

SDA100W

Siren Amplifier

— Installation & Operation Manual —

Firmware Ver. A2 & F0



NOTICE TO INSTALLER

Before installation and operation — read all instructions and warnings.

Deliver this manual to the end user of this product.

TABLE OF CONTENTS

WARNING	1
CONTENTS, SPECIFICATION	2
MOUNTING	3
WIRING	3
TONE TABLE	6
DIP SWITCH SETTING	6

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 SDA100W.
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.

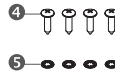
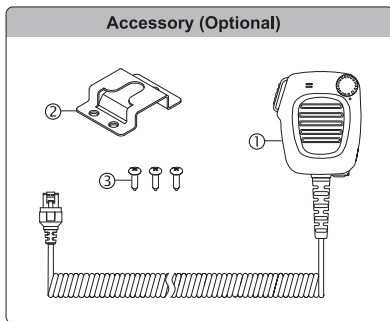
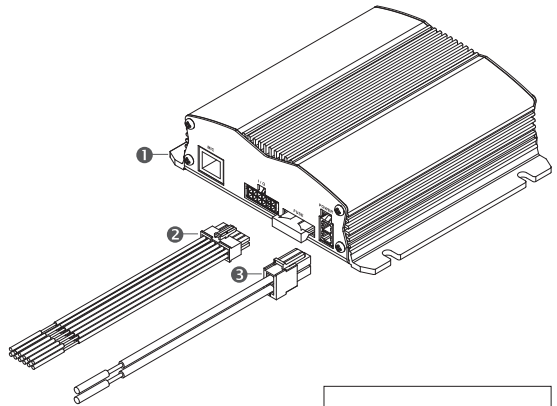
Do not operate the siren without adequate hearing protection for you and anyone in immediate vicinity.
(Ref. OSHA 1910.95 for occupational noise exposure guidelines)

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 16mm)



SPECIFICATIONS

Input Voltage: 12~24VDC

Siren Output Power: 100 Watts

Output Load: 100W-ACR 11Ω

Siren Frequency: 759Hz - 1592Hz

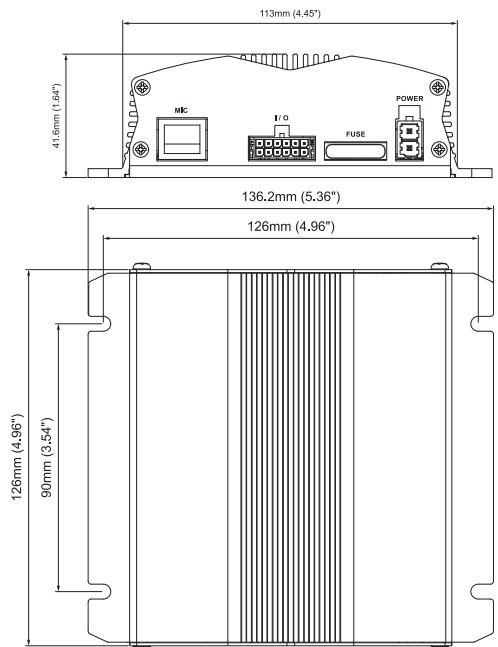
Max. Current: 9A @ 12VDC / 4.5A @ 24VDC

Standby Current: 0 mA (w/o IGN wire) / <0.38 A (w/ IGN wire)

Operating Temperature Range: -20°C~50°C

Dimensions(amplifier):

126mm x 136.2mm x 41.6mm



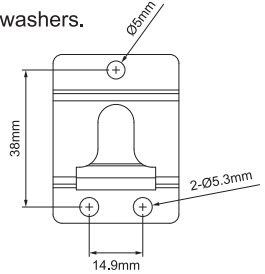
MOUNTING

• 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. Drill four mounting holes for sheet metal screw.
4. Install the siren amplifier with provided sheet metal screws and tooth lock washers.

