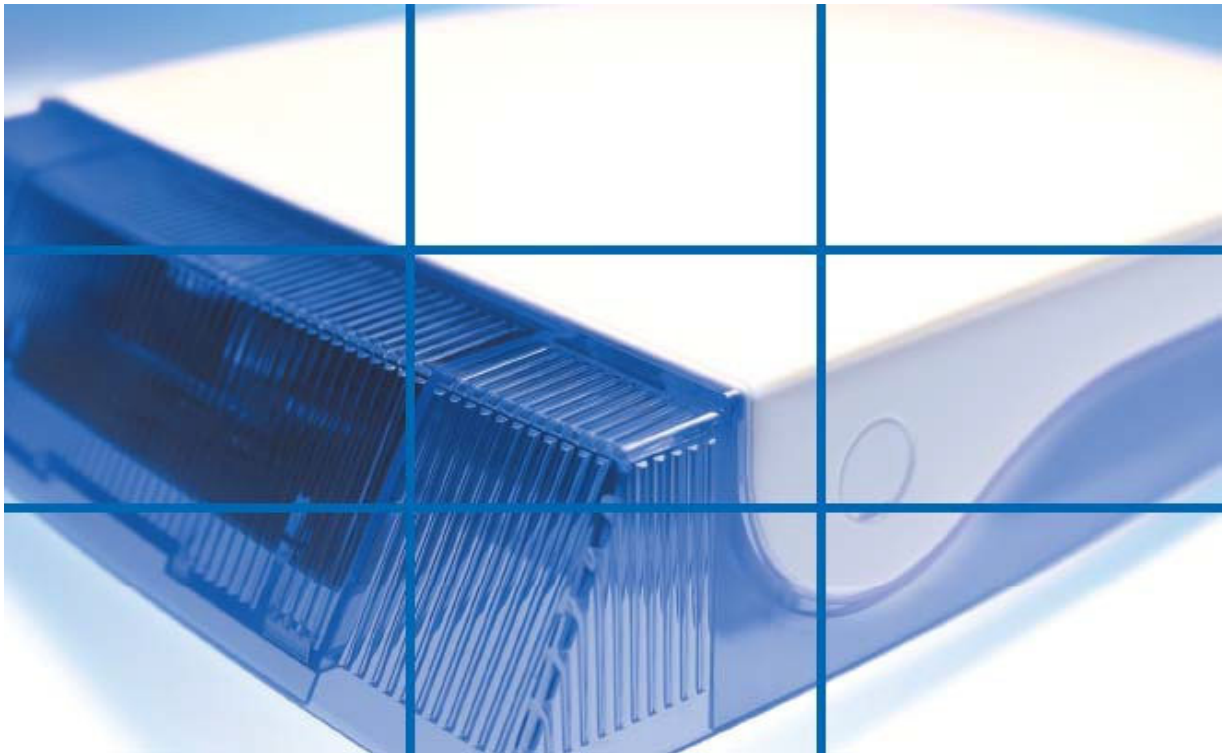


# **FW2 Siren System Installation Guide For RUNNER 2 and SERENITY**



FW2-SIREN2EXT -8/9F

FW2-SIREN2CP -8/9F

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# Introduction

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## General Description

The FW2 Siren can be assigned in Runner2 series or SERENITY control panels. Siren programming instruction for Runner2 and SERENITY either, will be described on the next pages. FW2 Siren for Runner2 requires the FW2-TRANS installed in the Runner box which is connected to the Runner communication bus connector on board. For the SERENITY, the FW2 Siren communicates with RF module which is plugged on the SERENITY Board.

The FW2 Siren unit can be powered by Lithium Battery 3.6V/14Ah or by external power supply 12V/0.8A or both.

## FW2 Siren Introduction to RUNNER2

RUNNER 2 contains The FW2-TRANS which is an advanced product that adds support 2way wireless devices for the "CROW-RUNNER 2" alarm systems.

