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Installation Guide: Model ALPHA12M Remote Siren Amplifier

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

WARNING! If the ALPHA12M is replacing the siren amplifier in an existing siren system, that systems switches MUST be rewired to match the corresponding Alpha switch wiring diagram found in this manual. If the existing system does not use Alpha switches, refer to the wiring information on page 7 to rewire your switches.

Mounting the ALPHA12M

1. Locate a suitable mounting location for the ALPHA12M. 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 ALPHA12M 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 ALPHA12M 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 10 Amp 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 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.

Wiring the ALPHA12M 9 position connector

The ALPHA12M can operate in two modes:

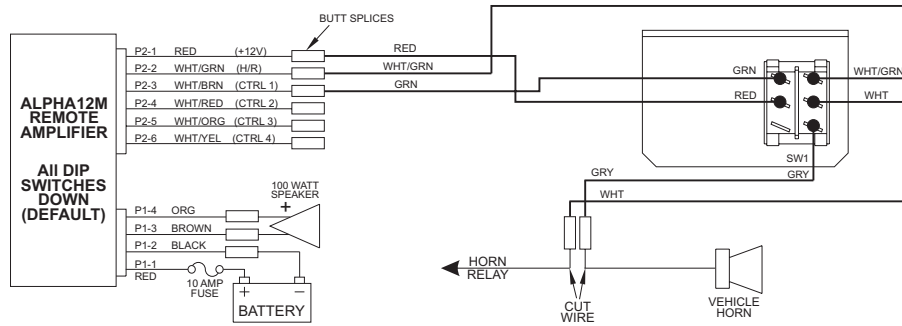
- **Mechanical Siren-mode (default)**
- **Power Call-mode**

The operating mode is determined by the position of Dip Switch #8. In the default position (mechanical siren - mode) this switch is ON (down). Moving this switch to the OFF (up) position places the ALPHA12M in Power Call-mode. Refer to the appropriate section for further wiring information.

In Power Call-mode only, Dip Switch #4 the override tone as follows:

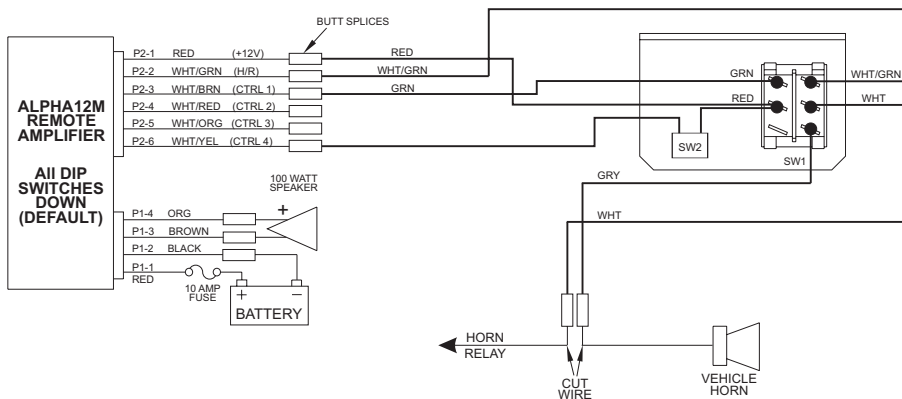
- | | |
|-----------------------|---|
| DOWN (default) | From the WAIL tone, the Horn Ring gives YELP override |
| UP | From the WAIL tone, the Horn Ring gives 10-second YELP override |

**Mechanical Siren Mode -
Wiring Diagram using the Alpha 1 switch assembly**



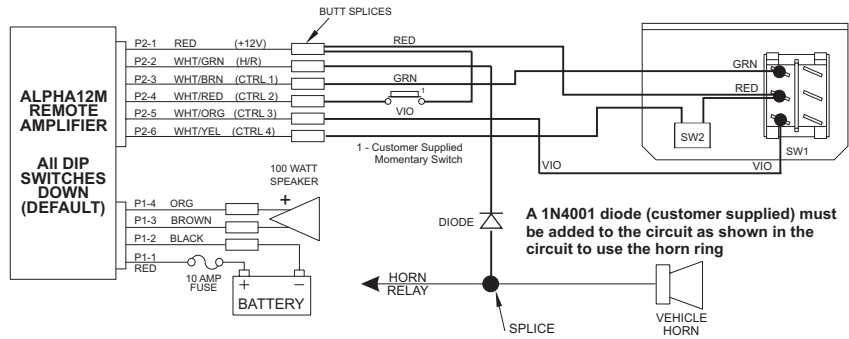
When switch is in this position....	this siren tone is generated....	and the Horn Ring activates....
SW1 ON	Mechanical Wail	Air Horn
SW1 OFF	NO TONE	Vehicle Horn

