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**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!

#### Warnings to Installers

Whelen's emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen's written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that they can operate the system without taking their eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer's instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

#### Warnings to Users

Whelen's emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user's responsibility to understand and obey all laws regarding emergency warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

#### 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.

MARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

- Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.
- · Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.
- Any holes, either created or utilized by this product, should be made both air- and watertight using a sealant recommended by your vehicle manufacturer.
- 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 the 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 (this does not include products that use cigar power cords).
- If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.
- 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!



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

Installation Guide: Euro-1 Siren Amplifier Congratulations on selecting the Euro-1 Siren. This siren offers a unique and distinctive collection of features designed to allow the user to customize the operation of this siren to suit their individual needs. Features include:

· Hands Free operation

**Tone Completion Operation** 

- Compact design
- Power to drive two 100 watt speakers
- Scan-Lock<sup>™</sup> siren tone programming

# Specifications:

Input Voltage	12.8 V DC
Input Current:@ 15 V	DC @ 5.5 OHMS 16 AMPS Max.
Input Fuse	20 amps
Speaker Impedance	5.5 ohms Minimum
Operating Temperature	30°C. to +60°C
Storage Temperature	40° C to +70°C
Humidity	99% Non condensing
Output Voltage @15	V DC @ 11 ohms 34V RMS Max.
Output Power@ 15	V DC @ 11 ohms 105 Watts Max.



## Mounting:

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

CAUTION! Mounting the siren will require drilling. It is absolutely necessary to make sure that no other vehicle components could be damaged while drilling. If any vehicle component could suffer any potential harm, select a different mounting location.

- 4. Carefully drill the mounting holes using a #16 drill bit.
- Using the supplied #10 x 3/4" sheet metal screws, secure the remote amplifier to the vertical trunk wall.

# 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 <u>FUSED</u> at the battery to carry that load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!

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

# Wiring / Speakers:

- 1. Extend the ORANGE, YELLOW and BROWN wires along the factory wiring harness towards your speakers.
- 2. Connect YELLOW wire to POSITIVE (+) terminal of speaker #1 and ORANGE wire to POSITIVE (+) terminal on speaker #2.
- 3. Connect BROWN wire to NEGATIVE (-) terminal on both speakers.



5 Programmable modes of operation

· Harmonically rich composite air horn tones

# **Control Switches:**

The Euro-1 siren amplifier has six control inputs available, however; not all control inputs will need to be wired depending on the "Mode of Operation" chosen by the user. Five of the control inputs (CNTRL 1-3, air horn and horn ring) are activated by applying positive voltage (VBAT) to them, the RED/WHITE wire (pin 14) is a current limited output that can be used for this purpose (see wiring diagram).The last input (CYCLE) is activated by applying ground to it. Refer to the Air bag warning on Page 1 before extending any wires into the interior of the vehicle.

# **Operation:**

**Siren in use:** This output will become active (+VBAT) whenever a tone is being produced by the siren.

**Modes:** There are five modes of operation built into the Euro-1 siren amplifier. Mode 5 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 "tone programming" section to make desired changes.

### <u>Mode 1</u>

CONTROL / input	<b>O</b> PERATION	AIR HORN / switch*	HORN RING & CYCLE / switch
CNTRL 1	Wail	Airhorn	Yelp
CNTRL 2	Yelp	Airhorn	Hi/Lo
CNTRL 3	HF-Standby	Airhorn	HF cycle (Wail, Yelp)***

AIRHORN Airhorn Airhorn Airhorn • Airhorn • Airhorn • Airhorn • The AIRHORN switch produces airhorn as a main tone as well as an override tone.

\*\*\* HF cycle: tones are activated by a single tap on the horn ring or 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 tone and the cycle repeats itself. Two quick successive taps will stop the siren.

# MODE 2

CONTROL / input	OPERATION	AIR HORN / switch*	HORN RING & CYCLE / switch
CNTRL 1	Wail	Airhorn	Yelp
CNTRL 2	Yelp	Airhorn	Hi/Lo
CNTRL 3	MANUAL-Stby	Airhorn	Wail coast to stop
AIRHORN*	Airhorn	Airhorn	Airhorn

\* The AIRHORN switch produces airhorn as a main tone as well as an override tone.

