



# Installation and Operation Instructions

## H<sub>2</sub>Covert™ Remote Siren System with Hand-Held Controller

**WARNING!**



Sirens are an integral part of an effective audio/visual emergency warning system. However, sirens are only short range secondary warning devices. The use of a siren does not insure that all drivers can or will observe or react to an emergency warning signal, particularly at long distances or when either vehicle is traveling at a high rate of speed. Sirens should only be used in a combination with effective warning lights and never relied upon as a sole warning signal. Never take the right of way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection driving against traffic, or responding at a high rate of speed.

The effectiveness of this warning device is highly dependent upon correct mounting and wiring. Read and follow the manufacturer's instructions before installing this device. The vehicle operator should check the equipment daily to insure that all features of the device operate correctly.

To be effective, sirens must produce high sound levels that potentially can inflict hearing damage. Installers should be warned to wear hearing protection, clear bystanders from the area and not to operate the siren indoors during testing. Vehicle operators and occupants should assess their exposure to siren noise and determine what steps, such as consultation with professionals or use of hearing protection should be implemented to protect their hearing.

This equipment is intended for use by authorized personnel only. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should check all applicable city, state and federal laws and regulations. Code 3, Inc., assumes no liability for any loss resulting from the use of this warning device.

Proper installation is vital to the performance of the siren and the safe operation of the emergency vehicle. It is important to recognize that the operator of the emergency vehicle is under psychological and physiological stress caused by the emergency situation. The siren system should be installed in such a manner as to: A) Not reduce the acoustical performance of the system, B) Limit as much as practical the noise level in the passenger compartment of the vehicle, C) Place the controls within convenient reach of the operator so that he can operate the system without losing eye contact with the roadway.

Emergency warning devices often 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 severe vehicle damage, including fire.

**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.**

**IMPORTANT! Read all instructions before installing and using. Installer: This manual must be delivered to the end user.**

**Specifications:**

<b>Size:</b>	Siren	7.1"L X 6.2"W X 2.7"H
	Handheld controller	5.9"L X 2.4"W X 1.2"H
<b>Weight:</b>		4.4 lbs
<b>Input Voltage:</b>		10-16 VDC Nominal
<b>Input Current:</b>	Max Current @ 12VDC Nominal	15.2 A
<b>Output Power:</b>	Rated Power (Watts)	200W
<b>Temp. Range:</b>		-40°C to 65°C -40°F to 149°F



**WARNING!**

- Sirens produce loud sounds that may damage hearing
- Wear hearing protection when testing
- Use siren only for emergency response
- Roll up windows when siren is operating
- Avoid exposure to the siren sound outside of the vehicle

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## Standard Features

The H<sub>2</sub>Covert system offers the following features:

- Primary Tones: Wail, Yelp, Hi-Lo, Hyper-Yelp, Hyper-Lo, Whoop, Manual Wail, Air Horn
- Vehicle Light Control Buttons – 7 levels: 3 Progressive, Auxiliary
- PA with Built-In Noise Cancelling Microphone
- Integrated Volume Control
- Radio rebroadcast
- Stand-By
- Siren Scroll
- Park Kill
- Horn Ring Transfer
- EU Lock
- Backlit Buttons with On/Off Color Change
- Three (3) Backlight Dimming Levels and Backlight Off Option
- Two (2) Push Button Programmable Siren Controls
- Two (2) Programmable Air Horn Pitch Controls
- Externally accessible fuses
- 25' Extension Cable

## Unpacking & Pre-Installation

After unpacking the siren, carefully inspect the unit and associated parts for any damage that may have been caused in transit. Report any damage to the carrier immediately.

Parts included in the box:

- Siren (amplifier)
- Hand-Held Controller with Base
- 25' Extension Cable
- Parts Bag

## Installation & Mounting

The hand-held controller may be mounted in various locations in the vehicle: below the dash, on the tunnel, etc. using the hardware supplied. Ease of operation and convenience to the operator should be the prime consideration when mounting the siren and controls. The amplifier may be mounted at an appropriate location within the vehicle, and the 25' extension cord can be used to couple the hand-held controller to the amplifier.