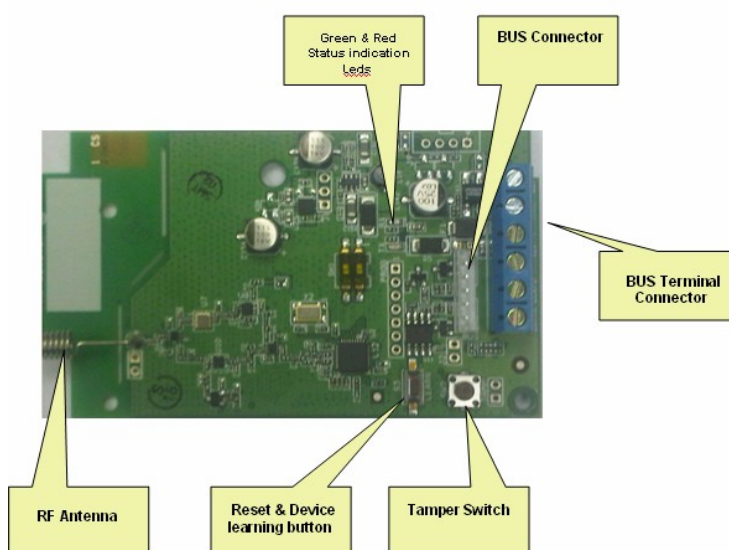
FW2-TRANS include integrated RF transceiver and an interface with the runner BUS system.

The use of FW2-TRANS will enable the user to get back compatibly with FW 1 way wireless devices together with the supreme 2way wireless line of devices that uses an advanced 2way RF transceiver combined with an intelligent communication protocol and a unique 24 bit ID number.

FW2-TRANS can be installed in selected runner system case or in an external box while protected by the on boards tamper

NOTE: For more information on FW2-TRANS please refer to FW2-TRANS document.

Figure 1



## Siren Unit Description

- ✦ Powered by non rechargeable battery Lithium 3.6V/14Ah or 12V DC or both ,in this case the Battery use as backup.
- ✦ Alarm signal will activate the Piezo Siren and the Power LED.
- ✦ The Alarm can be reset by the user by using the Control Panel keypads in case that it's not reset the time out 2min/15min according Jumper D selection –see Table 1.
- ✦ Arm/Disarm Indication by Beeps/ Flash (Jumper selection)-See Table 1
- ✦ Battery test generate every 4 hours.
- ✦ Low Battery Indication by Beeps/Flash (Depends on Jumper Selection of B&C)- See Table 1.
- ✦ Tamper protected (Cover and Back tamper).
- ✦ Signal transmitted to Transceiver: Synchronization, Acknowledge, Tamper and Low battery.
- ✦ The Siren can be assigned to Area A or Area B by jumper selection –See Table 1

### Setting the FW2 Siren for RUNNER 2 configuration

#### STEP 1: FW2-TRANSCEIVER - Learning & Operating Mode for RUNNER 2 only

***It is most recommended to perform factory default before first operation;***

- ❖ Press and Hold the reset push button (see button location in Figure 1).
- ❖ Connect the bus cable while pressing and holding the reset button.
- ❖ Continue to hold the reset button for several seconds till led's will finish to flash red & green alternately.
- ❖ Wait until the led's stops flashing and then remove your finger from reset button.
- ❖ Then slide device into socket.

For installation of External Transceiver Box and receiving indications form wireless Siren - the FW2 Transceiver should be learned as well, please see and perform the following steps:

