

MW260

Wireless Glass Break Detector

SPECIFICATIONS AND INSTRUCTIONS

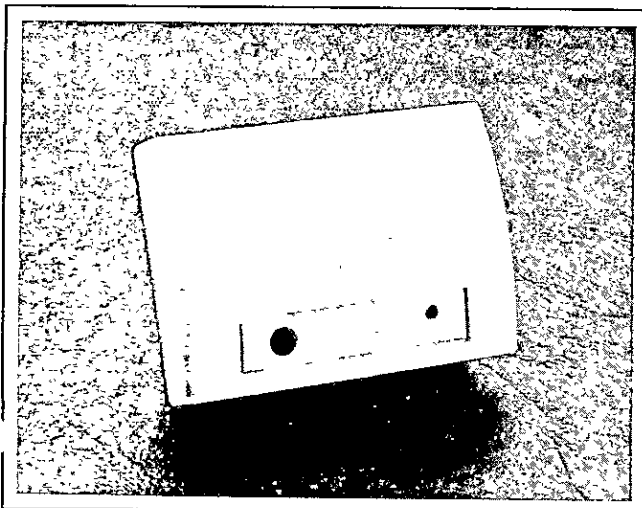
APPLICATIONS

- ❑ Perimeter device for occupied or unoccupied buildings.
- ❑ Rooms with blinds and unlined drapes.
- ❑ Recommended glass size of 1' x 2' (0.3 m x 0.6 m) or larger. Minimum glass size of 1' x 1' (0.3 m x 0.3 m).
- ❑ Glass thicknesses:
 - Plate Glass: 3/32" to 1/4" (2.4 mm to 6.4 mm)
 - Tempered Glass: 1/8" to 1/4" (3.2 mm to 6.4 mm)
 - Wired Glass: 1/4" (6.4 mm)
 - Laminated Glass: 1/8" to 1/4" (3.2 mm to 6.4 mm)

GLASS BREAK DETECTION RANGE OF COVERAGE

The coverage range stated is for worst-case breakage in worst-case applications. The MW260 range of coverage is measured in radius distance from the sensor:

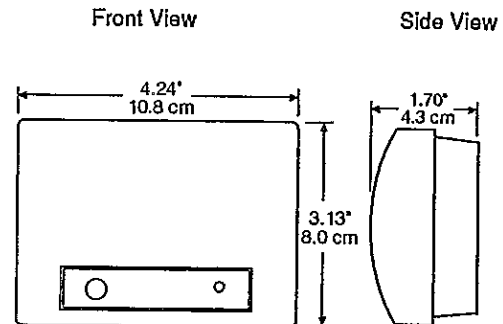
- ❑ 25' (7.6 m) radius of coverage for plate glass.
- ❑ 20' (6 m) radius of coverage for tempered, wired, laminated glass.
- ❑ Use 20' (6 m) radius if unsure of glass type.
- ❑ Sensor radius range of 20' (6 m) to the wall is the same as 25' (7.6 m) or greater when measured on the angle from the sensor to the bottom of the glass.
- ❑ If not using a hand-held tester to verify range, reduce the range to 15' (4.5 m) for windows with blinds and unlined drapes.
- ❑ Reduce coverage 50% for armor-coated glass.
- ❑ No sensitivity adjustment.



SPECIFICATIONS

- ❑ Housing material: Flame retardant ABS.
- ❑ Operating voltage: 2.5 to 4.5 VDC.
- ❑ Current draw: 44µA typical average, 30 mA with LED momentarily on and transmitter operating.
- ❑ Alarm Duration: 4 seconds.
- ❑ RF Immunity: 20 V/meter, 30MHz to 1000MHz.
- ❑ Microphone: Omnidirectional electret.
- ❑ Battery: 2/3 A size, 3.6V, 1.5Ah lithium with plug-in connector. Recommended Maxell ER17/33 (Aritech Part Number MW501).
- ❑ Low Battery Detection: 2.5 to 2.65 VDC.
- ❑ Operating Frequency: 318.6 MHz, crystal controlled.
- ❑ Antenna: Polarization diversity.
- ❑ RF Emission: Complies with FCC Rules, Part 15, Reg No. HHV26PECA249503N.
- ❑ Temperature Range: 14° to 120°F (0° to 50°C).
- ❑ Color: White.

