

Model SAF101H

Electronic Handheld Siren



Installation And Operation Manual

NOTICE TO INSTALLER

Before installation and use -- read all instructions and warnings.
Deliver this manual to the end user of this equipment.

Doc. No.: SAF101H Siren_v.1.0

Button Mapping:

The switches **SW1**, **SW2** and **SW3** may be mapped with other buttons to grouped according to your usage and application needs.

1. Press and hold **SIREN** and **RADIO** for 3 second to enter PROGRAMMING MODE. **VOL-** and **VOL+** will blink to indicate that you are in PROGRAMMING MODE.
2. While in PROGRAMMING MODE, press the desired button to program (i.e. **SW1**, **SW2** or **SW3**).
3. While the programing switch blinks, press the desired button(s) that you would like to map with this switch. The possible button combinations are as followed:

Setting Mapping with	SW1	SW2	SW3
SW1	—	O	O
SW2	X	—	O
SW3	X	X	—
LIGHT (SW4)	O	O	O
SIREN	O	O	O

4. Once set, press the programmed button again to save the binding. You may then program another button.
5. Once every switch is set, press and hold **SIREN** and **RADIO** for 3 second to exit PROGRAMMING MODE. **VOL-** and **VOL+** will stop blinking to indicate that you have exited from PROGRAMMING MODE.

PROGRAMMING

Tone Setting:

The Siren may be set to different tone according to your usage and application needs.

- 1. Press and hold **SIREN** and **RADIO** for 3 second to enter PROGRAMMING MODE. **VOL-** and **VOL+** will blink to indicate that you are in PROGRAMMING MODE.
- 2. While in PROGRAMMING MODE, press **SIREN** button once and press **LIGHT** to change to the next Siren Tone until your desired Tone is selected.
- 3. Once set, press and hold **SIREN** and **RADIO** for 3 second to exit PROGRAMMING MODE. **VOL-** and **VOL+** will stop blinking to indicate that you have exited from PROGRAMMING MODE.

#	SIREN TONE CHART
1	WAIL (Default)
2	YELP
3	PHASER
4	HI/LO

Siren Volume Adjustment Lock:

The Siren Tone volume is locked by default to avoid changing of sound volume during regular usage.

- 1. Press and hold **SIREN** and **RADIO** for 3 second to enter PROGRAMMING MODE. **VOL-** and **VOL+** will blink to indicate that you are in PROGRAMMING MODE.
- 2. While in PROGRAMMING MODE, press **SIREN** button once and turn ON or OFF **RADIO** button for the following scenario:

RADIO button	ON	OFF
Volume Adjustment	Locked (Default)	Adjustable

- 3. Once set, press **MAN** button again to save the setting; press and hold **SIREN** and **RADIO** for 3 second to exit PROGRAMMING MODE. **VOL-** and **VOL+** will stop blinking to indicate that you have exited from PROGRAMMING MODE.

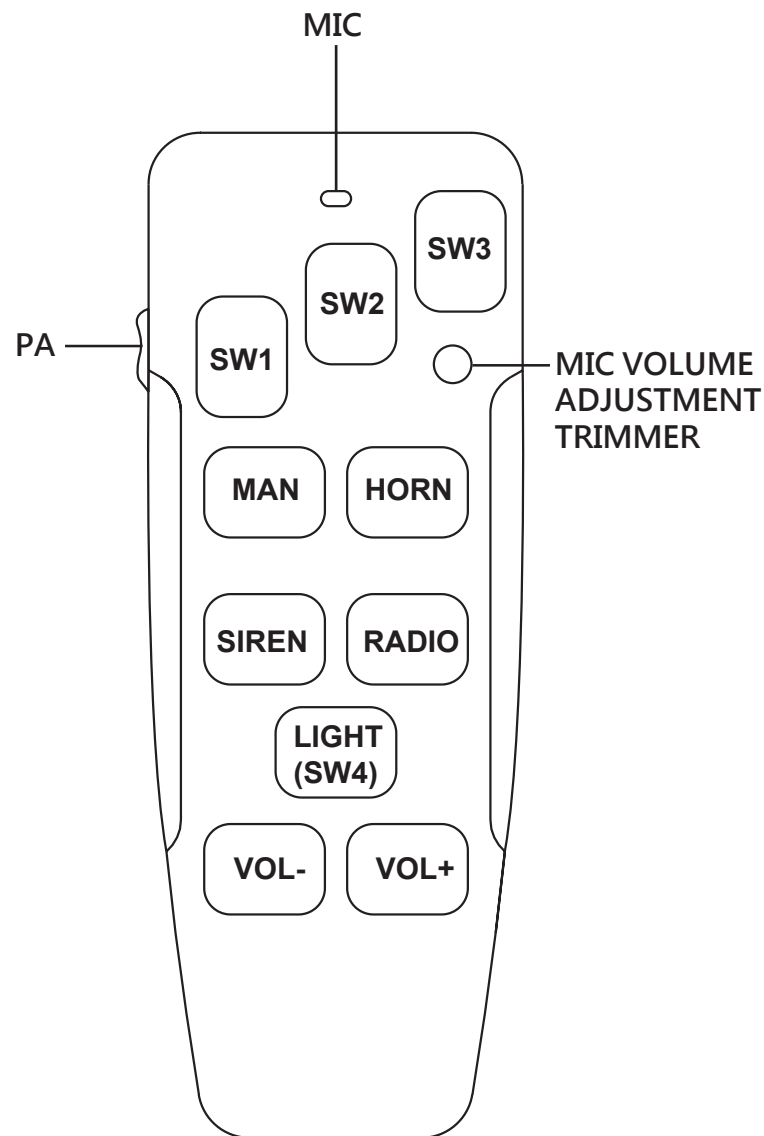
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SPECIFICATIONS

