

OPTIMIZING DETECTION AND AVOIDING FALSE ALARMS**For Best Detection, Avoid Installing In**

- Rooms with lined, insulating, or sound deadening drapes.
- Rooms with closed wooden window shutters inside

For Best False Alarm Immunity

- Avoid 24-hour loop applications (perimeter loop OK).
- Don't use where white noise, such as air compressor noise, is present. (A blast of compressed air may cause a false alarm.)
- Avoid rooms smaller than 10' x 10' (3m x 3m) and rooms with multiple noise sources such as small kitchens, glass booths noisy areas, garages, small bathrooms, etc.

Areas to Avoid

- glass airlocks and glass vestibule areas
- kitchens
- residential car garages
- small utility rooms
- stairwells
- small bathrooms
- other small acoustically live rooms

For glass break protection in such applications, use Sentrol shock sensors on the windows or window frames.

Do Not Install In Humid Rooms

The Wireless ShatterPro is not hermetically sealed. Excess moisture on the circuit board can eventually cause a short and a false alarm.

Avoid 24-Hour Loop Applications

The ShatterPro is recommended for perimeter loops and is designed to function in occupied area. In 24-hour loop applications, where the sensor is armed all day and all night, the false alarm technology will be pushed to its limit. Some sounds can duplicate the glass break pattern the ShatterPro detects.

Install the ShatterPro on a perimeter loop which is armed whenever the door and window contacts are armed.

Protecting Occupied Areas

The ShatterPro false alarm immunity is best in rooms with only moderate noise. For 24-hour occupied area protection, use Sentrol shock sensors or the Sentrol 5885 ShatterPro Plus.

Proper Testing

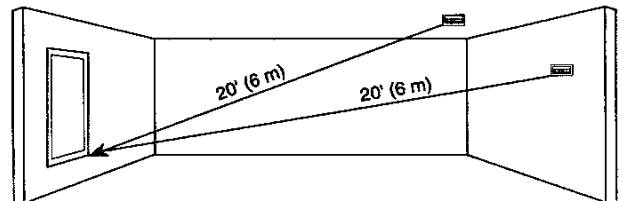
The ShatterPro is designed to detect the breaking of framed glass mounted in an outside wall. Testing the sensor with unframed glass, broken bottles, etc., may not trip the sensor. The ShatterPro typically does not trip to glass breaking in the middle of the room. No burglar breaks glass in the middle of a room, so such breaks are false alarms.

NOTE: ShatterPro may not consistently detect cracks in glass, or bullets which break through the glass. Glassbreak sensors should always be backed up by interior protection.

USING THE SHATTERPRO

ShatterPro sensors are omni-directional, providing 360° coverage. Coverage is measured from the sensor to the point on the glass farthest from the sensor. The sensor can be mounted as close as 3.3' (1m) from the glass.

1. Mounted on opposite wall or adjoining walls, range is 20' (6 m) for plate, tempered, laminated and wired glass
2. Mounted on the ceiling, maximum range is 20' (6 m) for plate, tempered, laminated and wired glass
3. For armor-coated glass, mount sensor no more than 12' (3.65m) from glass

**Recommended Glass Size**

Minimum 1' x 2' (0.3m x 0.6m) or larger

Glass thickness:

Plate: 3/32" to 1/4" (2.4mm to 6.4mm)

Tempered: 1/8" to 1/4" (3.2mm to 6.4mm)

Wired: 1/4" (6.4mm)

Laminated: 1/8" to 1/4" (3.2mm to 6.4mm)

SHATTERPRO MOUNTING LOCATION

For best false alarm immunity the sensor should be located at least 4' (1.2 m) away from noise sources (televisions, speakers, sinks, doors, etc.). The sensor must always be in direct line of sight of all windows to be protected. It cannot consistently detect glass breaking around corners, in other rooms, etc. There is no front or back, up or down, orientation of the sensor required.

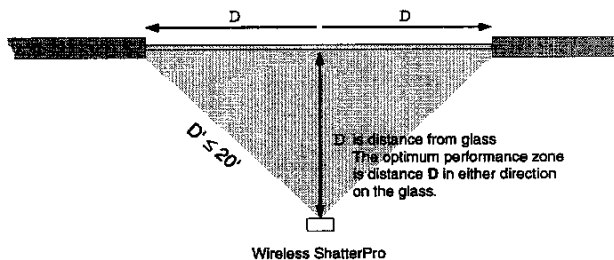
Wall Mounting

Since the sound of breaking glass travels directionally out from the broken window, the best location for mounting the sensor is on the opposite wall—assuming the glass to be protected is within the sensor's range and line of sight. The ceiling and adjoining (side) walls are also good sensor locations.

