**Warnings to Installers**

Whelen’s emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen’s written instructions when installing or using this product. Emergency devices are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that they can operate the system without taking their eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer’s instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

**Warnings to Users**

Whelen’s emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user’s responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen’s audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

**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.

**WARNING:** This product can expose you to chemicals including Methylene Chloride which is known to the State of California to cause cancer, and Bishphenol A, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **Whelen Engineering requires the use of the waterproof butt splices and/or connectors if that connector could be exposed to moisture.**
- **Any holes, either created or utilized by this product, should be made both air- and watertight using a sealant recommended by your vehicle manufacturer.**
- **Failure to use specified installation parts and/or hardware will void the product warranty.**
- **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 the 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 suction cups, magnets, 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 owner’s 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 (this does not include products that use cigar power cords).**
- **If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.**
- **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!**

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Form No.14049C (122008)

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

**IMPORTANT! The lightbar should be located a minimum of 16" from any radio antennas!**

1. On the rear deck, locate the driver-side outboard cap covering the child restraint strap holder. Remove this cover to access the tether strap holder (Fig. 1).
2. Insert the Tinnerman nut into the strap holder as shown in Fig. 1. Note that pliers may be needed to squeeze the Tinnerman nut mounting flange, allowing it to pass through the opening in the strap holder.
3. Locate one of the two child restraint mounting brackets included with the mounting kit.
4. Secure one child restraint mounting bracket onto the strap holder using the hardware shown. Tighten the hardware firmly.
5. Position the housing mounting bracket onto the child restraint bracket so that the adjustment slot is aligned with the Tinnerman nut on the top of the child restraint mounting bracket.
6. Using the hardware included, secure the housing mounting bracket to the child restraint mounting bracket. Do not tighten this hardware yet.
7. Position the lightbar onto the rear deck. Secure the lightbar to the mounting brackets using the hardware shown. Do not tighten this hardware yet.

Repeat steps 1 thru 6 using the Passenger-side Child Restraint holder.

8. Route the input cable to your control head (refer to the installation manual included with your control head for important mounting and wiring information).

**IMPORTANT!** When routing the lightbar cable, it is left to the installation technician's discretion to select a path for these cables that will both protect the cables from possible damage and not interfere with the operation of any other vehicle components or equipment. Refer to the instructions included with your switches for switch wiring information.

**Wiring:**

**BLACK (Ground)** - Extend and connect the BLK wire to chassis ground (typically adjacent to the vehicle battery).

**RED (Main Power)** - Route the RED wire to an unused, ignition-controlled circuit fused @ 10 Amps. Do not connect to this circuit yet.

**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 that load. **DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!**

**Scan-Lock™ (WHT-ORG)**

TO CYCLE THROUGH ALL PATTERNS: Apply +12 volts to the WHT/ORG wire for less than 1 second and release to cycle forward. Apply +12 volts for more than 1 second and release to cycle backward.

TO SET A PATTERN AS DEFAULT: When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthead will now display this pattern when active.

TO RESET TO THE FACTORY DEFAULT PATTERN: Turn off power, apply +12 volts to the WHT/ORG wire, then turn power on.

A normally open momentary switch can be used to control Scan-Lock operation.
**Low Power Operation (WHT/GRN)**

NOTE: Low Power is not available with units equipped with end flashers.

**FOR LOW POWER OPERATION:** Apply +12VDC to the WHT/GRN wire. The unit will continue to operate in Low Power mode until this voltage is removed.

A Single Pole/Single Throw switch can be used to control Low Power operation.

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

**Wiring:**

**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 that load. **DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!**

**BLACK (GROUND)** - Connect this wire to Chassis Ground.

**RED (Main Power)** - Connect this wire to an ignition controlled circuit capable of accommodating an additional 10 AMP current draw.

**WHITE/GREEN (Low Power)** - When +12VDC is applied to this wire, the lightbar is placed in Low Power mode. Remove this voltage to restore normal operation. A SP/ST switch is best suited for this circuit. Fuse this wire @1A.

**WHITE/ORANGE (Scan-Lock™)** - When the TA feature is active, this wire will control TA patterns; when the end flasher feature is active, this wire will control the end flasher patterns. Do not use Scan-Lock while both features are simultaneously active.

The Scan-Lock pattern control wire functions as follows:

- **To cycle through all patterns:** Apply +12 volts to the WHT/ORG wire for less than 1 second and release to cycle forward. Apply +12 volts to the WHT/ORG wire for more than 1 second and release to cycle backward.

- **To set a pattern as default:** When the desired pattern is displayed, allow it to run for more than 5 seconds. This is now the default pattern when active.

**To reset to the factory default pattern:** Turn off power, apply +12 volts to the WHT/ORG wire, then activate the desired feature.

**Note:** If the owner wishes to connect the Scan-Lock wire to a switch, an SP/ST momentary switch is recommended.

**Scan-Lock End Flasher Patterns:**

1. SignalAlert™
2. CometFlash®
3. SingleFlash 375
4. SingleFlash 75
5. ActionFlash™
6. ModuFlash™
7. ZigZag 60
8. ZigZag 90
9. ZigZag 120
10. ActionScan™

**Traffic Advisor Patterns:**

1. Sequence to Solid
2. Seq. On/Seq. Off
3. 1-Lamp TripleFlash™
4. 2-Lamp TripleFlash

A Normally Open Momentary Switch is best suited for this circuit. Fuse @1A.

**BROWN (End Flashers)** - Applying +12VDC to this wire activates the end flashers. A SP/ST switch is best suited for this circuit. Fuse this wire @1A.

**BLUE (TA Flash)** - When +12VDC is applied to this wire, the Traffic Advisor™ lightbar function becomes active. A SP/ST switch is best suited for this circuit. Fuse this wire @1A.

**WHITE/BLACK (Left)** - When +12VDC is applied to this wire, the Take-Down’s are activated in normal, steady mode. A SP/ST switch is best suited for this circuit. Fuse this wire @1A.

**ORANGE (Right)** - When +12VDC is applied to this wire, the lightbar will display the last active Scan-Lock flash pattern. A SP/ST switch is best suited for this circuit. Fuse this wire @1A.

When this product is wired as outlined here, the lightbar will not function until the ignition switch is in the ON, RUN or ACC position.