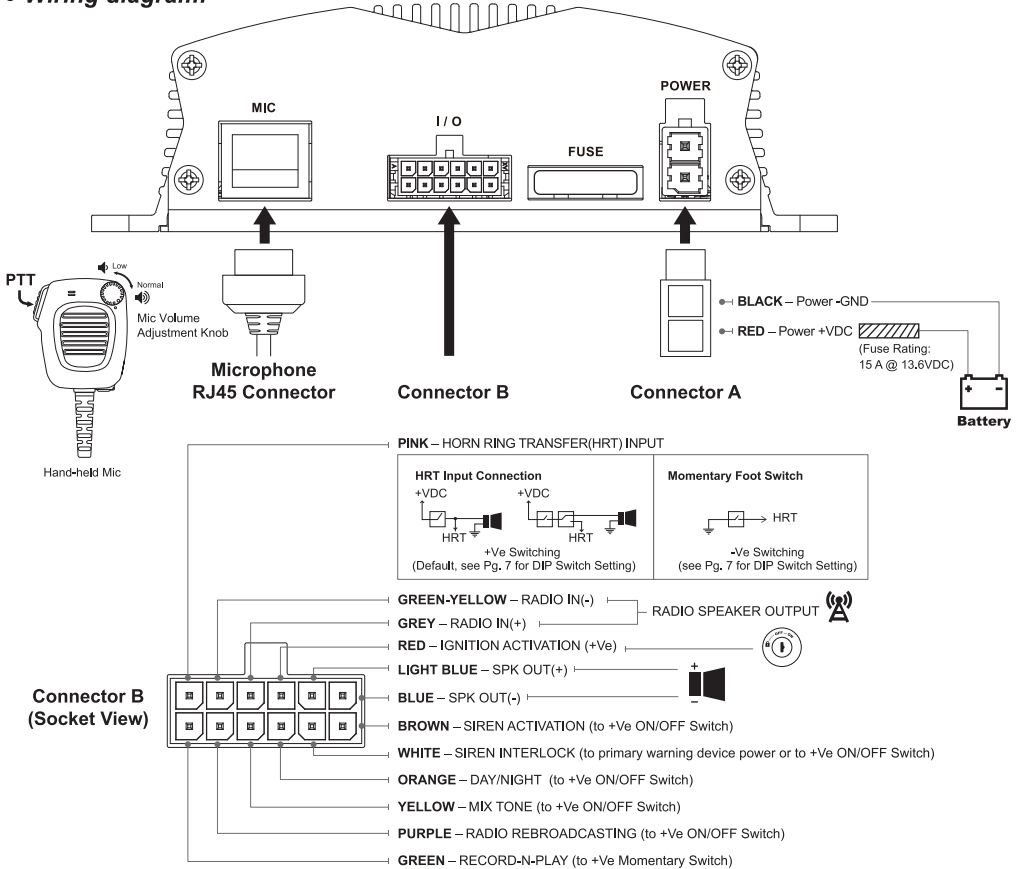
• Microphone clip

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



WIRING

• Wiring diagram:



PA Mic (optional)

• PA Activation

Connect the mic to the RJ45 jack on the siren amplifier. Press “Push-to-Talk” button on the side of the mic to activate PA broadcasting. PA broadcasting will override all current Siren Tone. Action will resume when the PTT is released.

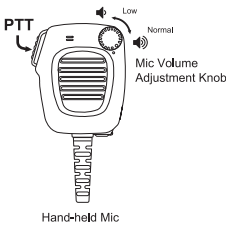
• Mic Volume Adjustment Knob

The knob located on the top right corner of the mic can minorly change the mic volume (normal or low) to use as a feedback reduction. Turn clockwise for normal volume; turn counter-clockwise for lower volume.

• PA Volume Adjustment

Based on the placement of your siren speaker and the sound isolation of the microphone placement, user and installer may need to adjust the PA volume to prevent audio feedback from occurring. Follow the instructions carefully to set up the proper PA volume for the system:

1. Turn the Mic Volume Adjustment Knob clockwise to “Normal”.
2. Locate DIP switch on the back of the amplifier unit; set switch 1~5 to “ON” and Power up the Amplifier unit with [RED – IGNITION ACTIVATION]. The unit will enter PA Volume Setting Mode and sound in long and short beeps to signify current PA volume level.
3. Hold microphone in regular speaking position, press and hold PTT to start PA broadcasting.
4. While speaking on PA broadcasting, tap +Ve to [BROWN – SIREN ACTIVATION] to increase or [ORANGE – DAY/NIGHT] to decrease PA volume.
5. Continue to increase the PA volume until audio feedback occurs, then decrease PA volume until the feedback is eliminated. Test all possible speaking position.
6. Once set, power off the unit to save. Replace DIP switch setting to your usage.



Vol Lvl	BEEP SOUND
1	•
2	••
3	•••
4	••••
5	—
6	—•
7	—••
8	—•••
9	—••••
10	— —
11	— —•
12	— —•• (default)
13	— —•••
14	— —••••
15	— — —

— = Long Beep • = Short Beep

PA Volume Setting Mode					
ON			DIP		
1	2	3	4	5	6

Power Wire Harness (Connector A)

• Power +VDC & -GND

1. Connect the RED wire to the positive (+) battery terminal. Fuse each wire independently @15 Amps. DO NOT install these fuses until the wiring for the entire system has been completed.
2. Connect the BLACK wire to the vehicle’s chassis ground (typically adjacent to the battery).
3. Plug the connector A into the siren amplifier.