Wiring Diagram using the Alpha 2 switch assembly



When switches are in this position....	this siren tone is generated....	and pressing SW2 will activate....	and the Horn Ring activates....
SW1 ON	Mechanical Wail	Air Horn	Air Horn
SW1 OFF	NO TONE	Air Horn	Vehicle Horn

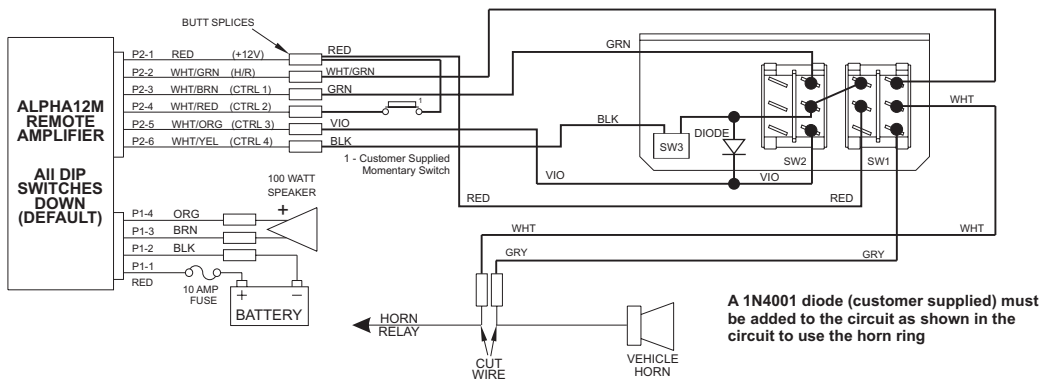
Wiring Diagram using the Alpha 3 switch assembly



When switches are in this position....	this siren tone is generated....	and pressing SW2 will activate....	and the Horn Ring activates....	and the customer supplied Momentary switch activates....
SW1 TONE 1	Mechanical Wail	Air Horn	Air Horn + Vehicle Horn	Manual override of Mechanical Wail
SW1 OFF	NO TONE	Air Horn	Vehicle Horn	Manual tone activation (no ramp down on release)
SW1 TONE 2	Manual mode*	Air Horn	Air Horn + Vehicle Horn	Manual tone activation (with ramp down on release)

*when the siren is in "Manual mode", no tone is generated until the customer supplied momentary switch is pressed. While this switch is pressed, the siren will produce a tone that will ramp up to a high pitched tone. This tone will be maintained at this pitch until the switch is released. The tone will then ramp down and stop.

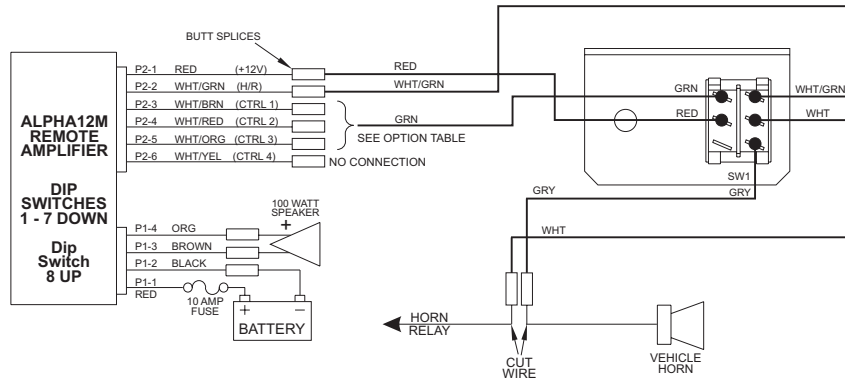
Wiring Diagram using the Alpha 4 switch assembly



When switches are in this position....	this siren tone is generated....	and pressing SW3 will activate....	and the Horn Ring activates....	and the customer supplied momentary switch activates....	
SW2 TONE 1	SW1 ON	Mechanical Wail	Air Horn	Air Horn	Manual override of Mechanical Wail
	SW1 OFF	NO TONE	NO TONE	Vehicle Horn	Manual tone activation (no ramp down on release)
SW2 OFF	SW1 ON	Manual mode*	Air Horn	Air Horn	Manual tone activation (ramp down on release)
	SW1 OFF	NO TONE	NO TONE	Vehicle Horn	Manual tone activation (no ramp down on release)
SW2 TONE 2	SW1 ON	Manual mode*	Air Horn	Air Horn	Manual tone activation (ramp down on release)
	SW1 OFF	NO TONE	NO TONE	Vehicle Horn	Manual tone activation (no ramp down on release)

