

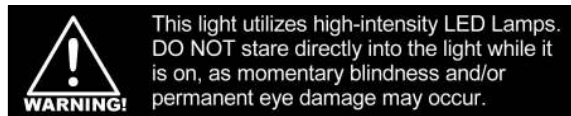
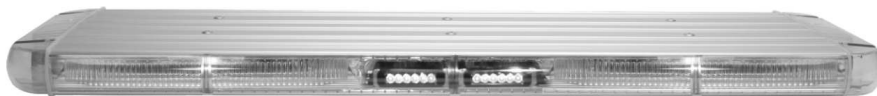
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## INSTALLATION AND INSTRUCTION MANUAL

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Ultra Low Profile Lightbar



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.



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



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WARNING  
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PLIT486 REV. E 2/1/18

**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



WIRE COLORS AND FUNCTIONS WILL VARY FROM HARNESS TO HARNESS. PLEASE BE SURE TO CORRECTLY IDENTIFY YOUR HARNESS AND USE THE CORRESPONDING TABLE. IN ADDITION, ALL LIGHTBARS ARE SHIPPED WITH A WORKSHEET THAT IDENTIFIES THE FUNCTION FOR EACH WIRE COLOR IN THAT SPECIFIC LIGHTBAR.

### 11-Wire Harness (271-PHANTOM)

<b>Black</b>	Ground (Connect to the negative side of the battery)
<b>Red</b>	Power for <b>ALL</b> components ( <b>MUST</b> be connected to constant +12VDC †)
<b>Orange</b>	Front Enable (+12VDC Turns on Front Facing M-Tech Plus™ Lights) *
<b>Brown</b>	Rear Enable (+12VDC Turns on Rear Facing M-Tech Plus™ Lights) *
<b>Red w/Green</b>	Driver Side Pattern Select (Touch and release to +12 VDC to change patterns) Pursuit Lights Pattern Select (Touch and release to +12 VDC to change patterns)
<b>Green</b>	Passenger Side Pattern Select (Touch and release to +12 VDC to change patterns)
<b>White</b>	Right Alley or Right Turn/Brake Light (Activated by +12VDC) or Sync
<b>Purple</b>	Left Alley or Left Turn/Brake Light (Activated by +12VDC) or High/Low Control (see page 5)
<b>Bare</b>	Ground (Shield - Connect to a good chassis ground)
<b>Green w/Yellow</b>	Takedown or Work Lights (Activated by +12VDC) or Driver Side Scene Lights
<b>White w/Brown</b>	Pursuit Function/Flashing Alley or Marker Lights (Activated by +12VDC) or Passenger Side Scene Lights

### 14-Wire Harness Wiring (271-TOWBAR)

<b>Light Blue</b>	Optional - High/Low (Ground for low intensity)
<b>Orange</b>	Rear Enable (Turns on Rear Facing M-Tech Plus™ Lights) *
<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 w/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 constant +12-24 VDC †)
<b>Red w/White</b>	Scene Lights
<b>Red w/Green</b>	Passenger Side Pattern Select (Touch and release to +12-24 VDC to change patterns)
<b>Black w/Green</b>	Driver Side Pattern Select (Touch and release to +12-24 VDC to change patterns)
<b>White w/Green</b>	Front Enable (Turns on Front Facing M-Tech Plus™ Lights) *
<b>Gray</b>	Synchronization (Used to synchronize two or more lights together)
<b>Black</b>	Ground (Connect to the negative side of the battery)
<b>Bare</b>	Ground (Shield - Connect to a good chassis ground)

Please Note: **ONLY the M-Tech Plus heads are +12-24VDC.** All other components are +12VDC **only**.

\* - The Front Enable and Rear Enable options are NOT available on Amber Value Lightbars.

† - The Red wire **MUST** be connected to +12VDC for the front and rear warning LEDs to operate. If you are NOT utilizing a separate Front and Rear enable function, you may connect the Red wire, along with the Front enable wire and Rear Enable wire to +12-24VDC through your On/Off switch. If you ARE using a separate Front and Rear Enable function, connect the Red wire to constant +12-24VDC. Please note: When the red POWER wire is connected to constant power the light will draw a small current (20 mA). If your vehicle will be sitting for extended periods of time (i.e. more than a few days), it is recommended all power wires be routed through an ignition switched power source.