### WARNING!



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. Ease of operation and convenience to the operator should be the prime consideration when mounting the siren and controls. Adjust the mounting angle to allow maximum operator visibility. Do not mount the Hand-Held Controller in a location that will obstruct the drivers view. Mount the Hand-Held Controller mounting base in a convenient location to allow the operator easy access. Devices should be mounted only in locations that conform to their SAE identification code as described in SAE Standard J1849. For example, electronics designed for interior mounting should not be placed underhood, etc. Controls should be placed within convenient reach\* of the driver or if intended for two person operation the driver and/or passenger. In some vehicles, multiple control switches and/or using methods such as "horn ring transfer" which utilizes the vehicle horn switch to toggle between siren tones may be necessary for convenient operation from two positions.

*\*Convenient reach is defined as the ability of the operator of the siren system to manipulate the controls from their normal driving/riding position without excessive movement away from the seat back or loss of eye contact with the roadway.*

The H<sub>2</sub>Covert amplifier is not waterproof. It must be mounted in a location that is sheltered from rain, snow, standing water, etc. It must be also installed in an adequately ventilated area. Do not install near heater ducts or under the vehicle's hood. Using the mounting holes on the amplifier as a template, scribe four drill position marks at the mounting locations. Be sure that both sides of the mounting surface are clear of parts that may be damaged. The siren accessory kit with mounting hardware supplied provides the user with a choice of mounting hardware. Secure the H<sub>2</sub>Covert amplifier to the mounting surface, using the mounting hardware, including lock washers.

Connection between the hand-held controller and the H<sub>2</sub>Covert amplifier box is an RJ45 connector.



**WARNING!**

Larger wires and tight connections will provide longer service life for components. For high current wires it is highly recommended that terminal blocks or soldered connections be used with shrink tubing to protect the connections. Do not use insulation displacement connections (e.g. 3M) Scotchlock type connectors. Route wiring using grommets and sealant when passing through compartment walls. Minimize the number of splices to reduce voltage drop. High ambient temperatures (e.g. underhood) will significantly reduce the current carrying capacity of wires, fuses, and circuit breakers. Use "SXL" type wire in engine compartment.

All wiring should conform to the minimum wire size and other recommendations of the manufacturer and be protected from moving parts and hot surfaces. Looms, grommets, cable ties, and similar installation hardware should be used to anchor and protect all wiring.

Fuses or circuit breakers should be located as close to the power takeoff points as possible and properly sized to protect the wiring and devices. Particular attention should be paid to the location and method of making electrical connections and splices to protect these points from corrosion and loss of conductivity. Ground (Earth) terminations should only be made to substantial chassis components, preferably directly to the vehicle battery.

The user should install a circuit breaker sized to approximately 125% of the maximum Amp capacity in the supply line to protect against short circuits. For example, a 30 Amp circuit breaker should carry a maximum of 24 Amps.

**DO NOT USE 1/4" DIAMETER GLASS FUSES AS THEY ARE NOT SUITABLE FOR CONTINUOUS DUTY IN SIZES ABOVE 15 AMPS.** Circuit breakers are very sensitive to high temperatures and will "false trip" when mounted in hot environments or operated close to their capacity.

**Connections**

(Reference Figures 1 and 2– Connection Diagram)

1. Disconnect the cable on the negative end of the battery before performing installation. Do not connect the H<sub>2</sub>Covert system to vehicle battery until all other electrical connections are made and mounting of all components is complete. Verify the polarities of the cable and ensure that no short circuits exist before connecting to the battery terminals. If routing the extension cable requires drilling a hole in sheet metal or other material, drill a 5/8" hole in the material and install a 5/8" grommet (not supplied) to protect the cable.
2. User-supplied 12-gauge red and black wires are required for positive (+12V) and negative (NEG) connections. User-supplied 18-gauge wires are required for the speaker, door/park-siren-off input, radio input, chassis ground, horn ring out and horn ring in connections.
3. Attach the handheld controller to the amplifier by inserting the RJ45 connector on the end of the coil cord into the mating port on the amplifier. If the amplifier is remotely mounted, use the included 25' extension cord and extension adaptor.
4. Configure the dip switches on the front of the siren amplifier to suit your needs. See page 9 for the list of dip switches and their impact on the system.



**Figure 1**



**Figure 2**

5. To install the positive and negative power wires, strip 1/4" of insulation from the end of the wires, insert the red wire into the left port of the two-position, pluggable connector (color green), which corresponds to the "+12V" position, and the black wire into the right port, which corresponds to the "NEG" position, and tighten the screws. The "+12V" position may be connected either directly to a +12V source (such as a battery), or through a switch (such as an ignition switch).

