



# RF-SNCW100-PA — Siren Amplifier

## Installation & Operation Manual

Firmware Ver. A



**OPTIONAL**

### NOTICE TO INSTALLER

Before installation and operation — read all instructions and warnings.

Deliver this manual to the end user of this product.

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### WARNING

1. Proper installation of the product requires the installer to have a good understanding of automotive electronics, systems and procedures. It is essential to install the unit properly to ensure safe and reliable operation.
2. Please read through all instructions thoroughly and carefully before installing the unit.
3. Failure to follow these instructions could result in serious damage to the unit or vehicle and may void warranties.
4. The correct mounting and wiring is the key to the effectiveness of **RF-SNCW100-PA**
5. Installers must read and follow instructions and warnings in the manual from the original manufacturer.
6. The 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.
7. Ensure that any switch control panel is located in an area that allows both the vehicle and the control panel to be operated safely in any driving condition.

#### WARNING



**Sound Hazard** - Sound level from a siren speaker (109dB at 2M) may cause hearing damage.

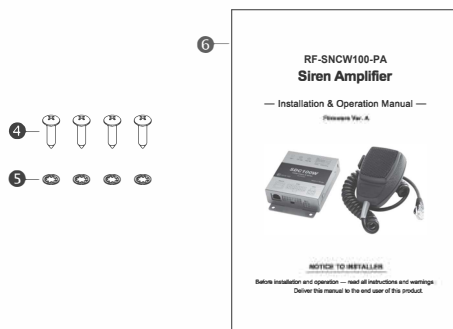
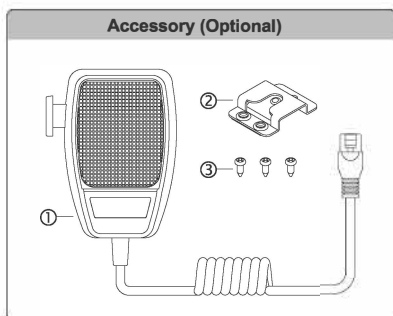
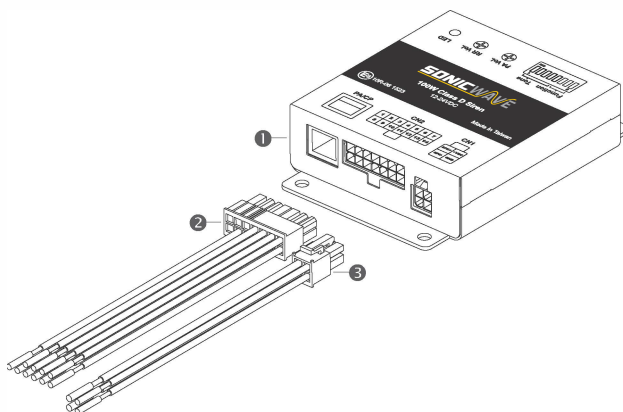
Do not operate the siren without adequate hearing protection for you and anyone in immediate vicinity.  
(Ref. OSHA 1910.95 for occupational noise exposure guidelines)

## CONTENTS

- ❶ Siren amplifier x 1 pc
- ❷ Control wire harness x 1 pc (30cm)
- ❸ Power wire harness x 1 pc (30cm)
- ❹ Sheet metal screws x 4 pcs (ø3/16" x 3/4")
- ❺ Tooth lock washers x 4 pcs
- ❻ Manual x 1 pc

### Accessory (Optional)

- ❶ Microphone x 1 pc
- ❷ Microphone clip x 1 pc
- ❸ Sheet metal screws x 3 pcs (ø4 x 10mm)



