

# SELF-POWERED SIREN

## EAS-202

### INTRODUCTION

EAS-202 ranges provides the following models:

Self-powered Horn with Flasher

Self-powered Horn with Strobe

Self-powered Horn with Flasher in Chrome finish moulding

Self-powered Horn with Strobe in Chrome finish moulding

This manual provided installation instructions for EAS-202.

Information relating to a specific model will be denoted by the applicable model number within the text.

The term "SIREN" is used to describe functionality that is applicable to both series.

This SIREN is a self-powered microprocessor controlled homstrobe / flasher, especially designed to provide differentiated audible and visual Alarm signals.

The distinctive low profile shape is acoustically very efficient and ensures uniform sound distribution.

Robust construction and state-of-the-art technology greatly extend application flexibility, whilst microprocessor supervision of the battery charge, exponential horn and flasher ensure maximum performance and reliability.

### GENERAL FEATURES

- Self-powered Microprocessor controlled Horn with Strobe/Flasher for Outdoor applications
- Strong weatherproof polycarbonate moulding
- Tropicalized-steel innerplate
- 2 Audible and visual signal Inputs
- Modulated frequency sound emission with sound options
- High output magneto dynamic exponential horn with test circuit
- Protected against Tamper, Snatch, Flasher bulb damage and Wire cutting
- Programmable maximum Alarm Time
- Battery Test circuit with Flasher shutdown -- under low battery or battery trouble conditions
- Drilling pattern for easy installation
- Tested and approved to CEI 79-2/2nd Ed.

1998: Ab:2000-Performance grade II

- Houses 12V 2 Ah buffer battery

### BOX

The hard wearing polycarbonate moulding is resistant to the most adverse weather conditions. The louver grille has been especially designed to protect the internal components against rain while optimizing sound emission. The tropicalized-steel innerplate provides extra protection against delinquency.

### TECHNICAL SPECIFICATIONS

Nominal Voltage	13.8 V
Alarm current	1.4A (max 2.8A)
Voltage on terminal [+N]	13.8 V ± 0.2 V
Current on terminal [+N]	max 0,6 A
Min. (max.) supply voltage	10 V (13.8 V )
Battery requirements	2 Ah (177x34x66) mm
Maximum alarm-time (programmable)	3-10 min.
Protection grade	IP34
Temperature range	-25°C+55°C
Dimensions (WxHxD)	208x252x98 mm
Weight (without 2Ah battery)	2300g

