



Technology that saves lives

Sounder Bases for Intelligent Detectors

GSA-AB4G/SB4U/SB4U-LF/GSA-SBT,
SIGA-AB4G, SIGA-AB4G-LF, GSA-T3T4



SB4U-LF



GSA-AB4G, GSA-SBT,
SIGA-AB4G



SB4U



7300-1657:0222
7300-1657:0308
7300-1657:0322

Overview

Kidde brand sounder bases add audible output functions to Signature Series and V-Series smoke and CO detectors. These bases can operate as independent local alarms, or as part of a zone or system alarm with synchronized audible output. Standard sounders and low frequency models are available.

Standard sounders:

GSA-AB4G bases provide sounder capability to Kidde Signature Series (GSA-) smoke detectors.

SB4U bases provide sounder capability to V-Series smoke detectors.

GSA-SBT bases provide sounder capability for the V-PCOS combination smoke/CO detector, when used with a GSA-T3T4 Temporal Pattern Generator.

Low frequency sounder bases provide 520 Hz output suitable for applications requiring low frequency audible tones. Two models are available:

SIGA-AB4G-LF bases provide low frequency sounder capability to Kidde Signature Series (GSA-) smoke detectors, as well as the V-PCOS combination smoke/CO detector in Fire-plus-CO mode when used with a GSA-T3T4 Temporal Pattern Generator.

SB4U-LF bases provide low frequency sounder capability to V-Series smoke detectors.

All GSA-AB4G sounder bases match the finish of compatible devices, and the sound output slots complement the air entry openings of the detector. The end result is a compact unit with an attractive appearance.

Standard Features

- **Low frequency models available**
Code-compliant 520 Hz output.
- **Temporal or steady tone**
Jumper selects steady or synchronized temporal output.
- **High or low dB output**
Jumper selects low or high dBA output.
- **Single or group operation**
Optional polarity reversing module configures base for group alarm output.
- **UL268 and UL464 listed**
UL listing under smoke detector and audible signal standards allows application as smoke alarm and/or audible signal.
- **Attractive installation**
Flush mount to a wide selection of North American boxes or surface mount to optional custom-matched box.

Application

Kidde sounder bases are for use with compatible detectors in applications where localized or group alarm signaling is required. They are listed by Underwriters Laboratories under the UL268 and UL464 standards, allowing their application where both life safety alarms and/or notification appliances are required.

Programming and Field Configuration

Each Kidde base uses the same address as the detector it supports.

Kidde sounder bases can be set to simply operate according to the state of its detector, or configured through system programming to operate in conjunction with all sounder bases on the same circuit. They can also be controlled by program rules. Available operating modes are determined by the system that supports the data loop.

Bases may be configured in the field for either high or low dB output. When used for fire alarm-only applications (i.e.: not with CO detectors), Kidde bases may be configured for steady or temporal output. The default setting is high dB with temporal output.

Group Activation and Synchronization

Kidde sounder bases on the same circuit may be activated as a group or zone with the use of a GSA-CRR polarity reversal module, and the group or zone may be synchronized audible output with the use of a EG1M-RM signal master.

Combination Smoke/CO Applications

GSA-SBT and SIGA-AB4G-LF audible bases may be used with combination smoke/CO detectors when a GSA-T3T4 module is installed on the same Signature data loop.

The output of these bases is field-configurable for Fire Alarm mode, or Fire Alarm plus CO Alarm mode. In Fire Alarm mode, the base generates either steady or TC3 tones, depending on the programming. In the Fire-plus-CO mode, the NAC circuit requires a GSA-T3T4 module to generate and synchronize the TC3 and TC4 tones. These two distinctive tones are necessary to differentiate fire alarm signals from CO alarm signals.

Depending on the system supporting the data loop, the base can follow the state of the device it supports, or be controlled by program rules.

Low Frequency Applications

Low frequency models (SB4U-LF and SIGA-AB4G-LF), feature a distinctive 520 Hz signal and is ideal for hotels, dormitories, and other commercial sleeping occupancies. These bases can be set for low dB output with a jumper cut that reduces audible output by about 4 dB. For commercial sleeping rooms, most codes and standards require 75 dBA-fast at the pillow.

