

## Wireless Glass break Detector Installation Instructions

Model: GBR743 / GBR786

### 1. General Description

The Wireless GBR is an advanced microprocessor based Acoustic Glass Break detector. Using advanced glass-breaking pattern analysis of both Low Frequency "Flex" & High Frequency "Shatter" channels, the Wireless GBR detects the breaking of most common types of framed glass panes while ignoring false alarms.

#### Main Features

- Up to 9m detection range
- Suitable for most common glass types: plate, tempered, laminated and wired glass
- Minimum size for all types of glass: 30cm x 30cm (12" x 12")
- Wall and Front cover Tamper protection

Type of Glass	Thickness
Plate	3.2 mm – 6.4 mm
Tempered	(1/8" – 1/4")
Laminated	
Wired	6.4 mm (1/4")

- Wireless GBR will not alarm if glass pane is broken from inside or glass is dropped on floor.
- Full remote test using RG-65 Glass Break Simulator, without the need to open the unit.
- Optional ceiling/wall mount swivel adaptor for optimal mounting and performance (supplied with the Wireless GBR).

### 2. Installation Procedure

#### Range of Coverage

Wireless GBR range of coverage depends on the type of glass (see Table 1) and the installation angle between the Wireless GBR and the glass (see Fig 1).

Plate			Tempered, Laminated, Wired		
Size	Thickness	Max. Range	Size	Thickness	Max. Range
Minimum 50x50cm (20"x20")	3.2 – 6.4mm (1/8"-1/4")	9m (30ft)	Minimum 30x30cm (12"x12")	6.4mm (1/4")	6m (20ft)
Minimum 30x30cm (12"x12")		6m (20ft)			

Table 1: Wireless GBR range of coverage

Angle (degrees)	Percent of maximum range
0	100
12	95
30	87
45	70
60	50
75	25
90	0

Note: To improve detection, it is highly recommended to use a swivel adaptor, especially for ceiling and wall installations.

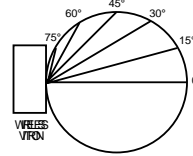


Fig 1: Percentage of Maximum Range as a function of angle between Wireless GBR and glass.

Verify that the distance between the Wireless GBR and the furthest point on the protected glass does not exceed the maximum specified range taking into account the reduced range due to angle (see Fig 2).

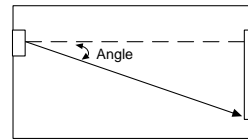


Fig 2: Angle between Wireless GBR and glass

#### Other factors affecting range:

- There should be no obstructions between the Wireless GBR and the protected glass.
- Curtains and blinds may reduce the effective range.
- Sound absorbing materials in the protected area may reduce the range.

### 3. Mounting Location

For optimal performance the Wireless GBR should be mounted as nearly opposite to the glass area to be protected, as shown in Fig 3.

- **Opposite Wall Mounted** (For optimal results, Wireless GBR is centered opposite glass, see Fig. 3).

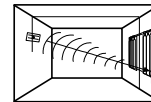


Fig. 3

- **Ceiling Mounted** (for optimal results Wireless GBR is centered and directed towards protected glass, using the supplied swivel adaptor, see fig. 4).

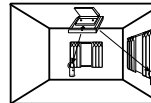


Fig. 4

- **Corner Mounted** (choose corner opposite glass to be protected see fig. 5).

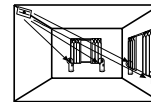


Fig. 5

- **Side wall mounted** (not recommended due to the fact that the Wireless GBR is not opposite the glass - see range versus angle diagram (Fig 2). Test detection carefully at both ends of glass using RG-65 Tester (see fig. 6).