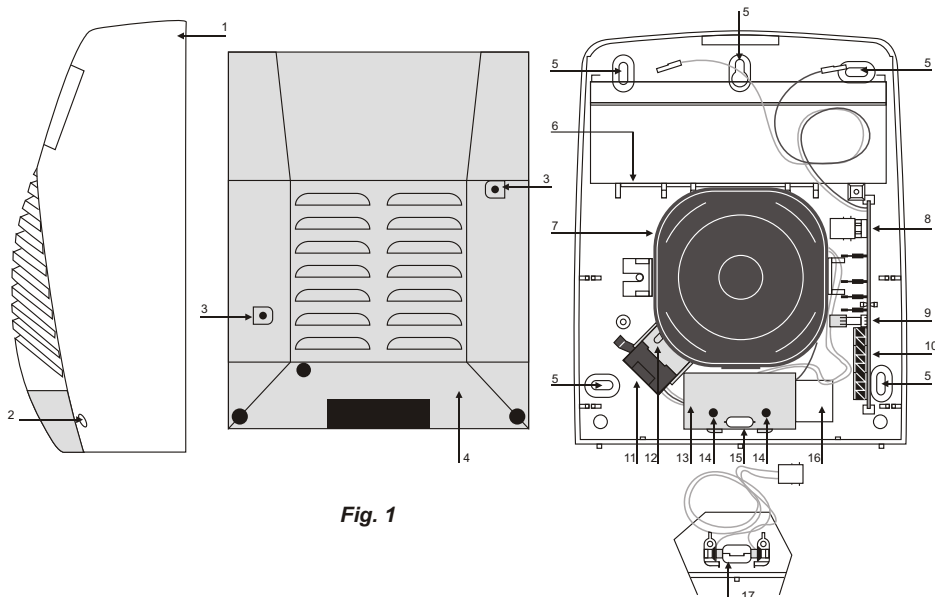


Fig. 1

### TAMPER PROTECTION

The Tamper device (to be anchored to the wall) will trigger Alarms when either the frontplate or innerplate is removed, or when this SIREN is pulled from the wall (Snatch Tamper). If you setup this SIREN to operate in Automatic mode, Tamper signalling will cease 40 seconds after the Alarm conditions clear, or after a maximum of 10 minutes (maximum Alarm time).

This SIREN can operate in Normal or Automatic mode. In both modes, the [AS] and [ASG] terminals will open in the event of Tamper, thus signalling the condition to the Control panel. If you setup this SIREN to operate in Automatic mode, it must be the last peripheral device on the Control panel Tamper line, as the [ASG] terminal is closed to negative and cannot be utilized. In Automatic mode, audible and visual signalling will be activated automatically by this SIREN (see fig. 3a-b-d). In Normal mode, audible and visual signalling will not be activated automatically (see fig. 3c).

P.	Parts
1	Cover
2	Cover screw locations (2)
3	Innerplate screw locations (2)
4	Protective innerplate
5	Backplate anchor screw locations (5)
6	Battery location
7	Exponential horn
8	Connector for strobe board or flasher bulb
9	Connector for tamper device switch
10	Terminal board
11	Tamper device
12	Tamper device bracket
13	Strobe board
14	Strobe board screws (2)
15	Strobe
16	Cable entry
17	Alternative flasherbulb

### ACTIVATION

This SIREN can be activated by the Tamper device, and by signals from terminals [+N] and [A].

For example: this SIREN will activate when the voltage fails on terminal [+N].

This process will allow the SIREN to detect wire cutting, as this Input also supplies the power and battery charge. Input Terminal [A] (with programmable polarity) can be used for connection to other devices.

### SIGNALLING

The audible and visual signals on the horn and strobe / flasher depend on the type of Alarm, and the Alarm signal configuration.

The sound modulation extremes generate a fastidious shrill tone -- intended to discourage intruders, and a low tone -- to ensure good audibility.

You can select two audible signals for each Alarm Input- with the exception of the Internal Tamper Input which has only one audible signal (up-scale modulated frequency between 800 and 2000 Hz)

The audible signals and modulated frequency range can be found in the "PROGRAMMING" section.

There are two frequency ranges: 800/2000 Hz and 1100/2400 Hz.

The audible signalling will stop as soon as the maximum Alarm Time expires, whereas, the visual signalling will continue until the Alarm conditions clear (Memory Flashing).

The Memory and Alarm flash sequences (Flasher bulb ONLY) are as follows:

	ON (ms)	OFF (ms)
Alarm flashing	250	750
Memory flashing	250	1500

Under low battery conditions, this SIREN will bypass the strobe / flasher and use the residual charge to power the horn -- this status will be signalled on terminal [G].

The Open-Collector Terminal [G] (dosed to ground during standby status) will disconnect in the event of low battery or damage to the horn or flasher bulb.

If you remove the on-board Jumper [G] (inserted at factory) Alarm signalling will be inhibited, and only Trouble conditions will be signalled.

Flasher trouble -- the horn will sound twice

Horn trouble -- the flasher will blink twice

Battery trouble -- the horn will sound once and the flasher will blink once

No trouble (OK!) -- the horn will sound twice and the flasher will blink twice

The signals will be repeated every 4 seconds until the Jumper is reinserted,

This SIREN will accept a maximum of 6 Alarm signals in 4 minutes after which, it will block the horn for 4 minutes. This process will protect the SIREN against persistent Alarms generated by the Control panel.

### ALARM PRIORITY

This SIREN priority is as follows:

Alarm signals triggered by the Tamper device will override Alarm signals triggered by terminals [+N] and [A].

Alarm signals triggered by terminal [+N] will override Alarm signals from terminal [A].

Override will generate a variation in the audible signal.

