

INSTALLATION & OPERATION MANUAL



3990 SERIES SIRENS
PATENT PENDING

Code 3, Inc., a subsidiary of
Public Safety Equipment, Inc.

CODE 3[®]
PUBLIC SAFETY EQUIPMENT, INC.

RLS SERIES

SIRENS AND CONTROLS

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IMPORTANT:

*Read all instructions and warnings before installing and using.
INSTALLER This manual must be delivered to the end user
of this equipment.*

Introduction

The 3990 series siren is a new series of remote control electronic sirens that has been designed to meet the needs of all emergency vehicles. This series of sirens incorporates the popular features of the existing Mastercom siren with microprocessor based circuitry and MOSFET technology. All of the original **MASTERCOM** features are available along with many new added features that are not available on any other Code 3 siren such as; **Park Kill, Instant "ON", Adj. Backlighting, " Scroll " Mode and more.**



WARNING! **SIREN PRODUCTS:**

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 or using 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.

Standard Features

The 3990 series sirens consist of remotely mounted siren amplifier with integral lighting control which is operated by a compact control panel designed to be conveniently mounted near the operator. The models are as follows:

3997/3997R

- Primary Tones: Wail, Yelp, Hi-Lo, Air Horn
- Secondary Tones: HyperYelp, HyperLo
- 6 auxiliary lighting controls
- Integral Arrow Stik Control

3998/3998R

- Primary Tones: Wail, Yelp, Hi-Lo, Air Horn
- Secondary Tones: HyperYelp, HyperLo
- 6 auxiliary lighting controls

3999/3999R

- Primary Tones: Wail, Yelp, Hi-Lo, Air Horn
- Secondary Tones: HyperYelp, HyperLo
- 6 auxiliary lighting controls
- Integral Arrow Stik Control
- NIGHTPROBE™ Spotlight controller optionally available
- 8 additional auxiliary relay outputs optionally available

The following features are standard in the RLS series sirens (tones and sequences may differ with model and options):

Instant-On- There is no " ON/OFF " switch. Selecting any siren function, or keying the microphone will activate the selected siren function, assuming the siren is properly installed and the vehicle's ignition is switched on.

Park Kill- This feature deactivates the siren tones and drops-out the Level 3 lighting when the vehicle is shifted into park. Once **PKILL** is activated the siren will remain deactivated until the vehicle is shifted into drive and an action occurs such as depressing one of the siren control switches, changing the position of the lighting level switch or keying the microphone. Any of these actions will cause the siren tones to start again.

Adjustable Backlighting- Backlighting is independent of siren power. Allows connecting to dimmer if desired.

Automatic Short Circuit Protection- The siren will sense a short circuit on the speaker terminals and automatically go to standby until the fault is removed. Once the fault is removed the siren will return to normal operation.

Lighting Level "3 " Dropout- When vehicle is shifted to PARK and the PKILL feature is connected, Level 3 lighting will dropout. This is a power down mode and can be defeated by setting the 4 -position rear dip switch to the PKILL "OFF" position on the lighting board. This is indicated by the "red" LED extinguishing.

Scroll Mode- Setting the slide switch on the rear of the siren to the SCROLL position will put siren in scroll mode. This will allow "scrolling" through tones utilizing sharp taps on the horn ring, or a switch, via the Remote siren input. In this mode holding the horn ring for prolonged durations will produce the Airhorn sound. See OPERATION section for further details.

Hit-n-Go Mode - Setting the slide switch on the rear of the siren to the Hit-N-Go position will put the siren in the Hit-n-Go mode. This mode will be most familiar to existing **MASTERCOM** users. A seven second override is standard for all tones when activated by the Remote input. See OPERATION section for details.

Automatic Siren Tones - Industry standard Wail, Yelp, and Hi-Lo tones.

AIR HORN Tone - Electronic AIR HORN sound.

Instant Public Address - Public Address override of all siren functions when the microphone Push-to-Talk key is pressed.

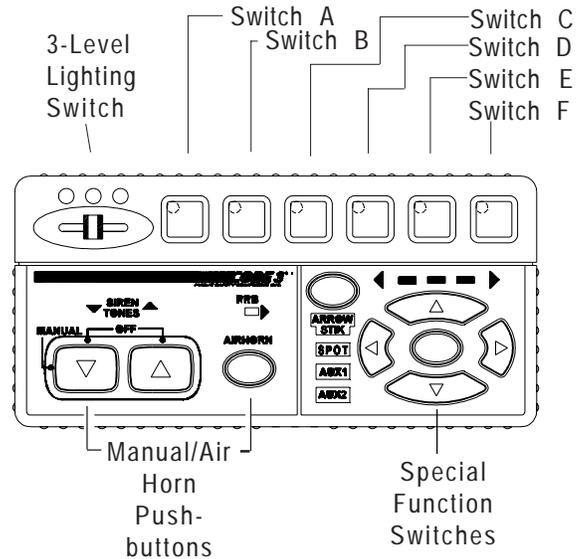


Figure 1 - 3999 Control Panel

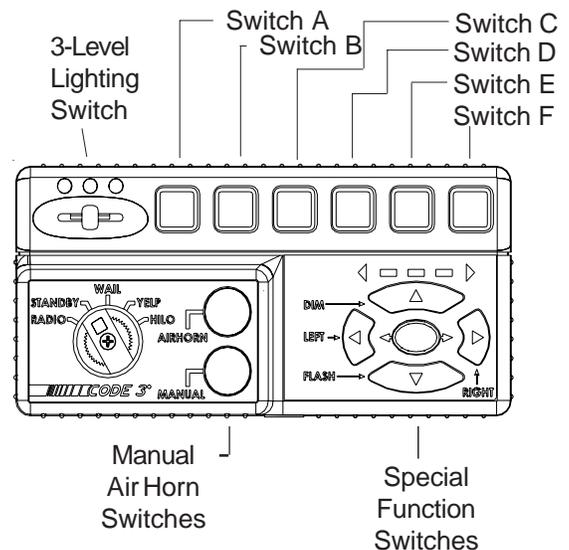


Figure 1A - 3997R Control Panel

Status LED - An indicator LED, visible on the front of the remote siren amplifier indicates that the unit is on when lighted.

Radio Rebroadcast - Broadcast Two-way radio reception over siren speakers. These inputs are transformer coupled to prevent loading of the radio.

Remote Siren Switching - The siren accepts either a positive or a ground (earth) signal, usually from the vehicle's horn switch (or other user supplied switch), to remotely activate the MANUAL or AIR HORN functions. (MANUAL or AIRHORN is selected via the slide switch located on the front panel of the siren amplifier. The siren is factory set for a GND (Earth) signal and may be reconfigured to accept a positive signal. See **SETUP and Adjustments and Operation** sections for details.

Noise Cancelling Microphone - Plug-in microphone that is easily unplugged for service or replacement.

Power Distribution Section - A three level progressive switch for primary warning light system control plus 6 push-on/push-off auxiliary switches.

Each auxiliary switch can be custom labeled with the supplied label kit. Each switch is backlit when activated to alert the operator. Each position of the progressive switch has its own indicator LED.

Horn Ring Transfer - Built in horn transfer relay that is automatically activated at Levels 2 and 3 of the progressive warning light switch.

Unpacking & Pre-installation

After unpacking your RLS series 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.

Installation & Mounting

The RLS series siren control may be mounted above the dash, below the dash, on a tunnel or in a rack with the mounting hardware supplied (see Fig. 2). Ease of operation and

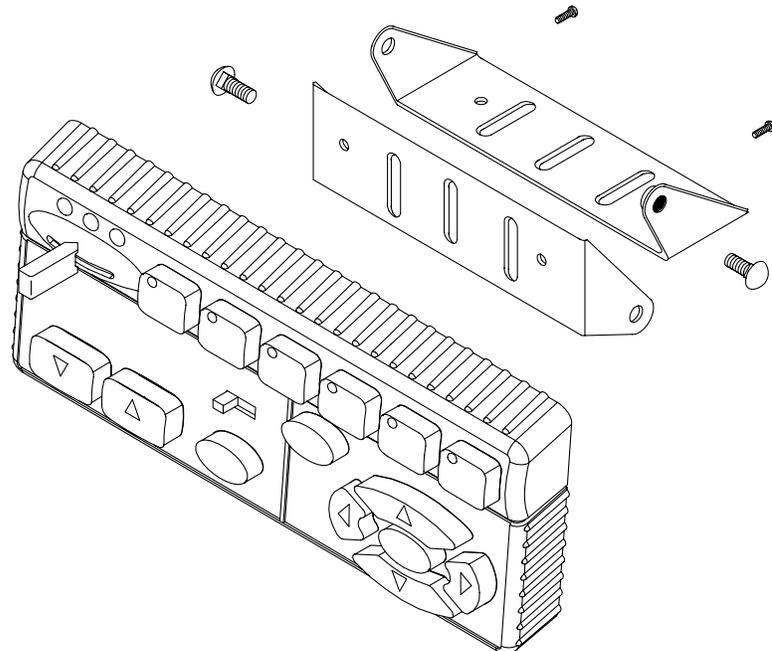


Figure 2



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 Control Head Module in a location that will obstruct the drivers view. Mount the microphone clip 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.

convenience to the operator should be the prime consideration when mounting the siren and controls

NOTE: Setups and adjustments will be made in subsequent steps, depending upon the model and options purchased, that may require access to the rear area of the unit. Plan the installation and wiring accordingly.