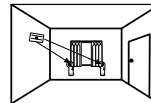


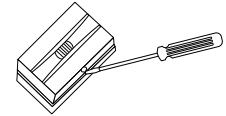
Fig. 6

#### Notes:

- Do not mount Wireless GBR on same wall as the protected glass.
- Avoid installing the Wireless GBR near sources of loud noise or vibrations (air conditioners, fans, compressors, stereos, etc).
- Avoid defining the Wireless GBR as a 24 hour zone.
- The Wireless GBR should always be installed in addition to standard motion detectors.

### 4. Mounting

1. Open the Wireless GBR cover using a flat screwdriver.
2. Open the required mounting knockouts, according to the type of installation (corner, flat or swivel mounting, see Fig. 7).
3. Use the detector's back plate as a template and mark the drilling holes on the required position.



Note: Remove the PCB only if corner mounting or optional swivel mounting adaptor is used.

#### # Description

- 1 Corner mounting knockout
- 2 Wall/Flat mounting knockout
- 3 Back tamper knockout
- 4 Swivel mounting adaptor knockouts
- 5 Cover attaching notches
- 6 Snap and fastening screw

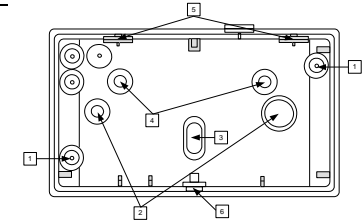


Fig 7: Wireless GBR Mounting Knockouts

4. If a back tamper protection is required open the back tamper knockout (3, Fig. 7).
5. Secure the back plate to the wall using the supplied screws. Snap back the PCB (if removed).
6. Insert battery in place according to the correct polarity (polarity marks - on PCB).

### 5. Swivel Mounting

When installing the Wireless GBR with the supplied swivel mounting adaptor, maximum installation flexibility and performance is achieved.

To install the swivel mounting adaptor perform the following:

1. Remove the PCB from the Wireless GBR back plate.
2. Open the swivel mounting adaptor knockouts (4, Fig 7).
3. Attach the swivel mounting adaptor to the back plate using the two supplied screws (1, Fig 8).
4. Mount the Wireless GBR on the required location (wall or ceiling) using the supplied screws (2, Fig 8). Do not tighten the screws.
5. Adjust the detector so it will face the protected glass.
6. Tighten the bolts to the final torque.

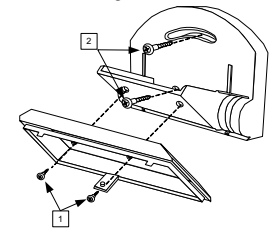
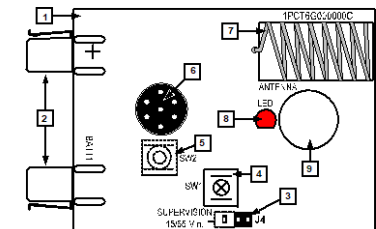


Fig 8

### 6. PCB Main Components

#### # Description

- 1 PCB
- 2 Battery holding holders
- 3 Time supervision selector
- 4 Front cover tamper switch
- 5 Back Plate cover tamper switch
- 6 Microphone
- 7 Antenna
- 8 Indication LED
- 9 Positioning hole



## 7. Enrolling the GBR

For complete description of the wireless configuration and device enrollments, refer to Programming Guide for the FORCE and VISION Alarm Systems

Enrollment of the GBR in the system can be performed manually or automatically via the keypad.

### Auto Enrolling (using RF Communication):

1. Enter Installer menu, and select:

System Configuration > Peripherals > Wireless Peripherals > Enroll and delete > Detectors > Enroll > Auto Enrollment

2. Insert the batteries and close the bratamper. In 3 seconds the GBR detector will send an Enrollment message. The serial number should appear on the keypad.

3. Select Enroll and press ↵.

### Manual Enrolling:

4. Enter Installer menu, and select:

5. System Configuration > Peripherals > Wireless Peripherals > Enroll and delete > Detectors > Enroll > Manual Enrollment

6. Enter the serial number and press ↵.

Select Enroll and press ↵.