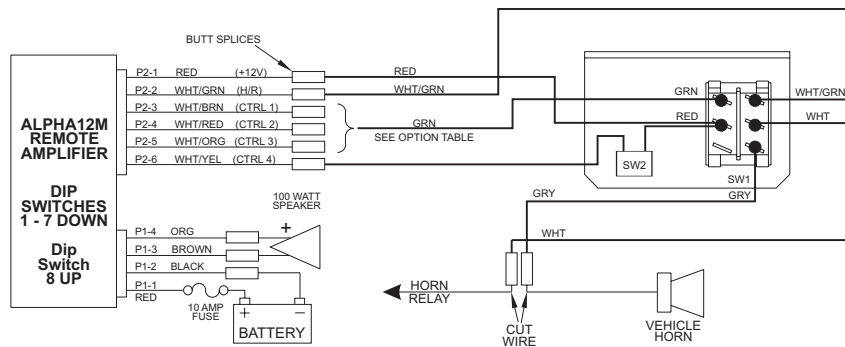
*when the siren is in "Manual mode", no tone is generated until the customer supplied momentary switch is pressed. While this switch is pressed, the siren will produce a tone that will ramp up to a high pitched tone. This tone will be maintained at this pitch until the switch is released. The tone will then ramp down and stop.

**Power Call Mode -
Wiring Diagram using the Alpha 1 switch assembly**



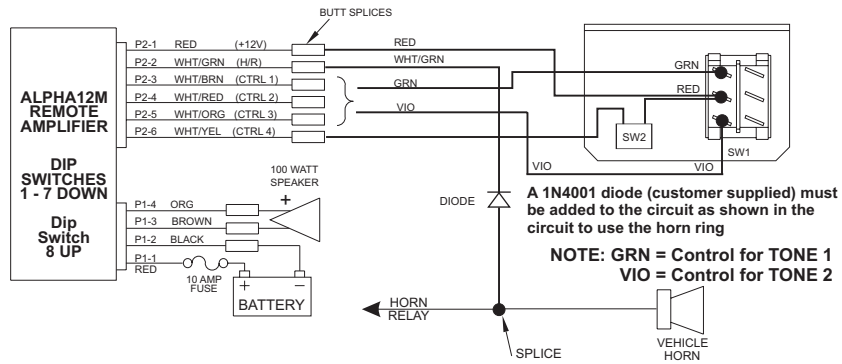
When switch is in this position....	connecting the GREEN to this wire will generate this siren tone....	and the Horn Ring activated override tone is....
SW1 ON	WHT/BRN = Whoop WHT/RED = Warble WHT/ORN = Wail	Air Horn Whoop Warble
SW1 OFF	NO TONE	Vehicle Horn

Wiring Diagram using the Alpha 2 switch assembly



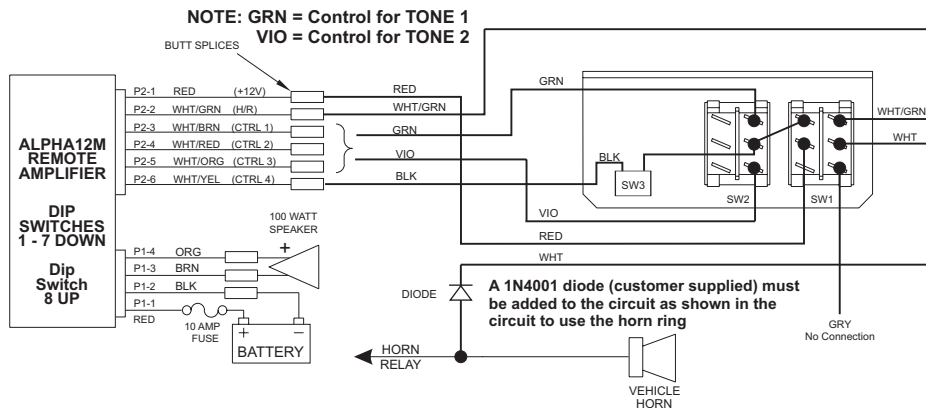
When switch is in this position....	connecting the GREEN to this wire will generate this siren tone....	and pressing SW2 will activate....	and the Horn Ring activated override tone is....
SW1 ON	WHT/BRN = Whoop WHT/RED = Warble WHT/ORN = Wail	Air Horn	Air Horn Whoop Warble
SW1 OFF	NO TONE	Air Horn	Vehicle Horn