Control Wire Harness (Connector B)

• **Speaker Out**

Connect the **LIGHT BLUE** (SPK+) and **BLUE** (SPK-) wires to one 100W 11-ohm impedance speaker.

• **Ignition Activation (IGN) input**

Apply +VDC continuously to **RED** wire to enable the siren system. Connect this wire to a positive circuit controlled by the vehicle ignition switch to allow the siren amplifier to be turned on & off together. The system does not operate without this Ignition Activation. DO NOT directly connect this wire to the battery as this may drain battery.

• **Siren Tone Activation**

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

• **Siren Interlock input**

Apply +VDC continuously to **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 Tone Activation (**BROWN**) wire.

Note: If siren interlock is not required, connect this wire directly to the positive (+) battery terminal.

• **DAY/NIGHT Volume**

Apply +VDC continuously to **ORANGE** wire to activate volume dimming of siren tone (reduced output). This function does not affect the sound output of Air Horn, Mic volume.

Base on the Tone Group setting, this wire may be used for tone change. For actual function of this wire, see page 6 for Tone Table.

• **Horn Ring Transfer (HRT) input**

When the Siren Tone is not activated:

- If **WHITE** wire is enabled, apply +VDC momentarily to **PINK** 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 6 for Tone Table.

When the Siren Tone is activated:

- Apply +VDC to **PINK** 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 6 for Tone Table.

This wire may be wired to a positive or a negative source based on the DIP switch setting. See page 6 for DIP SWITCH SETTING.

• **Mix Tone**

While Siren Tone is activated, apply +VDC continuously to **YELLOW** wire for Mix Tone function. This function allows the siren speaker to deliver two siren tones simultaneously for a fanfare effect and increase Siren effectiveness. Base on the Tone Group setting, this wire may sound or behave differently. For actual function of this wire, see page 6 for Tone Table.

• **Radio Re-broadcast**

Connect **GREY** and **GREEN-YELLOW** wire to the speaker output of a radio console. Apply +VDC continuously to **PURPLE** wire to re-broadcast the incoming radio messages over the siren speaker.

• **Record-n-Play**

This function allows user to record a short message up to 20 seconds and re-broadcast over the siren speaker. Connect **GREEN** wire to a momentary switch before recording or re-playing

For Recording:

1. Enter the recording mode by pressing and holding the Record-n-Play switch for more than 5 seconds; a continuous single beep will sound from the siren speaker. Do not release the switch yet.
2. While holding the switch, pick up the microphone and press the PTT button to start recording. (DO NOT release the switch or PTT during the recording.)
3. Release the PTT button to end the recording; double beeps will sound from the siren speakers. Release the momentary switch to save and exit the process.

For Re-Play :

1. Quick press the Record-n-Play switch once to play the pre-recorded message three times.
2. Quick press the Record-n-Play switch 3 times to play the pre-recorded message continuously.
3. Quick press the Record-n-Play switch once during the re-play to end the re-broadcasting.