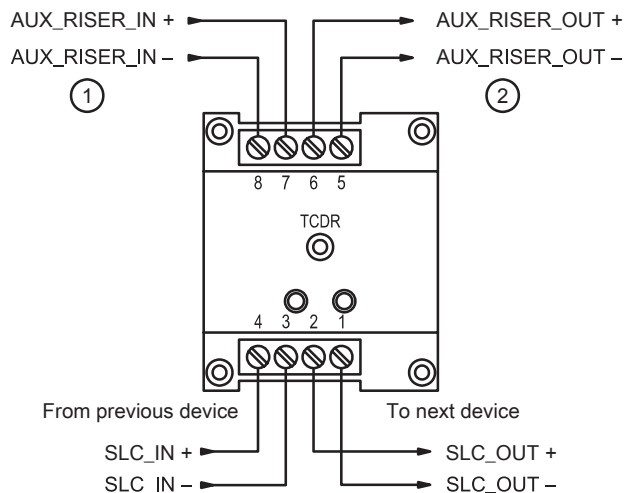
GSA-T3T4 Temporal Pattern Generator

The GSA-T3T4 Temporal Pattern Generator is an addressable device that generates CO and fire signal sound patterns for GSA-SBT and SIGA-AB4G-LF sounder bases. The control panel sends synchronization and channel commands to the GSA-T3T4; the channel selection determines the pattern. In the U.S. Channel 1 is TC3 and Channel 2 is TC4. In Europe, Channel 1 is TC4 and Channel 2 is TC3 (in case both channels are activated Channel 1 has priority). Other markets depend on local requirements.

Temporal patterns

Name	Code	Used for
TC4	NFPA 720	CO
TC3	NFPA 72	Fire

The GSA-T3T4 module uses two addresses on the signaling line circuit (SLC). Address 1 is tied to Channel 1; Address 2 is tied to Channel 2.



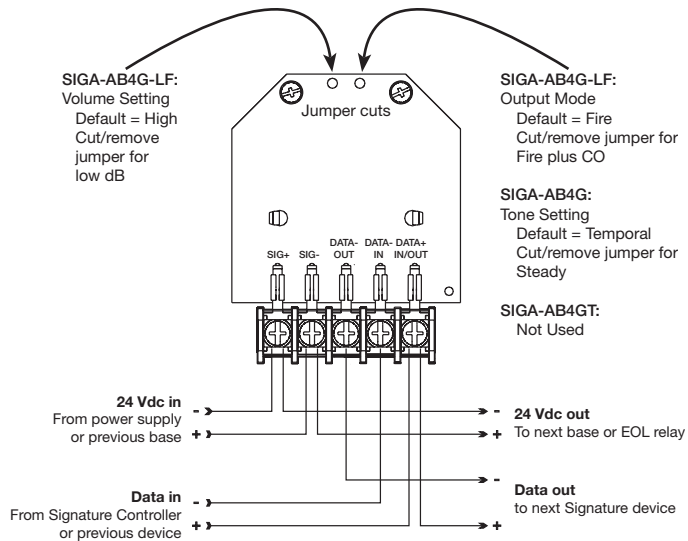
1. Use a power-limited and regulated 24 VDC primary or auxiliary power supply that is UL/ULC listed for fire protective signaling systems.
2. Power out to AB4GT sounder base or listed EOL relay and supervising module

Depending on the type of alarm, the panel can select the corresponding pattern and send the activation command to the GSA-T3T4.

To control all sounder bases in the loop, use a GSA-CRR module. The panel sends a signal to the GSA-CRR causing it to reverse polarity. With the polarity on the riser reversed, all the sounder bases on this loop activate. The GSA-T3T4 maintains synchronization by processing the SYNC commands from the loop controller.

Kidde recommends that fire alarm systems and their devices always be installed in accordance with the latest recognized edition of national and local fire alarm codes.

