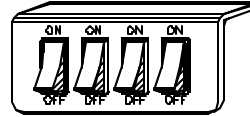
**SP3860-1**



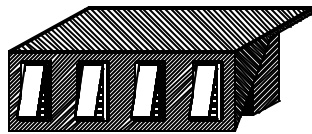
**SP3860-2**



**SP3860-3**



**SP3860-4**



**SP1515**



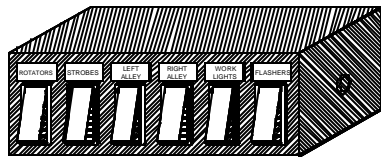
**SB1515**



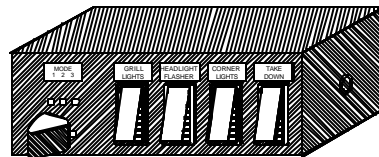
**SP3015**



**SB3015**



**SB4020**



**SB4040**

## Troubleshooting

Symptom	Possible solutions
Flash Pattern is not changing	Pattern select wire must be pulled to +12VDC to change pattern.
Unit stuck in high power	High/Low wire must be grounded to activate low power mode.
Bar is not synchronizing with other product	<ul style="list-style-type: none"> <li>-Check to ensure all desired lights to be synchronized have the capability of being synchronized.</li> <li>-Check to ensure synchronization wire is connected to all units that are desired to be synchronized.</li> <li>-Check to ensure all lights to be synchronized are set to same <i>Pattern Type</i>.</li> <li>-Ensure that the entire system that is desired to be synchronized is powered up at the same time via the same switch.</li> <li>-Ensure that the total amount of synchronizable products in the system does not exceed 6 lights.</li> </ul>
One single LED is out.	The entire flasher board will need to be replaced.
One complete half of the bar is out.	<ul style="list-style-type: none"> <li>-Check wiring to the flasher board that is experiencing the problem.</li> <li>-The entire LED board on that side may need to be replaced.</li> </ul>
If the bar is experiencing erratic flashing or side to side synchronizing within the bar is not working.	<ul style="list-style-type: none"> <li>-Ensure both sides are set to the same <i>Pattern Type</i>.</li> <li>-Ensure synchronization wire is connected between both flasher boards internally.</li> <li>-Ensure both flasher circuits in the bar are powered from the same power switch.</li> </ul>

### ONE YEAR LIMITED WARRANTY

The manufacturer warrants each new product, under normal use, against factory defects in material and workmanship for one year after the date of purchase. 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, bulbs, strobe tubes, 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. This warranty does not apply to defect or damage occurring as a result of disaster, accident, abuse, misuse, lightning, power surges, or failure to follow instructions in any enclosed manuals. Any damage or defects occurring as a result of any unauthorized service or repairs by unauthorized persons shall be excluded from this warranty.

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.** The manufacturer 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 which 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 you have any questions concerning this or any other Star product, please contact our **Customer Service Department** at (585) 226-9787.

If a product must be returned for any reason, please contact our Customer Service Department to obtain a Returned Goods Authorization number (RGA #) before you ship the product to Star. Please write the RGA # clearly on the package near the mailing label.



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