#### MODE 3 This mode has a fixed set of tones that can not be changed.

CONTROL / input	OPERATION	HORN RING & CYCLE SWITCH
CNTRL 1	HF-Standby	HF Cycle (Tritone, Wail, Piercer*)

\* HF cycle: tones are activated by a single tap on the horn ring or cycle switch. The first tap produces a tritone sequence. A second tap produces a WAIL tone (a steady rise and fall tone). A third tap produces a piercer tone (a rapid rise and fall tone) The next tap returns the siren to tritone and the cycle repeats itself. Two quick successive taps will stop the siren.

MODE 4 HORN				
CONTROL / input	OPERATION	AIR HORN / switch*	CYCLE SWITCH	
CNTRL 1	Wail	Airhorn	Yelp	
CNTRL 2	Instant** HF (Wail, Yelp)	Airhorn	No Change	
CNTRL 3	Instant** MANUAL (Wail, Coast)	Airhorn	No Change	
AIRHORN*	Airhorn	Airhorn	Airhorn	

\* The AIR HORN switch produces AIR HORN as a main tone as well as an override tone.

\*\* The word 'instant' implies that activating CNTRL2 will generate the HF cycle on it's own , and that activating CNTRL3 will generate the Manual tone on it's own.

\*\*\* HF cycle: tones are activated by a single tap on the CNTRL2 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 5

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CONTROL / input	OPERATION	switch*	HORN RING & CYCLE SWITCH
CNTRL 1	Wail	Airhorn	10 Second Yelp
CNTRL 2	HF-Standby	Airhorn	HF Cycle (Wail, Yelp, Piercer)**
CNTRL 3	HF-2 Cycle Standby	Airhorn	HF 2 Cycle (Wail, 10 sec. Yelp)***
AIRHORN*	Airhorn	Airhorn	Airhorn

LAIN LIGNIN / I

\* The Airhorn switch produces Airhorn as a main tone as well as an override tone.

\*\* HF cycle: Tones are activated by a single tap on the horn ring or 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. The next tap returns the siren to a WAIL tone and the cycle repeats itself. Two guick successive taps will stop the siren.

\*\*\* HF 2 cycle: Tones are activated by a single tap on the horn ring or 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 or after 10 seconds the siren automatically returns to a WAIL tone and the cycle repeats itself. Two quick successive taps will stop the siren.

# Programming the Euro 1:

WARNING: Never try to program the siren while it is wired to the vehicle. The siren must be removed from the vehicle before programming. 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 Euro1 that can be reconfigured; *Mode of Operation, Tone Selection and Tone Completion Operation.* Use the Scan-Lock<sup>™</sup> button to place Euro1 in configu-



ration mode, as well as select desired changes. Three LEDs, on the rear of the amplifier indicate the selected mode of operation during the configuration process. The procedure for each is outlined below. The Scan-Lock<sup>™</sup> button (Fig. 1) can be activated with a pen or similar object.

## Siren Tone Programing Procedures:

With Scan-Lock<sup>™</sup> the tonal operation of the siren can be customized to fit your needs. Scan-Lock<sup>™</sup> is used to change the default siren tones as shown below.

To change the primary tone for CNTRL1 & CNTRL2 switch positions: Activate the siren control switch that you wish to change: *To cycle forward through tones*, press the Scan-Lock<sup>TM</sup> switch for less than 1 second and release. *To cycle backward through tones*, press the Scan-Lock<sup>TM</sup> switch for more than 1 second and release. When the desired tone is generated, it is automatically saved for that rotary switch position

## To change the override tone for CNTRL1 & CNTRL2 switch positions:

Activate the siren control switch that you wish to change the override tone on. Press and hold the Horn ring or the CYCLE switch: **To cycle forward through tones**, press the Scan-Lock<sup>™</sup> switch for less than 1 second and release. **To cycle backward through tones**, press the Scan-Lock<sup>™</sup> switch for more than 1 second and release. When the desired tone is present, it will automatically be saved as the override tone for that control switch. Release the Horn ring or the CYCLE switch.

#### To change a tone in the hands free cycle (for MODE 1):

Place the siren in HF standby, by Activating the CNTRL3 switch. Using the HORN RING or the CYCLE switch, advance to the tone that you wish to change: *To cycle forward through tones*, press the Scan-Lock<sup>™</sup> switch for less than 1 second and release. *To cycle backward through tones*, press the Scan-Lock<sup>™</sup> switch for more than 1 second and release. When the desired tone is generated, it will automatically be saved for that hands-free cycle position.