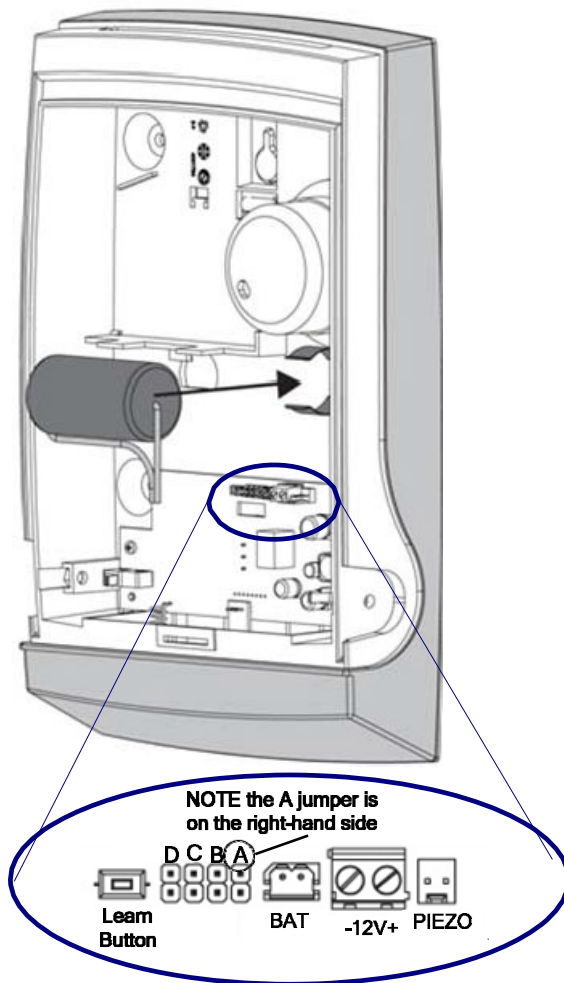
- Remove the jumper.
- Login to the runner programming mode and use the ZONE level to define the FW2-TRANS as wireless device (e.g. P122E 1-16E options 1---5--- must be ON).
- Enter to P164E (learn radio device) 16E (e.g. zone 16) and start the learning process.
- While the Runner beeps for indicate learning process begin, press and release the "Learn/reset" button for one second and notice the changes over the runner system (learning mode finish).
- Make sure to close the tamper switch on the transceiver (in a case of external device only) after the learning process ends.
- Notice: zone (16) in the Runner will be used also by the wireless Sirens to display indication of (low Battery, tamper, and supervision).

**Note: The "learn/reset" push button used also for registered Siren inside the transceiver.**

## Physical Description

### STEP 2: Setting the Siren Configuration Mode

Figure 2: Siren Description Diagram



The Siren unit can be powered by Lithium Battery 3.6V/14Ah or by external power supply 12V/0.8A or both, in case of both the battery use as backup.

**NOTE:** refer to table 1 for Jumpers set-up on the next page


**Table 1: Jumpers set-up.**

<b>Siren's Jumper's MODE SET-UP</b>		
<b>Jumper No.</b>	<b>Function if = 0 (Open)</b>	<b>Function if =1 (Close)</b>
<b>A</b>	Not in used for RUNNER 2 and SERENITY control panels	
<b>B</b>	NO Flashes with ARM/Disarm	Flashes appear with ARM/Disarm Arm: 2 Flashes (@LOW BAT 3+3 Flashes) Disarm: 1 Flash (@LOW BAT 2 Flashes)
<b>C</b>	NO Beeps with ARM/Disarm	Beeps sound with ARM/Disarm Arm: 2 Beeps(@LOW BAT 3+3 Beeps) Disarm: 1 Beep (@LOW BAT 2 Beeps)
<b>D</b>	2 Min Time out	15 Min Time out

***Note:** On control panel must disable Arm/Disarm chirps from Output-1 for area A and area B if system is partitioned*

*P50E1E: Turn off option 1.*

*P52EE1E: Turn off option 1.*

<b>Mnemonic</b>	<b>Description</b>
<PROG>	PROGRAM key.
<ENTER>	Enter key.
	Press key or enter parameter



### **Notes:**

**The learning between the Transceiver to the Siren Units should be performing before the installation of the Siren Units.**

**It's recommended to locate the Siren at least 2 meter distance from the transceiver during the learning mode.**

## STEP 3 : Learning the Sirens

Up to 8 Siren units can be activated by single Transceiver. In BUS Mode, these Sirens can be divided to two groups (A&B) for activating their Sirens (by receiving two separate activation controls).

	Instruction	Description
1	Place the Siren Units on a flat surface	To verify back tamper is closed.
2	Connect Piezo Siren cable	
3	Connect battery cable	The Siren will beep once and then the LED power will blink for a period of 30 seconds, please wait to the end of the blinking before activating or learning.
4	Verify Siren Tamperers are open	Siren tamperers must be open during the learning mode
5	Set Jumpers B and C according to Table 1	Low Battery indication's beeps and flashes will be "on" no matter what the status of Mode Jumpers B and C.
6	Transceiver  <Learn/Test>	On the Transceiver press Learn/Test button. Green and RED LED on Transceiver starts flashing.
7	Siren  <Learn>	On the Siren press Learn button. Green LED on the Transceiver turns to solid "ON" for 1 to 3 seconds and then turns OFF. The Siren is learned by the Transceiver.
8	Close the Siren tamperers	

## Function Testing after learning.

After the learning completed and before the installation verify that the Siren Units are functioning as defined.