### Enrolling through the Force Manager Software:

You can enroll the detector using Force Manager software; For information refer to the Force Manager Manual.

## 8. GBR Operation Modes

The Wireless GBR has 3 operation modes:

**Normal:** Any loud sounds such as clapping, whistling or key- jingling should produce a flash of the GBR 's LED. This verifies that the Wireless GBR is active. During active supervision, there is no transmission. To save power consumption the LED is activated up to 800 times per day.

**Alarm:** On detection of framed glass being broken from outside the LED will light continuously for 2 seconds and an alarm transmission is sent

**Test:** See test paragraph

## 9. Testing the Wireless GBR

### Testing under Test mode

Testing should be performed using PIMA's RG65 Glass Break Simulator which has been specially designed and calibrated to give accurate range test results.

*Note: All tests should be conducted under worst case conditions. All sounds should be generated behind curtains or blinds.*

## Step 1: Entering the test mode

The Wireless GBR enter the test mode if one of the following is performed:

1. After closing the front cover - the Wireless GBR will enter into test mode for 2 minutes.

2. Using the RG65 tester - Position the tester at a distance of 1 meter from the Wireless GBR. Set the lower selector switch on the RG65 tester to CODE setting and press the operation button on the tester. The Wireless GBR will blink once every 3 seconds, lasting for a period of two minutes.

## Step 2: High frequency (audio) test

Position the Glass Break Simulator at the farthest point on the protected glass and face it into the room. Set lower selector to GLASS setting and upper to type of glass to be simulated. Generate glass-break sound by pressing operating button. Verify that the Wireless GBR LED is lit for 2 seconds and ALARM message is transmitted while the red LED is on.

## Step 3: Environmental Test

This test is performed to verify interference produced by environmental conditions or facilities. To perform the test, operate all devices in the protected region that may interfere with the detector, including air conditioners, fans, radios etc.

Observe the wireless GBR and note any disturbances. If disturbances occur, re - positions the unit in a different position and re - test.



Turn all noise generating equipment off and wait until unit returns to NORMAL mode.

*Note: The Wireless GBR will return to NORMAL mode after two minutes. Setting the "CODE" switch and pressing the "Manual" button at any time will initiate another two minutes Test Mode.*

## Step 4: User test

The Wireless GBR can be tested by the installer or the user while in normal mode by clapping or whistling or key- jingling under the detector. The LED will flash. No report will be established.

## 10. Jumper Settings

	Description	Jumper Position	
J4	<b>Supervision</b> Defines the Glass break supervision time	On 15 Min  (default for 868.65MHz only)	* Off 65 Min 

\* Factory default

## 11. Technical Specifications

Electrical	
Current consumption (standby)	22 uA at 3 VDC, without acoustic signal
Current consumption (Alarm transmission)	10 mA at 3 VDC (Max. with LED OFF)
	15 mA at 3 VDC (Max. with LED ON)
Power output	10mW Max.
Modulation type	ASK
Battery life	3 years, at 65 minutes supervision
Supervision transmission	Every 15/65 minutes.
Address codes	16 Millions
Range (loss)	300m (1000 feet)
Voltage requirements	CR123A 3VDC Lithium Batteries
Frequency	868.65MHz, 433.92MHz
Physical	
Size (LxWxD)	87 x 50.7 x 28.6 mm (3.4 x 2.0 x 1.1 in.)
Environmental	
Operating/Storage temperature	0°C to 50°C (-32°F to 122°F)
* Specifications are subject to change without prior notice	

## 12. Ordering Information

Model	Frequency	P/N
GBR743	433MHz	8841204
GBR786	868MHz	8841205

### UKCA and CE RED Compliance Statement:

Hereby, PIMA declares that this equipment is in compliance with the essential requirements of the UKCA Radio Equipment Regulations 2017 and CE Directive 2014/53/EU.

For the UKCA and CE Declaration of Conformity please refer to our website:

[www.pima-alarms.com](http://www.pima-alarms.com)

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