6. The unit is supplied with a ten-position, pluggable connector (color green) for the other connections. Insert the wire into the connector and tighten the screw at these appropriate connector positions:
  - a. Speaker – the siren is designed to operate with one 11-ohm impedance speaker (100W) or two 11-ohm impedance speakers (200W). Speakers are not included as part of the siren. Any 11-ohm 100W speakers for use with emergency vehicle may be considered to use. When using two speakers, they must be connected in parallel and in phase.



**WARNING!**

**CONNECTION OF A 58 WATT SPEAKER TO THE SPKR TERMINAL WILL CAUSE THE SPEAKER TO BURN OUT, AND WILL VOID THE SPEAKER WARRANTY!**

- b. Horn Ring In and Out – The horn ring transfer circuit is capable of switching a maximum of 10 amperes. An external relay is not required for horn ring operation. Locate the wire that connects the vehicle horn ring switch to the horn or horn relay. Cut this wire. Connect a wire from “HORN RING IN” position on the connector to the horn ring side of the wire that was just cut. Connect a wire from “HORN RING OUT” position on the connector to the horn side of the cut wire. Properly insulate the wires. (Note: A footswitch may be substituted to use with “HORN-TAP” function. Connect a wire to one end of the footswitch wire to the other end of the footswitch wires and the vehicle chassis.). The user has the option for two different tone outputs when depressing the horn – Air Horn (default) or Manual. See the section titled “Operation” for dip switch configurations.
  - c. Chassis ground – This wire should not be left unconnected. It is necessary to connect the siren enclosure to ground and gain shielding effect. Use an 18-gauge wire to connect the siren to an adequate location on the vehicle’s chassis.
  - d. Door/Park-Siren-Off input – This feature automatically deactivates siren tones when the vehicle is shifted into PARK. Lighting Level 3 will also “drop-out “ if this feature is enabled via the front panel dip switch. Siren tones will be disabled until the vehicle is shifted out of PARK. This circuit is activated by a negative signal. Connect this input to a circuit that is GROUNDED when the vehicle is shifted into PARK. It is the installer’s responsibility to determine an appropriate location in the vehicle circuitry to connect this wire. See the section titled “Operation” for dip switch configurations.
  - e. Radio rebroadcast - Any line output signal with nominal one volt peak to peak can be connected here. If the output seems to start distorted, reduce the radio gain by adjusting the “Radio Gain” trimmer on front of siren amplifier.
7. Plug the ten-position connector into the mating connector on the unit, and apply pressure until it locks into place.
  8. To install the lightbar power wires, strip approximately 1/4” of insulation from the end of the lights wires. Insert the wire in the appropriate terminal of the 7-position screw terminal block and tighten the screw. Keep in mind that terminals LEV1, LEV2, and LEV3 have a 20 amp maximum current each, and terminals AUX1, AUX2, AUX3, and AUX4 have a 10 amp maximum current each. The total current of all 7 terminals is limited to 60 Amps.
  9. Both +12VLTG terminals should be connected directly to a 12V source. This connector provides power to the 3 Level, progressive lighting outputs and the 4 auxiliary outputs. This connection is designed to provide 60 amp service and therefore nothing smaller than #10 gauge wire should be connected to it. If a fuse is installed, it should be sized for the actual load of the lighting used and located as close to the battery positive as possible.
  10. Ensure that there are no loose wire strands or other bare wire that may cause a short circuit. All wires must be protected from any sharp edged that could eventually cut through the insulation. Also use an ohmmeter to verify that a short circuit does not exist between the positive (+) leads and the vehicles chassis.
  11. Perform visual check of all connections and wiring more before connecting the red wire to the positive (+) terminal and black wire to the negative (-) terminal of the battery.

## Operation



### WARNING!

Any electronic device may create or be affected by electromagnetic interference. After installation of any electronic device, operate all equipment simultaneously to insure that operation is free of interference.

### Push to Talk and Radio Gain

Adjust the gain trimmers located on the front of the amplifier to reduce distortion.

### Horn Ring Feature

The Horn Ring feature allows the driver to enable and change the audible siren sound via the vehicle's horn ring. Depending upon the position of Dip switches #6 & #7, the horn ring switch will emulate either the function of the "AIR" or "MANUAL" button on the handheld controller or scroll through various siren tones. The Scrolling Feature is completely disabled when Dip switch #6 is in the "on" position. When Dip switch #6 is in the "on" position, the horn ring will always emulate either the "AIR" or "MANUAL" button as set by Dip switch #7.