	12VDC			24VDC	
Input Voltage	10V-16V (negative ground)			22V-30V (negative ground)	
Siren Input Current	10 Amps (@13.6VDC - single 100W speaker)			5 Amps (@27VDC - single 100W speaker)	
Siren Standby Current	Less than 150mA			Less than 100mA	
Radio Frequency	200Hz - 10kHz \pm 3dB			200Hz - 10kHz \pm 3dB	
Radio Output Power	Input 1 Vrms - Output 40 watt			Input 1 Vrms - Output 40 watt	
Siren Output Power	100 watt (@15VDC-single 100W speaker)			100 watt (@27VDC-single 100W speaker)	
Siren Frequency	725Hz - 1465Hz			725Hz - 1465Hz	
Output Load	100W-ACR11 Ω			100W-ACR11 Ω	
Tones/Cycle Rates	HORN	WAIL	YELP	PHASER	HI/LO
Cycle Rates	Composite (Constant)	12 CPM	160 CPM	850 CPM	40 CPM
Operating Temp.	-25° C to +60° C (-15° F to +140° F)				
Storage Temp.	-40° C to +75° C (-40° F to +167° F)				
Siren Controls	3 push-button Mode switch (SIREN, RADIO, PA).				
	Momentary push-button HORN switch.				
	Momentary push-button MANUAL/TONE switch.				
	IGN (Ignition) Input Connection.				
	HORN Input Connection.				
Light Controls	4 - ON/OFF lighted push-button switches with replaceable legends.				
Light Output Ratings	Built-in 0.2A fuse on each of the 4 outputs.				
Siren and Light Control Connections (Removable 12-P Terminal Block)	SW1, SW2, SW3, SW4 (Light), +VDC, -GND, IGN(Ignition), RAD(Radio) x2, HORN(Horn Ring Transfer), SPK x2 .				
Dimension	Siren Amplifier : 161mm x 178mm x 69mm Controller : 56mm x 140mm x 33mm				

Front View Handheld Controller



CONTROLLER FUNCTION

Before any operation, apply positive voltage to the IGN (Ignition) terminal at the rear to power-up the unit.

PA: Activate Microphone for PA Broadcast through the siren speaker. This Button overrides all other acoustic function (i.e. Air Horn, Siren Tone and Radio Rebroadcast) while it is activated.

SW1: Activate SW1 Connection. It may be set to activate Button LIGHT and/or SIREN upon activation. (See “PROGRAMMING” section for more details)

SW2: Activate SW2 Connection. It may be set to activate Button SW1, LIGHT and/or SIREN upon activation. (See “PROGRAMMING” section for more details)

SW3: Activate SW3 Connection. It may be set to activate Button SW1, SW2, LIGHT and/or SIREN upon activation. (See “PROGRAMMING” section for more details)

MAN: When the Siren Tone is not activated, this button generates Manual WAIL Tone that will ramp up to sustain a specific pitch until it is released and ramp down to its default. When the Siren Tone is activated, trigger Tone Change(see chart below); push again to return to the previous Siren Tone.

Siren Tone	OFF	WAIL	YELP	PHASER	HI/LO
MAN Tone Change	Manual WAIL	YELP	PHASER	HI/LO	PHASER

HORN: Momentarily activate the Air HORN Tone until it is released. This tone will override all other Siren Tones and Radio Rebroadcast while it is activated. This function can also be activated through the HORN input terminal at the rear.

SIREN: Activate SIREN Tone. (To set siren tone, See “PROGRAMMING” section for more details) This Button will override the RADIO Rebroadcast upon activation.

RADIO: Activate RADIO Rebroadcast through the siren speaker. This Button will override the SIREN Tone upon activation.

LIGHT: Activate SW4 Connection.