Amplifier Connections

Siren Amplifier Connector - As a standard feature, the Siren and Auxiliary sections of your unit come equipped with a combination plug-in terminal block/connector. To terminate the wires, strip approximately 1/4" of insulation from the end of each wire and insert it in the appropriate hole in the terminal block. Tighten the setscrew and proceed to the next connection.

Should you ever have to remove the unit, pull the terminal block straight out. It will unplug from the unit, leaving the wiring in place.

Terminal Block Connections

Light Control Terminal Plug- (see wiring diagram page 15)

COM - Connect to the wire from one 100 W (11 ohm) speaker terminal 1.

SPKR - Speaker - Connect to the wire from 100 W (11 ohm) speaker terminal 2.

NOTE: For all RLS sirens manufactured after April 2004, two 100W speakers may be connected in parallel for 200 W operation. Correct phasing is important and can be accomplished by connecting both speaker terminals marked " 1 " to the **COM** terminal and both speaker terminals marked " 2" to the **SPKR** terminal. For sirens manufactured prior to April 2004, 200W operation was an optional feature. Refer to the siren's wiring label to determine the power rating on these units.

REMOTE - Remote switch (Horn ring or foot switch). Circuit can be configured for both ground (earth) or positive signals. A horn ring transfer circuit is standard in all 3990 series. Connect to the "REMOTE" terminal on the Lighting Control Section terminal block. Unit is configured for a ground (earth) at the factory. See page 8 for details on configuring for a +12V input.



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 connectors (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.



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

The sound projecting opening should be pointed forward, parallel to the ground, and not obstructed or muffled by structural components of the vehicle. Concealed or underhood mountings in some cases will result in a dramatic reduction in performance. To minimize this reduction, mount the speaker so the sound emitted is projected directly forward and obstruction by vehicle components such as hoses, brackets, grille, etc. is minimized.

Electromechanical sirens and electronic siren speakers should be mounted as far from the occupants as possible using acoustically insulated compartments and isolation mountings to minimize the transmission of sound into the vehicle. It may be helpful to mount the device on the front bumper, engine cowl or fender; heavily insulate the passenger compartment; and operate the siren only with the windows closed.

Each of these approaches may cause significant operational problems, including loss of siren performance from road slush, increased likelihood of damage to the siren in minor collisions, and the inability to hear the sirens on other emergency vehicles.

APPROPRIATE TRAINING OF VEHICLE OPERATORS IS RECOMMENDED TO ALERT THEM TO THESE PROBLEMS AND MINIMIZE THE EFFECT OF THESE PROBLEMS DURING OPERATIONS.

LTG- Provides +12V to siren backlighting. Connect to a vehicle circuit that is powered when the ignition switch is " on ". If backlighting dimming is desired, connect to the dash lights' circuit.

Caution- If connected to the battery the backlighting will be active at all times.

PKILL- This feature automatically deactivates siren tones when the vehicle is shifted into PARK. When the 3-Level switch is set to Level-3, Level-3 will " dropout " when the vehicle is shifted to PARK if this feature is enabled via the rear panel dip switch. Siren tones will be disabled until the vehicle is shifted out of PARK and the front panel selector switched is either returned to standby (or another function is selected) or the lighting level control is returned to level 1. This circuit is activated by a negative signal. Connect this input to a circuit that is GROUNDED (Earth) 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.**

RRB - Connect to one side of the two-way radio speaker.

RRB - Connect to the second side of the two-way radio speaker.

InterClear® - Connect to the device or circuit that is to be activated by the InterClear feature. The InterClear circuit is internally current limited at 1 Amp. Should your application require higher currents, use the InterClear Power Booster Kit (# INTBS), available from your Code 3 supplier.

1/4" Male Quick-Connect Printed Circuit Board Terminals

+12V - Connect to a positive +12 volt DC source. It is recommended that the user protect this wire with a 20 Amp fuse or circuit breaker located at the source. Use #14 gauge wire terminated with 1/4" female, fully insulated quick-connect terminals only.

NEG - Connect to the negative terminal of the battery. This supplies ground (earth) to the siren. Use #14 gauge wire terminated with 1/4" female, fully insulated quick-connect terminals only.

Power Distribution Connections

A #8 stud is provided on the rear of the unit and is intended for use **ONLY** as a convenient ground (earth) " tie-point " for the light bar wiring. It is not an adequate ground (earth) for the siren or the light bar. It is recommended all ground (earth) wires attached here be terminated with a crimp-on ring terminal.

Terminal Plugs - Rear Panel- (See Wiring Diagram page 16)

IMPORTANT!

Remember auxiliary outputs A,B,D,E,F can supply a maximum of 20 Amps each for a combined total of 30 Amps. Install appropriate fuses in each output wire as close to the siren as possible.

SW A - Connect to the load to be controlled by Auxiliary Switch "A".

SW B - Connect to the load to be controlled by Auxiliary Switch "B".

SW C NO - Connect to the load to be controlled by the normally-open contact on Auxiliary Switch "C".

SW C NC - Connect to the load to be controlled by the normally-closed contact on Auxiliary Switch "C".

SW C COM - Common or power feed for Auxiliary Switch "C". Terminals are a SPDT circuit that may be connected as latching (Push-On/Push-Off) or timed momentary circuit. This terminal may also be connected to the vehicle's ignition circuit for added security when used with electric gun locks. A switch accessible through the back of the siren control head allows the 10 second timed output feature to be disabled thus making this switch operate as a Push-On/Push-Off function. This circuit will handle up to 10 Amps, and should be protected with a fuse at the supply source.

SW D - Connect to the load to be controlled by Auxiliary Switch "D".

SW E - Connect to the load to be controlled by Auxiliary Switch "E".

SW F - Connect to the load to be controlled by Auxiliary Switch "F".

HORN RING - Connect to the wire coming from the vehicle horn switch at the steering wheel.

HORN - Connect to the vehicle horn or vehicle horn ring relay.

REMTE - Connect to the Remote terminal on the Siren Amplifier Connector.

#8 GAUGE RED WIRE PIGTAIL - provides power to the 3-Level, progressive lighting outputs only. The wire can be ordered with an optional connector to allow for convenient removal. The connector should be soldered to each wire, NOT crimped. This connection is designed to provide 50 amp service and therefore nothing smaller than #8 gauge wire should be connected to it. The circuit breaker used should be sized for the actual load of the lighting used and located as close to the battery positive as possible.

4 POSITION SCREW-TYPE TERMINAL BLOCK CONNECTOR

+12VAUX - Connect to the positive terminal of the battery with 30 Amp circuit protection. Locate the fuse or circuit breaker at the battery and use #10 gauge wire minimum. This terminal provides output power for switches A,B,D,E & F and must be connected whether these auxiliary outputs are used or not.

IMPORTANT!

The Level 1-3 outputs can supply a maximum of 30 Amps each for a combined total of 50 Amps. Install appropriate fuses in each output wire as close to the siren as possible.

LEVEL 1 - Connect to the first level of warning lights (Green LED) position "1" on level switch.

LEVEL 2 - Connect to the second level of warning lights (Yellow LED) position "2" on level switch.

LEVEL 3 - Connect to the third level of warning lights (Red LED) position "3" on level switch.

NOTE: LEVEL 1, LEVEL 2, LEVEL 3, switch progressively. Switch position 1 provides +12 volts at Level 1 terminal. Switch position 2 provides +12 volts at terminals 1 and 2. Switch position 3 provides +12 volts at terminals 1, 2, and 3.

SETUP AND ADJUSTMENT

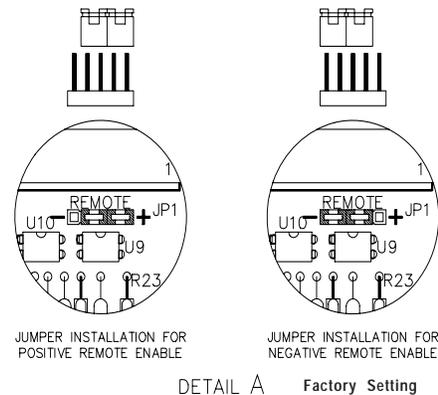
All of the adjustments, **except MAXIMUM P.A. ADJUSTMENT**, and setup switches are accessible from the rear of the unit. Make these adjustments and position the setup switches prior to placing the unit inside their bail bracket (see wiring diagram, page 15).