WIRE JUMPERS			
Programming	Jumper	Connected	Disconnected
Alarm Sonnd x A	S	Up and down scale modulation (LF)	Multitone (HF)
Polarity terminal A	P	Alarm if connected to negative (Positive polarity)	Alarm if connected to 12V (Negative polarity)
Alarm sound x +N	+N	Up and down scale modulation (LF)	Up and down scale modulation (HF)
LINK JUMPERS			
Programming	Jumper	Connected	Disconnected
Trouble signalling	G	Interruption of trouble signalling	Interruption of alarm signalling to allow trouble signalling (in test phase only)
Selection antitamper mode	AS(MODE) AS(GND)	Opening of the as contacts with activation of hom and strobe/flasher signalling for internal tamper (Automatic mode)	Opening of the as contacts without audible or visual signalling for internal tamper (normal mode)
Maximum alarm time	T	If t is disconnected the maximum alarm-time will be 3 minutes. If t is connected the maximum alarm-time will be 10 minutes.	

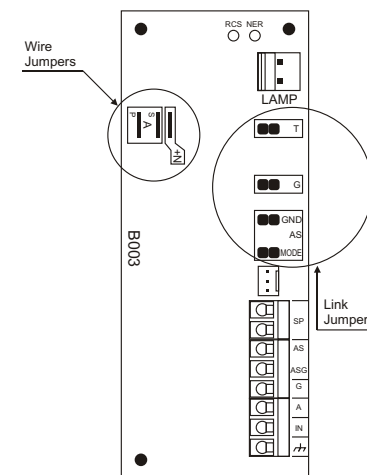
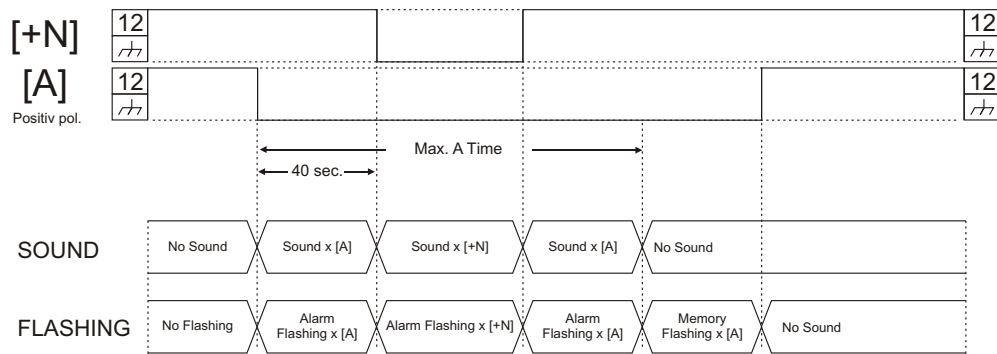
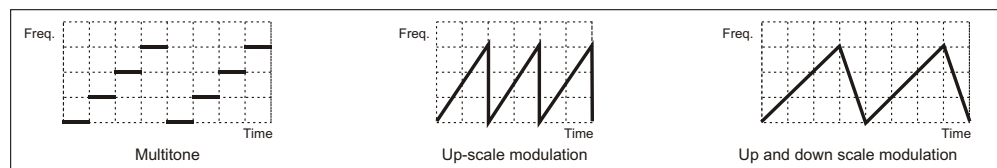