The following outputs are achieved by tapping the horn ring:

<u>Light Status</u>	<u>Siren Status</u>	<u>Output</u>
OFF or Level 1	OFF	Air Horn (or Manual) tone
Level 2 or Level 3	OFF	Tapping scrolls through tones
OFF or Level 1	ON	No change to tone.
Level 2 or Level 3	ON	Tapping scrolls through tones

The following outputs are achieved by holding the horn ring:

<u>Light Status</u>	<u>Siren Status</u>	<u>Output</u>
ANY	OFF	Air Horn (or Manual) tone
OFF or Level 1	ON	No change to tone.
Level 2 or Level 3	ON	Air Horn (or Manual) tone

### Footswitch/Pursuit Feature

A footswitch may be substituted for the Horn Ring feature.

### Park Kill Feature

This feature deactivates the siren tones when the vehicle is either shifted into park or door is opened (depending on how the end user wired this feature into the vehicle). The siren will remain deactivated until the vehicle is shifted into gear or the door is closed and the siren is manually restarted. If Dip switch #4 is in the "on" position, Light Level 3 will also drop to Light Level 2 when the vehicle is shifted into park or door is opened. The lights will remain in Light Level 2 unless manually changed.



### WARNING!

**IMPORTANT WARNINGS TO USERS OF SIRENS:** "Wail" and "Yelp" tones are in some cases (such as the state of California) the only recognized siren tones for calling for the right of way. Ancillary tones such as "Air Horn", "Hi-Lo", "Hyper Yelp", and "Hyper Lo" in some cases do not provide as high a sound pressure level. It is recommended that these tones be used in a secondary mode to alert motorists to the presence of multiple emergency vehicles or to the momentary shift from the primary tone as an indication of the imminent presence of any emergency vehicle.

### EU Lock Feature

By setting either Dip switch #8 or Dip switch #9 to the "on" position, the EU Lock Feature is enabled. This feature ensures that at least a certain Light Level is on while any siren tones, except Air Horn, are on. If the siren is turned on without the minimum Light Level on, then that Light Level will turn on. If later that Light Level is turned off, then the siren will also turn off if it is still on. The minimum Light Level is set by the following table:

<u>OPERATION MODE</u>	<u>Dip switch #8</u>	<u>Dip switch #9</u>
EU Lock Disabled	OFF	OFF
EU Lock Level 1	ON	OFF
EU Lock Level 2	OFF	ON
EU Lock Level 3	ON	ON

For Example: If EU Lock Level 1 is enabled (by setting Dip switch #8 "ON", and Dip switch #9 "OFF"), then at least Light Level 1 will always be on while the siren is on. If the siren is turned on and no lights are on, then Light Level 1 will also turn on. When Light Level 1 is turned off, then the siren will also turn off if it is still on.

### Auto Siren Feature

By setting Dip switch #2 to the "on" position, Auto Siren is enabled. In this mode, the SIR1 siren tone will automatically turn on when Lighting Level 3 is turned on. When Lighting Level 3 is later turned off, any siren tone that is on will also shut off. The SIR1 siren tone may be programmed as described below.

### Programmable Siren Tones

The SIR1 and SIR2 are user programmable. They are preset at the factory as such: SIR1 – Wail and SIR2 – Yelp, To change the factory preset, depress and hold the STBY button, then depress/release the desired SIR button to go to the next available tone. Once the desired tone is chosen, release both buttons. Repeat for the other SIR buttons.

### Programmable Air Horn Pitch Tones

There are two tones available for the Air Horn. To change, depress and hold the STBY button, then depress/release the Air Horn button. Once the desired tone is chosen, release both buttons.

### Auxiliary Light Control Buttons

There are four auxiliary light control buttons that the user can use as desired. To operate, depress/release once and the desired feature will be enabled. Depress/release again and the feature will be disabled. The AUX3 and AUX4 buttons have special modes they can operate in that can be enabled with Dip switches. If these modes are not set, AUX3 and AUX4 operate in default mode, which is the same as the other AUX buttons. Below is a description of these two modes.

#### AUX3 - Momentary Active Mode

When Dip switch #3 is "on", the AUX3 channel is only active while the AUX3 button is pressed. Once released, the AUX3 channel will become inactive again.

#### AUX4 - Gun Lock Mode

When Dip switch #5 is "on", pressing the AUX4 button will cause the AUX4 channel to become active for 10 seconds. After 10 seconds, the AUX4 channel will become inactive again.