- Perform Arm/Disarm verify beep/flash indications.
- Perform an Alarm; verify Piezo and Flash are activated.
- Perform Alarm Reset via the Keypad by User pin code.



## Setting the FW2 Siren for SERENITY configuration

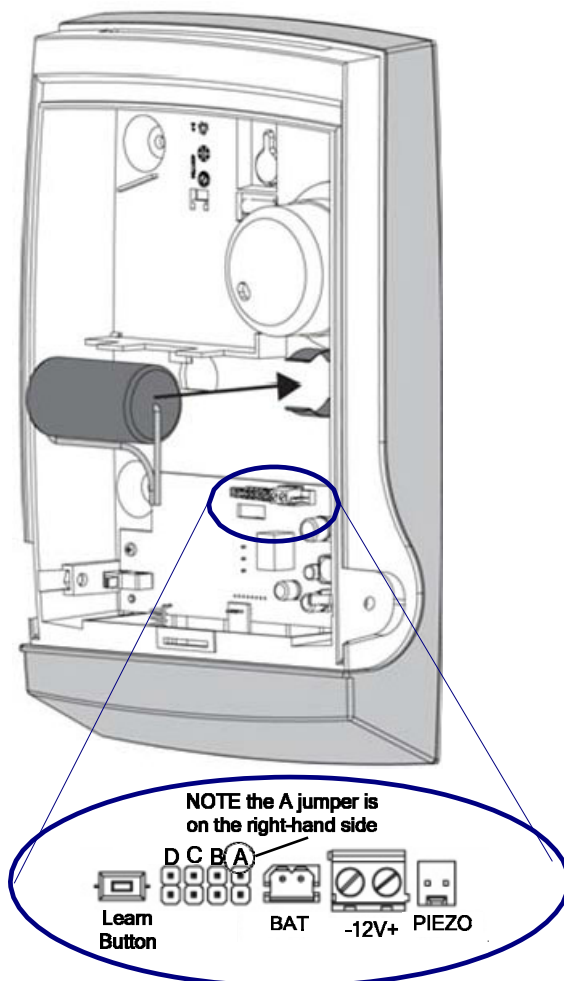
Siren (output) Learning process in Serenity - Up to 8 Sirens can be enrolling into Serenity.

The next pages will describe how to configure and learn the FW2 Siren with Serenity C.P.

**Recommendation:** Before you begin the learning process, perform factory defaults on the Siren you wish to learn by pressing on learning button while connecting the battery and hold the button until, the Siren will create a fast blinking for 5 seconds followed 30 second of slow blinking (Battery Passivation).

## Setting the FW2 Siren configuration

**Figure 3: Siren Description Diagram**



**NOTE:** refer to table 2 for Jumpers set-up on the next page

**Table 2 : Jumpers set-up.**

<b>Siren's Jumper's MODE SET-UP</b>		
<b>Jumper No.</b>	<b>Function if = 0 (Open)</b>	<b>Function if =1 (Close)</b>
<b>A</b>	Not in used for RUNNER 2 and SERENITY control panels	
<b>B</b>	NO Flashes with ARM/Disarm	Flashes appear with ARM/Disarm Arm: 2 Flashes (@LOW BAT 3+3 Flashes) Disarm: 1 Flash (@LOW BAT 2 Flashes)
<b>C</b>	NO Beeps with ARM/Disarm	Beeps sound with ARM/Disarm Arm: 2 Beeps(@LOW BAT 3+3 Beeps) Disarm: 1 Beep (@LOW BAT 2 Beeps)
<b>D</b>	2 Min Time out	15 Min Time out

## Learn the FW2 Siren with SERENITY

There are 3 options

Option 1: Using Installer programming mode:

**Step 1:** Insert the battery to the Siren while pressing learn button->The FW2-Siren led will blink for 30 sec -> the FW2-Siren is now ready for use.

**Step 2:** Enter to the Installer mode P000000E-> Enter P64 'Learn radio output'.

**Step 3:** Use the +, - keys to Select the required learned output number

**Step 4:** Press the Enter key.

**Step 5:** Press on the learning button (Siren), the control-panel will display the message "Complete" at the end of the learning process ->The Siren led will blink , for 3 sec to indicate that the FW2-Siren was learned.