VOL-: Lower the sound Volume of SIREN Tone, MIC Broadcast or RADIO Rebroadcast when they are activated respectively. (The Siren Tone volume is locked by default. To unlock, see “PROGRAMMING” section for more details)



VOL+: Increase the sound Volume of SIREN Tone, MIC Broadcast or RADIO Rebroadcast when they are activated respectively. (The Siren Tone volume is locked by default. To unlock, see “PROGRAMMING” section for more details)

Mic Volume Adjustment Trimmer: The trimmer (located on the controller front panel right below the SW3 button) sets the maximum level that the Mic volume will reach with the Volume control in the fully clockwise position.

INSTALLATION

It is essential to install the unit properly to ensure safe and reliable operation. Please read through all instructions thoroughly and carefully before installing the unit. Failure to follow these instructions could result in serious damage to the unit or vehicle and may void warranties. The correct mounting and wiring is the key to the effectiveness of SAF101H siren. Installers must read and follow installation instructions and warnings in the manual from original manufacturer. The vehicle operator should verify the siren system is fastened to the vehicle securely and is functioning properly. Failure to follow all safety precautions and instructions may cause property damage, injury, or death.

WARNING: The installer must have good knowledge of electricity, vehicle electrical systems and emergency equipment. Always seek professional assistance if in doubt.



WARNING **Sound Hazard** - Sound level from siren speaker (>120dBA @ 10 feet) may cause hearing damage. Do not operate siren without adequate hearing protection for you and anyone in immediate vicinity. (Ref. OSHA 1910.95 for occupational noise exposure guidelines)

CONTENTS

Inspect the product contents carefully to see if there is shipping damage or missing content.

Contents include:

- | | |
|--------------------------|----------------------------|
| 1 pc – Siren (Amplifier) | 1 pc – Handheld Controller |
| 1 set – Mounting Kit | 1 set – 16 Button Plates |
| 1 sheet – Button Decals | 1 pc – User Manual |

Please contact supplier immediately if any component is missing or damaged.

MOUNTING

Mount the siren unit in a location that is not exposed directly to weather elements such as the driver compartment firewall, below the seat, or in the trunk; and away from any air bag deployment areas. Mount the handheld controller in an area where it can be easily accessed by the vehicle operator, and not affect the vehicle air bag. Be sure that all wiring harness connections are made prior to connecting the harness to the amplifier unit.

Wire Clip: You may use the provided wire clip to secure the cord of the Handheld Controller to the side screw of the Siren Amplifier Unit.



WARNING: Do not interfere with the proper operation of the vehicle airbag deployment system. Ensure to install “Operation Warning Label” in the vehicle in an area that is clearly visible to operators and passengers.

Note: Avoid mounting the amplifier unit with wiring harness face down. This may cause harness connection to fall off during harsh sudden impact.

WIRING

Use wires that are capable of handling the required current. Route the wires properly to prevent wear, overheating and interference with air bag deployment. Ensure that all connections are tight and double check wiring before connecting to the vehicle battery.

ELECTRICAL CONNECTIONS

Electrical connections to the unit are made by using block plugs and screw terminals. Route all wiring to the siren and secure onto block plug terminals, then plug onto the siren. The plug can be easily removed without unwiring when the unit requires servicing. The power supply for the fused amplifier (12-P plug) must be capable of delivering peak currents up to 12A for adequate short circuit protection and proper operation. It is recommended to wire directly to the vehicle battery.

WARNING: Ensure that all wires are firmly secured onto the block plug, and plug is firmly secured onto the siren.

Wire Size and Termination – The “AMPLIFIER CONNECTIONS” diagram shows the minimum size of the wires used for each connection, along with recommended lead color. If the wire is longer than 10 ft., use the next larger size.

SW1 (SW1) Output Connection – Connect to auxiliary device power up to 0.2 Amps max. or use as Lightbar function activation switch.

SW2 (SW2) Output Connection – Connect to auxiliary device power up to 0.2 Amps max. or use as Lightbar function activation switch.

SW3 (SW3) Output Connection – Connect to auxiliary device power up to 0.2 Amps max. or use as Lightbar function activation switch.

SW4 (LIGHT) Output Connection – Connect to auxiliary device power up to 0.2 Amps max. or use as Lightbar function activation switch.

IGN (Ignition) Input Connection – This serves as the power switch for the entire unit. Connect to a positive circuit controlled by the vehicle ignition switch, usually a terminal at the vehicle fuse panel. It is not recommended to make permanent power connection as this may drain battery.

RAD (Radio) Input Connection – Connect to radio output terminals or its speaker.

HORN Input Connection – The Horn Ring Transfer input allows activation by an external source of the Air Horn function.

Speaker Output Connection – Both connections must be used. Two speakers may be connected in parallel.

CONNECTIONS

