

# WHELEN<sup>®</sup>

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### Installation Guide: Alpha™ Series Siren Amplifier

**DANGER!** Sirens produce extremely loud emergency warning tones! Exposure to these tones without proper and adequate hearing protection, could cause ear damage and/or hearing loss! The Occupational Safety & Health Administration ([www.osha.gov](http://www.osha.gov)) provides information necessary to determine safe exposure times in Occupational Noise Exposure Section 1910.95. Until you have determined the safe exposure times for your specific application, operators and anyone else in the immediate vicinity should be required to wear an approved hearing protection device. Failure to follow this recommendation could cause hearing loss!

#### 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.

**⚠ WARNING:** This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://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 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.
- 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!

**ACTIVATION OF THIS  
SIREN MAY DAMAGE  
UNPROTECTED EARS!**



**CAUTION**

Loud siren noise can cause hearing damage and/or loss. Refer to OSHA Section 1910.95 prior to putting ANY siren into service!

## Mounting the Alpha™ Series Siren Amplifier:

The Alpha siren, although technologically advanced, is simple to install. An aftermarket center console is recommended for the mounting location of the siren. This not only allows the driver to reach the controls easily, but also keeps the unit safely out of the path of the vehicle's SRS air-bag. Follow the console manufacturer's instructions for mounting information. If a console-type mount is not possible, the siren includes a bail strap mounting kit for over or under dash mounting.

### The following steps will guide you through the bail strap installation process:

1. Select a mounting location for the Alpha siren, either on top of, or below your vehicle's dashboard.
2. Using the bail strap as a guide, drill two 1/8" holes and secure the bail strap to the dashboard with two #10 x 1" Phillips pan head sheet metal screws (user supplied). Refer to Figure 1.

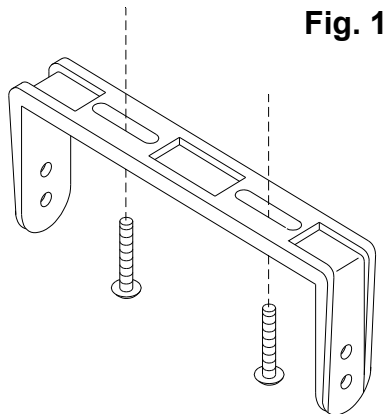


Fig. 1

3. Slide the carriage bolts into the middle of the mounting tracks on the siren amplifier and fit an external-tooth lock washer onto each of the carriage bolts.

4. Insert the Alpha siren amplifier into the bail strap, as shown in Figure 2. Please note that it will be necessary to spread the bail strap arms slightly apart to accept the Alpha's carriage bolts into their mounting holes.

