Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.
- If mounting this product requires drilling holes, the installer MUST be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr any holes and remove any metal shards or remnants. Install grommets into all wire passage holes.
- If this manual states that this product may be mounted with tape or Velcro™, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.
- Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owners manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.
- For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the NEGATIVE (-) battery post.
- Do not attempt to activate or control this device in a hazardous driving situation.
- This product contains either strobe light(s), halogen light(s), high-intensity LEDs or a combination of these lights. Do not stare directly into these lights. Momentary blindness and/or eye damage could result.
- Use only soap and water to clean the outer lens. Use of other chemicals could result in premature lens cracking (crazing) and discoloration. Lenses in this condition have significantly reduced effectiveness and should be replaced immediately. Inspect and operate this product regularly to confirm its proper operation and mounting condition. Do not use a pressure washer to clean this product.
- It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.
- FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!

For warranty information regarding this product, visit www.whelen.com/warranty
Mounting:

1. Using the dimensions below, mark off and drill the two, 5/16 inch diameter vent tube holes and the 1 inch wire hole into the mounting surface. Make sure lighthead will not interfere with existing equipment and be aware of any items on the opposite side of the mounting surface.

IMPORTANT WARNING: Always check all measurements before drilling. Measurements are given in both Decimals and Fractions for your convenience. For a more accurate measurement and installation, use the decimals.

2. Insert the two vent tubes extending from the rear of the lighthead into their holes. Using a scribe or similar tool, mark off the 4 mounting holes.

3. Using a drill bit sized for a #6 sheet metal screw (and the thickness of the mounting surface), drill the four mounting holes. Install a grommet (customer supplied) into the 1 inch wire hole.

4. Using appropriately sized wires (minimum 18 AWG wire size), extend the lighthead wires to their connections (See “Wiring Options”). Fuse the +12VDC connections at 3 Amps and test the lighthead before securing it to the vehicle.

Note: Some 700 series lightheads are equipped with the SYNC feature. These lightheads will have an extra grey wire (See below).

5. Position the lighthead components onto the mounting surface and secure to the vehicle using the four, supplied #6 x 1-1/4” sheet metal screws.

WARNING! This product draws significantly less current than a standard incandescent automotive bulb. If your flasher does not operate properly, it may be necessary to replace your existing flasher module with a Whelen 3TERM flasher module. Contact your sales representative for specific vehicle application.

WARNING! All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and FUSED at the battery to carry the load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!

IMPORTANT! Before returning this vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.

**Flash Pattern Synchronization (SYNC):**

A SYNC feature is available on selected models. This allows two (or more) lightheads to flash the same, synchronized pattern in either simultaneous or alternating mode. In order to enable SYNC mode, it is necessary for the GREY wires from each lighthead to be connected together.

There is only one pattern available to a SYNC-capable lighthead, offering both a simultaneous and alternating mode:

**SignalAlert™ 75 Simultaneous mode** - 75 fpm (Factory Default)

**SignalAlert™ 75 Alternating mode** - 75 fpm

To help understand how to use SYNC, the principals will be applied to a sample system consisting of 4 lightheads, with 2 mounted on the rear, driver side of the vehicle and 2 mounted on the rear, passenger side.

With all the wiring complete, turn on the 4 lightheads. As shipped from the factory, all the lightheads will be flashing simultaneously.

To configure, for example, the passenger side lightheads to alternate with the driver side lightheads, change the flash patterns for either the passenger or driver side lightheads to Alternating

**Important!** SYNC-capable LED lightheads can be SYNCed to SYNC-capable strobe power supplies (such as the CS240S) by wiring their grey wires together. When connected as such, LED lightheads in their default pattern (simultaneous) will flash simultaneously with strobe lightheads connected to the GREEN wire outputs. LED lightheads configured for the alternating pattern will flash simultaneously with strobe lightheads connected to the WHITE wire outputs. GREEN wire outputs always alternate with WHITE wire outputs.

**Specifications:**

**BRAKE-TAIL-TURN**

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<th>LED Assembly</th>
<th>120 LED's (MAX.)</th>
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<tr>
<td>Input Voltage</td>
<td>+12.8 VDC ±20%</td>
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<tr>
<td>Input Current</td>
<td>Tail - 0.125 AMPS&lt;br&gt;Brake - 0.70 AMPS</td>
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</table>

**Default Flash Pattern** - SignalAlert™ Brake

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<tr>
<th>LED Assembly</th>
<th>56 LED's (MIN.)</th>
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<tbody>
<tr>
<td>Input Voltage</td>
<td>+12.8 VDC ±20%</td>
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<td>Input Current</td>
<td>Tail - 0.075 AMPS&lt;br&gt;Brake - 0.375 AMPS</td>
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**Default Flash Pattern** - SignalAlert™ Brake

**WIDE ANGLE WARNING**

| Input Voltage      | +12.8 VDC ±20%  |
| Input Current      | 0.40 AMPS (Blue / White / Green)<br>0.45 AMPS (Amber / Red) |

**Default Pattern** - Rapidfire™ 375

**TURN**

| Input Voltage      | +12.8 VDC ±20%  |
| Input Current      | 0.70 AMPS       |

**Default Pattern** - SignalAlert™ Brake

**BACK-UP (12V)**

| Input Voltage      | +12.8 VDC ±20%  |
| Input Current      | 0.300 AMPS      |

**Default Pattern** - Steady On

**BACK-UP (24V)**

| Input Voltage      | +25.6 VDC ±20%  |
| Input Current      | 0.150 AMPS      |