**Step 6:** To test functionality of the serenity after learning refer to "function testing after FW2 Siren learning" page 10

**NOTE:** During the learning process or the operation of the Siren is recommended to keep a distance as two meters between the serenity C.P to the Siren.

**Option 2: [Using FW2 Serial Number ID via installer mode :](#)**

**Step 1:** Verify the FW2 Siren ID serial number which appears on the barcode sticker on FW2 Siren board



**Step 2:** Enter to Installer mode P000000E-> Enter P64-> 'Learn radio output'.

**Step 3:** Use the +, - keys to Select the required output number

**Step 4:** Use the keypad to enter the serial number of the FW2- Siren -> Press the Enter key and Exit from installer mode.

**Step 5:** Press on the learning button (Siren) -> the Siren led will blink, for 3 sec to indicate that the FW2-Siren was learned.

**Step 6:** To test functionality of the serenity after learning refer to "function testing after FW2 Siren learning" page 10

**Option 3: [Using FW2 Serial Number ID via Easy Serenity PC application :](#)**

**Step 1:** Run and login to Easy Serenity application -> go to "change configuration"-> insert installer code ->go to OUTPUT level->go to radio output level ->select output number and insert the ID serial number of the serenity manually in the "learn radio output" field.

**Step 3:** Press on the 'Set configuration' icon in the upper right corner of the 'Change Configuration' window-> Exit the program.

**Step 4:** Insert the battery into the Siren.

**Step 5:** Press on the learning button (Siren) -> the Siren led will blink, for 3 sec to indicate that the FW2-Siren was learned.

**Step 6:** To test functionality of the serenity after learning refer to "function testing after FW2 Siren learning" page 10

**NOTE:** During the learning process or the operation of the Siren is recommended to keep a distance as two meters between the serenity C.P to the Siren.

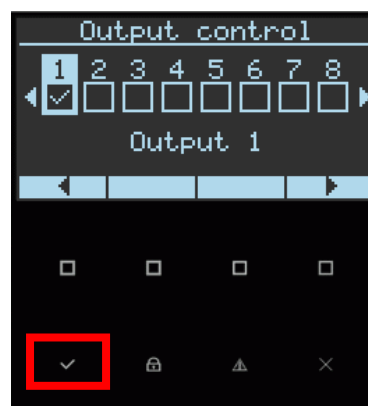
## Function Testing after FW2 Siren learning.

After the learning is completed and before the installation, verify that the Siren Units are functioning as defined.

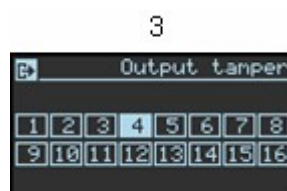
**Step 1:** From SERENITY LCD display press on the output control button



**Step 2:** Select the learned output number and press the Enter Key alternately ON/OFF to activate and deactivate the output and verify Siren's led is start flashing and stopped.



**Step 3:** Create an open tamper state alarm from the serenity, verify that the Serenity generates tamper alarm message on the LCD display, and move to next screens to verify the output number, see examples below and at the end of the test press the user code to reset the tamper alarm

