

WHELEN[®]

ENGINEERING COMPANY INC.

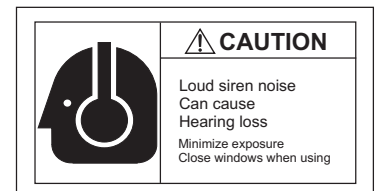
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Installation Guide: Alpha™-series Remote Siren Amplifier

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 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 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.**
- **If this product uses a remote device to activate or control this product, make sure that this control is located in an area that allows both the vehicle and the control to be operated safely in any driving condition.**
- **Do not attempt to activate or control this device in a hazardous driving situation.**
- **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 the Alpha Series Remote Siren Amplifier

1. Locate a suitable mounting location for the Alpha. The vertical wall between the trunk and the passenger compartment is often a good choice and is the method discussed in this manual.
2. Be sure that the remote amplifier fits properly and does not interfere with any parts of the trunk lid or seat back.
3. Position the remote amplifier on the proposed mounting location. Using an awl or other suitable tool, scribe the mounting surface where the mounting holes are to be drilled.

CAUTION! As mounting the Alpha will require drilling, it is absolutely necessary to make sure that no other vehicle components could be damaged by the drilling process. If any vehicle component could suffer any potential harm, select a different mounting location.

4. Carefully drill the mounting holes using a drill bit sized for a #8 sheet metal screw.
5. Using the supplied #8 x 5/8" sheet metal screws, secure the remote amplifier to the vertical trunk wall.

Wiring the Alpha Series Siren Amplifier (6 position connector)

Connecting to Power:

1. Extend the RED and BLACK wires through the firewall and into the engine compartment.
2. Follow the factory wiring harness towards your 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 fuse block. *Do not connect this unit to the battery yet!*
4. Connect the BLACK wire directly to the NEGATIVE battery terminal.

Connecting to Your Speaker (100 watt):

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

Wiring the Alpha Series Siren Amplifier (9 position connector)

The Alpha series siren configuration and functionality are determined by the user supplied switches connected to the Alpha amplifier. A brief explanation of each of the function wires of the 9 position connector will serve as a guide to help determine the best configuration for your specific needs:

RED

Provides current for customer supplied switch operation (0.5 amp max.).

WHITE/GREEN

Connects to a user supplied horn transfer switch (Fig. 1) enabling the vehicle horn ring to control the siren.

WHITE/BROWN

Activates the *Wail* tone.

WHITE/RED

Activates the *Yelp* tone.

NOTE: Connecting both the *WHITE/BROWN* and *WHITE/RED* wires activates the *Piercer* tone.

WHITE/ORANGE

Enables *Hands Free* operation.

WHITE/YELLOW

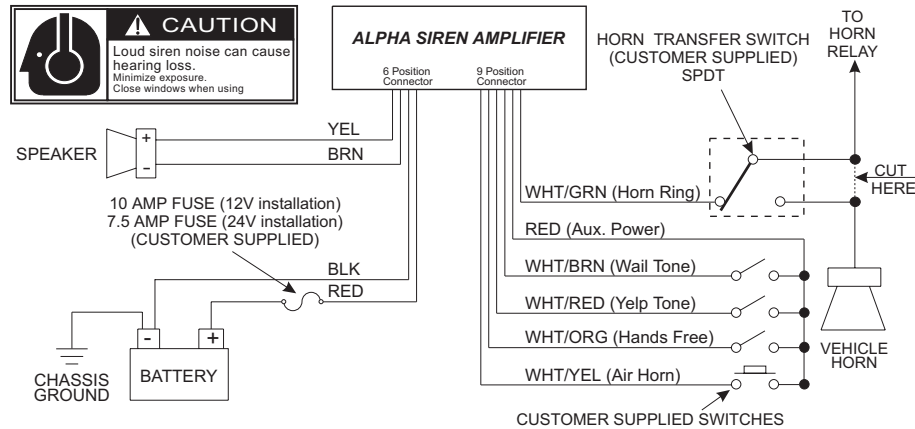
Activates *Airhorn* tone.

| WIRE COLOR | + Battery Terminal | + Battery Terminal | + Battery Terminal | + Battery Terminal | + Battery Terminal |
|-------------------------|--------------------|--------------------|--------------------|----------------------------|--------------------|
| WHITE/BROWN | WAIL | ↓ | ↓ | ↓ | ↓ |
| WHITE/RED | → | YELP | ↓ | ↓ | ↓ |
| WHITE/BROWN & WHITE/RED | → | → | PIERCER or Hi-Lo | ↓ | ↓ |
| WHITE/ORANGE | → | → | → | HANDS FREE MODE ENABLED | ↓ |
| WHITE/GREEN | → | → | → | HANDS FREE MODE ACTIVATION | ↓ |
| WHITE/YELLOW | → | → | → | → | AIRHORN |

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.

Connecting to your Horn Relay:

1. Locate your vehicle's horn relay. Now locate the wire that connects the vehicle horn to the horn relay and cut this wire.
2. Extend each end of the cut wire (using a minimum 16 gauge wire) to a user supplied SPDT horn transfer switch.
3. Connect the wire coming from the horn relay to the switch "wiper" as shown below.
4. Connect the wire coming from the horn to one side of the switch as shown below.
5. Connect the WHITE/GREEN wire from the 9 position connector to the other side of the switch as shown below.



