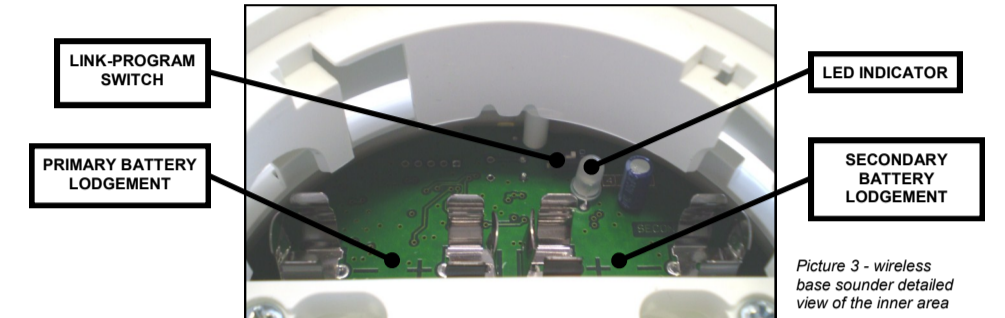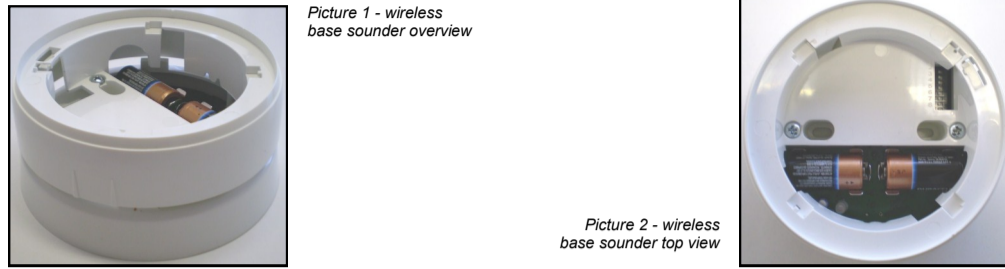# SGRBS100
WIRELESS SOUNDER BASE

LPCB
928q/01

GENERAL DESCRIPTION

The wireless sounder base is a device that activates its output when ordered so by the control panel in the event of fire alarms. The activation command is sent from the control panel to the base sounder through the wire to wireless translator interface module and other possible wireless expander modules.
Communication between the sounder base and the translator / expanders is obtained through the "Sagittarius" wireless, analogue-intelligent bidirectional protocol. Device's radio communication meets European standard EN 54-25.
Wireless sounder base is designed to act as a supporting mean for the installation of Sagittarius wireless detectors.

GENERAL OVERVIEW

Picture 1 - wireless base sounder overview

Picture 2 - wireless base sounder top view

LINK-PROGRAM SWITCH

LED INDICATOR

PRIMARY BATTERY LODGEMENT

SECONDARY BATTERY LODGEMENT

Picture 3 - wireless base sounder detailed view of the inner area

TECHNICAL SPECIFICATIONS *****

Table 1

Operating frequency range	868 MHz
Radiated power	5 dBm (3 mW)
Usable operating frequency channels	7
Radio signal's modulation type	FSK
Communication range with wire to wireless device or wireless expander device	200 m in open space *
Main and secondary battery types	CR123A (3 V & 1.2 Ah)
Approved battery voltage range	2.75V - 3.20V
Estimated battery life **	>3 years; remains operational for up to 60 days from first appearance of the low battery warning ***
Alarm current	75 mA
Operating temperature range	from –10 °C to +55 °C
Maximum tolerated humidity - with no condensing	95 % RH
Maximum volume range @ 1m - selectable	between 70 dBa and 95 dBa at max volume depending upon angle and tone selection (refer to volume plots under OUTPUT OPERATIONAL PERFORMANCE SPECIFICATIONS)
Device output tone's frequency range	440 Hz to 2900 Hz
Ingress protection rating	IP 21C ****
Device's dimensions	120 mm x 52 mm
Device's weight	150 g

* **Ideal operating range: may vary consistently according to environmental conditions.**

** **When a low battery condition is indicated, both, main and secondary, batteries must be changed altogether.**

*** **This lifespan value refers to the device being set with a message transmission period of 12 seconds; tests are not considered in this estimation.**

**** **Type A for indoor use only.**

***** **Check latest version of document TDS-SGRBX for further data, obtainable from your supplier.**

VISUAL LED INDICATOR

The wireless sounder base is equipped with a bicolour red - green LED (picture 3) that provides visual indication for functional conditions and battery levels as indicated in table 2.