### To change a tone in the hands free cycle (for MODE 4):

Using the CNTRL2 switch, advance to the HF tone that you wish to change: **To cycle forward through tones**, press the Scan-Lock<sup>™</sup> switch for less than 1 second and release. **To cycle backward through tones**, press the Scan-Lock<sup>™</sup> switch for more than 1 second and release. When the desired tone is generated, it will automatically be saved for that hands-free cycle position.

#### Tone List for: HANDS FREE / CNTRL 1 & 2 Primary and Override

0.	Tones off **	
1.	Wail 750 1570 12cm	750 - 1570Hz 12c/m
2	Yelp 750_1570_158cm	750 - 1570Hz 158c/m
3	Hilo 550 650	550Hz for 1s 650Hz for 1s
٥. ٨	Airborn-Hi	variable composite*
		variable composite*
J.	Aimoin -Lo	
ю.	Piercer 750_1570_800cm	. 750 - 1700H2 800C/III
7	Mochanical simulated	4 Aclm
<i>i</i> .	Ambulance: Netherlande & Holland	625Uz for 000 800Uz for 000
ο.	Ampulance: Nethenands & Holland .	
•		475HZ TOF .905
9.	Airnorn Hilo 30cm	. Variable 1s Variable for 1s
10.	Alt Wail 500 1650 10.5cm	. 500 1650 10.5cm
11.	Alt Yelp 500 1650 255cm	. 500 1650 255cm
12.	H-Wail 850_1700_15cm	. 850 - 1700Hz 15c/m
13.	Wail 600_1200_16cm	. 600 - 1200Hz 16c/m
14.	Yelp 600_1200_267cm	. 600 - 1200Hz 267c/m
15.	Martin tone	. hi/lo variable composite same
16.	H_hilo_composit_46cm	. composite for .65s composite for .65s
17.	Composite_tritone17cm	. 423Hz for .90s 533Hz for .90s
		316Hz for .90s
18.	Pulsed yelp/airhorn	. mixed tones
19.	Triton 475 635 800 45cm	. 475Hz for .337s 800Hz for .3337s
		635Hz for
20.	Standard	450Hz for .909s 600Hz for .909s
21.	Denmark	450Hz for 50s 600Hz for 50s
22.	Sweden	530Hz for 1s 700Hz for 1s
23	Police (Austria)	430Hz for 1.2s 575Hz for 1.2s
24	Ambulance (Austria)	400Hz for 75s 530Hz for 75s
24.		400Hz for 306c 516Hz for 306c
25.	Police (Notherlands)	600Hz for 455c 800Hz for 455c
20.	Police (Netherlands)	6001 12 101 .4005
21.		550 Ja for 4440
20.		
29.		. 432HZ TOF ./5S
30.		. 362Hz for ./5s
31.	Gendarmerie(France)	. 430Hz for .545s /35Hz for .545s
32.	Police (France)	. 430Hz for .545s 575Hz for .545s
33.	Fire(France).	. 430Hz for 1.1s 483Hz for 1.1s
34.	UMH(France).	. 430Hz for .545s 650Hz for .545s
35.	DIN 14610	. 450Hz for .75s 600Hz for .75s
36.	Fire/Ambulance (Italy)	. 392Hz for 1.0s 660Hz for .167s
		. 392Hz for 167s 660Hz for .167s
37.	Police (Italy)	. 466Hz for 1.0s 622Hz for .167s
		. 466Hz for .167s 622Hz for .167s
38.	Ambulance	. 420Hz for .167s 516Hz for .167s
		420Hz for .167s pause for .300s
39.	Ambulance (France)	420Hz for .167s
		420Hz for .167s pause for 1.5s
		Continued on next page

#### Continued from previous page

40.	Ambulance (Netherlands)	450Hz for .938s 800Hz for .938s 661Hz for .938s 800Hz for .938s
41. 42. 43. 44.	Composite_hilo_375_500_46cm Composite_hilo_375_500_92cm Police (Netherlands) Fire (Austria)	375Hz for .650s.       .500Hz for .650s.         375Hz for .325s.       .500Hz for .325s.         493Hz for .75s.       .660Hz for .75s.         392Hz for .50s.       .523Hz for 1.0s.         392Hz for .50s.       .523Hz for 1.0s.         pause for .50s       .503Hz for 1.0s.
45.	Rescue (Austria)	523Hz for .50s 392Hz for 1.0s 523Hz for .50s 392Hz for 1.0s pause for .50s
46.	Police (Austria)	392Hz for .25s.         .523Hz for .50s           392Hz for .25s.         .523Hz for .25s           392Hz for .25s.         .523Hz for .25s           392Hz for .25s.         .523Hz for .75s           392Hz for .25s.         .523Hz for .75s           pause for .25s         .523Hz for .75s
47. 48.	Pistensignal Fire-Brigade (GB)	600Hz for .75s pause for .75s 430Hz for .545s 483Hz for .545s 600
49. 50. 51.	Composite Town	440Hz for .75s

