

WHELEN[®]

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Installation Guide:
Traffic Advisor™ System
Model TAC8**

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 device. Emergency vehicles 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.

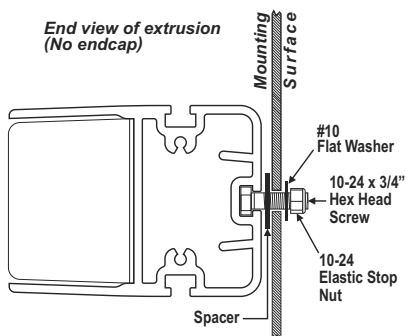
- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.**
- **Failure to use specified 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!**

Installation:

IMPORTANT! It is the responsibility of the installation technician to make sure that the installation and operation of this product will not interfere with or compromise the operation or efficiency of any vehicle equipment!

Mounting - Traffic Advisor Display

1. Position the unit in its proposed mounting location. Draw a pencil line onto the mounting surface along the top and bottom of the extrusion and a "centerline" centered between the two.
2. Four 13/64" holes are required to mount this unit. These holes may be located anywhere along the horizontal centerline drawn in step one. It's best to locate the holes as far apart as possible. Mark the hole location onto the mounting surface.
3. Using a 13/64" bit, drill a hole in each of the areas marked in the previous step.
4. Slide the four hex-head mounting bolts (included) into the channel opening provided at the rear of the extrusion. **Note that the Traffic Advisor is properly oriented when the cable exit is on the left end of the extrusion when facing the display.**
5. Place a spacer on each bolt and insert them into the mounting holes.
6. Install a flat washer and elastic stop nut onto each bolt and tighten firmly.



Mounting - Control Head

A mounting kit included with the TAC8 control head allows it to be mounted in one of three different styles; VHB Double-sided Adhesive, Velcro® and Permanent Mount (hardware).

VHB or Velcro Mounting

Important! Before mounting with either VHB or Velcro®, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.

Permanent (Hardware Mounting)

Important! It is absolutely necessary to make sure that no other vehicle components could be damaged by the drilling/screwing process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.

1. Position the control head in its proposed mounting location. Using an awl or similar tool, mark the locations of the two mounting holes.
2. Remove the control head and drill and deburr an appropriately sized mounting hole for a #6 sheet metal screw at each of the areas marked. Secure the control head to its mounting location using the hardware provided.

Wiring:

IMPORTANT AIR BAG WARNING! Do not install this product or route any wires in the air bag deployment zone of your vehicle. Equipment mounted or located in air bag deployment zones 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 to learn the air bag deployment zones for the vehicle. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.

Note: When routing wires, it is very important that you choose a path that will keep the wires away from any excessive heat or any vehicle equipment that could compromise the integrity of the wires (ex. trunk lids, door jams, etc.).

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.

Route the Traffic Advisor cable to the installed location of the control head. Locate the PIN-type connector and, following the locations shown in the wiring diagram closely, insert the PIN terminals into the rear of the connector. When fully inserted, the terminals will 'click' into place. Gently tug each wire to confirm their proper installation. Plug the fully-assembled connector into the mating Socket-type connector from the control head.

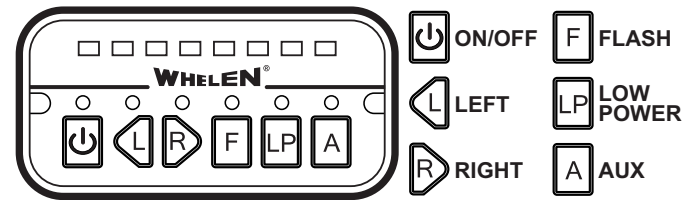
The remaining 4-conductor control head cable functions as follows (see Operation for specific details):

RED (Power) - Connect to +12VDC (fuse @ 10A)

Black (Ground) - Connect to Chassis Ground.

Orange (AUX In) - Allows a +12V input signal to activate AUX Out.

Yellow (AUX Out) - Provides +12VDC for an auxiliary device (such as a Whelen Responder LP Series Lightbar).



Operation:

Control Head

ON/Off

Press to turn on the system. The LED indicator will be lit for as long as the system is on. Press and hold this button for more than 1 second to turn the system off. **Note** - This button does not disable AUX In.

Left

Press to activate the LEFT TA sequence. If the LEFT TA sequence is already active, this will turn the TA off.

If the RIGHT TA sequence is active, this button will activate the SPLIT TA sequence.

If the SPLIT TA sequence is active, this button will activate the RIGHT TA sequence.

Press and hold to enter Programming mode (see "Programming" for detailed information).

Right

This button is functionally identical to the 'Left' button, as applied to RIGHT TA operation.

Flash

Press to activate non-Traffic Advisor patterns (see "Programming" for detailed information).

Low Power

Press this button to toggle between normal and Low Power operation.

AUX

Press to activate AUX Out operation (if the AUX In signal is not already active).

Programming

A programming state for each of the three TA functions ('Left', 'Right' and 'Split'), as well as the non-TA function ('Flash'), is initiated by pressing and holding the applicable button(s) for more than 3 seconds (press and hold the 'L' and 'R' buttons simultaneously to program the 'Split' function). The appropriate LED indicator will flash while in a programming state.

While in this state, tapping the appropriate button will advance through the available selections for that particular function (when programming 'Split', use either the 'L' or 'R' button to advance through the available sequences).

The 'Left', 'Right' and 'Split' functions can be programmed to display any of 9 available sequences (see 'Traffic Advisor Sequence List').

The Flash button can be programmed to display any of 9 available flash patterns (see 'Flash Pattern List').