Device status	Green LED	Red LED
Power up	1 second green, then 0.5 second red for 4 times	
Programming and linking to the system	Blinking until linking and programming is completed	
Program - link failure	-	Continuously on
Normal condition	-	-
Main battery fault		0.1 second on and 5 seconds off
Secondary battery fault	0.1 second on and 5 seconds off	
Both batteries fault	Sequential bicolor blinking (0.1 second on and 5 seconds off)	
Lost link with the wire to wireless translator / wireless expander		0.5 second on and 1 second off

Table 2

DEVICE'S POWER SUPPLY AND LINKING

The linking operation permits the configuration of the wireless sounder base on the wireless system.
The linking operation described below does not change if made directly from the wire to wireless translator module's interface or from the Wirelex PC configuration program.

1) Move the "Link-program" switch to position ON (picture 4).
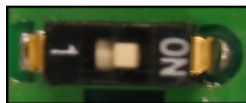
Picture 4 - "Link-program" switch: ON position

WARNINGS AND LIMITATIONS

Our devices use high quality electronic components and plastic materials that are highly resistant to environmental deterioration. However, after 10 years of continuous operation, it is advisable to replace the devices in order to minimize the risk of reduced performance caused by external factors. Ensure that this device is only used with compatible control panels.

Detection systems must be checked, serviced and maintained on a regular basis to confirm correct operation.

Smoke sensors may respond differently to various kinds of smoke particles, thus application advice should be sought for special risks. Sensors cannot respond correctly if barriers exist between them and the fire location and may be affected by special environmental conditions.

Refer to and follow national codes of practice and other internationally recognized fire engineering standards. Appropriate risk assessment should be carried out initially to determine correct design criteria and updated periodically.

WARRANTY

All devices are supplied with the benefit of a limited 3 year warranty relating to faulty materials or manufacturing defects, effective from the production date indicated on each product.

This warranty is invalidated by mechanical or electrical damage caused in the field by incorrect handling or usage.
Product must be returned via your authorized supplier for repair or replacement together with full information on any problem identified.

Full details on our warranty and product's returns policy can be obtained upon request.
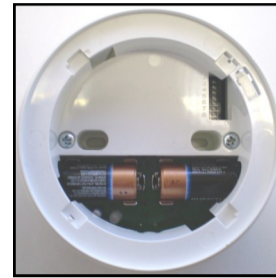
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2) Insert the secondary battery into its housing (picture 5).
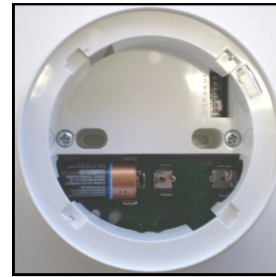

Picture 5 - secondary battery inserted

3) Insert the primary battery into its housing; the visual LED indicator switches on accordingly (see "Power up" in table 2 and picture 6).

Ensure that both battery's polarity are correct!!!

Picture 6 - primary and secondary batteries inserted

4) When the wire to wireless translator (by itself or piloted by the Wirelex) is searching for a new device for linking, move the "Link-program" switch to position 1 in order to initiate communication with the translator module (picture 7); the visual LED indicator switches on accordingly (see "Programming and linking to the system" in table 2).
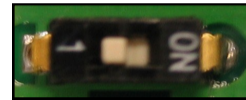
Picture 7 - "Link-program" switch: 1 position

IMPORTANT NOTE!

Programming is considered to be completed successfully only if there is an indication of programming success on the wire to wireless translator or on the window of the Wirelex program.

If the linking and programming operation fails, check if mistakes were made with the wire to wireless translator or the Wirelex, remove the batteries, change the switch over ON / 1 alternatively a few times in order to discharge the internal capacitor and then start again from point 1) re-performing the linking procedure.

COMMUNICATION QUALITY ASSESSMENT

It is possible to assess the wireless communication quality between the wireless sounder base and the wire to wireless translator / wireless expander by using a testing feature built in the device.
After a successful linking operation, by changing over the "Link-programming" switch on the ON position, the device's LED will start blinking according to table 3.

Always remember to reposition the switch to 1 after the assessment operation: device will NOT work operatively while the switch is changed over the ON position.

Communication quality	Assessment	Device's indication
No connection	Fail	Two red blinks
Link margin is less than 10 dB	Poor	One red blink
Robust communication with link margin from 10 dB to 20 dB	Good	One green blink
Robust communication with link margin over 20 dB	Excellent	Two green blinks

Table 3

DEVICE'S PLACEMENT

For specific information regarding detector and device's spacing, placement and special applications refer to your specific national standards.