### Keypad Backlight Dimming and Shut Off

There are four (4) levels of dimming on the hand-held controller keypad: Brightest, Bright, Dim, and Off. To initiate a change to the dimming level hold the STBY button down for 5 or more seconds without pressing any other buttons on the keypad. The unit will change to the next dim level (or Off if it is currently set at the lowest dimming level). If the STBY is depressed/released again within approximately two (2) seconds, the dim changes to the next level. The user can depress/release the STBY button continuously within two (2) seconds to cycle through all dimming levels. If the STBY button is not depressed/released within two (2) seconds, the dimming level is set. To initiate a change to the dimming level the STBY button must again be held down for 5 or more seconds. The dimming level will remain set even after the unit has been turned off.

### California Title 13 Compliance

By setting Dip switch #1 to the "on" position, the H<sub>2</sub>Covert operates in a California Title 13 Compliance mode. In this mode, Hyper Yelp, Hi-Lo, Hyper-Lo, and Whoop siren tones are disabled. In addition, the Air Horn is disabled if Light Levels 2 or 3 are on.



### Configurable Dip switches

There are ten dip switches on the front of the H<sub>2</sub>Covert amplifier that can be used to set various different features of the system. When a dip switch is facing downward (towards the mounting bracket), it is considered to be in the “on” position. When it is facing upward (towards the wiring diagram), it is considered to be in the “off” position. All dip switches come preset to the “off” position.

Below is a description of the functions of all ten dip switches.

#### Dip switch #1

When “ON”, the siren will operate in California Title 13 Mode. Hyper Yelp, Hi-Lo, Hyper-Lo and Whoop siren tones will be disabled, limiting the available tones to Wail and Yelp. In addition, the Air Horn is disabled if Light Levels 2 or 3 are active.

#### Dip switch #2

When “ON”, enables Auto Siren. If Light Level 3 is turned on, then SIR1 siren tone will also turn on. When Light Level 3 is turned off, any siren tone that is on will also turn off.

#### Dip switch #3

When “ON”, enables the Momentary Active Mode of AUX3. AUX3 will only be active while the AUX3 button is pressed.

#### Dip switch #4

When “ON”, enables the Park Kill Light Level 3 Feature. When Park Kill disables the siren, it will also drop the Light Level from Level 3 to Level 2 (if it is currently in Level 3).

#### Dip switch #5

When “ON”, enables the Gun Lock Mode of AUX4. When the AUX4 button is pressed, AUX4 will immediately become active. After 10 seconds, AUX4 will become inactive again.

#### Dip switch #6

When “ON”, disables the Horn Ring Scrolling feature described above. When this dip switch is in the “on” position, the horn ring will always produce either the Air Horn or Manual Tone regardless of siren or light levels.

#### Dip switch #7

When “ON”, Horn Ring will emulate the “MANUAL” button. When “OFF”, Horn Ring will emulate the “AIR HORN” button.

#### Dip switch #8 and Dip switch #9

When either Dip switch #8 or Dip switch #9 to the “on” position, the EU Lock Feature is enabled. This feature ensures that at least a certain Light Level is on while any siren tones, except Air Horn, are on. If the siren is turned on without the minimum Light Level on, then that Light Level will turn on. If later that Light Level is turned off, then the siren will also turn off if it is still on. The minimum Light Level is set by the following table:

<u>OPERATION MODE</u>	<u>Dip switch #8</u>	<u>Dip switch #9</u>
EU Lock Disabled	OFF	OFF
EU Lock Level 1	ON	OFF
EU Lock Level 2	OFF	ON
EU Lock Level 3	ON	ON

NOTE: If both Auto Siren and EU Lock Level 3 are on, the siren will operate in a mode similar to Siren Lock on other Code 3, Inc. sirens. In this mode, when Light Level 3 is turned on, SIR1 siren tone will also turn on. When Light Level 3 is later turned off, the siren will also turn off.