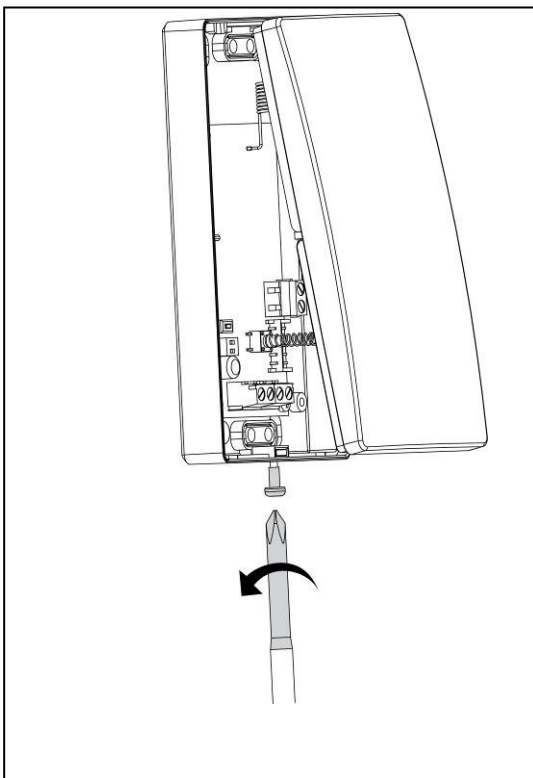


# Installation Instructions

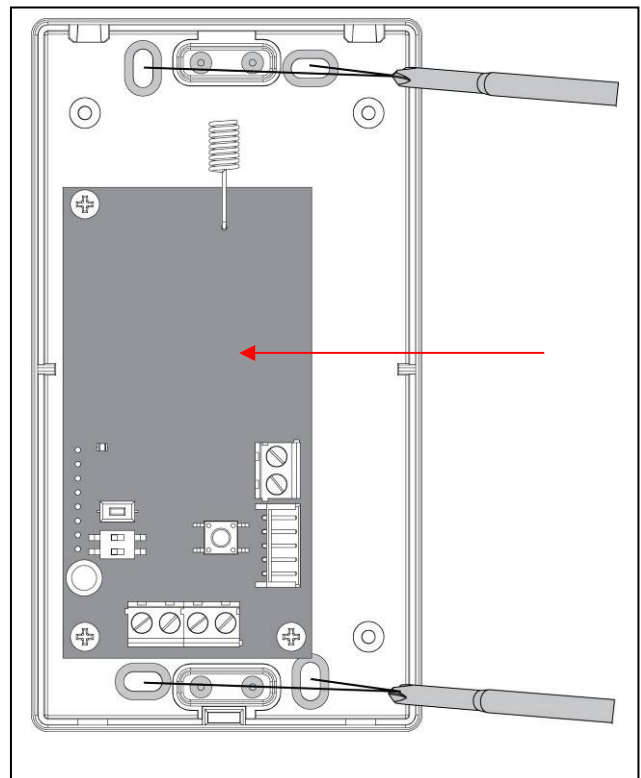
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## Installing the Transceiver

1. Choose a central location for the installation of the Transceiver to insure radio coverage to all the Siren Units.
2. Open the Screw (See Figure-6) and open the cover.
3. Place the unit on the installation surface and mark out the four screw holes.
4. Use a 6 mm bit to drill the holes.



**Figure 5: Transceiver Unit**



**Figure 6: Transceiver Installation**

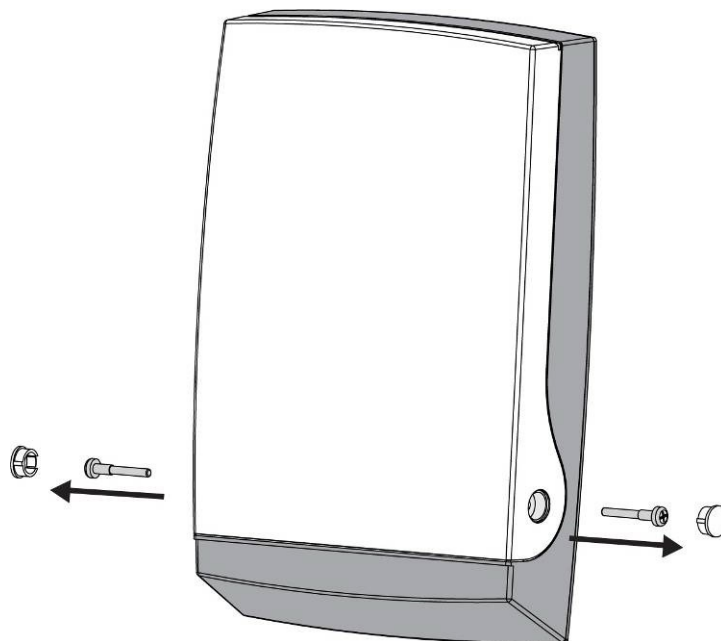
5. Power-Off the control panel.
6. Wired the Transceiver to the Control Panel.
7. Power-On the Control Panel.
8. Check the functionality of the system before installing the Siren Units.

## Installing the Siren Units

A Transceiver can control up to 8 Sirens. It is recommended that the units be installed on a flat surface in a prominent location.