## SPECIFICATIONS

**Input Voltage:** 12~24VDC

**Siren Output Power:** 100watt

### Output Load:

One 100watt 11ohm speaker

Or Two 50watt 4ohm in series speakers/one 100w 8ohm Speaker

**Siren Frequency:** 373Hz - 1592Hz

**Max. Current:** 9.5A @ 12VDC / 4.5A @ 24VDC

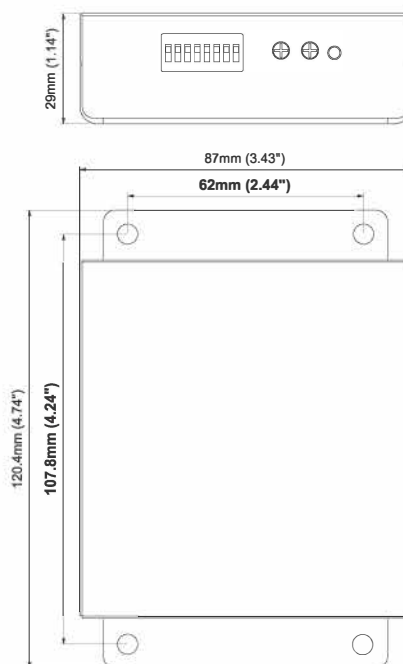
### Standby Current:

(w/o IGN wire) 2mA @ 12VDC / 3.5mA @ 24VDC

(w/ IGN wire) 0.2A @ 12VDC / 0.15A @ 24VDC

**Operating Temperature Range:** -40°C~65°C

**Dimensions(amplifier):** 120.4mm x 87mm x 29mm



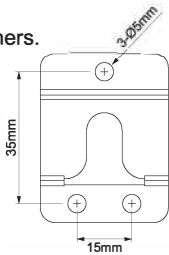
# MOUNTING

## • Siren amplifier

- 1. Select a location that is not exposed directly to weather elements, such as the driver compartment firewall, below the seat, or in the trunk; avoid any interference of air bag deployment.
- 2. Using the siren amplifier as a template, mark four mounting holes to be drilled.
- 3. Secure the siren amplifier with provided sheet metal screws and tooth lock washers.

## • Microphone (optional)

- 1. Select a location where is convenient to the user; avoid any interference of air bag deployment.
- 2. Using the mounting clip as a template, mark the three holes to be drilled.
- 3. Secure the microphone clip with provided sheet metal screws.



# WIRING

## • Wire Gage vs Maximum Current Draw Through The Wire

FEET (American Wire Gauge)

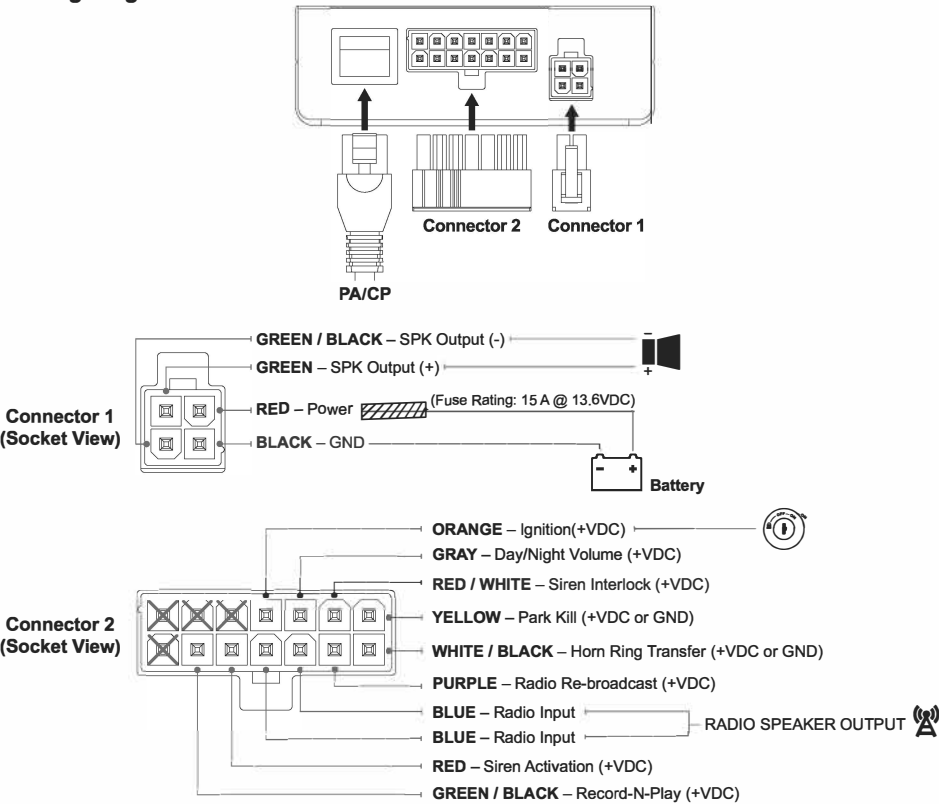
	22AWG	20AWG	18AWG	16AWG	14AWG	12AWG	10AWG	8AWG	6AWG
10A	3'	5'	7.5'	12'	19.5'	31'	49'	78'	124'
20A	Ins.	Ins.	4'	6'	9.5'	15.5'	24.5'	39'	62'
30A	Ins.	Ins.	Ins.	4'	6.5'	10.5'	16.5'	26'	41.5'
40A	Ins.	Ins.	Ins.	3'	5'	7.5'	12.5'	19.5'	31'