Since the sound of breaking glass travels directionally out from the broken window, the best location for mounting the sensor is on the opposite wall, assuming that wall is within the sensor's range. For this same reason, a ceiling mounted sensor will have better detection if located 6-10' (2-3 m) back from the glass rather than directly above the glass.

Ceiling Mounting

Mount the sensor in any type of ceiling in a location which is in direct line of sight of the windows to be protected. However, since sound travels directionally out from the broken window, a position 8' (2.4m) into the room provides better detection.



Mounting location can affect the ShatterPro's detection ability. To ensure optimum performance, the ShatterPro's coverage zone from the sensor to the closest point of glass. For instance, if the Wireless ShatterPro is mounted 10 feet from the glass, its "mid-point" (see illustration above). The Wireless ShatterPro can be mounted from 3.3' to 20' from the farthest point on the glass.

SHATTERPRO PRE-TESTING

Use the Sentrol 5709C hand-held tester to set the sensor into test mode. Set the tester to tempered glass, hold the tester speaker directly on top of the sensor and activate the tester. The sensor will alarm, then it will go into test mode for one minute. When in test mode the LED on the sensor will blink continuously. Extend the test mode time by firing the tester at the sensor at least once a minute.

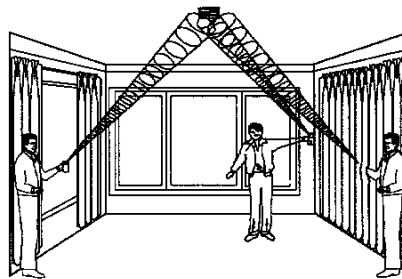
Test the Sensor

1. Holding the tester near the surface of the glass, **aim the tester at the ShatterPro** and hold down the test button. If drapes or blinds are present, test with the hand-held tester behind the closed drapes or blinds (do not use sensor with heavy or lined drapes). If the sensor is mounted on same wall, point the tester at the opposite wall.
2. The 5709C tester has a different setting for each type of glass. The tester should always be set for tempered or laminated glass (either is correct and both have the same range) unless the installer is certain that all the glass to be protected is plate glass.

When the LED on the sensor goes solid momentarily while the tester is triggered, the glass is within detection range.

If the LED does not go solid, but simply continues blinking as before, re-position the sensor closer to the protected windows and retest. This may require adding additional sensors in order to achieve adequate coverage.

The sensor will automatically change from test mode to normal mode approximately one minute after it last hears the hand-held tester.



Do not exceed the rated range of the sensor, regardless of what the tester shows.

How Test Mode Works

The Pattern Recognition Technology™ of the ShatterPro ignores most false alarm sounds, including glassbreak testers. In order to test the ShatterPro, a test mode is used. With the sensor in test mode, processing of the glassbreak pattern in the lower frequencies is disabled. The ShatterPro is then listening only for the mid-range and upper frequencies, which the 5709C tester reproduces. It's the mid-range and upper frequencies that determine sensor range.

In normal mode the LED does not blink unless it hears a loud sound. In normal mode, the ShatterPro WILL NOT trip to the tester, unless the tester is held next to the sensor.

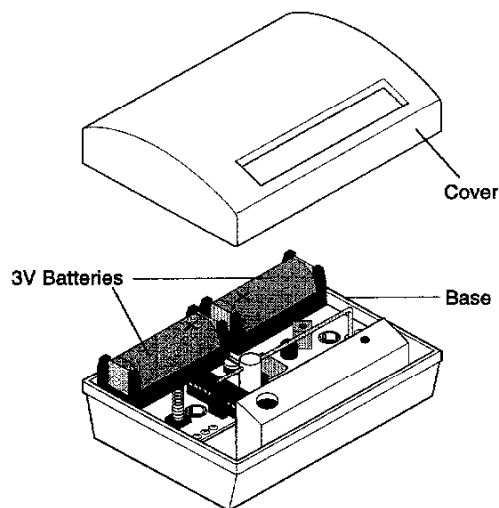
NOTE: Each time the sensor alarms it also goes into test mode for one minute.