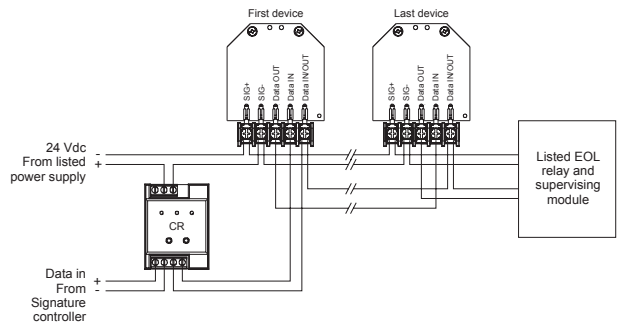
Configuration and Wiring



Typical Wiring, Fire Mode only

Detector operates the base

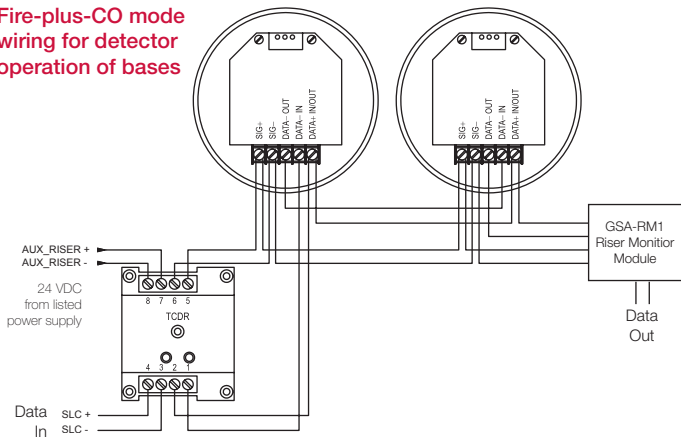
The base follows the state of the detector, going into and out of alarm with the detector. The GSA-CR module is optional, and is used to silence the bases on the line.



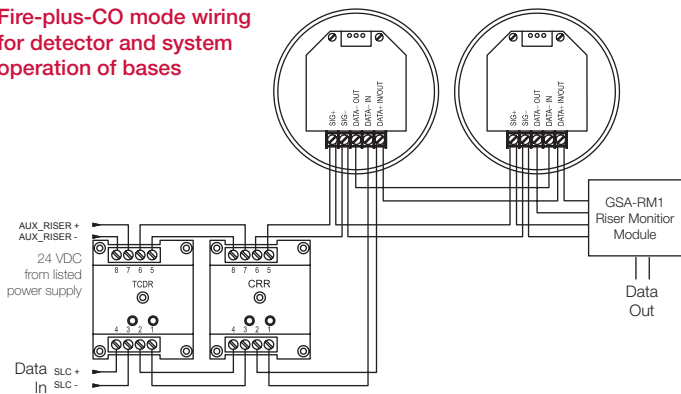
Typical Wiring, Fire-plus-CO mode

GSA-SBT, SIGA-AB4G-LF sounder bases

Fire-plus-CO mode wiring for detector operation of bases

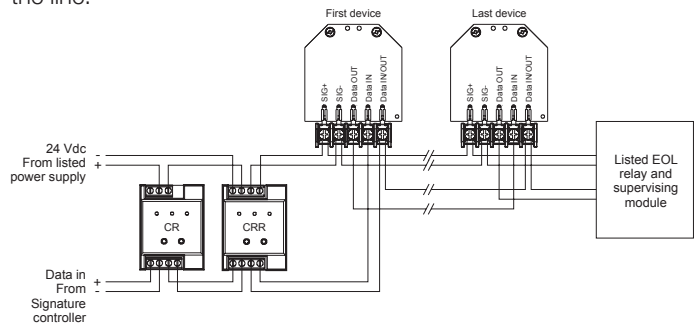


Fire-plus-CO mode wiring for detector and system operation of bases



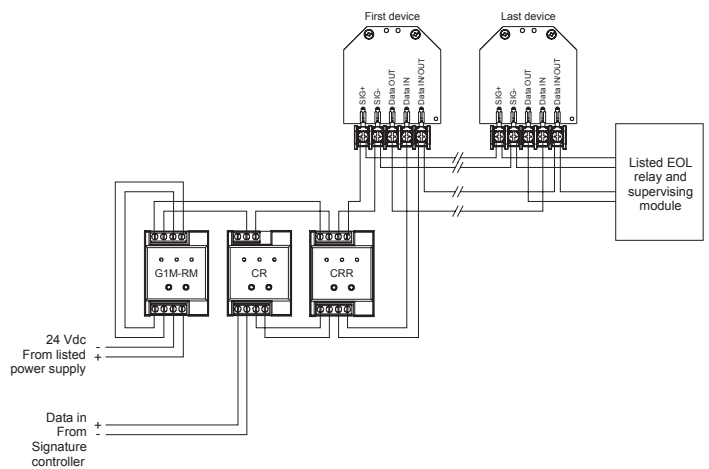
System turns on all bases

All bases on the line can be activated by system programming that triggers the GSA-CRR to reverse the supplied polarity. The GSA-CR module is optional, and is used to silence the bases on the line.