Audio Adjustments

Radio Rebroadcast Adjustment - Place the selector switch in the RADIO position. The trimmer located on the rear panel of the siren sets the maximum level RRB will reach with the knob fully clockwise. To adjust properly, set the volume knob fully clockwise and adjust the trimmer such that normal two-way radio volume inside the vehicle produces the desired volume outside the vehicle.

Maximum P.A. Volume Adjustment - This trimmer (located on the front panel next to the volume control knob) sets the maximum level that the P.A. volume will reach with the front panel VOLUME control in the fully clockwise position. To adjust properly, set the front panel volume control fully clockwise and adjust the trimmer while keying the microphone until the maximum volume out of the speaker is such that there is no feedback and is intelligible.

Remote Input - The remote input can be configured to accept either a positive +12V or negative GND (Earth) signal for actuation. All 3990 series sirens are shipped setup to accept the GND (Earth) signal present on most vehicles from the vehicle horn switch. To reconfigure the Remote Input to accept a +12V signal the amplifier cover must be removed (see exploded view, page 20). Move both jumpers towards the "+" position. Refer to detail "A" for a complete illustration.



DETAIL A Factory Setting

4-Position DIP Switch (located on the siren amplifier, rear panel)

Gently set the **SirenLock**, and **PKILL** setup switches to the desired position using the point of a ball point pin or some other similar tool. These switches are present on all models. If SirenLock is switched on, all of the tones except AIRHORN, are muted until the Warning Light Switch is in either the Level 3 or the Level 2 or 3 positions. Additionally, if the PKILL switch is on and the PKILL input is connected to the vehicle's NSSW (Neutral Safety Switch) circuit, all siren tones except AIRHORN are muted while the vehicle is in PARK or NEUTRAL.

SirenLock - (sw 2-3) When switch 3 is on the siren tones are allowed to sound when the 3-Level switch is placed in the Level-3 position. When both switches 2 & 3 are on the siren tones are allowed to sound when the 3-Level switch is placed in either Level 2 or in Level 3 position.

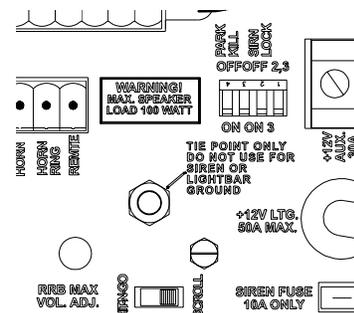


Figure 3, 4-Position DIP Switch

PKILL- If this switch (sw 4) is in the on position, lighting level-3 will "drop-out" when vehicle is shifted to PARK. This is intended to reduce power consumption while vehicle is not moving. If it is not desired to have level 3 "drop-out" this switch should be set to the " OFF " position on the dip switch.

Please note that DIP switch 1 is not used.

2-Position DIP Switch (located on the control head, rear panel)

Gently set the **LightAlert, and Timed Output** setup switches to the desired position using the point of a ball point pin or some other similar tool. These switches are present on all models.

LightAlert - LightAlert is intended to alert the operator with an audible tone, when any lighting switch is activated. When this switch is in the OFF position, the LightAlert tone is disabled.

Timed Output - Output "C" may be configured as a timed output, providing a ten second, timed output for applications such as electric gunlock. The SPDT relay allows an additional level of security to

be added by connecting this output through the vehicle's ignition circuit thereby requiring that the ignition be on in order for the output to be activated. When this switch is in the OFF position, output "C" becomes a latched output and may be toggled ON/OFF like switches A, B, D, E & F.

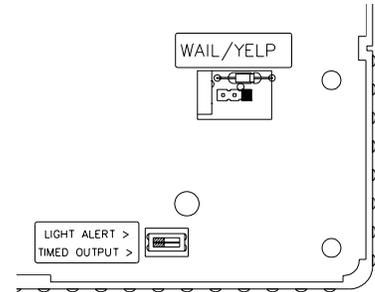


Figure 4, 2-Position DIP Switch & WAIL/YELP Jumper (Push-Button Control Heads only).

Initial Siren Mode

WAIL/YELP - A three pin jumper located on the rear panel of the Push-Button version of the RLS Control Head allows the siren may be configured to automatically start the siren in either WAIL or YELP mode when the 3-level lighting switch is moved to a position higher than the selected SirenLock level. Inserting the jumper across the left two pins will cause the Initial Siren Mode (ISM) to be WAIL. Similarly, moving the jumper to the right two pins will select YELP mode. If no siren tone is desired the jumper should be moved to a position which only covers one of the pins. In this position, the siren tones may still be activated by the front panel switches or the vehicle's horn switch but will not be automatically started when the position of the 3-level lighting control switch is changed.

Note that this jumper is not used on the 399xR control heads. For systems equipped with the 399xR Rotary Switch version of the RLS Control Head, the initial siren tone is selected by the position of the front panel rotary control switch.

Hit-N-Go / Scroll Selector Switch (located on the siren amplifier, rear panel)

The siren has two distinct modes, **Hit-N-Go** and **Scroll**. Set rear panel slide switch, Figure 3, to the desired mode by sliding left or right. See operation section for a detailed description of operation in each mode.

Custom Labeling

Labels supplied with the RLS series siren should be selected and placed in the appropriate windows. Refer to Figure 1 for the RLS Control Head switch A-F window designations.



"Wail" and "Yelp" tones are in some cases (such as in the state of California) the only recognized siren tones for calling for the right of way. Ancillary tones such as "Air Horn", "Hi-Lo", "Hyperyelp", and "Hyperlo" 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 an emergency vehicle.

P.A. Volume Knob

This control adjusts the level of the P.A. audio produced when keying the microphone and speaking into it. This control also controls the Radio Re-broadcast level when in the " RRB " switch is on. (see SETUP, Radio Rebroadcast Adjustment).

Operation

IMPORTANT !

The RLS Series Siren has two distinct modes of operation. These are Hit-N-Go mode and SCROLL mode. The desired mode of operation can be selected via the amplifier rear panel slide switch. Each mode will affect the siren operation as described below. The Hit-N-Go mode should be most familiar to existing **MASTERCOM** users.

The configuration of the SirenLock and Park Kill features will, in some cases, prevent the siren from producing siren tones. The siren will not produce tones when the vehicle is in "PARK" if the PKILL feature has been connected and the PKILL enable switch is ON. If the Siren Lock feature is enabled (lighting Level-2 or 3), the siren will not produce tones until the appropriate lighting level is selected by the progressive warning light switch. To test the siren tones the vehicle must not be in "PARK". The following assumes that PKILL has not been activated and that the progressive warning light switch is set to the appropriate position.

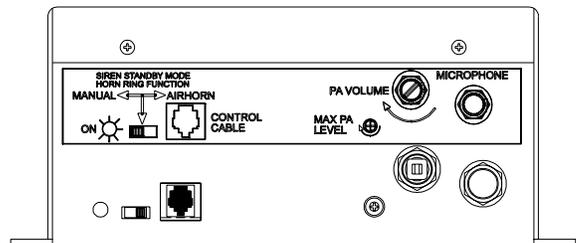


Figure 5, Siren Amplifier, Front Panel

Switch Operation - Hit-N-Go Mode Selected

Function Description

RRB - In the ON position, the audio from the 2-way radio is rebroadcast over the siren speaker. Note, the siren is not disabled in this mode. The siren will generate siren tones if selected then revert to RRB mode.

STANDBY - This is the standby mode. If the **MANUAL** button is depressed the Manual wail tone will ramp up until it reaches a peak then ramp down when released. If the **AIR HORN** button is depressed, the Air Horn sound will be produced.

WAIL - This mode produces the Wail tone. Depressing the AIR HORN button will produce the Air Horn sound and when released will return siren to Wail tone. The Remote/Horn Ring input will activate the Interclear output and cause the tone to change to Yelp for 7 seconds.

YELP - This position produces the Yelp tone. Pushing the **MANUAL** button will produce the Manual Wail tone until released. If the **AIRHORN** button is pushed, the Airhorn sound will be produced and when released will return the siren to Yelp. The Remote/Horn Ring input will activate the Interclear output and cause the tone to change to HyperYelp for 7 seconds.

HI-LO - This position produces the Hi-Lo tone. Pushing the **MANUAL** button will Manual Wail tone until released. If the **AIRHORN** button is pushed, the Airhorn sound will be produced and when released will return siren to Hi-Lo. The Remote/Horn Ring input will activate the Interclear output and cause the tone to change to HyperLo for 7 seconds.

