



**Acoustic Glassbreak Sensor
Technical Report
False Alarm Sounds
Recommendations for Testing
False Alarm Rejection and Detection**

This is a preview of "SIA GB-02-1996.07". [Click here to purchase the full version from the ANSI store.](#)

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Acknowledgments

The Glassbreak False Alarm Sounds project has been in process for two years at this printing. The effort that was put forth by this project team, the dedication shown to quality of product, and the healthy exchange of information have all been commendable.

The leadership and volunteer contributions have changed over this long period as the current topics changed and individuals assumed new professional roles. There are many people to thank for the development of this report:

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The SIA Glassbreak Standards Subcommittee approved the *Acoustic Glassbreak Standard - Features for Optimizing False Alarm Reduction and Detection*, an applications standard that covers manufacturers' instructions for installation of glassbreak detectors.

Introduction

SIA developed these recommendations as an advisory to Underwriters Laboratories for enhancing *UL 639 Intrusion Detection Units*, adding false alarm tests for acoustic glassbreak detectors and room specifications for glassbreak detection tests.

To the security industry at large, SIA recommends the tests in this report as a measure of an acoustic glassbreak detector's ability to reject false alarm sounds and maintain its detection capability.

These tests are not exhaustive, but are thought to represent several classes of common false alarm sounds. They were selected by a ranking process of known false alarm sound sources. They represent the most common false alarm sounds that can be accurately and consistently reproduced for testing detectors.

The test rooms are called "large-soft" and "small-hard". These are worst case conditions respectively for detection and false alarm immunity. They were arbitrarily chosen to approximate plausible real world conditions and represent two extremes of acoustic environments.

It is recommended that all manufacturers designing detectors intended to pass these tests make use of an equivalent test facility for pre-test. The test room specifications allow considerable flexibility while still affording consistency in the factors that will affect the tests.

It should be noted that some of the known sources of false alarm sounds are impractical or impossible to produce consistently for standardized testing. SIA recommends that manufacturers attempt whatever independent assurance testing is practical for these sounds, even knowing that the full range of these sounds may vary widely.

It should also be noted that some glass impact sounds and high impact sounds, such as guns and bursting balloons, were ruled out for testing, as even the leading detectors on the market could not be found to reject them. SIA recommends that installers and users beware of high impact sounds, and that installers either not use acoustic glassbreak detectors where these sounds are present or make users aware of the effect of these sounds. SIA further recommends that manufacturers list these sounds in their installation instructions as known sources of false alarms, as prescribed by the *SIA Acoustic Glassbreak Standard - Features for Optimizing False Alarm Reduction and Detection*.

The final section of this report considers recording and playback techniques. This was an attempt to reproduce false alarm sounds for testing, which proved impracticable at this time. The playback of near-glassbreak sounds requires very low frequencies, high peak power capabilities, and accurate phase reproduction. These features would require expensive, specially-designed equipment. The use of recorded sounds may yet become practical and cost effective, so the preliminary study with pending issues and items to be determined (<TBD>) is included as general advisory information.

These Recommendations are voluntary and self-enforcing. SIA encourages the use of them, but does not ensure compliance.