Fig. 2 - Board Components



Tab. 2 - Graphic illustration: alarm priority



Tab. 3 - Frequency profile of the audible signals

The Alarm Time will be counted from activation of the horn and strobe/flasher. When the maximum Alarm Time of the higher priority Alarm expires, or when the Alarm conditions clear, the lower Priority Alarm signal will activate the horn and strobe/flasher in accordance with its configuration. If a priority Alarm signal overrides an Alarm that has been running for more than 30 seconds, the maximum Alarm Time of the interrupted signal will **RUN ON**. If the priority Alarm terminates (due to Timeout or Restoral) before the maximum Alarm Time of the interrupted signal expires, the latter will activate the horn and strobe/flasher for the residual time. If a priority Alarm signal overrides an Alarm that has been running for less than 30 seconds, the maximum Alarm Time of the interrupted signal will **FREEZE**. If the interrupted Alarm signal is still present when the priority Alarm terminates (due to Timeout or Restoral), it will activate the horn and strobe/flasher in accordance with its configuration. If the interrupted Alarm signal has restored when the priority Alarm terminates (due to Timeout or Restoral), it will activate the horn and strobe/flasher for 30 seconds. Table 2 shows how the lower priority Alarm signal [A] will activate the horn and strobe/flasher after the higher priority Alarm (Alarm signal [+N]) has been executed. Memory flashing will stop (after the maximum Alarm-Time) when all the signals, that triggered the Alarm, restore to standby for 5 seconds (Restoral Time). Internal Tamper Restoral requires 40 seconds.

AVAILABLE SOUNDS				
REASON FOR ACTIVATION	CARRIER FREQUENCY	SOUND LEVEL at 3m-CALL-	SOUND LEVEL at 3m-LADY-	TYPE OF SOUND
<b>TAMPER PROTECTION IN AUTOMATIC MODE</b>	<b>1145 Hz</b>	105dB(A)	101dB(A)	Up and scale modulation (LF)
[+N] with +N jumper connected	<b>1149 Hz</b>	105dB(A)	101dB(A)	Up and down scale modulation (LF)
[+N] with +N jumper disconnected	-	105dB(A)	101dB(A)	Up and down scale modulation (HF)
[A] with S jumper connected	<b>1149 Hz</b>	105dB(A)	101dB(A)	Up and down scale modulation (LF)
[A] with S jumper disconnected	<b>1120 Hz</b>	105dB(A)	101dB(A)	Modulation (HF)

## PROGRAMMING

The board Jumpers (Wire and Link) are already connected (see fig. 2). If you are installing several SIRENS Hornstrobes in the same area, the Jumper Wires will allow you to select a different sound for each one, thus permitting Users to distinguish between them. You can also select different sounds for different Alarm types (gas leak, burglary, flooding, etc.) Or locations (office, warehouse, garage, etc.) This feature will allow users to recognize the Alarm type and its location. The wire Jumpers (+N and S) will allow you to select the sounds for Inputs [+N] and [A], respectively. These Jumpers will also allow you to set the maximum Alarm Time for Internal tamper. For the various programming options provides by the Wire and Link Jumpers refer to Table 2. For the frequency profile of the audible signals refer to Table 3.

## INSTALLATION

This SIREN should be mounted as high up as possible on a flat wall, as uneven surfaces may jeopardize proper functioning of the Snatch protection.

- Using the Drilling pattern, mark the screw location (5 and 12) then drill the anchor screw holes.
- NOTE:** The screw locations on the pattern correspond to the anchor screw holes on the backplate.
- Pull the wires through the cable entry (16).
  - Secure the backplate and Snatch device to the wall.
- WARNING:** Do not over tighten the snatch bracket screw (12) as this may damage the bracket wings (see figure 1 ).
- Complete the connections on the terminal board (10) as per the instruction in the relevant paragraph.
  - Mount the battery on its support (6) and complete the battery connections (see figure 1).
- At this point the flasher/strobe will flash, as per Memory flashing (Installation phase). This status will be held until internal Tamper ends (i.e. until the Metal Innerplate and Cover are secured). Once terminated, a 20 second Startup phase will begin (signalled by fast flashing). If internal tamper occurs during this phase this SIREN will go back to the installation phase. If 13.8 V is applied to terminal [+N], after the Startup phase, this SIREN will be operative. Otherwise, it will enter the Wait phase, which will be held until 13.8 V is applied to terminal [+N], or until Internal Tamper occurs. In the latter case this SIREN will go back to the installation phase. Once the Wait phase terminates, the 20 second Startup phase will begin, after which, installation will be complete. If Internal Tamper occurs during the Startup phase, this SIREN will go back to the Installation phase, however, if the 13.8 V fails on terminal [+N] this SIREN will go back to the Wait phase.