Wiring Diagram using the Alpha 3 switch assembly



When switch is in this position....	connecting the GREEN wire to this wire will determine Tone 1....	and pressing SW2 will activate....	and the Horn Ring activated override tone is....
SW1 Tone 1	WHT/BRN = Whoop WHT/RED = Warble WHT/ORN = Wail	Air Horn Air Horn Air Horn	Air Horn + Vehicle Horn Whoop + Vehicle Horn Warble + Vehicle Horn
SW1 OFF	NO TONE	Air Horn	Vehicle Horn
When switch is in this position....	connecting the VIOLET wire to this wire will determine Tone 2....	and pressing SW2 will activate....	and the Horn Ring activated override tone is....
SW1 Tone 2	WHT/BRN = Whoop WHT/RED = Warble WHT/ORN = Wail	Air Horn Air Horn Air Horn	Air Horn + Vehicle Horn Whoop + Vehicle Horn Warble + Vehicle Horn

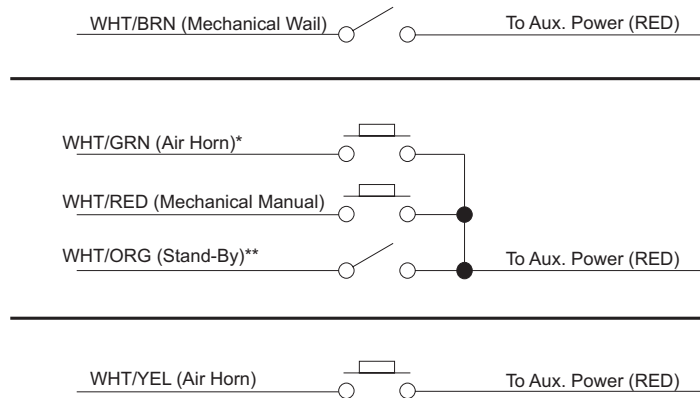
Wiring Diagram using the Alpha 4 switch assembly



When switches are in this position....	connecting the GREEN wire to this wire will determine Tone 1....	and pressing SW3 will activate....	and the Horn Ring activates....
SW2 TONE 1	SW1 ON	WHT/BRN = Whoop WHT/RED = Warble WHT/ORN = Wail	Air Horn Air Horn Air Horn
	SW1 OFF	NO TONE	NO TONE
SW2 OFF	SW1 ON	NO TONE	Air Horn
	SW1 OFF	NO TONE	NO TONE
When switches are in this position....	connecting the VIOLET wire to this wire will determine Tone 2....	and pressing SW3 will activate....	and the Horn Ring activates....
SW2 TONE 2	SW1 ON	WHT/BRN = Whoop WHT/RED = Warble WHT/ORN = Wail	Air Horn Air Horn Air Horn
	SW1 OFF	NO TONE	NO TONE

The following diagrams provides basic switching information for installations that will not use Alpha switches.

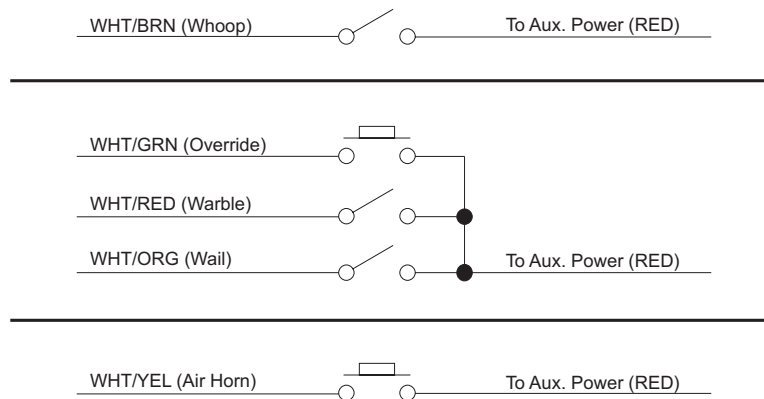
Mechanical Siren Mode -



* in order for the Air Horn tone to be activated using the WHT/GRN wire, the unit must be in 'Stand-by' mode (WHT/ORG).

** in order for the Mechanical Manual switch (WHT/RED) to activate the 'ramp down' feature, the unit must be in 'Stand-by' mode (WHT/ORG).

Power Call Mode -



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.

The installation of your ALPHA12M 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.

Specifications

Input Voltage	- 13.5 VDC ±20%
Input Current (Off)	- 0 mA
Input Current (Stand-By)	- 90mA (Hands Free)
Input Current (Siren)	- 8 AMPS (TYP.)
Output Voltage	- 34 V RMS (MAX.)
Speaker	- (1) 11 ohm
Output Power@15VDC	- 105 WATTS (MAX.)
Control Voltage	- Input Voltage
Control Current	- 125mA (TYP.)
H/R Voltage	- Input Voltage or Ground
H/R Current	- 15mA (TYP.)
Operating Temp.	- -30° C. to +60° C.
Operating Humidity	- 95% Non Condensing

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!