## QUICK-INSTALL WIRING GUIDE



WIRE COLORS AND FUNCTIONS WILL VARY FROM HARNESS TO HARNESS. PLEASE BE SURE TO CORRECTLY IDENTIFY YOUR HARNESS AND USE THE CORRESPONDING TABLE. IN ADDITION, ALL LIGHTBARS ARE SHIPPED WITH A WORKSHEET THAT IDENTIFIES THE FUNCTION FOR EACH WIRE COLOR IN THAT SPECIFIC LIGHTBAR.

20-Wire Harness Wiring (271RAZOR)	
<b>Blue</b>	Driver Side Alley Light (Switched +12VDC Only)
<b>White w/Blue</b>	ICL Power (Intersection Clearing Lights) or Scene Lights
<b>White w/Yellow</b>	Front Corner (Controls any lights in the front corners other than ICL)
<b>Orange w/Yellow</b>	Front Enable (Turns on Front Facing M-Tech Plus™ Lights) *
<b>Brown w/Yellow</b>	Not Used or Optional Component
<b>Red</b>	Power (Connect to constant +12-24 VDC †)
<b>Red w/Green</b>	Passenger Side Pattern Select (Touch and release to +12-24 VDC to change patterns)
<b>Purple</b>	Optional - High/Low (Ground for low intensity)
<b>Green w/Yellow</b>	Front Center (Controls any lights in the front centers)
<b>Red/Black</b>	Driver Side Pattern Select (Touch and release to +12-24 VDC to change patterns)
<b>White w/Brown</b>	Alt. Front Center (Controls any alternate lights in the front centers)
<b>Green w/Red</b>	Rear Center (Controls any lights in the rear centers)
<b>Brown w/Red</b>	Not Used or Optional Component
<b>Orange w/Red</b>	Rear Enable (Turns on Rear Facing M-Tech Plus™ Lights) *
<b>White w/Red</b>	Synchronization (Used to synchronize two or more lights together)
<b>Yellow w/Black</b>	Alt. LED 1 (Controls any alternate LED lights)
<b>White w/Black</b>	Alt. LED 2 (Controls any additional alternate LED lights)
<b>Gray</b>	Passenger Alley (Switched +12VDC Only)
<b>Black</b>	Ground (Connect to the negative side of the battery)
<b>Bare</b>	Ground (Shield - Connect to a good chassis ground)

Please Note: **ONLY the M-Tech Plus heads are +12-24VDC.** All other components are +12VDC **only**.

\* - The Front Enable and Rear Enable options are NOT available on Amber Value Lightbars.

† - The Red wire **MUST** be connected to +12VDC for the front and rear warning LEDs to operate. If you are NOT utilizing a separate Front and Rear enable function, you may connect the Red wire, along with the Front enable wire and Rear Enable wire to +12-24VDC through your On/Off switch. If you ARE using a separate Front and Rear Enable function, connect the Red wire to constant +12-24VDC. Please note: When the red POWER wire is connected to constant power the light will draw a small current (20 mA). If your vehicle will be sitting for extended periods of time (i.e. more than a few days), it is recommended all power wires be routed through an ignition switched power source.



Keep any radio frequency sensitive equipment at least 20" from the bar and power cable(s). Our circuits have been designed to limit RFI emissions, but certain very sensitive equipment may still be affected.



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.