Ins. = Insufficient

METERS (IEC 60228:2004 Standard Wire Cross-Section)

	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>	1mm <sup>2</sup>	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	6mm <sup>2</sup>	10mm <sup>2</sup>	16mm <sup>2</sup>
10A	0.9m	1.5m	2.3m	3.7m	5.9m	9.4m	14.9m	23.8m	37.8m
20A	Ins.	Ins.	1.2m	1.8m	2.9m	4.7m	7.5m	11.9m	18.9m
30A	Ins.	Ins.	Ins.	1.2m	2.0m	3.2m	5.0m	7.9m	12.6m
40A	Ins.	Ins.	Ins.	0.9m	1.5m	2.3m	3.8m	5.9m	9.4m

## • Wiring diagram



## Power Wire Harness (Connector 1)

- **Power & Ground Wires: RED(Power)/BLACK (Ground)**

1. Route and connect the RED wire to vehicle battery (+VDC) with fuse block (user supplied, 15Amps) on the end of RED wire. (Please remove the fuse until the wiring has been completed).
2. Route and connect the Black wire to the vehicle chassis ground.

- **Speaker Wires: GREEN & GREEN/BLACK**

1. Route and connect Green(+) & Green/Black(-) wires toward one 100watt 11ohm speaker or two 50watt 4ohm in series connection/one 100watt 8ohm speaker. See page 6 for DIP SWITCH SETTING.

DO NOT connect to single 4ohm speaker (it will cause overcurrent on speaker).

2. Plug this connector into siren amplifier.

## Control Wire Harness (Connector 2)

- **Ignition (IGN) wire:**

Connect the **ORANGE** wire to +VDC switch to enable the siren system. The system does not operate without this Ignition Activation.

DO NOT directly connect this wire to the battery as this may drain battery.

- **Siren Activation wire:**

Apply +VDC to the **RED** wire to activate siren tone. The siren tone will only sound if the Siren Interlock (RED/WHITE) wire is enabled. For tone selection, see page 7 for Tone Group Selection.

- **Siren Interlock wire:**

Apply +VDC to the **RED/WHITE** wire to enable the activation of siren tone. Connect this wire to the switch output of a beacon or the primary warning light. The siren tone will only sound when this wire is enabled with the Siren Activation (RED) wire.

Note: If siren interlock is not required, connect this wire directly to the battery power .

- **DAY/NIGHT Volume wire:**

Apply +VDC to the **GRAY** wire to activate volume dimming of siren tone (reduced output).