System turns on bases with synchronization

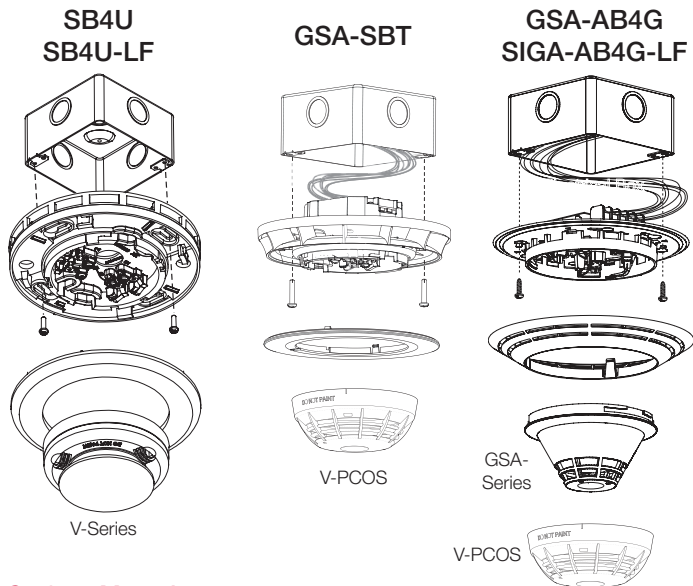
All bases on the line are activated by system programming that triggers the GSA-CRR module. The temporal output is synchronized by the EG1M-RM. If the GSA-CRR module is not activated, each detector can still operate its base, but the bases will not be synchronized. The GSA-CR module is optional, and is used to silence the bases on the line.



Installation and Mounting

Flush Mounting

The sounder base flush mounts into 2-1/8 inch (54 mm) deep standard North American 4 inch square electric box, North American 4 x 4 inch octagonal concrete ring (mud box), and standard European 100 mm square electric boxes. The terminal block makes field wire connections fast and efficient. After wiring, a simple push and twist motion locks the Signature detector into the base.



Surface Mounting



AB4G-SB: When using the AB4G-SB surface mount box, install a reinforcing plate at every knockout. (Reinforcing plates are included with the box.) Remove the knockout first, and then slide the reinforcing plate into the plastic housing. After the plate is in place, install a conduit connector and nut (not supplied).

Sound Level Output

Sound Level Output: GSA-SBT

Signal	Voltage	Low dBA	High dBA
Reverberant room per UL 464¹			
TC3 (fire pattern)	16 VDC	80.5	85.2
TC4 (CO pattern)	16 VDC	73.9	77.5
Reverberant room per UL 268 and FM²			
TC3 (fire pattern)	16 VDC	86.5	90.8
TC4 (CO pattern)	16 VDC	77.5	84.1
Sound pressure level per CAN/ULC-S525³			
Temporal	24 VDC	95	91
Steady	24 VDC	93	89

¹ For UL 464 applications, low dBA settings are for private mode only.
² For UL 268 applications, the high setting must be used for evacuation.
³ Voltage is regulated and filtered.

Sound Level Output: SB4U

Signal	Voltage	Low dBA	High dBA
Reverberant room per UL 464*			
Temporal	16 Vdc	71.5	78.1
	24 Vdc	75.5	80.7
	33 Vdc	78.5	83.1
Steady	16 Vdc	75.5	81.7
	24 Vdc	79.5	84.5
	33 Vdc	81.8	86.5
Reverberant room per UL 268			
Temporal	16 Vdc	77.5	84.1
	24 Vdc	81.5	86.7
	33 Vdc	84.5	89.1
Steady	16 Vdc	81.5	87.7
	24 Vdc	85.5	90.5
	33 Vdc	87.8	92.5

dBA = Decibels, A-weighted
 *For UL 464 applications low dBA settings are for private mode only.

Sound Level Output: GSA-AB4G

Signal	Voltage	Low dBA	High dBA
Reverberant room per UL 464*			
Steady	16 VDC	75.5	81.7
	24 VDC	79.5	84.5
	33 VDC	81.8	86.5
Reverberant room per UL 268 and FM			
Steady	16 VDC	81.5	87.7
	24 VDC	85.5	90.5
	33 VDC	87.8	92.5

dBA = Decibels, A-weighted
 *For UL 464 applications low dBA settings are for private mode only.

Sound Level Output: SB4U-LF

Signal	Low dBA	High dBA ¹
Nominal Sound Level²		
Steady/T3/T4	83	87

Per UL 268, UL 521, UL 2075 (reverberant)³		
TC3 (fire pattern)	76.3	80.8
TC4 (CO pattern)	73.0	77.4
Steady	80.9	85.3

Per UL 464 (reverberant)³		
TC3 (fire pattern)	70.3	74.8
TC4 (CO pattern)	67.0	71.4
Steady	74.9	79.3

¹ For NFPA 72 and NFPA 720 applications, the high dBA settings can be used for public mode evacuation.

