

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: autocan@whelen.com
 Customer Service e-mail: custserv@whelen.com

Installation Guide: Remote Siren Amplifier Model ALPHA22L

DANGER! Sirens produces 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.
- 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 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

Mounting the ALPHA22L

1. Locate a suitable mounting location for the ALPHA22L. 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 ALPHA22L 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 #10 sheet metal screw.
5. Using the supplied #10 x 3/4" sheet metal screws, secure the remote amplifier to the vertical trunk wall.

Wiring the ALPHA22L 16 position connector

Connecting to Power:

1. Extend the RED and BLACK wires through the firewall and into the engine compartment.

Dip Switch Functions:

Dip Switch 1	Dip Switch 2	Dip Switch 3	Description of tonal qualities
OFF	OFF	OFF	Tones have the most harmonic content (Default)
OFF	ON	ON	Harmonic Content #1
ON	OFF	ON	Harmonic Content #2
OFF	OFF	ON	Harmonic Content #3
ON	ON	OFF	Harmonic Content #4
OFF	ON	OFF	Harmonic Content #5
ON	OFF	OFF	Harmonic Content #6
ON	ON	ON	Tones have no harmonic content

When Dip Switch 4 is in this position...	
ON	The pulsed sweeping tones run for 1 cycle per activation. All other tones run per Dip Switch 6 definition.
OFF	All tones run per Dip Switch 6 definition.

When Dip Switch 5 is in this position...	Pulsed Sweeping Tone rate is...	Pulsed Steady rate is...	Rise and Fall Tone rate is...	Steady Tone rate is...
ON	60 sweeps/min.	68 pulses/min.	80 cycles/min.	Constant on
OFF	80 sweeps/min.	76 pulses/min.	110 cycles/min.	Constant on

When Dip Switch 6 is in this position...	
ON	The steady tone runs continually. All other tones run for a 2 min. interval.
OFF	The steady tone runs continually. All other tones run for a 1 min. interval.

Specifications

Input Voltage	- 13.5 VDC ±20%
Input Current (Off)	- 0 mA
Input Current (Stand-By)	- 90 mA
Input Current (Siren)	- 16 Amps (TYP.)
Output Voltage	- 34 V RMS (MAX.)
Speaker	- 11 ohm (2-100 Watt MAX.)
Output Power@15VDC	- 200 WATTS (MAX.)
Control Voltage	- Input Voltage
Control Current	- 125mA (TYP.)
H/R Voltage	- Input Voltage or Ground
H/R Current	- 15 mA (TYP.)
Operating Temp	- -30°C. to +60°C.
Operating Humidity	- 95% Non-condensing

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.

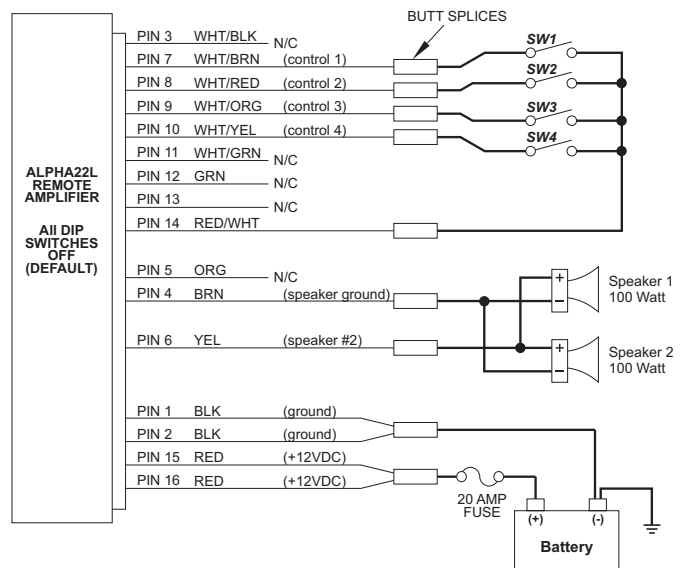
Connecting to your Speaker(s):