## Mounting Instructions

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

## Electrical Connections

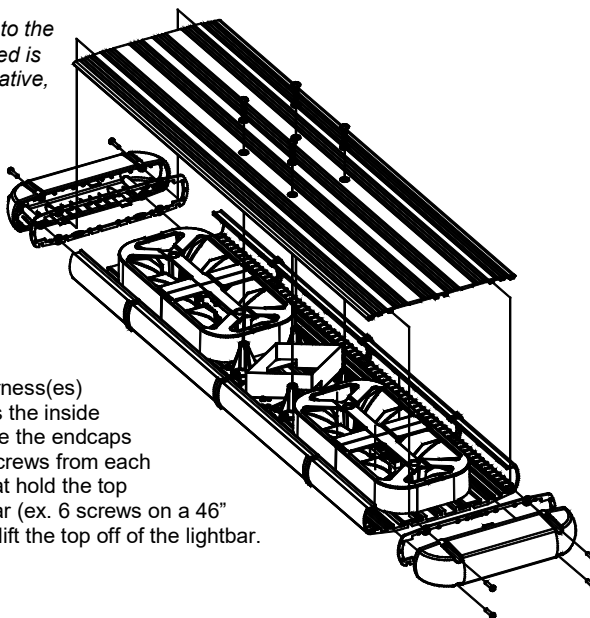
**All standard lightbar models are designed for 12VDC negative ground vehicles only. Reverse polarity will cause serious damage to the lightbar and/or vehicle. Contact the automotive dealer if there are any doubts about the polarity of your vehicle.**

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

### Direct Wiring Guide

Standard Laser lightbars come with a 15-foot wiring harness. If the harness supplied with the lightbar is not long enough for your application, Star recommends ordering the proper cable of the desired length from the factory. Completely remove the pre-installed wire harness and replace it with one that is the correct length.

- *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 when replacing the wire harness, no wire connectors are needed and only a few common tools are necessary.*
- *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.*
- *Wiring directly inside the lightbar reduces the number of connections. There is an increase in voltage loss with the addition of each connection.*
- *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.*



1. To replace the wire harness(es) you will need to access the inside of the lightbar. Remove the endcaps by removing the four screws from each end and the screws that hold the top extrusion on the lightbar (ex. 6 screws on a 46" lightbar), and carefully lift the top off of the lightbar.

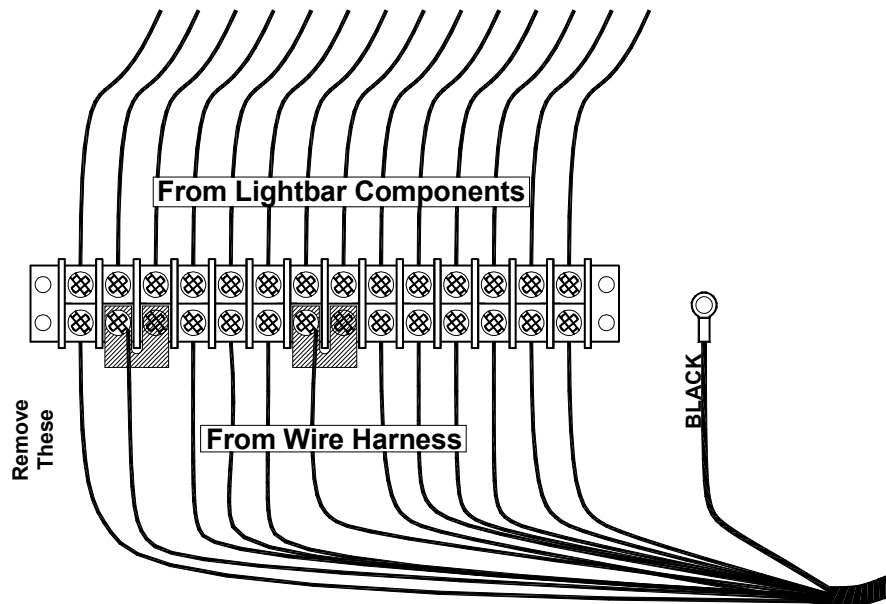
*(Wire Harness Replacement CONT'D)*

2. The wiring harness will connect to one or more terminal blocks inside the lightbar. All of the wires coming from the harness are terminated on one side of the terminal block and the wires leading to the internal components terminate on the opposite side of the terminal block. The Wiring Harness chart on page 1 lists the wire colors from the harness and indicates the function of each. **Before removing the old harness**, note the wire color and function for each terminal.
3. Loosen the screws on the HARNESS SIDE of the terminal block and remove the harness. Remember that there may be "dead" wires from the harness connected to the terminal block inside your lightbar, but there will be no wires connected to the terminal across from them. These are extra wires in the harness that are not used. Replacing these wires in your new harness is not necessary.
4. Run the new external wires up through the wire bushing into the base and to the terminal block(s). Use the Wiring Harness chart to help determine where each of your new wires should be connected.
5. Strip each wire 1/4". Connect the external wires to the proper poles of the terminal block by inserting the stripped portion of the wire under the rising clamp screw and tightening down the screw. Note that no wire terminals are needed for connecting wires to this terminal block.