## TERMINALS DESCRIPTION

[SP]	- Magneto dynamic exponential horn connection terminals
[+N]	- Voltage (positive) and alarm terminal. 13.8V should be applied to this terminal for the battery charge. If this voltage fails (wire cutting or alarm) the SIREN will go into alarm status
[⚡]	- Negative supply terminal and ground of the internal circuit
[A]	- Alarm activation terminal with programmable polarity
[G]	- Trouble signal terminal for: low battery or battery trouble conditions; horn trouble; flasher bulb damage (Strobe board NOT PRESENT), Normally closed to negative. This terminal will open in the event of trouble.
[AS] [ASG]	- Tamper: these terminals will open when the cover or innerplate is removed. Or when SIREN is pulled from the well (for normal mode ONLY)

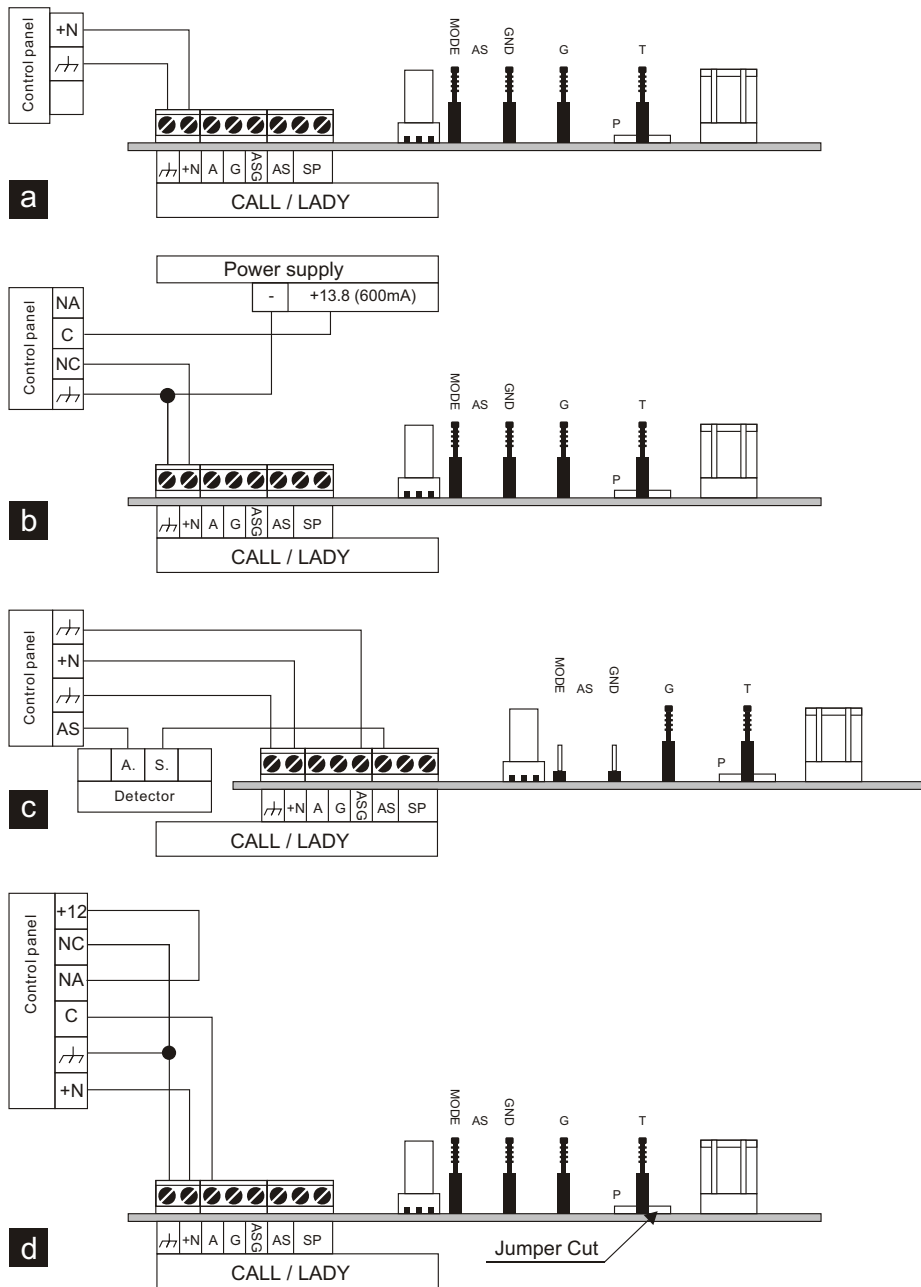


Fig. 3 - a) Automatic mode with 10 min. max alarm-time;  
 b) Automatic mode with 3 min. max. Alarm-time;  
 c) Normal mode;  
 d) Automatic mode with A with Negative polarity (relay output programmed as Normally Closed Associated with the required event).

This installation process will allow you to mount this SIREN and connect it (via terminal [+N]) to the 13.8 V of the Control panel when you are ready.

The flasher/strobe will not function during the Wait phase, and therefore, use of the battery will be reduced to a minimum.

**WARNING:** If you are fitting or removing the metal innerplate while the flasher is active, DO NOT allow it to come into contact with the flasher terminals, as this may cause a short-circuit.

### CONNECTIONS

Use shielded cable only, with one end connected to the Control panel Negative and the other left free.

The Control panel Alarm Output can be connected to either the [+N] or [A] terminal (with programmable polarity). In 1~th cases, 13.8 V (min. 0.6 A) must be applied across the [+N] terminal and Negative.

This voltage is necessary for the battery charge and Wire cutting protection.

Some Control panels have a custom [+N] terminal for the connection to the SIREN [+N] terminal, see fig.3a. The 13.8 V, present on the custom [+N] terminal during Standby status, will fail if the Control panel generates an Alarm.

If the Control panel you are using does not have such a terminal, you can use the free voltage Alarm relay changeover contacts, as per fig 3b.

In figures 3a and 3b the [AS] jumper is inserted (Automatic mode). Therefore, in the event of internal Tamper, this SIREN will go into Alarm status, regardless of the status of terminals [A] and [+N].