Push-to-Talk (PTT) Microphone Switch - Keying the microphone will automatically override whatever mode the siren is in and broadcast public address messages over the siren speaker.

MANUAL Pushbutton Momentary Switch - Produces the Manual tone as described above.

AIR HORN Pushbutton Momentary Switch- Produces the Air Horn tone as described above.

SLIDE SWITCH - The slide switch located on the front of the siren amplifier selects the function for the REMOTE (external switch) circuitry. When the siren is in standby mode and switch is to the right, the Horn Ring circuitry remotely "depresses" the AIR HORN button and it produces the effects outlined above. When the slide switch is to the left, it allows the REMOTE circuitry to remotely "depress" the MANUAL pushbutton. This causes the effects described above to occur.

Switch Operation - Scroll Mode Selected

The " Scroll " mode is designed to allow the user to scroll through Wail, Yelp, HyperYelp and Airhorn tones by utilizing the Remote input on the siren. This will usually be connected to the vehicle Horn Ring circuit. When the three level lighting control switch is in position 2 or 3, the Horn Ring transfer relay is energized. The user can use the Horn Ring to sequence through Wail,Hyperyelp and Yelp by applying a quick, sharp tap on the horn. Additional taps will scroll the siren to the next tone. Depressing the horn for longer periods will produce " Airhorn".

Function Selection

RRB - In the ON position, the audio from the 2-way radio is rebroadcast over the siren speaker. Note, the siren is not disabled in this mode. The siren will generate siren tones if selected then revert to RRB mode.

STANDBY - This is the standby mode, when the **MANUAL** button is depressed the Manual wail tone will ramp up until it reaches a peak then ramp down when released. If the **AIR HORN** button is depressed, the Air Horn sound will be produced.

WAIL - This mode produces the Wail tone. Depressing the MANUAL button will now produce Manual wail tone and ramp up until released. Depressing the AIR HORN button will produce the Air Horn sound. The siren can be scrolled in this position as described above. The Remote/Horn Ring input will also activate the Interclar output for 7 seconds.

YELP - This mode produces the Yelp tone. Pushing the MANUAL button will now produce the Manual wail tone and ramp up until released. If the AIRHORN button is pushed, the Airhorn sound will be produced. The siren can be scrolled from this position as described above. The Remote/Horn Ring input will also activate the Interclar output for 7 seconds.

HI-LO - This position produces the Hi-Lo tone. Pushing the MANUAL button will produce the Manual Wail tone until released. If the AIRHORN button is pushed, the Airhorn sound will be produced and when released the siren return to Hi-Lo.The siren cannot be scrolled from this position. The Remote/Horn Ring input will activate the Interclar output and cause the tone to change to HyperLo for 7 seconds.

Push-to-Talk (PTT) Microphone Switch - Keying the microphone will automatically override whatever mode the siren is in and broadcast public address messages over the siren speaker.

MANUAL Pushbutton Momentary Switch - Produces the Manual tone as described above.

AIR HORN Pushbutton Momentary Switch - Produces the Air Horn tone as described above.

MANUAL / AIRHORN SWITCH - The MANUAL / AIRHORN slide switch located on the front of the siren amplifier, Figure 5, selects the function for the REMOTE (external switch) circuitry when the siren is in standby mode. When the the siren is in standby mode and switch is to the right, the Horn Ring circuitry remotely "depresses" the AIR HORN button and it produces the effects outlined above. When the slide switch is to the left, it allows the REMOTE circuitry to remotely "depress" the MANUAL pushbutton. This causes the effects described above to occur. **When in the "Scroll " mode this switch has no effect unless in STANDBY position.**

Switch Operation - 399xR Control Head, Hit-N-Go Mode Selected

Function Description

RADIO - In the RADIO position, the audio from the 2-way radio is rebroadcast over the siren speaker. Note: the siren tones are disabled in this mode. The Air Horn switch will operate normally.

STANDBY - In STANDBY mode no siren tone is produced. If the **MANUAL** button is depressed the Manual wail tone will ramp up until it reaches a peak then ramp down when released. If the **AIR HORN** button is depressed, the Air Horn sound will be produced.

WAIL - This mode produces the Wail tone. Depressing the AIR HORN button will produce the Air Horn sound and when released will return siren to Wail tone. The Remote/Horn Ring input will activate the Interclear output and cause the tone to change to Yelp for approximately 60 seconds.

YELP - This position produces the Yelp tone. Pushing the MANUAL button will produce the Manual Wail tone until released. If the AIRHORN button is pushed, the Airhorn sound will be produced and when released will return the siren to Yelp. The Remote/Horn Ring input will activate the Interclear output and cause the tone to change to HyperYelp for approximately 60 seconds.

HI-LO - This position produces the Hi-Lo tone. Pushing the MANUAL button will Manual Wail tone until released. If the AIRHORN button is pushed, the Airhorn sound will be produced and when released will return siren to Hi-Lo. The Remote/Horn Ring input will activate the Interclear output and cause the tone to change to HyperLo for approximately 60 seconds.

Push-to-Talk (PTT) Microphone Switch - Keying the microphone will automatically override whatever mode the siren is in and broadcast public address messages over the siren speaker.

MANUAL Pushbutton Momentary Switch - Produces the Manual tone as described above.

AIR HORN Pushbutton Momentary Switch- Produces the Air Horn tone as described above.

SLIDE SWITCH - The slide switch located on the front of the siren amplifier selects the function for the REMOTE (external switch) circuitry. When the siren is in standby mode and switch is to the right, the Horn Ring circuitry remotely "depresses" the AIR HORN button and it produces the effects outlined above. When the slide switch is to the left, it allows the REMOTE circuitry to remotely "depress" the MANUAL pushbutton. This causes the effects described above to occur.

Switch Operation - 399xR Control Head, Scroll Mode Selected

The " Scroll " mode is designed to allow the user to scroll through Wail, Yelp, HyperYelp and Airhorn tones by utilizing the Remote input on the siren. This will usually be connected to the vehicle Horn Ring circuit. When the three level lighting control switch is in position 2 or 3, the Horn Ring transfer relay is energized. The user can use the Horn Ring to sequence through Wail,Hyperyelp and Yelp by applying a quick, sharp tap on the horn. Additional taps will scroll the siren to the next tone. Depressing the horn for longer periods will produce " Airhorn".

Function Selection

RADIO - In the RADIO position, the audio from the 2-way radio is rebroadcast over the siren speaker. Note: the siren tones are disabled in this mode. The Air Horn switch will operate normally.

STANDBY - In STANDBY mode no siren tone is produced. If the **MANUAL** button is depressed the Manual wail tone will ramp up until it reaches a peak then ramp down when released. If the **AIR HORN** button is depressed, the Air Horn sound will be produced.

WAIL - This mode produces the Wail tone. Depressing the MANUAL button will now produce Manual wail tone and ramp up until released. Depressing the AIR HORN button will produce the Air Horn sound. The siren can be scrolled in this position as described above. The Remote/Horn Ring input will also activate the Inter-clear output for approximately 60 seconds.

YELP - This mode produces the Yelp tone. Pushing the MANUAL button will now produce the Manual wail tone and ramp up until released. If the AIRHORN button is pushed, the Airhorn sound will be produced. The siren can be scrolled from this position as described above. The Remote/Horn Ring input will also activate the Inter-clear output for approximately 60 seconds.

HI-LO - This position produces the Hi-Lo tone. Pushing the MANUAL button will produce the Manual Wail tone until released. If the AIRHORN button is pushed, the Airhorn sound will be produced and when released the siren return to Hi-Lo. The siren cannot be scrolled from this position. The Remote/Horn Ring input will activate the Inter-clear output and cause the tone to change to HyperLo for approximately 60 seconds.

Push-to-Talk (PTT) Microphone Switch - Keying the microphone will automatically override whatever mode the siren is in and broadcast public address messages over the siren speaker.

MANUAL Pushbutton Momentary Switch - Produces the Manual tone as described above.

AIR HORN Pushbutton Momentary Switch - Produces the Air Horn tone as described above.

MANUAL / AIRHORN SWITCH - The MANUAL / AIRHORN slide switch located on the front of the siren amplifier, Figure 5, selects the function for the REMOTE (external switch) circuitry when the siren is in standby mode. When the the siren is in standby mode and switch is to the right, the Horn Ring circuitry remotely "depresses" the AIR HORN button and it produces the effects outlined above. When the slide switch is to the left, it allows the REMOTE circuitry to remotely "depress" the MANUAL pushbutton. **When in the "Scroll" mode this switch has no effect unless in STANDBY position.**

LED STATUS INDICATOR - The green LED status indicator indicates the the siren amplifier is on when lighted; off or standby mode when unlighted.