#### Dip switch #10

Reserved. Leave this dip switch in the “OFF” position

Hand Held Controller (See Picture on Next Page)

1. The microphone for talk.
2. LEV1, when depressed/released once, supplies power to the load connected to LEV1. This will also shut off the siren if EU Lock Level 2 or 3, or Auto Siren is enabled. When depressed/released again, cuts power to Terminal A and shuts off the siren if EU Lock Level 1 is enabled.
3. LEV2, when depressed/released once, supplies power to the load connected to LEV1 and LEV2. This will also shut off the siren if EU Lock Level 3 or Auto Siren is enabled. When pressed/released again, cuts power to LEV2 and shuts off the siren if EU Lock Level 2 is enabled.
4. LEV3, when depressed/released once, supplies power to the load connected to LEV1, LEV2, LEV3. If Auto Siren is enabled, then SIR1 siren will also turn on. When depressed/released again, cuts power to LEV1, LEV2, and LEV3, and shuts off the siren if EU Lock or Auto Siren is enabled.
5. AUX 1 – Auxiliary, when depressed/released once, supplies power to the load connected to AUX1.
6. AUX 2 – Auxiliary, when depressed/released once, supplies power to the load connected to AUX2.
7. AUX 3 – Auxiliary, when active, supplies power to the load connected to AUX3. Active mode is determined by the mode that AUX 3 is set to. This is set by Dip switch #3.
8. AUX 4 – Auxiliary, when active, supplies power to the load connected to AUX4. Active mode is determined by the mode that AUX 4 is set to. This is set by Dip switch #5.
9. RAD – When pressed, the radio rebroadcast function over-rides any active siren tone. When the RAD button is released, the siren will automatically switch back to the siren tone (if any) that was active when the button was pressed.
10. MAN – When depressed/released once, the siren will produce the Manual tone. This button over-rides any other siren tone being produced. If EU Lock is enabled, and the minimum Light Level is not currently on, then that Light Level will also turn on.
11. AIR – When depressed/released once, the siren will produce the Air Horn tone. This button over-rides any other siren tone being produced. When the STBY button is depressed/held, the Air Horn button can be depressed/released to select higher or lower pitch tones. Once the desired tone is chosen, release both buttons.
12. SIR – When depressed/released, the siren will produce the Wail tone. Continue to depress/release the button to scroll through the following tones (unless disabled): Wail, Yelp, Hi-Lo, Hyper-Yelp, Hyper-Lo, and Whoop. If EU Lock is enabled, and the minimum Light Level is not currently on, then that Light Level will also turn on.
13. SIR1 – Siren Tone 1, when depressed/released once, the siren will produce the tone preset at the factory (currently Wail). If EU Lock is enabled, and the minimum Light Level is not currently on, then that Light Level will also turn on. To change the factory preset, depress and hold the STBY button, and then depress/release the SIR1 button to go to the next available tone. Once the desired tone is chosen, release both buttons.
14. SIR2 – Siren Tone 2, when depressed/released once, the siren will produce the tone preset at the factory (currently Yelp). If EU Lock is enabled, and the minimum Light Level is not currently on, then that Light Level will also turn on. To change the factory preset, depress and hold the STBY button, and then depress/release the SIR2 button to go to the next available tone. Once the desired tone is chosen, release both buttons.
15. STBY – When depressed/released, any active siren tone is shut off. When depressed/held for 5 or more seconds without any other button press, the keypad dimming mode is entered (see the section titled “Keypad Backlighting Dimming and Shut Off”). In addition this button is used to change the siren presets as described above.
16. PTT (Push To Talk) – The PA portion of the siren is activated each time the Microphone PTT button is pressed. When pressed, the PA function over-rides any active siren tone and routes the PA audio through the siren speaker. When the PTT button is released, the siren will automatically switch back to the siren tone (if any) that was active when the button was pressed.
17. Power/Volume Control - On/Off power is controlled by adjusting the wheel all the way upward, which turns the unit on and sets it to maximum volume. Scrolling downward from here decreases the volume. Scrolling further, past the physical detent, will turn the unit off.