***Be sure to check that no strands of wire are loose and shorting to the adjacent terminal or to the base of the lightbar.***

6. Once your new wire harness has been connected to the lightbar, secure it with the cable clamp and reassemble the top extrusion and endcaps.

***Please note that your lightbar may have more or fewer wires in the harness or from the lightbar, and it may or may not use terminal jumpers as pictured below.***



## Wiring Notes

**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 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 3-4 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. 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.
- Your harness will contain all of the colored wires in its corresponding harness. 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, and numerous different harnesses are used, wire colors MAY vary. You can use the Wiring Guide on page 1 or the worksheet shipped with each bar to identify the function of each wire. If you are still 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.

## Wire Functions



WIRE COLORS AND FUNCTIONS WILL VARY FROM HARNESS TO HARNESS. PLEASE BE SURE TO CORRECTLY IDENTIFY YOUR HARNESS AND USE THE CORRESPONDING TABLE. IN ADDITION, ALL LIGHTBARS ARE SHIPPED WITH A WORKSHEET THAT IDENTIFIES THE FUNCTION FOR EACH WIRE COLOR IN THAT SPECIFIC LIGHTBAR.

**Ground** - Connect to the negative side of the battery.

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

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

*Please note: When the red POWER wire is connected to constant power the light will draw a small current (25 mA). If your vehicle will be sitting for extended periods of time (i.e. more than a few days), it is recommended all power wires be routed through an ignition switched power source.*

**Front Enable** - When the red POWER wire has power to it, applying +12VDC to the Front Enable wire will switch only the front M-Tech Plus™ lights on.

**Rear Enable** - When the red POWER wire has power to it, applying +12VDC to the Rear Enable wire will switch only the rear M-Tech Plus™ lights on.

*If you do not need independent control of the front and rear M-Tech Plus™ lights, it is recommended that you connect all THREE wires (Power, Front Enable, and Rear Enable) together through your switch.*

**M-Tech Plus™ Pattern Select** -

- Activate only the M-Tech Plus™ primary warning lights.
- Connect the Red w/Green and Green wires together.
- Touch and release the Red w/Green and Green wires to +12 VDC to scroll through the flash patterns.
- Pattern List on page 6.

**Please Note:** ONLY the M-Tech Plus heads are +12-24VDC.  
All other components are +12VDC only.

**Pursuit Light Pattern Select** - Activate the Pursuit lights only, then touch and release to the Red w/Green wire only to +12VDC to scroll through the flash patterns for the Pursuit Lights (*see page 7*).

**Sync** - Connect to white wire from any other **SYSTEM** compatible light and set the M-Tech Plus lights for the same pattern type. See the instruction manual included with the light you are syncing for detailed programming instructions.

**High/Low** - Connect to the negative side of the battery (ground) for low power. Leave open (or disconnected) for high power.

**Additional components** - If your bar contains any additional components including, but not limited to, those listed below, applying +12VDC to the appropriate

- |                                |                     |                              |
|--------------------------------|---------------------|------------------------------|
| • Driver Alley                 | • Rear Flashers     | • I.D. Lights                |
| • Passenger Alley              | • Work Lights       | • Scene Lights               |
| • Intersection Clearing Lights | • Right Stop Lights | • Additional LED Lights      |
| • Takedown Lights              | • Left Stop Lights  | • Additional Strobe Lights   |
| • Pursuit Lights               | • Tail Lights       | • Additional Rotating Lights |