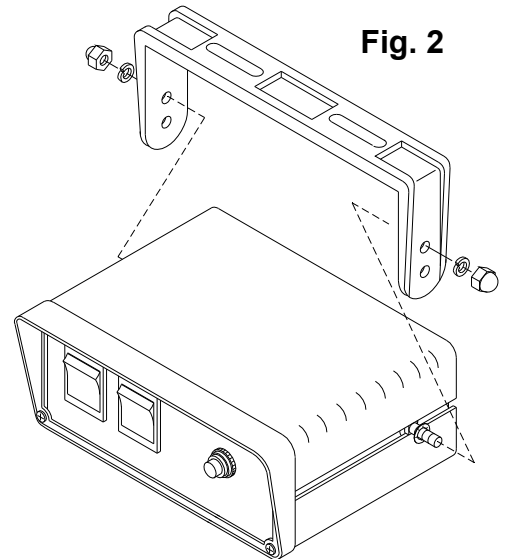


Fig. 2

5. Place a lock washer and an acorn nut on each carriage bolt and tighten with a 3/8" wrench. Do not over-tighten!

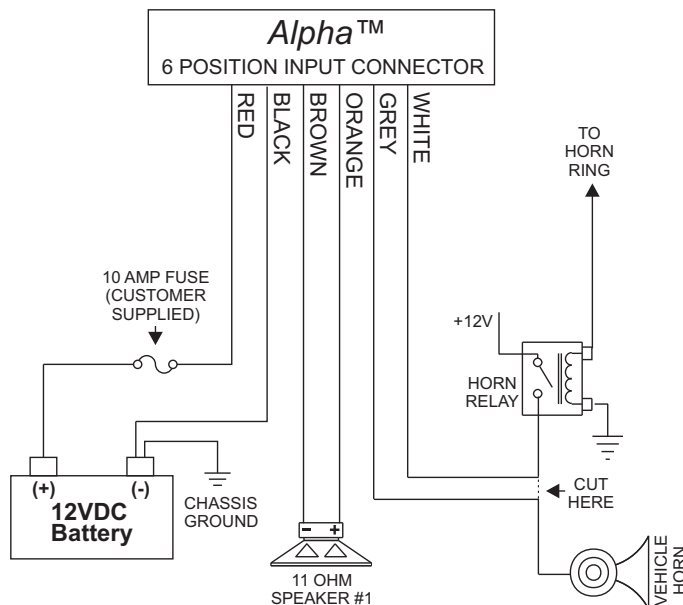
## Wiring the Alpha™ Series Siren Amplifier

### Connecting to power:

1. Extend the RED and BLACK wires through the firewall and into the engine compartment.
2. Follow factory wiring harness towards the vehicle's battery.

**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!**

3. Connect the RED wire to one end of a user supplied, 10 amp fuse block. *Do not connect this unit to the battery yet!*
4. Connect the BLACK wire directly to the NEGATIVE battery terminal.



**ACTIVATION OF THIS SIREN MAY DAMAGE UNPROTECTED EARS!**



**CAUTION**

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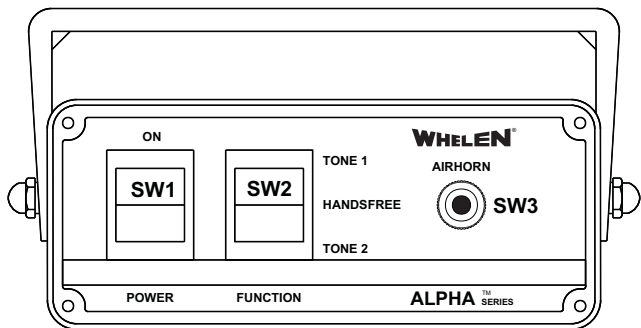
### Connecting to your Horn Relay:

1. Route the WHITE and GREY wires along the factory wire harness and through the firewall at the same point as the RED and BLACK wires.
2. Locate your vehicle's horn relay and route the WHITE and GREY wires to this. If possible, follow the factory wire harness to this relay.
3. Locate the wire that connects the vehicle horn to the horn relay. Cut this wire.
4. Connect the WHITE wire to the wire coming from the horn relay.
5. Connect the GREY wire to the wire coming from the horn.

### Connecting to your Speaker (100 watt):

1. Route the ORANGE and BROWN wires along the factory wiring harness towards your speaker.
2. Connect the ORANGE wire to the POSITIVE (+) terminal on the speaker.
3. Connect the BROWN wire to the NEGATIVE (-) terminal on the speaker.

The installation of your Alpha Series siren amplifier will be complete after the fuse block wire is connected to the POSITIVE (+) terminal of the battery. After this connection has been made, visually inspect the fuses at the back of the amplifier and at the battery. If either of these fuses is blown, carefully inspect all of the circuit wires and make sure they are wired correctly. Replace the blown fuses with ones of an identical amp rating as the original. If these fuses blow after installation or activation, contact Whelen Engineering Technical Support.



### Operating the Alpha Series Siren Amplifier:

**Power Switch** - This switch has two positions:

Down (Alpha - Off) and Up (Alpha - On). When this switch is in the Off position, the siren will not function. When the switch is in the On position the siren is functional and may be activated at the operator's discretion.

**NOTE:** If the Alpha is connected to the vehicle's horn ring circuit, the vehicle horn is disabled when the Alpha power switch is in the ON position.