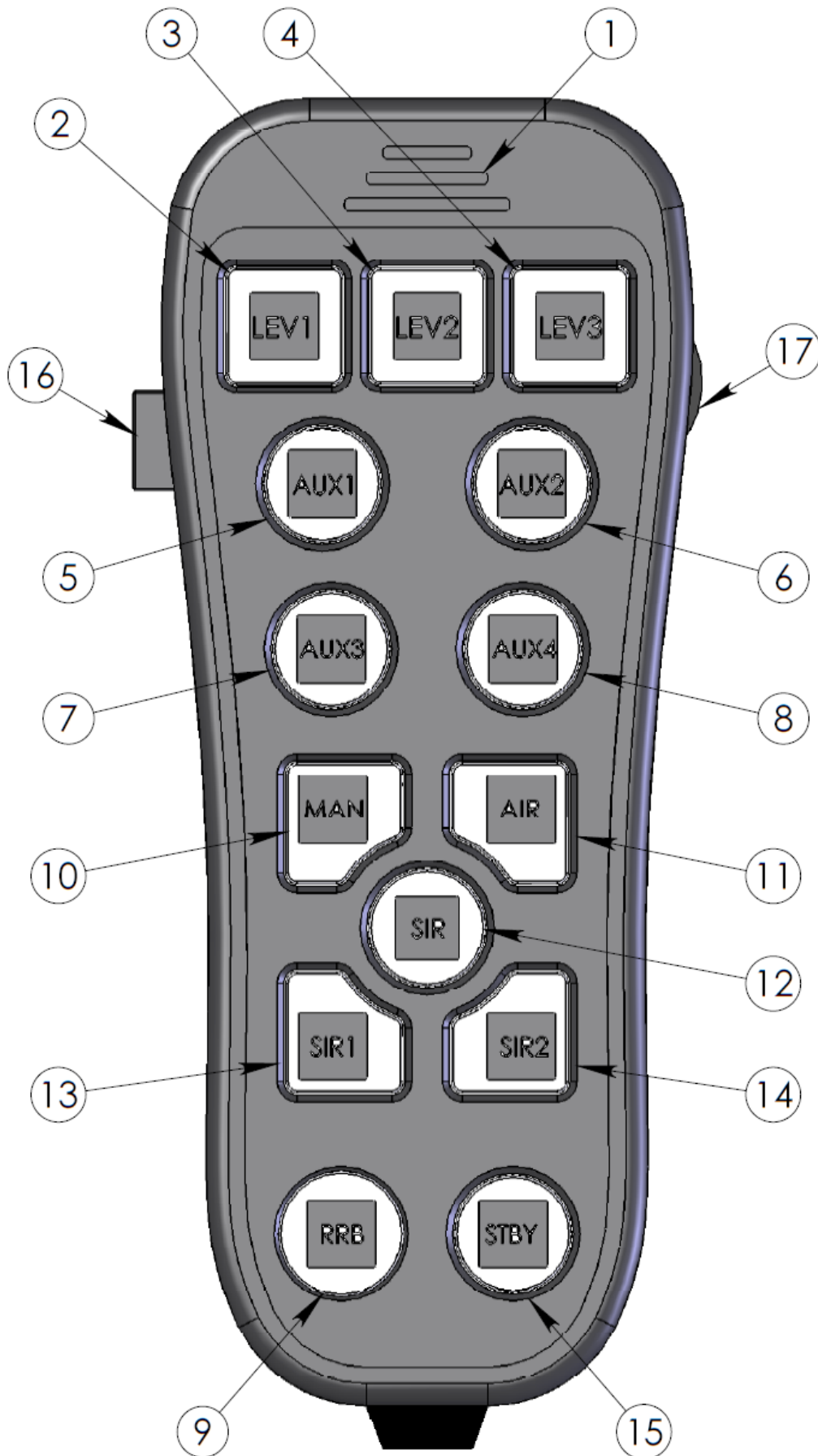


Figure 3

**Lighting Specifications**

Warning Light Control	7 levels
Level 1	20A maximum
Level 2	20A maximum
Level 3	20A maximum
AUX 1	10A maximum
AUX 2	10A maximum
AUX 3	10A maximum
AUX 4	10A maximum

**Maintenance**

Your Code 3 siren has been designed to provide trouble free service. In case of difficulty, consult the Troubleshooting Guide of this manual. Also check for shorted or open wires. The primary cause of short circuits has been found to be wires passing through firewalls, roofs, etc. If further difficulty persists, contact the factory for troubleshooting advice or return instructions.

Code 3 maintains a complete parts inventory and service facility at the factory and will repair or replace (at the factory's option) any unit found to be defective under normal use and in warranty. Any attempt to service a unit in warranty, by anyone other than a factory-authorized technician, without the express written consent of the factory, will void the warranty.

Units out of warranty can be repaired at the factory for a nominal charge on either a flat rate or parts and labor basis. Contact the factory for details and return instructions. Code 3 is not liable for any incidental charges related to the repair or replacement of a unit unless otherwise expressly agreed to in writing by the factory.

