

WHELEN[®] ENGINEERING COMPANY INC.

51 Winthrop Road
Chester, Connecticut 06412-0684
Phone: (860) 526-9504
Fax: (860) 526-4078
Internet: www.whelen.com
Sales e-mail: autosale@whelen.com
Canadian Sales e-mail: canadiansales@whelen.com
Customer Service e-mail: custserv@whelen.com

Installation Guide: Amplified Siren Speaker / PA

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) 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!**

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.
- 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 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 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.
- If this product uses a remote device to activate or control this product, make sure 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!**

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

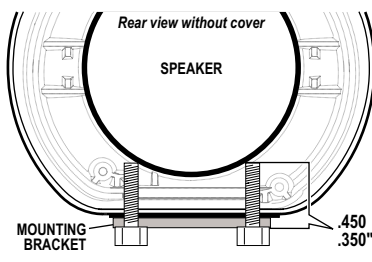


**Wear
Protection!**

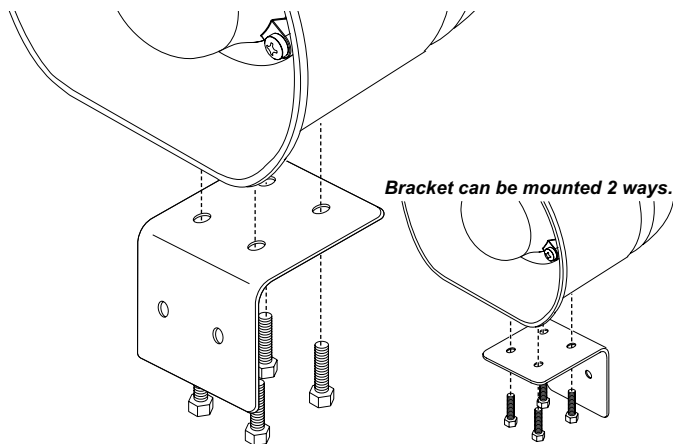
CAUTION

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

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



IMPORTANT: Do to the proximity of the speaker and mounting screws, if you change mounting brackets or screws make sure the screws do not extend more than .450" into the housing. Also take into consideration the thickness of the bracket and washer. The screws should not extend less than .350" into the housing or the screw will not catch enough threads to secure the speaker.



Specifications:

Input Voltage.....12.8 V DC +/- 20%
 Input Current:.....@ 15V DC / 2 AMPS Max.
 Input Fuse.....5 amps
 Operating Temperature-30°C. to +60°C
 Storage Temperature-40° C to +70°C
 Humidity99% Non condensing

Mounting:

Secure the mounting bracket to a suitable area.

WARNING: Permanent mounting of this product may require drilling. It is absolutely necessary to make sure that no other vehicle components could be damaged by this process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.

Wiring: Power:

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!

1. Extend the RED wire along the factory wiring harness to the POSITIVE (+12VDC) battery terminal.
2. Connect the RED wire to one end of a user supplied fuse block. Do not connect the fuse block to the battery yet.
3. Using appropriately sized wire, extend the BLACK wire along the factory wiring harness to the NEGATIVE battery terminal.

Control Switches:

Adjusting Public Address Levels:

Before using the WSCS30, the Public Address volume must be adjusted to satisfactory operating levels. To adjust the level, the speaker and microphone need to be installed on the vehicle. To make the adjustment, use a flat-blade screwdriver.

NOTE: For 1 speaker, follow step 2 only.

STEP 1: Locate the PA adjustment port on back of the secondary speaker.

Remove the 10-32 Phillips head machine screw which covers the potentiometer. Insert the screwdriver into the adjustment port and turn it to the fully clockwise position.

STEP 2: Access the PA adjustment port on the primary speaker and turn this adjustment counter clockwise until it stops. Place the siren into *Public Address Mode* by pressing the push-to-talk switch on the side of the microphone. Re-Insert the screwdriver into the primary speakers PA adjustment port and turn the adjustment clockwise to increase the sound to its maximum desired volume without causing audio feed back. If audio feedback occurs, turn the adjustment counter clockwise 1/8 of a turn. Re-install the Phillips head screws into both speakers.

The amplified siren speaker has two control inputs available. Depending on the "Mode of Operation" chosen by the user, either momentary or toggle switches will be required to control the operation of the siren. Install the two switches in an area that can be safely accessed by the operator. Both control inputs are activated by switching them to ground (negative battery terminal). See Operation section and wiring diagram for details.

Switch 1

1. Extend the WHITE/BROWN wire to Switch 1.
2. Connect the WHITE/BROWN wire to one side of this switch. The other side of this switch must be connected to the NEGATIVE battery terminal.

Switch 2

1. Extend the WHITE/RED wire to Switch 2.
2. Connect the WHITE/RED wire to one side of this switch. The other side of this switch must be connected to the NEGATIVE battery terminal.