**Please Note:** ONLY the M-Tech Plus heads are +12-24VDC. All other components are +12VDC only.



# Pattern Programming

Flash Pattern	Pattern Description	Shortcut for Value and Scene Versions	Shortcut For All Others
1	Alternating Flicker	3 Sec	
2	Alternating Fast Double Flash		
3	Alternating Triple Flash		
4	Alternating ECE Double Flash Alternating PSU Flicker <i>(models with Scene Lightning)</i>		3 Sec
5	Alternating ECE Quad Flash Alternating PSU Random <i>(models with Scene Lightning)</i>		
6	Alternating Quad Flash	6 Sec	6 Sec
7	Alternating Quad Flash w/Post-Pop		
8	Alternating Single Flash		
9	Alternating Slow Double Flash		
10	Alternating Variable		
11	Alternating Post Pop Alternating Quintflash <i>(models with Scene Lightning)</i>		
12	Alternating Random Swing <i>(models with Scene Lightning)</i>		
13	Alternating Quintflash Alternating Fast Doubleflash, Alternating Flicker <i>(models with Scene Lightning)</i>	9 Sec	9 Sec
14	Alternating Fast Doubleflash, Alternating Flicker <i>(Amber Value versions)</i> Alt. Quad, Alt. Flicker, Alt. Double, Flicker <i>(models with Scene Lightning)</i> Swing <i>(All others)</i>		
15	Alt. Quad, Alt. Flicker, Alt. Double, Flicker <i>(Amber Value versions)</i> Counter Clockwise Rotating FlashSwing <i>(models with Scene Lightning)</i> Alternating Fast Double Flash, Alternating Flicker <i>(All others)</i>		
16	Simultaneous Quad w/Post Pop (Phase 1) <i>(Amber Value versions &amp; models with Scene Lightning)</i> Alternating Quad Flash, Alternating Flicker, Alternating Fast Double Flash, Flicker <i>(All others)</i>	12 Sec	
17	Simultaneous Quad w/Post Pop (Phase 2) <i>(Amber Value versions &amp; models with Scene Lightning)</i> Counter Clockwise Rotation <i>(All others)</i>		
18	Alt. Triple, Alt. Non-Synch Double, Alt. Quint, Flicker <i>(Amber Value &amp; Scene Lightning versions)</i> Simultaneous Quad w/Post Pop (Phase 1) <i>(All others)</i>		12 Sec
19	Steady burn one side, Other side Single Flash <i>(Amber Value &amp; Scene Lightning versions)</i> Simultaneous Quad w/Post Pop (Phase 2) <i>(All others)</i>		
20	Cycle All <i>(Amber Value &amp; Scene Lightning versions)</i> Alt. Triple, Alt. Non-Synch Double, Alt. Quint, Flicker <i>(All others)</i>		
21 ☼	Steady burn one side, Other side Single Flash Quad w/Post Pop, Fast Double w/Post Pop <i>(models with Scene Lightning)</i>	N/A	
22 ☼	Cycle All Alt Non-Synch Doubleflash <i>(models with Scene Lightning)</i>	N/A	
23 ☼	Quad w/Post Pop, Fast Double w/Post Pop Swing, Flicker <i>(models with Scene Lightning)</i>	N/A	
24 ☼	Alternating Non-Synch Double Slow Doubleflash, Fast Doubleflash <i>(models with Scene Lightning)</i>	N/A	
25 ☼	Swing, Flicker Alternating Fade <i>(models with Scene Lightning)</i>	N/A	
26 ☼	Slow Double, Fast Double Simultaneous Flicker (Phase 1) <i>(models with Scene Lightning)</i>	N/A	
27 ☼	Alternating Fade Simultaneous Flicker Phase 2) <i>(models with Scene Lightning)</i>	N/A	
28 ☼	Simultaneous Flicker (Phase 1) Simultaneous Triple (Phase 1) <i>(models with Scene Lightning)</i>	N/A	
29 ☼	Simultaneous Flicker (Phase 2) Simultaneous Triple (Phase 2) <i>(models with Scene Lightning)</i>	N/A	
30 ☼	Simultaneous ECE Doubleflash (Phase 1)	N/A	15 Sec
31 ☼	Simultaneous ECE Doubleflash (Phase 2)	N/A	
32 ☼	Simultaneous ECE Quadflash (Phase 1)	N/A	
33 ☼	Simultaneous ECE Quadflash (Phase 2)	N/A	
34 ☼	Sim. Quad (Phase 1), Alt. Triple, Sim. Flicker (Phase 1), Alt. Fast Double	N/A	
35 ☼	Sim. Quad (Phase 2), Alt. Triple, Sim. Flicker (Phase 2), Alt. Fast Double	N/A	