◆ **To install the Siren in each location:**

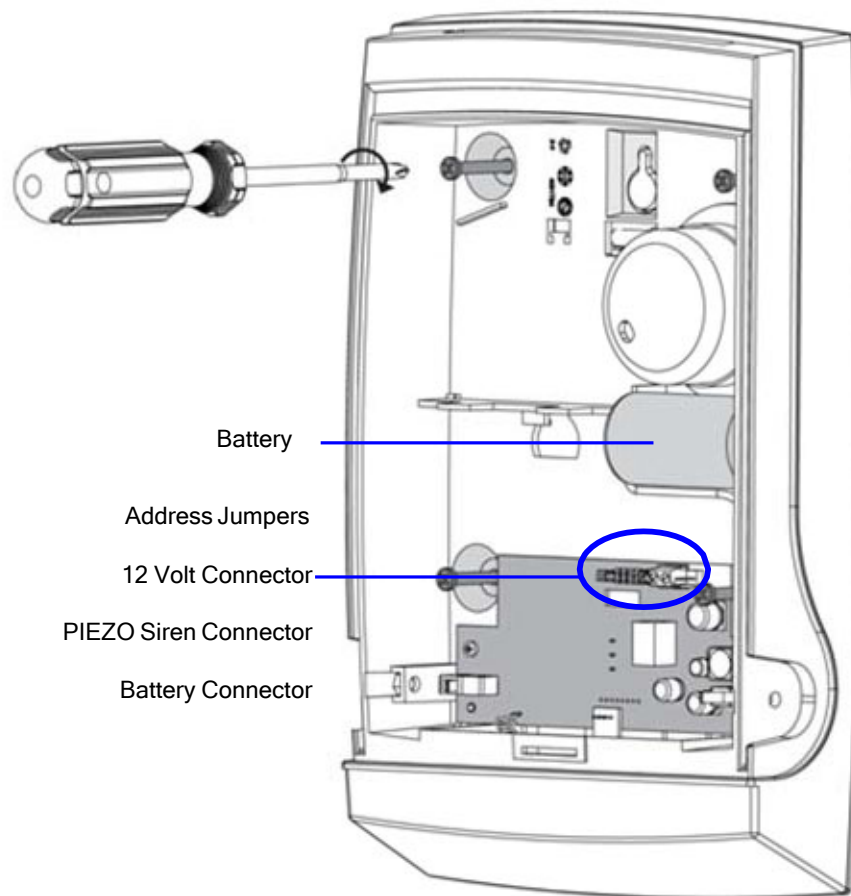
1. Choose a location for each one for the installation of each Siren units. Make sure that there is Radio coverage to this location from the Transceiver.  
Place the Siren Units high enough off the ground in order to make them inaccessible to passers-by and well within the wireless range of the cluster Transceiver
2. Remove the two pivot screws that secure the Siren cover.



**Figure 7: Siren Unit**

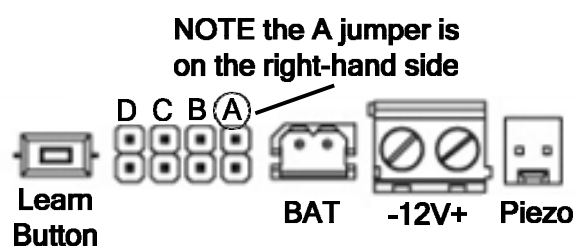
3. Remove the Siren cover.
4. Place the unit on the installation surface and mark out the four screw holes.

5. Use a 8 mm bit to drill the holes



**Figure 4: Open Siren Unit**

6. Fix the unit onto the installation surface.
7. Ensure that the Piezo Siren is connected to the **Piezo** connector (as shown below).



**Figure 5: Siren Connectors**

8. Insert the battery into the battery clip and connect it to the **BAT** connector (shown above).



**Note: The battery shall be Installed/replaced by service man**

*The Siren will beep once and then the LED power will blink for a period of 30 seconds, please wait to the end of the blinking before activating or learning.*

# Maintenance

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## Low Battery Indication

The battery is tested every 4 hours and after power-up.

When the Siren battery is low more beeps are added to the ARM/Disarm beeps in order to indicate the LOW BAT condition of the Siren unit. When Arming the Siren there are 3 beeps, short pause and another 3 beeps instead of two beeps and when Disarming the Siren there will be 3 beeps instead of one.

This Low Battery indication's beeps and flashes will be "on" no matter what the status of Mode Jumpers B and C.