**Airhorn Button** - When the Airhorn button is pressed, a simulated "air horn" siren tone will be generated by your vehicle's loudspeaker. This tone is continuous until the Airhorn button is released.

**Function Switch** - The Function Switch controls the siren functions of the Alpha. There are 3 positions that may be selected. Each position and it's function is outlined below:

**Tone 1 (WAIL)** - When the function switch is in the Tone 1

position, a steady, rise and fall tone is produced ("Wail"). A single "tap" on the vehicle's steering wheel horn button (if the vehicle's horn has been wired to the Alpha), changes the siren tone to a "Yelp" pattern (a fast, rise and fall tone). A second "tap", and the siren returns to a "Wail" tone.

**HF (Hands-Free Operation)** - When the function switch is in the Hands-Free position, the siren functions of the Alpha are placed in a stand-by mode. Siren tones are activated by a single "tap" on the vehicle's steering wheel horn button (if the vehicle's horn has been wired to the Alpha). The first tap produces a Wail tone (a steady, rise and fall tone). A second tap produces a Yelp tone (a fast, rise and fall tone). A third tap produces a Piercer™ tone (an extremely fast, rise and fall tone). The next tap returns the siren to a Wail tone and the cycle repeats itself. Two quick, successive taps stop the siren.

**Tone 2 (YELP)** - When the function switch is in the Tone 2 position, a fast, rise and fall tone is produced (Yelp). A single tap on the vehicle's steering wheel horn button (if the vehicle's horn has been wired to the Alpha), changes the siren tone to a Piercer™ pattern (an extremely fast, rise and fall tone). With a second tap, it will return to Yelp.

### ALPHA SIREN SPECIFICATIONS

<b>INPUT VOLTAGE</b> . . . . .	13.5 VDC ± 20%
<b>INPUT CURRENT (OFF)</b> . . . . .	0 mA
<b>INPUT CURRENT (STANDBY)</b> . . . . .	10 mA (TYP.)
<b>INPUT CURRENT (SIREN)</b> . . . . .	8 Amps (TYP.)
<b>OUTPUT VOLTAGE</b> . . . . .	34 V RMS (MAX.)
<b>SPEAKER</b> . . . . .	(1) 11 ohm
<b>OUTPUT POWER @ 15 VDC</b> . . . . .	105 WATTS (MAX.)
<b>H/R VOLTAGE</b> . . . . .	INPUT VOLTAGE or GROUND
<b>H/R CURRENT</b> . . . . .	15 mA (TYP.)
<b>OPERATING TEMP.</b> . . . . .	-30° C. to +60° C.
<b>OPERATING HUMIDITY</b> . . . . .	95% NON-CONDENSING

### Dip Switch Functions:

Some of the default functions of the Alpha siren amplifier can be customized (via dip switches) to suit the needs of the operator. In the default factory configuration, each dip switch is in the down (ON) position. The following section will explain dip switch functionality in both the ON and OFF position:

Down= On (Closed) Up = Off (Open)

**Dip Switch #1** Down = 3rd Tone is Active  
Up = 3rd Tone is Off

**Dip Switch #2** Down = 3rd Tone is Piercer™  
Up = 3rd Tone is Hi/Low

**Dip Switch #3** Down = Piercer Override for Yelp  
Up = Airhorn Override for Yelp

**Dip Switch #4** Down = Wail has Normal Yelp Override  
Up = Wail has 10 second Yelp Override

**Dip Switch #5** Down = Manual Stop  
Up = Manual Coast

**Dip Switch #6** Down = Hands Free position is Hands-Free  
Up = Hands Free Position is Manual

**Dip Switch #7** Down (With Switch 8 Down) =Tone 2 is Yelp  
Down (With Switch 8 Up) =Tone 2 is Hi/Low

**Dip Switch #8** Up (With Switch 7 Down) =Tone 2 is Hi/Low  
Up (With Switch 7 Up) =Tone 2 is Manual