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### Installation Guide: Motorcycle Siren/Light Control Module (SLCM)

**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!**

#### 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<sup>®</sup>, 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!**

<b>ACTIVATION OF THIS SIREN MAY DAMAGE UNPROTECTED EARS!</b>	
 <b>Wear Protection!</b>	<b>CAUTION</b> 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](http://www.whelen.com/warranty)**

## Mounting:

**IMPORTANT:** This siren is not waterproof and must be installed into a water tight motorcycle box.

## 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!**

		Wire Gauge / AWG				
		18	16	14	12	10
Current Draw AMPS	10	7.5	12	19.5	31	49
	20	4	6	9.5	15.5	24.5
		Distance in Feet				

- Using appropriately sized wire, extend wires 7 and 8 to a user supplied fuse block (30 amp fuse), and then to the POSITIVE +12VDC battery terminal. Do not connect this fuse block to the battery yet.
- Using appropriately sized wire, extend wire 23 to the NEGATIVE battery terminal.

## Speakers:

- Extend wires 5 and 6 towards your siren speaker.
- Connect wire 5 to the positive terminal and wire 6 to the negative terminal of the speaker.

## Control Switches:

The SLCM has four control inputs available, Three of the control inputs are used to control siren functions while one control input is used to control lighting functions, however; not all control inputs will need to be wired depending on the requirements of the user. All four of the control inputs are activated by applying positive voltage (Vbat) to them, the wire attached to pin 21 is a current limited output that can be used for this purpose (see wiring diagram). Momentary switches are required for all four control inputs in order to control the operation of the siren.

## Siren Operations:

### Siren Control switch:

There are four modes of operation built into the siren control switch siren, Mode 2 is the factory default mode. See the 'Mode Programming' section to change the mode of operation if desired. The following descriptions use the factory default tone settings, see the 'Tone Programming' section to make desired changes in the tones.

#### Mode 1: One tone HF cycle

A WAIL tone (a steady rise and fall tone) is activated by a single tap on the siren control switch, any other single taps will have no effect. Two quick successive taps will stop the siren.

#### Mode 2: Two tone HF cycle

Tones are activated by a single tap on the siren control 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 3: Three tone HF cycle

Tones are activated by a single tap on the siren control 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 4: Tone1/off cycle

A WAIL tone (a steady rise and fall tone) is activated by a single tap on the siren control switch, the next tap will stop the siren and the cycle repeats.

#### Manual switch:

Holding the manual switch on will produce a WAIL tone ramping up to a peak frequency and holding that peak frequency until the switch is released. Upon the release of the switch, depending on the selected tone (See the 'Tone Programming' section) the tone will either stop or ramp down to a stop.

#### Airhorn switch:

Holding the manual switch on will produce a simulated AIRHORN tone. Upon the release of the switch the tone will stop.

## Lighting Operations:

There are nine modes of operation built into the light control switch, Mode 1 is the factory default mode, See the 'Mode Programming' section to change the mode of operation if desired. There are 16 flash patterns that the user can choose from, the default pattern is SignalAlert™ 75, see the 'flash pattern Programming' section to make desired changes in the flash patterns.

### Light Control Switch:

#### Mode 1: REAR - ALL & Steady - FRONT & Steady

There are four lighting states, OFF, REAR, ALL and FRONT. All four of these states are activated by a single tap on the light control switch. The first tap activates the REAR lights. A second tap activates ALL lights including the Cal Steady light. A third tap activates the FRONT lights and the Cal Steady light. The next tap returns the unit to REAR lighting and the cycle repeats itself. The lighting is stopped by holding the switch pressed for ¼ of a second.

#### Mode 2: REAR - FRONT & Steady - ALL & Steady

There are four lighting states, OFF, REAR, ALL and FRONT. All four of these states are activated by a single tap on the light control switch. The first tap activates the REAR lights. A second tap activates ALL lights and the Cal Steady light. A third tap activates FRONT lights and the Cal Steady light. The next tap returns the unit to REAR lighting and the cycle repeats itself. The lighting is stopped by holding the switch pressed for ¼ of a second.

#### Mode 3: FRONT & Steady - REAR - ALL & Steady

There are four lighting states, OFF, FRONT, REAR and ALL. All four of these states are activated by a single tap on the light control switch. The first tap activates the FRONT lights and the Cal Steady light. A second tap activates REAR lights. A third tap activates ALL lights and the Cal Steady light. The next tap returns the unit to FRONT lighting and the cycle repeats itself. The lighting is stopped by holding the switch pressed for ¼ of a second.

#### Mode 4: ALL & Steady - FRONT & Steady - REAR

There are four lighting states, OFF, ALL, FRONT and REAR. All four of these states are activated by a single tap on the light control switch. The first tap activates ALL lights and the Cal Steady light. A second tap activates FRONT lights and the Cal Steady light. A third tap activates REAR lights. The next tap returns the unit to ALL lighting and the cycle repeats itself. The lighting is stopped by holding the switch pressed for ¼ of a second.

#### Mode 5: ALL & Steady

A tap on the light control switch activates ALL lights and the Cal Steady light. A second tap has no effect. The lighting is stopped by holding the switch pressed for ¼ of a second.

### Mode 6: FRONT & Steady

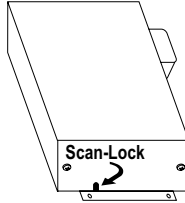
A tap on the light control switch activates the FRONT lights and the Cal Steady light. A second tap has no effect. The lighting is stopped by holding the switch pressed for ¾ of a second.

### Mode 7: REAR

A tap on the light control switch activates the REAR lights. A second tap has no effect. The lighting is stopped by holding the switch pressed for ¾ of a second.