DIMENSIONS



MOUNTING LOCATION

For best false alarm immunity the sensor should be located at least 4' (1.2 m) 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. No front, back, up or down orientation of the sensor is required.

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NOTE: For best detection, avoid installing:

- In rooms with lined, insulating, or sound deadening drapes.
- In rooms with closed wooden window shutters inside.
- On ceilings higher than 15' (4.5 m).
- On metal surfaces, as this reduces the effective range of transmission.
- Where large metal objects are between the sensor and the security panel.
- In proximity to devices that emit strong magnetic fields.

For greatest false alarm immunity, avoid installing:

- In 24-hour loop applications (perimeter loop OK).
- Where white noise such as air compressor noise is present. (May cause false alarms by saturating the glass break frequency spectrum.)
- In rooms smaller than 10' x 10' (3 m X 3 m) and rooms with multiple sounds such as small kitchens, glass booths, noisy areas, garages, etc.

Preliminary Procedure

Remove the sensor top cover. Remove the transmitter module from the housing. Remove the bottom cover of the transmitter unit and insert the plug into the corresponding jack beside the battery holder. Copy down the device's wireless address (the six-digit ID number printed on the address label as shown in Figure 1.)

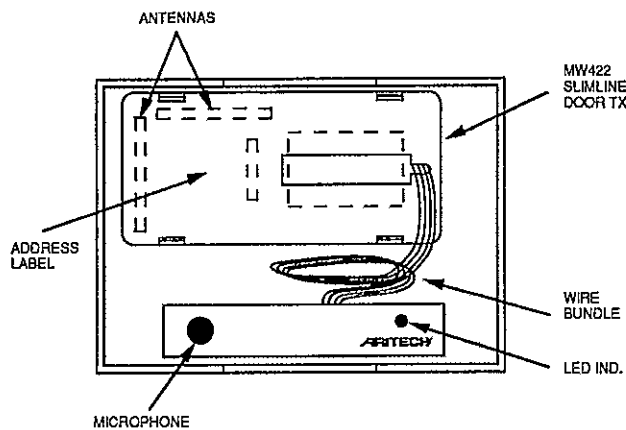


Figure 1 - Internal Assembly

Replace the transmitter unit's cover, being careful not to pinch the wires and to keep the wires away from the two antennas shown in Figure 2. Do not remove the protective film from the double-sided tape at this time. Replace the transmitter in the MW260 with the bottom cover of the transmitter facing up. Replace the cover on the MW260.

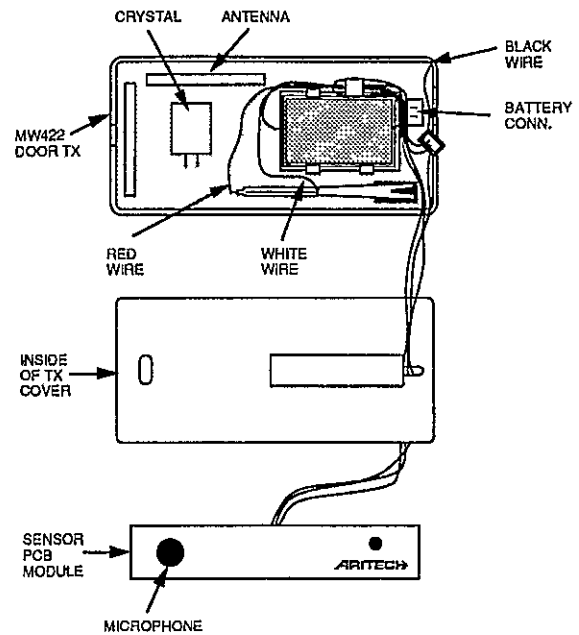
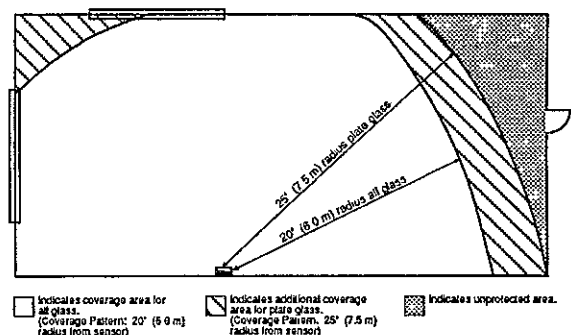