INSTALLATION

The Sentrol Model 4545 Wireless ShatterPro contains a built-in Sentrol Wireless Transmitter. After selecting the best location for the detector, remove the cover and mount the base using the mounting holes provided. Insert the 3 Volt batteries observing proper polarity into the battery holder.

Before replacing the cover write down the (6) digit device address code shown on the label located on the side of the battery holder. Replace the cover and properly test the detection capability of the detector.

With the detector properly tested for detection you can now program the device address into the control/receiver. Follow the programming and testing instructions contained in the control/receiver manual to perform these important steps.



HAND CLAP TEST

The ShatterPro™ 4545 can be checked by the installer or end user while in normal mode, simply by clapping hands loudly under the sensor. The LED will blink twice, but the sensor will not trip. This verifies visually that there is power to the sensor, and that the microphone and circuit board are functioning.

The hand clap activation is only momentary, so there is no appreciable effect on battery life.

To disable this custom test function, remove the circuit board from the housing and clip one of the wires on the LED. The LED will no longer be operational, but the sensor can still be tested using the transmitter and the control panel.

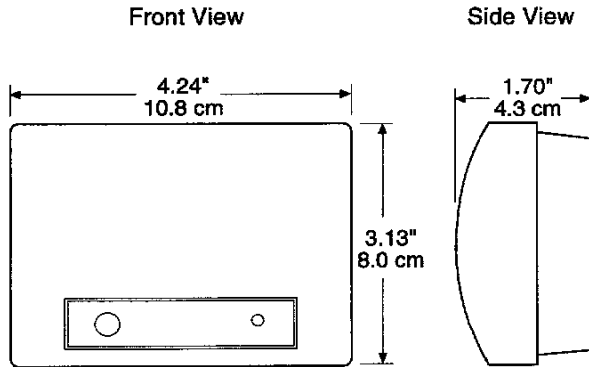
INSTALLATION TIPS

1. The ShatterPro is designed to detect the shattering of framed glass mounted in an outside wall. "Testing" the sensor with unframed glass, broken bottles, etc. may not trip the sensor. The ShatterPro typically does not trip to glass break tests in the middle of a room as such breaks are false alarms.
2. False alarms are most likely to occur when installed on a 24-hour loop in glass airlocks and glass vestibule areas, when mounted above sinks, when used in residential car garages and in other small, acoustically live rooms and rooms where multiple sounds can reflect and eventually duplicate the glass break frequency pattern. For occupied area glass break protection in such applications, use Sentrol shock sensors.
3. Installing the ShatterPro on 24-hour loops will increase false alarms. The ShatterPro is recommended for perimeter loops and is designed to function without false alarms in occupied areas. On a 24-hour loop, which is armed all day/all night every day, the false alarm technology will be pushed to its limit since some sounds in some conditions can duplicate the points on the glass break pattern that the ShatterPro detects. Install the ShatterPro on a perimeter loop, which is armed whenever the door and window contacts are armed. For occupied area installations, ShatterPro's false alarm immunity is best in rooms with only moderate noise.
4. ShatterPro detects the shattering of glass. Like all glassbreak sensors, it may not consistently detect cracks in glass, or bullets which break through the glass or break out the glass. Glassbreak sensors should always be backed up by interior protection.

SPECIFICATIONS

Housing material Flame retardant ABS
 Operational voltage 2.6 to 4.5 V DC
 Current draw 26µA typical average
 Battery Life 5 years typical
 Battery Duracell DL 123A 3 V lithium
 Transmitter Frequency 418MHz
 Transmitter Conditions Alarm, Tamper, Low Battery Supervisory
 RF Immunity 20V/meter 1MHz to 1000MHz
 Microphone Omni-directional electret
 Temperature range 14° to 120°F (-10° to 50°C)
 Color White

DIMENSIONS



FCC COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

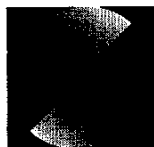
FCC ID: 4794545

IC ID: 1455 102 732

ORDERING INFORMATION

Model Number	Description
4545	Sentrol Wireless ShatterPro w/ transmitter and battery
5709C-W	Hand-held tester

Protected under US and foreign patents including: 3,863,250; 4,745,398; 4,837,558; 5,192,931 and other patents pending.



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G-3666-0399
 14045 Rev B