### Mode 8: REAR - ALL & Steady

There are three lighting states, OFF, REAR and ALL. All three of these states are activated by a single tap on the light control switch. The first tap activates the REAR lights. A second tap activates ALL lights and the Cal Steady light. The next tap returns the unit to REAR lighting and the cycle repeats itself. The lighting is stopped by holding the switch pressed for ¾ of a second.



### Mode 9: REAR - REAR & Steady - ALL & Steady

There are four lighting states, OFF, REAR, REAR and ALL. All four of these states are activated by a single tap on the light control switch. The first tap activates the REAR lights. A second tap activates REAR lights and the Cal Steady light. A third tap activates ALL lights and the Cal Steady light. The next tap returns the unit to REAR lighting and the cycle repeats itself. The lighting is stopped by holding the switch pressed for ¾ of a second.

**Programming the SLC/Siren:** *WARNING: Never try to program the siren while it is wired to the vehicles siren speakers. A low level audio device is built into the siren so siren tones can be heard during programming.*

There are three important operational characteristics of the SLCM that can be reconfigured; Mode of Operation for both lighting and siren, Tone Selection and flash pattern Selection. The Scan-Lock™ button is used to select all of the desired changes.

The Scan-Lock™ button is located on the side and can be activated with a pen or similar object. The configuration procedure for each is outlined below.

### Mode Programming:

This section will outline how to select the “siren control mode of operation”.

1. Shut off all SLCM functions.
2. Press and hold the siren control switch.
3. Press and release the Scan-Lock™ button. Each time the Scan-Lock™ button is pressed and released the mode will advance one position, mode 1 will follow mode 4 and the cycle repeats. (see the 'Siren control switch' section for the mode descriptions)
4. Release the siren control switch.

This section will outline how to select the “light control mode of operation”.

1. Shut off all SLCM functions.
2. Press and hold the light control switch.
3. Press and release the Scan-Lock™ button. Each time the Scan-Lock™ button is pressed and released the mode will advance one position, mode 1 will follow mode 4 and the cycle repeats. (see the 'Light control switch' section for the mode descriptions).
4. Release the light control switch.

### Tone Programming:

To change one of the tones enabled by the siren control switch:

1. Shut off all SLCM functions.
2. Using the siren control switch, advance to the tone that you wish to change.

#### SIREN CONTROL SWITCH TONE LIST

• WAIL *	• WARBLE	• ALT. WAIL *
• YELP *	• WHOOP	• ALT YELP *
• HI/LO	• MECHANICAL	• PULSED PIERCER
• PIERCER	• PULSED AIRHORN	• PULSE YELP/AIRHORN
• Y249 *	• AIRHORN-HI/LO	• * = Title 13 compliant

3. 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 position.
4. Shut off all SLCM functions.

To change the tone for the MANUAL switch:

1. Shut off all SLCM functions.
2. Press and hold the manual switch.
3. 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 present, it will automatically be saved as the MANUAL tone.
4. Release the manual switch.

#### MANUAL TONE LIST

• TONE OFF	• WAIL-STOP	• MECHANICAL-STOP
• WAIL-COAST	• MECHANICAL-COAST	• PULSED AIRHORN

To change the tone for the AIRHORN switch:

1. Shut off all SLCM functions.
2. Press and hold the airhorn switch.
3. 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 present, it will automatically be saved as the AIRHORN tone.
4. Release the airhorn switch.

#### AIRHORN tone list

• TONE OFF	• AIR HORN-HI	• AIR HORN-LO
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### Flash Pattern Programming:

To change the flash pattern:

1. Shut off all SLCM functions.
2. Using the light control switch, turn lights to all on.
3. Press and release the Scan-Lock™ switch. Each time the Scan-Lock™ switch is pressed and released, the next available pattern will be activated on the lights. When the desired pattern is generated, it will automatically be saved as the new flash pattern.
4. Shut off all SLCM functions.

#### Available Flash Patterns:

1. SignalAlert™ 75	13. SingleFlash 90 ALT
2. SignalAlert™ 75 SIM	14. SingleFlash 90 SIM
3. CometFlash® 75 ALT	15. SingleFlash 75 ALT
4. CometFlash® 75 SIM	16. SingleFlash 75 SIM
5. DoubleFlash 150 ALT	17. SingleFlash 60 ALT
6. DoubleFlash 150 SIM	18. SingleFlash 60 SIM
7. DoubleFlash 75 ALT	19. ActionFlash™ ALT
8. DoubleFlash 75 SIM	20. ActionFlash™ SIM
9. SingleFlash 375 ALT	21. ModuFlash™ ALT
10. SingleFlash 375 SIM	22. ModuFlash™ SIM
11. SingleFlash 150 ALT	23. SignalAlert™ snow
12. SingleFlash 150 SIM	

# Control Wire Identification:

Pin	Function	AWG	Specs	Pin	Function	AWG	Specs	Pin	Function	AWG	Specs
1	Light output front right	18	Vbat out	9	Audio In	18		17	Siren Control	18	Active High
2	Light output rear right	18	Vbat out	10	Rear Indicator	18	Current limited 20ma	18	Light Control	18	Active High
3	Light output front left	18	Vbat out	11	front Indicator	18	Current limited 20ma	19	Airhorn	18	Active High
4	Light output rear left	18	Vbat out	12	Open	N/A		20	PTT input	18	Active Low
5	Speaker +	18	60Vpp	13	Audio Ground	18		21	Control Feed	18	Vbat fused internally
6	Speaker -	18	.60 Vpp	14	Ground	18		22	Ground	18	
7	Vbat	18	12.8 V nom	15	Calif. St.dy light output	18	Vbat out	23	Ground	18	
8	Vbat	18	12.8 V nom	16	Manual	18	Active High				