It is strongly advised to mount the wireless sounder base as far as possible from metal objects, metal doors, metal window openings, etc. as well as cable conductors, cables (especially from computers), otherwise the operating distance may greatly drop.
The sounder base should not be installed near electronic devices and computer equipment that can interfere with the reception's quality.

1) Select the position of the sounder base before installing and fixing it.
Verify, from that position, that the communication between the device and the wire to wireless translator / wireless expander is correctly established and working (see the COMMUNICATION QUALITY ASSESSMENT paragraph).

2) Install and fix the sounder base in the selected position with the provided screws (picture 8).

3) Select the sounder's base output's tone and volume (see the OUTPUT SETTING paragraph)

4) Insert the wireless sensor onto the sounder base, then secure it by turning it clockwise.
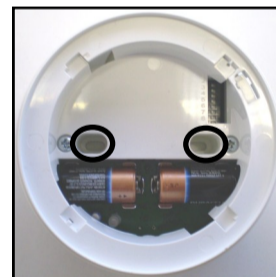
Picture 8 - position of the holes for screw's insertion

OUTPUT SETTINGS

Output's characteristics when the wireless base sounder is activated (tone and volume) can be selected through the DIP switch selectors located in the inner area of the sounder base (see picture 9).

In order to change over the switches use the tip of a pen or a little screwdriver.

For the selection of the output settings refer to picture 9, table 4 and table 5.
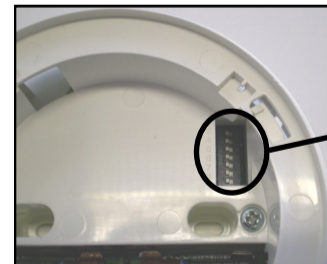
	D	8	B	
VOLUME SELECTION	C	✗	A	
	1	6	0	
	1	5	0	
TONE SELECTION	1	4	0	
	1	3	0	
	1	2	0	
NOT USED	-	1	-	

Picture 9 - tone and volume selection DIP switch selectors

Volume	Volume DIP switch setting
LOW	A + B
HIGH	A + D

Table 4

BATTERY FAULTS

If a battery fault condition is detected on the wireless base sounder, a fault message is sent to the control panel via the wire to wireless translator / wireless expander.
This kind of fault condition is locally signaled by the sounder base's visual LED indicator (see table 2).

TESTING

In order to test the functionality of the installed wireless sounder base, the following test must be performed: activate an alarm condition on the control panel (by a call-point or sensor in the installed system): the control panel will transmit an activation message to the device via wire to wireless translator / wireless expander and activate the sounder base. After each test the device must be reset by the specific command on the control panel or on the wire to wireless translator (see the RESET paragraph). If the test fails check whether the batteries are charged, if mistakes were done previously or even if the system is activated. If the wireless sounder base functionality is hopeless, send back the device to your distributor for repair or substitution.
All devices must be tested after installation and, successively, on a periodic basis.

RESET

To reset the wireless sounder base from an activated or a fault condition, it is necessary to:

1) solve the cause of the abnormal condition

2) send the reset command from the control panel or from the wire to wireless translator.

Performing sequentially those two operations, the device's output and/or fault condition will deactivate / resolve.

INSTALLING A WIRELESS SENSOR ON THE SOUNDER BASE

To install a wireless detector on the wireless sounder base apply the following procedure:

1) Insert the detector onto the base.

2) Fix the detector to the base by turning it clockwise until a secure and safe stop is reached.
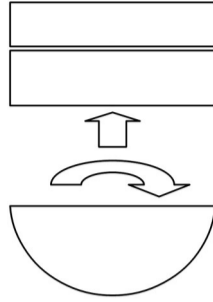
LOCKING THE WIRELESS SENSOR ONTO THE BASE SOUNDER

In order to avoid tampering, the wireless sensor can be locked onto the base sounder; use the supplied locking Allen screw inserted in its side hole, after having installed the sensor and secure it through a suitable Allen key (picture 10).


*Picture 10 - locking of the sensor on the base sounder*

MAINTENANCE

1) Before starting any maintenance work, isolate and disable the system, in order to avoid accidental and unwanted fault detection conditions.

2) Remove the wireless sensor from the wireless sounder base.

4) Perform the planned necessary maintenance operations on the wireless sounder base (e.g. batteries substitution).