**Pattern Shortcuts:** Hold Pattern Select Wire to +12VDC for indicated time.

☼ Patterns 21-35 are **NOT** included in the Amber Value versions

**(Flash Patterns CONT'D)**

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

- The driver's side circuit and passenger's side circuit are programmed with different wires. The colors will vary depending upon your harness. Review the chart on page 1 that corresponds to your harness to identify the color of each of the programming wires.
- 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.

Flash Pattern #	Pursuit/Alley Light Flash Pattern Description	Shortcut
1	Pursuit Mode	<b>1 flash/3 sec</b>
2	Alternating Slow Single (1,3 vs 2,4) <i>(Title 13 Approved)</i>	
3	Alternate Pursuit Mode	
4	Alternating Quad Flash (1,3 vs 2,4)	
5	Alternating Triple (1,3 vs 2,4)	
6	Alternating Quint (1,3 vs 2,4)	
7	Simultaneous Slow Single (All Modules) <i>(Title 13 Approved)</i>	
8	Simultaneous Fast Single (All Modules)	
9	Simultaneous Triple Flash (All Modules)	
10	Simultaneous Quad Flash (All Modules)	
11	Simultaneous Quint Flash (All Modules)	
12	Simultaneous Fast Triple Flash (All Modules)	
13	Simultaneous Fast Quint Flash (All Modules)	
14	In/Out Single (1,3 vs 2,4)	
15	In/Out Triple (1,3 vs 2,4)	
16	In/Out Quint (1,3 vs 2,4)	
17	Simultaneous Double Flash, Post-Pop	<b>2 flashes/6 sec</b>
18	Simultaneous Triple Flash, Post-Pop	
19	Simultaneous Quint Flash, Post-Pop	
20	Alternating Double Flash, Post-Pop (1,3 vs 2,4)	
21	Alternating Triple Flash, Post-Pop (1,3 vs 2,4)	
22	Alternating Quint Flash, Post-Pop (1,3 vs 2,4)	
23	Alternating Pre-Pop Quint Flash (1,3 vs 2,4)	
24	Sequential Back And Forth	<b>3 flashes/9 sec</b>
25	Sequential In/Out	
26	Burst All w/ Alternating Burst	
27	Alternating Burst w/ Simultaneous Double Then Quint	
28	Simultaneous Burst w/ Alternating Double Then Quint	
29	Hyper-Random	
30	Demo: Cycle Through Patterns 1-4,6-9,13-20,25-29	

*The numbers in parenthesis in the list above indicate which output pairs flash together vs. the pairs they flash opposite from.*

**Pattern Shortcuts:** Hold Pattern Select Wire to +12VDC for indicated time.

<b><i>Troubleshooting</i></b>	
<b>Symptom</b>	<b>Possible solutions</b>
Flash Pattern is not changing	Pattern select wire must be pulled to +12VDC to change pattern.
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 M-Tech Plus circuits in the bar are powered from the same power switch.</li> </ul>

#### **Low Voltage Detection** *(excludes value versions)*

Some lights are equipped with low input voltage detection. If the battery voltage drops below 10VDC, the lightbar will go into a constant flicker mode. Once the input voltage returns to normal (greater than 12V) the unit will return to the normal flashing.

## Service

### LED FIVE YEAR LIMITED WARRANTY

The manufacturer warrants this LED light against factory defects in material and workmanship for five years 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, 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.** 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 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 you have any questions concerning this or any other 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 Materials Authorization  
Number (RMA #) before you ship the product back.  
Please write the RMA # clearly on the package near the mailing label.



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