-Lighting Controls-

WARNING LIGHTS 3 LEVEL PROGRESSIVE SLIDE SWITCH:

POSITION 1 - Supplies power to Lighting Level 1. Illuminates Green LED. Activates LightAlert if supplied

POSITION 2 - Supplies power to Lighting Levels 1 & 2. Illuminates Green and Yellow LED's. Activates LightAlert and SirenLock options if supplied.

Position 3- Supplies power to Lighting Levels 1,2, & 3. Illuminates Green, Yellow, AND Red LED's. Activates LightAlert and SirenLock if supplied.

Auxiliary Switches:

AUXILIARY SWITCH "A" - Supplies power to the load connected to terminal SW A.

AUXILIARY SWITCH "B" - Supplies power to the load connected to terminal SW B.

AUXILIARY SWITCH "C" - Operates circuit connected to terminals SWC NO, SWC NC, SWC COM. Functions as a momentary activation, 10 sec. timed switch or as a latching switch. The timed output function may be enabled/disabled by the two position switch located on the rear of the siren control head.

AUXILIARY SWITCH "D" - Supplies power to the load connected to terminal SW D.

AUXILIARY SWITCH "E" - Supplies power to the load connected to terminal SW E.

AUXILIARY SWITCH "F" - Supplies power to the load connected to terminal SW F.

NOTE: The six auxiliary switches described above have their own individual LED which is dimly illuminated for back lighting and bright to indicate that the circuit is On. These switches will also activate the LightAlert feature if it is enabled.

LightAlert - The LightAlert option will produce an audible "beep" on a periodic basis if the Progressive Warning Light Switch or any of the Auxiliary Switches are on. A switch accessible through the back of the siren control head allows this feature to be disabled if desired.

SirenLock - The SirenLock option, when not defeated by means of the switches accessible on the rear panel of the siren amplifier, allows siren tones to be produced only when the Warning Light Switch is in the Lighting Level 2 (Green and Yellow LED's) or Lighting Level 3 (Green, Yellow, and Red LED's) position. Air Horn, Radio Rebroadcast, and Public Address are unaffected by this option.

Special Function Switches (Models 3997, 3997R, 3999 & 3999R only)

RLS Siren Models 3997, 3997R, 3999 & 3999R have five (5) "Special Function" switches which provide a means of control, on properly equipped installations, for an ArrowStik for Models 3997 & 3997R and an ArrowStik, NIGHTPROBE™ spotlight, and the RLS Auxiliary Relay Module for Models 3999 & 3999R. On Models 3997 and 3997R these switches control the function of the ArrowStik. On Models 3999 and 3999R, the function of these five switches is determined by the Special Function Select Button. Each time the Select switch is Depressed the Special Function Mode will scroll to the next mode as indicated by the illuminated legend of the Special Function Indicator (see Figure 6). The function of the switches in each mode is described below.

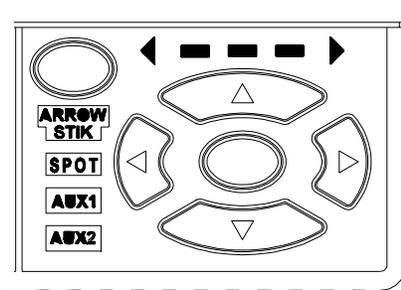


Figure 6,
Special Function Switches

ArrowStik - Using the control unit's SELECT switch, select the ArrowStik mode. When in ArrowStik mode the five "Special Function" switches provide push-on / push-off control of an ArrowStik. These switches operate intuitively for the Left, Right, Center-Out and Rear Flash ArrowStik functions. Depressing the Up Arrow will cause the ArrowStik to toggle between Bright and Dim mode. Please note that when the ArrowStik is in Dim mode, depressing the active function switch again will toggle the ArrowStik back to Bright mode. Depressing the active function switch a second time will toggle the ArrowStik function OFF.

NIGHTPROBE™ - The RLS Spotlight Control Module (option B394) is required to operate this function. Using the control unit's SELECT switch, select the SPOT mode. In this mode, depressing and holding the LEFT, RIGHT, UP or DOWN keys will cause the NIGHTPROBE™ to rotate in the appropriate direction. The spotlight will accelerate from it's slowest speed to full speed over a two second period and stop instantly when the switch is released. This allows for very precise positioning of the light. Depressing and releasing the center switch while in the SPOT mode will cause the lamp to toggle ON and OFF. **Please refer to the RLS NIGHTPROBE™ Control Module, User Manual (p/n 10938) for detailed instructions and further cautionary information on the installation and wiring of the RLS NIGHTPROBE™ Control and NIGHTPROBE™ Spotlight systems.**

AUX1 / AUX2 - The RLS Auxiliary Relay Module is (option B396) is required to operate this function. Using the control unit's SELECT switch, select the AUX1 mode. In this mode, depressing the LEFT, UP, RIGHT or DOWN keys will activate outputs 1,2,3 or 4 respectively. Similarly, when AUX2 mode is selected, depressing the LEFT, UP, RIGHT or DOWN keys will activate outputs 5,6,7 or 8 respectively. These are ON / OFF latching functions. Each output will toggle ON when it's switch is depressed the first time and OFF when it's

depressed a second time. Depressing the center switch will set all four outputs of the selected mode to OFF. **Please refer to the RLS Auxiliary Relay Control Module, User Manual (p/n 10947) for detailed instructions and further cautionary information on the installation and wiring of the RLS Auxiliary Relay Module.**
Control Head Wiring

MAINTENANCE

Your Code 3 3990 series siren has been designed to provide trouble free service. In case of difficulty, see Troubleshooting (page 16,17). 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. Public Safety Equipment, Inc. 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 express written consent by 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. Public Safety Equipment, Inc. is not liable for any incidental charges related to the repair or replacement of a unit unless otherwise expressly agreed to in writing.

TROUBLESHOOTING

(Refer to wiring diagram page 15)