² Anechoic chamber @ 10ft

³ As measured in a UL reverberant room at 10 ft.

Sound Level Output: SIGA-AB4G-LF

Signal	Low dBA	High dBA ¹
Nominal Sound Level ²		
Steady/T3/T4	83	87

Per UL 268, UL 521, UL 2075 (reverberant) ³		
TC3 (fire pattern)	76.3	80.8
TC4 (CO pattern)	73.0	77.4
Steady	80.9	85.3

Per UL 464 (reverberant) ³		
TC3 (fire pattern)	70.3	74.8
TC4 (CO pattern)	67.0	71.4
Steady	74.9	79.3

¹ For NFPA 72 and NFPA 720 applications, the high dBA settings can be used for public mode evacuation.

² Anechoic chamber @ 10ft

³ As measured in a UL reverberant room at 10 ft.

Operating current

Operating current (RMS): GSA-SBT

Low dBA	High dBA
31 mA	52 mA

Operating Current (RMS): SB4U, GSA-AB4G

Voltage	Low dBA	High dBA	Notes
16 VDC	17	28	VDC = Volts direct current, regulated and filtered
24 VDC	24	41	
33 VDC	31	52	
16 VFWR	41	48	VFWR = Volts full wave rectified
24 VFWR	51	60	
33 VFWR	60	66	

Operating Current: SB4U-LF, SIGA-AB4G-LF

mA RMS UL ratings

Signal	Low dBA			High dBA		
	16 VDC	24 VDC	33 VDC	16 VDC	24 VDC	33 VDC
TC3	76.0	76.4	85.6	92.0	76.0	93.6
TC4	112.8	148.0	125.6	107.2	150.0	150.8
Steady	75.2	76.0	92.4	143.0	92.0	97.0

Specifications

	GSA-AB4G SB4U	GSA-SBT	SB4U-LF, SIGA-AB4G-LF
Riser operating voltage	16 to 33 VDC		
Operating Current	See tables above.		
Supervisory Current	DC = 1.46 mA		DC = 6.0 mA
Default Output Volume	High dBA		
Default Tone	Temporal	Fire: Steady or TC3; Fire-plus-CO: TC3 or TC4	
Resonant frequency	3.2 kHz		520 Hz +/- 10%
Temporal pattern	0.5 s on, 0.5 s off, 0.5 s on, 0.5 s off, 0.5 s on, 1.5 s off, repeat cycle	As determined by the GSA-T3T4... Fire: Steady or TC3; Fire-plus-CO: TC3 or TC4	
Compatible detectors	Refer to Ordering Information table.		
Compatible electrical boxes	AB4G-SB surface box for audible base; 4 in. square by 2-1/8 in. (54 mm) deep box; 3-1/2 in. octagonal by 2-1/8 in. (54 mm) deep box; Standard European 100 mm ² box		
Wire size	12 to 18 AWG (0.75 to 2.50 mm ²)		
Base diameter	6.8 in. (173 mm)		
Base height from box	0.8 in. (21 mm)	1.4 in. (35 mm)	
Maximum distance from ceiling	Wall mount — 12 in. (305 mm)		
Environment type	Indoor only		
Agency Listings	UL, ULC, CSFM		UL, CSFM
Operating environment	Temperature Relative humidity		
	32 to 120°F (0 to 49°C) 0 to 93% noncondensing		
Storage temperature	-4 to 140°F (-20 to 60°C)		



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Ordering Information

Compatible Detectors	Sounder Base	Output		Application	
		520 Hz	Standard	Fire	Fire/CO
 V-Series	SB4U		✓	✓	
	SB4U-LF	✓		✓	
 V-PCOS	GSA-SBT		✓		✓
	SIGA-AB4G-LF	✓			✓
 Signature/GSA	GSA-AB4G		✓	✓	

Related Equipment

GSA-T3T4	Temporal Pattern Generator	0.2 (0.1)
GSA-MCRR	Polarity Reversal Relay (Plug-in UIO module)	0.18 (0.08)
GSA-CRR	Polarity Reversal Relay (Standard mount module)	0.2 (0.1)
GSA-MCR	Control Relay Module (Plug-in UIO module)	0.18 (0.08)
GSA-CR	Control Relay Module (Standard mount module)	0.2 (0.1)
GSA-RM1	Riser Monitor Module	0.2 (0.1)
EG1M-RM	Signal Master (1-gang remote mount)	0.2 (0.1)
AB4G-SB	Surface Box for Audible Base	1.0 (0.45)