The Alarm will end 40 seconds after Tamper restoral or when the maximum Alarm time expires. In the latter case, the flasher will continue to signal.

If you apply the Alarm signal to the [A] terminal with programmable polarity, you should connect it to a Control panel terminal that closes with compatible polarity in the event of an Alarm (see fig. 3d).

Fig. 3c; shows a connection using the [AS] terminals of this SIREN.

These terminals, and the [A.S.] terminals of the detector in the wiring diagram, will be short-circuited during standby status.

If the SIREN detects Tamper, or the [A.S.] terminals of the Detector open, an Alarm signal will be present on the [AS] terminals of the Control panel.

However, neither the horn or strobe/flasher will activate, because the AS jumper is not connected (AS mode). Figure 3d shows an application using the [A] Input with Negative polarity.

The common contact [C] of the relay is connected to the [A] terminal with Negative polarity.

Under standby conditions, this terminal will be shorted to the [NC] terminal, and therefore, connected to Negative.

Under Alarm conditions, the relay will switch the [C] contact to [NA], connecting +12V to the [A] Input of this SIREN, thus generating an alarm.

TROUBLE SHOOTING		
TROUBLE	CAUSE	SOLUTION
The battery is connected but the flasher does not function	The battery may be low	Replace the battery
Continuous flashing	1) The snatch device is not secured properly; or the cover or the metal innerplate is not closed properly.	Eliminate the cause
The horn sounds but the flasher does not function	1) The battery may be low 2) The flasher may be out-of-order	-Replace the battery if necessary -Change the flasher bulb or call the installer
The flasher functions but the horn is silent	1) More than the maximum alarm-time has elapsed since the start of audible signalling 2) The horn is out-of-order 3) The horn is bypassed (refer to signalling)	-Eliminate the cause of alarm -Call the installer -Wait 4 minutes without requesting signalling
It is impossible to activate the siren	1) The installation-time has not expired 2) The battery low	-Wait 20 seconds -Replace the battery if necessary
Continuous sound on the horn	The causes may be as per continous flashing	-Eliminate the cause
The manufacturer reserves the right to change the technical features of this product without prior notice		