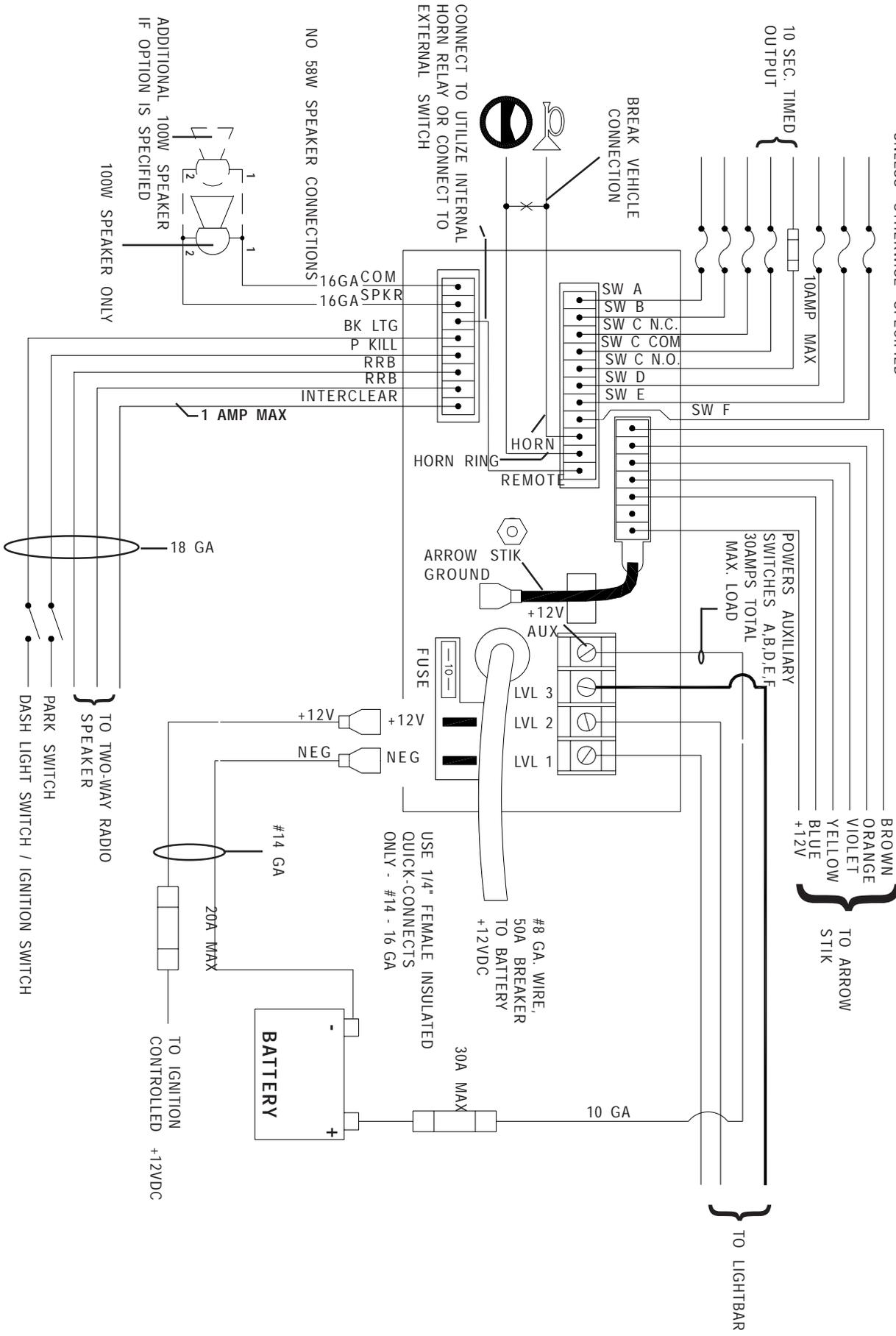
PROBLEM	PROBABLE CAUSE	REMEDY
NO SIREN OUTPUT.	A. PARK KILL ACTIVATED B. SIRENLOCK ENGAGED C. SHORTED SPEAKER OR SPEAKER WIRES. SIREN IN OVER CURRENT PROTECTION MODE.	A. SHIFT VEHICLE OUT OF PARK. B. SELECT PROPER SIRENLOCK LEVEL C. CHECK CONNECTIONS
EXTERNAL 20A FUSE BLOWS.	A. AMPLIFIER POWER WIRES REVERSED POLARITY	A. CHECK POLARITY B. REPLACE SPEAKER(S)
NO OUTPUT FROM SPEAKER, TONES HEARD INSIDE AMP. MODULE.	A. SPEAKER NOT CONNECTED/ OPEN CIRCUIT IN SPEAKER WIRING B. DEFECTIVE SPEAKERS	A. CHECK SPEAKER WIRING B. REPLACE SPEAKER(S)
SIREN TONES VOLUME TOO LOW/GARBLED.	A. LOW VOLTAGE TO SIREN AMPLIFIER B. HIGH RESISTANCE IN WIRING/ DEFECTIVE SPEAKER C. SPEAKERS PHASED IMPROPERLY	A. CHECK WIRING FOR BAD CONNECTIONS/ CHECK VEHICLE CHARGING SYSTEM B. CHECK SPEAKER(S) WIRING/REPLACE SPEAKER(S) C. REFER TO PAGE 5 FOR PROPER PHASING (200W OPTION)
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 TO OPERATE FOR 7 SEC. AFTER MANUAL BUTTON/ HORN RING IS RELEASED.	A. "HIT-N-GO" FEATURE ENGAGED. NORMAL OPERATION	
INTERCLEAR WILL NOT POWER AUXILIARY DEVICES.	A. THERE IS A SHORT IN THE WIRING, OR THE LOAD IS GREATER THAN 1 A.	A. CHECK FOR SHORTS. INSTALL INTERCLEAR BOOSTER KIT (PART #INTBS)
P.A. VOLUME LOW OR NO P.A. AT ALL. VOLUME CONTROL FULLY CLOCKWISE.	A. DEFECTIVE MICROPHONE B. MAXIMUM P.A. VOLUME TRIMMER MISADJUSTED. SEE SETUP AND ADJUSTMENT SECTION. C. MICROPHONE NOT COMPLETELY PLUGGED IN. D. COMMON MICROPHONE CIRCUIT NOT PROPERLY WIRED. E. INCORRECT MICROPHONE.	A. REPLACE MICROPHONE B. REFER TO SETUP AND ADJUSTMENT SECTION C. PLUG MICROPHONE IN SECURELY D. CHECK WIRING E. CALL PSE FOR LIST OF ADAPTABLE MICROPHONES

TROUBLESHOOTING

(Refer to wiring diagram page 15)

PROBLEM	PROBABLE CAUSE	REMEDY
RRB VOLUME LOW, OR NO RRB AT ALL. VOLUME CONTROL FULLY CLOCKWISE.	A. MAXIMUM RADIO REBROADCAST TRIMMER MISADJUSTED B. RRB WIRES NOT CONNECTED TO TWO-WAY RADIO EXTERNAL SPEAKER	A. REFER TO SETUP AND ADJUSTMENT SECTION B. CHECK RRB CONNECTIONS
SIREN SOUNDS BY ITSELF	A. REMOTE SWITCH (HORN RING) WIRING FROM TERMINAL REMOTE SHORTING TO POSITIVE OR TO GROUND (EARTH).	A. CHECK WIRING FOR ANY SHORTING.
POWER DISTRIBUTION SECTION NOT WORKING	A. SUPPLY FUSE OPEN B. SIREN TERMINAL NEGATIVE NOT GROUNDED	A. REPLACE FUSE. B. RECONNECT TERMINAL NEGATIVE TO GROUND.
SIREN RUNS PROPERLY BUT SHUTS DOWN WHILE RUNNING, THEN STARTS RUNNING AGAIN AFTER A FEW MINUTES	A. VEHICLE CIRCUIT BREAKERS NOT RATED PROPERLY, AND ARE OVERHEATING, OR ARE NOT FUNCTIONING PROPERLY	A. REFER TO SPECIFICATIONS SECTION, PAGE 17. USE A BREAKER RATED AT 1.25x THE AMPERAGE OF THE EXPECTED LOAD CURRENT.

ALL AUXILIARY +12V OUTPUTS SHOULD BE FUSED WITH A 20 AMP MAX FUSE/BREAKER UNLESS OTHERWISE SPECIFIED



Diagnostic Function

RLS Siren Models 3997 & 3999 features a "walk-around" diagnostic test function. The user may invoke this function by holding the "Air Horn" switch while turning on the vehicle's ignition switch. When the "Air Horn" switch is released the siren will begin a timing sequence which will turn on each control output for about two seconds. Each output, including the Arrow Stik (in Flash mode) and the siren tones will be cycled during this sequence. The siren tones will not be heard if the Park-Kill feature is being used and the vehicle is in Park. This timed feature enables the user to start the diagnostic function, exit the vehicle and observe a brief test can be interrupted by cycling the vehicle's ignition switch off. After the test, the vehicle's ignition power must be cycled off and back on to insure that everything is restored to the normal standby mode.

Options

Lighting Switch Connector- Connectors which when soldered to the #8 wire and the user supplied power wire offers quick disconnect service.

Microphone Extension Cable- A twenty (20) ft. microphone extension cable. Allows the siren amplifier to be mounted up to twenty feet from the driver's area.

NIGHTPROBE™ Spotlight Control Module - Allows use of the RLS 3999 Siren Control to provide full control of the NIGHTPROBE™ spotlight with linear acceleration from stop to full speed.

Auxiliary Relay Module - Provides eight (8) additional switched +12VDC outputs at up to 10A each, limited to a maximum total combined current of 60A.

Specifications

Siren Section

Input Voltage - 10 to 16 VDC, negative ground (earth) - 12V units
(Note: Operation of 12V units above 15 VDC for an extended period of time may result in speaker damage.)
20 to 30 VDC, negative ground (earth) - 24V units
(Note: Operation of 24V units above 30 VDC for an extended period of time may result in speaker damage.)

Operating Current 100W: 8 Amps @ 13.6V with 11-ohm load (100 W Spkr) - 12Vunits
4. 5 Amps @ 27.6V with 11-ohm load (100 W Spkr) - 24Vunits
200W: 14 Amps @ 13.6V with 5.5-ohm load (2- 100 W Spkr) - 12V units
9 Amps @ 27.6V with 5.5-ohm load (2- 100 W Spkr) - 24V units

Note: There is no 58 Watt speaker connection available.

Standby Current: 25 mA excluding backlighting

Cycle Rate: WAIL - 11 cycles/minute.
YELP - 200 cycles/minute.

Voltage Output (approx.) 64 V peak-to-peak

Audio Section

Audio Response: 3 dB down points - 500 to 3000 hz.
1000 hz. 0 dB Reference

Audio Distortion: 10% or less below clipping.

Lighting Section

Warning Light Control: Progressive switching, 3 levels
50 Amps. maximum combined total to #8 wire
Audible alarm (optional).

Level 1 30A maximum
Green LED Indication

Level 2 30A maximum
Yellow LED Indication

Level 3 30A maximum
Red LED indication.

Auxiliary Control - SPST (Aux. Switches A, B, E, D, F)

Accessory Switch operation - Push-on/off operation.
Independent circuits - 5
30 Amps. maximum combined total
20 Amps. maximum load for any single output A,B,E,D or F
LED indication.
Audible alarm

Auxiliary Control - SPDT (Aux. Switch "C"):

Accessory Switch operation -Momentary (switch located on rear of siren control)
Independent circuits - 1
10 Amps. maximum connected load.
LED indication.
Audible alarm
Timed Output

Horn Transfer Relay - SPDT:

Activated in Level 2 and 3.
10 Amps. maximum connected load.