In Bus Mode the Low Battery status will be reported to the Control Panel via the BUS and will be indicated as Device's Low Bat Alarm.

## Changing the Siren Battery

**To change the Siren battery:**

**Remove the two pivot screws as shown in**

- Figure on page 4.
- Disconnect the Power Supply and replace the battery by fresh one.
- Verify Low Bat restored and then connect the Power supply.



**Note: The battery shall be Installed/replaced by service man**

*The Siren will beep once and then the LED power will blink for a period of 30 seconds, please wait to the end of the blinking before activating or learning.*

## Erasing the Siren Memory.

In case of Transceiver need to be replaced, the memory of the Siren Units should be cleared. To clear the Siren Units memory, follow the next steps.

- Turn off the power of the Siren Units.
- Press continuously on the Learn button and then power-up the Siren Unit.
- Keep pressing until the Power LED will blink fast 3 times.
- Release the Learn Button
- Memory clear complete.

## Erasing the Transceiver Memory.

In case of replacing or removing one Siren Unit from the installation, the memory of the Transceiver and other Sirens units should be cleared.

To clear the Transceiver memory, follow the next steps:

- Turn off the power of the Transceiver.
- Press continuously on Learn button and then power-up the Transceiver.
- Keep pressing until the Blue LED will blink fast 3 times.
- Release the Learn Button
- Memory clear complete.



**Note:** Output must be erased in the serenity too.

**Command syntax :** P000000E→P64E→go to Delete radio output level

## Specification: Siren Unit

FW2-Siren Specification (External Unit)	Value
Sound Pressure Level	More than 102dB
Siren Tone	Yelp
Frequency Range	2700 $\pm$ 500 Hz
Flash Light	Power LED (90 Lumens)
Power Supply Voltage	9V $\pm$ 15V DC or Battery 3.6V /14Ah Lithium or both.
Current consumption	<b>Standby:</b> 110uA $\pm$ 10uA@ Battery operation 20mA $\pm$ 2mA@12V DC operation.. <b>Alarm:</b> Average: 950mA @ Battery operation. Max: 1.8A peak@ Battery operation. Average: 200mA @ 12V DC operation. Max: 1.2A peak @ 12V DC operation.
Power Supply current limitation	Up to 1.8A
Maximum Power	Average :4W , Max peak:17W
Siren Alarm Period	2 min/15 min (According the status of Jumper D)
Low Battery Level	2.8V
Low Battery Indication	LED Flash @ Arm/Disarm (According the status of Jumper B&C)
Arm/Disarm Indication	<ul style="list-style-type: none"> <li>LED Flash : Arm-1 Disarm-3</li> <li>LED Flash with Beeps : Arm-1 Disarm-3</li> </ul> (According the status of Jumper B&C)
Supervision	Sync signal every 1 min.
Tamper Switch	Normally Closed.  After power up the Tamper will activate only after the second opening and then Activate the Piezo for 2 min or till reset by the C.P.
Battery Life	> 4 Years (Based on 2 min Piezo operation/month)
Material	External Box: P.C. (3mm thick).
Dimensions of unit	317mm x 209mm x 62mm
Weight (Without Battery)	1.2 Kg
Operating temperature range	-30°C to +70°C
Case Protection Level	IP 43  Plastic PC with UV protection  Conformal coated circuit board

## Specification: Transceiver Unit

Transceiver Specification (Remote)	Value
Power Supply	9V-14V DC
Current Consumption	Receive:30mA±5mA Transmit:40mA±5mA
Transmit power	< 14dBm
Operating temperature range	-10°C to +55°C
Ambient temperature, storage	-20°C to +70°C
Inputs	IN-1: Trigger Alarm. IN-2: Trigger Key Arm/Disarm BUS Connection via Fast Connection or Terminals
Outputs	Tamper Out Terminals , Dry contacts 12V DC/100mA
Indication	Blue LED indicate Rx/TX
Tamper	Connected by hardware to TAMP OUT output. Can be ignored(see Dipswitch 2)
Dipswitch 2	Dip#1: Define the Mode operation #1 ON: BUS Mode. #1 OFF: Universal Mode  Dip#2: Define Tamper #1 ON: With Tamper #1 OFF: Without Tamper
RF Frequency 8F/9F	868.35MHz / 916.5MHz
RF Range	<500m at open space