\* Airhorn-Hi and Airhorn-Lo are available as override tones only. \*\* Tones off is not available in the Hands Free cycle

#### To change the tone for the MANUAL cycle (for MODE 1):

Place the siren in MANUAL standby, by Activating the CNTRL3 switch. Press and hold the Horn ring or the CYCLE switch: To cycle forward through tones, press the Scan-Lock™ switch for less than 1 second and release.

MANUAL Tone List	<u>t</u>
<ul> <li>TONE OFF</li> </ul>	• H-WAIL-COAST
<ul> <li>WAIL-COAST</li> </ul>	H-WAIL-STOP
<ul> <li>WAIL-STOP</li> </ul>	• AIRHORN-HI
<ul> <li>MECHANICAL-COAST</li> </ul>	<ul> <li>AIRHORN-LO</li> </ul>
MECHANICAL-STOP	

To cycle backward through

tones, press the Scan-Lock<sup>™</sup> switch for more than 1 second and release. When the desired tone is present, it will automatically be saved as the MANUAL tone. Release the Horn ring or the CYCLE switch.

### To change the tone for the MANUAL cycle (for MODE 4):

Press and hold the CNTRL3 switch: To cycle forward through tones, press the Scan-Lock™ switch for less than 1 second and release. To cycle backward through tones, press the Scan-Lock™ switch for more than 1 second and release. When the desired tone is present, it will automatically be saved as the MANUAL tone. Release the CNTRL3 switch.

To change the tone for the AIRHORN: Press and hold the AIRHORN

switch<sup>.</sup> To cycle forward through tones, press the Scan-Lock<sup>™</sup> switch for less than 1 second and release. To cycle back-

AIRHORN	Tone List	
• TONE OFF	• AIRHORN-HI	• AIRHORN-LO

ward through tones, press the Scan-Lock™ switch for more than 1 second and release. When the desired tone is present, it will automatically be saved as the AIRHORN tone. Release the AIRHORN switch.

# Mode Programming:

There are 5 modes of operation built into the Euro-1 siren. Mode 5 is the factory default mode. To change the Mode follow the instructions below.

## This section will outline how to select the desired Mode of Operation.

- Turn off all control switches. 1
- 2. Press and hold the Scan-Lock<sup>™</sup> button. Now press and release the CNRL1 Switch.
- 3 Release the Scan-Lock™ button. The Euro-1 is now in Configuration Mode
- 4. Using the ScanLock<sup>™</sup> button, cycle through the five different modes of operation. The currently selected mode can be identified by the LED indicators. Refer to Table 1 for TABLE 1 LED display information.
- LED 1 | LED 2 | LED 3 | MODE # 5 When the desired Mode of Operation OFF OFF MODE 1 ΟN has been selected, press and OFF ON OFF MODE 2 release the CNRL1 Switch to exit the ON OFF MODE 3 ON configuration mode. OFF OFF ON MODE 4 ON OFF ON MODE 5

## Tone Completion Operating mode:

The siren can be programmed so that all the siren tones will complete their full cycle when they are turned off.

## This section will outline how to select the Tone Completion Operating mode.

- 1 Turn off all control switches.
- Press and hold the Scan-Lock<sup>™</sup> button. Now press and release the 2 CNRL2 Switch.
- Release the Scan-Lock™ button. The Euro-1 is now in Tone 3. Completion Configuration Mode.
- Using the ScanLock<sup>™</sup> button, toggle between standard operation 4. and the Tone Completion Operating mode. Use table 2 and the LED indicators to select the desired operation.
- 5 When the desired Mode of Operation has been selected, press and release the CNRL2 Switch to exit the configuration mode.

TABLE 2			
	LED 1	LED 2	MODE
	ON	OFF	Standard Operation (default)
	OFF	ON	Tone Completion Operating Mode