System - Weight:

Amplifier 4.25 lbs (1.9 Kg)

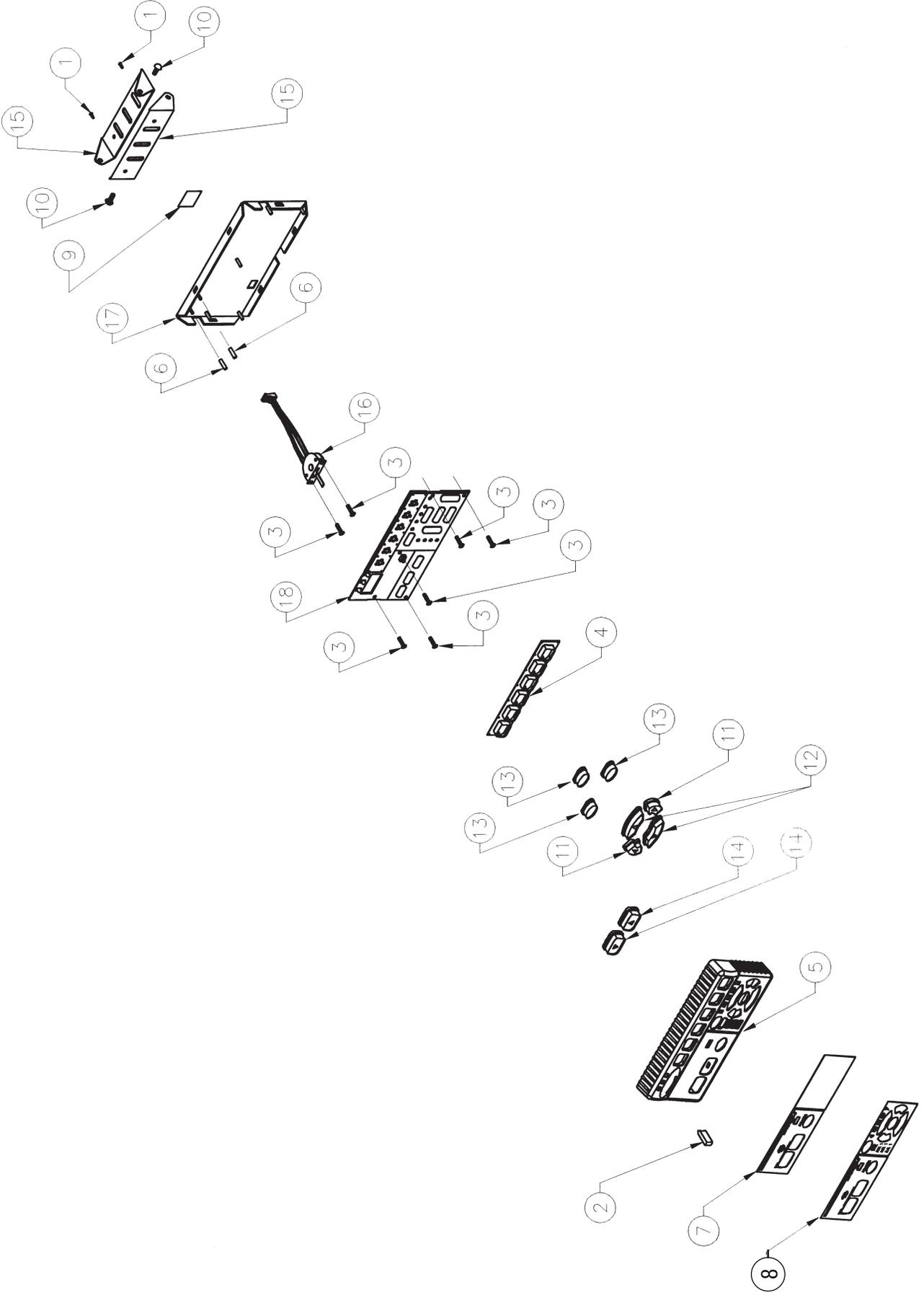
Control Unit 0.5 lbs (.226 Kg)

Microphone &
Hardware 2.0 lbs (.9 Kg)

Size: Amplifier - 7.5" L x 7.5" W x 3.25" H

Control Unit - 7" L x 3.5" H x 1.5" D

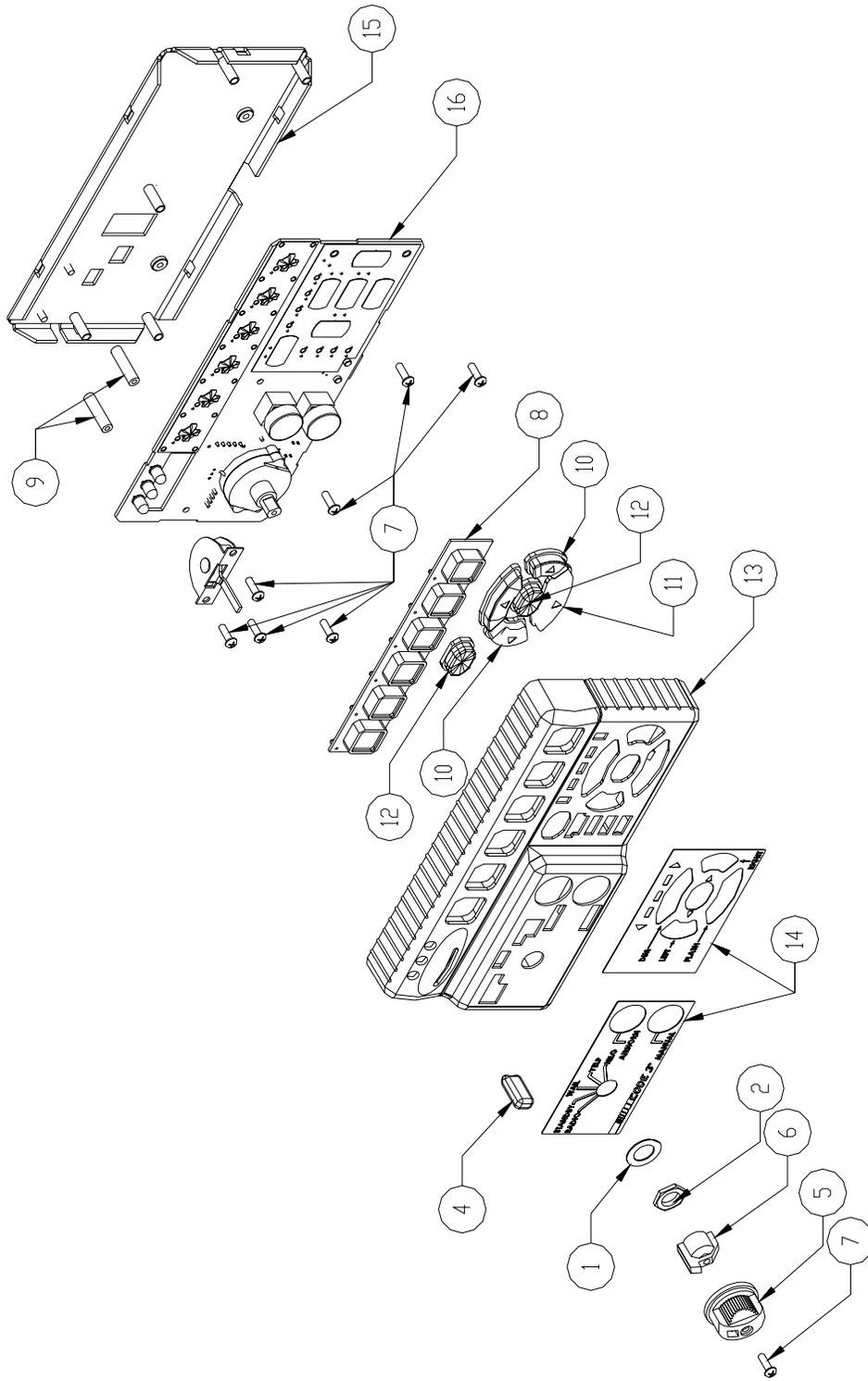
Temperature: -22°F - +149°F (-30°C - +65°C) SAE Equipment Type EVS1