FIGURE 2 - Transmitter Battery Installation

Wall Mounting Recommendations*

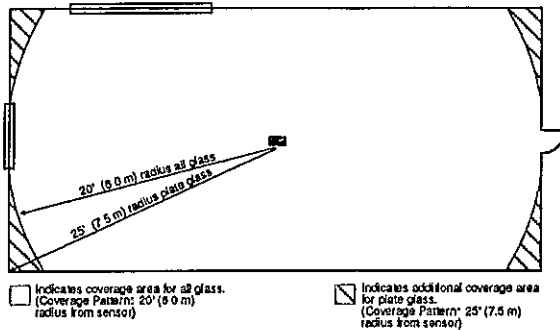
It is recommended that the sensor be mounted on an adjoining or opposite wall from the windows to be protected. Since the sound of breaking glass travels directionally out from the broken window, the best location for mounting the sensor is on the opposite wall, assuming that wall is within the sensor's range. For the same reason, a ceiling-mounted sensor provides better detection if it is positioned 6-10' (2-3 m) from the glass rather than directly above the glass.

For best detection, sensors should not be mounted on the same wall as a window to be protected. As with all glass break sensors, detection is reduced with same-wall mounting, since such detection is partially dependent on glass break sound reflecting off the opposite wall.



Ceiling Mounting Recommendations*

It is recommended that the sensor be mounted on any type of ceiling in direct line of sight of the windows to be protected, at least one foot (0.3 m) and preferably three feet (1 m) from the glass.



*Note: The sensor should be mounted temporarily until testing is complete.

PRETESTING

Temporarily mount the sensor in the location selected for pretesting of the glass break detection and RF transmission characteristics. Use the Sentrol 5709C hand-held tester to set the sensor to 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 and then 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 sensor** 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, reposition the sensor closer to the protected windows and retest. This may require adding additional sensors in order to achieve adequate coverage. It is rare for the sensor not to activate within the stated range of coverage. Double-check the battery strength in the hand-held tester.

The sensor automatically changes from test mode to normal mode approximately one minute after the hand-held tester is activated for the last time.

Room acoustics can artificially extend the range of a glass break sensor. The specified range of the MW260 has been established for worst-case conditions. While the sensor functions at additional range, it may miss a minimum output break or room acoustics may be changed at some future time, bringing sensor range back into normal 20' (6 m) conditions. **Do not exceed the rated range of the sensor, regardless of test results.**

SIGNAL RECEPTION TEST

With the sensor temporarily mounted in the location selected for pretesting, test the RF transmission and reception. Place the panel into the POINT TEST mode as directed in the panel's Programming Manual. To program the device's wireless address, enter the six-digit ID number which is on a label on the transmitter's PC board as shown in Figure 1. Once all desired programming has been completed, exit PROGRAMMING Mode on the LCD Control Station.