**Parts List**

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
T15060	Siren (Amplifier)	1
T15061	Hand Held Controller with Coil Cord	1
T15062	Hand Held Controller Mounting Bracket	1
T52227	Ten Position Pluggable Connector	1
T52228	Two Position Pluggable Connector	1
T15065	Parts Bag	1
T15066	25' Extension Cord	1
T15068	Installation & Operation Manual	1

## Troubleshooting Guide:

(Refer to Figures 1 and 2 - Connection Diagram)

PROBLEM	PROBABLE CAUSE	REMEDY
NO SIREN OUTPUT.	A. SHORTED SPEAKER OR SPEAKER WIRES. SIREN IN OVER CURRENT PROTECTION MODE.	A. CHECK CONNECTIONS.
FUSE BLOWS.	A. AMPLIFIER POWER WIRES REVERSED POLARITY.	A. CHECK POLARITY.
NO OUTPUT FROM SPEAKER, TONES HEARD INSIDE AMP MODULE.	A. SPEAKER NOT CONNECTED/ OPEN OR SHORTED SPEAKER WIRING. B. DEFECTIVE SPEAKER (NOTE: SHORTED SPEAKER OR SPEAKER WIRING WILL CAUSE SIREN TO SHUT DOWN).	A. CHECK SPEAKER WIRING. B. DISCONNECT SPEAKER, LISTEN AT SIREN FOR TONES, REPLACE SPEAKER.
SIREN TONES VOLUME TOO LOW OR GARBLED.	A. LOW VOLTAGE TO SIREN AMPLIFIER. B. HIGH RESISTANCE IN WIRING/ DEFECTIVE SPEAKER.	A. CHECK WIRING FOR BAD CONNECTIONS/ CHECK VEHICLE CHARGING SYSTEM. B. CHECK SPEAKER WIRING / REPLACE SPEAKER.
HIGH RATE OF SPEAKER FAILURE.	A. HIGH VOLTAGE TO SIREN. B. 58 WATT SPEAKER CONNECTED TO 100 WATT TAP. 58 WATT NOT ALLOWED.	A. CHECK VEHICLE CHARGING SYSTEM. B. USE CORRECT SPEAKER.
SIREN CONTINUES UNTIL TONE RAMPS DOWN AFTER MANUAL BUTTON IS RELEASED.	NORMAL OPERATION.	
P.A. VOLUME LOW OR NO P.A. AT ALL. VOLUME CONTROL ADJUSTED TO MAXIMUM.	A. DEFECTIVE MICROPHONE. B. MAXIMUM P.A. VOLUME TRIMMER MISADJUSTED . SEE OPERATION SECTION.	A. REPLACE MICROPHONE. B. REFER TO OPERATION SECTION.
RRB VOLUME LOW, OR NO RRB AT ALL. VOLUME CONTROL FULLY CLOCKWISE.	A. MAXIMUM RADIO REBROADCAST TRIMMER MIS-ADJUSTED. B. RRB WIRES NOT CONNECTED TO TWO-WAY RADIO EXTERNAL SPEAKER.	A. REFER TO SET-UP AND ADJUSTMENT SECTION. B. CHECK RRB CONNECTIONS
SIREN SOUNDS BY ITSELF.	A. REMOTE SWITCH (HORN RING) WIRING TO REMOTE INPUT SHORTING TO POSITIVE OR TO GROUND (EARTH).	A. CHECK WIRING FOR ANY SHORTING.
PA OPERATES BUT SIREN WILL NOT RUN.	A. VEHICLE IN PARK; THE PARK KILL FEATURE MUTES SIREN WHILE VEHICLE IS IN PARK OR NEUTRAL. B. RRB SWITCH IS ON.	A. PUT VEHICLE IN GEAR B. TURN RRB SWITCH OFF

## **Manufacturer Limited Warranty Policy:**

Manufacturer warrants that on the date of purchase this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for Sixty (60) months from the date of purchase.

**DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS Voids THIS LIMITED WARRANTY.**

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This Limited Warranty defines specific legal rights. You may have other legal rights which vary from jurisdiction to jurisdiction. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages.

## **Product Returns:**

If a product must be returned for repair or replacement\*, please contact our factory to obtain a Return Goods Authorization Number (RGA number) before you ship the product to Code 3®, Inc. Write the RGA number clearly on the package near the mailing label. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

\*Code 3®, Inc. reserves the right to repair or replace at its discretion. Code 3®, Inc. assumes no responsibility or liability for expenses incurred for the removal and /or reinstallation of products requiring service and/or repair.; nor for the packaging, handling, and shipping; nor for the handling of products returned to sender after the service has been rendered.



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