**Default Pattern** - Steady On

**ARROW**

| Input Voltage      | +12.8 VDC ±20%  |
| Input Current      | 0.475 AMPS      |

**Default Pattern** - Sequence Arrow 150

**DUAL COLOR**

| Input Voltage      | +12.8 VDC ±20%  |
| Input Current      | 0.475 AMPS      |

**Default Pattern** - Rapidfire™ 680

**SYNC**

| Input Voltage      | +12.8 VDC ±20%  |
| Input Current      | 0.475 AMPS      |

**Default Pattern** - SignalAlert™ (Simultaneous)

**IMPORTANT WARNING!** CAUTION! DO NOT LOOK DIRECTLY AT THESE LED’S WHILE THEY ARE ON. MOMENTARY BLINDNESS AND/OR EYE DAMAGE COULD RESULT!
**Scan-Lock™ (White/Violet)**

**WARNING:** Pattern selection requires the LEDs to be turned on. Do not look directly at the LEDs while the unit is on.

**IMPORTANT:** If you have a 24 volt lighthead, you will apply 24 volts to look directly at the LEDs while the unit is on.

**WARNING:** Pattern selection requires the LEDs to be turned on. Do not apply +12 volts to the WHITE/VIOLET wire for flash pattern selection.

**TO CHANGE PATTERNS:** Apply +12 volts to the WHITE/VIOLET wire for less than one second and release to cycle forward to the next available pattern. Apply +12 volts to the WHITE/VIOLET wire for more than one second and release to cycle back to the previous pattern.

**TO CHANGE DEFAULT PATTERN:** When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthead will now display this pattern when initially activated.

**TO RESTORE FACTORY DEFAULT PATTERN:** With the power to the lighthead off, apply +12 volts to the WHITE/VIOLET wire. Now turn power to the lighthead off, apply +12 volts to the WHITE/VIOLET wire. Now turn power to the lighthead on. The factory default pattern should now be displayed.

**A Normally Open momentary switch can be used to control Scan-Lock™.**

**Flash Patterns:**
- SignalAlert™ 75 > SignalAlert™ 150 > SingleFlash 375 > SingleFlash 150 > DoubleFlash 150 > DoubleFlash 75 > CometFlash® 75 > ActionFlash™ > ModuFlash™ > ComAlert™ > ActionScan™ > SignalAlert™ Steady > Steady (Brake) Brake

**Patterns:**
- SignalAlert™ Steady > Steady Brake

**SYNC Patterns:**
- SignalAlert™ Steady > Steady Brake

**Wiring Options**
- **SYNC**
  - LED Color: Positive (+)
  - Black (12V)
  - White-Violet - ™
  - Black-White (24V)
- **MAX BIAS**
  - LED Color: Positive (+)
  - Black (12V)
  - Black-White (24V)
- **FLOOD or BACK-UP**
  - White: Positive (+)
  - Black (12V)
  - White-Black (24V)
  - White-Violet - ™
- **SYNC**
  - White-Violet - ™
  - Black-White (24V)
- **ARROW**
  - LED Color: Positive (+)
  - Black (12V)
  - Black-White (24V)
  - White-Violet - ™

**Available Mounting Options**
- **Surface Mount Housing**
  - Black: 01-046757-00
  - Chrome: 01-046758-01
- **Mini-Grill-Master Housing**
  - Black: 01-046777-01
  - Chrome: 01-046778-01
- **Swivel Mount Kit**
  - Black: 11-481138-00
  - Chrome: 01-044133-00
- **For use with: HALOGEN, STROBE or LED lightheads**
- **For use with: HALOGEN, STROBE or LED lightheads**

\[ \text{Parts} \]

\[ \text{Wiring Options} \]

\[ \text{Available Mounting Options} \]
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### Part Number Key:

**01-0683718**

**Termination**

- **A/R** = None
- **1** = Deutsch

**LED Lens Color Style**

- **B** = B-T-T / MAX
- **E** = 24V B-T-T / MAX
- **G** = BACK-UP (24V)
- **S** = Sync
- **A** = Max Bias
- **L** = Turn (24V)
- **K** = Wide Angle (24V)
- **D** = Max Bias (24V)
- **N** = B-T-T (CERTIFIED)
- **F** = Flood

**LED Lens Color**

- **A** = Amber-Amber
- **B** = Blue-Blue
- **C** = White-Clear
- **G** = Green-Green
- **R** = Red-Red
- **D** = Red-White / Red-CLR
- **J** = Red-Blue / Red-Blue
- **Q** = Amber-Clear
- **K** = Blue-Clear
- **S** = Green-Clear
- **P** = Red-Red / Clear
- **X** = Red-Amber / Red-Amber
- **W** = Red / Red
- **g** = Amber / Amber
- **7** = Red / Amber / Clear
- **8** = Red / Red / Clear

**Style**

- **D** = Arrow
- **L** = Flood
- **6** = Split
- **1** = Single
- **2** = Dual
- **3** = Triple
- **4** = Quad
- **5** = Quad Split
- **8** = Quad Split

**Termination Style**

- **D** = Arrow
- **L** = Flood
- **B** = B-T-T / MAX
- **E** = 24V B-T-T / MAX
- **G** = BACK-UP (24V)
- **S** = Sync
- **A** = Max Bias
- **L** = Turn (24V)
- **K** = Wide Angle (24V)
- **D** = Max Bias (24V)
- **N** = B-T-T (CERTIFIED)
- **F** = Flood