Next, select the POINT TEST option from the TESTS menu. While in POINT TEST, activate the MW260 using the Sentrol 5709C Shatter Series Tester to determine if the device is transmitting. Hold the tester one inch or closer from the sensor's microphone. When the Tester switch is activated, the LED on the sensor should light for four seconds. All LCD control stations in the area will announce an identification of the device being activated to indicate that the panel has received the packet transmissions from the sensor. While in POINT TEST, the panel will not initiate any alarm outputs or communication devices. (Always be sure that the panel is in POINT TEST when testing transmitters.)

Note: The transmitter sends six packets when activated. To ensure that the transmitter has completed its transmission sequence after activation, allow 15 seconds to elapse before reactivating the sensor.

If the panel does not consistently receive sensor transmissions, reposition the sensor until the reception by both the panel and the glass break detector is satisfactory. It may be necessary to use an Aritech MW550 Signal Strength Tester to ensure that the transmissions from the sensor are strong enough for reliable reception by the panel. Refer to the MW550 manual for instructions regarding its use. If the sensor may not be positioned so the panel can receive the transmissions reliably, an Aritech MW415 Remote Receiver may be installed to solve this problem.

Avoid mounting the sensor on metal surfaces, as this reduces the distance the transmissions can cover. Also avoid mounting the unit where large metal objects are between the sensor and the control panel. Do not mount the sensor close to devices that generate strong magnetic fields.

FINAL DETECTOR MOUNTING

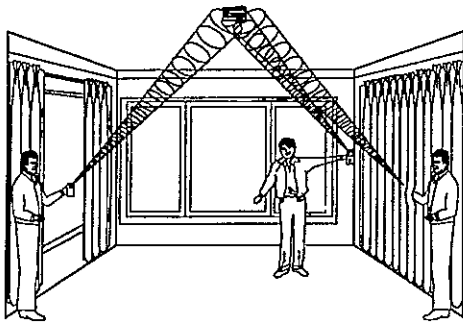
When a location for the unit satisfactory for both glass break detection and transmission to the panel has been determined, mount the unit by using the screws supplied through the two mounting holes. Peel off the remaining protective film from the

exposed side of the double sticky tape. Replace the transmitter with the bottom side facing up. Press down on the transmitter so the tape will adhere to the sensor. Fold up the wires to take up the slack and position the wire bundle in the space between the transmitter and the sensor module at the end of the transmitter away from the antennas as shown in Figure 1. Replace the sensor cover. The unit is now ready for operation. Place the panel back in normal operation.

HOW TEST MODE WORKS

The pattern recognition technology of the MW260 ignores most false alarm sounds, including glassbreak testers. In order to test the sensor, a test mode is used. With the sensor in test mode, processing of the glassbreak pattern in the upper and lower frequencies is disabled. The sensor then listens only for the mid-range frequencies, which the 5709C tester reproduces. These mid-range frequencies determine sensor range.

In normal mode the LED does not blink unless it hears a loud sound. In normal mode, the sensor does 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.



HAND CLAP TEST

The sensor can be checked by the installer or end user while in normal mode, simply by clapping hands loudly under the sensor. The LED blinks twice, but the sensor does 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. This removes the LED from operation. The sensor can still be tested using the transmitter and the control panel.

INSTALLATION TIPS

1. The MW260 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 sensor 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 the sensor is installed as a 24-hour device in glass airlocks and glass vestibule areas, when it is mounted above sinks, or when it is 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 glass break protection in such applications, use shock sensors.
3. Installing the sensor as a 24-hour device increases the potential for false alarms. The MW260 is recommended for perimeter protection and is designed to function without false alarms in occupied areas. When the sensor is installed as a 24-hour device, the false alarm technology is pushed to its limits since some sounds in some conditions can duplicate the points on the glass break pattern that the sensor detects. Install the MW260 as a perimeter device (a device that is armed when the door and window contacts are armed). For occupied area installations, the sensor's false alarm immunity is best in rooms with only moderate noise.
4. The MW260 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.

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 when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, 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 or on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation 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.

CAUTION: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

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