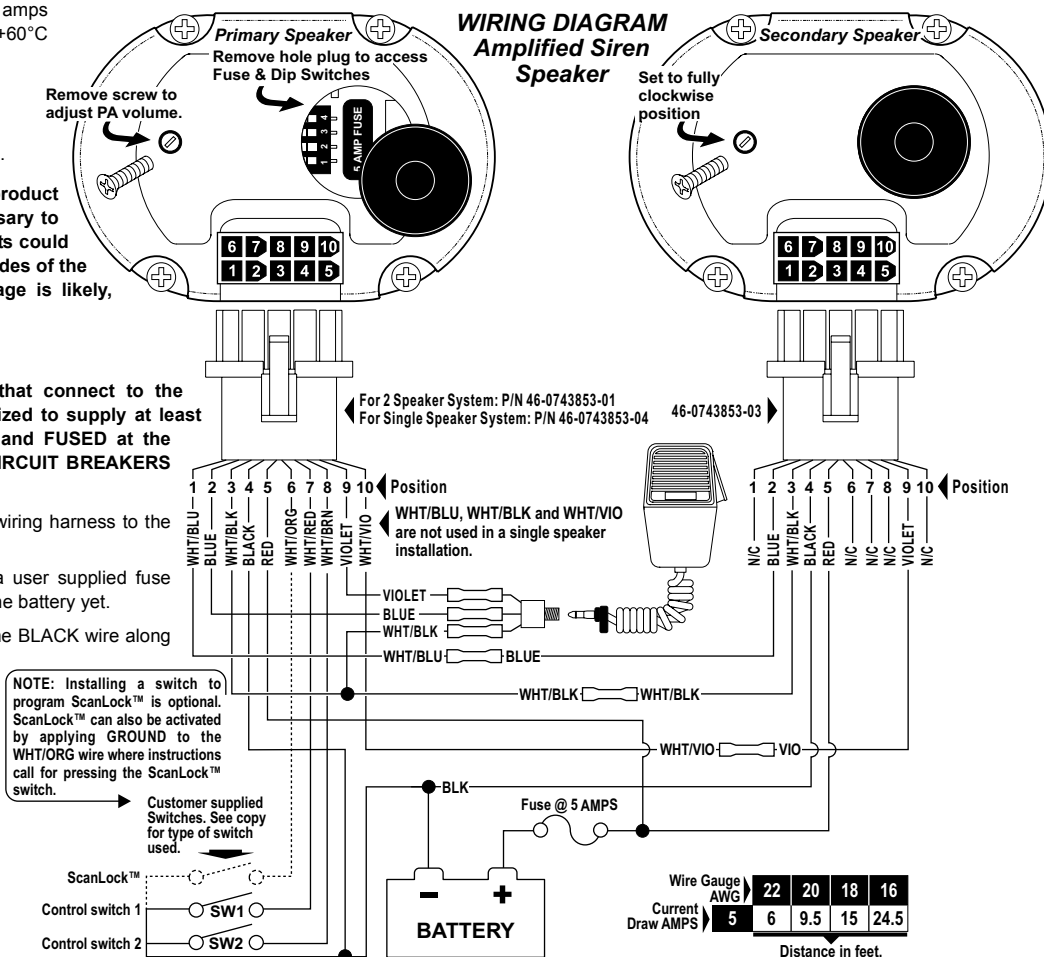
Two speaker Siren Systems

Multiple sirens can be used together by wiring them as follows:

1. Extend and connect the WHITE/VIOLET wire on the PRIMARY siren to VIOLET wire on the SECONDARY siren
2. Extend and connect the WHITE/BLUE wire on the PRIMARY siren to BLUE wire on the SECONDARY siren
3. Extend and connect the WHITE/BLACK wire on the PRIMARY siren to WHITE/BLACK wire on the SECONDARY siren

Fuse:

To access the fuse or dip switches, pry the hole plug on the back of the siren off with a screwdriver or similar tool. Use a fuse puller to remove or install the fuse. This unit uses a 5 amp fuse only. The dip switch functions are explained in this manual.



Operation:

There are five modes of operation built into the siren amplifier. Mode 1 is the factory default mode. See the "Mode Programming" section to change the mode of operation if desired.

The following tables show the factory default tone settings. See the "Siren Tone Programming Procedures" section to make desired changes.

MODE 1

Requires momentary switches for both switch 1 and switch 2

CONTROL Input	Operation	Switch 2*
Switch 1	Instant HF 2-cycle (wail-yelp)**	Airhorn Override
Switch 2*	AIRHORN	AIRHORN

* Switch 2 produces AIRHORN as a main tone as well as an override tone.