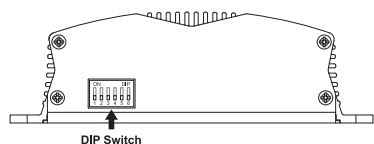
TONE TABLE

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

No.	COUNTRY	STONE	CYCLE/MINUTE	DISABLE/ ENABLE DAY/NIGHT WIRE	ENABLE HRT, SIREN ON, INTERLOCK ON	ENABLE HRT, SIREN OFF, INTERLOCK OFF	ENABLE HRT, SIREN OFF, INTERLOCK ON	MIX STONE
1	USA/ UK INTERNATIONAL	STANDARD	WAIL 12 C/M	DAY/NIGHT	YELP	N/A	AIR HORN	WAIL
			YELP 157 C/M		TWO STONE			YELP
			TWO STONE 40 C/M		WAIL			TWO STONE
2	FRANCE	GENDAMERIE	TWO STONE 54 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
3	FRANCE	POLICE	TWO STONE 54 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
4	FRANCE	AMBULANCE	TWO STONE 30 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
5	FRANCE	POMPIERS	TWO STONE 27 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
6	FRANCE	UMH	TWO STONE 54 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
7	GERMANY	CITY(STADT)	TWO STONE 40 C/M	STADT/LAND	N/A	N/A	TWO STONE	TWO STONE
		COUNTRY(LAND)	TWO STONE 40 C/M				TWO STONE	TWO STONE
8	AUSTRIA	POLICE	TWO STONE 25 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
9	AUSTRIA	AMBULANCE	TWO STONE 17 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
10	AUSTRIA	FIRE BRIGADE	TWO STONE 17 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
11	AUSTRIA	MAGISTRATE	TWO STONE 18 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
12	ITALY	POLICE	TWO STONE 20 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
13	ITALY	AMBULANCE	TWO STONE 20 C/M	DAY/NIGHT	N/A	N/A	TWO STONE	TWO STONE
14	ITALY	AMBULANCE 2	WAIL 12 C/M	DAY/NIGHT	YELP	N/A	TWO STONE	WAIL
			YELP 157 C/M		TWO STONE			YELP
			TWO STONE 20 C/M		WAIL			TWO STONE
15	USA/ UK INTERNATIONAL	STANDARD 2	WAIL 12 C/M	DAY/NIGHT	YELP	N/A	AIR HORN	YELP
			YELP 157 C/M		TWO STONE			YELP
			TWO STONE 40 C/M		WAIL			TWO STONE
16	NETHERLANDS	POLICE	TWO STONE 33 C/M	DAY/NIGHT	TWO STONE 66 C/M	N/A	TWO STONE 33 C/M	TWO STONE 33 C/M
17	USA/ UK INTERNATIONAL	STANDARD 3	WAIL 12 C/M	DAY/NIGHT	YELP	N/A	WAIL	YELP
			YELP 157 C/M		TWO STONE			WAIL
			TWO STONE 40 C/M		WAIL			WAIL
18	USA/ UK INTERNATIONAL	STANDARD 4	WAIL 12 C/M	DAY/NIGHT	YELP	N/A	WAIL	YELP
			YELP 157 C/M		WAIL			WAIL
19	USA/ UK INTERNATIONAL	STANDARD 5	WAIL 12 C/M	DAY/NIGHT	YELP	N/A	AIR HORN	YELP
			YELP 157 C/M		WAIL			WAIL

DIP SWITCH SETTING

• DIP Switch Location



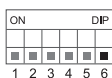
• Positive and Negative Horn Ring Transfer (HRT) Switching

Carefully check and change the DIP Switch #6 according to your required +ve or -ve switching.

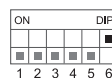
Restart the unit after setting to apply the change.

DIP Switch #1 to #5 is for Tone setting; see next page.

For +ve switching HRT:



For -ve switching HRT:



● 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.

DIP Switch #6 is for HRT setting; see previous page.

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		FRANCE	GENDAMERIE	434-729	TWO TONE 54 C/M
3		FRANCE	POLICE	434-581	TWO TONE 54 C/M
4		FRANCE	AMBULANCE	420-515-420	TWO TONE 30 C/M
5		FRANCE	POMPIERS	434-487	TWO TONE 27 C/M
6		FRANCE	UMH	434-649	TWO TONE 54 C/M
7		GERMANY	CITY (STADT)	432-574	TWO TONE 40 C/M
			COUNTRY (LAND)	362-483	TWO TONE 40 C/M
8		AUSTRIA	POLICE	431-574	TWO TONE 25 C/M
9		AUSTRIA	AMBULANCE	523-393	TWO TONE 17 C/M
10		AUSTRIA	FIRE BRIGADE	393-523	TWO TONE 17 C/M
11		AUSTRIA	MAGISTRATE	523-393	TWO TONE 18 C/M
12		ITALY	POLICE	465-621	TWO TONE 20 C/M
13		ITALY	AMBULANCE	392-657-392-657	TWO TONE 20 C/M
14		ITALY	AMBULANCE 2	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
				392-657-392-657	TWO TONE 20 C/M
15		USA / UK	STANDARD 2	763-1594	WAIL 12 C/M
				763-1594	YELP 157 C/M
				450-598	TWO TONE 40 C/M
16		NETHERLANDS	POLICE	373-501	TWO TONE 33 C/M
					TWO TONE 66 C/M
17		USA/ UK INTERNATIONAL	STANDARD 3	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
				450-598	TWO TONE 40 C/M
18		USA/ UK INTERNATIONAL	STANDARD 4	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M
19		USA/ UK INTERNATIONAL	STANDARD 5	763 ~ 1594	WAIL 12 C/M
				763 ~ 1594	YELP 157 C/M