1. Route the YELLOW and BROWN wires along the factory wiring harness towards your speaker(s).
2. Connect the YELLOW wire to the POSITIVE (+) terminal on speaker #1. If two speakers (100 watt max. each) are used, connect the YELLOW wire to the POSITIVE (+) terminal on speakers #1 and #2.
3. Connect the BROWN wire to the NEGATIVE (-) terminal on speaker #1. If two speakers are used, splice and connect the BROWN wire to the NEGATIVE (-) terminals on speakers #1 and #2.

Wiring the ALPHA22L

See Diagram and Dip Switch options for wiring and operating information

Wiring Diagram:



When this switch is activated....	this siren tone is generated....	Priority Level
Switch 1	Pulsed Sweeping Tone (High to Low Frequency)	2
Switch 2	Pulsed Sweeping Tone (Low to High Frequency)	3
Switch 3	Steady Tone	1 (Highest)
Switch 4	Pulsed Steady Tone	4 (Lowest)

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!

Wire Gauge Calculation Chart

		Wire Gage (AWG)										
		22	20	18	16	14	12	10	8	6	4	2
Current Draw (AMPS)	5	6	9.5	15	24.5	39	62	98	156	248	395	629
	10	3	5	7.5	12	19.5	31	49	78	124	197	314
	15	INS.	3	5	8	13	20.5	32.5	52	82.5	131	209
	20	INS.	INS.	4	6	9.5	15.5	24.5	39	62	98.5	157
	25	INS.	INS.	3	5	8	12.5	19.5	31	49.5	79	125
	30	INS.	INS.	INS.	4	6.5	10.5	16.5	26	41.5	66	104
	35	INS.	INS.	INS.	3.5	5.5	9	14	22.5	35.5	56.5	89.5
	40	INS.	INS.	INS.	3	5	7.5	12.5	19.5	31	49.5	78.5
	45	INS.	INS.	INS.	INS.	4.5	7	11	17.5	27.5	44	69.5
	50	INS.	INS.	INS.	INS.	4	6	10	15.5	25	39.5	63
	55	INS.	INS.	INS.	INS.	3.5	5.5	9	14	22.5	36	57
	60	INS.	INS.	INS.	INS.	3	5	8	13	20.5	33	52.5
	65	INS.	INS.	INS.	INS.	3	5	7.5	12	19	30.5	48.5
	70	INS.	INS.	INS.	INS.	3	4.5	7	11	17.5	28	45
	75	INS.	INS.	INS.	INS.	INS.	4	6.5	10.5	16.5	26.5	42
	80	INS.	INS.	INS.	INS.	INS.	4	6	10	15.5	24.5	39
	85	INS.	INS.	INS.	INS.	INS.	3.5	6	9	14.5	23	37
90	INS.	INS.	INS.	INS.	INS.	3.5	5.5	8.5	14	22	35	
95	INS.	INS.	INS.	INS.	INS.	3.5	5	8	13	21	33	
100	INS.	INS.	INS.	INS.	INS.	3	5	8	12.5	19.5	31.5	

INS. = Insufficient All Distances Shown Are In Feet

To use this chart...

1. Determine the amount of current being drawn through the wire. Locate this number in the vertical left-hand column. If the current value is between adjacent values, use the higher number.
2. Follow this row until the length of the installed wire is shown. If the exact length is between adjacent values, use the higher number. Follow this column upwards to find the recommended size (gage) for this wire.

In the example shown below, the size for a wire with an installed length of 36 feet, through which 22 amps of current will be drawn, must be determined.

A row for 22 amps is not shown, so the row for 25 amps will be used. Follow this row to the right. A column for 36 feet is not shown, so the column for 49.5 feet will be used. Following this column to the top will show that the size of this wire must be at least 6 gage.