** HF two-cycle: tones are activated by a single tap on the HF cycle switch. 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). The next tap returns the siren to a WAIL tone and the cycle repeats itself. Two quick successive taps will stop the siren.

MODE 2

Requires momentary switches for both switch 1 and switch 2

CONTROL input	Operation	Switch 2*
Switch 1	instant HF 3-cycle (wail-yelp-piercer)**	Airhorn Override
Switch 2*	AIRHORN	AIRHORN

* Switch 2 produces airhorn as a main tone as well as an override tone.

** HF three-cycle: tones are activated by a single tap on the HF cycle switch. 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 (a 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 will stop the siren.

MODE 3

Requires toggle switches for both switch 1 and switch 2

CONTROL Input	Operation
Switch 1*	Tone 1 (Wail)
Switch 2	Tone 3 (Yelp)

* Switch 1 will have priority over switch 2

MODE 4

Requires a toggle switches for switch 1 and a momentary switch for switch 2.

CONTROL Input	Operation	Switch 2
Switch 1	Tone 1 (Wail)	Airhorn Override
Switch 2*	AIRHORN	AIRHORN

* Switch 2 produces AIRHORN as a main tone as well as an override tone.

MODE 5

Requires a momentary switches for both switches 1 and 2.

CONTROL input	Operation	Switch 2*
Switch 1	10 sec. override cycle** (TONE 1 - TONE 2)	Airhorn Override
Switch 2*	AIRHORN	AIRHORN

* Switch 2 produces AIRHORN as a main tone as well as an override tone.

**10 Second override cycle: tones are activated by a single tap on switch 1. The first tap produces TONE 1. A second tap produces TONE 2. The next tap (or waiting 10 seconds) returns the siren to TONE 1 and the cycle repeats itself. Two quick taps, stops the siren.

Programming the Siren:

WARNING: Never try to program the siren while it is wired to the vehicle. The siren must be removed from the vehicle before programming.

The siren must be placed with the front opening face down on a flat smooth surface. Hearing protection must be worn.

There are two important operational characteristics of the siren that can be re configured; Mode of Operation and Tone Selection. The DIP switches are used to select the Mode of Operation and the Scan-Lock™ wire (WHT/ORG) is used to select tones.

Programming the Mode of Operation:

There are 5 modes of operation built into the siren, Mode 1 is the factory default. to change Mode of Operation:

1. Remove all connections from the speaker. 2. Remove the hole plug and locate the DIP switches. 3. Set DIP switches to correspond to the desired mode.

DS1	DS2	DS3	DS4	Mode:
Off	Off	Off	Off	Mode 1
On	Off	Off	Off	Mode 2
Off	On	Off	Off	Mode 3
On	On	Off	Off	Mode 4
Off	Off	On	Off	Mode 5

Programming the siren tone:

Scan-Lock™ is used to change the default siren tones. You can install a "temporary" momentary switch to control Scan-Lock™ (see wiring diagram) or apply "GROUND" to the WHT/ORG wire in place of pressing the ScanLock™ switch as described below.

To change a tone in the hands free cycle in MODES 1, 2 or 5:

With the siren in either Mode 1, 2 or 5 using switch 1, advance to the tone that you wish to change. Press and release the Scan-Lock™ switch. Each time the Scan-Lock™ switch is pressed and released, the next tone will be broadcast. When the desired tone is generated, it will automatically be saved for that position in the cycle.

To change a tone for switch 1 or switch 2 in MODE 3:

With the siren in Mode 3, activate the desired tone you wish change. Now, each time the Scan-Lock™ switch is pressed and released, the next available tone will be broadcast. When the desired tone is generated, it will automatically be saved for that switch position.

To change a tone for switch 1 in MODE 4:

With the siren in Mode 4, activate the desired tone that you wish change using switch 1. Press and release the Scan-Lock™ switch. Each time the Scan-Lock™ switch is pressed and released, the next available tone will be broadcast. When the desired tone is generated, it will automatically be saved for that switch position.

Tone List for Hands Free and Switches 1 & 2

- WAIL
- YELP
- PIERCER
- HI/LO
- Y249
- WARBLE
- WOOP
- TRI TONE
- ALT. WAIL
- MARTIN TONE

To change the AIRHORN tone for switch 2 in MODE 1, 2, 4 or 5:

With the siren in Mode 1, 2, 4 or 5 activate the AIRHORN tone using switch 2. Now, each time the Scan-Lock™ switch is pressed and released, the next tone will be broadcast. When the desired tone is generated, it will automatically be saved for that switch position.

AIRHORN tone list

- TONE OFF
- AIR HORN-HI
- AIR HORN-LO

To reset the siren tone to factory defaults:

1. Turn off all tones.
2. Hold the ScanLock™ switch in, then depress SW1.
3. Release switches

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

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!