This function does not affect the sound output of Air Horn, Mic volume or RR volume.

Base on the Tone Group setting, this wire may be used for tone change. For actual function of this wire, see page 5 for Tone Table.

- **Horn Ring Transfer (HRT) wire:**

This wire allow user to activate tone without siren activated or change siren tone.

When the Siren Tone is not activated:

- If Siren Interlock (**RED/WHITE**) wire is enabled, apply +VDC or Ground (self-detection) momentarily to **WHITE/BLACK** wire for two cycle of the Siren Tone or apply +VDC continuously for a continuous Siren Tone until the wire is released.

- Base on the Tone Group setting, this wire may sound or behave differently. For actual function of this wire, see page 5 for Tone Table.

When the Siren Tone is activated:

- Apply +VDC or Ground (self-detection) to **WHITE/BLACK** wire to advance to the next tone on the tone list (if applicable).

- Base on the Tone Group setting, this wire may be used for tone change or behave differently. For actual function of this wire, see page 5 for Tone Table.

- **Park Kill wire:**

This function allow user to kill siren tone while vehicle is shifted into park. Apply +VDC or Ground (self-detection) to the **YELLOW** wire to kill activated siren tone.

Pause mode or Cancel mode can be selected by DIP SWITCH. See page 6 for DIP SWITCH SETTING.

If Pause mode is selected, siren tone will revert once YELLOW wire is removed from +VDC or Ground. If Cancel mode is selected, siren tone will not revert while YELLOW wire is removed from +VDC or Ground. User need to re-connect Siren Activation wire (RED) to re-activate siren tone.

- **Radio Re-Broadcast wire:**

Connect Blue wires to the two-way radio's external speaker for radio rebroadcast.

Apply +VDC continuously to **PURPLE** wire to re-broadcast the incoming radio messages over the speaker. This function will override Siren activation and will not be affected by Siren Interlock and Park Kill function.

● **Record-n-Play wire: (must use Microphone for recording)**

This function allows user to record a short message up to 30 seconds and re-broadcast over the speaker. Connect **GREEN/BLACK** wire to a momentary switch(+VDC) before recording or re-playing  
For Recording:

1. Enter the recording mode by pressing and holding the momentary switch for more than 5 seconds until a continuous single beep will sound from the siren speaker then release switch.
2. Pick up the microphone and press the PTT button to start recording. (One single beep will sound) (DO NOT release the switch and PTT during the recording.)
3. Release the PTT button to save and exit the recording mode ; double beeps will sound from the speaker.

For Re-Play :

1. Press the Record-n-Play switch once to play the message three times.
2. Quick press the Record-n-Play switch 3 times to play the message continuously; press the switch once then siren will stop Re-Playing and exit Re-Play mode .

To remove the existing recording (blank), enter recording mode and quick apply +VDC to **GREEN/BLACK** wire 3 times to finish. (Double beeps will sound and exit recording mode automatically).

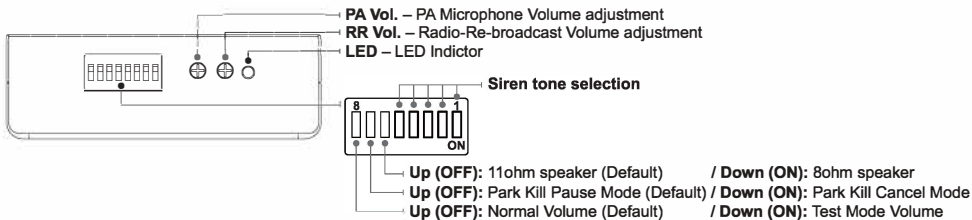
## TONE TABLE

To change the Tone Group, see next page for corresponding DIP Switch setting.