5) After the base has been serviced, reinstall the wireless sensor correctly onto it, re-apply power to the system and check correct operation as described under the TESTING paragraph.
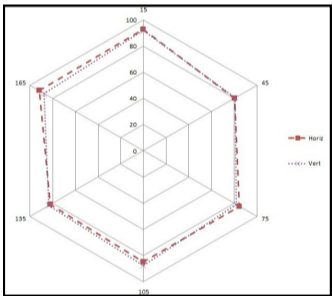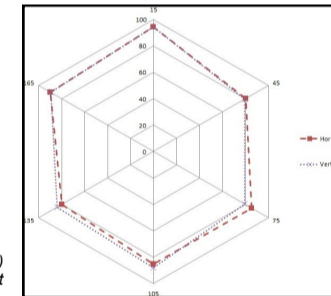
OUTPUT OPERATIONAL PERFORMANCE SPECIFICATIONS
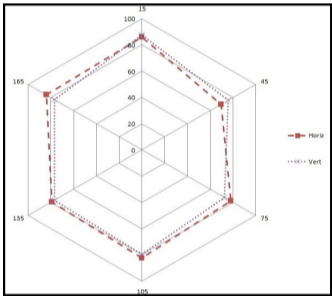
Picture 11 - Continuous tone dB(A) output
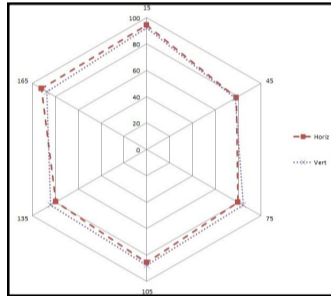
Picture 12 - Warble tone dB(A) output

Picture 13 - DIN tone dB(A) output

Picture 14 - Slow Whoop (Dutch) dB(A) output

No.	Tone	Description	Switch 23456
1	**Warble Tone ***	800Hz for 500ms, then 1000Hz for 500ms	11101
2	**Continuous tone ***	970Hz continuous	01011
3	**Slow Whoop (Dutch) ***	500Hz-1200Hz swept for 3500ms, then off for 500ms	10101
4	**German DIN tone ***	1200Hz-500Hz swept every 1000ms (1Hz)	00111
5	Alternate HF slow sweep	2350Hz-2900Hz swept every 333ms (3Hz)	10010
6	Alternative warble	800Hz for 250ms, then 960Hz for 250ms	11110
7	Alternative warble	500Hz for 250ms, then 600Hz for 250ms	11100
8	Analogue sweep tone	500Hz-600Hz swept every 500ms (2Hz)	10100
9	Australian Alert (Intermittent tone)	970Hz for 625ms, then off for 625ms	10001
10	Australian Evac (slow whoop)	500Hz-1200Hz for 3750ms, then off for 250ms	10110
11	FP1063.1-Telecom	800Hz for 250ms, then 970Hz for 250ms	00001
12	French tone AFNOR	554Hz for 100ms, then 440Hz for 400ms	00101
13	HF Back up Interrupted tone	2800Hz for 1000ms, then off for 1000ms	11011
14	HF Back up Interrupted tone – fast	2800Hz for 150ms, then off for 150ms	11001
15	HF Continuous	2800Hz continuous	01001
16	Interrupted tone	800Hz for 500ms, then off for 500ms	01111
17	Interrupted tone medium	1000Hz for 250ms, then off for 250ms	01101
18	ISO 8201 LF BS5839 Pt 1 1988	970Hz for 500ms, then off for 500ms	01110
19	ISO8201 HF	2850Hz for 500ms, then off for 500ms	01100
20	LF Back up Alarm	800Hz for 150ms, then off for 150ms	11010
21	LF Buzz	800Hz-950Hz swept every 9ms (110Hz)	01010
22	LF Continuous tone BS5839	800Hz continuous	11000
23	LF Sweep	800Hz-1000Hz swept every 500ms (2Hz)	11111
24	Siren 2 way ramp (long)	500Hz-1200Hz rising for 3000ms, 1200Hz-500Hz falling for 3000ms	00000
25	Siren 2 way ramp (short)	500Hz-1200Hz rising for 250ms, 1200Hz-500Hz falling for 250ms	00010
26	Swedish all clear signal	660Hz continuous	00100
27	Swedish Fire signal	660Hz for 150ms, then off for 150ms	00110
28	Sweep tone (1 Hz)	800Hz-900Hz swept every 1000ms (1Hz)	10111
29	Sweep tone (3 Hz)	800Hz-970Hz swept every 333ms (3Hz)	10011
30	Sweep tone (9 Hz)	800Hz-970Hz swept every 111ms (9Hz)	01000
31	US Temporal Pattern HF	2900Hz for 500ms on, 500ms off (x3), then 1500ms off	00011
32	US Temporal Pattern LF	950Hz for 500ms on, 500ms off (x3), then 1500ms off	10000

Table 5

* Tones in bold are LPCB certified