If a button is not pressed for 5 seconds, the currently selected sequence or pattern will be stored and the programming state will end.

NOTE: When Programming state has finished, the bar will be in stand-by mode (no active display).

Auxiliary Out

The Auxiliary Out wire (Yellow), when activated, can provide +12VDC, allowing the TAC8 to activate an auxiliary device with a maximum peak current draw of no greater than 6.0 Amps. Pressing the 'A' button on the control head manually activates and deactivates the Aux Out feature (refer to the Auxiliary In section for Override information).

Auxiliary In

The Auxiliary In wire (Orange) can be connected to a +12VDC signal to allow that signal to activate and deactivate the Aux Out wire. The Aux In is an override signal that functions regardless of the Aux Out button on the control head. As long as the Aux In wire is receiving a +12VDC signal, the Aux Out wire will be active.

Traffic Advisor Sequence List

- 1 Solid
- 2 On/Off
- 3 On/Off (with Flicker)
- 4 On/Off Double Sweep
- 5 1 Lamp Double Sweep
- 6 1 Lamp (with Flicker) w/ End Comet
- 7 3 Lamp
- 8 2 Lamp
- 9 1 Lamp

Flash Pattern List

- 1 ZigZag
- 2 Comet Flash® Left/Right Alternating
- 3 SignalAlert™ Simultaneous
- 4 SignalAlert In/Out Alternating
- 5 ModuFlash™
- 6 ActionScan™
- 7 Single Flash 375
- 8 Single Flash 150
- 9 Single Flash 75

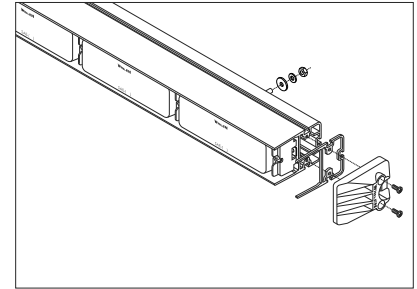
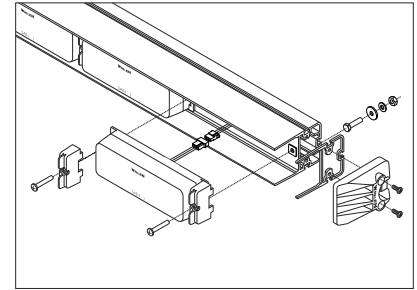
Service:

To replace a lighthouse, begin by turning off the power. Remove the retaining screw and lens divider from either side of the appropriate lighthouse. The lighthouse may now be pulled away from the extrusion and disconnected from the wiring harness.

Reverse this procedure to install the replacement lighthouse.

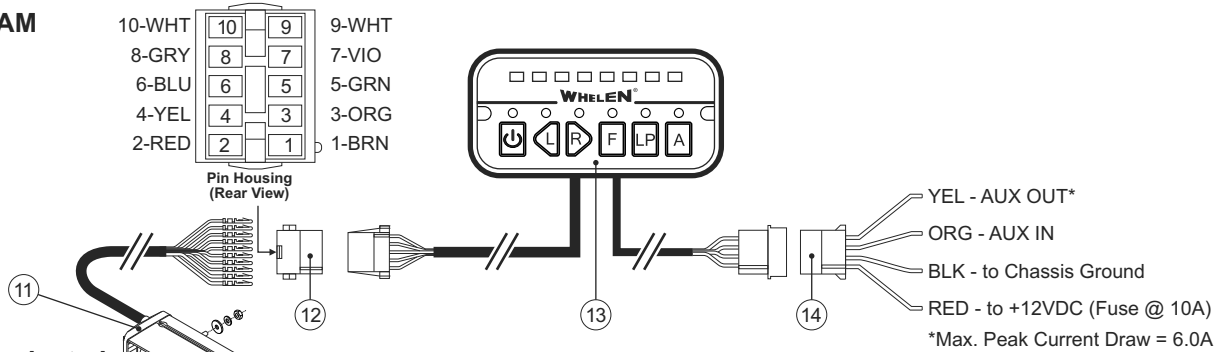
IMPORTANT! It is the responsibility of the installation technician to make sure that the installation and operation of this product will not interfere with or compromise the operation or efficiency of any vehicle equipment!

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



IMPORTANT WARNING!
CAUTION! DO NOT LOOK DIRECTLY AT THESE LED'S WHILE THEY ARE ON. MOMENTARY BLINDNESS AND/OR EYE DAMAGE COULD RESULT!

WIRING DIAGRAM



Important!
When properly oriented the cable will exit the **Left** end of the extrusion, as shown.

QTY	ITEM	PART NUMBER	DESCRIPTION
9	1		SCREW, #8 X 1 PPHSMS
9	2	38-046F898-00	DIVIDER, LENS TAC8
8	3	01-026F828-A0	LIGHTHEAD, TAC8, AMBER
1	4	38-026F897-00	GASKET, ENDCAP
1	5	11-287787-000	ENDCAP, w/o HOLE TAC8
4	6		SCREW, #6-32 X 1/2 PPH SS
4	7		SCREW, #10-24 X 3/4 HEX HDMS SS
4	8	20-0023627-00	SPACER
4	9		WASHER, #10 FLAT SS
4	10		NUT, #10-24 ELASTIC STOP
1	11	46-076F409-**	ASSY, INPUT HARNESS (w/ENDCAP)
1	12	39-0410313-04	HOUSING, 10-POS PIN
1	13	01-066F829-00	CONTROL HEAD, TAC8
1	14	46-0747607-00	HARNESS, TAC8 INPUT ADAPTER

46-076F409-**
20 = 20' Cable
35 = 35' Cable
55 = 55' Cable