No.	COUNTRY	tone	CYCLE/MINUTE	ENABLE HRT, SIREN ON, INTERLOCK ON	DISABLE/ ENABLE DAY/NIGHT WIRE	ENABLE HRT, SIREN OFF, INTERLOCK OFF	ENABLE HRT, SIREN OFF, INTERLOCK ON
1	USA/ UK INTERNATIONAL	STANDARD 1	WAIL 12 C/M	CHANGE NEXT TONE	DAY/NIGHT	N/A	WAIL
			YELP 158 C/M				
			TWO TONE 40 C/M				
2	USA/ UK INTERNATIONAL	STANDARD 2	WAIL 12 C/M	CHANGE NEXT TONE	DAY/NIGHT	N/A	AIR HORN
			YELP 158 C/M				
			TWO TONE 40 C/M				
3	USA/ UK INTERNATIONAL	STANDARD 3	WAIL 12 C/M	CHANGE NEXT TONE	DAY/NIGHT	N/A	WAIL
			YELP 158 C/M				
4	USA/ UK INTERNATIONAL	STANDARD 4	WAIL 12 C/M	CHANGE NEXT TONE	DAY/NIGHT	N/A	AIR HORN
			YELP 158 C/M				
5	FRANCE	GENDAMERIE	TWO TONE 55 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
6	FRANCE	POLICE	TWO TONE 55 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
7	FRANCE	AMBULANCE	TWO TONE 30 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
8	FRANCE	POMPIERS	TWO TONE 27 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
9	FRANCE	UMH	TWO TONE 55 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
10	GERMANY	STADT	TWO TONE 40 C/M	N/A	STADT/LAND	N/A	TWO TONE
		LAND	TWO TONE 40 C/M	N/A		N/A	TWO TONE
11	AUSTRIA	POLICE	TWO TONE 25 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
12	AUSTRIA	AMBULANCE	TWO TONE 17 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
13	AUSTRIA	FIREBRIGADE	TWO TONE 17 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
14	AUSTRIA	MAGISTRATE	TWO TONE 18 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
15	ITALY	POLICE	TWO TONE 40 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
16	ITALY	AMBULANCE	TWO TONE 40 C/M	N/A	DAY/NIGHT	N/A	TWO TONE
17	ITALY	AMBULANCE 2	TWO TONE 40 C/M	SHORT ACTIVE: CHANGE NEXT TONE LONG ACTIVE: TWO TONE	DAY/NIGHT	N/A	TWO TONE
			WAIL12 C/M				
			YELP158 C/M				
18	NETHERLANDS	POLICE	TWO TONE 33 C/M	SHORT ACTIVE: CHANGE NEXT TONE LONG ACTIVE & HOLD: AIR HORN	DAY/NIGHT	N/A	TWO TONE 33 C/M
			TWO TONE 66 C/M				

## DIP SWITCH SETTING

### • DIP Switch Setting and LED Indicator



### • Radio-Re-Broadcast Volume adjustment

Turn potentiometer clockwise to increase volume/counter-clockwise to decrease volume.

### • PA Microphone Volume adjustment

Turn potentiometer clockwise to increase volume/counter-clockwise to decrease volume.

### • LED Indicator (RED)

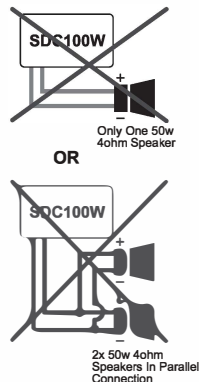
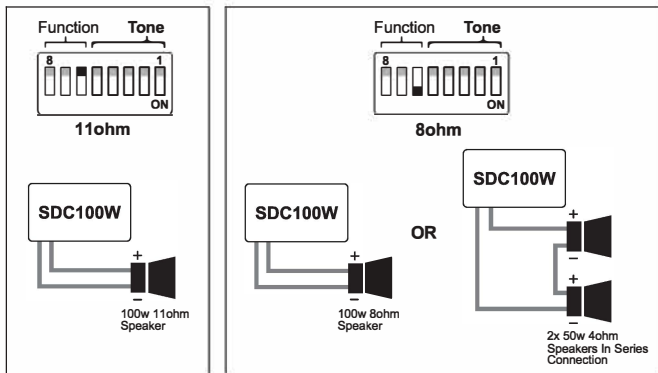
1. OFF: No Power or Ignition is OFF.
2. Steady : Normal operation (Ignition is ON)
3. Single Flash: Low Voltage (<9.5VDC) Protection/Overvoltage Protection (>36VDC). Tone will not operate. Check battery voltage.
4. Double Flash: Overcurrent Protection (>15Amp). Tone will not operate. Check speaker connection.
5. Tripple Flash: Over temperature Protection . Tone will not operate. Check siren install position is too hot and need to change the place.