Push Button Switch Control Head, Exploded View

Push Button Switch Control Head, Parts List

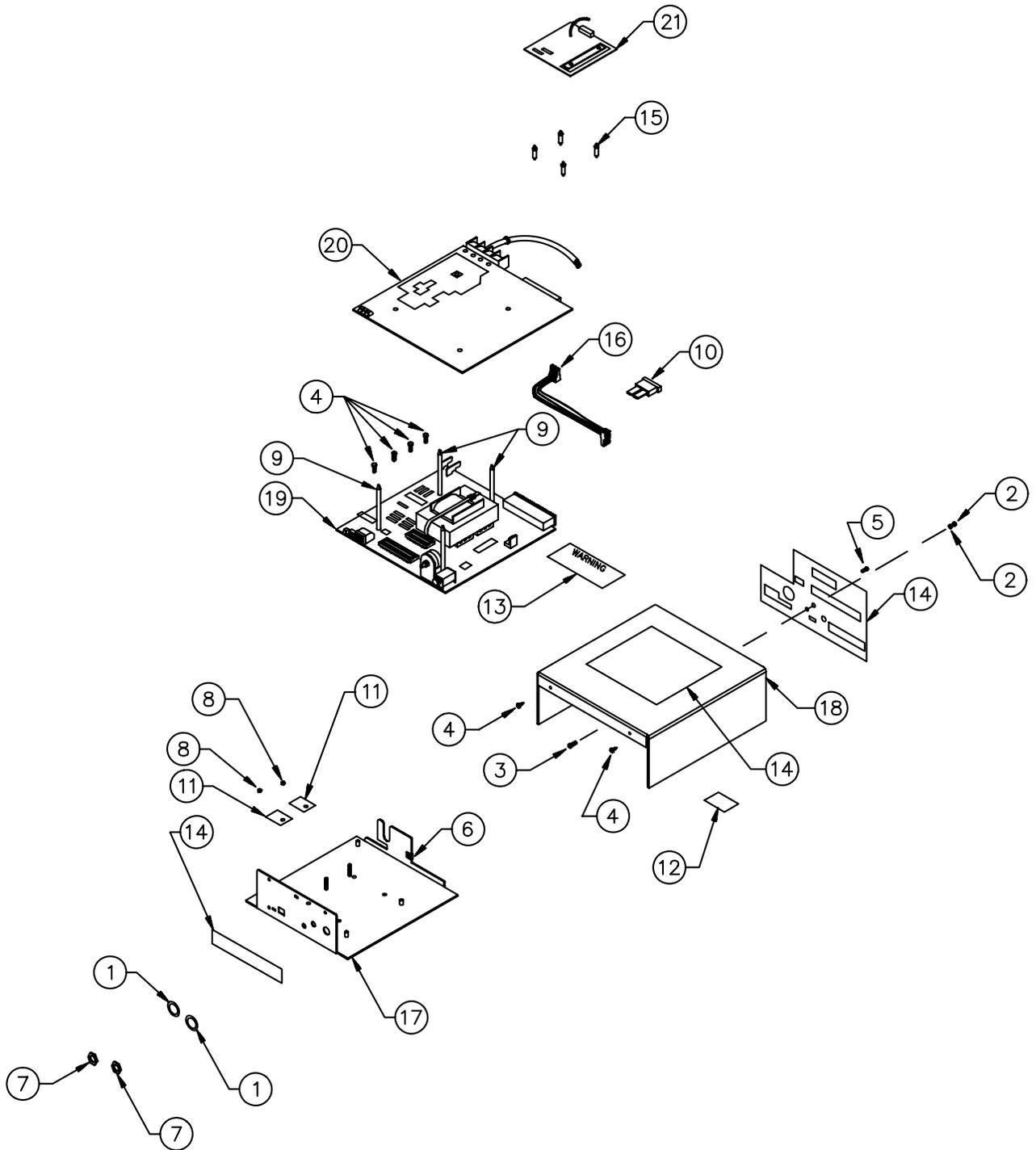
<u>Ref No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Qty.</u>
1	8 - 32 x 1/4" Machine Screw	T01385	2
2	Knob, Rectangular	T01917	1
3	4 - 40 x 3/8", Pan Hd Phil, Black Oxide	T06937	7
4	Switch Actuator Keypad, 1x6, Silicone Rubber	T10878	1
5	Enclosure, Control Head, RLS Siren	T10880	1
6	Standoff, 4 - 40 x .75"	T10890	2
7	Label, Faceplate, Model 3998	T10901	1
8	Label, Faceplate, Model 3999	T10902	1
9	Label, Configuration (Part of Wiring Label)	T10904	1
10	1/4 - 20 x .375", Hex Washer Hd, Zinc	T10912	2
11	Switch Actuator, Small Arc, RLS Sirens	T10913	2
12	Switch Actuator, Large Arc, RLS Sirens	T10914	2
13	Switch Actuator, Oval, RLS Sirens	T10915	3
14	Switch Actuator, Rectangular, RLS Sirens	T10916	2
15	Bracket, Control Head, RLS Sirens	S71528	2
16	Switch Assembly w/Harness	S55229	1
17	E-Tray, Control Head, RLS Sirens	S71531	1
18	PCB Assembly, Control Head,		1
	Model 3998	S71552	
	Models 3997 & 3999	S71562	



Rotary Switch Control Head, Exploded View

Rotary Switch Control Head, Parts List

<u>Ref No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Qty.</u>
1	Flat Washer, 3/8" x .020"	T00667	1
2	Nut, 3/8" -32 x 1/2" x .090"	T01082	1
3	Switch Assembly w/Harness	S55229	1
4	Knob, Rectangular	T01917	1
5	Knob, Selector	T03537	1
6	Insert, Selector Knob	T03538	1
7	4 - 40 x 3/8", Pan Hd Phil, Black Oxide	T06937	8
8	Switch Actuator Keypad, 1x6, Silicone Rubber	T10878	1
9	Standoff, 4 - 40 x .75"	T10890	2
10	Switch Actuator, Small Arc, RLS Sirens	T10913	2
11	Switch Actuator, Large Arc, RLS Sirens	T10914	2
12	Switch Actuator, Oval, RLS Sirens	T10915	2
13	Enclosure, Control Head, RLS Siren	T11207	1
14	Label, Faceplate, Model 3997R	T11270	1
	Label, Faceplate, Model 3998R	T11268	1
	Label, Faceplate, Model 3999R	T11269	1
15	E-Tray, Control Head, RLS Sirens	S71531	1
16	PCB Assembly, Control Head,		1
	Model 3997R	T11297	
	Model 3998R	T11298	
	Model 3999R	T11299	
Not Shown:			
	1/4 - 20 x .375", Hex Washer Hd, Zinc	T10912	2
	Bracket, Control Head, RLS Sirens	S71528	2



Siren Amplifier, Exploded View

Siren Amplifier, Parts List

<u>Ref No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Qty.</u>
1	Flat Washer, 3/8"	T00667	2
2	#8 - 32 Keps Nut	T00674	2
3	8 - 32 x 5/8 Machine Screw	T00763	1
4	#6 - 32 Rd Hd Phil., Machine Screw	T01030	6
5	#6 x 3/8 Hex Hd, Sheet Metal Screw	T01031	1
6	Tinnerman Clip	T01058	1
7	3/8 - 32 x 1/2 x .090" Nut	T01082	2
8	#4 - 40 Nylon Insert Stop Nut	T03594	2
9	Circuit Board Standoff	T05172	4
10	Fuse, Blade Type Term., 10A	T06013	1
11	Transistor Insulating Pad	T06363	2
12	Serial Number Label	T06140	1
13	Airbag Warning Label	T09937	1
14	Label, Wiring and Backplate	T10904	1
15	Spacer, Nylon, PCB Mounting 1/4"	T10907	4
16	Internal Harness	S55068	1
17	E - Tray, Inserted	S71534	1
18	Cover, RLS Series Siren Amplifier	S71536	1
19	Siren Amp. RLS Series Siren	S71541	1
20	Lighting Circuit Board, RLS Series Siren	S71546	1
21	Arrow Stik Control PCB	S71560	1
	Not Shown:		
	#6 - 32 x 2, Truss Hd., Phil., Machine Screw	T11135	4

NOTES

WARRANTY

Code 3, Inc.'s emergency devices are tested and found to be operational at the time of manufacture. Provided they are installed and operated in accordance with manufacturer's recommendations, Code 3, Inc. guarantees all parts and components except the lamps to a period of 1 year (unless otherwise expressed) from the date of purchase or delivery, whichever is later. Units demonstrated to be defective within the warranty period will be repaired or replaced at the factory service center at no cost.

Use of lamp or other electrical load of a wattage higher than installed or recommended by the factory, or use of inappropriate or inadequate wiring or circuit protection causes this warranty to become void. Failure or destruction of the product resulting from abuse or unusual use and/or accidents is not covered by this warranty. Code 3, Inc. shall in no way be liable for other damages including consequential, indirect or special damages whether loss is due to negligence or breach of warranty.

CODE 3, INC. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY INCLUDING, WITHOUT LIMITATION, WARRANTIES OF FITNESS OR MERCHANTABILITY, WITH RESPECT TO THIS PRODUCT.

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 return to sender after the service has been rendered.

Problems or Questions? Call our Technical Assistance HOTLINE - (314) 966-2800