Alpha Siren Specifications

| | 12 Volt | 24 Volt |
|--------------------------------|-------------------------------|-------------------------------|
| INPUT VOLTAGE | 13.5 VDC ± 20% | 26.5 VDC ± 20% |
| INPUT CURRENT (OFF) | 0 mA | 0 mA |
| INPUT CURRENT (STANDBY) | 175 mA (TYP.) | 250 mA (TYP.) |
| INPUT CURRENT (SIREN) | 8 Amps (TYP.) | 4 Amps (TYP.) |
| OUTPUT VOLTAGE SPEAKER | 34 V RMS (MAX.) (1) 11 ohm | 34 V RMS (MAX.) (1) 11 ohm |
| OUTPUT POWER | 105 WATTS (MAX.) @ 15 VDC | 105 WATTS (MAX.) @ 30 VDC |
| H/R VOLTAGE | INPUT VOLTAGE or GROUND | INPUT VOLTAGE or GROUND |
| H/R CURRENT | 15 mA (TYP.) | 15 mA (TYP.) |
| OPERATING TEMP. | -30° C. to +60°C. | -30° C. to +60°C. |
| OPERATING HUMIDITY | 95% Non-Condensing | 95% Non-Condensing |

Hands-Free Siren Activation (Default)...

The Alpha siren amplifier, when installed according to the above wiring diagram, offers the ability to activate siren tones using the vehicle's steering wheel horn ring. After the Horn Transfer switch has been set to siren operation, the Hands-Free mode is enabled when switch 3 is closed. After Hands-Free mode is enabled, pressing the horn ring button will start the Wail siren tone. A second press of the horn ring button will change the siren tone from Wail to Yelp. A third press will change the siren tone from Yelp to Piercer. The siren tones will continue to cycle from Wail to Yelp to Piercer with each subsequent press of the horn ring button. Two, rapid presses on the horn ring button ends Hands-Free siren tone generation until the horn ring button is pressed again. At that time the cycle is repeated.

To exit the Hands-Free mode, end current siren tone with two, rapid horn ring presses, turn off switch 3 and return the Horn Transfer switch to its normal operating position. Normal vehicle horn operation is then restored.

Manual Siren Activation (Optional)...

The Alpha siren amplifier, when installed according to the wiring diagram on page 4, offers Manual siren activation using the vehicle's steering wheel horn ring as a momentary switch. After the Horn Transfer switch has been set to siren operation, the horn ring button will now activate the Manual siren tone. The default manual siren tone "ramps up" to a predetermined level and continues at that level until the Manual switch is released. When the switch is released, the tone is immediately terminated.

Dip Switch Functions Explained...

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:

Dip Switch #1

Down (Default) Tone 3 & Hands-Free 3rd tone are Enabled
Up (Optional) Tone 3 & Hands-Free 3rd tone are Disabled

Dip Switch #2

Down (Default) Tone 3 & Hands-Free 3rd tone are Piercer
Up (Optional) Tone 3 & Hands-Free 3rd tone are Hi/Lo

Dip Switch #3

Down (Default) Tone 3 is the override tone for Yelp
Up (Optional) Airhorn is the override tone for Yelp

Dip Switch #4

Down (Default) Wail has normal Yelp override
Up (Optional) Wail has 10 second override for Yelp

Dip Switch #5

Down (Default) Manual tone ramps up to a pre-determined level and, upon release, terminates
Up (Optional) Manual tone ramps up to a pre-determined level and, upon release, ramps down and terminates

Dip Switches #6, #7 & #8

NOTE: Unlike dip switches #1 through #5, where each dip switch functions independently of the others, dip switches #6, #7 and #8 are used in conjunction with each other to achieve a specific function.

| Dip Switch 6 | Dip Switch 7 | Dip Switch 8 | Description of system functionality |
|-----------------|-----------------|-----------------|---|
| ON | ON | ON | Default Configuration |
| OFF | ON | ON | Wail has priority over all tones(except Air Horn). Hands-Free is not effected in this setting. |
| ON | OFF | ON | Yelp has priority over all tones(except Air Horn). Hands-Free is not effected in this setting. |
| OFF | OFF | ON | Manual siren operation replaces Hands-Free operation. The vehicle's horn ring now acts as the Manual Siren tone activation button. Hands-Free siren functions are not available. |
| OFF | OFF | OFF | Yelp has priority over all tones(except Air Horn). Manual siren operation replaces Hands-Free operation. The vehicle's horn ring now acts as the Manual Siren tone activation button. Hands-Free siren functions are not available. |
| ON | ON | OFF | System emulates WS610 siren. If the Alpha is to be configured for WS610 emulation, it must be wired as shown below.* |

ON = DOWN OFF = UP

*In this configuration, a Wail tone is generated by closing the switch (SW1) connected to the WHT/BRN wire. Pressing the momentary switch (MSW1) connected to the WHT/RED wire changes the tone to Yelp. Subsequent presses of the momentary switch will cause the tones to alternate between Wail and Yelp. Opening SW1 ends siren tone generation. Pressing the momentary switch, while SW1 is open, will cause a Yelp tone to be generated for as long as the momentary switch is pressed.

If a simulated Air Horn tone is desired, connect a normally open momentary switch to the WHT/YEL wire. When +12VDC is applied, the desired Air Horn tone will be generated.