### • DIP SWITCH 6\_SPEAKER IMPEDANCE SELECTION

This siren amplifier can support 100w speaker output.

1. DIP switch is on Up (OFF) position for **11ohm output** , it can support one 100watt 11ohm speaker.
2. DIP switch is on Down (ON) position for **8ohm output** , it can support two 50watt 4ohm speakers series connection or one 100watt 8ohm speaker.

**DO NOT connect two 50watt 4ohm speakers in parallel connection or only connect ONE 50w 4ohm speaker.**



### • DIP SWITCH 7\_PARK KILL MODE SELECTION

1. DIP switch is on Up (OFF) position for **PAUSE mode**, siren tone will revert once YELLOW wire is removed from +VDC or Ground.
2. DIP switch is on Down (ON) position for **CANCEL mode**, siren tone will not revert while YELLOW wire is removed from +VDC or Ground. User need to re-connect Siren Activation wire (RED) to re-activate siren tone.

### • DIP SWITCH 8\_TEST MODE

This function is designed for user to test siren function before final installation. Select DIP switch to Down (ON) position for **TEST MODE** will reduce the sound output and operate siren at workshop without the need for special hearing protection.

## ● Tone Group Selection

Carefully check and change the DIP Switch #1 to #5 according to your required tone.  
Restart the unit after setting to apply the change.

No.	DIP SWITCH	COUNTRY	tone	FREQUENCY(Hz)	CYCLE/MINUTE
1		USA/ UK INTERNATIONAL	STANDARD 1	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
				450-598	TWO TONE 40 C/M
2		USA/ UK INTERNATIONAL	STANDARD 2	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
				450-598	TWO TONE 40 C/M
3		USA/ UK INTERNATIONAL	STANDARD 3	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
4		USA/ UK INTERNATIONAL	STANDARD 4	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
5		FRANCE	GENDAMERIE	434-729	TWO TONE 54 C/M
6		FRANCE	POLICE	434-581	TWO TONE 54 C/M
7		FRANCE	AMBULANCE	420-515-420	TWO TONE 30 C/M
8		FRANCE	POMPIERS	434-487	TWO TONE 27 C/M
9		FRANCE	UMH	434-649	TWO TONE 54 C/M
10		GERMANY	CITY (STADT)	432-574	TWO TONE 40 C/M
			COUNTRY (LAND)	362-483	TWO TONE 40 C/M
11		AUSTRIA	POLICE	431-574	TWO TONE 25 C/M
12		AUSTRIA	AMBULANCE	523-393	TWO TONE 17 C/M
13		AUSTRIA	FIRE BRIGADE	393-523	TWO TONE 17 C/M
14		AUSTRIA	MAGISTRATE	523-393	TWO TONE 18 C/M
15		ITALY	POLICE	465-621	TWO TONE 20 C/M
16		ITALY	AMBULANCE	392-657-392-657	TWO TONE 20 C/M
17		ITALY	AMBULANCE 2	392-657-392-657	TWO TONE 20 C/M
				763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
18		NETHERLANDS	POLICE	373-501	TWO TONE 33 C/M
					TWO TONE 66 C/M